ADDENDUM NO. 4

November 6, 2024

Loy Norrix High School Mechanical Improvements
606 East Kilgore Rd
Kalamazoo, MI 49001

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 September 16, 2024, by TowerPinkster. Acknowledge receipt of the Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of Pages ADD 4-1 and TowerPinkster Addendum No. 02 dated November 5, 2024, consisting of 11 pages.

A. **SPECIFICATION SECTION 01 12 00 MULTIPLE CONTRACT SUMMARY**

Paragraph 3.03 BID CATEGORIES

A. BID CATEGORY NO. 1- General Trades

Add the following Clarifications

1. [Refer to RFI No. 2A, item 2] Full retainage will be held until completion of entire project.
2. [Refer to RFI No. 2B, item 4] **Bid Category # 01** is responsible for any masonry patching and aluminum/glass patching requred at the new exterior waal louver openings for the Unit Ventilators. **Bid Category# 05** is responsible for demo/removal of old UVs and louvers and installation of new UVs and louvers.

3. [Refer to RFI No. 2B, items 5-8] Bid **Category# 01** is responsible for any removal of glass or metal panels; installation of any architectural filler pieces or panels; plastic laminate filler panels; masonry cutting; patching or infills; concrete work; **Bid Category# 05** is responsible for demo/removal of old louvers and duct work, and installation of new louvers and ductwork.

B. BID CATEGORY NO. 3-Interior Finishes

Add the following Clarifications

1. [Refer to RFI No. 2A, item 2] Full retainage will be held until completion of entire project.

D. BID CATEGORY NO. 5-Mechanical

Add the following Clarifications

1. [Refer to RFI No. 2A, item 2] Full retainage will be held until completion of entire project.
2. **Bid Category# 05** is responsible for the break metal closure pieces shown on A101M note 24.
3. [Refer to RFI No. 2B, items 5-8] Bid **Category# 01** is responsible for any removal of glass or metal panels; installation of any architectural filler pieces or panels; plastic laminate filler panels; masonry cutting; patching or infills; concrete work; **Bid Category# 05** is responsible for demo/removal of old louvers and duct work, and installation of new louvers and ductwork.

E. BID CATEGORY NO. 6-Electrical

Add the following Clarifications

1. [Refer to RFI No. 2A, item 2] Full retainage will be held until completion of entire project.

B. **Refer to the attached Request For Information summary, Pre-Bid RFI No. 01 through 9 are included.**

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KPS Loy Norrix Mechanical Improvements - Pre-Bid RFI Log

11/5/2024

RFI #	Company Submitting RFI	Date Received	RFI Description	RFI Response
1	Allied Electric	10/10/2024	• On sheet E 403 it says new panel MCCDA, but it's not outlined as such, and it's not shown on any of the prints. If that is a new panel, why doesn't it have its feeder on the feeder schedule? • It shows us running a new feeder for LPA3, which is an existing panel in section A. Why is this being shown? Why is it shown on E 801 as being refed from SDPPA? • Also, in alternate 2 it wants us to remove and provide new feeder cable to that existing primary switchgear, where is this switchgear located? Is it right next to the transformer?	**Panel MCCDA is existing to remain.** **Panel LPA3 is existing to remain.** **Primary switch is in the room to the south.** TP
2A	Kalamazoo Mechanical	10/12/2024	1. When will the 1-year workmanship warranty begin for the work completed in summer 2025? Will there be a split substantial completion date? One for 2025? And one for 2026? Further, if there is only going to be one substantial completion date at the end of 2026, who will be responsible for the normal wear and tear, maintenance etc, of the newly installed mechanical equipment during the 2025/2026 school year? 2. After the work completed in 2025 will the owner be willing to reduce the retainage at all? If so, what will this look like? Or will the full 10% retainage be held until the end of 2026 when the project is complete? 3. Which bid category is responsible for the break metal closure pieces shown on A101M note 24?	1. The 1-year warranty for work completed in 2025 will start upon turnover (startup/T&B/commissioning) of that phase's work/installs. Our specifications should provide you answers on who is responsible (contractor vs owner) for normal wear and tear, maintenance and consumables (e.g. filters) from the point of Substantial Completion forward for each of the two phases. TSC 2. No. Fill retainage will be held until completion of entire project. TSC 3. Mechanical bid category TSC
2B	Kalamazoo Mechanical	10/12/2024	4. Ref sheets M101M, A101M, and A321. There looks to be masonry patching, and aluminum/glass patching required at the new exterior wall louver openings for the UVs. Please confirm which bid category is responsible for this cutting and patching work. Standard practice is the mechanical contractor would demo the old UV and louver, then provide and install the new UV and louver. All other work would be by the arch trades. 5. Ref Sheets M303, A100K, and AD302. Sheet AD302 shows a large section of glazing being removed at each new louver location, Sheet A100K shows a new louver being installed and insulated aluminum panels being installed to fill around the louver. Please clarify which bid category is responsible for removing the glass panel, and then installing any arch filler pieces around the new louver. Similar to the previous question, standard practice is the mechanical contractor would demo the old louver, then provide and install the new louver. All other work would be by the arch trades. 6. Ref sheets A100K and M301. Per detail 1/M301, much duct demo is required, and much of this duct penetrates the south wall. The detail 2 on the same sheet, shows only a portion of this duct getting replaced. Thus, there will be large openings in this wall that are not filled. How should this wall be patched to achieve the 1 hr rating, and what bid package is responsible for performing the work? 7. Reference sheet A101C. Which bid category is responsible for the filler panels described in note 11? 8. Sheets M310 and M401 show new concrete pads under the new mechanical equipment. Which bid category is responsible for installing the new concrete pads?	4. To be answered in forthcoming Addendum TSC 5. To be answered in forthcoming Addendum TSC 6. To be answered in forthcoming Addendum See upcoming Addendum - TP 7. To be answered in forthcoming Addendum TSC 8. Layout of pads is by Mechanical bid category, pad construction is by General Trades category. TSC
3	Allied Electric	10/14/2024	do you by chance know if the school has a preferred security contractor?	[Brett @ TP 10/30/2024] There is no preferred security contractor. TP
4	Martell Electric	10/25/2024	I am looking for clarification on the Fire Alarm System that will be installed on this project. The specs and drawings contradict each other. In the spec it says Galaxy, but the prints show Tridium parts.	[Ryan @ TP 10/30/2024] ...seems like they're asking about BMS, not the fire alarm system. We have the fire alarm noted as EST on sheet EG101. Fire alarm for the drawings and specs is coordinated. This is a picture of the Loy Norrix Fire Alarm Control Panel, It appears to be EST which matches the drawings and spec. I have ran into cases where the exterior of the panel is from a different vendor. TP
5	Allied Electric	10/30/2024	I was talking about access controls not fire alarm, because on sheet T101L it shows 2 card readers to be put in as well as some lockdown buttons. Also, in their specs on 28 1300 page 4 it says to provide a Galaxy Control System, which I don't know if that's going to be a new system or are we tying into an existing system? I am seeing neither an existing nor a new access control panel anywhere on the prints, that is why I was wondering if the school had their own contractor, since they would know more about the existing system	[Brett @ TP 10/30/2024] A new Tridium Access Control system was installed during Summer of 2024. Specs and Drawings to be updated in forthcoming Addendum. [Brett @ TP 11/5/2024] Existing AC panel located in Work Room of Main Office. Refer to T 101K in Addendum No. 2. TP
6	Allied Electric	10/30/2024	I had another question that just came to mind, on the last addendum there's a couple more ceilings to be demoed on AD 100K and 200K, is the electrical contractor to remove and reinstall the existing lights or do they want new ones?	Refer to elec demo keynote #1 on electrical demo sheets. TP
7	Victaulic	11/4/2024	We have [a contractor] interesting in using our Victaulic Thermal Movement Design for the expansion / contraction at Loy Norrix. Do you have any issue allowing this as an option? I attached general verbiage and also attached your master spec with updates allowing this, those updates will be highlighted in yellow. Please let me know what information you need on my end if you approve.	Victaulic thermal movement is approved - See upcoming addendum. TP
8	RW LaPine	11/5/2024	Will temporary cooling/ventillation be required? With the number of areas being worked on, this is going to be an extremely large project to cool, as well as an extremely large price tag. I'm having a hard time justifying the cost to the District. Our plan would be to leave everything on while students/staff are present and have the system back online for the first day. I am more curious about the temp cooling/ventilation during the construction phases while the building is unoccupied other than construction wokers.	[DVT 11/5/2024] I will put in the addendum that cooling/ventilation is NOT required when building is NOT occupied (by students or staff). In the event it is needed in certain areas for paint finishes, or other reasons, we will utilize contractors Allowance to cover it. TSC
9				

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ADDENDUM NO. 2

DATE OF ISSUANCE:	**NOVEMBER 5, 2024**
PROJECT:	**Loy Norrix High School Mechanical Improvements** **606 East Kilgore Road** **Kalamazoo, MI 49001**
OWNER:	**Kalamazoo Public Schools**
ARCHITECT'S PROJECT NO.:	**21-807.00**
ORIGINAL BID ISSUE DATE:	**September 16, 2024**

SCOPE OF WORK

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

DOCUMENTS INCLUDED IN THIS ADDENDUM

This Addendum includes **3** pages of text and the following documents:

- Bidding Documents: **None**
- Contract Conditions: **None**
- Specification Sections: **None**
- Drawings: **A 100K, S 002, S 201K, E403, E405, E802, T 101K, and T 441**

CHANGES TO PREVIOUSLY ISSUED ADDENDA

None.

CHANGES TO BIDDING REQUIREMENTS

None.

CHANGES TO CONTRACT CONDITIONS

None.

CHANGES TO SPECIFICATIONS

ADD-2 Item No. S-1 - Fire Rated Glass:

Refer to Specification Section: 08 8000 Glazing

Added Safti First to the 08 8000 Glazing section as an acceptable manufacturer.

2.3 FIRE-RATED GLAZING PRODUCTS

A. Fire-Protection Rating: As indicated for the assembly in which glazing material is installed, and permanently labeled by a testing and inspecting agency acceptable to authorities having jurisdiction.

B. Laminated Ceramic Glazing (FG): Laminated glass made from 2 plies of clear, ceramic flat glass; 5/16-inch(8-mm) total nominal thickness; complying with testing requirements in 16 CFR 1201 for Category II materials.

1. Products: Subject to compliance with requirements, provide one of the following:

a. Schott North America, Inc.; Pyran Platinum L.

b. Safti First, Superlite II-XL60

ADD-2 Item No. S-2 - Expansion Fittings and Loops For HVAC Piping:

Refer to Specification Section: 23 0516 Expansion Fittings and Loops For HVAC Piping

Victaulic thermal movement is an approved manufacturer.

CHANGES TO DRAWINGS

ADD-2 Item No. D-1 - Classroom K-1 Lintel and Wall Details

Refer to Sheet[s]: S 002, S 201K

Added lintel designations on S 201K at locations of large duct penetrations. Added details for masonry lintels and top of masonry wall support on S 002.

ADD-2 Item No. D-2 - Classroom K-1 Wall

Refer to Reissued Sheet[s]: A 100K

Remove and rebuild the upper section of the wall between Classroom K-1 and Mech. Room from the bottom of the lowest existing wall duct penetration to the top of wall. See Drawing A 100K for more details.

ADD-2 Item No. D-3 - Access Control Panel Location

Refer to Sheet(s): T 101K

Added access control panel location in the work room of main office 291.

ADD-2 Item No. D-4 - Removed References to Electrical Panels with No New Work

Refer to Sheet(s): E403 and E405

Noted panel MCCDA as existing on E403

Removed feeder for existing panel to remain LPA3

ADD-2 Item No. D-5 - Added Existing Switchgear Location

Refer to Sheet(s): E802

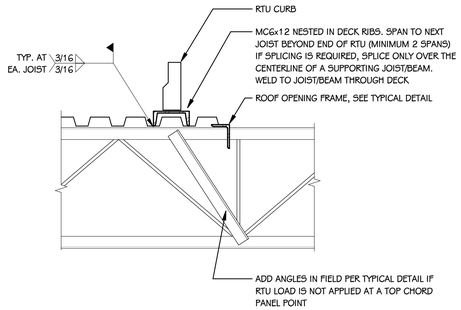
Showed existing switchgear location on drawing E802.

ADD-2 Item No. D-6 - Tridium AC Panel Riser Notes

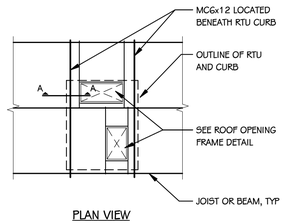
Refer to Sheet(s): T 441

Revised Tridium AC Panel to show that the current AC Panel in office 291 is existing and recently upgraded.

END OF ADDENDUM.



SECTION A-A



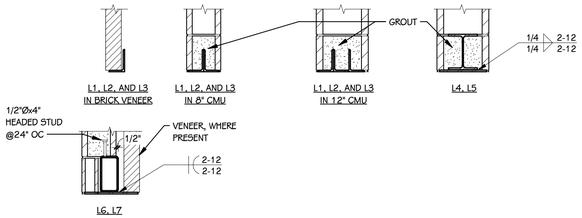
PLAN VIEW

TYPICAL RTU SUPPORT

SCALE: NONE

NOTES:

1. SEE ARCHITECTURAL FOR BLOCKING AND FLASHING REQUIREMENTS AT RTU CURB.
2. COORDINATE MC6x12 LOCATIONS WITH MECHANICAL CONTRACTOR.
3. COORDINATE SIZE AND LOCATION OF ROOF OPENING FRAMES WITH MECHANICAL CONTRACTOR. OPENING QUANTITY, SIZES, AND LOCATIONS SHOWN IN THIS DETAIL ARE NOT REPRESENTATIVE OF ACTUAL OPENINGS REQUIRED.
4. IN THE CASE THAT THE RTU IS ORIENTED WITH THE LONG DIMENSION PARALLEL TO JOISTS/BEAMS, PROVIDE MC6x12 BENEATH EACH END OF THE RTU AND @4'-0" MAX SPACING BETWEEN ENDS (COORDINATE PLACEMENT WITH OPENING LOCATIONS). MC6x12 SHALL SPAN TO NEXT JOIST BEYOND SIDES OF RTU.
5. WHERE RTU CURB LOCATION RELATIVE TO ROOF DECK RIBS IS SUCH THAT A SINGLE MC6x12 NESTED IN THE DECK RIBS DOES NOT FULLY SUPPORT THE RTU CURB OR DOES NOT PROVIDE AN ADQUATE SURFACE FOR CONNECTION OF THE RTU CURB, PROVIDE DOUBLE MC6x12 AT NO ADDITIONAL COST. COORDINATE WITH MECHANICAL CONTRACTOR.
6. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CONNECTIONS OF ROOFTOP EQUIPMENT TO CURBS AND CURBS TO THE SUPPORTING STRUCTURE. DESIGN OF CONNECTIONS SHALL CONSIDER ALL APPLICABLE LOADS IN ACCORDANCE WITH THE BUILDING CODE, INCLUDING WIND AND SEISMIC LOADS



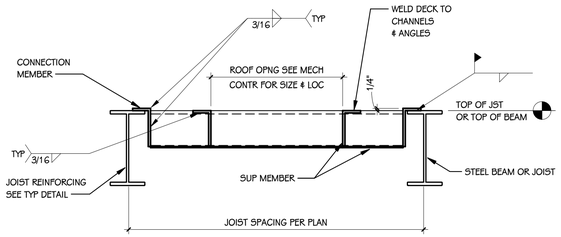
LINTEL TYPE	LINTEL SIZE	NOTES
L1	L3 1/2x3 1/2x5/16 PER 4" NOMINAL MASONRY THICKNESS	
L2	L5x3 1/2x5/16 (LLV) PER 4" NOMINAL MASONRY THICKNESS	
L3	L6x3 1/2x5/16 (LLV) PER 4" NOMINAL MASONRY THICKNESS	
L4	W8x24 WITH 5/16" BOTTOM PLATE	PROVIDE BEARING PLATE EACH END PER TYPICAL BEAM BEARING DETAIL
L5	W8x15 WITH 5/16" BOTTOM PLATE	PROVIDE BEARING PLATE EACH END PER TYPICAL BEAM BEARING DETAIL
L6	HSS8X4X5/16 WITH 5/16" BOTTOM PLATE	PROVIDE BEARING PLATE EACH END PER TYPICAL BEAM BEARING DETAIL
L7	HSS8X8X5/16 WITH 3/8" BOTTOM PLATE	PROVIDE BEARING PLATE EACH END PER TYPICAL BEAM BEARING DETAIL

NOTES:

1. THIS DETAIL AND SCHEDULE APPLIES TO OPENINGS WITHIN EXISTING MASONRY WALL CONSTRUCTION AND OPENINGS WITHIN BRICK VENEER, UNLESS NOTED OR DETAILED OTHERWISE.
2. ALL OPENINGS WIDER THAN 8" IN MASONRY WALLS REQUIRE LINTELS. NOT ALL LINTELS ARE SHOWN ON PLANS - REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR LOCATIONS AND SIZES OF OPENINGS.
3. 8" LINTEL BEARING REQUIRED, EACH END
4. ALL LINTELS WITHIN EXTERIOR WALLS SHALL BE GALVANIZED.
5. GROUT CMU SOLID BELOW LINTEL BEARING DOWN TO FOUNDATION.
6. FOR LINTEL TYPS L6 & L7, WHERE NO SECTION IS PROVIDED ON STRUCTURAL, COORDINATE WITH ARCHITECTURAL DETAILS AND WALL SECTIONS TO DETERMINE REQUIRED PLATE WIDTH AND POSITION OF LINTEL.
7. WHERE NO LINTEL DESIGNATION IS NOTED ON FRAMING PLANS, PROVIDE LINTEL AS FOLLOWS:
   L1 FOR OPENINGS LESS THAN OR EQUAL TO 4' - 0" WIDE
   L2 FOR OPENINGS LESS THAN OR EQUAL TO 5' - 8" WIDE
   L3 FOR OPENINGS LESS THAN OR EQUAL TO 6' - 8" WIDE

STEEL LINTEL SCHEDULE

SCALE: NONE



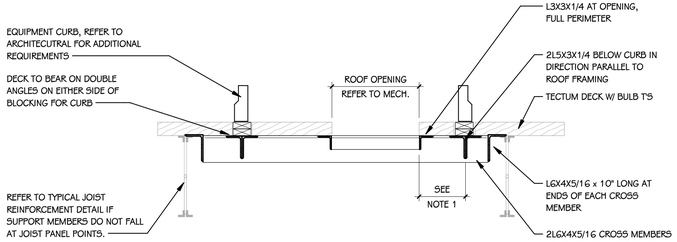
NOTE: ALL WELDING TO JOIST SHALL BE DONE WITH CARE SO AS NOT TO IMPAIR JOIST.

JOIST SPACING	SUPPORTING MEMBER	CONNECTING MEMBER
MAX 6'-0"	L3x3x1/4	L3x3x1/4x0'-6"
MAX 6'-0"	L5x3x1/4 LLV	L5x3x1/4 LLV x 6"
GREATER THAN 6'-0"	L5x3x1/4 LLV	L5x3x1/4 LLV x 6"
GREATER THAN 6'-0"	C6x8.2	BENT PLATE 8x3x1/4 (LLV) x 8"

1. COORDINATE LOCATION & SIZE OF OPENINGS WITH MECHANICAL CONTRACTOR.
2. ALL FRAMING LOCATED BELOW ROOF FRAMING IS TO BE PRIME PAINTED PER DIVISION 05 AND FINISH COAT PER DIVISION 09.

TYPICAL ROOF OPENING FRAME DETAIL

SCALE: NONE

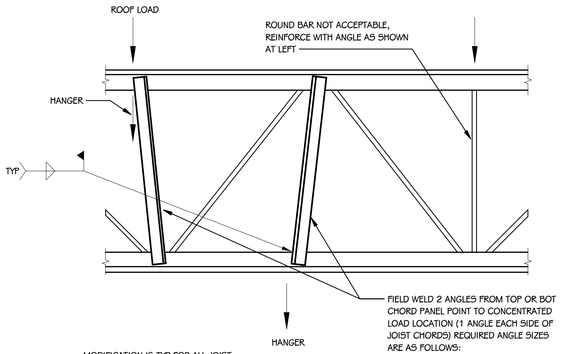


NOTES:

1. IF DISTANCE BETWEEN EDGE OF OPENING AND RTU SUPPORT MEMBER IS LESS THAN 6", L3X3 ANGLE MAY BE ELIMINATED AND DECK FULLY REMOVED WITHIN THE PERIMETER OF THE SUPPORTING MEMBERS.
2. COORDINATE LOCATION AND SIZE OF OPENINGS WITH APPROVED MECHANICAL SHOP DRAWINGS.
3. ALL FRAMING LOCATED BELOW ROOF FRAMING IS TO BE PRIME PAINTED PER DIVISION 05 AND FINISH COAT PER DIVISION 09.

TYPICAL EQUIPMENT SUPPORT FRAME AT TECTUM DECK

SCALE: NONE

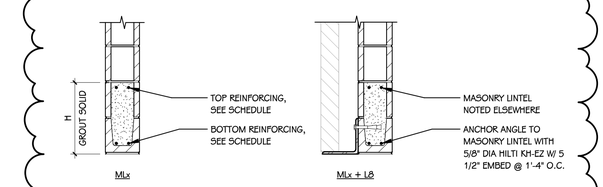


JOIST DEPTH	ANGLE SIZE
8" TO 24"	L1 1/2x1 1/2x3/16
26" TO 48"	L2x2x3/16
52" TO 72"	L3x3x1/4

MODIFICATION IS TYP FOR ALL JOIST SUPPORTING LOAD FROM TOP OR BOTTOM CHORD BETWEEN PANEL POINT. VERIFY LOC & # OF LOADS WITH ARCH, MECH, PLMB, ELEC DRAWINGS. ANGLES NOT REQD FOR CONCENTRATED LOADS LESS THAN 100 LBS.

TYPICAL JOIST MODIFICATION AT CONCENTRATED LOADS

SCALE: NONE



LINTEL TYPE	DEPTH 'H'	BOTTOM REINFORCING	TOP REINFORCING
ML1	8"	(2) #5	-
ML2	16"	(2) #5	-
ML3	24"	(2) #5	(2) #5
ML4	32"	(2) #5	(2) #5

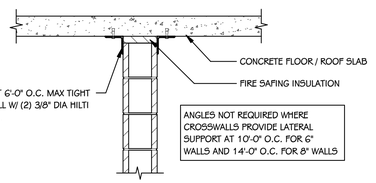
NOTES:

1. ALL OPENINGS WIDER THAN 8" IN MASONRY WALLS REQUIRE LINTELS. NOT ALL LINTELS ARE SHOWN ON PLANS. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR LOCATIONS AND SIZES OF OPENINGS.
2. EXTEND HORIZONTAL REINFORCING AND LINTEL GROUTING 1'-0" PAST EDGES OF OPENING.
3. LINTEL COURSES SHALL BE GROUTED IN ONE SOLID LIFT.
4. GROUT ALL CELLS SOLID BELOW LINTEL BEARING DOWN TO FOUNDATION.
5. WHERE NO LINTEL DESIGNATION IS NOTED ON FRAMING PLANS WITHIN NEW MASONRY WALLS PROVIDE LINTELS AS FOLLOWS:
   ML1 FOR OPENINGS LESS THAN OR EQUAL TO 3'-4" WIDE
   ML2 FOR OPENINGS LESS THAN OR EQUAL TO 7'-4" WIDE
6. 'L8' SHALL BE L8x8x1/2, ANCHOR STEEL ANGLE TO MASONRY LINTEL, 8" LINTEL BEARING REQUIRED EACH END.

MASONRY LINTEL SCHEDULE

SCALE: NONE

A2



WALL PERPENDICULAR TO JOIST/BEAM

TYPICAL TOP SUPPORT OF MASONRY WALL

SCALE: NONE

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Addendum No. 2 November 5, 2024

ISSUED FOR DATE

PROJECT TITLE
LOY NORRIX HIGH SCHOOL MECHANICAL IMPROVEMENTS PROJECT

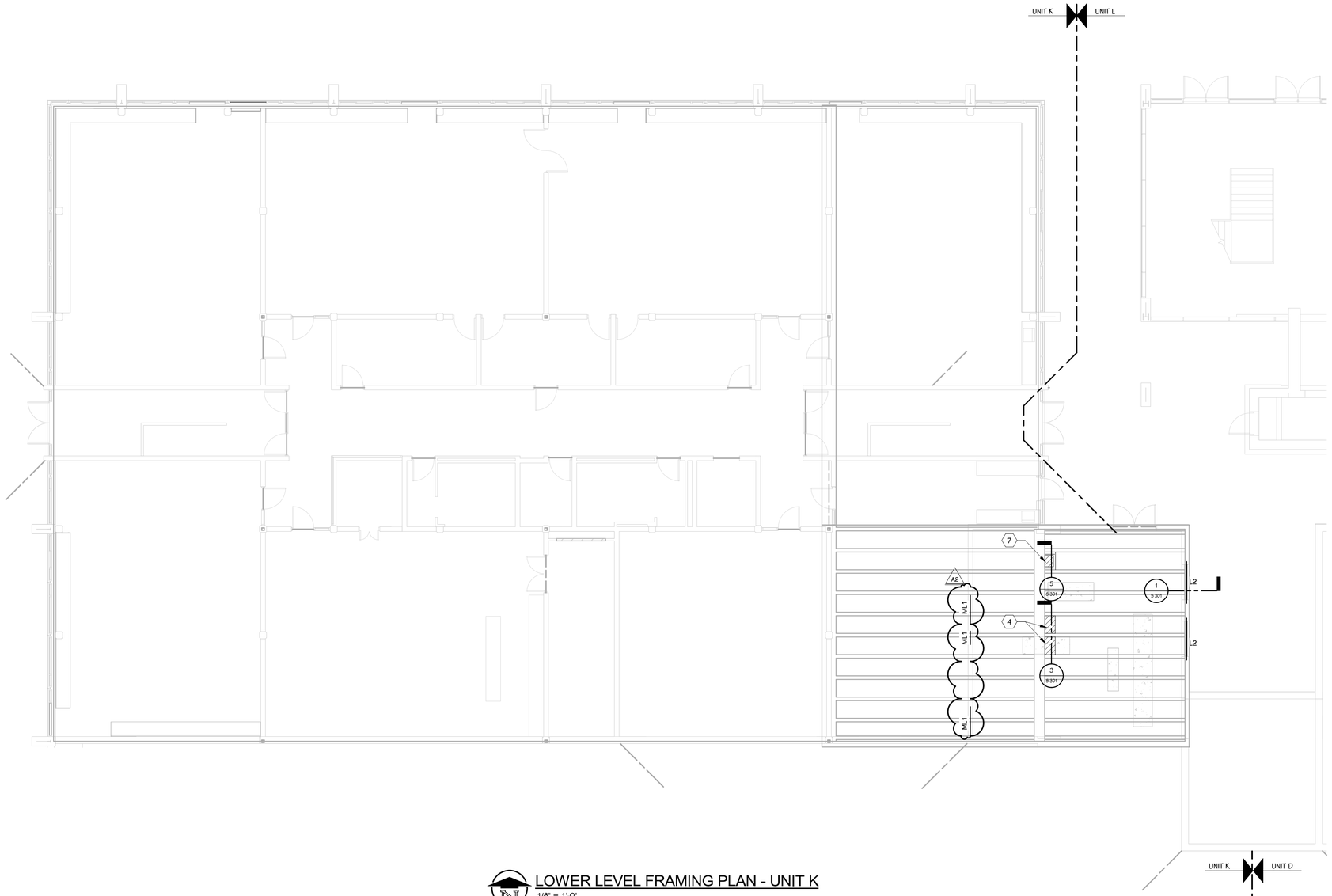
OWNER
KALAMAZOO PUBLIC SCHOOLS

Kalamazoo, Michigan

DATE
SEPTEMBER 16, 2024

SHEET TITLE
TYPICAL DETAILS

SHEET NUMBER
S 002
21-807.00

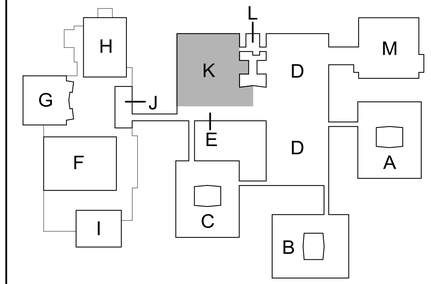


LOWER LEVEL FRAMING PLAN - UNIT K
1/8" = 1'-0"

KEYED NOTES - FRAMING

1 PROVIDE CHANNELS BENEATH EACH MECHANICAL UNIT. REFER TO TYPICAL RTU SUPPORT DETAIL FOR MORE INFORMATION.
2 NEW JOISTS TO BE INSTALLED BETWEEN EXISTING. PROVIDE SPLICE IF REQUIRED FOR INSTALLATION. JOIST SUPPLIER TO DESIGN TOP CHORDS AS FULL UNBRACED BY METAL DECK.
3 PROVIDE SLOPED JOIST SEATS AS REQUIRED DUE TO SLOPED ROOF.
4 REMOVE CONCRETE SLAB BETWEEN CONCRETE JOISTS FOR MECHANICAL DUCT PENETRATIONS.
5 PROVIDE FRAMING BENEATH NEW MECHANICAL HOODS. REFER TO TYPICAL ROOF OPENING DETAIL FOR REQUIRED FRAMING.
6 AHU-M2 TO BE SUPPORTED FROM EXISTING HANGERS. VERIFY THAT A MINIMUM OF TWO BAR JOISTS ARE ENGAGED BY SUPPORT FRAMING.
7 REFER TO SECTIONS 4/S301 AND 5/S301 FOR ADDITIONAL STEEL REQUIRED FOR SLAB SUPPORT AT THIS PENETRATION.

KEY PLAN



KEY PLAN
SCALE: NO SCALE

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Addendum No. 2 November 5, 2024
ISSUED FOR DATE

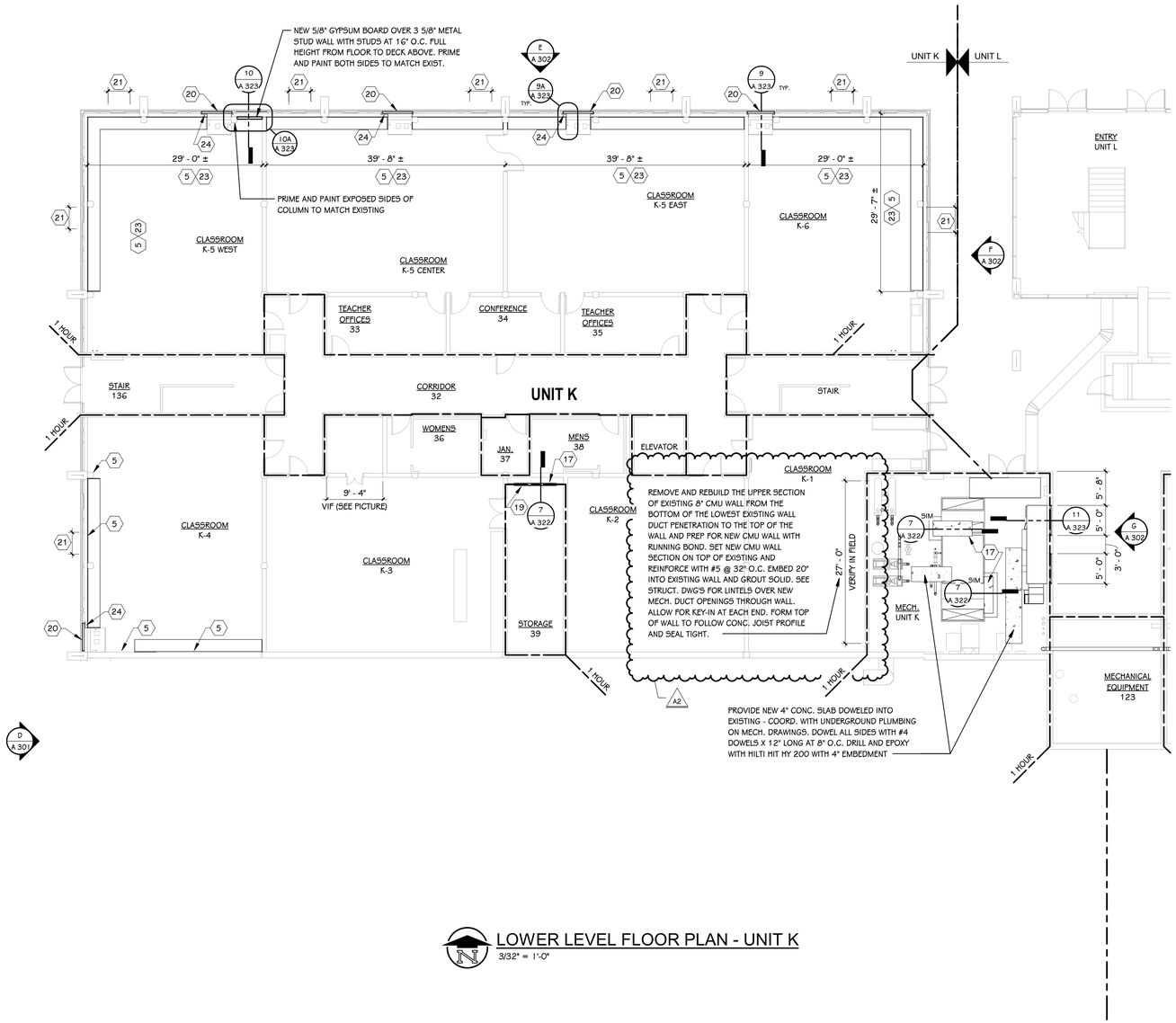
PROJECT TITLE
LOY NORRIX HIGH
SCHOOL MECHANICAL
IMPROVEMENTS
PROJECT

OWNER
KALAMAZOO PUBLIC
SCHOOLS
Kalamazoo, Michigan

SHEET TITLE
FLOOR FRAMING PLAN - UNIT K

DATE
SEPTEMBER 16, 2024

SHEET NUMBER
S 201K
21-807.00

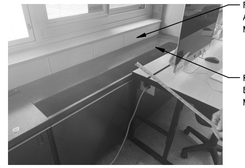


LOWER LEVEL FLOOR PLAN - UNIT K

3/32" = 1'-0"

ROOMS (K-5 EAST & K-6)

IN EXISTING LOUVER OPENING INSTALL 3" INSULATED METAL PANEL (BLACK) TIGHT AGAINST LOUVER AND TIGHT IN OPENING. SECURE IN PLACE AND CAULK ALL SIDES. AT INSIDE FLUSH WITH INTERIOR FACE OF EXISTING CMU WALL ADD 4" CMU INFILL.



ROOM (K-6)

PATCH AND PAINT WALL ABOVE NEW TO BE INSTALLED METAL CASEWORK.

REMOVE AND DISCARD EXISTING HORIZ. UV. - SEE MECH. DRAWINGS.

ROOM (K-6)

REMOVE AND DISCARD EXISTING CEILING AND INSTALL NEW.

ROOM (K-3)

AT REMOVED VERTICAL CEILING SYSTEM INSTALL NEW 3 5/8" METAL STUD WALL WITH STUDS AT 16" O.C. COVERED WITH 5/8" TYPE 'X' GYPSUM BOARD. ALIGN FRONT OF GYPSUM WITH SURROUNDING CMU AND RETURN BACK TO DOOR AND WINDOW FRAME. CAULK TO EXISTING CMU.

ROOM (K-1)

REMOVE CEILING AND SUBCEILING AND SUPPORT STRUCTURE. PREP FOR NEW DROP CEILING

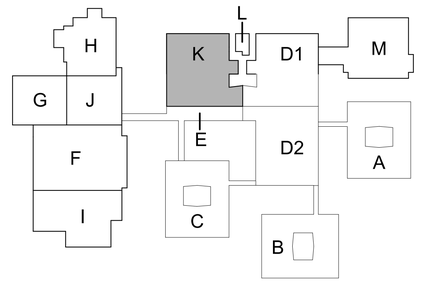
REMOVE AND REBUILD THE UPPER SECTION OF EXISTING 8" CMU WALL FROM THE BOTTOM OF THE LOWEST EXISTING WALL DUCT PENETRATION TO THE TOP OF THE WALL AND PREP FOR NEW CMU WALL WITH RUNNING BOND. SET NEW CMU WALL SECTION ON TOP OF EXISTING AND REINFORCE WITH #5 @ 32" O.C. EMBED 20" INTO EXISTING WALL AND GROUT SOLID. SEE STRUCT. DWG'S FOR LINTELS OVER NEW MECH. DUCT OPENINGS THROUGH WALL. ALLOW FOR KEY-IN AT EACH END. FORM TOP OF WALL TO FOLLOW CONC. JOIST PROFILE AND SEAL TIGHT.

A2

KEYED NOTES - NEW CONSTRUCTION

1 WHERE REQUIRED PATCH, PRIME AND PAINT WALL AT REMOVED MECH. EQUIPMENT TO MATCH EXISTING COORDINATE WITH NEW EQUIPMENT.
2 FILL EXISTING CORED HOLES IN FLOOR WITH CONCRETE AND PATCH FLOOR TO MATCH EXISTING.
3 PATCH, PRIME AND PAINT WALL TO MATCH EXISTING.
4 NEW 2X2 ACP CEILING SYSTEM, INSTALL AT EXISTING CEILING HEIGHT.
5 PATCH PRIME AND PAINT WALL AT REMOVED MECH. EQUIPMENT AND REMOVED CASEWORK. PAINT TO MATCH EXISTING.
6 PROVIDE A CLEAR ANODIZED ALUM. CHASE UP ALONG THE SIDE OF THE COLUMN FULL HEIGHT. SIZE TO BE MINIMUM REQUIRED FOR MECHANICAL PIPES. MATCH EXISTING CHASES. FULL HEIGHT TO ABOVE CEILING.
7 INSTALL SALVAGED ALUM. CHASE ASSEMBLY UP ALONG THE WALL. INSTALL IN EXISTING LOCATION.
8 -- NOT USED --
9 INFILL EXISTING OPENING WITH BRICK AND CMU. BRICK TO MATCH EXISTING.
10 NEW EXHAUST THROUGH ROOF (SEE MECH. DRAWINGS). PATCH ROOF AND PROVIDE STEEL FRAMING AROUND NEW ROOF OPENING. SEE MECHANICAL DRAWINGS FOR MORE INFORMATION.
11 AT EACH SIDE OF NEW HORIZ. UV PROVIDE A PRIME AND PAINTED METAL FILLER PANEL (TOP AND FRONT) TO MATCH AND TIE INTO UV. SECURE TO UV AND ADJOINING CASEWORK (BY MECHANICAL). PROVIDE P-LAM. END PANEL AT NEWLY EXPOSED CASEWORK END (MATCH EXISTING)
12 PRIME AND PAINT ALL EXPOSED ROOF BEAMS IN ROOM.
13 PREP, PRIME, PAINT AND REINSTALL SALVAGED PIPE RAILING SYSTEM. GRIND ALL WELDS SMOOTH
14 PRIME AND PAINT ALL WALLS TO MATCH EXISTING FULL HEIGHT.
15 NEW CASEWORK - SEE INTERIOR DRAWINGS
16 REBUILD WALL AT REMOVED MTL. STUD WALL AND GYPSUM BOARD WITH NEW 5/8" GYPSUM BOARD OVER MTL STUD FRAMING TO MATCH EXISTING. PRIME AND PAINT ENTIRE WALL TO MATCH EXISTING.
17 CAP DUCTS IN VERTICAL PIT WALL WITH 8" CONCRETE DOWELED INTO THE SURROUNDING WALLS. FILL PIT WITH SAND AND FINISH WITH 4" OF CONCRETE SLAB DOWLED INTO THE ADJOINING EXISTING SLAB. FOR SLAB AND WALL - DOWEL ALL SIDES WITH #4 DOWELS X 12" LONG AT 8" O.C. DRILL AND EPOXY WITH HILTI HIT HY 200 WITH 4" EMBEDMENT
18 5/8" IMPACT RESISTANT GYPSUM BOARD BULKHEAD OVER 3 5/8" METAL STUD FRAMING AT 16" O.C.
19 NEW 6" CMU WALL TO MATCH SURROUNDING EXISTING WALL. TOOTH IN, PRIME AND PAINT TO MATCH EXISTING.
20 AT REMOVED GLASS PANEL PROVIDE NEW CLEAR ANODIZED LOUVER INSERT, PROVIDE INSULATED METAL BLANK OFF PANEL AT ANY UNUSED LOUVER AREAS - SEE MECH. DWG'S
21 IN EXISTING LOUVER OPENING INSTALL 3" INSULATED METAL PANEL (BLACK) TIGHT AGAINST LOUVER AND TIGHT IN OPENING. SECURE IN PLACE AND CAULK ALL SIDES. AT INSIDE FLUSH WITH INTERIOR FACE OF EXISTING CMU WALL ADD 4" CMU INFILL TOOTH IN ALL SIDES.
22 INSTALL SALVAGED WOOD TRIM PRIME AND PAINT TO MATCH EXISTING. SEE DETAILS.
23 MINOR FLOOR PATCHING REQUIRED AT REMOVED UV'S, NEW CASEWORK, CHASE, OR OTHER MINOR FLOOR CONFIGURATION CHANGES. MATERIAL AVAILABLE OUT OF OWNER ATTIC STOCK.
24 BREAK METAL CLOSURE PIECE WITH HEMMED EDGES, GROUND SMOOTH, AND ROUNDED CORNERS, AND PAINTED TO MATCH NEW UV UNIT. ATTACH TO UV UNIT AND WINDOW FRAME AS REQUIRED. SIZE AND SHAPE TO BE CONFIRMED IN FIELD. HEIGHT TO BE FULL HEIGHT OF EXPOSED PORTION OF BLANK OFF PANEL.
25 EXISTING MECHANICAL ROOF EQUIPMENT TO REMAIN - SEE MECHANIICAL DRAWINGS.
26 NEW MECHANICAL ROOF EQUIPMENT ON EXISTING ROOF CURB FLASH WEATHER TIGHT - SEE MECHANICAL DRAWINGS.
28 NEW MECHANICAL CONDENSING UNITS SET ON ROOF. WITH NEW PIPE PENETRATIONS THROUGH ROOF FLASHED WEATHER TIGHT - SEE MECHANICAL DRAWINGS. DEMO EXISTING ROOF AS REQUIRED.
29 NEW SUSPENDED PLASTER CEILING AT EXISTING HEIGHT. PRIME AND PAINT TO MATCH EXISTING.
30 AT REMOVED DIFFUSER OPENING, PROVIDE METAL STUD FRAMING, GYPSUM BOARD AND PRIME AND PAINT TO MATCH EXISTING. PRIME AND PAINT ENTIRE WALL TO ABOVE CEILING TO MATCH EXISTING.
31 NEW EXHAUST FAN / RELIEF HOOD ON EXISTING ROOF CURB / FLASH WEATHER TIGHT
31A NEW EXHASUT FAN/RELIEF HOOD OR OTHER MECHANICAL EQUIPMENT ON NEW ROOF CURB. DEMO EXISTING ROOF AS REQUIRED. PATCH NEW CURB INTO EXISTING ROOF WEATHER TIGHT - SEE MECHANICAL DRAWINGS. SEE ROOF CURB AND PENETRATION DETAILS THIS SHEET.
32 REINSTALL SALVAGED CASEWORK AND COUNTERTOP
33 EXISTING UV TO BE REMOVED AND INSTALL NEW UV. REINSTALL EXISTING SALVAGED COVER - SEE PICTURE
34 INSTALL NEW PRIMED AND PAINTED WOOD TRIM TO MATCH EXISTING. SEE DETAILS.
35 NEW ACCESS PANELS 18"x18" - PRIME AND PAINT TO MATCH CEILING - COORD. FINAL LOCATION WITH MECHANICAL

LOY NORRIX HIGH SCHOOL



KEY PLAN

SCALE: NO SCALE

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ADDENDUM NO. 2 November 5, 2024

ISSUED FOR DATE

PROJECT TITLE
LOY NORRIX HIGH SCHOOL MECHANICAL IMPROVEMENTS PROJECT

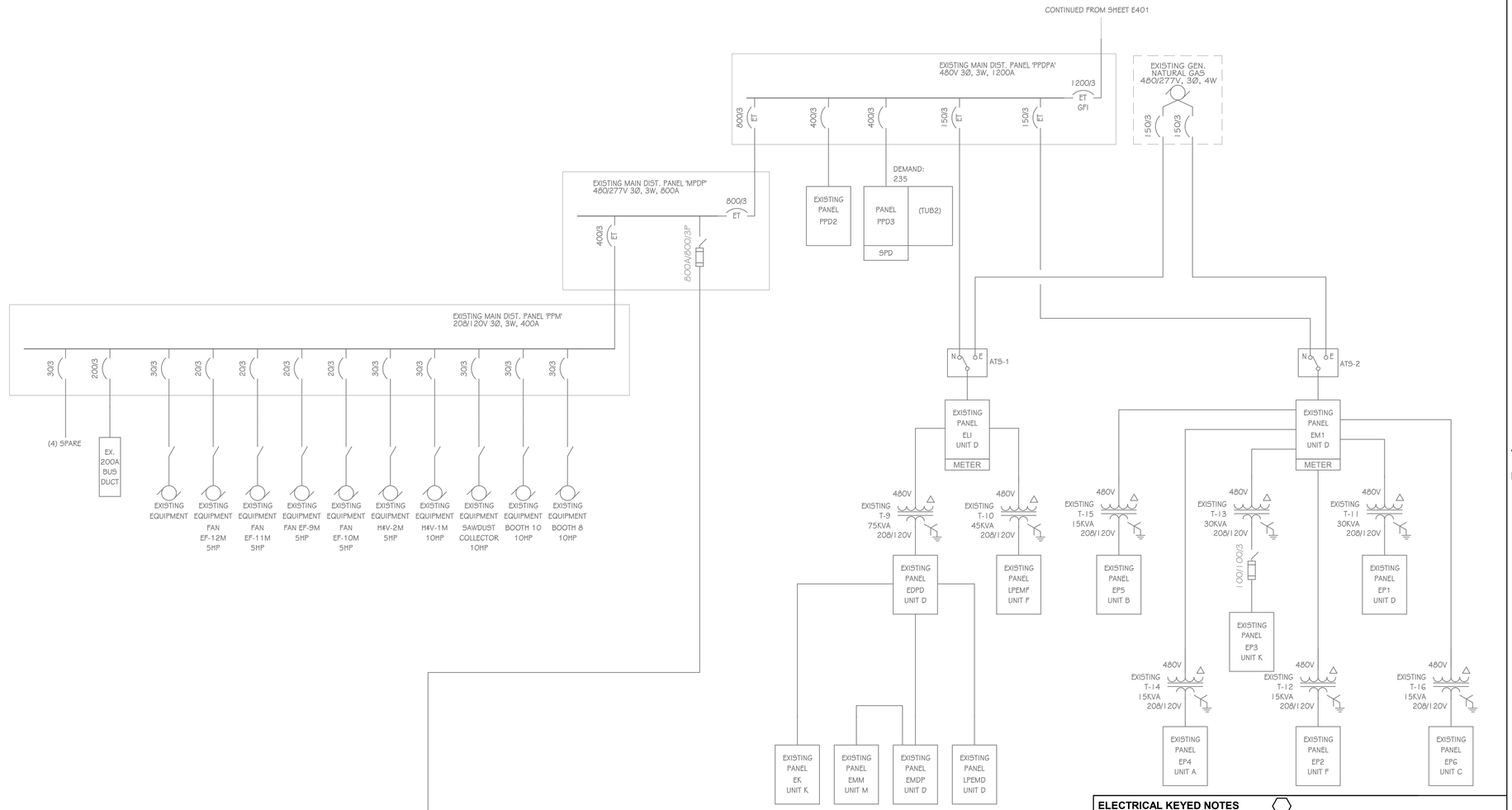
OWNER
KALAMAZOO PUBLIC SCHOOLS

Kalamazoo, Michigan

SHEET TITLE
LOWER LEVEL FLOOR PLAN - UNIT K

DATE
SEPTEMBER 16, 2024

SHEET NUMBER
A100K
21-807.07



ONE LINE - #2 PARTIAL

SCALE: NONE

ELECTRICAL KEYED NOTES

1 DISCONNECT EXISTING BI-POLAR IONIZATION AND RETAIN CIRCUIT FOR REUSE. RE-CONNECT BI-POLAR IONIZATION IN NEW MECHANICAL EQUIPMENT.

2 DISCONNECT ELECTRICAL CONNECTION FROM THE EXISTING CABINET OR UNIT HEATER, RETAIN CIRCUIT FOR REUSE. CONNECT NEW CABINET OR UNIT HEATER TO EXISTING CIRCUIT, EXTEND WIRING AND CONDUIT AS REQUIRED.

3 DISCONNECT ELECTRICAL CONNECTION FROM THE EXISTING EXHAUST FAN, REMOVE WIRE FROM EXISTING FAN TO BREAKER. RETAIN EXISTING BREAKER AND CONDUIT FOR REUSE. PROVIDE $25,000 ALLOWANCE FOR REPLACING WIRING TO NEW 120 VOLT EXHAUST FANS. PROVIDE #10 WIRE FOR CIRCUITS OVER 100'. EXISTING CODE COMPLIANT WIRING MAY BE REUSED.

4 REMOVE AND RELOCATE EXISTING RECEPTACLE / WIREMOLD ALONG WITH ASSOCIATED CIRCUIT AS REQUIRED TO ACCOMMODATE FOR NEW VERTICAL UNIT VENT. REWORK AND EXTEND CIRCUIT AS REQUIRED.

5 ALL EXISTING ROOF TOP ACCU CONDUIT FOR THE CLASSROOM ARE IN THE TUNNEL. REUSE EXISTING PATH OF CONDUIT FROM PANEL LPA3 AND LPC3 THROUGH TUNNEL, UP THE WALL WITH THE REFRIGERANT PIPING AND TO THE ROOF. CONCEAL CONDUIT THROUGH CLASSROOM IN ACCU REFRIGERANT PIPING COVER.

6 ROUTE ALL NEW CONDUIT FROM PANEL LPA3 TO ROOF TOP ACCU THROUGH TUNNEL, UP THE WALL WITH THE REFRIGERANT PIPING AND TO THE ROOF. CONCEAL CONDUIT THROUGH CLASSROOM IN ACCU REFRIGERANT PIPING COVER.

7 CONNECT NEW TERMINAL UNIT TRANSFORMER TO EXISTING LOCAL TERMINAL UNIT POWER CIRCUIT MADE AVAILABLE THOUGH DEMOLITION CONNECT MAXIMUM OF 8 TERNINAL UNITS ON A CIRCUIT. COORDINATE WITH TEMPERATURE CONTROLS.

8 REMOVE SPARE BREAKER AND PROVIDE NEW 20A/2P BREAKER IN EXISTING SQUARE D NQ PANEL PPD1 FOR CR-D1.

9 CONNECT SMOKE DAMPER TO EXISTING LOCAL RECEPTACLE CIRCUIT.

10 DISCONNECT ELECTRICAL CONNECTION FROM THE EXISTING EXHAUST FAN AND ALL WIRE AND CONDUIT BACK TO SOURCE. PROVIDE NEW 20/2 POLE BREAKER IN NEXT AVAILABLE SPARE SPOT IN PANEL SHOWN.

11 DISCONNECT ELECTRICAL CONNECTION FROM THE EXISTING EXHAUST FAN AND ALL WIRE AND CONDUIT BACK TO SOURCE. CONNECT TO NEW CIRCUIT SHOWN.

12 REWORK CONDUIT AND WIRING AS REQUIRED TO LOWER ROOM TO STAND DEVICE HEIGHT. RECESS DEVICE AND BACKBOX IN EXISTING WALL. CUT AND PATCH AS REQUIRED.

13 REMOVE AND RELOCATE POWER AS REQUIRED FOR TECHNOLOGY REVISIONS. EXTEND AND REWORK EXISTING CIRCUIT AS REQUIRED. REFER TO TECHNOLOGY DRAWINGS. COORDINATE WITH TECHNOLOGY CONTRACTOR PRIOR TO ALL TECHNOLOGY DEMOLITION OR NEW CONSTRUCTION.

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ADDENDUM NO. 2 November 5, 2024

ISSUED FOR DATE

PROJECT TITLE
LOY NORRIX HIGH SCHOOL MECHANICAL IMPROVEMENTS PROJECT

OWNER
KALAMAZOO PUBLIC SCHOOLS

Kalamazoo, Michigan

SHEET TITLE
ELECTRICAL ONE LINE - PARTIAL #2

DATE
SEPTEMBER 16, 2024

SHEET NUMBER
E 403
21-807.00

ELECTRICAL PANEL FEEDER SCHEDULE

DESCRIPTION	FED FROM	CURRENT (FLA)	DEMAND (FLA)	FEEDER					FEED VOLT DROP %	NOTES
				BREAKER / POLES	# OF SETS	WIRE	GROUND	EMT		
208 V										
KM	MDPK2	208 A	207 A	300 A / 3	2 SETS	4 #250 KCMIL	#1 GND.	3"	1.91%	
MDPK2	MDPK	235 A	233 A	600 A / 3	2 SETS	4 #350 KCMIL	#1 GND.	3"	0.24%	

ELECTRICAL HVAC FEEDER SCHEDULE

DESCRIPTION	FED FROM	DISCONNECT MEANS	CURRENT (FLA)	FEEDER					FEED VOLT DROP %	NOTES
				BREAKER / POLES	# OF SETS	WIRE	GROUND	EMT		
480 V										
HVAC - ACCU-A1	PPD3	30/3 NEMA 3R NFDS	19 A	25 A / 3	1 SET	3 #10	#10 GND.	3/4"	2.51%	
HVAC - ACCU-B1	PPD3	30/3 NEMA 3R NFDS	18 A	25 A / 3	1 SET	3 #8	#8 GND.	3/4"	2.12%	
HVAC - ACCU-C1	PPD3	30/3 NEMA 3R NFDS	18 A	25 A / 3	1 SET	3 #8	#8 GND.	3/4"	2.68%	
HVAC - ACCU-M1	MCCDA	200/3 NEMA 3R NFDS	117 A	150 A / 3	1 SET	3 #1/0	#6 GND.	2"	2.41%	
HVAC - AHU-C1	PPD3	30/3 NFDS	8 A	15 A / 3	1 SET	3 #12	#12 GND.	3/4"	2.78%	
HVAC - AHU-K1 RF1	PPD3	30/3 NFDS	8 A	20 A / 3	1 SET	3 #12	#12 GND.	3/4"	1.27%	
HVAC - AHU-K1 RF2	PPD3	30/3 NFDS	8 A	20 A / 3	1 SET	3 #12	#12 GND.	3/4"	1.26%	
HVAC - AHU-K1 SF1	PPD3	30/3 NFDS	14 A	20 A / 3	1 SET	3 #12	#12 GND.	3/4"	2.27%	
HVAC - AHU-K1 SF2	PPD3	30/3 NFDS	14 A	20 A / 3	1 SET	3 #12	#12 GND.	3/4"	2.25%	
HVAC - AHU-L1	PPD3	30/3 NFDS	8 A	20 A / 3	1 SET	3 #12	#12 GND.	3/4"	1.13%	
HVAC - AHU-M1 SF1	PPD3	30/3 NFDS	14 A	20 A / 3	1 SET	3 #10	#10 GND.	3/4"	1.57%	
HVAC - AHU-M1 SF2	PPD3	30/3 NFDS	14 A	20 A / 3	1 SET	3 #10	#10 GND.	3/4"	1.60%	
HVAC - AHU-M2	PPD3	30/3 NFDS	8 A	20 A / 3	1 SET	4 #12	#12 GND.	3/4"	1.73%	
HVAC - P-K1	PPD3	30/3 NFDS	11 A	20 A / 3	1 SET	3 #12	#12 GND.	3/4"	1.84%	
HVAC - P-K2	PPD3	30/3 NFDS	11 A	20 A / 3	1 SET	3 #12	#12 GND.	3/4"	1.83%	
HVAC - P-K3	PPD3	30/3 NFDS	2 A	20 A / 3	1 SET	3 #12	#12 GND.	3/4"	0.32%	
HVAC - P-M1	PPD3	30/3 NFDS	2 A	20 A / 3	1 SET	3 #12	#12 GND.	3/4"	0.35%	
HVAC - P-M2	PPD3	30/3 NFDS	2 A	20 A / 3	1 SET	4 #12	#12 GND.	3/4"	0.36%	
HVAC - RTU-C1	PPD3	30/3 NFDS	16 A	20 A / 3	1 SET	3 #6	#6 GND.	1"	2.07%	
HVAC - RTU-M1	MCCDA	30/3 NFDS	16 A	20 A / 3	1 SET	3 #10	#10 GND.	3/4"	2.32%	
208 V										
HVAC - EHC-A1	LPA1	60/3 NFDS	30 A	40 A / 3	1 SET	3 #8	#10 GND.	3/4"	1.26%	
HVAC - EHC-C1	LPC1B	60/3 NFDS	30 A	40 A / 3	1 SET	3 #8	#10 GND.	3/4"	1.22%	
HVAC - VUV-278	MDPK2	MANUFACTURER	27 A	45 A / 3	1 SET	3 #6	#6 GND.	1"	1.84%	
HVAC - VUV-313	KM	MANUFACTURER	18 A	30 A / 3	1 SET	3 #8	#8 GND.	3/4"	0.90%	
HVAC - VUV-324	KM	MANUFACTURER	18 A	30 A / 3	1 SET	3 #8	#8 GND.	3/4"	2.39%	
HVAC - VUV-421	KM	MANUFACTURER	27 A	45 A / 3	1 SET	3 #6	#6 GND.	1"	1.90%	
HVAC - VUV-K4	KL	MANUFACTURER	27 A	45 A / 3	1 SET	3 #6	#8 GND.	1"	2.00%	
HVAC - VUV-K5C	KL	MANUFACTURER	27 A	45 A / 3	1 SET	3 #6	#8 GND.	1"	2.39%	
HVAC - VUV-K5E	KL	MANUFACTURER	27 A	45 A / 3	1 SET	3 #6	#8 GND.	1"	2.04%	
HVAC - VUV-K5W	KL	MANUFACTURER	27 A	45 A / 3	1 SET	3 #6	#8 GND.	1"	2.73%	
HVAC - VUV-K6	KL	MANUFACTURER	27 A	45 A / 3	1 SET	3 #6	#8 GND.	1"	1.70%	
HVAC - VUV-K11	KM	MANUFACTURER	18 A	30 A / 3	1 SET	3 #10	#10 GND.	3/4"	2.37%	
HVAC - VUV-K12	KM	MANUFACTURER	18 A	30 A / 3	1 SET	3 #10	#10 GND.	3/4"	2.92%	
HVAC - VUV-K13	KM	MANUFACTURER	18 A	30 A / 3	1 SET	3 #8	#8 GND.	3/4"	2.21%	
HVAC - VUV-K14	KM	MANUFACTURER	18 A	30 A / 3	1 SET	3 #8	#8 GND.	3/4"	2.07%	
HVAC - VUV-K15	KM	MANUFACTURER	18 A	30 A / 3	1 SET	3 #10	#10 GND.	3/4"	2.80%	
HVAC - VUV-K16	KM	MANUFACTURER	18 A	30 A / 3	1 SET	3 #10	#10 GND.	3/4"	2.22%	
HVAC - VUV-K17	KM	MANUFACTURER	27 A	45 A / 3	1 SET	3 #8	#10 GND.	3/4"	2.33%	
HVAC - VUV-M1A	MM	MANUFACTURER	27 A	45 A / 3	1 SET	3 #6	#6 GND.	1"	2.03%	
HVAC - VUV-M3	MM	MANUFACTURER	19 A	30 A / 3	1 SET	3 #10	#10 GND.	3/4"	1.78%	
HVAC - VUV-M3A	MM	MANUFACTURER	24 A	40 A / 3	1 SET	3 #6	#6 GND.	1"	2.17%	
HVAC - VUV-M3B	MM	MANUFACTURER	24 A	40 A / 3	1 SET	3 #6	#6 GND.	1"	2.76%	
HVAC - VUV-M6	MM	MANUFACTURER	19 A	30 A / 3	1 SET	3 #8	#8 GND.	3/4"	2.40%	
HVAC - VUV-M10	MM	MANUFACTURER	19 A	30 A / 3	1 SET	3 #8	#8 GND.	3/4"	1.00%	
HVAC - VUV-M11	MM	MANUFACTURER	19 A	30 A / 3	1 SET	3 #10	#10 GND.	3/4"	1.71%	
HVAC - VUV-M12A	MM	MANUFACTURER	24 A	40 A / 3	1 SET	3 #8	#10 GND.	3/4"	2.53%	
HVAC - VUV-M12B	MM	MANUFACTURER	24 A	40 A / 3	1 SET	3 #6	#8 GND.	1"	2.15%	
HVAC - VUV-M13	MM	MANUFACTURER	24 A	40 A / 3	1 SET	3 #6	#8 GND.	1"	2.20%	
208 V										
HVAC - ACCU-203	LPC3	30/3 NEMA 3R NFDS	13 A	20 A / 2	1 SET	3 #8	#8 GND.	3/4"	1.51%	
HVAC - ACCU-205	LPC3	30/3 NEMA 3R NFDS	15 A	25 A / 2	1 SET	3 #8	#8 GND.	3/4"	2.44%	
HVAC - ACCU-212	LPC3	30/3 NEMA 3R NFDS	15 A	25 A / 2	1 SET	3 #8	#8 GND.	3/4"	2.02%	
HVAC - ACCU-C10A	LPC3	30/3 NEMA 3R NFDS	18 A	30 A / 2	1 SET	3 #8	#10 GND.	3/4"	1.62%	
HVAC - ACCU-C10B	LPC3	30/3 NEMA 3R NFDS	18 A	30 A / 2	1 SET	3 #8	#10 GND.	3/4"	1.88%	
HVAC - ACCU-C12	LPC3	30/3 NEMA 3R NFDS	18 A	30 A / 2	1 SET	3 #6	#8 GND.	1"	1.47%	
HVAC - ACCU-C13	LPC3	60/3 NEMA 3R NFDS	30 A	45 A / 2	1 SET	3 #4	#4 GND.	1 1/4"	1.78%	
HVAC - ACCU-C14	LPC3	30/3 NEMA 3R NFDS	18 A	30 A / 2	1 SET	3 #6	#6 GND.	1"	2.09%	
HVAC - ACCU-C15	LPC3	30/3 NEMA 3R NFDS	18 A	30 A / 2	1 SET	3 #6	#8 GND.	1"	2.36%	
HVAC - ACCU-C16	LPC3	60/3 NEMA 3R NFDS	30 A	45 A / 2	1 SET	3 #4	#4 GND.	1 1/4"	2.94%	
HVAC - ACCU-C19A	LPC3	30/3 NEMA 3R NFDS	18 A	30 A / 2	1 SET	3 #6	#6 GND.	1"	2.10%	
HVAC - ACCU-C19B	LPC3	30/3 NEMA 3R NFDS	18 A	30 A / 2	1 SET	3 #8	#8 GND.	3/4"	2.79%	
HVAC - ACCU-C21A	LPC3	60/3 NEMA 3R NFDS	30 A	45 A / 2	1 SET	3 #6	#8 GND.	1"	2.93%	
HVAC - ACCU-C21B	LPC3	60/3 NEMA 3R NFDS	30 A	45 A / 2	1 SET	3 #6	#8 GND.	1"	2.83%	
HVAC - ACCU-C21C	LPC3	60/3 NEMA 3R NFDS	30 A	45 A / 2	1 SET	3 #6	#8 GND.	1"	2.75%	
HVAC - ACCU-C23	LPC3	60/3 NEMA 3R NFDS	30 A	45 A / 2	1 SET	3 #6	#8 GND.	1"	1.45%	
HVAC - CR-K1	KL	30/3 NFDS	8 A	20 A / 2	1 SET	3 #12	#12 GND.	3/4"	1.10%	
HVAC - EF-C1	LPC2	30/3 NEMA 3R NFDS	7 A	20 A / 2	1 SET	3 #12	#12 GND.	3/4"	0.61%	
HVAC - EF-K6	KM	30/3 NEMA 3R NFDS	7 A	20 A / 2	1 SET	3 #12	#12 GND.	3/4"	1.41%	
HVAC - EF-K8	KM	30/3 NEMA 3R NFDS	7 A	20 A / 2	1 SET	3 #12	#12 GND.	3/4"	1.50%	
HVAC - EF-M1	MM	30/3 NEMA 3R NFDS	7 A	20 A / 2	1 SET	3 #10	#10 GND.	3/4"	2.77%	
HVAC - EF-M2	MM	30/3 NEMA 3R NFDS	7 A	20 A / 2	1 SET	3 #12	#12 GND.	3/4"	2.89%	
HVAC - HUV-203	LPC3	MANUFACTURER	6 A	20 A / 2	1 SET	3 #12	#12 GND.	3/4"	1.43%	
HVAC - HUV-205	LPC3	MANUFACTURER	3 A	20 A / 2	1 SET	3 #12	#12 GND.	3/4"	1.37%	
HVAC - HUV-212	LPC3	MANUFACTURER	6 A	20 A / 2	1 SET	3 #12	#12 GND.	3/4"	1.96%	
HVAC - HUV-C10A	LPC3	MANUFACTURER	3 A	20 A / 2	1 SET	3 #12	#12 GND.	3/4"	0.51%	
HVAC - HUV-C10B	LPC3	MANUFACTURER	3 A	20 A / 2	1 SET	3 #12	#12 GND.	3/4"	0.67%	
HVAC - HUV-C12	LPC3	MANUFACTURER	3 A	20 A / 2	1 SET	3 #12	#12 GND.	3/4"	0.85%	
HVAC - HUV-C13	LPC3	MANUFACTURER	3 A	20 A / 2	1 SET	3 #12	#12 GND.	3/4"	1.06%	
HVAC - HUV-C14	LPC3	MANUFACTURER	3 A	20 A / 2	1 SET	3 #12	#12 GND.	3/4"	1.44%	
HVAC - HUV-C15	LPC3	MANUFACTURER	3 A	20 A / 2	1 SET	3 #12	#12 GND.	3/4"	1.59%	
HVAC - HUV-C16	LPC3	MANUFACTURER	3 A	20 A / 2	1 SET	3 #12	#12 GND.	3/4"	1.88%	
HVAC - HUV-C19A	LPC3	MANUFACTURER	7 A	20 A / 2	1 SET	3 #12	#12 GND.	3/4"	2.75%	
HVAC - HUV-C21A	LPC3	MANUFACTURER	3 A	20 A / 2	1 SET	3 #12	#12 GND.	3/4"	1.17%	
HVAC - HUV-C21B	LPC3	MANUFACTURER	3 A	20 A / 2	1 SET	3 #12	#12 GND.	3/4"	1.03%	
HVAC - HUV-C21C	LPC3	MANUFACTURER	3 A	20 A / 2	1 SET	3 #12	#12 GND.	3/4"	0.85%	
HVAC - HUV-C23	LPC3	MANUFACTURER	3 A	20 A / 2	1 SET	3 #12	#12 GND.	3/4"	0.53%	

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ADDENDUM NO. 2 November 5, 2024

ISSUED FOR DATE

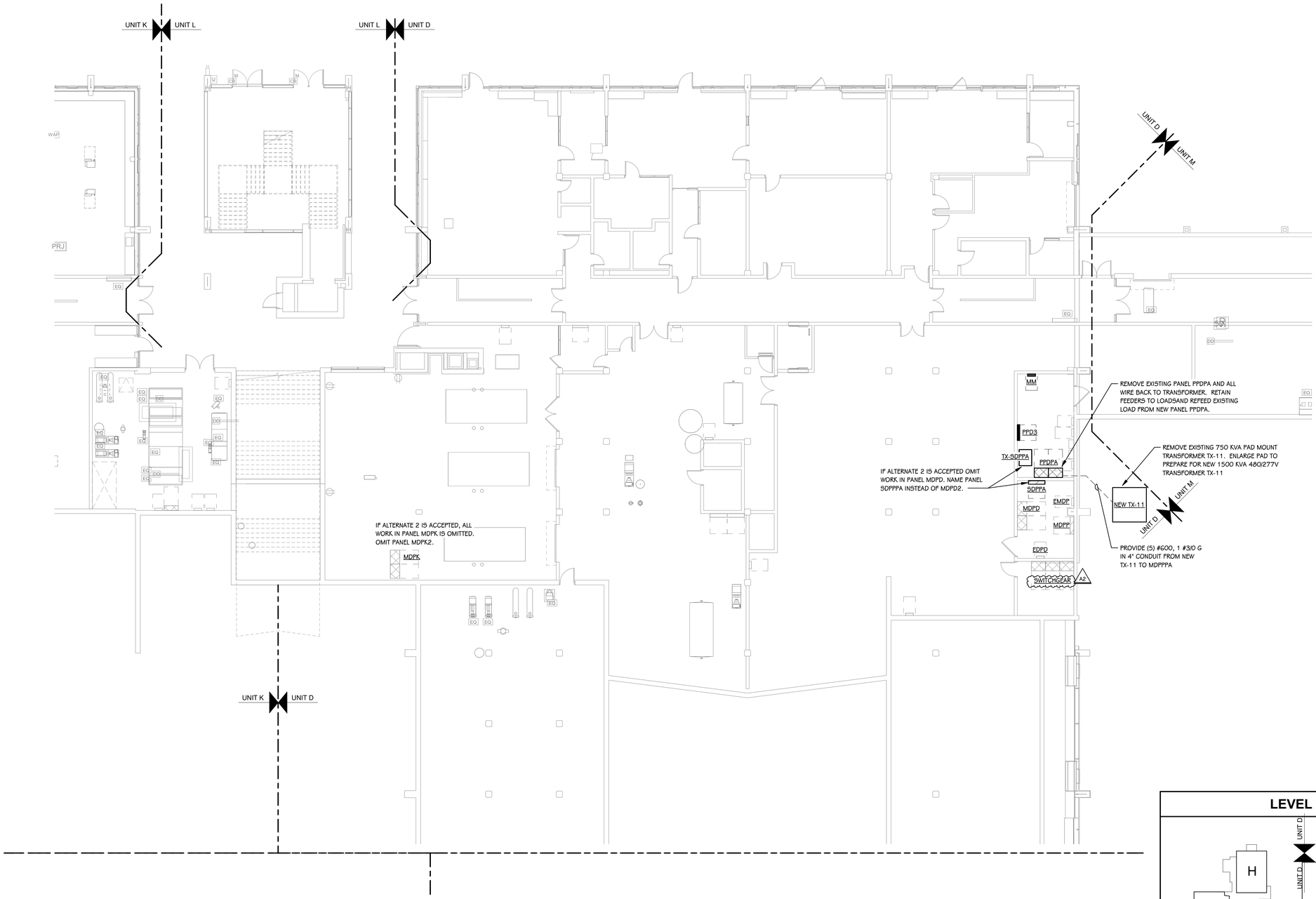
PROJECT TITLE
LOY NORRIX HIGH SCHOOL MECHANICAL IMPROVEMENTS PROJECT

OWNER
KALAMAZOO PUBLIC SCHOOLS
Kalamazoo, Michigan

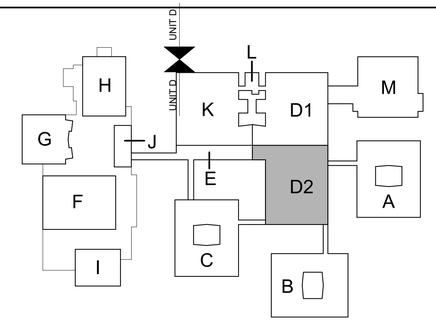
SHEET TITLE
ELECTRICAL FEEDER SCHEDULES

DATE
SEPTEMBER 16, 2024

SHEET NUMBER
E 405
21-807.00



LEVEL 1 - KEY PLAN



KEY PLAN
SCALE: NO SCALE

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Kalamazoo, Michigan

SHEET TITLE
ALTERANTE #2 LOWER LEVEL POWER PLAN

DATE
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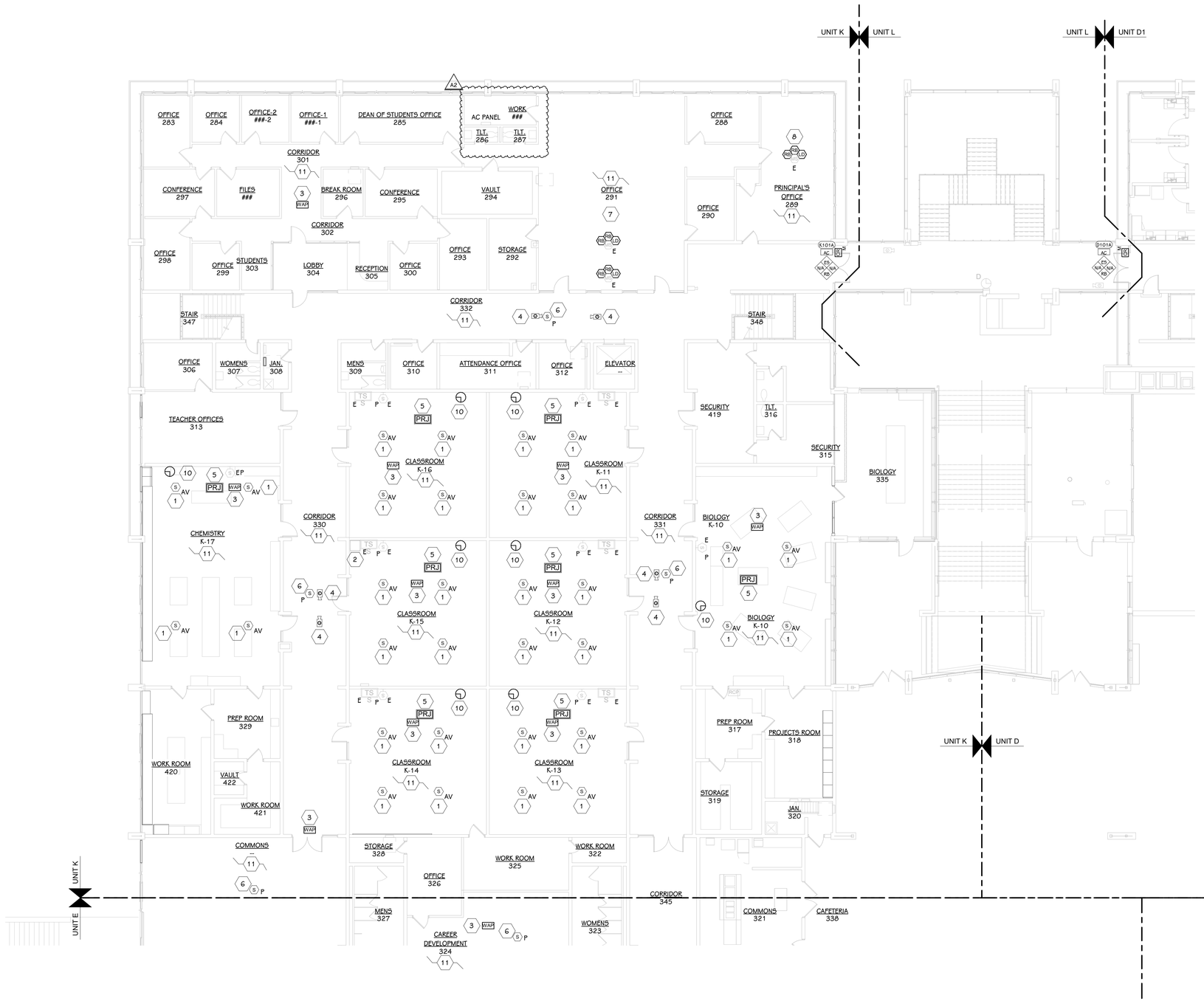
SHEET NUMBER
E 802
21-807.00



FIRST FLOOR TECHNOLOGY PLAN - UNIT K
3/32" = 1'-0"

TECHNOLOGY KEYED NOTES

1 RETRIEVE AV SPEAKERS FROM KPS TECHNOLOGY SERVICES LOCATED AT: 600 W. VINE ST., KALAMAZOO, MI 49008. INSTALL SPEAKERS THAT WERE REMOVED DURING DEMO PHASE. PAGING SYSTEM SPEAKER CENTERED IN SPACE, EQUALLY SPACING AV SPEAKERS IN ROOM FOR BEST STUDENT SEATING COVERAGE.

2 REMOVE PLASTIC FROM WALL MOUNTED CABINET, CLEAN ALL DUST AND DEBRIS FROM CABINET (INSIDE AND OUT) AND NETWORK EQUIPMENT.

3 RETRIEVE WIRELESS ACCESS POINT FROM KPS TECHNOLOGY SERVICES LOCATED AT: 600 W. VINE ST., KALAMAZOO, MI 49008. INSTALL WIRELESS ACCESS POINTS BACK WHERE THEY WERE REMOVED FROM CEILING. DOCUMENT MAC ADDRESS, DATA CABLE NUMBER, AND ASSOCIATED ROOM NUMBER.

4 RETRIEVE CAMERAS FROM KPS TECHNOLOGY SERVICES LOCATED AT: 600 W. VINE ST., KALAMAZOO, MI 49008. INSTALL SECURITY CAMERAS THAT WERE REMOVED DURING DEMO PHASE. COORDINATE WITH OWNERS FOR CAMERA COVERAGE. PULL NEW DATA CABLE IF CABLE DOES NOT REACH NEW LOCATION.

5 RETRIEVE PROJECTORS FROM KPS TECHNOLOGY SERVICES LOCATED AT: 600 W. VINE ST., KALAMAZOO, MI 49008. INSTALL PROJECTORS THAT WERE REMOVED DURING DEMO PHASE. CENTER ON WHITEBOARDS/PROJECTOR SCREENS. RECONNECT CABLES THAT WERE DISCONNECTED AND TEST AV SYSTEM FOR COMPLETE FUNCTIONALITY.

6 INSTALL NEW PAGING SPEAKERS USING EXISTING CABLING.

7 ROUTE RELEASE BUTTON AND LOCKDOWN BUTTON CABLING DOWN VERTICAL RACEWAY TO FINAL LOCATION AT RECEPTION'S DESK.

8 ROUTE RELEASE BUTTON AND LOCKDOWN BUTTON TO PRINCIPAL'S DESK.

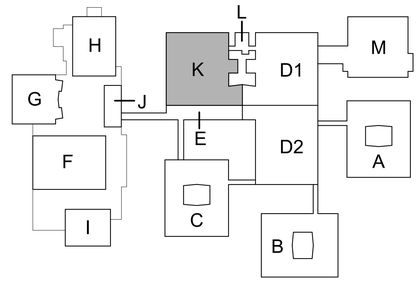
9 REINSTALL PRODUCTS THAT WERE REMOVED DURING DEMOLITION. RETRIEVE FROM KPS TECHNOLOGY SERVICES LOCATED AT: 600 W. VINE ST., KALAMAZOO, MI 49008. THIS INCLUDES, BUT IS NOT LIMITED TO: AV SPEAKERS, PAGING SPEAKERS, PROJECTORS, WIRELESS ACCESS POINTS AND SECURITY CAMERAS. DOCUMENT CABLE IDS AND MAC ADDRESSES, AND RETURN PRODUCT TO KPS TECHNOLOGY SERVICES.

10 RETREIVE CLOCKS FROM KPS TECHNOLOGY SERVICES LOCATED AT: 600 W. VINE ST., KALAMAZOO, MI 49008. INSTALL CLOCKS THAT WERE REMOVED DURING DEMO PHASE.

11 REINSTALL ANY UNDOCUMENTED DEVICES THAT WERE REMOVED DURING DEMOLITION. THESE DEVICES INCLUDE BUT ARE NOT LIMITED TO: PROJECTORS, PROJECTOR MOUNTS, AV SPEAKERS, WIRELESS ACCESS POINTS, AND CLOCKS. RETRIEVE DEVICES FROM KPS TECHNOLOGY SERVICES LOCATED AT: 600 W. VINE ST., KALAMAZOO, MI 49008.

12 RECONNECT AV SPEAKERS. NEW WIRING AND CONDUIT MAY BE REQUIRED.

LEVEL 1 - KEY PLAN



KEY PLAN
SCALE: NO SCALE

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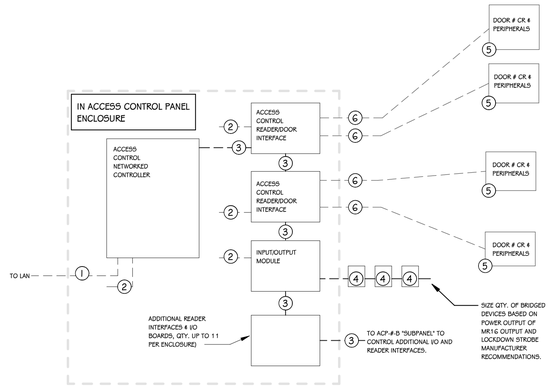
SECURITY ACCESS CONTROL SCHEDULE

NUMBER	ACCESS CONTROL	SECURITY INFO					
DOOR	CARD READER	LOCKING HARDWARE TYPE	DOOR CONTACT	OTHER	REX	DOOR DETAIL #	PROGRAMMING NOTES
D101A	Yes	ES	N/A	RB	N/A		1, 2, 3, 5
K101A	Yes	ES	N/A	RB	N/A		1, 2, 3, 5

PROGRAMMING NOTES LEGEND:
1.) DOOR NORMALLY LOCKED VIA ACCESS CONTROL SYSTEM.
2.) PRESENTATION OF VALID CREDENTIAL TO CARD READER MOMENTARILY UNOCKS ELECTRIFIED HARDWARE AND ALLOWS ACCESS.
3.) UPON ACTIVATION OF RELEASE BUTTON TIED THROUGH THE ACCESS CONTROL SYSTEM, THE ELECTRIFIED HARDWARE MOMENTARILY UNLOCKS AND ALLOWS ACCESS.
4.) UPON ACTIVATION OF RELEASE VIA INTERCOM SYSTEM, A RELAY TO THE ACCESS CONTROL PANEL WILL MOMENTARILY UNLOCK ELECTRIFIED HARDWARE, ALLOWING ACCESS.
5.) DURING THE EVENT OF A LOCKDOWN, ELECTRIFIED HARDWARE REVERTS TO A LOCKED STATE, ONLY ALLOWING SCHOOL-DETERMINED CREDENTIALS TO UNLOCK ELECTRIFIED HARDWARE UNTIL LOCKDOWN IS DEACTIVATED.
6.) DOOR NORMALLY UNLOCKED DURING REGULAR HOURS.
7.) DOOR CONTACT FOR MONITORING ONLY.
8.) DOOR NORMALLY LOCKED DURING REGULAR HOURS (MANUAL LOCK).

*IN THE EVENT THAT ANY DOOR IS PROPPED OPEN FOR "X" AMOUNT OF TIME, OWNER & RECEPTION TO BE NOTIFIED VIA TEXT MESSAGE AND E-MAIL. "X" TO BE DETERMINED BY OWNER.

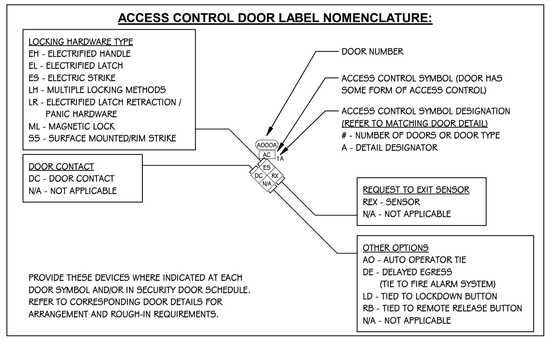


	DEVICE	MANUFACTURER/PART #	NOTES
1	CATEGORY CABLE	SEE SPEC 27 1513	PROVIDED BY CONTRACTOR RESPONSIBLE FOR SECTION 27 1513.
2	18AWG/2C	SEE SECURITY DEVICE AND CABLING CHART	12-24 VDC CONNECTION TO POWER DIST. MODULE/POWER SUPPLY
3	RS-485	BELDEN 82841	PROVIDE RS-485 LOOP TO CONNECT CONTROLLER TO MAX. NUMBER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

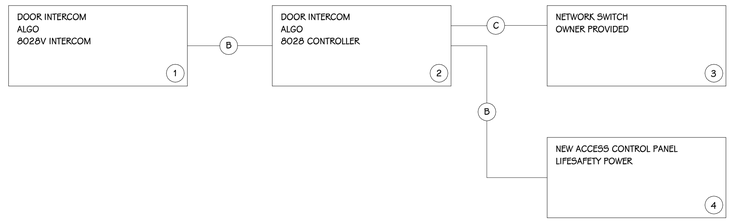
COORDINATE FAIL-SAFE VS. FAIL-SECURE LOCK CONNECTIONS IN COMPLIANCE WITH FIRE CODE AND COORDINATED WITH PROGRAMMING NOTES ON ACCESS CONTROL SCHEDULE.

ACCESS CONTROL PANEL AND INTERFACE GENERAL WIRING DIAGRAM
SCALE: NONE

ACCESS CONTROL DOOR LABEL NOMENCLATURE:



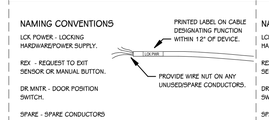
PROVIDE THESE DEVICES WHERE INDICATED AT EACH DOOR SYMBOL AND/OR IN SECURITY DOOR SCHEDULE. REFER TO CORRESPONDING DOOR DETAILS FOR ARRANGEMENT AND ROUGH-IN REQUIREMENTS.



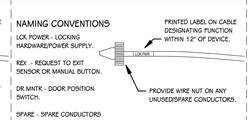
ALGO DOOR INTERCOM SCHEDULE			
	DEVICE	MANUFACTURER/PART#	NOTES
1	DOOR INTERCOM	ALGO 8028V INTERCOM	EXISTING
2	DOOR INTERCOM CONTROLLER	ALGO 8028 CONTROLLER	EXISTING
3	NETWORK SWITCH	EXISTING/OWNER PROVIDED	
4	NEW ACCESS CONTROL PANEL	LIFESAFETY POWER	
B	16/2	BELDEN 6200UE	
C	PATCH CABLE	OWNER PROVIDED	

ALGO DOOR INTERCOM RISER & SCHEDULE
SCALE: NONE

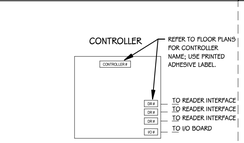
ACCESS CONTROL CABLES AT DEVICE



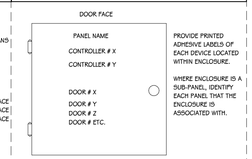
ACCESS CONTROL CABLES AT PANEL



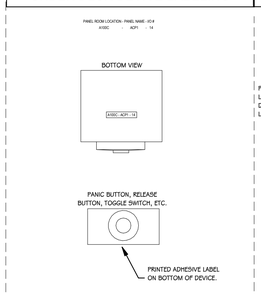
ACCESS CONTROL LABELING WITHIN PANEL



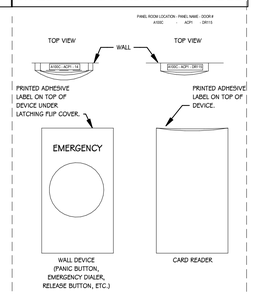
ACCESS CONTROL PANEL LABELING



UNDER DESK DEVICE LABELING

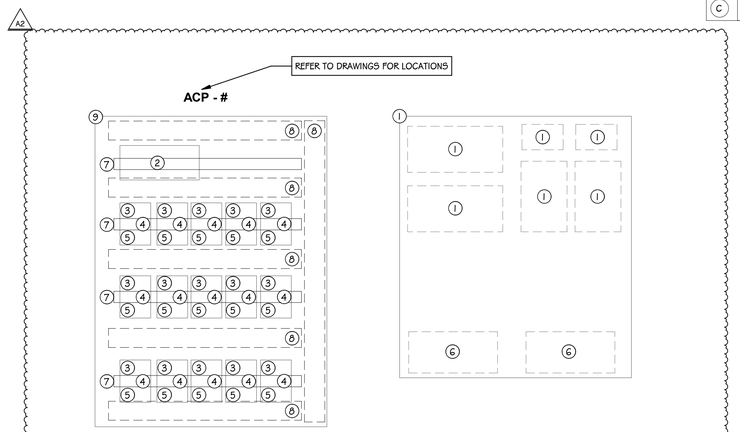


WALL DEVICE/CARD READER LABEL



TYPICAL SECURITY DEVICE LABELING DETAIL
SCALE: NONE

A2



	DEVICE	MANUFACTURER/PART#	NOTES
1	ACCESS CONTROL POWER ENCLOSURE, POWER SUPPLIES, POWER DISTRIBUTION MODULES, LOCK POWER	LIFE SAFETY POWER FPO250/250-2C8P2D8PE4	EXISTING - MAIN OFFICE WORK ROOM
2	ACCESS CONTROL NETWORKED CONTROLLER	TRIDIUM JACE 8000	EXISTING - MAIN OFFICE WORK ROOM
3	ACCESS CONTROL 2-DOOR READER INTERFACE	TRIDIUM T-5EC-R2R	EXACT LAYOUT AND QTY. OF EACH MODULE PER ENCLOSURE SHALL BE CONFIGURED AND SUPPLIED TO SUPPORT # OF DEVICES ON PLANS. *RIO DEVICES REQUIRE 2X THE ALLOCATED SPACE AS A SINGLE R2R. EXISTING - MAIN OFFICE WORK ROOM.
4	ACCESS CONTROL INPUT MODULE*	TRIDIUM T-5EC-RIO	
5	ACCESS CONTROL OUTPUT MODULE*	TRIDIUM T-5EC-RIO	
6	ENCLOSURE BATTERY	MFG. RECOMMENDED, SEALED LEAD ACID OR GEL TYPE	EXISTING - MAIN OFFICE WORK ROOM
7	DIN RAIL	OPEN	EXISTING - MAIN OFFICE WORK ROOM
8	WIRING DUCT CABLE MANAGEMENT	PANDUIT F2X#LGG	RIGHT SIZE WIRING DUCT TO FIT WITHIN ENCLOSURE WITH REQUIREMENTS SHOWN IN ILLUSTRATION ABOVE
9	ACCESS CONTROL DEVICES ENCLOSURE	LIFE SAFETY POWER E(x)	RIGHT SIZE ENCLOSURE TO SUPPORT 15 R2R/RIO'S + 1 JACE 8000 ON (4) DIN RAILS W/ WIRING DUCT

COORDINATE POWER CONNECTIONS WITH ELECTRICAL CONTRACTOR; CONNECTIONS SHALL BE HARDWIRED TO POWER SUPPLIES.

ACCESS CONTROL PANEL WAS UPDATED DURING SUMMER 2024.

TRIDIUM AC PANEL RISER
SCALE: NONE

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

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

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

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

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

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

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

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

ACCESS CONTROL PROGRAMMING NOTES
SCALE: NONE

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