ADDENDUM NO. 1

August 23, 2024

MSD of Washington Township Service Center Renovation 8401 Westfield Blvd. Indianapolis, IN 46240

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 July 31, 2024, by Schmidt Associates. 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 1-1, 01 32 00b Phase 6B OSC Phasing Plan, 01 32 00c Phase 6B Warehouse Phasing Plan, and attached Schmidt Associates Addendum No. 1 consisting of 6 Addendum pages, and 182 attachments totaling 188 pages.

A. SPECIFICATION SECTION 01 12 00 MULTIPLE CONTRACT SUMMARY

3.03 Bid Categories

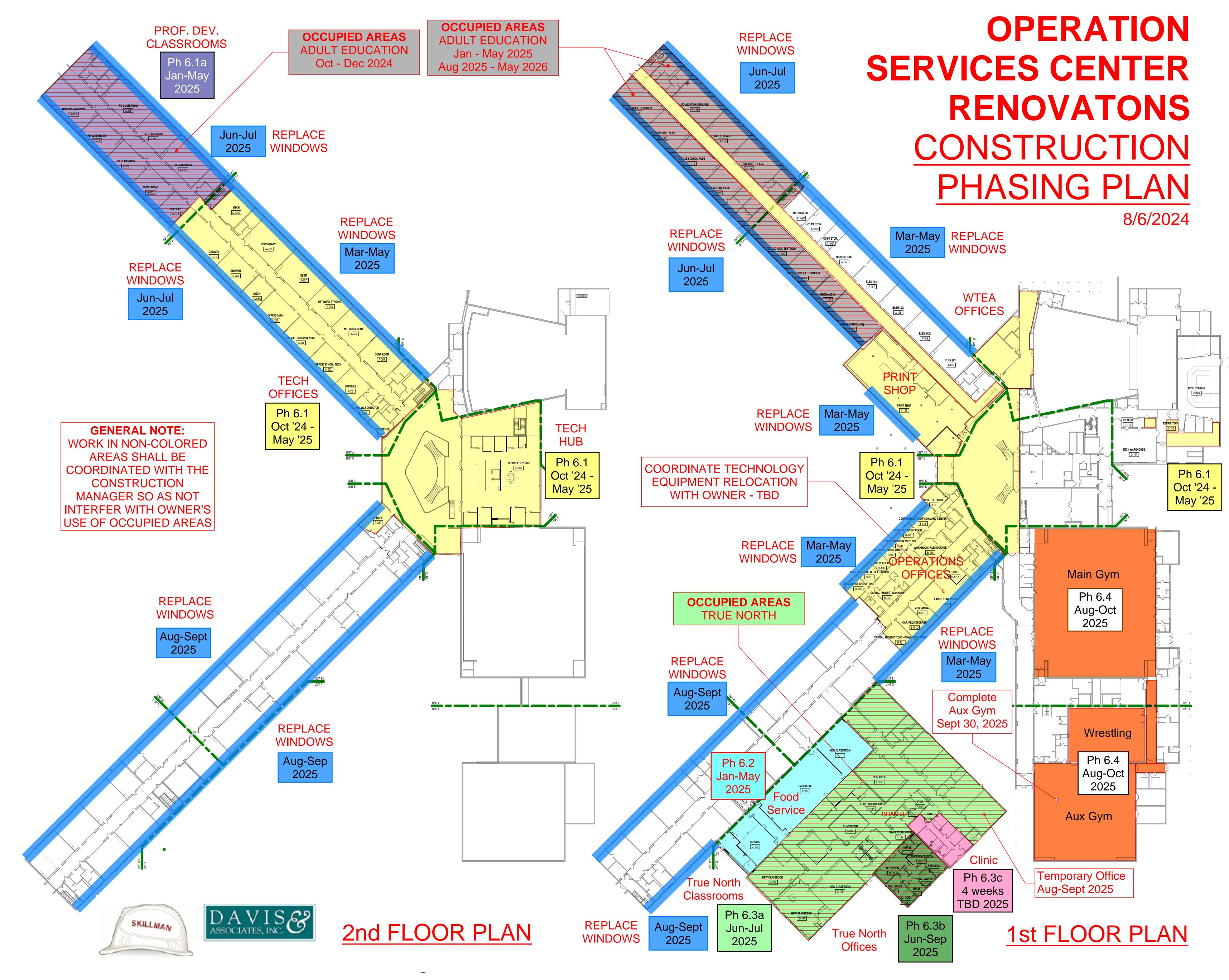
H. BID CATEGORY NO. 8 – PLUMBING & HVAC

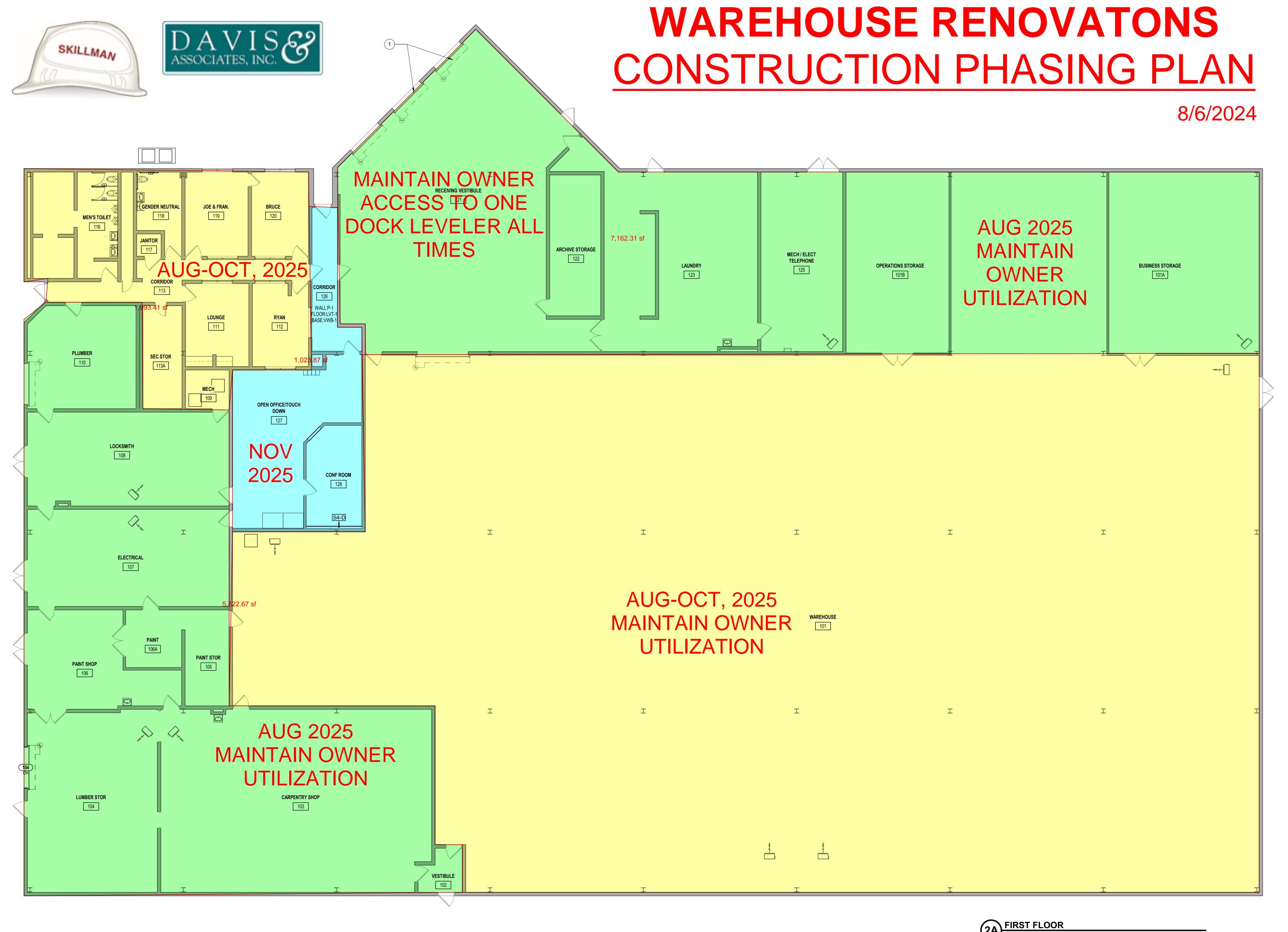
Add the following specification section:

Section 23 84 16.16 Indoor Mechanical Dehumidification Units

B. SPECIFICATION SECTION 01 32 00 SCHEDULES AND REPORTS

1. Delete phasing plans included in section 01 32 00 and replace with attached updated phasing plan.





ADDENDUM NO. 1 AUGUST 22, 2024

PREPARED BY SCHMIDT ASSOCIATES FOR:

M.S.D. OF WASHINGTON TOWNSHIP – CENTRALIZED SERCIES CENTER AND WAREHOUSE RENOVATION – PHASE 6B WASHINGTON TOWNSHIP, M.S.D. OF

This Addendum consists of 6 Addendum pages and 182 attachment pages totaling 188 pages.

Acknowledge receipt of this Addendum by inserting its number on the Bid Form. Failure to do so may subject the Bid to disqualification. This Addendum is part of the Contract Documents.

Bidder is encouraged to verify with reprographer of record all Addenda issued (do not rely exclusively on third party plan room services).

PART 1 - CHANGES TO PRIOR ADDENDA (NOT APPLICABLE)

PART 2 - CHANGES TO THE PROJECT MANUAL

Modifications described herein shall be incorporated in the Project Manual. All other Work shall remain unchanged.

2.1 DIVISION 08 – OPENINGS

- A. Section 087100 "DOOR HARDWARE"
- 1. DELETE Section 087100 in its entirety and replace with attached Section 087100.

2.2 DIVISION 12 – FURNISHINGS

- A. Section 123200 " MANUFACTURED WOOD CASEWORK"
- 1. ADD Subparagraph 2.4.C.2.3. as follows:

"2.PL-2: Not Used"

3.PL-3: Arborite, P399-CA Chambray Gris

2.3 DIVISION 23 - HEATING, VENTILATING, AND AIR-CONDITIONING(HVAC)

- A. Section 230900.99 "DIRECT DIGITAL CONTROL SYSTEMS"
- 1. ADD Article 4.1 per the attached.

"Article 4.1 includes 33 pages of 11x17 Temperature Control Services (TCS) drawings dated 08/22/2023 under TCS job number J-2408004 that includes installation standards, riser diagrams, and temperature control schematics including points and wiring diagram details that shall be installed by the controls installation contractor (CIC) as performed by the mechanical, technology, and electrical contractors and indicated on the M-701 drawing"

B. Section 238416.16 "INDOOR MECHANICAL DEHUMIDIFICATION UNITS"

1. ADD Section 238416.16 per the attached.

PART 3 - CHANGES TO THE DRAWINGS

Modifications described herein shall be incorporated in the Drawings. All other Work shall remain unchanged.

3.1 NOTE TO BIDDERS

A. The room numbers for this project will be changed after bids have been awarded. Reissued plans by addenda prior to bid may have revised room and door numbers already indicated. A post-bid addendum will be issued prior to construction to replace all the sheets affected by this change. A supplemental matrix of the original room numbers to new room numbers is provided in this addendum for reference purposes only.

3.2 DRAWING SHEETS: ADDITIONS, DELETIONS AND REPLACEMENTS DRAWING NO. INDICATE ACTION: ADD (A), DELETE (D), DELETE & REPLACE (R),

DRAWING NO.	INDICATE ACTION. ADD (A), DELETE (D), DELETE & REPLACE (R),	
G-SERIES DRAWINGS		
G-100	DELETE AND REPLACE	
A-SERIES DRAWINGS		
AD1A1	DELETE AND REPLACE	
AD1B1	DELETE AND REPLACE	
AD1B2	DELETE AND REPLACE	
AD1C1	DELETE AND REPLACE	
AD1E1	DELETE AND REPLACE	
AD1G1	DELETE AND REPLACE	
AF1A1	DELETE AND REPLACE	
AF1A2	DELETE AND REPLACE	
AF1B1	DELETE AND REPLACE	
AF1C1	DELETE AND REPLACE	
AF1C2	DELETE AND REPLACE	
AF1E1	DELETE AND REPLACE	
AF1F1	DELETE AND REPLACE	
AF1G1	DELETE AND REPLACE	
AC1E1	DELETE AND REPLACE	
A-600	DELETE AND REPLACE	

M.S.D. of Washington Township – Centralized Sercies Center and Warehouse Renovation – Phase 6B

3A1110Jett 2017-007.W30	Warehouse Renovati
I-SERIES DRAWINGS	
IN1A1	DELETE AND REPLACE
IN1A2	DELETE AND REPLACE
IN1C1	DELETE AND REPLACE
IN1D1	DELETE AND REPLACE
I-201	DELETE AND REPLACE
I-202	DELETE AND REPLACE
I-203	ADD
I-601	DELETE AND REPLACE
M-SERIES DRAWINGS	
M-601	DELETE AND REPLACE
M-701	DELETE AND REPLACE
MD1A1	DELETE AND REPLACE
MH1A1	DELETE AND REPLACE
MH1C2	DELETE AND REPLACE
MH1G1	DELETE AND REPLACE
WMH101	DELETE AND REPLACE
E-SERIES DRAWINGS	
ED1A2	DELETE AND REPLACE
ED1B1	DELETE AND REPLACE
ED1C1	DELETE AND DEDLACE

DELETE AND REPLACE
DELETE AND REPLACE

T-SERIES DRAWINGS

J	
TD001A1	DELETE AND REPLACE
TD001A2	DELETE AND REPLACE
TD001B1	DELETE AND REPLACE
TD001E	DELETE AND REPLACE
TD001F	DELETE AND REPLACE
TD001G	DELETE AND REPLACE
TD002A1	DELETE AND REPLACE
TD002A2	DELETE AND REPLACE
TD002B1	DELETE AND REPLACE
T101	DELETE AND REPLACE

Schmidt Associates, Inc. SAI Project 2019-067.WSC

M.S.D. of Washington Township – Centralized Sercies Center and Warehouse Renovation – Phase 6B

T101B1	DELETE AND REPLACE
T11E	DELETE AND REPLACE
T101F	DELETE AND REPLACE
T101G	DELETE AND REPLACE
T102	DELETE AND REPLACE
T102A1	DELETE AND REPLACE
T102A2	DELETE AND REPLACE
T102B1	DELETE AND REPLACE
T102B2	DELETE AND REPLACE
T102C	DELETE AND REPLACE
T001	DELETE AND REPLACE

3.3 A-SERIES DRAWINGS

A. Drawing Numbers AD1A1 TO AD1G1

- 1. ADD Demolition Floor Plan Notes 46, 47, and 48 as follows:
 - "46. DEMOLISH CORRIDOR GATE IN ITS ENTIRETY
 - 47. REMOVE EXISTING CEILNG PANELS FROM EXISTING CEILNG GRID TO REMAIN.
 - 48. REMOVE EXISTING WAINSCOTING AND CHAIR RAIL IN ITS ENTIRETY. PATCH AND REPAIR AND PREPARE FOR NEW FINISH."

B. **Drawing Number AD1A2**

1. ADD Demolition Floor Plan Note 13 to the plan west wall of the northwest classroom (adjacent to men's restroom) in Drawing 3C.

C. **Drawing Number AD1D1**

- 1. ADD Demolition Floor Plan Note 20 to AV Tech Room.
- 2. ADD Demolition Floor Plan Note 5 to Repair Tech Room.

D. **Drawing Number AD1F1**

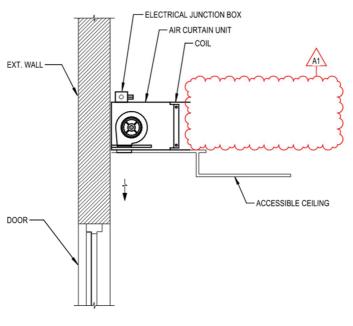
- 1. DELETE Demolition Floor Plan Note 7 from the Wrestling Room and replace with Demolition Floor Plan Note 47.
- 2. DELETE Demolition Floor Plan Note 7 from the Auxiliary Gym and replace with Demolition Floor Plan Note 47.
- 3. ADD Demolition Floor Plan Note 41 to exterior doors on the east side of building accessed through the Vestibule at northeast corner of the Auxiliary Gym.

E. Drawing Numbers AF1A1 to AF1G1

- 1. ADD Floor Plan Note 18 as follows:
 - a. "18. 055000 Provide smooth surface floor aluminum saddle plate over flooring transition sim. to Balco GF Floor Exp. Jt. Cover"

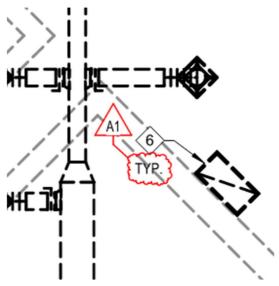
3.4 M-SERIES DRAWINGS

- A. Drawing Number M-501
- 1. MODIFY Detail 1A as follows:

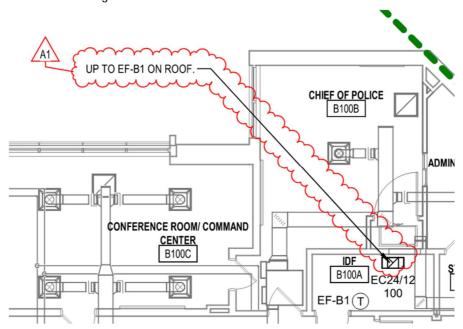




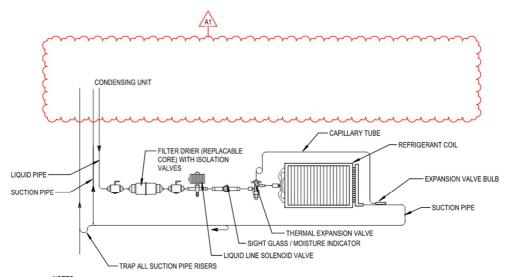
- B. Drawing Number MD1C2
- 1. MODIFY Drawing MD1C2 as follows:



- C. Drawing Number MH1B1
- 1. MODIFY Drawing MH1B1 as follows:



- D. Drawing Number WM-501
- 1. MODIFY Detail < Reference > as follows:



- NOTES:

 1. REFRIGERANT PIPING AND SPECIALTIES SHALL BE SIZED PER CONDENSING UNIT MANUFACTURERS RECOMMENDATIONS.

 2. EXPANSION VALVE BULB TO BE MOUNTED AT THREE (3) O'CLOCK POSITION.

 3. ALL REFRIGERANT PIPING SHALL BE CONTINUOUSLY PURGED WITH NITROGEN DURING BRAZING PROCESS.

 4. ALL ELBOWS TO BE LONG RADIUS TYPE.

 5. SLOPE SUCTION PIPES 1/2" PER 10'-0" IN DIRECTION OF FLOW.



END OF ADDENDUM 1

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes:

- 1. Mechanical and electrified door hardware
- 2. Electronic access control system components
- Field verification, preparation and modification of existing doors and frames to receive new door hardware.

B. Section excludes:

- 1. Windows
- 2. Cabinets (casework), including locks in cabinets
- 3. Signage
- 4. Toilet accessories
- 5. Overhead doors

C. Related Sections:

- 1. Division 01 "General Requirements" sections for Allowances, Alternates, Owner Furnished Contractor Installed, Project Management and Coordination.
- 2. Division 06 Section "Rough Carpentry"
- 3. Division 06 Section "Finish Carpentry"
- 4. Division 07 Section "Joint Sealants" for sealant requirements applicable to threshold installation specified in this section.
- 5. Division 08 Sections:
 - a. "Metal Doors and Frames"
 - b. "Flush Wood Doors"
 - c. "Aluminum-Framed Entrances and Storefronts"
- 6. Division 09 sections for touchup, finishing or refinishing of existing openings modified by this section.
- 7. Division 26 "Electrical" sections for connections to electrical power system and for low-voltage wiring.
- 8. Division 28 "Electronic Safety and Security" sections for coordination with other components of electronic access control system and fire alarm system.

1.02 REFERENCES

A. UL LLC

- 1. UL 10B Fire Test of Door Assemblies
- 2. UL 10C Positive Pressure Test of Fire Door Assemblies
- 3. UL 1784 Air Leakage Tests of Door Assemblies
- 4. UL 305 Panic Hardware
- B. DHI Door and Hardware Institute

DOOR HARDWARE 087100-1 08/22/2024

- 1. Sequence and Format for the Hardware Schedule
- 2. Recommended Locations for Builders Hardware
- 3. Keying Systems and Nomenclature
- 4. Installation Guide for Doors and Hardware

C. NFPA - National Fire Protection Association

- 1. NFPA 70 National Electric Code
- 2. NFPA 80 2016 Edition Standard for Fire Doors and Other Opening Protectives
- 3. NFPA 101 Life Safety Code
- 4. NFPA 105 Smoke and Draft Control Door Assemblies
- 5. NFPA 252 Fire Tests of Door Assemblies

D. ANSI - American National Standards Institute

- 1. ANSI A117.1 2017 Edition Accessible and Usable Buildings and Facilities
- 2. ANSI/BHMA A156.1 A156.29, and ANSI/BHMA A156.31 Standards for Hardware and Specialties
- 3. ANSI/BHMA A156.28 Recommended Practices for Keying Systems
- 4. ANSI/WDMA I.S. 1A Interior Architectural Wood Flush Doors
- 5. ANSI/SDI A250.8 Standard Steel Doors and Frames

1.03 SUBMITTALS

A. General:

- 1. Submit in accordance with Conditions of Contract and Division 01 Submittal Procedures.
- 2. Prior to forwarding submittal:
 - a. Comply with procedures for verifying existing door and frame compatibility for new hardware, as specified in PART 3, "EXAMINATION" article, herein.
 - b. Review drawings and Sections from related trades to verify compatibility with specified hardware.
 - c. Highlight, encircle, or otherwise specifically identify on submittals: deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.

B. Action Submittals:

- 1. Product Data: Submit technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
- 2. Riser and Wiring Diagrams: After final approval of hardware schedule, submit details of electrified door hardware, indicating:
 - a. Wiring Diagrams: For power, signal, and control wiring and including:
 - Details of interface of electrified door hardware and building safety and security systems.
 - 2) Schematic diagram of systems that interface with electrified door hardware.
 - 3) Point-to-point wiring.
 - 4) Risers.
- 3. Samples for Verification: If requested by Architect, submit production sample of requested door hardware unit in finish indicated and tagged with full description for coordination with schedule.

a. Samples will be returned to supplier. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.

4. Door Hardware Schedule:

- a. Submit concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work critical in Project construction schedule.
- b. Submit under direct supervision of a Door Hardware Institute (DHI) certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule published by DHI.
- c. Indicate complete designations of each item required for each opening, include:
 - 1) Door Index: door number, heading number, and Architect's hardware set number.
 - 2) Quantity, type, style, function, size, and finish of each hardware item.
 - 3) Name and manufacturer of each item.
 - 4) Fastenings and other pertinent information.
 - 5) Location of each hardware set cross-referenced to indications on Drawings.
 - 6) Explanation of all abbreviations, symbols, and codes contained in schedule.
 - 7) Mounting locations for hardware.
 - 8) Door and frame sizes and materials.
 - 9) Degree of door swing and handing.
 - 10) Operational Description of openings with electrified hardware covering egress, ingress (access), and fire/smoke alarm connections.

5. Kev Schedule:

- After Keying Conference, provide keying schedule that includes levels of keying, explanations of key system's function, key symbols used, and door numbers controlled.
- b. Use ANSI/BHMA A156.28 "Recommended Practices for Keying Systems" as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
- c. Provide 3 copies of keying schedule for review prepared and detailed in accordance with referenced DHI publication. Include schematic keying diagram and index each key to unique door designations.
- d. Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.
- e. Provide one complete bitting list of key cuts and one key system schematic illustrating system usage and expansion. Forward bitting list, key cuts and key system schematic directly to Owner, by means as directed by Owner.
- f. Prepare key schedule by or under supervision of supplier, detailing Owner's final keying instructions for locks.

C. Informational Submittals:

- 1. Provide Qualification Data for Supplier, Installer and Architectural Hardware Consultant.
- 2. Provide Product Data:
 - a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
 - b. Include warranties for specified door hardware.

D. Closeout Submittals:

1. Operations and Maintenance Data: Provide in accordance with Division 01 and include:

- a. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
- b. Catalog pages for each product.
- c. Final approved hardware schedule edited to reflect conditions as installed.
- d. Final keying schedule
- e. Copy of warranties including appropriate reference numbers for manufacturers to identify project.
- f. As-installed wiring diagrams for each opening connected to power, both low voltage and 110 volts.

E. Inspection and Testing:

- 1. Submit written reports to the Owner and Authority Having Jurisdiction (AHJ) of the results of functional testing and inspection for:
 - a. Fire door assemblies, in compliance with NFPA 80.
 - b. Required egress door assemblies, in compliance with NFPA 101.

1.04 QUALITY ASSURANCE

A. Qualifications and Responsibilities:

- Supplier: Recognized architectural hardware supplier with a minimum of 5 years documented experience supplying both mechanical and electromechanical door hardware similar in quantity, type, and quality to that indicated for this Project. Supplier to be recognized as a factory direct distributor by the manufacturer of the primary materials with a warehousing facility in the Project's vicinity. Supplier to have on staff, a certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.
- 2. Installer: Qualified tradesperson skilled in the application of commercial grade hardware with experience installing door hardware similar in quantity, type, and quality as indicated for this Project.
- 3. Architectural Hardware Consultant: Person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and meets these requirements:
 - a. For door hardware: DHI certified AHC or DHC.
 - b. Can provide installation and technical data to Architect and other related subcontractors.
 - c. Can inspect and verify components are in working order upon completion of installation.
 - d. Capable of producing wiring diagram and coordinating installation of electrified hardware with Architect and electrical engineers.
- 4. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.

B. Certifications:

- 1. Fire-Rated Door Openings:
 - a. Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction.

b. Provide only items of door hardware that are listed products tested by UL LLC, Intertek Testing Services, or other testing and inspecting organizations acceptable to authorities having jurisdiction for use on types and sizes of doors indicated, based on testing at positive pressure and according to NFPA 252 or UL 10C and in compliance with requirements of fire-rated door and door frame labels.

2. Smoke and Draft Control Door Assemblies:

- a. Provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105
- b. Comply with the maximum air leakage of 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) at tested pressure differential of 0.3-inch wg (75 Pa) of water.

3. Electrified Door Hardware

a. Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.

4. Accessibility Requirements:

a. Comply with governing accessibility regulations cited in "REFERENCES" article 087100, 1.02.D3 herein for door hardware on doors in an accessible route. This project must comply with all Federal Americans with Disability Act regulations and all Local Accessibility Regulations.

C. Pre-Installation Meetings

1. Keying Conference

- a. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:
 - 1) Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
 - 2) Preliminary key system schematic diagram.
 - 3) Requirements for key control system.
 - 4) Requirements for access control.
 - 5) Address for delivery of keys.

2. Pre-installation Conference

- Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays
- b. Inspect and discuss preparatory work performed by other trades.
- c. Inspect and discuss electrical roughing-in for electrified door hardware.
- d. Review sequence of operation for each type of electrified door hardware.
- e. Review required testing, inspecting, and certifying procedures.
- Review questions or concerns related to proper installation and adjustment of door hardware.

3. Electrified Hardware Coordination Conference:

a. Prior to ordering electrified hardware, schedule and hold meeting to coordinate door hardware with security, electrical, doors and frames, and other related suppliers.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site. Promptly replace products damaged during shipping.

- B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package. Deliver each article of hardware in manufacturer's original packaging.
- C. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.
- D. Provide secure lock-up for door hardware delivered to Project. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.
- E. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.
- F. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

1.06 COORDINATION

- A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete.
- B. Installation Templates: Distribute for doors, frames, and other work specified to be factory or shop prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
- C. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.
- D. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.
- E. Existing Openings: Where existing doors, frames and/or hardware are to remain, field verify existing functions, conditions and preparations and coordinate to suit opening conditions and to provide proper door operation.

1.07 WARRANTY

- A. Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within published warranty period.
 - 1. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.
 - 2. Warranty Period: Beginning from date of Substantial Completion, for durations indicated in manufacturer's published listings.
 - a. Mechanical Warranty
 - 1) Locks: 10 Years
 - 2) Exit Devices: 10 Years
 - 3) Closers: 30 Years
 - b. Electrical Warranty
 - 1) Locks: 3 Years
 - 2) Exit Devices: 3 Years

3) Closers/Holders: 2 Years

1.08 MAINTENANCE

- A. Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.
- B. Turn over unused materials to Owner for maintenance purposes.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. The Owner requires use of certain products for their unique characteristics and project suitability to ensure continuity of existing and future performance and maintenance standards. After investigating available product offerings, the Awarding Authority has elected to prepare proprietary specifications. These products are specified with the notation: "No Substitute."
 - 1. Where "No Substitute" is noted, submittals and substitution requests for other products will not be considered.
- B. Approval of alternate manufacturers and/or products other than those listed as "Scheduled Manufacturer" or "Acceptable Manufacturers" in the individual article for the product category are only to be considered by official substitution request in accordance with section 01 25 00.
- C. Approval of products from manufacturers indicated in "Acceptable Manufacturers" is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer's product.
- D. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect's approval.

2.02 MATERIALS

A. Fabrication

- Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. provide screws according to manufacturer's recognized installation standards for application intended.
- 2. Finish exposed screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.
- 3. Provide concealed fasteners wherever possible for hardware units exposed when door is closed. Coordinate with "Metal Doors and Frames", "Flush Wood Doors", "Stile and Rail Wood Doors" to ensure proper reinforcements. Advise the Architect where visible fasteners, such as thru bolts, are required.

- B. Modification and Preparation of Existing Doors: Where existing door hardware is indicated to be removed and reinstalled.
 - 1. Provide necessary fillers, Dutchmen, reinforcements, and fasteners, compatible with existing materials, as required for mounting new opening hardware and to cover existing door and frame preparations.
 - 2. Use materials which match materials of adjacent modified areas.
 - 3. When modifying existing fire-rated openings, provide materials permitted by NFPA 80 as required to maintain fire-rating.
- C. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation.
 - 1. Where fasteners are exposed to view: Finish to match adjacent door hardware material.

D. Cable and Connectors:

- Where scheduled in the hardware sets, provide each item of electrified hardware and wire harnesses with number and gage of wires enough to accommodate electric function of specified hardware.
- 2. Provide Molex connectors that plug directly into connectors from harnesses, electric locking and power transfer devices.
- 3. Provide through-door wire harness for each electrified locking device installed in a door and wire harness for each electrified hinge, electrified continuous hinge, electrified pivot, and electric power transfer for connection to power supplies.

2.03 HINGES

A. Manufacturers and Products:

- 1. Scheduled Manufacturer and Product:
 - a. Ives 5BB series
- 2. Acceptable Manufacturers and Products:
 - a. Hager BB1191/1279 series
 - b. McKinney TB series
 - c. Best FBB series

B. Requirements:

- 1. Provide hinges conforming to ANSI/BHMA A156.1.
- 2. Provide five knuckle, ball bearing hinges.
- 3. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide:
 - a. Exterior: Standard weight, bronze or stainless steel, 4-1/2 inches (114 mm) high
 - b. Interior: Standard weight, steel, 4-1/2 inches (114 mm) high
- 4. 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide:
 - a. Exterior: Heavy weight, bronze/stainless steel, 5 inches (127 mm) high
 - b. Interior: Heavy weight, steel, 5 inches (127 mm) high
- 5. 2 inches or thicker doors:
 - a. Exterior: Heavy weight, bronze or stainless steel, 5 inches (127 mm) high
 - b. Interior: Heavy weight, steel, 5 inches (127 mm) high

- 6. Adjust hinge width for door, frame, and wall conditions to allow proper degree of opening.
- 7. Provide three hinges per door leaf for doors 90 inches (2286 mm) or less in height, and one additional hinge for each 30 inches (762 mm) of additional door height.
- 8. Where new hinges are specified for existing doors or existing frames, provide new hinges of identical size to hinge preparation present in existing door or existing frame.
- 9. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
 - a. Steel Hinges: Steel pins
 - b. Non-Ferrous Hinges: Stainless steel pins
 - c. Out-Swinging Exterior Doors: Non-removable pins
 - d. Out-Swinging Interior Lockable Doors: Non-removable pins
 - e. Interior Non-lockable Doors: Non-rising pins
- 10. Provide hinges with electrified options as scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware. Locate electric hinge at second hinge from bottom or nearest to electrified locking component. Provide mortar guard for each electrified hinge specified.
- 11. Where new hinges are specified for existing doors or existing frames, provide new hinges of identical size to hinge preparation present in existing door or existing frame.

2.04 **CONTINUOUS HINGES**

A. Manufacturers:

- 1. Scheduled Manufacturer:
 - a. Ives
- 2. Acceptable Manufacturers:
 - a. Select
 - b. Pemko

B. Requirements:

- 1. Provide aluminum geared continuous hinges conforming to ANSI/BHMA A156.26,
- 2. Provide aluminum geared continuous hinges, where specified in the hardware sets, fabricated from 6063-T6 aluminum.
- 3. Provide split nylon bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.
- 4. Provide hinges capable of supporting door weights up to 450 pounds, and successfully tested for 1,500,000 cycles.
- 5. On fire-rated doors, provide aluminum geared continuous hinges classified for use on rated doors by testing agency acceptable to authority having jurisdiction.
- 6. Provide aluminum geared continuous hinges with electrified option scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware.
- 7. Provide hinges 1 inch (25 mm) shorter in length than nominal height of door, unless otherwise noted or door details require shorter length and with symmetrical hole pattern.

2.05 **ELECTRIC POWER TRANSFER**

A. Manufacturers:

1. Scheduled Manufacturer and Product:

DOOR HARDWARE 087100-9 08/22/2024

- a. Von Duprin EPT-10
- 2. Acceptable Manufacturers and Products:
 - a. No Substitute

B. Requirements:

- Provide power transfer with electrified options as scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware.
- 2. Locate electric power transfer per manufacturer's template and UL requirements, unless interference with operation of door or other hardware items.

2.06 DOOR CORDS

A. Manufacturers:

- 1. Scheduled Manufacturer and Product:
 - a. Schlage 788/798 Series
- 2. Acceptable Manufacturers and Products:
 - a. No Substitute

B. Requirements:

- 1. Provide door cords with electrified options as scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware.
- 2. Locate electric power transfer per manufacturer's template and UL requirements, unless interference with operation of door or other hardware items.

2.07 FLUSH BOLTS

A. Manufacturers:

- 1. Scheduled Manufacturer:
 - a. Ives
- 2. Acceptable Manufacturers:
 - a. Rockwood
 - b. Trimco

B. Requirements:

 Provide automatic, constant latching, and manual flush bolts with forged bronze or stainless-steel face plates, extruded brass levers, and with wrought brass guides and strikes. Provide 12 inch (305 mm) steel or brass rods at doors up to 90 inches (2286 mm) in height. For doors over 90 inches (2286 mm) in height increase top rods by 6 inches (152 mm) for each additional 6 inches (152 mm) of door height. Provide dust-proof strikes at each bottom flush bolt.

2.08 COORDINATORS

DOOR HARDWARE 087100-10 08/22/2024

A. Manufacturers:

- 1. Scheduled Manufacturer:
 - a. Ives
- 2. Acceptable Manufacturers:
 - a. Trimco
 - b. Rockwood

B. Requirements:

- 1. Where pairs of doors are equipped with automatic flush bolts, an astragal, or other hardware that requires synchronized closing of the doors, provide bar-type coordinating device, surface applied to underside of stop at frame head.
- 2. Provide filler bar of correct length for unit to span entire width of opening, and appropriate brackets for parallel arm door closers, surface vertical rod exit device strikes, or other stop mounted hardware. Factory-prepared coordinators for vertical rod devices as specified.

2.09 MORTISE LOCKS

A. Manufacturers and Products:

- 1. Scheduled Manufacturer and Product:
 - a. Schlage L9000 series
- 2. Acceptable Manufacturers and Products:
 - a. No Substitute

B. Requirements:

- 1. Provide mortise locks conforming to ANSI/BHMA A156.13 Series 1000, Grade 1, and UL Listed for 3-hour fire doors.
- 2. Indicators: Where specified, provide indicator window measuring a minimum 2-3/5-inch x 3/5 inch with 180-degree visibility. Provide messages color-coded using ANSI Z535 Safety Red with full text and/or symbols, as scheduled, for easy visibility. When applicable allows for lock status indication on both sides of the door.
- 3. Provide locks manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance.
- 4. Provide lock case that is multi-function and field reversible for handing without opening case. Cylinders: Refer to "KEYING" article, herein.
- 5. Provide locks with standard 2-3/4 inches (70 mm) backset with full 3/4 inch (19 mm) throw stainless steel mechanical anti-friction latchbolt. Provide deadbolt with full 1-inch (25 mm) throw, constructed of stainless steel.
- 6. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim. Provide electrified options as scheduled in the hardware sets. Where scheduled, provide switches and sensors integrated into the locks and latches.
- 7. Provide motor based electrified locksets that comply with the following requirements:
 - a. Universal input voltage single chassis accepts 12 or 24VDC to allow for changes in the field without changing lock chassis.
 - b. Fail Safe/Fail Secure changing mode between electrically locked (fail safe) and electrically unlocked (fail secure) is field selectable without opening the lock case.
 - c. Low maximum current draw maximum 0.4 amps to allow for multiple locks on a single power supply.

- d. Low holding current maximum 0.01 amps to produce minimal heat, eliminate "hot levers" in electrically locked applications, and to provide reliable operation in wood doors that provide minimal ventilation and air flow.
- e. Connections provide quick-connect Molex system standard.
- 8. Lever Trim: Solid brass, bronze, or stainless steel, cast or forged in design specified, with wrought roses and external lever spring cages. Provide thru-bolted levers with 2-piece spindles.
 - a. Lever Design: Schlage 06N.

2.10 EXIT DEVICES

A. Manufacturers and Products:

- 1. Scheduled Manufacturer and Product:
 - a. Von Duprin 99 series
- 2. Acceptable Manufacturers and Products:
 - a. No Substitute

B. Requirements:

- Provide exit devices tested to ANSI/BHMA A156.3 Grade 1 and UL listed for Panic Exit or Fire Exit Hardware.
- 2. Cylinders: Refer to "KEYING" article, herein.
- 3. Provide grooved touchpad type exit devices, fabricated of brass, bronze, stainless steel, or aluminum, plated to standard architectural finishes to match balance of door hardware.
- 4. Touchpad must extend a minimum of one half of door width. No plastic inserts are allowed in touchpads.
- 5. Provide exit devices with deadlatching feature for security and for future addition of alarm kits and/or other electrified requirements.
- 6. Provide exit devices with weather resistant components that can withstand harsh conditions of various climates and corrosive cleaners used in outdoor pool environments.
- 7. Provide flush end caps for exit devices.
- 8. Provide exit devices with manufacturer's approved strikes.
- 9. Provide exit devices cut to door width and height. Install exit devices at height recommended by exit device manufacturer, allowable by governing building codes, and approved by Architect.
- 10. Mount mechanism case flush on face of doors or provide spacers to fill gaps behind devices. Where glass trim or molding projects off face of door, provide glass bead kits.
- 11. Provide cylinder or hex-key dogging as specified at non fire-rated openings.
- 12. Removable Mullions: 2 inches (51 mm) x 3 inches (76 mm) steel tube. Where scheduled as keyed removable mullion, provide type that can be removed by use of a keyed cylinder, which is self-locking when re-installed.
- 13. Provide factory drilled weep holes for exit devices used in full exterior application, highly corrosive areas, and where noted in hardware sets.
- 14. Provide electrified options as scheduled.
- 15. Top latch mounting: double- or single-tab mount for steel doors, face mount for aluminum doors eliminating requirement of tabs, and double tab mount for wood doors.
- 16. Provide exit devices with optional trim designs to match other lever and pull designs used on the project.
- 17. Special Options:
 - a. CVC

DOOR HARDWARE 087100-12 08/22/2024

- Provide cable-actuated concealed vertical latch system in two-point for non-rated or fire rated wood doors up to a 90 minute rating and less bottom latch (LBL) configuration for non-rated or fire rated wood doors up to 20 minute rating. Vertical rods not permitted.
 - a) Cable: Stainless steel with abrasive resistant coating. Conduit and core wire ends snap into latch and center slides without use of tools.
 - b) Wood Door Prep: Maximum 1 inch x 1.1875 inch x 3.875 inches top latch pocket and 1 inch x 1.1875 inch x 5 inches bottom latch pocket which does not require the use of a metal wrap or edge for non-rated or fire rated wood doors up to a 45 minute rating.
 - c) Latchbolts and Blocking Cams: Manufactured from sintered metal low carbon copper- infiltrated steel, with molybdenum disulfide low friction coating.
 - d) Top Latchbolt: Minimum 0.38 inch (10 mm) and greater than 90-degree engagement with strike to prevent door and frame separation under high static load.
 - e) Bottom Latchbolt: Minimum of 0.44-inch (11 mm) engagement with strike.
 - f) Product Cycle Life: 1,000,000 cycles.
 - g) Latch Operation: Top and bottom latch operate independently of each other. Top latch fully engages top strike even when bottom latch is compromised. Separate trigger mechanisms not permitted.
 - h) Latch release does not require separate trigger mechanism.
 - i) Cable and latching system characteristics:
 - Installed independently of exit device installation, and capable of functioning on door prior to device and trim installation.
 - ii. Connected to exit device at single point in steel and aluminum doors, and two points for top and bottom latches in wood doors.
 - iii. Bottom latch height adjusted, from single point for steel and aluminum doors and two points for wood doors, after system is installed and connected to exit device, while door is hanging
 - iv. Bottom latch position altered up and down minimum of 2 inches (51 mm) in steel and aluminum doors without additional adjustment. Bottom latch deadlocks in every adjustment position in wood doors.
 - v. Top and bottom latches in steel and aluminum doors and top latch in wood doors may be removed while door is hanging.

2.11 CYLINDER HOUSINGS

A. Manufacturers:

- 1. Scheduled Manufacturer and Product:
 - a. Schlage
- 2. Acceptable Manufacturers and Products:
 - a. Best

B. Requirements:

- 1. Provide cylinder housings from same manufacturer of locksets, compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset, manufacturer's series as indicated. Refer to "KEYING" article, herein.
- 2. Provide cylinder housings in the below-listed configuration(s), distributed throughout the Project as indicated.
 - a. Cylinder/Core Type: Small Format Interchangeable Core (SFIC)

- 3. Replaceable Construction Cores.
 - a. Provide temporary construction cores replaceable by permanent cores, furnished in accordance with the following requirements.
 - 1) 3 construction control keys
 - 2) 12 construction change (day) keys.
- 4. Verify with Owner where permanent cores are to be shipped to.

2.12 PERMANENT CORES, KEYING, KEYS

- A. Manufacturers:
 - 1. Scheduled Manufacturer: Best
- B. Acceptable Manufacturers:
 - No Substitute
- C. Provide a factory registered keying system, complying with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.
- D. Permanent Core Requirements:
 - 1. Provide permanent cores compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset, manufacturer's series as indicated. Refer to "KEYING" article, herein.
 - 2. Provide cores in the below-listed configuration(s), distributed throughout the Project as indicated.
 - a. Match Owner's existing system.
 - b. Cylinder/Core Type: Small Format Interchangeable Core (SFIC).
 - c. Nickel silver bottom pins.

E. Keying Requirements:

- 1. Provide a factory registered keying system, complying with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.
- 2. Provide keying system capable of multiplex masterkeying.
- 3. Permanent cores keyed by the manufacturer according to the following key system.
 - a. Keying system as directed by the Owner.
 - b. Match Owner's existing system.
 - c. (Great)Grand Master Key System: Cylinders/cores operated by change (day) keys and subsequent masters (including grand/great grand) keys.
- 4. Forward bitting list and keys separately from cylinders, by means as directed by Owner. Failure to comply with forwarding requirements shall be cause for replacement of cylinders/cores involved at no additional cost to Owner.
- 5. Provide keys with the following features:
 - a. Material: Nickel silver; minimum thickness of .107-inch (2.3mm).
- 6. Identification:
 - a. Mark permanent cylinders/cores and keys with applicable blind code per DHI publication "Keying Systems and Nomenclature" for identification. Blind code marks shall not include actual key cuts.
 - b. Identification stamping provisions must be approved by the Architect and Owner.

- c. Stamp keys with Owner's unique key system facility code as established by the manufacturer; key symbol and embossed or stamped with "DO NOT DUPLICATE".
- d. Failure to comply with stamping requirements shall be cause for replacement of keys involved at no additional cost to Owner.
- 7. Quantity: Furnish in the following quantities.
 - a. Change (Day) Keys: 3 per cylinder/core.
 - b. Permanent Control Keys: 3 (if required).
 - c. Master Keys: 6 per master.
 - d. Unused balance of key blanks shall be furnished to Owner with the cut keys.
- 8. Verify with owner where permanent cores and keys are to be shipped to.

2.13 KEY CONTROL SYSTEM

A. Manufacturers:

- 1. Scheduled Manufacturer:
 - a. Telkee
- 2. Acceptable Manufacturers:
 - a. No Substitute
 - b. HPC
 - c. Lund

B. Requirements:

- 1. Provide key control system, including envelopes, labels, tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet, all as recommended by system manufacturer, with capacity for 150% of number of locks required for Project.
 - a. Provide complete cross index system set up by hardware supplier, and place keys on markers and hooks in cabinet as determined by final key schedule.
 - b. Provide hinged-panel type cabinet for wall mounting.

2.14 DOOR CLOSERS

- A. Manufacturers and Products:
 - 1. Scheduled Manufacturer and Product:
 - a. LCN 4040XP series
 - 2. Acceptable Manufacturers and Products:
 - a. Dorma Kaba QDC-100

B. Requirements:

- Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.
- 2. Provide door closers with fully hydraulic, full rack and pinion action with high strength cast iron cylinder, and full complement bearings at shaft.

- 3. Cylinder Body: 1-1/2-inch (38 mm) diameter piston with 5/8-inch (16 mm) diameter double heat-treated pinion journal. QR code with a direct link to maintenance instructions.
- 4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
- 5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards. Provide snap-on cover clip, with plastic covers, that secures cover to spring tube.
- 6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck. Provide graphically labelled instructions on the closer body adjacent to each adjustment valve. Provide positive stop on reg valve that prevents reg screw from being backed out.
- 7. Provide closers with solid forged steel main arms and factory assembled heavy-duty forged forearms for parallel arm closers.
- 8. Pressure Relief Valve (PRV) Technology: Not permitted.
- 9. Finish for Closer Cylinders, Arms, Adapter Plates, and Metal Covers: Powder coating finish which has been certified to exceed 100 hours salt spray testing as described in ANSI Standard A156.4 and ASTM B117, or has special rust inhibitor (SRI).
- 10. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.
- 11. Closers shall be capable of being upgraded by adding modular mechanical or electronic components in the field.

2.15 ELECTROMECHANICAL CLOSER/HOLDERS

A. Manufacturers:

- 1. Scheduled Manufacturer:
 - a. LCN
- 2. Acceptable Manufacturers:
 - a. No Substitute

B. Requirements:

- 1. Provide single-point or multi-point hold-open electromechanical closer/holders as specified. Coordinate voltage requirements and provide transformer if necessary.
- 2. Provide closer/holders that function as full rack and pinion door closer when current is interrupted or continuous hold-open is not engaged.
- 3. Provide door closers with fully hydraulic, full rack and pinion action with high strength cylinder and full complement bearings at shaft.
- 4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
- 5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
- 6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck.
- 7. Pressure Relief Valve (PRV) Technology: Not permitted.
- 8. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

2.16 PROTECTION PLATES

A. Manufacturers:

- 1. Scheduled Manufacturer:
 - a. Ives
- 2. Acceptable Manufacturers:
 - a. Trimco
 - b. Rockwood

B. Requirements:

- 1. Provide protection plates with a minimum of 0.050 inch (1 mm) thick, beveled four edges as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
- 2. Sizes plates 2 inches (51 mm) less width of door on single doors, pairs of doors with a mullion, and doors with edge guards. Size plates 1 inch (25 mm) less width of door on pairs without a mullion or edge guards.
- 3. At fire rated doors, provide protection plates over 16 inches high with UL label.

2.17 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

A. Manufacturers:

- 1. Scheduled Manufacturers:
 - a. Glynn-Johnson
- 2. Acceptable Manufacturers:
 - a. No Substitute

B. Requirements:

1. Provide overhead stop at any door where conditions do not allow for a wall stop or floor stop presents tripping hazard.

2.18 DOOR STOPS AND HOLDERS

A. Manufacturers:

- 1. Scheduled Manufacturer:
 - a. Ives
- 2. Acceptable Manufacturers:
 - a. Trimco
 - b. Rockwood

B. Provide door stops at each door leaf:

- 1. Provide wall stops wherever possible. Provide concave type where lockset has a push button of thumbturn.
- 2. Where a wall stop cannot be used, provide universal floor stops.
- 3. Where wall or floor stop cannot be used, provide overhead stop.

4. Provide roller bumper where doors open into each other and overhead stop cannot be used

2.19 THRESHOLDS, SEALS, DOOR SWEEPS, AUTOMATIC DOOR BOTTOMS, AND GASKETING

A. Manufacturers:

- 1. Scheduled Manufacturer:
 - a. Zero International
- 2. Acceptable Manufacturers:
 - a. National Guard
 - b. Reese
 - c. Pemko

B. Requirements:

- 1. Provide thresholds, weather-stripping, and gasketing systems as specified and per architectural details. Match finish of other items.
- 2. Smoke- and Draft-Control Door Assemblies: Where smoke- and draft-control door assemblies are required, provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.
- 3. Provide door sweeps, seals, astragals, and auto door bottoms only of type where resilient or flexible seal strip is easily replaceable and readily available.
- 4. Size thresholds 1/2 inch (13 mm) high by 5 inches (127 mm) wide by door width unless otherwise specified in the hardware sets or detailed in the drawings.

2.20 SILENCERS

A. Manufacturers:

- 1. Scheduled Manufacturer:
 - a. Ives
- 2. Acceptable Manufacturers:
 - a. Rockwood
 - b. Trimco

B. Requirements:

- 1. Provide "push-in" type silencers for hollow metal or wood frames.
- 2. Provide one silencer per 30 inches (762 mm) of height on each single frame, and two for each pair frame.
- 3. Omit where gasketing is specified.

2.21 FINISHES

A. Provide hardware in finishes as shown in the hardware sets.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance. Verify doors, frames, and walls have been properly reinforced for hardware installation.
- B. Field verify existing doors and frames receiving new hardware and existing conditions receiving new openings. Verify that new hardware is compatible with existing door and frame preparation and existing conditions.
- C. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.
- D. Submit a list of deficiencies in writing and proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Where on-site modification of doors and frames is required:
 - 1. Carefully remove existing door hardware and components being reused. Clean, protect, tag, and store in accordance with storage and handling requirements specified herein.
 - 2. Field modify and prepare existing doors and frames for new hardware being installed.
 - 3. When modifications are exposed to view, use concealed fasteners, when possible.
 - 4. Prepare hardware locations and reinstall in accordance with installation requirements for new door hardware and with:
 - a. Steel Doors and Frames: For surface applied door hardware, drill and tap doors and frames according to ANSI/SDI A250.6.
 - b. Wood Doors: DHI WDHS.5 "Recommended Hardware Reinforcement Locations for Mineral Core Wood Flush Doors."
 - c. Doors in rated assemblies: NFPA 80 for restrictions on on-site door hardware preparation.

3.03 INSTALLATION

- A. Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.
 - 1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
 - 2. Custom Steel Doors and Frames: HMMA 831.
 - 3. Interior Architectural Wood Flush Doors: ANSI/WDMA I.S. 1A
 - 4. Installation Guide for Doors and Hardware: DHI TDH-007-20
- B. Install door hardware in accordance with NFPA 80, NFPA 101 and provide post-install inspection, testing as specified in section 1.03.E unless otherwise required to comply with governing regulations.

- C. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.
- D. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.
- E. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.
- F. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- G. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.
- H. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated.
- I. Lock Cylinders:
 - 1. Install construction cores to secure building and areas during construction period.
 - 2. Replace construction cores with permanent cores as indicated in keying section.
 - 3. Furnish permanent cores to Owner for installation.
- J. Wiring: Coordinate with Division 26, ELECTRICAL and Division 28 ELECTRONIC SAFETY AND SECURITY sections for:
 - 1. Conduit, junction boxes and wire pulls.
 - 2. Connections to and from power supplies to electrified hardware.
 - 3. Connections to fire/smoke alarm system and smoke evacuation system.
 - 4. Connection of wire to door position switches and wire runs to central room or area, as directed by Architect.
 - 5. Connections to panel interface modules, controllers, and gateways.
 - 6. Testing and labeling wires with Architect's opening number.
- K. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.
- L. Continuous Hinges: Re-locate the door and frame fire rating labels where they will remain visible so that the hinge does not cover the label once installed.
- M. Door Closers & Auto Operators: Mount closers/operators on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Mount closers/operators so they are not visible in corridors, lobbies and other public spaces unless approved by Architect.
- N. Overhead Stops/Holders: Mount overhead stops/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.
- O. Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings or in equipment room, or alternate location as directed by Architect.
- P. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."

- Q. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.
- R. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
- S. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.
- T. Door Bottoms and Sweeps: Apply to bottom of door, forming seal with threshold when door is closed.

3.04 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
 - Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.
- B. Occupancy Adjustment: Approximately three to six months after date of Substantial Completion, examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors and door hardware.

3.05 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items per manufacturer's instructions to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

3.06 DOOR HARDWARE SCHEDULE

- A. The intent of the hardware specification is to specify the hardware for interior and exterior doors, and to establish a type, continuity, and standard of quality. However, it is the door hardware supplier's responsibility to thoroughly review existing conditions, schedules, specifications, drawings, and other Contract Documents to verify the suitability of the hardware specified.
- B. Discrepancies, conflicting hardware, and missing items are to be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application.
- C. Hardware items are referenced in the following hardware schedule. Refer to the above specifications for special features, options, cylinders/keying, and other requirements.
- D. Hardware Sets:

116860 OPT0383955 Version 3

HARDWARE GROUP NO. 01

For use on Door #(s):

G111

Provide each OPENING with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	OFFICE W/SIM RETRACT W/ OUTSIDE INDICATOR	L9056BDC 06N L583-363 OS-OCC	626	SCH
1	EA	PERMANENT CORE	1C7*2	626	BES
1	EA	SURFACE CLOSER	4040XP REG	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	MOP PLATE	8400 4" X 1" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER

HARDWARE GROUP NO. 02

For use on Door #(s):

EX-G108 EX-G109

Provide each OPENING with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	OFFICE W/SIM RETRACT W/ OUTSIDE INDICATOR	L9056BDC 06N L583-363 OS-OCC	626	SCH
1	EA	PERMANENT CORE	1C7*2	626	BES

BALANCE OF HARDWARE EXISTING TO REMAIN. VERIFY/COORDINATE PREPS ON EXISTING DOORS AND FRAMES. PROVIDE FIELD MODIFICATIONS AND/OR FILLERS TO EXISTING DOORS AND FRAMES AS NECESSARY TO ACCEPT NEW SPECIFIED HARDWARE.

HARDWARE GROUP NO. 03

For use on Door #(s):

G100H

Provide each OPENING with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	OFFICE W/SIM RETRACT W/ OUTSIDE INDICATOR	L9056BDC 06N L583-363 OS-OCC	626	SCH
1	EA	PERMANENT CORE	1C7*2	626	BES
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

087100-22 DOOR HARDWARE

HARDWARE GROUP NO. 04

For use on Door #(s):

C100)	$\pi(s)$.					
		PENING with the fol	lowing:				
QTY		DESCRIPTION		CATALOG NUMBER		FINISH	MFR
3	EA	HINGE		5BB1 SIZE, QTY, NF (SEE SPECS)	RP AS REQ'D	639	IVE
1	EA	OFFICE/ENTRY LO		L9050BDC 06N L58	3-363 IS-LOC	612	SCH
1	EA	PERMANENT CO	RE	1C7*2		612	BES
1	EA	WALL STOP		WS406/407CVX		612	IVE
3	EA	SILENCER		SR64		GRY	IVE
HARD	WARE G	ROUP NO. 05					
For us	e on Doo	or #(s):					
G100 H103	-	G100B	G100D	G100E	G100F	G100G	
Provid QTY		PENING with the fol DESCRIPTION	lowing:	CATALOG NUMBER	₹	FINISH	MFR
3	EA	HINGE		5BB1 SIZE, QTY, NF (SEE SPECS)	RP AS REQ'D	652	IVE
1	EA	OFFICE/ENTRY LO INSIDE INDICATO		L9050BDC 06N L58	3-363 IS-LOC	626	SCH
1	EA	PERMANENT COR	RE	1C7*2		626	BES
1	EA	WALL STOP		WS406/407CVX		630	IVE
3	EA	SILENCER		SR64		GRY	IVE
HARD	WARE G	GROUP NO. 06					
For us G100	e on Doo 0.1	or #(s): G100.2					
Provid QTY		PENING with the fol	lowing:	CATALOG NUMBER	2	FINISH	MFR
3	EA	HINGE		5BB1HW SIZE, QTY REQ'D (SEE SPECS		652	IVE
1	EA	OFFICE/ENTRY LO		L9050BDC 06N L58	•	626	SCH
1	EA	PERMANENT COR	RE	1C7*2		626	BES
1	EA	SURFACE CLOSE	R	4040XP REG		689	LCN
1	EA	KICK PLATE		8400 10" X 1 1/2" LE	OW B-CS	630	IVE
1	EA	WALL STOP		WS406/407CVX		630	IVE
3	EA	SILENCER		SR64		GRY	IVE

HARDWARE GROUP NO. 07

For use on Door #(s):

F112.1

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	OFFICE/ENTRY LOCK W/ INSIDE INDICATOR	L9050BDC 06N L583-363 IS-LOC	626	SCH
1	EA	PERMANENT CORE	1C7*2	626	BES
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS439	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER

HARDWARE GROUP NO. 08

For use on Door #(s):

C206

Provide	e each (OPENING with the following:			
QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW SIZE, QTY, NRP AS REQ'D (SEE SPECS)	639	IVE
1	EA	OFFICE/ENTRY LOCK W/ INSIDE INDICATOR	L9050BDC 06N L583-363 IS-LOC	612	SCH
1	EA	PERMANENT CORE	1C7*2	612	BES
1	EA	SURFACE CLOSER	4040XP REG	691	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	612	IVE
1	EA	WALL STOP	WS406/407CVX	612	IVE
1	EΑ	GASKETING	488SBK PSA	BK	ZER

HARDWARE GROUP NO. 09

For use on Door #(s):

G103 G-101 G102

Provide each OPENING with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	OFFICE/ENTRY LOCK W/ INSIDE INDICATOR	L9050BDC 06N L583-363 IS-LOC	626	SCH
1	EA	PERMANENT CORE	1C7*2	626	BES
1	EA	SURFACE CLOSER	4040XP REG	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER

HARDWARE GROUP NO. 10

For use on Door #(s):

F110 G110

Provide each OPENING with the following:

		J			
QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	OFFICE/ENTRY LOCK W/ INSIDE INDICATOR	L9050BDC 06N L583-363 IS-LOC	626	SCH
1	EA	PERMANENT CORE	1C7*2	626	BES
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER

HARDWARE GROUP NO. 11

For use on Doo	r #(s):							
EX-A205	`ÉX-A206	EX-A207	EX-A208	EX-A209	EX-A21	0		
EX-A211	EX-A212	EX-A213	EX-A215	EX-A216	EX-A21	9.1		
EX-A219.2	EX-A223	EX-A224	EX-A225	EX-A226	EX-A22	7		
EX-A230.1	EX-A230.2	EX-A228	EX-A229	EX-B100B	EX-B10	0C		
EX-B100D	EX-B100E	EX-B100F	EX-B100G	EX-B100H	EX-B10	0J		
EX-B100N	EX-B100T	EX-B101	EX-B102	EX-B103H	EX-B10	5		
EX-C110	EX-C207							
Provide each O	Provide each OPENING with the following:							
QTY	DESCRIPTION	_	CATALOG NUMBER		FINISH	MFR		

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	OFFICE/ENTRY LOCK W/ INSIDE INDICATOR	L9050BDC 06N L583-363 IS-LOC	612	SCH
1	EA	PERMANENT CORE	1C7*2	612	BES

BALANCE OF HARDWARE EXISTING TO REMAIN. VERIFY/COORDINATE PREPS ON EXISTING DOORS AND FRAMES. PROVIDE FIELD MODIFICATIONS AND/OR FILLERS TO EXISTING DOORS AND FRAMES AS NECESSARY TO ACCEPT NEW SPECIFIED HARDWARE.

HARDWARE GROUP NO. 12

For use on Door #(s):

EX-F100	EX-F101	EX-F104	EX-F108	EX-H102
EV-L 100	<u> </u>	EA-F 104	EV-L 100	

Provide each OPENING with the following:

•	TOVIGE	cacii Oi	LIVING WITH THE TOHOWING.			
	QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
	1	EA	OFFICE/ENTRY LOCK W/ INSIDE INDICATOR	L9050BDC 06N L583-363 IS-LOC	626	SCH
	1	EA	PERMANENT CORE	1C7*2	626	BES

BALANCE OF HARDWARE EXISTING TO REMAIN. VERIFY/COORDINATE PREPS ON EXISTING DOORS AND FRAMES. PROVIDE FIELD MODIFICATIONS AND/OR FILLERS TO EXISTING DOORS AND FRAMES AS NECESSARY TO ACCEPT NEW SPECIFIED HARDWARE.

087100-26 DOOR HARDWARE

HARDWARE GROUP NO. 13

For use on Door #(s):

EX-H101

Provide each OPENING with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	OFFICE/ENTRY LOCK W/ INSIDE INDICATOR	L9050BDC 06N L583-363 IS-LOC	626	SCH
1	EA	PERMANENT CORE	1C7*2	626	BES
1	EA	WALL STOP	WS406/407CVX	630	IVE

VERIFY/COORDINATE PREPS ON EXISTING DOORS AND FRAMES. PROVIDE FIELD MODIFICATIONS AND/OR FILLERS TO EXISTING DOORS AND FRAMES AS NECESSARY TO ACCEPT NEW SPECIFIED HARDWARE. VERIFY EXISTING HINGE TYPE/PREPS AND PROVIDE HINGES THAT EXISTING PREPS ACCOMMODATE.

HARDWARE GROUP NO. 14

For use on Door #(s):

C101

Provide each OPENING with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1HW SIZE, QTY, NRP AS REQ'D (SEE SPECS)	639	IVE
1	EA	AUTO FLUSH BOLT	FB31T/FB41T (AS REQ'D)	612	IVE
1	EA	OFFICE/ENTRY LOCK W/ INSIDE INDICATOR	L9050BDC 06N L583-363 IS-LOC	612	SCH
1	EA	PERMANENT CORE	1C7*2	612	BES
1	EA	COORDINATOR	COR X FL (MB AS REQ'D) PAINT IN FIELD	628	IVE
2	EA	SURFACE CLOSER (W/ DEAD STOP)	4040XP CUSH	691	LCN
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS	612	IVE
2	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 15

For use on Door #(s):

EX-F113

Provide each OPENING with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	OFFICE/ENTRY LOCK W/ INSIDE INDICATOR	L9050BDC 06N L583-363 IS-LOC	626	SCH
1	EA	PERMANENT CORE	1C7*2	626	BES

BALANCE OF HARDWARE EXISTING TO REMAIN. VERIFY/COORDINATE PREPS ON EXISTING DOORS AND FRAMES. PROVIDE FIELD MODIFICATIONS AND/OR FILLERS TO EXISTING DOORS AND FRAMES AS NECESSARY TO ACCEPT NEW SPECIFIED HARDWARE.

HARDWARE GROUP NO. 16

For use on Door #(s):

EX-H103

Provide each OPENING with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
2	EA	MANUAL FLUSH BOLT	FB458	626	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	OFFICE/ENTRY LOCK W/ INSIDE INDICATOR	L9050BDC 06N L583-363 IS-LOC	626	SCH
1	EA	PERMANENT CORE	1C7*2	626	BES
2	EA	WALL STOP	WS406/407CVX	630	IVE

VERIFY/COORDINATE PREPS ON EXISTING DOORS AND FRAMES. PROVIDE FIELD MODIFICATIONS AND/OR FILLERS TO EXISTING DOORS AND FRAMES AS NECESSARY TO ACCEPT NEW SPECIFIED HARDWARE. VERIFY EXISTING HINGE TYPE/PREPS AND PROVIDE HINGES THAT EXISTING PREPS ACCOMMODATE.

HARDWARE GROUP NO. 17

For use on Door #(s):

F112.2

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	DBL CYL STORE W/DB W/ OUTSIDE INDICATOR W/ INSIDE INDICATOR	L9466BDC 06N OS-LOC IS-LOC	626	SCH
2	EA	PERMANENT CORE	1C7*2	626	BES
1	EA	SURFACE CLOSER (W/ DEAD STOP & HO)	4040XP HCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 18

For use on Door #(s): G101

Provide each OPENING with the following:

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	QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
	3	EA	HINGE	5BB1HW SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
	1	EA	CLASSROOM LOCK	L9070BDC 06N	626	SCH
	1	EA	PERMANENT CORE	1C7*2	626	BES
	1	EA	SURFACE CLOSER	4040XP REG	689	LCN
	1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
	1	EA	WALL STOP	WS406/407CVX	630	IVE
	1	EA	GASKETING	488SBK PSA	BK	ZER

HARDWARE GROUP NO. 19

For use on Door #(s): B100

Provide each OPENING with the following:

		•			
QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW SIZE, QTY, NRP AS REQ'D (SEE SPECS)	639	IVE
1	EA	DOOR CORD	788C-18	626	SCE
1	EA	EU MORTISE LOCK	L9092BDCEU 06N RX 12/24 VDC	612	SCH
1	EA	SURFACE CLOSER	4040XP EDA	691	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	612	IVE
1	EA	WALL STOP	WS406/407CVX	612	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER
1	EA	CREDENTIAL READER	BY ACCESS CONTROL INTEGRATOR		В/О
1	EA	POWER SUPPLY	BY DIV 28		B/O
1	EA	DOOR CONTACT	BY DIV 28		B/O

VERIFY/COORDINATE PREPS ON EXISTING DOORS AND FRAMES. PROVIDE FIELD MODIFICATIONS AND/OR FILLERS TO EXISTING DOORS AND FRAMES AS NECESSARY TO ACCEPT NEW SPECIFIED HARDWARE. VERIFY EXISTING HINGE TYPE/PREPS AND PROVIDE HINGES THAT EXISTING PREPS ACCOMMODATE. PREP EXISTING FRAME ACCORDINGLY FOR NEW SPECIFIED HARDWARE. PROVIDE FILLERS/PLATES AS NECESSARY TO FILL/COVER UNUSED OR EXPOSED EXISTING PREPS.

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIAL TO READER WILL UNLOCK OUTSIDE LEVER, ALLOWING ACCESS. DOOR REMAINS LOCKED WITH LOSS OF POWER. FREE EGRESS AT ALL TIMES.

HARDWARE GROUP NO. 20

For use on Door #(s):

B100A B100B.1

Provide each OPENING with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	639	IVE
1	EA	STOREROOM LOCK	L9080BDC 06N	612	SCH
1	EA	PERMANENT CORE	1C7*2	612	BES
1	EA	SURFACE CLOSER (W/ DEAD STOP)	4040XP CUSH	691	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	612	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER

HARDWARE GROUP NO. 21

For use on Door #(s):

C200E

Provide each	OPENING with	n the following:

		<u> </u>			
QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	639	IVE
1	EA	STOREROOM LOCK	L9080BDC 06N	612	SCH
1	EA	PERMANENT CORE	1C7*2	612	BES
1	EA	SURFACE CLOSER	4040XP REG	691	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	612	IVE
1	EA	WALL STOP	WS406/407CVX	612	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER

HARDWARE GROUP NO. 22

For use on Door #(s):

F105 G106D

Provide each OPENING with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	STOREROOM LOCK	L9080BDC 06N	626	SCH
1	EA	PERMANENT CORE	1C7*2	626	BES
1	EA	SURFACE CLOSER (W/ DEAD STOP)	4040XP CUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER

HARDWARE GROUP NO. 23

For use on Door #(s):

E101P

Provide each OPENING with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	639	IVE
1	EA	CONST LATCHING BOLT	FB51T/FB61T (AS REQ'D)	612	IVE
1	EA	STOREROOM LOCK	L9080BDC 06N	612	SCH
1	EA	PERMANENT CORE	1C7*2	612	BES
1	EA	OH STOP	410S	612	GLY
1	EA	WALL STOP	WS406/407CVX	612	IVE
2	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 24

For use on Door #(s): G106A

Provide each Opening with the following	ide each OPENING w	ith the followin	a:
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1 10	Vide caci	i Oi Livilia with the following.			
C	QΤΥ	DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224XY	628	IVE
1	EA	CONT. HINGE	224XY EPT	628	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	AUTO FLUSH BOLT	FB31P	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	EU MORTISE LOCK	L9092HDEU 06N RX 12/24 VDC	626	SCH
1	EA	PERMANENT CORE	1C7*2	626	BES
2	? EA	SURFACE CLOSER (W/ SPRING STOP & HO)	4040XP SHCUSH	689	LCN
2	EA	ARMOR PLATE	8400 35" X 1" LDW B-CS	630	IVE
1	EA	RAIN DRIP	142AA	AA	ZER
2	SET	WEATHERSTRIPPING	429AA-S @ JAMBS	AA	ZER
1	EA	GASKETING	488SBK PSA @ HEAD	ВК	ZER
1	EA	ASTRAGAL, OVERLAP	383AA	AA	ZER
2	e EA	DOOR SWEEP, BRUSH W/ DRIP	8198AA	AA	ZER
1	EA	THRESHOLD, 1/2"	655A	Α	ZER
1	EA	CREDENTIAL READER	BY ACCESS CONTROL INTEGRATOR		B/O
1	EA	POWER SUPPLY	BY DIV 28		B/O
2	EA	DOOR CONTACT	BY DIV 28		B/O

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIAL TO READER WILL UNLOCK OUTSIDE LEVER, ALLOWING ACCESS. DOOR REMAINS LOCKED WITH LOSS OF POWER. FREE EGRESS AT ALL TIMES.

HARDWARE GROUP NO. 25

For use on Door #(s):

A121

Provide each	OPENING w	ith the following:
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•						
	QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
	6	EA	HINGE	5BB1HW SIZE, QTY, NRP AS REQ'D (SEE SPECS)	639	IVE
	1	EA	POWER TRANSFER	EPT10	689	VON
	1	EA	EU MORTISE LOCK	L9092BDCEU 06N RX 12/24 VDC	612	SCH
	2	EA	SURFACE CLOSER (W/ DEAD STOP)	4040XP CUSH	691	LCN
	2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	612	IVE
	1	EA	GASKETING	488SBK PSA	BK	ZER
	1	EA	GASKETING, MEETING STILE	5070	BK	NGP
	1	EA	CREDENTIAL READER	BY ACCESS CONTROL INTEGRATOR		B/O
	1	EA	POWER SUPPLY	BY DIV 28		B/O
	2	EA	DOOR CONTACT	BY DIV 28		B/O

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIAL TO READER WILL UNLOCK OUTSIDE LEVER, ALLOWING ACCESS. DOOR REMAINS LOCKED WITH LOSS OF POWER. FREE EGRESS AT ALL TIMES.

HARDWARE GROUP NO. 26

For use on Door #(s): G100C

Provide each OPENING with the follow	wing:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	AUTO FLUSH BOLT	FB31T/FB41T (AS REQ'D)	630	IVE
1	EA	STOREROOM LOCK	L9080BDC 06N	626	SCH
1	EA	PERMANENT CORE	1C7*2	626	BES
1	EA	COORDINATOR	COR X FL (MB AS REQ'D)	628	IVE
2	EA	SURFACE CLOSER (W/ DEAD STOP)	4040XP CUSH	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 27

For use on Door #(s): G104C

Provide each OPENING with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	AUTO FLUSH BOLT	FB32/FB42 (AS REQ'D)	630	IVE
1	EA	STOREROOM LOCK	L9080BDC 06N	626	SCH
1	EA	PERMANENT CORE	1C7*2	626	BES
1	EA	COORDINATOR	COR X FL (MB AS REQ'D)	628	IVE
2	EA	SURFACE CLOSER	4040XP REG	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER
1	EA	GASKETING, MEETING STILE	5070	ВК	NGP

HARDWARE GROUP NO. 28

For use on Door #(s): EX-V111.1

Provide each OPENING with the following:

		o o			
Q	TY	DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	POWER TRANSFER	EPT10	689	VON
2	EA	Blank Plate	#050589	628	VON
1	EA	LATCH RETRACTION KIT	QEL KIT		VON
1	EA	SWITCH KIT	LX-RX		VON
1	EA	AUTO OPERATOR	REUSE EXISTING		EXI

BALANCE OF HARDWARE EXISTING TO REMAIN. VERIFY/COORDINATE PREPS ON EXISTING DOORS AND FRAMES. PROVIDE FIELD MODIFICATIONS AND/OR FILLERS TO EXISTING DOORS AND FRAMES AS NECESSARY TO ACCEPT NEW SPECIFIED HARDWARE.

DOOR(S) NORMALLY CLOSED AND LOCKED AND EXTERIOR ACTUATOR DISABLED. PRESENTING VALID CREDENTIAL TO READER RETRACTS EXIT DEVICE LATCH AND ENABLES EXTERIOR ACTUATOR. PUSHING ENABLED EXTERIOR ACTUATOR SIGNALS AUTOMATIC OPERATOR TO OPEN DOOR. INTERIOR ACTUATOR ENABLED AT ALL TIMES. PUSHING INTERIOR ACTUATOR RETRACTS LATCH AND SIGNALS AUTOMATIC OPERATOR TO OPEN DOOR. EXIT DEVICE LATCH ALSO CAPABLE OF BEING ELECTRONICALLY DOGGED DOWN (I.E. PUSH/PULL MODE) AS DESIGNATED BY ACCESS CONTROL SYSTEM SCHEDULE. EXIT DEVICE LATCHES AND LOCKS WITH LOSS OF POWER. FREE EGRESS AT ALL TIMES.

HARDWARE GROUP NO. 29

For use on Door #(s): V-108.2

Provide each	OPENING with the following:
QTY	DESCRIPTION

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224XY	628	IVE
2	EA	DOOR CORD	788C-18	626	SCE
1	EA	REMOVABLE MULLION	KR4954 STAB	689	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-99-DT 24 VDC	612	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-99-NL 24 VDC	612	VON
2	EA	PERMANENT CORE	1C7*2	612	BES
1	EA	MORTISE CYL HOUSING (SFIC)	80-110 (W/ DISP CONST CORE)	612	SCH
1	EA	RIM CYL HOUSING (SFIC)	80-159 (W/ KEYED CONST CORE)	612	SCH
2	EA	SURFACE CLOSER (W/ SPRING STOP)	4040XP SCUSH	691	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	612	IVE
1	EA	RAIN DRIP	142AA	AA	ZER
1	SET	WEATHERSTRIPPING	429AA-S	AA	ZER
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
1	EA	ASTRAGAL, MEETING STILE	8195AA	AA	ZER
2	EA	DOOR SWEEP, BRUSH W/ DRIP	8198AA	AA	ZER
1	EA	THRESHOLD, 1/2"	655A	Α	ZER
1	EA	CREDENTIAL READER	BY ACCESS CONTROL INTEGRATOR		B/O
1	EA	POWER SUPPLY	BY DIV 28		B/O
2	EA	DOOR CONTACT	BY DIV 28		B/O

DOOR(S) NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIAL TO READER RETRÀCTS EXIT DEVICE LATCH, ALLOWING ACCESS. EXIT DEVICE LATCH ALSO CAPABLE OF BEING ELECTRONICALLY DOGGED DOWN (I.E. PUSH/PULL MODE) AS DESIGNATED BY ACCESS CONTROL SYSTEM SCHEDULE. EXIT DEVICE LATCHES AND LOCKS WITH LOSS OF POWER. FREE EGRESS AT ALL TIMES.

HARDWARE GROUP NO. 30

For use on Door #(s):

EX-V111.2

Provide each OPENING with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	POWER TRANSFER	EPT10	689	VON
2	EA	Blank Plate	#050589	628	VON
1	EA	LATCH RETRACTION KIT	QEL KIT		VON
1	EA	SWITCH	SWITCH KIT-RX		VON

BALANCE OF HARDWARE EXISTING TO REMAIN. VERIFY/COORDINATE PREPS ON EXISTING DOORS AND FRAMES. PROVIDE FIELD MODIFICATIONS AND/OR FILLERS TO EXISTING DOORS AND FRAMES AS NECESSARY TO ACCEPT NEW SPECIFIED HARDWARE.

DOOR(S) NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIAL TO READER RETRACTS EXIT DEVICE LATCH, ALLOWING ACCESS. EXIT DEVICE LATCH ALSO CAPABLE OF BEING ELECTRONICALLY DOGGED DOWN (I.E. PUSH/PULL MODE) AS DESIGNATED BY ACCESS CONTROL SYSTEM SCHEDULE. EXIT DEVICE LATCHES AND LOCKS WITH LOSS OF POWER. FREE EGRESS AT ALL TIMES.

HARDWARE GROUP NO. 31

For use on Door #(s):

G105

Provide each OPENING with the following:

QTY	DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3 E/	A HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1 E/	A PANIC HARDWARE	LD-99-L-NL-06	626	VON
1 E/	A PERMANENT CORE	1C7*2	626	BES
1 E/	RIM CYL HOUSING (SFIC)	80-116 (W/ DISP CONST CORE)	626	SCH
1 E/	A SURFACE CLOSER (W/ DEAD STOP)	4040XP CUSH	689	LCN
1 E/	A KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1 E/	A GASKETING	488SBK PSA	BK	ZER

HARDWARE GROUP NO. 32

For use on Door #(s):

B107.1 B107.2

Provide	each (OPENIN	۱G۱	with	the	following:	
				. — — .			

1 TOVIGO	Cacii Oi	LIVING WITH THE TOHOWING.			
QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224XY	628	IVE
1	EA	CONT. HINGE	224XY EPT	628	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	PANIC HARDWARE	LD-9950WDC-DT-LBL-SNB (9949 IF HMD)	612	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-9950WDC-NL-LBL-SNB 24 VDC (9949 IF HMD)	612	VON
1	EA	PERMANENT CORE	1C7*2	612	BES
1	EA	RIM CYL HOUSING (SFIC)	80-116 (W/ DISP CONST CORE)	612	SCH
2	EA	ELEC OVERHEAD HOLDER	SEH 24V/120V AC/DC AS REQ (PULL SIDE)	691	LCN
2	EA	SURFACE CLOSER (W/ DEAD STOP)	4040XP CUSH	691	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	612	IVE
2	EA	SILENCER	SR64	GRY	IVE
1	EA	CREDENTIAL READER	BY ACCESS CONTROL INTEGRATOR		B/O
1	EA	POWER SUPPLY	BY DIV 28		B/O
1	EA	DOOR CONTACT	BY DIV 28		B/O

DOORS NORMALLY HELD OPEN BY ELEC HOLDERS. DOORS CLOSE AND LOCK WITH ACTIVATION OF SECURITY SYSTEM OR LOSS OF POWER. DOORS CAN ALSO BE MANUALLY RELEASED FROM ELEC HOLDERS. WHEN DOORS ARE CLOSED AND LOCKED, PRESENTING VALID CREDENTIAL TO READER RETRACTS EXIT DEVICE LATCH, ALLOWING ACCESS. EXIT DEVICE LATCHES AND LOCKS WITH LOSS OF POWER OR WITH ACTIVATION OF SECURITY SYSTEM. FREE EGRESS AT ALL TIMES.

087100-37 DOOR HARDWARE

HARDWARE GROUP NO. 33

For use on Door #(s): G106.2

Provide each Opening with the following	e each OPENING with the following	ina:
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-						
	QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
	2	EA	CONT. HINGE	224XY EPT	628	IVE
	2	EA	POWER TRANSFER	EPT10	689	VON
	2	EA	ELEC FIRE EXIT HARDWARE	RX-9950WDC-L-F-M996-06-FSE- ALK-LBL-SNB (9949 IF HMD)	626	VON
	2	EA	PERMANENT CORE	1C7*2	626	BES
	2	EA	RIM CYL HOUSING (SFIC)	80-116 (W/ DISP CONST CORE)	626	SCH
	2	EA	SURFACE CLOSER (W/ DEAD STOP)	4040XP CUSH	689	LCN
	2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
	1	EA	GASKETING	488SBK PSA	BK	ZER
	1	EA	GASKETING, MEETING STILE	5070	BK	NGP
	1	EA	CREDENTIAL READER	BY ACCESS CONTROL INTEGRATOR		B/O
	1	EA	POWER SUPPLY	BY DIV 28		B/O
	2	EA	DOOR CONTACT	BY DIV 28		B/O

DOOR NORMALLY CLOSED AND LOCKED AND PANIC BAR ALARM ARMED. ON PULL SIDE, PRESENTING VALID CREDENTIAL TO READER WILL UNLOCK OUTSIDE LEVER, TEMPORARILY DISARM ALARM, AND ALLOW ACCESS. ON PUSH SIDE, DEPRESSING PANIC DEVICE TOUCHBAR WILL SOUND INTERNAL HORN INDICATING UNAUTHORIZED USE OF THE OPENING. ALARM CAN BE ARMED OR DISARMED BY KEYED CYLINDER. DOOR REMAINS LOCKED ON PULL SIDE WITH LOSS OF POWER. ALARM IS DISARMED WITH LOSS OF POWER. FREE EGRESS AT ALL TIMES.

HARDWARE GROUP NO. 34

For use on Door #(s):

E-101

Provide each OPENING with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224XY	628	IVE
1	EA	PANIC HARDWARE	CD-9950WDC-DT-LBL-SNB (9949 IF HMD)	612	VON
1	EA	PANIC HARDWARE	CD-9950WDC-NL-LBL-SNB (9949 IF HMD)	612	VON
1	EA	PERMANENT CORE	1C7*2	612	BES
1	EA	RIM CYL HOUSING (SFIC)	80-116 (W/ DISP CONST CORE)	612	SCH
2	EA	SURFACE CLOSER	4040XP EDA	691	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	612	IVE
2	EA	WALL STOP/HOLDER	WS20/WS20X	612	IVE
2	EA	SILENCER	SR64	GRY	IVE

087100-38 DOOR HARDWARE

HARDWARE GROUP NO. 35

For use on Door #(s):

E-108 V-108.1

Provide each	OPENING with	the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224XY	628	IVE
1	EA	PANIC HARDWARE	CD-9950WDC-DT-LBL-SNB (9949 IF HMD)	612	VON
1	EA	PANIC HARDWARE	CD-9950WDC-NL-LBL-SNB (9949 IF HMD)	612	VON
1	EA	PERMANENT CORE	1C7*2	612	BES
1	EA	RIM CYL HOUSING (SFIC)	80-116 (W/ DISP CONST CORE)	612	SCH
2	EA	SURFACE CLOSER (W/ DEAD STOP & HO)	4040XP HCUSH	691	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	612	IVE
2	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 36

BC200

For use on Door #(s):

AC200

Provide each OPENING with the following:	

CA000

-						
	QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
	2	EA	CONT. HINGE	224XY	628	IVE
	1	EA	PANIC HARDWARE	LD-9950WDC-DT-LBL-SNB (9949 IF HMD)	612	VON
	1	EA	PANIC HARDWARE	LD-9950WDC-NL-LBL-SNB (9949 IF HMD)	612	VON
	1	EA	PERMANENT CORE	1C7*2	612	BES
	1	EA	RIM CYL HOUSING (SFIC)	80-116 (W/ DISP CONST CORE)	612	SCH
	2	EA	ELEC OVERHEAD HOLDER	SEH 24V/120V AC/DC AS REQ (PULL SIDE)	691	LCN
	2	EA	SURFACE CLOSER (W/ DEAD STOP)	4040XP CUSH	691	LCN
	2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	612	IVE
	2	EA	SILENCER	SR64	GRY	IVE
	1	EA	POWER SUPPLY	BY DIV 28		B/O

DOORS NORMALLY HELD OPEN BY ELEC HOLDERS. DOORS CLOSE AND LOCK WITH ACTIVATION OF SECURITY SYSTEM OR LOSS OF POWER. DOORS CAN ALSO BE MANUALLY RELEASED FROM ELEC HOLDERS. FREE EGRESS AT ALL TIMES.

HARDWARE GROUP NO. 37

For use on Door #(s):

GC100.2 EX-GC101.2 GC101.1

Provide each OPENING with the following:

1 TOVIGO	Cacii Oi	LIVING WITH THE TOHOWING.			
QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224XY	628	IVE
1	EA	PANIC HARDWARE	LD-9950WDC-DT-LBL-SNB (9949 IF HMD)	626	VON
1	EA	PANIC HARDWARE	LD-9950WDC-NL-LBL-SNB (9949 IF HMD)	626	VON
1	EA	PERMANENT CORE	1C7*2	626	BES
1	EA	RIM CYL HOUSING (SFIC)	80-116 (W/ DISP CONST CORE)	626	SCH
2	EA	ELEC OVERHEAD HOLDER	SEH 24V/120V AC/DC AS REQ (PULL SIDE)	689	LCN
2	EA	SURFACE CLOSER (W/ DEAD STOP)	4040XP CUSH	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	SILENCER	SR64	GRY	IVE
1	EA	POWER SUPPLY	BY DIV 28		B/O

DOORS NORMALLY HELD OPEN BY ELEC HOLDERS. DOORS CLOSE AND LOCK WITH ACTIVATION OF SECURITY SYSTEM OR LOSS OF POWER. DOORS CAN ALSO BE MANUALLY RELEASED FROM ELEC HOLDERS. FREE EGRESS AT ALL TIMES.

HARDWARE GROUP NO. 38

For use on Door #(s): G106.1

Provide each OPENING with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224XY	628	IVE
2	EA	FIRE EXIT HARDWARE	9950WDC-L-F-06-LBL-SNB (9949 IF HMD)	626	VON
2	EA	PERMANENT CORE	1C7*2	626	BES
2	EA	RIM CYL HOUSING (SFIC)	80-116 (W/ DISP CONST CORE)	626	SCH
2	EA	SURFACE CLOSER (W/ DEAD STOP)	4040XP CUSH	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER
1	EA	GASKETING, MEETING STILE	5070	BK	NGP

HARDWARE GROUP NO. 39

For use on Door #(s):

E101A G106A.2

Provide each OPENING with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	PERMANENT CORE	1C7*2	626	BES
1	EA	MORTISE CYL HOUSING (SFIC)	80-110 (W/ DISP CONST CORE)	626	SCH

VERIFY EXACT CYLINDER TYPE & FINISH REQUIRED. BALANCE OF HARDWARE BY DOOR MANUFACTURER.

HARDWARE GROUP NO. 40

For use on Door #(s):

C200A C200B C200C C200D C200F C200G C200J

Provide each OPENING with the following:

QTY **DESCRIPTION CATALOG NUMBER** FINISH **MFR** 1 EΑ PERMANENT CORE 1C7*2 **BES** 612 1 EΑ MORTISE CYL HOUSING 80-110 (W/ DISP CONST CORE) 612 SCH (SFIC)

VERIFY EXACT CYLINDER TYPE & FINISH REQUIRED. BALANCE OF HARDWARE BY DOOR MANUFACTURER.

END OF SECTION

DOOR HARDWARE 087100-41 08/22/2024

MSD Washington Township Operation Service Center

Drawing Number:	Title:	Current Revision:
TITLE-01	Title Page	Design Review DR.0
GEN-01	Installation Standards - Legend	Design Review DR.0
GEN-02	Installation Standards - Electrical	Design Review DR.0
GEN-03	Installation Standards - Network	Design Review DR.0
GEN-04	Installation Standards - Mechanical	Design Review DR.0
GEN-05	Installation Standards - Wire & Cable Requirements	Design Review DR.0
RISER-01	Ethernet Network Drops	Design Review DR.0
OSC-01	Fan Coil Unit FCU-D1 Field Devices	Design Review DR.0
OSC-02	Fan Coil Unit FCU-D1 Point Tables & Sequence of Operation	Design Review DR.0
OSC-03	Fan Coil Unit FCU-D1 Panel - I/O Wiring	Design Review DR.0
OSC-04	Fan Coil Unit FCU-D1 Panel - Power & Network Wiring	Design Review DR.0
OSC-05	Fan Coil Unit FCU-D1 Panel - Dimensions & BOM	Design Review DR.0
OSC-06	Exhaust Fans EF-G2 & G3 Field Devices, Point Tables, & Sequence	Design Review DR.0
OSC-07	Exhaust Fans EF-G2 & G3 Panel - I/O Wiring	Design Review DR.0
OSC-08	Exhaust Fans EF-G2 & G3 Panel - Power & Network Wiring	Design Review DR.0
OSC-09	Exhaust Fans EF-G2 & G3 Panel - Dimensions & BOM	Design Review DR.0
OSC-10	Exhaust Fan EF-B1 Field Devices & Sequence of Operation	Design Review DR.0
OSC-11	BAS Alarm Annunciator Panel Layout	Design Review DR.0
OSC-12	Annunciator Panel Sequence of Operation	Design Review DR.C
OSC-13	Annunciator Panel System 01 Panel - I/O Wiring (1 of 3)	Design Review DR.0
OSC-14	Annunciator Panel System 01 Panel - I/O Wiring (2 of 3)	Design Review DR.0
OSC-15	Annunciator Panel System 01 Panel - I/O Wiring (3 of 3)	Design Review DR.0
OSC-16	Annunciator Panel System 01 Panel - Power & Network Wiring	Design Review DR.C
OSC-17	Annunciator Panel System 01 Panel - Dimensions & BOM	Design Review DR.C
SCH-01	Consolidated BOM	Design Review DR.C
SCH-02	Label List & Valve Schedule	Design Review DR.C
INST-01	Installation Standards - Inputs (1 of 3)	Design Review DR.C
INST-02	Installation Standards - Inputs (2 of 3)	Design Review DR.C
INST-03	Installation Standards - Inputs (3 of 3)	Design Review DR.C
INST-04	Installation Standards - Outputs (1 of 3)	Design Review DR.C
INST-05	Installation Standards - Outputs (2 of 3)	Design Review DR.C
INST-06	Installation Standards - Outputs (3 of 3)	Design Review DR.C
INST-07	Installation Standards - Typical Third-Party Connections	Design Review DR.C



Temperature Control Services
108 N MAIN
ADVANCE, INDIANA 46102
PHONE: 765.481.8510
ALL: NATHAN@TCSBAS.COM

UF	PDATES
DATE	REMARKS
8/22/2024	ADDENDUM #1
	ISSUED FOR CONST
	AS-BUILT

REVISIONS								
DATE	REMARKS							

IITLE:	3 TITLE: Operation Service Center (OSC)
ATION:	: ATION: MSD Washington Township, Indianapolis, IN
NEER:	SINEER: Temperature Control Services, LLC
NTRAC T	NTRACT WITH: MSD Washington Township
FF. 8 /11	FF. B/16/2024 CHK BY: DRAWN BY: BCS

CONTRACT N

SHEET
TITLE-01
JOB NUMBER:

TAG	TAG DESCRIPTION
AC	DX COOLING-ONLY UNIT
ACF	ACTIVATED CARBON FILTER SYSTEM
ACK	ACKNOWLEDGE
ACP	AIR COMPRESSOR
ACU	AIR COOLED CONDENSING UNIT
ACU	AIR CONDITIONING SYSTEM
AF	AIR FILTER
AFS	AIR FLOW MEASURING STATION
AHU	AIR HANDLING UNIT
Al	ANALOG INPUT
ALM	ALARM
AO AVC	ANALOG OUTPUT
AVG	AVERAGE(ING)
BAS	BUILDING AUTOMATION SYSTEM
BC	BOILER CONTROLLER
BI	BINARY (DIGITAL) INPUT
BLR BO	BOILER BINARY (DIGITAL) OLITRUIT
BYP	BINARY (DIGITAL) OUTPUT BYPASS
BZR	BUZZER
CBL	CABLE
CB	CIRCUIT BREAKER
CC	COOLING COIL
CCDAT	COOLING COIL DISCHARGE AIR TEMPERATURE
CF	CARTRIDGE FILTER SYSTEM
CH	CHILLER
CHW	CHILL WATER
CHWR	CHILL WATER RETURN TEMPERATURE
CHWS	CHILL WATER SUPPLY TEMPERATURE
Cl	CHLORINE
CND	CONDENSING UNIT
СО	CARBON MONOXIDE SENSOR
CO2	CARBON DIOXIDE SENSOR
CRAC	COMPUTER ROOM AIR CONDITIONING UNIT
C1A	CONTROLLER - DAC-1600 APPLICATION
C2E	CONTROLLER - DSC-1212E SYSTEM
C3A	CONTROLLER - DAC-633 APPLICATION
C3S	CONTROLLER - DSC-633 SYSTEM
C4A	CONTROLLER - DAC-1146 APPLICATION
C4F	CONTROLLER - DFM-440 FIELD MODULE
C4S	CONTROLLER - DSC-1146 SYSTEM
C4X	CONTROLLER - eBX-04 EXPANDER BACKPLANE
C6A	CONTROLLER - DAC-606 APPLICATION
C6E	CONTROLLER - DSC-1616E SYSTEM
C7E	CONTROLLER - eTCH-7E TOUCH SCREEN
C8U	CONTROLLER - eBM-800 UI MODULE
C8X	CONTROLLER - eBX-08 EXPANDER BACKPLANE
CCU	CONTROLLER - COPPERCUBE ARCHIVER
CDF	CONTROLLER - DFC-304R3-240 FCU
CDV	CONTROLLER - DVC-V322A-B VAV
CDX	CONTROLLER - DMUX-8-J MULTIPLEXER
CDZ	CONTROLLER - DZNR-768 REPEATER
CEC	CONTROLLER - eBMGR-2
CEC	CONTROLLER - EBCON-2 SYSTEM
CED	CONTROLLER - DME 4000 DWM FIELD MODULE
CELL	CONTROLLER - DEM 400 FIELD MODULE
CFU	CONTROLLER - DFM-400 FIELD MODULE
CMA	CONTROLLER - JACE 8000 NETWORK ENGINE CONTROLLER - eBM-440-M AO MODULE
CMA CMD	CONTROLLER - eBM-D400R4 DO MODULE
CMH	CONTROLLER - eBM-D400R4-H DO MODULE
CIVIL	COM TWO FFEIV - CRIMED 400 NA-LL DO IMODOFE

T1.0	TAG DESCRIPTION
TAG	TAG DESCRIPTION
CMI	CONTROLLER - eBM-440-I MODULE
CZF	CONTROLLER - eZFCP-424r4-24 FCU
CZV	CONTROLLER - enteliZONE VAV
CN8	CONTROLLER - NIAGARA JACE 8000
C6R	CONTROLLER - NIAGARA IO-R-16 MODULE
C4R	CONTROLLER - NIAGARA IO-R-34 MODULE
CS CT	CURRENT SENSOR CURRENT TRANSDUCER
CTR	COOLING TOWER
CTS	CHEMICAL TREATMENT SYSTEM
CTW	CITY WATER (RAW)
CW	CONDENSER WATER
CWF	CONDENSER WATER FILTER
CWR	CONDENSER WATER RETURN TEMPERATURE
CWS	CONDENSER WATER SUPPLY TEMPERATURE
CWV	CHILL WATER VALVE
DAH	DISCHARGE AIR HUMIDITY
DAT	DISCHARGE AIR TEMPERATURE
DDC	DIRECT DIGITAL CONTROL
DEM	DEMAND
DET	DETECTION
DI	DIGITAL (BINARY) INPUT
DO	DIGITAL (BINARY) OUTPUT
DP	DEW POINT TRANSMITTER
DPA	DIFFERENTIAL PRESSURE TRANSDUCER - AIRFLOW
DPB	DIFFERENTIAL PRESSRUE BLDG TRANSDUCER
DPD	DIFFERENTIAL PRESSURE DUCT TRANSDUCER
DPF	DIFFERENTIAL PRESSURE FILTER
DPR	DAMPER
DPS	DIFFERENTIAL PRESSURE SWITCH
DPT	DIFFERENTIAL PRESSURE TRANSDUCER
DPW	DIFFERENTIAL PRESSURE WATER TRANSDUCER
DR	DIN RAIL
DRA	DIN RAIL ADAPTER
DWH	DOMESTIC WATER METER
DWM DWP	DOMESTIC WATER METER DOMESTIC WATER PRESSURE
DWR	DISHWASHER
EAD	EXHAUST AIR DAMPER
EBO	EQUIPMENT BY OTHERS
ELE	ELEVATOR
ENA	ENABLE
ENC	ENCLOSURE
EOA	EMERGENCY OUTSIDE AIR
EOL	END OF LINE RESISTOR
EPM	ELECTRICAL POWER MONITORING
ES	END SWITCH
ESC	ELECTRONIC SPEED CONTROL
ET	EXPANSION TANK
ETR	EXISTING TO REMAIN
ETS	ETHERNET SWITCH
EWH	ELECTRIC WATER HEATER
FA	FIRE ALARM SYSTEM POINT
FAA	FIRE ALARM ANNUNCIATION
FACP	FIRE ALARM CONTROL PANEL
FAS	FIRE ALARM SYSTEM
FB	FUSE BLOCK
FBK	FEEDBACK
FBD	FACE AND BYPASS DAMPER
FBP	FACE AND BYPASS
FC	FIBER CONVERTER, (TO ETHERNET)

TAG	TAG DESCRIPTION
FCU	FAN COIL UNIT
FDT	FUEL DAY TANK
FE	FRONT END
FLP	FLOATING POINT (TRI-STATE) OUTPUT
FLT	FILTER DIFFERENTIAL PRESSURE
FM	FLOW METER
FP	FIRE PUMP
FR	FIELD RELAY
FS	FLOW SWITCH
FSC	FCU FAN SPEED CONTROL SWITCH
FT	FAULT
FWC	FIRE WATER CHEMICAL TREATMENT SYSTEM
FWC	FIRE WTR CORR CHEM TREAT INJECT SYSTEM
G	GAUGE
GD	GAS DETECTOR
GEN	GENERATOR
GFS	GAS FLOW SWITCH
GM	GAS METER
H2S	HYDROGEN SENSOR
HC	HEATING COIL
HL	HIGH LIMIT, DUCT PRESSURE
HR	HEAT RECOVERY
HRC	HEAT RECOVERY COIL
HRU	HEAT RECOVERY UNIT
HS	HUMIDISTAT
HTD	HUMIDITY / TEMPERATURE SENSOR - DUCT
HTR	HUMIDITY / TEMPERATURE SENSOR - ROOM
HTS	HEAT SENSOR
HU	HUMIDIFIER
HUM	HUMIDITY SENSOR
HW	HOT WATER BETURN TEMPERATURE
HWR	HOT WATER SUPPLY TEMPERATURE
HWS	HOT WATER VALVE
HWV IL	HOT WATER VALVE INTERLOCK
	IONIZATION UNIT
ION ISO	ISOLATION
JA KWM	JACE (CONTROLLER, ACCESSORIES, EXP. PACKS) KILOWATT METER
LAN	LOCAL ACCESS NETWORK
LBL	LABEL
LBL LC	LIGHTING CONTACTOR
LD	LEAK DETECTOR
LFH	LAB FUME HOOD
LFN LL	LOW LIMIT TEMPERATURE SWITCH
LLS	LIQUID LEVEL SWITCH
LLT	LIQUID LEVEL SWITCH LIQUID LEVEL TRANSMITTER
LN*	LINKNET NETWORK POINT
LRB	LIGHTING RELAY BRACKET
LS(S)	LOAD SHEDDING (SIGNAL)
LT	LIGHT
LVL	LEVEL
LWA	LOW WATER ALARM
LWC	LOW WATER CUT-OFF
LWL	LOW WATER LEVEL
M	ACTUATOR
MAD	MIXED AIR DAMPER
MAG	MAGNEHELIC PRESSURE GAUGE
MAT	MIXED AIR TEMPERATURE
MAX	MAXIMUM

) LEVEL
SURE
SURE
OTAL
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ON SYS

ì	TAG DESCRIPTION	TAG	TAG DESCRIPTIO
	MULTIMEDIA FILTER SYSTEM	SDF	SOFTWARE / DRIVERS / FIRMWAR
	MINIMUM	SEF	SMOKE EXHAUST FAN
	MOTOR STARTER	SEP	SEWAGE EJECTION PUMP
	METER	SF	SUPPLY FAN
	NETWORK (SOFTWARE) POINT NUMBER	SGD	SURGE DAMPER - AIR
	OUTSIDE AIR	SI + []	SAFETY INTERLOCK + Source (i.e.
	OUTSIDE AIR DAMPER	SMP	SUMP PUMP
	OUTSIDE AIR HUMIDITY	SP	SWITCH PLATE
	OUTSIDE AIR TEMPERATURE	SPD	SPEED SIGNAL (VFD INPUT SPEED
	OUTSIDE AIR TEMPERATURE / HUMIDITY	SPS	SPRAY WATER SYSTEM
	OBSOLETE	SR	SAFETY RELAY
	OCCUPANCY	SS	START / STOP
	OCCUPANCY SENSOR	SSG	SPACE SENSOR GUARD
	PANDUIT / WIRE MOLD	SSP	SECURITY SYSTEM PANEL
	PANEL BUILD (COMPONENT)	ST	SPACE TEMPERATURE
	PANEL FUSE	STAT	STATUS
	POTENTIAL HYDROGEN	STPT	SETPOINT
	PRE-HEAT VALVE	SW	SWITCH - ELECTRIC
	PANEL LIGHT - GREEN	TB	TERMINAL BLOCK
	PANEL LIGHT - RED	TBP	TRIPLEX DOMESTIC WATER BOOST
	PANEL LIGHT - YELLOW	TH	THERMOSTAT, ROOM TEMPERATU
	POWER MONITOR	TL	TOWER LIGHT (ALARM INDICATIO
	PUMP	TS	TEMPERATURE SENSOR
	PANEL	TW	THERMOWELL, TEMPERATURE
	PHASE LOSS MONITOR	TX	TRANSFORMER
	PRESSURE PICKUP, SPACE - LOW PROFILE	٧	VALVE / ACTUATOR COMBINATIO
	POTABLE WATER POTENTIAL HYDROGEN (Ph) LEVEL	VAV	VARIABLE AIR VOLUME BOX
	RELAY, PANEL, TRACK MOUNT	VFD	VARIABLE FREQUENCY DRIVE
	POWER SUPPLY	VFDR	VARIABLE FREQUENCY DRIVE, RET
	PRESSURE	VFDS	VARIABLE FREQUENCY DRIVE, SUF
	PRINTER	WA	WATER ALARM
	PHOTOCELL RELAY	WD	WATER DETECTOR
	PNEUMATIC TUBING - POLY	WLP	WATER LEVEL TRANSDUCER, PRES
	PNEUMATIC PRESSURE PICKUP - STATIC PRESSURE	WLU	WATER LEVEL TRANSDUCER, ULTR
	PNEUMATIC PRESSURE PICKUP - TOTAL PRESSURE	WM	WATER METER
	PNEUMATIC PRESSURE PICKUPS - STATIC & TOTAL	WP	WATER PRESSURE
	POTABLE WATER CHLORINATION SYSTEM	WSHP	WATER SOURCE HEAT PUMP
	PULSE WIDTH MODULATION	WTR	WATER
	POTABLE WATER TANK	WWT	WASTE WATER TREATMENT
	PANEL RELAY	XFMR	TRANSFORMER
	RETURN AIR		
	RETURN AIR DAMPER		
	RETURN AIR HUMIDITY		
	RETURN AIR TEMPERATURE		
	RELAY, PANEL, ICE CUBE, SOCKET BASE		
	CITY RAW WATER BOOSTER PUMP		
	RADON DETECTOR		
!	RELIEF (DAMPER)		

TAG	TAG DESCRIPTION
SDF	SOFTWARE / DRIVERS / FIRMWARE
SEF	SMOKE EXHAUST FAN
SEP	SEWAGE EJECTION PUMP
SF	SUPPLY FAN
SGD	SURGE DAMPER - AIR
SI + []	SAFETY INTERLOCK + Source (i.e. Term L6 & L7)
SMP	SUMP PUMP
SP	SWITCH PLATE
SPD	SPEED SIGNAL (VFD INPUT SPEED FROM BAS)
SPS	SPRAY WATER SYSTEM
SR	SAFETY RELAY
SS	START / STOP
SSG	SPACE SENSOR GUARD
SSP	SECURITY SYSTEM PANEL
ST	SPACE TEMPERATURE
STAT	STATUS
STPT	SETPOINT
SW	SWITCH - ELECTRIC
ТВ	TERMINAL BLOCK
TBP	TRIPLEX DOMESTIC WATER BOOSTER PUMP PKG
TH	THERMOSTAT, ROOM TEMPERATURE
TL	TOWER LIGHT (ALARM INDICATION)
TS	TEMPERATURE SENSOR
TW	THERMOWELL, TEMPERATURE
TX	TRANSFORMER
٧	VALVE / ACTUATOR COMBINATION
VAV	VARIABLE AIR VOLUME BOX
VFD	VARIABLE FREQUENCY DRIVE
VFDR	VARIABLE FREQUENCY DRIVE, RETURN FAN
VFDS	VARIABLE FREQUENCY DRIVE, SUPPLY FAN
WA	WATER ALARM
WD	WATER DETECTOR
WLP	WATER LEVEL TRANSDUCER, PRESSURE TYPE
WLU	WATER LEVEL TRANSDUCER, ULTRASONIC
WM	WATER METER
WP	WATER PRESSURE
WSHP	WATER SOURCE HEAT PUMP
WTR	WATER
WWT	WASTE WATER TREATMENT
XFMR	TRANSFORMER



UPDATES

/22/2024 ADDENDUM # ISSUED FOR CONS AS-BUIL1 REVISIONS DATE REMARKS

DATE REMARKS

SHEET GEN-01 JOB NUMBER: J-2408004

MS/TP BUS CABLE LABELING

- THE LABELING SHOWN BELOW SHALL BE PROVIDED ON ALL MS/TP BUS CABLES RUNNING FROM ONE CONTROL PANEL TO ANOTHER, OR FROM A CONTROLLER TO A SPACE TEMPERATURE SENSOR. MS/TP BUS CABLES CONNECTING CONTROLLERS WITHIN A SINGLE CONTROL PANEL SHALL NOT BE LABELED
- ON CABLES RUNNING BETWEEN CONTROL PANELS: EACH LABEL SHALL INDICATE THE NAMES OF THE CONTROLLERS CONNECTED AT EACH END OF THE CABLE. THE NAME PRINTED ON THE LEFT SIDE OF THE LABEL SHALL BE THE NAME OF THE CONTROLLER CONNECTED TO THE LEFT END OF THE CABLE & VICE-VERSA (SEE EXAMPLE BELOW). THE WORD "BUS" SHALL BE PRINTED NEAR THE MIDDLE OF THE LABEL TO IDENTIFY THE CABLE AS AN MS/TP BUS CABLE

TO AHU-3	AHU B	BUS VAV	3 8	AHU BUS	VAV 12	TO V CONT	'AV-12 ROLLEI
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- ON CABLES RUNNING TO SPACE TEMPERATURE SENSORS: EACH LABEL SHALL INDICATE THE NAME OF THE CONTROLLER ON THE RIGHT SIDE AND THE LETTERS "ST" ON THE LEFT SIDE. THE CABLE SHALL BE INSTALLED AS SHOWN BELOW. THE WORD "BUS" SHALL BE PRINTED NEAR THE MIDDLE OF THE LABEL TO IDENTIFY THE CABLE AS AN MS/TP BUS CABLE.

T0 E M P	SPACE (SENSOR		ST	BUS	VAV 4		2	ST	BUS	VAV 4		TO VAV-4 CONTROLLER
--------------------	-------------------	--	----	-----	----------	--	---	----	-----	----------	--	------------------------

- EACH LABEL SHALL BE MADE OF TRANSPARENT VINYL FILM BACKED WITH AN ACRYLIC, PRESSURE-SENSITIVE ADHESIVE. THE LABEL MATERIAL SHALL BE OIL & SOLVENT RESISTANT WITH GOOD CONFORMABILITY & FLEXIBILITY. THE MEANS OF PRINTING ON THE LABEL SHALL RESULT IN A CLEARLY LEGIBLE, PERMANENT MARKING. LABELS SHALL REMAIN INTACT & CLEARLY LEGIBLE WHEN SUBJECTED TO ULTRAVIOLET LIGHT, EXTREME HUMIDITY & SURFACE TEMPERATURES FROM -40° F TO 150° F (-40° C TO 66° C).
- EACH CABLE SHALL BE IDENTIFIED WITH (2) LABELS. A LABEL SHALL BE LOCATED WITHIN 18" OF EACH END OF THE CABLE & SHALL BE VISIBLE WITHIN THE CONTROL ENCLOSURE. THE SAME NOTATION THAT APPEARS ON THE LABEL SHALL BE MARKED ON THE COVER OF EACH JUNCTION BOX THAT THE CABLE PASSES THROUGH.

WIRING TERMINATION LEGEND - PANEL

= VDC TERMINATION AT CONTROL PANEL

L## = VAC TERMINATION AT CONTROL PANEL

1## = 120-460VAC INTRA-PANEL TERMINATION

2##, 4## = 24VAC INTRA-PANEL TERMINATION

3##, 5## = 24VDC INTRA-PANEL TERMINATION

WIRING TERMINATION LEGEND - BACNet ID

XX ## (NOTE: LEADING ZEROS NOT USED) T INSTANCE NUMBER: FROM PANEL I/O = PHYSICAL CONNECTION NUMBER N* INSTANCE NUMBER INDICATES A NETWORK (SOFTWARE) POINT I/O TYPE: AI=ANALOG INPUT, BI=BINARY INPUT, MI=MULTISTATE INPUT AO=ANALOG OUTPUT, BO=BINARY OUTPUT DEVICE BASIC ADDRESS FROM SWITCH DEVICE BACNET ADDRESS = DEVICE SWITCH ADDRESS * DEVICE TYPE FACTOR

DEVICE TYPE: = AREA (FACTOR = 10000)

= SYSTEM (FACTOR = 100)

= SUBLAN (FACTOR = 1)

= LINKNET DEVICE (BACNET ADDRESS USES HOSTPANEL_ID)

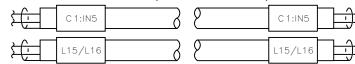
AREA DEVICE # 3, BINARY INPUT NUMBER 4: [BACNET ADDRESS = 30000.BI4] LINKNET DEVICE # 2, BINARY INPUT NUMBER 3: [BACNET ADDRESS = HOSTPANEL_ID.BI203]

INPUT/OUTPUT WIRING STANDARDS

- ALL I/O CABLE SHALL MEET THE FOLLOWING SPECIFICATIONS: STRANDED 18 GAUGE, TWISTED/SHIELDED-PAIR COPPER WIRE WITH 300 VOLT INSULATION
- PLENUM-RATED CABLE SHALL BE USED WHERE REQUIRED BY LOCAL OR NATIONAL CODES.
- I/O WIRING SHALL NOT BE RUN IN THE SAME CONDUIT AS A.C. POWER WIRING THAT CARRIES MORE THAN 24
- WITHIN ANY CONTROL PANEL:
- I/O WIRING SHALL NOT CROSS OVER A.C. POWER WIRING THAT CARRIES MORE THAN 24 VOLTS.
- I/O WIRING SHALL NOT BE RUN IN THE SAME CABLE GROUP AS A.C. POWER WIRING THAT CARRIES MORE THAN 24 VOLTS
- ONLY SHIELDED 24 VAC POWER WIRING SHALL BE ALLOWED TO CROSS OVER, RUN IN THE SAME CONDUIT, OR RUN IN THE SAME CABLE GROUP AS I/O WIRING.
- WHERE UNAVOIDABLE, I/O WIRING MAY BE LOCATED NO CLOSER THAN 6" AND SHOULD BE LOCATED AS FAR APART AS POSSIBLE FROM POWER WIRING CARRYING MORE THAN 24 VOLTS. AVOID RUNNING PARALLEL TO POWER WRING ANY FURTHER THAN NECESSARY, CROSS POWER WIRING AT 90 DEGREE ANGLES ONLY IF
- SHIELDS ON INPUT AND OUTPUT WIRING TO BE GROUNDED AT PANEL (OR CONTROLLER) LOCATION ONLY. THEY SHOULD BE TIED TO A TRUE EARTH GROUND.
- STRIP ONLY ENOUGH CABLE BACK TO ALLOW TERMINATION OF SHIELD AND WIRE.

INPUT / OUTPUT CABLE LABELING

THE LABELING SHOWN BELOW SHALL BE PROVIDED ON ALL I/O WIRING TO & FROM CONTROLLERS AND FIELD DEVICES. I/O WIRING CONTAINED WITHIN A CONTROL PANEL SHALL NOT BE LABELED. EACH LABEL SHALL INDICATE THE I/O WIRING TERMINATION AS SHOWN ON THE TEMPERATURE CONTROL DRAWINGS (SEE EXAMPLES BELOW).



- EACH LABEL SHALL BE MADE OF TRANSPARENT VINYL FILM BACKED WITH AN ACRYLIC. PRESSURE-SENSITIVE ADHESIVE. THE LABEL MATERIAL SHALL BE OIL & SOLVENT RESISTANT WITH GOOD CONFORMABILITY & FLEXIBILITY. THE MEANS OF PRINTING ON THE LABEL SHALL RESULT IN A CLEARLY LEGIBLE, PERMANENT MARKING. LABELS SHALL REMAIN INTACT & CLEARLY LEGIBLE WHEN SUBJECTED TO ULTRAVIOLET LIGHT. EXTREME HUMIDITY & SURFACE TEMPERATURES FROM -40° F TO 150° F (-40° C TO 66° C).
- EACH CABLE SHALL BE IDENTIFIED WITH (2) LABELS. A LABEL SHALL BE LOCATED WITHIN 18" OF EACH END OF THE CABLE & SHALL BE VISIBLE AT THE CONTROL PANEL OR FIELD DEVICE. THE SAME NOTATION THAT APPEARS ON THE LABEL SHALL BE MARKED ON THE COVER OF EACH JUNCTION BOX THAT THE CABLE PASSES THROUGH.

GENERAL ELECTRICAL STANDARDS

- ALL CURRENT SENSING DEVICES SHALL HAVE THE POWER WIRE LOOPED THROUGH THE SENSOR MULTIPLE TIMES, IF NECESSARY, TO PROVIDE AN AMPERAGE THAT IS WELL WITHIN THE RANGE OF THE SENSOR (REFER TO MANUFACTURER'S LITERATURE FOR AMPERAGE RANGE).
- ALL FIELD WIRING TO TERMINAL STRIPS IN CONTROL PANELS SHALL BE TERMINATED AT THE OUTERMOST TERMINALS. INNER TERMINALS OF TERMINAL STRIPS ARE RESERVED FOR INTERNAL WIRING TERMINATIONS.
- 120 VAC POWER WIRING SHALL ENTER ANY CONTROL PANEL AT THE UPPER RIGHT CORNER UNLESS OTHERWISE INDIC ATED
- 240 VAC POWER WRING SHALL ENTER ANY CONTROL PANEL AT THE LOWER LEFT CORNER UNLESS OTHERWISE INDIC ATED.
- THE GROUND WIRE CONNECTED TO ANY CONTROL PANEL MUST BE A CONTINUOUS CONDUCTOR BACK TO THE GROUND CONNECTION AT THE BREAKER PANEL. GROUNDING TO BUILDING STEEL IS NOT ACCEPTABLE.
- ALL JUMPER & DIP SWITCH CONFIGURATIONS SHOWN ON THE TEMPERATURE CONTROL DRAWINGS SHALL BE SET BY THE INSTALLER. IF NO SPECIFIC CONFIGURATION IS SHOWN FOR A DEVICE, NO CHANGE SHALL BE MADE TO THE DEFAULT SETTINGS.
- ALL FIELD WIRING THAT DIFFERS FROM THE WIRING SHOWN ON THE TEMPERATURE CONTROL DRAWINGS SHALL BE NOTED ON THE DRAWINGS (BY THE INSTALLER) WITH RED INK OR PENCIL. THE COMPLETE SET OF NOTED DRAWINGS SHALL BE PROVIDED TO THE PROJECT MANAGER UPON COMPLETION OF THE PROJECT OR SOONER

ELECTRICAL NOTES

ALL CONTROL DEVICES & WIRING SHALL BE INSTALLED IN ACCORDANCE WITH: MANUFACTURER'S INSTALLATION INSTRUCTIONS, AND INSTALLATION STANDARDS PROVIDED ON THE "INSTALLATION STANDARDS" SHEET. - THESE DRAWINGS PROVIDE SCHEMATIC REPRESENTATIONS OF EQUIPMENT & FIELD DEVICES BASED ON THE BID PROPOSAL. ACTUAL INSTALLATION OF ALL CONTROL DEVICES IS SUBJECT TO FIELD VERIFICATION. ANY CHANGES THAT MAY RESULT IN A DEVIATION FROM THE GENERAL INTENT OF THE CONTROL SYSTEM DESIGN SHALL BE APPROVED BY THE DESIGNER PRIOR TO INSTALLATION

FIFLD VERIFICATION OF WIRING TERMINATIONS REQUIRED.

- GROUND CIRCUIT MUST BE A CONTINUOUS PATH BACK TO THE BREAKER PANFI
- ELECTRICAL NOTE: CONTROLLER GROUND CONNECTION MUST BE A COMPLETE PATH BACK TO BREAKER PANEL.
- REMOVE SHUNT JUMPER IF SHIELD IS GROUNDED DIRECTLY AT ANY OTHER POINT OR SHUNT IS INSTALLED AT OTHER END OF NETWORK.
- ADP-45-MSTP-TB-Y AND ADP-45-MSTP-Y BOARDS MAY BE FLUSH MOUNTED ONTO METAL PANELBOARDS WITHOUT AN INSULATOR BETWEEN THE
- FIELD DEVICES SHOULD ONLY BE GROUNDED IN THE CONTROL PANEL. DO NOT GROUND I/O WIRING IN BOTH THE FIELD AND THE PANEL.
- THESE DRAWINGS PROVIDE SCHEMATIC REPRESENTATIONS OF EQUIPMENT & FIELD DEVICES BASED ON THE CHILDREN'S EDUCATION ADDITION PROPOSAL. ACTUAL INSTALLATION OF ALL CONTROL DEVICES IS SUBJECT TO FIELD VERIFICATION. ANY CHANGES THAT MAY RESULT IN A DEVIATION FROM THE GENERAL INTENT OF THE CONTROL SYSTEM DESIGN SHALL BE APPROVED BY THE DESIGNER PRIOR TO INSTALLATION.
- SEE FIELD DEVICE TERMINATION DETAIL SHEET(S) FOR POINT WIRING REQUIREMENTS.

FROM RAPI-

BAPI recommends using twisted pair of at least 22AWG and sealant filled connectors for all wire connections. Larger gauge wire may be required for long runs. All wiring must comply with the National Electric Code (NEC) and local codes.

Do NOT run this device's wiring in the same conduit as AC power wiring of NEC class 1, NEC class 2, NEC class 3 or with wiring used to supply highly inductive loads such as motors, contactors and relays. BAPI's tests show that fluctuating and inaccurate signal levels are possible when AC power wiring is present in the same conduit as the signal lines. If you are experiencing any of these difficulties, please contact your BAPI



3 N MAIN ; INDIANA 46102 : 765.481.8510 IAN@TCSBAS.CO \$

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DATE	REMARKS

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CONTRACT NO

SHEET GEN-02 JOB NUMBER: J-2408004

INSTALLATION STANDARDS - FLECTRICAL

BACNET MS/TP, DELTA LINKNET & MODBUS-RTU (RS-485) BUS STANDARDS

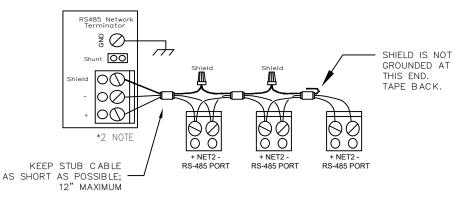
- THE RS-485 BUS SHIELD MUST BE KEPT SEPARATE FROM OTHER SHIELDS & MUST NOT BE GROUNDED. THE RS-485 BUS SHIELD SHALL BE PROTECTED FROM CONTACTING ANY SURFACE OTHER THAN THE TERMINATION BLOCK.
- SPLICES IN RS-485 BUS WIRING ARE NOT ACCEPTABLE. RS-485 BUS WIRING SHALL BE TERMINATED ONLY AT A CONTROLLER, REPEATER, OR TRM-768: RS-485 LAN TERMINATOR.
- THE BLACK WIRE IN AN RS-485 BUS CABLE SHALL ALWAYS BE CONNECTED TO THE (-) BUS TERMINAL ON THE DEVICE AT EACH END OF THE CABLE.
- ALL 2-CONDUCTOR RS-485 BUS CABLE SHALL MEET THE FOLLOWING SPECIFICATIONS:
- 22-24 GAUGE, SINGLE TWISTED-PAIR, TINNED, SHIELDED COPPER WIRE WITH GREEN JACKET
- NOMINAL IMPEDANCE = 100-120 OHMS BETWEEN CONDUCTORS
- CAPACITANCE < OR = TO 17 pF/FT BETWEEN GROUNDED CONDUCTOR & NEXT CONDUCTOR - ACCEPTABLE CABLE = BELDEN 9841, 82841 OR WINDY CITY WIRE 42002-S.
- **APPROVAL OF EQUIVALENT CABLE IS REQUIRED PRIOR TO INSTALLATION**
- PLENUM-RATED CABLE SHALL BE USED WHERE REQUIRED BY LOCAL OR NATIONAL CODES. RS-485 BUS WIRING SHALL NOT BE RUN IN THE SAME CONDUIT AS A.C. POWER WIRING THAT
- CARRIES MORE THAN 24 VOLTS.
- WITHIN ANY CONTROL PANEL.
- RS-485 BUS WIRING SHALL NOT CROSS OVER A.C. POWER WIRING THAT CARRIES MORE THAN 24 VOLTS.
- RS-485 BUS WIRING SHALL NOT BE RUN IN THE SAME CABLE GROUP AS A.C. POWER WIRING THAT CARRIES MORE THAN 24 VOLTS.
- ONLY SHIELDED 24 VAC POWER WIRING SHALL BE ALLOWED TO CROSS OVER, RUN IN THE SAME CONDUIT, OR RUN IN THE SAME CABLE GROUP AS RS-485 BUS WIRING.

BACNET MS/TP. DELTA LINKNET & MODBUS-RTU (RS-485) BUS NOTES

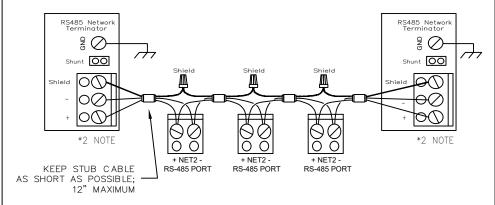
- EACH SEGMENT OF THE DZNT COMMUNICATION BUS CAN HAVE UP TO 50 DEVICES AND 2,000' TOTAL CAT5 CABLE LENGTH (COMBINED DISTANCE BETWEEN TERMINATION BOARDS AND FROM TERMINATION BOARD TO DZNT-TO-VAV (THE WALL MOUNTED DEVICE)) TO A MAXIMUM OF 99 DEVICES TOTAL
- TOTAL NETWORK LENGTH IS DETERMINED BY SUM OF CABLE LENGTHS BETWEEN TERMINATION BOARDS, PLUS THE SUM OF THE DROP CABLES BETWEEN TERMINATION BOARD AND THERMOSTAT.
- IF ONLY 1 SEGMENT IS REQUIRED, AN ADP45-MSTP-TB-Y MAY BE USED INSTEAD OF AN ADP45-MSTP-Y.
- THERE IS NO HARD LIMIT TO THE NUMBER OF BRANCHES CREATED BY ADP45-MSTP-Y CONNECTORS, PROVIDED TOTAL OF ALL BRANCHES IS WITHIN THE LENGTH AND DEVICE LIMIT FOR THE SEGMENT. DAISY CHAIN STRUCTURE IS MAINTAINED DUE TO THE DESIGN OF THE CABLING SYSTEM.
- AFTER SPLITTING A NETWORK INTO TWO (2) BRANCHES, DO NOT RECOMBINE TO A SINGLE BRANCH AT THE OPPOSITE END OR NETWORK PROBLEMS WILL OCCUR.
- LOOPBACK TERMINATION, ADP45-MSTP-ENDLOOP, MUST BE USED AT THE END OF EACH NETWORK BRANCH OR SEGMENT. NETWORK WILL CONTINUE TO FUNCTION IF ON LOOPBACK OR DEVICE IS REMOVED FROM THE NETWORK BUT DEVICES WILL DROP OFF THE NETWORK BETWEEN ANY TWO (2) REMOVED D7NT-TO-VAV OR ADP45-MSTP-LOOP.
- 12" LENGTH OF NETWORK CABLE ATTACHED TO THE ADP45-MSTP-TB-Y IS MAXIMUM ALLOWED. TERMINATE GROUND LEAD TO GND ON THE CONTROLLER TO MAINTAIN NETWORK INTEGRITY
- CABLING IS DESIGNED TO USE STANDARD STRAIGHT-THROUGH UNSHIELDED TWISTED PAIR (UTP) CAT3 OR HIGHER CABLES (CAT5, CAT5e, CAT6) TO CONNECT BOXES TO BOXES, AND INDIVIDUAL BOXES TO THEIR THERMOSTATS
- CABLING IS DESIGNED TO MAINTAIN THE REQUIRED DAISY-CHAIN CONFIGURATION EVEN WITH THE USE OF NETWORK Y's
- DO NOT EXCEED (64) NODES ON A NETWORK SEGMENT. THERE IS A MAXIMUM OF 99 NOTES ALLOWED ON A SINGLE RS-485 NETWORK. ANY MORE THAN (64) NODES ON A NETWORK REQUIRES THE USE OF A REPEATER!
- DO NOT EXCEED 4,000 FEET (1,220 m) TOTAL LENGTH ON ANY SINGLE TWISTED PAIR RS-485 NETWORK SEGMENT.
- DO NOT EXCEED 2,000 FEET (610 m) TOTAL LENGTH ON ANY SINGLE CAT5 RS-485 NETWORK SEGMENT
- DO NOT EXCEED (3) NODES ON A SINGLE LINKNET SEGMENT.
- DO NOT EXCEED 100 FEET (30 m) TOTAL LENGTH ON ANY SINGLE LINKNET NETWORK.
- SHIELD FOR RS-485 BUS MUST BE KEPT SEPARATE FROM OTHER SHIELDS AND FROM GROUND TERMINATIONS
- RS-485 BUS SHIELD MUST BE TIED THROUGH EACH NODE TO MAKE A CONTINUOUS SHIELD THAT RUNS THE ENTIRE LENGTH OF THE RS-485 SEGMENT. DO NOT CONNECT THE SHIELD TO GROLIND AT THE NODE
- PROTECT FROM CONTACT WITH ANY SURFACE OTHER THAN THE TRM-768 TERMINAL BOARD OR DNZR-Z68 REPEATER
- COMMUNICATION WIRING MUST NOT BE SPLICED. ALL TERMINATIONS MUST OCCUR AT CONTROLLERS UNLESS SPECIFICALLY NOTED OTHERWISE
- BLACK COMMUNICATION WIRE SHALL ALWAYS BE CONNECTED TO (-) TERMINAL AT ALL CONTROLLERS
- REFER TO "INSTALLATION STANDARDS" SHEET FOR ACCEPTABLE CABLE SPECIFICATIONS AND WIRING PRACTICES.
- ALL DEVICES CONNECTED TO THE RS-485 NETWORK MUST BE PROPERLY GROUNDED.
- ALL DEVICES ON THE NETWORK MUST RUN AT THE SAME BAUD RATE.
- THE LAYOUTS REPRESENTED ARE EXAMPLES OF HOW THE NETWORK MAY BE CONFIGURED. THERE IS NO REQUIREMENT TO FOLLOW THESE PROPOSED LAYOUTS, OTHER THAN MAINTAINING THE GROUPING UNDER EACH SYSTEM CONTROLLER
- EACH APPLICATION CONTROLLER ON A GIVEN RS-485 BUS (UNDER EACH SYSTEM CONTROLLER) MUST HAVE UNIQUE ADDRESSING SET VIA THE DIP SWITCHES.

BACNET MS/TP, DELTA LINKNET & MODBUS-RTU (RS-485) BUS TERMINATIONS

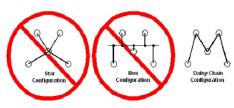
RS-485 TERMINATIONS USING ONE TRM-768 AND BUILT-IN TERMINATION

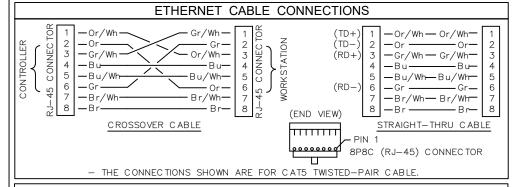


RS-485 TERMINATIONS USING TWO TRM-768s



ONLY A DAISY-CHAIN RS-485 MS/TP TOPOLOGY IS ALLOWED!





ETHERNET CABLE STANDARDS

- ALL ETHERNET CABLE SHALL MEET THE FOLLOWING SPECIFICATIONS: - 10/100-BASE-T: 22 OR 24 AWG, (4) TWISTED-PAIR, SOLID COPPER WIRE (CAT-5 EQUIV.) MAX. SEGMENT LENGTH = 330 FT (100 m) MAX. NETWORK LENGTH = 2,000 FT (610 m)
- 10/100-BASE-F: 62.5/125 MICRON CABLE MAX. SEGMENT LENGTH = 1,351 FT (412 m)
- PLENUM—RATED CABLE SHALL BE USED WHERE REQUIRED BY LOCAL OR NATIONAL CODES.



3 N MAIN , INDIANA 46102 765.481.8510 AN@TCSBAS C.O \$

DATES
REMARKS
ADDENDUM #1
ISSUED FOR CONST
AS-BUILT

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	RE	VISIONS
	DATE	REMARKS

JOB TITLE: Operation Service Center (OSC) LOCATION: MSD Washington Township, Indianapolis, IN	ENGINEER: Temperature Control Services, LLC	CONTRACT WITH: MSD Washington Township	
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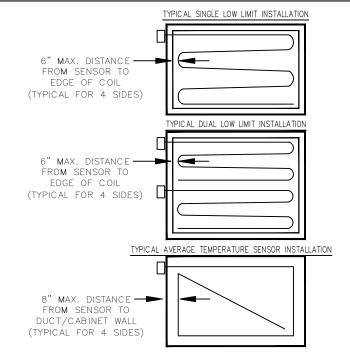
ONTRACT

SHEET GEN-0.3JOB NUMBER J-2408004

GENERAL MECHANICAL STANDARDS

- VALVE PORT DETAILS SHOWN ON THE TEMPERATURE CONTROL DRAWINGS DO NOT NECESSARILY INDICATE THE ACTUAL VALVE CONFIGURATION. REFER TO MANUFACTURER'S LITERATURE FOR ACTUAL VALVE PORT CONFIGURATION.
- ALL LIQUID PRESSURE SENSORS SHALL BE INSTALLED ON VERTICAL PIPING OR BELOW THE CENTERLINE OF HORIZONTAL PIPING TO PREVENT AIR ENTRAPMENT AT THE SENSOR.

DUCT/COIL TEMPERATURE SENSOR INSTALLATION



- ALL SENSORS SHALL BE PROTECTED FROM DAMAGE AT THE POINT OF ENTRY INTO THE DUCT/CABINET. EACH SENSOR SHALL BE PROTECTED BY A RUBBER GROMMET, BUSHING, PLASTIC TUBING OR ELECTRICAL TAPE AT THE POINT OF ENTRY.
- ALL SENSORS SHALL BE SECURELY ANCHORED ALONG THE FULL LENGTH TO PREVENT DAMAGE CAUSED BY VIBRATION.

PNEUMATIC TERMINATION LEGEND



= PNEUMATIC SIGNAL TERMINATION AT CONTROL PANEL



= INTRA-PANEL PNEUMATIC SIGNAL TERMINATION



= SUPPLY AIR TERMINATION AT CONTROL PANEL (## = PSI)

RED-LINE REQUIREMENTS

= INTRA-PANEL SUPPLY AIR TERMINATION (## = PSI)

ALL SUBCONTRACTORS ARE REQUIRED TO SUBMIT DETAILED RED-LINE MODIFICATIONS TO THESE PRINTS FOR INCLUSION IN THE AS-BUILT SET. RED-LINES MUST INCLUDE BUT ARE NOT NECESSARILY LIMITED TO:

- 1. ACCURATE EQUIPMENT LOCATIONS INDICATED ON FLOOR PLANS, INCLUDING ROOF MOUNTED EQUIPMENT RELATIVE TO THE UPPERMOST FLOOR IF NO ROOF PLAN IS PROVIDED.
- SENSOR LOCATIONS INDICATED ON FLOOR PLANS.
- EXACT MS/TP AND ETHERNET BUS WIRING CONFIGURATION SHOWN ON FLOOR PLANS (WHEN PROVIDED) AS WELL AS IN TABLE FORMAT.
- ALL WIRING AND EQUIPMENT CHANGES MADE ON ANY PORTION OF
- FOR JOBS WITH NO FLOOR PLANS, ALL EQUIPMENT (INCLUDING SENSORS) WILL BE NOTED WITH ROOM NAME AND NUMBER.
- ALL BACKUP BATTERY TABS ARE TO BE PULLED AT TIME OF CONTROLLER INSTALLATION.
- ALL CONTROLLER SERIAL NUMBERS ARE TO BE RECORDED BY INSTALLING CONTRACTOR AT TIME OF INSTALLATION. THIS INFORMATION IS TO BE PASSED TO TEMPERATURE CONTROL SERVICES, LLC., AS THE JOB PROGRESSES.

MECHANICAL NOTES

- NOT ALL PANELS MAY CONTAIN THE TRM-768 END-OF-LINE TERMINATION BOARD. SEE CONTROLLER WIRING AND/OR SCHEDULE SHEETS FOR DETAILS.
- VAV CONTROLLERS MAY OPERATE IN A STAND-ALONE CONFIGURATION. HOWEVER, THIS PROJECT CALLS FOR BUS COMMUNICATION BETWEEN CONTROLLERS.
- FOR CLARITY, NOT ALL FACTORY PROVIDED ELECTRICAL WIRING AND COMPONENTS WHICH INTERFACE WITH THIRD-PARTY CONTROLLERS ARE SHOWN. FIELD VERIFICATION OF INSTALLED COMPONENTS AND WIRING CONNECTIONS REQUIRED!
- ZONE PRESSURE SENSOR LOCATED IN CONTROL PANEL.
- *- DX UNITS WILL BE CONTROLLED BY FACTORY-PROVIDED ZONE SENSOR, WIRED TO FACTORY SUPPLIED CONTROLLERS. WIRING TO BE INSTALLED BY OTHERS.



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UPDATES RFMARK 4 ADDENDUM ; ISSUED FOR CO AS-BUIL

REVISIONS DATE REMARKS

> Temperature Co WITH: MSD Wash ENGINEER:

CONTRACT NO:

SHEET GEN-04 JOB NUMBER: J-2408004

		Cable 8	& Wire Requirement	ts:	
	Circuit ID	Cable Type	Equal to	Max Cable Length	Wiring Precautions
RS-485 Network A		22-24 AWG twisted pair, shielded, jacketed communication cable	Belden 9841, 82841	4000 ft (1220 m)	- Braided or Aluminum foil shield, Impedence 100-200 Ω, Capacitance 17 pF/ft or less. - Use for BACNet MS/TP, LINKNet, V2 Subnet, ModBUS-RTU
Ethernet	В	10/100 Base T, Cat5e, Cat6		no limit (w/ switches)	Follow IEEE 802.3 standards
Fiber Optic	С	Grade 3 (62.5/125μ) / Grade 4 (50/125μ), min 2 fiber, Mulimode, SC connector	Belden FDxM006P0	1000 ft (550m) for Gigabit Ethernet	Suggest 4 or more fibers for redundancy in case of damage
120 VAC	D	3 conductor, 12 AWG, Copper			
24 VAC / VDC	E	2 conductor, 16 AWG, Copper			
10k Ω / Dry Contact Input	F	2 conductor 18 AWG	Belden 8461NH	3900 ft (1200 m)	Ground only at controller input GND terminal
10k 12 / Dry Contact Input	G	2 conductor 22 AWG	Belden 88442	1500 ft (450 m)	Ground only at controller input GND terminal
	Н	2 conductor 22 AWG shielded	Belden 83552	100 ft (30 m)	Keep Cable Short
5 V Input	J	2 conductor 20 AWG shielded	Belden 83602	330 ft (100 m) w/ 20 k Ω load	Use dedicated shielded cable
	К	3 conductor 20 AWG shielded	Belden 8772	resistor	Ose dedicated silielded cable
10 V Input	L	3 conductor 18 AWG unshielded	Belden 88870	330 ft (100 m)	
4-20mA Input	M	2 conductor 18 AWG unshielded	Belden 8461NH	3300 ft (1000 m)	
4-Zonia input	N	4 conductor 18 AWG unshielded	Belden 88489	330011 (1000111)	
Digital Input	P	2 conductor 18 AWG	Belden 8461NH	3900 ft (1200 m)	
Digital Iliput	Q	2 conductor 22 AWG	Belden 88442	1500 ft (450 m)	
RTD Input	R	2 conductor 18 AWG	Belden 8461NH	No practical limit	Ground only at controller input GND terminal
KID IIIput	S	2 conductor 22 AWG	Belden 88442	No practical mint	Ground only at controller input GND terminal
Analog 0-10 VDC Output	Т	2 conductor 18 AWG unshielded	Belden 8461NH	330 ft (100 m)	
Analog 4-20mA Output	U	2 conductor 18 AWG unshielded	Belden 8461NH	Depends upon Impedence	ft = 1000 (500 - end dev Imp) / 12.8 m = 1000 (500 - end dev Imp) / 42
Binary Triac Output	V	2 conductor 18 AWG unshielded	Belden 8461NH	330 ft (100 m)	min turn-on current = 25 mA
Binary SS Relay Output	w	2 conductor 18 AWG unshielded	Belden 8461NH	330 ft (100 m)	No min turn-on current, max external Voltages: 28 VAC, 28 VDC
Binary Relay Output	х	2 conductor 18 AWG unshielded	Belden 8461NH	330 ft (100 m)	Max external Voltages: 28 VAC, 28 VDC



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UPDATES
DATE REMARKS
8/22/2024 ADDENDUM #1
ISSUED FOR CONST
AS—BUILT

REVISIONS
DATE REMARKS

JOB TITLE: Operation Service Center (OSC)

LOC ATION: MSD Washington Township, Indianapolis, IN

ENGINEER: Temperature Control Services, LLC

CONTRACT WITH: MSD Washington Township

DATE: 8/16/2024 CHK. BY: DRAWN BY: BSS

CONTRACT NO:

SHEET GEN-05 JOB NUMBER: J-2408004

--- ETHERNET NETWORK DROPS ----

	Ethernet Network Drops & Controller Data							
No:	System Name:	Existing Ctrl:	New Ctrl:	Location:	Device ID:	IP:	Gateway:	Subnet:
1	Annunciator Panel	N/A	eBMGR-2					
2	AHU_F1A	b3814	TBD					
3	AHU_C1	b3814	TBD					
4	AHU_C2	b3814	TBD					
5	AHU_C3	b3814	TBD					
6	AHU_C4	b3814	TBD					
7	AHU_C6	b3814	TBD					
8	AHU_D1	b3814	TBD					
9	AHU_D2	b3814	TBD					
10	AHU_D4	b3814	TBD					
11	HW.System	b3814	TBD					
12	RefMonitor	b3814	TBD					
13	AHU_E1	b3814	TBD					
14	AHU_E2	b3814	TBD					
15	AHU_E3	b3814	TBD					
16	AHU_E4	b3814	TBD					
17	AHU_E5	b3814	TBD					
18	AHU_E6	b3814	TBD					
19	AHU_A1	b3920	TBD					
20	AHU_A2	b3920	TBD					
21	AHU_A3	b3920	TBD					
22	AHU_A4	b3920	TBD					
23	AHU_B1	b3920	TBD					
24	AHU_B2	b3920	TBD					
25	AHU_B5	b3920	TBD					
26	AHU_F1B	b3920	TBD					
27	AHU_F2	b3920	TBD					
28	TrueNorthOffice	b3920	TBD					
29	AHU_B3	b3920	TBD					
30	AHU_B4	b3920	TBD					
31	AHU_C5	b3920	TBD					
32	AHU_D3	b3920	TBD					
33	CHW.Sys	b3920	TBD					
34	NorthviewBacnet1	bCX4040	TBD					
35	NorthviewBacnet2	bCX4040	TBD					
36	NorthviewBacnet3	bCX4040	TBD					

BILL OF MATERIALS

TAG	ITEM NAME	VENDOR P/N	DESCRIPTION	QTY	MANUF	LOC
CS1	eWEnt	345713	eWEnt enteliWEB Enterprise Software (Up to 5000 I/O)	1	Delta Controls	Office
CS2	eWEnt-UnLtd	345862	eWEnt-UnLtd enteliWEB Unlimited I/O Point Add-on Software (Unlimited I/O to eWEnt versions)	1	Delta Controls	Office
CS3	eWEnt-EV	345801	eWEnt-EV enteliVIZ Add-on Software (Add for eWEnt version)	1	Delta Controls	Office
CS4	eWEnt-VLT	346025	eWEnt-VLT enteliVAULT Add-on Software (Add for eWEnt version)	1	Delta Controls	Office
CS5	eWEnt-VLTUnLtd	346028	eWEnt-VLTUnLtd enteliVAULT Add-on Software (Add for eWEnt-UnLtd version)	1	Delta Controls	Office
CS6	eWEnt-Sub	345723	eWEnt-Sub Software Subscription (Up to 1 year after expiry)	1	Delta Controls	Office
CS7	eWEnt-SubUnLtd	345864	eWEnt-SubUnLtd Software Subscription (Up to 1 year after expiry)	1	Delta Controls	Office
CS8	eWEnt-VLT-Sub	346033	eWEnt-VLT-Sub eWEnt-VLT enteliVAULT License Subscription	1	Delta Controls	Office
CS9	VLTUnLtd-Sub	346036	VLTUnLtd-Sub eWEnt-VLTUnLtd enteliVAULT License Subscription	1	Delta Controls	Office

NOTES:

1. ALL SYSTEM CONTROL PANELS WILL HAVE A DEDICATED ETHERNET NETWORK DROP FROM THE SCHOOL'S NETWORK. INSTALL CAT 60 OR BETTER CABLE FROM PANEL TO DESIGNATED DROP.

2. REFER TO ELECTRICAL AND TECHNOLOGY DESIGN DRAWINGS FOR LOCATIONS OF ALL EXISTING OR NEW SYSTEM CONTROL ENCLOSURES. UPDATE RISERS WITH CONFIRMED INSTALLATION LOCATIONS FOR INCLUSION IN AS—BUILT PRINTS.

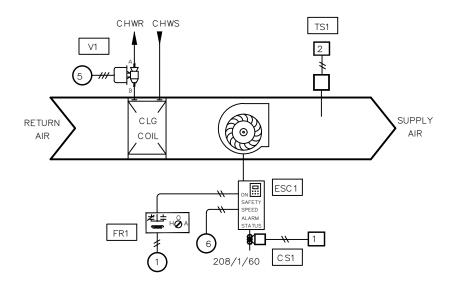
108 N MAIN
ADVANCE, INDIANA 46102
PHONE: 765.481.8510
F-MAIL: NATHAN@TCSBAS.CON \$

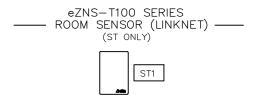
UPDATES DATE REMARKS 4 ADDENDUM # ISSUED FOR CON AS-BUIL

1	RE	VISIONS
	DATE	REMARKS

ENGINEER: Temperature Control Sc CONTRACT WITH: MSD Washington

SHEET RISER-01 JOB NUMBER: J-2408004





— FAN COIL UNIT SCHEDULE —

	IDENTITY DATA			FAN DATA					ELE	CTRICAL I	DATA		
MAI	RK	MANUF	MODEL	CFM	SPEED	GPM	FLUID TYPE	VOLTS (V)	РН	FREQ (HZ)	FLA (A)	MOCP (A)	NOTES
FCU-	D1	TRANE	BCHE036	1000	HIGH	8.0	WATER	115	1	60	13.3	25.0	

BILL OF MATERIAL

TAG	ITEM NAME	VENDOR P/N	DESCRIPTION	QTY	MANUF	LOC
CS1	RIBXKTA	403501	RIBXKTA Solid Core, Adjustable Current Switch, 0.50-150 Amp, Terminal	1	Functional Devices	Field
ESC1	Spd Ctrl (EBO)	N/A	Speed Controller (by others)	1	Others	Field
FR1	RIB2401SBC	403273	RIB2401SBC Enclosed Relay 20 Amp SPDT + Override with 24 Vac/dc/120 Vac Coil	1	Functional Devices	Field
ST1	eZNS-T100-ND-SM-000-WWG	335353	eZNS-T100-ND-SM-000-WWG enteliZONE Network Sensor (No Display, Temp, Surface)	1	Delta Controls	Field
TS1	BA/10K-3-RPP-5'	400411	BA/10K-3-RPP-5' Remote Temp Probe, 5' Lead, Plenum Rated Cable	1	BAPI	Field
V1	CW Valve	See Schedule	See Valve Sch for Details	1	Belimo	Field



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ADVANCE, INDIANA 46102
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UPDATES
DATE REMARKS
8/22/2024 ADDENDUM #
ISSUED FOR CONS
AS—BUILT

REVISIONS
DATE REMARKS

Service Center (OSC)

gton Township, Indianapolis, IN
e Control Services, LLC

Washington Township

NETWORK POINTS

N1 THROUGH N4

CONTRACT NO:

SHEET
OSC -01
JOB NUMBER:
J-2408004

INPUTS

INPUTS - EZFCP-424R4-24

		1141 01	3 - LZI CI -424114-24	
CH.	BAC_ID	TAG	IN USE BY	DATA SHEET
1	1**xx.AI01	CS1	FAN STATUS	1400
2	1**xx.DI02	TS1	DAT	2008
3	1**xx.AI03			
4	1**xx.AI04			

_		
)	OUTPUT

OUTPU'	TS -	EZFCP-424R4-24

CH	BAC_ID	TAG	IN USE BY	DATA SHEET	
1	1**xx.D001	C1	FAN START / STOP	127	
2	1**xx.D002				
3	1**xx.D003				
4	1**xx.D004				
5	1**xx.A005	V1	cwv	4406a	
6	1**xx.A006	VFD1	FAN SPEED	EBO	
7	1**xx.D007				
8	1**xx.D008				
9	1**xx.D009				
10	1**xx.D010				
			•		

NETWORK	POIN ⁻
INE I WORK	1 0111

LINKNEI NEIWORK POINTS - eZNS-1100					
CH.	BAC_ID	TAG	IN USE BY	DATA SHEE	
LN1	1**xx.LN1	ST1	SPACE TEMP SENSOR	132	
LN2	1**xx.LN2				
LN3	1**xx.LN3				
LN4	1**xx.LN4				

NETWORK POINTS

NETWORK POINTS

CH.	BAC_ID	IN USE BY
N1	1**xx.LN1	FAN FAIL
N2	1**xx.LN2	LOW DAT (<45 DEG. F)
N3	1**xx.LN3	CHILLED WATER AVAILABLE
N4	1**xx.LN4	OCCUPIED
N5	1**xx.LN5	



108 N MAIN ADVANCE, INDIANA 46102 PHONE: 765-481.8510 -WAIL: NATHAN(@TCSBAS,COM

UPDATES			
DATE	REMARKS		
8/22/2024	ADDENDUM #		
	ISSUED FOR CONS		
	AS-BUILT		

REVISIONS			
DATE	REMARKS		

JOB TITLE: OP	JOB TITLE: Operation Service Center (OSC)
LOC ATION: MS	LOCATION: MSD Washington Township, Indianapolis, IN
ENGINEER: Ter	ENGINEER: Temperature Control Services, LLC
CONTRACT WIT	CONTRACT WITH: MSD Washington Township
H + C) () () () () () () () () () (

SHEET
OSC -02
JOB NUMBER:

J-2408004

COOLING ONLY FAN COIL UNIT SEQUENCE OF OPERATION:

TCC SHALL FURNISH CONTROLS AND DEVICES SPECIFIED AND THE CIC SHALL MOUNT AND WIRE PER COORDINATION DRAWINGS. CIC SHALL FURNISH AND INSTALL CONTROL AND POWER WIRING FOR FIELD INSTALLATION OF TCC PROVIDED TEMPERATURE SENSOR. CIC SHALL ALSO PROVIDE AND

INSTALL BACnet MS/TP DAISY-CHAIN CONNECTION PER TCC DIRECTION TO EACH CONTROLLER.

TCC SHALL PROGRAM LOGIC TO OPERATE EQUIPMENT PER THE FOLLOWING MODES: OCCUPIED ZONE CONTROL, UNOCCUPIED NIGHT SETUP, AND UNOCCUPIED.

SUPPLY FAN START/STOP: THE SUPPLY FAN (SF-C) WILL BE STARTED AND RUN CONTINUOUSLY WHEN IN COOLING MODE.

COOLING MODE: THE SUPPLY FAN SHALL RUN IF THE SPACE TEMPERATURE RISES 2 °F (ADJ) ABOVE THE SPACE TEMPERATURE SETPOINT AND STOP WHEN SPACE TEMPERATURE SETPOINT IS ACHIEVED. THE FAN SPEED SHALL BE MODULATED TO MAINTAIN SPACE TEMPERATURE AT SETPOINT WHEN OPERATING.

IF THE SUPPLY FAN STATUS (SF-S) DOES NOT MATCH THE COMMANDED VALUE, AN ALARM WILL BE GENERATED. WHEN THE SUPPLY FAN STATUS INDICATES THE FAN STARTED, THE CONTROL SEQUENCE WILL BE ENABLED. ANTI-SHORT CYCLE TIMER LOGIC SHALL PREVENT FAN OPERATION FROM STOPPING

FOR A MINIMUM OF 10 MINUTES (ADJ).

ZONE CONTROL: THE COOLING VALVE (CLG-VLV) SHALL MODULATE IN COOLING MODE TO ACHIEVE THE DESIRED DISCHARGE AIR TEMPERATURE AND REMAIN CLOSED WHEN BELOW SPACE TEMPERATURE SETPOINT. THE DISCHARGE AIR TEMPERATURE SETPOINT SHALL BE RESET TO ACHIEVE 72 °F (ADJ)

COOLING AT ALL TIMES.

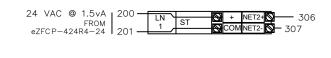
DISCHARGE AIR TEMPERATURE CONTROL: THE DISCHARGE AIR TEMPERATURE SETPOINT SHALL BE RESET TO ACHIEVE 72 °F (ADJ) COOLING WITH A MINIMUM OF 55 °F (ADJ). USER SHALL BE ALLOWED TO ADJUST THE SETPOINT +/- 2 °F

UNOCCUPIED NIGHT SETUP MODE: WHEN THE BUILDING IS SCHEDULED FOR UNOCCUPIED MODE, THE UNIT WILL CYCLE AS NECESSARY TO MAINTAIN THE NIGHT SETUP ZONE TEMPERATURE AT SETPOINT OF 80 °F (ADJ). TCC LOGIC SHALL OPERATE THE EQUIPMENT NORMALLY UTILIZING UNOCCUPIED

COOLING SETPOINT. TCC LOGIC SHALL ENSURE THAT A DIFFERENTIAL PREVENTS THE UNIT FROM CYCLING EXCESSIVELY.

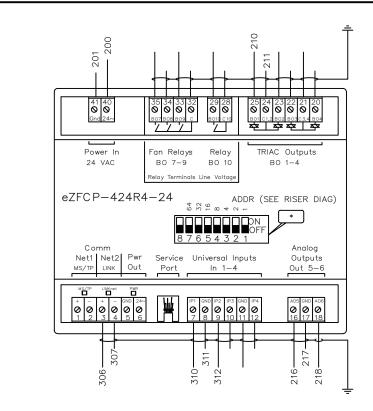
SHUTDOWN: WHEN THE UNIT IS SHUTDOWN BY EITHER A STOP COMMAND OR SYSTEM SAFETY THE UNIT WILL BE SET AS FOLLOWS: SUPPLY FAN WILL BE OFF COOLING VALVE WILL CLOSE



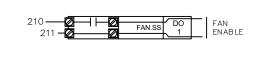




Al D	AT	312 10k-3 T 31
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IN	NAME
1	FAN_STATUS
2	DAT
3	
4	
OUT	NAME
1	FAN_SS
2	
3	
4	
5	CWV
6	FAN_SPEED
7	·
8	·
9	
10	



217 <u>L5</u> 1 COM <u>L4</u> 2 +	CHW.VLV	AO 5
216 3 Y1		

218	1 +	FAN	AO
217—	2 -	VFD	6



Temperature Control Services
108 N MAIN
ADVANCE, INDIANA 46102
PHONE: 765.481.8510
E-MAIL: NATHAN@TCSBAS.COM

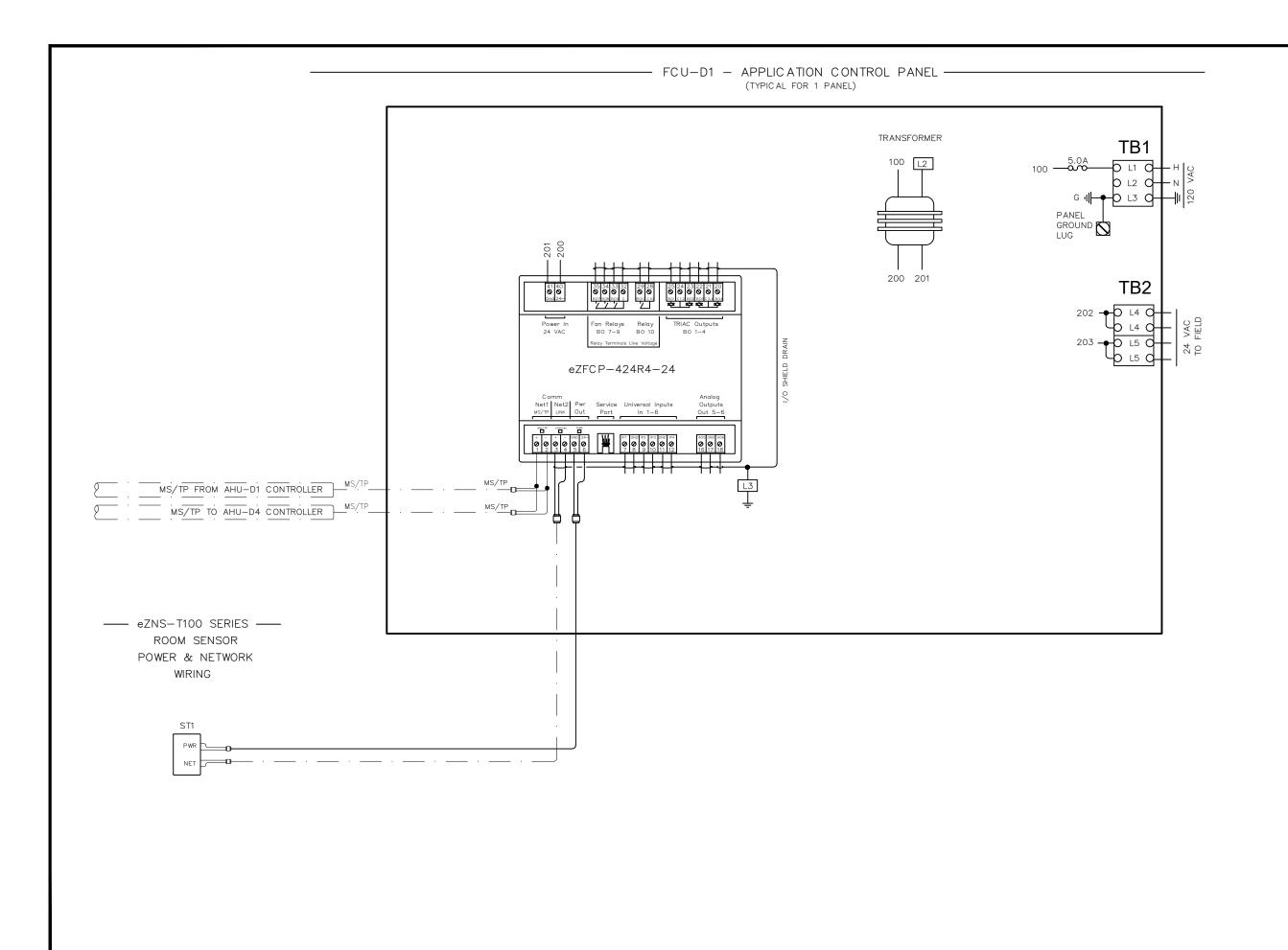
UF	UPDATES				
DATE	REMARKS				
8/22/2024	ADDENDUM #1				
	ISSUED FOR CONST				
	AS-BUILT				

	VISIONS
DATE	REMARKS

tion Service Center (OSC)
Mashington Township, Indianapolis, IN
erature Control Services, LLC
MSD Washington Township

CONTRACT NO:

SHEET
OSC -03
JOB NUMBER:
J-2408004





TEMPERATURE CONTROL SERVICES

108 N MAIN
ADVANCE, INDIANA 46102
PHONE: 765,481.8510

UPDATES
DATE REMARKS
8/22/2024 ADDENDUM #
ISSUED FOR CON
AS—BUIL

REVISIONS
DATE REMARKS

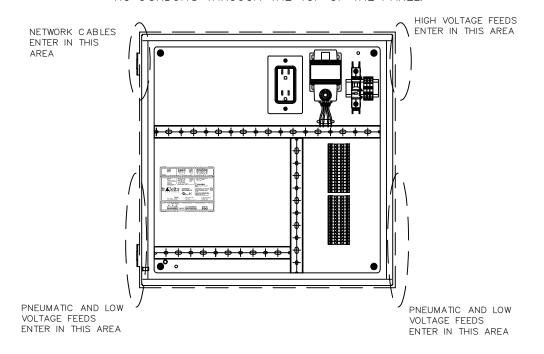
MSD Washington Township, Indianapolis, IN
Temperature Control Services, LLC
WITH: MSD Washington Township

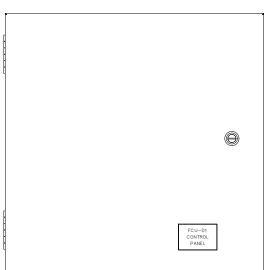
CONTRACT NO

SHEET OSC -04 JOB NUMBER: J-2408004

APPLICATION CONTROL PANEL LAYOUT (TYPICAL FOR 1 PANEL)

NO CONDUITS THROUGH THE TOP OF THE PANEL!

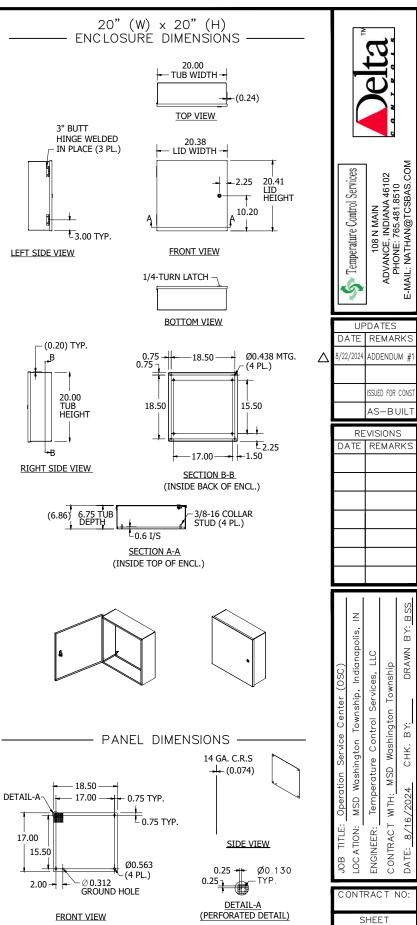






BILL OF MATERIALS

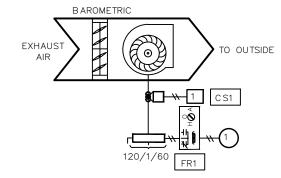
TAG	ITEM NAME	VENDOR P/N	DESCRIPTION		MANUF	LOC
C1	eZFCP-424R4-24	323426	eZFCP-424R4-24 enteliZONE Fan Coil Controller (24VAC Prog, 4UI, 2AO, 4TRIAC, 3 Fan and 1 aux relay)	1	Delta Controls	Panel
PNL1	PNL-FCU	PNL-FCU	S Panel Build - FCU Terminal Dev Style		TCS	Panel
TX1	TR75VA005	403599	R75VA005 Transformer 75VA, 480/240/208/120 to 24 Vac, Circuit Breaker, Foot & Single Threaded Hub		Functional Devices	Panel
IIVI	11175471005	100000	This strices maisterner 75 v.n., 460/ 240/ 250/ 220 to 24 vac, circuit bleaker, 100t & Shighe Micaded Hub		i dilecional bevices	1. 6



FAN COIL UNIT FCU-D1 CONTROL PANEL - DIMENSIONS & BOM

OSC-05 JOB NUMBER: J-2408004

--- EXHAUST FAN - BAS CONTROLLED ---EF-G2



EXHAUST FAN SEQUENCE OF OPERATION:

THE EXHAUST FAN SHALL BE STARTED ACCORDING TO THE OWNER-DEFINED SCHEDULE. IF THE EXHAUST FAN STATUS (EF-S) DOES NOT MATCH THE COMMANDED VALUE AFTER 180 SECONDS (ADJ), AN ALARM SHALL BE GENERATED.

INPUTS

INPUTS - EZFCP-424R4-24

CH.	BAC ID	TAG	IN USE BY	DATA SHEET
1	1**xx.AI01	CS1	EF-G2 FAN STATUS	1400
2	1**xx.DI02		EF-G3 FAN STATUS	1400
3	1**xx.AI03			
4	1**xx.AI04			

OUTPUTS

OUTPUTS - EZFCP-424R4-24

CH	BAC_ID	TAG	IN USE BY	DATA SHEET
1	1**xx.D001	FR1	EF-G2 FAN START/STOP	3007
2	1**xx.D002	FR2	EF-G3 FAN START/STOP	3007
3	1**xx.D003			
4	1**xx.D004			
5	1**xx.A005			
6	1**xx.A006			
7	1**xx.D007			
8	1**xx.D008			
9	1**xx.D009			
10	1**xx.D010			

EXHAUST FAN SEQUENCE OF OPERATION:

THE EXHAUST FAN SHALL BE STARTED ACCORDING TO THE OWNER-DEFINED SCHEDULE. IF THE EXHAUST FAN STATUS (EF-S) DOES NOT MATCH THE COMMANDED VALUE AFTER 180 SECONDS (ADJ), AN ALARM SHALL BE GENERATED.

NETWORK POINTS

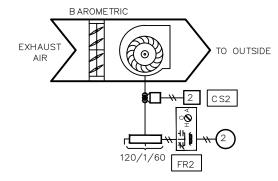
NETWORK POINTS

CH.	BAC_ID	IN USE BY
N1	1**xx.LN1	FAN FAIL
N2	1**xx.LN2	OCCUPIED
N3	1**xx.LN3	

BILL OF MATERIAL

TAG	ITEM NAME	VENDOR P/N	DESCRIPTION	QTY	MANUF	LOC
CS1-2	RIBXKTA	403501	RIBXKTA Solid Core, Adjustable Current Switch, 0.50-150 Amp, Terminal	2	Functional Devices	Field
FR1-2	RIB2401SBC	403273	RIB2401SBC Enclosed Relay 20 Amp SPDT + Override with 24 Vac/dc/120 Vac Coil	2	Functional Devices	Field

--- EXHAUST FAN - BAS CONTROLLED ---EF-G3





UPDATES					
DATE	REMARKS				
8/22/2024	ADDENDUM #				
	ISSUED FOR CONS				
_	AS-BUILT				

RE	VISIONS
DATE	REMARKS
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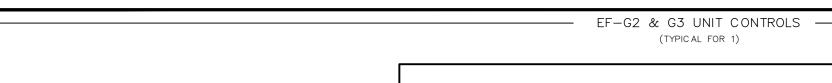
Service Center (OSC)
ngton Township, Indianapolis, IN
re Control Services, LLC
Washington Township

NETWORK POINTS

N1 THROUGH N2

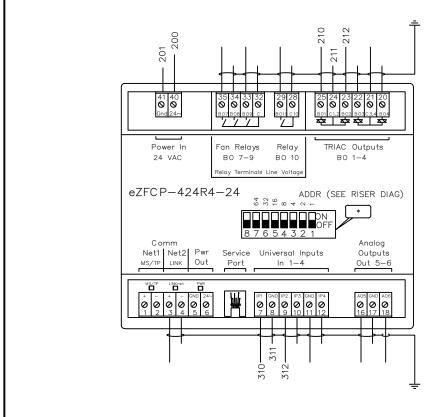
CONTRACT NO: SHEET OSC-06 JOB NUMBER:

J-2408004

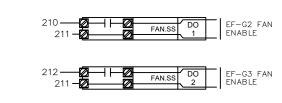




DI 2	EF-G3 FAN.STAT	N.O. H
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IN	NAME
1	EF-G2_FAN_STAT
2	EF-G3_FAN_STAT
3	
4	
OUT	NAME
1	EF-G2_FAN_SS
2	EF-G3_FAN_SS
3	
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Temperature Control Services
108 N MAIN
ADVANCE, INDIANA 46102
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E-MAIL: NATHAN@TCSBAS.COM

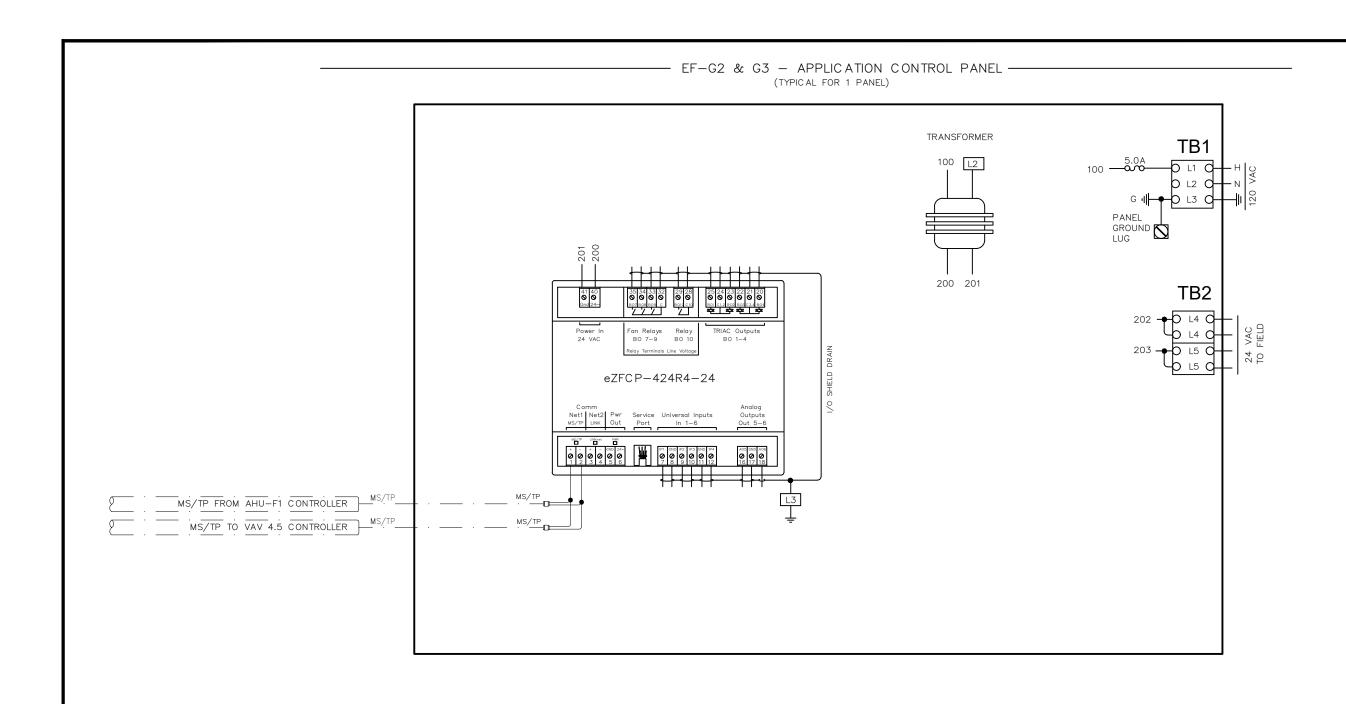
UPDATES				
DATE REMARKS				
8/22/2024	ADDENDUM #			
	ISSUED FOR CONS			
	AS-BUILT			

RE	REVISIONS		
DATE	REMARKS		

JOB TITLE: OP	JOB TITLE: Operation Service Center (OSC)
LOC ATION: MS	LOCATION: MSD Washington Township, Indianapolis, IN
ENGINEER: Te	ENGINEER: Temperature Control Services, LLC
CONTRACT WIL	CONTRACT WITH: MSD Washington Township
DATE: 8/16/2024	024 CHK. BY: DRAWN BY: BSS

CONTRACT NO:

SHEET
OSC -07
JOB NUMBER:
J-2408004





108 N MAIN
108 N MAIN
ADVANCE, INDIANA 46102
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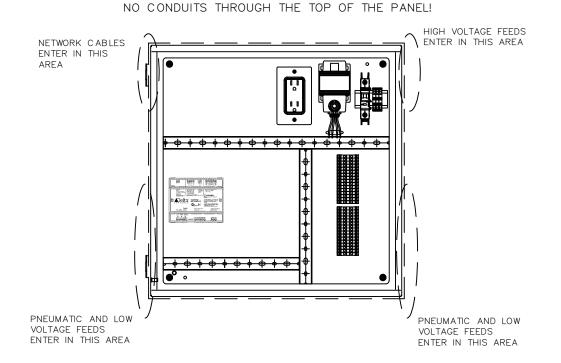
UPDATES
DATE REMARKS
8/22/2024 ADDENDUM #
ISSUED FOR CONS

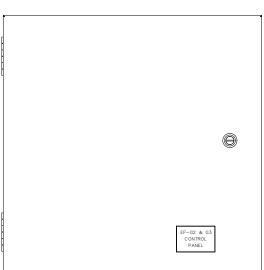
REVISIONS
DATE REMARKS

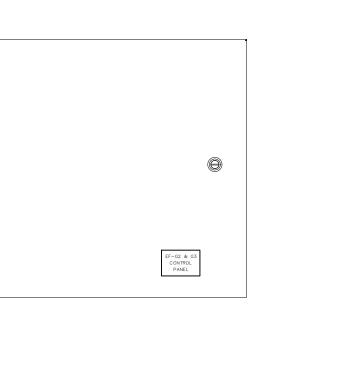
ice Center (OSC)
In Township, Indianapolis, IN
Ontrol Services, LLC
shington Township

CONTRACT NO:

SHEET
OSC -08
JOB NUMBER:
J-2408004

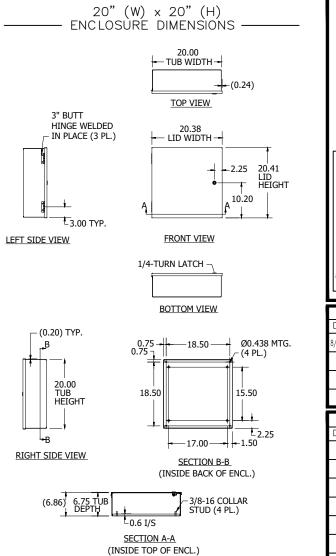


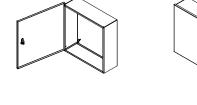


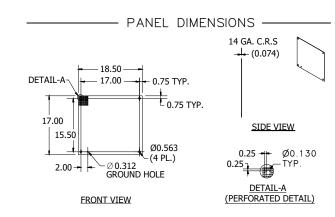


BILL OF MATERIALS

TAG	ITEM NAME	VENDOR P/N	DESCRIPTION	QTY	MANUF	LOC
C1	eZFCP-424R4-24	323426	eZFCP-424R4-24 enteliZONE Fan Coil Controller (24VAC Prog, 4UI, 2AO, 4TRIAC, 3 Fan and 1 aux relay)	1	Delta Controls	Panel
PNL1	PNL-FCU	PNL-FCU	TCS Panel Build - FCU Terminal Dev Style	1	TCS	Panel
TX1	TR75VA005	403599	TR75VA005 Transformer 75VA, 480/240/208/120 to 24 Vac, Circuit Breaker, Foot & Single Threaded Hub	1	Functional Devices	Panel







EXHAUST FAN EF-G2 & G3 CONTROL PANEL - DIMENSIONS & BOM

elta

3 N MAIN ;, INDIANA 46102 : 765.481.8510 AAN@TCSBAS.COI

UPDATES

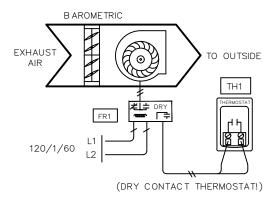
DATE REMARK /22/2024 ADDENDUM # ISSUED FOR CON AS-BUIL

REVISIONS DATE REMARKS

CONTRACT NO:

SHEET OSC-09 JOB NUMBER: J-2408004

---- EXHAUST FAN - THERMOSTAT CTRL ------EF-B1



EXHAUST FAN SEQUENCE OF OPERATION:

THE EXHAUST FAN SHALL BE STARTED ACCORDING TO THE WALL MOUNTED THERMOSTAT. CONTROLS INSTALLATION CONTRACTOR SHALL SET ADJUSTABLE THERMOSTAT TO CONTROL SPACE TEMPERATURE TO 75 DEG. F. SEE ELECTRICAL DRAWINGS FOR DISCONNECT LOCATION INFORMATION.

BILL OF MATERIAL

TAG	ITEM NAME	VENDOR P/N	DESCRIPTION	QTY	MANUF	LOC
FR1	RIB21CDC	403264	RIB21CDC Enclosed Relay 10 Amp SPDT, Class 2 Dry Contact Input, 120-277 Vac Power Input	1	Functional Devices	Field
TH1	ETD9STS	499713	ETD9STS TSTAT-SPDT HEAT OR COOL/5090F/TERMINALS	1	Kele	Field



108 N MAIN
ADVANCE, INDIANA 46102
PHONE: 765.481.8510
IAIL: NATHAN@TCSBAS.COM

UF	UPDATES				
DATE REMARKS					
8/22/2024	ADDENDUM #1				
	ISSUED FOR CONST				
	AS-BUILT				

	RE	VISIONS
	DATE	REMARKS
i		

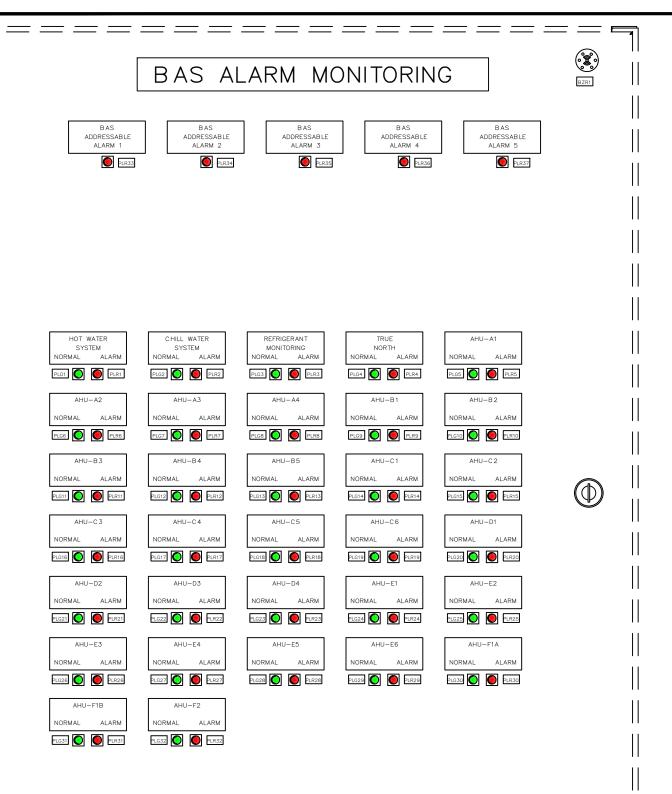
ł					
	JOB TITLE: Operation Service Center (OSC)	LOCATION: MSD Washington Township, Indianapolis, IN	ENGINEER: Temperature Control Services, LLC	CONTRACT WITH: MSD Washington Township	DATE: 8/16/2024 CHK. BY: DRAWN BY: BSS

CONTRACT NO

SHEET OSC-10 JOB NUMBER: J-2408004

NETWORK POINTS

N1 THROUGH N2





UF	DATES
DATE	REMARKS
8/22/2024	ADDENDUM #1
	ISSUED FOR CONST
	AS-BUILT

RE	VISIONS
DATE	REMARKS

e Center (OSC)	Township, Indianapolis, IN	ntrol Services, LLC	ington Township	

ALARM ACK

ITEM NAME	VENDOR P/N	DESCRIPTION	QTY	MANUF	LOC
Panel Buzzer	ECX2070-24	Buzzer, 25mA, 24Vac/dc, 80dB	1	Automation Direct	Panel
AP8M122-G	499694	AP8M122-G PILOT LIGHT MINIATURE 8MM FLAT LENS ACDC 24V GREE LV, PDT	32	Kele	Panel
AP8M122-R	499695	AP8M122-R PILOT LIGHT MINIATURE 8MM FLAT LENS AC/DC 24V RED	37	Kele	Panel
ABW111	499915	ABW111 PUSH BUTTON 1NO 1NC MOMENTARY FLUSH -3 COLORS	1	Kele	Panel
ABW111	499915	ABW111 PUSH BUTTON 1NO 1NC MOMENTARY FLUSH -3 COLORS	1	Kele	Panel
	Panel Buzzer AP8M122-G AP8M122-R ABW111	Panel Buzzer ECX2070-24 AP8M122-G 499694 AP8M122-R 499695 ABW111 499915	Panel BuzzerECX2070-24Buzzer, 25mA, 24Vac/dc, 80dBAP8M122-G499694AP8M122-G PILOT LIGHT MINIATURE 8MM FLAT LENS ACDC 24V GREE LV, PDTAP8M122-R499695AP8M122-R PILOT LIGHT MINIATURE 8MM FLAT LENS AC/DC 24V REDABW111499915ABW111 PUSH BUTTON 1NO 1NC MOMENTARY FLUSH -3 COLORS	Panel Buzzer ECX2070-24 Buzzer, 25mA, 24Vac/dc, 80dB 1 AP8M122-G 499694 AP8M122-G PILOT LIGHT MINIATURE 8MM FLAT LENS ACDC 24V GREE LV, PDT 32 AP8M122-R 499695 AP8M122-R PILOT LIGHT MINIATURE 8MM FLAT LENS AC/DC 24V RED 37 ABW111 499915 ABW111 PUSH BUTTON 1NO 1NC MOMENTARY FLUSH -3 COLORS 1	Panel Buzzer ECX2070-24 Buzzer, 25mA, 24Vac/dc, 80dB 1 Automation Direct AP8M122-G 499694 AP8M122-G PILOT LIGHT MINIATURE 8MM FLAT LENS ACDC 24V GREE LV, PDT 32 Kele AP8M122-R 499695 AP8M122-R PILOT LIGHT MINIATURE 8MM FLAT LENS AC/DC 24V RED 37 Kele ABW111 499915 ABW111 PUSH BUTTON 1NO 1NC MOMENTARY FLUSH-3 COLORS 1 Kele

BAS ALARM ANNUNCIATOR PANEL LAYOUT

SHEET
OSC -11
JOB NUMBER:
J-2408004

ENGINEER: CONTRACT

BUILDING MANAGEMENT SYSTEM ANNUNCIATOR PANEL

IT IS THE INTENTION OF THIS DESIGN TO INCLUDE A WALL MOUNTED ANNUNCIATOR PANEL THAT PROVIDES NORMAL AND ALARM CONDITION FEEDBACK OF THE MAJOR MECHANICAL EQUIPMENT IN THE BUILDING TO ASSIST THE OWNER WITH RESPONSE TIME TO EQUIPMENT ISSUES. CHILLERS, BOILERS, AIR HANDLERS, PUMPS, AND OTHER CRITICAL EQUIPMENT SHALL BE MONITORED FOR A NORMAL OR ALARM CONDITION. A GRAPHIC REPRESENTING AN EXACT REPLICA OF THE WALL MOUNTED PANEL SHALL BE PROVIDED BY TCC FOR REMOTE MONITORING OF BUILDING CONDITIONS INCLUDING LOCAL ACCESS BY STAFF. TCC SHALL FURNISH ALL PROGRAMMING, MATERIALS, ALARMS, LIGHT CONTROL, AND INTEGRATIONS REQUIRED FOR A COMPLETE REPRESENTATION OF ALL BUILDING AUTOMATION EQUIPMENT CONDITION FEEDBACK. CIC IS RESPONSIBLE FOR INSTALLATION OF TCC PROVIDED EQUIPMENT. TCC IS RESPONSIBLE TO PROVIDE SUBMITTAL OF PROPOSED DESIGN TO THE ENGINEER AND OWNER FOR APPROVAL PRIOR TO PROJECT COMPLETION. TCC SHALL INCLUDE DETAILS IN SUBMITTAL IDENTIFYING NORMAL / ALARM DEDICATED SYSTEM LIGHTS AND NEGOTIATED USER-DEFINED LOGIC INCLUDING A PANEL LAYOUT AND ALARM CONDITION MATRIX. THE GRAPHIC SHALL INCLUDE THE ADDITIONAL FUNCTIONALITY TO DISPLAY WHAT CONDITIONS MUST BE CORRECTED AND/OR ACTIONS TAKEN TO CLEAR AN ACTIVE ALARM. INDICATION OF FIRE ALARM SYSTEM STATUS SHALL BE A CUSTOM POINT AND WILL REQUIRE COORDINATION WITH THE EXISTING FIRE ALARM CONTRACTOR. CIC SHALL COORDINATE WITH TECHNOLOGY CONTRACTOR AND PROVIDE ETHERNET HOMERUN TO NEARBY BUILDING NETWORK SWITCH.

REMOTE ANNUNCIATOR PANEL: TCC SHALL FURNISH AND CIC SHALL INSTALL THE ANNUNCIATOR PANEL IN THE BUILDING FOREMAN'S OFFICE IN A HIGHLY VISIBLE LOCATION. TCC SHALL FURNISH AN ETHERNET LEVEL CONTROLLER AND ALL REQUIRED PANEL AND FIELD DEVICES FOR A COMPREHENSIVE SOLUTION SPECIFIC TO THE EQUIPMENT IN THE BUILDING. IN ADDITION TO EQUIPMENT FEEDBACK, THE PANEL SHALL ALSO INCLUDE LOCAL HORN/STROBE, SILENCE BUTTON, AND TEST BUTTON. THE PANEL SHALL INCLUDE A TOTAL OF (5) SPARE USER-DEFINABLE ALARM LIGHTS THAT THE OWNER CAN CUSTOMIZE AS NEEDED.

IDF/ MDF NETWORK CONNECTION: THE TECHNOLOGY CONTRACTOR SHALL FURNISH, ROUTE, AND INSTALL A NETWORK CONNECTION FROM THE ANNUNCIATOR PANEL TO THE NEAREST BUILDING NETWORK SWITCH. TCC RESPONSIBLE TO COORDINATE WITH THE OWNER FOR SWITCH UTILIZATION, ROUTING APPROVAL, FINAL CONNECTIONS, AND PORT PROVISIONING ON THE NETWORK. FIRE CAULKING WHERE REQUIRED IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR AND SHALL BE IDENTIFIED AND COORDINATED BY THE TECHNOLOGY CONTRACTOR.

120VAC POWER REQUIREMENT: THE ELECTRICAL CONTRACTOR SHALL PROVIDE POWER TO THE ANNUNCIATOR PANEL AND COORDINATE WITH CIC FOR TERMINAL STRIP TERMINATION REQUIREMENTS. ALL INSTALLATION AND MATERIAL, INCLUDING BUT NOT LIMITED TO, POWER LINE FILTERING TO THE ANNUNCIATOR PANEL IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.

THIRD-PARTY BACNET CONSIDERATION: NORMAL AND ALARM CONDITIONS THAT ORIGINATE FROM NON-DELTA CONTROLLERS SHALL UTILIZE THE BACNET POINTS MADE AVAILABLE BY THE MANUFACTURER TO DETERMINE ANNUNCIATOR FEEDBACK.

NORMAL AND ALARM EQUIPMENT CONDITIONS: TCC SHALL MONITOR EQUIPMENT RUN COMMANDS AND STATUS FEEDBACK ON EQUIPMENT CONTROLLED BY THIRD PARTY CONTROLLERS TO DETERMINE AN ALARM (RED) OR NORMAL (GREEN) CONDITION. EQUIPMENT IN HAND OR NOT REFLECTIVE OF COMMAND SHALL VISIBLY (RED LIGHT) AND AUDIBLY (LOCAL HORN/STROBE) INDICATE ALARM CONDITION. BACNET INTEGRATIONS THAT INCLUDE RUN COMMAND AND STATUS FEEDBACK POINTS SHALL HAVE DEDICATED ALARM/NORMAL (RED/GREEN) INDICATION. LOSS OF COMMUNICATION SHALL RESULT IN A EQUIPMENT SPECIFIC ALARM (RED) CONDITION. ADDITIONAL LOGIC CONSIDERATION OF: DISCHARGE AIR AND WATER TEMPERATURES OUTSIDE OF A +/- 10 F (ADJ) DEADBAND OR ANY SYSTEM SAFETY TRIP, INCLUDING BUT NOT LIMITED TO: LOW LIMIT, SMOKE DETECTION, LOW/HIGH STATIC, OR LOW/HIGH HUMIDITY SHALL RESULT IN AN ALARM (RED LIGHT) CONDITION.



13920 WENDESSA DRIVE FISHERS, INDIANA 46038 PHONE: 765.481.8510 MAIL: NATHAN@TCSBAS.COM

UPDATES
DATE REMARKS
8/22/2024 ADDENDUM #1
ISSUED FOR CONST
AS—BUILT

REVISIONS
DATE REMARKS

LOCATION: MSD Washington Township, Indianapolis, IN ENGINEER: Temperature Control Services, LLC CONTRACT WITH: MSD Washington Township

CONTRACT NO

SHEET
OSC-12
JOB NUMBER:
J-2408004

32

4 10100.1404

PR16

AHU-C3 STATUS LTS

3010



13920 WENDESSA DRIVE FISHERS, INDIANA 46038 PHONE: 765.481.8510 E-MAIL: NATHAN@TCSBAS.COM UPDATES REMARK 4 ADDENDUM

ISSUED FOR CON AS-BUIL REVISIONS DATE REMARKS

| Iemperature Co | WITH: MSD Wash ENGINEER:

CONTRACT NO

SHEET OSC-13JOB NUMBER J-2408004

ANNUNCIATOR PANEL SYSTEM 01 CONTROL PANEL - I/O WIRING (1 OF 3)



13920 WENDESSA DRIVE FISHERS, INDIANA 46038 PHONE: 765.481.8510 E-MAIL: NATHAN@TCSBAS.COM

UPDATES REMARK

2/2024 ADDENDUM ;

REVISIONS

DATE REMARKS

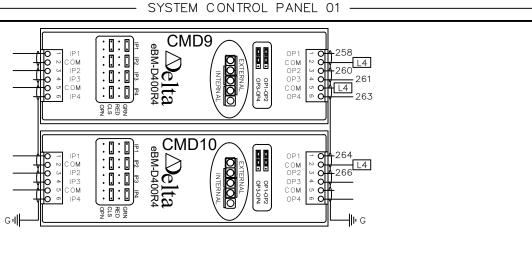
ISSUED FOR CON AS-BUIL

ENGINEER:

CONTRACT NO

SHEET OSC-14JOB NUMBER J-2408004

ANNUNCIATOR PANEL SYSTEM 01 CONTROL PANEL - I/O WIRING (2 OF 3)



ID. CH. BAC_ID TAG IN USE BY DATA SHEET 65 1 10100.2101 CMD9 eBM-D400R 66 2 10100.2102 67 3 10100.2103 68 10100.2104 69 BAS ALARM OPTION 1 3903 10100.2101 PLR33 70 10100.2102 PLR34 BAS ALARM OPTION 2 3903 71 10100.2103 PLR35 BAS ALARM OPTION 3 3903 3 72 4 10100.2104 PLR36 BAS ALARM OPTION 4 3903 ID. CH. BAC_ID TAG IN USE BY DATA SHEET 73 1 10100.2201 CMD10 eBM-D400R 74 2 10100.2202 75 3 10100.2203 76 4 10100.2204 77 1 10100.2201 BAS ALARM OPTION 5 3903 PLR37 BZR1 ALM PANEL BUZZER 614 78 2 10100.2202 79 3 10100.2203 4 10100.2204

CMD9 eBM-D400R CMD10 eBM-D400R

PLR33 BAS-1. DO ALARM.LT 69 PLR34 L5 260 2 BAS-2. DO ALARM.LT 70 PLR35 BAS-3. DO ALARM.LT 71 PLR36 L5 263 2 BAS-4. DO ALARM.LT 72 PLR37 264 **2** BAS-5. DO ALARM.LT 77 BZR1 PNL.ALM DO BZR 78



UPDATES

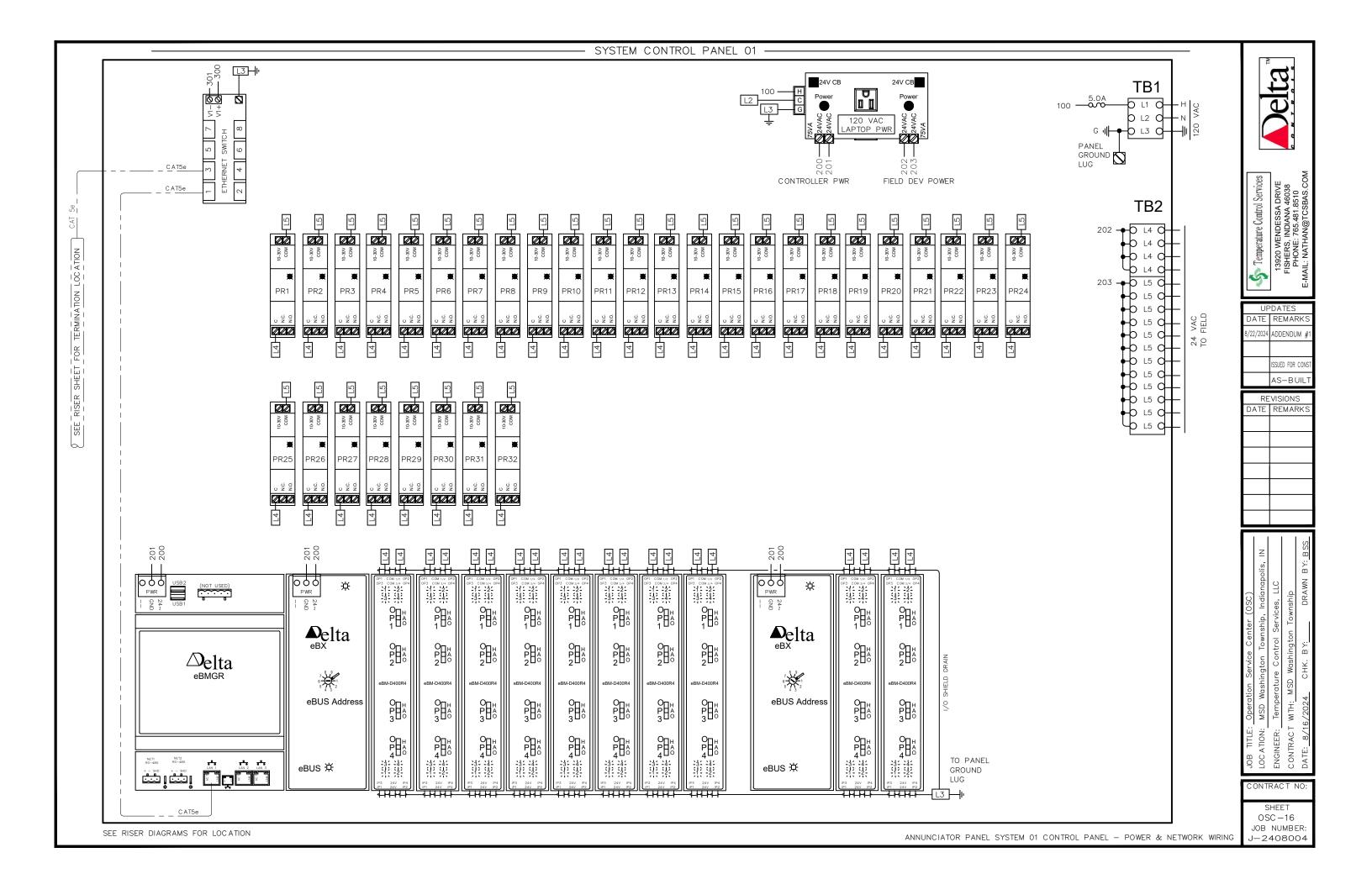
DATE REMARK 22/2024 ADDENDUM # ISSUED FOR CON AS-BUIL

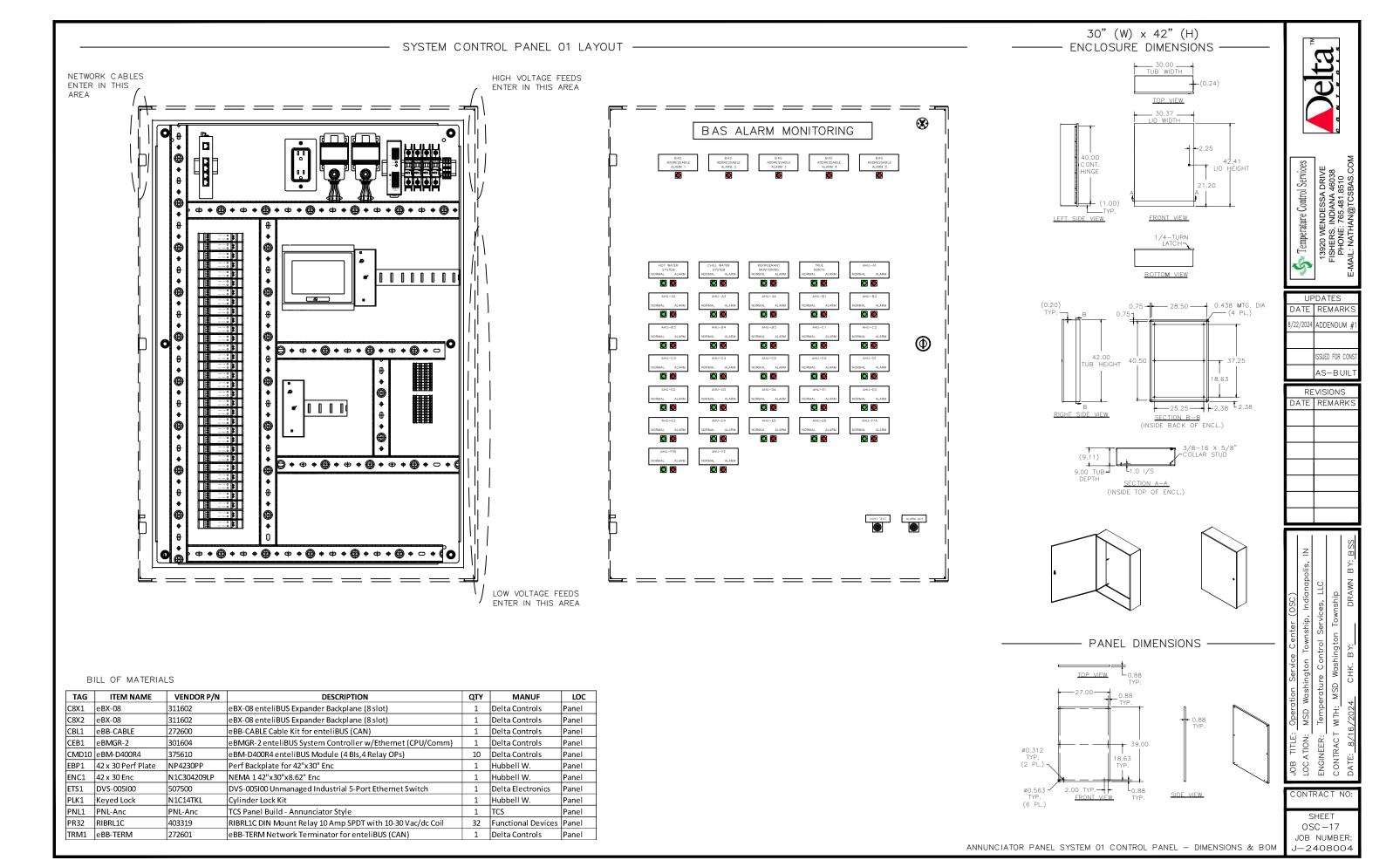
REVISIONS DATE REMARKS

ENGINEER: CONTRACT V

CONTRACT NO:

SHEET OSC-15 JOB NUMBER: J-2408004





— CONSOLIDATED BILL OF MATERIAL —

ITEM NAME	VENDOR P/N	DESCRIPTION	QTY	MANUF	LOC	RECOMMENDED SPARES
BA/10K-3-RPP-5'	400411	BA/10K-3-RPP-5' Remote Temp Probe, 5' Lead, Plenum Rated Cable	1	BAPI	Field	1
CW Valve	See Schedule	See Valve Sch for Details	1	Belimo	Field	
eZNS-T100-ND-SM-000-WWG	335353	eZNS-T100-ND-SM-000-WWG enteliZONE Network Sensor (No Display, Temp, Surface)	2	Delta Controls	Field	1
RIB21CDC	403264	RIB21CDC Enclosed Relay 10 Amp SPDT, Class 2 Dry Contact Input, 120-277 Vac Power Input	1	Functional Devices	Field	1
RIB2401SBC	403273	RIB2401SBC Enclosed Relay 20 Amp SPDT + Override with 24 Vac/dc/120 Vac Coil	4	Functional Devices	Field	1
RIBXKTA	403501	RIBXKTA Solid Core, Adjustable Current Switch, 0.50-150 Amp, Terminal	4	Functional Devices	Field	1
ETD9STS	499713	ETD9STS TSTAT-SPDT HEAT OR COOL/5090F/TERMINALS	1	Kele	Field	1
Spd Ctrl (EBO)	N/A	Speed Controller (by others)	1	Others	Field	
eWEnt	345713	eWEnt enteliWEB Enterprise Software (Up to 5000 I/O)	1	Delta Controls	Office	
eWEnt-UnLtd	345862	eWEnt-UnLtd enteliWEB Unlimited I/O Point Add-on Software (Unlimited I/O to eWEnt versions)	1	Delta Controls	Office	
eWEnt-EV	345801	eWEnt-EV enteliVIZ Add-on Software (Add for eWEnt version)	1	Delta Controls	Office	
eWEnt-VLT	346025	eWEnt-VLT enteliVAULT Add-on Software (Add for eWEnt version)	1	Delta Controls	Office	
eWEnt-VLTUnLtd	346028	eWEnt-VLTUnLtd enteliVAULT Add-on Software (Add for eWEnt-UnLtd version)	1	Delta Controls	Office	
eWEnt-Sub	345723	eWEnt-Sub Software Subscription (Up to 1 year after expiry)	1	Delta Controls	Office	
eWEnt-SubUnLtd	345864	eWEnt-SubUnLtd Software Subscription (Up to 1 year after expiry)	1	Delta Controls	Office	
eWEnt-VLT-Sub	346033	eWEnt-VLT-Sub eWEnt-VLT enteliVAULT License Subscription	1	Delta Controls	Office	
VLTUnLtd-Sub	346036	VLTUnLtd-Sub eWEnt-VLTUnLtd enteliVAULT License Subscription	1	Delta Controls	Office	
Panel Buzzer	ECX2070-24	Buzzer, 25mA, 24Vac/dc, 80dB	1	Automation Direct	Panel	
eBB-CABLE	272600	eBB-CABLE Cable Kit for enteliBUS (CAN)	1	Delta Controls	Panel	
eBB-TERM	272601	eBB-TERM Network Terminator for enteliBUS (CAN)	1	Delta Controls	Panel	
eBM-D400R4	375610	eBM-D400R4 enteliBUS Module (4 Bls,4 Relay OPs)	10	Delta Controls	Panel	1
eBMGR-2	301604	eBMGR-2 enteliBUS System Controller w/Ethernet (CPU/Comm)	1	Delta Controls	Panel	1
e BX-04	311601	eBX-04 enteliBUS Expander Backplane (4 slot)	1	Delta Controls	Panel	1
e BX-08	311602	eBX-08 enteliBUS Expander Backplane (8 slot)	1	Delta Controls	Panel	1
eZFCP-424R4-24	323426	eZFCP-424R4-24 enteliZONE Fan Coil Controller (24VAC Prog, 4UI, 2AO, 4TRIAC, 3 Fan and 1 aux relay)	2	Delta Controls	Panel	1
DVS-005100	507500	DVS-005100 Unmanaged Industrial 5-Port Ethernet Switch	1	Delta Electronics	Panel	1
RIBRL1C	403319	RIBRL1C DIN Mount Relay 10 Amp SPDT with 10-30 Vac/dc Coil	32	Functional Devices	Panel	2
TR75VA005	403599	TR75VA005 Transformer 75VA, 480/240/208/120 to 24 Vac, Circuit Breaker, Foot & Single Threaded Hub	2	Functional Devices	Panel	1
42 x 30 Enc	N1C304209LP	NEMA 1 42"x30"x8.62" Enc	1	Hubbell W.	Panel	
42 x 30 Perf Plate	NP4230PP	Perf Backplate for 42"x30" Enc	1	Hubbell W.	Panel	
Keyed Lock	N1C14TKL	Cylinder Lock Kit	1	Hubbell W.	Panel	
ABW111	499915	ABW111 PUSH BUTTON 1NO 1NC MOMENTARY FLUSH -3 COLORS	2	Kele	Panel	
AP8M122-G	499694	AP8M122-G PILOT LIGHT MINIATURE 8MM FLAT LENS ACDC 24V GREE LV, PDT	32	Kele	Panel	4
AP8M122-R	499695	AP8M122-R PILOT LIGHT MINIATURE 8MM FLAT LENS AC/DC 24V RED	37	Kele	Panel	4
PNL-Anc	PNL-Anc	TCS Panel Build - Annunciator Style	1	TCS	Panel	
PNL-FCU	PNL-FCU	TCS Panel Build - FCU Terminal Dev Style	2	TCS	Panel	



108 N MAIN
ADVANCE, INDIANA 46102
PHONE: 765.48.18510
ANI NATHANA TCSRAS COM

UPDATES
DATE REMARKS
8/22/2024 ADDENDUM #1
ISSUED FOR CONST
AS—BUILT

RE	VISIONS
DATE	REMARKS

ship, Indianapolis, IN Services, LLC

LOCATION: MSD Washington Township, India ENGINEER: Temperature Control Services, L

CONTRACT NO:

SHEET SCH-01 JOB NUMBER: J-2408004

										Text				
	TCS Label	Vendor	Height	Width	Field	Text	Dbl-Side	Hole	# of	Height	Text to Engrave	Text to Engrave	Text to Engrave	
Item:	ID:	P/N:	(In.):	(In.):	Color:	Color:	Tape?	Size:	Holes:	(ln.):	Line 1:	Line 2:	Line 3:	Special Instructions:
1	LAB-22030	23ST	2	3	Blue	White	Yes	N/A	0	0.25	EF-B1	CONTROL	PANEL	
2	LAB-22030	23ST	2	3	Blue	White	Yes	N/A	0	0.25	EF-G2 & G3	CONTROL	PANEL	
3	LAB-22030	23ST	2	3	Blue	White	Yes	N/A	0	0.25	FCU-D1	CONTROL	PANEL	
4	LAB-115160	1.510ST	1.5	16	Blue	White	Yes	N/A	0	0.75	BAS ALARM MONITORING			
5	LAB-11030	13ST	1	3	Blue	White	Yes	N/A	0	0.25	LIGHT TEST			
6	LAB-11030	13ST	1	3	Blue	White	Yes	N/A	0	0.25	ALARM ACK			
7	LAB-21540	1.54ST	1.5	4	Blue	White	Yes	N/A	0	0.2	BAS ADDRESSABLE	ALARM 1		
8	LAB-21540	1.54ST	1.5	4	Blue	White	Yes	N/A	0	0.2	BAS ADDRESSABLE	ALARM 2		
9	LAB-21540	1.54ST	1.5	4	Blue	White	Yes	N/A	0	0.2	BAS ADDRESSABLE	ALARM 3		
10	LAB-21540	1.54ST	1.5	4	Blue	White	Yes	N/A	0	0.2	BAS ADDRESSABLE	ALARM 4		
11	LAB-21540	1.54ST	1.5	4	Blue	White	Yes	N/A	0	0.2	BAS ADDRESSABLE	ALARM 5		
12	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	HOT WATER	SYSTEM	NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
13	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	CHILL WATER	SYSTEM	NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
14	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	REFRIGERANT	MONITORING	NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
15	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	TRUE	NORTH	NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
16	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-A1		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
17	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-A2		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
18	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-A3		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
19	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-A4		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
20	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-B1		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
21	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-B2		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
22	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-B3		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
23	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-B4		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
24	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-B5		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
25	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-C1		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
26	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-C2		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
27	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-C3		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
28	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-C4		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
29	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-C5		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
30	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-C6		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
31	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-D1		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
32	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-D2		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
33	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-D3		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
34	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-D4		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
35	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-E1		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
36	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-E2		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
37	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-E3		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
38	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-E4		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
39	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-E5		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
40	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-E6		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
41	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-F1A		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
42	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-F1B		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"
43	LAB-31535	1.53.5ST	1.5	3.5	Blue	White	Yes	N/A	0	0.2	AHU-F2		NORMAL ALARM	Left Justify "NORMAL" and right justify "ALARM"

Froi	m Project Specif	ications					V	alve Ty	ype and A	ctuate	or S _l	oecific	atior	ıs						Or	dering Da	ta			
Reference Quantity	Valve Tag	Flow (GPM)	TargetPressure	Target Cv Rating	Pipe Size (in.)	Required Close- off Pressure (PSI)	Valve Size (in.)	Valve Cv	Actual Pressure drop (PSI)	Ball	Globe Butterfly	24 VAC	On-Off	Tri-State Modulating	odulatiii oring Rtr	vitches SEN	OSED	IL 2VE	TO AB OPEN	TO AB OPEN	Valve #	Actuator#	Clip Position	Data Sheet	Notes
1 1	FCU D-1 CWV	8.00	5.00	3.58	1.00	200.0	0.75	4.70	2.90	X		X		Х			X				B217B	TFRB24-SR		4409a	



108 N MAIN ADVANCE, INDIANA 46102 PHONE: 765.48.18510 MAIL: NATHAN®TCSBAS.COM

UPDATES
DATE REMARKS
8/22/2024 ADDENDUM #1

ISSUED FOR CONST

AS—BUILT

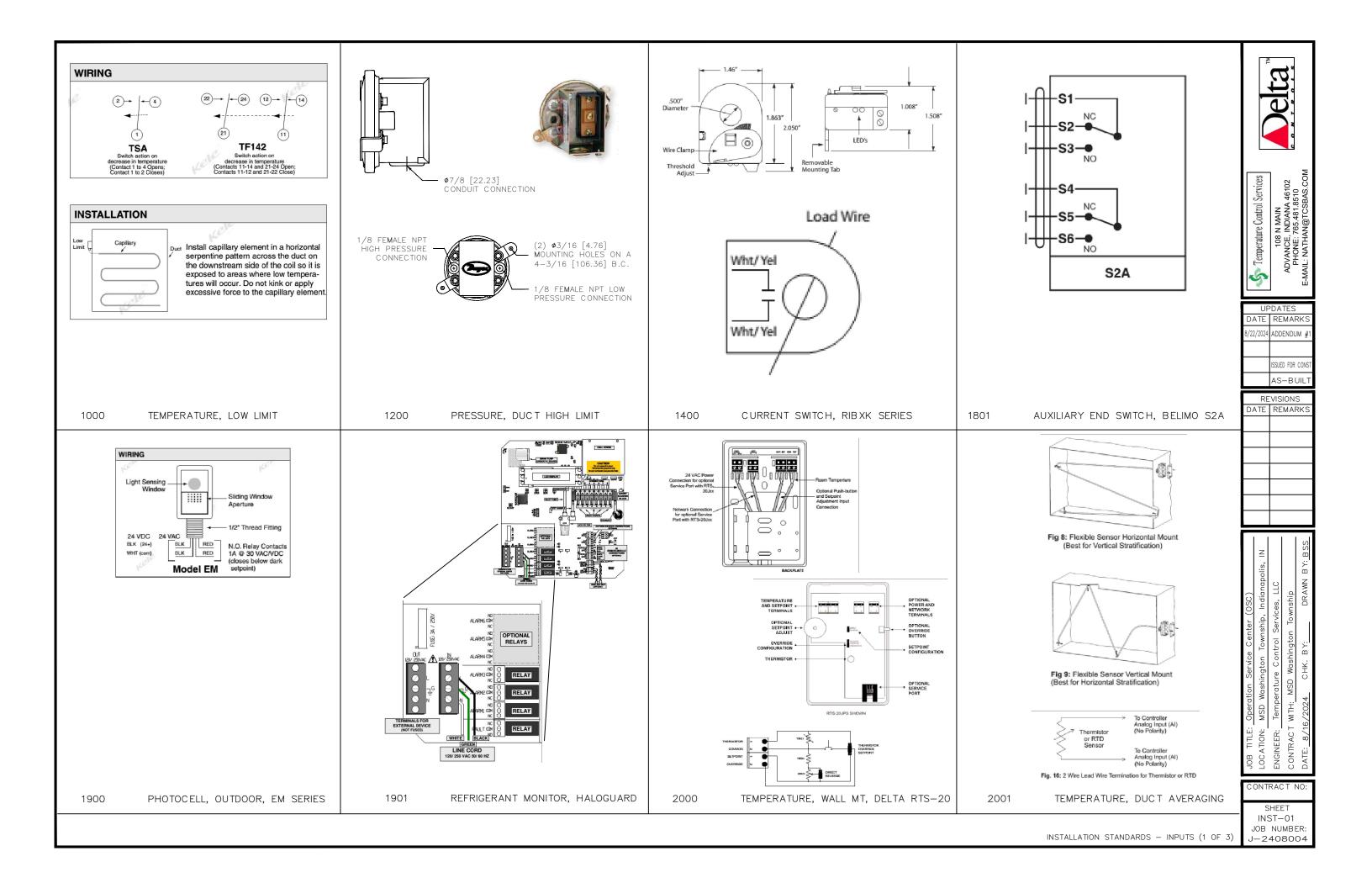
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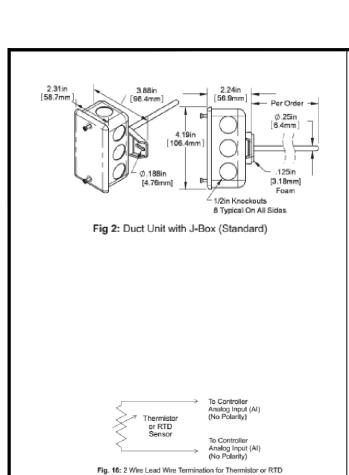
inter (OSC)
Inship, Indianapolis, IN
Services, LLC
In Township

JOB TITLE: Operation Service Center LOCATION: MSD Washington Township, ENGINEER: Temperature Control Service CONTRACT WITH: MSD Washington Tox

CONTRACT NO

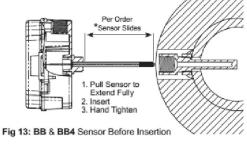
SHEET SCH-02 JOB NUMBER: J-2408004





2002

2101



2003

Table 3: Tempe	Table 3: Temperature Sensor Lead Wire Colors							
Therr	nistors	Platinu	m RTDs - 2 Wire					
1.8ΚΩ	Orange/Red	100Ω	Red/Red					
2.2ΚΩ	Brown/White	1ΚΩ	Orange/Orange					
ЗКΩ	Yellow/Black	-	Nickel RTD					
3.25KΩ	Brown/Green	1ΚΩ	Green/Green					
3.3ΚΩ	Yellow/Brown	Silicon RTD						
10K-2Ω	Yellow/Yellow	2ΚΩ	Brown/Blue					
10K-3Ω	Yellow/Red	Platinu	ım RTDs - 3 Wire					
10K-3(11K)Ω	Yellow/Blue	100Ω	Red/Red/Black*					
20ΚΩ	White/White	1ΚΩ	Orange/Orange/Black*					
47ΚΩ	Yellow/Orange	*In the 3-Wire F	RTD sensors listed above,					
50ΚΩ	White/Blue	the two wires of similar color are						
100ΚΩ	Yellow/White	connected together.						

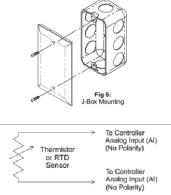
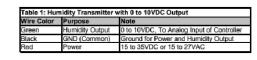


Fig. 16: 2 Wire Lead Wire Termination for Thermistor or RTD

2004 TEMPERATURE, WALL PLATE



Electrical connections to the Series 605 Transmitter are made to the two-screw terminal strip on the rear of the case. Polarity is indicated by + and - signs stamped

on side. The schematic diagram of the Series 605 transmitter is illustrated in Figure

Figure A

NOTE: RECEIVER MAY BE IN SERIES WITH + OR -LEG OF CONTROL LOOP

RECEIVER (RL)

SEE FIG. C

~~~~

BLUE OR PURPLE BLACK

GREEN

GREEN • RED • BLACK • Humidity
Transmitter

2100

SERIES 605 PRESSURE

2203



8 N MAIN E, INDIANA 46102 :: 765.481.8510 HAN@TCSBAS.COI

| UPDATES  |                  |  |  |  |  |  |  |
|----------|------------------|--|--|--|--|--|--|
| DATE     | REMARKS          |  |  |  |  |  |  |
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AS-BUILT

REVISIONS

HUMIDITY / TEMPERATURE, OUTSIDE AIR

| (0SC) | Indianapolis, IN | ces, LLC | vnship | DRAWN BY: BSS |
|-------|------------------|----------|--------|---------------|

| OSC)                          | Indiana                           | ses, LLC                         | nship                         |   |
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| enter (                       | wnship,                           | ol Servio                        | ton Tow                       |   |
| service (                     | ngton Ta                          | e Contr                          | Washing                       | 2 |
| peration Service Center (USC) | 1SD Washington Township, Indianap | emperature Control Services, LLC | //TH: MSD Washington Township |   |

INST-02 JOB NUMBER: J-2408004

## Table 1: EZ Pressure Sensor Termination

| Output Signal | Power Terminal               |
|---------------|------------------------------|
| 4 to 20 mA    | 7 to 40 VDC                  |
| 0 to 5 VDC    | 7 to 40 VDC or 18 to 28 VAC  |
| 0 to 10 VDC   | 13 to 40 VDC or 18 to 28 VAC |

| Gnd/4-20mA Terminal                          | Voltage Output Terminal                      |
|----------------------------------------------|----------------------------------------------|
| 4 to 20 mA Signal To Controller Analog Input | Not Used                                     |
| To Controller Ground                         | 0 to 5 VDC Signal To Controller Analog Input |
| To Controller Ground                         | 0 to 10 VDC Signal To Controller Analog Inpu |

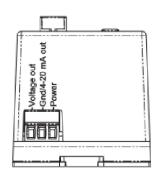
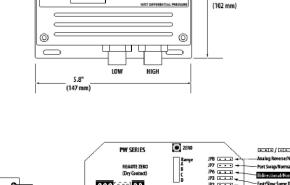


Fig. 7: Wiring terminations

| 2200 | PRESSURE, | ZPS | DP | STD | RANGE |
|------|-----------|-----|----|-----|-------|
| 2201 | PRESSURE, | ZPS | DP | LOW | RANGE |

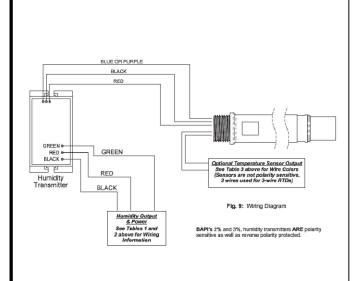


|                                      | _/ | LAL SEVIES                |       |     | 1                                       | /     | ., |
|--------------------------------------|----|---------------------------|-------|-----|-----------------------------------------|-------|----|
| POWER SOURCE 12 to 20 VOCZNA VAC COM |    | REMOTE ZERO (Dry Centact) |       |     | Normal<br>al/Normal<br>urge Damp<br>put |       |    |
|                                      |    |                           |       |     | RANGE                                   | (PSI) |    |
| DIGITAL CONTROL  Analog Input        | 7  |                           | MODEL | Α   | В                                       | C     | D  |
| 0-5Y/0-10V C                         | _  |                           | PW-03 | 50  | 25                                      | 10    | 5  |
| Optional S                           |    |                           | PW-04 | 100 | 50                                      | 20    | 10 |
| Digital Output                       |    |                           | PW-05 | 250 | 125                                     | 50    | 25 |

2202 PRESSURE, VERIS WET DP

WERES INDUSTRIES
Strifted Desger USA
HEDROGRESSE

PRESSURE, DUCT DP, DWYER 605 SERIES



To Controller Analog Input (AI) (No Polarity) Thermistor or RTD Sensor To Controller Analog Input (AI) (No Polarity)

Fig. 16: 2 Wire Lead Wire Termination for Thermistor or RTD TEMPERATURE, IMMERSION

INSTALLATION STANDARDS - INPUTS (2 OF 3)

HUMIDITY / TEMPERATURE, DUCT

TEMPERATURE, DUCT PROBE

Ground for Power and Humidity Output 15 to 35VDC or 15 to 27VAC

Humidity Output 0 to 10VDC, To Analog Input of Controller

\$

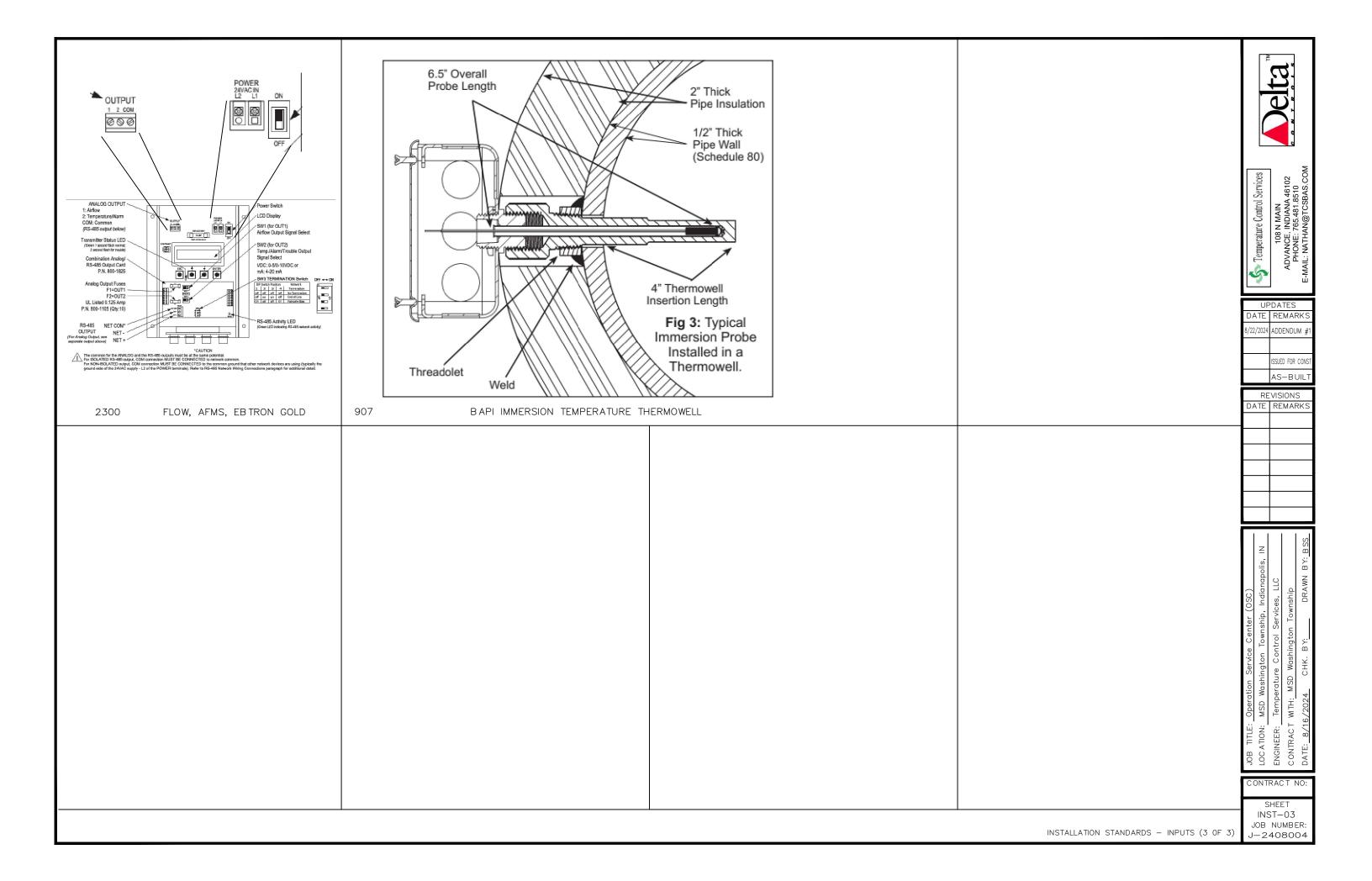
Fig. 9: Wiring Diagram

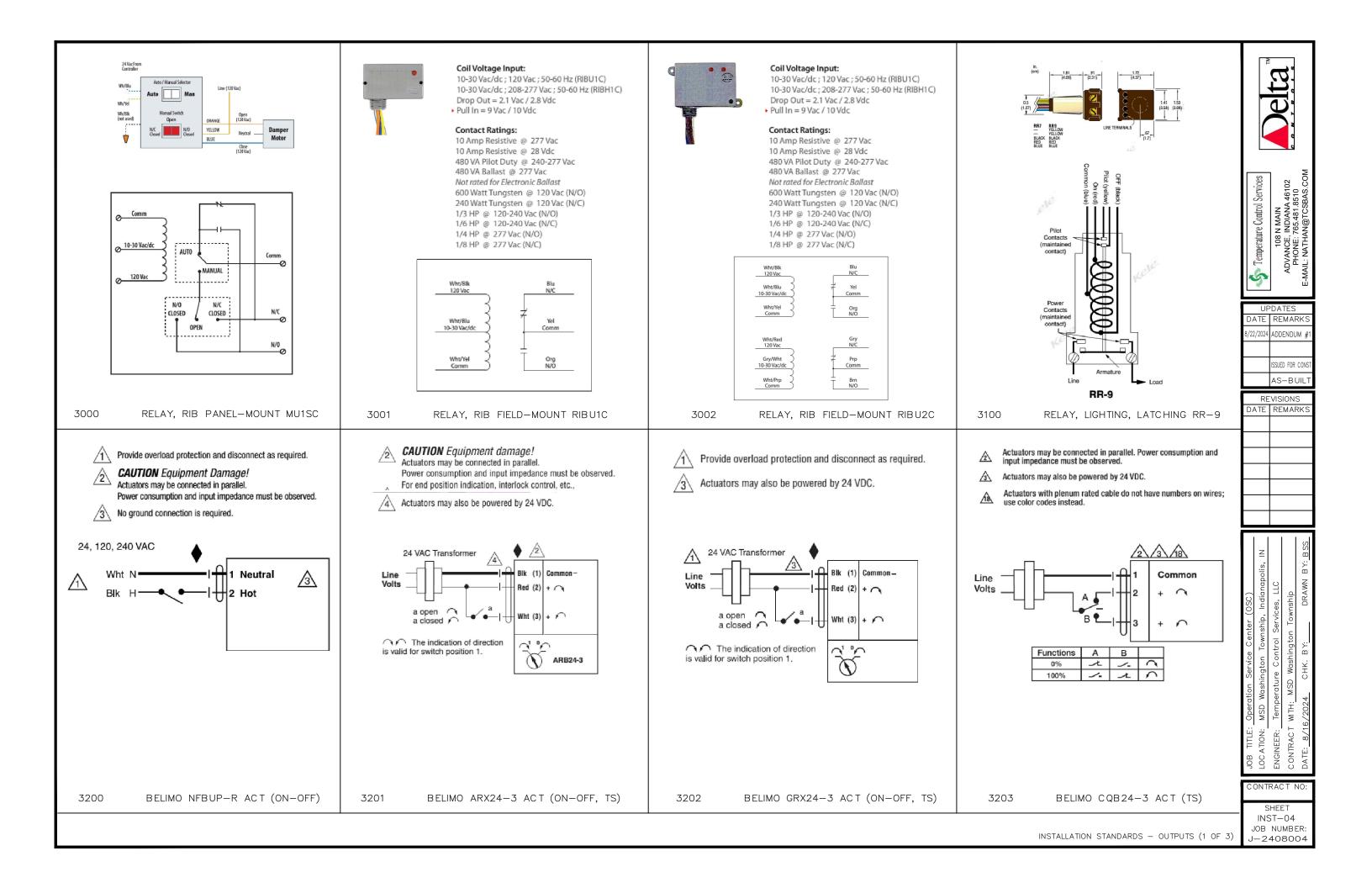
BAPI's 2% and 3%, humidity transmitters ARE polarity sensitive as well as reverse polarity protected.

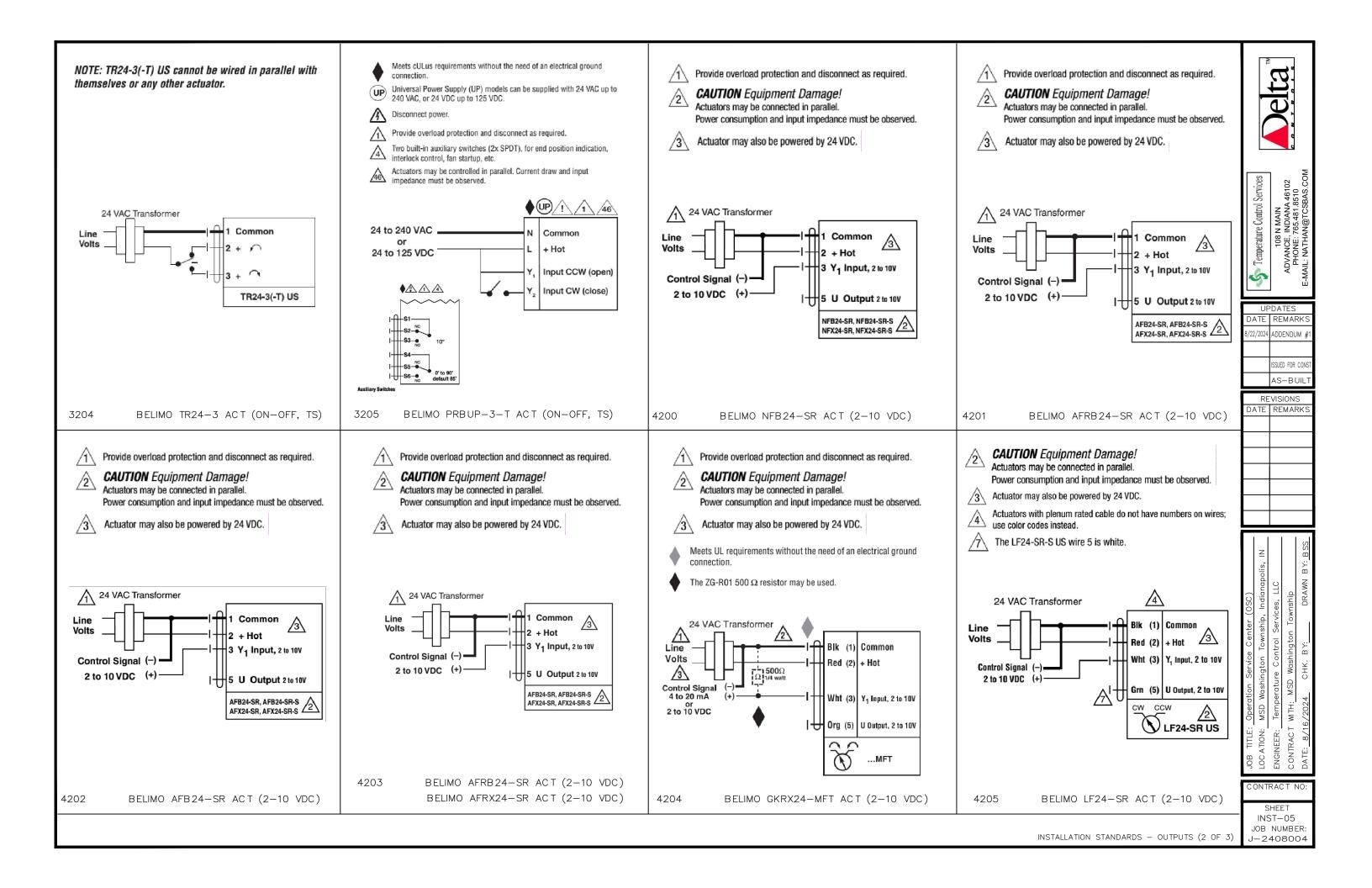
DATE REMARKS

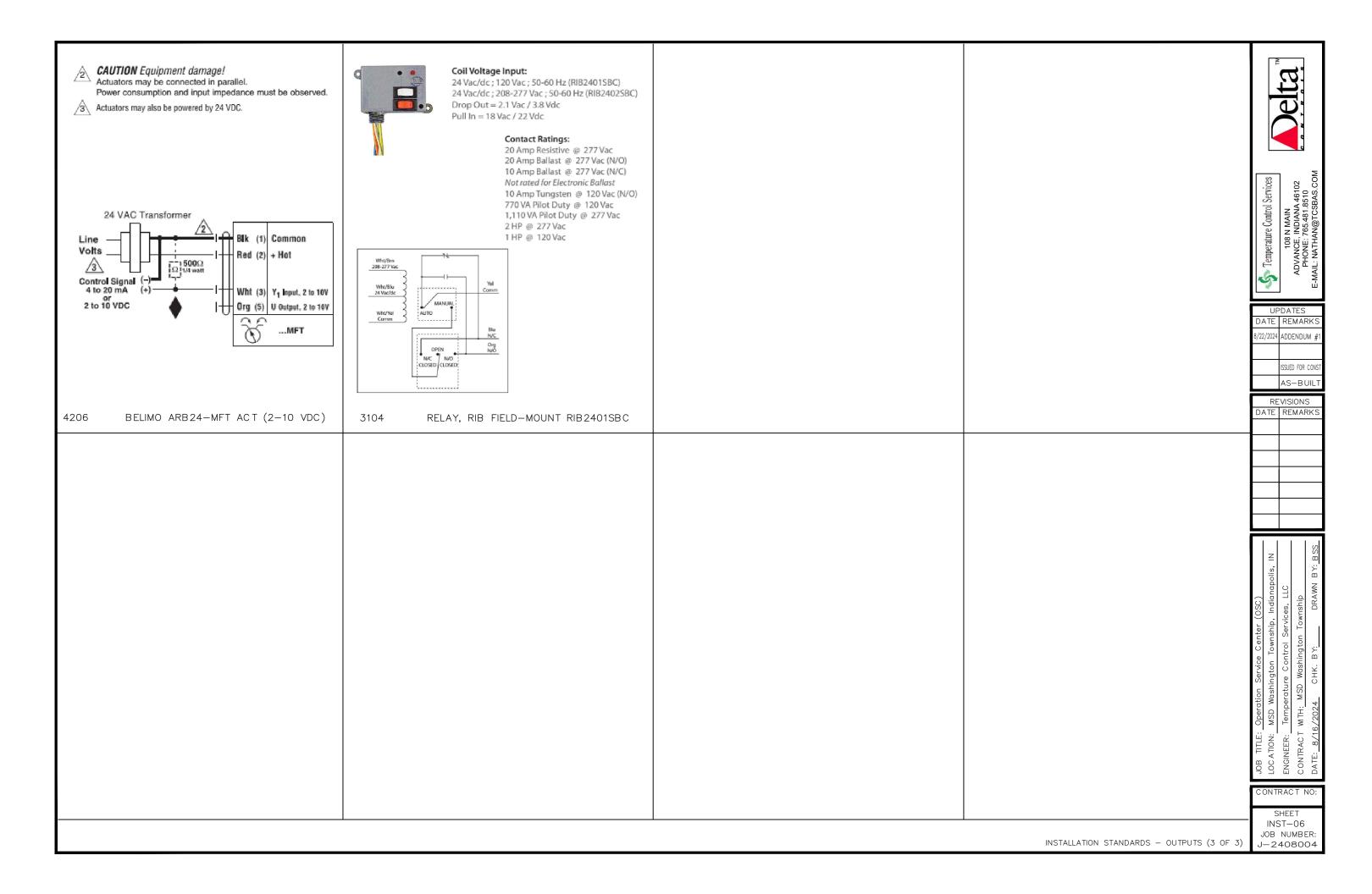
POWER SUPPLY 10.0-35 VDC

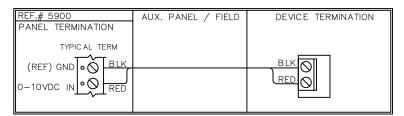
SHEET



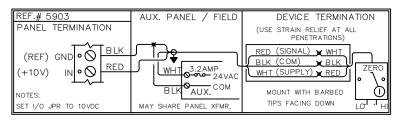




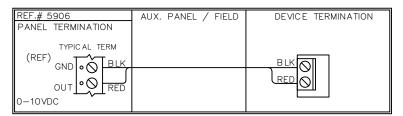




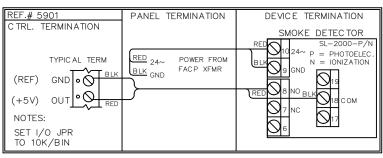
5900 DRY CONTACT INPUT (TO BAS)



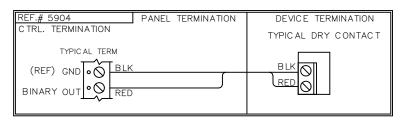
5903 O-10 VDC TRANSDUCER INPUT (TO BAS)



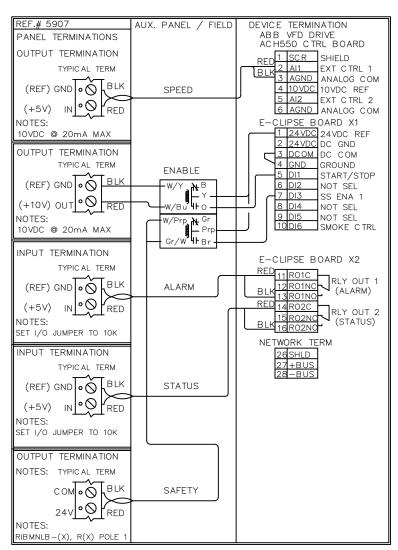
5906 ANALOG OUTPUT (LEVEL / SPEED, ETC.)



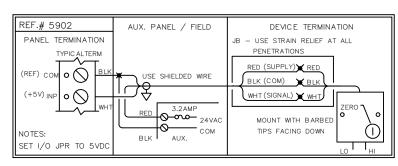
5901 SMOKE DETECTOR INPUT



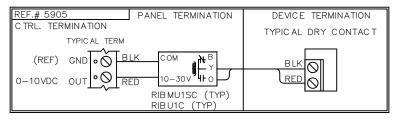
5904 PUMP / FAN ENABLE / DRY CONTACT (W/ BINARY OUT)



5907 VFD CONNECTIONS, ABB ACH-550 DRIVE



5902 0-5 VDC TRANSDUCER INPUT (TO BAS)



5905 PUMP / FAN ENABLE / DRY CONTACT (W/2-10VDC OUT)



Temperature Control Services

108 N MAIN
ADVANCE, INDIANA 46102
PHONE: 765.481.8510
E-MAIL: NATHAN@TCSBAS.COI

| UPDATES   |                  |  |  |  |  |  |
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| DATE      | REMARKS          |  |  |  |  |  |
| 8/22/2024 | ADDENDUM #1      |  |  |  |  |  |
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| JOB TITLE: Operation Service Center (OSC) | LOCATION: MSD Washington Township, Indianapolis, IN | ENGINEER: Temperature Control Services, LLC | CONTRACT WITH: MSD Washington Township |      |
|-------------------------------------------|-----------------------------------------------------|---------------------------------------------|----------------------------------------|------|
| JOB TITLE:                                | OC ATION:                                           | ENGINEER:                                   | CONTRACT                               | ll H |

NOTF:

- THE DETAILS ON THIS PAGE ARE PROVIDED AS GENERAL REPRESENTATIONS OF TYPICAL APPLICATIONS ONLY!
- WHENEVER POSSIBLE, ALWAYS FOLLOW THE ACTUAL MANUFACTURER'S INSTALLATION DETAILS.
- ${\sf -}$  ACTUAL TERMINATIONS MAY DIFFER SUBSTANTIALLY FROM THESE DETAILS  ${\sf -}$  USE WITH CAUTION!

SHEET INST-07 JOB NUMBER: J-2408004

## SECTION 238416.16 - INDOOR, MECHANICAL DEHUMIDIFICATION UNITS

## PART 1 - GENERAL

#### 1.1 SUMMARY

## A. Section Includes:

1. Indoor, mechanical dehumidification units.

## 1.2 ACTION SUBMITTALS

#### A. Product Data:

- 1. For each type of product.
  - a. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
- B. Sustainable Design Submittals:
  - 1. Product Data: For energy performance.
- C. Shop Drawings: For each indoor, mechanical dehumidification unit.
  - 1. Include plans, elevations, sections and mounting details.
  - 2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
  - 3. Detail fabrication and assembly of dehumidification units.
  - 4. Vibration Isolation Base Details: Detail fabrication including anchorages and attachments to structure and to supported equipment. Include adjustable motor bases, rails, and frames for equipment mounting.
  - 5. Include diagrams for power, signal, and control wiring.
- D. Delegated Design Submittals: For indoor, mechanical dehumidification units.
  - 1. Vibration Isolation Base Details: Detail fabrication including anchorages and attachments to structure and to supported equipment. Include adjustable motor bases, rails, and frames for equipment mounting.
  - 2. Include design calculations for selecting vibration isolators and seismic restraints and for designing vibration isolation bases.

## 1.3 INFORMATIONAL SUBMITTALS

- A. Seismic Qualification Data: Certificates for indoor, mechanical dehumidification units, accessories, and components, from manufacturer.
  - 1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
  - 2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
  - 3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
- B. Product Test Reports: For each indoor, mechanical dehumidification unit, for tests performed by a qualified testing agency.
- C. Field quality-control reports.

## 1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For dehumidification units to include in emergency, operation, and maintenance manuals.

## 1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Filters: One set(s) of each type of filter specified.

## 1.6 QUALITY ASSURANCE

A. Testing Agency Qualifications: An NRTL.

## 1.7 COORDINATION

- A. Coordinate sizes and locations of concrete bases. Cast anchor-bolt inserts into bases.
- B. Coordinate installation of roof curbs, equipment supports, and roof penetrations.

## 1.8 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of indoor, mechanical dehumidification units that fail in materials or workmanship within specified warranty period.

- 1. Warranty Period for Compressors: Manufacturer's standard, but not less than two years from date of Substantial Completion.
- 2. Warranty Period for Refrigerant Coils: Manufacturer's standard, but not less than two years from date of Substantial Completion.

## PART 2 - PRODUCTS

## 2.1 PERFORMANCE REQUIREMENTS

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Seismic Performance: Dehumidification units are to withstand the effects of earthquake motions determined according to ASCE/SEI 7.
  - 1. The term "withstand" means "the unit will remain in place without separation of any parts when subjected to the seismic forces specified and the unit will be fully operational after the seismic event."
  - 2. Component Importance Factor: 1.0.
- C. ASHRAE/IES 90.1 Compliance: Applicable requirements in ASHRAE/IES 90.1.
- D. ASHRAE 15 Compliance: "Safety Standard for Refrigeration Systems."

## 2.2 INDOOR, MECHANICAL DEHUMIDIFICATION UNITS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. Dectron Internationale.
  - 2. Dehumidifier Corporation of America.
  - 3. Desert Aire.
  - 4. DryAire Systems.
  - 5. MSP Technology, LLC.
  - 6. PoolPak Technologies Corporation.
  - 7. Thermoplus Air Inc.
  - 8. Quest.

## B. Casings:

- 1. Casing: Single -wall construction with interior corrosion-resistant coating and exterior powder-coated steel or aluminum, stainless steel fasteners, knockouts for electrical and piping connections, condensate drain connection, and lifting lugs.
  - a. Access: Removable panels with neoprene compression gaskets and cam latches.

- b. Airstream Surfaces: Surfaces in contact with the airstream are to comply with requirements in ASHRAE 62.1.
- 2. Drain Pan and Connection: Stainless steel; insulated and complying with ASHRAE 62.1.

#### C. Filters:

- 1. Pleated:
  - a. Thickness: Manufacturer's standard depth.
  - b. MERV Rating: MERV 11, according to ASHRAE 52.2.
- D. Refrigeration System:
  - 1. Refrigerant Coils with Multiple Refrigerant Circuits:
    - a. Tubes: Copper.
    - b. Fins:
      - 1) Material: Aluminum Copper.
      - 2) Fin Spacing: Maximum 10 fins per inch.
    - c. Fin and Tube Joints: Mechanical bond.
    - d. Headers: Seamless-copper headers with brazed connections.
    - e. Frames: Galvanized-steel Stainless steel frame.
    - f. Ratings: Designed, tested, and rated according to ASHRAE 33 and AHRI 410.
    - g. Source Quality Control: Factory test to minimum 450-psig internal pressure and to minimum 300-psig internal pressure while underwater.
  - 2. Compressors: Hermetic, scroll compressors with integral vibration isolators and crankcase heaters that de-energize during compressor operation; with thermal-expansion valves, filter-dryers, sight glasses, compressor service valves, and liquid- and suction-line service valves.
    - a. Minimum Number of Refrigerant Circuits: Two for compressor capacities of more than 7-1/2 tons.
    - b. Refrigerant: R-410A.
    - c. Capacity Control:
      - 1) Hot-gas bypass valve and piping on one compressor.
      - 2) Cycle compressor.
    - d. Low-Pressure Cutout: Manual reset after three automatic-reset failures.
    - e. High-Pressure Cutout: Manual reset.
    - f. Compressor Motor Overload Protection: Manual reset.
    - g. Antirecycling Timing Device: Prevent compressor restart for five minutes after shutdown.

3. Energy Recovery Heat Exchanger (Pool Heater): Cupronickel, coaxial, vented, double-wall construction for potable-water service.

## E. Controls:

- Comply with requirements in Section 230923 "Direct Digital Control (DDC) System for HVAC" for control equipment and in Section 230993.11 "Sequence of Operations for HVAC DDC."
- 2. Interface with DDC System for HVAC: Factory-installed hardware and software to enable the DDC system for HVAC to monitor, control, and display status and alarms.
- 3. Operating Control, Ice Rinks: Space humidistat cycles the compressor. Humidistat is to incorporate fan on-off-auto switch.

## 2.3 MATERIALS

#### A. Steel:

- 1. ASTM A36/A36M for carbon structural steel.
- 2. ASTM A568/A568M for steel sheet.

#### B. Stainless Steel:

- 1. Manufacturer's standard grade for casing.
- 2. Manufacturer's standard type, ASTM A240/240M for bare steel exposed to airstream or moisture.
- C. Galvanized Steel: ASTM A653/A653M.
- D. Aluminum: ASTM B209.
- E. Comply with Section 230546 "Coatings for HVAC" for corrosion-resistant coating.
- F. Corrosion-Resistant Coating: Coat with a corrosion-resistant coating capable of withstanding a 3,000 -hour salt-spray test according to ASTM B117.
  - 1. Standards:
    - a. ASTM B117 for salt spray.
    - b. ASTM D2794 for minimum impact resistance of 100 in./lb.
    - c. ASTM B3359 for cross hatch adhesion of 5B.
  - 2. Application: Spray.
  - 3. Thickness: 1 mil.
  - 4. Gloss: Minimum gloss of 60 on a 60-degree meter.

## 2.4 SOURCE QUALITY CONTROL

- A. Verification of Performance: Factory test and rate dehumidification units according to AHRI 910.
- B. Sound-Power-Level Ratings: Factory test and rate dehumidification units according to AHRI 575.

#### PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine roughing-in for refrigerant piping systems to verify actual locations of piping connections before equipment installation.
- C. Examine walls, floors, and roofs for suitable conditions where dehumidification units will be installed.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

## 3.2 PIPING CONNECTIONS

- A. Where piping is installed adjacent to dehumidification units, allow space for service and maintenance of dehumidification units.
- B. Connect piping to dehumidification units mounted on vibration isolators with flexible connectors.
- C. Connect condensate drain pans using minimum NPS 1-1/4 copper tubing. Extend to nearest equipment or floor drain. Construct deep trap at connection to drain pan, and install cleanout at changes in direction.
- D. Refrigerant Piping: Comply with requirements in Section 232300 "Refrigerant Piping." Connect to supply and return coil tappings with shutoff valve and union or flange at each connection.
- E. Steam and Condensate Piping: Comply with requirements in Section 232213 "Steam and Condensate Heating Piping" and Section 232216 Steam and Condensate Heating Piping Specialties." Connect with shutoff valve and union or flange.

## 3.3 CONTROL CONNECTIONS

- A. Install control and electrical power wiring to field-mounted control devices.
- B. Connect control wiring between control devices.
- C. Connect control wiring according to Section 260523 "Control-Voltage Electrical Power Cables."

## 3.4 FIELD QUALITY CONTROL

- A. Testing Agency:
  - 1. Owner will engage a qualified testing agency to perform tests and inspections.
  - 2. Engage a qualified testing agency to perform tests and inspections.
- B. Dehumidification unit will be considered defective if it does not pass tests and inspections.
- C. Prepare test and inspection reports.

## 3.5 CLEANING

- A. Clean dehumidification units internally, on completion of installation, according to manufacturer's written instructions. Clean fan interiors to remove foreign material and construction dirt and dust. Vacuum clean fan wheels, cabinets, and coils' entering-air face.
- B. After completing system installation, testing, and startup service of dehumidification units, clean filter housings and install new filters.

## 3.6 ADJUSTING

- A. Adjust damper linkages for proper damper operation.
- B. Adjust initial temperature and humidity set points.

## 3.7 STARTUP SERVICE

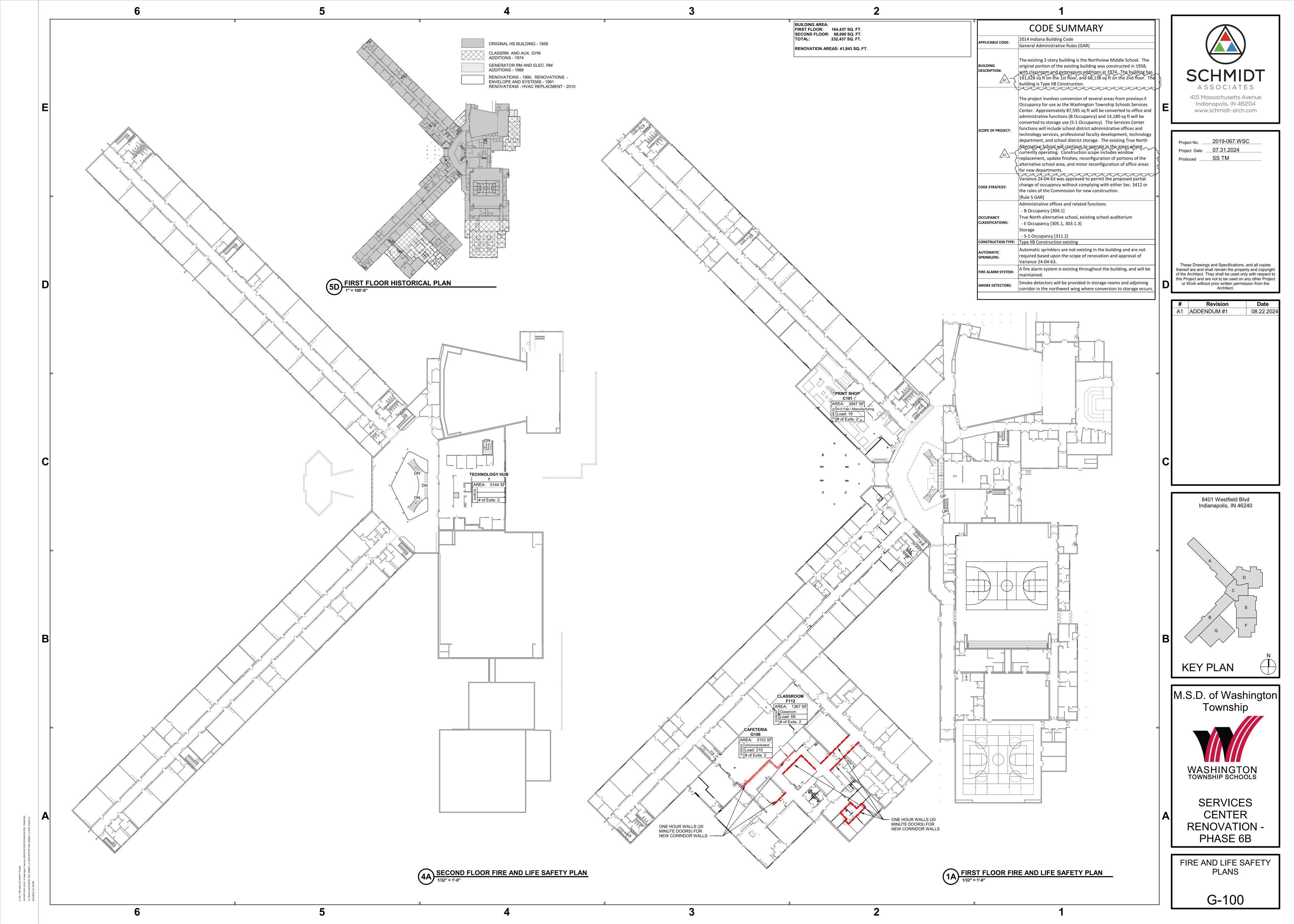
- A. Perform startup service.
  - 1. Complete installation and startup checks according to manufacturer's written instructions.
- B. Perform the following final checks before startup:
  - 1. Verify that shipping, blocking, and bracing are removed.

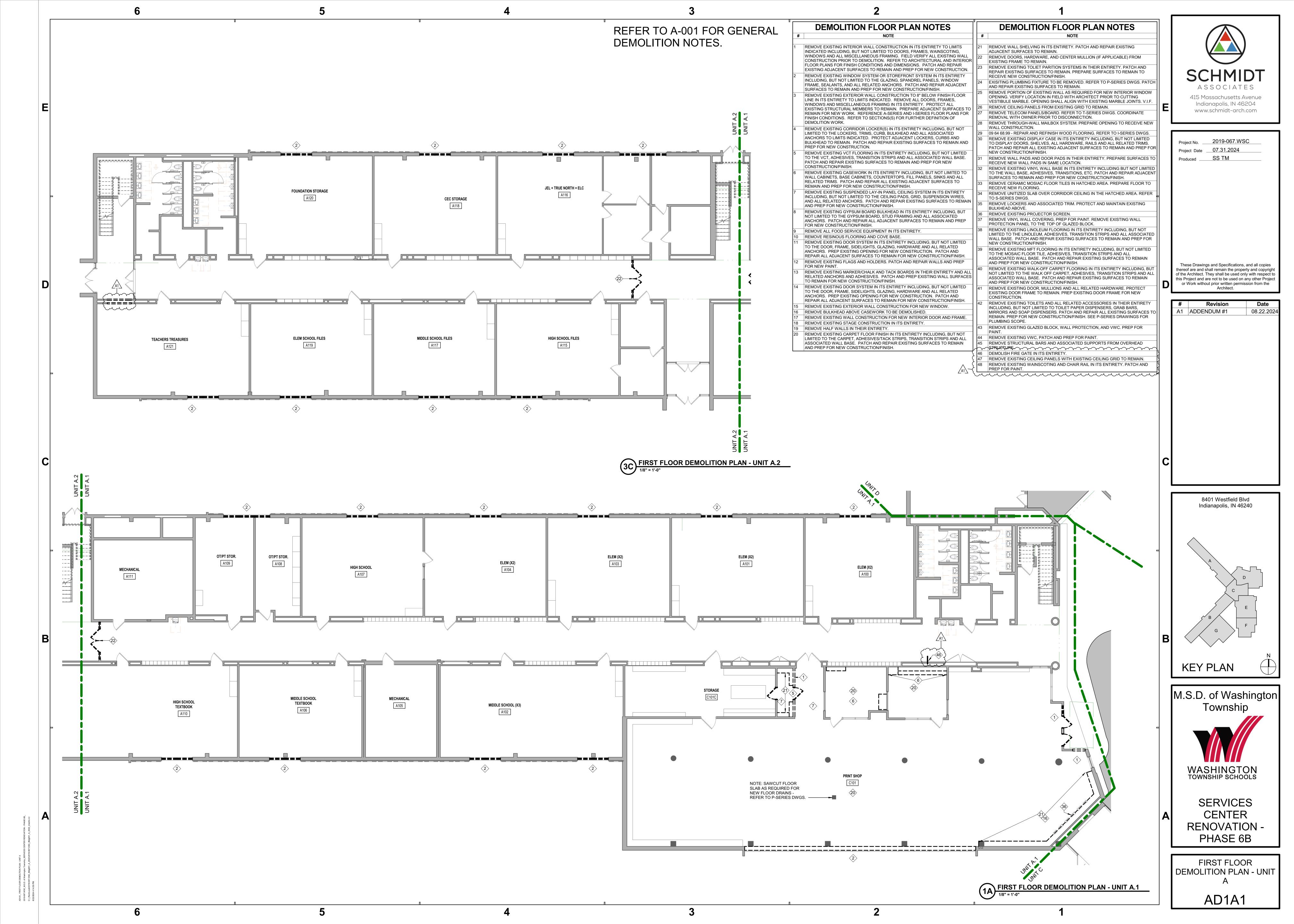
- 2. Verify that unit is secure on mountings and supporting devices and that connections to piping, ducts, and electrical systems are complete. Verify that proper thermal-overload protection is installed in motors, starters, and disconnect switches.
- 3. Perform cleaning and adjusting specified in this Section.
- 4. Disconnect fan drive from motor, verify proper motor rotation direction, and verify free fan wheel rotation and smooth bearing operations. Reconnect fan drive system, align belts, and install belt guards.
- 5. Check lubrication of bearings, pulleys, belts, and other moving parts.
- 6. Set outside- and return-air mixing dampers to minimum outside-air setting.
- 7. Install clean filters.
- 8. Verify that manual and automatic volume control and fire and smoke dampers in connected duct systems are in fully open position.
- C. Starting procedures for dehumidification units include the following:
  - 1. Energize motor; verify proper operation of motor, drive system, and fan wheel. Adjust fan to indicated rpm. Replace malfunctioning motors, bearings, and fan wheels.
  - 2. Measure and record motor's electrical values for voltage and amperage.
  - 3. Manually operate dampers from fully closed to fully open position and record fan performance.
- D. Comply with requirements in Section 230593 "Testing, Adjusting, and Balancing for HVAC" for testing, adjusting, and balancing of dehumidification unit.
- E. Startup Report: Report findings during startup. Identify startup steps, corrective measures taken, and final results.

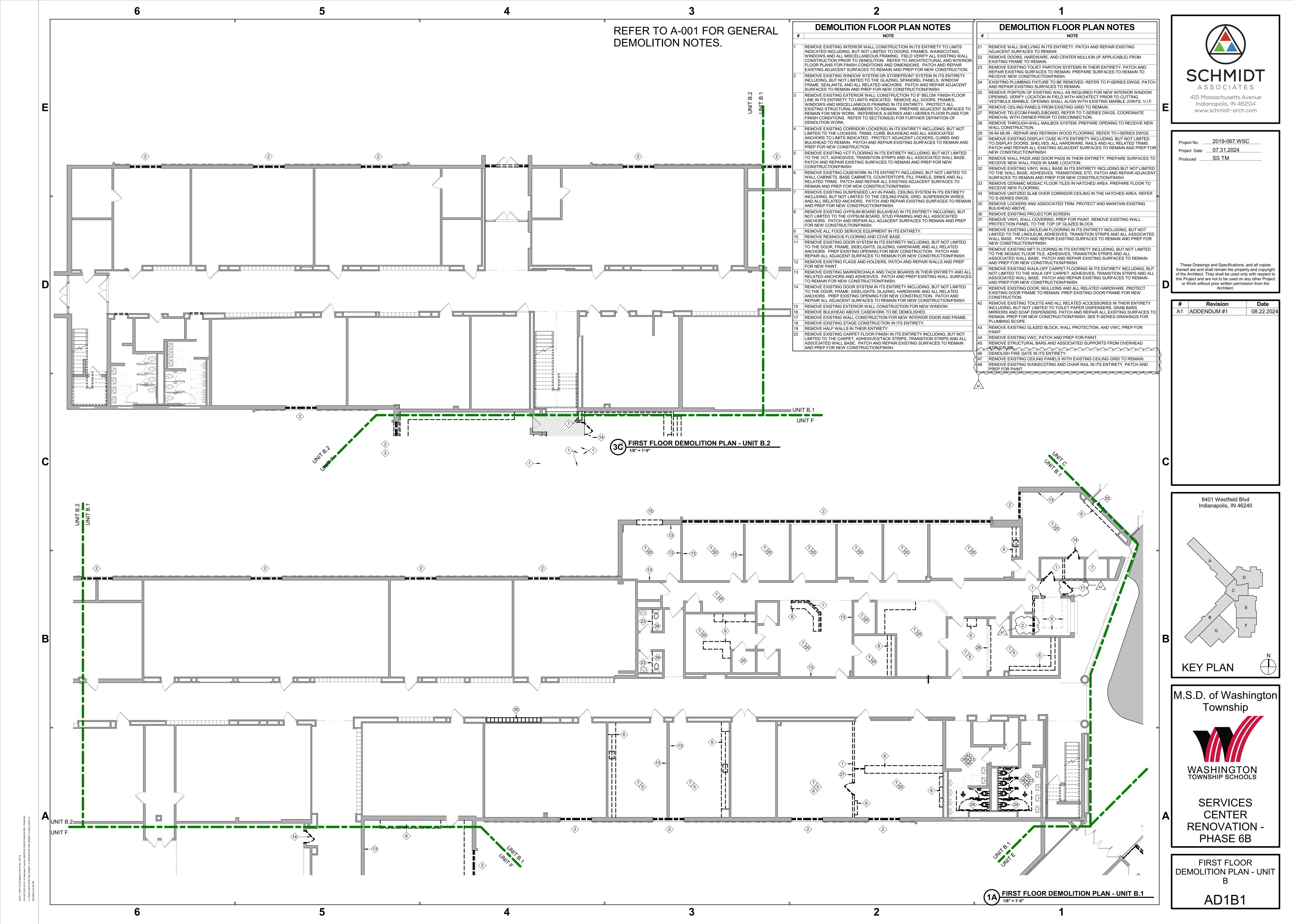
#### 3.8 DEMONSTRATION

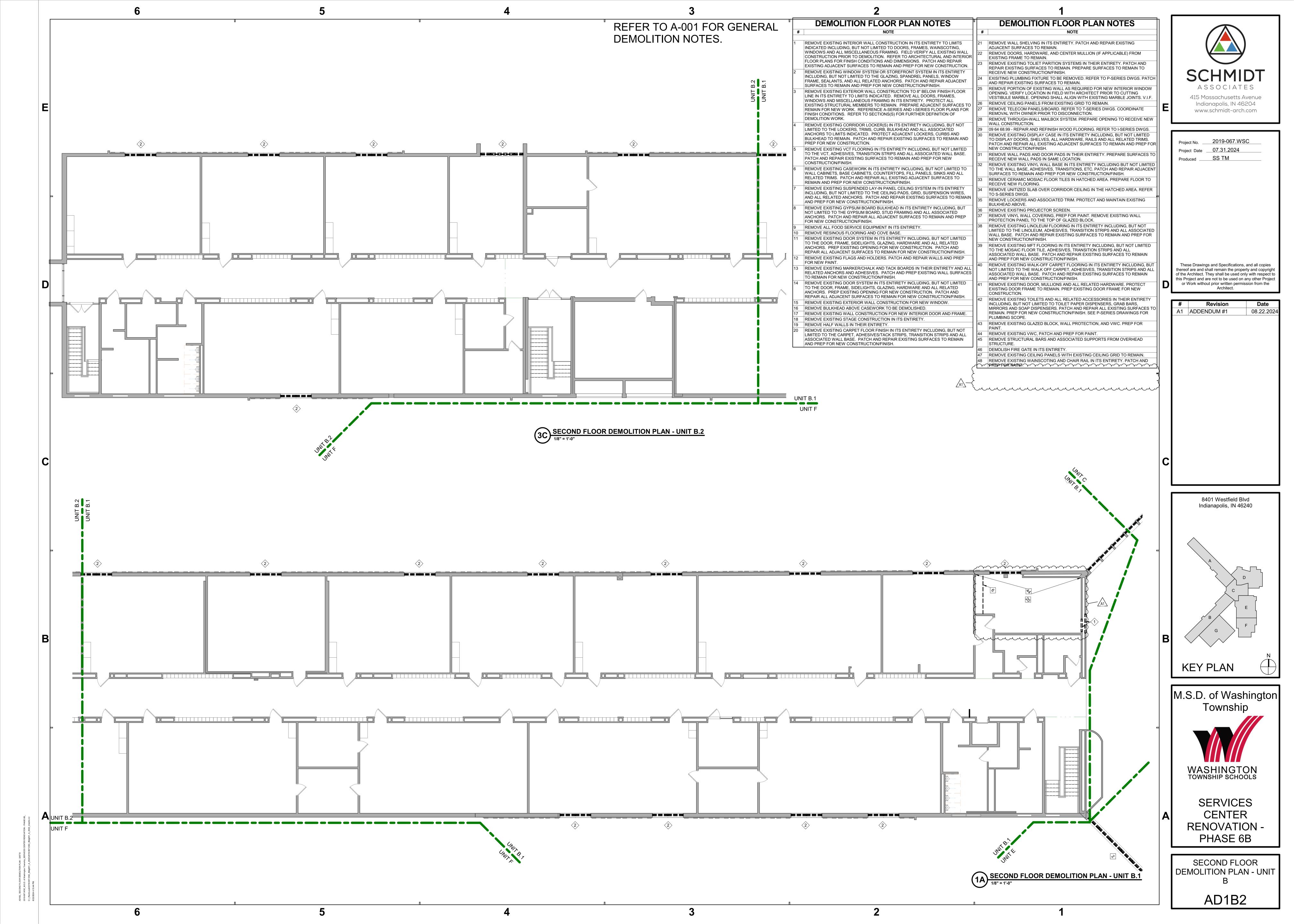
A. Train Owner's maintenance personnel to adjust, operate, and maintain dehumidification units.

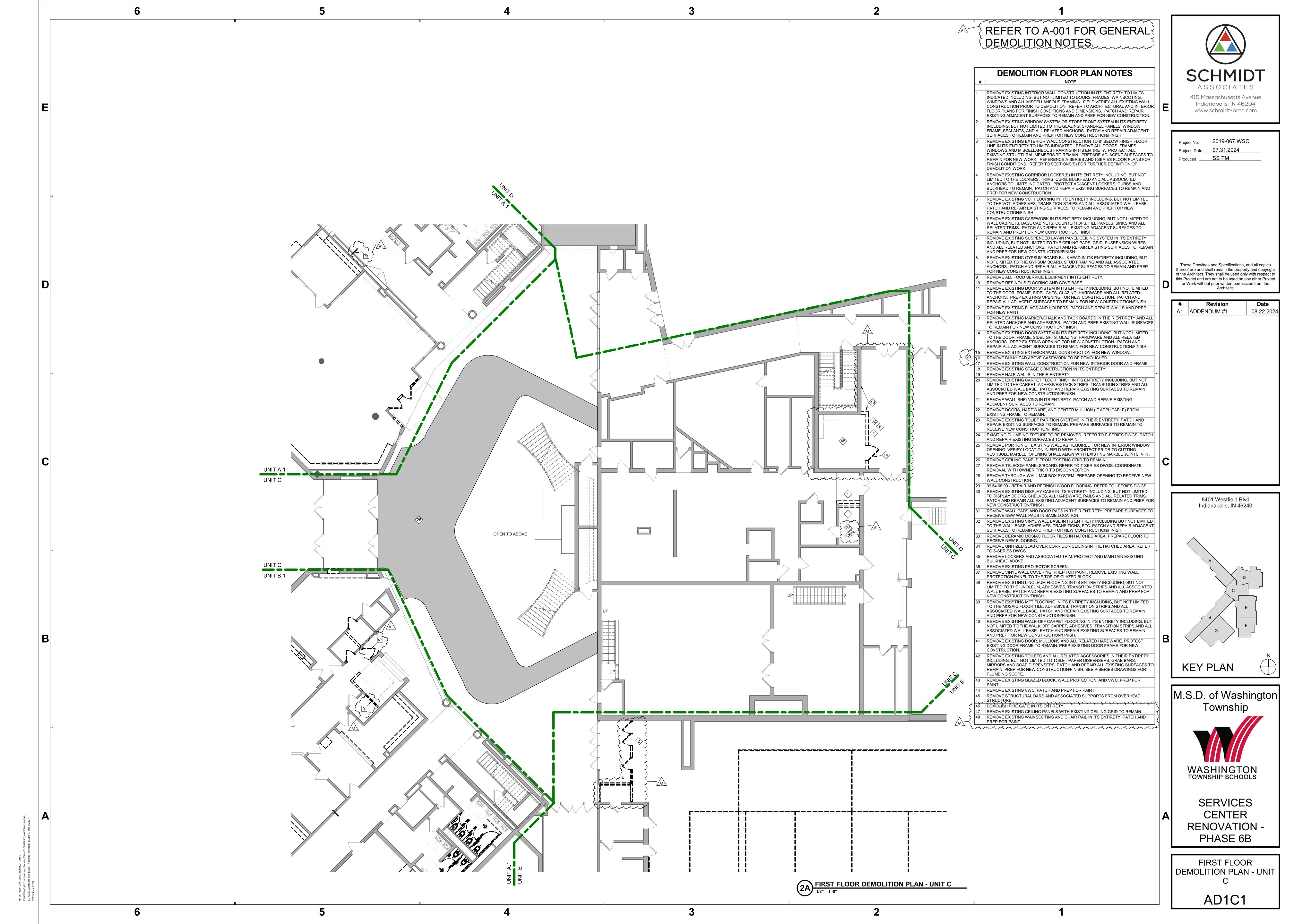
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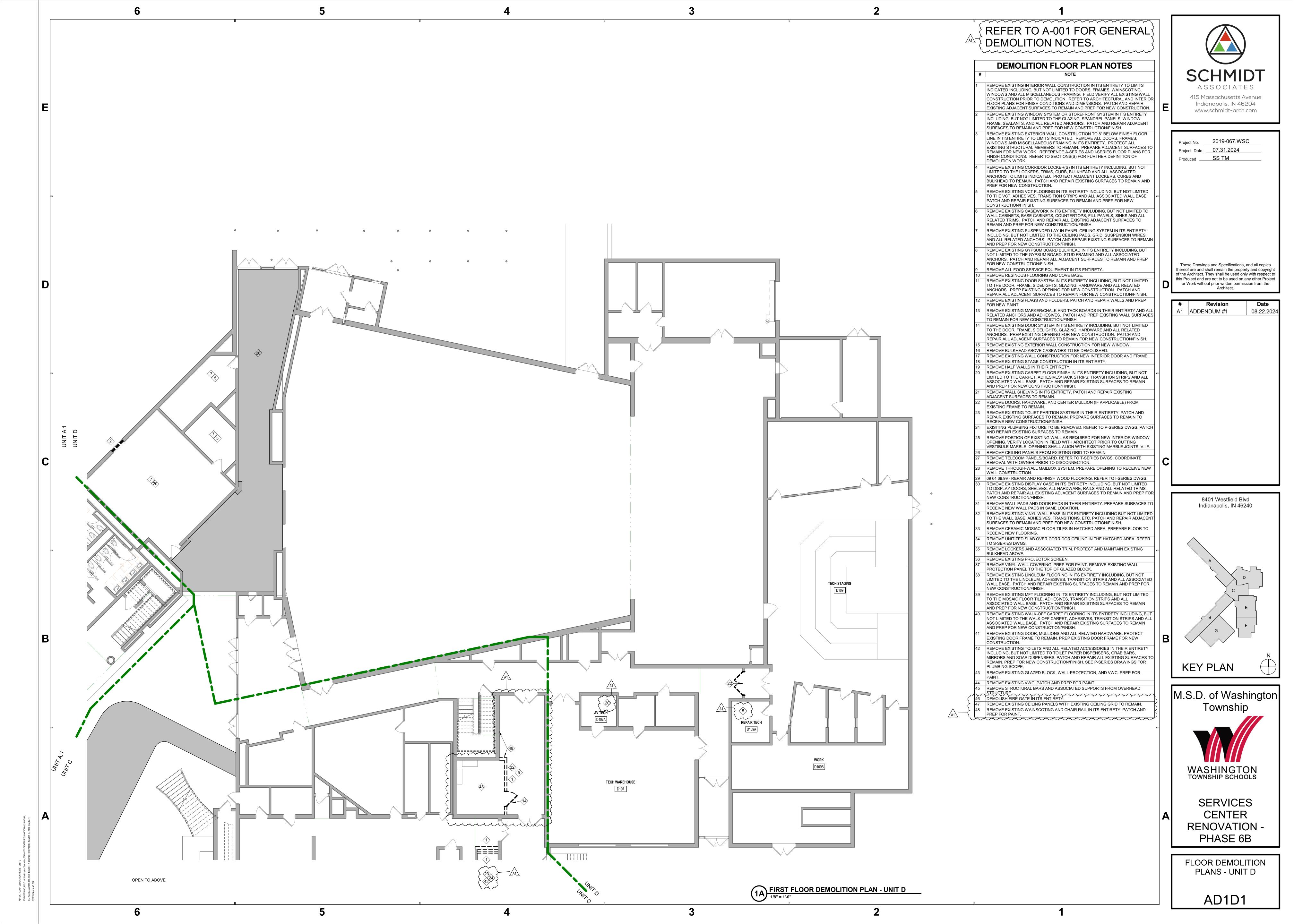


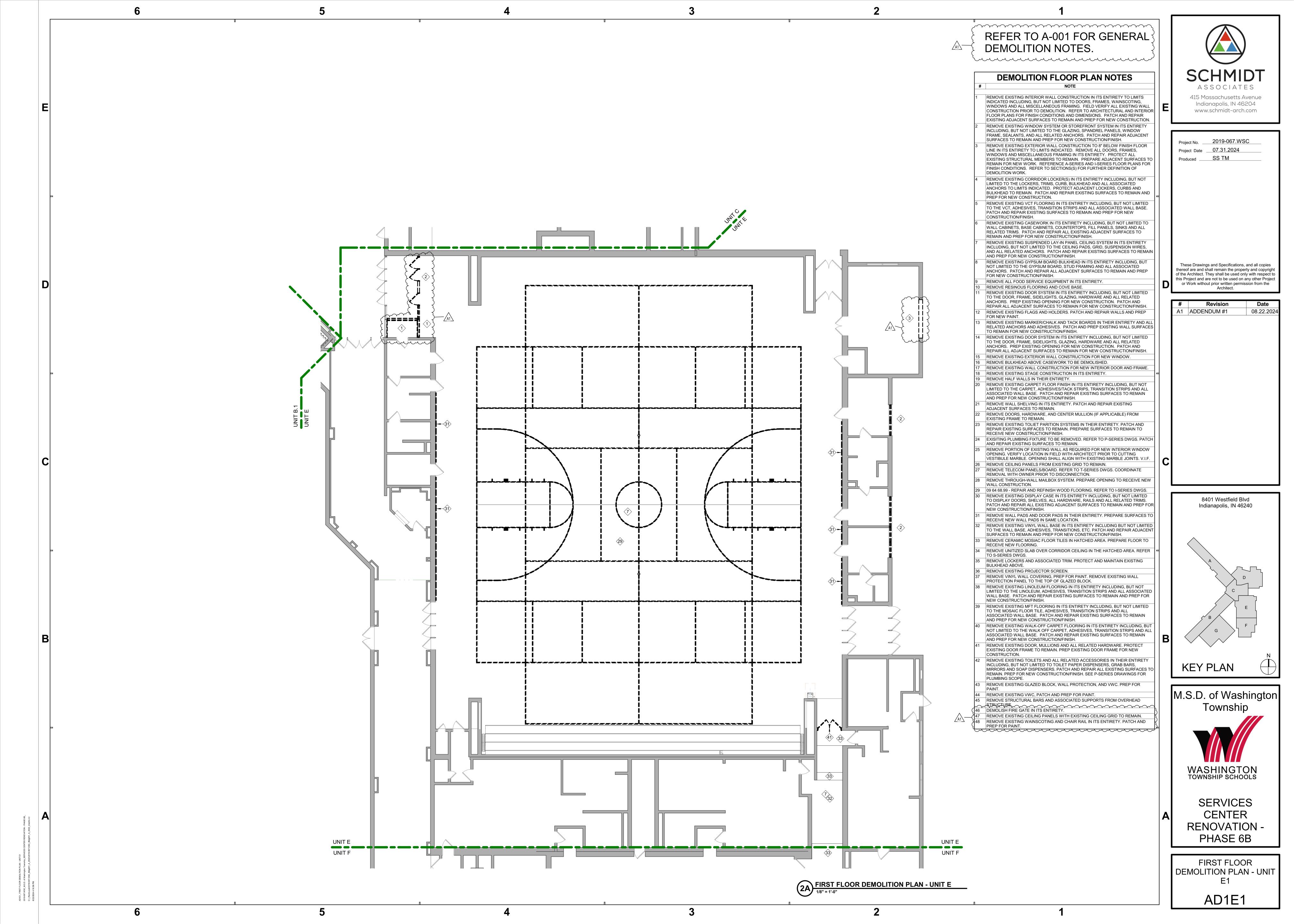


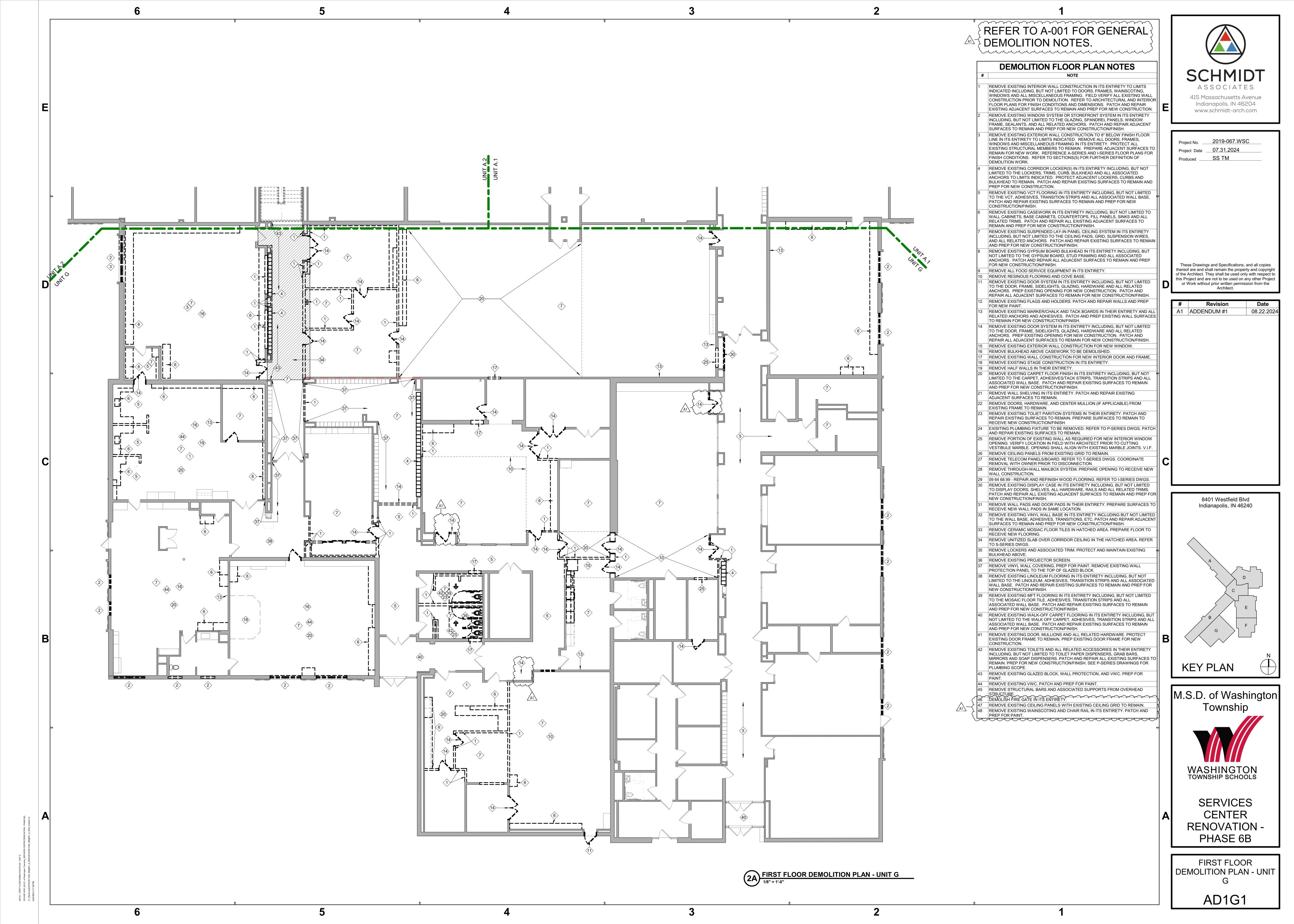


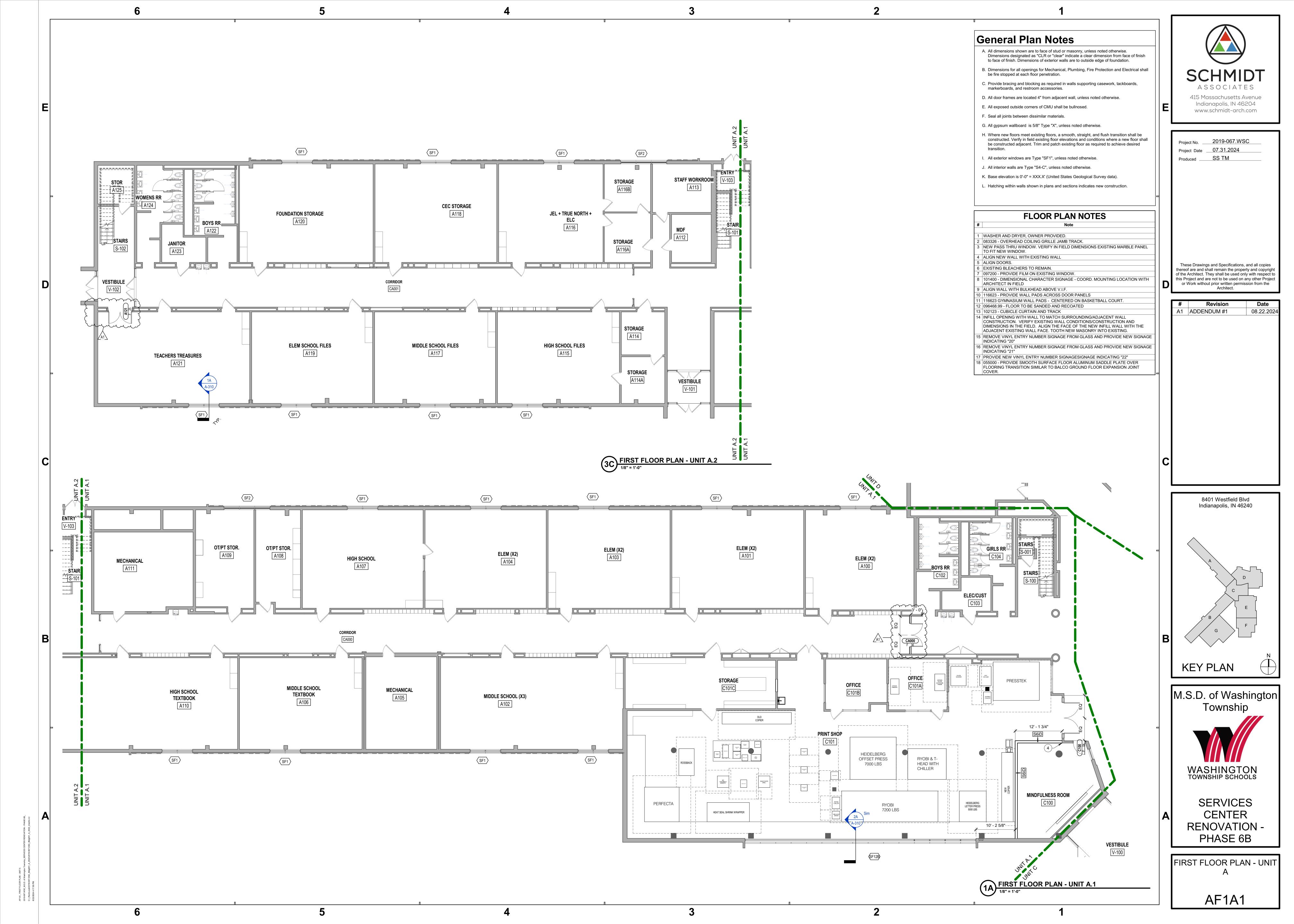


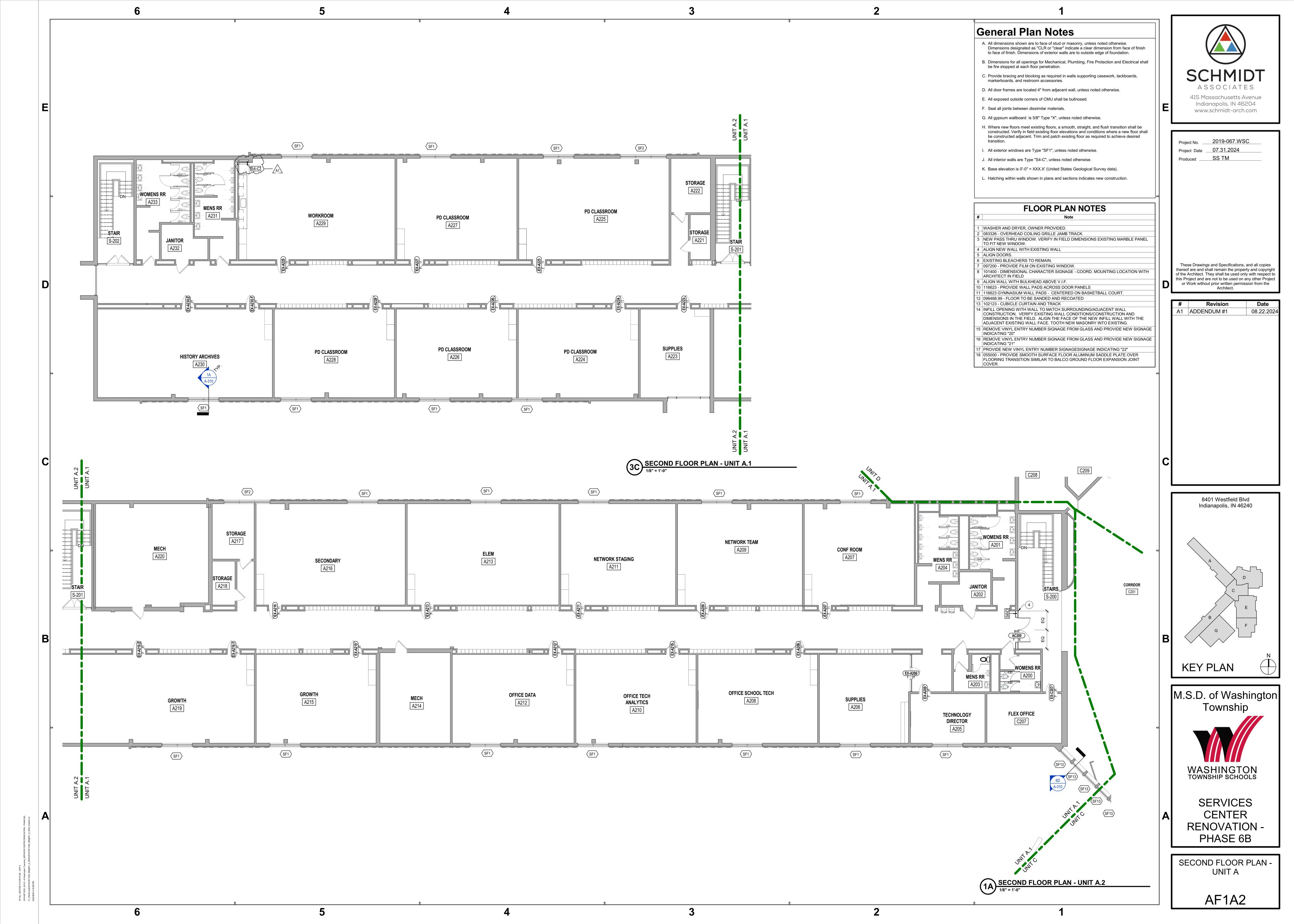


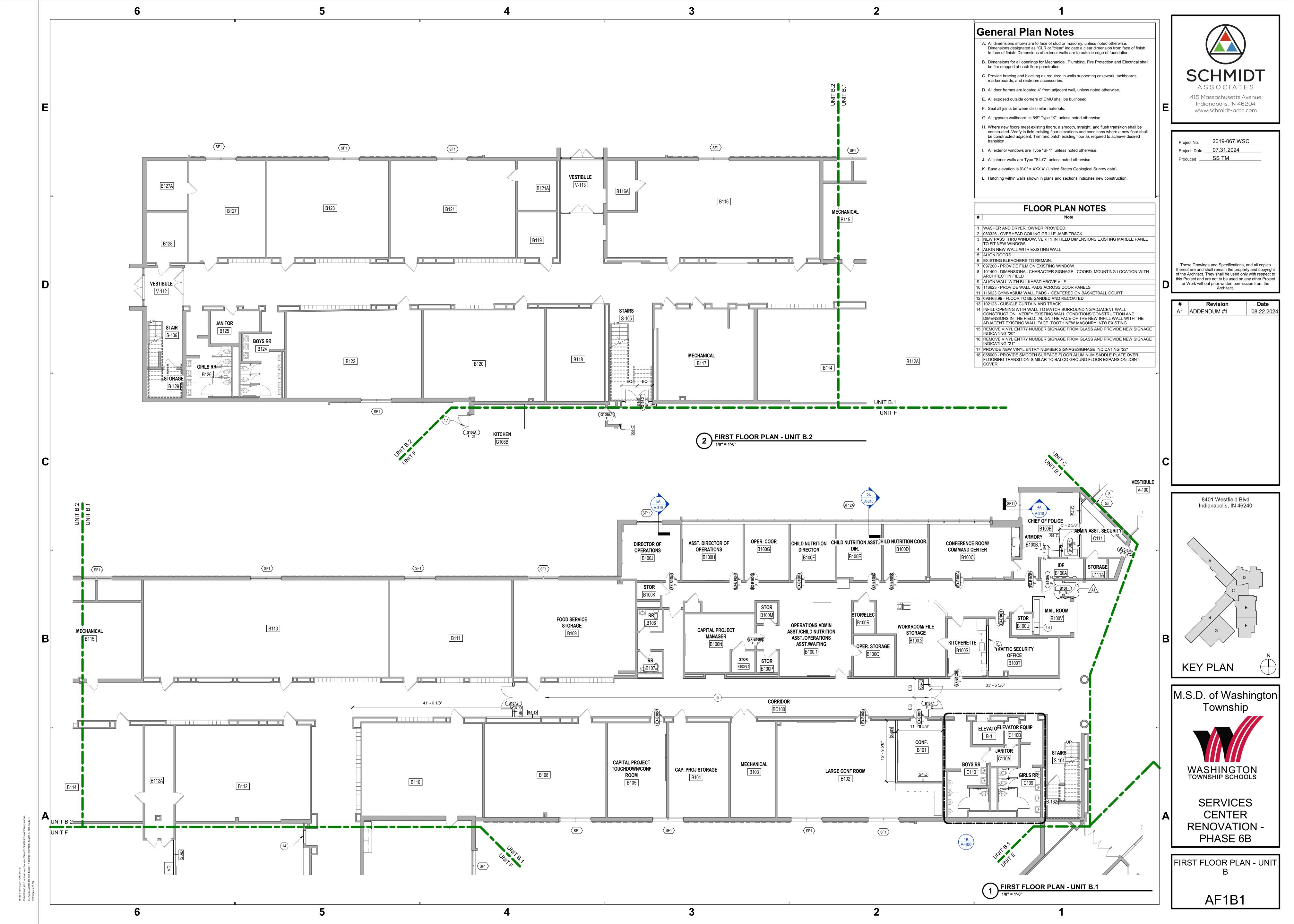


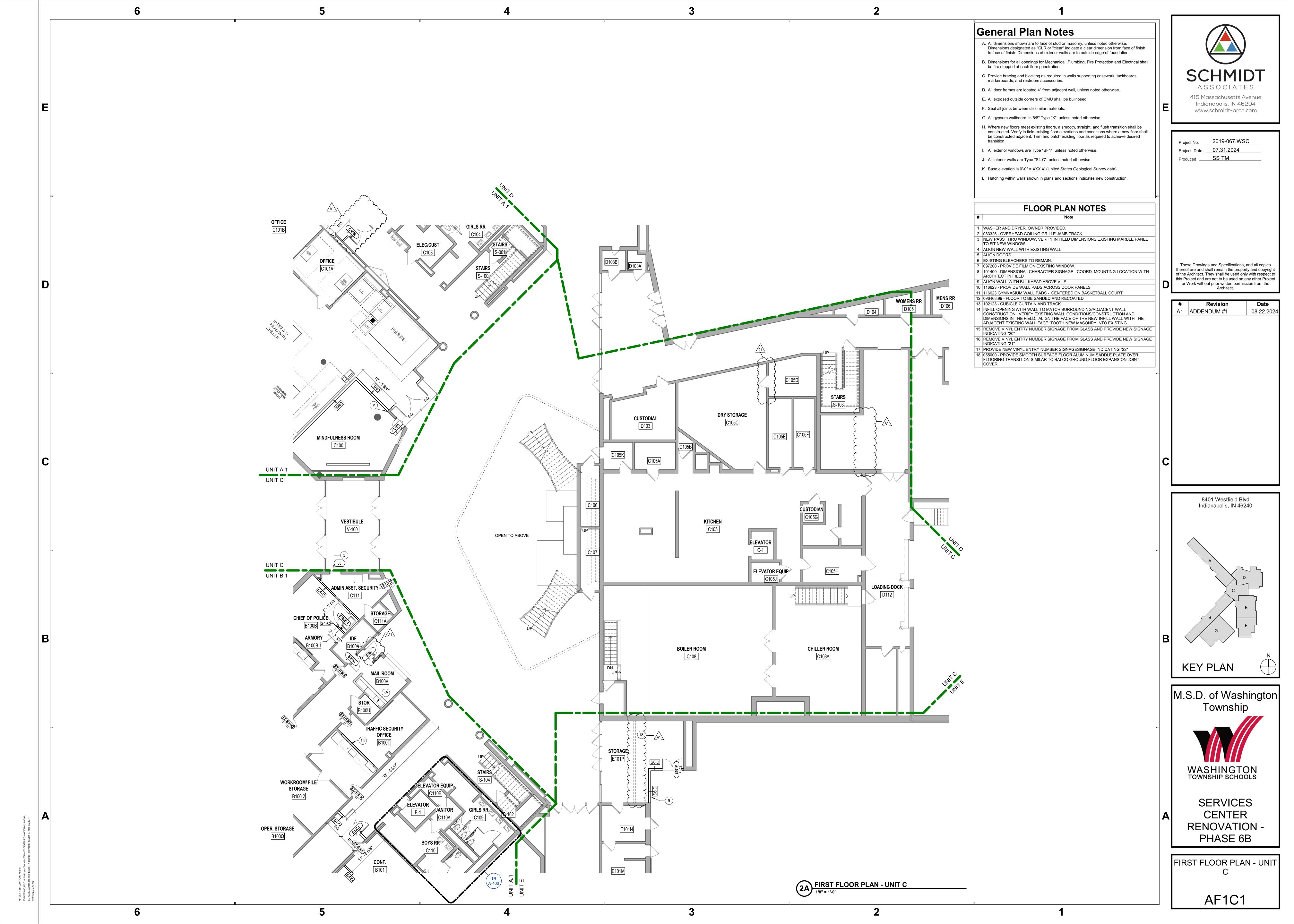


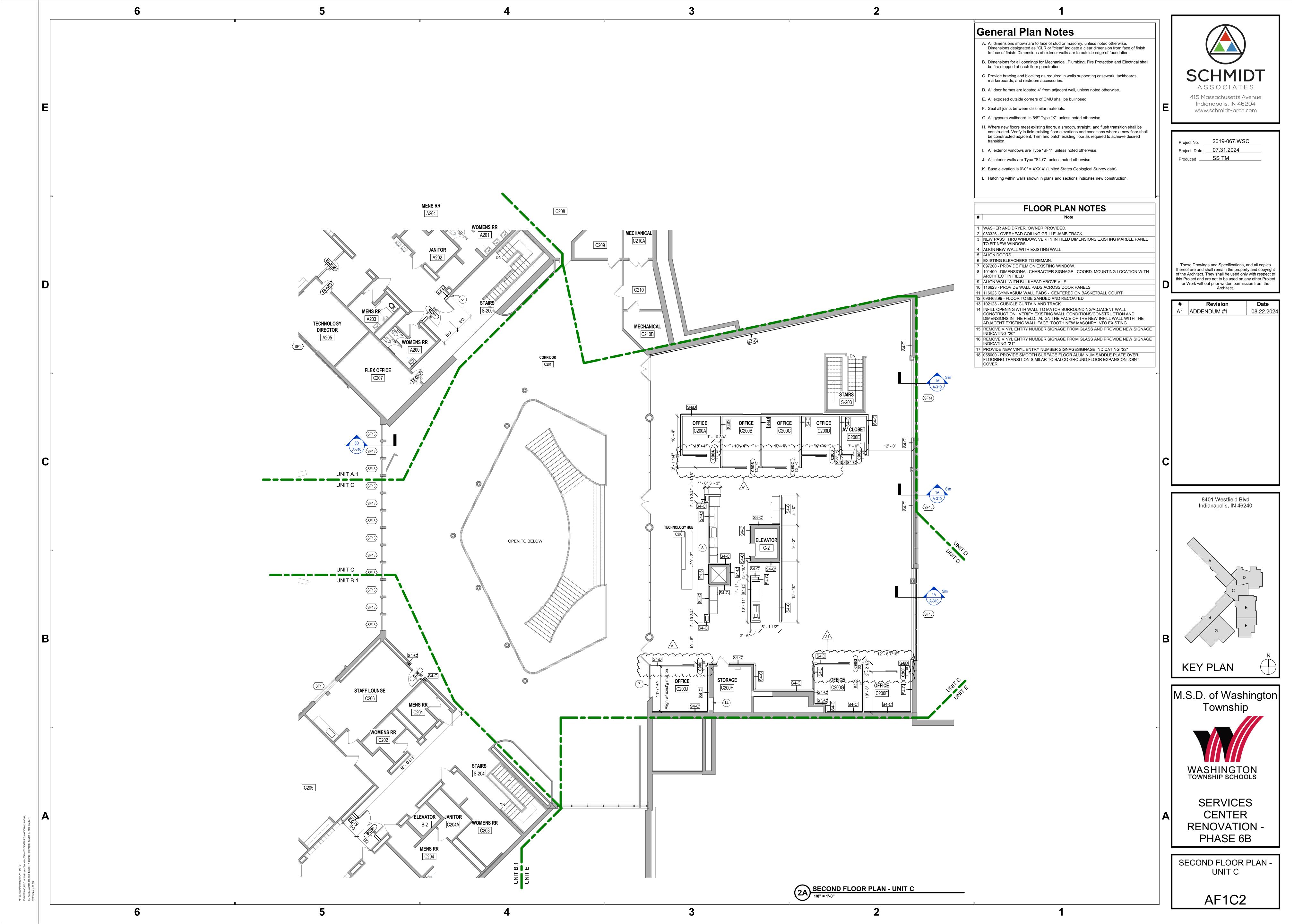


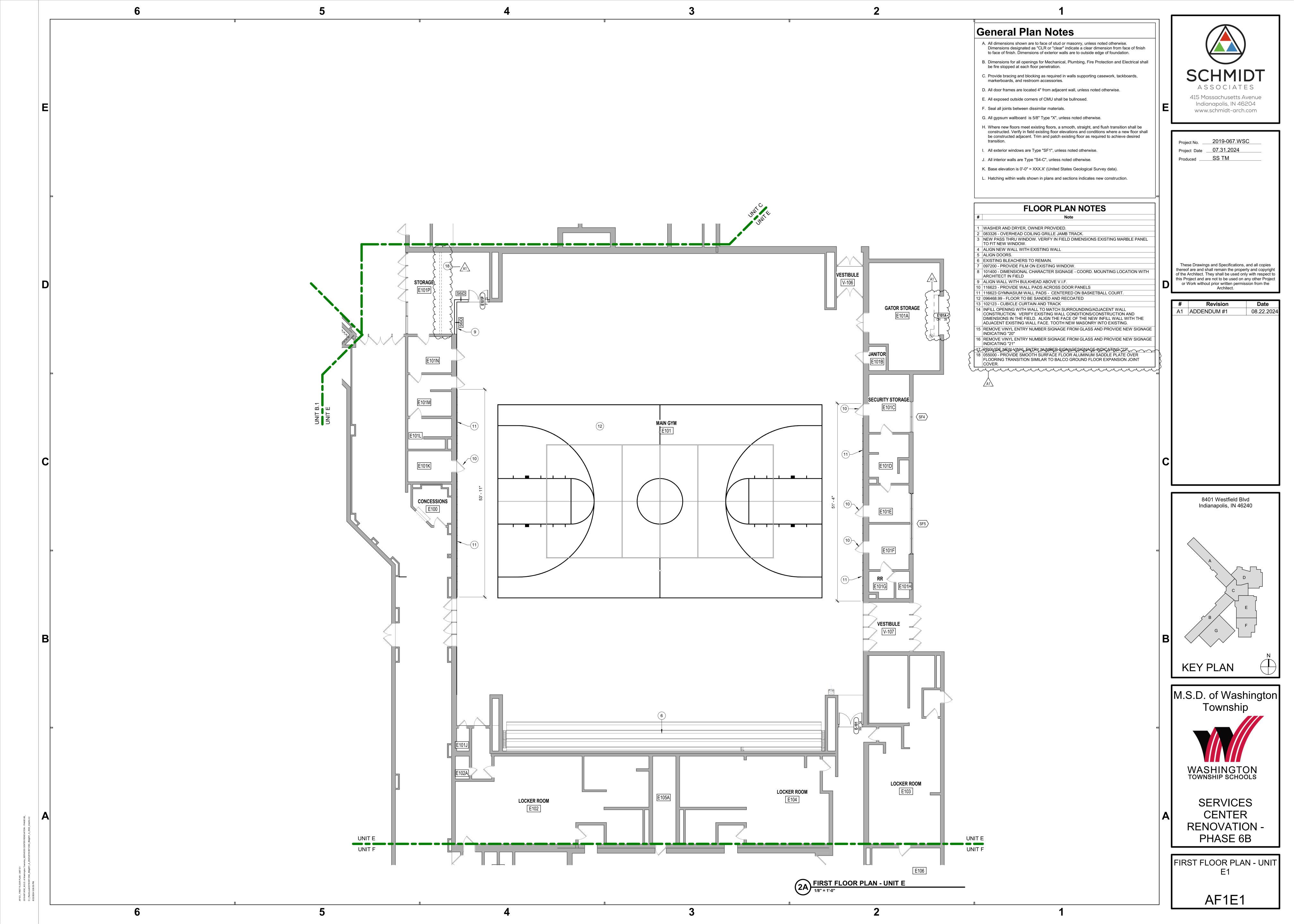


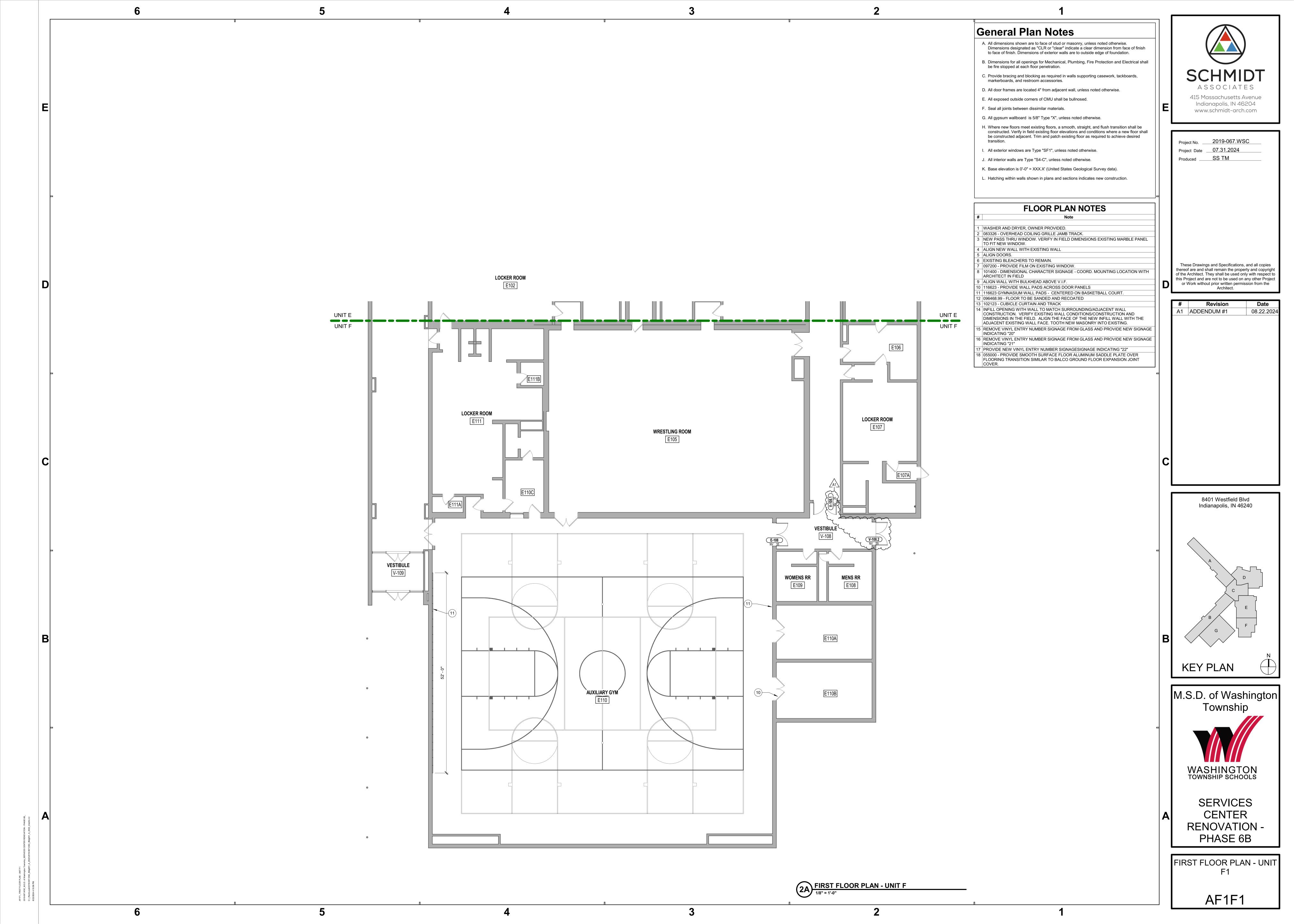


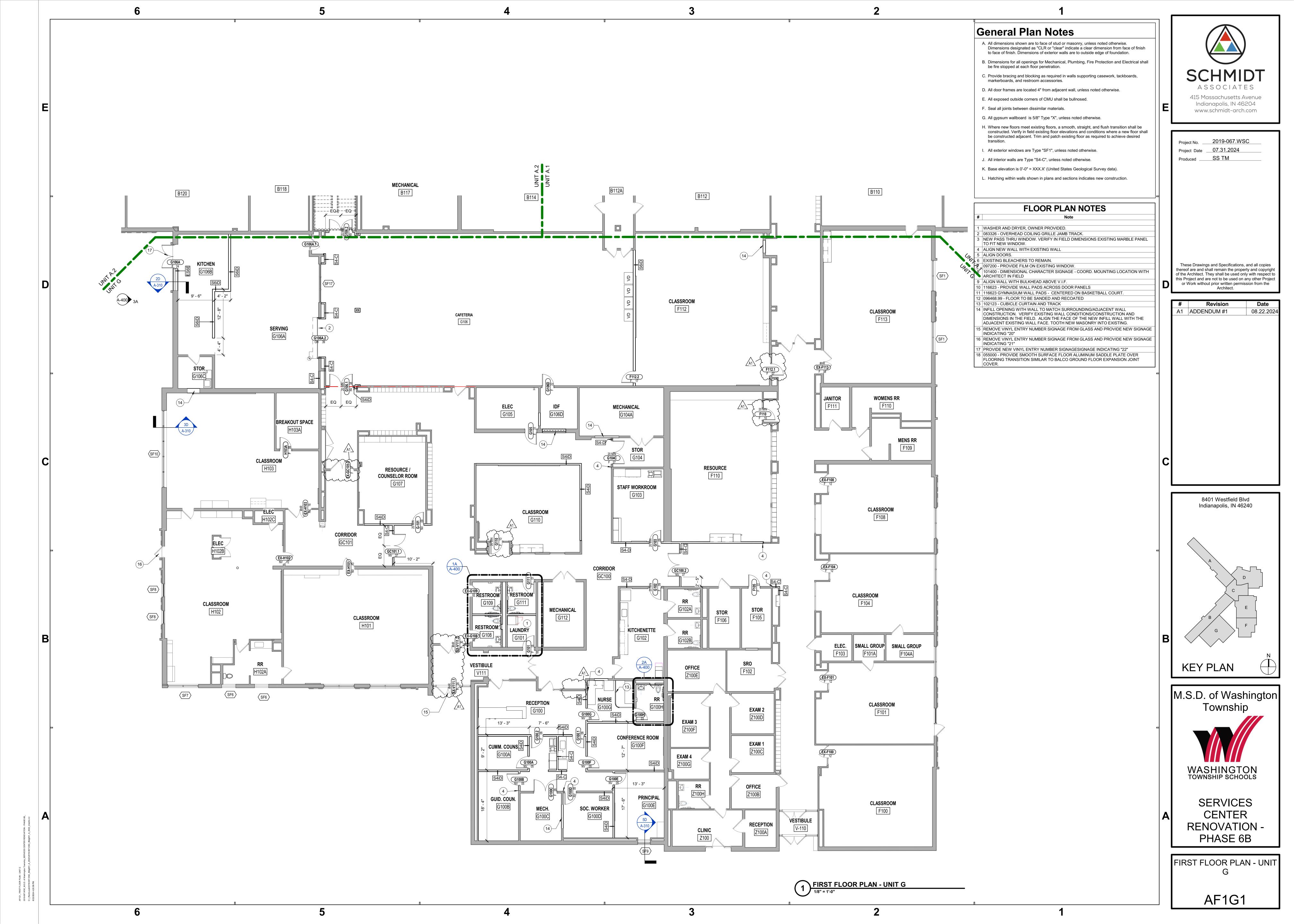


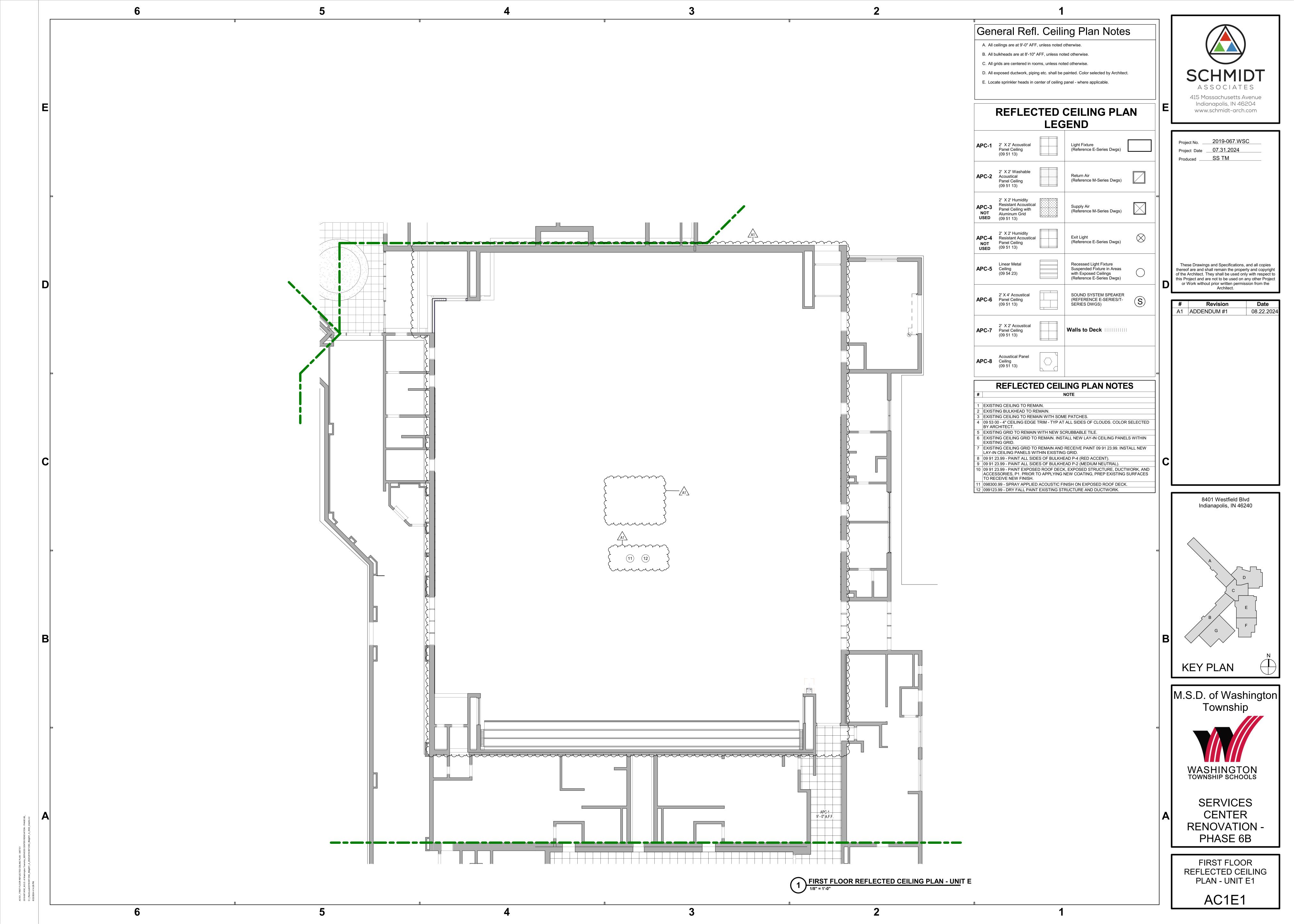


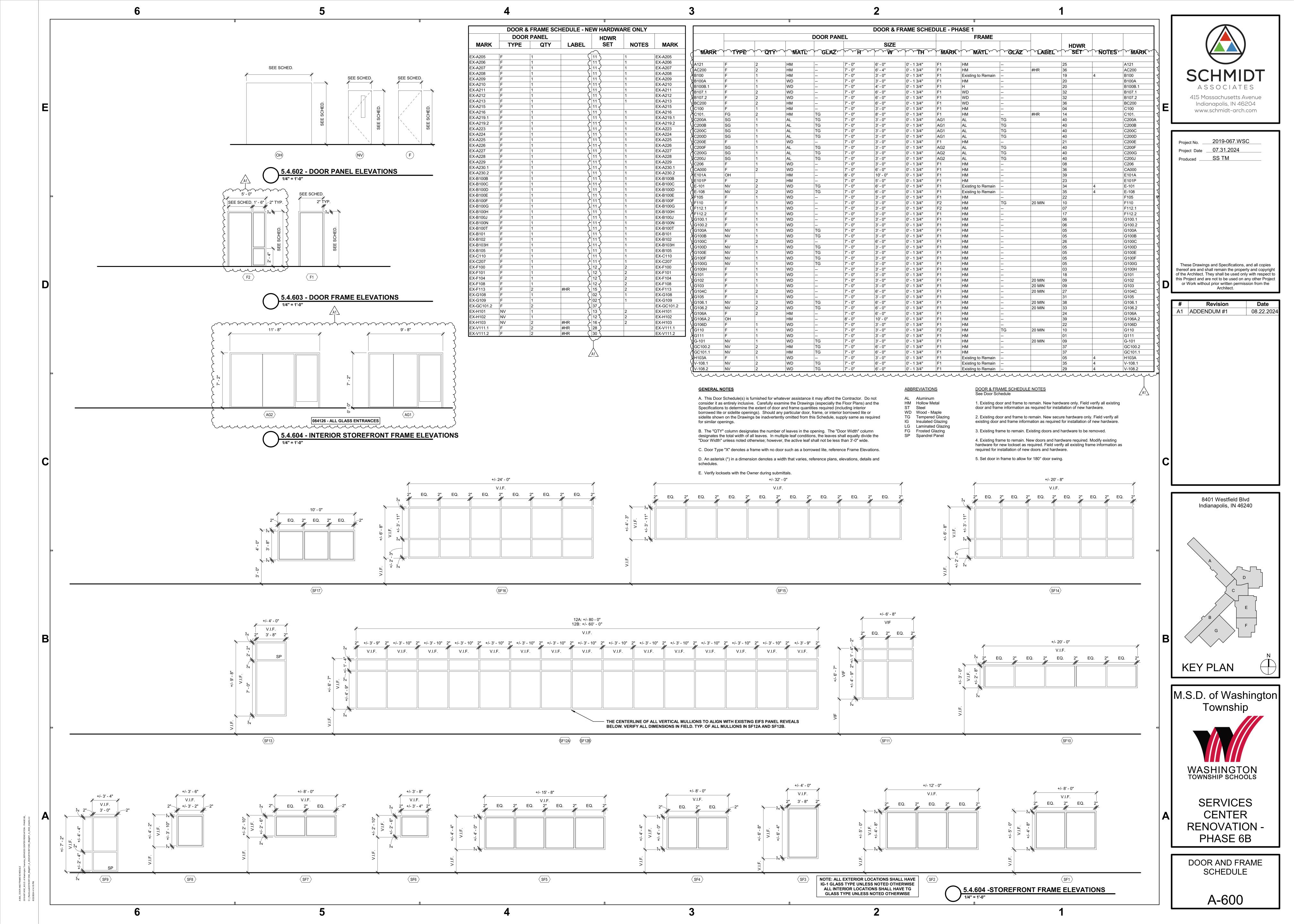


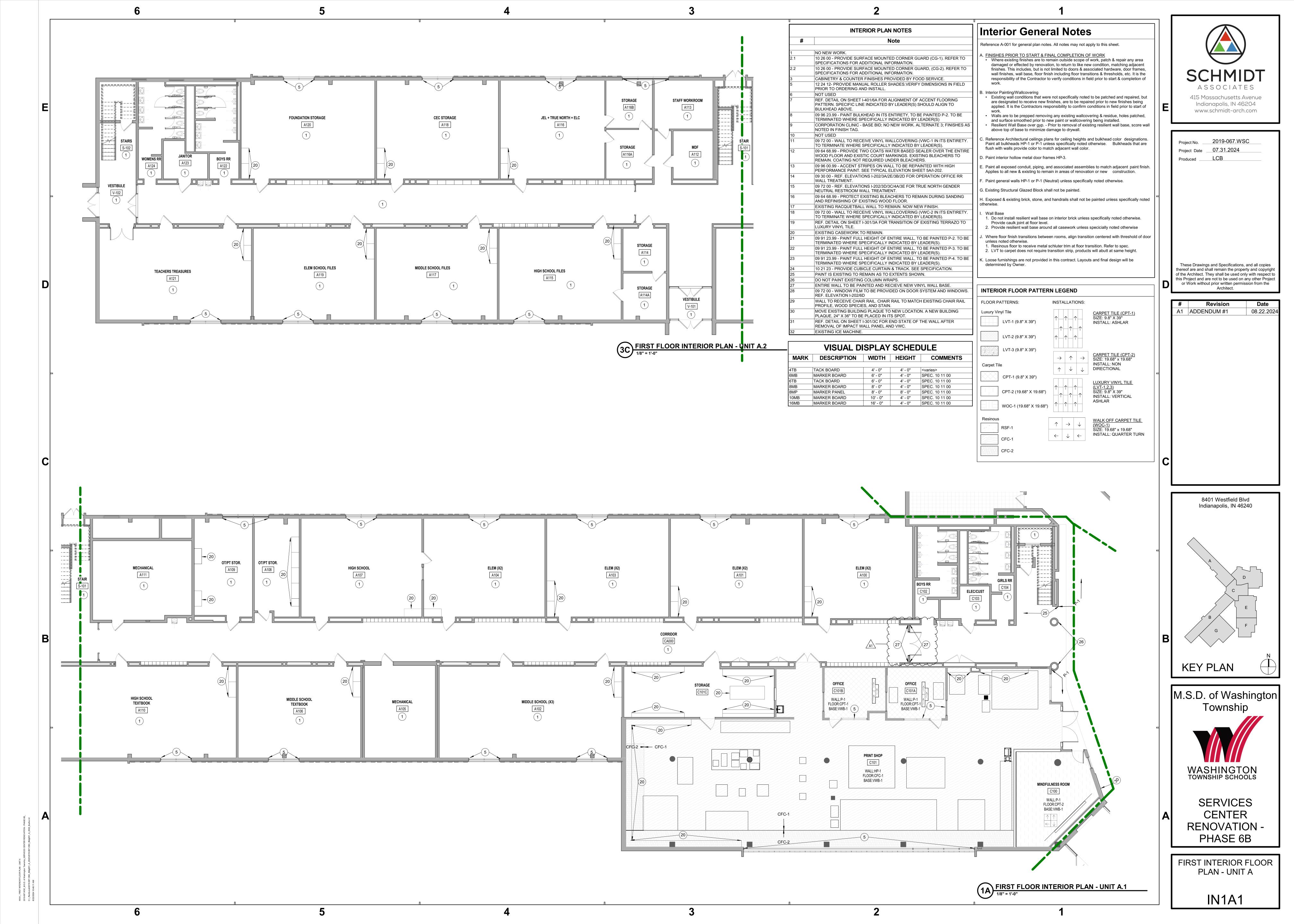


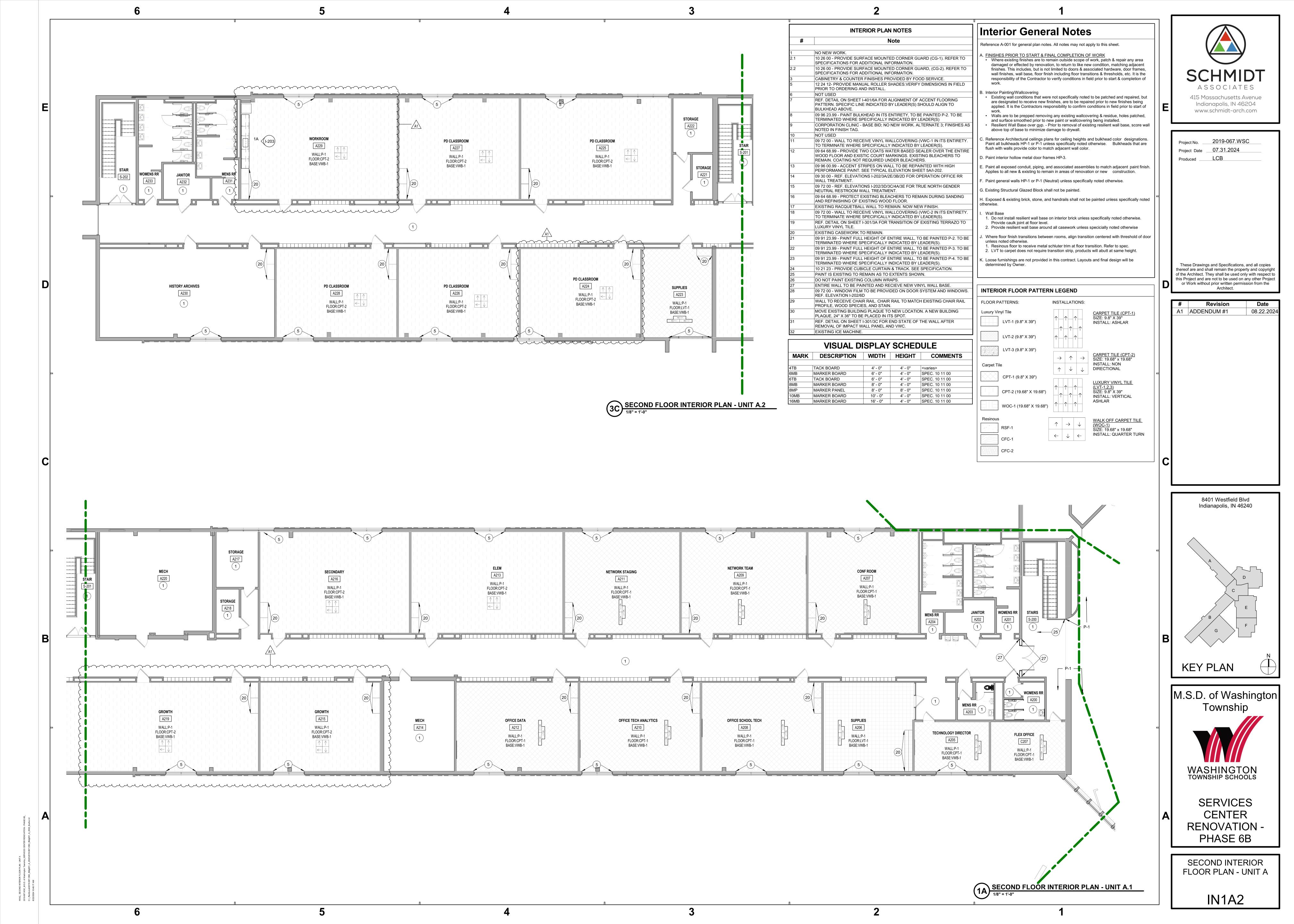




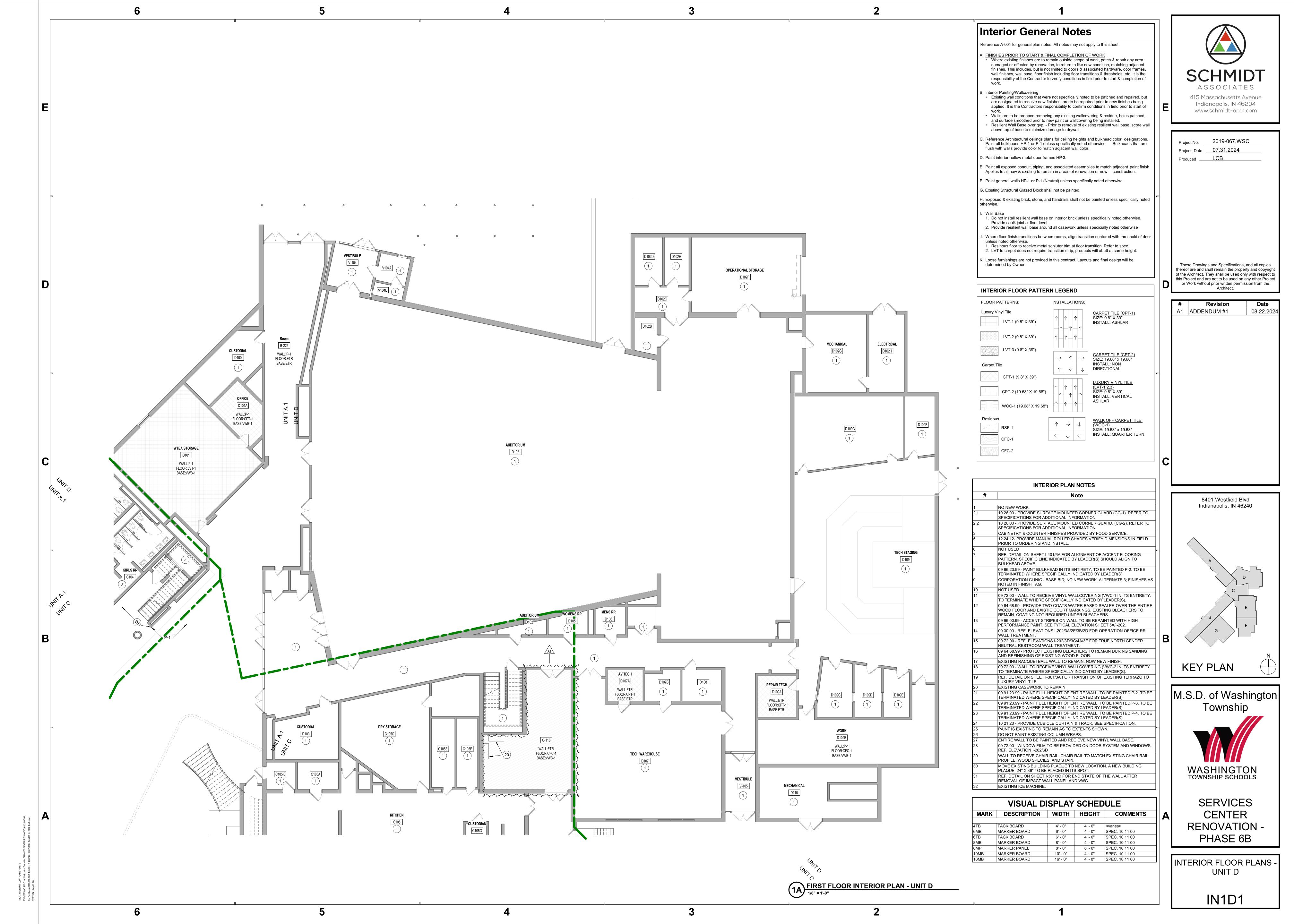


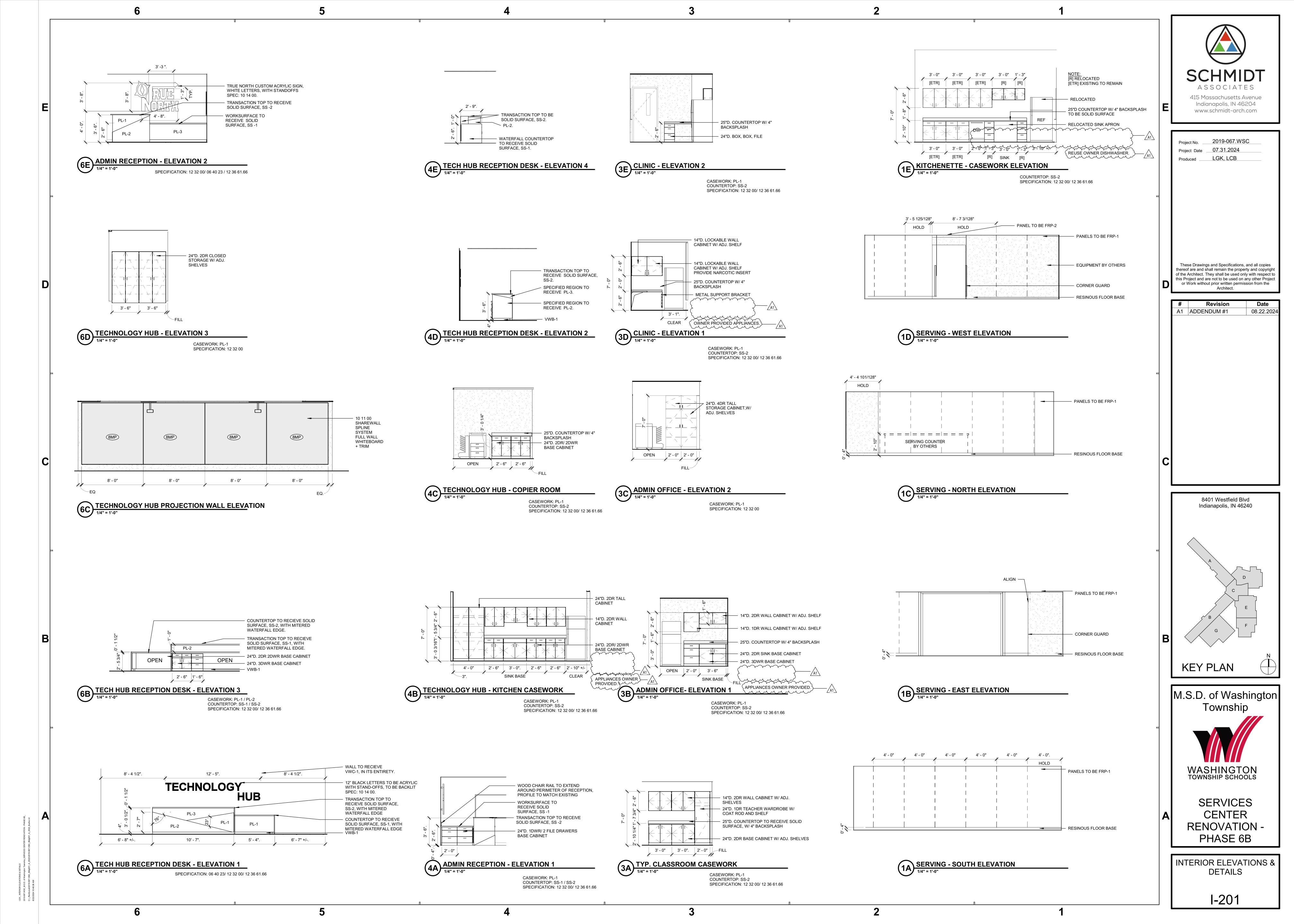


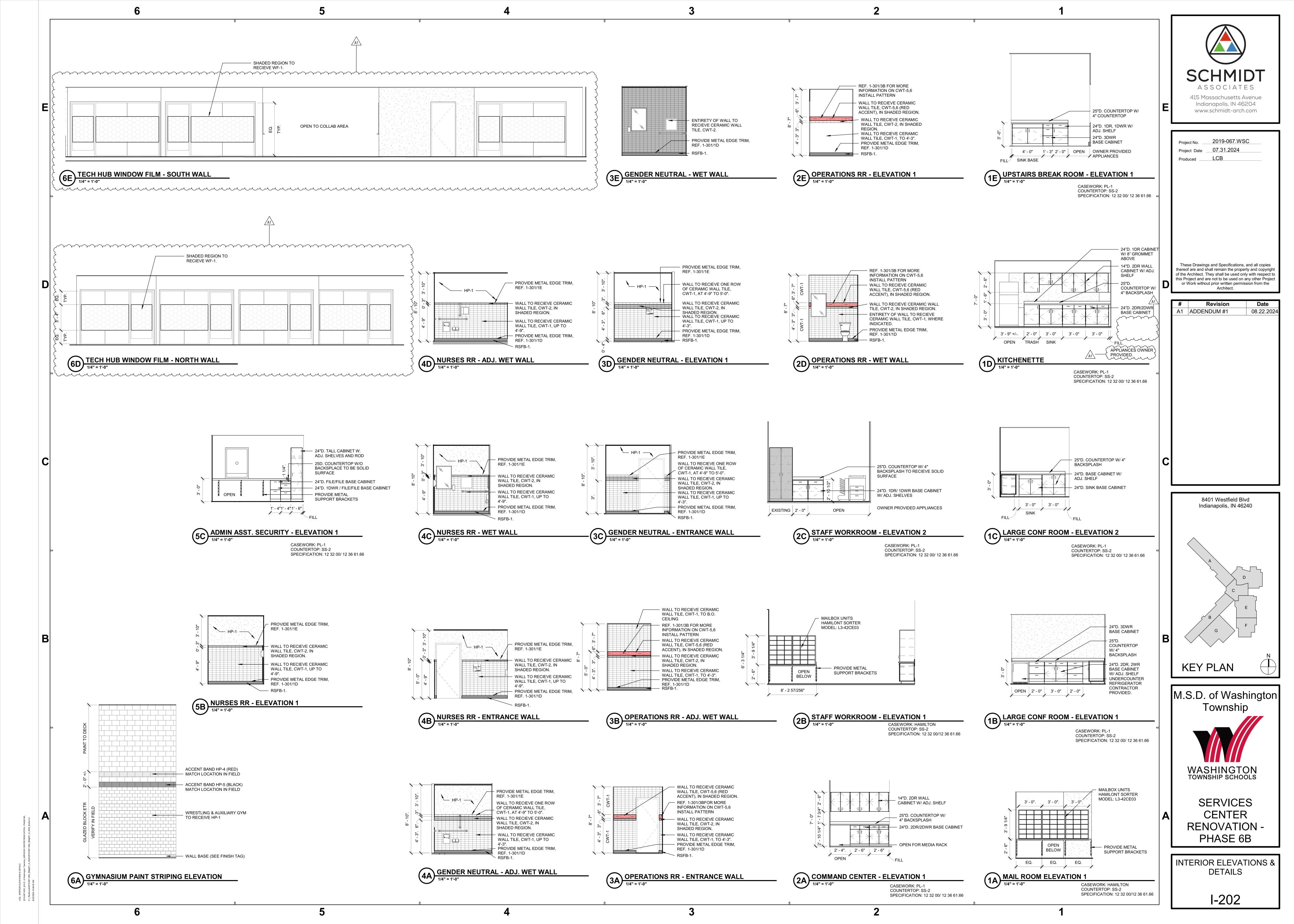


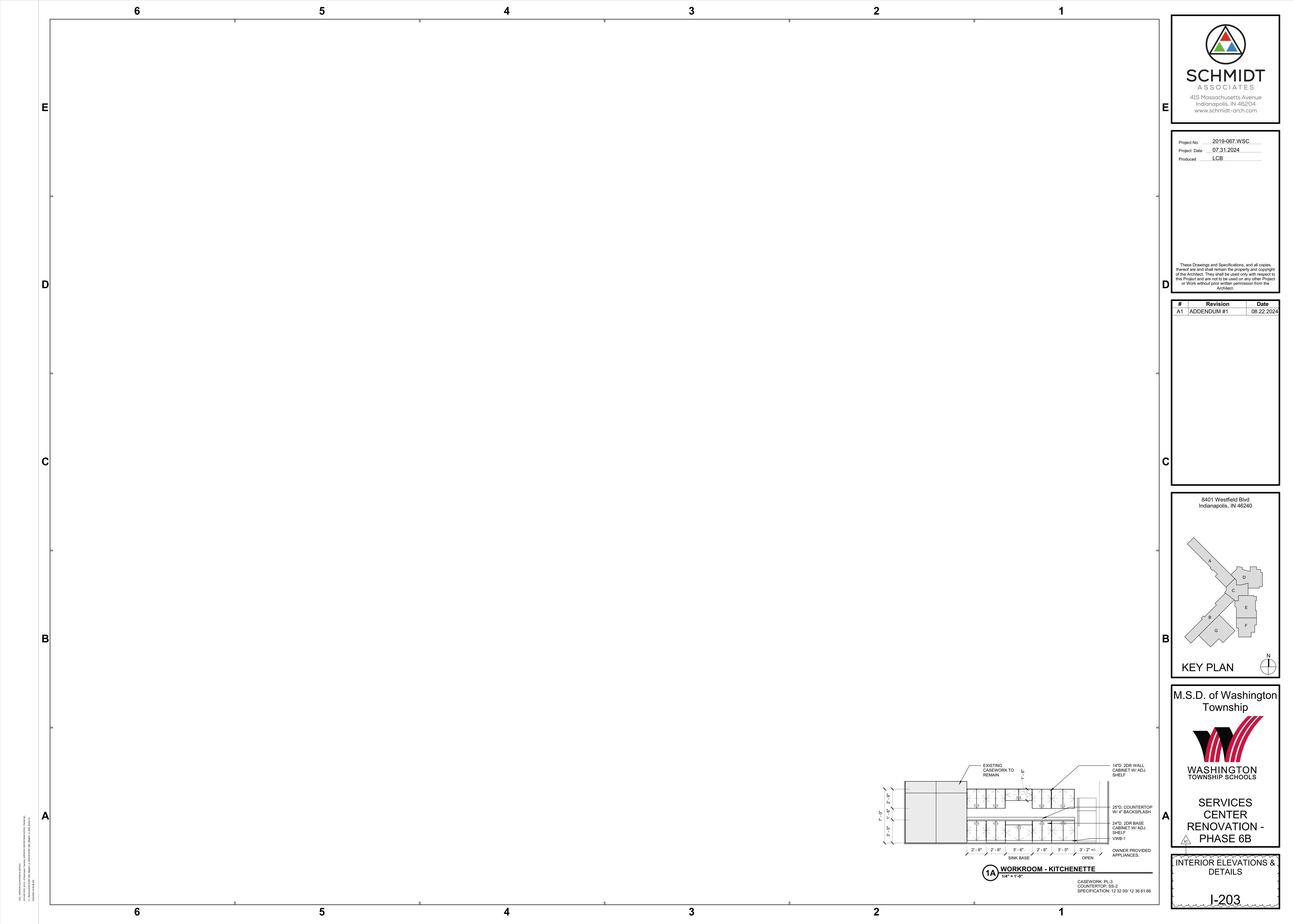




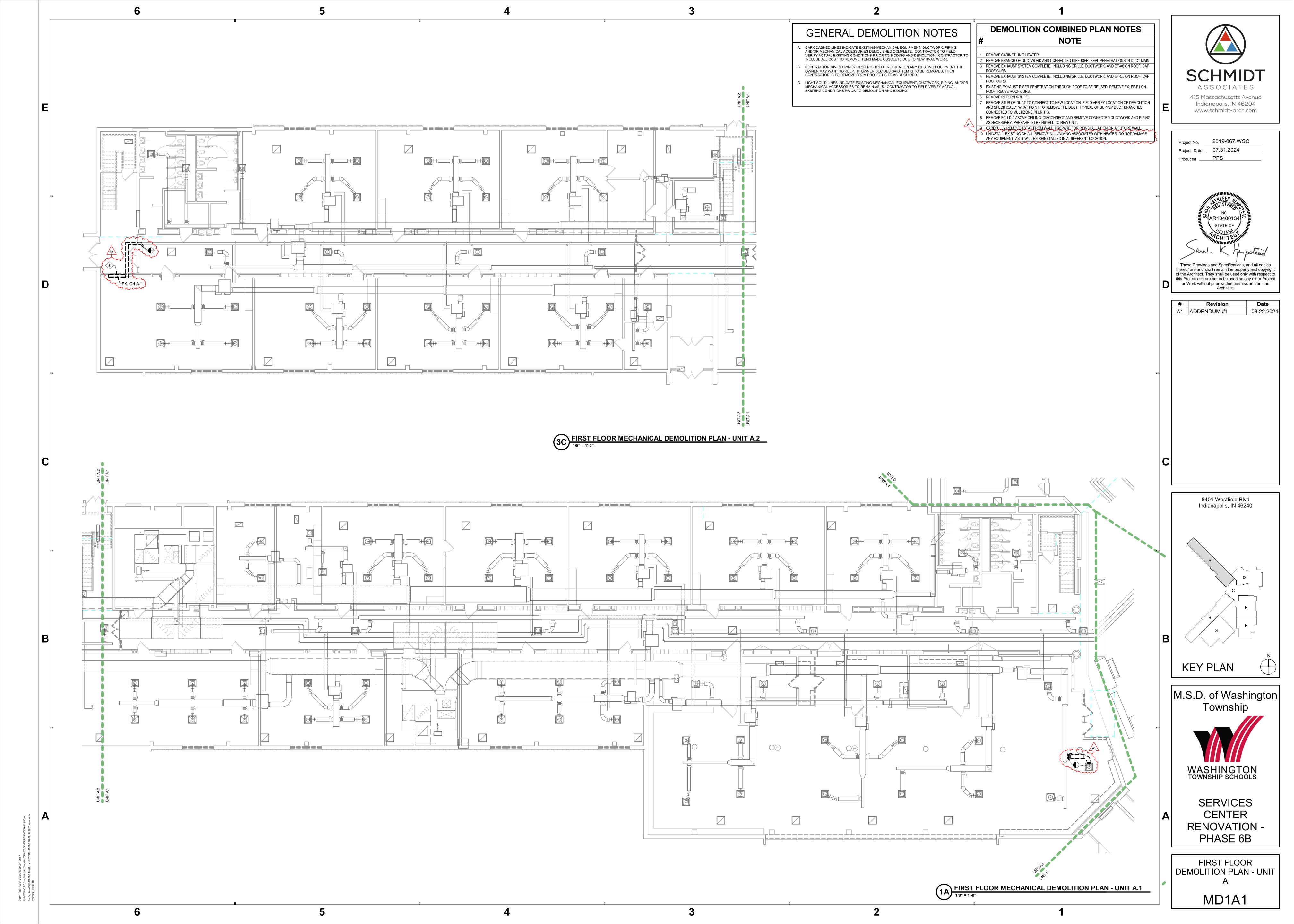


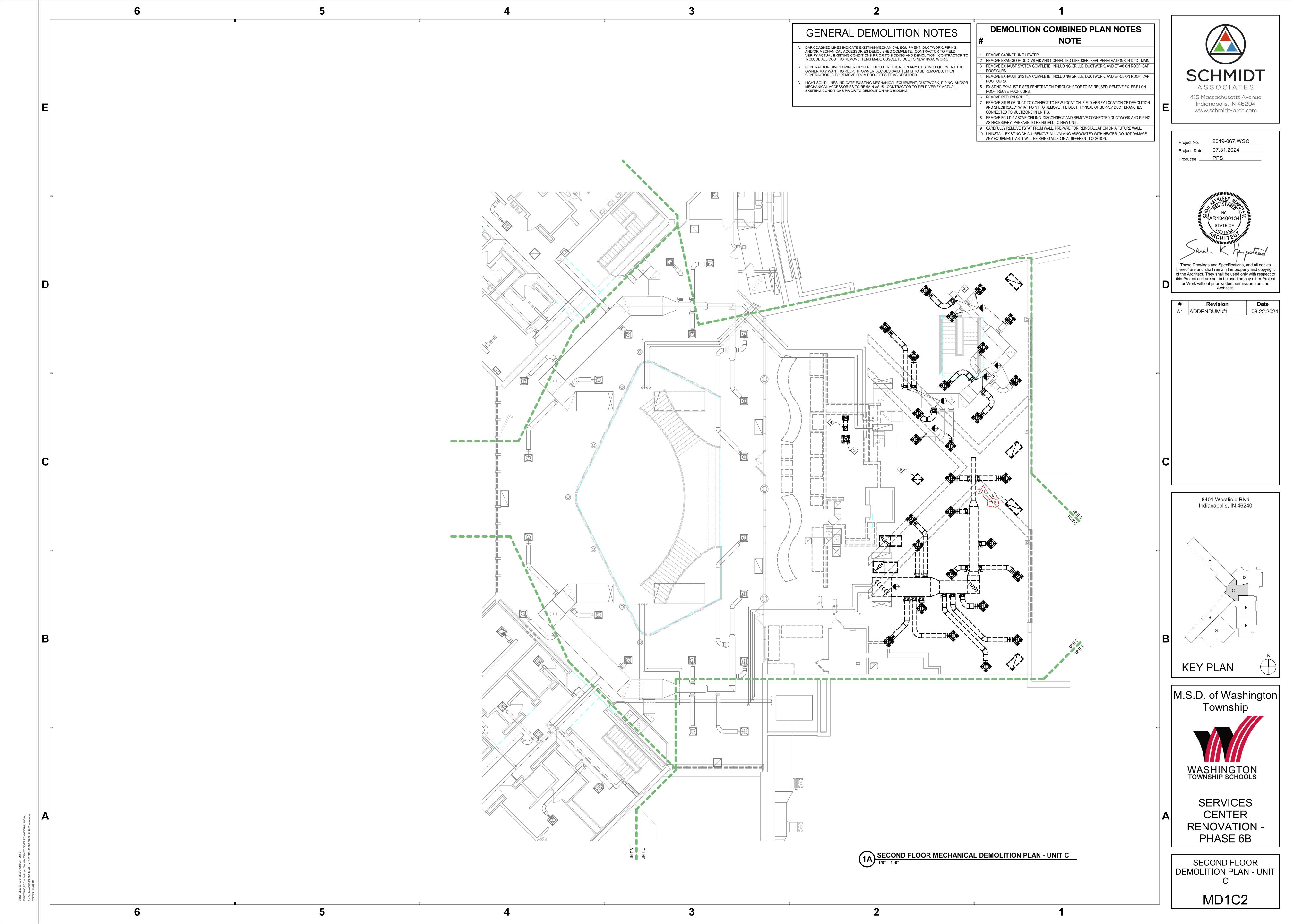


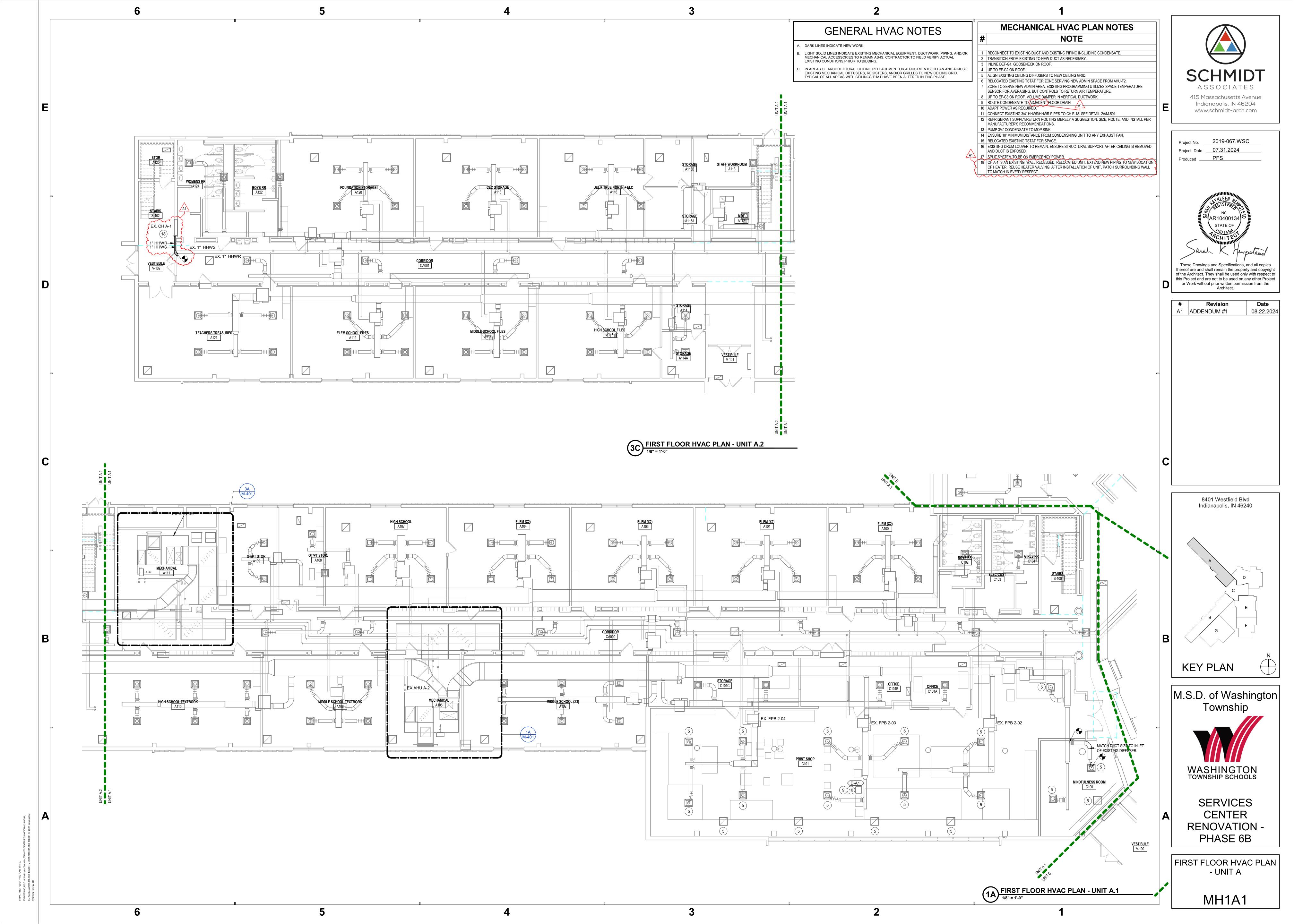


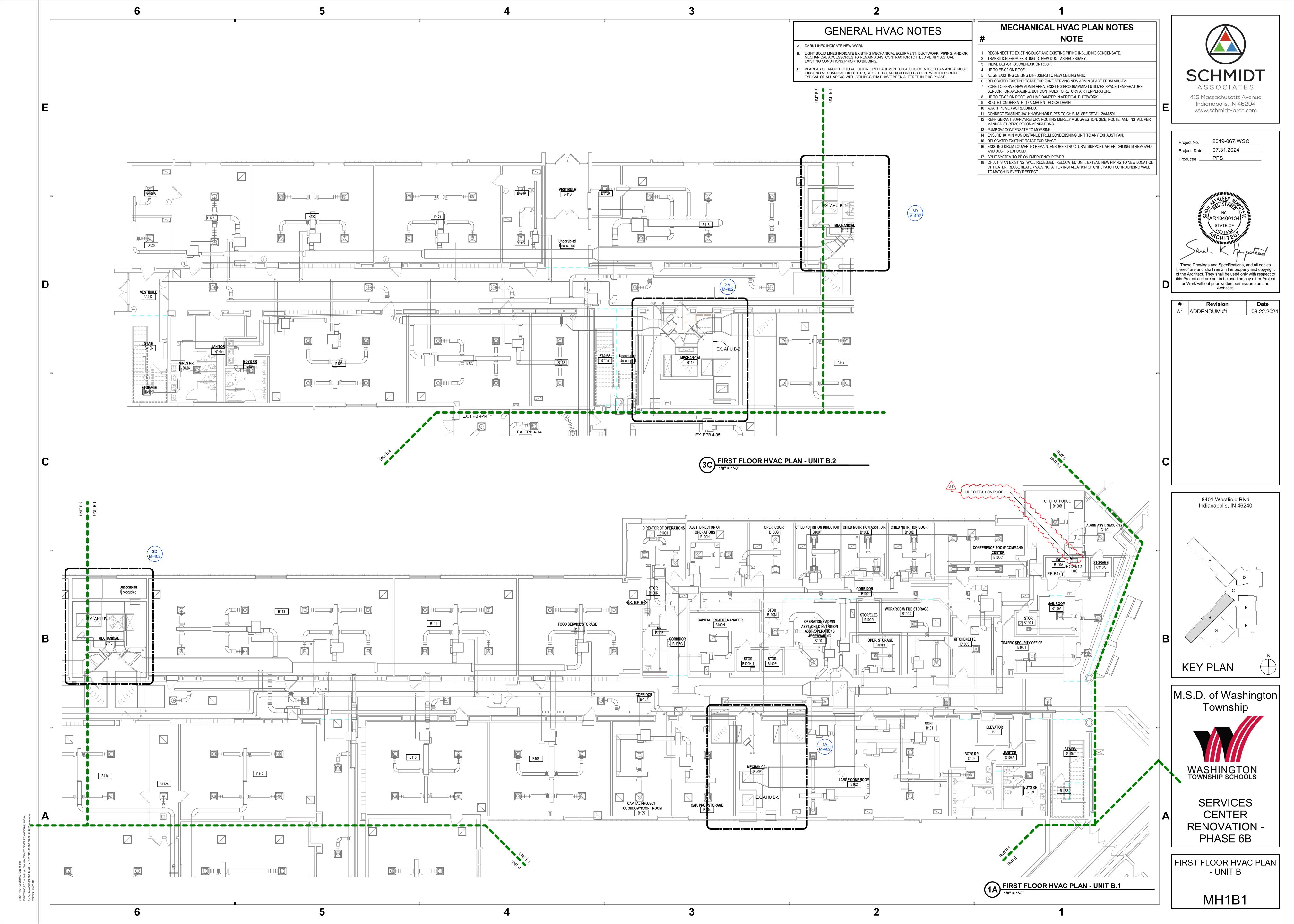


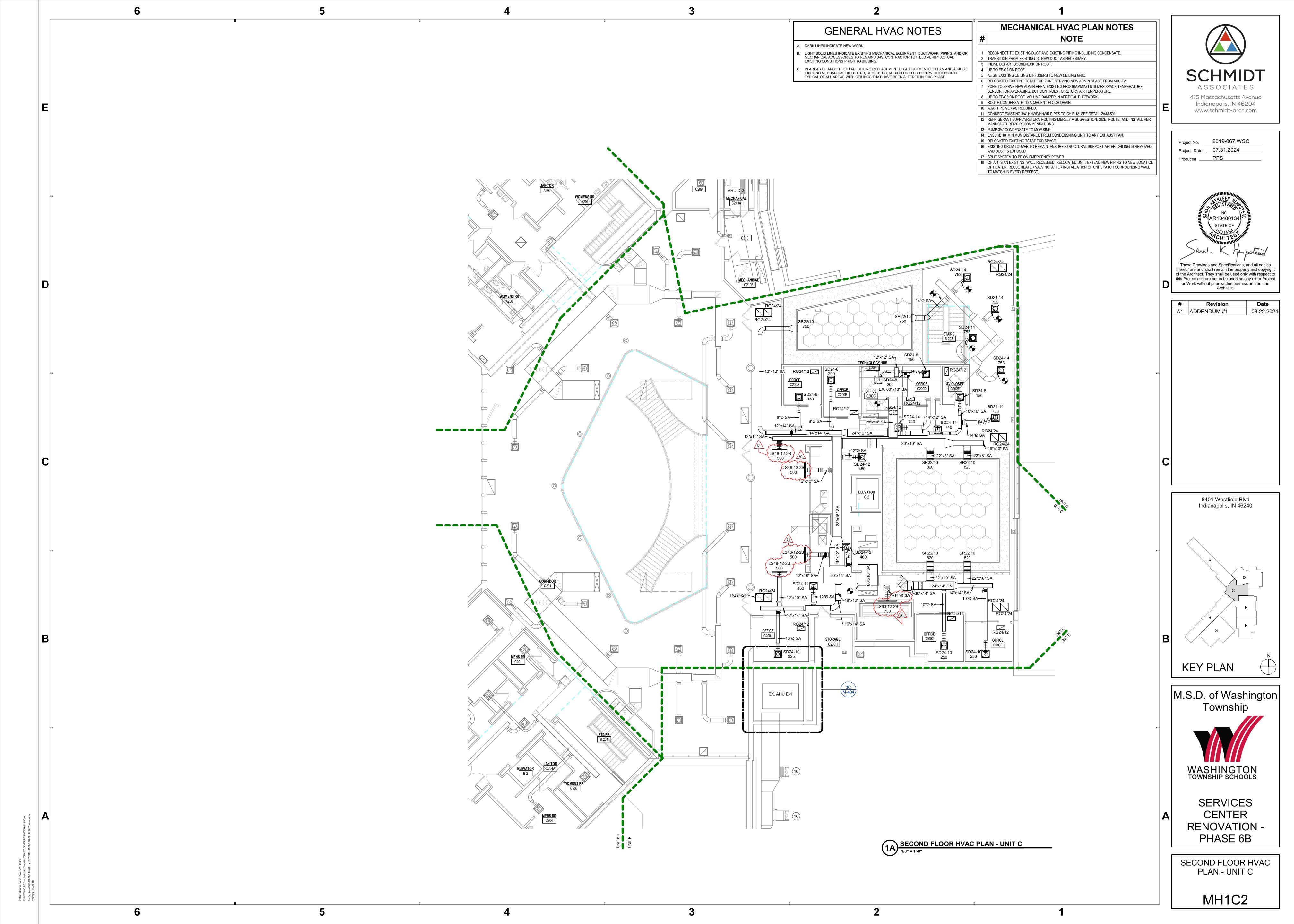




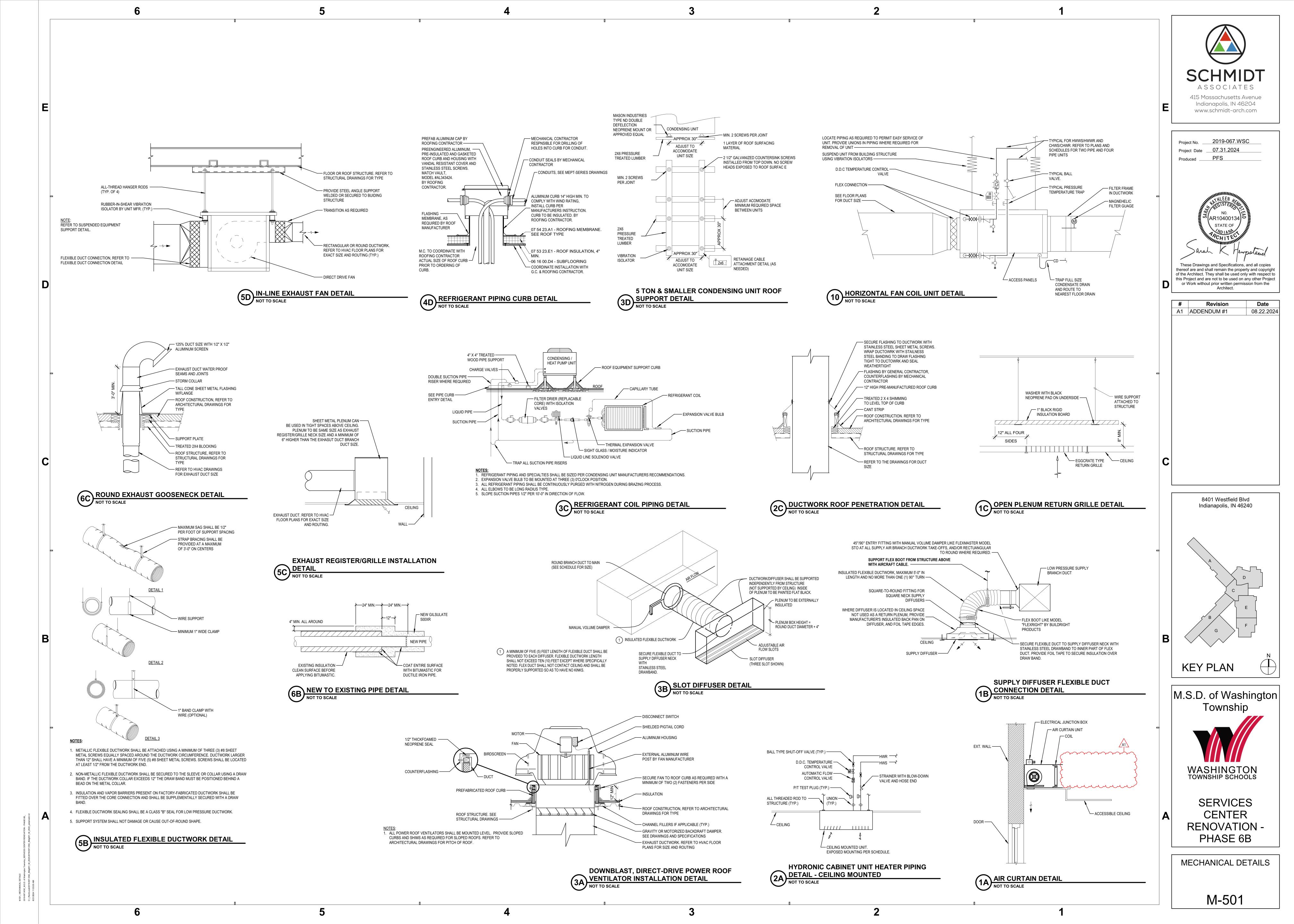


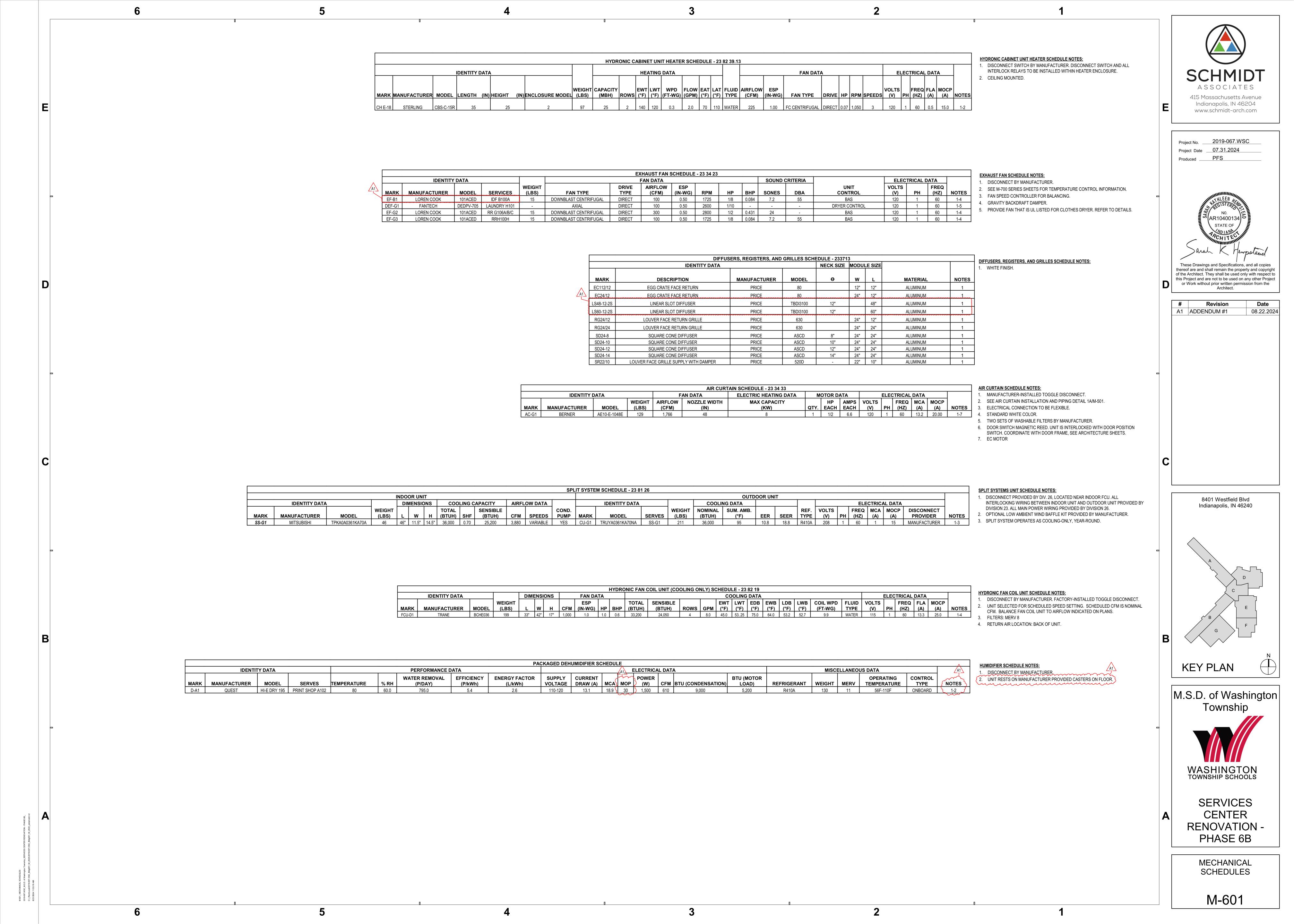


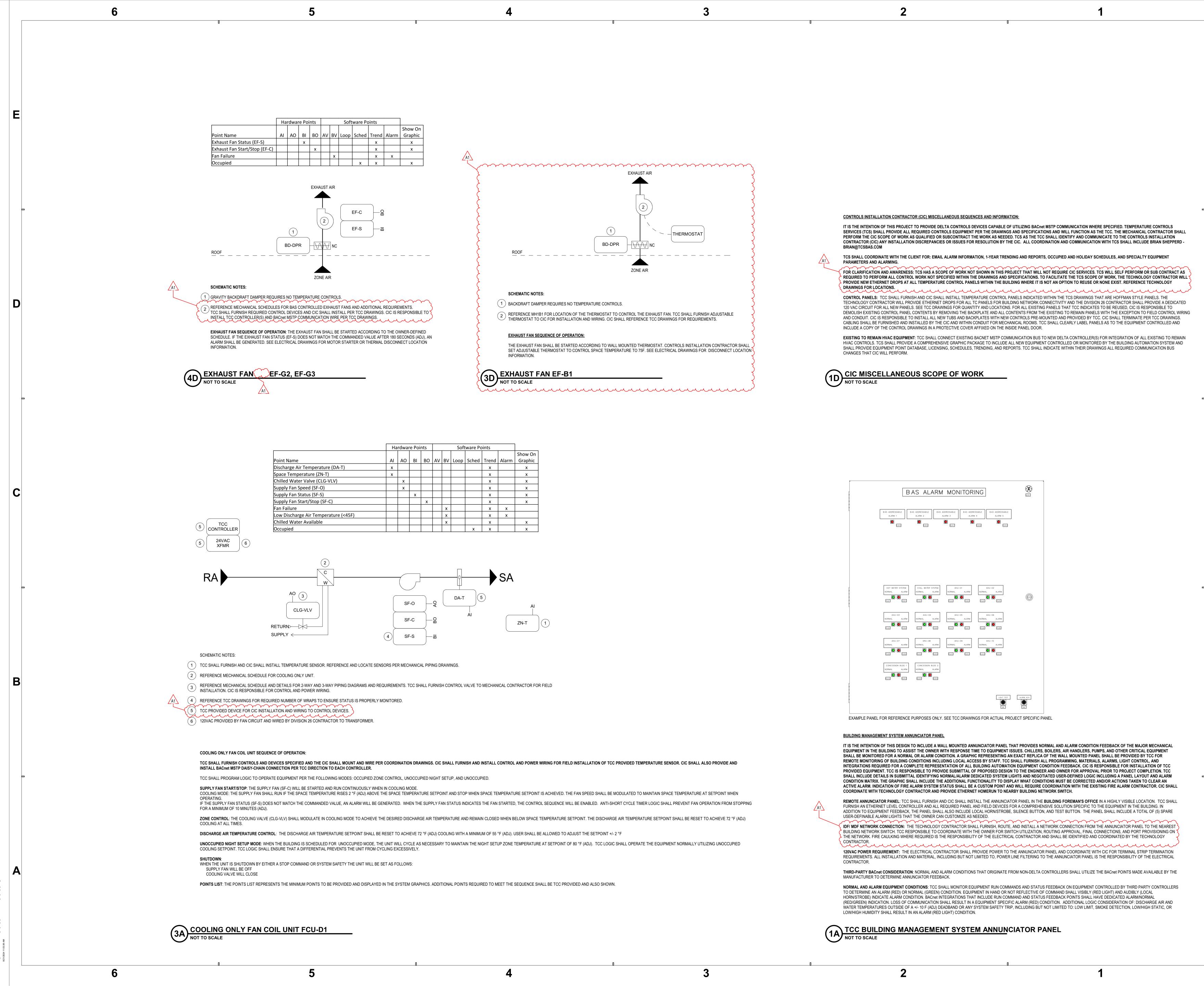












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Project No. 2019-067.WSC

Project Date 07.31.2024

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# Revision Date
A1 ADDENDUM #1 08.22.2024

Architect.

8401 Westfield Blvd Indianapolis, IN 46240

M.S.D. of Washington Township

**KEY PLAN** 

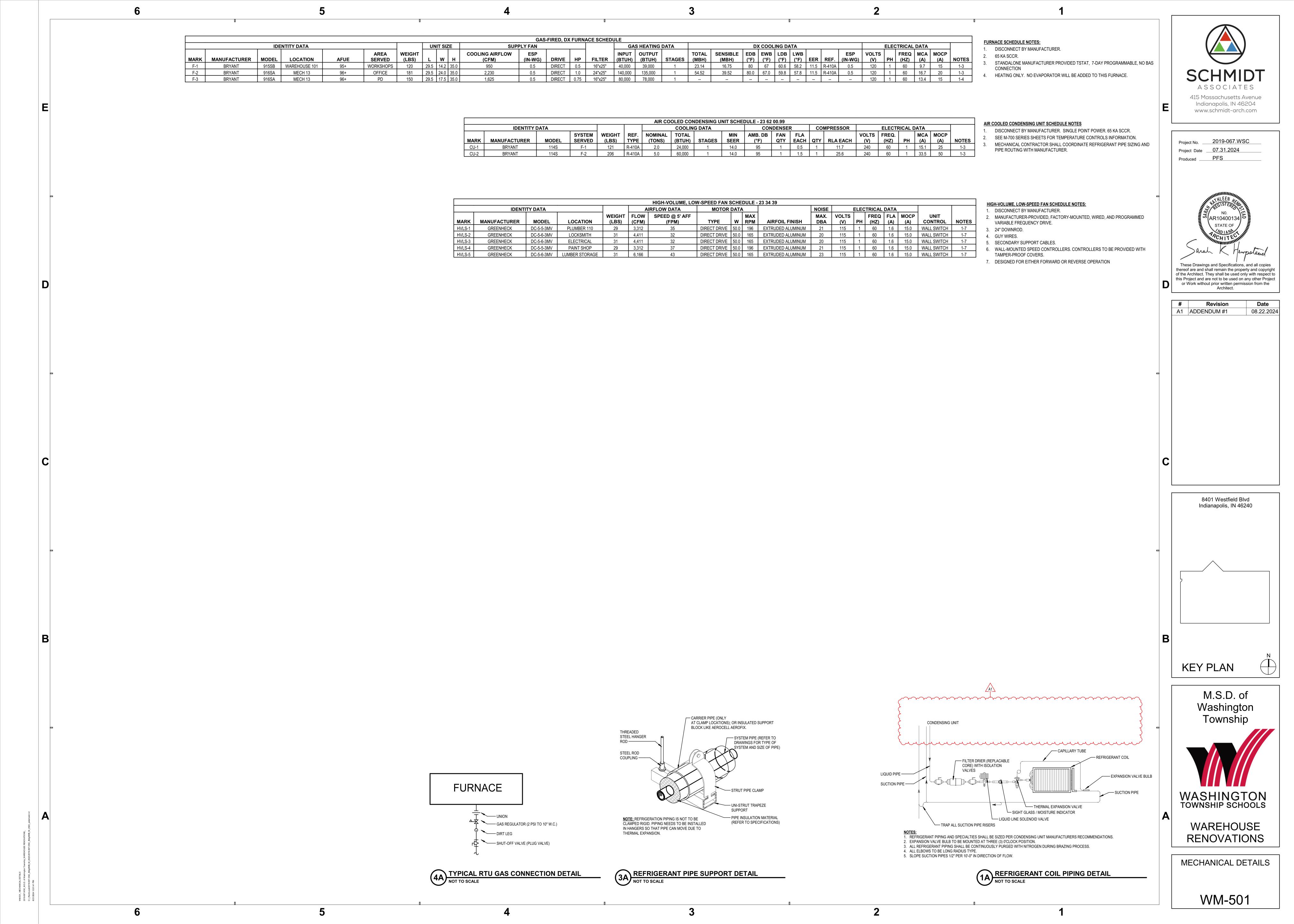
WASHINGTON TOWNSHIP SCHOOLS

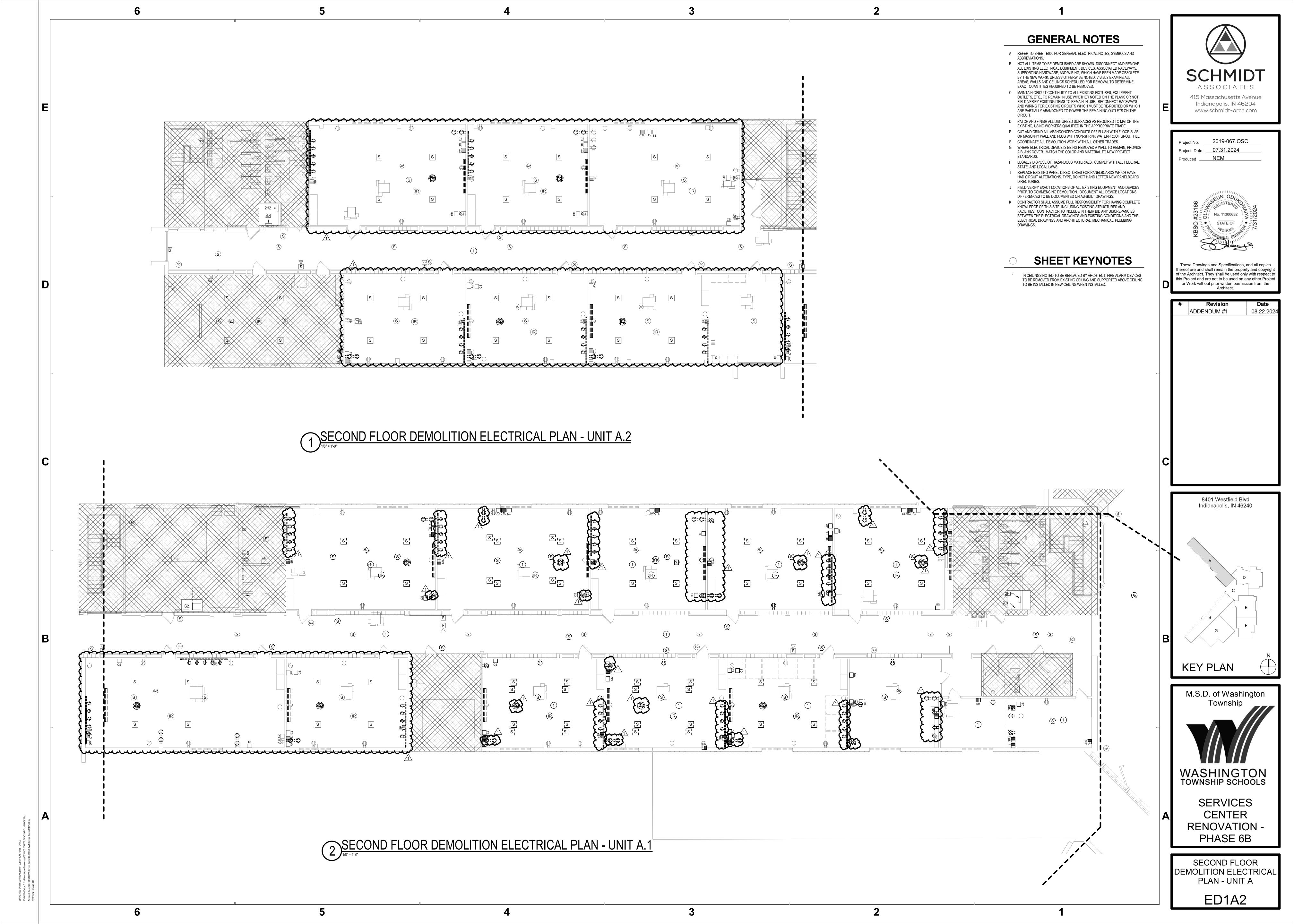
SERVICES
CENTER
RENOVATION PHASE 6B

TEMPERATURE CONTROLS SCHEMATICS

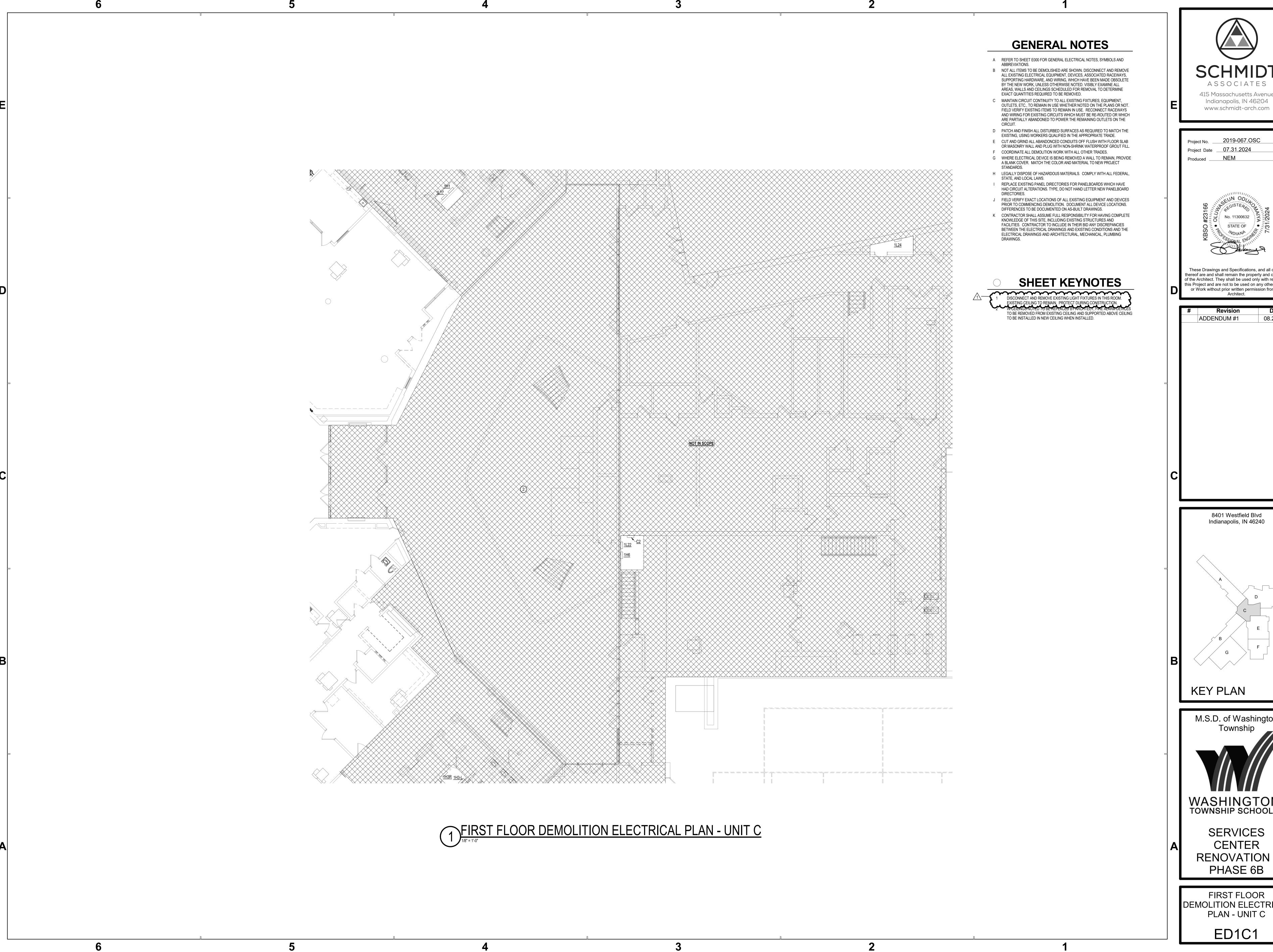
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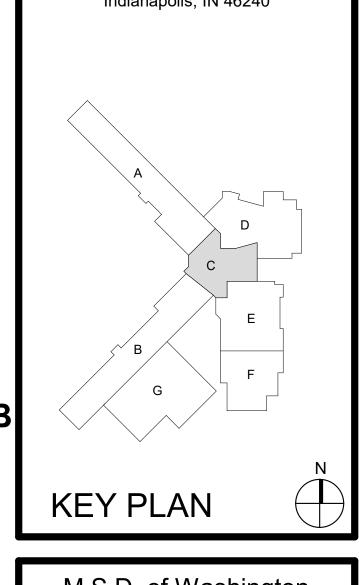








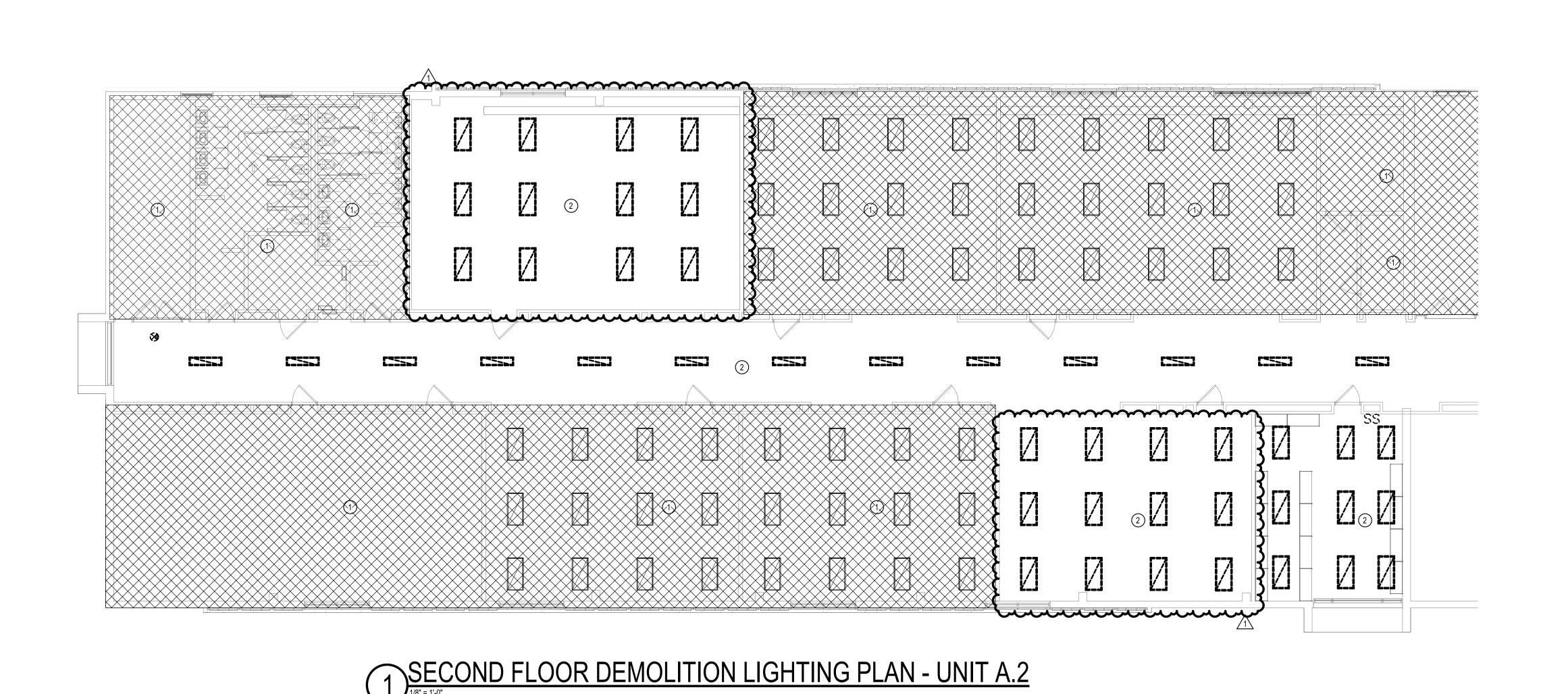
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FIRST FLOOR DEMOLITION ELECTRICAL PLAN - UNIT C

ED1C1



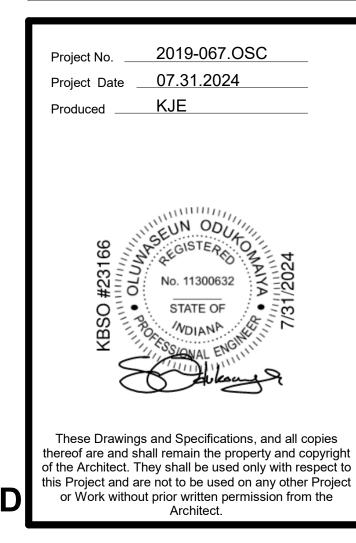
#### **GENERAL NOTES**

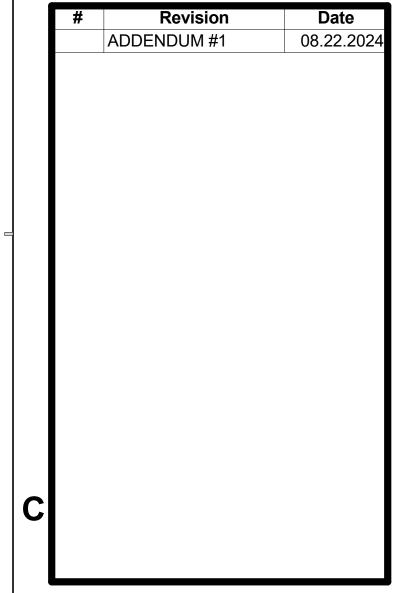
- A REFER TO SHEET E000 FOR GENERAL ELECTRICAL NOTES, SYMBOLS AND
- ABBREVIATIONS. B NOT ALL ITEMS TO BE DEMOLISHED ARE SHOWN. DISCONNECT AND REMOVE ALL EXISTING ELECTRICAL EQUIPMENT, DEVICES, ASSOCIATED RACEWAYS, SUPPORTING HARDWARE, AND WIRING, WHICH HAVE BEEN MADE OBSOLETE BY THE NEW WORK, UNLESS OTHERWISE NOTED. VISIBLY EXAMINE ALL AREAS, WALLS AND CEILINGS SCHEDULED FOR REMOVAL TO DETERMINE
- EXACT QUANTITIES REQUIRED TO BE REMOVED. MAINTAIN CIRCUIT CONTINUITY TO ALL EXISTING FIXTURES, EQUIPMENT, OUTLETS, ETC., TO REMAIN IN USE WHETHER NOTED ON THE PLANS OR NOT. FIELD VERIFY EXISTING ITEMS TO REMAIN IN USE. RECONNECT RACEWAYS AND WIRING FOR EXISTING CIRCUITS WHICH MUST BE RE-ROUTED OR WHICH ARE PARTIALLY ABANDONED TO POWER THE REMAINING OUTLETS ON THE
- D PATCH AND FINISH ALL DISTURBED SURFACES AS REQUIRED TO MATCH THE EXISTING, USING WORKERS QUALIFIED IN THE APPROPRIATE TRADE. E CUT AND GRIND ALL ABANDONCED CONDUITS OFF FLUSH WITH FLOOR SLAB OR MASONRY WALL AND PLUG WITH NON-SHRINK WATERPROOF GROUT FILL. F COORDINATE ALL DEMOLITION WORK WITH ALL OTHER TRADES.
- G WHERE ELECTRICAL DEVICE IS BEING REMOVED A WALL TO REMAIN, PROVIDE A BLANK COVER. MATCH THE COLOR AND MATERIAL TO NEW PROJECT
- H LEGALLY DISPOSE OF HAZARDOUS MATERIALS. COMPLY WITH ALL FEDERAL STATE, AND LOCAL LAWS. REPLACE EXISTING PANEL DIRECTORIES FOR PANELBOARDS WHICH HAVE HAD CIRCUIT ALTERATIONS. TYPE, DO NOT HAND LETTER NEW PANELBOARD DIRECTORIES.
- J FIELD VERIFY EXACT LOCATIONS OF ALL EXISTING EQUIPMENT AND DEVICES PRIOR TO COMMENCING DEMOLITION. DOCUMENT ALL DEVICE LOCATIONS. DIFFERENCES TO BE DOCUMENTED ON AS-BUILT DRAWINGS. K CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR HAVING COMPLETE KNOWLEDGE OF THIS SITE, INCLUDING EXISTING STRUCTURES AND FACILITIES. CONTRACTOR TO INCLUDE IN THEIR BID ANY DISCREPANCIES BETWEEN THE ELECTRICAL DRAWINGS AND EXISTING CONDITIONS AND THE ELECTRICAL DRAWINGS AND ARCHITECTURAL, MECHANICAL, PLUMBING

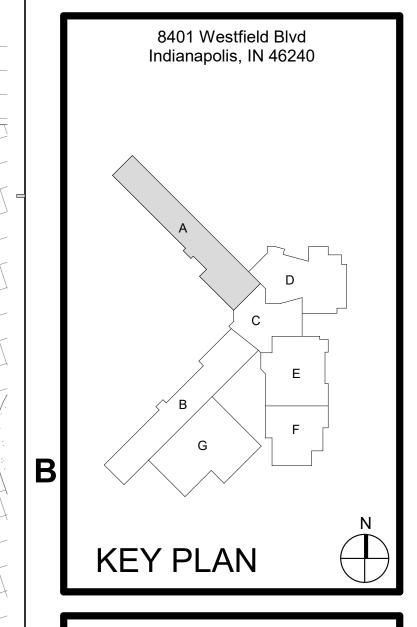
# **SHEET KEYNOTES**

NO WORK IN THIS SPACE. NOT INCLUDED IN SCOPE. 2 DISCONNECT AND REMOVE EXISTING LIGHT FIXTURES IN THIS ROOM AND MAINTAIN LOCATION FOR A ONE FOR ONE REPLACEMENT. MAINTAIN EXISTING CIRCUITRY. EXISTING CEILING TO REMAIN, PROTECT DURING CONSTRUCTION. REFER TO LIGHTING PLANS FOR ADDITIONAL









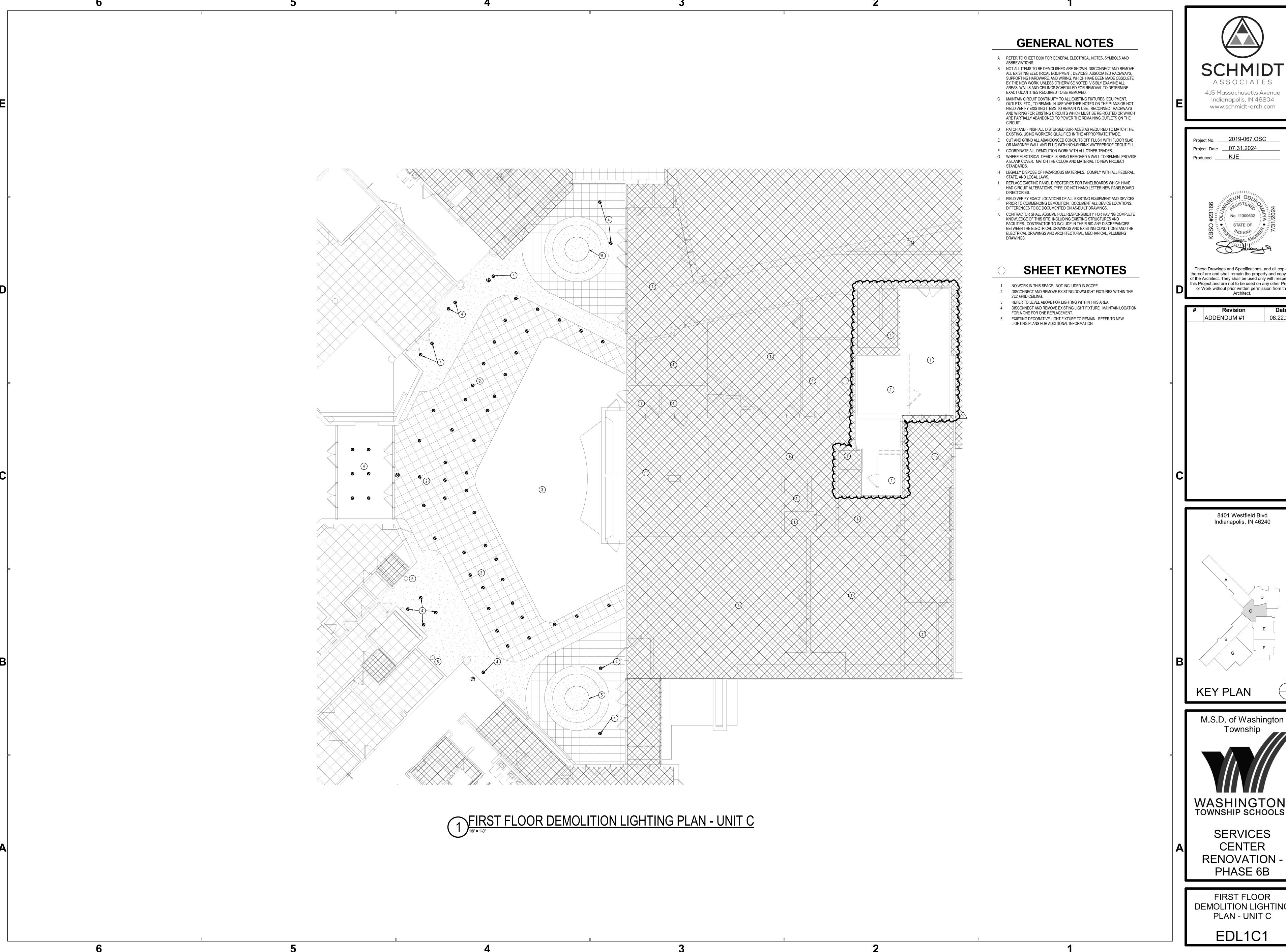


SECOND FLOOR **DEMOLITION LIGHTING** PLAN - UNIT A

SECOND FLOOR DEMOLITION LIGHTING PLAN - UNIT A.1

PHASE 6B

EDL1A2



415 Massachusetts Avenue

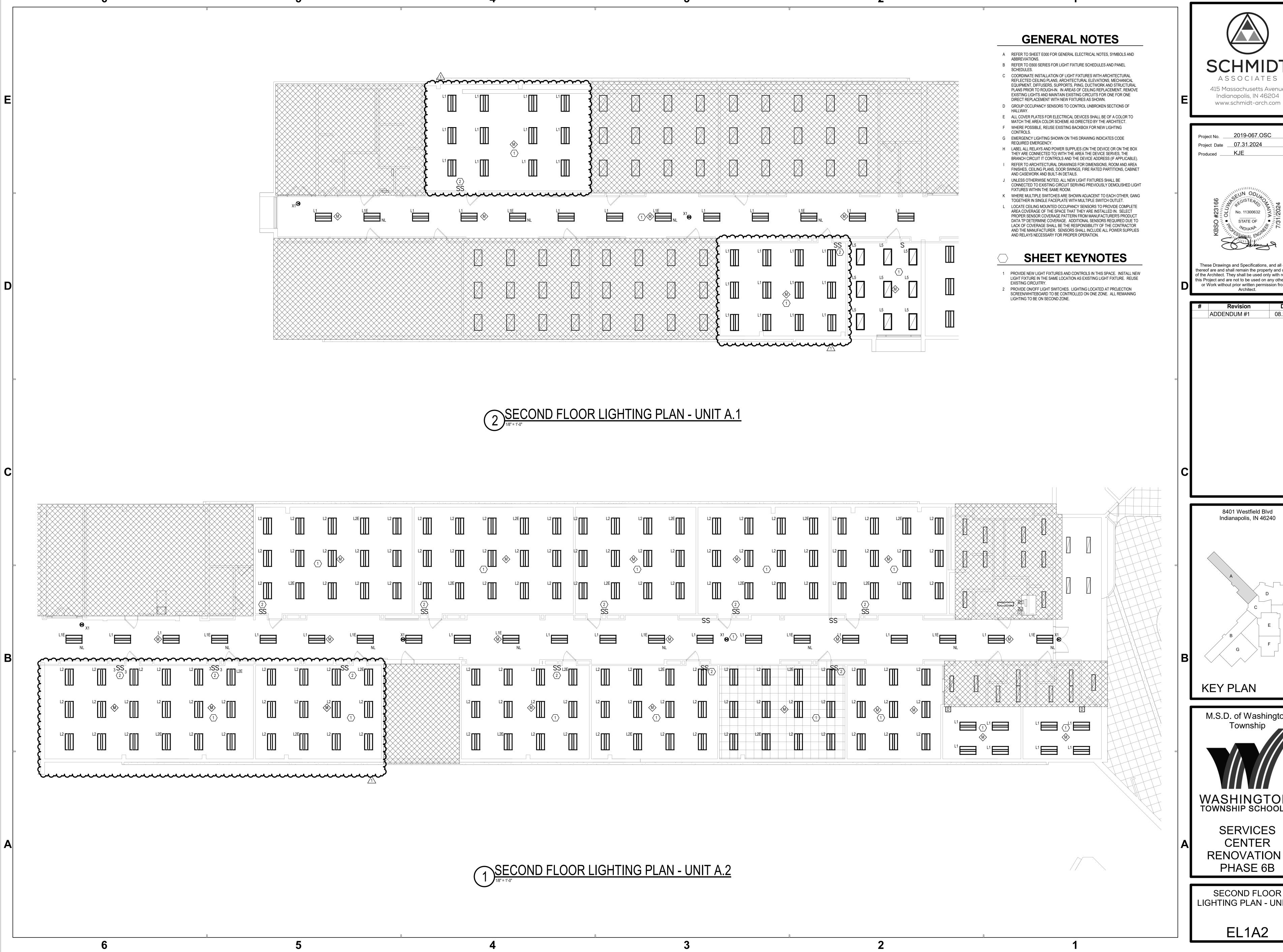
Project No. \_\_\_\_\_2019-067.OSC Project Date \_\_\_\_07.31.2024

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08.22.2024

M.S.D. of Washington WASHINGTON TOWNSHIP SCHOOLS SERVICES CENTER

FIRST FLOOR DEMOLITION LIGHTING PLAN - UNIT C



415 Massachusetts Avenue Indianapolis, IN 46204

Project Date <u>07.31.2024</u>

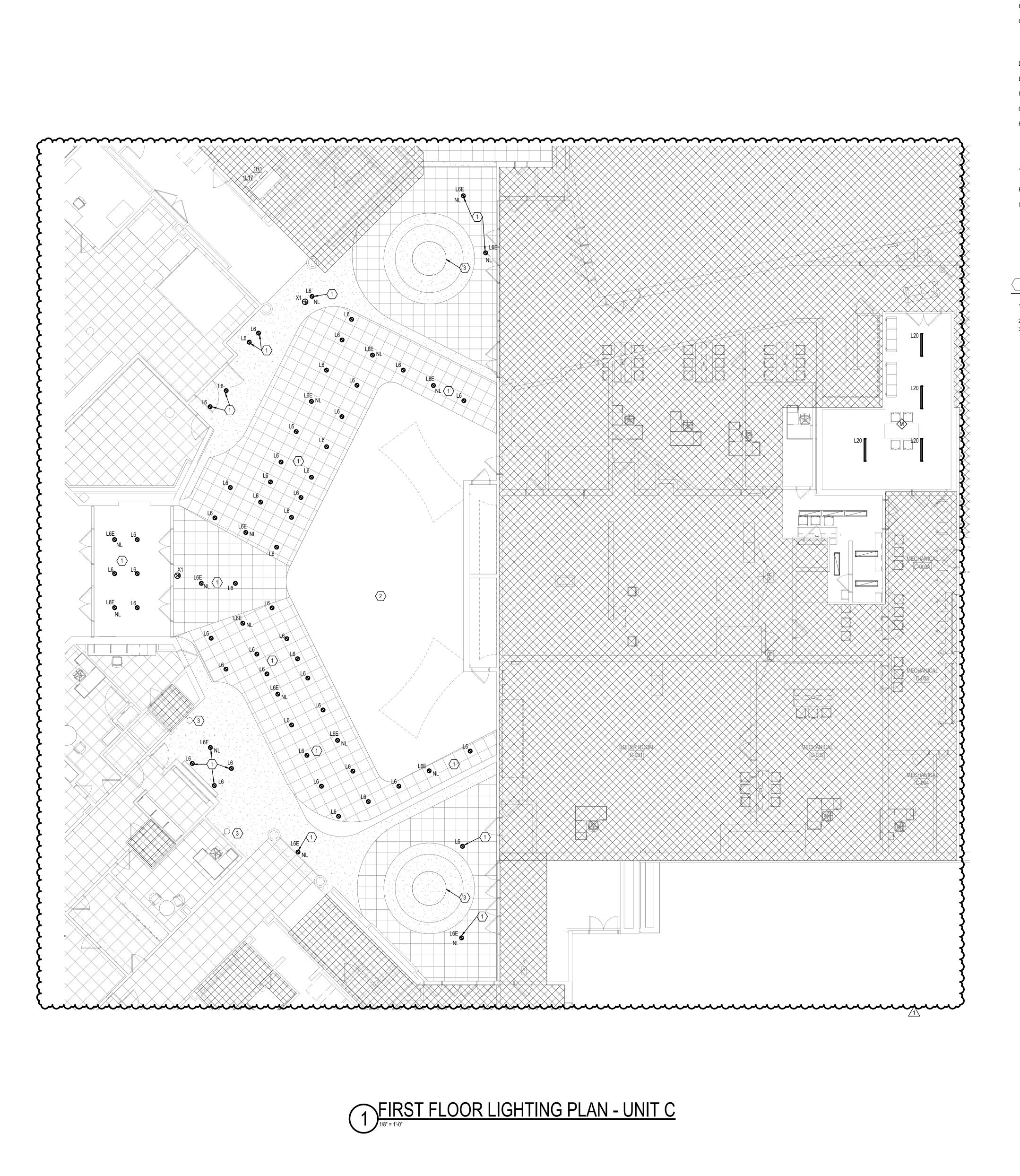
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SERVICES CENTER **RENOVATION -**PHASE 6B

SECOND FLOOR LIGHTING PLAN - UNIT A



#### **GENERAL NOTES**

- A REFER TO SHEET E000 FOR GENERAL ELECTRICAL NOTES, SYMBOLS AND ABBREVIATIONS.
- B REFER TO E600 SERIES FOR LIGHT FIXTURE SCHEDULES AND PANEL
- C COORDINATE INSTALLATION OF LIGHT FIXTURES WITH ARCHITECTURAL REFLECTED CEILING PLANS, ARCHITECTURAL ELEVATIONS, MECHANICAL EQUIPMENT, DIFFUSERS, SUPPORTS, PIING, DUCTWORK AND STRUCTURAL PLANS PRIOR TO ROUGH-IN. IN AREAS OF CEILING REPLACEMENT, REMOVE EXISTING LIGHTS AND MAINTAIN EXISTING CIRCUITS FOR ONE FOR ONE DIRECT REPLACEMENT WITH NEW FIXTURES AS SHOWN.
- D GROUP OCCUPANCY SENSORS TO CONTROL UNBROKEN SECTIONS OF
- E ALL COVER PLATES FOR ELECTRICAL DEVICES SHALL BE OF A COLOR TO MATCH THE AREA COLOR SCHEME AS DIRECTED BY THE ARCHITECT.
- F WHERE POSSIBLE, REUSE EXISTING BACKBOX FOR NEW LIGHTING CONTROLS.
- G EMERGENCY LIGHTING SHOWN ON THIS DRAWING INDICATES CODE REQUIRED EMERGENCY.

AND CASEWORK AND BUILT-IN DETAILS.

H LABEL ALL RELAYS AND POWER SUPPLIES (ON THE DEVICE OR ON THE BOX THEY ARE CONNECTED TO) WITH THE AREA THE DEVICE SERVES, THE BRANCH CIRCUIT IT CONTROLS AND THE DEVICE ADDRESS (IF APPLICABLE).
 I REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS, ROOM AND AREA

FINISHES, CEILING PLANS, DOOR SWINGS, FIRE RATED PARTITIONS, CABINET

- J UNLESS OTHERWISE NOTED, ALL NEW LIGHT FIXTURES SHALL BE CONNECTED TO EXISTING CIRCUIT SERVING PREVIOUSLY DEMOLISHED LIGHT FIXTURES WITHIN THE SAME ROOM
- FIXTURES WITHIN THE SAME ROOM.

  K WHERE MULTIPLE SWITCHES ARE SHOWN ADJACENT TO EACH OTHER, GANG TOGETHER IN SINGLE FACEPLATE WITH MULTIPLE SWITCH OUTLET.
- L LOCATE CEILING MOUNTED OCCUPANCY SENSORS TO PROVIDE COMPLETE AREA COVERAGE OF THE SPACE THAT THEY ARE INSTALLED IN. SELECT PROPER SENSOR COVERAGE PATTERN FROM MANUFACTURER'S PRODUCT DATA TP DETERMINE COVERAGE. ADDITIONAL SENSORS REQUIRED DUE TO LACK OF COVERAGE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND THE MANUFACTURER. SENSORS SHALL INCLUDE ALL POWER SUPPLIES AND RELAYS NECESSARY FOR PROPER OPERATION.

## SHEET KEYNOTES

- 1 PROVIDE ONE FOR ONE REPLACEMENT OF DOWNLIGHT. EC TO VERIFY APERATURE SIZE OF EXISTING DOWNLIGHT PRIOR TO DRAWING SUBMITTAL.
- 2 REFER TO LEVEL ABOVE FOR LIGHTING WITHIN THIS AREA.
   3 EXISTING DECORATIVE LIGHT FIXTURE TO REMAIN. REFER TO NEW LIGHTING PLANS FOR ADDITIONAL INFORMAION.

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Project No. 2019-067.OSC

Project Date 07.31.2024

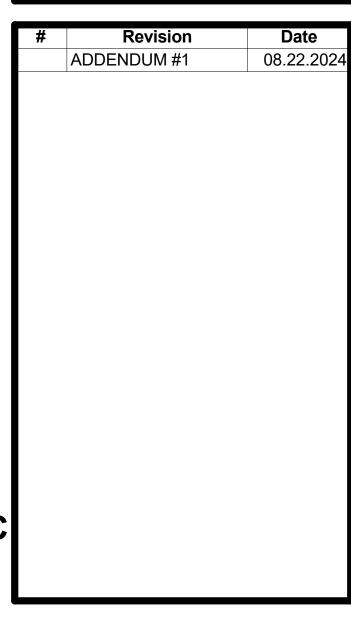
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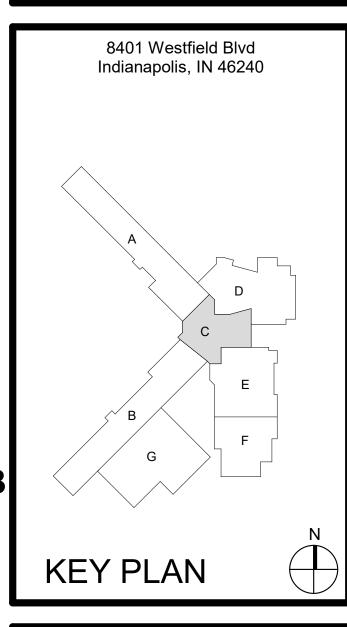
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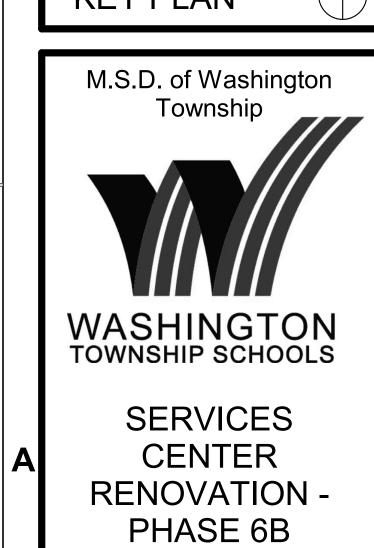
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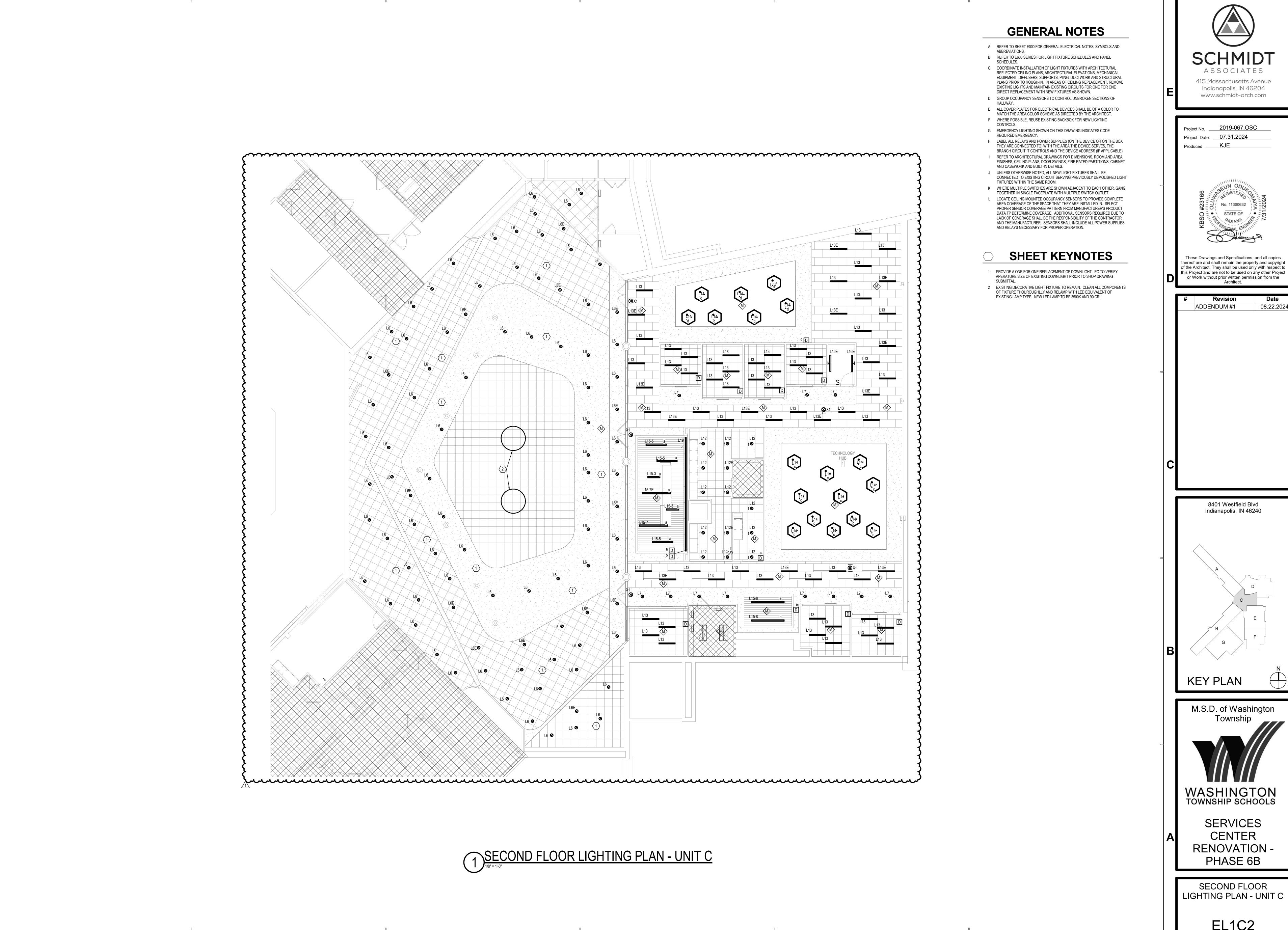






FIRST FLOOR LIGHTING PLAN - UNIT C

EL1C1



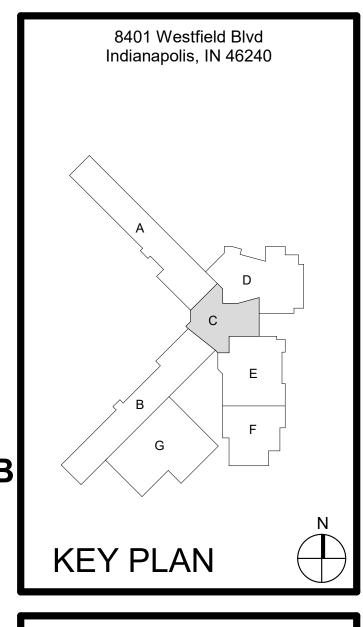
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Project No. 2019-067.OSC Project Date <u>07.31.2024</u>

Architect. 08.22.2024 ADDENDUM #1



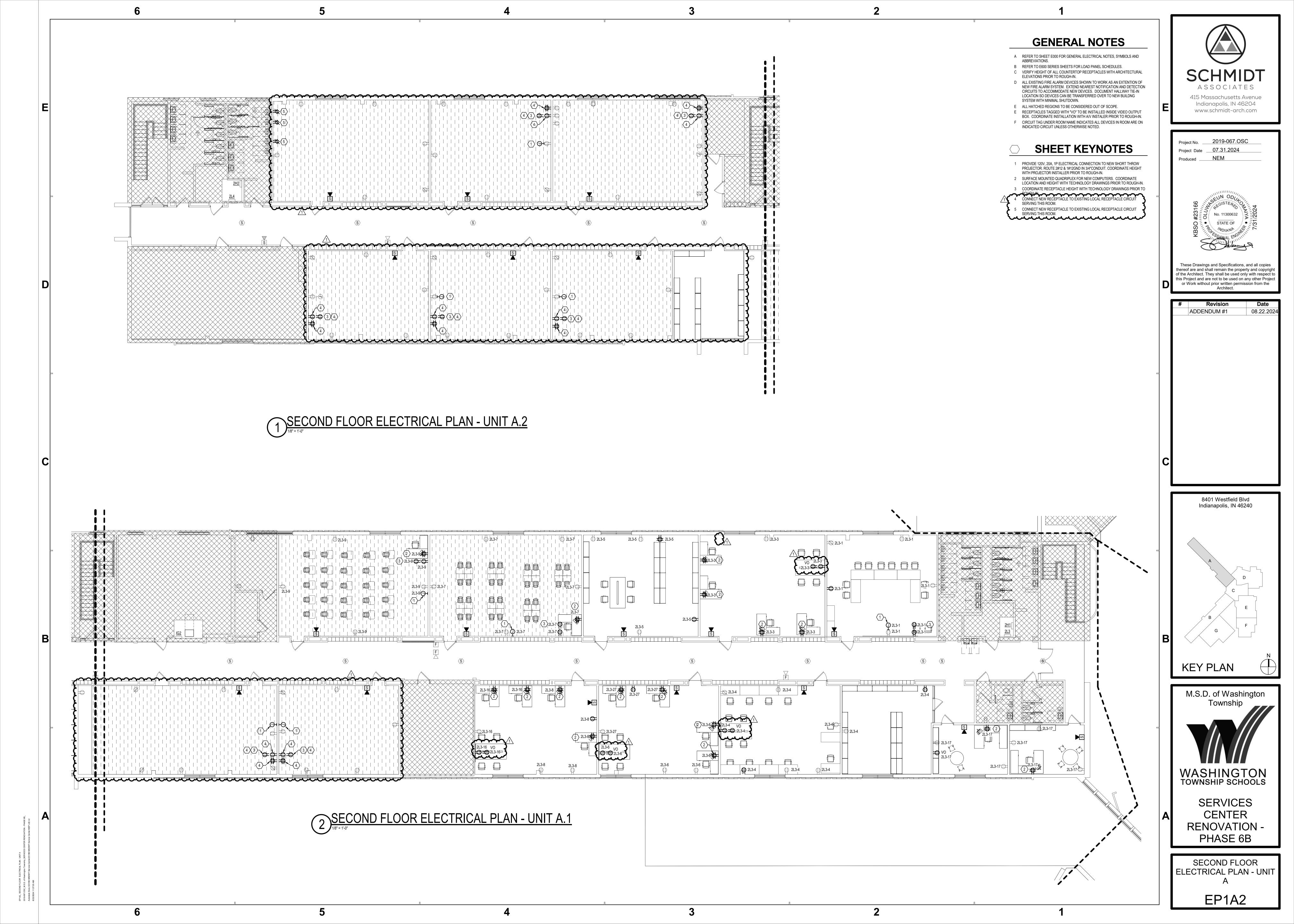


SECOND FLOOR LIGHTING PLAN - UNIT C

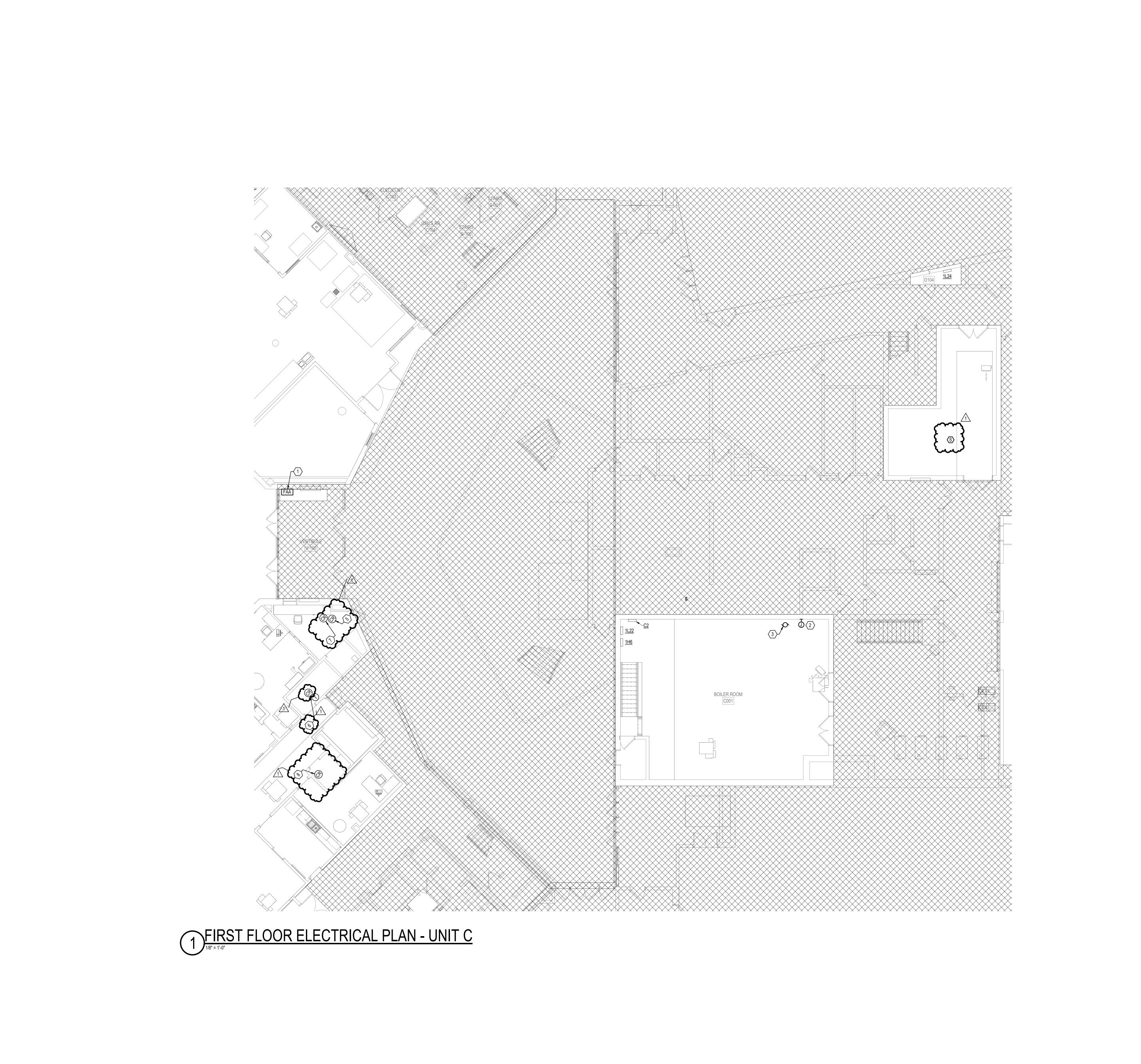
PHASE 6B

EL1C2









## **GENERAL NOTES**

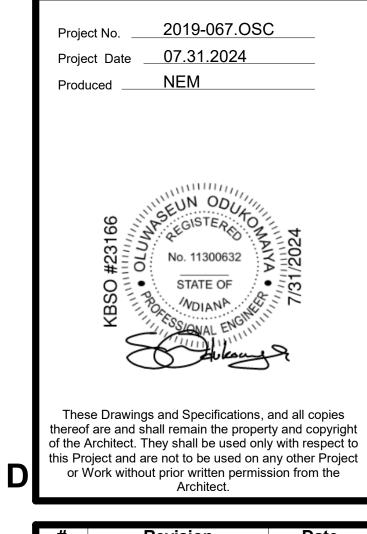
- A REFER TO SHEET E000 FOR GENERAL ELECTRICAL NOTES, SYMBOLS AND ABBREVIATIONS.
- B REFER TO E600 SERIES SHEETS FOR LOAD PANEL SCHEDULES.
- C VERIFY HEIGHT OF ALL COUNTERTOP RECEPTACLES WITH ARCHITECTURAL ELEVATIONS PRIOR TO ROUGH-IN.
- D ALL EXISTING FIRE ALARM DEVICES SHOWN TO WORK AS AN EXTENTION OF NEW FIRE ALARM SYSTEM. EXTEND NEAREST NOTIFICATION AND DETECTION CIRCUITS TO ACCOMMODATE NEW DEVICES. DOCUMENT HALLWAY TIE-IN LOCATION SO DEVICES CAN BE TRANSFERRED OVER TO NEW BUILDING SYSTEM WITH MINIMAL SHUTDOWN.
- E ALL HATCHED REGIONS TO BE CONSIDERED OUT OF SCOPE. E RECEPTACLES TAGGED WITH "VO" TO BE INSTALLED INSIDE VIDEO OUTPUT
- BOX. COORDINATE INSTALLATION WITH A/V INSTALER PRIOR TO ROUGH-IN. F CIRCUIT TAG UNDER ROOM NAME INDICATES ALL DEVICES IN ROOM ARE ON INDICATED CIRCUIT UNLESS OTHERWISE NOTED.

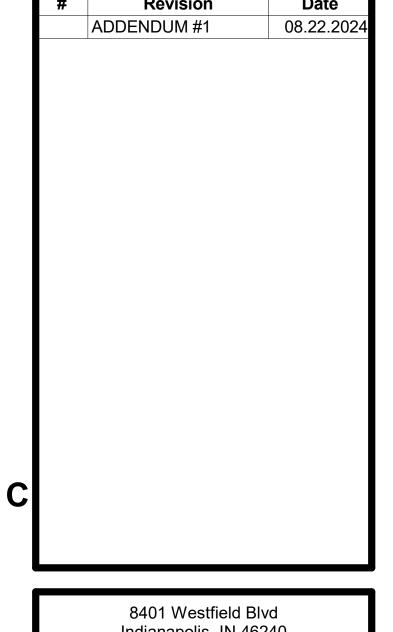
SHEET KEYNOTES

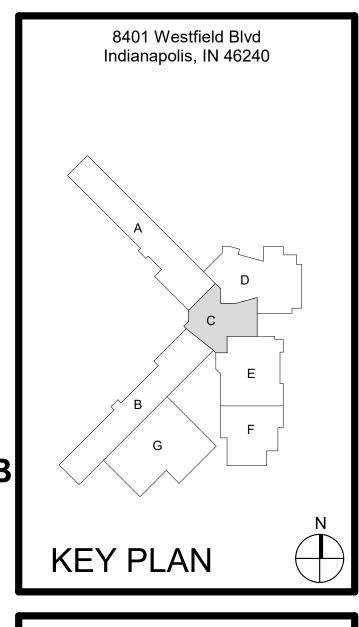
1 NEW REMOTE FIRE ALARM ANNUNCIATOR. PROVIDE CONNECTION FROM

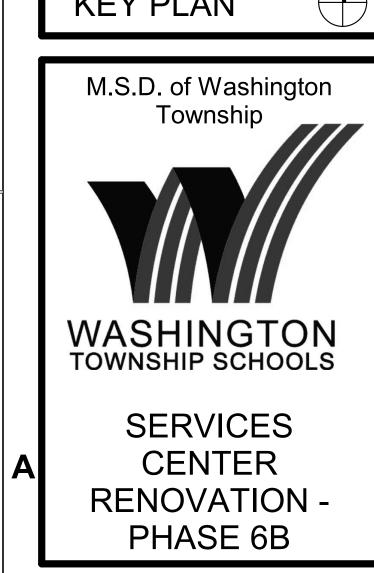
- REMOTE ANNUNCIATOR TO FIRE ALARM CONTROL PANEL.
- 2 PROVIDE 120V, 20A, 1 PHASE ELECTRICAL CONNECTION FOR NEW TEMPERATURE CONTROL SYSTEM. ROUTE 2#12 & 1#12GND IN 3/4" CONDUIT TO PANEL 1L22. COORDINATE FINAL LOCATION OF TEMPERATURE CONTROL SYSTEM WITH INSTALLER PRIOR TO ROUGH-IN.
- 3 PROVIDE 208V, 20A, 1 PHASE ELECTRICAL MOTOR FOR NEW RECIRCULATING PUMP. ROUTE 3#12 & 1#12GND IN 3/4" CONDUIT. REUSE EXISTING RECIRCULATING PUMP CIRCUITS IN PANEL 1L21. ADJUST BREAKER SIZE AS NEEDED. COORDINATE FINAL LOCATION OF RECIRCULATION PUMP MOTOR WITH PLUMBING DRAWINGS.



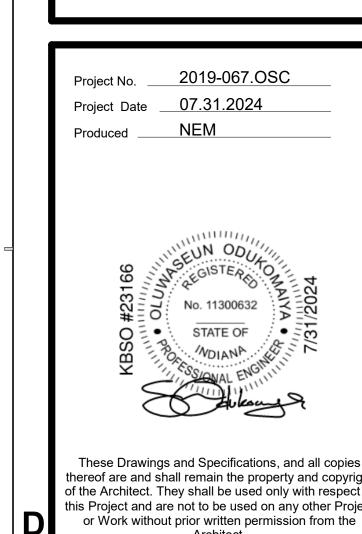


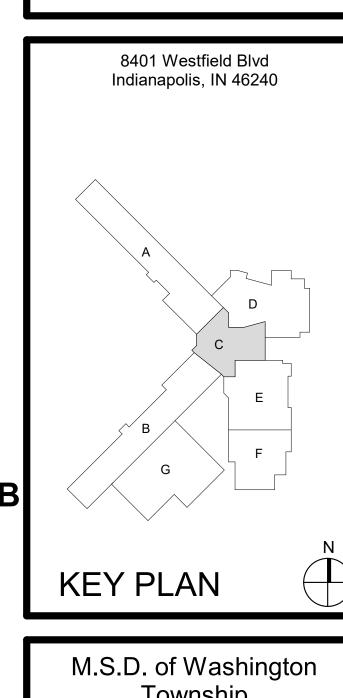




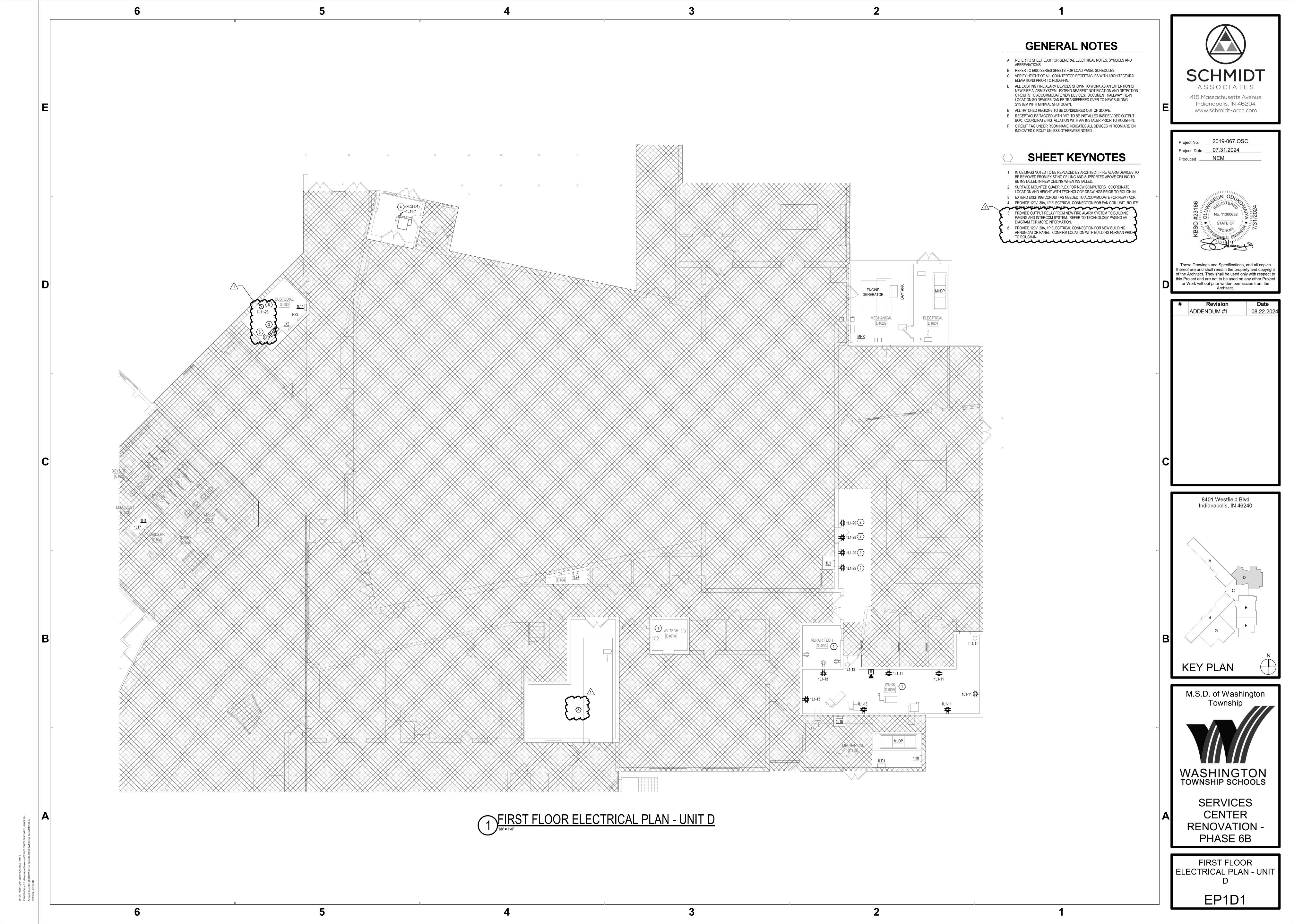


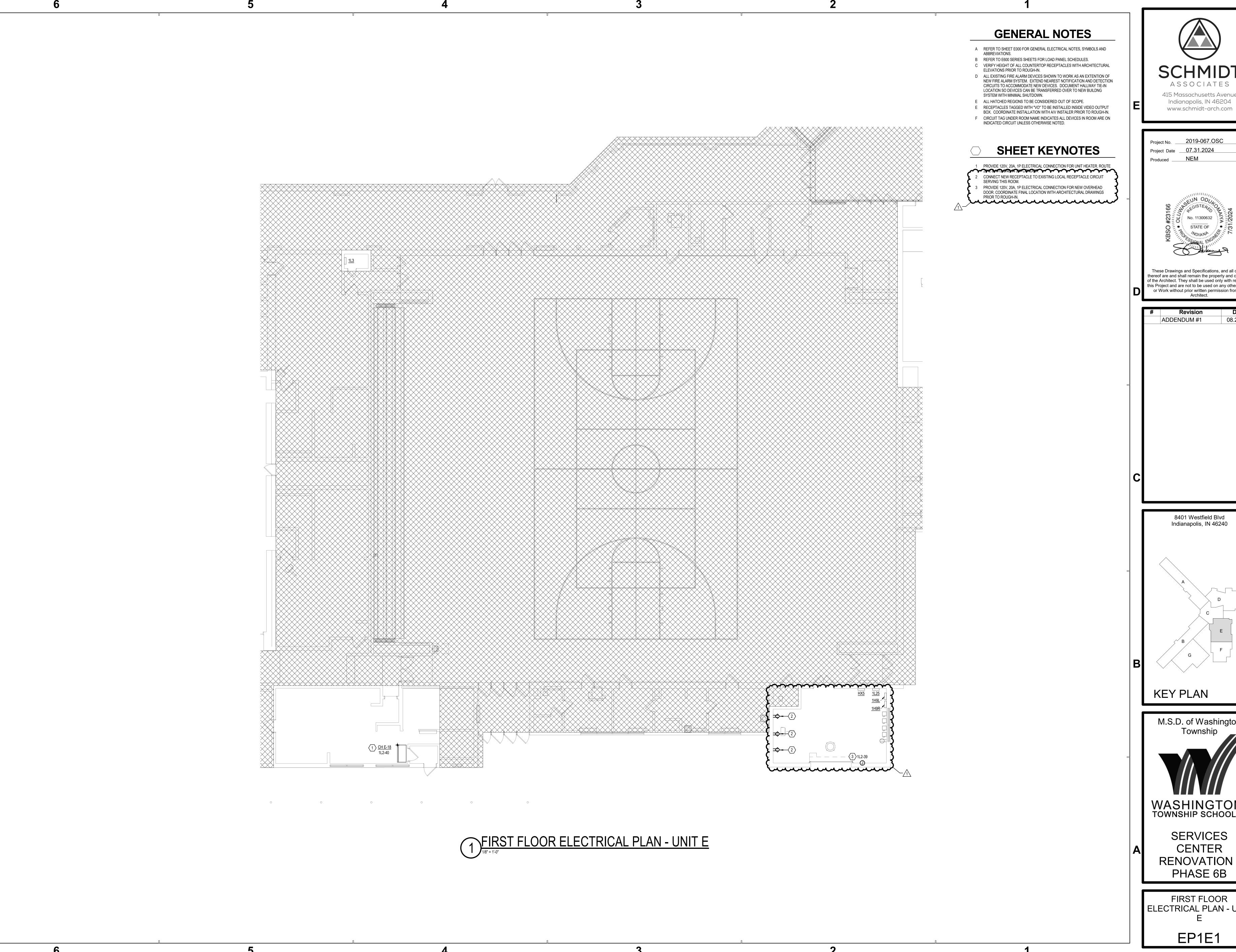






FIRST FLOOR ELECTRICAL PLAN - UNIT EP1C1





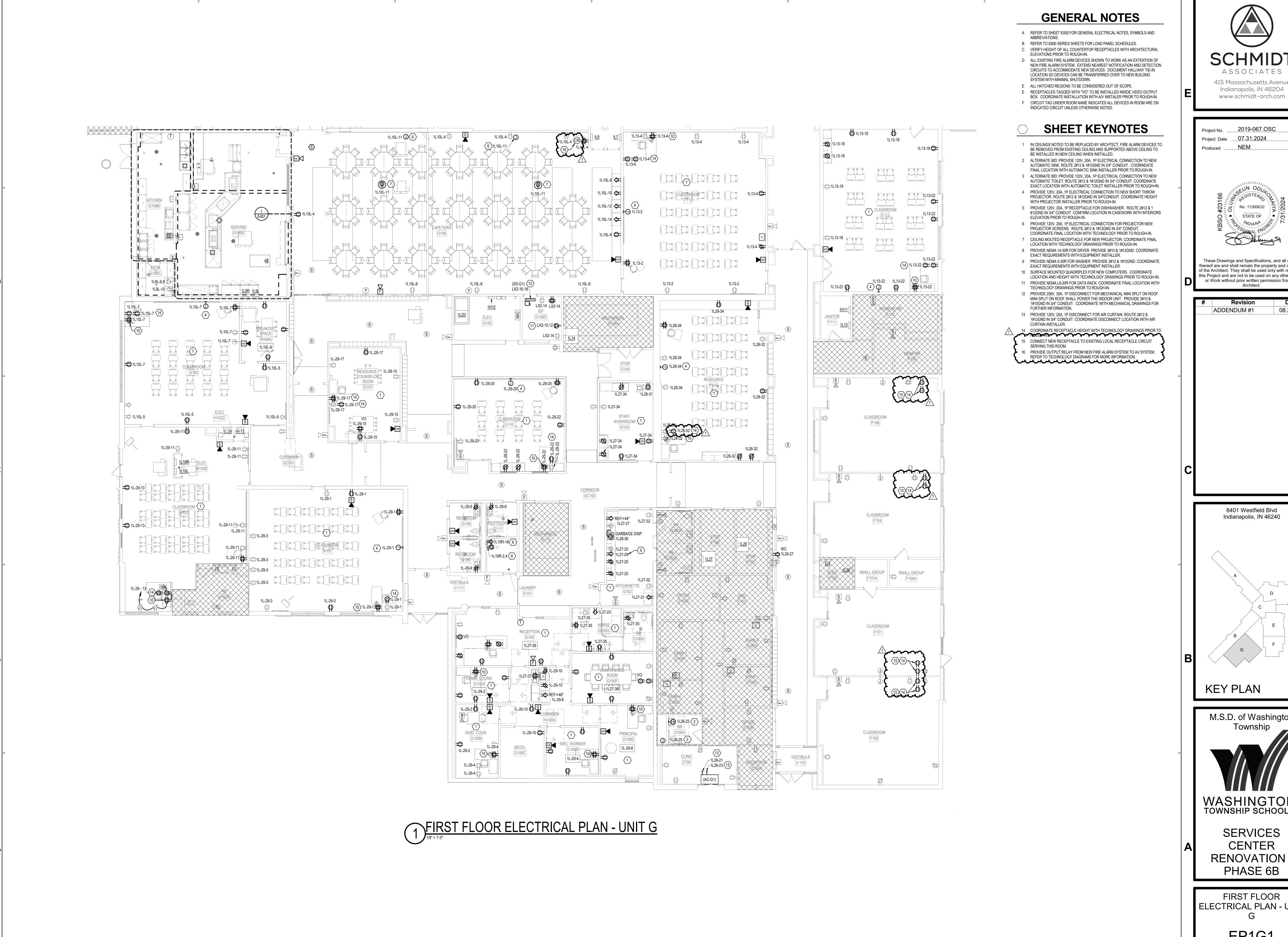
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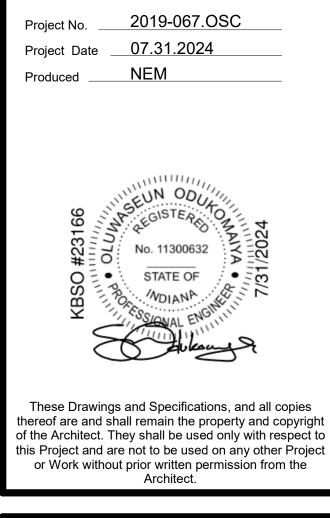
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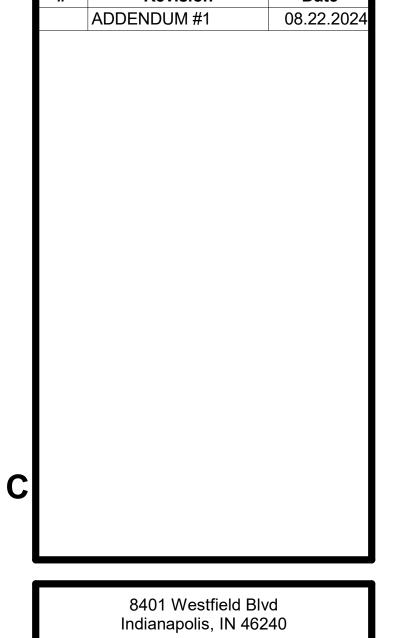
WASHINGTON TOWNSHIP SCHOOLS SERVICES CENTER **RENOVATION -**

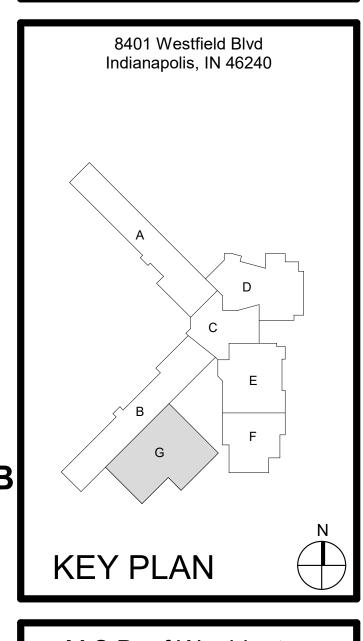
FIRST FLOOR ELECTRICAL PLAN - UNIT

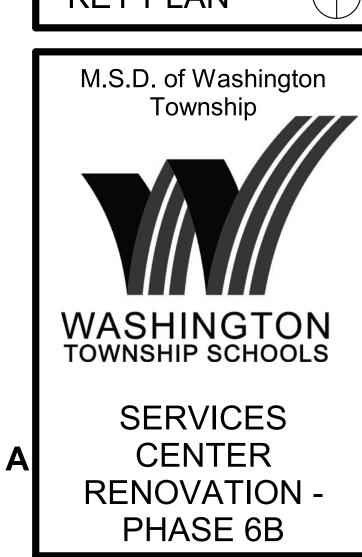




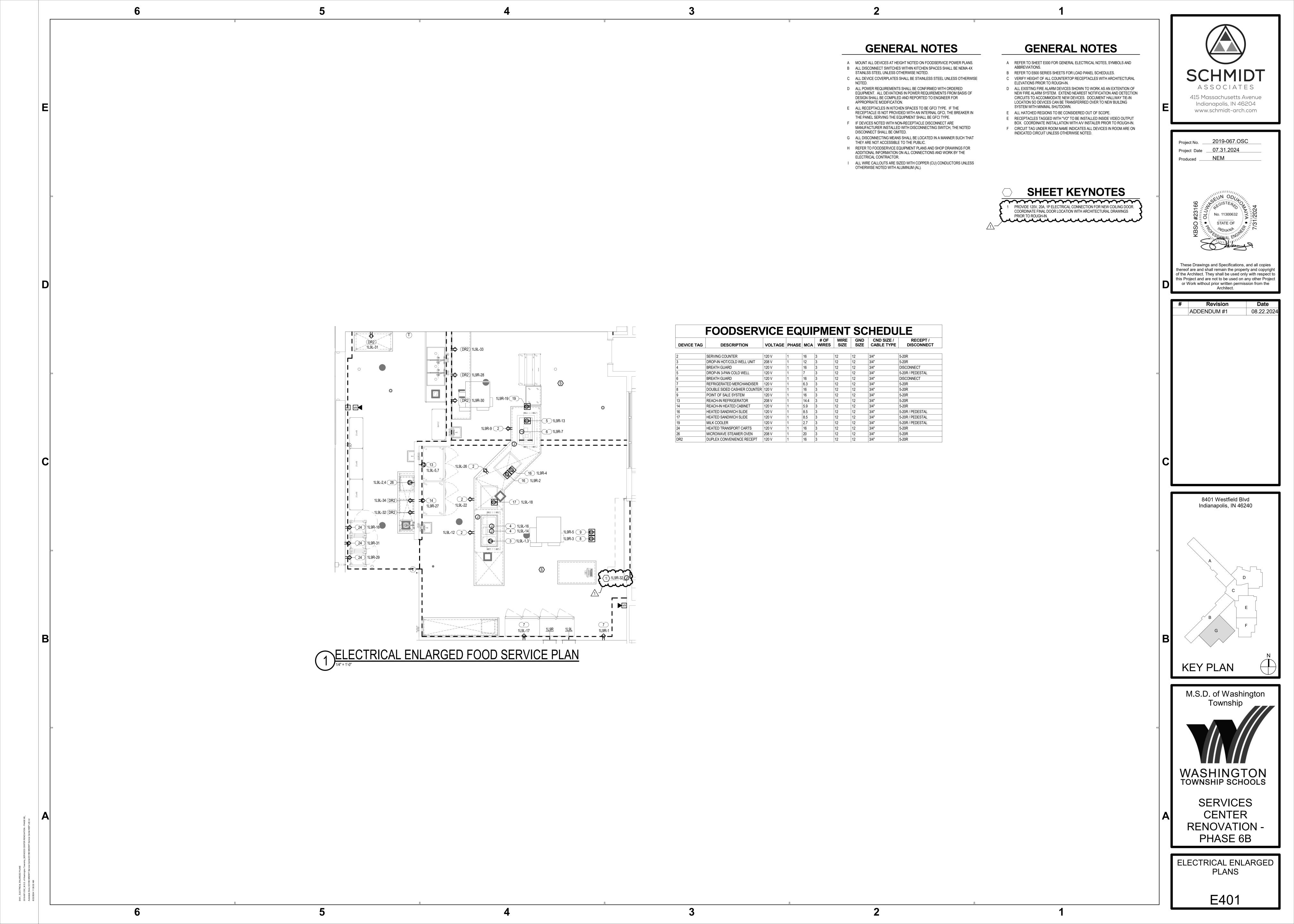








FIRST FLOOR **ELECTRICAL PLAN - UNIT** EP1G1

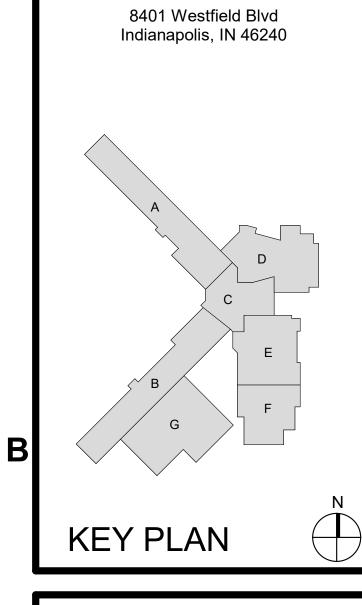


|                        |                    | LIGHTING CON                                                                                                                                                                                                                                                                               | TROL SEQUENCE                                                                                                                    |                                                       |                          |       |  |  |  |
|------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|--------------------------|-------|--|--|--|
| NOTES:                 |                    |                                                                                                                                                                                                                                                                                            |                                                                                                                                  |                                                       |                          |       |  |  |  |
| CONTROL<br>DESIGNATION | SPACE/AREA<br>TYPE | CONTROL INTENT                                                                                                                                                                                                                                                                             | COMPONENTS                                                                                                                       | EMERGENCY                                             | CEILING<br>HEIGHT>12'-0" | NOTES |  |  |  |
| LC01                   | CORRIDOR           | LIGHTS COME TO FULL ON WHEN MOTION IS DETECTED. LIGHTS TURN OFF WHEN MOTION HAS NOT BEEN DETECTED FOR A PRESET AMOUNT OF TIME.                                                                                                                                                             | CEILING MOUNT DUAL TECH OCCUPANCY SENSOR WITH AUX CONTACT                                                                        | INTEGRAL BATTERY BACKUP                               | NO                       |       |  |  |  |
| LC02                   | CLASSROOM          | LIGHTS COME TO FULL ON WHEN MOTION IS DETECTED. LIGHTS TURN OFF WHEN MOTION HAS NOT BEEN DETECTED FOR A PRESET AMOUNT OF TIME. INTENSITY ADJUSTED BY MANUAL WALL BOX DIMMER.                                                                                                               | CEILING MOUNT DUAL TECH OCCUPANCY SENSOR WITH RELAY FOR INTERFACE WITH HVAC SYSTEM AND WALL CONTROL STATION ON/OFF/RAISE/LOWER.  | INTEGRAL BATTERY BACKUP                               | NO                       |       |  |  |  |
| LC03                   | OFFICES            | LIGHTS COME TO FULL ON WHEN MOTION IS DETECTED. LIGHTS TURN OFF WHEN MOTION HAS NOT BEEN DETECTED FOR A PRESET AMOUNT OF TIME.                                                                                                                                                             | CEILING MOUNT DUAL TECH OCCUPANCY SENSOR WITH WALL CONTROL STATION ON/OFF/RAISE/LOWER.                                           | INTEGRAL BATTERY BACKUP                               | NO                       |       |  |  |  |
| LC04                   | STORAGE            | LIGHTS COME TO FULL ON WHEN MOTION IS DETECTED. LIGHTS TURN OFF WHEN MOTION HAS NOT BEEN DETECTED FOR A PRESET AMOUNT OF TIME.                                                                                                                                                             | CEILING MOUNT OR WALL MOUNT DUAL TECH OCCUPANCY SENSOR.                                                                          | N/A                                                   | NO                       |       |  |  |  |
| LC05                   | SINGLE<br>RESTROOM | LIGHTS COME TO FULL ON WHEN MOTION IS DETECTED. LIGHTS TURN OFF WHEN MOTION HAS NOT BEEN DETECTED FOR A PRESET AMOUNT OF TIME.                                                                                                                                                             | WALL MOUNT OCCUPANCY SENSOR/SWITCH.                                                                                              | INTEGRAL BATTERY BACKUP                               | NO                       |       |  |  |  |
| LC06                   | MULTI RESTROOM     | LIGHTS COME TO FULL ON WHEN MOTION IS DETECTED. LIGHTS TURN OFF WHEN MOTION HAS NOT BEEN DETECTED FOR A PRESET AMOUNT OF TIME.                                                                                                                                                             | CEILING MOUNT DUAL TECH OCCUPANCY SENSOR.                                                                                        | INTEGRAL BATTERY BACKUP                               | NO                       |       |  |  |  |
| LC07                   | CAFETERIA          | LIGHTS COME TO FULL ON WHEN MOTION IS DETECTED. LIGHTS TURN OFF WHEN MOTION HAS NOT BEEN DETECTED FOR A PRESET AMOUNT OF TIME. LIGHT LEVEL ADJUSTED VIA 4-SCENE/8-BUTTON WALL CONTROL. CONTROL STATION TO INCLUDE 4-SCENES/ON/OFF/RAISE/LOWER. PRESET SCENES TO BE COORDINATED WITH OWNER. | CEILING MOUNT DUAL TECH OCCUPANCY SENSOR,<br>WALL MOUNT 4-SCENE, 8-BUTTON LIGHTING CONTROL<br>STATION.                           | INTEGRAL BATTERY BACKUP                               | NO                       |       |  |  |  |
| LC08                   | SENSORY            | LIGHTS COME TO FULL ON WHEN MOTION IS DETECTED. LIGHTS TURN OFF WHEN MOTION HAS NOT BEEN DETECTED FOR A PRESET AMOUNT OF TIME.                                                                                                                                                             | CEILING MOUNT DUAL TECH OCCUPANCY SENSOR, WALL MOUNT TUNABLE WHITE CONTROL STATION WITH ON/OFF/RAISE/LOWER/CCT/RAISE/LOWER.      | N/A                                                   | NO                       |       |  |  |  |
| LC09                   | KITCHEN            | LIGHTS COME TO FULL ON WHEN MOTION IS DETECTED. LIGHTS TURN OFF WHEN MOTION HAS NOT BEEN DETECTED FOR A PRESET AMOUNT OF TIME.                                                                                                                                                             | CEILING MOUNT DUAL TECH OCCUPANCY SENSOR AND LOCAL MANUAL OVERRIDE SWITCH(ES).                                                   | INTEGRAL BATTERY BACKUP                               | NO                       |       |  |  |  |
| LC10                   | TECH HUB           | LIGHTS COME TO FULL ON WHEN MOTION IS DETECTED. LIGHTS TURN OFF WHEN MOTION HAS NOT BEEN DETECTED FOR A PRESET AMOUNT OF TIME. LIGHT LEVEL ADJUSTED VIA 4-SCENE/8-BUTTON WALL CONTROL. CONTROL STATION TO INCLUDE 4-SCENES/ON/OFF/RAISE/LOWER. PRESET SCENES TO BE COORDINATED WITH OWNER. | CEILING MOUNT DUAL TECH OCCUPANCY SENSOR,<br>WALL MOUNT 4-SCENE, 8-BUTTON LIGHTING CONTROL<br>STATION.                           | INTEGRAL BATTERY BACKUP                               | NO                       |       |  |  |  |
| LC11                   | GYMS               | LIGHTS COME TO FULL ON WHEN MOTION IS DETECTED. LIGHTS TURN OFF WHEN MOTION HAS NOT BEEN DETECTED FOR A PRESET AMOUNT OF TIME. LOCAL MULTI-SCENE CONTROL WITH MULTI-AONES AND INDEPENDANT ZONE DIMMING WITH PRESET BUTTONS.                                                                | CEILING MOUNT 360 DEGREE DUAL TECH OCCUPANCY<br>SENSOR WITH AUX CONTACT                                                          | INTEGRAL BATTERY BACKUP                               | YES                      |       |  |  |  |
| LC12                   | WAREHOUSE          | LIGHTS COME TO FULL ON WHEN MOTION IS DETECTED. LIGHTS TURN OFF WHEN MOTION HAS NOT BEEN DETECTED FOR A PRESET AMOUNT OF TIME.                                                                                                                                                             | CEILING MOUNT 360 DEGREE DUAL TECH PENDANT MOUNT OCCUPANCY SENSOR AND LOCAL OVERRIDE SWITCHES. SWITCHLEGS INDICATED ON DRAWINGS. | INTEGRAL BATTERY BACKUP                               | YES                      |       |  |  |  |
| LC13                   | EXTERIOR           | SITE AND BUILDING MOUNTED LIGHTING TURN ON/OFF VIA INTEGRAL PHOTOCELL.                                                                                                                                                                                                                     | INTEGRAL PHOTOCELL                                                                                                               | INTEGRAL BATTERY BACKUP ON BUILDING MOUNTED FIXTURES. | NO                       |       |  |  |  |

| NOTES:                     |                                                                                                                                                                                        | LIGIT                                                                                         | 1114          | Gi                      |                        | UKL       | _                    |           | וטט            | _E - MS                                      |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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|                            |                                                                                                                                                                                        |                                                                                               |               |                         | _                      |           |                      | _         |                |                                              |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| JNIT ID                    | BASE MANUFACTURER                                                                                                                                                                      | EQUAL MANUFACTURER                                                                            | LAMP          | VOLTS                   | WATTS                  | UNITS     | LUMEN                | S UNITS   | ССТ            | LOCATION(S)                                  | MOUNT        | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| L1                         | LITHONIA: 2BLT4-48L-SDSM-MVOLT-GZ10-LP840                                                                                                                                              | COLUMBIA: LCAT                                                                                |               | 0 V                     | 0 W                    | /FIXTURE  | 5000 LM              | /FIXTURE  | 4000K          | <varies></varies>                            |              | 2' X 4' ARCHITECTURAL TROFFER WITH CENTER BASKET LENS. 0-10V DIMMING TO 10%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                            | LITHONIA: 2BLT4-48L-SDSM-MVOLT-GZ10-LP840-EL14L                                                                                                                                        | METALUX: CRUZE  COLUMBIA: LCAT                                                                | LED           | 277 V                   | 40 W                   | /FIXTURE  | 5000 LM              | /FIXTURE  |                | <pre><varies> CORRIDORS/GENER</varies></pre> | RECESSED     | SAME AS TYPE 'L1' WITH INTEGRAL EMERGENCY BATTERY.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                            | LITHONIA: 2BLT4-60L-SDSM-MVOLT-GZ10-LP840                                                                                                                                              | METALUX: CRUZE COLUMBIA: LCAT                                                                 | LED           | 277 V                   | 40 W                   |           |                      |           |                | AL                                           | RECESSED     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                            |                                                                                                                                                                                        | METALUX: CRUZE                                                                                | LED           | 277 V                   | 47 W                   | /FIXTURE  | 6000 LM              | /FIXTURE  |                | CLASSROOMS                                   | RECESED      | 2' X 4' ARCHITECTURAL TROFFER WITH CENTER BASKET LENS. 0-10V DIMMING TO 10%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                            | LITHONIA: 2BLT4-60L-SDSM-MVOLT-GZ10-LP840-EL14L                                                                                                                                        | COLUMBIA: LCAT<br>METALUX: CRUZE                                                              | LED           | 277 V                   | 47 W                   | /FIXTURE  | 6000 LM              | /FIXTURE  |                | CLASSROOMS                                   | RECESED      | SAME AS TYPE 'L2' WITH INTEGRAL EMERGENCY BATTERY.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| L3                         | LITHONIA: BLT4-30L-SDSM-MVOLT-GZ10-LP840                                                                                                                                               | COLUMBIA: LCAT<br>METALUX: CRUZE                                                              | LED           | 277 V                   | 23 W                   | /FIXTURE  | 3000 LM              | /FIXTURE  |                | RESTROOMS                                    | RECESSED     | 1' X 4' ARCHITECTURAL TROFFER WITH CENTER BASKET LENS. 0-10V DIMMING TO 10%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| L3E                        | LITHONIA: BLT4-30L-SDSM-MVOLT-GZ10-LP840-EL14L                                                                                                                                         | COLUMBIA: LCAT<br>METALUX: CRUZE                                                              | LED           | 277 V                   | 23 W                   | /FIXTURE  | 3000 LM              | /FIXTURE  | 4000K          | RESTROOMS                                    | RECESSED     | SAME AS TYPE 'L3' WITH INTEGRAL EMERGENCY BATTERY.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| L4                         | LITHONIA: 2BLT4-60L-SDSM-MVOLT-GZ10-LP835                                                                                                                                              | COLUMBIA: LCAT<br>METALUX: CRUZE                                                              | LED           | 277 V                   | 46 W                   | /FIXTURE  | 6000 LM              | /FIXTURE  | 4000K          | SENSORY ROOM                                 | RECESSED     | 2' X 4' ARCHITECTURAL TROFFER WITH CENTER BASKET LENS. 0-10V DIMMING TO 10%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| L5                         | LITHONIA: CPX-2X4-5000LM-80CRI-40K-SWL-MIN10-MVOLT                                                                                                                                     | COLUMBIA<br>METALUX                                                                           | LED           | 277 V                   | 40 W                   | /FIXTURE  | 5000 LM              | /FIXTURE  | 4000K          | STORAGE/SERVING                              | RECESSED     | 2' X 4' BACK LIT FLAT PANEL WITH DIFFUSED LENS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| L5E                        | LITHONIA: CPX-2X4-5000LM-80CRI-40K-SWL-MIN10-MVOLT-E10W                                                                                                                                | COLUMBIA<br>METALUX                                                                           | LED           | 277 V                   | 40 W                   | /FIXTURE  | 5000 LM              | /FIXTURE  | 4000K          | STORAGE/SERVING                              | RECESSED     | SAME AS TYPE 'L5' WITH INTEGRAL EMERGENCY BATTERY.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| L6                         | LITHONIA: LBR8-AL02-SWW1-AR-LSS-MWD-MVOLT-90CRI                                                                                                                                        | PORTFOLIO<br>PRESCOLITE                                                                       | LED           | 277 V                   | 25 W                   | /FIXTURE  | 1500 LM              | /FIXTURE  | 4000K          | GENERAL                                      | RECESSED     | 8" ROUND RECESSED RETROFIT DOWNLIGHT WITH MEDIUM DISTRIBUTION, ADJUSTABLE LUMEN OUTPUT, SWITCHABLE CCT, SEMI-SPECULAR REFLECTOR AND CLEAR TRIM.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                            | LITHONIA:<br>LBR8-AL02-SWW1-AR-LSS-MWD-MVOLT-90CRI-E10WCP                                                                                                                              | PORTFOLIO<br>PRESCOLITE                                                                       | LED           | 277 V                   | 25 W                   | /FIXTURE  | 1500 LM              | /FIXTURE  | 4000K          | GENERAL                                      | RECESSED     | SAME AS TYPE 'L6' WITH INTEGRAL EMERGENCY BATTERY.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                            | LITHONIA: LDN4-20LM-40K-L004-ARLD-MVOLT                                                                                                                                                | PORTFOLIO                                                                                     | LED           | 277 V                   | 25 W                   | /FIXTURE  | 1000 LM              | /FIXTURE  | 4000K          | TECH HUB                                     | RECESSED     | 4" ROUND RECESSED DOWNLIGHT WITH MEDIUM DISTRIBUTION, SEMI-SPECULAR REFLECTO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| L8                         | LITERONICS: 'HOPT4' SERIES                                                                                                                                                             | PRESCOLITE OWNER PROVIDED. NO SUBSTITUTIONS.                                                  |               |                         |                        | /FIXTURE  | 18000 LM             | /FIXTURE  | 4000K          |                                              |              | AND CLEAR TRIM. 0-10V DIM.  2' X 4' HIGH-BAY RECESSED TROFFER WITH HIGH LUMEN OUTPUT AND PRISMATIC LENS. 0-10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                            |                                                                                                                                                                                        | CONTACT: ROB ANNEE @ FLEX GREEN LIGHTING R.ANNEE@FLEXGREENLIGHT.COM, (317) 535-5337           | LED           | 277 V                   | 145 W                  |           |                      |           |                | AUX GYM                                      | RECESSED     | DIMMING TO 10%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| L8E                        | LITERONICS: 'HOPT4' SERIES                                                                                                                                                             | OWNER PROVIDED. NO SUBSTITUTIONS. CONTACT: ROB ANNEE @ FLEX GREEN LIGHTING                    | LED           | 277 V                   | 145 W                  | /FIXTURE  | 18000 LM             | /FIXTURE  | 4000K          | AUX GYM                                      | RECESSED     | SAME AS TYPE 'L8' WITH INTEGRAL EMERGENCY BATTERY.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| L9                         | LITERONICS: 'HOPT4' SERIES                                                                                                                                                             | R.ANNEE@FLEXGREENLIGHT.COM, (317) 535-5337 OWNER PROVIDED. NO SUBSTITUTIONS.                  |               |                         |                        | /FIXTURE  | 21000 LM             | /FIXTURE  | 4000K          |                                              |              | 2' X 4' HIGH-BAY RECESSED TROFFER WITH HIGH LUMEN OUTPUT AND PRISMATIC LENS. 0-10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                            |                                                                                                                                                                                        | CONTACT: ROB ANNEE @ FLEX GREEN LIGHTING R.ANNEE@FLEXGREENLIGHT.COM, (317) 535-5337           | LED           | 277 V                   | 200 W                  |           |                      |           |                | WRESTLING ROOM                               | TBD          | DIMMING TO 10%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| L9E                        | LITERONICS: 'HOPT4' SERIES                                                                                                                                                             | OWNER PROVIDED. NO SUBSTITUTIONS.<br>CONTACT: ROB ANNEE @ FLEX GREEN LIGHTING                 | LED           | 277 V                   | 200 W                  | /FIXTURE  | 21000 LM             | /FIXTURE  | 4000K          | WRESTLING ROOM                               | TBD          | SAME AS TYPE 'L9' WITH INTEGRAL EMERGENCY BATTERY.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| L10                        | LITHONIA: BLT4-48L-SDSM-MVOLT-GZ10-LP840                                                                                                                                               | R.ANNEE@FLEXGREENLIGHT.COM, (317) 535-5337<br>COLUMBIA: LCAT                                  |               |                         |                        | /FIXTURE  | 4800 LM              | /FIXTURE  | 4000K          |                                              |              | 1' X 4' ARCHITECTURAL TROFFER WITH CENTER BASKET LENS. 0-10V DIMMING TO 10%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                            | LITHONIA: BLT4-30L-SDSM-MVOLT-GZ10-LP840                                                                                                                                               | METALUX: CRUZE  COLUMBIA: LCAT                                                                | LED           | 277 V                   | 39 W                   | /FIXTURE  |                      | /FIXTURE  |                | CORRIDORS                                    | RECESSED     | SAME AS TYPE 'L10' WITH INTEGRAL EMERGENCY BATTERY.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                            | LITHONIA: LDN6-40-20-L06-LD-TRW-MVOLT-GZ10                                                                                                                                             | METALUX: CRUZE                                                                                | LED           | 277 V                   | 39 W                   |           |                      |           |                | CORRIDORS                                    | RECESSED     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                            |                                                                                                                                                                                        | PORTFOLIO<br>PRESCOLITE                                                                       | LED           | 277 V                   | 23 W                   | /FIXTURE  |                      | /FIXTURE  |                | TRUE NORTH                                   | RECESSED     | 6" ROUND RECESSED DOWNLIGHT WITH MEDIUM DISTRIBUTION AND DIFFUSE REFLECTOR AND CLEAR TRIM. 0-10% DIMMING TO 10%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                            | LITHONIA: LDN6-40-20-L06-LD-TRW-MVOLT-GZ10                                                                                                                                             | PORTFOLIO<br>PRESCOLITE                                                                       | LED           | 277 V                   | 23 W                   | /FIXTURE  | 2000 LM              | /FIXTURE  |                | TRUE NORTH                                   | RECESSED     | SAME AS TYPE 'L11' WITH INTEGRAL EMERGENCY BATTERY.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| L12                        | LITHONIA: LDN4-20LM-40K-L0O4-ARLD-MVOLT                                                                                                                                                | PORTFOLIO<br>PRESCOLITE                                                                       | LED           | 277 V                   | 25 W                   | /FIXTURE  | 1500 LM              | /FIXTURE  |                | TECH HUB                                     | RECESSED     | 4" ROUND RECESSED DOWNLIGHT WITH MEDIUM DISTRIBUTION, SEMI-SPECULAR REFLECTO AND CLEAR TRIM. 0-10V DIM.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                            | LITHONIA: LDN4-20LM-40K-L0O4-ARLD-MVOLT-EM                                                                                                                                             | PORTFOLIO PRESCOLITE LITECONTROL                                                              | LED           | 277 V                   | 25 W                   | /FIXTURE  | 1500 LM              | /FIXTURE  | 4000K          | TECH HUB                                     | RECESSED     | SAME AS TYPE 'L12' WITH INTEGRAL EMERGENCY BATTERY.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| L13                        | MARK: SL2L LED-LOP-4-FLP-X-80CRI-40K-80-0LMF-MIN1-X                                                                                                                                    | LITECONTROL<br>LUMENWERX                                                                      | LED           | 277 V                   | 40 W                   | /FIXTURE  | 4000 LM              | /FIXTURE  | 4000K          | TECH HUB                                     | GRID         | 2"W X 4'L RECESSED LINEAR WITH FLUSH DIFFUSE LENS AND EXTRUDED ALUMINUM HOUSIN 0-10V DIM. ARCHITECT TO CONFIRM CEILING GRID TYPE.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                            | MARK: SL2L<br>LED-LOP-4-FLP-X-80CRI-40K-80-0LMF-MIN1-X-E10WLCP                                                                                                                         | LITECONTROL<br>LUMENWERX                                                                      | LED           | 277 V                   | 40 W                   | /FIXTURE  | 4000 LM              | /FIXTURE  | 4000K          | TECH HUB                                     | GRID         | SAME AS TYPE 'L13' WITH INTEGRAL EMERGENCY BATTERY.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| L14                        | PURE EDGE: CSDHP-HX-7W-X-44-40K-BK                                                                                                                                                     | AXIS: 'SCULPT' - SCDPAT                                                                       |               |                         |                        | /FIXTURE  | 6150 LM              | /FIXTURE  | 4000K          |                                              |              | SUSPENDED LINEAR HEXAGON SHAPE BODY WITH 22.16"L SIDES, HIGH EFFICIENCY LENS, 90CRI AND BLACK SATIN FINISH. PROVIDE WITH INTEGRAL POWER SUPPLY IN CANOPY.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                            |                                                                                                                                                                                        |                                                                                               | LED           | 120 V                   | 50 W                   |           |                      |           |                | TECH HUB                                     | SUSPENDED    | REFER TO ARCHITECTURAL/INTERIOR DRAWINGS FOR EXACT SUSPENSION LENGTH. 0-10V DIM.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| L15-3                      | MARK: SL4L-LOP-X-FLP-X-80CRI-40K-800LMF-S80CRI-MIN1-277-X                                                                                                                              | LITECONTROL<br>LUMENWERX                                                                      | LED           | 277 V                   | 10 W                   | /FOOT     | 800 LM               | /FOOT     | 4000K          | TECH HUB                                     | RECESSED     | 4"W X 3"L RECESSED LINEAR WITH FLUSH DIFFUSE LENS AND EXTRUDED ALUMINUM HOUSIN 0-10V DIM. ARCHITECT TO CONFIRM CEILING TYPE.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| L15-5                      | MARK: SL4L-LOP-X-FLP-X-80CRI-40K-800LMF-S80CRI-MIN1-277-X                                                                                                                              | LITECONTROL<br>LUMENWERX                                                                      | LED           | 277 V                   | 10 W                   | /FOOT     | 800 LM               | /FOOT     | 4000K          | TECH HUB                                     | RECESSED     | 4"W X 5"L RECESSED LINEAR WITH FLUSH DIFFUSE LENS AND EXTRUDED ALUMINUM HOUSIN 0-10V DIM. ARCHITECT TO CONFIRM CEILING TYPE.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| L15-7                      | MARK: SL4L-LOP-X-FLP-X-80CRI-40K-800LMF-S80CRI-MIN1-277-X                                                                                                                              | LITECONTROL                                                                                   | LED           | 277 V                   | 10 W                   | /FOOT     | 800 LM               | /FOOT     | 4000K          | TECH HUB                                     | RECESSED     | 4"W X 7"L RECESSED LINEAR WITH FLUSH DIFFUSE LENS AND EXTRUDED ALUMINUM HOUSIN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| L15-7E                     | MARK: SL4L-LOP-X-FLP-X-80CRI-40K-800LMF-S80CRI-MIN1-277-X                                                                                                                              | LUMENWERX<br>LITECONTROL                                                                      | LED           | 277 V                   | 10 W                   | /FOOT     | 800 LM               | /FOOT     | 4000K          | TECH HUB                                     | RECESSED     | 0-10V DIM. ARCHITECT TO CONFIRM CEILING TYPE.  SAME AS TYPE 'L15' WITH INTEGRAL EMERGENCY BATTERY.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                            | MARK:                                                                                                                                                                                  | LUMENWERX                                                                                     | LLD           | 211 V                   | 10 44                  | /FOOT     | 800 LM               | /FOOT     | 4000K          | TEOTTIOD                                     |              | 4"W X 8"L RECESSED LINEAR WITH FLUSH DIFFUSE LENS AND EXTRUDED ALUMINUM HOUSIN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| .4 .4                      | SL4L-LOP-X-FLP-X-80CRI-40K-800LMF-S80CRI-MIN1-277-X-E10WL CP                                                                                                                           | LUMENWERX                                                                                     | LED           | 277 V                   | 10 W                   |           | A .A .A              |           |                | TECH HUB                                     | RECESSED     | 0-10V DIM. ARCHITECT TO CONFIRM CEILING TYPE.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| L16E                       | LITHONIA: CLX-L48-5000LM-SEF-RDL-MVOLT-40K-80CKI-ETOWLCP                                                                                                                               | COLUMBIA: MPS METALUX: SNLED                                                                  | LED           | 277 V                   | 42 W                   | /FIXTURE  | 5000 LM              | /FIXTURE  | 4000K          | TECH HUB                                     | WALL         | 4' LONG WALL MOUNT LENSED STRIP. MOUNT FIXTURE AT 6" ABOVE FINISH DOOR FRAME TO<br>BOTTOM OF LIGHT FIXTURE.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| L17                        | SLG: HCL-LS360-G2-FSK-HCL-PMB                                                                                                                                                          | OWNER PROVIDED. NO SUBSTITUTIONS.<br>CONTACT: ROB ANNEE @ FLEX GREEN LIGHTING                 | LED           | 277 V                   | 115 W                  | /FIXTURE  | 18900 LM             | /FIXTURE  | 4000K          | MAIN GYM                                     | STEM         | 21"L X 12"W PENDANT MOUNT HIGH BAY FIXTURE WITH DIE-CAST ALUMINUM HOUSING AND 0-10V DIM.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| L17E                       | SLG: HCL-LS360-G2-FSK-HCL-PMB-EMD                                                                                                                                                      | R.ANNEE@FLEXGREENLIGHT.COM, (317) 535-5337 OWNER PROVIDED. NO SUBSTITUTIONS.                  |               |                         |                        | /FIXTURE  | 18900 LM             | /FIXTURE  | 4000K          |                                              |              | SAME AS TYPE 'L17' WITH INTEGRAL EMERGENCY BATTERY.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                            | SEC. HOL-LOSOU-OZ-I GIV-HOL-I IVID-LIVID                                                                                                                                               | CONTACT: ROB ANNEE @ FLEX GREEN LIGHTING R.ANNEE@FLEXGREENLIGHT.COM, (317) 535-5337           | LED           | 277 V                   | 115 W                  | // IXTORE | 10300 LIVI           | // IXTORE | 400010         | MAIN GYM                                     | STEM         | SAME AS THE EIT WITHINTEGRAL LIMENCENCY BATTERY.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| L18                        | LITHONIA: CPX-2X4-6000LM-80CRI-40K-SWL-MIN10-MVOLT                                                                                                                                     | COLUMBIA METALUX                                                                              | LED           | 277 V                   | 56 W                   | /FIXTURE  | 6000 LM              | /FIXTURE  | 4000K          | KITCHEN                                      | RECESSED     | 2' X 4' BACK LIT FLAT PANEL WITH DIFFUSED LENS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                            |                                                                                                                                                                                        | COLUMBIA                                                                                      | <u>LE</u> D _ | <u>277 ⊻</u>            | _ 56_W                 | /FIXTURE  | 6000 LM              | /FIXTURE  | 4000K          | KITCHEN                                      | RECESSED     | SAME AS TYPE 'L5' WITH INTEGRAL EMERGENCY BATTERY.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                            | MARK: S2PD-LCB-X-80-40K-500LMF-WG-SCT-MIN10-MVOLT-X                                                                                                                                    | LITECONTROL                                                                                   | LED           | 277 V                   | 8 W                    | /FOOT     | 500 LM               | /FOOT     | 4000K          | TECH HUB                                     | SUSPENDED    | 2"W X 28'L SUSPENDED LINEAR WITH WALL GRAZE OPTICS, FLUSH DIFFUSE LENS AND                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1                          |                                                                                                                                                                                        |                                                                                               | LED           | 277 V                   | 42 W                   | /FIXTURE  | 5000 LM              | /FIXTURE  | 4000K          | GENERAL                                      | SUSPENDED    | EXTRUDED ALUMINUM HOUSING. 0-10V DIM. ARCHITECT TO CONFIRM CEILING GRID TYPE.  4' LONG SUSPENDED LENSED STRIP. MOUNT FIXTURE AT APPROXIMATELY 10' AFF TO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| L20                        | LITHONIA: CLX-L48-5000LM-SEF-RDL-MVOLT-40K-80CRI-E10WLCP                                                                                                                               |                                                                                               |               | سس                      | سكس                    | /FIXTURE  | 54800 LM             | /FIXTURE  | 4000K          | U OLIVEIVAL                                  | - SOSI ENDED | BOTTOM OF LIGHT FIXTURE.  TWIN HEAD FIXTURE ASSEMBLY @ 180 DEGREES WITH TYPE 3 DISTRIBUTION, PHOTOCELL  AND PARK PROMOTE FINISH ARM MOUNTED ATOR AN EXISTING POLE. OF FAMILY STANGED FOR THE PROMOTE FOR THE P |
|                            | LITHONIA: CLX-L48-5000LM-SEF-RDL-MVOLT-40K-80CRI-E10WLCP<br>LITHONIA: RSX3-LED-P2-40K-R3-MVOLT-RPA-PE-DDBXD                                                                            | METALUX: SNLED<br>MC-GRAW EDISON                                                              | -0-0-         |                         |                        | 1         |                      |           |                | PARKING                                      | POLE         | AND DARK BRONZE FINISH, ARM MOUNTED ATOP AN EXISTING POLE. CLEAN EXISTING POLE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                            |                                                                                                                                                                                        | MC-GRAW EDISON EXO                                                                            | LED           | 277 V                   | 444 W                  |           |                      |           |                |                                              |              | AND BASE. PAINT EXISTING POLE TO MATCH NEW LUMINAIRE HEAD.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Marie Telephone            |                                                                                                                                                                                        | MC-GRAW EDISON                                                                                |               |                         |                        | /FIXTURE  | 27570 LM             | /FIXTURE  | 4000K          | DRIVE/PARKING                                | POI F        | AND BASE. PAINT EXISTING POLE TO MATCH NEW LUMINAIRE HEAD.  ALTERNATE: SINGLE HEAD FIXTURE ASSEMBLY ARM MOUNTED ATOP A 30' ROUND STEEL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| S1                         | LITHONIA: RSX3-LED-P2-40K-R3-MVOLT-RPA-PE-DDBXD  LITHONIA: RSX3-LED-P2-40K-R2-MVOLT-RPAPE-DDBXD                                                                                        | MC-GRAW EDISON EXO  MC-GRAW EDISON EXO                                                        | LED<br>LED    | 277 V<br>277 V          | 444 W<br>222 W         |           |                      |           |                | DRIVE/PARKING                                | POLE         | AND BASE. PAINT EXISTING POLE TO MATCH NEW LUMINAIRE HEAD.  ALTERNATE: SINGLE HEAD FIXTURE ASSEMBLY ARM MOUNTED ATOP A 30' ROUND STEEL POLE WITH TYPE 2 DISTRIBUTION, PHOTOCELL AND DARK BRONZE FINISH. LUMINAIRE HEAD AND POLE TO HAVE SAME FINISH.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| S2                         | LITHONIA: RSX3-LED-P2-40K-R3-MVOLT-RPA-PE-DDBXD                                                                                                                                        | MC-GRAW EDISON  EXO  MC-GRAW EDISON                                                           |               |                         |                        | /FIXTURE  | 27570 LM<br>32000 LM |           |                | DRIVE/PARKING  DRIVE ENTRANCE                | POLE         | AND BASE. PAINT EXISTING POLE TO MATCH NEW LUMINAIRE HEAD.  ALTERNATE: SINGLE HEAD FIXTURE ASSEMBLY ARM MOUNTED ATOP A 30' ROUND STEEL POLE WITH TYPE 2 DISTRIBUTION, PHOTOCELL AND DARK BRONZE FINISH. LUMINAIRE HEAD AND POLE TO HAVE SAME FINISH.  ALTERNATE: SINGLE HEAD FIXTURE ASSEMBLY ARM MOUNTED ATOP A 30' ROUND STEEL POLE WITH TYPE 3 DISTRIBUTION, PHOTOCELL AND DARK BRONZE FINISH. LUMINAIRE HEAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| \$1<br>\$2<br>\$3          | LITHONIA: RSX3-LED-P2-40K-R3-MVOLT-RPA-PE-DDBXD  LITHONIA: RSX3-LED-P2-40K-R2-MVOLT-RPAPE-DDBXD                                                                                        | MC-GRAW EDISON EXO  MC-GRAW EDISON EXO  MC-GRAW EDISON                                        | LED           | 277 V                   | 222 W                  |           |                      |           | 4000K          | DRIVE ENTRANCE  TRUE NORTH                   |              | AND BASE. PAINT EXISTING POLE TO MATCH NEW LUMINAIRE HEAD.  ALTERNATE: SINGLE HEAD FIXTURE ASSEMBLY ARM MOUNTED ATOP A 30' ROUND STEEL POLE WITH TYPE 2 DISTRIBUTION, PHOTOCELL AND DARK BRONZE FINISH. LUMINAIRE HEAD AND POLE TO HAVE SAME FINISH.  ALTERNATE: SINGLE HEAD FIXTURE ASSEMBLY ARM MOUNTED ATOP A 30' ROUND STEEL POLE WITH TYPE 3 DISTRIBUTION, PHOTOCELL AND DARK BRONZE FINISH. LUMINAIRE HEAD AND POLE TO HAVE SAME FINISH.  SURFACE MOUNT SQUARE CANOPY FIXTURE WITH OPAL POLYCARBONATE LENS AND                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| \$1<br>\$2<br>\$3<br>\$C1E | LITHONIA: RSX3-LED-P2-40K-R3-MVOLT-RPA-PE-DDBXD  LITHONIA: RSX3-LED-P2-40K-R2-MVOLT-RPAPE-DDBXD  LITHONIA: RSX3-LED-P3-40K-R3-MVOLT-RPAPE-DDBXD                                        | MC-GRAW EDISON EXO  MC-GRAW EDISON EXO  MC-GRAW EDISON EXO  PRE-APPROVED EQUAL  MCGRAW-EDISON | LED<br>LED    | 277 V<br>277 V<br>277 V | 222 W<br>266 W<br>23 W | /FIXTURE  | 32000 LM             | /FIXTURE  | 4000K<br>4000K | DRIVE ENTRANCE  TRUE NORTH ENTRANCE          | POLE         | AND BASE. PAINT EXISTING POLE TO MATCH NEW LUMINAIRE HEAD.  ALTERNATE: SINGLE HEAD FIXTURE ASSEMBLY ARM MOUNTED ATOP A 30' ROUND STEEL POLE WITH TYPE 2 DISTRIBUTION, PHOTOCELL AND DARK BRONZE FINISH. LUMINAIRE HEAD AND POLE TO HAVE SAME FINISH.  ALTERNATE: SINGLE HEAD FIXTURE ASSEMBLY ARM MOUNTED ATOP A 30' ROUND STEEL POLE WITH TYPE 3 DISTRIBUTION, PHOTOCELL AND DARK BRONZE FINISH. LUMINAIRE HEAD AND POLE TO HAVE SAME FINISH.  SURFACE MOUNT SQUARE CANOPY FIXTURE WITH OPAL POLYCARBONATE LENS AND INTEGRAL EMERGENCY BATTERY BACKUP FOR COLD WEATHER.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| S2 S3 SC1E SW1E            | LITHONIA: RSX3-LED-P2-40K-R3-MVOLT-RPA-PE-DDBXD  LITHONIA: RSX3-LED-P2-40K-R2-MVOLT-RPAPE-DDBXD  LITHONIA: RSX3-LED-P3-40K-R3-MVOLT-RPAPE-DDBXD  VERSALED: VR22-Q-23L-QT-40K-EBLED-PC3 | MC-GRAW EDISON EXO  MC-GRAW EDISON EXO  MC-GRAW EDISON EXO  PRE-APPROVED EQUAL                | LED           | 277 V<br>277 V          | 222 W<br>266 W         | /FIXTURE  | 32000 LM<br>2775 LM  | /FIXTURE  | 4000K<br>4000K | DRIVE ENTRANCE  TRUE NORTH                   | POLE         | AND BASE. PAINT EXISTING POLE TO MATCH NEW LUMINAIRE HEAD.  ALTERNATE: SINGLE HEAD FIXTURE ASSEMBLY ARM MOUNTED ATOP A 30' ROUND STEEL POLE WITH TYPE 2 DISTRIBUTION, PHOTOCELL AND DARK BRONZE FINISH. LUMINAIRE HEAD AND POLE TO HAVE SAME FINISH.  ALTERNATE: SINGLE HEAD FIXTURE ASSEMBLY ARM MOUNTED ATOP A 30' ROUND STEEL POLE WITH TYPE 3 DISTRIBUTION, PHOTOCELL AND DARK BRONZE FINISH. LUMINAIRE HEAD AND POLE TO HAVE SAME FINISH.  SURFACE MOUNT SQUARE CANOPY FIXTURE WITH OPAL POLYCARBONATE LENS AND INTEGRAL EMERGENCY BATTERY BACKUP FOR COLD WEATHER.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |



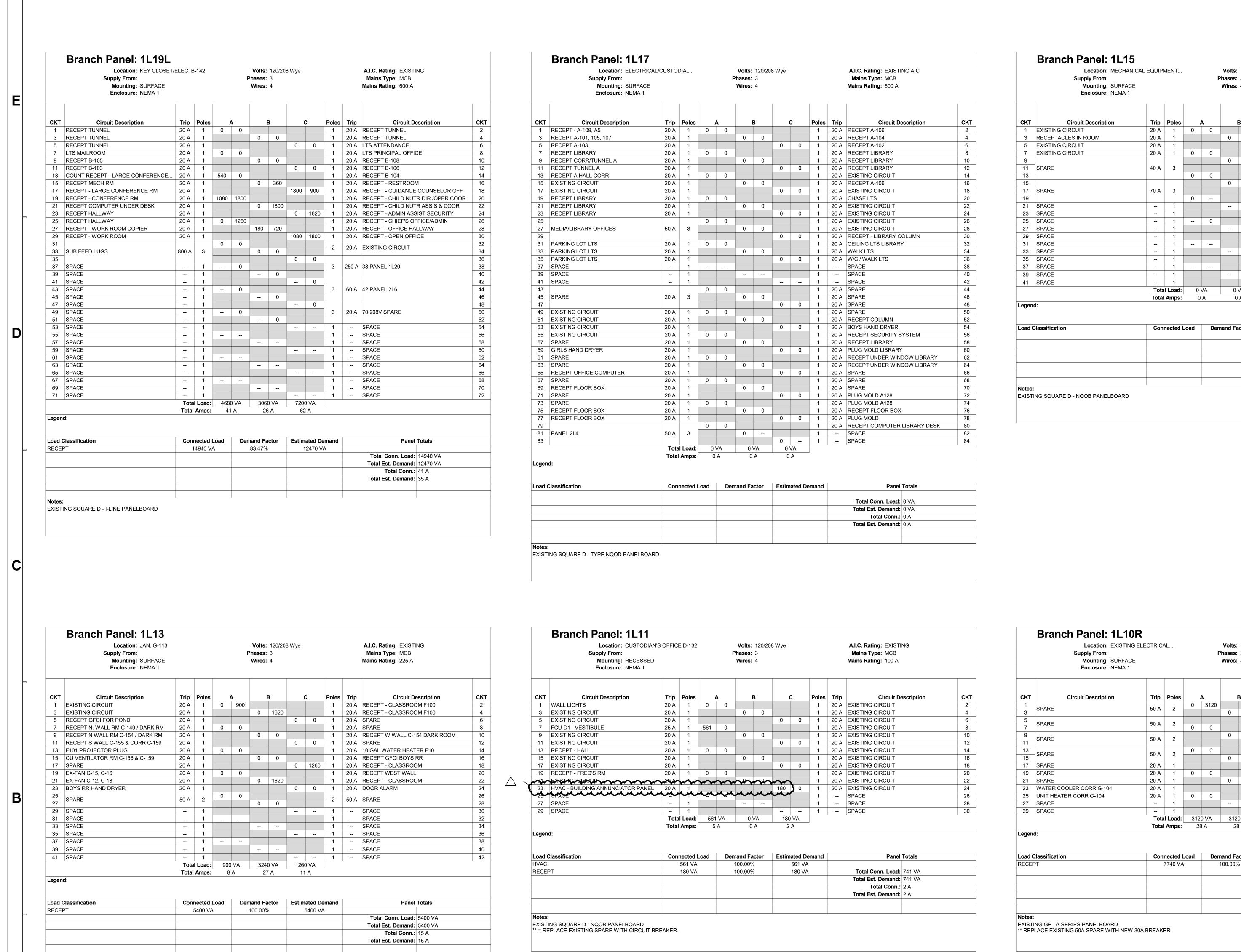
# Revision Date 08.22.2024

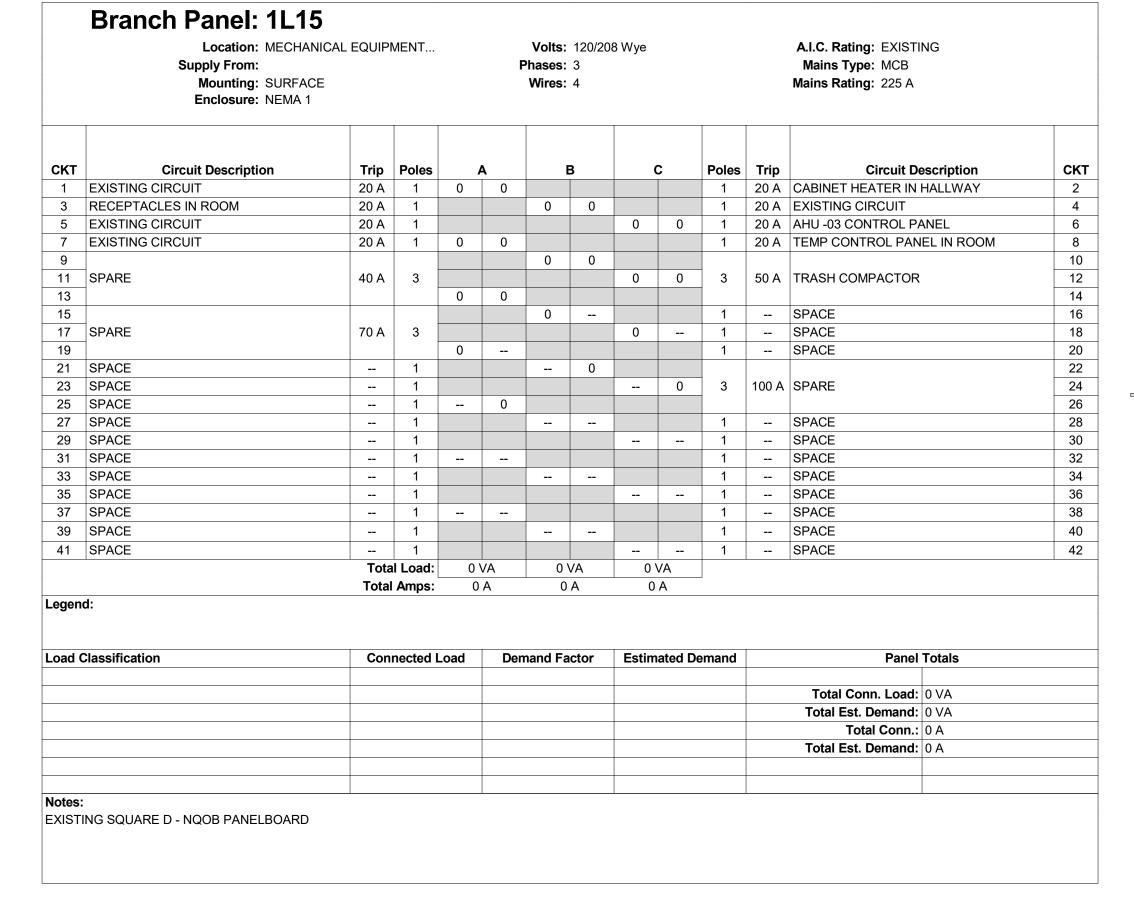


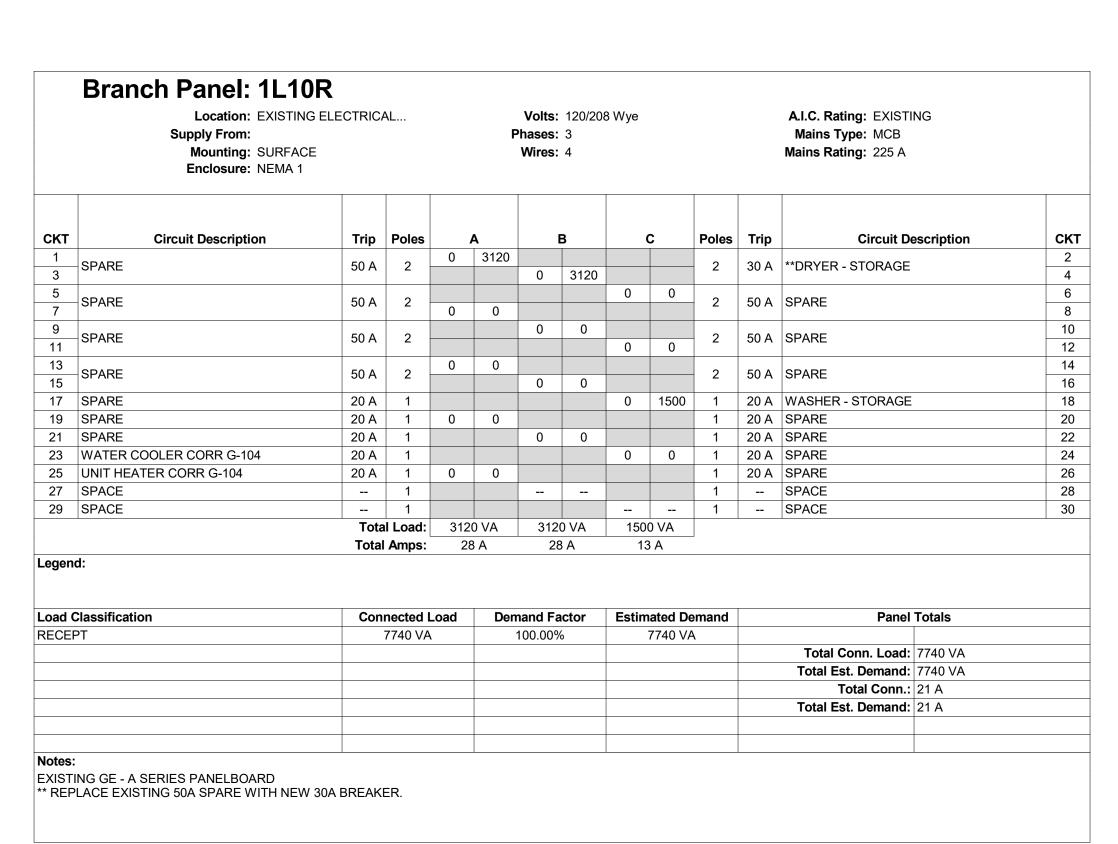


ELECTRICAL SCHEDULES

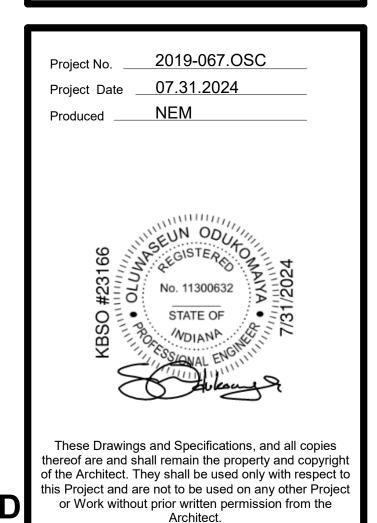


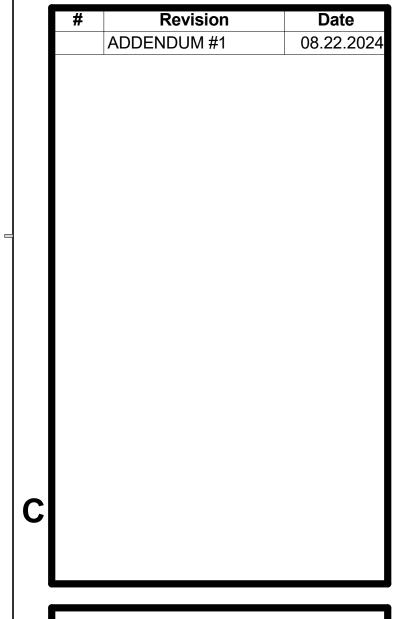


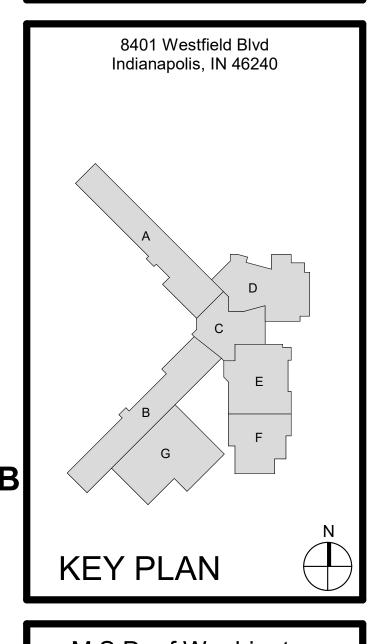














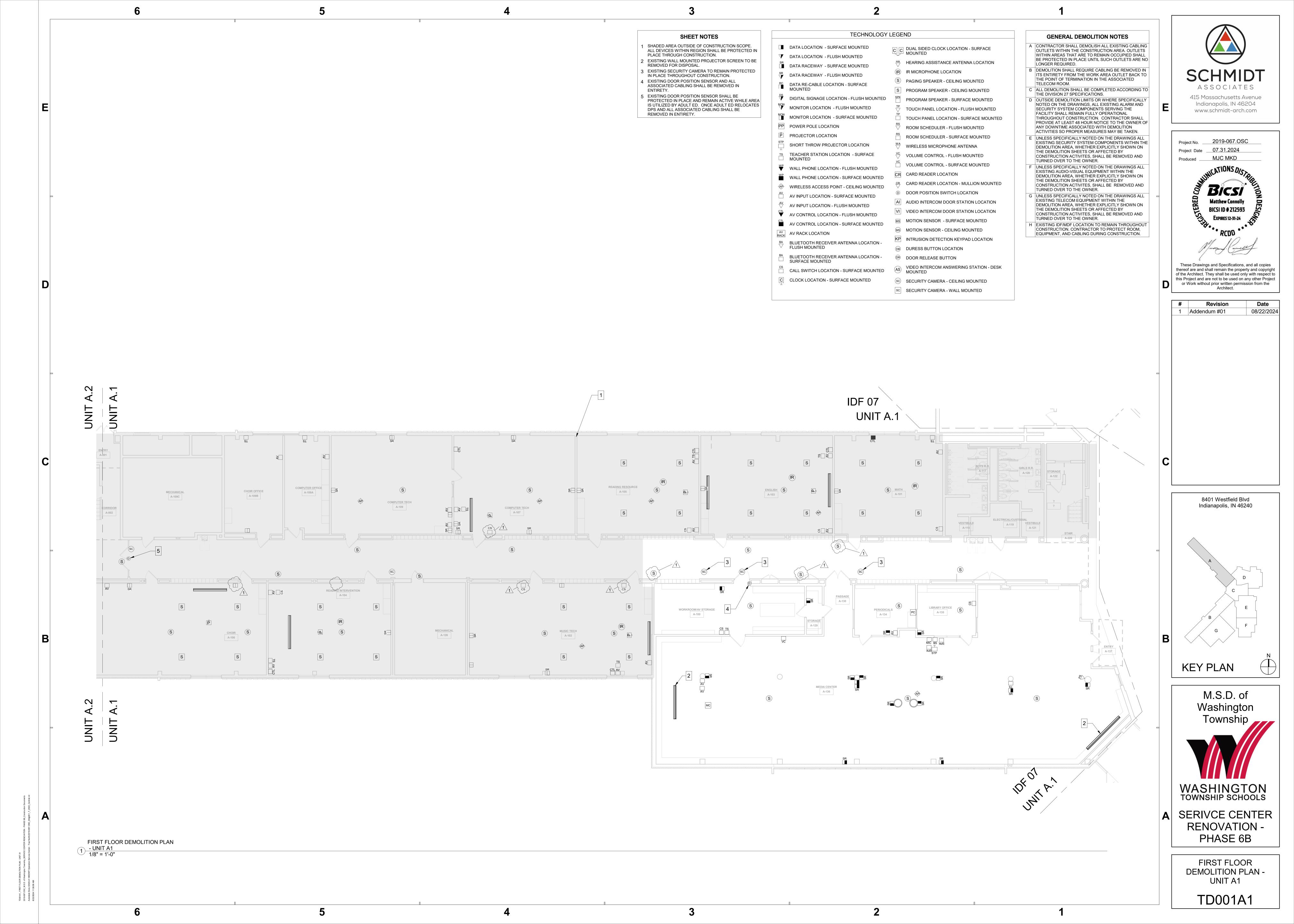
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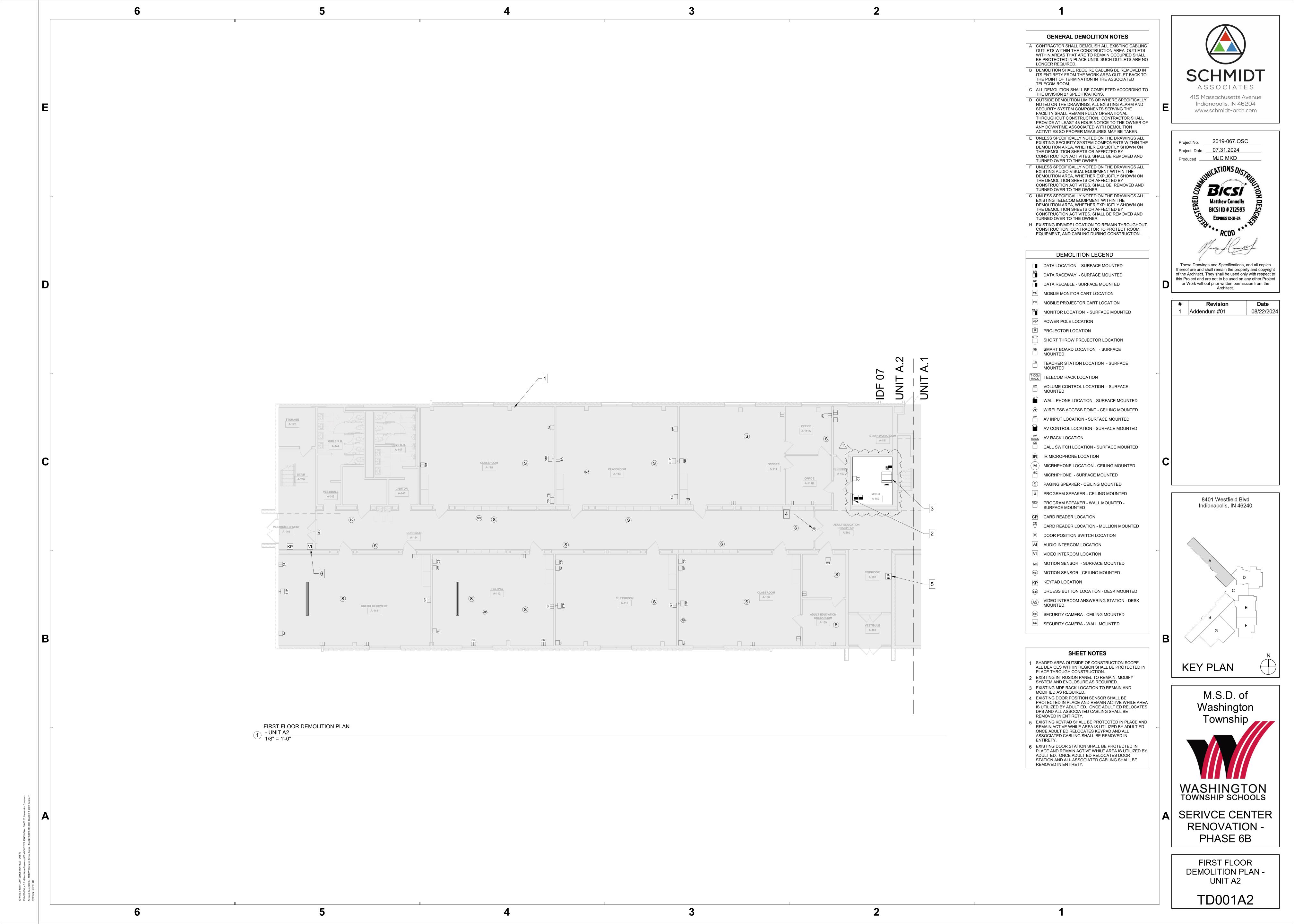
EXISTING SQUARE D - NQOD PANELBOARD

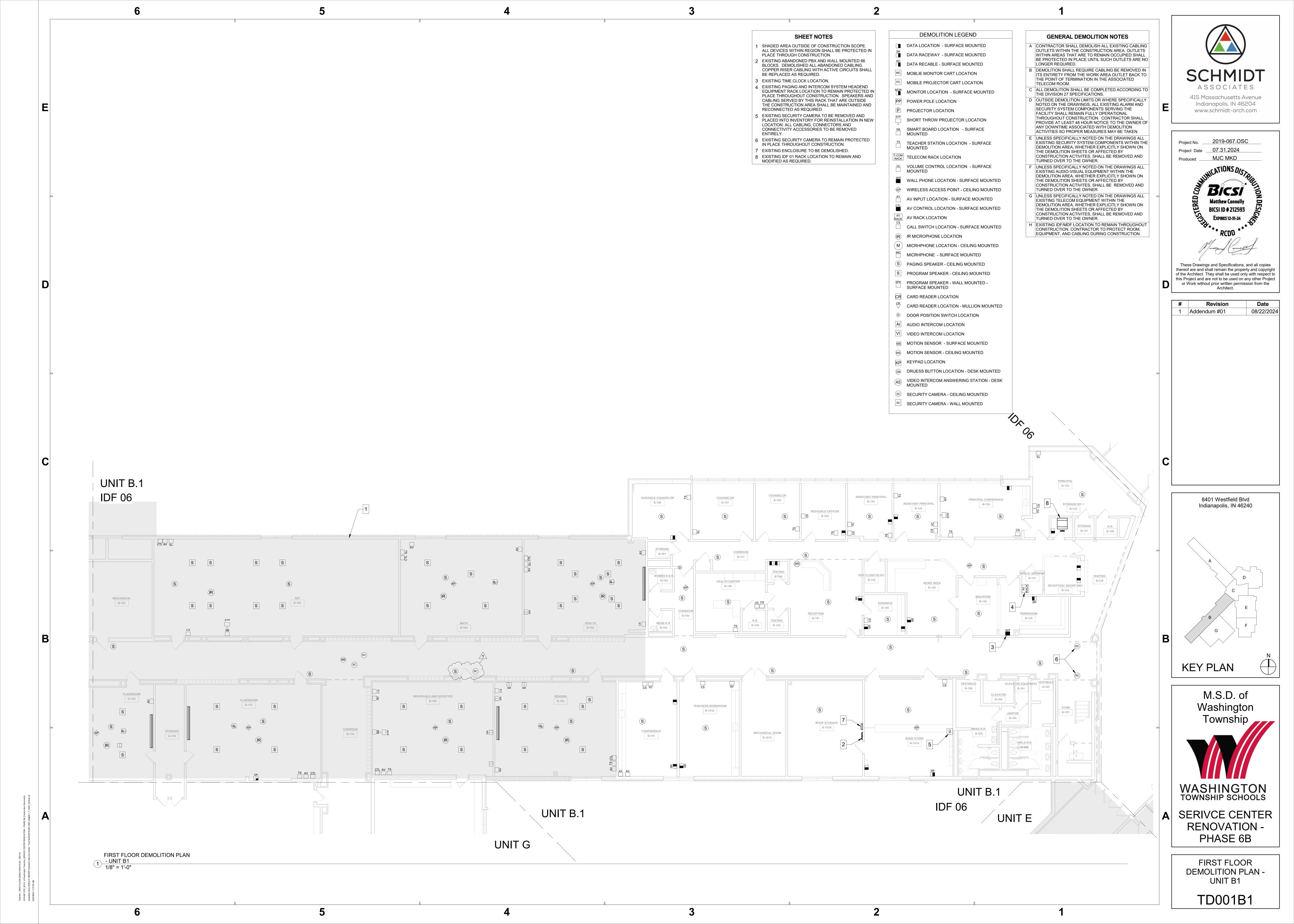
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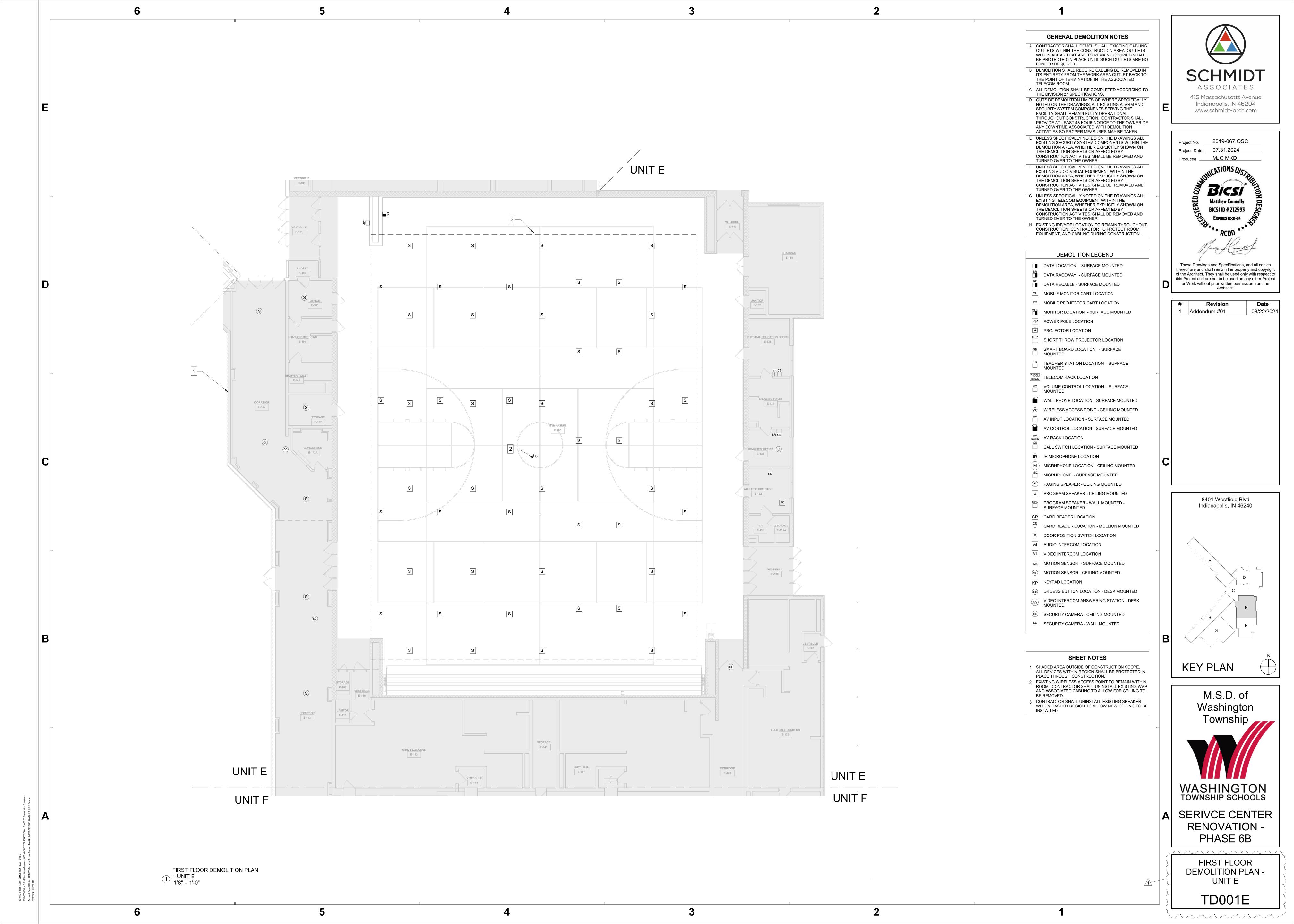


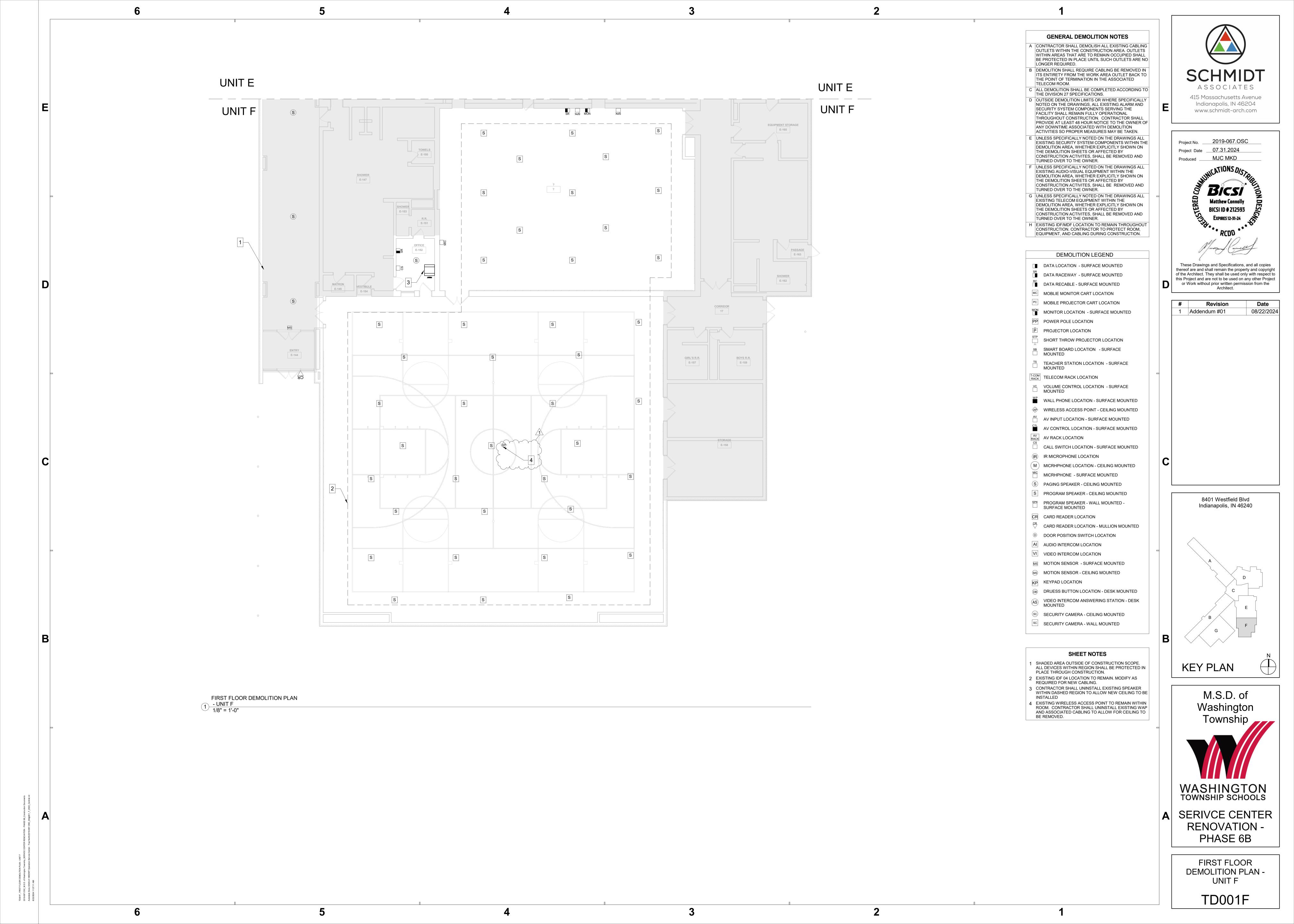


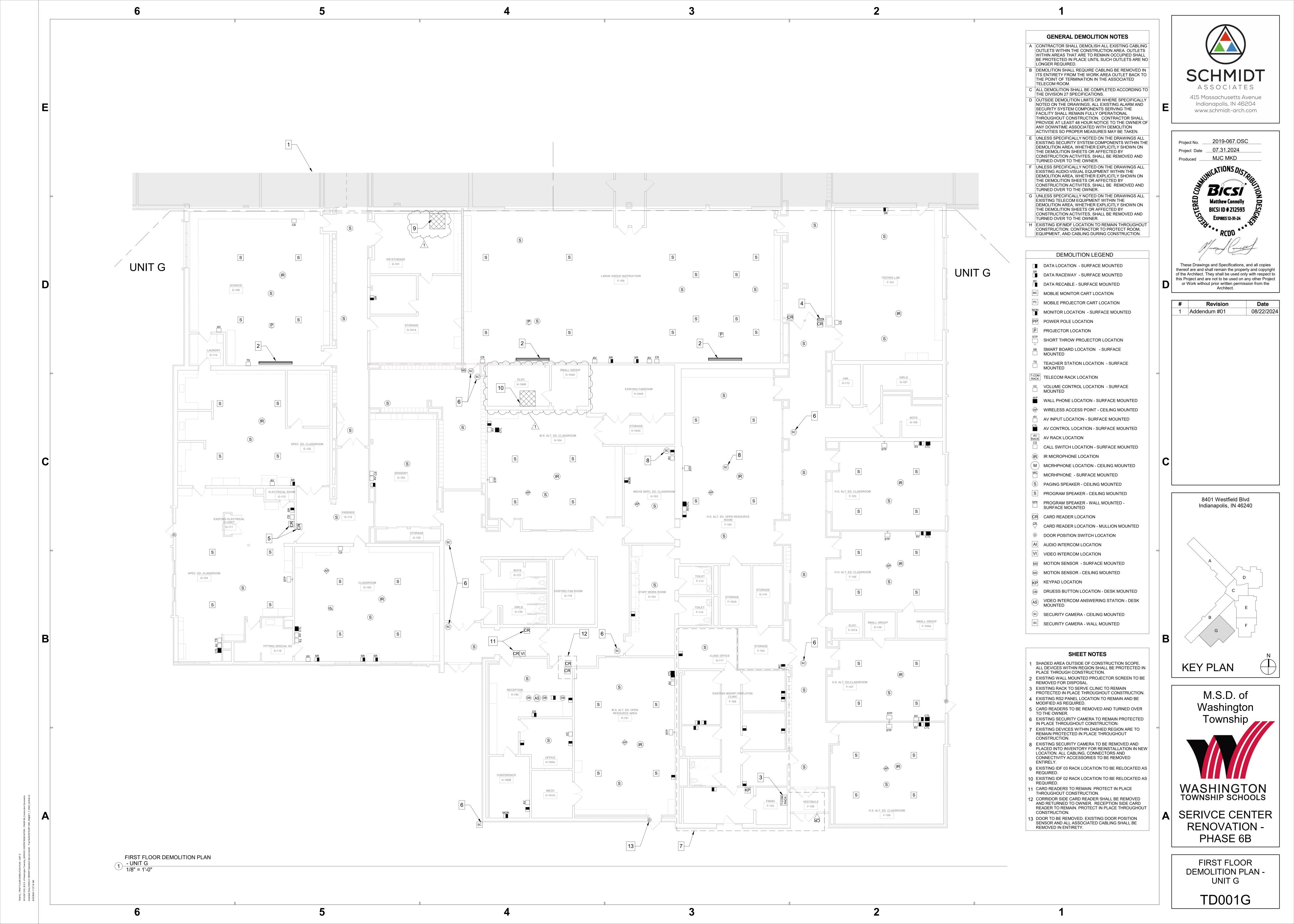


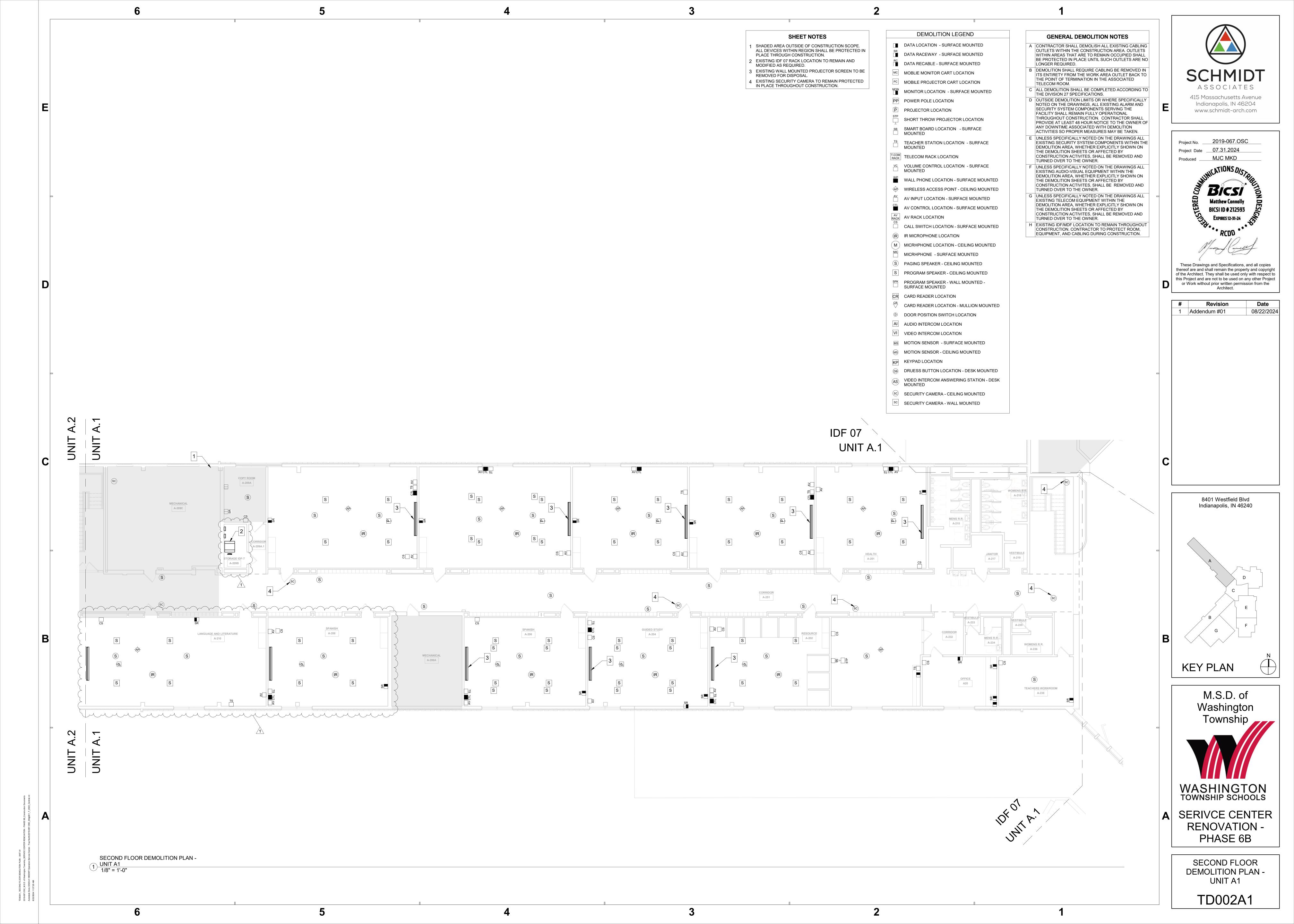


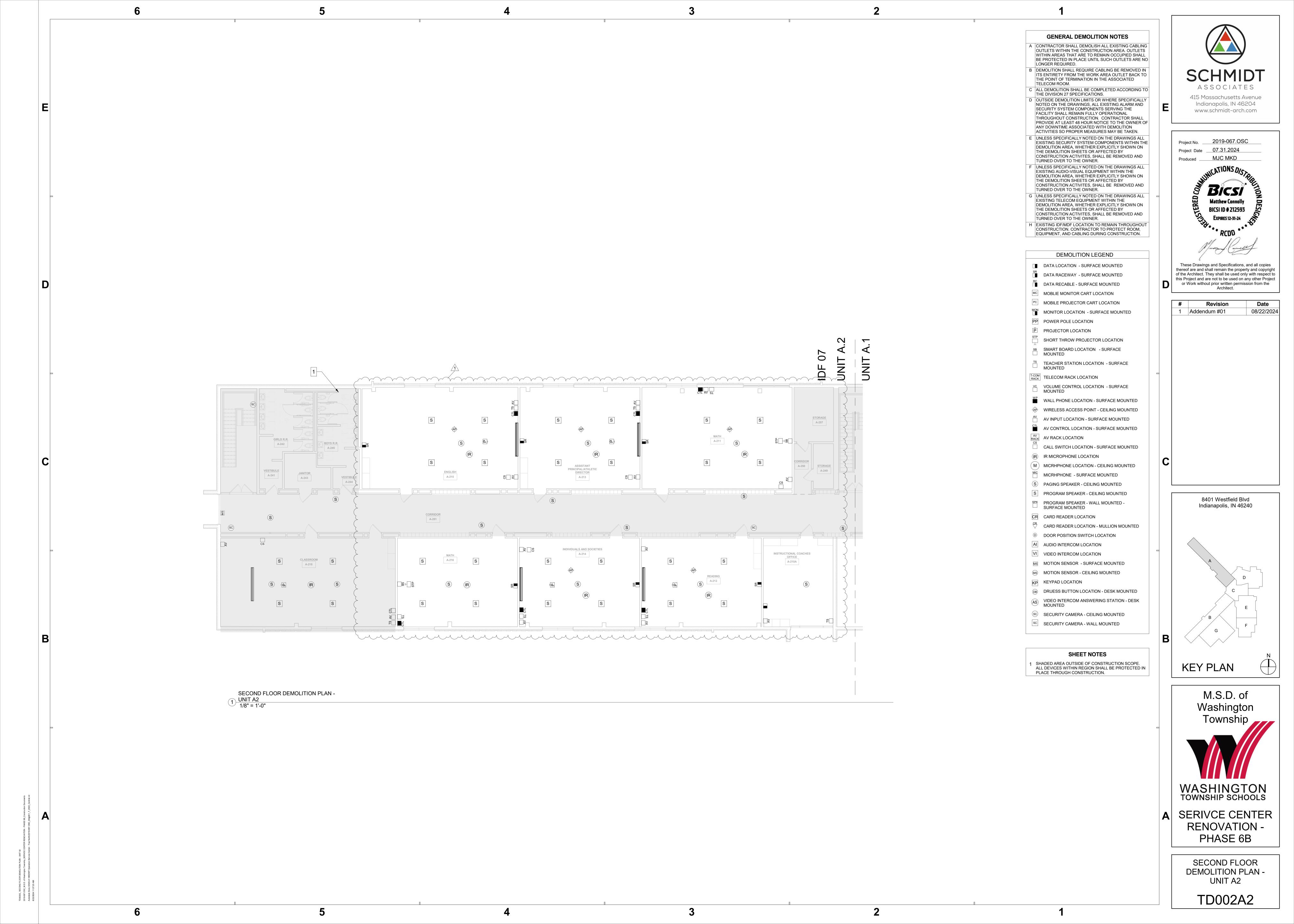


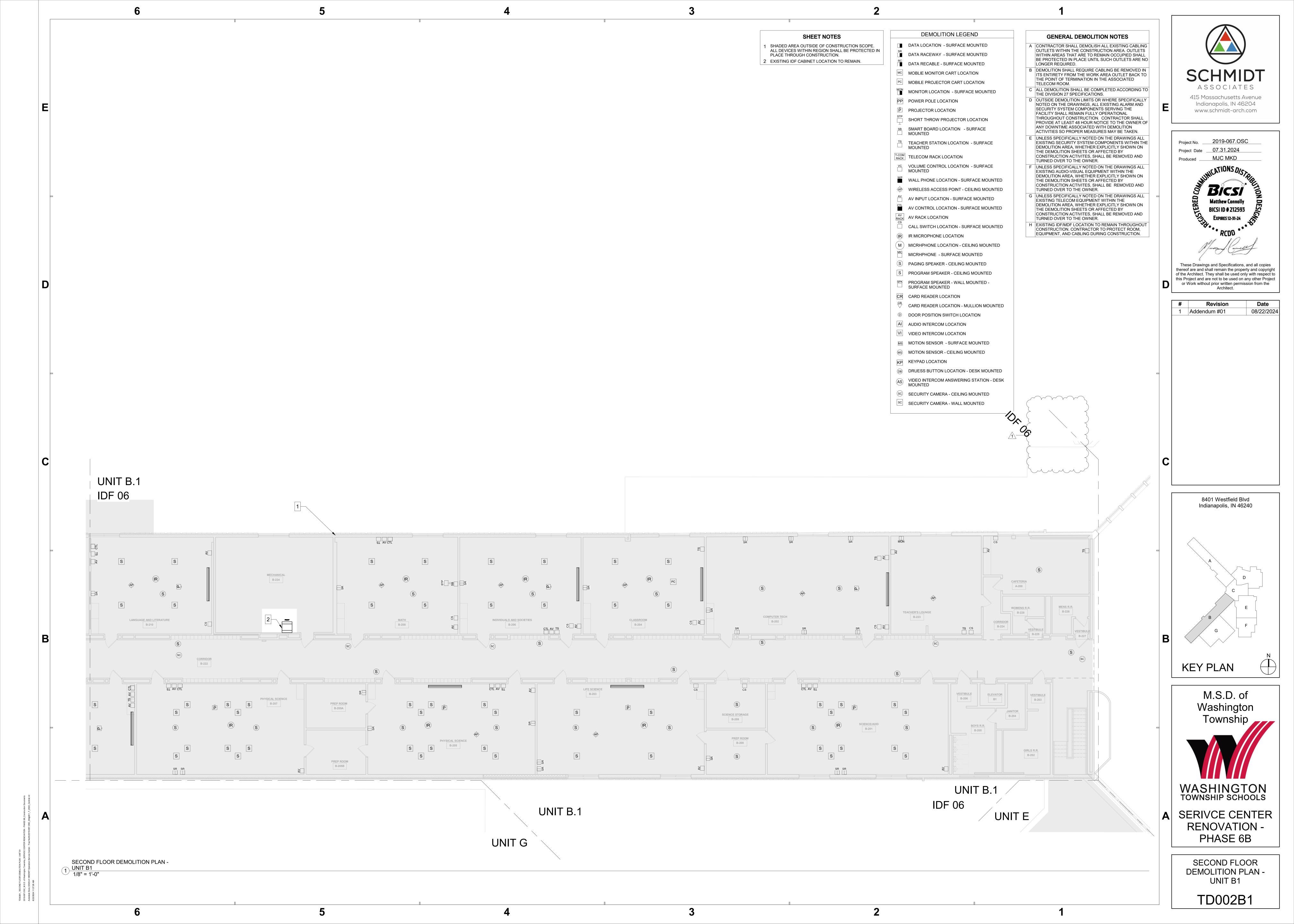


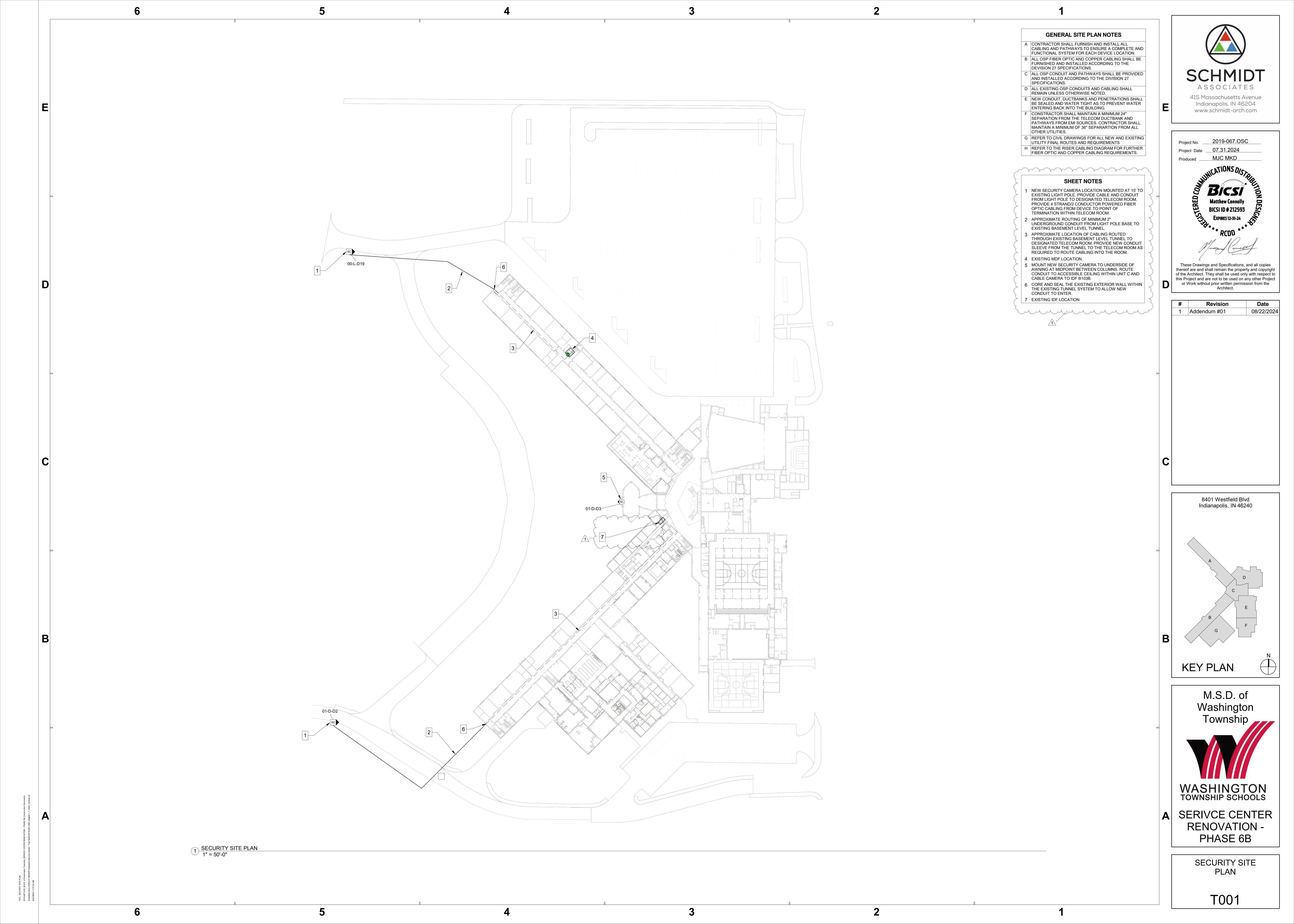


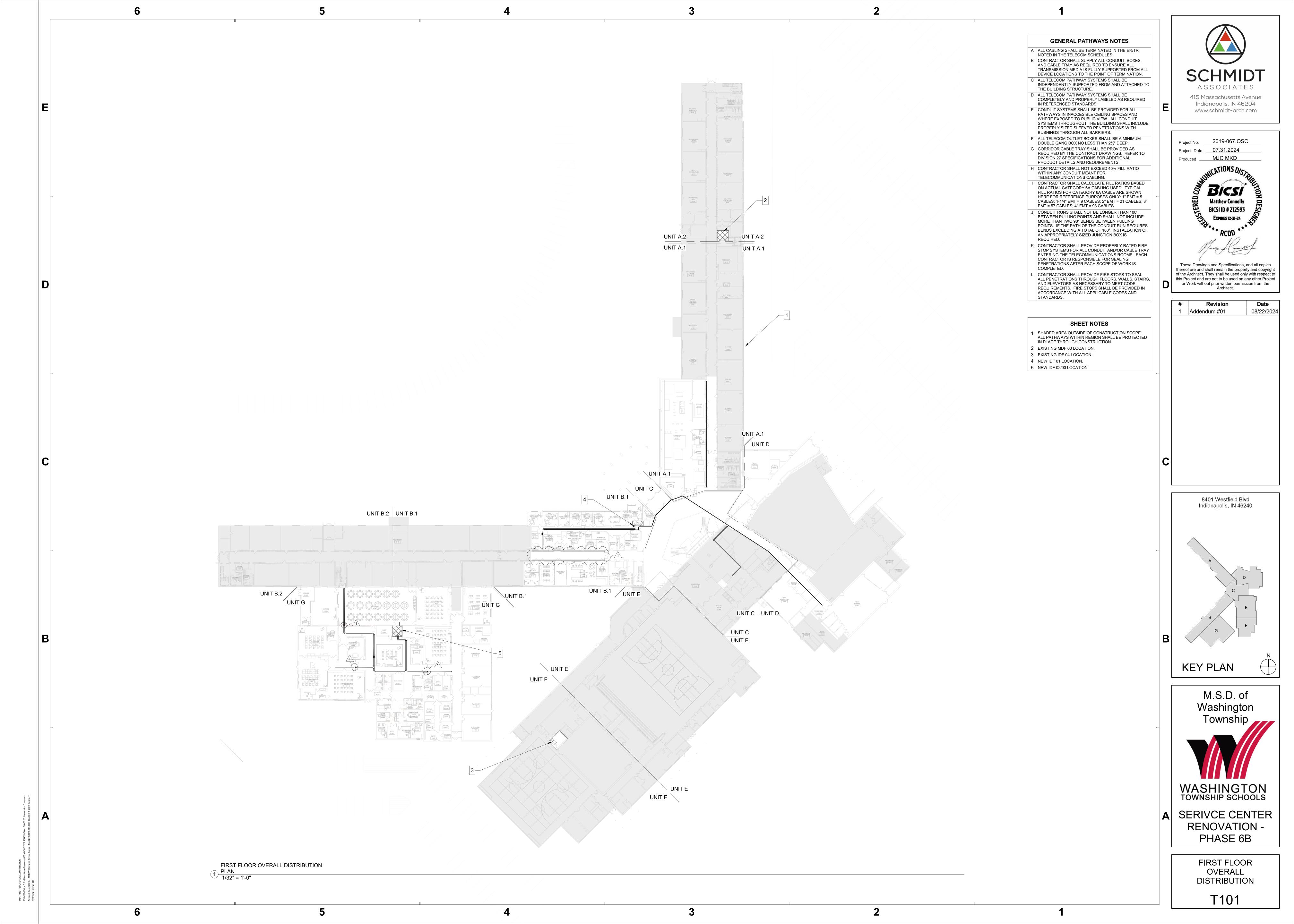


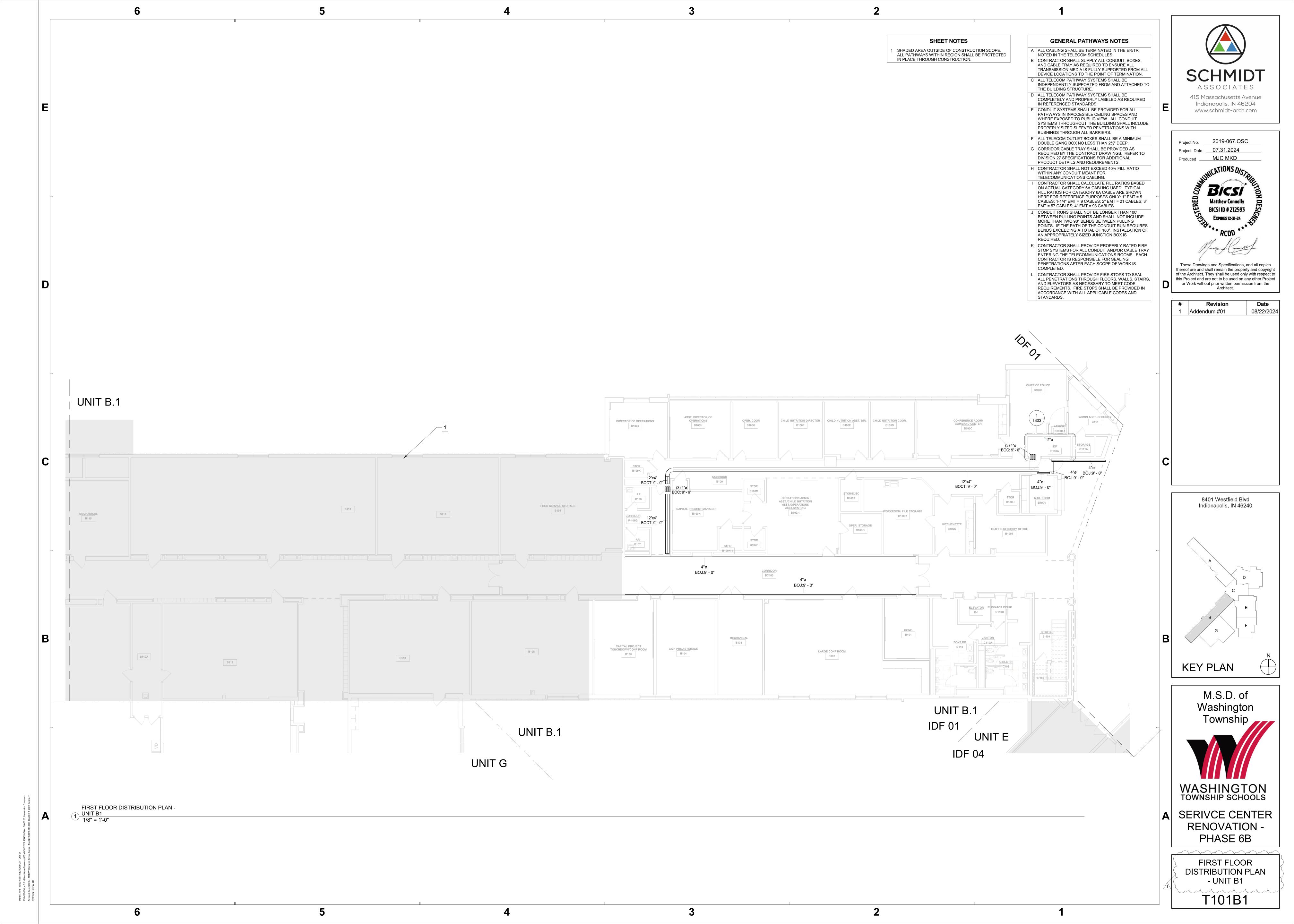


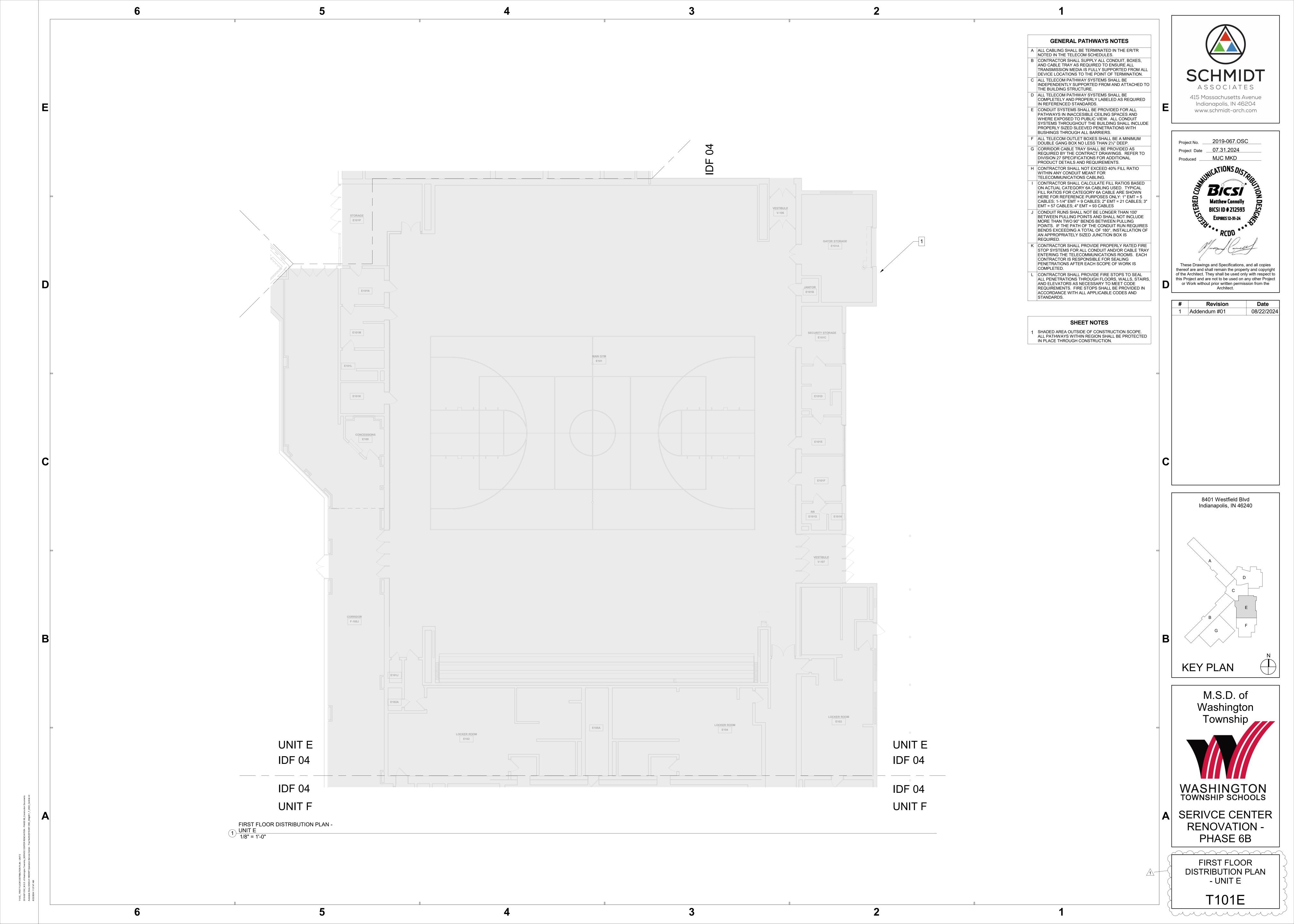


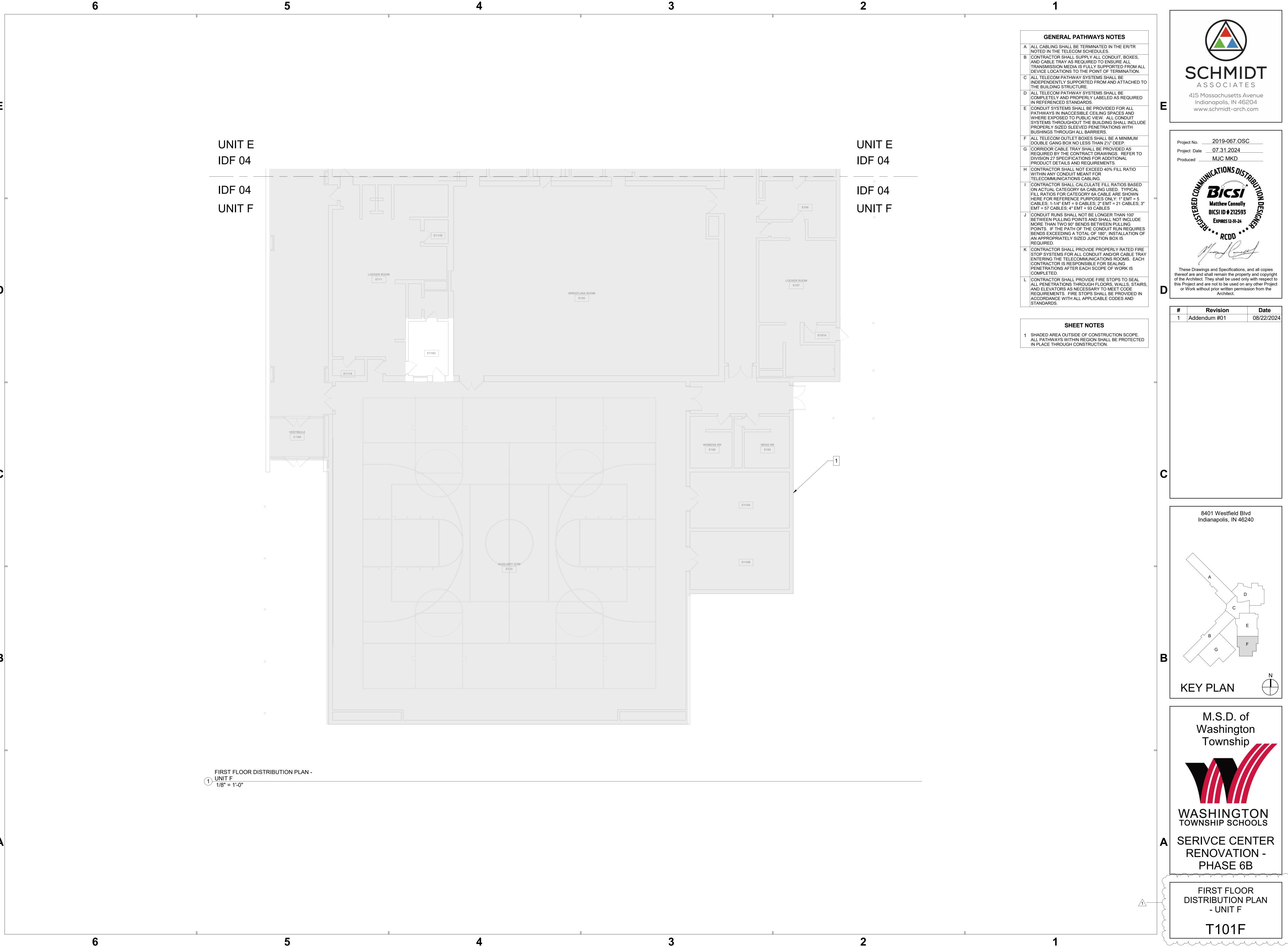












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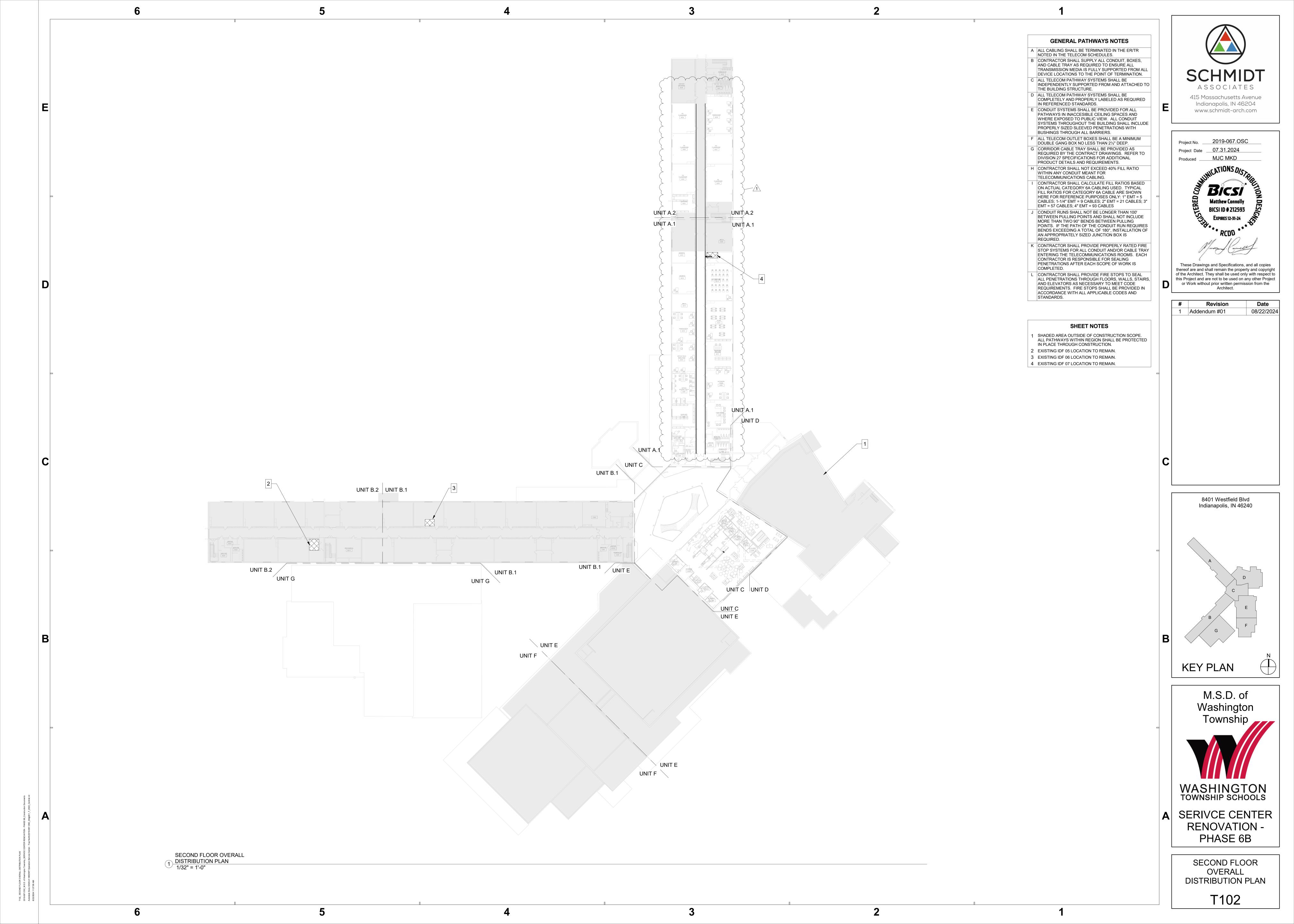
Revision 08/22/2024 Addendum #01

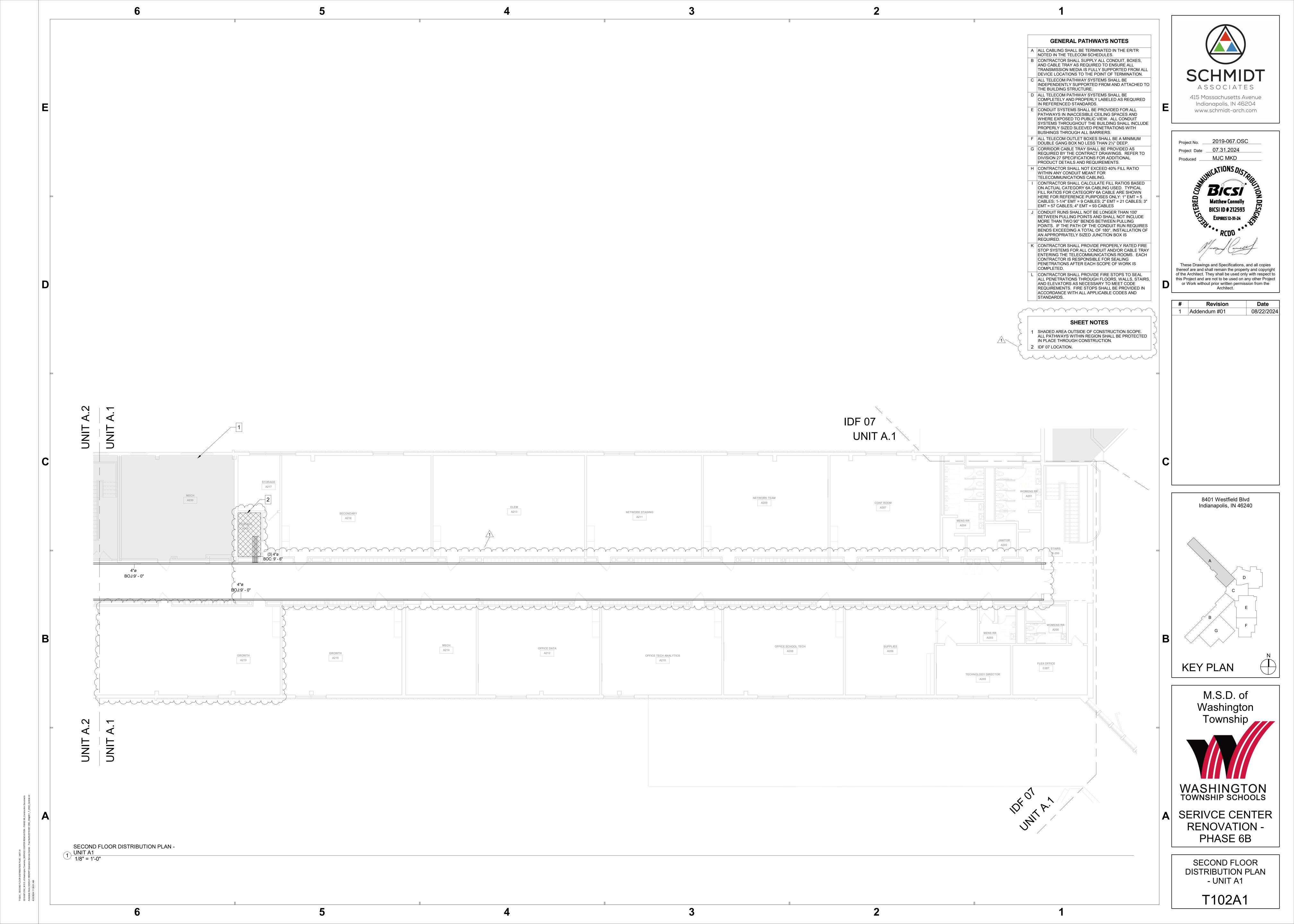
8401 Westfield Blvd Indianapolis, IN 46240 **KEY PLAN** 

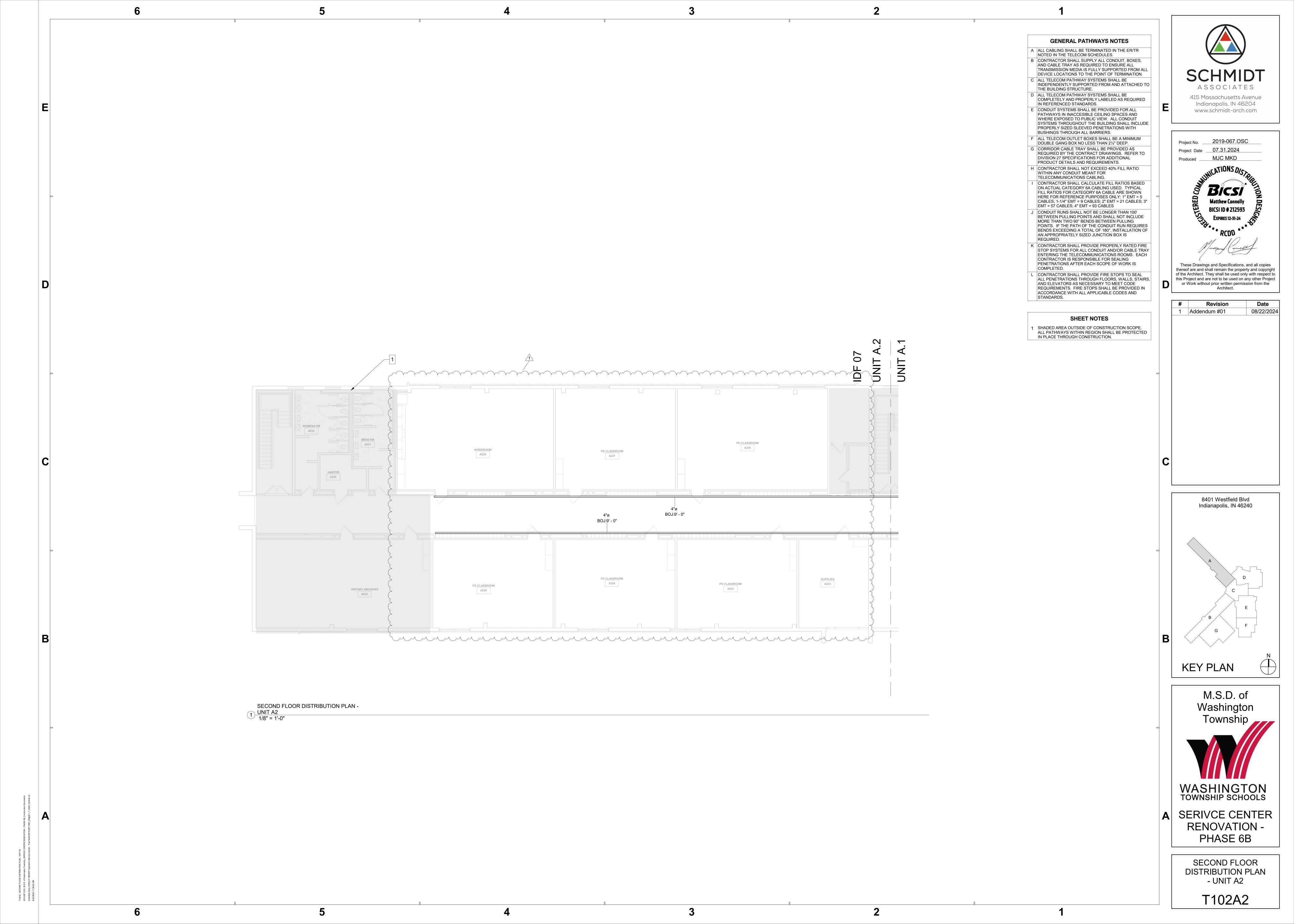
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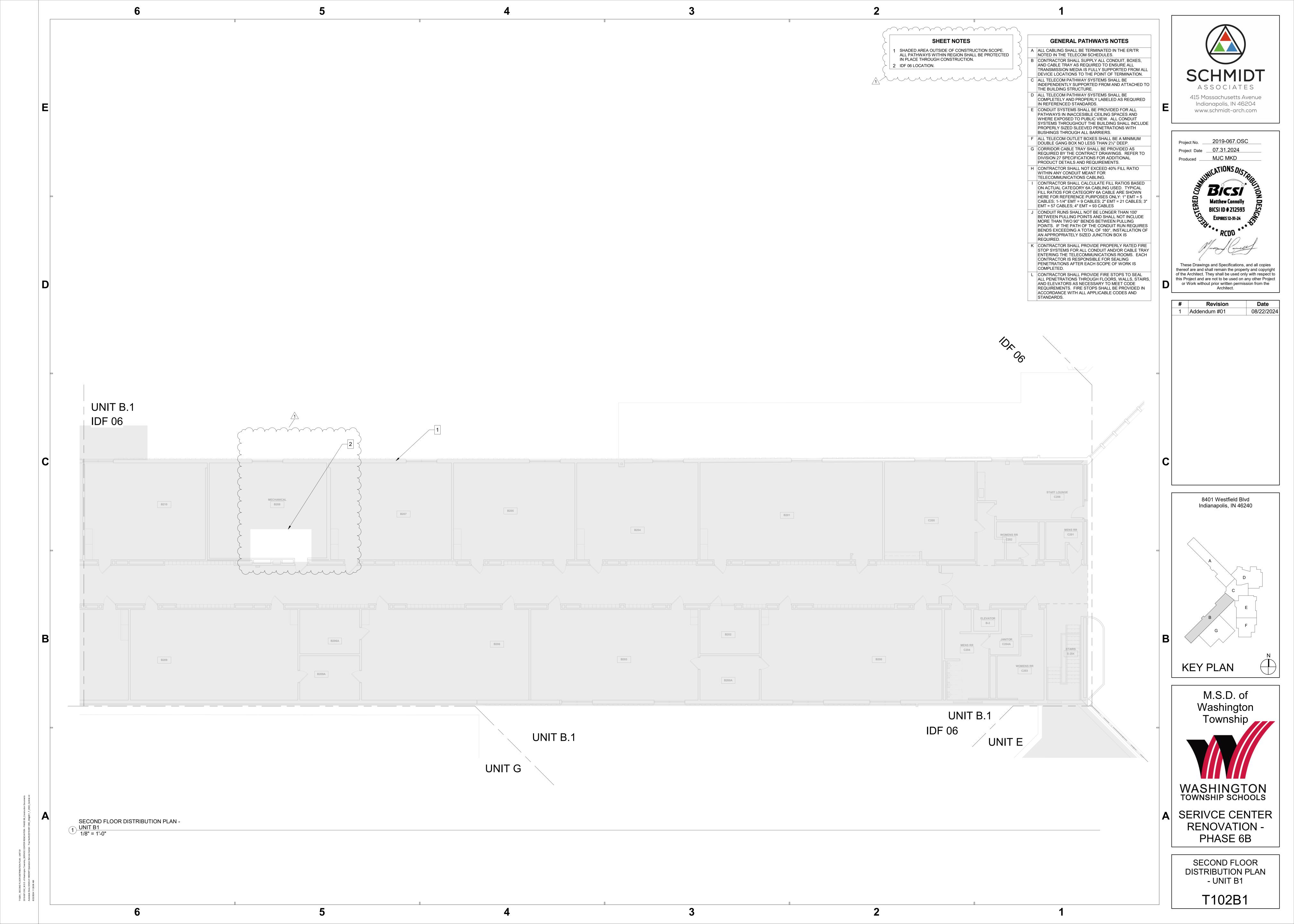
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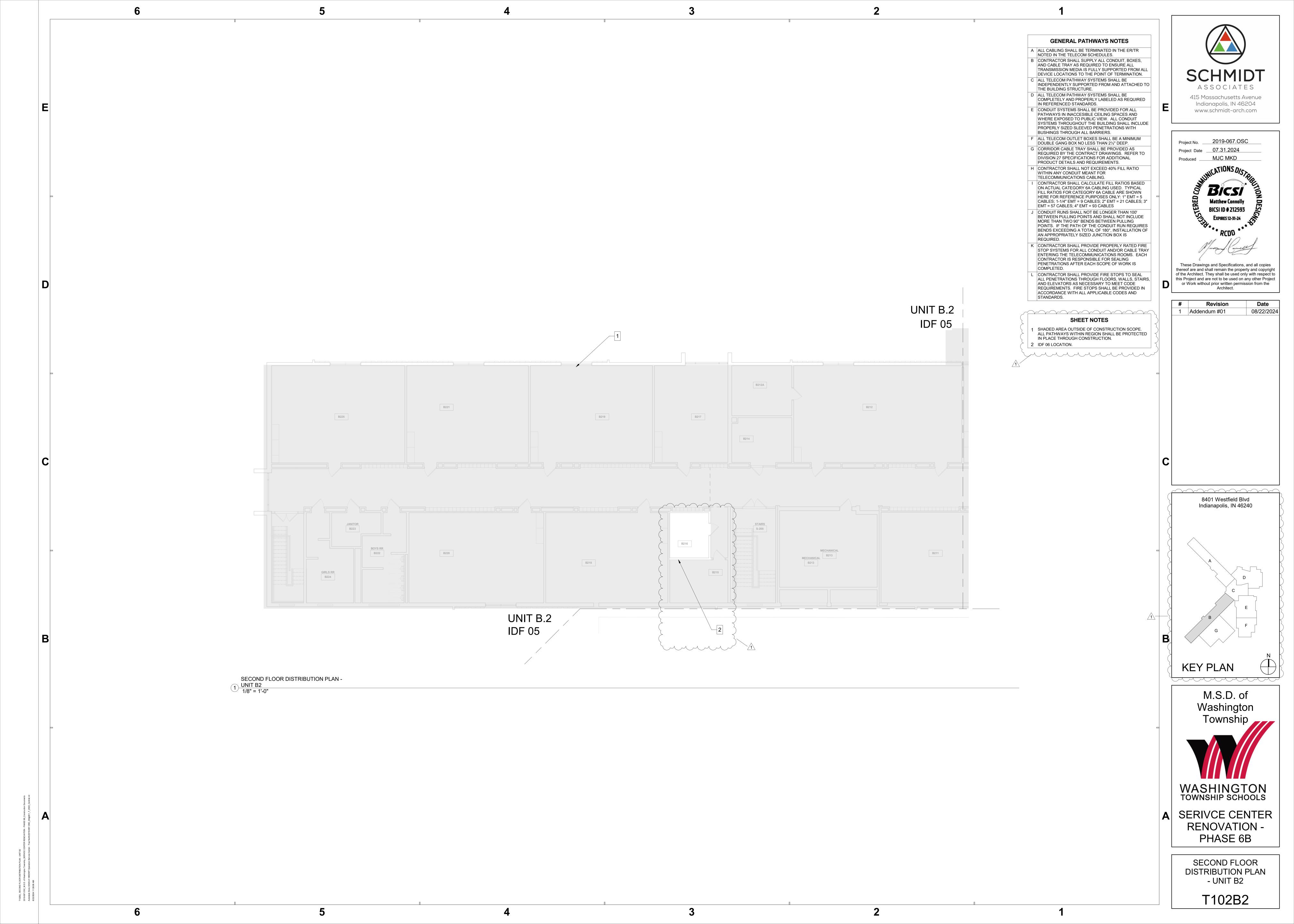
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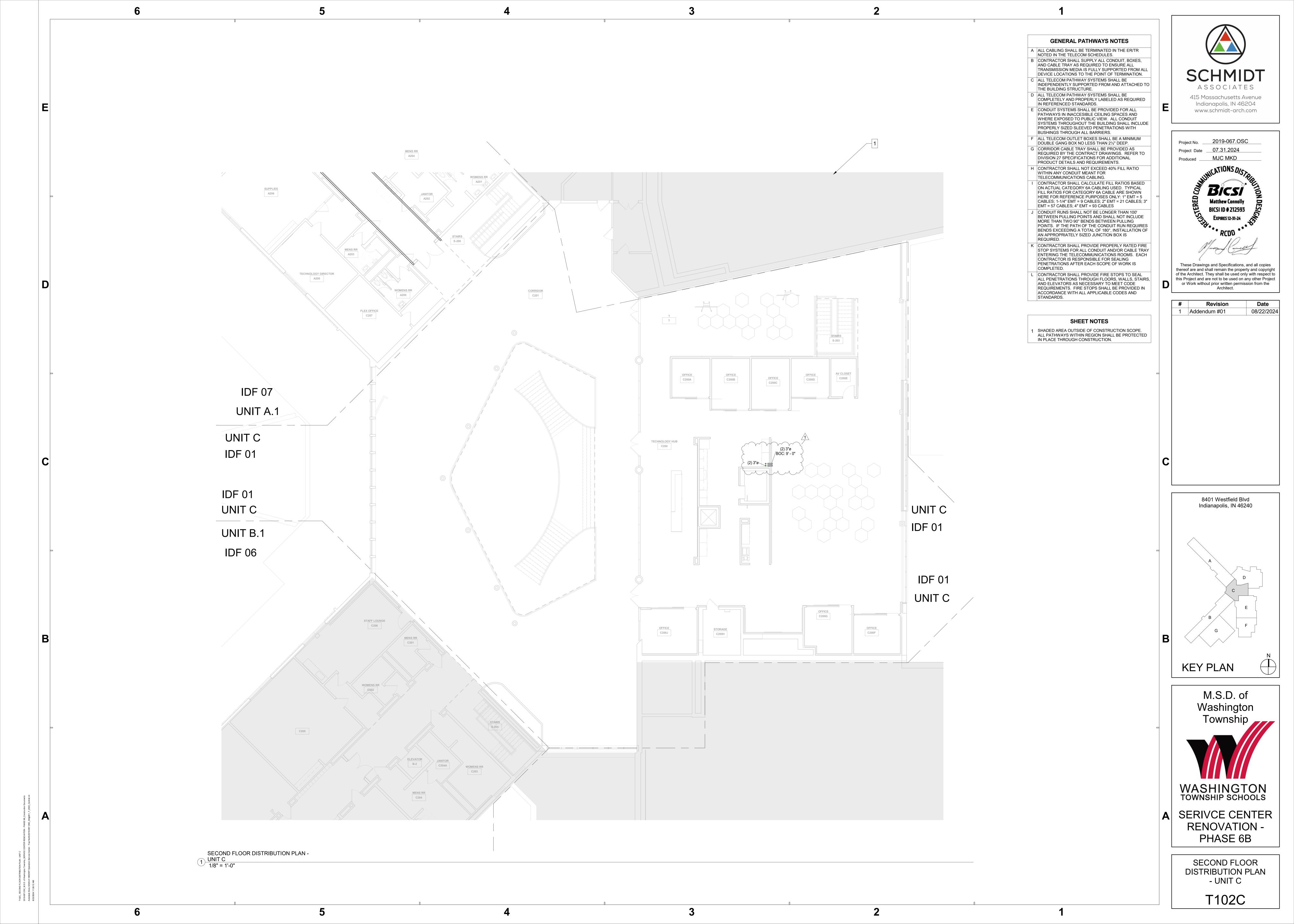


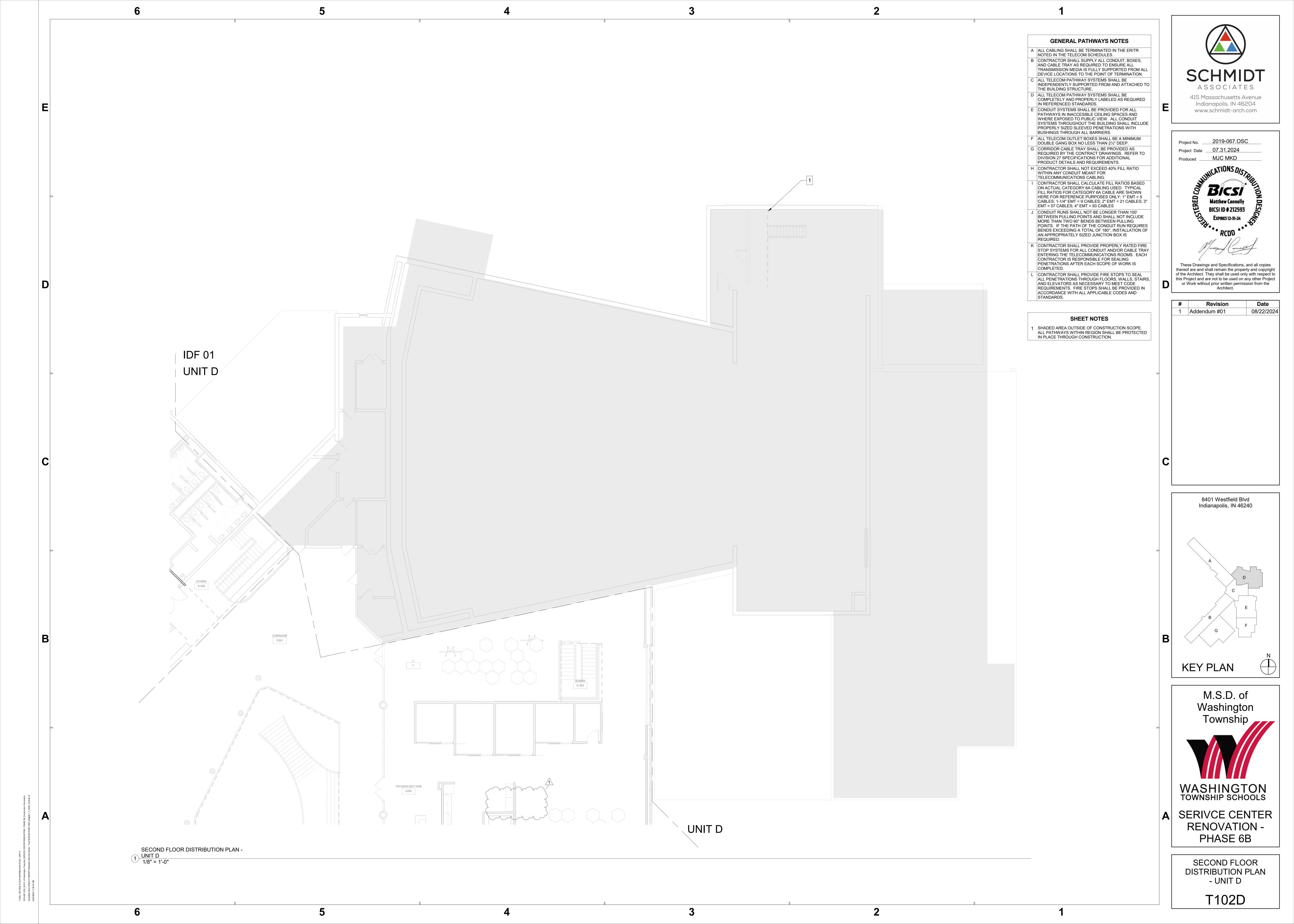




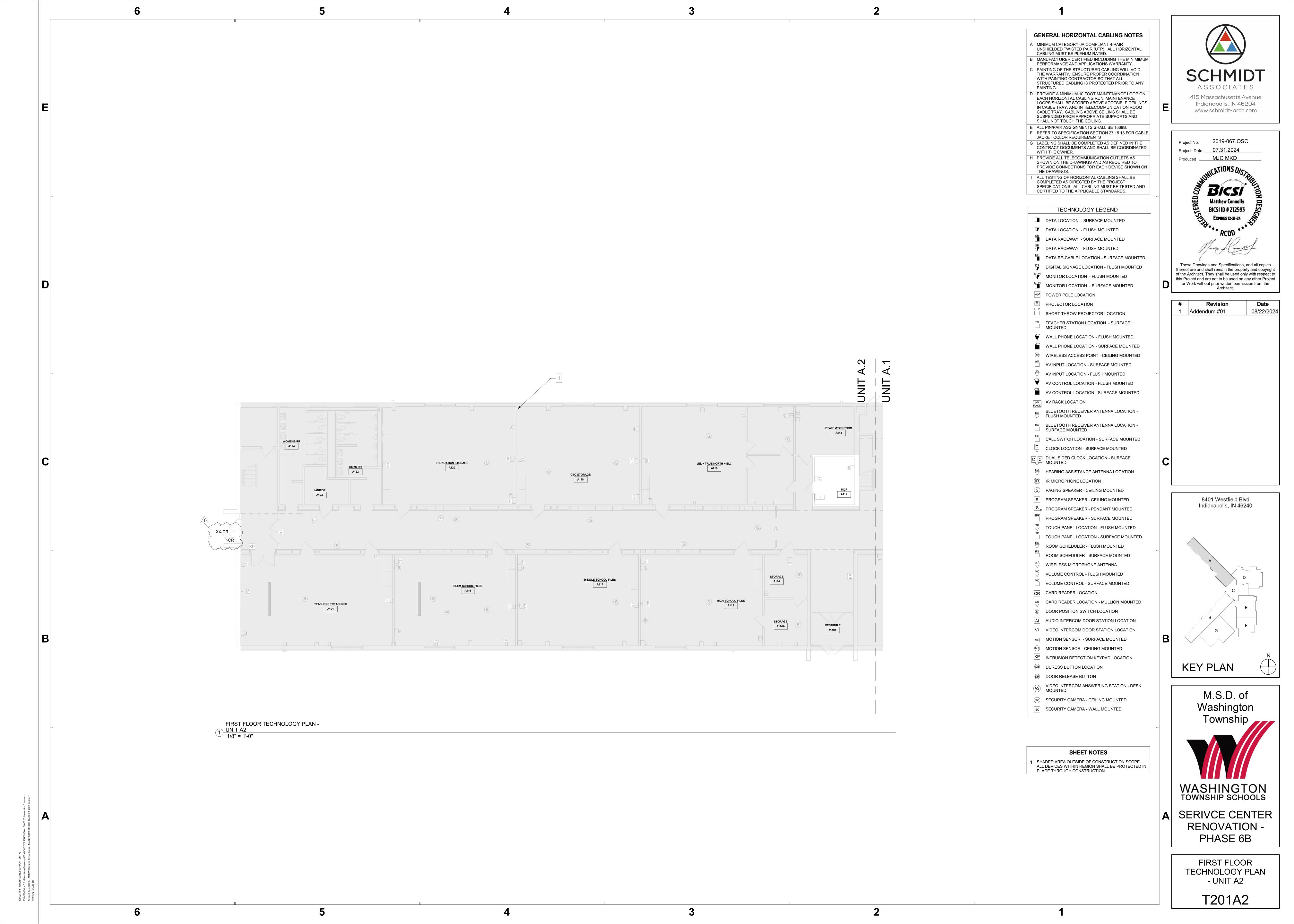


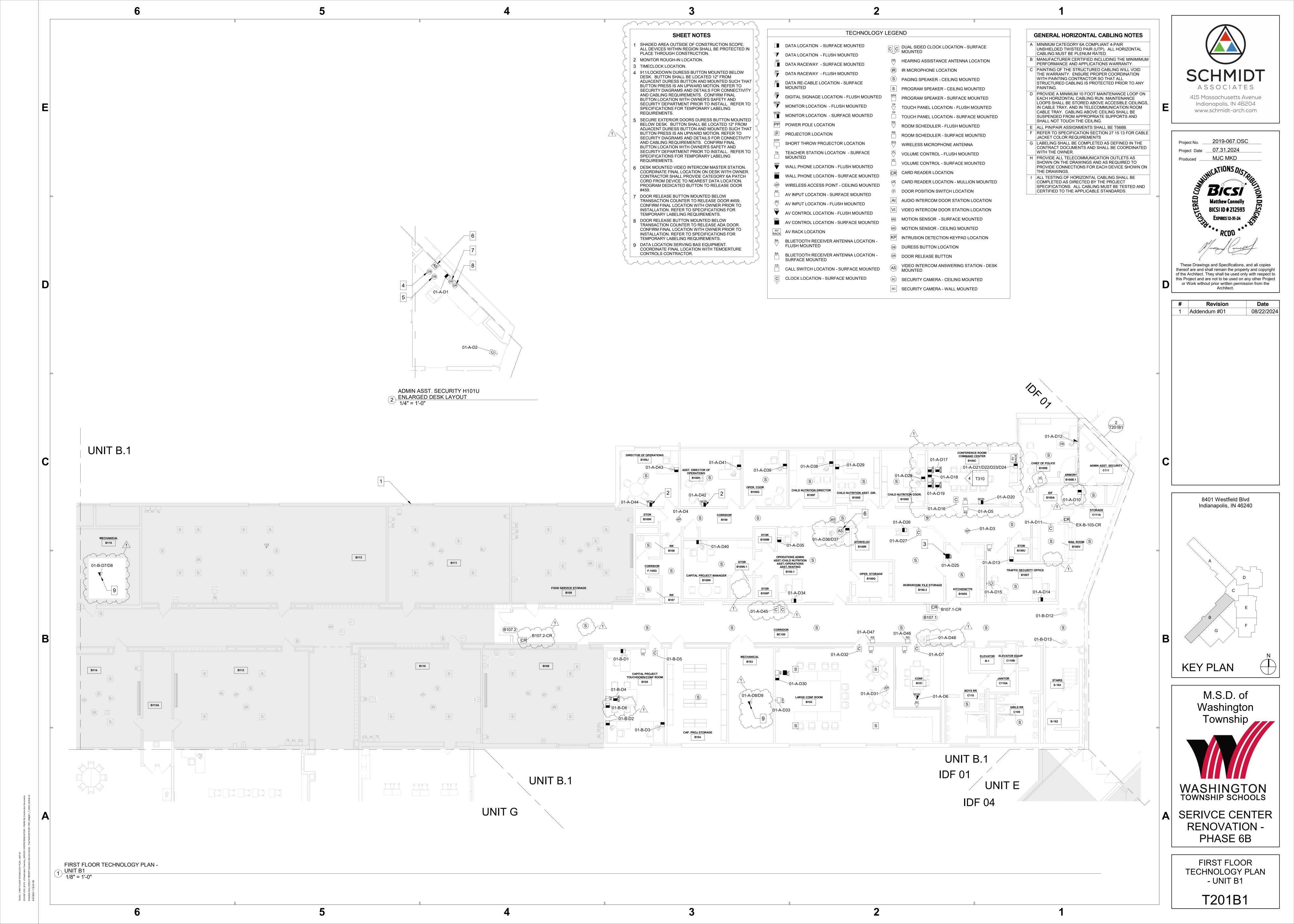


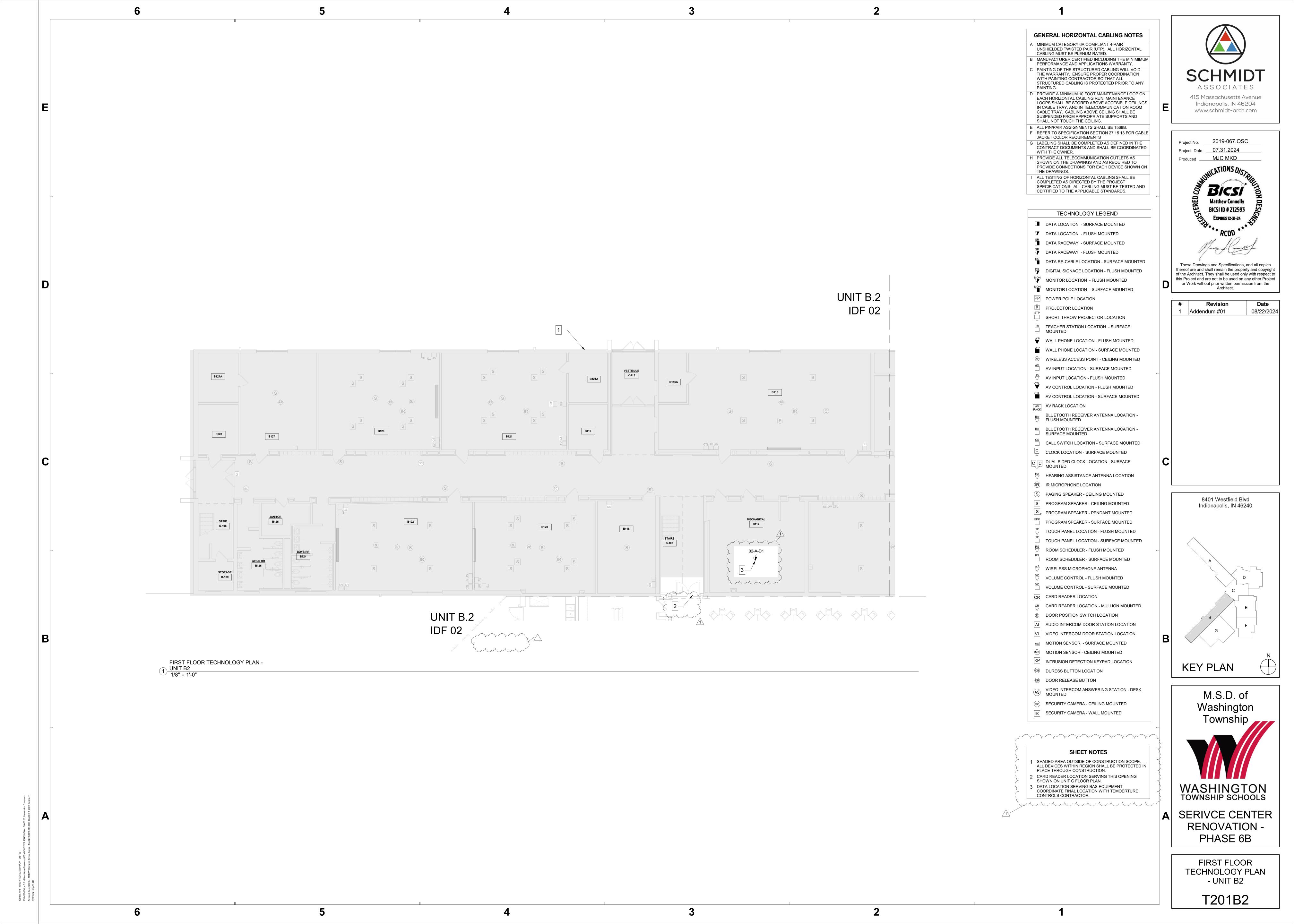


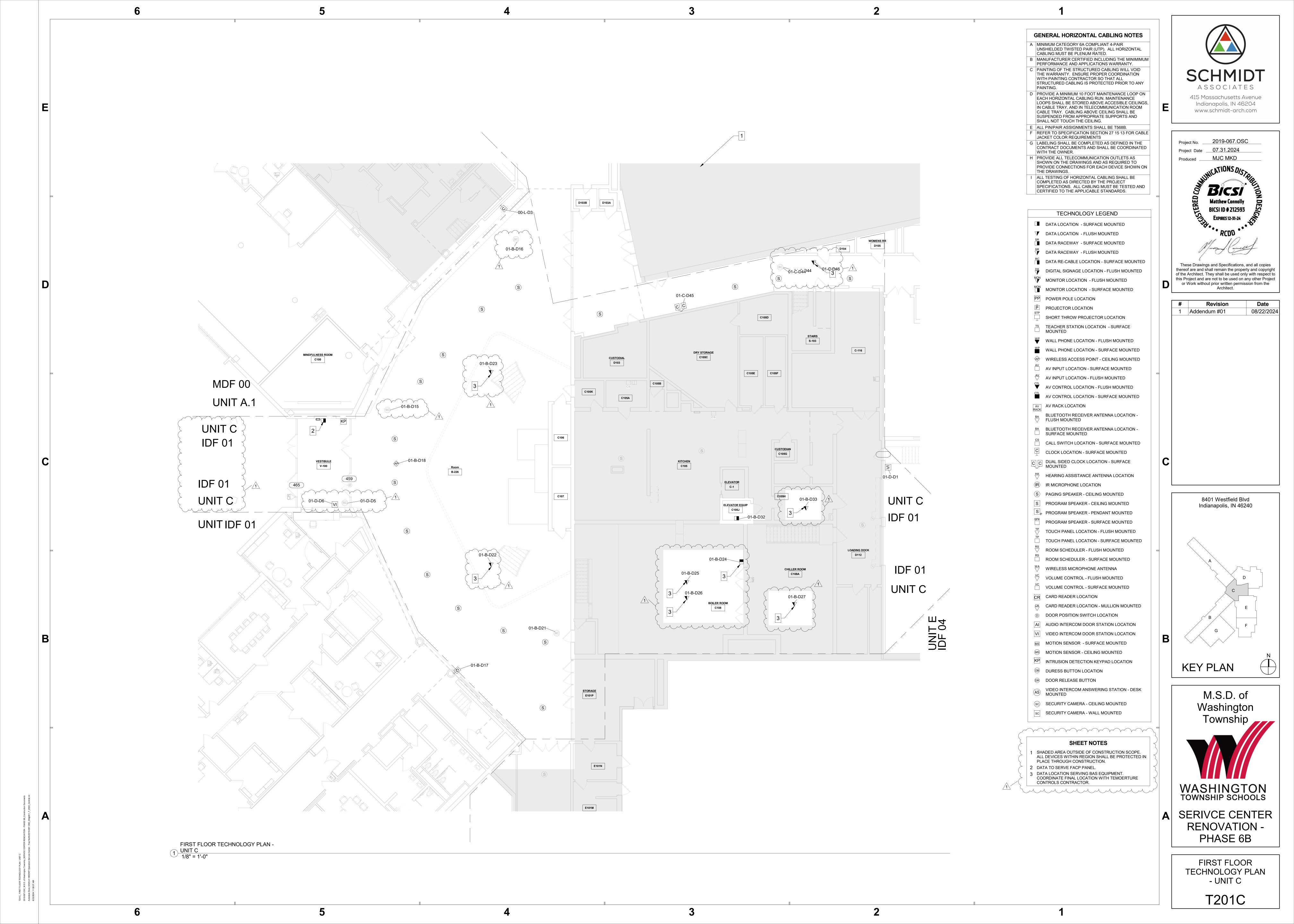


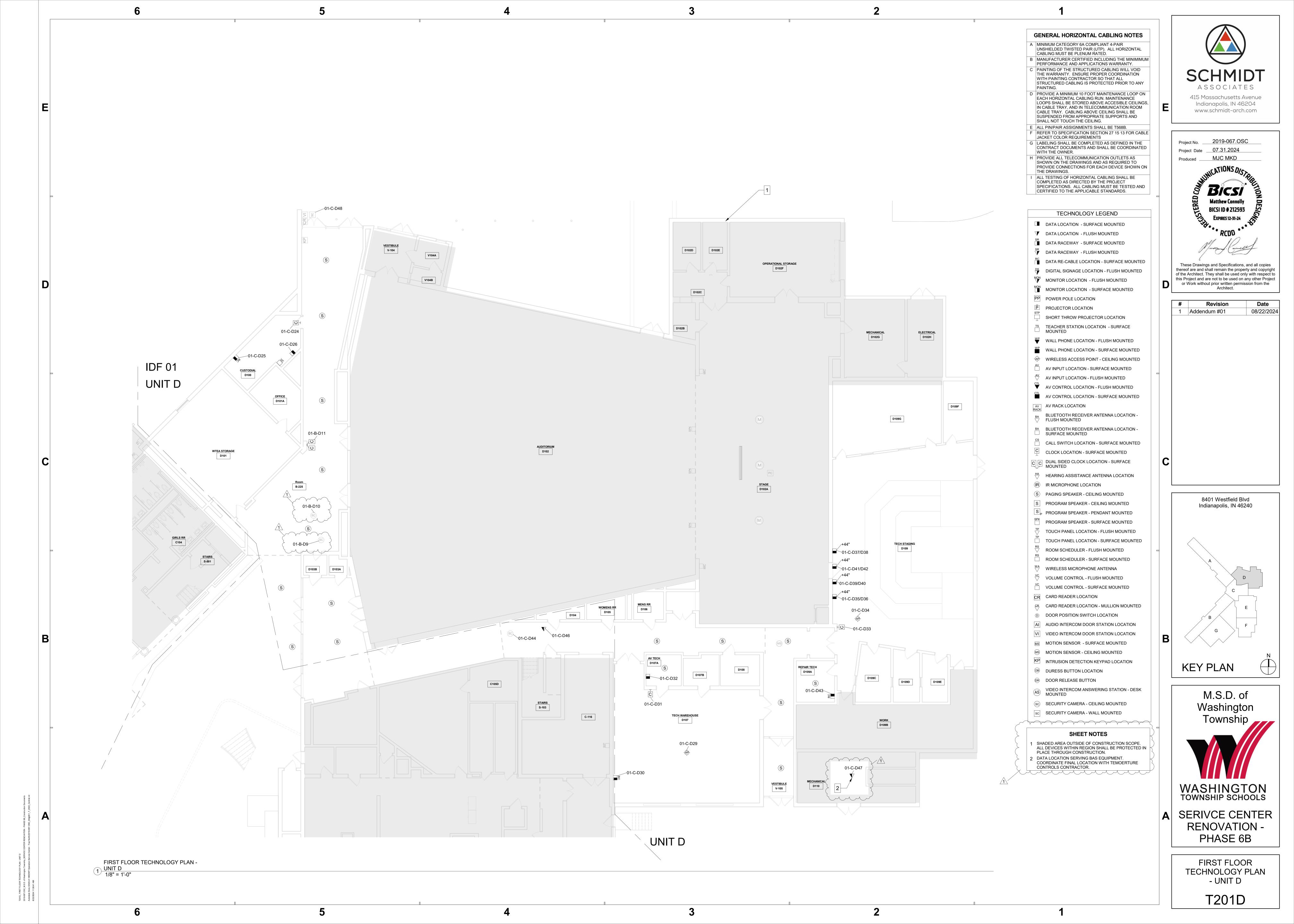


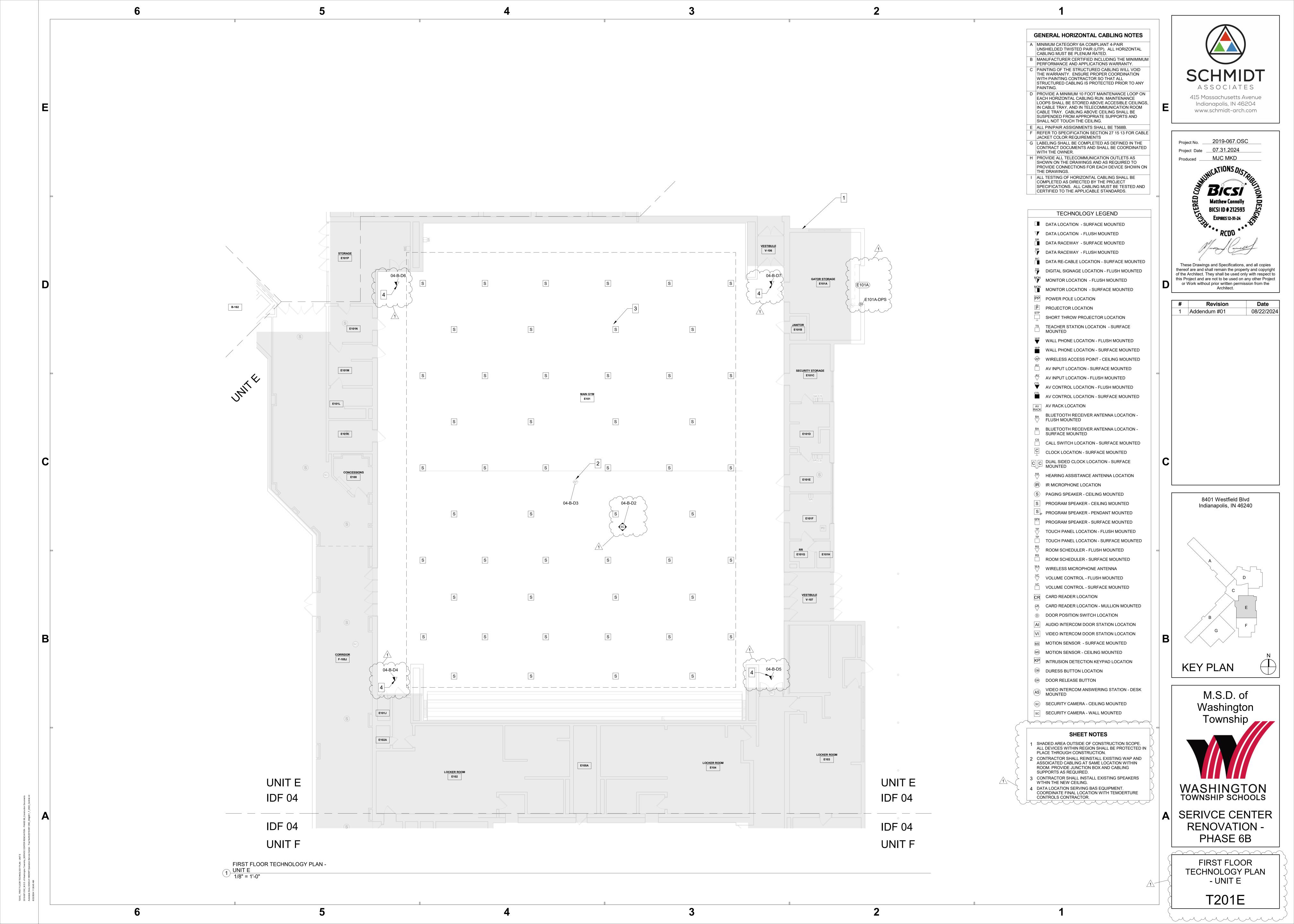


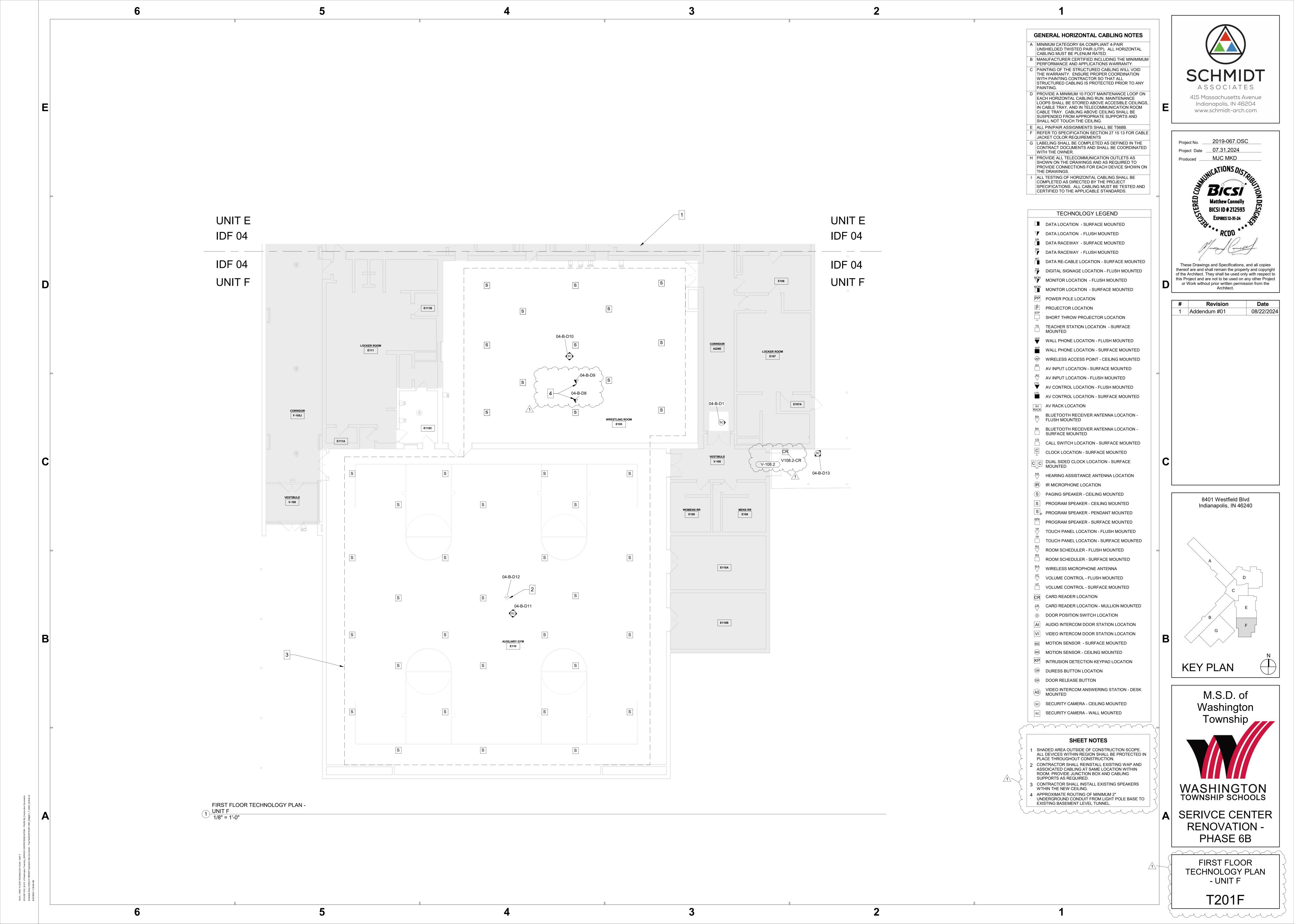


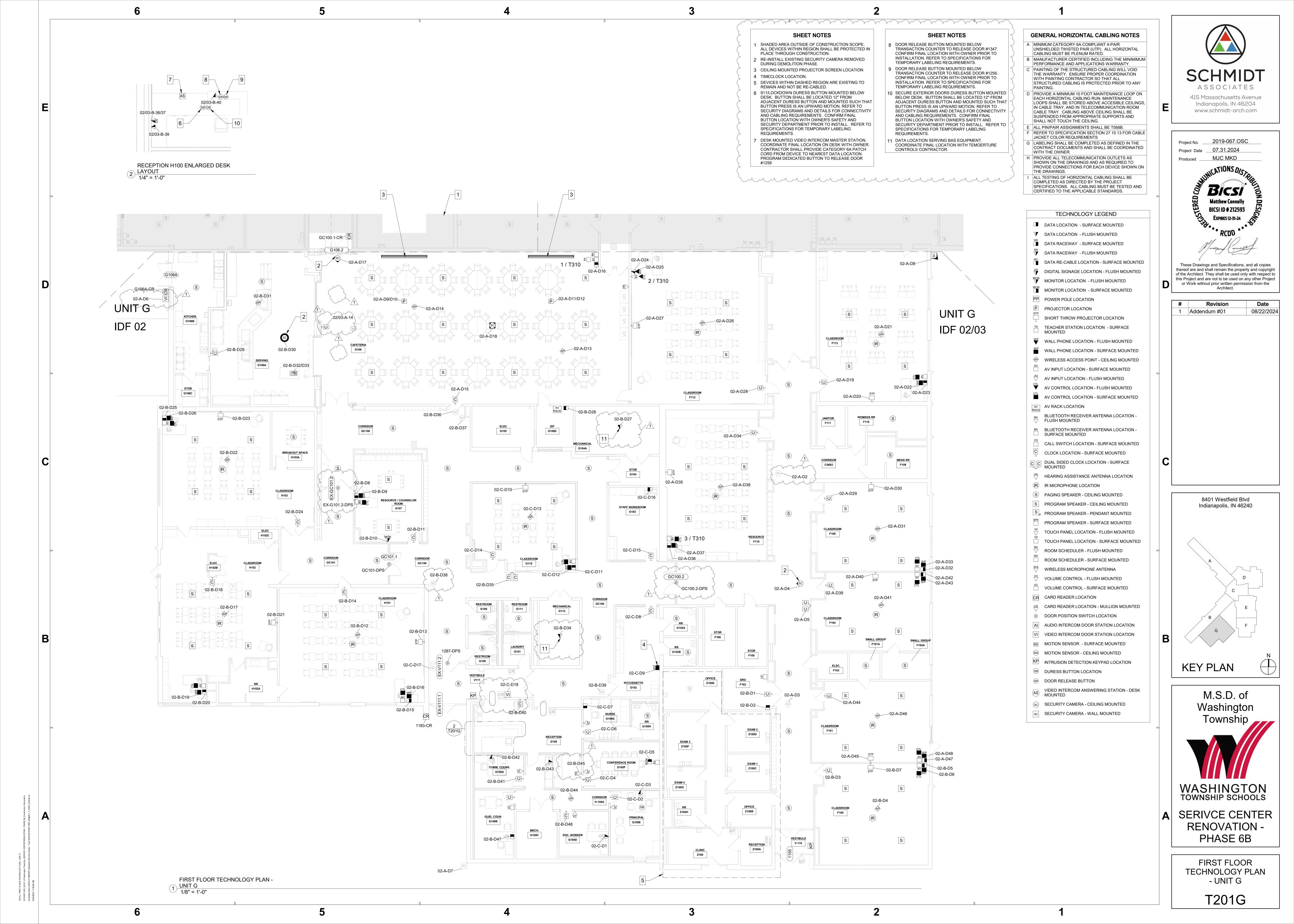


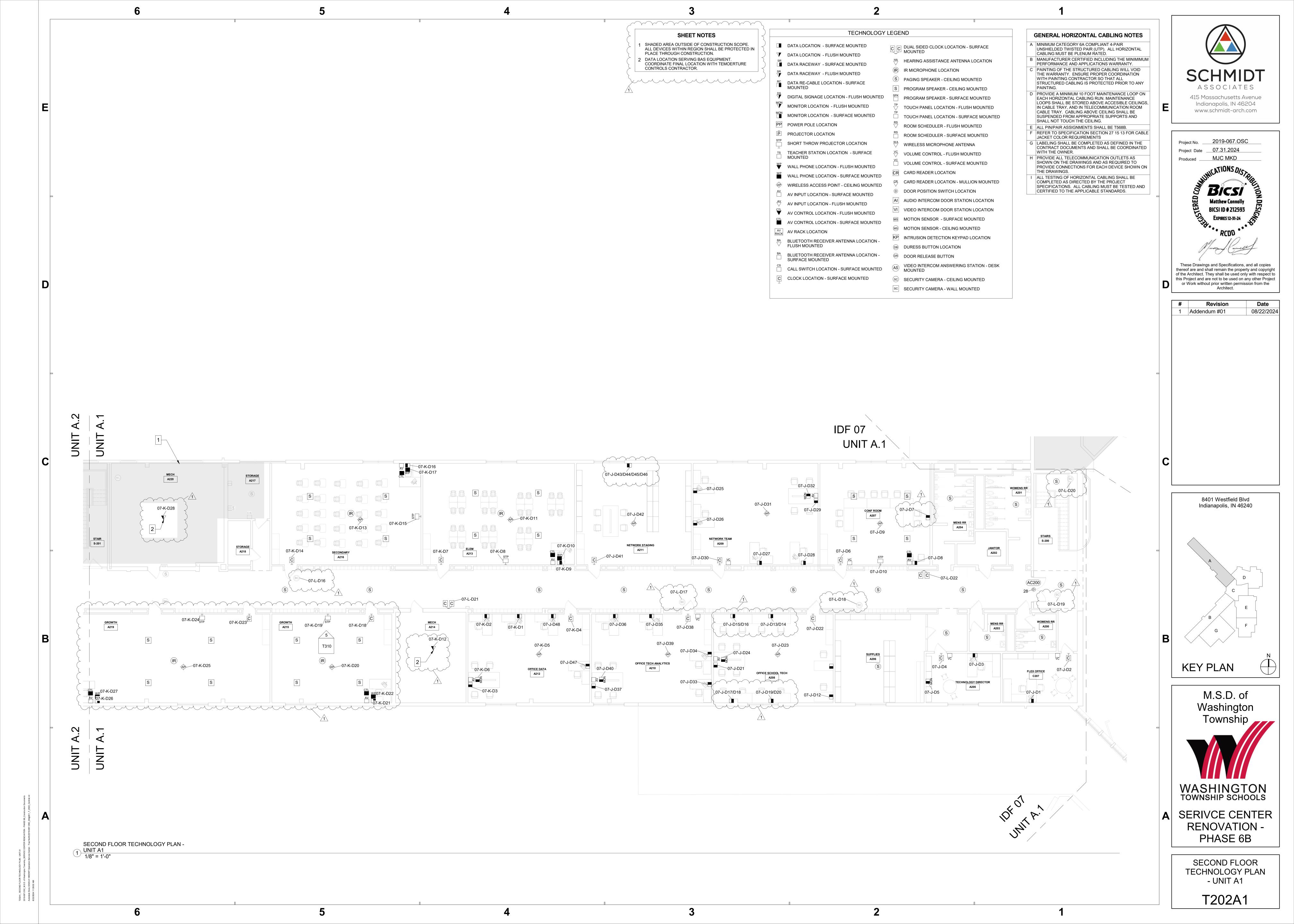


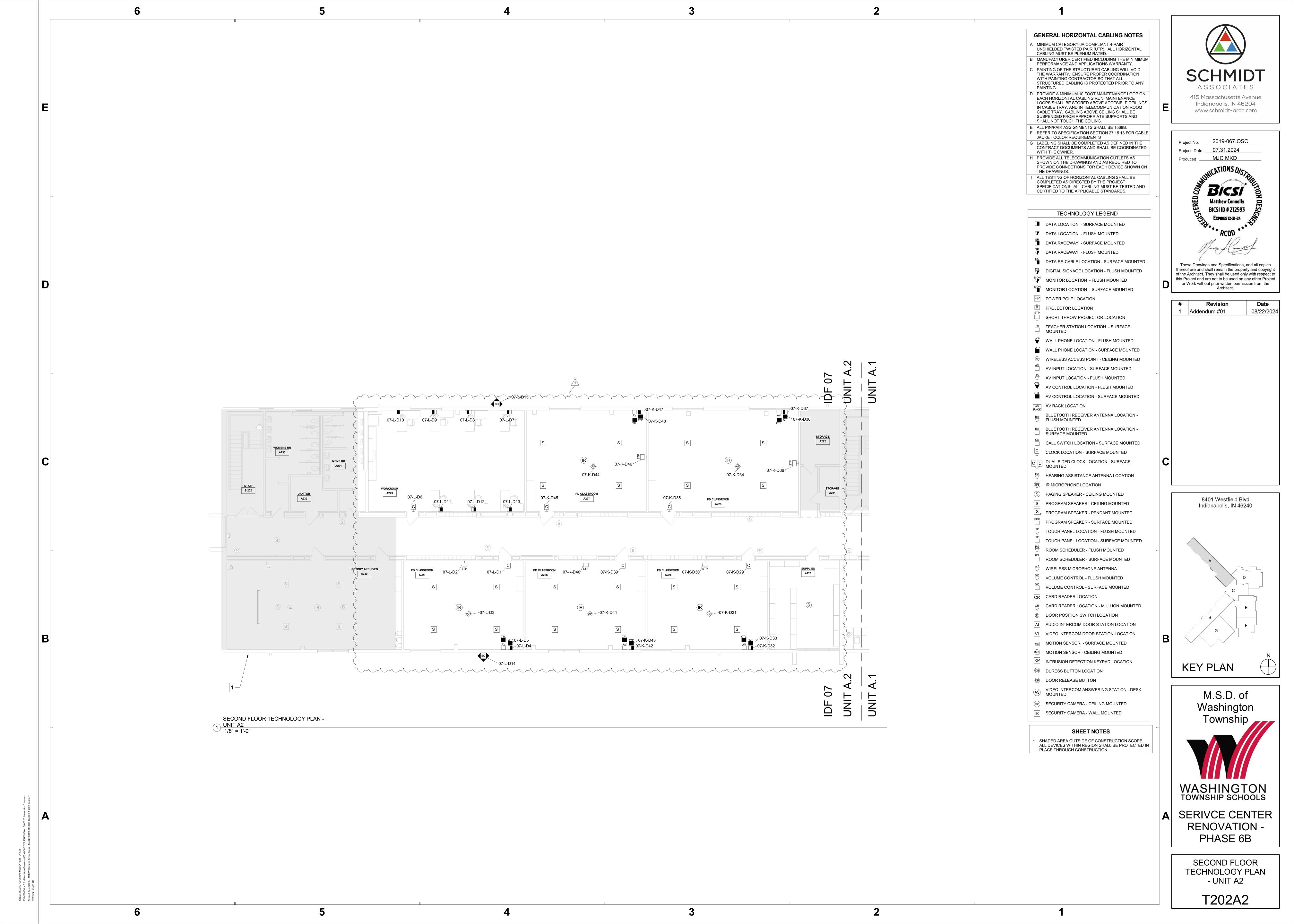


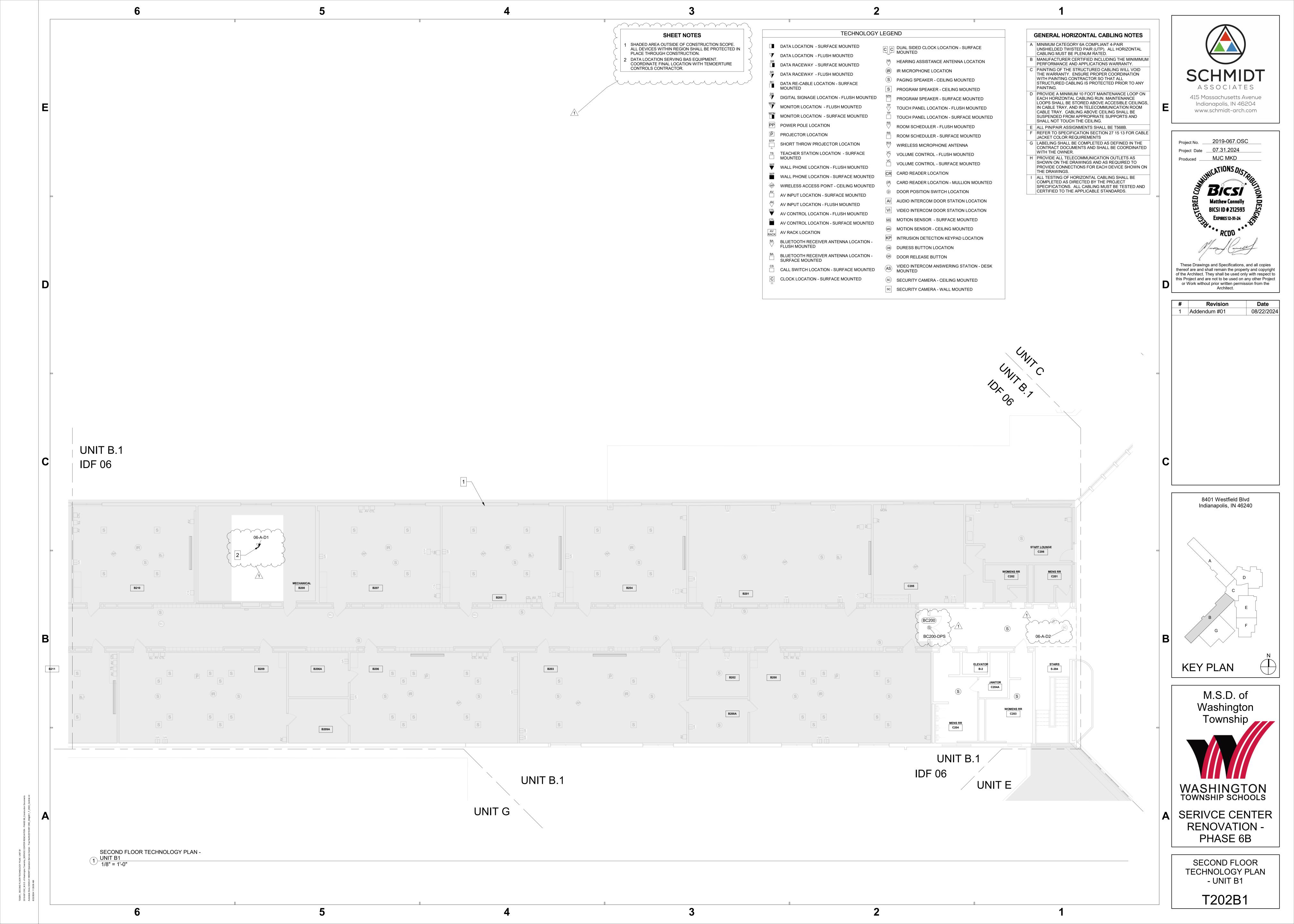


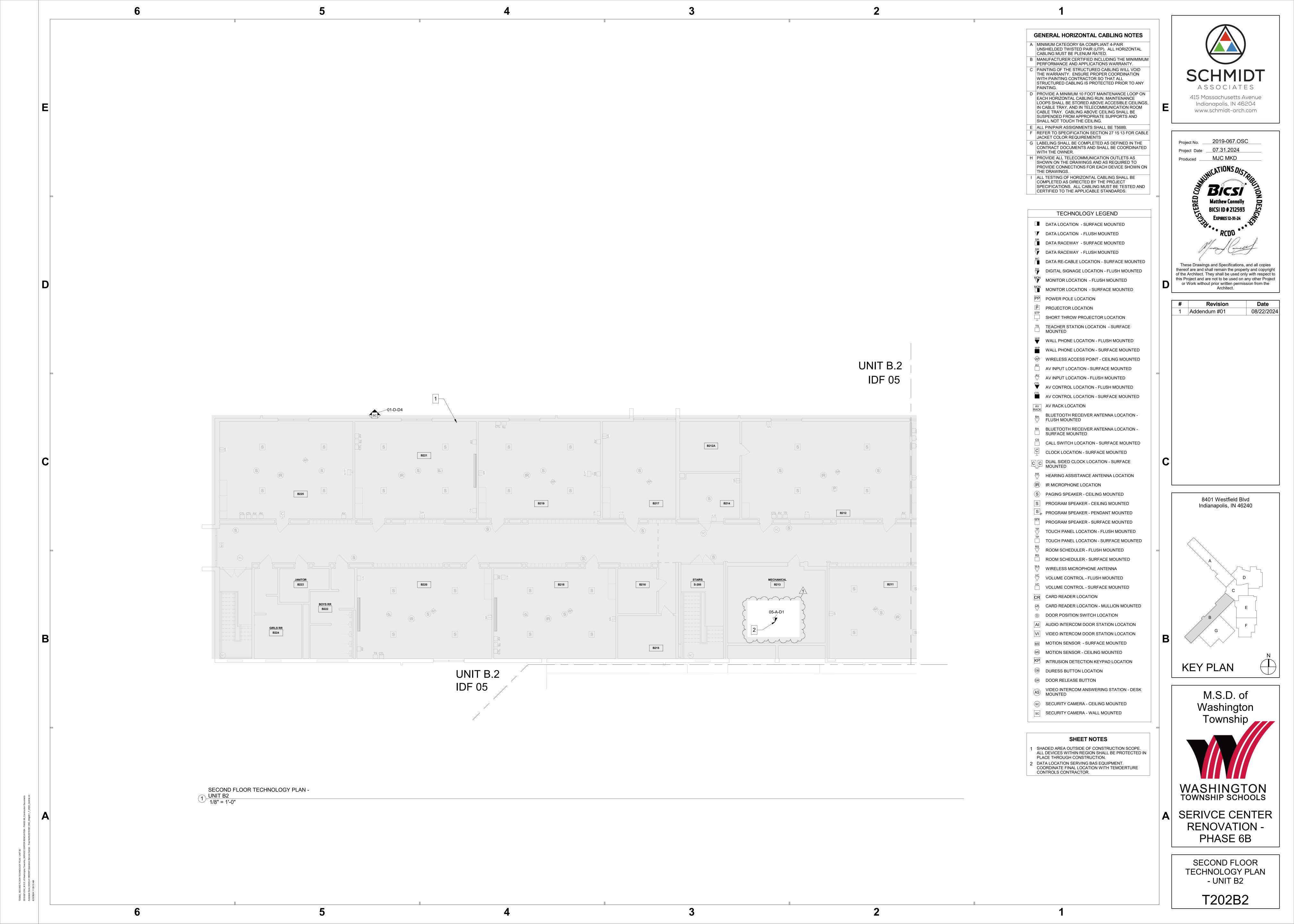


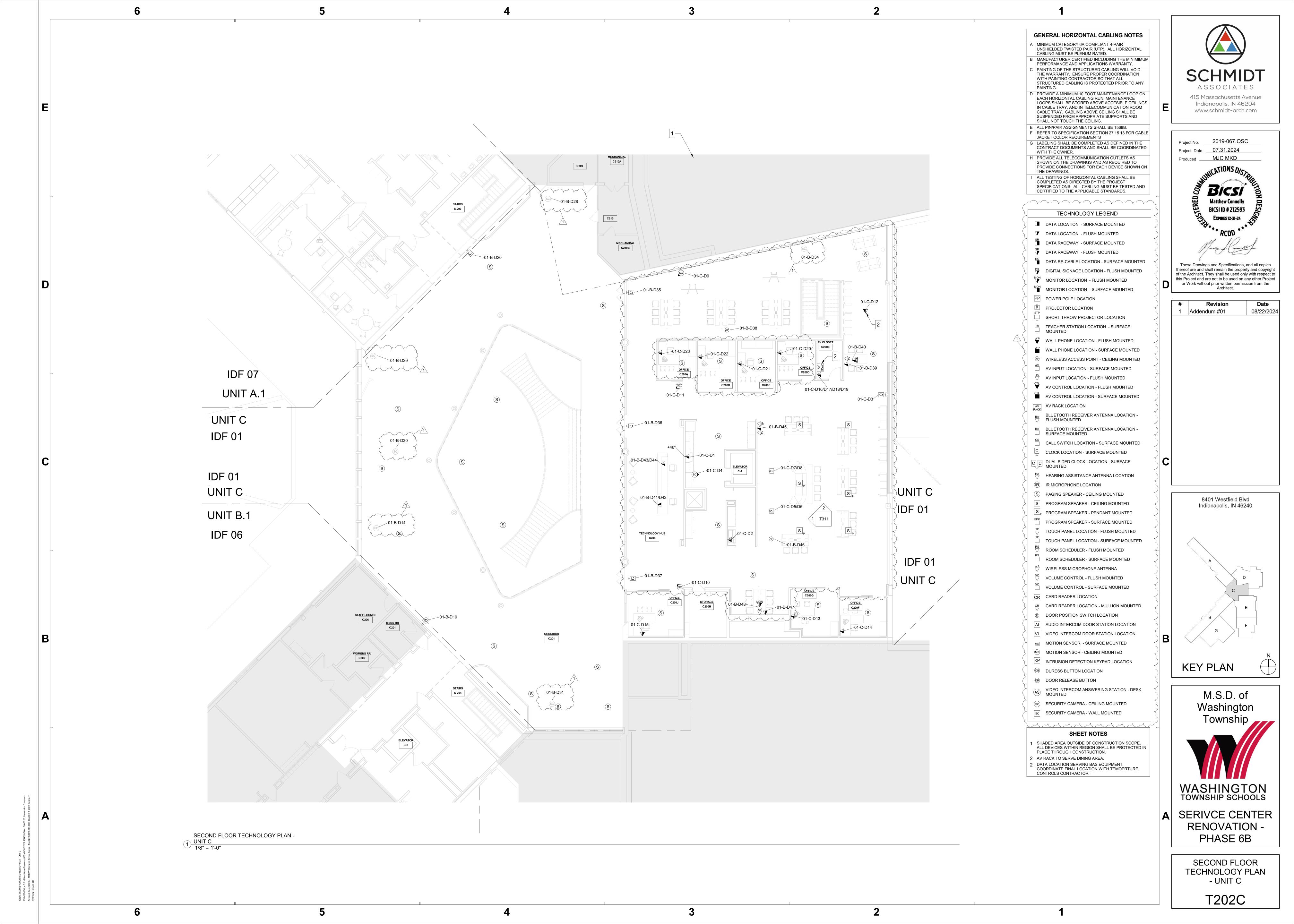


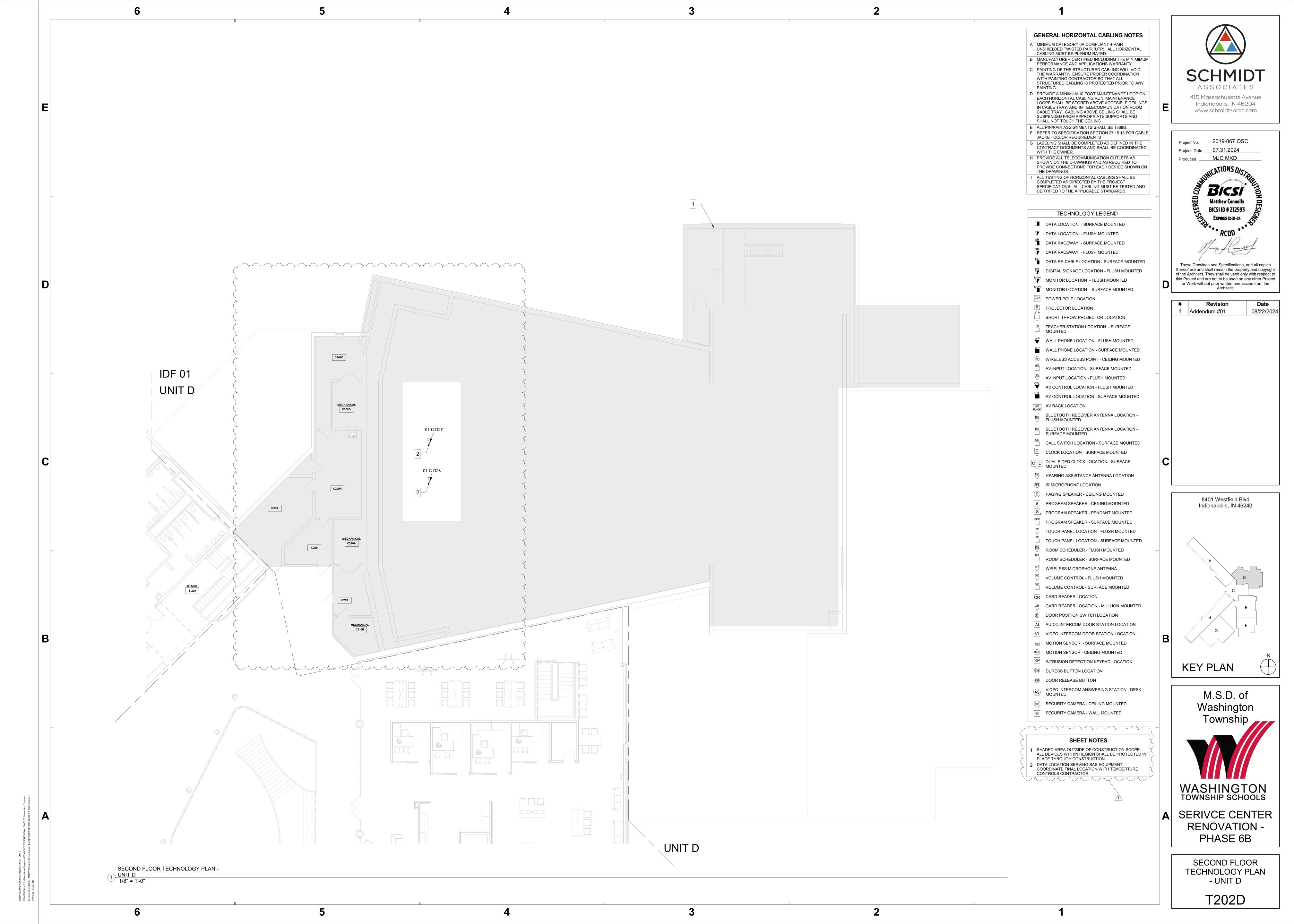




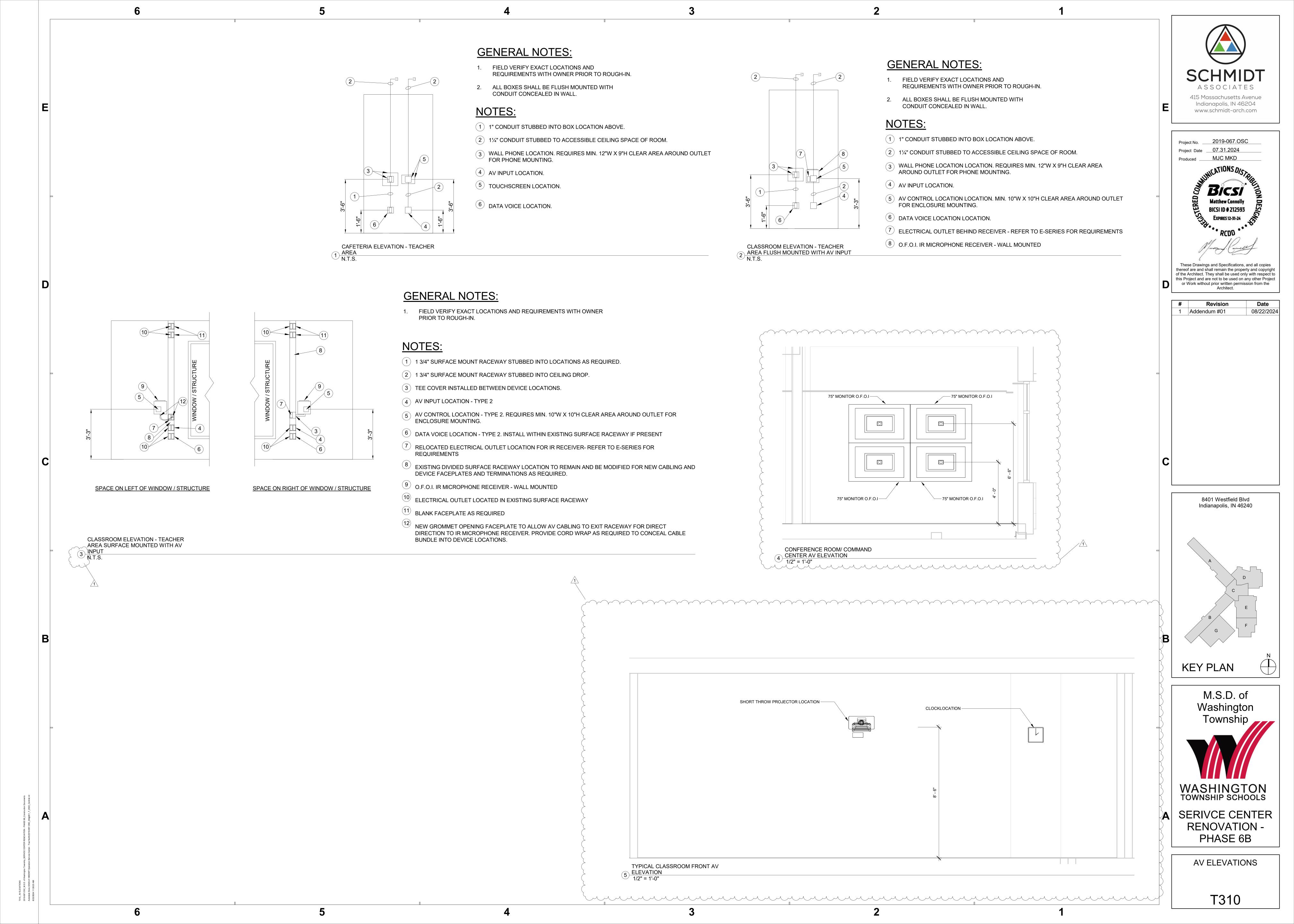


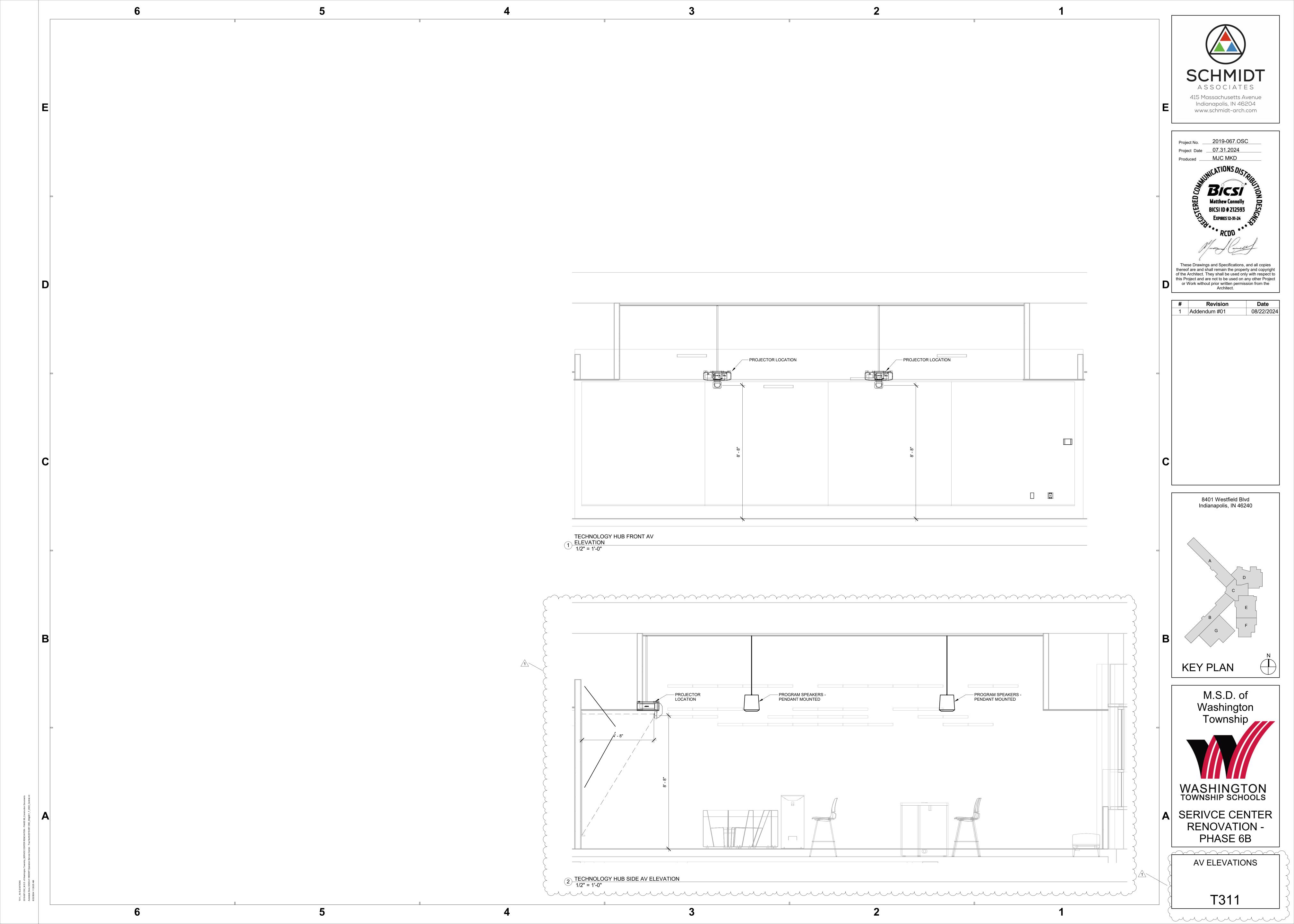


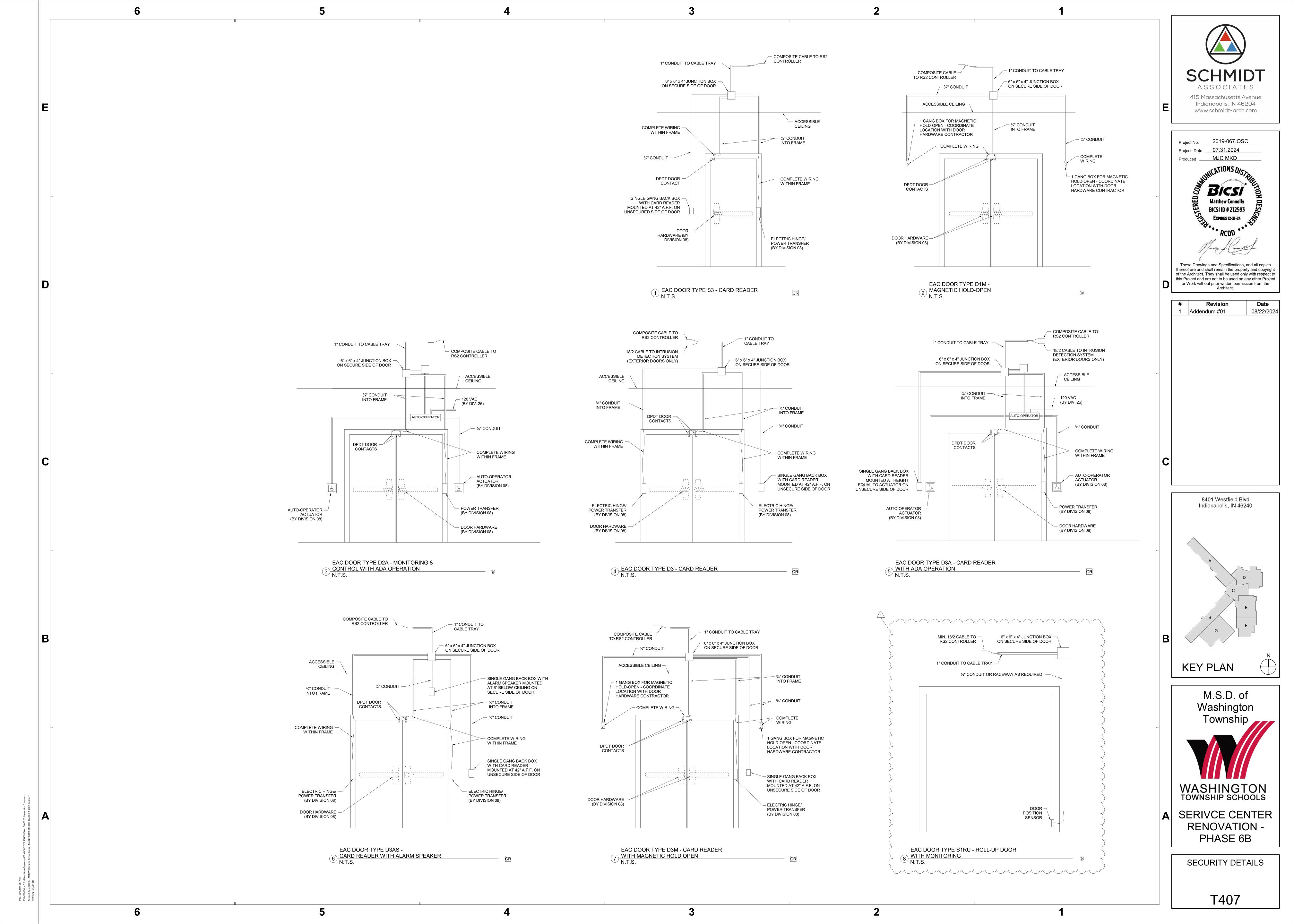












1 SECURITY CAMERA - POLE MOUNTED

|                |         | IDF 05 TECHN    | OLOGY :       | SCHEDULE          |
|----------------|---------|-----------------|---------------|-------------------|
| ROOM<br>NUMBER | LABEL   | TELECOM<br>ROOM | DATA<br>PORTS | COMMENTS          |
| B213           | 05-A-D1 | 05              | 1             | BAS DATA LOCATION |

00-L-D19

Grand total

| IDF 06 TECHNOLOGY SCHEDULE |         |                 |               |                                   |  |  |
|----------------------------|---------|-----------------|---------------|-----------------------------------|--|--|
| ROOM<br>NUMBER             | LABEL   | TELECOM<br>ROOM | DATA<br>PORTS | COMMENTS                          |  |  |
| B208                       | 06-A-D1 | 06              | 1             | BAS DATA LOCATION                 |  |  |
| C101                       | 06-A-D2 | 06              | 1             | SECURITY CAMERA - CEILING MOUNTED |  |  |
| Grand total                |         |                 | 2             |                                   |  |  |

| IDF 06 ACCESS CONTROL SCHEDULE |           |                 |                   |  |  |  |
|--------------------------------|-----------|-----------------|-------------------|--|--|--|
| DOOR<br>NUMBER                 | LABEL     | TELECOM<br>ROOM | COMMENTS          |  |  |  |
| BC200                          | BC200-DPS | 06              | EAC DOOR TYPE D1M |  |  |  |

| B101 B101 B101 B101 B101 B101 B101 B101                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 01-A-D1 01-A-D2 01-A-D3 01-A-D4 01-A-D5 01-A-D6 01-A-D7 01-A-D8/D9 01-A-D10 01-A-D11 01-A-D12 01-A-D13 01-A-D15 01-A-D15 01-A-D16 01-A-D17 01-A-D18 01-A-D19 01-A-D19 01-A-D20 01-A-D20 01-A-D21/D22/D23/D24 01-A-D25 01-A-D26 01-A-D27 01-A-D28 01-A-D29 01-A-D30 01-A-D30 01-A-D31 01-A-D32 01-A-D33 01-A-D34 01-A-D35 01-A-D35 01-A-D36/D37 01-A-D38 01-A-D39 01-A-D40 01-A-D41 01-A-D42 01-A-D41 01-A-D42 01-A-D43 01-A-D44 01-A-D45 01-A-D45 | 01 01 01 01 01 01 01 01 01 01 01 01 01 0                                        | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1                                                            | DATA LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  WIRELESS ACCESS POINT - CEILING MOUNTED  ROOM SCHEDULER LOCATION - SURFACE MOUNTED  MONITOR LOCATION - FLUSH MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  BAS DATA LOCATION  DATA LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  MONITOR LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  WALL PHONE LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  SHORT THROW PROJECTOR LOCATION  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  SHORT THROW PROJECTOR LOCATION  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED |
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| B101 B102 B102 B102 B103 B103A B103A B103A B103C B103E B103F B103F B103G B103H B103J B103J B103J B103J B103J B103J B105J B105A B105B | 01-A-D4 01-A-D5 01-A-D6 01-A-D7 01-A-D8/D9 01-A-D10 01-A-D11 01-A-D12 01-A-D13 01-A-D15 01-A-D15 01-A-D16 01-A-D17 01-A-D18 01-A-D19 01-A-D20 01-A-D20 01-A-D20 01-A-D25 01-A-D25 01-A-D26 01-A-D27 01-A-D28 01-A-D29 01-A-D30 01-A-D31 01-A-D32 01-A-D33 01-A-D34 01-A-D35 01-A-D36/D37 01-A-D38 01-A-D39 01-A-D40 01-A-D41 01-A-D42 01-A-D41 01-A-D42 01-A-D43 01-A-D44 01-A-D45                                                                | 01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01                        | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1                                                            | WIRELESS ACCESS POINT - CEILING MOUNTED ROOM SCHEDULER LOCATION - SURFACE MOUNTED MONITOR LOCATION - FLUSH MOUNTED CLOCK LOCATION - SURFACE MOUNTED BAS DATA LOCATION DATA LOCATION - SURFACE MOUNTED CLOCK LOCATION - SURFACE MOUNTED DATA LOCATION - SURFACE MOUNTED DATA LOCATION - FLUSH MOUNTED DATA LOCATION - SURFACE MOUNTED CLOCK LOCATION - SURFACE MOUNTED CLOCK LOCATION - SURFACE MOUNTED CLOCK LOCATION - SURFACE MOUNTED MONITOR LOCATION - SURFACE MOUNTED DATA LOCATION - SURFACE MOUNTED SHORT THROW PROJECTOR LOCATION DATA LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                         |
| B102 B103 B103A B103A B103C B103E B103F B103F B103G B103G B103G B103G B103G B103G B103G B103G B103G B103H B103J B103J B103J B103J B103J B103J B103L B104 B104 B104 B104 B105A B105B B105C B105B B105B B105C B105B B105C B105B B105D B105D B105D B105D B107 B107 B107 B107 B107 B107 B107 B107                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 01-A-D6 01-A-D7 01-A-D8/D9 01-A-D10 01-A-D11 01-A-D12 01-A-D13 01-A-D14 01-A-D15 01-A-D16 01-A-D17 01-A-D18 01-A-D19 01-A-D20 01-A-D20 01-A-D25 01-A-D26 01-A-D27 01-A-D28 01-A-D29 01-A-D30 01-A-D31 01-A-D32 01-A-D33 01-A-D34 01-A-D35 01-A-D38 01-A-D39 01-A-D39 01-A-D39 01-A-D39 01-A-D39 01-A-D40 01-A-D41 01-A-D42 01-A-D43 01-A-D43 01-A-D44 01-A-D45                                                                                    | 01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01                        | 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1                                                          | MONITOR LOCATION - FLUSH MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  BAS DATA LOCATION  DATA LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  MONITOR LOCATION - SURFACE MOUNTED  WALL PHONE LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  SHORT THROW PROJECTOR LOCATION  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  SHORT THROW PROJECTOR LOCATION  DATA LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| B103A B103A B103C B103E B103F B103F B103G B103G B103G B103G B103G B103G B103G B103H B103J B103J B103J B103L B104 B104 B104 B104 B105A B105B B105B B105A B105B B105 | 01-A-D10 01-A-D11 01-A-D12 01-A-D13 01-A-D14 01-A-D15 01-A-D15 01-A-D16 01-A-D17 01-A-D18 01-A-D19 01-A-D20 01-A-D20 01-A-D21/D22/D23/D24 01-A-D25 01-A-D26 01-A-D27 01-A-D28 01-A-D29 01-A-D30 01-A-D31 01-A-D31 01-A-D32 01-A-D33 01-A-D34 01-A-D35 01-A-D38 01-A-D38 01-A-D39 01-A-D39 01-A-D40 01-A-D41 01-A-D42 01-A-D43 01-A-D43 01-A-D43 01-A-D44 01-A-D45                                                                                 | 01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01                        | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1                                                            | DATA LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  DATA LOCATION - FLUSH MOUNTED  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  MONITOR LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  WALL PHONE LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  WIRELESS ACCESS POINT - CEILING MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  SHORT THROW PROJECTOR LOCATION  DATA LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| B103C B103E B103F B103F B103G B103G B103G B103G B103G B103G B103G B103H B103J B103J B103J B103L B104 B104 B104 B104 B105A B105 | 01-A-D12 01-A-D13 01-A-D14 01-A-D15 01-A-D16 01-A-D17 01-A-D18 01-A-D19 01-A-D20 01-A-D20 01-A-D25 01-A-D25 01-A-D26 01-A-D27 01-A-D28 01-A-D29 01-A-D30 01-A-D31 01-A-D32 01-A-D32 01-A-D33 01-A-D35 01-A-D35 01-A-D36/D37 01-A-D38 01-A-D39 01-A-D39 01-A-D40 01-A-D41 01-A-D42 01-A-D43 01-A-D43 01-A-D43 01-A-D44 01-A-D45                                                                                                                    | 01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01                        | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1                                                            | DATA LOCATION - FLUSH MOUNTED  DATA LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  MONITOR LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  MONITOR LOCATION - SURFACE MOUNTED  MONITOR LOCATION - SURFACE MOUNTED  MONITOR LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  WALL PHONE LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  WIRELESS ACCESS POINT - CEILING MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  SHORT THROW PROJECTOR LOCATION  DATA LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| B103F B103G B103G B103G B103G B103G B103G B103G B103G B103H B103J B103J B103J B103L B104 B104 B104 B104 B105A B105 | 01-A-D14 01-A-D15 01-A-D16 01-A-D17 01-A-D18 01-A-D19 01-A-D20 01-A-D20 01-A-D25 01-A-D25 01-A-D26 01-A-D27 01-A-D28 01-A-D29 01-A-D30 01-A-D31 01-A-D32 01-A-D33 01-A-D34 01-A-D35 01-A-D36/D37 01-A-D38 01-A-D39 01-A-D40 01-A-D41 01-A-D42 01-A-D43 01-A-D43 01-A-D43 01-A-D44 01-A-D45                                                                                                                                                        | 01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01                        | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1                                                            | DATA LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  MONITOR LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  MONITOR LOCATION - SURFACE MOUNTED  MONITOR LOCATION - SURFACE MOUNTED  MONITOR LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  WALL PHONE LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  WIRELESS ACCESS POINT - CEILING MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  SHORT THROW PROJECTOR LOCATION  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  SHORT THROW PROJECTOR LOCATION  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| B103G B103G B103G B103G B103G B103G B103G B103G B103H B103J B103J B103K B103L B104 B104 B104 B104 B105A B105B B105A B105 | 01-A-D16<br>01-A-D17<br>01-A-D18<br>01-A-D19<br>01-A-D20<br>01-A-D21/D22/D23/D24<br>01-A-D25<br>01-A-D26<br>01-A-D27<br>01-A-D28<br>01-A-D28<br>01-A-D30<br>01-A-D31<br>01-A-D32<br>01-A-D32<br>01-A-D33<br>01-A-D35<br>01-A-D35<br>01-A-D36/D37<br>01-A-D38<br>01-A-D38<br>01-A-D39<br>01-A-D40<br>01-A-D41<br>01-A-D41<br>01-A-D42<br>01-A-D43<br>01-A-D43<br>01-A-D44<br>01-A-D44                                                              | 01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01                        | 1<br>1<br>1<br>1<br>1<br>1<br>4<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1 | CLOCK LOCATION - SURFACE MOUNTED  MONITOR LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  MONITOR LOCATION - SURFACE MOUNTED  MONITOR LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  WALL PHONE LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  WIRELESS ACCESS POINT - CEILING MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  SHORT THROW PROJECTOR LOCATION  DATA LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| B103G B103G B103G B103G B103G B103H B103J B103J B103L B104 B104 B104 B104 B105A B105A B105A B105A B105A B105B B105C B105F B105H B105G B105F B105H B107 B107 B107 B107 B107 B107 B107 B110 B110                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 01-A-D18 01-A-D19 01-A-D20 01-A-D20 01-A-D25 01-A-D25 01-A-D26 01-A-D27 01-A-D28 01-A-D29 01-A-D30 01-A-D31 01-A-D32 01-A-D33 01-A-D34 01-A-D35 01-A-D36/D37 01-A-D38 01-A-D39 01-A-D40 01-A-D41 01-A-D42 01-A-D43 01-A-D43 01-A-D44 01-A-D45                                                                                                                                                                                                     | 01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01                        | 1<br>1<br>1<br>4<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1 | DATA LOCATION - SURFACE MOUNTED  MONITOR LOCATION - SURFACE MOUNTED  MONITOR LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  WALL PHONE LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  WIRELESS ACCESS POINT - CEILING MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  SHORT THROW PROJECTOR LOCATION  DATA LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| B103G B103G B103H B103J B103J B103K B103K B103L B104 B104 B104 B105A B105A B105A B105A B105A B105B B105C B105F B105H B105J B105J B107 B107 B107 B107 B107 B107 B107 B107                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 01-A-D20 01-A-D21/D22/D23/D24 01-A-D25 01-A-D26 01-A-D27 01-A-D28 01-A-D29 01-A-D30 01-A-D31 01-A-D32 01-A-D32 01-A-D34 01-A-D35 01-A-D36/D37 01-A-D38 01-A-D39 01-A-D40 01-A-D41 01-A-D41 01-A-D42 01-A-D43 01-A-D44 01-A-D45                                                                                                                                                                                                                    | 01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01                        | 1 4 1 1 1 1 1 1 1 1 1 2 1 1 1 1 1 1 1 1                                                          | MONITOR LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  WALL PHONE LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  WIRELESS ACCESS POINT - CEILING MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  SHORT THROW PROJECTOR LOCATION  DATA LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| B103H B103J B103J B103J B103K B103K B103L B104 B104 B104 B104 B105A B105A B105A B105A B105B B105C B105F B105H B105H B105J B107 B107 B107 B107 B107 B107 B107 B107                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 01-A-D25 01-A-D26 01-A-D27 01-A-D28 01-A-D29 01-A-D30 01-A-D31 01-A-D32 01-A-D33 01-A-D34 01-A-D35 01-A-D36/D37 01-A-D38 01-A-D39 01-A-D40 01-A-D41 01-A-D42 01-A-D43 01-A-D43 01-A-D43 01-A-D44 01-A-D45                                                                                                                                                                                                                                         | 01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>0 | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>2                                         | WALL PHONE LOCATION - SURFACE MOUTNED  DATA LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  WIRELESS ACCESS POINT - CEILING MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  SHORT THROW PROJECTOR LOCATION  DATA LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| B103J B103K B103L B104 B104 B104 B104 B105A B105A B105A B105B B105C B105F B105H B105J B105J B107 B107 B107 B107 B107 B107 B107 B100 B110 B11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-A-D27<br>01-A-D28<br>01-A-D29<br>01-A-D30<br>01-A-D31<br>01-A-D32<br>01-A-D33<br>01-A-D34<br>01-A-D35<br>01-A-D36/D37<br>01-A-D38<br>01-A-D39<br>01-A-D40<br>01-A-D41<br>01-A-D41<br>01-A-D42<br>01-A-D43<br>01-A-D43<br>01-A-D44<br>01-A-D44                                                                                                                                                                                                  | 01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01            | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>2<br>1                                              | CLOCK LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  WIRELESS ACCESS POINT - CEILING MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  SHORT THROW PROJECTOR LOCATION  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| B103L B104 B104 B104 B104 B105A B105A B105A B105B B105C B105F B105H B105H B105J B107 B107 B107 B107 B107 B107 B110 B110                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 01-A-D29<br>01-A-D30<br>01-A-D31<br>01-A-D32<br>01-A-D33<br>01-A-D34<br>01-A-D35<br>01-A-D36/D37<br>01-A-D38<br>01-A-D39<br>01-A-D40<br>01-A-D41<br>01-A-D41<br>01-A-D42<br>01-A-D43<br>01-A-D43<br>01-A-D44<br>01-A-D45                                                                                                                                                                                                                          | 01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01                  | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>2<br>1                                                   | DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  WIRELESS ACCESS POINT - CEILING MOUNTED  CLOCK LOCATION - SURFACE MOUNTED  SHORT THROW PROJECTOR LOCATION  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| B104 B104 B104 B105A B105A B105A B105B B105C B105F B105H B105H B105J B107 B107 B107 B107 B107 B107 B107 B100 B110 B11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 01-A-D31<br>01-A-D32<br>01-A-D33<br>01-A-D34<br>01-A-D35<br>01-A-D36/D37<br>01-A-D38<br>01-A-D39<br>01-A-D40<br>01-A-D41<br>01-A-D41<br>01-A-D42<br>01-A-D43<br>01-A-D43<br>01-A-D44<br>01-A-D45                                                                                                                                                                                                                                                  | 01<br>01<br>01<br>01<br>01<br>01<br>01<br>01<br>01                              | 1<br>1<br>1<br>1<br>1<br>2<br>1                                                                  | WIRELESS ACCESS POINT - CEILING MOUNTED CLOCK LOCATION - SURFACE MOUNTED SHORT THROW PROJECTOR LOCATION DATA LOCATION - SURFACE MOUNTED DATA LOCATION - SURFACE MOUNTED DATA LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| B104 B105A B105A B105A B105A B105B B105C B105F B105H B105H B105J B107 B107 B107 B107 B107 B107 B100 B110 B11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-A-D33<br>01-A-D34<br>01-A-D35<br>01-A-D36/D37<br>01-A-D38<br>01-A-D39<br>01-A-D40<br>01-A-D41<br>01-A-D42<br>01-A-D42<br>01-A-D43<br>01-A-D44<br>01-A-D44                                                                                                                                                                                                                                                                                      | 01<br>01<br>01<br>01<br>01<br>01<br>01<br>01                                    | 1<br>1<br>1<br>2<br>1                                                                            | SHORT THROW PROJECTOR LOCATION  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| B105A B105A B105B B105C B105F B105H B105H B105J B107 B107 B107 B107 B107 B100 B110 B110                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 01-A-D35<br>01-A-D36/D37<br>01-A-D38<br>01-A-D39<br>01-A-D40<br>01-A-D41<br>01-A-D42<br>01-A-D43<br>01-A-D44<br>01-A-D45                                                                                                                                                                                                                                                                                                                          | 01<br>01<br>01<br>01<br>01<br>01                                                | 1<br>2<br>1<br>1                                                                                 | DATA LOCATION - SURFACE MOUNTED DATA LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| B105B<br>B105C<br>B105F<br>B105H<br>B105H<br>B105J<br>B107<br>B107<br>B107<br>B107<br>B107<br>B110<br>B110<br>B110                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 01-A-D38<br>01-A-D39<br>01-A-D40<br>01-A-D41<br>01-A-D42<br>01-A-D43<br>01-A-D44<br>01-A-D45                                                                                                                                                                                                                                                                                                                                                      | 01<br>01<br>01<br>01                                                            | 1                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| B105F<br>B105H<br>B105H<br>B105J<br>B105J<br>B107<br>B107<br>B107<br>B107<br>B110<br>B110<br>B110                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 01-A-D40<br>01-A-D41<br>01-A-D42<br>01-A-D43<br>01-A-D44<br>01-A-D45                                                                                                                                                                                                                                                                                                                                                                              | 01<br>01                                                                        | 1                                                                                                | DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| B105H<br>B105J<br>B105J<br>B107<br>B107<br>B107<br>B107<br>B110<br>B110<br>B110                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 01-A-D42<br>01-A-D43<br>01-A-D44<br>01-A-D45                                                                                                                                                                                                                                                                                                                                                                                                      | 0.4                                                                             | 1                                                                                                | DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| B105J<br>B107<br>B107<br>B107<br>B107<br>B110<br>B110<br>B110                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 01-A-D44<br>01-A-D45                                                                                                                                                                                                                                                                                                                                                                                                                              | 01<br>01                                                                        | 1 1                                                                                              | MONITOR LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| B107<br>B107<br>B107<br>B110<br>B110<br>B110<br>B110                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 01-A-D46                                                                                                                                                                                                                                                                                                                                                                                                                                          | 01<br>01                                                                        | 1 1                                                                                              | MONITOR LOCATION - SURFACE MOUNTED  DUAL SIDE CLOCK - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| B110<br>B110<br>B110<br>B110                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-A-D47                                                                                                                                                                                                                                                                                                                                                                                                                                          | 01<br>01                                                                        | 1                                                                                                | ROOM SCHEDULER LOCATION - SURFACE MOUNTED ROOM SCHEDULER LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| B110<br>B110                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-A-D48<br>01-B-D1                                                                                                                                                                                                                                                                                                                                                                                                                               | 01<br>01                                                                        | 1                                                                                                | SECURITY CAMERA - REINSTALLED EXISTING SINGLE SENSOR DATA LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 01-B-D2<br>01-B-D3                                                                                                                                                                                                                                                                                                                                                                                                                                | 01<br>01                                                                        | 1                                                                                                | DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 01-B-D4<br>01-B-D5                                                                                                                                                                                                                                                                                                                                                                                                                                | 01<br>01                                                                        | 1                                                                                                | MONITOR LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| B110<br>B115                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-B-D6<br>01-B-D7/D8                                                                                                                                                                                                                                                                                                                                                                                                                             | 01                                                                              | 2                                                                                                | DATA LOCATION - SURFACE MOUNTED  BAS DATA LOCATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| B225<br>B225                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-B-D9<br>01-B-D10                                                                                                                                                                                                                                                                                                                                                                                                                               | 01                                                                              | 1                                                                                                | SECURITY CAMERA - CEILING MOUNTED  SECURITY CAMERA - CEILING MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| B225<br>B226                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-B-D11<br>01-B-D12                                                                                                                                                                                                                                                                                                                                                                                                                              | 01                                                                              | 1 1                                                                                              | DUAL SIDE CLOCK - SURFACE MOUNTED  SECURITY CAMERA - CEILING MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| B226<br>B226<br>B226                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 01-B-D13<br>01-B-D14<br>01-B-D15                                                                                                                                                                                                                                                                                                                                                                                                                  | 01<br>01<br>01                                                                  | 1 1                                                                                              | SECURITY CAMERA - CEILING MOUNTED  SECURITY CAMERA - CEILING MOUNTED  SECURITY CAMERA - CEILING MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| B226<br>B226                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-B-D15<br>01-B-D16<br>01-B-D17                                                                                                                                                                                                                                                                                                                                                                                                                  | 01                                                                              | 1 1                                                                                              | SECURITY CAMERA - CEILING MOUNTED  SECURITY CAMERA - CEILING MOUNTED  CLOCK LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| B226<br>B226                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-B-D17<br>01-B-D18<br>01-B-D19                                                                                                                                                                                                                                                                                                                                                                                                                  | 01                                                                              | 1 1                                                                                              | WIRELESS ACCESS POINT - CEILING MOUNTED  CLOCK LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| B226<br>B226                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-B-D20<br>01-B-D21                                                                                                                                                                                                                                                                                                                                                                                                                              | 01                                                                              | 1 1                                                                                              | CLOCK LOCATION - SURFACE MOUNTED  SECURITY CAMERA - CEILING MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| B226<br>B226                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-B-D22<br>01-B-D23                                                                                                                                                                                                                                                                                                                                                                                                                              | 01                                                                              | 1 1                                                                                              | BAS DATA LOCATION  BAS DATA LOCATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| C001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 01-B-D24<br>01-B-D25                                                                                                                                                                                                                                                                                                                                                                                                                              | 01<br>01                                                                        | 1 1                                                                                              | DATA LOCATION - SURFACE MOUNTED BAS DATA LOCATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| C001<br>C002                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-B-D26<br>01-B-D27                                                                                                                                                                                                                                                                                                                                                                                                                              | 01<br>01                                                                        | 1                                                                                                | BAS DATA LOCATION BAS DATA LOCATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| C101<br>C101                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-B-D28<br>01-B-D29                                                                                                                                                                                                                                                                                                                                                                                                                              | 01<br>01                                                                        | 1 1                                                                                              | SECURITY CAMERA - CEILING MOUNTED SECURITY CAMERA - CEILING MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| C101<br>C101                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-B-D30<br>01-B-D31                                                                                                                                                                                                                                                                                                                                                                                                                              | 01<br>01                                                                        | 1 1                                                                                              | SECURITY CAMERA - CEILING MOUNTED SECURITY CAMERA - CEILING MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| C102H<br>C105H                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 01-B-D32<br>01-B-D33                                                                                                                                                                                                                                                                                                                                                                                                                              | 01<br>01                                                                        | 1                                                                                                | DATA LOCATION - SURFACE MOUNTED BAS DATA LOCATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| C200<br>C200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-B-D34<br>01-B-D35                                                                                                                                                                                                                                                                                                                                                                                                                              | 01<br>01                                                                        | 1                                                                                                | SECURITY CAMERA - CEILING MOUNTED  CLOCK LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| C200<br>C200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-B-D36<br>01-B-D37                                                                                                                                                                                                                                                                                                                                                                                                                              | 01<br>01                                                                        | 1                                                                                                | CLOCK LOCATION - SURFACE MOUNTED CLOCK LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| C200<br>C200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-B-D38<br>01-B-D39                                                                                                                                                                                                                                                                                                                                                                                                                              | 01                                                                              | 1                                                                                                | WIRELESS ACCESS POINT - CEILING MOUNTED  DATA LOCATION - FLUSH MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| C200<br>C200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-B-D40<br>01-B-D41/D42                                                                                                                                                                                                                                                                                                                                                                                                                          | 01                                                                              | 2                                                                                                | MONITOR LOCATION - FLUSH MOUNTED  DATA LOCATION - FLUSH MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| C200<br>C200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-B-D43/D44<br>01-B-D45                                                                                                                                                                                                                                                                                                                                                                                                                          | 01                                                                              | 1                                                                                                | DATA LOCATION - FLUSH MOUNTED  DATA LOCATION - FLUSH MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| C200<br>C200<br>C200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 01-B-D46<br>01-B-D47<br>01-B-D48                                                                                                                                                                                                                                                                                                                                                                                                                  | 01<br>01<br>01                                                                  | 1 1                                                                                              | WIRELESS ACCESS POINT - CEILING MOUNTED  DATA LOCATION - FLUSH MOUNTED  MONITOR LOCATION - FLUSH MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| C200<br>C200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-C-D1<br>01-C-D2                                                                                                                                                                                                                                                                                                                                                                                                                                | 01                                                                              | 1 1                                                                                              | DATA LOCATION - FLUSH MOUNTED  DATA LOCATION - FLUSH MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| C200<br>C200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-C-D3<br>01-C-D4                                                                                                                                                                                                                                                                                                                                                                                                                                | 01                                                                              | 1 1                                                                                              | CLOCK LOCATION - SURFACE MOUNTED  SECURITY CAMERA - REINSTALLED EXISTING SINGLE SENSOR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| C200<br>C200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-C-D5/D6<br>01-C-D7/D8                                                                                                                                                                                                                                                                                                                                                                                                                          | 01                                                                              | 2 2                                                                                              | PROJECTOR LOCATION PROJECTOR LOCATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| C200<br>C200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-C-D9<br>01-C-D10                                                                                                                                                                                                                                                                                                                                                                                                                               | 01<br>01                                                                        | 1                                                                                                | SECURITY CAMERA - REINSTALLED EXISTING SINGLE SENSOR SECURITY CAMERA - REINSTALLED EXISTING SINGLE SENSOR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| C200<br>C200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-C-D11<br>01-C-D12                                                                                                                                                                                                                                                                                                                                                                                                                              | 01<br>01                                                                        | 1 1                                                                                              | SECURITY CAMERA - REINSTALLED EXISTING SINGLE SENSOR BAS DATA LOCATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| C205<br>C206                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-C-D13<br>01-C-D14                                                                                                                                                                                                                                                                                                                                                                                                                              | 01<br>01                                                                        | 1                                                                                                | DATA LOCATION - FLUSH MOUNTED  DATA LOCATION - FLUSH MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| C207<br>C208                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-C-D15<br>01-C-D16/D17/D18/D19                                                                                                                                                                                                                                                                                                                                                                                                                  | 01<br>01                                                                        | 1 4                                                                                              | DATA LOCATION - FLUSH MOUNTED  DATA LOCATION - FLUSH MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| C209<br>C210                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-C-D20<br>01-C-D21                                                                                                                                                                                                                                                                                                                                                                                                                              | 01<br>01                                                                        | 1                                                                                                | DATA LOCATION - FLUSH MOUNTED  DATA LOCATION - FLUSH MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| C211<br>C213                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-C-D22<br>01-C-D23                                                                                                                                                                                                                                                                                                                                                                                                                              | 01<br>01                                                                        | 1                                                                                                | DATA LOCATION - FLUSH MOUNTED  DATA LOCATION - FLUSH MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| D100<br>D100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-C-D24<br>01-C-D25                                                                                                                                                                                                                                                                                                                                                                                                                              | 01                                                                              | 1                                                                                                | CLOCK LOCATION - SURFACE MOUNTED  DATA RE-CABLE LOCATION  DATA LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| D100<br>D102                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-C-D26<br>01-C-D27                                                                                                                                                                                                                                                                                                                                                                                                                              | 01                                                                              | 1 1                                                                                              | DATA LOCATION - SURFACE MOUNTED  BAS DATA LOCATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| D102<br>D106                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-C-D28<br>01-C-D29                                                                                                                                                                                                                                                                                                                                                                                                                              | 01                                                                              | 1 1                                                                                              | BAS DATA LOCATION WIRELESS ACCESS POINT - CEILING MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| D106<br>D106<br>D106A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 01-C-D30<br>01-C-D31<br>01-C-D32                                                                                                                                                                                                                                                                                                                                                                                                                  | 01<br>01<br>01                                                                  | 1 1                                                                                              | DATA RE-CABLE LOCATION  CLOCK LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| D106A<br>D108<br>D108                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 01-C-D32<br>01-C-D33<br>01-C-D34                                                                                                                                                                                                                                                                                                                                                                                                                  | 01<br>01<br>01                                                                  | 1 1                                                                                              | CLOCK LOCATION - SURFACE MOUNTED  WIRELESS ACCESS POINT - CEILING MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| D108<br>D108<br>D108                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 01-C-D34<br>01-C-D35/D36<br>01-C-D37/D38                                                                                                                                                                                                                                                                                                                                                                                                          | 01<br>01<br>01                                                                  | 2 2                                                                                              | DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| D108<br>D108                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-C-D37/D38<br>01-C-D39/D40<br>01-C-D41/D42                                                                                                                                                                                                                                                                                                                                                                                                      | 01                                                                              | 2 2                                                                                              | DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| D108A<br>D110                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 01-C-D43<br>01-C-D44                                                                                                                                                                                                                                                                                                                                                                                                                              | 01                                                                              | 1 1                                                                                              | DATA RE-CABLE LOCATION  SECURITY CAMERA - CEILING MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| D110<br>D110                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01-C-D45<br>01-C-D46                                                                                                                                                                                                                                                                                                                                                                                                                              | 01                                                                              | 1 1                                                                                              | DUAL SIDE CLOCK - SURFACE MOUNTED  BAS DATA LOCATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| D110<br>EXT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 01-C-D47<br>01-C-D48                                                                                                                                                                                                                                                                                                                                                                                                                              | 01<br>01                                                                        | 1                                                                                                | BAS DATA LOCATION SECURITY CAMERA - WALL MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| EXT<br>EXT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 01-D-D1<br>01-D-D2                                                                                                                                                                                                                                                                                                                                                                                                                                | 01<br>01                                                                        | 1 1                                                                                              | VIDEO INTERCOM DOOR STATION SECURITY CAMERA - POLE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EXT<br>EXT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 01-D-D3<br>01-D-D4                                                                                                                                                                                                                                                                                                                                                                                                                                | 01<br>01                                                                        | 1                                                                                                | SECURITY CAMERA - MOUNT UNDER AWNING BULKHEAD SECURITY CAMERA - WALL MOUNTED 6" BELOW TOP OF BRICK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| V100<br>V100<br>V100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 01-D-D5<br>01-D-D6<br>01-D-D7                                                                                                                                                                                                                                                                                                                                                                                                                     | 01<br>01<br>01                                                                  | 1<br>1<br>1                                                                                      | SECURITY CAMERA - CEILING MOUNTED VIDEO INTERCOM DOOR STATION DATA LOCATION - SURFACE MOUNTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

|                | IDF         | 01 ACCESS       | CONTROL SCHEDULE  |
|----------------|-------------|-----------------|-------------------|
| DOOR<br>NUMBER | LABEL       | TELECOM<br>ROOM | COMMENTS          |
| B107.1         | B107.1-CR   | 01              | EAC DOOR TYPE D3M |
| B107.2         | B107.2-CR   | 01              | EAC DOOR TYPE D3M |
| EX-B-103       | EX-B-103-CR | 01              | EAC DOOR TYPE S3  |

| ROOM           |                          | TELECOM  | DATA  | LOGY SCHEDULE                                                                          |
|----------------|--------------------------|----------|-------|----------------------------------------------------------------------------------------|
| UMBER          | LABEL                    | ROOM     | PORTS | COMMENTS                                                                               |
| B117<br>CA002  | 02-A-D1<br>02-A-D2       | 02       | 1     | BAS DATA LOCATION SECURITY CAMERA - CEILING MOUNTED                                    |
| CA002          | 02-A-D3                  | 02       | 1     | SECURITY CAMERA - CEILING MOUNTED                                                      |
| CA002<br>CA002 | 02-A-D4<br>02-A-D5       | 02       | 1     | SECURITY CAMERA - REINSTALLED EXISTING SINGLE SENSOR DUAL SIDE CLOCK - SURFACE MOUNTED |
| EX             | 02-A-D6                  | 02       | 1     | VIDEO INTERCOM DOOR STATION                                                            |
| EXT EXT        | 02-A-D7<br>02-A-D8       | 02       | 1     | SECURITY CAMERA - WALL MOUNTED  SECURITY CAMERA - WALL MOUNTED 6" BELOW TOP OF BRICK   |
| F100           | 02-A-D9/D10              | 02       | 2     | PROJECTOR LOCATION                                                                     |
| F100<br>F100   | 02-A-D11/D12<br>02-A-D13 | 02       | 2     | PROJECTOR LOCATION WIRELESS ACCESS POINT - CEILING MOUNTED                             |
| F100           | 02-A-D13<br>02-A-D14     | 02       | 1     | WIRELESS ACCESS POINT - CEILING MOUNTED  WIRELESS ACCESS POINT - CEILING MOUNTED       |
| F100           | 02-A-D15                 | 02       | 1     | CLOCK LOCATION - SURFACE MOUNTED                                                       |
| F100<br>F100   | 02-A-D16<br>02-A-D17     | 02       | 1     | DATA LOCATION - SURFACE MOUNTED  SECURITY CAMERA - REINSTALLED EXISTING SINGLE SENSOR  |
| F100           | 02-A-D18                 | 02       | 1     | SECURITY CAMERA - NEW MULTI-SENSOR                                                     |
| F101           | 02-A-D19<br>02-A-D20     | 02       | 1     | CLOCK LOCATION - SURFACE MOUNTED SHORT THROW PROJECTOR LOCATION                        |
| F101           | 02-A-D20                 | 02       | 1     | WIRELESS ACCESS POINT - CEILING MOUNTED                                                |
| F101           | 02-A-D22                 | 02       | 1     | WALL PHONE LOCATION - SURFACE MOUTNED                                                  |
| F101<br>F102   | 02-A-D23<br>02-A-D24     | 02       | 1     | DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - FLUSH MOUNTED                         |
| F102           | 02-A-D25                 | 02       | 1     | WALL PHONE LOCATION - SURFACE MOUTNED                                                  |
| F102<br>F102   | 02-A-D26<br>02-A-D27     | 02       | 1     | WIRELESS ACCESS POINT - CEILING MOUNTED SHORT THROW PROJECTOR LOCATION                 |
| F102           | 02-A-D28                 | 02       | 1     | CLOCK LOCATION - SURFACE MOUNTED                                                       |
| F103<br>F103   | 02-A-D29<br>02-A-D30     | 02<br>02 | 1     | CLOCK LOCATION - SURFACE MOUNTED SHORT THROW PROJECTOR LOCATION                        |
| F103           | 02-A-D30<br>02-A-D31     | 02       | 1     | WIRELESS ACCESS POINT - CEILING MOUNTED                                                |
| F103           | 02-A-D32                 | 02       | 1     | DATA LOCATION - SURFACE MOUNTED                                                        |
| F103<br>F104   | 02-A-D33<br>02-A-D34     | 02       | 1     | WALL PHONE LOCATION - SURFACE MOUTNED  CLOCK LOCATION - SURFACE MOUNTED                |
| F104           | 02-A-D35                 | 02       | 1     | SHORT THROW PROJECTOR LOCATION                                                         |
| F104<br>F104   | 02-A-D36<br>02-A-D37     | 02       | 1     | DATA LOCATION - SURFACE MOUNTED WALL PHONE LOCATION - SURFACE MOUTNED                  |
| F104           | 02-A-D37<br>02-A-D38     | 02       | 1     | WIRELESS ACCESS POINT - CEILING MOUNTED                                                |
| F105<br>F105   | 02-A-D39<br>02-A-D40     | 02<br>02 | 1     | CLOCK LOCATION - SURFACE MOUNTED SHORT THROW PROJECTOR LOCATION                        |
| F105           | 02-A-D40<br>02-A-D41     | 02       | 1     | WIRELESS ACCESS POINT - CEILING MOUNTED                                                |
| F105           | 02-A-D42                 | 02       | 1     | DATA LOCATION - SURFACE MOUNTED                                                        |
| F105<br>F107   | 02-A-D43<br>02-A-D44     | 02       | 1     | WALL PHONE LOCATION - SURFACE MOUTNED  CLOCK LOCATION - SURFACE MOUNTED                |
| F107           | 02-A-D45                 | 02       | 1     | SHORT THROW PROJECTOR LOCATION                                                         |
| F107           | 02-A-D46<br>02-A-D47     | 02       | 1     | WIRELESS ACCESS POINT - CEILING MOUNTED  DATA LOCATION - SURFACE MOUNTED               |
| F107           | 02-A-D47<br>02-A-D48     | 02       | 1     | WALL PHONE LOCATION - SURFACE MOUTNED                                                  |
| F108           | 02-B-D1                  | 02       | 1     | CLOCK LOCATION - SURFACE MOUNTED                                                       |
| F108<br>F109   | 02-B-D2<br>02-B-D3       | 02       | 1     | DATA LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED                      |
| F109           | 02-B-D4                  | 02       | 1     | WIRELESS ACCESS POINT - CEILING MOUNTED                                                |
| F109<br>F109   | 02-B-D5<br>02-B-D6       | 02       | 1     | DATA LOCATION - SURFACE MOUNTED WALL PHONE LOCATION - SURFACE MOUTNED                  |
| F109           | 02-B-D7                  | 02       | 1     | SHORT THROW PROJECTOR LOCATION                                                         |
| G100B          | 02-B-D46                 | 02       | 1     | CLOCK LOCATION - SURFACE MOUNTED                                                       |
| G101<br>G101   | 02-B-D8<br>02-B-D9       | 02       | 1     | DATA LOCATION - SURFACE MOUNTED WALL PHONE LOCATION - SURFACE MOUTNED                  |
| G101           | 02-B-D10                 | 02       | 1     | MONITOR LOCATION - FLUSH MOUNTED                                                       |
| G101<br>G102   | 02-B-D11<br>02-B-D12     | 02       | 1     | CLOCK LOCATION - SURFACE MOUNTED WIRELESS ACCESS POINT - CEILING MOUNTED               |
| G102           | 02-B-D13                 | 02       | 1     | SHORT THROW PROJECTOR LOCATION                                                         |
| G102<br>G102   | 02-B-D14<br>02-B-D15     | 02       | 1     | CLOCK LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                      |
| G102           | 02-B-D16                 | 02       | 1     | WALL PHONE LOCATION - SURFACE MOUTNED                                                  |
| G103           | 02-B-D17                 | 02       | 1     | WIRELESS ACCESS POINT - CEILING MOUNTED                                                |
| G103<br>G103   | 02-B-D18<br>02-B-D19     | 02       | 1     | CLOCK LOCATION - SURFACE MOUNTED  WALL PHONE LOCATION - SURFACE MOUTNED                |
| G103           | 02-B-D20                 | 02       | 1     | DATA LOCATION - SURFACE MOUNTED                                                        |
| G103<br>G104   | 02-B-D21<br>02-B-D22     | 02       | 1     | SHORT THROW PROJECTOR LOCATION WIRELESS ACCESS POINT - CEILING MOUNTED                 |
| G104           | 02-B-D23                 | 02       | 1     | SHORT THROW PROJECTOR LOCATION                                                         |
| G104<br>G104   | 02-B-D24<br>02-B-D25     | 02<br>02 | 1     | CLOCK LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                      |
| G104<br>G104   | 02-B-D26                 | 02       | 1     | WALL PHONE LOCATION - SURFACE MOUTNED                                                  |
| G104A          | 02-B-D27                 | 02       | 1     | BAS DATA LOCATION                                                                      |
| G105A<br>G106  | 02-B-D28<br>02-B-D29     | 02       | 1     | DATA LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED                      |
| G106           | 02-B-D30                 | 02       | 1     | SECURITY CAMERA - REINSTALLED EXISTING FISHEYE                                         |
| G106<br>G106   | 02-B-D31<br>02-B-D32/D33 | 02       | 2     | WIRELESS ACCESS POINT - CEILING MOUNTED FLOOR BOX LOCATION                             |
| G112           | 02-B-D34                 | 02       | 1     | BAS DATA LOCATION                                                                      |
| GC100<br>GC100 | 02-B-D35                 | 02       | 1     | DUAL SIDE CLOCK - SURFACE MOUNTED                                                      |
| GC100<br>GC100 | 02-B-D36<br>02-B-D37     | 02       | 1     | SECURITY CAMERA - CEILING MOUNTED SECURITY CAMERA - CEILING MOUNTED                    |
| GC100          | 02-B-D38                 | 02       | 1     | SECURITY CAMERA - CEILING MOUNTED                                                      |
| GC100<br>H100  | 02-B-D39<br>02-B-D40     | 02       | 1     | SECURITY CAMERA - CEILING MOUNTED  CLOCK LOCATION - SURFACE MOUNTED                    |
| H100A          | 02-B-D41                 | 02       | 1     | CLOCK LOCATION - SURFACE MOUNTED                                                       |
| H100A<br>H100A | 02-B-D42<br>02-B-D43     | 02<br>02 | 1     | DATA LOCATION - FLUSH MOUNTED  DATA LOCATION - FLUSH MOUNTED                           |
| H100A          | 02-B-D44                 | 02       | 1     | WIRELESS ACCESS POINT - CEILING MOUNTED                                                |
| 1100A          | 02-B-D45                 | 02       | 1     | ROOM SCHEDULER LOCATION FLUSHED MOUNTED                                                |
| H100B<br>H100D | 02-B-D47<br>02-B-D48     | 02       | 1     | DATA LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED                      |
| H100D          | 02-C-D1                  | 02       | 1     | DATA LOCATION - FLUSH MOUNTED                                                          |
| H100E          | 02-C-D2<br>02-C-D3       | 02       | 1     | CLOCK LOCATION - SURFACE MOUNTED  DATA LOCATION - FLUSH MOUNTED                        |
| 1100E<br>1100F | 02-C-D4                  | 02       | 1     | CLOCK LOCATION - SURFACE MOUNTED                                                       |
| H100F          | 02-C-D5                  | 02       | 1     | MONITOR LOCATION - SURFACE MOUNTED                                                     |
| H100G<br>H100G | 02-C-D6<br>02-C-D7       | 02       | 1     | CLOCK LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                      |
| H102           | 02-C-D8                  | 02       | 1     | CLOCK LOCATION - SURFACE MOUNTED                                                       |
| H102<br>H104   | 02-C-D9<br>02-C-D10      | 02<br>02 | 1     | WALL PHONE LOCATION - SURFACE MOUTNED SHORT THROW PROJECTOR LOCATION                   |
| H104<br>H104   | 02-C-D10<br>02-C-D11     | 02       | 1     | DATA LOCATION - SURFACE MOUNTED                                                        |
| H104           | 02-C-D12                 | 02       | 1     | WALL PHONE LOCATION - SURFACE MOUTNED                                                  |
| H104<br>H104   | 02-C-D13<br>02-C-D14     | 02       | 1     | WIRELESS ACCESS POINT - CEILING MOUNTED  CLOCK LOCATION - SURFACE MOUNTED              |
| H105           | 02-C-D15                 | 02       | 1     | CLOCK LOCATION - SURFACE MOUNTED                                                       |
| H105           | 02-C-D16                 | 02       | 1     | DATA LOCATION - SURFACE MOUNTED                                                        |
| V111           | 02-C-D17                 | 02       | 1     | SECURITY CAMERA - CEILING MOUNTED                                                      |

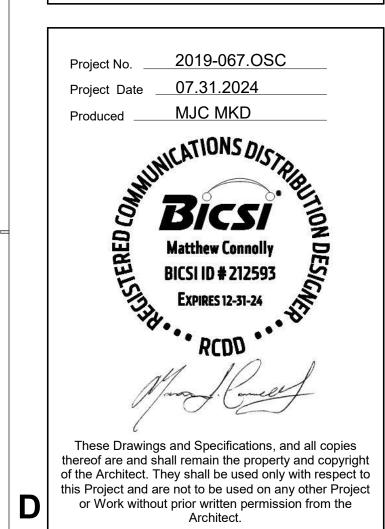
| IDF 02 ACCESS CONTROL SCHEDULE |               |                 |                    |  |  |  |
|--------------------------------|---------------|-----------------|--------------------|--|--|--|
| DOOR<br>NUMBER                 | LABEL         | TELECOM<br>ROOM | COMMENTS           |  |  |  |
| 1183                           | 1183-CR       | 02              | EAC DOOR TYPE D3A  |  |  |  |
| 1287                           | 1287-DPS      | 02              | EAC DOOR TYPE D2A  |  |  |  |
| EX-G101.2                      | EX-G101.2-DPS | 02              | EAC DOOR TYPE D1M  |  |  |  |
| G106A                          | G106A-CR      | 02              | EAC DOOR TYPE D3   |  |  |  |
| GC100.1                        | GC100.1-CR    | 02              | EAC DOOR TYPE D3AS |  |  |  |
| GC100.2                        | GC100.2-DPS   | 02              | EAC DOOR TYPE D1M  |  |  |  |
| GC101                          | GC101-DPS     | 02              | EAC DOOR TYPE D1M  |  |  |  |

1 VIDEO INTERCOM DOOR STATION

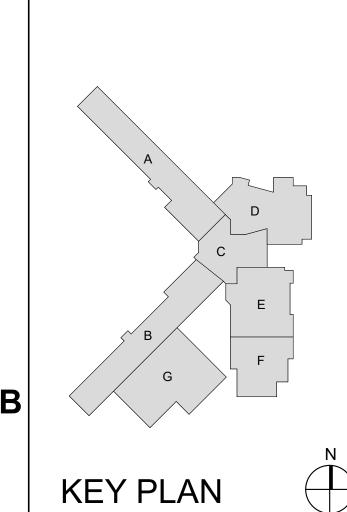
| ROOM   |          | TELECOM | DATA  |                                         |
|--------|----------|---------|-------|-----------------------------------------|
| NUMBER | LABEL    | ROOM    | PORTS | COMMENTS                                |
| A229E  | 04-B-D1  | 04      | 1     | SECURITY CAMERA - CEILING MOUNTED       |
| E101   | 04-B-D2  | 04      | 1     | SECURITY CAMERA - CEILING MOUNTED       |
| E101   | 04-B-D3  | 04      | 1     | WIRELESS ACCESS POINT - CEILING MOUNTED |
| E101   | 04-B-D4  | 04      | 1     | BAS DATA LOCATION                       |
| E101   | 04-B-D5  | 04      | 1     | BAS DATA LOCATION                       |
| E101   | 04-B-D6  | 04      | 1     | BAS DATA LOCATION                       |
| E101   | 04-B-D7  | 04      | 1     | BAS DATA LOCATION                       |
| E105   | 04-B-D8  | 04      | 1     | BAS DATA LOCATION                       |
| E105   | 04-B-D9  | 04      | 1     | BAS DATA LOCATION                       |
| E106   | 04-B-D10 | 04      | 1     | SECURITY CAMERA - CEILING MOUNTED       |
| E108   | 04-B-D11 | 04      | 1     | SECURITY CAMERA - CEILING MOUNTED       |
| E108   | 04-B-D12 | 04      | 1     | WIRELESS ACCESS POINT - CEILING MOUNTED |
| EXT    | 04-B-D13 | 04      | 1     | SECURITY CAMERA - CEILING MOUNTED       |

|              |                                  |          |       | 2011-2111-                                                                                              |
|--------------|----------------------------------|----------|-------|---------------------------------------------------------------------------------------------------------|
| ROOM         |                                  | IDF 07 T | DATA  | OGY SCHEDULE                                                                                            |
| NUMBER       | LABEL                            | ROOM     | PORTS | COMMENTS  DATA LOCATION CURRENCE MOUNTED                                                                |
| A200<br>A200 | 07-J-D1<br>07-J-D2               | 07<br>07 | 1 1   | DATA LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED                                       |
| A204<br>A204 | 07-J-D3<br>07-J-D4               | 07<br>07 | 1 1   | DATA LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED                                       |
| A204         | 07-J-D5                          | 07       | 1     | MONITOR LOCATION - SURFACE MOUNTED                                                                      |
| A207<br>A207 | 07-J-D6<br>07-J-D7               | 07<br>07 | 1 1   | DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                                        |
| A207<br>A207 | 07-J-D8<br>07-J-D9               | 07<br>07 | 1     | DATA LOCATION - SURFACE MOUNTED WIRELESS ACCESS POINT - CEILING MOUNTED                                 |
| A207         | 07-J-D10                         | 07       | 1     | SHORT THROW PROJECTOR LOCATION                                                                          |
| A208<br>A208 | 07-J-D11<br>07-J-D12             | 07<br>07 | 1 1   | DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                                        |
| A208<br>A208 | 07-J-D13/D14<br>07-J-D15/D16     | 07<br>07 | 2 2   | DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                                        |
| A208         | 07-J-D17/D18                     | 07       | 2     | DATA LOCATION - SURFACE MOUNTED                                                                         |
| A208<br>A208 | 07-J-D19/D20<br>07-J-D21         | 07<br>07 | 1     | DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                                        |
| A208<br>A208 | 07-J-D22<br>07-J-D23             | 07<br>07 | 1 1   | CLOCK LOCATION - SURFACE MOUNTED WIRELESS ACCESS POINT - CEILING MOUNTED                                |
| A208         | 07-J-D24                         | 07       | 1     | MONITOR LOCATION - SURFACE MOUNTED                                                                      |
| A209<br>A209 | 07-J-D25<br>07-J-D26             | 07<br>07 | 1 1   | DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                                        |
| A209<br>A209 | 07-J-D27<br>07-J-D28             | 07<br>07 | 1 1   | DATA LOCATION - SURFACE MOUNTED                                                                         |
| A209<br>A209 | 07-J-D28<br>07-J-D29             | 07       | 1     | DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                                        |
| A209<br>A209 | 07-J-D30<br>07-J-D31             | 07<br>07 | 1 1   | CLOCK LOCATION - SURFACE MOUNTED WIRELESS ACCESS POINT - CEILING MOUNTED                                |
| A209         | 07-J-D32                         | 07       | 1     | MONITOR LOCATION - SURFACE MOUNTED                                                                      |
| A210<br>A210 | 07-J-D33<br>07-J-D34             | 07<br>07 | 1 1   | DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                                        |
| A210<br>A210 | 07-J-D35<br>07-J-D36             | 07<br>07 | 1 1   | DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                                        |
| A210         | 07-J-D37                         | 07       | 1     | DATA LOCATION - SURFACE MOUNTED                                                                         |
| A210<br>A210 | 07-J-D38<br>07-J-D39             | 07<br>07 | 1 1   | CLOCK LOCATION - SURFACE MOUNTED WIRELESS ACCESS POINT - CEILING MOUNTED                                |
| A210<br>A211 | 07-J-D40<br>07-J-D41             | 07<br>07 | 1     | MONITOR LOCATION - SURFACE MOUNTED CLOCK LOCATION - SURFACE MOUNTED                                     |
| A211         | 07-J-D42                         | 07       | 1     | WIRELESS ACCESS POINT - CEILING MOUNTED                                                                 |
| A211<br>A212 | 07-J-D43/D44/D45/D46<br>07-J-D47 | 07<br>07 | 1     | DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                                        |
| A212         | 07-J-D48                         | 07       | 1     | DATA LOCATION - SURFACE MOUNTED                                                                         |
| A212<br>A212 | 07-K-D1<br>07-K-D2               | 07<br>07 | 1 1   | DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                                        |
| A212<br>A212 | 07-K-D3<br>07-K-D4               | 07<br>07 | 1 1   | DATA LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED                                       |
| A212         | 07-K-D5                          | 07       | 1     | WIRELESS ACCESS POINT - CEILING MOUNTED                                                                 |
| A212<br>A213 | 07-K-D6<br>07-K-D7               | 07<br>07 | 1 1   | MONITOR LOCATION - SURFACE MOUNTED  CLOCK LOCATION - SURFACE MOUNTED                                    |
| A213<br>A213 | 07-K-D8<br>07-K-D9               | 07<br>07 | 1 1   | SHORT THROW PROJECTOR LOCATION  DATA LOCATION - SURFACE MOUNTED                                         |
| A213         | 07-K-D10                         | 07       | 1     | WALL PHONE LOCATION - SURFACE MOUTNED                                                                   |
| A213<br>A214 | 07-K-D11<br>07-K-D12             | 07<br>07 | 1 1   | WIRELESS ACCESS POINT - CEILING MOUNTED  BAS DATA LOCATION                                              |
| A215<br>A215 | 07-K-D13<br>07-K-D14             | 07<br>07 | 1 1   | WIRELESS ACCESS POINT - CEILING MOUNTED CLOCK LOCATION - SURFACE MOUNTED                                |
| A215         | 07-K-D15                         | 07       | 1     | SHORT THROW PROJECTOR LOCATION                                                                          |
| A215<br>A215 | 07-K-D16<br>07-K-D17             | 07<br>07 | 1 1   | DATA LOCATION - SURFACE MOUNTED  WALL PHONE LOCATION - SURFACE MOUTNED                                  |
| A215<br>A215 | 07-K-D18<br>07-K-D19             | 07<br>07 | 1 1   | CLOCK LOCATION - SURFACE MOUNTED SHORT THROW PROJECTOR LOCATION                                         |
| A215         | 07-K-D20                         | 07       | 1     | WIRELESS ACCESS POINT - CEILING MOUNTED                                                                 |
| A215<br>A215 | 07-K-D21<br>07-K-D22             | 07<br>07 | 1 1   | DATA LOCATION - SURFACE MOUNTED  WALL PHONE LOCATION - SURFACE MOUTNED                                  |
| A219<br>A219 | 07-K-D23<br>07-K-D24             | 07<br>07 | 1     | CLOCK LOCATION - SURFACE MOUNTED SHORT THROW PROJECTOR LOCATION                                         |
| A219         | 07-K-D25                         | 07       | 1     | WIRELESS ACCESS POINT - CEILING MOUNTED                                                                 |
| A219<br>A219 | 07-K-D26<br>07-K-D27             | 07<br>07 | 1 1   | DATA LOCATION - SURFACE MOUNTED  WALL PHONE LOCATION - SURFACE MOUTNED                                  |
| A220         | 07-K-D28                         | 07       | 1     | BAS DATA LOCATION                                                                                       |
| A224<br>A224 | 07-K-D29<br>07-K-D30             | 07<br>07 | 1     | CLOCK LOCATION - SURFACE MOUNTED SHORT THROW PROJECTOR LOCATION                                         |
| A224<br>A224 | 07-K-D31<br>07-K-D32             | 07<br>07 | 1 1   | WIRELESS ACCESS POINT - CEILING MOUNTED  DATA LOCATION - SURFACE MOUNTED                                |
| A224         | 07-K-D33                         | 07       | 1     | WALL PHONE LOCATION - SURFACE MOUTNED                                                                   |
| A225<br>A225 | 07-K-D34<br>07-K-D35             | 07<br>07 | 1     | WIRELESS ACCESS POINT - CEILING MOUNTED  CLOCK LOCATION - SURFACE MOUNTED                               |
| A225<br>A225 | 07-K-D36<br>07-K-D37             | 07<br>07 | 1 1   | SHORT THROW PROJECTOR LOCATION  DATA LOCATION - SURFACE MOUNTED                                         |
| A225         | 07-K-D38                         | 07       | 1     | WALL PHONE LOCATION - SURFACE MOUTNED                                                                   |
| A226<br>A226 | 07-K-D39<br>07-K-D40             | 07<br>07 | 1     | CLOCK LOCATION - SURFACE MOUNTED SHORT THROW PROJECTOR LOCATION                                         |
| A226<br>A226 | 07-K-D41<br>07-K-D42             | 07<br>07 | 1 1   | WIRELESS ACCESS POINT - CEILING MOUNTED  DATA LOCATION - SURFACE MOUNTED                                |
| A226         | 07-K-D43                         | 07       | 1     | WALL PHONE LOCATION - SURFACE MOUTNED                                                                   |
| A227<br>A227 | 07-K-D44<br>07-K-D45             | 07<br>07 | 1 1   | WIRELESS ACCESS POINT - CEILING MOUNTED  CLOCK LOCATION - SURFACE MOUNTED                               |
| A227<br>A227 | 07-K-D46<br>07-K-D47             | 07<br>07 | 1     | SHORT THROW PROJECTOR LOCATION  DATA LOCATION - SURFACE MOUNTED                                         |
| A227         | 07-K-D48                         | 07       | 1     | WALL PHONE LOCATION - SURFACE MOUTNED                                                                   |
| A228<br>A228 | 07-L-D1<br>07-L-D2               | 07<br>07 | 1 1   | CLOCK LOCATION - SURFACE MOUNTED SHORT THROW PROJECTOR LOCATION                                         |
| A228<br>A228 | 07-L-D3<br>07-L-D4               | 07<br>07 | 1     | WIRELESS ACCESS POINT - CEILING MOUNTED  DATA LOCATION - SURFACE MOUNTED                                |
| A228         | 07-L-D5                          | 07       | 1     | WALL PHONE LOCATION - SURFACE MOUTNED                                                                   |
| A229<br>A229 | 07-L-D6<br>07-L-D7               | 07<br>07 | 1 1   | CLOCK LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                                       |
| A229<br>A229 | 07-L-D8<br>07-L-D9               | 07<br>07 | 1 1   | DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                                        |
| A229         | 07-L-D10                         | 07       | 1     | DATA LOCATION - SURFACE MOUNTED                                                                         |
| A229<br>A229 | 07-L-D11<br>07-L-D12             | 07<br>07 | 1 1   | DATA LOCATION - SURFACE MOUNTED  DATA LOCATION - SURFACE MOUNTED                                        |
| A229         | 07-L-D13                         | 07       | 1     | DATA LOCATION - SURFACE MOUNTED                                                                         |
| EXT<br>EXT   | 07-L-D14<br>07-L-D15             | 07<br>07 | 1     | SECURITY CAMERA - WALL MOUNTED 6" BELOW TOP OF BRIC SECURITY CAMERA - WALL MOUNTED 6" BELOW TOP OF BRIC |
| S200<br>S200 | 07-L-D16<br>07-L-D17             | 07<br>07 | 1 1   | SECURITY CAMERA - CEILING MOUNTED SECURITY CAMERA - CEILING MOUNTED                                     |
| S200         | 07-L-D18                         | 07       | 1     | SECURITY CAMERA - CEILING MOUNTED                                                                       |
| S200<br>S200 | 07-L-D19<br>07-L-D20             | 07<br>07 | 1 1   | SECURITY CAMERA - CEILING MOUNTED SECURITY CAMERA - CEILING MOUNTED                                     |
| S200         | 07-L-D21                         | 07       | 1     | DUAL SIDE CLOCK - SURFACE MOUNTED                                                                       |





|   | # | Revision           | Date       |
|---|---|--------------------|------------|
|   | 1 | Addendum #01       | 08/22/2024 |
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|   |   | 8401 Westfield I   |            |
|   |   | Indianapolis, IN 4 | 6240       |





**RENOVATION -**PHASE 6B

> TECHNOLOGY SCHEDULE

> > T500

| Original Bid |            |                                                                       |
|--------------|------------|-----------------------------------------------------------------------|
| Set Number   | New Number | Name                                                                  |
|              | •          |                                                                       |
| A-103        | A100       | ELEM (X2)                                                             |
| A-105        | A101       | ELEM (X2)                                                             |
| A-108        | A102       | MIDDLE SCHOOL (X3)                                                    |
| A-107        | A103       | ELEM (X2)                                                             |
| A-109        | A104       | ELEM (X2)                                                             |
| A-110        | A105       | MECHANICAL                                                            |
| A-112        | A106       | MIDDLE SCHOOL TEXTBOOK                                                |
| A-111        | A107       | HIGH SCHOOL                                                           |
| A-113        | A108       | OT/PT STOR.                                                           |
| A-115        | A109       | OT/PT STOR.                                                           |
| A-116        | A110       | HIGH SCHOOL TEXTBOOK                                                  |
| A-117        | A111       | MECHANICAL                                                            |
| A119A        | A112       | MDF                                                                   |
| A119B        | A113       | STAFF WORKROOM                                                        |
| A118A        | A114       | STORAGE                                                               |
| A118B        | A114A      | STORAGE                                                               |
| A-120        | A115       | HIGH SCHOOL FILES                                                     |
| A-121        | A116       | JEL + TRUE NORTH + ELC                                                |
| A121A        | A116A      | STORAGE                                                               |
| A121B        | A116B      | STORAGE                                                               |
| A-122        | A117       | MIDDLE SCHOOL FILES                                                   |
| A-123        | A118       | CEC STORAGE                                                           |
| A-124        | A119       | ELEM SCHOOL FILES                                                     |
| A-125        | A120       | FOUNDATION STORAGE                                                    |
| A-126        | A121       | TEACHERS TREASURES                                                    |
| A127A        | A122       | BOYS RR                                                               |
| A127B        | A123       | JANITOR                                                               |
| A127C        | A124       | WOMENS RR                                                             |
| Not Placed   | A125       | STOR                                                                  |
| B-103        | B100       | CORRIDOR                                                              |
| B105A        | B100.1     | OPERATIONS ADMIN ASST./CHILD NUTRITION ASST./OPERATIONS ASST./WAITING |
| B103J        | B100.2     | WORKROOM/ FILE STORAGE                                                |
| B103B        | B100A      | IDF                                                                   |
| B103C        | B100B      | CHIEF OF POLICE                                                       |
| B103D        | B100B.1    | ARMORY                                                                |
| B103G        | B100C      | CONFERENCE ROOM/ COMMAND CENTER                                       |
| B103K        | B100D      | CHILD NUTRITION COOR.                                                 |
| B103L        | B100E      | CHILD NUTRITION ASST. DIR.                                            |
| B105B        | B100F      | CHILD NUTRITION DIRECTOR                                              |
| B105C        | B100G      | OPER. COOR                                                            |
| B105H        | B100H      | ASST. DIRECTOR OF OPERATIONS                                          |
| B105J        | B100J      | DIRECTOR OF OPERATIONS                                                |
| B105K        | B100K      | STOR                                                                  |
| B105E        | B100L      |                                                                       |
| B105E        | B100M      | STOR                                                                  |
| B105F        | B100N      | CAPITAL PROJECT MANAGER                                               |
| B105G        | B100N.1    | STOR                                                                  |
| B105D        | B100P      | STOR                                                                  |

| Original Bid |            |      |
|--------------|------------|------|
| Set Number   | New Number | Name |

| B103N  | B100Q | OPER. STORAGE                       |
|--------|-------|-------------------------------------|
| B103M  | B100R | STOR/ELEC                           |
| B103H  | B100S | KITCHENETTE                         |
| B103F  | B100T | TRAFFIC SECURITY OFFICE             |
| B103E  | B100U | STOR                                |
| B103A  | B100V | MAIL ROOM                           |
| B-102  | B101  | CONF.                               |
| B-104  | B102  | LARGE CONF ROOM                     |
| B-106  | B103  | MECHANICAL                          |
| B-107  | BC100 | CORRIDOR                            |
| B-108  | B104  | CAP. PROJ STORAGE                   |
| B-110  | B105  | CAPITAL PROJECT TOUCHDOWN/CONF ROOM |
| B-109  | B106  | RR                                  |
| B-111  | B107  | RR                                  |
| B-112  | B108  |                                     |
| B-113  | B109  | FOOD SERVICE STORAGE                |
| B-114  | B110  |                                     |
| B-115  | B111  |                                     |
| B-116  | B112  |                                     |
| B116A  | B112A |                                     |
| B-117  | B113  |                                     |
| B-118  | B114  |                                     |
| B-119  | B115  | MECHANICAL                          |
| B-121  | B116  |                                     |
| B121A  | B116A |                                     |
| B-120  | B117  | MECHANICAL                          |
| B-122  | B118  |                                     |
| B-123  | B119  |                                     |
| B-124  | B120  |                                     |
| B-125  | B121  |                                     |
| B125A  | B121A |                                     |
| B-126  | B122  |                                     |
| B-127  | B123  |                                     |
| B128A  | B124  | BOYS RR                             |
| B128B  | B125  | JANITOR                             |
| B128C  | B126  | GIRLS RR                            |
| B-129  | B127  |                                     |
| B129A  | B127A |                                     |
| B-131  | B128  |                                     |
| B-1    | B-1   | ELEVATOR                            |
| B-183  | B-129 | STORAGE                             |
| B-162  | B-162 |                                     |
| C-104A | C108  | BOILER ROOM                         |
| C-104A | C108A | CHILLER ROOM                        |
| A-100  | C100  | MINDFULNESS ROOM                    |
| A-102  | C101  | PRINT SHOP                          |
| A102A  | C101A | OFFICE                              |

| Original Bid |            |      |
|--------------|------------|------|
| Set Number   | New Number | Name |

| _          |       |                      |
|------------|-------|----------------------|
| A102B      | C101B | OFFICE               |
| A102C      | C101C | STORAGE              |
| A101C      | C102  | BOYS RR              |
| A101B      | C103  | ELEC/CUST            |
| A101A      | C104  | GIRLS RR             |
| C-102      | C105  | KITCHEN              |
| C102E      | C105A |                      |
| C102D      | C105B |                      |
| C102C      | C105C | DRY STORAGE          |
| Not Placed | C105D |                      |
| C102B      | C105E |                      |
| C102A      | C105F |                      |
| C102G      | C105G | CUSTODIAN            |
| C-103      | C105H |                      |
| C102H      | C105J | ELEVATOR EQUIP       |
| C102F      | C105K |                      |
| Not Placed | C106  |                      |
| Not Placed | C107  |                      |
| B100A      | C108  | GIRLS RR             |
| B100C      | C109  | BOYS RR              |
| B100B      | C109A | JANITOR              |
| B-1A       | C109B | ELEVATOR EQUIP       |
| B-101      | C110  | ADMIN ASST. SECURITY |
| B101A      | C110A | STORAGE              |
| C-1        | C-1   | ELEVATOR             |
| C-101      | C-116 |                      |
| CA000      | CA000 | CORRIDOR             |
| CA001      | CA001 | CORRIDOR             |
| CA002      | CA002 | CORRIDOR             |
| D-102      | D101  | WTEA STORAGE         |
| D102A      | D101A | OFFICE               |
| D101A      | D102A | STAGE                |
| D101B      | D102B |                      |
| D101C      | D102C |                      |
| D101D      | D102D |                      |
| D101E      | D102E |                      |
| D101F      | D102F | OPERATIONAL STORAGE  |
| D109A      | D102G | MECHANICAL           |
| D-109      | D102H | ELECTRICAL           |
| D-104      | D103  | CUSTODIAL            |
| D110B      | D103A |                      |
| D110A      | D103B |                      |
| D105A      | D104  |                      |
| D105R      | D105  | WOMENS RR            |
| D105C      | D106  | MENS RR              |
| D-106      | D107  | TECH WAREHOUSE       |
| D106A      | D107A | AV TECH              |
| 2 100/ (   | D10/A | ,                    |

| Original Bid |            |      |
|--------------|------------|------|
| Set Number   | New Number | Name |

| D106B | D107B |                  |
|-------|-------|------------------|
| D106C | D108  |                  |
| D-108 | D109  | TECH STAGING     |
| D108A | D109A | REPAIR TECH      |
| D108B | D109B | WORK             |
| D108C | D109C |                  |
| D108D | D109D |                  |
| D108E | D109E |                  |
| D108F | D109F |                  |
| D108G | D109G |                  |
| D-107 | D110  | MECHANICAL       |
| C-106 | D112  | LOADING DOCK     |
| D100  | D100  | CUSTODIAL        |
| D-101 | D102  | AUDITORIUM       |
| E-122 | E100  | CONCESSIONS      |
| E-101 | E101  | MAIN GYM         |
| E101G | E101A | GATOR STORAGE    |
| E101H | E101B | JANITOR          |
| E101J | E101C | SECURITY STORAGE |
| E101K | E101D |                  |
| E101L | E101E |                  |
| E101M | E101F |                  |
| E101N | E101G | RR               |
| E101P | E101H |                  |
| E102A | E101J |                  |
| E101A | E101K |                  |
| E101B | E101L |                  |
| E101C | E101M |                  |
| E101D | E101N |                  |
| E-100 | E101P | STORAGE          |
| E-102 | E102  | LOCKER ROOM      |
| E102A | E102A |                  |
| E-104 | E103  | LOCKER ROOM      |
| E105C | E103A |                  |
| E-103 | E104  | LOCKER ROOM      |
| E-106 | E105  | WRESTLING ROOM   |
| E141  | E105A |                  |
| E105A | E106  |                  |
| E-105 | E107  | LOCKER ROOM      |
| E105B | E107A |                  |
| E109B | E108  | MENS RR          |
| E109A | E109  | WOMENS RR        |
| E-108 | E110  | AUXILIARY GYM    |
| E108A | E110A |                  |
| E108B | E110B |                  |
| E107D | E110C |                  |
| E-107 | E111  | LOCKER ROOM      |
| _ 10/ |       | LOCKEN NOOM      |

| Original Bid |            |      |
|--------------|------------|------|
| Set Number   | New Number | Name |

| E107C | E111A |                           |
|-------|-------|---------------------------|
| E107B | E111B |                           |
| F109  | F100  | CLASSROOM                 |
| F107  | F101  | CLASSROOM                 |
| F107A | F101A | SMALL GROUP               |
| F108  | F102  | SRO                       |
| F107A | F103  | ELEC.                     |
| F105  | F104  | CLASSROOM                 |
| F105A | F104A | SMALL GROUP               |
| F106B | F105  | STOR                      |
| F106A | F106  | STOR                      |
| F103  | F108  | CLASSROOM                 |
| F101C | F109  | MENS RR                   |
| F104  | F110  | RESOURCE                  |
| F101B | F110  | WOMENS RR                 |
| F101A | F111  | JANITOR                   |
| F102  | F112  | CLASSROOM                 |
| F101  | F113  | CLASSROOM                 |
| H100  | G100  | RECEPTION                 |
| H100A | G100A | CUMM. COUNS.              |
| H100B | G100B | GUID. COUN.               |
| H100C | G100C | MECH.                     |
| H100D | G100D | SOC. WORKER               |
| H100E | G100E | PRINCIPAL                 |
| H100F | G100F | CONFERENCE ROOM           |
| H100G | G100G | NURSE                     |
| H100H | G100H | RR                        |
| H-101 | G101  | LAUNDRY                   |
| H102  | G102  | KITCHENETTE               |
| H102A | G102A | RR                        |
| H102B | G102B | RR                        |
| H-105 | G103  | STAFF WORKROOM            |
| H-106 | G104  | STOR                      |
| H-107 | G104A | MECHANICAL                |
| H-108 | G105  | ELEC                      |
| F-100 | G106  | CAFETERIA                 |
| G-106 | G106A | SERVING                   |
| G106A | G106B | KITCHEN                   |
| G106B | G106C | STOR                      |
| G105A | G106D | IDF                       |
| G-101 | G107  | RESOURCE / COUNSELOR ROOM |
| H109A | G108  | RESTROOM                  |
| H109B | G109  | RESTROOM                  |
| H-104 | G110  | CLASSROOM                 |
| H109C | G111  | RESTROOM                  |
| H-103 | G112  | MECHANICAL                |
| GC100 | GC100 | CORRIDOR                  |
|       |       | 1                         |

| Original Bid |            |      |
|--------------|------------|------|
| Set Number   | New Number | Name |

| GC101 | GC101 | CORRIDOR       |
|-------|-------|----------------|
| G-102 | H101  | CLASSROOM      |
| G103  | H102  | CLASSROOM      |
| G103A | H102A | RR             |
| G103B | H102B | ELEC           |
| G103B | H102C | ELEC           |
| G-104 | H103  | CLASSROOM      |
| G104A | H103A | BREAKOUT SPACE |
| S-001 | S-001 | STAIRS         |
| S-100 | S-100 | STAIRS         |
| S-101 | S-101 | STAIR          |
| S-102 | S-102 | STAIRS         |
| S-103 | S-103 | STAIRS         |
| S-104 | S-104 | STAIRS         |
| S-105 | S-105 | STAIRS         |
| S-106 | S-106 | STAIR          |
| V104A | V104A |                |
| V104B | V104B |                |
| V111  | V111  | VESTIBULE      |
| V-100 | V-100 | VESTIBULE      |
| V-101 | V-101 | VESTIBULE      |
| V-102 | V-102 | VESTIBULE      |
| V-103 | V-103 | ENTRY          |
| V-104 | V-104 | VESTIBULE      |
| V-105 | V-105 | VESTIBULE      |
| V-106 | V-106 | VESTIBULE      |
| V-107 | V-107 | VESTIBULE      |
| V-108 | V-108 | VESTIBULE      |
| V-109 | V-109 | VESTIBULE      |
| V-110 | V-110 | VESTIBULE      |
| V-112 | V-112 | VESTIBULE      |
| V-113 | V-113 | VESTIBULE      |
| F-110 | Z100  | CLINIC         |
| F110A | Z100A | RECEPTION      |
| F110C | Z100B | OFFICE         |
| F100E | Z100C | EXAM 1         |
| F100G | Z100D | EXAM 2         |
| F110H | Z100E | OFFICE         |
| F110F | Z100F | EXAM 3         |
| F110D | Z100G | EXAM 4         |
| F110B | Z100H | RR             |
| A201A | A200  | WOMENS RR      |
| A202A | A201  | WOMENS RR      |
| A201B | A202  | JANITOR        |
| A202B | A203  | MENS RR        |
| A201C | A204  | MENS RR        |
| A-206 | A206  | SUPPLIES       |

| Original Bid |            |      |
|--------------|------------|------|
| Set Number   | New Number | Name |

| A-207 | A207  | CONF ROOM             |
|-------|-------|-----------------------|
| A-208 | A208  | OFFICE SCHOOL TECH    |
| A-209 | A209  | NETWORK TEAM          |
| A-210 | A210  | OFFICE TECH ANALYTICS |
| A-211 | A211  | NETWORK STAGING       |
| A-212 | A212  | OFFICE DATA           |
| A-213 | A213  | ELEM                  |
| A-214 | A214  | MECH                  |
| A-216 | A215  | GROWTH                |
| A-215 | A216  | SECONDARY             |
| A217A | A217  | STORAGE               |
| A217B | A218  | STORAGE               |
| A-218 | A219  | GROWTH                |
| A-219 | A220  | MECH                  |
| A221A | A221  | STORAGE               |
| A221B | A222  | STORAGE               |
| A-220 | A223  | SUPPLIES              |
| A-222 | A224  | PD CLASSROOM          |
| A-223 | A225  | PD CLASSROOM          |
| A-224 | A226  | PD CLASSROOM          |
| A-225 | A227  | PD CLASSROOM          |
| A-226 | A228  | PD CLASSROOM          |
| A-227 | A229  | WORKROOM              |
| A-228 | A230  | HISTORY ARCHIVES      |
| A229A | A231  | MENS RR               |
| A229B | A232  | JANITOR               |
| A229C | A233  | WOMENS RR             |
| A-204 | A205  | TECHNOLOGY DIRECTOR   |
| B-206 | B200  |                       |
| B206A | B200A |                       |
| B-207 | B201  |                       |
| B-208 | B202  |                       |
| B-209 | B203  |                       |
| B-210 | B204  |                       |
| B-211 | B205  |                       |
| B-212 | B206  |                       |
| B212A | B206A |                       |
| B-213 | B207  |                       |
| B-215 | B208  | MECHANICAL            |
| B-216 | B209  |                       |
| B212B | B209A |                       |
| B-217 | B210  |                       |
| B-218 | B211  |                       |
| B-219 | B212  |                       |
| B219A | B212A |                       |
| B-220 | B213  | MECHANICAL            |
| B-221 | B214  |                       |

| Original Bid   |             |                |
|----------------|-------------|----------------|
| Set Number     | New Number  | Name           |
|                | rew reamber | Trume .        |
| B222B          | B215        |                |
| B222B          | B215        |                |
| B-223          | B217        |                |
| B-223          | B217        |                |
| B-225          | B219        |                |
| B-225          | B220        |                |
| B-227          | B221        |                |
| B228A          | B222        | BOYS RR        |
| B228B          | B223        | JANITOR        |
| B228C          | B224        | GIRLS RR       |
| B-229          | B225        | OINES NIX      |
| B-223          | B-2         | ELEVATOR       |
| C-207          | C200        | TECHNOLOGY HUB |
| C-207<br>C-213 | C200A       | OFFICE         |
| C-213<br>C-211 | C200A       | OFFICE         |
| C-211          | C200C       | OFFICE         |
| C-210          | C200D       | OFFICE         |
| C-208          | C200E       | AV CLOSET      |
| C-206          | C200F       | OFFICE         |
| C-205          | C200G       | OFFICE         |
| C-203          | C200H       | STORAGE        |
| C-202<br>C-201 | C200J       | OFFICE         |
| B201A          | C201        | MENS RR        |
| B201A<br>B201B | C202        | WOMENS RR      |
| B202A          | C203        | WOMENS RR      |
| B202C          | C204        | MENS RR        |
| B202B          | C204A       | JANITOR        |
| B-205          | C205        |                |
| B-203          | C206        | STAFF LOUNGE   |
| A-200          | C207        | FLEX OFFICE    |
| D-200          | C208        | TELX OFFICE    |
| D-201          | C209        |                |
| D201A          | C209A       |                |
| D201B          | C209B       |                |
| C201C          | C209C       |                |
| DM202          | C209D       | MECHANICAL     |
| D-202          | C210        | - <del></del>  |
| DM201          | C210A       | MECHANICAL     |
| DM200          | C210B       | MECHANICAL     |
| C-2            | C-2         | ELEVATOR       |
| S-200          | S-200       | STAIRS         |
| S-201          | S-201       | STAIR          |
| S-202          | S-202       | STAIR          |
| S-203          | S-203       | STAIRS         |
| S-204          | S-204       | STAIRS         |
| S-205          | S-205       | STAIRS         |
| S-206          | S-206       | STAIR          |
|                | 1           |                |