SHEET LIST

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
01/21/2021

Joe Frogge
Digitally signed by Joe Frogge
DN: CN=Joe Frogge, OU=Development, OU=LS Users, DC=COLS, DC=LOC
Reason: release for construction
Date: 2021.01.21 15:34:49-06'00'

Missouri Innovation Campus - Second Floor Renovation

1101 NW INNOVATION PKWY
LEE'S SUMMIT, MO 64086

BID SET

October 22, 2020

Project Team:

Owner:

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1101 NW Innovation Parkway Lee's Summit, MO 64086
www.ucmo.edu

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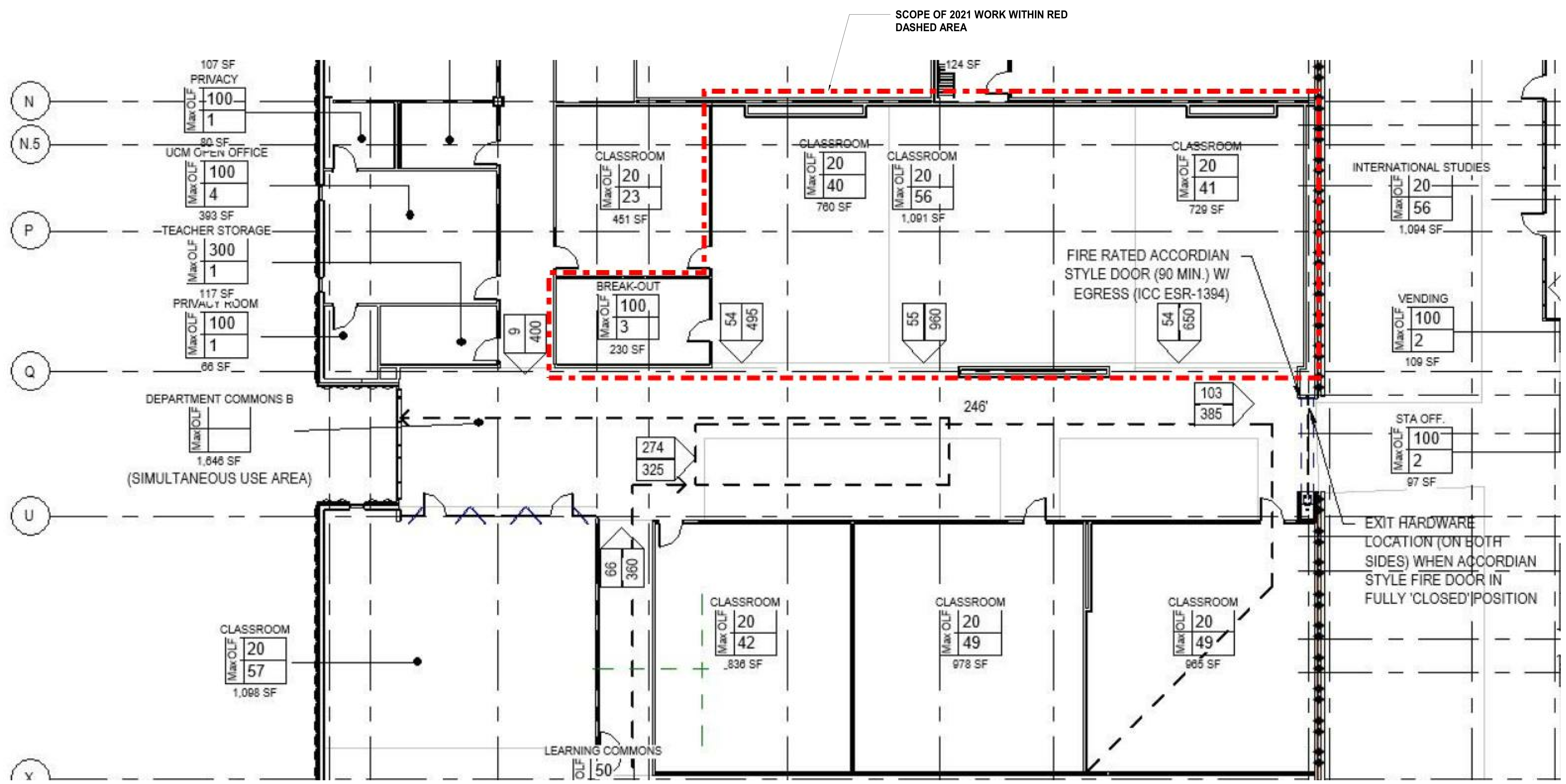
MIC SECOND FLOOR RENOVATION
0220-2100

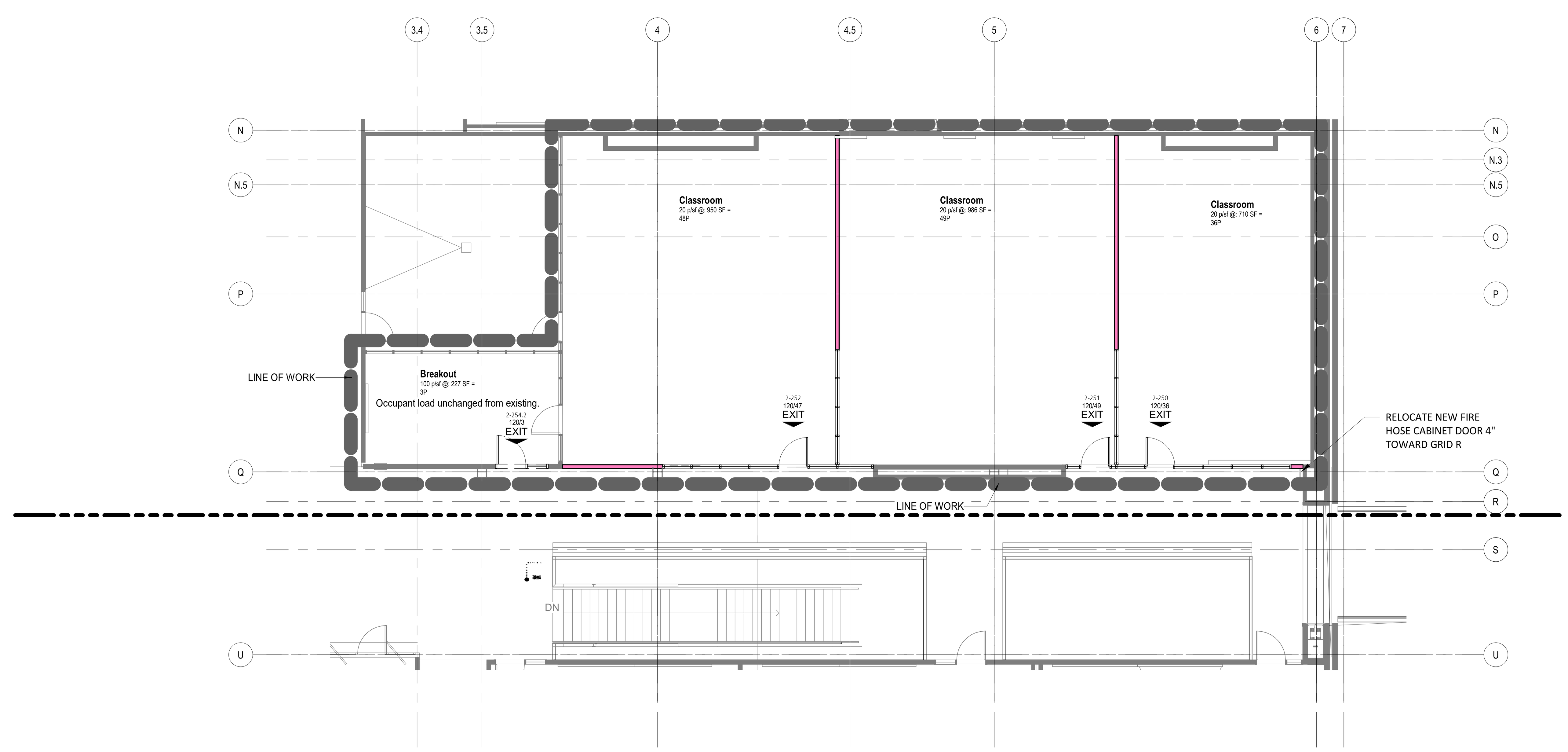


SCOPE OF 2021 WORK WITHIN RED DASHED AREA
107 SF PRIVACY
UCM OPEN OFFICE
393 SF TEACHER STORAGE
117 SF PRIVACY ROOM
DEPARTMENT COMMONS B
1,646 SF (SIMULTANEOUS USE AREA)
CLASSROOM
BREAK-OUT
FIRE RATED ACCORDIAN STYLE DOOR (90 MIN.) W/ EGRESS (ICC ESR-1394)
INTERNATIONAL STUDIES
VENDING
STA OFF.
246'
EXIT HARDWARE LOCATION (ON BOTH SIDES) WHEN ACCORDIAN STYLE FIRE DOOR IN FULLY 'CLOSED' POSITION
LEARNING COMMONS

PROVIDED FOR REFERENCE TO EXISTING CONDITIONS ONLY

2017 Existing Conditions Code Plan G3

1/8" = 1'-0"



Code Plan - Area D 2021 Renovation A3

1/8" = 1'-0"

PRINT DATE/TIME: 1/20/2021 6:04:53 PM

CODE ANALYSIS:

DESCRIPTION

Renovation of one existing classroom into three classrooms.

APPLICABLE CODES:

ADOPTED & AMENDED CODES:
2018 INTERNATIONAL BUILDING CODE (IBC)
2018 INTERNATIONAL MECHANICAL CODE (IMC)
2018 UNIFORM PLUMBING CODE (UPC-IAPMO EDITION)
2017 NATIONAL ELECTRICAL CODE (NEC)
2009 ANSI/ICC A117.1 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES

SPECIAL PROVISIONS:

None

RELEVANT OCCUPANCY CLASSIFICATION:

GROUP E (UNCHANGED) (SECTION 309.1)

TYPE OF CONSTRUCTION:

Protected Non-Combustible TYPE IIB (UNCHANGED)

PROJECT DOES NOT CONSTITUTE A CHANGE TO BUILDING HEIGHT OR AREA.

PASSIVE FIRE RESISTIVE REQUIREMENTS:

ITEM	REQUIRED HOURS
EXT. BEARING WALLS	0 HR (TABLE 601)
INT. BEARING WALLS	0 HR (TABLE 601)
EXT. NON-BEARING WALLS	0 HR (< 30 FEET FROM C.L. OF STREET, TABLE 602)
OPENING PROTECTION AT EXT. WALL	0 HR (> 20 FEET FROM C.L. OF STREET, 0 HOUR > 30 FEET TABLE 704.8)
STRUCTURAL FRAME (PRIMARY COLUMNS AND GIRDERS):	0 HR (TABLE 601)
PERMANENT PARTITIONS	0 HR (TABLE 601)
ROOF	0 HR SECTION 508.2
CORRIDORS	0 HR (TABLE 1016.1)
STORAGE ROOMS	0 HR (TABLE 302.1.1)
OCCUPANCY SEPARATION	NOT REQUIRED (SECTION 302.3.1)

EXITING:

EXIT WIDTHS DOOR, RAMPS, ETC.:	80 PEOPLE PER FOOT (0.15 INCHES PER PERSON, TABLE 1005.1)
STAIRS:	60 PEOPLE PER FOOT (0.2 INCHES PER PERSON, TABLE 1005.1)
TRAVEL DISTANCE:	200 FEET TO AN EXT. DOOR OR STAIR ENCLOSURE (TABLE 1016.2)
COMMON PATH OF TRAVEL:	75 FEET TO A CHOICE OF TWO EXITS (SECTION 1004.2.5)
NUMBER OF EXITS REQUIRED:	2 FROM EACH SPACE > 50 PEOPLE; 3 WHEN > 500 PEOPLE; 4 WHEN > 1,000 PEOPLE SEPARATED BY ONE-THIRD THE DIAGONAL DISTANCE OF THE SPACE (SECTION 1014.2.1 EXCEPTION 2)
PANIC HARDWARE:	NOT REQUIRED (SECTION 1008.1.9)
REQUIRED EGRESS WIDTH (NEW DOORS ONLY):	20.5"
ACTUAL EGRESS WIDTH (NEW DOORS ONLY):	144"

ACCESSIBILITY:

PROJECT DOES NOT ALTER THE EXISTING ACCESSIBLE ROUTE WHICH IS REQUIRED AND PROVIDED THROUGHOUT THE BUILDING.

ACTIVE FIRE PROTECTION:

AUTOMATIC SPRINKLER SYSTEM:	REQUIRED (SECTION 903)
STANDPIPES:	REQUIRED (SECTION 905)
FIRE ALARM SYSTEM:	REQUIRED MANUAL PULL STATIONS NOT REQUIRED IN FULLY SPRINKLED BUILDING (SECTION 907)
SMOKE DETECTION:	REQUIRED
EXIT SIGNS:	REQUIRED REQUIRED WHERE TWO OR MORE EXITS ARE REQUIRED (SECTION 1011.1)
EMERGENCY LIGHTING:	REQUIRED A MINIMUM AVERAGE OF 1 FOOT-CANDLE (SECTION 1006.4)
PORTABLE FIRE EXTINGUISHERS	REQUIRED (SECTION 906.1)

OCCUPANT LOADS:

OCCUPANT LOAD FACTORS (BASED ON IBC TABLE 1004.1.2)

BUSINESS:	100 GSF FT. NET PER PERSON
EDUCATIONAL:	20 GSF FT. NET PER PERSON
PREVIOUS OCCUPANT LOAD WITHIN WORK AREA:	140
NEW OCCUPANT LOAD WITHIN WORK AREA:	136

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STATE OF MISSOURI DENNIS M. STRAIT NUMBER A-7339 REGISTERED ARCHITECT

Architectural Corporation
Missouri License No.: 2018022991
Dennis Strait Date: 10/07/2020
Architect License No. A-7339

REVISIONS

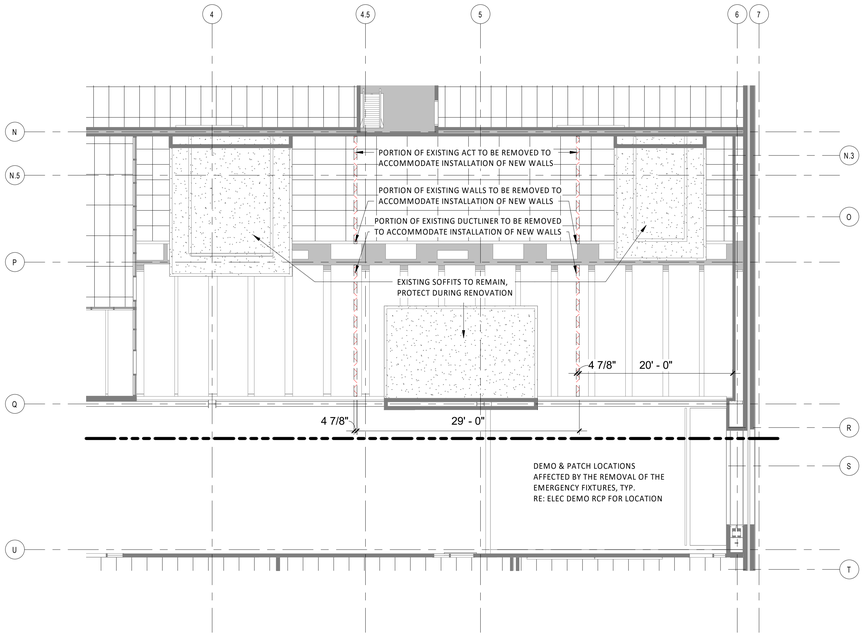
Number	DESCRIPTION	DATE

PROJECT NO: 0220-2100
DATE: October 22, 2020

Code Plan

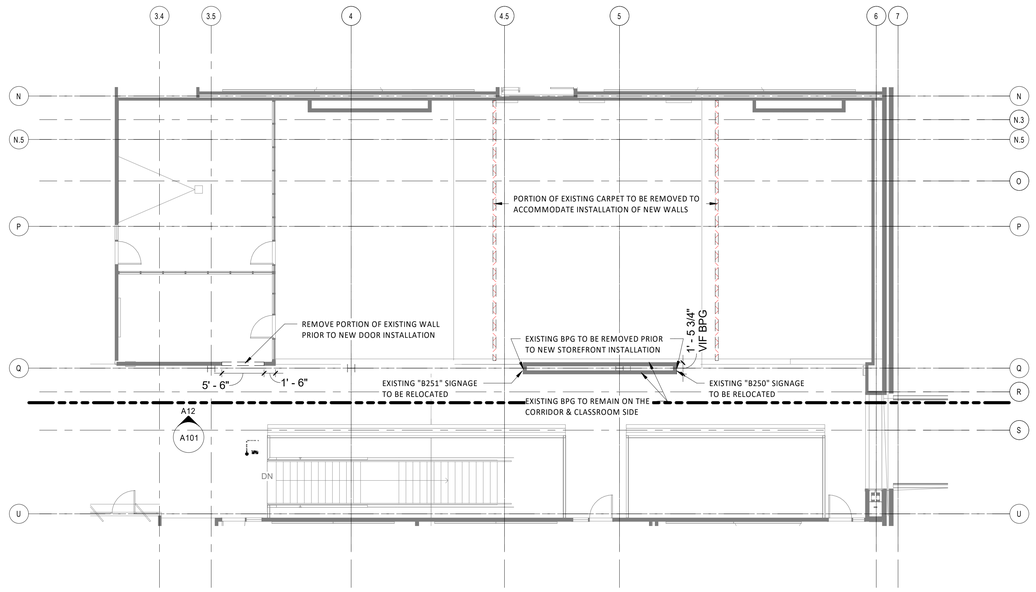
G101

MIC SECOND FLOOR RENOVATION



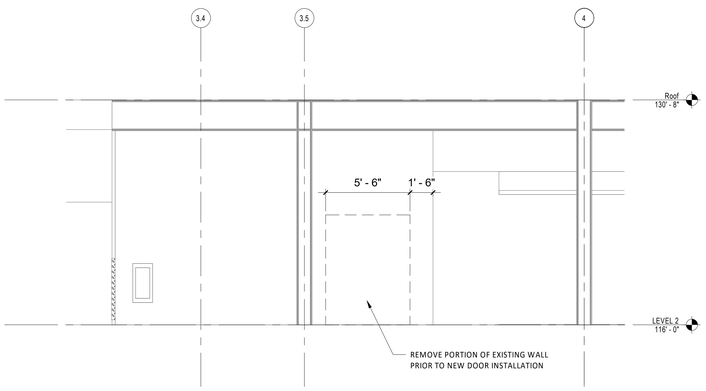
Second Level Demolition Reflected Ceiling Plan - Area D Renovation H3

1/8" = 1'-0"



Second Level Demolition Floor Plan - Area D Renovation A3

1/8" = 1'-0"



Main Corridor Elevation - Demolition A12

1/4" = 1'-0"

PRINT DATE/TIME: 10/22/2020 10:57:13 AM

General Notes:

1. THIS DEMOLITION PLAN OUTLINES THE SCOPE OF THE WORK INVOLVED FOR THE DEMOLITION PHASE OF THIS PROJECT. CONTRACTOR SHALL ALSO REFER TO THE DRAWINGS FOR THE CONSTRUCTION OF THE NEW ADDITION FOR ADDITIONAL INFORMATION.
2. EXISTING CONDITIONS INFORMATION WAS OBTAINED FROM DOCUMENTS AND INFORMATION SUPPLIED TO THE ARCHITECT. THE CONTRACTOR IS TO VERIFY EXACT LOCATIONS, SIZES, ELEVATIONS, ETC. AND REPORT ANY DISCREPANCIES TO THE ARCHITECT
3. IF SUSPECTED HAZARDOUS MATERIALS ARE ENCOUNTERED STOP WORK IMMEDIATELY AND NOTIFY OWNER. DO NOT RESUME WORK UNTIL DIRECTED BY THE OWNER.
4. ALL FURNITURE WILL BE REMOVED OR RELOCATED BY THE OWNER AS NECESSARY PRIOR TO THE DEMOLITION WORK OF THIS PROJECT. CONTRACTOR SHALL COORDINATE WITH OWNER AS REQUIRED.
5. REMOVE EXISTING CONSTRUCTION TO THE EXTENT INDICATED ON THE DRAWINGS. SHOULD ANY DAMAGE OCCUR TO ANY EXISTING CONSTRUCTION TO REMAIN ON SITE, THE CONTRACTOR SHALL REPAIR THE DAMAGE.
6. CONTRACTOR IS TO VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO DEMOLITION ACTIVITIES.
7. CONTRACTOR SHALL PROTECT ALL EXISTING CONSTRUCTION NOTED TO REMAIN FROM DAMAGE AND SOILING DURING DEMOLITION. REMOVE DEBRIS REGULARLY AS NECESSARY TO ELIMINATED INTERFERENCE WITH ROADS, STREET, WALKS, AND ALL OTHER ADJACENT FACILITIES.
8. CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION OF TEMPORARY DUST AND NOISE PROOF PARTITION BETWEEN CONSTRUCTION AREA AND ADJACENT PROPERTIES AS NECESSARY
9. NOTIFY THE BUILDING OWNER OF ANY MATERIALS, FIXTURES, ETC. THAT ARE TO BE REMOVED THAT ARE DEEMED SALVAGEABLE TURN OVER ANY REQUESTED ITEMS TO THE BUILDING OWNER IN GOOD CONDITION.
10. ALL DEMOLITION MATERIALS NOT CLAIMED BY THE OWNER, OR TO BE REUSES ARE TO BE DISPOSED OF OFF SITE AS PER LOCAL REGULATIONS AT THE CONTRACTOR'S EXPENSE.
11. THE CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.
12. MAINTAIN THE INTEGRITY OF ALL EXISTING RATED WALLS, FIRE SEAL ANY PENETRATIONS WITH U.L. APPROVED ASSEMBLY.
13. WHEN UNANTICIPATED MECHANICAL, ELECTRICAL, OR STRUCTURAL ELEMENTS THAT CONFLICT WITH THE INTENDED FUNCTION OR DESIGN ARE ENCOUNTERED, DETERMINE THE NATURE AND EXTENT OF THE CONFLICT AND NOTIFY THE ARCHITECT IMMEDIATELY FOR RESOLUTION.
14. PROTECT EXISTING SITE IMPROVEMENTS AND LANDSCAPING TO REMAIN. INCLUDING BUT NOT LIMITED TO EXISTING TREES AND OTHER VEGETATION INDICATED TO REMAIN IN PLACE AGAINST UNNECESSARY CUTTING, BREAKING, OR SKINNING OF ROOTS, SKINNING OR BRUISING OF BARK, SMOTHERING OF TREES BY STOCKPILING CONSTRUCTION MATERIAL OR EXCAVATED MATERIAL WITHIN DRIP LINES.
15. CONTRACTOR SHALL PROVIDE TRAFFIC HANDLING MEASURES AS NECESSARY TO PROTECT THE GENERAL PUBLIC AT ALL TIMES, AND AS REQUIRED BY THE CITY.
16. DO NOT INTERRUPT EXISTING UTILITIES, EXCEPT WHEN AUTHORIZED IN WRITING BY AUTHORITIES HAVING JURISDICTION. PROVIDE TEMPORARY SERVICES DURING INTERRUPTIONS TO EXISTING UTILITIES, AS ACCEPTABLE TO GOVERNING AUTHORITIES.
17. WHEN UTILITY SERVICES ARE REQUIRED TO BE REMOVED, RELOCATED, OR ABANDONED, PROVIDE BYPASS CONNECTIONS TO MAINTAIN CONTINUITY OF SERVICE BEFORE PROCEEDING WITH DEMOLITION.
18. CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT ALL UTILITY COMPANIES INCLUDING BUT NOT LIMITED TO THE FOLLOWING: ELECTRIC, GAS, WATER, TELEPHONE, STORM SEWER, AND SANITARY SEWER FOR FIELD LOCATION OF ALL UNDERGROUND AND OVERHEAD UTILITY LINES. PRIOR TO COMMENCEMENT WITH ANY DEMOLITION WORK, CONTRACTOR SHALL IDENTIFY ALL ELECTRICAL CIRCUITS SERVICING THE AREA INVOLVED WITH THIS DEMOLITION. THOSE CIRCUITS SHALL THEN BE LOCKED OUT AND TAGGED OUT IF THEY DO NOT SERVICE ANY OF THE REMAINING BUILDING. THOSE CIRCUITS WHICH ARE IDENTIFIED TO SERVICE BOTH THE AREA TO BE DEMOLISHED AND THE REMAINING BUILDING SHALL BE SPLIT SO AS TO KILL ALL ELECTRICAL POWER TO THE AREA TO BE DEMOLISHED WHILE MAINTAINING POWER TO THE REMAINDER OF THE BUILDING.
19. CONTRACTOR TO PATCH/REPAIR ALL HOLES IN WALLS, FLOORS, &/ OR CEILINGS, AS REQUIRED. PAINT TO MATCH ADJACENT WALL/CEILING.
20. CONTRACTOR TO RE-LOCATE UTILITIES & EQUIPMENT AS REQUIRED TO ACCOMMODATE NEW HVAC, ELECTRICAL & PLUMBING REQUIREMENTS FOR NEW RENOVATION WORK.
21. REFER TO DEMOLITION PLUMBING PLANS FOR EXTENT OF CONCRETE SLAB TO BE REMOVED AND REPLACED FOR UNDER FLOOR PIPING INSTALLATION.
22. FILL ALL EXISTING FLOOR AND WALL PENETRATIONS RESULTING FROM PIPING AND CONDUIT REMOVAL WITH NON-SHRINK GROUT, READY TO RECEIVE FINAL FLOOR OR WALL FINISH.
23. EXISTING WALLS (OR PORTIONS OF WALLS) TO BE REMOVED SHALL BE CUT FLUSH WHERE INTERSECTING WITH WALLS TO REMAIN. REMAINING WALLS TO BE PATCHED AND FINISHED SMOOTH.
24. NEW OPENING TO BE CUT IN EXISTING WALLS SHALL BE SAW-CUT AT LOCATIONS INDICATED TO THE HEIGHT AND WIDTH INDICATED. NEW LINTELS SHALL BE INSTALLED TO SUPPORT EXISTING WALL CONSTRUCTION ABOVE AS INDICATED ON THE DRAWINGS, OR IF NOT INDICATED, AS REQUIRED FOR NEW WALL CONSTRUCTION PER STRUCTURAL DRAWINGS.
25. WHERE EXISTING INTERIOR WALLS ARE REPLACED OR REMOVED, REMOVE MEP SYSTEMS BACK TO PANEL OR MECHANICAL ROOM OR FARTHEST POSSIBLE POINT WITHOUT DISTURBING EXISTING CONSTRUCTION, REMOVE EXISTING MECHANICAL EQUIPMENT, RELOCATE POWER PER MEP DRAWINGS
26. REFER TO MEP DRAWINGS FOR DEMOLITION OF MEP SYSTEMS TO IDENTIFY WORK REQUIRED BY THIS CONTRACTOR WHICH MAY AFFECT DEMOLITION AND/OR REPAIRS OF ARCHITECTURAL ELEMENTS. COORDINATE WITH RELATED SUBS THE EXTENT OF ALL DEMOLITION WORK.
27. PATCH FLOORS, WALLS CEILINGS WHICH REMAIN AT LOCATIONS WHERE PIPES, CONDUITS, ETC. ARE REMOVED AS REQUIRED TO MATCH EXISTING CONDITIONS OR FOR NEW FINISHES.
28. PROTECT ALL EXISTING HORIZONTAL BLINDS TO REMAIN UNLESS NOTED OTHERWISE.
29. WHERE EXISTING FINISH FLOOR IS REMOVED, PREPARE SURFACE TO RECEIVE NEW FLOORING
30. REMOVE ANY EXISTING VINYL MATERIALS IN ACCORDANCE WITH EPA STANDARDS, NOTIFY ARCHITECT & OWNER OF ANY ADDITIONAL ASBESTOS CONTAINING MATERIALS DISCOVERED BEFORE PROCEEDING WITH WORK, PROTECT INTERIOR CONSTRUCTION TO REMAIN DURING DEMOLITION AND CONSTRUCTION.

LEGEND:

- EXISTING WALL TO REMAIN
- WALL TO BE DEMOLISHED
- DEMOLISH
- DOOR TO BE DEMOLISHED
- SAWCUT AND DEMOLISH PARTIAL SLAB
- TOPPING SLAB TO BE DEMOLISHED

KEY PLAN

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phoenix • san francisco

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STATE OF MISSOURI DENNIS STRAIT NUMBER A-7339 REGISTERED ARCHITECT

Architectural Corporation
Missouri License No.: 2018022991
Dennis Strait Date: 10/07/2020
Architect License No. A-7339

REVISIONS

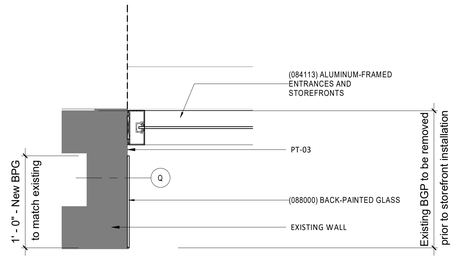
Number	DESCRIPTION	DATE

PROJECT NO: 0220-2100
DATE: October 22, 2020

Second Level Renovation - Demolition Plans

A101

MIC SECOND FLOOR RENOVATION



Storefront Detail at Gypsum Wall/BPG L13

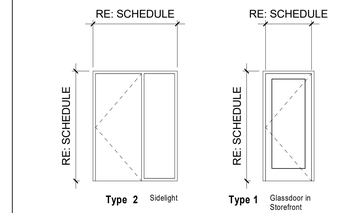
1 1/2" = 1'-0"

Door Schedule

Door No.	Assembly: Room From:	Room To:	Type	Fire Rating	Detail Type	Door Dimensions: Door Panel Width	Door Panel Height	Door Panel Thickness	Door: Material	Door: Finish	Frame: Material	Frame: Finish	Comments
LEVEL 2													
2-250		250	1		A	3' - 0"	7' - 0"	1 3/4"	AL	CA	AL	CA	Hardware: Match existing door 2-254
2-251		251	1		A	3' - 0"	7' - 0"	1 3/4"	AL	CA	AL	CA	Hardware: Match existing door 2-254
2-252	252		1		A	3' - 0"	7' - 0"	1 3/4"	AL	CA	AL	CA	Hardware: Match existing door 2-254
2-254.2			2		B	3' - 0"	7' - 0"	1 3/4"	WD	PT-01	HM	PT-01	Hardware: Match existing door 2-253.2

Finish Legend - Interior Renovation

ID#	DESCRIPTION	MANUFACTURER	STYLE	COLOR/FINISH	COMMENTS
PAINT					
PT-01	PAINT	SHERWIN WILLIAMS	REF. SPECIFICATION	SW7070 SITE WHITE	RE LOCATION ON PLAN & ELEVATIONS
PT-02	PAINT	SHERWIN WILLIAMS	REF. SPECIFICATION	SW7066 GREY MATTERS	RE LOCATION ON PLAN & ELEVATIONS
PT-03	PAINT	SHERWIN WILLIAMS	REF. SPECIFICATION	SW7587 ANTIQUE RED	RE LOCATION ON DETAIL PLAN
WB-01	WALL BASE	MATCH EXISTING HEIGHT AND COLOR			



Door Types - Renovation

1/4" = 1'-0"

General Notes (Floor Plans):

1. ALL WALL TYPES TO BE G4.1 UNLESS OTHERWISE NOTED.
2. ALL WALL DIMENSIONS ARE TO FACE OF WALL UNLESS OTHERWISE NOTED.
3. DOORS IN STUD WALLS NEAR PERPENDICULAR WALLS ARE LOCATED 4" OFF FACE OF PERPENDICULAR WALL UNLESS OTHERWISE NOTED.
4. CONTRACTOR TO FIELD VERIFY ALL MEASUREMENTS AND CONDITIONS NEW AND EXISTING. NOTIFY THE ARCHITECT/OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES.
5. ENLARGED PLANS MAY BE ROTATED OR MIRRORED COORDINATE WITH MAIN FLOOR PLAN.

General Notes (Door Schedule):

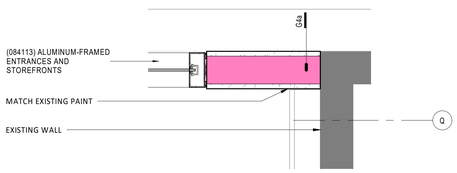
1. THRESHOLDS SHALL COMPLY WITH ACCESSIBILITY REGULATIONS.
2. EDGE CLEARANCES IN ACCORDANCE WITH AWI QUALITY STANDARDS.
3. DOORS LOCATED IN CORNERS ARE TO HAVE THE INSIDE FACE OF JAMB LOCATED 4 INCHES FROM THE ADJACENT WALL FINISH (8 INCHES IN MASONRY WALLS) UNLESS NOTED OTHERWISE.
4. PROVIDE BLOCKING AT ALL WALL MOUNTED DOOR STOPS.
5. PROVIDE SAFETY GLAZING IN ALL DOORS AND ASSOCIATED ACTIVE/FIXED PANELS.
6. PROVIDE SAFETY GLAZING IN FIXED OR OPERABLE PANELS WHERE WITHIN 24 INCHES OF EITHER EDGE OF A OPERABLE DOOR.
7. PROVIDE SAFETY GLAZING IN FIXED OR OPERABLE PANELS WHERE WITHIN 18 INCHES FROM AND RAMP/STAIR LANDING OR HAND/GUARDRAIL.
8. REFER TO "PROJECT MANUAL" FOR HARDWARE SETS AND ADDITIONAL DOOR REQUIREMENTS.

Finish Notes:

1. ALL FINISH MATERIALS MUST MEET THE FLAME SPREAD RATINGS PER THE BUILDING CODE.
2. REFER TO INTERIOR ELEVATIONS FOR SPECIFIC MATERIAL LOCATIONS.
3. PAINT ALL EXPOSED DUCTWORK, CONDUIT, ELECTRICAL EQUIPMENT, ETC TO MATCH ADJACENT METAL DECK PAINT COLOR.
4. PAINT ALL NON-FACTORY FINISHED EXPOSED METAL.
5. REFER TO TYPICAL FLOORING TRANSITION DETAILS FOR ALL FLOORING MATERIALS.
6. FLOORING TRANSITIONS AT DOORS SHOULD BE LOCATED UNDER THE DOOR IN THE CLOSED POSITION, UNLESS NOTED OTHERWISE.
7. CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING FINISHED FLOORING SURFACES FROM DAMAGE DURING ALL CONSTRUCTION PHASES.
8. REFER TO REFLECTED CEILING PLANS FOR CEILING HEIGHTS.
9. CARPET PATTERNS TO RUN PARALLEL TO CORRIDOR, UNLESS NOTED OTHERWISE.

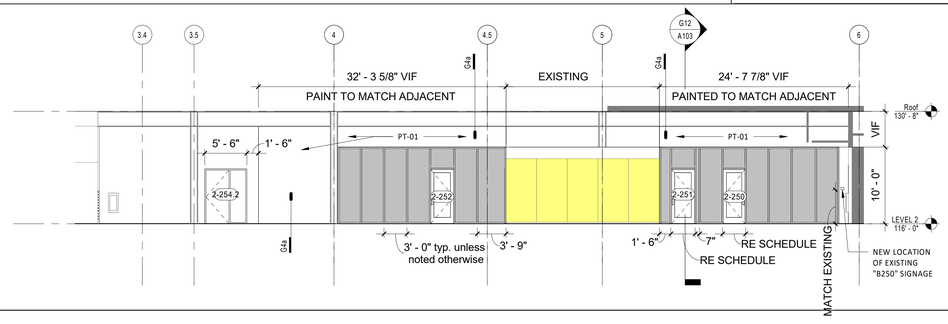
Glazing Schedule - Basic

Mark	Description
IGU-01	1" INSULATED GLASS



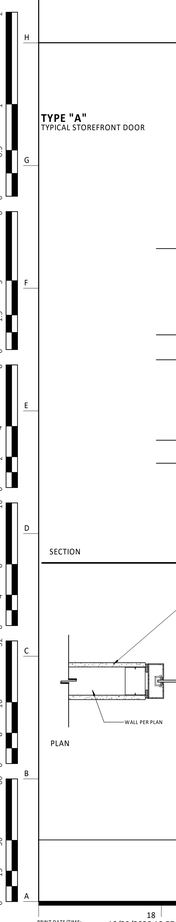
Storefront Detail at New Gypsum Wall H13

1 1/2" = 1'-0"



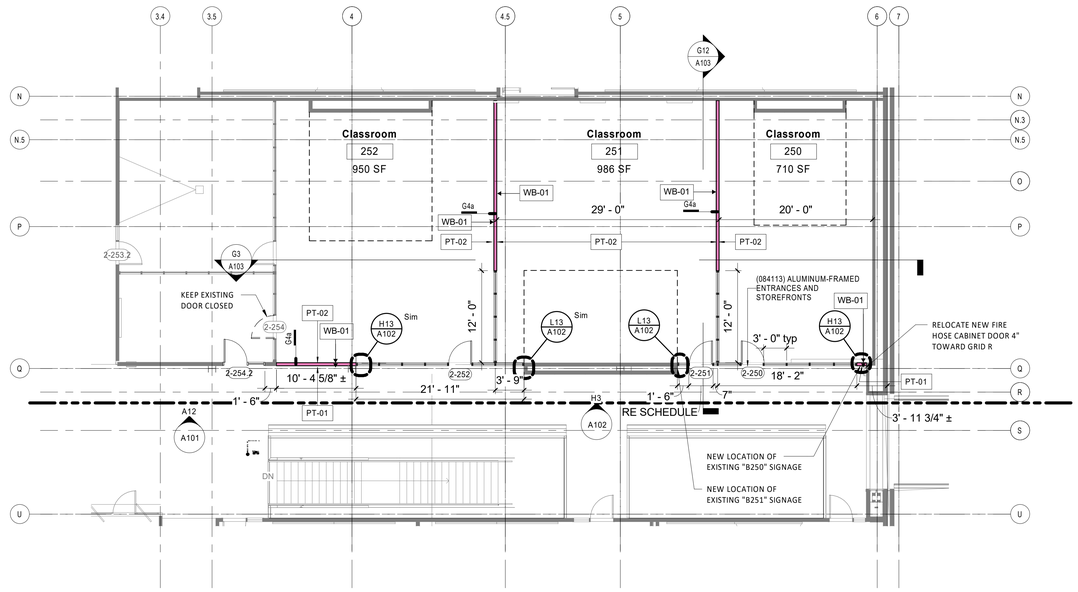
Main Corridor Elevation H3

1/8" = 1'-0"



Door Details A13

1 1/2" = 1'-0"



Second Level Floor Plan - Area D Renovation A3

1/8" = 1'-0"

KEY PLAN

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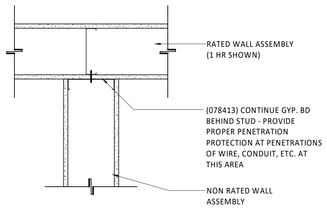
Second Level Renovation - Floor Plan

A102

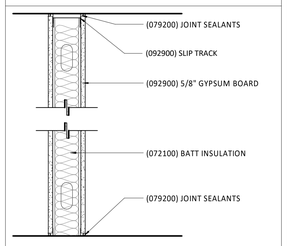
MIC SECOND FLOOR RENOVATION

PRINT DATE/TIME: 10/22/2020 10:57:14 AM



Wall Intersection Details K12
1 1/2" = 1'-0"

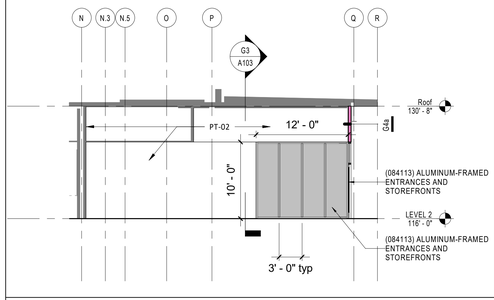
NOTES:
1. CONFIRM STUD SPACING WITH STRUCTURAL
2. PROVIDE MOISTURE RESISTANT GWB IN WET AREAS
3. EXTEND ALL FIRE RATED WALLS STRUCTURE TO STRUCTURE.
4. USE TYPE "X" GWB FOR ALL FIRE RATED PARTITIONS



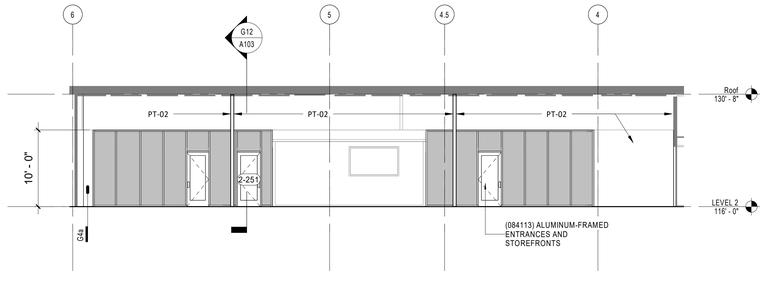
PARTITION SYSTEM:
GYPSUM WALL BOARD PARTITION **G**

PARTITION IDENTIFICATION PLAN SYMBOL	G4a
BASE PARTITION THICKNESS	4 7/8"
STUD SPACING (O.C.)	16"
STUD SIZE	3 5/8"
GWB THICKNESS	5/8"
	-
FIRE RATING (HRS)	-
FIRE TEST NUMBER	-
FIRE TEST NUMBER (HEAD OF WALL)	-
(078443) FIRE RESISTIVE JOINTS	-
ACOUSTIC RATING (STC)	44
ACOUSTICAL TEST NUMBER	NGC2514
RESILIENT CHANNELS	NO
INSULATION THICKNESS	2 1/2"
ACOUSTICAL JOINTS (079219)	YES
TO 6" ABOVE CEILING	NO
GWB STRUCTURE ABOVE	YES
STUDS TO STRUCTURE ABOVE	YES
REMARKS:	

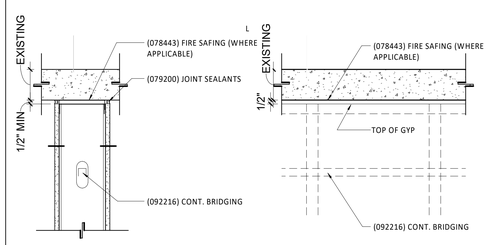
Interior Partition Types K3
1 1/2" = 1'-0"



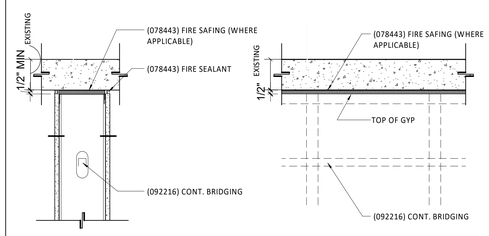
Renovation Section Typical G12
1/8" = 1'-0"



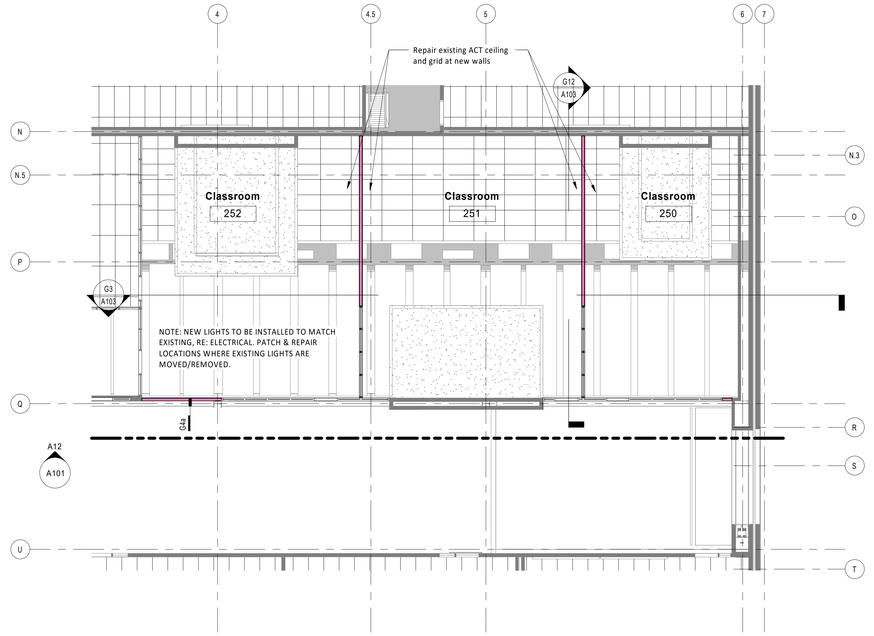
Renovation Section at Grid Line P G3
1/8" = 1'-0"



Partition to Underside of Deck - Non-Rated D12
1 1/2" = 1'-0"



Partition to Underside of Deck - Rated A12
1 1/2" = 1'-0"



Second Level Reflected Ceiling Plan - Area D Renovation A3
1/8" = 1'-0"

General Notes (Interior Partitions):

1. REFER TO PLANS/CODE PLANS FOR PARTITION TYPE LOCATIONS.
2. PARTITION TYPES DESIGNATED ON PLANS SHALL RUN FROM CORNER TO CORNER UNLESS OTHERWISE NOTED.
3. PARTITIONS SHALL EXTEND TO STRUCTURE ABOVE AND SHALL BE CONSTRUCTED TO ACCOMMODATE DEFLECTION UNLESS NOTED OTHERWISE.
4. FIRE-RESISTANCE-RATED PARTITIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REFERENCED ASSEMBLY DESCRIPTION. REFER TO CODE PLANS FOR MORE INFORMATION.
5. FIRE-RATED WALLS REQUIRED TO HAVE PROTECTED OPENINGS SHALL BE PERMANENTLY IDENTIFIED WITH SIGNS OR STENCILING ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION. SUCH SIGNAGE SHOULD BE ABOVE ACCESSIBLE CEILINGS AND/OR BELOW ACCESSIBLE FLOORS.
6. WHERE DIFFERENT PARTITION TYPES INTERSECT, THE PARTITION TYPE WITH THE GREATER FIRE-RESISTANCE RATING SHALL CONTINUE WITHOUT INTERRUPTION.
7. PENETRATIONS OF FIRE-RESISTANCE-RATED ASSEMBLIES SHALL BE PROVIDED WITH FIRE-RATED PENETRATION PROTECTION IN ACCORDANCE WITH AN APPROVED UNDERWRITERS LABORATORY SYSTEM.
8. FIRE DAMPERS OR FIRE DOORS SHALL BE PROVIDED WHERE AIR DUCTS OR OPENINGS PENETRATE FIRE-RATED PARTITIONS.
9. AT ALL WET AREAS AND LOCATIONS TO RECEIVE TILE. COORDINATE THE SUBSTRATE MATERIAL WITH PROJECT MANUAL. EXTEND THE SUBSTRATE A MINIMUM OF 4'-0" BEYOND THE WET AREA.
10. USE ACOUSTICAL SEALANT AROUND ALL PIPES, DUCTS, CONDUIT, JUNCTION BOXES, ETC. ON BOTH SIDES OF CROSSING / PENETRATING WALLS WITH ACOUSTICAL RATINGS. COLOR MATCH SEALANT TO THE ADJACENT WALL COLOR.
11. PROVIDE IMPACT RESISTANT TRIM OR CASING AT ALL EDGES OF PLASTER AND GYPSUM BOARD SURFACES WHERE IT TERMINATES OR MEETS ANY OTHER MATERIAL, UNLESS NOTED OTHERWISE
12. PROVIDE IMPACT RESISTANT CORNER BEADS AT ALL OUTSIDE CORNERS OF PLASTER AND GYPSUM BOARD SURFACES, UNLESS NOTED OTHERWISE.
13. CONTRACTOR TO PROVIDE WOOD BLOCKING BEHIND ALL TOILET ROOM ACCESSORIES, GRAB BARS, HANDRAILS, WOOD TRIM, AND WALL MOUNTED FIXTURES.
14. INSTALL CONTROL JOINTS IN GYPSUM BOARD CONSTRUCTION AS SHOWN ON THE DRAWINGS AND IN PARTITIONS AND WALL FURRING RUNS EXCEEDING 30 FEET, SPACING CONTROL JOINTS NOT MORE THAN 30 FEET O.C. VERIFY LOCATIONS WITH ARCHITECT. INSTALL CONTROL JOINTS IN FURRED ASSEMBLIES WHERE CONTROL JOINTS OCCUR IN BASE EXTERIOR WALL.

Gypsum Board Schedule

5/8" GYPSUM BOARD	ALL LOCATIONS UNLESS NOTED BELOW OR DETAILED OTHERWISE.
5/8" ABUSE RESISTANT GYPSUM	HIGH TRAFFIC AREAS SUCH AS LOBBIES, PUBLIC CORRIDORS AND WORK ROOMS SUCH AS: JANITOR, HOUSEKEEPING, MECHANICAL, ETC.
5/8" GLASS MAT BACKING BOARD	"WET" WALLS NON-RATED WITH PLUMBING FIXTURES, DRINKING FOUNTAINS, TOILETS, LAVATORIES, URINALS, ETC.
1/2" FIBER CEMENT BACKING PANELS	WALLS EXPOSED DIRECTLY TO RUNNING WATER AND SCHEDULE TO RECIEVE TILE. BATHTUBS, SHOWERS, ETC.

Interior Partition Naming Convention

G6.1
- PARTITION MATERIAL TYPE
- NOMINAL STUD/PARTITION THICKNESS
- FIRE RATING OR OTHER MODIFIER

KEY PLAN

gouldevans
kansas city • lawrence • new orleans
phoenix • san francisco

Missouri Innovation Campus - Second Floor Renovation

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LEE'S SUMMIT, MO 64086

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mechanical/electrical engineer:
Henderson Engineers
8345 Lenexa Drive, Suite 300
Lenexa, KS 66214
913.742.5477
www.hendersonengineers.com

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW DEVELOPMENT SERVICES LEE'S SUMMIT, MISSOURI
01/21/2021

Architectural Corporation
Missouri License No.: 2018022991
Dennis Strait — Date: 10/07/2020
Architect — License No. A-7339

REVISIONS

Number	DESCRIPTION	DATE

PROJECT NO: 0220-2100
DATE: October 22, 2020

Second Level Ceiling Plan, Partition Type, Sections & Details

A103

MIC SECOND FLOOR RENOVATION

PRINT DATE/TIME: 10/22/2020 10:57:18 AM

MECHANICAL SYMBOLS

THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED. V2.06

STANDARD MOUNTING HEIGHT

THERMOSTATS (USER ADJUSTABLE)(TOP OF DEVICE)	48"
CONTROLS (TOP OF DEVICE)	48"

INSTALL DEVICES AT THE MOUNTING HEIGHTS SHOWN ABOVE UNO IN THE CONSTRUCTION DOCUMENTS. MOUNTING HEIGHTS LISTED ABOVE OR ELSEWHERE IN THE CONSTRUCTION DOCUMENTS ARE AFF OR AFG TO BOTTOM OF DEVICE UNO. ALL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH CURRENT ADA AND LOCAL REQUIREMENTS.

ANNOTATION

- 1 — MECHANICAL PLAN NOTE CALLOUT
- CU 1 — MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE)
- CONNECTION POINT OF NEW WORK TO EXISTING
- 1 / M1 — DETAIL REFERENCE. UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER
- 1 / M1 — SECTION CUT DESIGNATION

ABBREVIATIONS

A/C	AIR CONDITIONING
ACC	AIR COOLED CHILLER
ACCU	AIR COOLED CONDENSING UNIT
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
AI	ANALOG INPUT
AO	ANALOG OUTPUT
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
AWG	AMERICAN WIRE GAUGE
B	BOILER
BAS	BUILDING AUTOMATION SYSTEM
BB	BACKBONE
BD	BACKDRAFT DAMPER
BD	BLOWDOWN
BFC	BELOW FINISHED CEILING
BFF	BELOW FINISHED FLOOR
BFG	BELOW FINISHED GRADE
BFP	BOILER FEED PUMP
BHP	BRAKE HORSEPOWER
BI	BINARY INPUT
BO	BINARY OUTPUT
BOD	BOTTOM OF DUCT
BOS	BOTTOM OF STRUCTURE
BTU	BRITISH THERMAL UNIT
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CLG	COOLING
CP	CONDENSATE PUMP
CPT	CONTROL POWER TRANSFORMER
CRAC	COMPUTER ROOM AIR CONDITIONING UNIT
CRU	COMPUTER ROOM UNIT
CT	COOLING TOWER
CV	CONTROL VALVE
CWP	CONDENSER WATER PUMP
CU	CONDENSING UNIT
CHWP	CHILLED WATER PUMP
DB	DECIBELS
DBA	DECIBEL AVERAGE
DDC	DIRECT DIGITAL CONTROL
DI	DIGITAL INPUT
DISC	DISCONNECT
DN	DOWN
DS	DUCT SILENCER
DX	DIRECT EXPANSION
(E)	EXISTING
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
ED	EXHAUST DUCT
EDB	ENTERING DRY BULB
EF	EXHAUST FAN
EFF	EFFICIENCY
EMS	ENERGY MANAGEMENT SYSTEM
ESP	EXTERNAL STATIC PRESSURE
ETR	EXISTING TO REMAIN
EWB	ENTERING WET BULB
EWT	ENTERING WATER TEMPERATURE
FCU	FAN COIL UNIT
FFA	FROM FLOOR ABOVE
FFB	FROM FLOOR BELOW
FF	FINISHED FLOOR
FPI	FINS PER INCH
FPM	FEET PER MINUTE
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
HOA	HAND-OFF-AUTOMATIC
HP	HORSEPOWER
HTG	HEATING
HWP	HEATING WATER PUMP
IN WC	INCHES OF WATER COLUMN
L	LOUVER
LAT	LEAVING AIR TEMPERATURE
LDB	LEAVING DRY BULB
LP	LOW PRESSURE
LWB	LEAVING WET BULB
LWT	LEAVING WATER TEMPERATURE
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MBH	1000 BTU PER HOUR
MD	MOTORIZED DAMPER
MFR	MANUFACTURER
MIN	MINIMUM
N/A	NOT APPLICABLE
N/C	NORMALLY CLOSED
N/O	NORMALLY OPEN
NOM	NOMINAL
NC	NOISE CRITERIA
NF	NON-FUSED
NIC	NOT IN CONTRACT
OA	OUTSIDE AIR
PICV	PRESSURE INDEP. CONTROL VALVE
PROVIDE	FURNISH AND INSTALL
QTY	QUANTITY
RA	RETURN AIR
RC	ROOM CRITERIA
RD	RETURN DUCT
REA	RELIEF AIR
RF	RETURN FAN
RFR	REFRIGERANT
RH	RELATIVE HUMIDITY
RH	ROOF HOOD
RPM	REVOLUTIONS PER MINUTE
RTU	ROOFTOP UNIT
SA	SUPPLY AIR
SCP	STEAM CONDENSATE PUMP
SD	SMOKE DUCT DETECTOR
SD	SUPPLY DUCT
SF	SUPPLY FAN
SH	SENSIBLE HEAT CAPACITY
SOW	SCOPE OF WORK
SP	STATIC PRESSURE
ST	STEAM TRAP
STM	STEAM
TBD	TO BE DETERMINED
TC/C	TEMPERATURE CONTROLS CONTRACTOR
TCP	TEMPERATURE CONTROL PANEL
TF	TRANSFER FAN
TFA	TO FLOOR ABOVE
TFB	TO FLOOR BELOW
TH	TOTAL HEAT CAPACITY
TSP	TOTAL STATIC PRESSURE
TT	TEMPERATURE TRANSMITTAL
TYP	TYPICAL
U/F	UNDERFLOOR
U/G	UNDERGROUND
U/S	UNDERSLAB
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
VAV	VARIABLE AIR VOLUME
VEL	VELOCITY
VFD	VARIABLE FREQUENCY DRIVE
VRF	VARIABLE REFRIGERANT FLOW
VRV	VARIABLE REFRIGERANT VOLUME
W/	WITH
W/O	WITHOUT
WB	WET BULB
WC	WATER COLUMN
WPD	WATER PRESSURE DROP
XP	EXPLOSION PROOF

HVAC DUCTWORK AND ACCESSORIES

- LINEAR SLOT DIFFUSER
- INSULATED FLEXIBLE DUCT (MAX. 5'-0" LONG)
- BRANCH DUCT WITH 45° RECTANGLE-ROUND BRANCH FITTING AND MANUAL VOLUME DAMPER
- ELBOW WITH TURNING VANES
- BRANCH DUCT WITH BELL-MOUTH FITTING & MANUAL VOLUME CONTROL DAMPER
- RETURN, EXHAUST, OR OUTSIDE AIR DUCT UP
- RETURN, EXHAUST, OR OUTSIDE AIR DUCT DOWN
- SUPPLY AIR DUCT UP
- SUPPLY AIR DUCT DOWN
- EQUIPMENT WITH FLEXIBLE DUCT CONNECTION
- 10" (NECK SIZE) CSD-1 (TYPE) 300 CFM (CFM OF SUPPLY DIFFUSER OR REGISTER)
- 24x24 (NECK SIZE) CEG-1 (TYPE) 800 CFM (CFM OF EXHAUST GRILLE)
- MANUAL VOLUME DAMPER
- SQUARE TO ROUND TRANSITION
- RD — DUCT MOUNTED SMOKE DETECTOR (SD=SUPPLY/RD=RETURN)
- XX" Ø — ROUND DUCT TAG INDICATING DIAMETER
- XX" x XX" — RECTANGULAR DUCT TAG INDICATING INTERNAL DUCT DIMENSIONS.
- XX' / XX" — FLAT OVAL DUCT TAG INDICATING INTERNAL DUCT DIMENSIONS
- RISER DESIGNATION
- FD — FIRE DAMPER
- FSD — FIRE SMOKE DAMPER
- SD — SMOKE DAMPER
- VD — VOLUME DAMPER
- MD — MOTORIZED DAMPER
- BD — BACKDRAFT DAMPER

ALL DUCT DIMENSIONS SHOWN ON DRAWINGS ARE INSIDE DIMENSIONS. REFER TO DUCTWORK SPECIFICATIONS FOR DUCTWORK INSULATION AND LINER INFORMATION.

HVAC CONTROL DEVICES

- H — HUMIDISTAT
- T — THERMOSTAT
- SP — STATIC PRESSURE SENSOR
- TS — TEMPERATURE SENSOR
- CO — CARBON MONOXIDE SENSOR
- CO2 — CARBON DIOXIDE SENSOR
- DP — DIFFERENTIAL PRESSURE SENSOR
- FS — FLOW SWITCH
- HS — HUMIDITY SENSOR
- PS — PULL STATION
- RT — REMOTE TESTING STATION WITH INDICATING LIGHT
- SP — STATIC PRESSURE
- TS — TEMPERATURE SENSOR

PIPING SYMBOLS

- DIRECTION OF FLOW
- CONTROL VALVE
- THREE-WAY CONTROL VALVE
- SHUTOFF VALVE
- CHECK VALVE
- BALANCING VALVE WITH PRESSURE PORTS
- TRIPLE DUTY VALVE WITH PRESSURE PORTS
- STRAINER
- STRAINER WITH BLOWDOWN VALVE
- RELIEF / SAFETY VALVE
- SOLENOID VALVE
- PRESSURE REDUCING VALVE
- GAS PRESSURE REGULATOR
- THERMOSTATIC MIXING VALVE
- PA — PIPE ANCHOR
- EJ — EXPANSION JOINT
- PIPE GUIDE
- PIPING SUPPORT
- F & T TRAP
- BUCKET TRAP
- THERMOSTATIC TRAP
- BACKFLOW PREVENTER
- PRESSURE GAUGE
- THERMOMETER
- PRESSURE AND TEMPERATURE TEST PLUG
- UNION
- FLANGE CONNECTION
- VACUUM RELIEF VALVE
- AV — AUTOMATIC AIR VENT
- MV — MANUAL AIR VENT
- PRESSURE / VACUUM SWITCH
- CLEANOUT
- CAP
- ELBOW UP
- ELBOW DOWN
- TEE UP
- TEE DOWN
- ELBOW UP WITH SHUT-OFF VALVE (SOV)
- ELBOW DOWN WITH SHUT-OFF VALVE (SOV)
- TEE UP WITH SHUT-OFF VALVE (SOV)
- TEE DOWN WITH SHUT-OFF VALVE (SOV)
- REDUCER
- RECIRCULATION PUMP
- P-TRAP
- GAS COCK
- TOP BEAM CLAMP
- TRAPEZE HANGER
- FLEXIBLE CONNECTION

PIPING LINETYPES

- CD — CONDENSATE DRAIN (CD)
- ACD — AUXILIARY CONDENSATE DRAIN (ACD)
- NPW — NON-POTABLE WATER (NPW)
- G — NATURAL GAS (G)
- G — NATURAL GAS ON ROOF (G)
- MPG — MEDIUM PRESSURE NATURAL GAS (MPG)
- MPG — MEDIUM PRESSURE NATURAL GAS ON ROOF (MGP)
- FOS — FUEL OIL SUPPLY (FOS)
- FOR — FUEL OIL RETURN (FOR)
- FOV — FUEL OIL VENT (FOV)
- LPG — LIQUEFIED PETROLEUM GAS (LPG)
- BFW — BOILER FEED WATER (BFW)
- HPS — HIGH PRESSURE STEAM SUPPLY (HPS)
- HPC — HIGH PRESSURE STEAM CONDENSATE (HPC)
- LPS — LOW PRESSURE STEAM SUPPLY (LPS)
- LPC — LOW PRESSURE STEAM CONDENSATE (LPC)
- PD — CONDENSATE PUMP DISCHARGE (PD)
- HWS — HEATING HOT WATER SUPPLY (HWS)
- HWR — HEATING HOT WATER RETURN (HWR)
- CHWS — CHILLED WATER SUPPLY (CHWS)
- CHWR — CHILLED WATER RETURN (CHR)
- HCS — HOT / CHILLED WATER SUPPLY (HCS)
- HCR — HOT / CHILLED WATER SUPPLY (HCR)
- CWS — CONDENSER WATER SUPPLY (CWS)
- CWR — CONDENSER WATER RETURN (CWR)
- HPWS — HEAT PUMP WATER SUPPLY (HPWS)
- HPWR — HEAT PUMP WATER RETURN (HPWR)
- RL — REFRIGERANT LIQUID (RL)
- RD — REFRIGERANT DISCHARGE (HOT GAS) (RD)
- RS — REFRIGERANT SUCTION (RS)
- RDB — REFRIGERANT DISCHARGE BYPASS (RDB)
- RV — REFRIGERANT VENT (RV)

LINETYPE LEGEND

THROUGHOUT THE DRAWINGS DIFFERENT LINETYPES ARE USED IN COMBINATION WITH THE SYMBOLS TO INDICATE THE STATUS OF ITEMS AS EXISTING, TO BE DEMOLISHED, TO BE INCLUDED AS PART OF NEW WORK AND/OR ITEMS WHICH ARE ANTICIPATED TO BE PROVIDED IN THE FUTURE. THE STATUS OF ITEMS USING THESE LINETYPES ARE RELATIVE TO THE VIEW IN WHICH THEY APPEAR. PHASING SHOWN IN DRAWINGS IS NOT INTENDED TO FULLY DESCRIBE ALL NECESSARY CONSTRUCTION PHASING, WHICH IS DETERMINED BY THE CONTRACTOR AS PART OF THEIR RESPONSIBILITIES. ANY SUCH PHASES DESCRIBED IN THE CONSTRUCTION DOCUMENTS ARE GENERAL AND ONLY INTENDED TO INDICATE A BROAD ORDER FOR THE SAKE OF DESCRIBING THE PROJECT. THE FOLLOWING LINETYPES MAY BE USED ON ANY DEVICE, EQUIPMENT, NOTE, LINE, SHAPE, ETC.

EXISTING	NEW
DEMOLISH	FUTURE

GENERAL NEW NOTES:

1. PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
2. EXISTING CONDITIONS WERE TAKEN FROM ORIGINAL DRAWINGS AND SITE VISITS AND MAY NOT REFLECT EXACT "AS-BUILT" CONDITIONS. FIELD VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING FINAL BIDS. COORDINATE NEW WORK AND DEMOLITION WITH OTHER DISCIPLINES AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
3. COORDINATE THE INSTALLATION OF THE MECHANICAL SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION. INSTALL DUCTWORK AND PIPING AS TIGHT TO STRUCTURE AS POSSIBLE. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS. COORDINATE INSTALLATION OF DUCTWORK AND PIPING TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC. ANY MODIFICATIONS REQUIRED DUE TO LACK OF COORDINATION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO EXTRA COST TO THE OWNER.
4. WHERE SHUTDOWN OF EXISTING SYSTEMS IS REQUIRED DURING NEW WORK, COORDINATE SHUTDOWN TIME AND DURATION WITH THE OWNER TO MINIMIZE DOWNTIME. NOTIFY OWNER SEVEN (7) DAYS PRIOR TO INTERRUPTION OF SERVICE.
5. DURING INSTALLATION OF NEW WORK, AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN. REPAIR DAMAGE CAUSED DURING CONSTRUCTION AT NO EXTRA COST TO THE OWNER.
6. PROVIDE TEMPORARY BARRIERS TO CONTAIN DUST AND DEBRIS RESULTING FROM THE PERFORMANCE OF THE WORK TO THE AREA WHERE WORK IS BEING PERFORMED.
7. ALL MECHANICAL EQUIPMENT SHOWN ON THE MECHANICAL PLANS SHALL BE PROVIDED BY DIVISION 23 UNLESS OTHERWISE NOTED.
8. NEW MECHANICAL EQUIPMENT, DUCTWORK AND PIPING ARE SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL DUCTWORK AND PIPING LOCATIONS PRIOR TO FABRICATION AND MAKE ADJUSTMENTS AS REQUIRED TO FIT THE DUCTWORK AND PIPING WITHIN THE AVAILABLE SPACE. VERIFY THAT FINAL EQUIPMENT LOCATIONS MEET MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AND PROPER AIRFLOW CLEARANCE AROUND EQUIPMENT.
9. REFER TO ARCHITECTURAL DRAWINGS FOR RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE HVAC SYSTEM. VERIFY CHASES AND PENETRATIONS SHOWN ON ARCHITECTURAL DRAWINGS THAT ARE INTENDED FOR DUCTWORK AND PIPING MEET REQUIREMENTS.
10. INDOOR AIR QUALITY MEASURES: PROTECT INSIDE OF (INSTALLED AND DELIVERED) DUCTWORK AND HVAC UNITS FROM EXPOSURE TO DUST, DIRT, PAINT AND MOISTURE. REPLACE INSULATION THAT HAS BECOME WET AT ANY TIME DURING CONSTRUCTION, DRYING THE INSULATION IS NOT ACCEPTABLE. SEAL ANY TEARS OR JOINTS OF INTERNAL FIBERGLASS INSULATION. REMOVE DEBRIS FROM CEILING/RETURN AIR PLENUM INCLUDING DUST. AN INDEPENDENT, PROFESSIONAL DUCT CLEANING COMPANY SHALL VACUUM CLEAN ANY DUCTWORK CONNECTED TO HVAC UNITS THAT WERE OPERATED DURING THE CONSTRUCTION PERIOD AFTER NEW FILTERS ARE INSTALLED AND PRIOR TO TURNING SYSTEM OVER TO THE OWNER. THE INTERNAL SURFACES AND ASSOCIATED COILS OF ANY HVAC UNITS THAT WERE OPERATED SHALL ALSO BE CLEANED.
11. INSTALL DUCTWORK AND PIPING PARALLEL TO BUILDING COLUMN LINES UNLESS OTHERWISE SHOWN OR NOTED.
12. OVERHEAD HANGERS AND SUPPORTS FOR EQUIPMENT, DUCTWORK AND PIPING SHALL BE FASTENED TO BUILDING JOISTS OR BEAMS. DO NOT ATTACH HANGERS AND SUPPORTS TO THE ABOVE FLOOR SLAB OR ROOF EXCEPT WHERE CONCRETE INSERTS IN CONCRETE SLABS ARE ALLOWED BY THE SPECIFICATIONS.
13. COORDINATE LOCATION OF EQUIPMENT SUPPORTS WITH LOCATION OF EQUIPMENT ACCESS PANELS/DOORS TO ENABLE SERVICE OF EQUIPMENT AND/OR FILTER REPLACEMENT.
14. SEAL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. FIREPROOF PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS.
15. COORDINATE THE EXACT MOUNTING SIZE AND FRAME TYPE OF DIFFUSERS, REGISTERS AND GRILLES WITH THE SUPPLIER TO MEET THE CEILING, WALL AND DUCT INSTALLATION REQUIREMENTS.
16. ADJUST LOCATION OF CEILING DIFFUSERS, REGISTERS AND GRILLES AS REQUIRED TO ACCOMMODATE FINAL CEILING GRID AND LIGHTING LOCATIONS.
17. PAINT PORTIONS OF DUCTWORK AND INSULATION THAT ARE EXPOSED TO VIEW BY THE INSTALLATION OF DIFFUSERS, REGISTERS, AND GRILLES IN CEILINGS OR WALLS FLAT BLACK. PORTIONS INCLUDE BOTH THE INTERIOR OF UNLINED DUCTWORK AND THE EXTERIOR OF DUCTWORK AND INSULATION.
18. LOCATE AND SET THERMOSTATS AND HUMIDISTATS AT LOCATIONS SHOWN ON PLANS. VERIFY EXACT LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION. INSTALL DEVICES WITH TOP OF DEVICE AT MAXIMUM 48" AFF TO MEET ADA REQUIREMENTS UNLESS NOTED OTHERWISE ON PLANS. PROVIDE INSULATED BACKING FOR THERMOSTATS MOUNTED ON EXTERIOR BUILDING WALLS. INSTALL WIRING IN CONDUIT PROVIDED BY DIVISION 26. AT A MINIMUM, PROVIDE CONDUIT IN THE WALL FROM THE JUNCTION BOX TO 6" ABOVE THE CEILING.
19. COORDINATE THE LOCATION AND ELEVATION OF WALL-MOUNTED DEVICES WITH PRESENTATION BOARDS, DISPLAY CABINETS, SHELVES OR OTHER COMPONENTS SHOWN ON THE ARCHITECTURAL DRAWINGS THAT ARE TO BE INSTALLED UNDER OTHER DIVISIONS. CONTRACTOR WILL NOT BE REIMBURSED FOR RELOCATION OF WALL-MOUNTED DEVICES CAUSED BY A LACK OF COORDINATION.
20. PROVIDE A MANUAL BALANCING DAMPER IN EACH DUCT TAKEOFF FROM SUPPLY, RETURN, OUTDOOR AND EXHAUST AIR DUCTS.
21. PROVIDE A PREFABRICATED 45 DEGREE, HIGH EFFICIENCY, RECTANGULAR/ROUND BRANCH DUCT TAKEOFF FITTING FOR BRANCH DUCT CONNECTIONS AND TAKE-OFFS TO INDIVIDUAL DIFFUSERS, REGISTERS AND GRILLES. PROVIDE WITH INTEGRAL MANUAL BALANCING DAMPER AND LOCKING QUADRANT WHERE INDICATED ON PLANS.
22. BRANCH DUCTWORK TO AIR OUTLETS SHALL BE SAME SIZE AS OUTLET NECK SIZE UNLESS OTHERWISE NOTED.
23. REFER TO SPECIFICATIONS FOR DUCTWORK AND PIPING INSULATION REQUIREMENTS. DUCT SIZES ON MECHANICAL PLANS INDICATE CLEAR INSIDE AIRFLOW DIMENSIONS, INCREASE SHEET METAL SIZES ACCORDINGLY TO ACCOUNT FOR THICKNESS OF DUCT LINER.
24. FLEXIBLE DUCTWORK SHALL NOT EXCEED 5'-0" IN LENGTH AND SHALL BE INSTALLED AND SUPPORTED TO AVOID SHARP BENDS AND SAGGING. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. EQUIREMENTS FOR GREASE DUCT ENCLOSURES.
25. PROVIDE WALL MOUNTED LOUVERS AND DAMPERS WITH SUITABLE MOUNTING FRAME TO MATCH WALL CONSTRUCTION. COORDINATE WITH ARCHITECTURAL DRAWINGS.
26. PROVIDE A NEW SET OF AIR FILTERS IN UNITS PRIOR TO TESTING, ADJUSTING AND BALANCING AND BEFORE TURNING SYSTEM(S) OVER TO OWNER.
27. FIELD VERIFY THAT THE EXISTING EQUIPMENT INCLUDING ACCESSORIES BEING REUSED FOR THIS PROJECT IS NOT DAMAGED AND IS IN GOOD WORKING ORDER. REPORT ANY DEFICIENCIES TO THE OWNER OR ARCHITECT. SUBMIT TO THE OWNER AND ARCHITECT A WRITTEN REPORT DESCRIBING TESTS PERFORMED TO VERIFY OPERATION AND RESULTS OF THE TESTS.
28. CLEAN EXISTING EQUIPMENT AND EQUIPMENT COMPONENTS BEING REUSED FOR THIS PROJECT. PROVIDE NEW FILTERS FOR EXISTING AIR HANDLING EQUIPMENT PRIOR TO STARTUP OF EQUIPMENT. NEW FILTERS SHALL BE COMPATIBLE WITH THE EXISTING EQUIPMENT AND EQUAL IN PERFORMANCE TO THE EXISTING FILTERS AT NEW CONDITION UNLESS OTHERWISE NOTED. CLEAN STRAINERS IN PIPING SYSTEMS PRIOR TO STARTING PUMPS.
29. CLEAN THE EXTERIOR OF EXISTING COILS TO BE REUSED FOR THIS PROJECT. VACUUM BRUSH THE COIL IN THE DIRECTION OF THE FINS AND CLEAN THE COILS WITH COIL CLEANING FLUID. COMB ANY FINS BENT TO PROVIDE A STRAIGHT SURFACE FOR AIRFLOW.
30. LUBRICATE EXISTING EQUIPMENT BEING REUSED FOR THIS PROJECT IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. OBTAIN INSTRUCTIONS FROM MANUFACTURER IF THEY ARE NOT AVAILABLE AT THE SITE.

GENERAL DEMOLITION NOTES:

1. COORDINATE ALL DEMOLITION WITH WHAT IS SHOWN ON ARCHITECTURAL PLANS. NOTIFY ARCHITECT OF ANY DISCREPANCIES.
2. PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW GENERAL NOTES, SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER OR OWNER. AS DEFINED IN BID DOCUMENTS. OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
3. OWNER RETAINS RIGHTS OF SALVAGE FOR EQUIPMENT AND FIXTURES TO BE REMOVED. COORDINATE WITH OWNER THE EQUIPMENT AND FIXTURES TO BE SALVAGED AND THE LOCATION FOR STORAGE. AVOID DAMAGE TO SALVAGED EQUIPMENT, FIXTURES AND DEVICES DURING DEMOLITION WORK AND DURING TRANSPORT TO OWNER'S DESIGNATED STORAGE LOCATION.
4. READ ALL AIRFLOWS FROM EQUIPMENT AND AIR DEVICES PRIOR TO DEMO.
5. REMOVE ITEMS SHOWN HEAVY-LINED DASHED, AND/OR NOTED TO BE REMOVED.
6. AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN FOR NEW INSTALLATION. REPAIR DAMAGE CAUSED DURING WORK AT NO EXTRA COST TO THE OWNER.
7. SEAL PENETRATIONS THROUGH FLOORS, WALLS, CEILINGS AND ROOFS WHERE MECHANICAL COMPONENTS ARE REMOVED AND WHERE THE EXISTING PENETRATION IS NOT USED FOR THE NEW INSTALLATION. REPAIR DAMAGED SURFACES TO MATCH ADJACENT AREAS OR AS INDICATED ON THE ARCHITECTURAL DRAWINGS.
8. REMOVE HANGERS AND SUPPORTS WHERE DUCTWORK, PIPING AND/OR EQUIPMENT ARE REMOVED AND THE EXISTING HANGERS AND SUPPORTS ARE NOT USED FOR THE NEW INSTALLATION.
9. INSTALL PERMANENT CAPS WHERE DUCTWORK AND PIPING IS REMOVED AND THE EXISTING TAPS ARE NOT USED FOR THE NEW INSTALLATION. WHERE DUCTWORK AND PIPING ARE REMOVED AND THE EXISTING TAPS WILL BE USED FOR THE NEW INSTALLATION, INSTALL TEMPORARY CAPS TO PROTECT THE INTERIOR SURFACES UNTIL NEW DUCTWORK AND PIPING ARE INSTALLED.
10. INSPECT EXISTING EQUIPMENT TO REMAIN TO VERIFY THAT EQUIPMENT IS OPERATING PROPERLY. NOTIFY OWNER OF DAMAGED AND/OR MALFUNCTIONING COMPONENTS.
11. WHERE SHUTDOWN OF EXISTING SYSTEMS IS REQUIRED DURING DEMOLITION, COORDINATE SHUTDOWN TIME AND DURATION WITH OWNER TO MINIMIZE DOWNTIME. NOTIFY OWNER SEVEN (7) DAYS PRIOR TO INTERRUPTION OF SERVICE.
12. CEASE WORK AND IMMEDIATELY NOTIFY THE OWNER SHOULD ANY HAZARDOUS MATERIALS BE ENCOUNTERED DURING THE PERFORMANCE OF THE WORK.
13. REMOVAL, RECOVERY, RECYCLING, AND DISPOSAL OF REFRIGERANT, CONTAINED IN ANY EQUIPMENT TO BE REMOVED, SHALL BE PERFORMED IN STRICT ACCORDANCE WITH CURRENT EPA GUIDELINES.

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NUMBER PE-2020016283
PROFESSIONAL ENGINEER

CARL J. HOLDEN Oct 6 2020
LICENSE # PE-2020016283

REVISIONS

Number	DESCRIPTION	DATE

PROJECT NO: 0220-2100
DATE: OCTOBER 5, 2020

MECHANICAL GENERAL NOTES AND LEGEND

M-000

MIC SECOND FLOOR RENOVATION

CARL J. HOLDEN

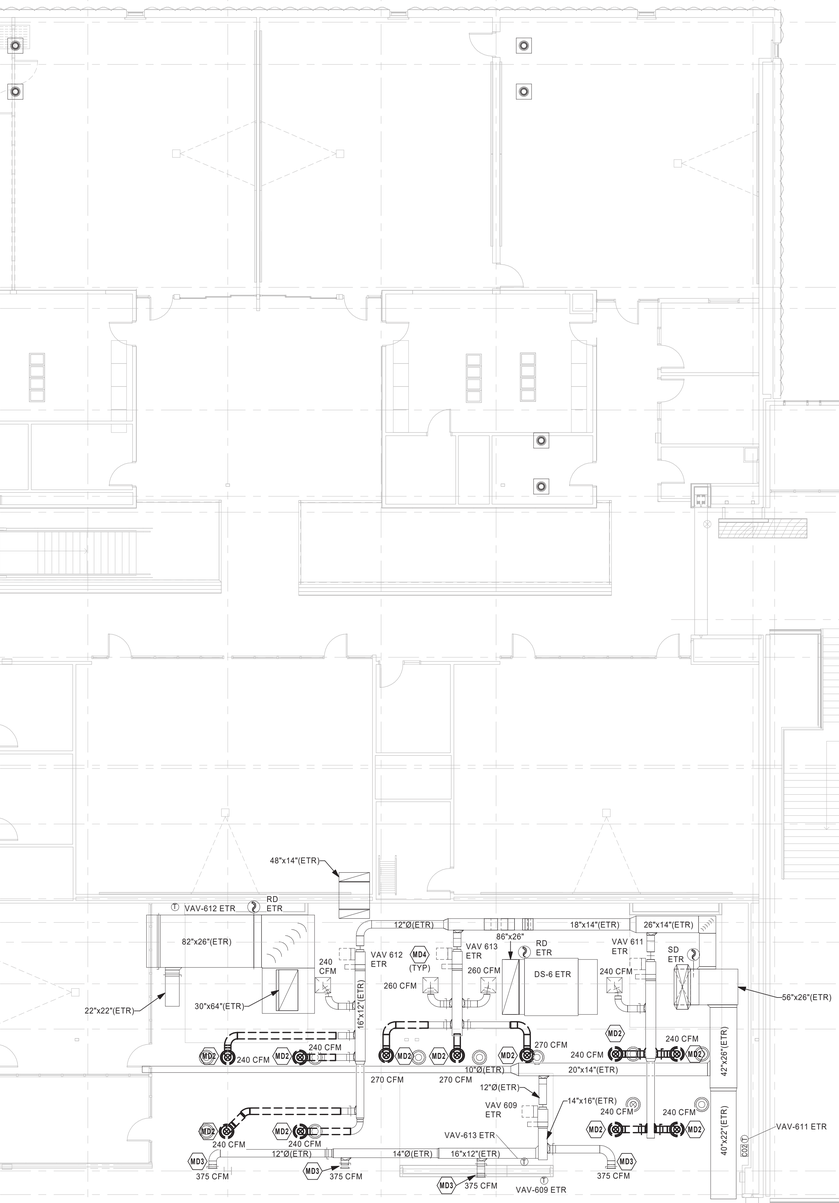
PRINT DATE/TIME: 10/6/2020 12:13:09 PM

MECHANICAL DEMOLITION PLAN NOTES:

MD2 RELOCATE EXISTING SUPPLY DIFFUSER. RE-USE AS MUCH EXISTING DUCTWORK AS POSSIBLE. REFER TO NEW WORK PLAN FOR NEW LOCATION AND NEW DUCT PATHS PRIOR TO DEMO. REFER TO PLAN NOTE M1 ON M-102.D.

MD3 RELOCATE AND RE-USE EXISTING BALANCING DAMPER. REFER TO NEW PLANS FOR LOCATION.

MD4 READ ALL AIRFLOWS PRIOR TO DOING ANY DEMO WORK.



1 HVAC Level 2 DEMO PLAN - AREA D
1/8" = 1'-0"

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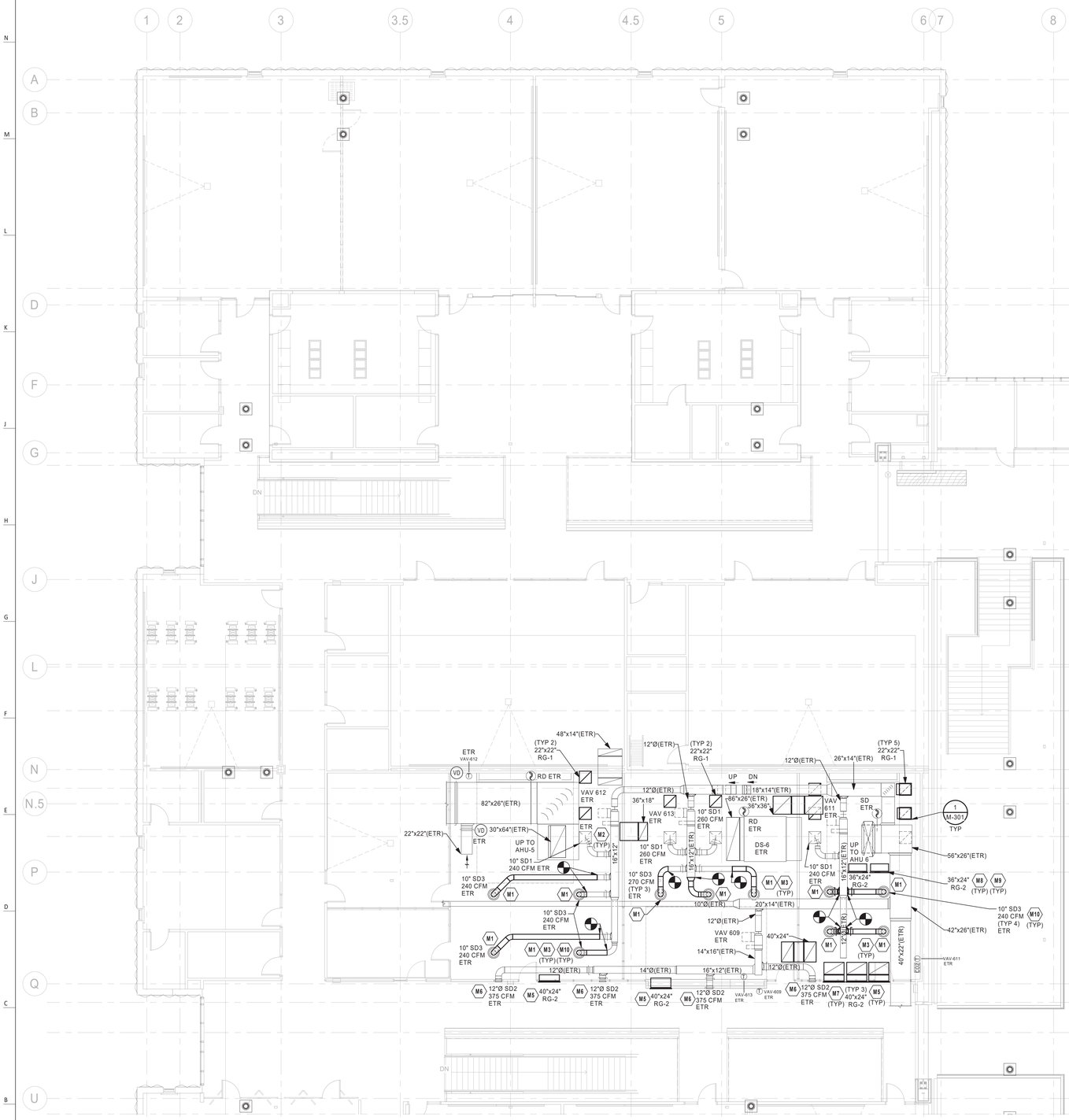
HVAC Level 2 DEMO PLAN - AREA D

MD-102.D

MIC SECOND FLOOR RENOVATION

MECHANICAL PLAN NOTES:

M1 SALVAGE AND RELOCATE EXISTING SUPPLY DIFFUSER. EXTEND DUCTWORK TO NEW DIFFUSER AND RE-USE EXISTING DUCTWORK AS MUCH AS POSSIBLE.
M2 ADJUST EXISTING AIR DEVICES AS NECESSARY TO ALIGN IN NEW RCP.
M3 EVENLY SPACE SUPPLY DIFFUSERS BETWEEN THE TWO WALLS.
M5 BOTTOM OF GRILLE TO BE PLACED 11'-0" AFF.
M6 RELOCATE EXISTING BALANCING DAMPER TO AVOID NEW WALL.
M7 ELBOW DUCT UP AND LEAVE OPEN TO PLENUM.
M8 BOTTOM OF GRILLE TO BE PLACED 10'-0" AFF.
M9 PLACE BOTH RETURN GRILLED CENTERED IN SOFFIT.
M10 CANNOT USE FLEX DUCT FOR DIFFUSER CONNECTIONS WHERE DUCTWORK IS EXPOSED. (TYP)



1 HVAC Level 2 PLAN - AREA D
1/8" = 1'-0"

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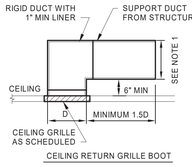
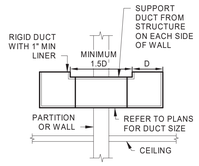
HVAC Level 2 PLAN - AREA D

M-102.D

MIC SECOND FLOOR RENOVATION



CEILING RETURN GRILLE BOOT



U-SHAPED AIR DUCT SECTION

NOTES:

1. REFER TO FLOOR PLAN FOR OUTLET DEPTH. WHEN NO DEPTH IS SHOWN, MINIMUM DEPTH SHALL BE AS REQUIRED TO LIMIT AIR VELOCITY TO 500 FPM WITH A MINIMUM SIZE OF 0.5D.

1 RETURN/TRANSFER AIR DUCT DETAIL
NTS

GRILLE, REGISTER AND DIFFUSER SCHEDULE

MARK	MANUFACTURER	MODEL	FACE TYPE	MOUNTING LOCATION	FACE SIZE (IN)	MAX NC	MAX PRESS DROP (IN W.C.)	NOTES
RG-1	PRICE	80	EGGCRATE	CEILING	24"x24"	25	0.05	A,C
RG-2	PRICE	530	LOUVERED	SIDEWALL	REFER TO PLANS	25	0.05	A,B,C

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

NOTES:

A. PAINTABLE FINISH. COORDINATE WITH ARCHITECT ON COLOR.
B. FRONT BLADES PARALLEL TO LONG DIMENSION.
C. FRAME TYPE TO MATCH CEILING CONSTRUCTION. COORDINATE WITH ARCHITECTURAL REFLECTED CEILING PLAN.

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PROJECT NO: 0220-2100
DATE: OCTOBER 5, 2020

MECHANICAL DETAILS AND SCHEDULES

M-301

MIC SECOND FLOOR RENOVATION

ELECTRICAL SYMBOLS

THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED. V3.00

STANDARD MOUNTING HEIGHTS

AUDIBLE APPLIANCES (CENTERLINE)	84"
ALARMS	48"
ANNUNCIATOR PANELS (DISPLAY)	60"
CONTROLS (TOP OF DEVICE)	48"
EXIT SIGNS (WALL MOUNTED)	80"
FIRE ALARM ANNUNCIATOR PANEL (DISPLAY)	60"
FIRE ALARM BELL (EXTERIOR) (CENTERLINE)	120"
FIRE ALARM CONTROL PANEL/UNIT (DISPLAY)	60"
INTERCOM (AFEA ONLY)	36"
INTERCOMS (TOP OF DEVICE)	48"
PULL STATIONS (TOP OF DEVICE)	48"
PHOTOCELLS	144"
RECEPTACLES	16"
RECEPTACLES (EXTERIOR)	24"
RECEPTACLES (GARAGES)	24"
RECEPTACLES (POOLS)	27"
RECEPTACLES (ABOVE COUNTER) +6" ABOVE BACKSPLASH/COUNTER, 40" MAX	
RECEPTACLES IN EQUIPMENT ROOMS	44"
REMOTE INDICATING LIGHT (EQUIPMENT ROOMS)	48"
REMOTE INDICATING LIGHT (FINISHED AREAS)	CEILING
SAFETY SWITCHES (TOP OF DEVICE)	48"
STARTERS (TOP OF DEVICE)	48"
SWITCHES (TOP OF DEVICE)	44"
TELEPHONE, DATA OUTLETS	SAME AS ADJACENT DEVICE, UNO
TELEPHONE TERMINAL BOARD (BOTTOM)	6"
TELEVISION OUTLETS	REFER TO ARCH DRAWINGS
VISIBLE APPLIANCES (CENTERLINE)	84"

INSTALL OUTLET BOXES AT THE MOUNTING HEIGHTS SHOWN ABOVE UNO IN THE CONSTRUCTION DOCUMENTS. MOUNTING HEIGHTS LISTED ABOVE, OR ELSEWHERE IN THE CONSTRUCTION DOCUMENTS, ARE AFF OR AFG TO BOTTOM OF OUTLET BOX, UNO. ALL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH CURRENT ADA AND LOCAL REQUIREMENTS.

ABBREVIATIONS

AF	AMPERE FUSE SIZE
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CAPACITY
AS	AMPERE SWITCH SIZE
AT	AMPERE TRIP SETTING
ATS	AUTOMATIC TRANSFER SWITCH
AV	AUDIO VISUAL
BAS	BUILDING AUTOMATION SYSTEM
BKR	BREAKER
C	CONDUIT
CAT	CATEGORY
CATV	CABLE TELEVISION SYSTEM
CCTV	CLOSED CIRCUIT TELEVISION
CD	CANDELA
CKT	CIRCUIT
CODE	APPLICABLE CODE ADOPTED BY JURISDICTION
CT	CURRENT TRANSFORMER
CTR	CENTER
CVD	CUMULATIVE VOLTAGE DROP
D/DEMO	DEMOLITION
DPDT	DOUBLE-POLE, DOUBLE-THROW
DPST	DOUBLE-POLE, SINGLE-THROW
E/ETR/EX	EXISTING TO REMAIN
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EM	EMERGENCY
EMS	ENERGY MANAGEMENT SYSTEM
ELV	ELECTRONIC LOW-VOLTAGE
EWC	ELECTRIC WATER COOLER
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FCA	FAULT CURRENT AMPS AVAILABLE
FCU	FAN COIL UNIT
FF	FINISHED FLOOR
FLA	FULL LOAD AMPS
FLR	FLOOR
GC	GENERAL CONTRACTOR
GEC	GROUNDING ELECTRODE CONDUCTOR
GES	GROUNDING ELECTRODE SYSTEM
GFR	GROUND FAULT RELAY
G	GROUND
IG	ISOLATED GROUND
ISC	SHORT CIRCUIT CURRENT
JB/J-BOX	JUNCTION BOX
LF	LINEAR FEET
LRA	LOCKED ROTOR AMPS
LTG/LTS	LIGHTING/LIGHTS
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MFR	MANUFACTURER
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MLV	MAGNETIC LOW-VOLTAGE
MOCP	MAXIMUM OVERCURRENT PROTECTION
MTD	MOUNTED
N/A	NOT APPLICABLE
NF	NON-FUSED
NL	NIGHT LIGHT (24HR ON)
NRTL	NATIONALLY RECOGNIZED TESTING LABORATORY (CSA, ETL, NSF, UL)
NTS	NOT TO SCALE
OS	OCCUPANCY SENSOR
P	POLE
PART	PARTIAL CIRCUIT
PH/Ø	PHASE
PNL	PANEL
PNLBD	PANELBOARD
PROVIDE	FURNISH AND INSTALL
PT	POTENTIAL TRANSFORMER
QTY	QUANTITY
R/REL	RELOCATE
RCPT	RECEPTACLE
RLA	RUNNING LOAD AMPS
RTU	ROOFTOP UNIT
SCCR	SHORT-CIRCUIT CURRENT RATING
SD	SMOKE DUCT DETECTOR
SF	SQUARE FEET
SPDT	SINGLE-POLE, DOUBLE-THROW
SPST	SINGLE-POLE, SINGLE-THROW
SSBJ	SUPPLY-SIDE BONDING JUMPER
ST	SHUNT TRIP
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TBD	TO BE DETERMINED
TGB	TELECOMMUNICATIONS GROUND BUS BAR
TL	TWISTLOCK
TMGB	TELECOMMUNICATIONS MAIN GROUND BUS BAR
TX/XFMR	TRANSFORMER
TYP	TYPICAL
U/F	UNDERFLOOR
U/G	UNDERGROUND
U/S	UNDERSLAB
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
VD	VOLTAGE DROP
VFD	VARIABLE FREQUENCY DRIVE
VS	VACANCY SENSOR
W	WIRE
W/	WITH
WP	WEATHER PROOF
WR	WEATHER RESISTANT
WT	WATERTIGHT
XP	EXPLOSION PROOF

LINETYPE LEGEND

THROUGHOUT THE DRAWINGS DIFFERENT LINETYPES ARE USED IN COMBINATION WITH THE SYMBOLS TO INDICATE THE STATUS OF ITEMS AS EXISTING, TO BE DEMOLISHED, TO BE INCLUDED AS PART OF NEW WORK AND/OR ITEMS WHICH ARE ANTICIPATED TO BE PROVIDED IN THE FUTURE. THE STATUS OF ITEMS USING THESE LINETYPES ARE RELATIVE TO THE VIEW IN WHICH THEY APPEAR. PHASING SHOWN IN DRAWINGS IS NOT INTENDED TO FULLY DESCRIBE ALL NECESSARY CONSTRUCTION PHASING, WHICH IS DETERMINED BY THE CONTRACTOR AS PART OF THEIR RESPONSIBILITIES. ANY SUCH PHASES DESCRIBED IN THE CONSTRUCTION DOCUMENTS ARE GENERAL AND ONLY INTENDED TO INDICATE A BROAD ORDER FOR THE SAKE OF DESCRIBING THE PROJECT. THE FOLLOWING LINETYPES MAY BE USED ON ANY DEVICE, EQUIPMENT, NOTE, LINE, SHAPE, ETC.

EXISTING — NEW — DEMOLISH — FUTURE

ANNOTATION

- 1 — MECHANICAL OR FIRE PROTECTION PLAN NOTE CALLOUT
- 1 — PLUMBING PLAN NOTE CALLOUT
- 1 — ELECTRICAL OR FIRE ALARM PLAN NOTE CALLOUT
- 1 — TECHNOLOGY PLAN CALLOUT
- 1 — PLUMBING EQUIPMENT DESIGNATION. (CONTRACTOR FURNISHED AND INSTALLED). REFER TO PLUMBING FIXTURE OR EQUIPMENT SCHEDULES
- 1 — EQUIPMENT DESIGNATION (OWNER FURNISHED, CONTRACTOR INSTALLED)
- CU 1 — MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE)
- CONNECTION POINT OF NEW WORK TO EXISTING
- 1 / E1 — DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER
- 1 / E1 — SECTION CUT DESIGNATION

CIRCUITING & WIRING

- 7 5 3 OR P1-3,5,7 [R#] P1 — HOMERUN TO PANELBOARD. INFORMATION AT ARROWS ARE CIRCUIT NUMBERS AND PANELBOARD FOR TERMINATION. REFER TO PANELBOARD SCHEDULES FOR BRANCH CIRCUIT CONDUCTOR SIZES.
- INDICATES RELAY NUMBER
- CIRCUIT CONTINUATION OR PARTIAL CIRCUIT
- CONDUIT CONCEALED
- EM — CONDUIT CONCEALED (EMERGENCY)
- CONDUIT IN/UNDER FLOOR/GROUND CONSTRUCTION
- EXPOSED CONDUIT
- EM — EXPOSED CONDUIT (EMERGENCY)
- FLEXIBLE CONDUIT
- LOW VOLTAGE CABLE (NOT ROUTED IN CONDUIT)
- CONDUIT TURNING DOWN
- CONDUIT TURNING UP
- CONNECTION POINT OR EQUIPMENT TERMINATION
- EQUIPMENT TERMINATION

CONDUCTOR TICK MARK LEGEND

WHERE TICK MARKS ARE SHOWN, THE FOLLOWING SHALL GOVERN:

- SWITCHED HOT (PHASE) CONDUCTORS (SHOWN TRAILING NEUTRAL)
- NEUTRAL (GROUNDED) CONDUCTOR
- UNSWITCHED HOT (PHASE) CONDUCTORS (SHOWN LEADING NEUTRAL)
- NOTE: HASH MARKS INDICATE QUANTITY OF CONDUCTORS
- EQUIPMENT GROUNDING CONDUCTOR IN CONDUIT (GREEN INSULATION OR BARE)
- ISOLATED GROUNDING CONDUCTOR IN CONDUIT (GREEN INSULATION WITH YELLOW TRACER)

BRANCH CIRCUIT CONDUCTOR TABLE

WHERE TICK MARKS ARE NOT SHOWN, THE FOLLOWING SHALL GOVERN:

# OF POLES	HOT (PHASE)*	NEUTRAL (GROUNDED)**	GROUNDING***
1P	(1)	(1) UNO	(1)
2P	(2)	(1) UNO	(1)
3P	(3)	(1) UNO	(1)

* PROVIDE ADDITIONAL CONDUCTORS THROUGH ENTIRE CIRCUIT (SWITCHED, UNSWITCHED/EM, ETC.) AS INDICATED THROUGHOUT CONSTRUCTION DOCUMENTS AND AS REQUIRED FOR A COMPLETE AND WORKING SYSTEM.

** REFER TO SPECIFICATIONS FOR LIMITATIONS ON SHARING NEUTRAL (GROUNDED) CONDUCTORS. DO NOT CIRCUIT AS A MULTI-WIRE BRANCH CIRCUIT, UNO.

*** PROVIDE ADDITIONAL ISOLATED GROUNDING CONDUCTORS WHERE INDICATED.

REFER TO SPECIFICATIONS, PLANS, NOTES, WIRING AND CONTROL DIAGRAMS FOR ADDITIONAL CIRCUITING REQUIREMENTS.

SIGNALING

- B — SIGNALING BELL
- B — SIGNALING BUZZER
- T — LV TRANSFORMER

LIGHTING

- A a — LIGHT FIXTURE
  - a = LOWER CASE LETTER IS SWITCH IDENTIFIER
  - A = UPPER CASE LETTER INDICATES LIGHT FIXTURE TYPE
  - ⊥ = WALL MOUNT
  - 〉 = ARROW INDICATED AIMING DIRECTION
- LIGHT FIXTURE CIRCUITED AS A NIGHT LIGHT (NL)
- EMERGENCY LIGHT FIXTURE WITH EMERGENCY LIGHTING BATTERY PACK OR CONNECTED TO EMERGENCY SOURCE
- NIGHT LIGHT/EMERGENCY LIGHT FIXTURE WITH EMERGENCY BATTERY PACK OR CONNECTED TO EMERGENCY SOURCE
- LIGHT FIXTURE WITH DUAL BALLASTS CIRCUITED SEPARATELY (SHADING IMPLIES EMERGENCY LIGHT FIXTURE)
- [#] — LIGHTING TRACK (# INDICATES RELAY NUMBER)
- MIRROR LIGHTS
- EXTERIOR PARKING LOT LIGHT FIXTURE
- EXTERIOR PEDESTRIAN POST TOP LIGHT FIXTURE
- EXTERIOR LIT BOLLARD LIGHT
- EXIT SIGN - CEILING / WALL MOUNTED, ARROWS AS INDICATED, FACE HATCHED
- EMERGENCY LIGHTING UNIT EQUIPMENT WITH BATTERY PACK - CEILING/WALL MOUNTED
- AFEA (AREA FOR EVACUATION ASSISTANCE) SIGN - CEILING/WALL MOUNTED, ARROWS AS INDICATED

REFER TO LIGHT FIXTURE SCHEDULE FOR MORE INFORMATION

POWER EQUIPMENT & DEVICES

- ELECTRICAL PANELBOARD (SURFACE OR FLUSH MOUNT)
- ELECTRICAL CABINET (SURFACE OR FLUSH MOUNT), TYPE AS NOTED
- PLYWOOD TERMINAL BOARD FOR TELEPHONE SYSTEM, UNO. SIZE AS NOTED
- SWITCHBOARD OR MOTOR CONTROL CENTER ON HOUSEKEEPING PAD
- ELECTRICAL DISTRIBUTION PANELBOARD
- TRANSFORMER
- 200/3/150/3R — DISCONNECT SWITCH - "200/3/150/3R" DENOTES AMPERES/POLE/FUSE/NEMA ENCLOSURE RATING, NF= NON-FUSED, CB= CIRCUIT BREAKER (200/3/CB), NO VALUE (200/3/150) FOR NEMA ENCLOSURE MEANS STANDARD NEMA 1 RATING
- 30/3/15/1/3R — COMBINATION DISCONNECT (SAFETY) SWITCH AND MOTOR STARTER "30/3/15/1/3R" DENOTES AMPERES/POLE/FUSE/NEMA STARTER SIZE/NEMA ENCLOSURE RATING. NF= NON-FUSED, CB= CIRCUIT BREAKER (30/3/CB/1), NO VALUE (200/3/150/1) FOR NEMA ENCLOSURE MEANS STANDARD NEMA 1 ENCLOSURE RATING
- 2 — MAGNETIC MOTOR STARTER, NEMA SIZE AS NOTED. 3-POLE, UNO
- VFD — VARIABLE FREQUENCY DRIVE
- INDICATING LIGHT
- EMERGENCY POWER OFF BUTTON
- STOP-START PUSH BUTTON CONTROL STATION
- HAND-OFF-AUTO PUSH BUTTON CONTROL STATION
- MUSHROOM-TYPE PUSH BUTTON
- OVERHEAD PADDLE FAN

BOXES, LIGHTING CONTROL & WIRING DEVICES

- $# — SWITCH LETTER DESIGNATIONS AS FOLLOWS:
  - BLANK = SINGLE
  - 2 = TWO POLE
  - 3 = THREE-WAY
  - 4 = FOUR-WAY
  - D = DIMMER
  - F = FAN SPEED CONTROL
  - FH = FRACTIONAL HORSEPOWER MANUAL CONTROLLER
  - IH = INTEGRAL HORSEPOWER MANUAL CONTROLLER
  - K = KEYED
  - LV# = LOW VOLTAGE / DIGITAL
  - M = MANUAL MOTOR STARTER DISCONNECT
  - OS# = OCCUPANCY SENSOR
  - P = SPST PILOT LIGHT
  - WP = WEATHER PROOF
  - \# = REFER TO LIGHTING CONTROL DEVICE SCHEDULE
- ALC — AUTOMATIC LOAD CONTROL RELAY
- BTS — BRANCH CIRCUIT TRANSFER SWITCH
- CEILING / WALL MOUNTED OCCUPANCY SENSOR (# INDICATES TYPE PER SCHEDULE)
  - CORNER 90 DEGREE SENSING
  - ONE-DIRECTION SENSING, CEILING/WALL MOUNT
  - CEILING MOUNT, TWO DIRECTION SENSING
  - CEILING MOUNT, FOUR DIRECTION SENSING
- C# — CONTACTOR (SIZE, COIL VOLTAGE AND NUMBER OF POLES AS INDICATED)
- CL## — TRACK-MOUNTED CURRENT LIMITER (## INDICATES AMPERAGE)
- D# — DAYLIGHT SENSOR (# INDICATES TYPE PER SCHEDULE)
- LC — LIGHTING CONTROLS PROCESSOR AND/OR EQUIPMENT
- P# — POWER PACK (# INDICATES TYPE PER SCHEDULE)
- PS# — PHOTOELECTRIC SWITCH
- R## — ROOM CONTROLLER (# INDICATES TYPE PER SCHEDULE)
- TS# — TIME SWITCH
- SIMPLEX RECEPTACLE - NEMA 5-20R, UNO
- DUPLEX RECEPTACLE - NEMA 5-20R, UNO
- DOUBLE DUPLEX RECEPTACLE - NEMA 5-20R, UNO
- SPECIAL RECEPTACLE - NEMA TYPE AS NOTED
- TWIST-LOCK TYPE RECEPTACLE
- G — BLANK FACE GFCI FEED THROUGH DEVICE
- OR GFCI — GFCI TYPE RECEPTACLE*
- OR IG — ISOLATED GROUND TYPE RECEPTACLE*
- OR EM — EMERGENCY RECEPTACLE*
- RECEPTACLE INSTALLED ABOVE COUNTER OR BACKSPLASH*
- RECEPTACLE INSTALLED IN CEILING*
- RECEPTACLE INSTALLED IN FLOOR*
- RECEPTACLE INSTALLED VIA DROP CORD*
- \# — RECEPTACLE LETTER DESIGNATIONS AS FOLLOWS:
  - C = AUTOMATICALLY CONTROLLED
  - CH = CLOCK HANGER TYPE
  - G=RCPT PROTECTED BY GFCI CIRCUIT BREAKER OR UPSTREAM GFCI DEVICE
  - H = HORIZONTALLY MOUNTED
  - S = MANUALLY CONTROLLED
  - SP / TVSS = SURGE PROTECTION
  - TR = TAMPER RESISTANT
  - TV = TELEVISION
  - USB = USB/DUPLEX
  - WP = WEATHER PROOF COVER
  - WR = WEATHER RESISTANT
- MULTI-OUTLET ASSEMBLY
- TELEPHONE OUTLET
- DATA OUTLET
- MULTI-SERVICE OUTLET; TELEPHONE AND DATA
  - ABOVE COUNTER, TYP
  - WALL, TYP
  - FLOOR, TYP
- A — MULTI-SERVICE POWER POLE WITH TELEPHONE, DATA AND POWER OUTLETS A = TYPE, REFER TO PLANS, SCHEDULES AND SPECIFICATIONS
- A — MULTI-SERVICE FLOOR BOX WITH TELEPHONE, DATA AND POWER OUTLETS A = TYPE, REFER TO PLANS, SCHEDULES AND SPECIFICATIONS
- A — POKE THROUGH, A = TYPE, REFER TO PLANS, SCHEDULES AND SPECIFICATIONS
- T — THERMOSTAT
- J — CEILING/FLOOR MOUNT JUNCTION/OUTLET BOX
- J — WALL MOUNT JUNCTION/OUTLET BOX

* SYMBOL DEMONSTRATED WITH DUPLEX RECEPTACLE, WHEN USED IN COMBINATION WITH OTHER DEVICES MEANING IS SIMILAR FOR THOSE DEVICE TYPES.

REFER TO LIGHTING CONTROL DEVICE SCHEDULE FOR MORE INFORMATION.

ELECTRICAL ONE-LINE & RISER DIAGRAM

- ###A 3P — SWITCH (RATING AS INDICATED)
- ###A 3P — DRAWOUT CIRCUIT BREAKER (RATINGS AS INDICATED)
- ###AS 3P ###AF FRS — FUSED SWITCH (RATING, POLES AND FUSE TYPE AS INDICATED)
- ###AS 3P ###AF FRS NEMA # — COMBINATION FUSED SWITCH/STARTER AND STARTER SIZE
- ###AS 3P FRS NEMA # — CIRCUIT BREAKER (RATINGS AS INDICATED)
- ###A 3P NEMA # — COMBINATION CIRCUIT BREAKER/STARTER AND STARTER SIZE
- PANELBOARD, SINGLE OR MULTI-SECTION (REFER TO SCHEDULES)
- ISOLATED POWER PANELBOARD W/ INTEGRAL TRANSFORMER (REFER TO SCHEDULES)
- TX## — TRANSFORMER (TYPE AND RATINGS AS INDICATED)
- TX## — SHIELDED TRANSFORMER (TYPE AND RATINGS AS INDICATED)
- ATS# ###A ATS# (W/BYPASS) — AUTOMATIC TRANSFER SWITCH (RATINGS AS INDICATED)
- ATS# (W/BYPASS) ###A — AUTOMATIC TRANSFER SWITCH WITH BYPASS (RATINGS AS INDICATED)
- ##KW GENERATOR 480Y/277V, 3Ø, 4W ###A, 3P M/G — GENERATOR (RATINGS AS INDICATED)
  - NON-SEPARATELY DERIVED SOURCE OR SEPARATELY DERIVED SOURCE
- MDP SWITCHBOARD ELEC ROOM ### AMPS 480Y/277V 3Ø 4W — SWITCHGEAR, SWITCHBOARD AND/OR DISTRIBUTION PANELBOARD (TYPE, RATING, DEVICES AND ACCESSORIES AS INDICATED)
- DIGITAL VM AM — COMBINATION DIGITAL VOLT METER/AMMETER
- ### — CIRCUIT IDENTIFICATION (REFER TO CIRCUIT SCHEDULE)
- GFR — GROUND FAULT RELAY
- PFR — PHASE FAILURE RELAY
- KK# — KIRK-KEY INTERLOCK (# INDICATES KEY PAIR)
- ST — SHUNT TRIP
- AM — AMMETER (RANGE AS SPECIFIED OR REQUIRED)
- VM — VOLTMETER (RANGE AS SPECIFIED OR REQUIRED)
- UTILITY METER M — UTILITY METER (AS REQUIRED BY UTILITY)
- AS — AMMETER SWITCH
- VS — VOLTMETER SWITCH
- WH D 15 — WATT-HOUR METER, "D" DENOTES DEMAND REGISTER, "15" DENOTES MINUTES OF DEMAND INTERVAL
- CURRENT TRANSFORMER RATING AS SPECIFIED OR REQUIRED
- POTENTIAL TRANSFORMER RATING AS SPECIFIED OR REQUIRED
- SPD — SURGE-PROTECTIVE DEVICE
- GROUND CONNECTION
- GROUND CONNECTION WITH TEST WELL
- GROUND ROD
- LIGHTNING ARRESTER
- CAPACITOR
- CONTACT (OPEN OR CLOSED)
- HEATER
- HP — MOTOR
- ## — BLOCK LOAD KW OR KVA
- ×F# ×FP# — FAULT POINT REFERENCED IN SHORT CIRCUIT CURRENT AND VOLTAGE DROP SPREADSHEET

GENERAL ELECTRICAL LIGHTING NOTES:

1. ALL CEILING MOUNTED DEVICES INSTALLED IN ACOUSTICAL TILE, SHALL BE CENTERED WITHIN THE ACOUSTICAL TILE.
2. FOR ROOMS WITH MULTIPLE SWITCHING OPTIONS, OCCUPANCY SENSOR(S) SHALL CONTROL ALL LIGHT FIXTURES WITHIN ROOM.
3. PROVIDE ALL MULTIPLE ADJACENT WALL MOUNTED SWITCHES WITH A SINGLE COVERPLATE. TYPICAL FOR ALL SPACES UNLESS NOTED OTHERWISE.
4. REFER TO LIGHTING CONTROLS AND DETAILS, SHEET E-700, FOR LIGHTING CONTROLS INFORMATION.
5. PROVIDE ALL MOUNTING AND SUPPORT HARDWARE FOR LIGHT FIXTURES TO MEET SPECIFIED MOUNTING HEIGHTS.
6. COORDINATE ALL SUSPENDED LIGHT FIXTURE HEIGHTS WITH ARCHITECT PRIOR TO PERFORMING WORK.
7. VERIFY ROUGH-IN REQUIREMENTS, LOCATIONS, MOUNTING HEIGHTS, VOLTAGE, PHASE, AMPS, ETC FOR ALL LIGHTING EQUIPMENT BEFORE PROVIDING ROUGH-IN.
8. COORDINATE SETTINGS AND ADJUST SENSORS WHEREVER NECESSARY FOR PROPER LIGHTING CONTROL, IN ALL SPACES. ALL CEILING MOUNTED OCCUPANCY SENSORS SHALL NOT BE INSTALLED WITHIN 4' OF ANY CEILING MOUNTED PROJECTOR OR DIFFUSER.
9. ALL LIGHTING CONTROL, INCLUDING OCCUPANCY SENSORS AND RELAY CONTROL PANEL SETTINGS, SHALL BE COORDINATED WITH OWNER PRIOR TO COMPLETION OF WORK. CONTROLS SHALL BE TESTED AND FULLY COMMISSIONED. COORDINATE ALL LIGHTING CONTROL LOCATIONS WITH OWNER PRIOR TO ROUGH-IN.

APPLICABLE ELECTRICAL CODES:

NOTE: PROJECT IS DESIGNED IN COMPLIANCE WITH THE FOLLOWING CODES. THIS IS NOT AN EXHAUSTIVE LIST. PROJECT SHALL COMPLY WITH ALL APPLICABLE CODES, STANDARDS AND LOCAL REQUIREMENTS. REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

ELECTRICAL CODE: **2017 NATIONAL ELECTRICAL CODE, (NFPA 70)**
BUILDING CODE: **2018 INTERNATIONAL BUILDING CODE**

GENERAL ELECTRICAL NOTES:

1. READ THE SPECIFICATIONS AND REVIEW DRAWINGS OF ALL DIVISIONS OF WORK. COORDINATE THIS WORK WITH ALL OTHER DIVISIONS OF WORK AND ALL SUBCONTRACTORS. PROVIDE ALL SUBCONTRACTORS WITH A COMPLETE SET OF BID DOCUMENTS.
2. DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF WORK. REVIEW THE GENERAL NOTES, SPECIFICATIONS, AND PLANS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY NOTED IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY THE ARCHITECT OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
3. THE DRAWINGS REPRESENT THE BEST INFORMATION AVAILABLE TO THE ENGINEER. ALL DIMENSIONS AND SIZES SHALL BE FIELD VERIFIED. DO NOT SCALE FROM THE DRAWINGS. SMALL DEVIATIONS SHALL BE RECONCILED DURING THE PERFORMANCE OF THE WORK.
4. FURNISH A COPY OF INSPECTION REPORTS AND APPROVAL CERTIFICATES FROM LOCAL AND STATE INSPECTIONS TO THE ARCHITECT.
5. DRAWINGS AND SPECIFICATIONS GOVERN, WHERE THEY EXCEED CODE REQUIREMENTS.
6. COORDINATE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
7. PROVIDE A CONSTRUCTION RECORD SET OF "AS-BUILT" DOCUMENTS TO THE ARCHITECT REFLECTING ANY VARIANCES OF INSTALLED PIPING, EQUIPMENT DEVICES, ETC LOCATIONS CONTRARY TO THE CONSTRUCTION DOCUMENTS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
8. INSTALLATION SHALL COMPLY WITH LEGALLY CONSTITUTED CODES AND THE REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION.
9. ALL EXPOSED CONDUIT AND BOXES WITHIN EXPOSED CEILING SPACES SHALL BE PAINTED TO MATCH SURROUNDING CEILING AND STRUCTURE. PROVIDE CONDUIT PARALLEL TO STRUCTURAL LINES IN A NEAT MANNER.
10. ALL CEILING MOUNTED DEVICES INSTALLED IN ACOUSTICAL TILE CEILING SHALL BE CENTERED WITHIN ACOUSTICAL TILE.
11. ALL DEVICES SHOWN DIRECTLY ADJACENT TO EACH OTHER SHALL BE INSTALLED DIRECTLY ADJACENT TO EACH OTHER. ADJACENT DEVICES OF SIMILAR TYPE SHALL BE PROVIDED WITH SINGLE FACEPLATE WHERE FEASIBLE.
12. DEVICES SHOWN BACK-TO-BACK SHALL BE OFFSET A MINIMUM OF 12" TO REDUCE SOUND TRANSMISSION BETWEEN ROOMS.
13. ALL JUNCTION BOXES SHALL BE RIGIDLY ATTACHED TO STRUCTURE OR MILLWORK.
14. REFER TO ARCHITECTURAL PLANS AND DETAILS FOR EXACT LOCATIONS, ALIGNMENT, AND MOUNTING OF ALL CEILING, WALL, AND FLOOR MOUNTED DEVICES.
15. CONDUIT AND BOX ROUGH-IN FOR ADJACENT FIRE ALARM, TEMPERATURE CONTROLS, RECEPTACLES, LIGHTING CONTROL DEVICES, ETC, ON THE SAME WALL, SHALL BE PROVIDED IN A MANNER TO WHICH DEVICES ALIGN VERTICALLY ON SAME WALL. COORDINATE WITH OTHER TRADES.
16. PROVIDE RECESSED CONDUIT AND OUTLET BOXES FOR ALL HVAC CONTROL LOCATIONS. PROVIDE CONDUIT FOR ALL CONTROLS WIRING LOCATED IN SPACES WITH EXPOSED CEILINGS. REFER TO MECHANICAL DOCUMENTS AND SCHEDULES FOR ALL DEVICE LOCATIONS. COORDINATE WORK WITH MECHANICAL CONTRACTOR.
17. REFER TO SPECIFICATIONS AND DETAILS FOR APPROVED CABLE AND RACEWAY INSTALLATION. NON-COMPLIANT INSTALLATIONS OF CABLE AND RACEWAY WILL NOT BE ACCEPTED AND WILL BE REQUIRED TO BE BROUGHT TO COMPLIANCE AT NO COST TO THE OWNER, PRIOR TO COMPLETION OF WORK.
18. ALL NEW AND EXISTING ELECTRICAL EQUIPMENT ALTERED UNDER THIS PROJECT SHALL BE VACUUM CLEANED OF ANY DEBRIS. ALL OPENINGS REMAINING SHALL BE SEALED WITH THE PROPER DEVICE (IE. KNOCKOUT BLANKS, BREAKER BLANKS, ETC) LISTED AND APPROVED FOR USE.
19. NO WORK SHALL BE PERFORMED PRIOR TO REVIEW AND APPROVAL OF ALL REQUIRED SHOP DRAWINGS, PRODUCT MATERIALS, AND EQUIPMENT SUBMITTALS. ANY WORK INSTALLATED PRIOR TO MEETING THESE REQUIREMENTS SHALL BE DONE SO AT THE SOLE RISK OF THIS CONTRACTOR.
20. EXISTING CONDITIONS WERE TAKEN FROM ORIGINAL DRAWINGS AND SITE VISITS AND MAY NOT REFLECT ACTUAL "AS-BUILT" CONDITIONS. VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING FINAL BID. COORDINATE NEW AND DEMOLITION WORK WITH ALL OTHER TRADES AND EXISTING CONDITIONS.
21. NOTIFY ARCHITECT, ENGINEER AND OWNER, AS APPLICABLE, IF ANY DANGEROUS CONDITIONS EXIST ON JOB SITE BEFORE ANY DEMOLITION OR REMODEL WORK BEGINS.
22. COORDINATE ANY NECESSARY POWER OUTAGES WITH THE OWNER AND MAKE EVERY ATTEMPT TO SCHEDULE DURING NON-SCHOOL OR OFF-PEAK SCHOOL HOURS TO MINIMIZE DISRUPTION TO SCHOOL OPERATIONS. REQUESTS FOR ELECTRICAL SHUTDOWNS OF THE OWNER'S EQUIPMENT SHALL BE BROUGHT IN WRITING TO THE ATTENTION OF THE OWNER AT LEAST 7 DAYS IN ADVANCE. SHUTDOWNS SHALL NOT BE PERFORMED WITHOUT WRITTEN APPROVAL FROM THE OWNER.
23. ALL ROOF PENETRATIONS, FLOOR CHASING OR CORE DRILLING SHALL REQUIRE THE SPECIFIC APPROVAL OF THE OWNER. ALL WORK IN COMMON AREAS, SHAFTS OR OTHER OWNER SPACES MUST BE SPECIFICALLY REVIEWED AND APPROVED BY THE LANDLORD PRIOR TO ANY WORK BEING PERFORMED. MINIMIZE DISTURBANCE TO OTHER BUILDING TENANTS.
24. FOR AREAS AND EQUIPMENT WITHIN THE SCOPE OF THIS REMODEL: EXISTING ELECTRICAL EQUIPMENT AND CIRCUITRY MAY BE REUSED IF IN GOOD CONDITION AND NEW DESIGN REQUIREMENTS CAN BE MET; OTHERWISE REPLACE.
25. FOR AREAS AND EQUIPMENT WITHIN THE SCOPE OF THIS REMODEL: REPAIR OR REPLACE ANY EXISTING DAMAGED OR RECALLED ELECTRICAL EQUIPMENT, LIGHT FIXTURES, WIRING DEVICES AND RELATED CIRCUITRY AND RESTORE ALL ELECTRICAL SYSTEMS TO PROPER WORKING ORDER. THE FINAL ELECTRICAL INSTALLATION SHALL BE FREE FROM ELECTRICAL DEFECTS TO THE SATISFACTION OF THE AHJ, OWNER, ARCHITECT AND ENGINEER.

GENERAL ELECTRICAL DEMOLITION NOTES:

1. REFERENCE ARCHITECTURAL DRAWINGS FOR FULL EXTENT OF DEMOLITION WORK AND PHASING. NOTIFY ARCHITECT, ENGINEER AND OWNER, AS APPLICABLE, OF ANY CONFLICTS OR DISCREPANCIES BETWEEN DRAWINGS AND JOB SITE CONDITIONS PRIOR TO SUBMITTING BID.
2. THE ELECTRICAL DRAWINGS INDICATE EXISTING ELECTRICAL ITEMS TO BE REMOVED. THE DRAWINGS ARE INTENDED TO INDICATE THE SCOPE OF WORK REQUIRED AND DO NOT INDICATE EVERY BOX, CONDUIT, OR WIRE THAT MUST BE REMOVED. CONTRACTOR SHALL INSPECT THE SITE PRIOR TO THE SUBMISSION OF A BID. CONTRACTOR SHALL INFORM THEMSELVES OF THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED CONCERNING THE SITE OF THE WORK, THE OBSTACLES WHICH MAY BE ENCOUNTERED, THE DEMOLITION, AND TEMPORARY REMOVAL AND REINSTALLATION REQUIRED TO PROVIDE ACCESS TO THE WORK, AND ALL OTHER RELEVANT MATTERS CONCERNING THE WORK TO BE PERFORMED.
3. COORDINATE DISCONNECTION OF POWER TO EQUIPMENT BEING DEMOLISHED/REMOVED/RELOCATED WITH OTHER TRADES PRIOR TO START OF WORK. ALL ELECTRICAL EQUIPMENT, LIGHT FIXTURES, RACEWAYS, WIRING DEVICES AND RELATED CIRCUITRY NOT BEING REUSED SHALL BE REMOVED IN ALL ACCESSIBLE AREAS AND IN FLOORS/WALLS/CEILINGS THAT ARE TO BE REMOVED, UNLESS NOTED OTHERWISE. AS ALLOWED BY OWNER, UNUSED ELECTRICAL EQUIPMENT, RACEWAYS AND RELATED CIRCUITRY THAT ARE INACCESSIBLE MAY BE ABANDONED IN PLACE AND SHALL BE PERMANENTLY DISCONNECTED FROM ALL POWER SOURCES, INSULATED FROM CONTACT WITH OTHER LIVE ELECTRICAL WIRING/DEVICES, AND IDENTIFIED AT THE TERMINATIONS AS NO LONGER BEING IN SERVICE.
4. AVOID DAMAGING FACILITIES, INCLUDING EQUIPMENT, LIGHT FIXTURES AND DEVICES THAT ARE EXISTING TO REMAIN, NEW OR REUSED. REPAIR ALL DAMAGE CAUSED DURING WORK AT NO EXTRA COST TO THE OWNER.
5. CONTRACTOR SHALL REPAIR ALL DAMAGE TO EXISTING BUILDING, FIXTURES, AND FINISHES CAUSED BY CONTRACTOR DURING THE PERFORMANCE OF THE WORK. REPAIRS SHALL BE PERFORMED BY A QUALIFIED TRADESMEN AND SHALL BE COMPLETED IN A MANNER ACCEPTABLE TO THE OWNER.
6. DISPOSE OF ALL ELECTRICAL EQUIPMENT, LIGHT FIXTURES, AND DEVICES SHOWN TO BE REMOVED, UNLESS NOTED OTHERWISE. COORDINATE WITH THE OWNER THE ITEMS TO BE SALVAGED, AND THE LOCATION FOR STORAGE. AVOID DAMAGING SALVAGED ITEMS DURING DEMOLITION WORK AND DURING TRANSPORT TO OWNER'S DESIGNATED STORAGE LOCATION.
7. REMOVAL OR RELOCATION OF ANY CONDUITS 1" OR SMALLER OR CABLES, WIRES, ETC. NOT INSTALLED IN CONDUIT, REQUIRED TO ALLOW INSTALLATION OF NEW WORK SHALL BE CONSIDERED WORK REQUIRED BY THIS CONTRACTOR WHETHER OR NOT SUCH WORK IS SHOWN ON THE DRAWINGS.
8. REMOVAL OF CONDUITS SHALL INCLUDE REMOVAL OF HANGERS, SUPPORTS, AND ASSOCIATED MISCELLANEOUS MATERIALS.
9. ALL PIPING, TUBING, CONDUITS, ETC. MADE OBSOLETE, BY WORK UNDER THIS CONTRACT, EXPOSED OR IN CONFLICT WITH NEW WORK, ARE TO BE REMOVED. REPAIR ALL HOLES IN WALLS, FLOORS, AND CEILING TO MATCH EXISTING CONDITIONS AND MAINTAIN FIRE/SMOKE RATINGS.
10. IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO PERFORM ALL SELECTIVE DEMOLITION NECESSARY TO PERFORM THE WORK SHOWN ON THE DRAWINGS EXCEPT WHERE SAID DEMOLITION IS SHOWN ON THE ARCHITECTURAL DRAWINGS TO BE PERFORMED BY THE GENERAL CONTRACTOR.
11. SHOULD ACTUAL CONDITIONS DEVIATE SUBSTANTIALLY FROM THOSE INDICATED ON THE DRAWING, CONTRACTOR SHALL NOTIFY ENGINEER AND REQUEST INSTRUCTIONS.
12. LOW VOLTAGE CABLES/WIRING NOT BEING REUSED SHALL BE REMOVED UNLESS IDENTIFIED FOR FUTURE USE. COORDINATE REQUIREMENTS WITH OWNER. CARE SHOULD BE TAKEN DURING THE REMOVAL PROCESS TO PROTECT THE EXISTING REUSED CABLES/WIRING FROM DAMAGE.

GENERAL ELECTRICAL POWER NOTES:

1. ALL CIRCUITY SHALL BE #12 AWG IN 1/2" CONDUIT, MINIMUM, UNLESS OTHERWISE NOTED.
2. PROVIDE A SEPARATE CODE SIZED GREEN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS AND RACEWAYS CONTAINING LINE VOLTAGE CIRCUITS. FOR ALL 20A CIRCUITS, EQUIPMENT GROUNDING CONDUCTOR SHALL MATCH PHASE CONDUCTOR SIZE. FOR CIRCUITS UPSIZED DUE TO VOLTAGE DROP, INCREASE EQUIPMENT GROUNDING CONDUCTOR SIZE PER NEC 2017 250.122.B.
3. GROUND AND NEUTRAL CONDUCTORS SHALL NOT BE SHARED UNLESS SPECIFICALLY NOTED ON PLANS.
4. PER NEC 2017 406.12, PROVIDE TAMPER-RESISTANT RECEPTACLES FOR ALL 120V, 15- AND 20-AMP, NON-LOCKING TYPE RECEPTACLES, WHEN INSTALLED BELOW 5'-6".

MISSOURI INNOVATION CAMPUS

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RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
01/21/2021

HENDERSON ENGINEERS
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TEL 913.742.5000 **FAX** 913.742.5001
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2050003106
MO. CORPORATE NO: E-556D
EXPIRES 12/31/2020

STATE OF MISSOURI — DOUGLAS M. EVERHART — NUMBER PE-2019007648 — PROFESSIONAL ENGINEER

Oct 6 2020

DOUGLAS M. EVERHART
LICENSE # PE-2019007648

REVISIONS

Number	DESCRIPTION	DATE

PROJECT NO: 0220-2100
DATE: OCTOBER 5, 2020

ELECTRICAL GENERAL NOTES AND LEGEND

E-000

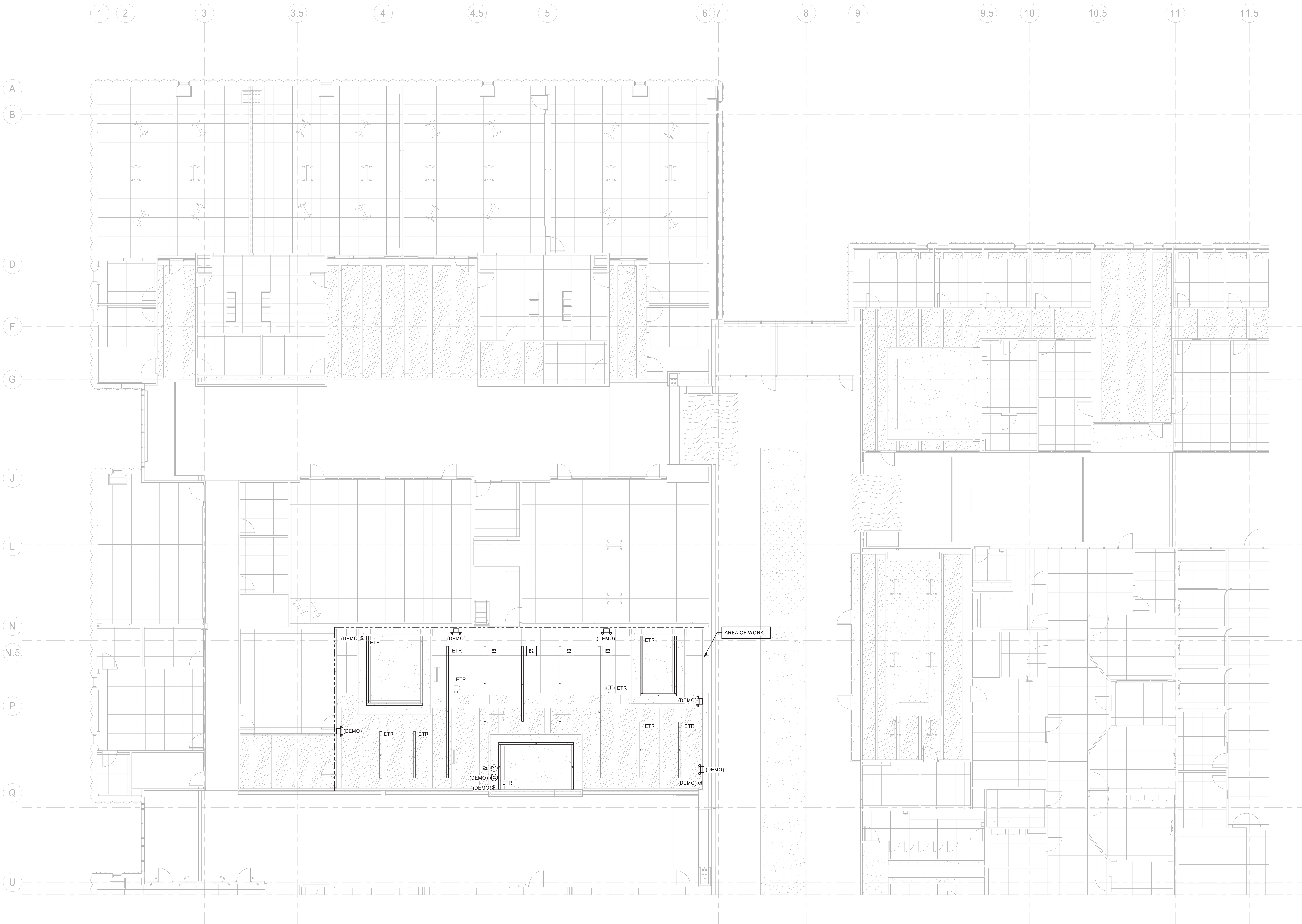
MIC SECOND FLOOR RENOVATION

DOUGLAS M. EVERHART

PRINT DATE/TIME: 10/6/2020 12:12:26 PM

ELECTRICAL PLAN NOTES:

E2 EXISTING LIGHT FIXTURE/LIGHTING CONTROL DEVICE. REFER TO E-102.D FOR NEW LOCATION.



1 LIGHTING Level 2 DEMO RCP - AREA D
1/8" = 1'-0"

PRINT DATE/TIME: 10/6/2020 12:12:51 PM

DOUGLAS M. EVERHART

MISSOURI INNOVATION CAMPUS

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2050003106
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STATE OF MISSOURI
DOUGLAS M. EVERHART
NUMBER PE-2019007648
PROFESSIONAL ENGINEER

Oct 6 2020
DOUGLAS M. EVERHART
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REVISIONS

Number	DESCRIPTION	DATE

PROJECT NO: 0220-2100
DATE: OCTOBER 5, 2020

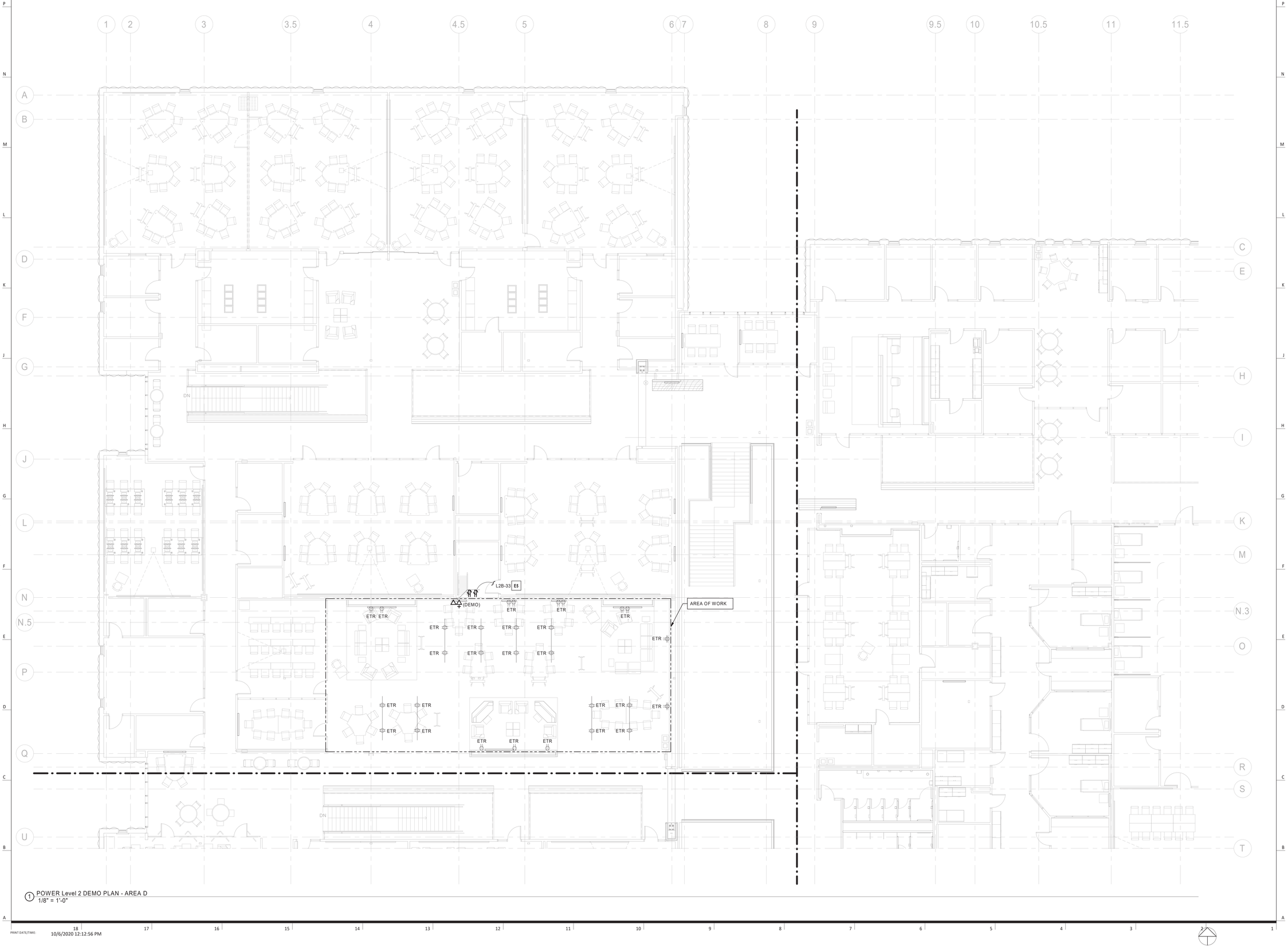
LIGHTING Level 2
DEMO RCP - AREA D

ED-102.D

MIC SECOND FLOOR RENOVATION

ELECTRICAL PLAN NOTES:

E5 PRESERVE EXISTING HOMERUN DURING CONSTRUCTION. EXTEND CIRCUIT TO NEW RECEPTACLES AS SHOWN ON SHEET E-202.D.



1 POWER Level 2 DEMO PLAN - AREA D
1/8" = 1'-0"

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01/21/2021

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EXPIRES 12/31/2020

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NUMBER PE-2019007648
PROFESSIONAL ENGINEER

Oct 6 2020
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LICENSE # PE-2019007648

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POWER Level 2 DEMO PLAN - AREA D

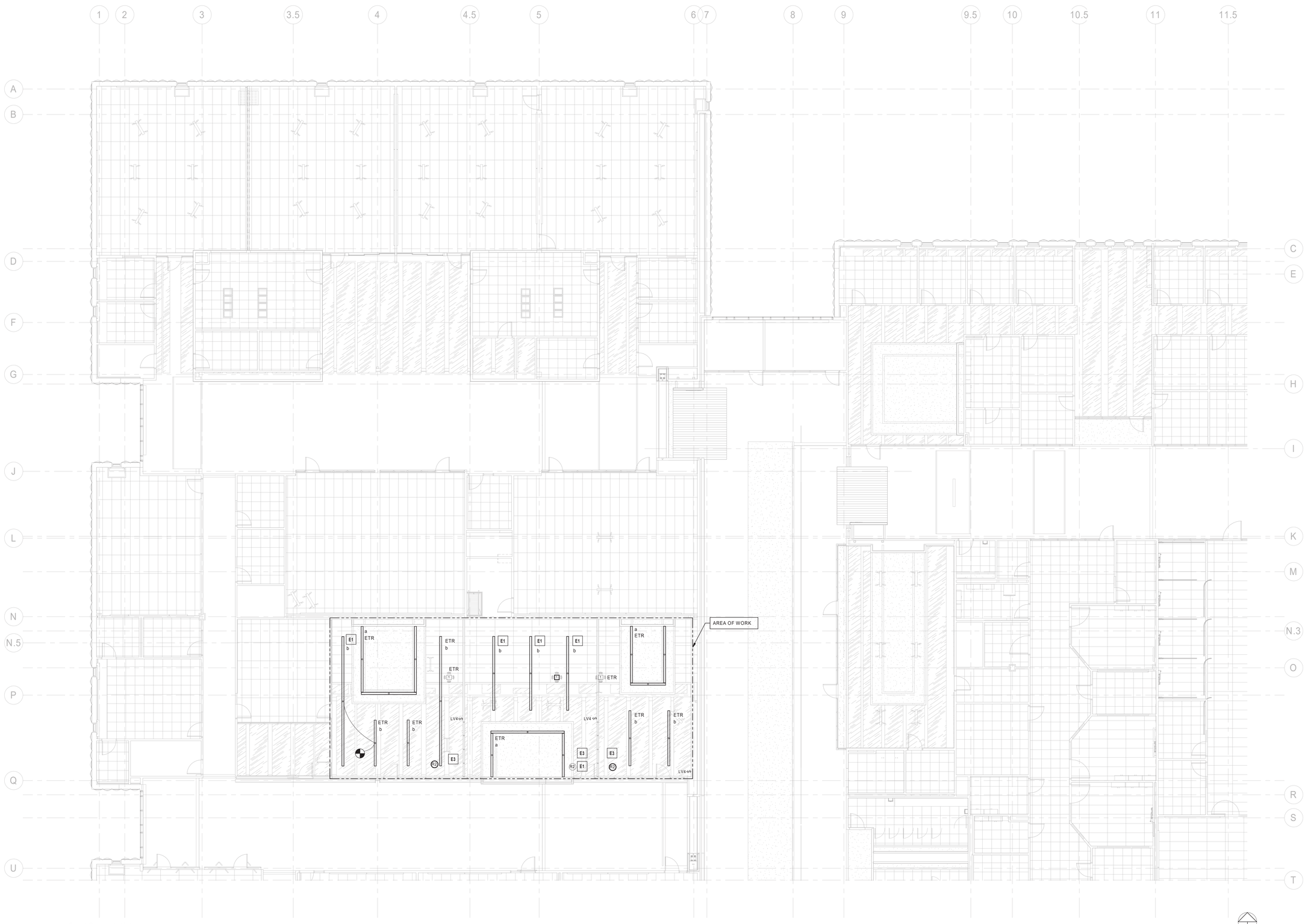
ED-202.D

MIC SECOND FLOOR RENOVATION

ELECTRICAL PLAN NOTES:

E1 NEW LOCATION FOR EXISTING LIGHT FIXTURE/LIGHTING CONTROL DEVICE. REFER TO ED-102.D FOR MORE INFORMATION.

E3 REUSE BRANCH CIRCUITING IN THE SPACE AND REZONE LIGHTING CONTROLS AS INDICATED.



1 LIGHTING Level 2 RCP - AREA D
1/8" = 1'-0"

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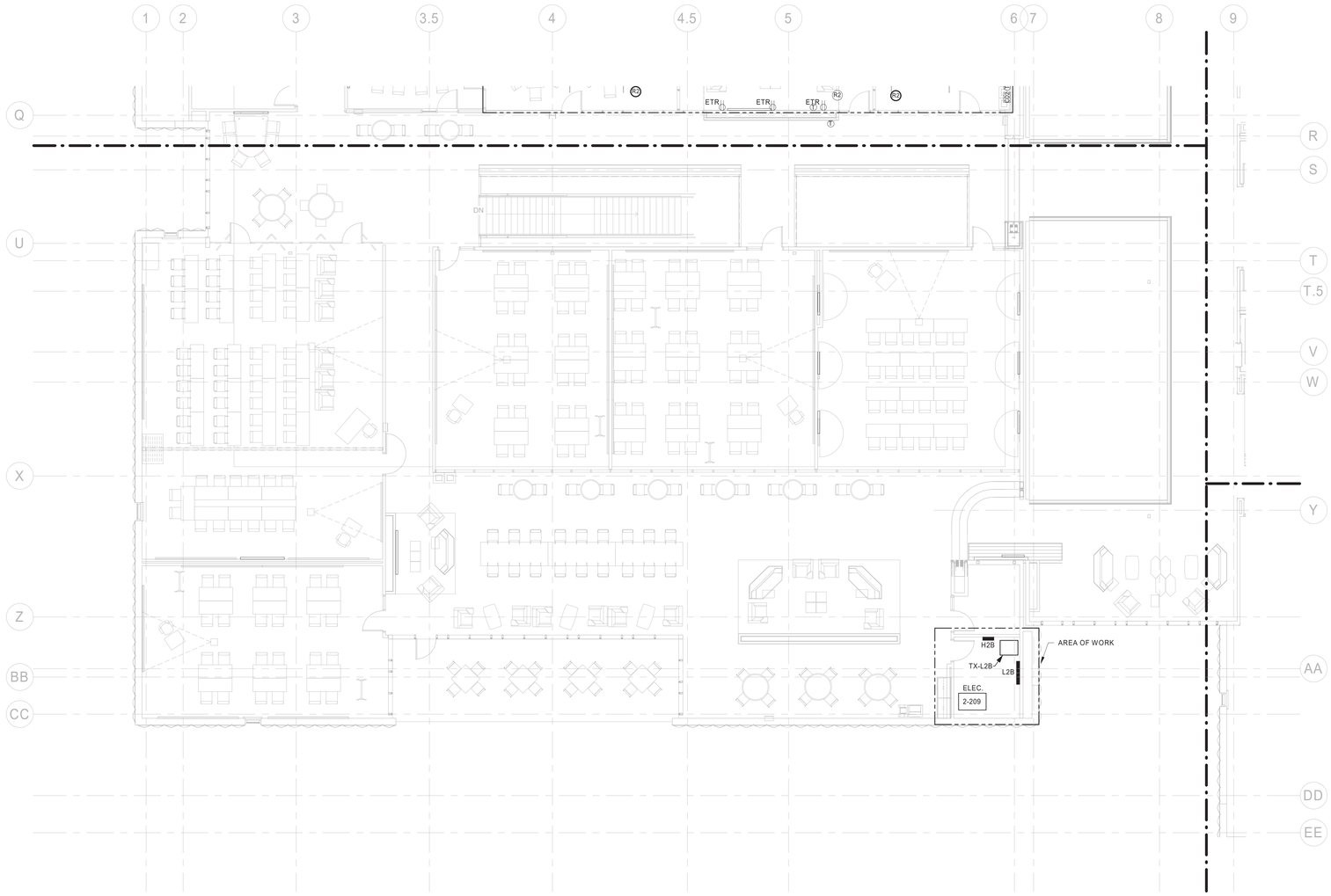
LIGHTING Level 2 RCP - AREA D

E-102.D

MIC SECOND FLOOR RENOVATION



1 POWER Level 2 PLAN - AREA B
1/8" = 1'-0"

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POWER Level 2 PLAN - AREA B

E-202.B

MIC SECOND FLOOR RENOVATION

DOUGLAS M. EVERHART

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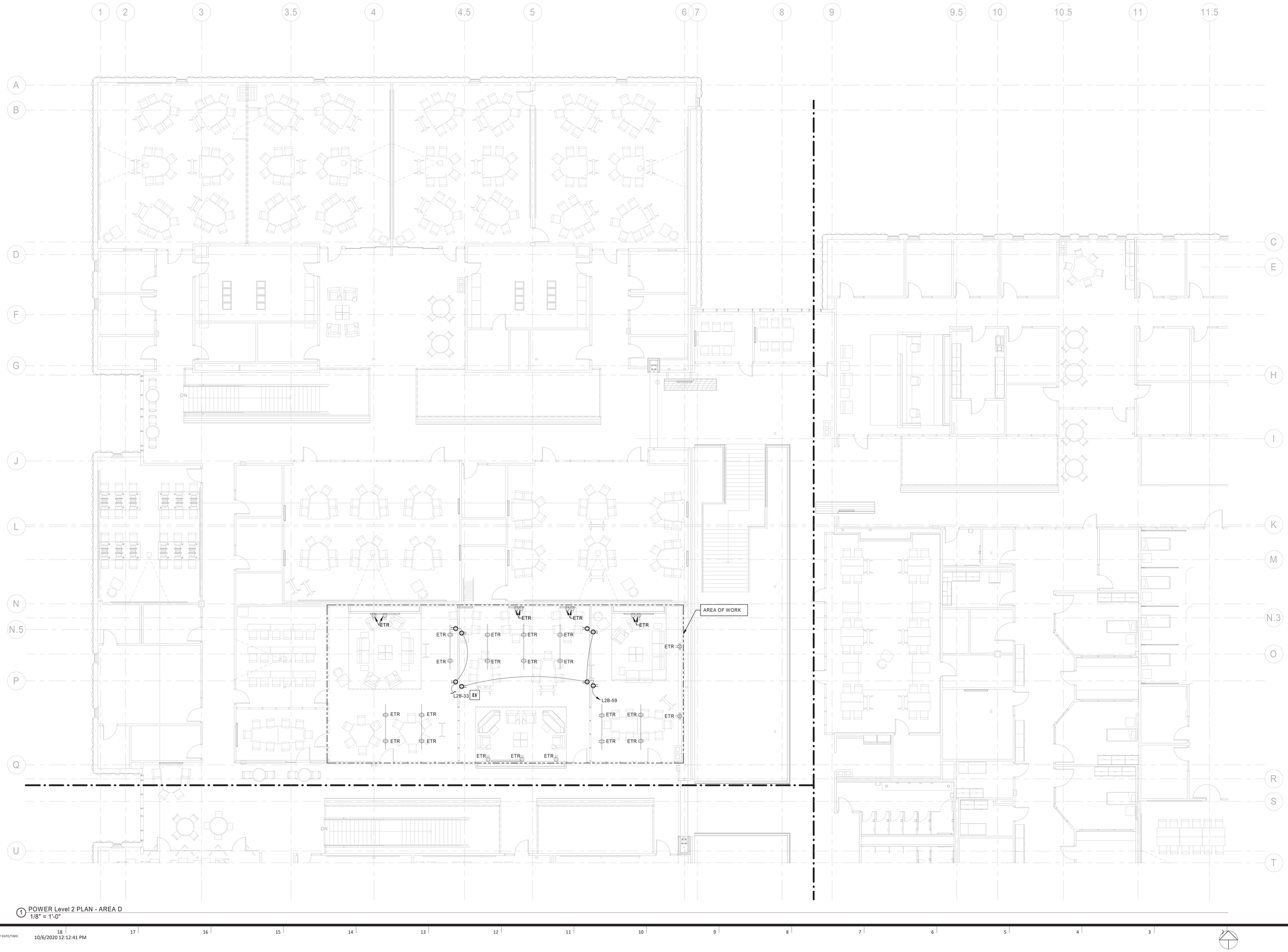
ELECTRICAL PLAN NOTES:

E6 EXTEND EXISTING CIRCUIT TO NEW RECEPTACLES. REFER TO DEMO SHEET ED-202.D FOR MORE INFORMATION.



1 POWER Level 2 PLAN - AREA D
1/8" = 1'-0"

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POWER Level 2 PLAN - AREA D

E-202.D

MIC SECOND FLOOR RENOVATION

PANELBOARD: L2B (EXISTING)

BUS AMPS: 250A
MAIN SIZE/TYPE: MLO
VOLTS/PHASE: 208Y/120V, 3PH, 4W
SECTION: 1

FED FROM: TX-L2B
AIC RATING: REF. 1-LINE DIAGRAM FULLY RATED
SERVES:
MOUNTING: SURFACE
LOCATION: ELECTRICAL ROOM, ROOM #:B209

LINE-SIDE LUGS: MECHANICAL
EQUIPMENT GROUND BUS

	CKT NO.	DESCRIPTION	VOLTAMPS/PHASE A	VOLTAMPS/PHASE B	VOLTAMPS/PHASE C	WIRE NO.	BKR AMP	P	P	BKR AMP	WIRE NO.	VOLTAMPS/PHASE A	VOLTAMPS/PHASE B	VOLTAMPS/PHASE C	DESCRIPTION	CKT NO.
	1	EXISTING LOAD TO REMAIN	560			12	15	1	1	20	12	1,080			EXISTING LOAD TO REMAIN	2
	3	EXISTING LOAD TO REMAIN		90		12	20	1	1	20	12		1,620		EXISTING LOAD TO REMAIN	4
	5	EXISTING LOAD TO REMAIN			90	12	20	1	1	20	12			360	EXISTING LOAD TO REMAIN	6
	7	EXISTING LOAD TO REMAIN	900			12	20	1	1	20	12	720			EXISTING LOAD TO REMAIN	8
	9	EXISTING LOAD TO REMAIN		800		12	20	1	1	20	12		1,080		EXISTING LOAD TO REMAIN	10
	11	EXISTING LOAD TO REMAIN			200	10	20	1	1	20	12			1,440	EXISTING LOAD TO REMAIN	12
	13	EXISTING LOAD TO REMAIN	1,200			12	20	1	1	20	12	1,440			EXISTING LOAD TO REMAIN	14
	15	EXISTING LOAD TO REMAIN		1,200		10	20	1	1	20	12		1,080		EXISTING LOAD TO REMAIN	16
	17	EXISTING LOAD TO REMAIN			500	10	20	1	1	20	10			1,080	EXISTING LOAD TO REMAIN	18
	19	EXISTING LOAD TO REMAIN	500			10	20	1	1	20	10	1,080			EXISTING LOAD TO REMAIN	20
	21	EXISTING LOAD TO REMAIN		500		10	20	1	1	20	10		900		EXISTING LOAD TO REMAIN	22
	23	EXISTING LOAD TO REMAIN			500	10	20	1	1	20	10			900	EXISTING LOAD TO REMAIN	24
	25	EXISTING LOAD TO REMAIN	500			12	20	1	1	20	10	900			EXISTING LOAD TO REMAIN	26
	27	EXISTING LOAD TO REMAIN		500		12	20	1	1	20	10		1,080		EXISTING LOAD TO REMAIN	28
	29	EXISTING LOAD TO REMAIN			1,080	12	20	1	1	20	10			1,080	EXISTING LOAD TO REMAIN	30
	31	EXISTING LOAD TO REMAIN	1,080			12	20	1	1	20	12	1,080			EXISTING LOAD TO REMAIN	32
R	33	MONITORS - 2-250 & 2-251		1,080		10	20	1	1	20	12		1,080		EXISTING LOAD TO REMAIN	34
	35	EXISTING LOAD TO REMAIN			540	10	20	1	1	20	12			1,440	EXISTING LOAD TO REMAIN	36
	37	EXISTING LOAD TO REMAIN	720			10	20	1	1	20	10	1,260			EXISTING LOAD TO REMAIN	38
	39	EXISTING LOAD TO REMAIN		1,080		10	20	1	1	20	12		1,080		EXISTING LOAD TO REMAIN	40
	41	EXISTING LOAD TO REMAIN			720	10	20	1	1	20	12			900	EXISTING LOAD TO REMAIN	42
	43	EXISTING LOAD TO REMAIN	360			10	20	1	1	20	12	1,260			EXISTING LOAD TO REMAIN	44
	45	EXISTING LOAD TO REMAIN		870		12	20	1	1	20	12		1,260		EXISTING LOAD TO REMAIN	46
	47	EXISTING LOAD TO REMAIN			1,200	12	20	1	1	20	10			660	EXISTING LOAD TO REMAIN	48
	49	EXISTING LOAD TO REMAIN	1,200			12	20	1	1	20	10	660			EXISTING LOAD TO REMAIN	50
	51	EXISTING LOAD TO REMAIN		1,080		12	20	1	1	20	10		660		EXISTING LOAD TO REMAIN	52
	53	EXISTING LOAD TO REMAIN			1,080	12	20	1	1	20	10			660	EXISTING LOAD TO REMAIN	54
	55	EXISTING LOAD TO REMAIN	180			12	20	2	1	20	10	660			EXISTING LOAD TO REMAIN	56
	57			180					1	20	10		660		EXISTING LOAD TO REMAIN	58
N	59	RCPTS - 2-251, 2-252			900	10	20	1	1	20	10			660	EXISTING LOAD TO REMAIN	60
	61	SPARE					EX	1	1	20	10	660			EXISTING LOAD TO REMAIN	62
	63	SPARE					EX	1	1	20	10		900		EXISTING LOAD TO REMAIN	64
	65	SPARE					EX	1	1	20	10			900	EXISTING LOAD TO REMAIN	66
	67	SPARE					EX	1	1	20	10	720			EXISTING LOAD TO REMAIN	68
	69	SPARE					EX	1	1	20	10		1,260		EXISTING LOAD TO REMAIN	70
	71	SPARE					EX	1	1	20	10			720	EXISTING LOAD TO REMAIN	72
	73	SPARE					EX	1	1	20	12	360			EXISTING LOAD TO REMAIN	74
	75	EQUIPPED SPACE						1	1						EQUIPPED SPACE	76
	77	EQUIPPED SPACE						1	1						EQUIPPED SPACE	78
	79	EQUIPPED SPACE						1	1						EQUIPPED SPACE	80
	81	EQUIPPED SPACE						1	1						EQUIPPED SPACE	82
	83	EQUIPPED SPACE						1	1						EQUIPPED SPACE	84
		SUBTOTAL	7,200	7,380	6,810							11,880	12,660	10,800	SUBTOTAL	

		LOAD	CONN. VA	DF	LOAD	CONN. VA	DF
TOTAL PHASE A - VA	19,080	COOLING (C)	560	1.00	REFRIG (F)		1.00
AMPS	159	HEATING (H)	560	0	SIGN/DISP (D)		1.25
TOTAL PHASE B - VA	20,040	LIGHTING (L)	2,435	1.25	KITCHEN (K)		1.00
AMPS	167	RECEPTACLES (R)	47,880	1.0/.5	EXISTING (E)		1.00
TOTAL PHASE C - VA	17,610	MOTORS (M)		1.00	LRG MOTOR	870	1.25
AMPS	147	SUPP HEAT (U)		1.00	SHOW WND (W)		1.25
TOTAL PNLBD - VA	56,730	MISC EQUIP (Z)	4,020	1.00	LTG TRACK		1.00
AMPS	157						

TOTAL DEMAND
37,651 VA
105 A

PANELBOARD NOTES

SINGLE SECTION PANELBOARD

PANELBOARD LEGEND

ABBREVIATIONS V1.00

AF	ARC FAULT CIRCUIT INTERRUPTER.
C#	CIRCUIT VIA LIGHTING CONTACTOR #.
CL	CIRCUIT VIA CURRENT LIMITING DEVICE.
D	DISCONNECT CIRCUITRY FOR REMOVED LOAD, UPDATE CIRCUIT DIRECTORY TO SPARE AND TURN OFF.
EM	EMERGENCY LIGHTING HANDLE-ON CLAMP.
EX	EXISTING.
F	FUTURE LOAD; NOTE AS SPARE AND TURN OFF.
FA	RED/HANDLE-ON CLAMP.
GF	GROUND-FAULT CIRCUIT INTERRUPTER TYPE CIRCUIT BREAKER (5 mA).
GFEP	GROUND FAULT EQUIPMENT PROTECTION BREAKER (30 mA).
HT	PROVIDE HANDLE-TIE FOR MULTI-WIRE BRANCH CIRCUIT PER CODE.
IG	ISOLATED GROUND CIRCUIT.
L#	LIGHTING CONTROL SCHEME NUMBER.
LCK	HANDLE PADLOCKABLE-OFF DEVICE.
LO	HANDLE-ON CLAMP.
N	PROVIDE NEW CIRCUIT BREAKER.
OL	REFER TO ELECTRICAL ONE-LINE/RISER DIAGRAM.
PS	POWER-SWITCHING CIRCUIT BREAKER.
PSE	EMERGENCY POWER-SWITCHING CIRCUIT BREAKER.
R	REUSE EXISTING CIRCUIT BREAKER FOR NEW/REVISED LOAD.
RP	CIRCUIT VIA RELAY PANEL.
ST	SHUNT TRIP CIRCUIT BREAKER.
V	VERIFY EXISTING LOAD AND UPDATE DIRECTORY, IF UNUSED, NOTE AS SPARE AND TURN OFF.
VD	BRANCH CIRCUITRY HAS BEEN UPSIZED TO REDUCE VOLTAGE DROP. ADJUST GROUND WIRE SIZE PER CODE. PROVIDE LUG ADAPTORS IF REQUIRED.
Z	CORRECT/REPAIR EXISTING HAZARD TO MAKE CODE COMPLIANT INSTALLATION.

NOT ALL ABBREVIATIONS ARE USED.

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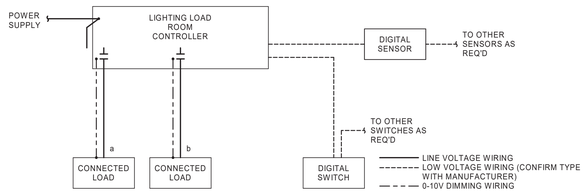
ELECTRICAL SCHEDULES AND ONE-LINE

E-600

MIC SECOND FLOOR RENOVATION



NOTES:

1. REFER TO LIGHTING CONTROL DEVICE SCHEDULE FOR DEVICE AND EQUIPMENT SPECIFICATIONS.
2. QUANTITY OF RELAYS SHOWN IS GENERIC. REFER TO PLANS, LIGHTING CONTROL DEVICE SCHEDULE, AND SHOP DRAWINGS FOR FINAL QUANTITY PER ROOM CONTROLLER.
3. DETAIL IS DIAGRAMMATIC AND IS BASED ON LEGRAND. THIS REPRESENTS THE GENERAL SCOPE OF WORK AND LOCATION OF DEVICES IN RELATION TO EACH OTHER ALONG THE POWER CIRCUIT. DIAGRAMS MAY BE DIFFERENT FOR ALLOWED EQUIVALENT MANUFACTURERS. ELECTRICAL CONTRACTOR SHALL COORDINATE FULL SYSTEM REQUIREMENTS WITH SELECTED MANUFACTURER. PROVIDE ALL PARTS AND PIECES REQUIRED FOR A FULLY FUNCTIONAL SYSTEM. REFER TO FINAL APPROVED MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WIRING DIAGRAMS FOR INSTALLATION.
4. CIRCUITING SHOWN ON THE PLAN CORRESPONDS TO THE LIGHTING CONTROL INTENT. IF CIRCUITING IS CHANGED IN THE FIELD, ENSURE THAT SYSTEM PROGRAMMING WITH REVISED CIRCUITING MEETS THE ORIGINAL LIGHTING CONTROL INTENT. UPDATE LIGHTING CONTROL PANEL SCHEDULES IN RECORD DRAWINGS.

② ROOM CONTROLLER DETAIL - ON/OFF OR ON/OFF/0-10V DIMMING CONTROL
NTS

FOUR-BUTTON WALL STATION

1
2
3
4

SWITCH TAG:

$LV4:

BUTTON:	*LABEL:*	*ZONES:*
1:	FULL ON	a,b - 100%
2:	A/V	a - 0%, b 50%
3:	DIM ON	a,b - 10%
4:	ALL OFF	a,b - 0% (OFF)

LIGHTING CONTROL DEVICE SCHEDULE

NETWORK LIGHTING CONTROL SYSTEMS

NETWORK OCCUPANCY SENSORS

SYMBOL TAG	MANUFACTURER MODEL/SERIES	ALTERNATE MANUFACTURER	DEVICE DESCRIPTION	COVERAGE (W X D)	VOLTAGE	NOTES
1	LEGRAND LMPC-100-5	ACUITY, ETC	CEILING MOUNT PASSIVE INFRARED OCCUPANCY SENSOR. 360 DEGREE COVERAGE. DIGITAL. (2) RJ45 PORTS. IR TRANSCEIVER FOR WIRELESS SETUP. UP TO 40' MOUNTING HEIGHT.	MAJOR 70' Ø MINOR 40' Ø	24	

NETWORK ROOM CONTROLLERS (POWER PACK)

SYMBOL TAG	MANUFACTURER MODEL/SERIES	ALTERNATE MANUFACTURER	DEVICE DESCRIPTION		VOLTAGE	NOTES
R2	LEGRAND LMRC-212 (0-10V)	ACUITY, CRESTRON ETC, HUBBELL	DIGITAL ROOM CONTROLLER FOR ON/OFF/0-10V DIMMING CONTROL OF LIGHTING LOADS. (1) 20A LOAD INPUT, (2) RELAY OUTPUTS. 100mA SINK PER RELAY. MANUAL-, PARTIAL-, AND AUTO-ON MODES.		120/ 277	

NETWORK LIGHTING SWITCHES

SYMBOL TAG	MANUFACTURER MODEL/SERIES	ALTERNATE MANUFACTURER	DEVICE DESCRIPTION		VOLTAGE	NOTES
LV4	LEGRAND LMSW-100 SERIES	ACUITY, CRESTRON ETC, HUBBELL	DIGITAL MULTI-BUTTON SWITCH FOR MANUAL ON/OFF AND SCENE CONTROL. EACH BUTTON CAN ALSO DIM LOAD UP/ DOWN AND HAS INTEGRAL LED THAT ILLUMINATES WHEN LOAD IS ON. (2) RJ45 PORTS. IR TRANSCEIVER FOR WIRELESS SETUP. SWITCH DESIGNATIONS VARY PER PROJECT; REFER TO LIGHTING PLANS AND/OR SWITCH SCHEDULE FOR PROGRAMMING.		24	1

GENERAL NOTES:

A. OCCUPANCY SENSOR LAYOUT DESIGNED FROM BASIS-OF-DESIGN COVERAGE PATTERNS. IF SUBMITTING ALTERNATE PER 'EQUIVALENT MANUFACTURER' COLUMN, ADJUST SENSOR QUANTITIES AND LOCATIONS PER MANUFACTURER-SPECIFIC SPACING CRITERIA.
B. PROVIDE SHOP DRAWINGS FOR ENGINEER AND ARCHITECT REVIEW THAT INCLUDE PRODUCT CUTSHEETS AND PROJECT-SPECIFIC LAYOUTS. LAYOUTS MUST INCLUDE SENSOR LOCATIONS, HEIGHTS, ORIENTATION, AND COVERAGE AREAS. SHOW COORDINATION WITH ALL OTHER CEILING DEVICES INCLUDING BUT NOT LIMITED TO HVAC SUPPLY AND RETURN GRILLES, SPRINKLERS, LIGHT FIXTURES, AND OTHER OWNER-PROVIDED CEILING MOUNTED DEVICES SUCH AS SPEAKERS, SECURITY CAMERAS, PROJECTORS, ETC. (SENSORS MAY BE ADVERSELY AFFECTED IF LOCATED TOO CLOSE TO OTHER CEILING MOUNTED DEVICES). ALSO PROVIDE SCHEMATICS AND SCHEDULES WHEN APPLICABLE.
C. LIGHTING CONTROLS PRICING SHALL BE COMPLETELY SEPARATE OF ANY LIGHT FIXTURE PRICING.
D. VERIFY COLOR(S) FOR ALL WALL AND CEILING MOUNTED DEVICES WITH THE ARCHITECT.
E. ALL WALL SWITCH AND CEILING SENSORS SHALL HAVE AN ADJUSTABLE TIME DELAY RANGE OF 0-30 MIN, UNO. CONFIRM SENSOR SETTINGS WITH SEQUENCE OF OPERATIONS AND OWNER PRIOR TO SYSTEM COMMISSIONING.
F. PROVIDE COPIES OF OPERATION AND MAINTENANCE INSTRUCTIONS FOR ALL DEVICES TO OWNER.
G. PROVIDE A NEUTRAL CONDUCTOR TO ALL WALL SWITCH LOCATIONS PER NEC REQUIREMENTS.
H. DO NOT SHARE NEUTRAL CONDUCTOR ON LOAD SIDE OF DIMMERS.

NOTES:

1. PROVIDE ENGRAVED BUTTONS MATCHING "LABEL" COLUMN ON SWITCH ELEVATION. REFER TO SPECIFICATIONS FOR MORE INFORMATION.

LIGHTING CONTROL SEQUENCE OF OPERATIONS

A. HOURS OF OPERATION

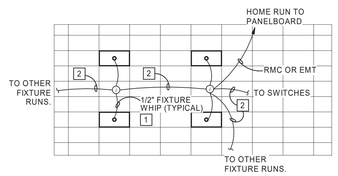
Occupied Hours: Mon-Sun 6:00 AM – 10:00 PM

B. GENERAL REQUIREMENTS
1. Emergency Lighting: Emergency egress lighting is powered from emergency battery drivers integral to fixtures designated as emergency. Upon loss of power, all lights designated as emergency shall turn on at full emergency battery back-up output.
2. Lighting Control Zones: Lighting control zones are noted by lowercase lettering adjacent to light fixtures on drawings.

C. ROOM CONTROLLER R2
1. Manual Control: Occupant can manually control lights via local switch(es). Digital four-button low voltage switch with capability of scene recall and dimming.
2. Occupancy: Occupant must manually turn on lights.
3. Vacancy: After 20 minutes, all controlled loads shall turn off.

ELECTRICAL NOTES:

1. PROVIDE SUFFICIENT LENGTH TO MOVE CENTER OF LUMINAIRE IN A 5'-0" RADIUS OF THE LOCATION SHOWN ON THE PLANS.
2. RMC OR EMT (UNLESS TYPE MC CABLE IS ALLOWED BY SPECIFICATIONS. IF MORE THAN 4 CURRENT CARRYING CONDUCTORS INCLUDING NEUTRALS, MC CABLE IS NOT ALLOWED).



① LIGHTING STANDARD LUMINAIRE WIRING
NTS

MISSOURI INNOVATION CAMPUS

1101 NW INNOVATION PKWY LEE'S SUMMIT, MO 64086

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RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
01/21/2021

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MO. CORPORATE NO: E-556D
EXPIRES 12/31/2020

STATE OF MISSOURI
DOUGLAS M. EVERHART
NUMBER PE-2019007648
PROFESSIONAL ENGINEER

Oct 6 2020
DOUGLAS M. EVERHART
LICENSE # PE-2019007648

REVISIONS

Number	DESCRIPTION	DATE

PROJECT NO: 0220-2100
DATE: OCTOBER 5, 2020

LIGHTING SCHEDULES AND DETAILS

E-700

MIC SECOND FLOOR RENOVATION

DOUGLAS M. EVERHART

PRINT DATE/TIME: 10/6/2020 12:12:46 PM

PANELBOARD: L2B (EXISTING)

BUS AMPS: 250A
MAIN SIZE/TYPE: MLO
VOLTS/PHASE: 208Y/120V, 3PH, 4W
SECTION: 1

FED FROM: TX-L2B
AIC RATING: REF. 1-LINE DIAGRAM FULLY RATED
SERVES:
MOUNTING: SURFACE
LOCATION: ELECTRICAL ROOM, ROOM #:B209

LINE-SIDE LUGS: MECHANICAL
EQUIPMENT GROUND BUS

CKT NO.	DESCRIPTION	VOLTAMPS/PHASE A	B	C	WIRE NO.	BKR AMP	P	P	BKR AMP	WIRE NO.	VOLTAMPS/PHASE A	B	C	DESCRIPTION	CKT NO.
1	EXISTING LOAD TO REMAIN	560			12	15	1	1	20	12	1,080			EXISTING LOAD TO REMAIN	2
3	EXISTING LOAD TO REMAIN		90		12	20	1	1	20	12		1,620		EXISTING LOAD TO REMAIN	4
5	EXISTING LOAD TO REMAIN			90	12	20	1	1	20	12			360	EXISTING LOAD TO REMAIN	6
7	EXISTING LOAD TO REMAIN	900			12	20	1	1	20	12	720			EXISTING LOAD TO REMAIN	8
9	EXISTING LOAD TO REMAIN		800		12	20	1	1	20	12		1,080		EXISTING LOAD TO REMAIN	10
11	EXISTING LOAD TO REMAIN			200	10	20	1	1	20	12			1,440	EXISTING LOAD TO REMAIN	12
13	EXISTING LOAD TO REMAIN	1,200			12	20	1	1	20	12	1,440			EXISTING LOAD TO REMAIN	14
15	EXISTING LOAD TO REMAIN		1,200		10	20	1	1	20	12		1,080		EXISTING LOAD TO REMAIN	16
17	EXISTING LOAD TO REMAIN			500	10	20	1	1	20	10			1,080	EXISTING LOAD TO REMAIN	18
19	EXISTING LOAD TO REMAIN	500			10	20	1	1	20	10	1,080			EXISTING LOAD TO REMAIN	20
21	EXISTING LOAD TO REMAIN		500		10	20	1	1	20	10		900		EXISTING LOAD TO REMAIN	22
23	EXISTING LOAD TO REMAIN			500	10	20	1	1	20	10			900	EXISTING LOAD TO REMAIN	24
25	EXISTING LOAD TO REMAIN	500			12	20	1	1	20	10	900			EXISTING LOAD TO REMAIN	26
27	EXISTING LOAD TO REMAIN		500		12	20	1	1	20	10		1,080		EXISTING LOAD TO REMAIN	28
29	EXISTING LOAD TO REMAIN			1,080	12	20	1	1	20	10			1,080	EXISTING LOAD TO REMAIN	30
31	EXISTING LOAD TO REMAIN	1,080			12	20	1	1	20	12	1,080			EXISTING LOAD TO REMAIN	32
R 33	MONITORS - 2-250 & 2-251		1,080		10	20	1	1	20	12		1,080		EXISTING LOAD TO REMAIN	34
35	EXISTING LOAD TO REMAIN			540	10	20	1	1	20	12			1,440	EXISTING LOAD TO REMAIN	36
37	EXISTING LOAD TO REMAIN	720			10	20	1	1	20	10	1,260			EXISTING LOAD TO REMAIN	38
39	EXISTING LOAD TO REMAIN		1,080		10	20	1	1	20	12		1,080		EXISTING LOAD TO REMAIN	40
41	EXISTING LOAD TO REMAIN			720	10	20	1	1	20	12			900	EXISTING LOAD TO REMAIN	42
43	EXISTING LOAD TO REMAIN	360			10	20	1	1	20	12	1,260			EXISTING LOAD TO REMAIN	44
45	EXISTING LOAD TO REMAIN		870		12	20	1	1	20	12		1,260		EXISTING LOAD TO REMAIN	46
47	EXISTING LOAD TO REMAIN			1,200	12	20	1	1	20	10			660	EXISTING LOAD TO REMAIN	48
49	EXISTING LOAD TO REMAIN	1,200			12	20	1	1	20	10	660			EXISTING LOAD TO REMAIN	50
51	EXISTING LOAD TO REMAIN		1,080		12	20	1	1	20	10		660		EXISTING LOAD TO REMAIN	52
53	EXISTING LOAD TO REMAIN			1,080	12	20	1	1	20	10			660	EXISTING LOAD TO REMAIN	54
55	EXISTING LOAD TO REMAIN	180			12	20	2	1	20	10	660			EXISTING LOAD TO REMAIN	56
57			180					1	20	10		660		EXISTING LOAD TO REMAIN	58
N 59	RCPTS - 2-251, 2-252			900	10	20	1	1	20	10			660	EXISTING LOAD TO REMAIN	60
61	SPARE					EX	1	1	20	10	660			EXISTING LOAD TO REMAIN	62
63	SPARE					EX	1	1	20	10		900		EXISTING LOAD TO REMAIN	64
65	SPARE					EX	1	1	20	10			900	EXISTING LOAD TO REMAIN	66
67	SPARE					EX	1	1	20	10	720			EXISTING LOAD TO REMAIN	68
69	SPARE					EX	1	1	20	10		1,260		EXISTING LOAD TO REMAIN	70
71	SPARE					EX	1	1	20	10			720	EXISTING LOAD TO REMAIN	72
73	SPARE					EX	1	1	20	12	360			EXISTING LOAD TO REMAIN	74
75	EQUIPPED SPACE						1	1						EQUIPPED SPACE	76
77	EQUIPPED SPACE						1	1						EQUIPPED SPACE	78
79	EQUIPPED SPACE						1	1						EQUIPPED SPACE	80
81	EQUIPPED SPACE						1	1						EQUIPPED SPACE	82
83	EQUIPPED SPACE						1	1						EQUIPPED SPACE	84
	SUBTOTAL	7,200	7,380	6,810							11,880	12,660	10,800	SUBTOTAL	

		LOAD		CONN. VA	DF	LOAD		CONN. VA	DF
TOTAL PHASE A - VA	19,080	COOLING	(C)	560	1.00	REFRIG	(F)		1.00
AMPS	159	HEATING	(H)	560	0	SIGN/DISP	(D)		1.25
TOTAL PHASE B - VA	20,040	LIGHTING	(L)	2,435	1.25	KITCHEN	(K)		1.00
AMPS	167	RECEPTACLES	(R)	47,880	1.0/.5	EXISTING	(E)		1.00
TOTAL PHASE C - VA	17,610	MOTORS	(M)		1.00	LRG MOTOR		870	1.25
AMPS	147	SUPP HEAT	(U)		1.00	SHOW WND	(W)		1.25
TOTAL PNLBD - VA	56,730	MISC EQUIP	(Z)	4,020	1.00	LTG TRACK			1.00
AMPS	157								

TOTAL DEMAND
37,651 VA
105 A

PANELBOARD NOTES

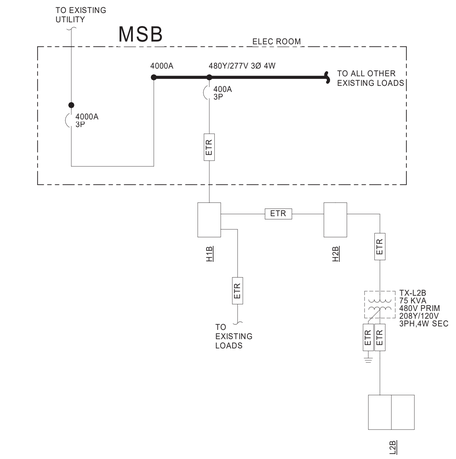
SINGLE SECTION PANELBOARD

PANELBOARD LEGEND

ABBREVIATIONS V1.00

AF	ARC FAULT CIRCUIT INTERRUPTER.
C#	CIRCUIT VIA LIGHTING CONTACTOR #.
CL	CIRCUIT VIA CURRENT LIMITING DEVICE.
D	DISCONNECT CIRCUITRY FOR REMOVED LOAD, UPDATE CIRCUIT DIRECTORY TO SPARE AND TURN OFF.
EM	EMERGENCY LIGHTING HANDLE-ON CLAMP.
EX	EXISTING.
F	FUTURE LOAD; NOTE AS SPARE AND TURN OFF.
FA	RED/HANDLE-ON CLAMP.
GF	GROUND-FAULT CIRCUIT INTERRUPTER TYPE CIRCUIT BREAKER (5 mA).
GFEP	GROUND FAULT EQUIPMENT PROTECTION BREAKER (30 mA).
HT	PROVIDE HANDLE-TIE FOR MULTI-WIRE BRANCH CIRCUIT PER CODE.
IG	ISOLATED GROUND CIRCUIT.
L#	LIGHTING CONTROL SCHEME NUMBER.
LCK	HANDLE PADLOCKABLE-OFF DEVICE.
LO	HANDLE-ON CLAMP.
N	PROVIDE NEW CIRCUIT BREAKER.
OL	REFER TO ELECTRICAL ONE-LINE/RISER DIAGRAM.
PS	POWER-SWITCHING CIRCUIT BREAKER.
PSE	EMERGENCY POWER-SWITCHING CIRCUIT BREAKER.
R	REUSE EXISTING CIRCUIT BREAKER FOR NEW/REVISED LOAD.
RP	CIRCUIT VIA RELAY PANEL.
ST	SHUNT TRIP CIRCUIT BREAKER.
V	VERIFY EXISTING LOAD AND UPDATE DIRECTORY, IF UNUSED, NOTE AS SPARE AND TURN OFF.
VD	BRANCH CIRCUITRY HAS BEEN UPSIZED TO REDUCE VOLTAGE DROP. ADJUST GROUND WIRE SIZE PER CODE. PROVIDE LUG ADAPTORS IF REQUIRED.
Z	CORRECT/REPAIR EXISTING HAZARD TO MAKE CODE COMPLIANT INSTALLATION.

NOT ALL ABBREVIATIONS ARE USED.



2 ELECTRICAL ONELINE
12" = 1'-0"

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2050003106
MO. CORPORATE NO: E-556D
EXPIRES 12/31/2020

STATE OF MISSOURI
DOUGLAS M. EVERHART
NUMBER PE-2019007648
PROFESSIONAL ENGINEER

Oct 22 2020
DOUGLAS M. EVERHART
LICENSE # PE-2019007648

REVISIONS

Number	DESCRIPTION	DATE

PROJECT NO: 0220-2100
DATE: OCTOBER 5, 2020

ELECTRICAL SCHEDULES AND ONE-LINE

E-600

MIC SECOND FLOOR RENOVATION

DOUGLAS M. EVERHART

PRINT DATE/TIME: 10/22/2020 2:12:21 PM

FIRE PROTECTION GENERAL DEMOLITION NOTES:

1. COORDINATE ALL DEMOLITION WITH WHAT IS SHOWN ON ARCHITECTURAL PLANS. NOTIFY ARCHITECT OF ANY DISCREPANCIES.
2. COORDINATE NEW WORK AND DEMOLITION WITH OTHER DISCIPLINES AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
3. PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW GENERAL NOTES, SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER OR OWNER, AS DEFINED IN BID DOCUMENTS, OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID. ADDITIONAL COMPENSATION WILL NOT BE PAID FOR LACK OF SUCH DETERMINATION, FAMILIARIZATION, AND/OR ALLOWANCE.
4. EXISTING CONDITIONS WERE TAKEN FROM ORIGINAL DRAWINGS AND SITE VISITS AND MAY NOT REFLECT EXACT "AS-BUILT" CONDITIONS. FIELD VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING FINAL BIDS. COORDINATE NEW WORK AND DEMOLITION WITH OTHER DISCIPLINES AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
5. OWNER RETAINS RIGHTS OF SALVAGE FOR EQUIPMENT AND FIXTURES TO BE REMOVED. COORDINATE WITH THE OWNER THE EQUIPMENT AND FIXTURES TO BE SALVAGED AND THE LOCATION FOR STORAGE. AVOID DAMAGE TO EQUIPMENT DURING DEMOLITION WORK AND DURING TRANSPORT TO OWNER'S DESIGNATED STORAGE LOCATION. PROPERLY DISPOSE OF MATERIALS THAT ARE REMOVED AND ARE NOT REQUESTED TO BE SALVAGED BY THE OWNER.
6. EQUIPMENT TO BE REMOVED SHALL BE KEPT FOR REINSTALLATION DURING THE CONSTRUCTION PHASE WHEN POSSIBLE AND/OR INDICATED ON THE DRAWINGS. AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN FOR NEW INSTALLATION. REPAIR ANY DAMAGE CAUSED DURING WORK AT NO EXTRA COST TO THE OWNER.
7. SEAL PENETRATIONS THROUGH FLOORS, WALLS, CEILINGS AND ROOFS WHERE COMPONENTS ARE REMOVED AND WHERE THE EXISTING PENETRATION IS NOT USED FOR THE NEW INSTALLATION. REPAIR DAMAGED SURFACES TO MATCH ADJACENT AREAS OR AS INDICATED ON THE ARCHITECTURAL DRAWINGS.
8. PERFORM ALL WORK ACCORDING TO THE PHASING SCHEDULE FOR THIS PROJECT. PROVIDE ALL TEMPORARY DESIGN AND/OR CONFIGURATIONS THAT MEET APPLICABLE CODE REQUIREMENTS AS NECESSARY TO CONFORM TO THE REQUIRED CONSTRUCTION PHASING OF THE PROJECT.
9. ONLY THE PORTIONS OF THE BUILDING AFFECTED BY THE SCOPE OF THE PROJECT HAVE BEEN SHOWN. INFORMATION SHOWN AS EXISTING TO REMAIN IS NOT BEING MODIFIED AS A PART OF THIS PROJECT.
10. ALL WORK SHALL BE PERFORMED SO AS TO NOT INTERRUPT SERVICE. THE CONTRACTOR SHALL PROPERLY NOTIFY THE BUILDING OWNER, LANDLORD, THE LEASER AND ADJACENT TENANTS AS APPLICABLE A MINIMUM OF 48 HOURS IN ADVANCE BEFORE PROCEEDING WITH THIS WORK.
11. REMOVE ALL UNUSED AND DEMOLISHED EQUIPMENT AND ASSOCIATED MATERIALS FROM SITE. ABANDONING UNUSED PORTIONS WILL NOT BE ACCEPTABLE.
12. SYSTEM(S) NOT ASSOCIATED WITH THE DEMOLITION SHALL BE LEFT IN SERVICE AS APPLICABLE.
13. INSPECT EXISTING EQUIPMENT TO REMAIN TO VERIFY THAT EQUIPMENT IS OPERATING PROPERLY. NOTIFY OWNER OF DAMAGED AND/OR MALFUNCTIONING COMPONENTS.
14. ALL SYSTEMS TO BE LEFT IN SERVICE PRIOR TO THE END OF EACH WORKDAY.

FIRE PROTECTION GENERAL NOTES:

1. PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
2. SYSTEM DESIGN, INSTALLATION AND MATERIALS SHALL BE IN ACCORDANCE WITH APPLICABLE NFPA STANDARDS. SYSTEM SHALL ALSO MEET ALL APPLICABLE BUILDING CODES, FIRE CODES AND THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION AND INSURANCE CARRIER. VERIFY REQUIREMENTS PRIOR TO BID SUBMITTAL.
3. INFORMATION ON CONTRACT DOCUMENTS IS GENERAL INFORMATION AND FOR BID PURPOSES ONLY. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE FINAL SYSTEM DESIGN AND LAYOUT OF ALL COMPONENTS, COORDINATION WITH ALL OTHER TRADES, AND SYSTEM CALCULATIONS REQUIRED FOR APPROVAL BY THE AUTHORITY HAVING JURISDICTION, ENGINEER, AND OWNER'S INSURER.
4. THE CONTRACTOR SHALL FOLLOW THE ENGINEER OF RECORD'S SYSTEM DESIGN AND LAYOUT OF ALL COMPONENTS EXCEPT WHERE MODIFICATION TO THE DESIGN IS NECESSARY. MODIFICATIONS SHALL BE REFLECTED IN THE CONTRACTOR'S SHOP DRAWINGS AND CALCULATIONS.
5. DEVIATIONS FROM ENGINEER'S DESIGN WILL NOT BE CONSIDERED UNLESS A FORMALLY SUBMITTED RFI IS RECEIVED AND APPROVED.
6. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT AND LABOR REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM AS INDICATED IN THE DRAWINGS AND SPECIFICATIONS.
7. WHERE EXISTING SYSTEMS ARE PRESENT, CONTRACTOR SHALL MODIFY, RELOCATE AND/OR PROVIDE ADDITIONAL EQUIPMENT AS REQUIRED FOR SCOPE OF WORK AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. COORDINATE WITH WALLS, CEILINGS, LIGHTS, DIFFUSERS, STRUCTURE, OBSTRUCTIONS, ETC. IN AREAS AFFECTED BY SCOPE OF WORK. NEW EQUIPMENT SHALL BE COMPATIBLE WITH EXISTING SYSTEMS. CONTRACTOR SHALL REMOVE ALL ABANDONED EQUIPMENT, COORDINATE SYSTEM MODIFICATIONS TO MINIMIZE SYSTEM IMPAIRMENT, AND PROVIDE FIRE WATCH AND/OR INTERIM FIRE PROTECTION MEASURES WHERE REQUIRED BY THE AUTHORITY HAVING JURISDICTION, INSURANCE CARRIER OR OWNER.
8. PROVIDE ADDITIONAL MATERIALS AND LABOR REQUIRED DUE TO LACK OF COORDINATION OR TO MEET AUTHORITY HAVING JURISDICTION AND INSURANCE CARRIER REQUIREMENTS AT NO ADDITIONAL COST TO THE OWNER.
9. FORWARD COMPLETED CERTIFICATE OF COMPLETION AND CONTRACTOR MATERIAL TEST CERTIFICATES TO THE OWNER.
10. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

FIRE PROTECTION SYMBOLS

THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED. V2.02

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	NIC	NOT IN CONTRACT
AFG	ABOVE FINISHED GRADE	OC	ON CENTER
CD	CANDELA	PIV	POST INDICATOR VALVE
DI	DUCTILE IRON	PROVIDE	FURNISH AND INSTALL
ESFR	EARLY SUPPRESSION FAST RESPONSE	PRV	PRESSURE REDUCING VALVE
ETR	EXISTING TO REMAIN	RD	RETURN DUCT
FHC	FIRE HOSE CABINET	REV	REVISION
FP	FIRE PROTECTION	SD	SUPPLY DUCT
GC	CONTRACTOR	SF	SQUARE FEET
GPM	GALLONS PER MINUTE	TYP	TYPICAL
JB/J-BOX	JUNCTION BOX	UNO	UNLESS NOTES OTHERWISE
MAX	MAXIMUM	V	VOLT(S)
MIN	MINIMUM	W	WATTS
N/A	NOT APPLICABLE	WP	WEATHERPROOF

ANNOTATION

- 1 — FIRE PROTECTION PLAN NOTE CALLOUT
- CONNECTION POINT OF NEW WORK TO EXISTING
- 1 / F1 — DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER
- 1 / F1 — SECTION CUT DESIGNATION

FIRE SPRINKLERS

- UPRIGHT SPRINKLER
- PENDENT SPRINKLER
- CONCEALED SPRINKLER
- DRY PENDENT SPRINKLER
- DRY SIDEWALL SPRINKLER
- SIDEWALL SPRINKLER

FIRE SPRINKLER PIPING

- FP — FIRE PROTECTION (FP)
- SHUTOFF VALVE
- CHECK VALVE
- BACKFLOW PREVENTER
- CAP
- ELBOW UP
- ELBOW DOWN
- TEE UP
- TEE DOWN
- FIRE DEPARTMENT CONNECTION
- FIRE PUMP TEST HEADER
- INSPECTOR'S TEST CONNECTION / AUXILIARY DRAIN
- SPRINKLER RISER
- TOP BEAM CLAMP
- TRAPEZE HANGER

STANDARD MOUNTING HEIGHTS

AUDIBLE APPLIANCE (TOP OF APPLIANCE)	90"
FIRE ALARM ANNUNCIATOR PANEL (TOP OF DISPLAY)	60"
FIRE ALARM BELL (EXTERIOR) (CENTERLINE)	120"
FIRE ALARM CONTROL PANEL/UNIT (TOP OF DISPLAY)	60"
PULL STATION (TOP OF DEVICE)	48"
VISIBLE APPLIANCE (CENTERLINE)	84"

INSTALL DEVICES AT THE MOUNTING HEIGHTS SHOWN ABOVE UNO IN THE CONSTRUCTION DOCUMENTS. MOUNTING HEIGHTS LISTED ABOVE, OR ELSEWHERE IN THE CONSTRUCTION DOCUMENTS, ARE AFF OR AFG, UNO. ALL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH CURRENT ADA AND LOCAL REQUIREMENTS.

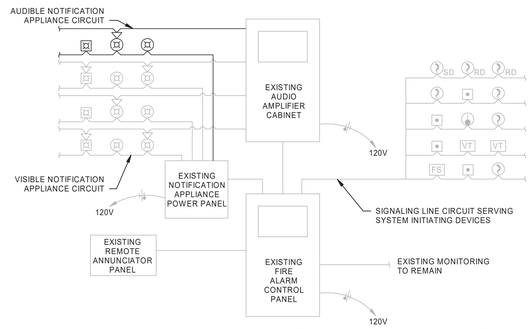
FIRE ALARM

- FACP — FIRE ALARM CONTROL PANEL/UNIT
- FACP — RECESSED FIRE ALARM CONTROL PANEL/UNIT
- FAAP — FIRE ALARM ANNUNCIATOR PANEL
- FAAP — RECESSED FIRE ALARM ANNUNCIATOR PANEL
- AMP — AMPLIFIER PANEL
- RPS — REMOTE POWER SUPPLY
- RT — REMOTE TEST STATION WITH INDICATING LIGHT
- RL — REMOTE INDICATING LIGHT
- PS — PRESSURE SWITCH LOW/HIGH
- FS — WATERFLOW ALARM SWITCH
- VT — CONTROL VALVE TAMPER SWITCH
- DH — MAGNETIC DOOR HOLD OPEN DEVICE
- CM — CONTROL MODULE
- MM — MONITOR MODULE
- K — FIRE DEPARTMENT KEY BOX
- PULL STATION
- F — FIREFIGHTER'S PHONE JACK
- HEAT DETECTOR (E INDICATES ELEVATOR RECALL)
- SMOKE DETECTOR (E INDICATES ELEVATOR RECALL)
- SINGLE STATION SMOKE DETECTOR
- PROJECTED BEAM SMOKE DETECTOR
- RD — DUCT MOUNTED SMOKE DETECTOR (SD=SUPPLY/RD=RETURN)
- CO — CARBON MONOXIDE DETECTOR
- AREA OF REFUGE 2-WAY COMMUNICATION SYSTEM
- FAV — WALL MOUNTED AUDIBLE NOTIFICATION APPLIANCE #W INDICATES WATTAGE (VOICE EVACUATION SYSTEMS ONLY)
- ## — WALL MOUNTED VISIBLE NOTIFICATION APPLIANCE ## INDICATES CANDELA
- FAV ## — WALL MOUNTED AUDIBLE/VISIBLE NOTIFICATION APPLIANCE ## INDICATES CANDELA #W INDICATES WATTAGE (VOICE EVACUATION SYSTEMS ONLY)
- FAV — CEILING MOUNTED AUDIBLE NOTIFICATION APPLIANCE #W INDICATES WATTAGE (VOICE EVACUATION SYSTEMS ONLY)
- ## — CEILING MOUNTED VISIBLE NOTIFICATION APPLIANCE ## INDICATES CANDELA
- FAV ## — CEILING MOUNTED AUDIBLE/VISIBLE NOTIFICATION APPLIANCE ## INDICATES CANDELA #W INDICATES WATTAGE (VOICE EVACUATION SYSTEMS ONLY)
- END OF LINE RESISTOR
- ABORT SWITCH
- BELL

LINETYPE LEGEND

THROUGHOUT THE DRAWINGS DIFFERENT LINETYPES ARE USED IN COMBINATION WITH THE SYMBOLS TO INDICATE THE STATUS OF ITEMS AS EXISTING, TO BE DEMOLISHED, TO BE INCLUDED AS PART OF NEW WORK AND/OR ITEMS WHICH ARE ANTICIPATED TO BE PROVIDED IN THE FUTURE. THE STATUS OF ITEMS USING THESE LINETYPES ARE RELATIVE TO THE VIEW IN WHICH THEY APPEAR. PHASING SHOWN IN DRAWINGS IS NOT INTENDED TO FULLY DESCRIBE ALL NECESSARY CONSTRUCTION PHASING, WHICH IS DETERMINED BY THE CONTRACTOR AS PART OF THEIR RESPONSIBILITIES. ANY SUCH PHASES DESCRIBED IN THE CONSTRUCTION DOCUMENTS ARE GENERAL AND ONLY INTENDED TO INDICATE A BROAD ORDER FOR THE SAKE OF DESCRIBING THE PROJECT. THE FOLLOWING LINETYPES MAY BE USED ON ANY DEVICE, EQUIPMENT, NOTE, LINE, SHAPE, ETC.

EXISTING	NEW
DEMOLISH	FUTURE



RISER DIAGRAM IS SCHEMATIC IN NATURE. NOT ALL DEVICES ARE SHOWN. REFER TO PLANS FOR EQUIPMENT QUANTITIES AND LOCATIONS.

DUCT DETECTORS MAY HAVE INTEGRAL RELAYS FOR AIR HANDLING UNIT SHUT-DOWN AND FIRE/SMOKE DAMPER CONTROL. WIRING FOR THIS FUNCTION HAS NOT BEEN SHOWN. COORDINATE WITH MECHANICAL SYSTEM INSTALLER.

REFER TO PLANS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

1 FIRE ALARM RISER DIAGRAM - ADDRESSABLE SYSTEM (VOICE)
NTS

MARK P. CHRISMAN

PRINT DATE/TIME: 10/6/2020 12:12:59 PM

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EXPIRES 12/31/2020

STATE OF MISSOURI
MARK P. CHRISMAN
NUMBER PE-2018036637
PROFESSIONAL ENGINEER

Oct 6 2020
MARK P. CHRISMAN
LICENSE # PE-2018036637

REVISIONS

Number	DESCRIPTION	DATE

PROJECT NO: 0220-2100
DATE: OCTOBER 5, 2020

FIRE PROTECTION GENERAL NOTES AND LEGEND

FP-000

MIC SECOND FLOOR RENOVATION

FIRE PROTECTION PLAN NOTES:

F1 ADD/RELOCATE FIRE SPRINKLERS AS REQUIRED IN AREA OF WORK TO ACCOMMODATE NEW WALLS. SPRINKLERS SHALL BE SPACED TO ALL NEW WALLS IN ACCORDANCE WITH NFPA 13 REQUIREMENTS.

F2 MODIFY FIRE ALARM LAYOUT IN AREA OF WORK SHOWN IN ACCORDANCE WITH NFPA 72. ADD OR RELOCATE FIRE ALARM NOTIFICATION APPLIANCES AS NECESSARY TO MEET THE CANDELA RATING REQUIREMENTS PER CODE AND LAYOUT SHOWN.

NOT IN SCOPE OF WORK

F1 F2

RD ETR
RT ETR
RT ETR
RD ETR
SD ETR
RT ETR
95
75
ETR
75

Classroom 252

Classroom 251

Classroom 250

1 FIRE ALARM Level 2 RCP - AREA D
1/8" = 1'-0"

SCALE: 1/8"=1'-0"

PRINT DATE/TIME: 10/6/2020 12:13:03 PM

MARK P. CHRISMAN

MISSOURI INNOVATION CAMPUS

1101 NW INNOVATION PKWY LEE'S SUMMIT, MO 64086

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RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
01/21/2021

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FIRE PROTECTION
Level 2 RCP - AREA D

FP-102.D

MIC SECOND FLOOR RENOVATION