

To: Larson Construction	Project: East Hall Renovation
Date: 08.04.2025	Project #: 25030
Owner: Kirkwood Community College	Transmit Via: Email

The information contained in this Addendum modifies, supplements, or replaces information contained in the original Permit Set dated July 23rd, 2026, as noted below. This information is hereby made a part of the Construction Documents.

Acknowledge receipt of this Addendum by placing the appropriate addendum number in the blank on the Bid Form. Failure to do so may subject the bidder to disqualification.

GENERAL CLARIFICATIONS

ITEMS APPLICABLE TO THE Project in General:

1. LIQUIDATED DAMAGES

- a. CLARIFICATION: Liquidated Damages are \$1,000.00 per day.

2. PRE-BID LOCATION

- a. CLARIFICATION: Pre-bid location is at East Hall – 1025 Kirkwood Pkwy SW, Cedar Rapids, IA 52404

3. BID DOCUMENTS

- a. CLARIFICATION: All bid documents are available on the Kirkwood website:
<https://www.kirkwood.edu/about-us/faculty-leadership/leadership-team/facilities-public-safety-and-operations/notice-to-bidders>

4. BID PACKAGE #3

- a. DELETE reference to Section 061600 – Sheathing.
- b. CLARIFICATION: “Section 092900 – Gypsum Board” shall provide a Level 5 finish.

SPECIFICATIONS

INFORMATION RELATED TO Specifications:

1. SECTION 054000 – COLD-FORMED METAL FRAMING

- a. DELETE Section.

2. SECTION 072100 – THERMAL INSULATION

- a. REVISE title to “THERMAL AND ACOUSTIC INSULATION”.

3. SECTION 087100 – DOOR HARDWARE

- a. ADD Section 087100 – Door Hardware. See attached.

4. SECTION 092216 – NON-STRUCTURAL METAL FRAMING

- a. ADD Paragraph “2.1 PERFORMANCE REQUIREMENTS” as follows:

1.7 PERFORMANCE REQUIREMENTS

- A. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated, according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

- B. Horizontal Deflection: Provide cold-formed metal framing capable of withstanding design loads within limits and under conditions indicated, as specified on contract drawings.

- 1. Deflection Limits: Design interior wall framing to accommodate horizontal deflection without regard for contribution of sheathing materials. Design framing systems to withstand design loads without deflections greater than the following:

- a. Interior Non-Load-Bearing Wall Framing: Horizontal deflection of 1/240 of the wall height under a horizontal load of 5 lbf/sq. ft. Note that more stringent requirements may be dictated by requirements of interior finish materials, such as ceramic tile.

5. SECTION 092900 – GYPSUM BOARD

- a. REVISE Paragraph 2.5.C as follows: “Sound-Attenuation Blankets: Refer to Section 072100 ‘Thermal and Acoustic Insulation’.”
- b. DELETE Paragraph 2.5.C.1.
- c. DELETE Paragraph 2.5.F.
- d. DELETE Paragraph 3.1.G.3.a.

6. SECTION 095113 – ACOUSTICAL PANEL CEILINGS

- a. ADD Paragraph “1.5 MAINTAINENCE MATERIAL SUBMITTALS” as follows:

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Acoustical Ceiling Units: Full-size panels equal to 2 percent of quantity installed.
 - 2. Suspension-System Components: Quantity of each exposed component equal to 2 percent of quantity installed.
 - 3. Hold-Down Clips: Equal to 2 percent of quantity installed.
 - 4. Impact Clips: Equal to 2 percent of quantity installed.

7. SECTION 096513 – RESILIENT BASE AND ACCESSORIES

- a. ADD Paragraph “1.3 MAINTAINENCE MATERIAL SUBMITTALS” as follows:

1.6 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.
- B. Furnish not less than 10 linear feet (3 linear m) for every 500 linear feet (150 linear m) or fraction thereof, of each type, color, pattern, and size of resilient product installed.

8. SECTION 096519 – RESILIENT TILE FLOORING

- a. ADD Paragraph “1.4 MAINTAINENCE MATERIAL SUBMITTALS” as follows:

1.7 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. Furnish not less than 10 linear feet (3 linear m) for every 500 linear feet (150 linear m) or fraction thereof, of each type, color, pattern, and size of resilient product installed.

9. SECTION 096813 – TILE CARPETING

- a. ADD Paragraph "1.6 MAINTAINENACE MATERIAL SUBMITTALS" as follows:

1.8 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. Carpet Tile: Full-size units equal to 5 percent of amount installed for each type indicated, but not less than 10 sq. yd. (8.3 sq. m).

10. SECTION 096813 – TILE CARPETING

- a. ADD Paragraph "1.4 MAINTAINENACE MATERIAL SUBMITTALS" as follows:

1.4 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. Carpet Tile: Full-size units equal to 5 percent of amount installed for each type indicated, but not less than 10 sq. yd. (8.3 sq. m).

11. SECTION 23 36 00 – VARIABLE AIR VOLUME TERMINALS

- a. REVISE: Throughout document.

12. VIDEO SURVEILLANCE

- a. REVISE 2.1, A. 1. from 'Avigilon Premium Series' to 'Avigilon Unity'.
b. REVISE 2.1, B. 1. from 'Avigilon Premium Series with 2x10 GbE SFP+ ports' to 'Avigilon Premium Series'.

DRAWINGS

INFORMATION RELATED TO Drawings:

ARCHITECTURAL

- 1. SHEET AD111.A – Demolition Floor Plan – Level 1 – Area A**
SHEET AD111.B – Demolition Floor Plan – Level 1 – Area B
SHEET AD112.A – Demolition Floor Plan – Level 2 – Area A
SHEET AD112.B – Demolition Floor Plan – Level 2 – Area B

- a. REVISE Keynote 4 as follows: "EXISTING FLOOR FINISHES & WALL BASE - DEMOLISH & REMOVE. PREPARE FOR NEW. SALVAGE FULL CARPET TILES FOR OWNER'S USE."
- b. ADD Keynote 15 as follows: "EXISTING CONCRETE FLOOR - SAWCUT CLEAN & DEMOLISH FOR ELECTRICAL WORK. SEE ELECTRICAL." See attached AD111.A for keynote location and scope of work.

2. SHEET A111.B – New Floor Plan – Level 1 – Area B

- a. ADD sheet. See attached.

3. SHEET A602 – Door & Window Schedule

- a. ADD new card reader to existing door ST-02A. See attached A602.

MEP

1. SHEET M000 – Mechanical Notes and Symbols

- a. REVISE: General Mechanical Note 21 to say, "ALL VAV TERMINAL UNITS SHALL BE CLEARLY LABELED IN THE FIELD WITH THE PLAN MARK DESIGNATION"
- b. ADD: General Mechanical Note 22, "ALL THERMOSTATS SHOWN ON PLANS FOR COORDINATION PURPOSES. HVAC CONTROLS FURNISHED BY OWNER. CONTRACTOR SHALL COORDINATE ALL INSTALLATION OF HVAC COMPONENTS WITH OWNER'S REPRESENTATIVE AND THEIR CONTROLS CONTRACTOR REPRESENTATIVE."

2. SHEET M121.A – Ductwork Plan – Level 1 – Area A

- a. DELETE: All new ERCP-1s and associated thermostats. For rooms: Exec Suite 1004, Senior Office 1004A, VP Office 1004B, Executive Office 1004C and Executive Office 1004D.
- b. REVISE: Thermostat labels:
 - i. VVT-28-2 to VAV-28-1
 - ii. VVT-28-3 to VAV-28-2
 - iii. VVT-28-4 to VAV-28-3
 - iv. VVT-28-5 to VAV-28-4
 - v. VVT-28-6 to VAV-28-5
- c. REVISE: Terminal unit label VAV-3-5 to VVT-3-5.

3. SHEET M122.A – Ductwork Plan – Level 2 – Area A

- a. REVISE: Thermostat labels:
 - i. VVT-32-2 to VAV-32-1
 - ii. VVT-32-3 to VAV-32-2
 - iii. VVT-32-5 to VAV-32-3
 - iv. VVT-32-5 to VAV-32-4
 - v. VVT-180 to VVT-25-9
- b. REVISE: Terminal unit label VAV-25-9 to VVT-25-9.

4. SHEET M501 – Mechanical Temperature Control Schematics

- a. DELETE: Entire Sheet.

5. SHEET M510 – Mechanical Schedules

- a. DELETE: VARIABLE AIR VOLUME TERMINALS Schedule
- b. DELETE: ELECTRIC RADIANT HEATING CEILING PANEL Schedule
- c. ADD: VARIABLE AIR VOLUME TERMINAL – ELECTRIC REHEAT Schedule

- d. REVISE: ROOF TOP AIR CONDITIONER SCHEDULE: RTU-29 and RTU-30 will have notes 1,2,4,5.

6. SHEET E211.A - Power Plan - Level 1 - Area A

- a. DELETE: All new ERCP-1s
- b. ADD: Electric Reheat connections (ERH-28) to VAVs served from RTU-28.
- c. REVISE: Keynote E-8.

7. SHEET E212.A - Power Plan - Level 2 - Area A

- a. ADD: Electric Reheat connections (ERH-32) to VAVs served from RTU-32.
- b. REVISE: Keynote E-8.

8. SHEET E510 - Electrical Power Schedules

- a. DELETE: Plan mark ERCP-1 from EQUIPMENT SCHEDULE.
- b. ADD: Plan marks ERH-28 & ERH-32 to the EQUIPMENT SCHEDULE.
- c. ADD: Note 4 to the EQUIPMENT SCHEDULE.

9. SHEET E511 - Electrical Power Schedules

- a. REVISE: NEW PANEL HI to be 42 space panel.
- b. ADD: 30A/3P breaker for RTU-32 reheat coils.
- c. ADD: (6) 20A/1P Spare Breakers.

10. SHEET E512 - Electrical Power Schedules

- a. ADD: New 30A/3P breaker in EXISTING PANEL HD to serve RTU-28 reheat coils.
- b. ADD: Note 6 to EXISTING PANEL HD.

ATTACHMENTS

Specification Sections:

087100 – Door Hardware

233600 – Variable Air Volume Terminals

Drawings:

AD111.A – Demolition Floor Plan – Level 1 – Area A

A111.B – New Floor Plan – Level 1 – Area B

A602 – Door & Window Schedule

M000 – Mechanical Notes and Symbols

M121.A – Ductwork Plan – Level 1 – Area A

M122.A – Ductwork Plan – Level 2 – Area A

M510 – Mechanical Schedules

Other:

“RuffaloCODY Permit_Bid Submittal” Drawings Dated August 14, 2013

BY: Elyse Garlock

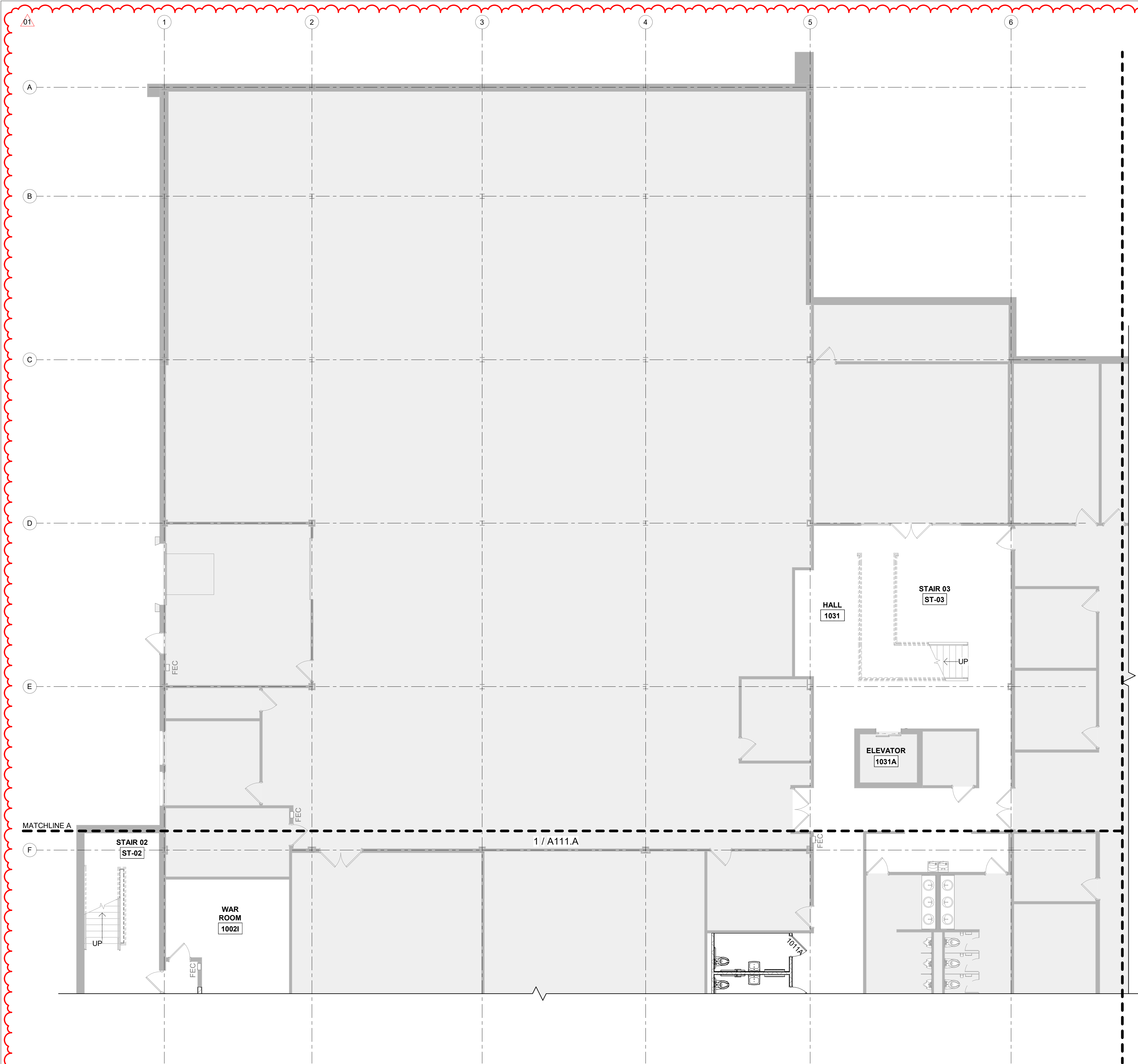
CC: Kirkwood Facilities Team
Design Engineers
M2B Structural Engineers



1
AD111.A

Kirkwood East Hall - Remodel

Demolition Floor Plan - Level 1 - Area A



GENERAL NOTES

1. CONTRACTORS & MATERIAL SUPPLIERS SHALL FIELD VERIFY ALL EXISTING DIMENSIONS & CONDITIONS ASSOCIATED WITH THE WORK & REPORT ANY DISCREPANCIES TO THE ARCHITECT IMMEDIATELY, PRIOR TO COMMENCING WORK.
2. REFERENCE ENGINEERING DRAWINGS FOR ALL MECHANICAL, ELECTRICAL, & PLUMBING WORK.
3. DIMENSIONS TAKEN FROM FINISH FACE OF WALL & EXTERIOR FACE OF STRUCTURE UNLESS NOTED OTHERWISE.
4. WINDOWS, SILLS, & SHADES - MAINTAIN & PROTECT EXISTING THROUGHOUT UNLESS NOTED OTHERWISE.
5. FINISHES - MAINTAIN & PROTECT ALL EXISTING FINISHES TO REMAIN UNLESS NOTED OTHERWISE. REPLACE & REPAIR ALL DAMAGE DUE TO CONSTRUCTION.
6. CAULK & SEAL ALL EXISTING OPENINGS & WINDOW SILLS.
7. ALL NEW WALL CONSTRUCTION UP TO STRUCTURE.
8. PATCH / REPAIR & SKIM COAT EXISTING WALLS AS NECESSARY TO ACHIEVE SMOOTH, EVEN SURFACE.
9. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING CODE REQUIRED EGRESS DURING CONSTRUCTION.
10. PATCH, BLEND, & REPAIR AT LOCATIONS OF EXISTING WALLS DEMOLISHED AND EXPOSED. PREP FOR FINISH.

FLOOR PLAN LEGEND

- NOT IN PROJECT SCOPE - MAINTAIN & PROTECT ALL EXISTING.
- NEW WALL - SEE 'CODE REVIEW & WALL TYPES' SHEET.
- EXISTING WALL - MAINTAIN & PROTECT.
- NEW WINDOW.
- EXISTING WINDOW - MAINTAIN & PROTECT.
- NEW DOOR & FRAME - SEE DOOR SCHEDULE.
- EXISTING DOOR & FRAME - MAINTAIN & PROTECT.
- NEW CONSTRUCTION.
- EXISTING CONSTRUCTION - MAINTAIN & PROTECT.
- EXISTING FIRE EXTINGUISHER CABINET - MAINTAIN & PROTECT.
- NEW FIRE EXTINGUISHER CABINET.

FLOOR PLAN KEYED NOTES

1. HANGING PANEL SPACE DIVIDERS. SEE INTERIOR ELEVATIONS & FINISH PLANS.
2. NEW CASEWORK. SEE INTERIOR ELEVATIONS.
3. EXISTING DOOR & FRAME - REINSTALL SALVAGED.
4. NEW PLUMBING FIXTURES. SEE PLUMBING DRAWINGS.
5. EXISTING FIRE EXTINGUISHER CABINET - REINSTALL SALVAGED.
6. NEW EXTERIOR SIGN STRUCTURE. SEE STRUCTURAL.
7. NEW TRANSACTION TOP. SEE INTERIOR ELEVATIONS.
8. NEW MOTOR OPERATED ROLLER SHADES. SEE WINDOW ELEVATIONS FOR EXISTING WINDOW DIMENSIONS.
9. NEW TV BY OWNER. SEE ELECTRICAL & TECHNOLOGY PLANS.
10. NEW CEILING MOUNTED PROJECTOR SCREEN BY OWNER. SEE ELECTRICAL & TECHNOLOGY PLANS FOR PROJECTOR LOCATIONS.
11. PATCH / REPAIR & SKIM COAT DEMOLISHED OPENING AS NECESSARY TO ACHIEVE SMOOTH, EVEN SURFACE.

SOLUM
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01, 08.04.28 ADD, 01

1025 Kirkwood Pkwy SW
Cedar Rapids, IA 52404

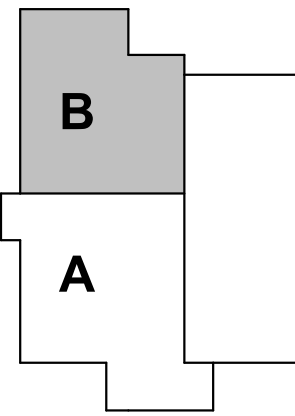
Kirkwood East Hall - Remodel
New Floor Plan - Level 1 - Area B

DATE
07.23.2026

DRAWING NUMBER
A111.B

PROJECT NUMBER
25030

1 NEW WORK FLOOR PLAN - LEVEL 1 - Area B (Northwest)
A111.B 1/8" = 1'-0"



KEY PLAN

BID SET

DOOR SCHEDULE

DOOR													FRAME		
NO.	QTY.	WIDTH	HEIGHT	THICK.	MATL.	FINISH	TYPE	WIDTH	HEIGHT	THICK.	MATL.	FINISH	TYPE	REMARKS	HARDWARE
1004A		3'-0"	7'-0"	1 3/4"	WD	SV	B	5'-6"	7'-2"	5 3/4	HM	PT	BB		5, 10
1004AA		3'-0"	7'-0"	1 3/4"	WD	SV	C	5'-2"	7'-2"	5 3/4	HM	PT	BB	1	5, 9
1004BA		3'-0"	7'-0"	1 3/4"	WD	SV	C	5'-2"	7'-2"	5 3/4	HM	PT	BB		5, 9
1004CA		3'-0"	7'-0"	1 3/4"	WD	SV	C	5'-2"	7'-2"	5 3/4	HM	PT	BB		5, 9
1004DA		3'-0"	7'-0"	1 3/4"	WD	SV	C	5'-2"	7'-2"	5 3/4	HM	PT	BB	1	5, 9
1008A		3'-0"	7'-0"	1 3/4"	WD	SV	A	3'-4"	7'-2"	6 3/8	HM	PT	AA	1	3, 5, 7
1011A		3'-0"	7'-0"	1 3/4"	WD	SV	A	3'-4"	7'-2"	6 3/8	HM	PT	AA	1	3, 5, 7
2066A		3'-0"	7'-0"	1 3/4"	WD	SV	B	6'-6"	7'-2"	6 3/8	HM	PT	BB		1, 3
2068AA		3'-0"	7'-0"	1 3/4"	WD	SV	B	5'-2"	7'-2"	6 3/8	HM	PT	BB		5, 8, 11
2068BA		3'-0"	7'-0"	1 3/4"	WD	SV	B	5'-2"	7'-2"	6 3/8	HM	PT	BB		5, 8, 11
2070A		3'-0"	7'-0"	1 3/4"	WD	SV	B	5'-2"	7'-2"	6 3/8	HM	PT	BB		5, 8, 11
2070AA	(2)	3'-0"	7'-0"	1 3/4"	WD	SV	A	6'-4"	7'-2"	5 3/4	HM	PT	AA	1	5, 10
2070B		3'-0"	7'-0"	1 3/4"	WD	SV	B	5'-2"	7'-2"	6 3/8	HM	PT	BB		5, 8, 11
2071A		3'-0"	7'-0"	1 3/4"	WD	SV	C	5'-2"	7'-2"	5 3/4	HM	PT	BB		1, 3
2072AA		3'-0"	7'-0"	1 3/4"	WD	SV	B	20'-0"	7'-2"	5 3/4	HM	PT	CC		5, 8, 10
2072BA		3'-0"	7'-0"	1 3/4"	WD	SV	C	5'-2"	7'-2"	5 3/4	HM	PT	BB		5, 9
2072CA		3'-0"	7'-0"	1 3/4"	WD	SV	C	5'-2"	7'-2"	5 3/4	HM	PT	BB		5, 9
2072DA		3'-0"	7'-0"	1 3/4"	WD	SV	C	5'-2"	7'-2"	5 3/4	HM	PT	BB		5, 9
2072EA		3'-0"	7'-0"	1 3/4"	WD	SV	C	5'-2"	7'-2"	5 3/4	HM	PT	BB		5, 9
2072FA		3'-0"	7'-0"	1 3/4"	WD	SV	C	5'-2"	7'-2"	5 3/4	HM	PT	BB		5, 9
2072GA		3'-0"	7'-0"	1 3/4"	WD	SV	C	5'-2"	7'-2"	5 3/4	HM	PT	BB		5, 9
2072HA		3'-0"	7'-0"	1 3/4"	WD	SV	C	5'-2"	7'-2"	5 3/4	HM	PT	BB		5, 9
2072IA		3'-0"	7'-0"	1 3/4"	WD	SV	C	5'-2"	7'-2"	5 3/4	HM	PT	BB		5, 9
2072JA		3'-0"	7'-0"	1 3/4"	WD	SV	C	5'-2"	7'-2"	5 3/4	HM	PT	BB		5, 9
2072KA		3'-0"	7'-0"	1 3/4"	WD	SV	A	3'-4"	7'-2"	5 3/4	HM	PT	AA	1	5, 12
2073A		3'-0"	7'-0"	1 3/4"	WD	SV	A	3'-4"	7'-2"	5 3/4	HM	PT	AA		1, 3
2073A		3'-0"	7'-0"	1 3/4"	WD	SV	B	3'-2"	7'-2"	5 3/4	HM	PT	BB		1, 3
ST-02A		3'-0"	7'-0"	1 3/4"	WD	SV	C	3'-4"	7'-4"	5 3/4	HM	PT	AA	3	1

STOREFRONT SCHEDULE

DOOR													FRAME		
NO.	QTY.	WIDTH	HEIGHT	THICK.	MATL.	FINISH	TYPE	WIDTH	HEIGHT	THICK.	MATL.	FINISH	TYPE	REMARKS	HARDWARE
1000C	(2)	3'-0"	7'-8"	1 3/4"	AL	ANOD	B	12'-10"	10'-0"	4 1/2	AL	ANOD	DD	2	2, 3, 5, 6

GENERAL NOTES

- VERIFY WALL THICKNESS AND COORDINATE FRAME THROAT PRIOR TO FABRICATION.
- VERIFY ALL OPENINGS PRIOR TO FABRICATION.
- TEMPER GLAZING AS INDICATED AS REQ'D BY CODE.

REMARKS

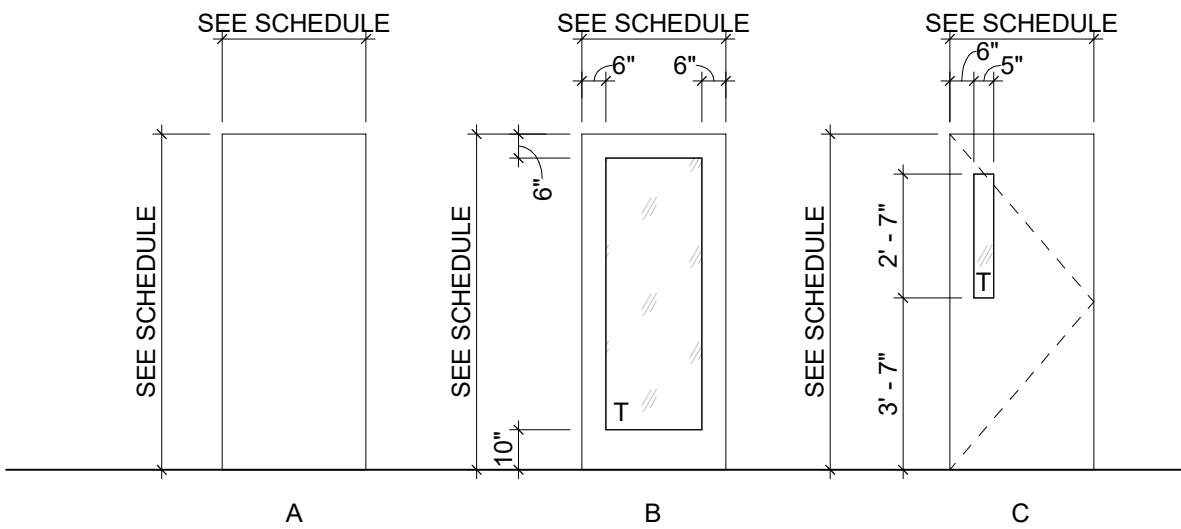
- EXISTING DOOR & FRAME - REINSTALL SALVAGED.
- VERIFY EXISTING ADJACENT STOREFRONT MULLION LOCATIONS & OVERALL HEIGHT. MATCH NEW STOREFRONT TO EXISTING CONDITIONS.
- EXISTING DOOR & FRAME - MAINTAIN & PROTECT.

ABBREVIATIONS

AL	ALUMINUM
ANOD	ANODIZED
HM	HOLLOW METAL
PT	PAINT
SF	STOREFRONT
SV	STAIN AND VARNISH
WD	WOOD

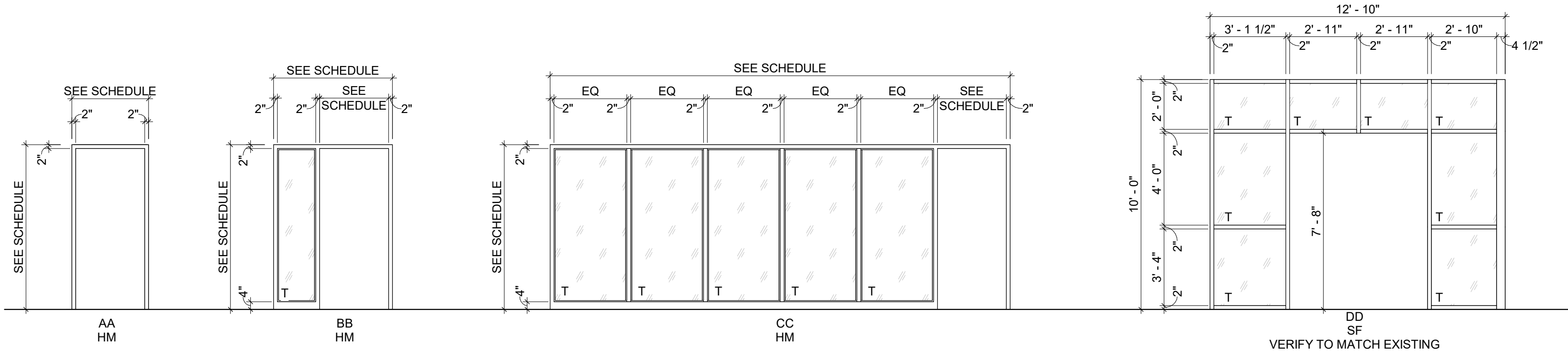
DOOR HARDWARE

- CARD READER (LOCKED FROM EXTERIOR ONLY)
- EXIT DEVICE
- CLOSER
- HOLD OPEN
- OVERHEAD STOP
- AUTOMATIC OPERATOR
- LOCKED FROM INTERIOR W/ "OCCUPIED" / "VACANT" INDICATOR
- SCHEDULER
- OFFICE FUNCTION
- PASSAGE FUNCTION
- CLASSROOM FUNCTION
- STOREROOM FUNCTION



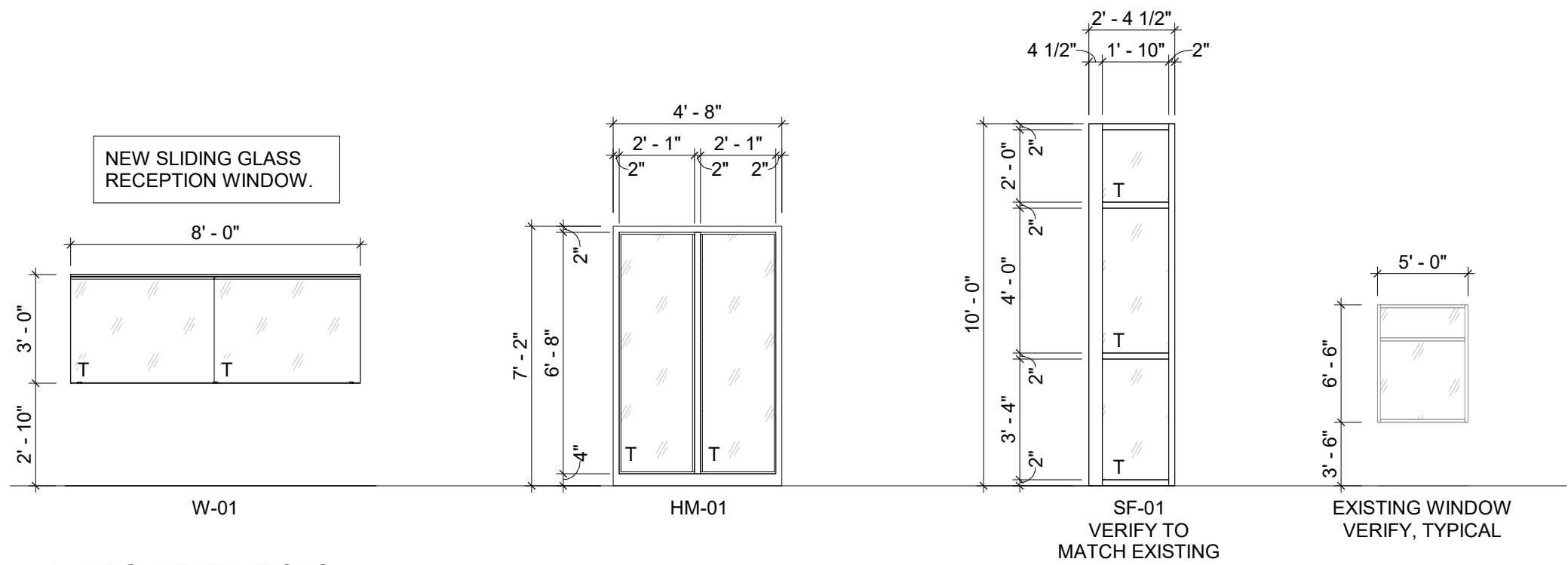
DOOR ELEVATIONS

1/4" = 1'-0"



DOOR FRAME ELEVATIONS

1/4" = 1'-0"



WINDOW ELEVATIONS

1/4" = 1'-0"

GENERAL NOTES

- VERIFY ALL OPENINGS PRIOR TO FABRICATION.
- TEMPERED GLAZING AS INDICATED AS REQUIRED BY CODE MARKED BELOW WITH A "T".
- VERIFY ALL SILL SIZES PRIOR TO FABRICATION.
- SEE FLOOR PLANS FOR LOCATIONS.

ABBREVIATIONS

AL	ALUMINUM
ANOD	ANODIZED
HM	HOLLOW METAL
PT	PAINT
SF	STOREFRONT
SV	STAIN AND VARNISH
W	WINDOW
WD	WOOD

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DATE & TITLE

01, 08.04.28 ADD. 01

1025 Kirkwood Pkwy SW
Cedar Rapids, IA 52404

Kirkwood East Hall - Remodel
Door & Window Schedule

DATE

07.23.2026

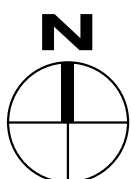
DRAWING NUMBER

A602

PROJECT NUMBER

25030

BID SET



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REVISION ISSUE DATE & TIME	06/04/25 ADD 01
14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489	

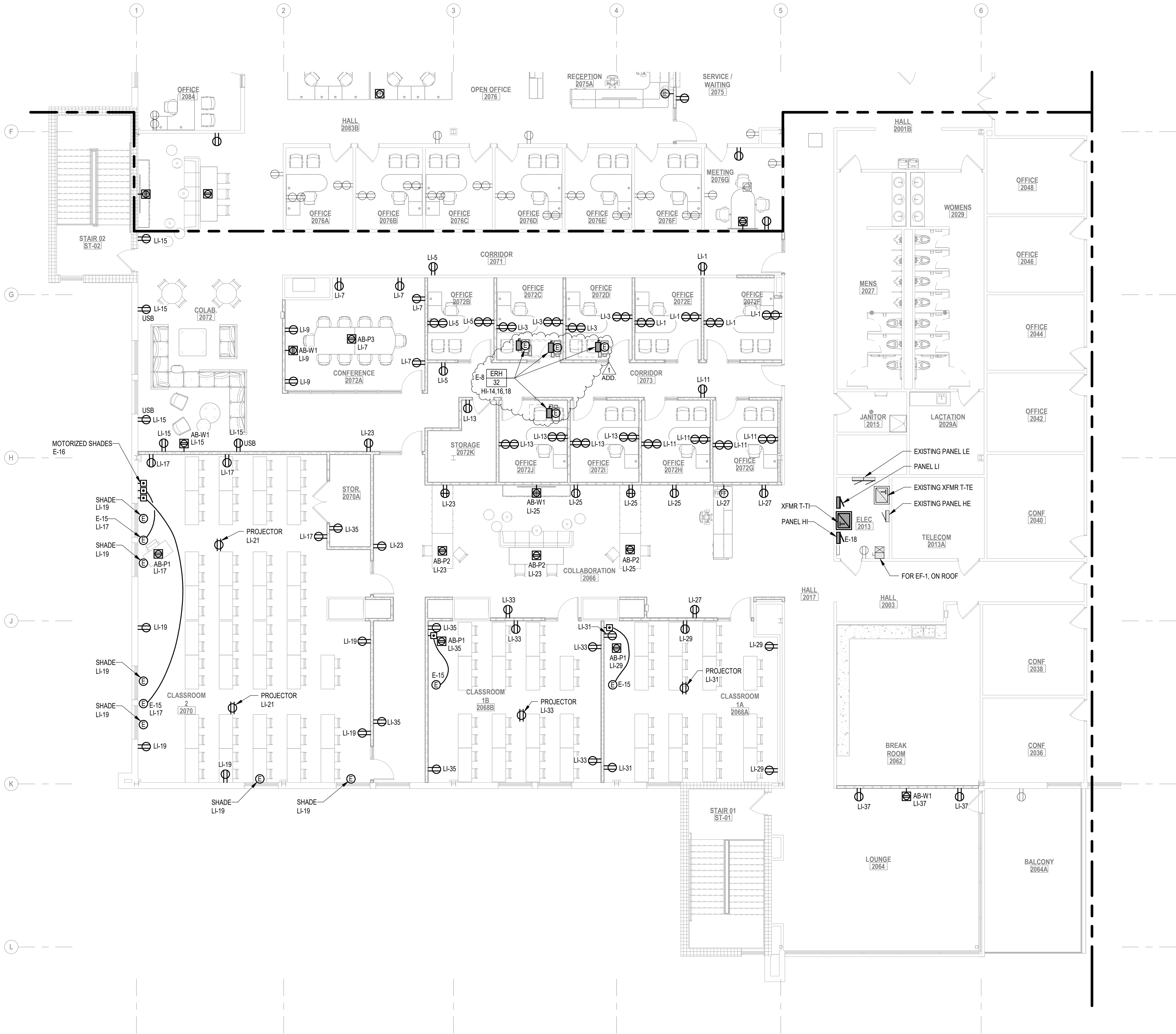
Kirkwood East Hall - Remodel

Power Plan - Level 1 - Area A

PROJECT NUMBER
25030



BID SET



KEYED NOTES	
E-8	480V, 3-PHASE ELECTRIC REHEAT PROVIDED WITH FUSED DISCONNECT SWITCH. CONNECT TO 480V, 30A SHARED CIRCUIT NOTED.
E-15	120V CONNECTION TO MOTORIZED PROJECTION SCREEN. PROJECTION SCREEN PROVIDED BY OWNER. INSTALL CONTROL SWITCH.
E-16	MOTORIZED SHADE CONTROL. COORDINATE REQUIREMENTS WITH SHADE SUPPLIER AND GC.
E-18	RELOCATE TIMER SWITCH TO ALLOW ROOM FOR NEW ELECTRICAL EQUIPMENT. PROVIDE CHANNEL STRUT AS REQUIRED TO ALLOW EXISTING RACEWAY TO PASS BEHIND EQUIPMENT.

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DATE & TITLE

08/04/28 ADD 01

1025 Kirkwood Pkwy SW
Cedar Rapids, IA 52404

Kirkwood East Hall - Remodel

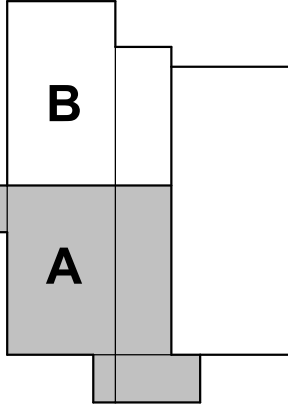
Power Plan - Level 2 - Area A

DATE
07.23.2026
DRAWING NUMBER

E212.A

PROJECT NUMBER
25030

NEW WORK KEY	
—	EXISTING
—	NEW / REVISED
■	EXISTING EQUIPMENT
■	NEW / REVISED EQUIPMENT



KEY PLAN

BID SET



EQUIPMENT SCHEDULE												
PLAN MARK	DESCRIPTION	PANEL	VOLTS /PH	HP/ WATTS	FLA	MCA	MAX FUSE/ MOCPD		FEEDER	DISC @ UNIT	REMARKS	
RTU-1A	ROOF TOP UNIT	HD	480/3			21	25		3/4"C, (3) #10, #10 GND (EXIST.)	30/3 WP FUSIBLE	NOTE 1	
RTU-1B	ROOF TOP UNIT	HD	480/3			21	25		3/4"C, (3) #10, #10 GND	FWE	NOTE 2	
RTU-2	ROOF TOP UNIT	HD	480/3			16	20		3/4"C, (3) #10, #10 GND	FWE	NOTE 3	
RTU-3	ROOF TOP UNIT	HD	480/3			16	20		3/4"C, (3) #10, #10 GND	FWE	NOTE 3	
RTU-28	ROOF TOP UNIT	HD	480/3			21	25		3/4"C, (3) #10, #10 GND	FWE		
RTU-29	ROOF TOP UNIT	HI	480/3			44	60		1"C, (3) #6, #8 GND	FWE		
RTU-30	ROOF TOP UNIT	HI	480/3			16	20		3/4"C, (3) #10, #10 GND	FWE		
RTU-31	ROOF TOP UNIT	HI	480/3			36	50		1"C, (3) #6, #8 GND	FWE		
RTU-32	ROOF TOP UNIT	HI	480/3			16	20		3/4"C, (3) #10, #10 GND	FWE		
RTU-33	ROOF TOP UNIT	HI	480/3			21	25		3/4"C, (3) #10, #10 GND	FWE		
ERH-28	ELECTRIC REHEAT	HD	480/3	8500 W	10.2	12.2	30		3/4"C, (3) #10, #10 GND	FWE	NOTE 4	
ERH-32	ELECTRIC REHEAT	HI	480/3	6500 W	7.8	9.4	30		3/4"C, (3) #10, #10 GND	FWE	NOTE 4	
KEY: CMS= COMB. MOTOR STARTER DDC= DIRECT DIGITAL CONTROL FLA= FULL LOAD AMPS FRA= FRACTIONAL HP FWE= FURNISHED W/ EQUIP MCA= MIN CKT. AMP NF= NON-FUSED SPSW= SINGLE POLE SWITCH SSY= BUSSMAN FUSES/SWITCH UNIT WP= WEATHERPROOF WS= WITHIN SITE VFD= VAR. FREQ. DRIVE												
NOTES: 1. REPLACEMENT FOR EXISTING UNIT. EXISTING FEED TO BE RE-USED. EXISTING UNIT IS FEED WITH A 30A BREAKER. PROVIDE FUSIBLE SWITCH AND FUSE AT MOCP (25A). 2. REPLACEMENT FOR EXISTING UNIT. EXISTING 480V FEED IS INSUFFICIENT FOR NEW RTU. REPLACE #12 CONDUCTORS WITH #10 AS NOTED. EXISTING UNIT IS FEED WITH A NEW 25A BREAKER. 3. REPLACEMENT FOR EXISTING UNIT. EXISTING FEED IS 208V, SINGLE PHASE. DEMO EXISTING FEED AND PROVIDE NEW 480V FEED NOTED. 4. SHARED 30A CIRCUIT WITH FUSIBLE DISCONNECT AT REHEAT COILS. FUSE PER NAMEPLATE.												

DRY TYPE TRANSFORMER SCHEDULE														
PLAN MARK	KVA RATING	OC TEMP		PRIMARY			SECONDARY			TAPS			K RATING	NOTES
		RISE		VOLTS	PH	WIRE	VOLTS	PH	WIRE	% REG	NO. (+)	NO. (-)		
T-TI	75	115		480	3	3	120/208	3	4	2.5	2	4	1	1
NOTES: 1. REFER TO SPECIFICATIONS FOR APPROVED MANUFACTURERS AND ADDITIONAL INFORMATION.														

ACTIVATION BOX SCHEDULE						
PLAN MARK	AB-F1	AB-P1	AB-P2	AB-P3	AB-P4	AB-W1
DESCRIPTION	FLOORBOX	6" POKE THRU AT TEACHING STATION	6" POKE THRU AT GATHERING	6" POKE THRU AT CONFERENCE ROOM W/AV	6" FURNITURE FEED POKE THRU	WALL ACTIVATION BOX
FLOOR/WALL TYPE	CARPET ON CONCRETE	CARPET ON CONCRETE	CARPET ON CONCRETE	CARPET ON CONCRETE		GYP/STEEL STUD
MODEL INFORMATION						
QUANTITY OF OPENINGS (GANGS)	8	3	3	3	2	
MANUFACTURER	WIREMOLD	LEGRAND	LEGRAND	LEGRAND	LEGRAND	FSR
BOX MODEL NUMBER	EFB8S-OG	6ATC2PGY	6ATC2PGY	6ATC2PGY	6ATCFFGY	PWB-250
FINISH	EFB610CTCGY GRAY (VERIFY)	FURNISHED WITH BOX GRAY (VERIFY)	FURNISHED WITH BOX GRAY (VERIFY)	FURNISHED WITH BOX GRAY (VERIFY)	FURNISHED WITH BOX GRAY (VERIFY)	INCLUDED WHITE
POWER						
DUPLEX RECEPTACLE QTY.	4	2	2	2	N/A	1
CONDUIT	3/4"C	3/4"C	3/4"C	3/4"C	3/4"C	3/4"
TECHNOLOGY						
MOUNTING PLATE MODEL NUMBER	EFB8MB, EFB810-DIV	6DEC	6DEC	6DEC	0	N/A
CONDUIT	1-1/4"C	1-1/4"C	1-1/4"C	1-1/4"C	1-1/4"C	1"
AUDIO VISUAL						
MOUNTING PLATE MODEL NUMBER	EFB8MB	6MAAP	6MAAP	6MAAP	6MAAP	N/A
CONDUIT	1-1/4"	1-1/4"C	N/A	1-1/4"C	N/A	(1) 1 1/4"
SCHEMATIC DETAIL NUMBER						
NOTES	NOTE 1					
GENERAL NOTES: A. PROVIDE ALL NECESSARY COMPONENTS REQUIRED FOR A COMPLETE INSTALLATION. B. PROVIDE BLANK COVER PLATES FOR ALL UN-USED OPENINGS. C. REFER TO TECHNOLOGY DRAWINGS TO VERIFY NUMBER OF CABLES AND DATA JACKS REQUIRED AS WELL AS CONDUIT SIZES AND QUANTITY. D. CONFIRM COVER PLATE TYPES AND FINISHES WITH ARCHITECT. E. CONFIRM ROUGH-IN LOCATION WITH ARCHITECTURAL FLOORPLANS AND ELEVATIONS PRIOR TO ROUGH-IN. F. REFER TO TECHNOLOGY AND AUDIOVISUAL SHEETS FOR SPECIFIC DEVICES INSTALLED IN ACTIVATION BOX. PROVIDE COVER PLATES AND ACCESSORIES AS REQUIRED FOR SYSTEMS. NOTES: 1. PROVIDE WITH DIVIDER TO SEPARATE LINE VOLTAGE FROM LOW VOLTAGE.						

LIGHTING CONTROL SEQUENCE OF OPERATION										
OPERATION SEQUENCE	SCHEMATIC DETAIL	LIGHT LEVEL SET POINT	TIME DELAY	LIGHTING SEQUENCE				RECEPTACLE CONTROL	HVAC INTEGRATION	NOTES
				TRIGGER ON	USER CONTROLS	DAY LIGHT CONTROLS	TRIGGER OFF			
0	N/A	N/A	N/A	CONSTANT ON	N/A	N/A	CONSTANT ON	N/A	-	FIXTURE IS WIRED TO UNSWITCHED CIRCUIT, FIXTURE IS ALWAYS ENERGIZED.
1	N/A	N/A	N/A	SINGLE POLE WALL SWITCH		N/A	SINGLE POLE WALL SWITCH	N/A	N/A	FIXTURE IS WIRED TO A SWITCH LEG FOR MANUAL CONTROL. SPACE CONTAINS EQUIPMENT THAT MAY BECOME UNSAFE FOR AUTOMATIC OFF CONTROL.
2	N/A	N/A	ADJUSTABLE, SET TO 15 MINUTES	LIGHTING CONTROL STATION		N/A	MANUAL CONTROL STATION OR OCCUPANCY SENSOR	N/A	N/A	MANUAL ON BY LIGHTING CONTROL STATION. AUTO OFF BY OCCUPANCY SENSOR. MANUAL OFF BY LIGHTING CONTROL STATION. LIGHTING CONTROL STATION CAPABLE OF DIMMING TO 1% AND RAISING TO 100%. FIXTURES LABELED AS 'EM': UPON LOSS OF NORMAL POWER, THE UL924 DEVICE FORCES EMERGENCY LUMINAIRES ON TO FULL OUTPUT REGARDLESS OF CONTROL SYSTEM STATE. NORMAL OPERATION IS AUTOMATICALLY RESTORED UPON RETURN OF NORMAL POWER
3	N/A	N/A	ADJUSTABLE, SET TO 15 MINUTES	OCCUPANCY SENSOR	N/A	N/A	OCCUPANCY SENSOR	N/A	N/A	AUTOMATIC ON BY OCCUPANCY SENSOR, AUTOMATIC OFF BY OCCUPANCY SENSOR [WHERE APPLICABLE, MANUAL OFF BY WALL SWITCH SENSOR]
4	N/A	N/A	ADJUSTABLE, SET TO 15 MINUTES	OCCUPANCY SENSOR		N/A	MANUAL CONTROL STATION OR OCCUPANCY SENSOR	N/A	N/A	AUTOMATIC ON BY OCCUPANCY SENSOR TO 50%, AUTOMATIC OFF BY OCCUPANCY SENSOR OR MANUAL OFF BY LIGHTING CONTROL STATION. LIGHTING CONTROL STATION CAPABLE OF DIMMING LIGHTS AND RAISING TO 100% ON. FIXTURES LABELED AS 'EM': UPON LOSS OF NORMAL POWER, THE UL924 DEVICE FORCES EMERGENCY LUMINAIRES ON TO FULL OUTPUT REGARDLESS OF CONTROL SYSTEM STATE. NORMAL OPERATION IS AUTOMATICALLY RESTORED UPON RETURN OF NORMAL POWER
5	N/A	N/A	ADJUSTABLE, SET TO 15 MINUTES	LIGHTING CONTROL STATION		N/A	MANUAL CONTROL STATION OR OCCUPANCY SENSOR	N/A	N/A	MANUAL ON BY LIGHTING CONTROL STATION, AUTOMATIC OFF BY OCCUPANCY SENSOR OR MANUAL OFF BY LIGHTING CONTROL STATION. LIGHTS ARE NOT CAPABLE OF DIMMING. FIXTURES LABELED AS 'EM': UPON LOSS OF NORMAL POWER, THE UL924 DEVICE FORCES EMERGENCY LUMINAIRES ON TO FULL OUTPUT REGARDLESS OF CONTROL SYSTEM STATE. NORMAL OPERATION IS AUTOMATICALLY RESTORED UPON RETURN OF NORMAL POWER
6	N/A	N/A	ADJUSTABLE, SET TO 15 MINUTES	OCCUPANCY SENSOR		N/A	MANUAL CONTROL STATION OR OCCUPANCY SENSOR	N/A	N/A	LIGHTING SHALL OPERATE AT A PROGRAMMED HIGH-END TRIM LEVEL OF 50% OF FULL OUTPUT. AUTOMATIC ON BY OCCUPANCY SENSOR TO 50% OF THE PROGRAMMED HIGH-END TRIM. AUTOMATIC OFF BY OCCUPANCY SENSOR OR MANUAL OFF BY LIGHTING CONTROL STATION. LIGHTING CONTROL STATION CAPABLE OF DIMMING LIGHTS AND RAISING TO 100% ON.
GENERAL NOTES: A. FOR ALL CONTROL SEQUENCES WITH WALL STATIONS, THE PROGRAMMED SETTING OF THE WALL STATION WILL MAINTAIN THE ACTIVE CONTROL FUNCTION UNTIL LOSS OF OCCUPANCY IS DETECTED, THEN THE SYSTEM WILL DEFAULT BACK TO ITS INITIAL SEQUENCE. B. LIGHTING CONTROL SYSTEM TO BE LUTRON VIVE WITH WIRELESS CONTROL STATIONS AND SENSORS. SPECIFIC NOTES:										

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08/04/28 ADD 01

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PANEL SCHEDULE: XL2

LOCATION: STORAGE 024

MOUNTING: SURFACE

ENCLOSURE: TYPE 1

VOLTS: 208/120V

PHASES: 3

WIRES: 4

A.I.C. RATING: 10,000

MAINS TYPE: MLO

MAINS RATING: 100 A

TOTAL CONNECTED

TOTAL LOAD: 2363 VA

TOTAL AMPS: 7 A

Not Computed / 0...

CKT NO.	BRKR AMPS	P	DESCRIPTION	LOAD V.A.	LOAD V.A.	DESCRIPTION	P	BRKR AMPS	CKT NO.
1	20	1	WAR ROOM 10021 LTG	203	--	SPARE	1	20	2
3	20	1	WAR ROOM 10021 RECEPTS	1080	--	SPARE	1	20	4
5	20	1	WAR ROOM 10021 AB-F1	360	--	SPARE	1	20	6
7	20	1	WAR ROOM 10021 RECEPTS	720	--	SPARE	1	20	8
9	20	1	SPARE	--	--	SPARE	1	20	10
11	20	1	SPARE	--	--	SPARE	1	20	12
13	20	1	SPARE	--	--	SPARE	1	20	14
15	20	1	SPARE	--	--	SPARE	1	20	16
17	20	1	SPARE	--	--	SPARE	1	20	18
19	20	1	SPARE	--	--	SPARE	1	20	20
21	20	1	SPARE	--	--	SPARE	1	20	22
23	20	1	SPARE	--	--	SPARE	1	20	24
25	20	1	SPARE	--	--	SPARE	1	20	26
27	20	1	SPARE	--	--	SPARE	1	20	28
29	20	1	SPARE	--	--	SPARE	1	20	30

*HL = HANDLE LOCK *GFI = GROUND FAULT INTERRUPTER *AFI = ARC FAULT INTERRUPTER *ST = SHUNT TRIP

NOTES:
1. NEC ARTICLE 702 STANDBY SYSTEM
2. SQUARE D TO MATCH BUILDING STANDARD

PANEL SCHEDULE: LI

LOCATION: ROOM 177

MOUNTING: SURFACE

ENCLOSURE: TYPE 1

VOLTS: 208/120V

PHASES: 3

WIRES: 4

A.I.C. RATING: 10,000

MAINS TYPE: MCB

MAINS RATING: 225 A

TOTAL CONNECTED

TOTAL LOAD: 21820 VA

TOTAL AMPS: 61 A

Not Computed / 0.

CKT NO.	BRKR AMPS	P	DESCRIPTION	LOAD V.A.	LOAD V.A.	DESCRIPTION	P	BRKR AMPS	CKT NO.
1	20	1	OFFICE 2072E, 2072F, CORRIDOR 2071 RECEPTS	1620	--	SPARE	1	20	2
3	20	1	OFFICE 2072C, 2072D RECEPTS	1440	--	SPARE	1	20	4
5	20	1	OFFICE 2072B, CORRIDOR 2071, 2073 RECEPTS	1080	--	SPARE	1	20	6
7	20	1	CONFERENCE 2072A RECEPTS	1080	--	SPARE	1	20	8
9	20	1	CONFERENCE 2072A RECEPTS	720	--	SPARE	1	20	10
11	20	1	OFFICE 2072G, 2072H, CORRIDOR 2073 RECEPTS	1620	--	SPARE	1	20	12
13	20	1	OFFICE 2072I, 2072J , STOR. 2072K RECEPTS	1620	--	SPARE	1	20	14
15	20	1	COLAB. 2072 RECEPTS	1260	--	SPARE	1	20	16
17	20	1	CLASSROOM 2 2070 RECEPTS	1500	--	SPARE	1	20	18
19	20	1	CLASSROOM 2 2070 RECEPTS	1500	--	SPARE	1	20	20
21	20	1	CLASSROOM 2 2070 PROJECTORS	1000	--	SPARE	1	20	22
23	20	1	COLLABORATION 2066 RECEPTS	1260	--	SPARE	1	20	24
25	20	1	COLLABORATION 2066 RECEPTS	1260	--	SPARE	1	20	26
27	20	1	COLLABORATION 2066 RECEPTS	720	--	SPARE	1	20	28
29	20	1	CLASSROOM 1A 2068A RECEPTS	900	--	SPARE	1	20	30
31	20	1	CLASSROOM 1A 2068A RECEPTS	540	--	SPARE	1	20	32
33	20	1	CLASSROOM 1B 2068B RECEPTS	900	--	SPARE	1	20	34
35	20	1	CLASSROOM 1B 2068B, STOR. 2070A RECEPTS	1080	--	SPARE	1	20	36
37	20	1	LOUNGE 2064 RECEPTS	720	--	SPARE	1	20	38
39	20	1	SPARE	--	--	SPARE	1	20	40
41	20	1	SPARE	--	--	SPARE	1	20	42
43	20	1	SPARE	--	--	SPARE	1	20	44
45	20	1	SPARE	--	--	SPARE	1	20	46
47	20	1	SPARE	--	--	SPARE	1	20	48
49	20	1	SPARE	--	--	SPARE *GFI	1	20	50
51	20	1	SPARE	--	--	SPARE *GFI	1	20	52
53	20	1	SPARE	--	--	SPARE *GFI	1	20	54

*HL = HANDLE LOCK *GFI = GROUND FAULT INTERRUPTER *AFI = ARC FAULT INTERRUPTER *ST = SHUNT TRIP

NOTES:

1. SQUARE D TO MATCH BUILDING STANDARD

2. SUB FEED LUGS FOR FUTURE SECOND SECTION.

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08/04/28 ADD 01

1025 Kirkwood Pkwy SW
Cedar Rapids, IA 52404

Kirkwood East Hall - Remodel
Electrical Power Schedules

DATE

07.23.2026

DRAWING NUMBER

E511

PROJECT NUMBER

25030

BID SET

PANEL SCHEDULE: HD

(EXISTING)

LOCATION: ELECTRICAL 016

MOUNTING: SURFACE

ENCLOSURE: TYPE 1

VOLTS: 480/277V

PHASES: 3

WIRES: 4

A.I.C. RATING: 35,000

MAINS TYPE: MLO

MAINS RATING: 225 A

CKT NO.	BRKR AMPS	P	DESCRIPTION	LOAD V.A.	LOAD V.A.	DESCRIPTION	P	BRKR AMPS	CKT NO.
1	25	3	RTU-1A *NOTE 1,2	17772	--	RM 6,8,10,12,17,18,20 LTG	1	20	2
3	--	--	--	--	--	RM 4,5,7,9,11,13-16,24,25 LTG	1	20	4
5	--	--	--	--					6
7	25	3	RTU-1B *NOTE 3	17772					8
9	--	--	--	--					10
11	--	--	--	--					12
13	20	3	RTU-2 *NOTE 1, 4	13296					14
15	--	--	--	--					16
17	--	--	--	--					18
19	20	3	RTU-3 *NOTE 1, 4	13296	8500	RTU-28 REHEAT COILS *NOTE 1,6	3	30	20
21	--	--	--	--	--	--	--	--	22
23	--	--	--	--	--	--	--	--	24
25	25	3	RTU-28 NOTE 1, 5	17772	--	XFMR T-TD	3	110	26
27	--	--	--	--	--	--	--	--	28
29	--	--	--	--	--	--	--	--	30

*HL = HANDLE LOCK

*GFI = GROUND FAULT INTERRUPTER

*AFI = ARC FAULT INTERRUPTER

*ST = SHUNT TRIP

NOTES:

1. BOLD INDICATES NEW OR REVISED CIRCUIT

2. REPLACE 30A/3P WITH 25A/3P FOR NEW RTU-1A.

3. EXISTING 25A/3P BREAKER FOR RTU-1B TO REMAIN FOR REPLACEMENT RTU-1B.

4. NEW 20A/3P BREAKER FOR NEW RTU.

5. NEW 25A/3P BREAKER FOR NEW RTU.

6. PROVIDE NEW 30/3P FOR SHARED CIRCUIT TO ELECTRIC REHEAT COILS.

PANEL SCHEDULE: LD					(EXISTING)					
LOCATION:			VOLTS: 208/120V		A.I.C. RATING: 10,000			TOTAL CONNECTED		
MOUNTING: SURFACE			PHASES: 3		MAINS TYPE: MB			TOTAL LOAD: 43460 VA		
ENCLOSURE: TYPE 1			WIRES: 4		MAINS RATING: 225 A			TOTAL AMPS: 121 A		
Not Computed / 0...										
CKT NO.	BRKR AMPS	P	DESCRIPTION	LOAD V.A.	LOAD V.A.	DESCRIPTION	P	BRKR AMPS	CKT NO.	
1	35	2	SPARE (NOTE 1)	--	540	IT 1002, EXEC SUITE 1004 RECEPTS	1	20	2	
3	--	--		--	--	SPARE	1	20	4	
5	35	2	SPARE (NOTE 1)	--	--	SPARE *NOTE 1	1	20	6	
7	--	--		--	--	SPARE *NOTE 1	1	20	8	
9	20	1	ROOF	--	--	SPARE	1	20	10	
11	20	1	EF-3	--	--	SPARE	1	20	12	
13	20	1	RCP-1 (005)	--	900	OFFICE 1002K, IT 1002 RECEPTS	1	20	14	
15	20	1	RCP-1 (006)	--	720	MAIL 1008 RECEPTS	1	20	16	
17	20	1	ELEC 1007, IT 1002 RECEPTS & COPIER	540	720	BREAK ROOM 1002L & R 1011, 1009 RECEPTS	1	20	18	
19	20	1	OFFICE 1002C, 1002D RECEPTS	1440	--	SPARE	1	20	20	
21	20	1	OFFICE 1002A, 1002B RECEPTS	1440	1000	IT 1002 FURN FEED	1	20	22	
23	20	1	OFFICE 1002E, 1002F RECEPTS	1440	1000	IT 1002 FURN FEED	1	20	24	
25	20	1	OFFICE 1002G, 1002H RECEPTS	1440	1000	IT 1002 FURN FEED	1	20	26	
27	20	1	IT 1002 RECEPTS & COPIER	900	1000	IT 1002 FURN FEED	1	20	28	
29	20	1	OFFICE 1002J RECEPTS	720	1000	IT 1002 FURN FEED	1	20	30	
31	20	1	SPARE	--	1000	IT 1002 FURN FEED	1	20	32	
33	20	1	VENDING *NOTE 1,2	800	1000	IT 1002 FURN FEED	1	20	34	
35	20	1	REFRIGERATOR *NOTE 1,2	800	1000	IT 1002 FURN FEED	1	20	36	
37	20	1	REFRIGERATOR *NOTE 1,2	800	1000	IT 1002 FURN FEED	1	20	38	
39	20	1	SPARE	--	1000	IT 1002 FURN FEED	1	20	40	
41	20	1	SPARE	--	900	EXEC OFFICE 1004C RECEPTS *NOTE 1	1	20	42	
43	20	1	IT 1002 FURN FEED	1000	1080	EXEC OFFICE 1004D, IT 1002 RECEPTS *NOTE 1	1	20	44	
45	20	1	IT 1002 FURN FEED	1000	1080	EXEC SUITE 1004 RECEPTS *NOTE 1	1	20	46	
47	20	1	IT 1002 FURN FEED	1000	1440	VP OFFICE 1004B RECEPTS *NOTE 1	1	20	48	
49	20	1	BREAK ROOM 1002L COUNTER RECEPT *NOTE 1	180	900	SENIOR OFFICE 1004A RECEPTS *NOTE 1	1	20	50	
51	20	1	BREAK ROOM 1002L COUNTER RECEPT *NOTE 1	180	--	SPARE *NOTE 1	1	20	52	
53	20	1	MICROWAVE *NOTE 1	1500	--	SPARE *NOTE 1	1	20	54	
55	20	1	SPARE	--	--	SPARE *NOTE 1	1	20	56	
57	20	1	SPARE	--	--	SPARE *NOTE 1	1	20	58	
59	20	1	SPARE	--	--	SPARE *NOTE 1	1	20	60	
61	20	1	SPARE	--	--	SPARE *NOTE 1	1	20	62	
63	20	1	SPARE	--	1000	IT 1002 FURN FEED	1	20	64	
65	20	1	SPARE	--	1000	IT 1002 FURN FEED	1	20	66	
67	20	1	SPARE	--	1000	IT 1002 FURN FEED	1	20	68	
69	20	1	SPARE	--	1000	IT 1002 FURN FEED	1	20	70	
71	20	1	SPARE	--	1000	IT 1002 FURN FEED	1	20	72	
73	20	1	SPARE	--	1000	IT 1002 FURN FEED	1	20	74	
75	20	1	SPARE	--	1000	IT 1002 FURN FEED	1	20	76	
77	20	1	SPARE	--	1000	IT 1002 FURN FEED	1	20	78	
79	20	1	SPARE	--	1000	IT 1002 FURN FEED	1	20	80	
81	20	1	SPARE	--	1000	IT 1002 FURN FEED	1	20	82	
83	20	1	SPARE	--					84	
*HL = HANDLE LOCK *GFI = GROUND FAULT INTERRUPTER *AFI = ARC FAULT INTERRUPTER *ST = SHUNT TRIP										
NOTE: 1. BOLD INDICATES NEW OR REVISED CIRCUIT. 2. PROVIDE NEW 20/1P GFCI CIRCUIT BREAKER.										

PANEL SCHEDULE: LG										(EXISTING)									
LOCATION:					VOLTS: 208/120V					A.I.C. RATING:									
MOUNTING: SURFACE					PHASES: 3					MAINS TYPE:									
ENCLOSURE: TYPE 1					WIRES: 4					MAINS RATING: 600 A									
CKT NO.	BRKR AMPS	P	DESCRIPTION	LOAD V.A.	LOAD V.A.	DESCRIPTION	P	BRKR AMPS	CKT NO.										
1	20	2	RTU-15	--	--	170 COUNTER	1	20	2										
3	--	--		--	--	170 COUNTER	1	20	4										
5	20	2	RTU-13	--	--	SPARE *NOTE 1	1	20	6										
7	--	--		--	--	SPARE *NOTE 1	1	20	8										
9	20	1	0720 A/V	--	--	ROOF	1	20	10										
11	20	1	167 FRONTR	--	--	LCP3, LCP4	1	20	12										
13	20	1	HALL 2083B RECEPTS	180	720	MEETING 2100 AB-W1, AB-F *NOTE 1	1	20	14										
15	20	1	154 FLOOR BOX	--	1000	OPEN OFFICE 2080A FURN FEED *NOTE 1	1	20	16										
17	35	2	RTU-12	--	1000	OPEN OFFICE 2080A FURN FEED *NOTE 1	1	20	18										
19	--	--		--	500	OPEN OFFICE 2080A FURN FEED *NOTE 1	1	20	20										
21	20	1	153	--	1000	OPEN OFFICE 2080A FURN FEED *NOTE 1	1	20	22										
23	20	1	MEETING 2076G, OFFICE 2076F RECEPTS *NOTE 1	1260	1000	OPEN OFFICE 2080A FURN FEED *NOTE 1	1	20	24										
25	20	1	OFFICE 2076D, 2076E, HALL 2083B RECEPTS	1620	500	OPEN OFFICE 2080A FURN FEED *NOTE 1	1	20	26										
27	20	1	OFFICE 2076B, 2076C RECEPTS	1440	1000	RECEPTION/ WATING 2080 FURN FEED *NOTE 1	1	20	28										
29	20	1	OFFICE 2076A RECEPTS	900	1000	RECEPTION/ WATING 2080 FURN FEED *NOTE 1	1	20	30										
31					1000	OPEN OFFICE 2076 FURN FEED *NOTE 1	1	20	32										
33	20	1	OFFICE 2084, 2086 RECEPTS	1440	1000	OPEN OFFICE 2076 FURN FEED *NOTE 1	1	20	34										
35	20	1	OFFICE 2088, 2090 RECEPTS	1440	1000	RECEPTION 2075A FURN FEED *NOTE 1	1	20	36										
37	20	1	OFFICE 2092, 2094 RECEPTS	1440	1000	RECEPTION 2075A FURN FEED *NOTE 1	1	20	38										
39	20	1	OFFICE 2096, 2098 RECEPTS	1440	540	COLAB. 2080B AB-P2 & RECEPT *NOTE 1	1	20	40										
41	20	1	MEETING 2100 RECEPTS	900	--	SPARE *NOTE 1	1	20	42										
43	20	1	OFFICE 2102, HALL 2083 RECEPTS	1080	800	PRINTER *NOTE 1	1	20	44										
45	20	1	OFFICE 2104, 2106 RECEPTS	1440	900	COLAB. 2074 RECEPTS *NOTE 1	1	20	46										
47	20	1	OFFICE 2108, 2110, HALL 2083 RECEPTS	1620	--	SPARE	1	20	48										
49	20	1	171	--	--	SPARE	1	20	50										
51	20	1	171	--	--	SPARE	1	20	52										
53	20	1	168	--	--	SPARE	1	20	54										
55	20	1	168 FB	--	--	SPARE	1	20	56										
57	20	1	167 FB'S	--	--	SPARE	1	20	58										
59	20	1	167	--	--	SPARE	1	20	60										
61	20	1	167	--	--	SPARE	1	20	62										
63	20	1	167	--	--	SPARE	1	20	64										
65	20	1	167	--	--	SPARE	1	20	66										
67	20	1	167	--	0	MEETING 2100 RADIANT CEILING PANELS	1	20	68										
69	20	1	167	--	0	OFFICE 2102 RADIANT CEILING PANELS	1	20	70										
71	20	1	167 SCREEN, PROJECTOR	--	0	OFFICE 2104 RADIANT CEILING PANEL	1	20	72										
73	20	1	RM 2081, 2083A, 2076 RECEPTS	1080	0	OFFICE 2106 RADIANT CEILING PANELS	1	20	74										
75	20	1	OPEN OFFICE COPIER *NOTE 1	1400	0	OFFICE 2108 RADIANT CEILING PANEL	1	20	76										
77	20	1	RECE. 2075A, SERV. WAT. 2075 RECEPTS *NOTE 1	720	0	OFFICE 2110 RADIANT CEILING PANELS	1	20	78										
79	20	1	MEETING 2076G RECEPTS *NOTE 1	720	--	SPARE	1	20	80										
81	20	1	COLAB. 2080B RECEPTS *NOTE 1	720	--	SPARE	1	20	82										
83	20	1	167, 172, 173	--	--	SPARE	1	20	84										
85	20	1	OFFICE 2102, MEETING 2100 MONITORS	720	--	SPARE	1	20	86										
87	20	1	SPARE	--	--	SPARE	1	20	88										
89	20	1	SPARE	--	--	SPARE	1	20	90										
91	20	1	SPARE	--	--	SPD	3	30	92										
93	20	1	SPARE	--	--		--	--	94										
95	20	1	SPARE	--	--		--	--	96										
*HL = HANDLE LOCK *GFI = GROUND FAULT INTERRUPTER *AFI = ARC FAULT INTERRUPTER *ST = SHUNT TRIP																			
NOTE: 1. BOLD INDICATES NEW OR REVISED CIRCUIT.																			

HVAC ABBREVIATIONS

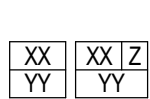
(NOTE: ALL ABBREVIATIONS SHOWN MAY NOT BE REQUIRED FOR THIS PROJECT)
*** ABBREVIATIONS ***

AB	AIR BLENDER
ACB	ACTIVE CHILLED BEAM
ACH	AIR CHANGES/HR
ACI/ACS	UNIT AIR CONDITIONER
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AS/ASU	AIR SEPARATOR UNIT
B	BOILER
BAS	BUILDING AUTOMATION SYSTEM
BC/BCU	BLOWER COIL UNIT
BEF	BUILDING EXHAUST FAN
BFF	BELOW FINISHED FLOOR
BP	BOILER PUMP
BT	BUFFER TANK
BTU	BRITISH THERMAL UNIT
C	CONDENSER
CB	CHILLED BEAM
CCFC	CLOSED CIRCUIT FLUID COOLER
CCP	COIL CIRCULATING PUMP
CDP	CONDENSATE PUMP
CFM	CUBIC FEET/MIN
CH/CHL	CHILLER
CHWP	CHILLED WATER PUMP
CP/CDP	CONDENSING PUMP
CRAC	COMPUTER ROOM AIR CONDITIONING
CRP	CONDENSATE RETURN PUMP
CT/CTW	COOLING TOWER
CUR/CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
CV	CONVECTOR
CWP	CONDENSER WATER PUMP
DDC	DIRECT DIGITAL CONTROL
EBH	ELECTRIC BASEBOARD HEATER
ECM	ELECTRICALLY COMMUTATED MOTOR
ECUH	ELECTRIC CABINET UNIT HEATER (NO HYDRONIC)
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
EH	EXHAUST HOOD
ERU	ENERGY RECOVERY UNIT
ERV	ENERGY RECOVERY VENTILATOR
ET/ETK	EXPANSION TANK
ETR	EXISTING TO REMAIN
EUH	ELECTRIC UNIT HEATER (NO HYDRONIC)
EVAV	EXHAUST VARIABLE AIR VOLUME TERMINAL UNIT
FJUR	FURNACE
FCU	FAN COIL UNIT
FHAV	FUME HOOD AIR VALVE
FLA	FULL LOAD AMPS
FOP	FUEL OIL TRANSFER PUMP
FPM	FEET PER MINUTE
FT	FINNED TUBE (RADIATION HEATING)
FTK	FLASH TANK
FWE	FURNISHED WITH EQUIPMENT
GEN	GENERATOR
GT	GLYCOL TANK
GHWP	GLYCOL HOT WATER PUMP
GPM	GALLONS PER MINUTE
GWP	GEOTHERMAL WATER PUMP
HC	HEATING COIL
HEF	HOOD EXHAUST FAN
HP	HEAT PUMP - WATER TO AIR
HRP	HEAT RECOVERY PUMP
HRU	HEAT RECOVERY UNIT
HUM	HUMIDIFIER
HVLS	HIGH VOLUME LOW SPEED FAN
HWP	HOT WATER PUMP
HX/HXU	HEAT EXCHANGER UNIT
IH	INTAKE HOOD
IP	INTERNET PROTOCOL
KEH	KITCHEN EXHAUST HOOD
LEAV	LAB EXHAUST AIR VALVE
LSAV	LAB SUPPLY AIR VALVE
LV	LOUVER
MAF	MAKE UP AIR FAN
MAU	MAKE-UP AIR UNIT
MCA	MINIMUM CIRCUIT AMPACITY
MFS	MAX FUSE SIZE
MOP/MOPD/ MOCPD	MAX OVER-CURRENT PROTECTIVE DEVICE
NAE	NETWORK AUTOMATION ENGINE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
PH	PHASE
POE	POWER OVER ETHERNET
PRV	PRESSURE REDUCING VALVE
PTAC	PACKAGED TERMINAL AIR CONDITIONER
RCP	RADIANT HEATING CEILING PANEL
REF	ROOM EXHAUST FAN
RF	RETURN FAN
RFZ	RADIANT FLOOR ZONE
RH	RELIEF HOOD
RHB	RADIANT HEAT BURNER
RHC	REHEAT COIL
RHCP	RADIANT HEATING/COOLING CEILING PANEL
RHU	RADIANT HEATING UNIT
RLA	RUNNING LOAD AMPS
RTK	RECEIVER TANK
RTU	ROOF TOP UNIT
RWP	RECIRCULATING PUMP
SA	SOUND ATTENUATOR
SAR	SOUND ATTENUATOR - RETURN FAN
SAS	SOUND ATTENUATOR - SUPPLY FAN
SEF	SMOKE EXHAUST FAN
SF	SUPPLY FAN
SMZ	SNOW MELT ZONE
SFF	STAIR PRESSURIZATION FAN
ST	STEAM TRAP
SVAV/STAB/ VAV	SUPPLY VARIABLE AIR VOLUME TERMINAL UNIT
SWH	STEAM WATER HEATER
TAB	TESTING & BALANCING
TU	TERMINAL UNIT
UH/UHU	UNIT HEATER
UV/UVU	ULTRAVIOLET EMITTER
UVU/UVU	UNIT VENTILATOR
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE
VRF	VARIABLE REFRIGERANT FLOW SYSTEM
VAV/ TRAC	VARIABLE AIR VOLUME DAMPER
W	WATTS
WHP	HEAT PUMP - WATER-TO-WATER

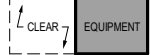
HVAC SYMBOLS

(NOTE: ALL SYMBOLS SHOWN MAY NOT BE REQUIRED FOR THIS PROJECT)

*** EQUIPMENT ***



EQUIPMENT PLAN MARK PER EQUIPMENT SCHEDULE
XX = EQUIPMENT DESIGNATION
YY = EQUIPMENT NUMBER
Z = SYSTEM NUMBER



EQUIPMENT SERVICE CLEARANCE

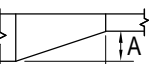
*** SHEET METAL ***



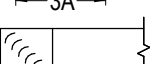
MANUAL VOLUME DAMPER



FD = FIRE DAMPER
SD = SMOKE DAMPER
FSD = COMBINATION FIRE/SMOKE DAMPER (TRIANGLE INDICATES ANTICIPATED ACCESS LOCATION OR ACTUATOR PLACEMENT, COORDINATE WITH FIELD CONDITIONS)



TRANSITION PIECE



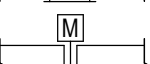
MITERED ELBOW WITH SINGLE THICKNESS TURNING VANES



RADIUSED ELBOW
R = 1.0 x W (DEFAULT)
R = 1.5 x W AS SHOWN OR NOTED (REFER TO DETAILS, PLAN AND SPEC.)



GRILLE OR DIFFUSER ON SIDE OF DUCT



MOTOR OPERATED DAMPER



DIFFUSER OR GRILLE BELOW DUCT



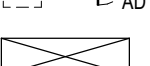
PITCH DOWN IN DIRECTION OF ARROW



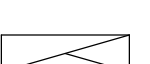
FLEX DUCTWORK



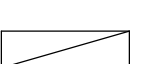
DUCT ACCESS DOOR



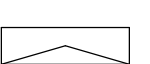
SUPPLY (CONDITIONED) AIR DUCT
SOLID CROSS - UP/TOWARDS
DASHED CROSS - DOWN/AWAY



EXHAUST OR RELIEF AIR DUCT
SOLID CROSS - UP/TOWARDS
DASHED CROSS - DOWN/AWAY



RETURN OR TRANSFER AIR DUCT
SOLID CROSS - UP/TOWARDS
DASHED CROSS - DOWN/AWAY

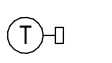


UNCONDITIONED OUTDOOR AIR DUCT
SOLID CROSS - UP/TOWARDS
DASHED CROSS - DOWN/AWAY

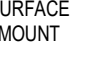
*** CONTROLS ***



SPACE SENSOR
(REFER TO CONTROL SCHEMATICS AND SPECIFICATIONS)
T = TEMPERATURE SENSOR WITH SETPOINT
ADJUSTMENT



T* = TEMPERATURE SENSOR ONLY



H = HUMIDITY SENSOR



CO₂ = CARBON DIOXIDE SENSOR



CO = CARBON MONOXIDE SENSOR



NG = NATURAL GAS SENSOR



NO₂ = NITROGEN DIOXIDE SENSOR



VO = VENTILATION OVERRIDE BUTTON



S = SWITCH WITH PILOT LIGHT

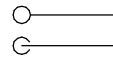


B = PUSH BUTTON

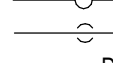
*** PIPING SPECIALTIES ***



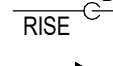
PUMP



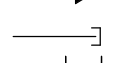
ELBOW TURNED UP OR TOWARDS



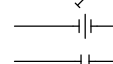
ELBOW TURNED DOWN OR AWAY



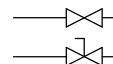
TEE TURNED UP OR TOWARDS



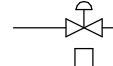
TEE TURNED DOWN OR AWAY



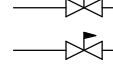
DROP OR RISE



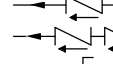
ARROW IN LINE INDICATES DIRECTION OF FLOW



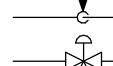
CAP OR PLUG



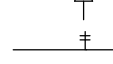
STRAINER



DIELECTRIC UNION



SHUT-OFF VALVE



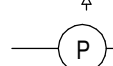
BALANCING OR SHUT-OFF COCK



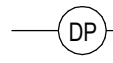
AUTOMATIC CONTROL VALVE



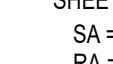
RELIEF OR SAFETY VALVE



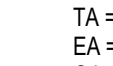
PRESSURE REDUCING VALVE



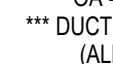
CHECK VALVE



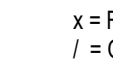
BACKFLOW PREVENTER



VALVE IN RISER



3-WAY AUTOMATIC CONTROL VALVE



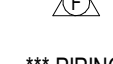
PRESSURE-TEMPERATURE TEST PORT



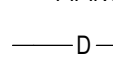
CONNECTION - NEW TO EXISTING



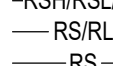
THERMOMETER



PRESSURE GAUGE

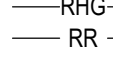


PRESSURE SENSOR



DIFFERENTIAL PRESSURE SENSOR

*** SHEET METAL ABBREVIATIONS ***



SA = SUPPLY AIR



RA = RETURN AIR



TA = TRANSFER AIR



EA = EXHAUST AIR



OA = OUTDOOR AIR

*** DUCT SIZE NOMENCLATURE ***



x = RECTANGULAR (e.g. 24x12)



l = OVAL (e.g. 24'12)



ø = ROUND (e.g. 24ø)

*** REFERENCE ***



ELECTRICAL PANEL SHOWN FOR COORDINATION



SMOKE DETECTOR IN DUCT SHOWN FOR COORDINATION

*** PIPING ABBREVIATIONS ***



CONDENSATE DRAIN LINE



REFRIGERANT HIGH GAS, LOW GAS, AND LIQUID



REFRIGERANT SUCTION GAS AND LIQUID



REFRIGERANT SUCTION GAS



REFRIGERANT LIQUID



REFRIGERANT HOT GAS



REFRIGERANT RELIEF

GENERAL MECHANICAL DEMOLITION NOTES:

- REFER TO DEMOLITION KEY FOR ITEMS TO BE REMOVED VERSUS ITEMS TO REMAIN.
- SHUT DOWN OF EXISTING HVAC SYSTEMS TO BE REQUESTED AND COORDINATED THROUGH OWNER'S REPRESENTATIVE IN ACCORDANCE WITH DIVISION 00 AND 01 SPECIFICATIONS.
- SCHEDULE FOR ALL WORK IMPACTING ADJACENT OCCUPIED AREAS SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE. WORK TO BE PERFORMED IN A MANNER THAT MINIMIZES THE INTERRUPTIONS AND INCONVENIENCE TO THE OWNER'S OCCUPANCY OF THESE SPACES.
- NOTIFY THE OWNER'S REPRESENTATIVE PRIOR TO CREATING ANY SMOKE, HEAT, MOISTURE, VAPORS OR DUST AROUND ANY FIRE ALARM EQUIPMENT.
- WHERE DUCTWORK OR PIPING THROUGH A FLOOR OR A WALL IS REMOVED, PATCH ALL REMAINING HOLES TO MATCH EXISTING.
- WHERE EXISTING DUCTWORK IS ONLY PARTIALLY REMOVED, ALL OPENINGS ON EXISTING DUCTWORK TO REMAIN SHALL BE CAPPED/COVERED UNTIL NEW DUCTWORK IS CONNECTED.
- UNLESS SPECIFICALLY NOTED OTHERWISE, WHERE EQUIPMENT IS INDICATED TO BE REMOVED, DEMOLITION WORK SHALL INCLUDE REMOVAL OF ASSOCIATED CONCRETE EQUIPMENT PAD AND/OR SUPPORT STEEL AND HANGERS.
- WHERE CONTROL DEVICES ARE REMOVED FROM SERVICE, ASSOCIATED CONTROL WIRING SHALL ALSO BE REMOVED.
- FOR ALL WORK REQUIRED ABOVE EXISTING CEILINGS TO REMAIN, (EITHER WITHIN OR OUTSIDE THE PROJECT AREA) CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REINSTALLATION OF ALL CEILING TILE AS REQUIRED TO ACCOMPLISH THE WORK. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR TYPES AND EXTENT OF BOTH EXISTING AND NEW CEILINGS THROUGHOUT PROJECT.



GENERAL MECHANICAL NOTES:

- DRAWINGS ARE IN PART DIAGRAMMATIC, INTENDED TO CONVEY THE SCOPE OF WORK, AND TO INDICATE THE GENERAL LOCATIONS OF EQUIPMENT, PIPING AND DUCTWORK. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND LAYOUT THEIR OWN WORK ACCORDING TO THE FOLLOWING GUIDELINES:
 - CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT LOCATIONS FOR EQUIPMENT AND ROUGH INS AND THE EXACT ROUTING OF PIPING AND DUCTS PRIOR TO CONSTRUCTION SO AS TO BEST FIT THE LAYOUT OF THE WORK. SPACE ABOVE CEILINGS IS EXTREMELY LIMITED; COORDINATE FINAL LAYOUT WITH ALL TRADES.
 - WHERE OFFSETS IN PIPING OR DUCTWORK ARE REQUIRED TO COORDINATE THE WORK OF OTHER TRADES, WITH STRUCTURE, PIPING, CONDUIT, DUCTWORK ETC., OR TO MAINTAIN REQUIRED CEILING HEIGHTS, THEY SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
 - ALL EXISTING PIPING AND DUCTWORK ROUTING SHOWN IS INTENDED TO INDICATE APPROXIMATE SIZE, NUMBER AND LOCATION OF PIPING BRANCHES FOR BIDDING PURPOSES ONLY. CONTRACTOR TO VERIFY EXACT SIZE, SERVICE, LOCATION AND CONFIGURATION PRIOR TO CONSTRUCTION.
 - UNLESS OTHERWISE NOTED, ALL DUCTWORK AND PIPING TO BE ROUTED CONCEALED IN WALLS, CHASES OR ABOVE SUSPENDED CEILING. WATER PIPING SHALL NOT BE ROUTED IN EXTERIOR WALLS. COORDINATE LAYOUT WITH EXISTING CONDITIONS AND ALL OTHER TRADES. ROUTE ALL PIPING AND DUCTWORK AS HIGH AS POSSIBLE AND ALONG WALLS TO MAXIMIZE SPACE AVAILABLE FOR OTHER TRADES.
 - COORDINATE ROUTING OF PIPING AND DUCTWORK TO MAINTAIN ACCESS TO FILTERS, MOTORS, ELECTRICAL EQUIPMENT, AND CONTROLS. IN NO CASE, SHALL PIPING OR DUCTWORK PASS DIRECTLY OVER ELECTRICAL PANELS OR DISCONNECTS OR RESTRICT ACCESS TO ANY ELECTRICAL EQUIPMENT INCLUDING JUNCTION BOXES.
 - COORDINATE EXACT DUCTWORK CONNECTION SIZES WITH EQUIPMENT AND TRANSITION AS REQUIRED.
 - VERIFY EXACT SIZE AND LOCATION OF ALL EXISTING SYSTEMS AND COMPONENTS REQUIRING CONNECTION TO NEW PIPING PRIOR TO COMMENCING WORK.
- CUT AND PATCH WALLS AND FLOORS AS REQUIRED FOR INSTALLATION OF NEW SYSTEMS.
 - ALL OPENINGS IN CONCRETE OR MASONRY CONSTRUCTION SHALL BE CORE DRILLED OR SAW CUT. COORDINATE WITH STRUCTURE AND GENERAL CONTRACTOR AS REQUIRED TO MAINTAIN STRUCTURAL INTEGRITY AND MINIMIZE SIZE OF OPENINGS.
 - SEAL AROUND ALL DUCTWORK AND PIPING PENETRATIONS WITH NON-SHRINK GROUT OR SIMILAR MATERIAL. WHERE PENETRATIONS ARE IN FIRE RATED CONSTRUCTION, PROVIDE FIRE STOP TO MATCH THE FIRE RATING. REFER TO ARCHITECTURAL PLANS FOR REQUIRED FIRE RATINGS. SEE DIVISION 07 SPECIFICATIONS FOR FIRE STOPPING REQUIREMENTS.
 - PATCH AND FIRE STOP ALL ABANDONED EXISTING OPENINGS.
 - MECHANICAL PROVIDE LINTELS FOR DUCT PENETRATIONS OF EXISTING WALLS AS REQUIRED TO SUPPORT STRUCTURE. COORDINATE WITH GENERAL CONTRACTOR.
 - WHEN PATCHING OPENINGS IN AREAS WHICH ARE NOT TO RECEIVE NEW FINISHES, PATCHING SHALL MATCH ADJACENT FINISH.
 - REFER TO ARCHITECTURAL PLANS FOR INFORMATION ON WHICH PORTIONS OF THE EXISTING STRUCTURE ARE TO BE REMOVED AND WHICH ARE TO REMAIN AS WELL AS WHICH AREAS ARE TO RECEIVE NEW FINISHES.
- BECAUSE OF THE SCALE OF THE DRAWINGS, CERTAIN PIPING OR ITEMS SUCH AS UNIONS, FITTINGS, OR VALVES MAY NOT BE SHOWN, BUT WHERE SUCH ITEMS ARE REQUIRED BY CODE, THE SPECIFICATIONS, OR WHERE THEY ARE REQUIRED BY THE NATURE OF THE WORK, THEY SHALL BE FURNISHED AND INSTALLED.
- ALL ELEMENTS OF THE CONSTRUCTION SHALL BE PERFORMED BY TRADES PEOPLE SKILLED IN THE PARTICULAR CRAFT INVOLVED, AND REGULARLY EMPLOYED IN THAT PARTICULAR CRAFT. ALL WORK SHALL BE PERFORMED IN A NEAT, PROFESSIONAL MANNER IN KEEPING WITH THE HIGHEST STANDARDS OF THE CRAFT.
- COORDINATE INSTALLATION OF EQUIPMENT AND COMPONENTS PENETRATING THE EXTERIOR BUILDING ENVELOPE WITH GENERAL CONTRACTOR. ALL ITEMS PENETRATING THE ROOF ARE TO BE INSTALLED AS PER ROOFING MANUFACTURER REQUIREMENTS.
- COORDINATE LOCATIONS AND SIZES OF OPENINGS IN STRUCTURE WITH GENERAL CONTRACTOR. WHEN ADDITIONAL CUTTING AND PATCHING IS REQUIRED DUE TO MECHANICAL CONTRACTOR'S FAILURE TO COORDINATE THIS WORK, IT SHALL BE THE MECHANICAL CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE ADDITIONAL CUTTING AND PATCHING. SEAL AND/OR FIRE STOP ALL PENETRATIONS AS REQUIRED.
- THE SPACE ABOVE CEILINGS IN ALL AREAS IS EXTREMELY LIMITED AND COORDINATION OF WORK IS MANDATORY.
- MECHANICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED SUPPORT STEEL FOR PIPING, DUCTWORK AND EQUIPMENT.
- DUCT DIMENSIONS SHOWN ON DRAWINGS ARE NET INSIDE DIMENSIONS. INCREASE SHEET METAL SIZE FOR LINED DUCTWORK TO ALLOW FOR INTERNAL INSULATION IF APPLICABLE.
- PROVIDE VOLUME DAMPERS IN ALL DUCTWORK SERVING INDIVIDUAL GRILLES, REGISTERS, OR DIFFUSERS FOR BALANCING. DAMPERS TO BE INSTALLED AS CLOSE TO TAKE-OFF AS POSSIBLE. DAMPERS AT GRILLES, REGISTERS, OR DIFFUSERS ARE NOT ACCEPTABLE UNLESS OTHERWISE NOTED.
- PROVIDE REMOTE REGULATORS FOR ALL INACCESSIBLE VOLUME DAMPERS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- IF DUCT SIZE REVISIONS ARE NECESSARY FOR COORDINATION PURPOSES ETC. NEW DUCT SIZE SHALL BE EQUIVALENT TO THE DUCT SIZE INDICATED ON PLANS.
- ALL CONTROL WIRING IN FINISHED SPACES IS TO BE ROUTED CONCEALED IN WALLS OR ABOVE CEILINGS UNLESS SPECIFICALLY NOTED OTHERWISE. CONCEALED CONTROL WIRING WHERE ACCESSIBLE MAY BE INSTALLED WITHOUT CONDUIT. ALL CONCEALED CONTROL WIRING WHICH IS NOT ACCESSIBLE SHALL BE ROUTED IN CONDUIT. CONTROL WIRING IN UNFINISHED SPACES MAY BE ROUTED EXPOSED BUT SHALL BE IN CONDUIT.
- ALL CONTROL DEVICES TO BE MOUNTED AT +46" A.F.F. TO CENTER LINE.
- ALL CONTROL DEVICES LOCATED IN VESTIBULES, RESTROOMS, CORRIDORS, AND OTHER GENERAL PUBLIC AREAS, TO BE PROVIDED WITH LOCKING CLEAR PLASTIC GUARD.
- SHUT DOWN OF EXISTING HVAC SYSTEMS TO BE REQUESTED AND COORDINATED THROUGH OWNER'S REPRESENTATIVE IN ACCORDANCE WITH DIVISION 00 AND 01 SPECIFICATIONS.
- REFER TO ARCHITECTURAL PLANS FOR DETAILED ELEVATIONS INDICATING STANDARD MOUNTING HEIGHTS, LOCATIONS AND ALIGNMENT REQUIREMENTS FOR ALL WALL MOUNTED DEVICES AND REFLECTED CEILING PLANS FOR ALL CEILING MOUNTED DEVICES.
- FOR ALL WORK REQUIRED ABOVE EXISTING CEILINGS TO REMAIN, (EITHER WITHIN OR OUTSIDE THE PROJECT AREA) CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REINSTALLATION OF ALL CEILING TILE AS REQUIRED TO ACCOMPLISH THE WORK. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR TYPES AND EXTENT OF BOTH EXISTING AND NEW CEILINGS THROUGHOUT PROJECT.
- COORDINATE INSTALLATION OF DUCTWORK RUNNING THROUGH OR BETWEEN TRUSSES AND JOISTS WITH GENERAL CONTRACTOR PRIOR TO FABRICATION OR INSTALLATION OF STRUCTURAL STEEL. ITEMS TO COORDINATE INCLUDE, BUT ARE NOT LIMITED TO, OPENINGS IN AND BRACING BETWEEN TRUSSES AND JOISTS.
- LOW VELOCITY RECTANGULAR LINED DUCTWORK AS SHOWN ON THE PLANS HAS BEEN LAID OUT TO MAXIMIZE SOUND ATTENUATION AND SHALL BE INSTALLED AS SUCH; ANY DEVIATIONS FROM RECTANGULAR LINED DUCTWORK AS SHOWN TO ROUND, WRAPPED DUCTWORK SHALL BE REVIEWED WITH THE DESIGN PROFESSIONAL PRIOR TO INSTALLATION.
- ALL VAV TERMINAL UNITS SHALL BE CLEARLY LABELED IN THE FIELD WITH THE PLAN MARK DESIGNATION
- ALL THERMOSTATS SHOWN ON PLANS FOR COORDINATION PURPOSES. HVAC CONTROLS FURNISHED BY OWNER. CONTRACTOR SHALL COORDINATE ALL INSTALLTION OF HVAC COMPONENTS WITH OWNER'S REPRESENTATIVE AND THEIR CONTROLS CONTRACTOR REPRESENTATIVE.

HVAC DEMOLITION KEYED NOTES	
MD-1	REMOVE EXISTING THERMOSTAT FOR RELOCATION.
MD-2	REMOVE EXISTING ROOFTOP UNIT, EXISTING CURB TO REMAIN FOR PLACEMENT OF NEW ROOFTOP UNIT WITH CURB ADAPTER.
MD-3	REMOVE EXISTING ROOFTOP UNIT AND EXISTING CURB.
MD-4	DEMO EXISTING DIFFUSER (TYP).

HVAC KEYED NOTES	
M-1	INSTALL EXISTING SALVAGED THERMOSTAT AT NEW LOCATION.
M-2	RE-BALANCE EXISTING ROOF MOUNTED EXHAUST FAN (REPLACE SHEAVE/BELT) TO ACCOMMODATE ADDITIONAL AIRFLOW REQUIREMENTS.
M-3	INSTALL NEW DIFFUSER IN SAME LOCATION (TYP).

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REVISION
ISSUE
DATE & TITLE

08/04/28 ADD 01

1025 Kirkwood Pkwy SW
Cedar Rapids, IA 52404

Kirkwood East Hall - Remodel
Mechanical Notes and Symbols

DATE
07.23.2026

DRAWING NUMBER

M000

PROJECT NUMBER
25030

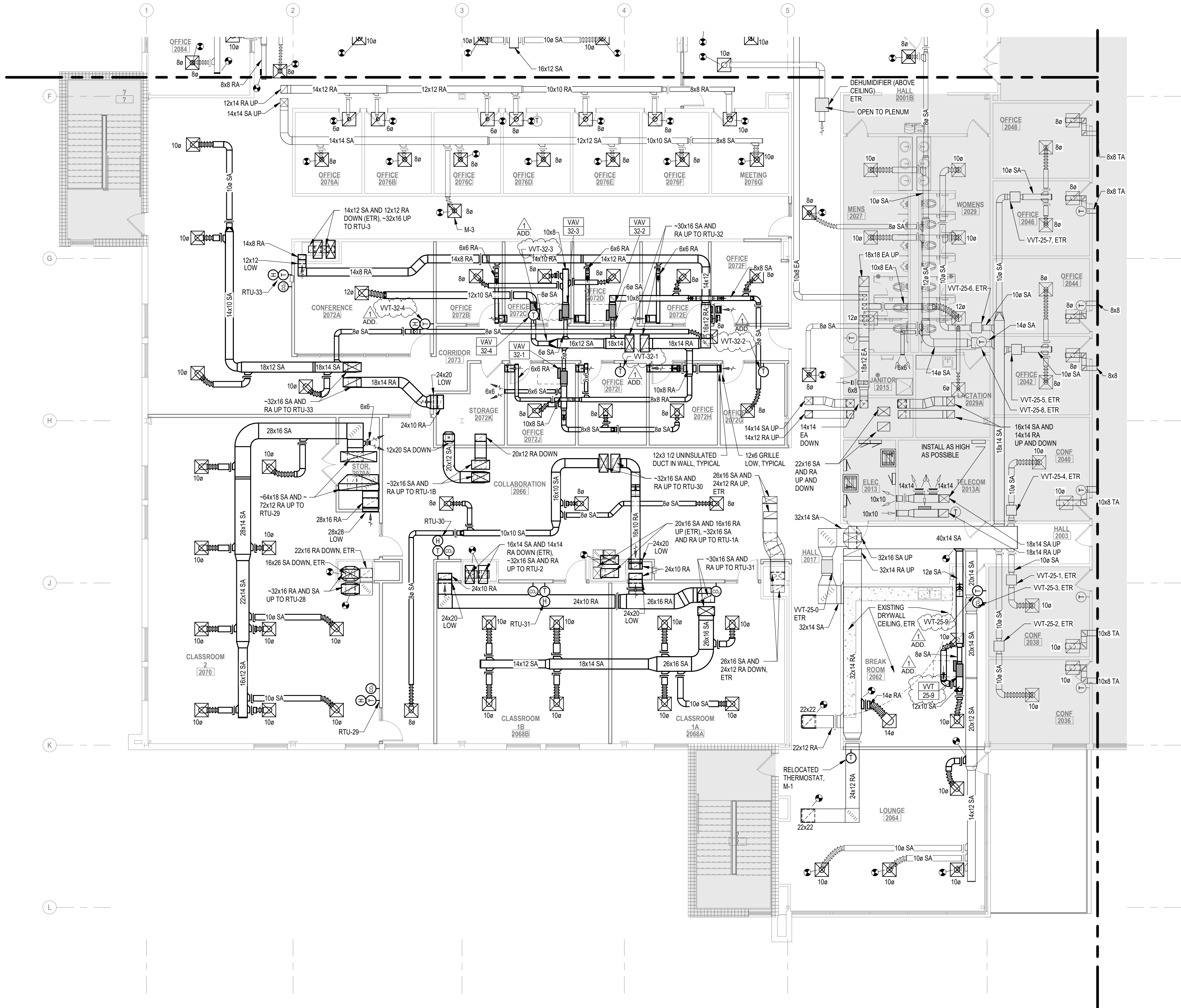
BID SET



1025 Kirkwood Pkwy SW
Cedar Rapids, IA 52404

	DATE
	07.23.2026
T	DRAWING NUMBER
	M121.A
	PROJECT NUMBER
	25030

BID SET



KEYED NOTES	
M-1	INSTALL EXISTING SALVAGED THERMOSTAT AT NEW LOCATION.
M-3	INSTALL NEW DIFFUSER IN SAME LOCATION (TYP).

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REVISION
ISSUE
DATE & TITLE

08/04/28 ADD 01

1025 Kirkwood Pkwy SW
Cedar Rapids, IA 52404

Kirkwood East Hall - Remodel

Ductwork Plan - Level 2 - Area A

DATE

07.23.2026

DRAWING NUMBER

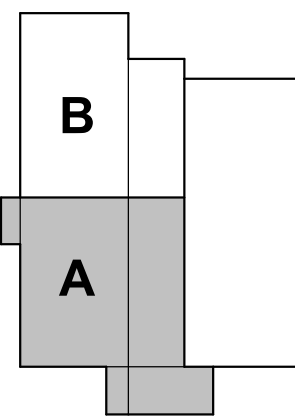
M122A

PROJECT NUMBER

25030

NEW WORK KEY

- EXISTING
- NEW / REVISED
- EXISTING EQUIPMENT
- NEW / REVISED EQUIPMENT



KEY PLAN

BID SET

1
M122A

DUCTWORK PLAN - LEVEL 2 - Area A (Southwest)
1/8" = 1'-0"

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Mechanical and electrified door hardware
2. Electronic access control system components

1.2 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

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

1.3 PREINSTALLATION MEETINGS

- A. Keying Conference: Conduct conference at Project site.

1.4 SUBMITTALS

- A. General:

1. Submit in accordance with Conditions of Contract and Division 01 Submittal Procedures.
2. Prior to forwarding submittal:
 - a. Review drawings and Sections from related trades to verify compatibility with specified hardware.
 - b. 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:
 - 1) 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. Key Schedule:
- a. 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:
2. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
3. Catalog pages for each product.
4. Final approved hardware schedule edited to reflect conditions as installed.
5. Final keying schedule
6. Copy of warranties including appropriate reference numbers for manufacturers to identify project.
7. 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.

1.5 QUALITY ASSURANCE

A. Qualifications and Responsibilities:

1. 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. Electrified Door Hardware
 - a. Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.
 2. 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
 - a. 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.
 - f. 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.

1.6 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.

1.7 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.

1.8 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
 - a) Falcon: 10 years
 - 2) Exit Devices
 - a) Falcon: 10 years
 - 3) Closers
 - a) LCN 4000 Series: 30 years
 - 4) Automatic Operators
 - a) Horton: 2 years
- b. Electrical Warranty
 - 1) Locks
 - a) Falcon: 1 Year
 - 2) Exit Devices
 - a) Falcon: 1 Year

1.9 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

2.1 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.

2.2 MATERIALS

A. Fabrication

- 1. 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. 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.

C. Cable and Connectors:

- 1. 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.

2.3 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. 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
9. 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.

2.4 ELECTRIC POWER TRANSFER

A. Manufacturers:

1. Scheduled Manufacturer and Product:
 - a. Von Duprin EPT-10
2. Acceptable Manufacturers and Products:
 - a. ABH PT1000

B. Requirements:

1. 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.

2.5 FLUSH BOLTS

A. Manufacturers:

1. Scheduled Manufacturer:
 - a. Ives
2. Acceptable Manufacturers:
 - a. Burns
 - b. Trimco
 - c. Hager

B. Requirements:

1. 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.

2.6 MORTISE LOCKS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
 - a. Falcon MA 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. Provide locks manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance.
3. Provide lock case that is multi-function and field reversible for handing without opening case. Cylinders: Refer to "KEYING" article, herein.
4. 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.
5. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
6. Provide electrified options as scheduled in the hardware sets. Where scheduled, provide a request to exit (RX) switch that is actuated with rotation of inside lever.
7. 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.

2.7 CYLINDRICAL LOCKS – GRADE 1

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:

- a. Falcon T series

2. Acceptable Manufacturers and Products:

- a. No Substitute

B. Requirements:

1. Provide cylindrical locks conforming to ANSI/BHMA A156.2 Series 4000, Grade 1, and UL Listed for 3-hour fire doors.
2. Cylinders: Refer to "KEYING" article, herein.
3. Provide locks with standard 2-3/4 inches (70 mm) backset, unless noted otherwise, with 1/2-inch latch throw. Provide proper latch throw for UL listing at pairs.
4. Provide locksets with separate anti-rotation thru-bolts, and no exposed screws.
5. Provide independently operating levers with two external return spring cassettes mounted under roses to prevent lever sag.
6. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
7. Provide electrified options as scheduled in the hardware sets.

8. Lever Trim: Solid cast levers without plastic inserts and wrought roses on both sides.

2.8 CYLINDERS AND KEYING

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
 - a. Permanent keyed cores to be supplied by owner.

B. Requirements:

1. Provide cylinder housings to accept owner supplied core.
2. Provide cylinders in the below-listed configuration(s), distributed throughout the Project as indicated.
 - a. Verify and coordinate cylinder housing to accept owner supplied permanent core.
3. Permanent cores to be installed by General Contractor

2.9 EXIT DEVICES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
 - a. Falcon 24/25 series
2. Acceptable Manufacturers and Products:
 - a. No Substitute

B. Requirements:

1. 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 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 flush end caps for exit devices.
7. Provide exit devices with manufacturer's approved strikes.
8. Install exit devices at height recommended by exit device manufacturer, allowable by governing building codes, and approved by Architect.

9. 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.
10. Provide cylinder or hex-key dogging as specified at non fire-rated openings.
11. 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.
12. Provide factory drilled weep holes for exit devices used in full exterior application, highly corrosive areas, and where noted in hardware sets.
13. Provide electrified options as scheduled.
14. Provide exit devices with optional trim designs to match other lever and pull designs used on the project..

2.10 POWER SUPPLIES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
 - a. Schlage/Von Duprin PS900 Series
2. Acceptable Manufacturers and Products:
 - a. Precision ELR series
 - b. Security Door Controls 600 series

B. Requirements:

1. Provide power supplies approved by manufacturer of supplied electrified hardware.
2. Provide appropriate quantity of power supplies necessary for proper operation of electrified locking components as recommended by manufacturer of electrified locking components with consideration for each electrified component using power supply, location of power supply, and approved wiring diagrams. Locate power supplies as directed by Architect.
3. Provide regulated and filtered 24 VDC power supply, and UL class 2 listed.
4. Provide power supplies with the following features:
 - a. 12/24 VDC Output, field selectable.
 - b. Class 2 Rated power limited output.
 - c. Universal 120-240 VAC input.
 - d. Low voltage DC, regulated and filtered.
 - e. Polarized connector for distribution boards.
 - f. Fused primary input.
 - g. AC input and DC output monitoring circuit w/LED indicators.
 - h. Cover mounted AC Input indication.
 - i. Tested and certified to meet UL294.
 - j. NEMA 1 enclosure.
 - k. Hinged cover w/lock down screws.
 - l. High voltage protective cover.

2.11 DOOR CLOSERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
 - a. LCN 4040XP series
2. Acceptable Manufacturers and Products:
 - a. No Substitute

B. Requirements:

1. 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.

2.12 ELECTRO-HYDRAULIC AUTOMATIC OPERATORS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
 - a. Horton 4100LE Series
2. Acceptable Manufacturers and Products:
 - a. Stanley Magic Force

B. Requirements:

1. Provide low energy automatic operator units with hydraulic closer complying with ANSI/BHMA A156.19.
2. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
3. Provide units with conventional door closer opening and closing forces unless power operator motor is activated. Provide door closer assembly with adjustable spring size, back-check, and opening and closing speed adjustment valves to control door
4. Provide units with on/off switch for manual operation, motor start up delay, vestibule interface delay, electric lock delay, and door hold open delay.
5. Provide drop plates, brackets, and adapters for arms as required for details.
6. Provide actuator switches and receivers for operation as specified.
7. Provide weather-resistant actuators at exterior applications.
8. Provide key switches with LED's, recommended and approved by manufacturer of automatic operator as required for function described in operation description of hardware group below. Cylinders: Refer to "KEYING" article, herein.
9. Provide complete assemblies of controls, switches, power supplies, relays, and parts/material recommended and approved by manufacturer of automatic operator for each individual leaf. Actuators control both doors simultaneously at pairs. Sequence operation of exterior and vestibule doors with automatic operators to allow ingress or egress through both sets of openings as directed by Architect. Locate actuators, key switches, and other controls as directed by Architect.
10. Provide units with vestibule inputs that allow sequencing operation of two units, and SPDT relay for interfacing with latching or locking devices.

2.13 DOOR TRIM

A. Manufacturers:

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

B. Requirements:

1. Provide push plates, push bars, pull plates, pulls, and hands-free reversible door pulls with diameter and length as scheduled.

2.14 PROTECTION PLATES

A. Manufacturers:

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

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. Size 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.

2.15 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

A. Manufacturers:

1. Scheduled Manufacturers:
 - a. Glynn-Johnson
2. Acceptable Manufacturers:
 - a. ABH

B. Requirements:

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

2.16 DOOR STOPS AND HOLDERS

A. Manufacturers:

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

B. Provide door stops at each door leaf:

1. Provide wall stops wherever possible. Provide concave type where lockset has a push button or 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.

2.17 SILENCERS

A. Manufacturers:

1. Scheduled Manufacturer:
 - a. Ives
2. Acceptable Manufacturers:
 - a. Burns
 - 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.

C. Omit where gasketing is specified.

2.18 DOOR POSITION SWITCHES

A. Manufacturers:

1. Scheduled Manufacturer:
 - a. Schlage
2. Acceptable Manufacturers:
 - a. GE-Interlogix

B. Requirements:

1. Provide recessed or surface mounted type door position switches as specified.
2. Coordinate door and frame preparations with door and frame suppliers. If switches are being used with magnetic locking device, provide minimum of 4 inches (102 mm) between switch and magnetic locking device.

2.19 FINISHES

A. FINISH: BHMA 626/652 (US26D); EXCEPT:

1. Hinges at Exterior Doors: BHMA 630 (US32D)
2. Aluminum Geared Continuous Hinges: BHMA 628 (US28)
3. Push Plates, Pulls, and Push Bars: BHMA 630 (US32D)
4. Protection Plates: BHMA 630 (US32D)
5. Overhead Stops and Holders: BHMA 630 (US32D)
6. Door Closers: Powder Coat to Match
7. Wall Stops: BHMA 630 (US32D)
8. Latch Protectors: BHMA 630 (US32D)
9. Weatherstripping: Clear Anodized Aluminum
10. Thresholds: Mill Finish Aluminum

PART 3 - EXECUTION

3.1 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. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.
- C. Submit a list of deficiencies in writing and proceed with installation only after unsatisfactory conditions have been corrected.

3.2 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:
 - 1. Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."
 - 2. Aluminum thresholds to be cut-in, and scribed around mullions, frame members, and stops. Do not butt to thresholds. Provide a continuous surface across full width of opening from jamb to jamb.
 - 3. Where aluminum panic-type (rabbeted) thresholds with neoprene inserts are specified, undercut doors as required to properly mate with seal in threshold.
- 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:
 - 1. Apply to head and jamb, forming seal between door and frame.
 - 2. Install gasketing in a manner eliminating need to cut any seal to install surface mounted hardware. Install compatible mounting bracket for surface mounted hardware unless minimum 1/4 inch thick solid aluminum seals are provided for mounting of surface applied hardware.
- 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.

3.3 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.
 - 1. Spring Hinges: Adjust to achieve positive latching when door can close freely from an open position of 30 degrees.
 - 2. Electric Strikes: Adjust horizontal and vertical alignment of keeper to properly engage lock bolt.
 - 3. 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.

3.4 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.

3.5 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:

Abbreviation	Name
FAL	Falcon
GLY	Glynn-Johnson Corp
HOR	Horton, Inc.
IVE	H.B. Ives
LCN	LCN Commercial Division
SCE	Schlage Electronic Security
SCH	Schlage Lock Company

Legend:

 Link to catalog cut sheet Electrified Opening

Hardware Group No. 010.0

For use on Door #(s):

1000C

Provide each PR door(s) with the following:

QT		DESCRIPTION	CATALOG NUMBER		FINIS	MFR
Y					H	
8	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PANIC HARDWARE - NIGHTLATCH	25-C-EO-LBR		US26 D	FAL
1	EA	PANIC HARDWARE - NIGHTLATCH	25-C-NL-LBR		US26 D	FAL
1	EA	SFIC RIM/MORTISE CYLINDER HOUSING	TYPE AS REQ'D		626	FAL
2	EA	90 DEG OFFSET PULL	8190EZHD 12" O		US32 D-316	IVE
1	EA	CONC OH STOP	100S		630	GLY
1	EA	SURFACE CLOSER	4040XP EDA		689	LCN
1	EA	AUTO OPERATOR	4100LE SERIES		 628	HOR
1	EA	PA MOUNTING PLATE	4040XP-18PA		689	LCN
1	EA	BLADE STOP SPACER	4040XP-61		689	LCN
2	EA	ACTUATOR, TOUCH	8310-818T (MULLION)		 630	LCN

Hardware Group No. 020.0

For use on Door #(s):

1004A

2072AA

Provide each SGL door(s) with the following:

QT		DESCRIPTION	CATALOG NUMBER		FINIS	MFR
Y					H	
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PASSAGE SET	T101 AVA		626	FAL
1	EA	OH STOP	90S		630	GLY
3	EA	SILENCER	SR64		GRY	IVE

Hardware Group No. 030.0

For use on Door #(s):

1004AA 1004DA

Provide each SGL door(s) with the following:

QT		DESCRIPTION	CATALOG NUMBER		FINIS	MFR
Y					H	
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	ENTRY / OFFICE LOCK	T511BDC AVA		626	FAL
1	EA	WALL STOP	WS406/407CCV		US26	IVE
					D	
3	EA	SILENCER	SR64		GRY	IVE

Hardware Group No. 031.0

For use on Door #(s):

1004BA 1004CA 2072BA 2072CA 2072DA 2072EA
 2072FA 2072GA 2072HA 2072IA 2072JA

Provide each SGL door(s) with the following:

QT		DESCRIPTION	CATALOG NUMBER		FINIS	MFR
Y					H	
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	ENTRY / OFFICE LOCK	T511BDC AVA		626	FAL
1	EA	OH STOP	90S		630	GLY
3	EA	SILENCER	SR64		GRY	IVE

Hardware Group No. 040.0

For use on Door #(s):

1009A 1011A

Provide each SGL door(s) with the following:

QT		DESCRIPTION	CATALOG NUMBER		FINIS	MFR
Y					H	
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PRIVACY LOCK W/ INDICATOR	MA301 OCCUPIED/VACANT ANM		626	FAL
1	EA	OH STOP	90S		630	GLY
1	EA	SURFACE CLOSER	4040XP RW/62A		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
3	EA	SILENCER	SR64		GRY	IVE

Hardware Group No. 050.0

For use on Door #(s):

2066A 2071A 2073A 2075A

Provide each SGL door(s) with the following:

QT Y		DESCRIPTION	CATALOG NUMBER		FINIS H	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	POWER TRANSFER	EPT10 CON		✂ 689	VON
1	EA	ELEC PANIC HARDWARE	RX-FSE-25-R-L-AVA 24 VDC		✂ US26 D	FAL
1	EA	SFIC RIM/MORTISE CYLINDER HOUSING	TYPE AS REQ'D		626	FAL
1	EA	SURFACE CLOSER	4040XP EDA		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CCV		US26 D	IVE
3	EA	SILENCER	SR64		GRY	IVE
1	EA	WIRE HARNESS (FRAME) EPT TO POWER/CONTROLLER	CON-192P	✂		SCH
1	EA	WIRE HARNESS (DOOR) EPT TO ELEC LOCK/EXIT	CON-XX (LENGTH AS REQUIRED)	✂		SCH
1	EA	CARD READER	PROVIDED BY DIV. 28		✂ B	SCE
1	EA	DOOR POSITION SWITCH	67-05		✂ BLK	SCE
1	EA	POWER SUPPLY	PS902 900-2RS 120/240 VAC		✂	VON
1	EA	SET OF WIRING DIAGRAMS				

DOOR NORMALLY CLOSED, LATCHED AND SECURE. FREE EGRESS AT ALL TIMES.
ENTRY BY CARD READER UNLOCKS OUTSIDE LEVER. ENTRY BY KEY OVERRIDE.
CARD READER AND ELECTRICAL WIRING BY SECURITY CONTRACTOR.

Hardware Group No. 060.0

For use on Door #(s):

2068AA 2068BA

Provide each SGL door(s) with the following:

QT Y		DESCRIPTION	CATALOG NUMBER		FINIS H	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	CLASSROOM LOCK	T561BDC AVA		626	FAL
1	EA	OH STOP	90S		630	GLY
3	EA	SILENCER	SR64		GRY	IVE

Hardware Group No. 070.0

For use on Door #(s):

2070A 2070B

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	EXIT HARDWARE - CLASSROOM	25-R-L-AVA		US26 D	FAL
1	EA	SFIC RIM/MORTISE CYLINDER HOUSING	TYPE AS REQ'D		626	FAL
1	EA	OH STOP	90S		630	GLY
1	EA	SURFACE CLOSER	4040XP RW/62A		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
3	EA	SILENCER	SR64		GRY	IVE

Hardware Group No. 080.0

For use on Door #(s):

2070AA

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
2	EA	MANUAL FLUSH BOLT	FB458		626	IVE
1	EA	DUST PROOF STRIKE	DP2		626	IVE
1	EA	PASSAGE SET	T101 AVA		626	FAL
2	EA	OH STOP	90S		630	GLY
2	EA	SILENCER	SR64		GRY	IVE

Hardware Group No. 090.0

For use on Door #(s):

2072KA

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	STOREROOM LOCK	T581BDC AVA		626	FAL
1	EA	OH STOP	90S		630	GLY
3	EA	SILENCER	SR64		GRY	IVE

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SECTION 233600 – VARIABLE AIR VOLUME TERMINALS

PART 1 - GENERAL

1.1 RELATED WORK

- A. The requirements of Division 00 – Procurement, Contracting and Warranty Requirements, Division 01 - General Requirements and Section 23 0010 - HVAC General Provisions are applicable to work required of this Section.

1.2 DESCRIPTION OF WORK

- A. Provide labor and supervision necessary to install air terminal units as required by the drawings and this section.

1.3 TERMINAL UNITS

- A. Air Terminal units shall include the following:
 - 1. VAV Boxes

1.4 SUBMITTALS

- A. Refer to Division 01 Submittal requirements.

1.5 CLOSEOUT DOCUMENTS

- A. Refer to Division 01 Closeout requirements.

1.6 COMMISSIONING

- A. Commissioning of a system or systems specified in this section is part of the construction process. Documentation and testing of these systems, as well as training of the Owner's operation and maintenance personnel, is required in cooperation with the Owner's Representative and the Commissioning Agent. Project Closeout is dependent on successful completion of all commissioning procedures, documentation, and issue closure. Refer to Division 01 for detailed commissioning requirements.

PART 2 - PRODUCTS – Not Applicable

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install units and make duct connections as indicated on drawings.

END OF SECTION 233600

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