

# Michigan State University

## Life Science - Renovations to Room B108A

East Lansing, Michigan  
 Capital Project Number - CP23077

Released for Bid - 2/16/2024  
 Project Number: 231606



fishbeck.com 1515 Arboretum Drive,  
 800.456.3824 Grand Rapids, Michigan

### BUILDING CODE ANALYSIS

**APPLICABLE CODES:**  
 2015 MICHIGAN REHABILITATION CODE FOR EXISTING BUILDINGS (AS AMENDED)  
 2015 MICHIGAN MECHANICAL CODE (AS AMENDED)  
 2018 INTERNATIONAL PLUMBING CODE (PART 7 PLUMBING CODE MICHIGAN AMENDMENTS)  
 2017 NATIONAL ELECTRIC CODE (NEC)  
 (AS AMENDED - MICHIGAN AMENDMENTS PART 8 RULES)  
 2015 MICHIGAN ENERGY CODE  
 2015 INTERNATIONAL ENERGY CONSERVATION CODE - SECTION 501.1  
 ANSI /ASHRAE /IESNA STANDARD - 90.1 (AS AMENDED)  
 2012 INTERNATIONAL FIRE CODE  
 2012 NFPA 101, LIFE SAFETY CODE  
 2016 NEW AND EXISTING SCHOOL, COLLEGE, AND UNIVERSITY FIRE SAFETY

**BARRIER FREE REQUIREMENTS**  
 2015 MICHIGAN BUILDING CODE - CHAPTER 11  
 2009 INTERNATIONAL CODE COUNCIL A117.1 - EXCEPT SECTIONS 611 & 707  
 AMERICANS WITH DISABILITIES ACT (ADA)

**AREA OF RENOVATION DATA:**  
 EXISTING BUILDING  
 USE GROUP/OCCUPANCY: BUSINESS - B / LABORATORY, CLASSROOM, OFFICE

AREA OF RENOVATION - EXISTING  
 USE GROUP/OCCUPANCY: BUSINESS - B / LABORATORY, CLASSROOM, OFFICE

AREA OF RENOVATION - PROPOSED  
 USE GROUP/OCCUPANCY: BUSINESS - B / LABORATORY, CLASSROOM, OFFICE

CONSTRUCTION TYPE: IIA (MBC 2015)  
 (BEAMS AND COLUMNS ARE FIREPROOFED BASED ON EXISTING DRAWINGS)

FIRE PROTECTION: BUILDING IS FULLY SPRINKLED AND FIRE ALARMED

DATE ORIGINAL BLDG CONSTRUCTED: 1969 + ADDITIONS AND RENOVATIONS

**BUILDING CODE SUMMARY:**  
 ALTERATION LEVEL: DUE TO THE NATURE AND EXTENT OF THE PROPOSED RENOVATION, THE  
 2015 MICHIGAN REHABILITATION CODE FOR EXISTING BUILDINGS CLASSIFIES THIS PROJECT AS  
 A LEVEL 2 ALTERATION.

THE REQUIREMENTS OF AN ALTERATION LEVEL 2 ARE LIMITED TO THE WORK AREAS IN WHICH  
 THE ALTERATIONS ARE BEING PERFORMED.

**OCCUPANT LOAD:**  
 2015 MICHIGAN BUILDING CODE, TABLE 1004.1.2

PRACTICE LABORATORY (INSTRUCTIONAL):	1 / 100 SF GROSS
SIM ROOM:	1 / 100 SF GROSS
OFFICE:	1 / 100 SF GROSS
STORAGE:	1 / 300 SF GROSS

B107 IS CONVERTED FROM A STORAGE ROOM TO A SIM ROOM.  
 OCCUPANTS ADDED BY RENOVATION:

<b>EXISTING:</b>	<b>PROPOSED:</b>
ROOM B107 = 2	ROOM B107 = 4
ROOM B107A = 2	ROOM B107A = 2
ROOM B108A = 4	ROOM B108A = 2
ROOM B108B = 2	ROOM B108B = 2
ROOM B120 = 8	ROOM B120 = 4
ROOM B120A = 2	ROOM B120A = 2
ROOM B120B = 2	ROOM B120B = 2
ROOM B120C = 2	ROOM B120C = 2
ROOM B120D = 2	ROOM B120D = 2
ROOM B123 = 8	ROOM B123 = 8
ROOM B123A = 2	ROOM B123A = 2
ROOM B123B = 2	ROOM B123B = 2
TOTAL = 30	TOTAL = 34

NO MODIFICATIONS TO EGRESS IS REQUIRED DUE TO ADDITION OF 4 OCCUPANTS.

**PLUMBING FIXTURE REQUIREMENTS:**  
 PER THE MICHIGAN REHABILITATION CODE FOR EXISTING BUILDINGS, SECTION 810 MINIMUM  
 FIXTURES, WHERE THE OCCUPANT LOAD OF THE STORY IS INCREASED BY MORE THAN 20  
 PERCENT, PLUMBING FIXTURES FOR THE STORY SHALL BE PROVIDED IN QUANTITIES SPECIFIED  
 IN THE INTERNATIONAL PLUMBING CODE BASED ON INCREASED OCCUPANT LOAD.

PROJECT COMPLIES: NO MODIFICATIONS TO THE PLUMBING FIXTURE COUNT IS REQUIRED.

**MEANS OF EGRESS IN WORK AREAS:**  
 A MINIMUM OF TWO MEANS OF EGRESS ARE PROVIDED FROM ALL RENOVATION AREAS.

COMMON PATH OF TRAVEL: 100' w/ SPRINKLERS (TABLE 1006.2.1)  
 PROJECT COMPLIES (MBC) (NFPA)

EXIT ACCESS TRAVEL DISTANCE: 300' w/ SPRINKLERS (TABLE 1017.2)  
 PROJECT COMPLIES

### DRAWING INDEX

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MECHANICAL	
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M-005	FIRST FLOOR SHEET METAL PLAN - AREA B
M-006	SCHEDULES AND DETAILS

### GENERAL ABBREVIATIONS

ACM	ALUMINUM COMPOSITE MATERIAL	EF	EXHAUST FAN	IN	INCH/INCHES	NRC	NOISE REDUCTION COEFFICIENT	SGT	STRUCTURAL GLAZED TILE
AFF	ABOVE FINISHED FLOOR	EL	ELEVATION	INSUL	INSULATION	NTS	NOT TO SCALE	SIM	SIMILAR
AHU	AIR HANDLING UNIT	EJ	EXPANSION JOINT	LAV	LAVATORY	OC	ON CENTER	SP	SPACE/SPACING
AL	ALUMINUM	EQ	EQUAL	LED	LIGHT EMITTING DIODE	OD	OUTSIDE DIAMETER	SS	STAINLESS STEEL
ALT	ALTERNATE	EWC	ELECTRIC WATER COOLER	LLH	LONG LEG HORIZONTAL	OH	OVERHEAD	STD	STANDARD
BF	BARRIER FREE	FD	FLOOR DRAIN	LLV	LONG LEG VERTICAL	OPP	OPPOSITE	TAN	TANGENT
BRG	BEARING	FRT	FIRE RETARDANT TREATED	LP	LOW POINT	MFR	MANUFACTURER	TYP	TYPICAL
CJ	CONTROL JOINT	GA	GUAGE/GAGE	MAX	MAXIMUM	OS	OUTSIDE	UL	UNDERWRITER'S LABORATORY
CL	CENTERLINE	GALV	GALVANIZED	MEZZ	MEZZANINE	PERP	PERPENDICULAR	UNO	UNLESS NOTED OTHERWISE
CMU	CONCRETE MASONRY UNIT	GC	GENERAL CONTRACTOR	MIN	MINIMUM	VERT	VERTICAL	VTR	VENT THROUGH ROOF
CO	CLEANOUT	HB	HOSE BIBB	MO	MASONRY OPENING	PSF	POUNDS PER SQUARE FOOT	W/	WITH
CONC	CONCRETE	HP	HIGH POINT	MTD	MOUNTED	PSI	POUNDS PER SQUARE INCH	WC	WATER CLOSET
CONST	CONSTRUCTION	HORIZ	HORIZONTAL	N/A	NOT APPLICABLE	PVC	POLYVINYL CHLORIDE	WH	WATER HEATER
CONT	CONTINUOUS	HVAC	HEATING VENTILATING AIR CONDITIONING	NC	NOISE CRITERIA	R	RADIUS	W/O	WITHOUT
DIA	DIAMETER	ID	INSIDE DIAMETER	NIC	NOT IN CONTRACT	REQD	REQUIRED	WP	WEATHERPROOF
DN	DOWN	IE	INVERT ELEVATION	NO	NUMBER	SCH	SCHEDULE	WT	WEIGHT
DS	DOWNSPOUT	IMP	INSULATED METAL PANEL			SF	SQUARE FOOT		

### GRAPHIC SYMBOLS

**SECTION CUT LINE**

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

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

**EXTERIOR ELEVATION TAG**

**INTERIOR ELEVATION / PHOTO TAG**

**ENLARGED DETAIL FRAME**

**ELEVATION TARGET**

**SPOT ELEVATION**  
 EL. 100'-0"

**NEW CONSTRUCTION GRID**

**EXISTING GRID**

**SIGNAGE TAG**

**FINISH TAG**

**BULLETIN IDENTIFICATION**

**ADDENDUM IDENTIFICATION**

**SKETCH IDENTIFICATION**

**BARRIER FREE LOCATION**

**KEY NOTE TAG**

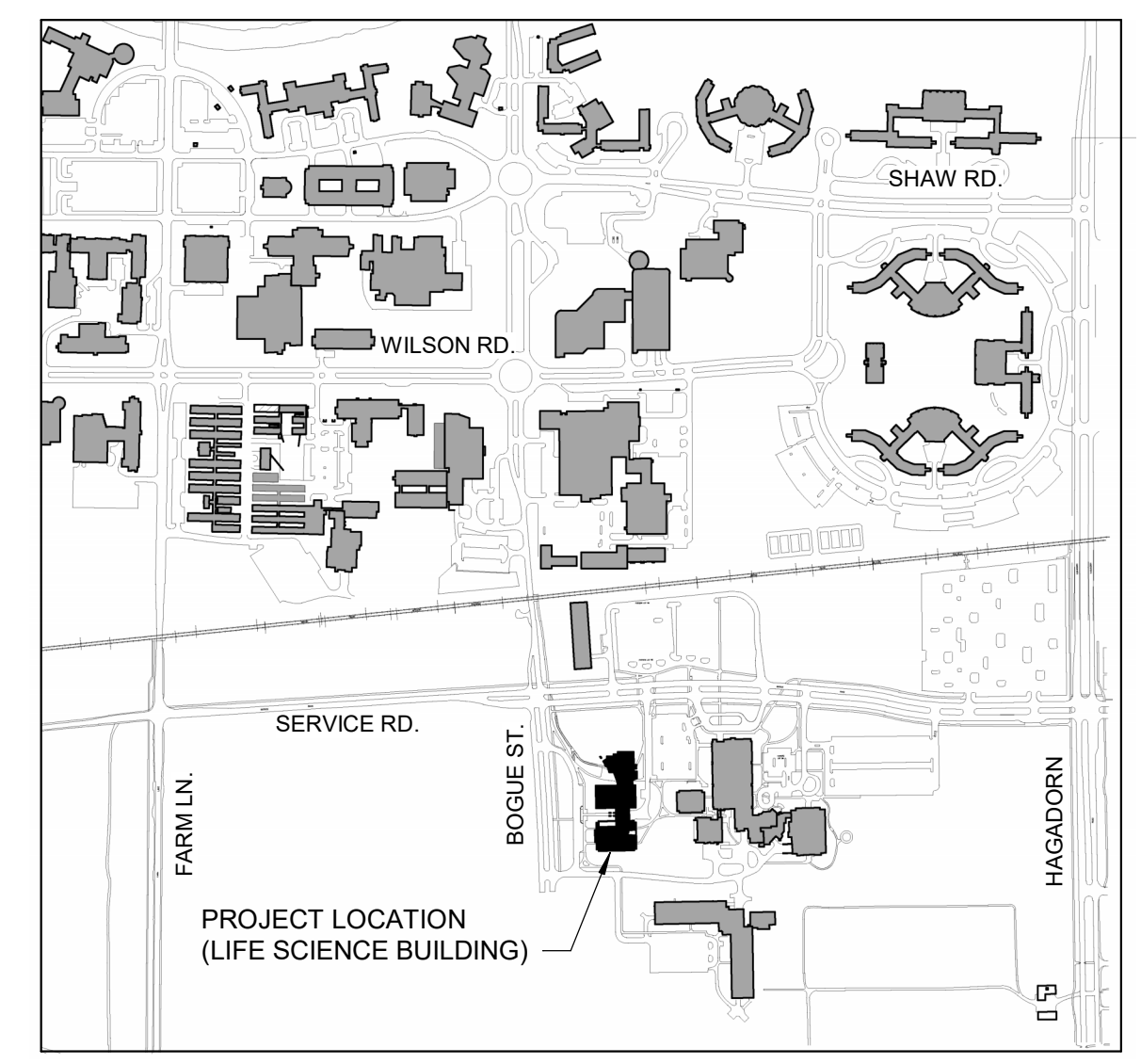
**DEMOLITION NOTE TAG**

**ROOM NAME AND NUMBER**  
 Room name  
 101

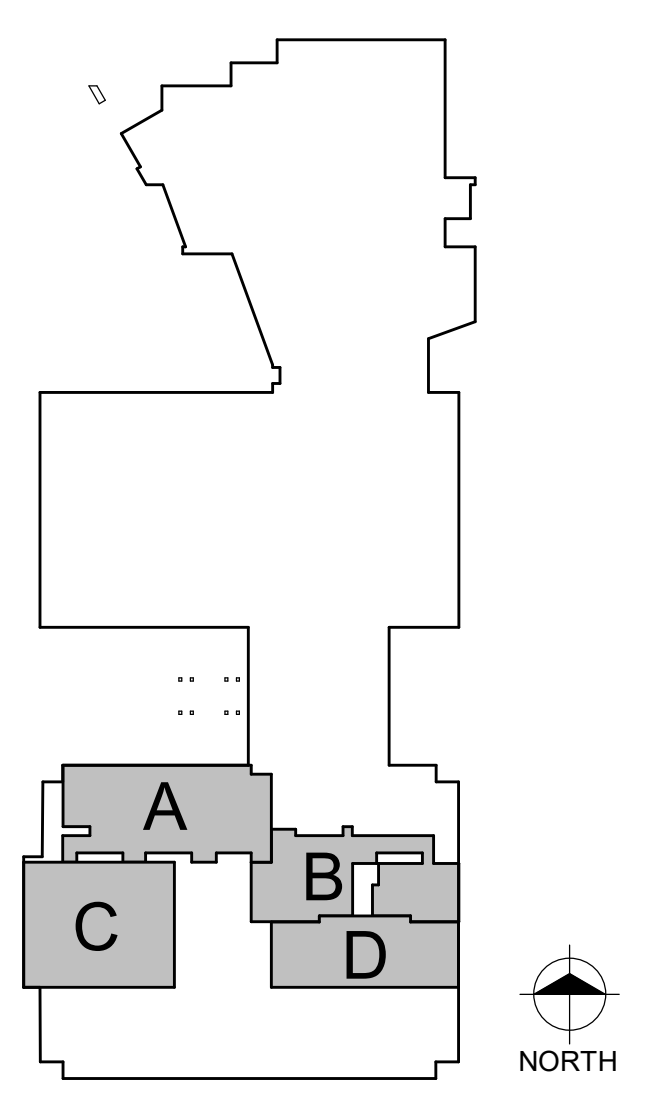
**NORTH ARROW DESIGNATION**

**TRUE NORTH**

**LEVEL CALLOUT**  
 FIRST FLOOR  
 100'-0"



### KEY PLAN



CAPITAL PROJ. NO.  
 CP23077

PR. MGR. Z. KIEFER  
 ARCH. D. LAUNSTEIN  
 MECH. A. VANDERSTELT  
 ELEC. K. HOWARD  
 CIVIL \_\_\_\_\_  
 L.A. \_\_\_\_\_  
 INT. DES. D. WHITBECK  
 CONST. REP. \_\_\_\_\_  
 APPR. \_\_\_\_\_  
 DATE \_\_\_\_\_  
 SCALE AS SHOWN  
 REVISIONS \_\_\_\_\_  
 2/16/24 RELEASED FOR BID

COVER SHEET/SHEET INDEX/CODE TABLE

**G-001**

1 OF 36

CAPITAL PROJ. NO.  
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PR. MGR.	Z. KIEFER
ARCH.	D. LAUNSTEIN
MECH.	A. VANDERSTELT
ELEC.	K. HOWARD
CIVIL	_____
L.A.	_____
INT. DES.	D. WHITBECK
CONST. REP.	_____
APPR.	_____
DATE	AS SHOWN
SCALE	AS SHOWN
REVISIONS	_____
2/16/24	RELEASED FOR BID

**CODE LEGEND**

● EXIT ACCESS TRAVEL: X'-X"  
 MAX. ALLOWABLE: X'-X"

● COMMON PATH OF TRAVEL: X'-X"  
 MAX. ALLOWABLE: X'-X"

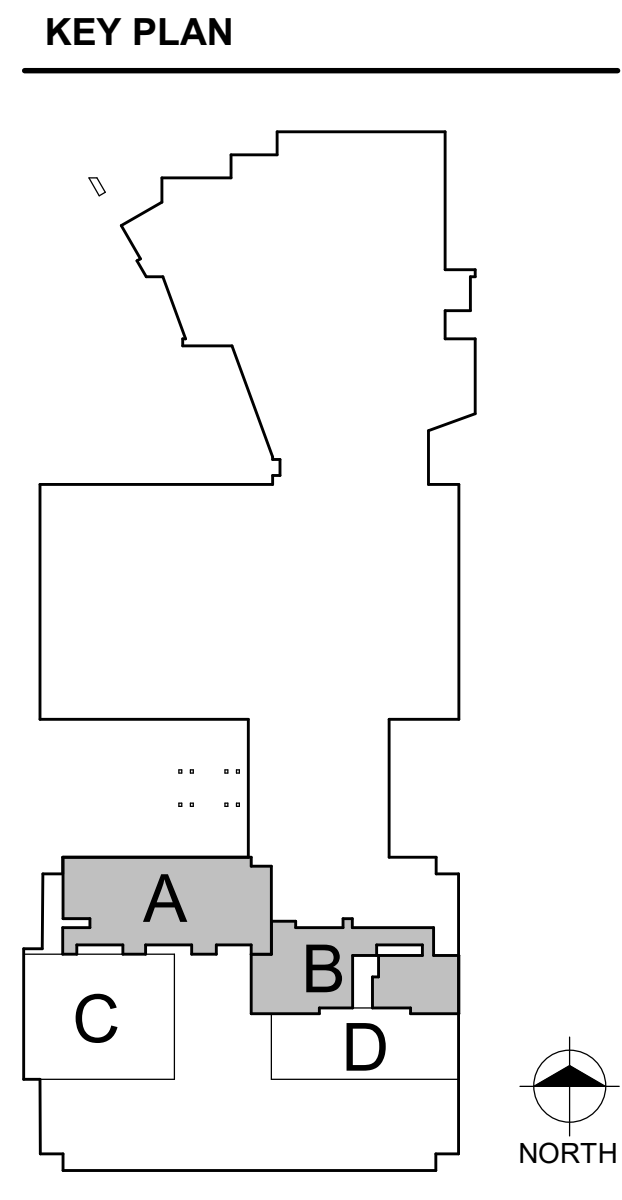
▨ AREAS WITH NO ARCHITECTURAL SCOPE

FE FIRE EXTINGUISHER

**FIRE RESISTANCE WALL SYMBOL CODE LEGEND**

NOTE: REFER TO WALL TYPES SHEET FOR UL ASSEMBLIES EXCEPT FOR NOTED

----- 2 HR RATED FIRE BARRIER SHAFTS AND STAIR ENCLOSURES: PROVIDE FROM FLOOR TO UNDERSIDE OF FLOOR OR ROOF DECK ABOVE. CONTINUE CONSTRUCTION THROUGH CEILING CAVITIES. WHERE STRUCTURAL AND OTHER ITEMS PENETRATE PARTITIONS, SEAL OPENINGS AROUND WALL PENETRATIONS, AND AT GAPS BETWEEN TOP OF WALL AND DECK WITH APPROVED FIRESTOPPING. PROVIDE DOORS SELF CLOSING WITH 90 MIN. LABEL AT SHAFTS. PROVIDE SMOKE DAMPERS AND FIRE DAMPERS AT DUCT PENETRATIONS. MBC SECTION 717.5.2 (&NFPA 90A). NO DUCTWORK PERMITTED TO PENETRATE STAIR ENCLOSURE.



**FIRST FLOOR LIFE SAFETY PLAN**  
 SCALE: 1/8" = 1'-0"  
 NORTH

PLOT INFO: 2/16/2024 10:32:23 AM

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**GENERAL DEMOLITION NOTES**

- GENERAL DEMOLITION NOTES, KEYED DEMOLITION NOTES AND SPECIFICATIONS (SECTION II - DEMOLITION) APPLY TO ARCHITECTURAL DEMOLITION PLANS INCLUDED WITHIN THIS DOCUMENT SET.
- THESE DEMOLITION NOTES AND PLANS DO NOT FULLY REPRESENT ALL DEMOLITION WORK REQUIRED TO INSTALL NEW WORK IN ACCORDANCE WITH CONTRACT DOCUMENTS, BUT ARE INTENDED TO SERVE AS GENERAL DEMOLITION GUIDELINES.
- COORDINATE AND PHASE DEMOLITION IN ACCORDANCE WITH PLANS AND SPECIFICATIONS IN ORDER TO MAINTAIN BUILDING SECURITY, WEATHER TIGHTNESS, AND CONTINUING OPERATIONS FOR OWNER.
- COORDINATE ALL DEMOLITION WORK WITH ALL OTHER CONSTRUCTION TRADES, INCLUDING STRUCTURAL, MECHANICAL, AND ELECTRICAL.
- ALL WORK INDICATED WITH SOLID LINES IS EXISTING TO REMAIN, UNLESS OTHERWISE NOTED.
- WHERE ITEMS ARE REMOVED, REFER TO NEW WORK DOCUMENTS FOR PATCH AND REPAIR REQUIREMENTS.
- ALL ITEMS NOT PART OF THE SCOPE OF DEMOLITION ARE TO BE PRESERVED AND PROTECTED THROUGHOUT THE DURATION OF DEMOLITION AND CONSTRUCTION.

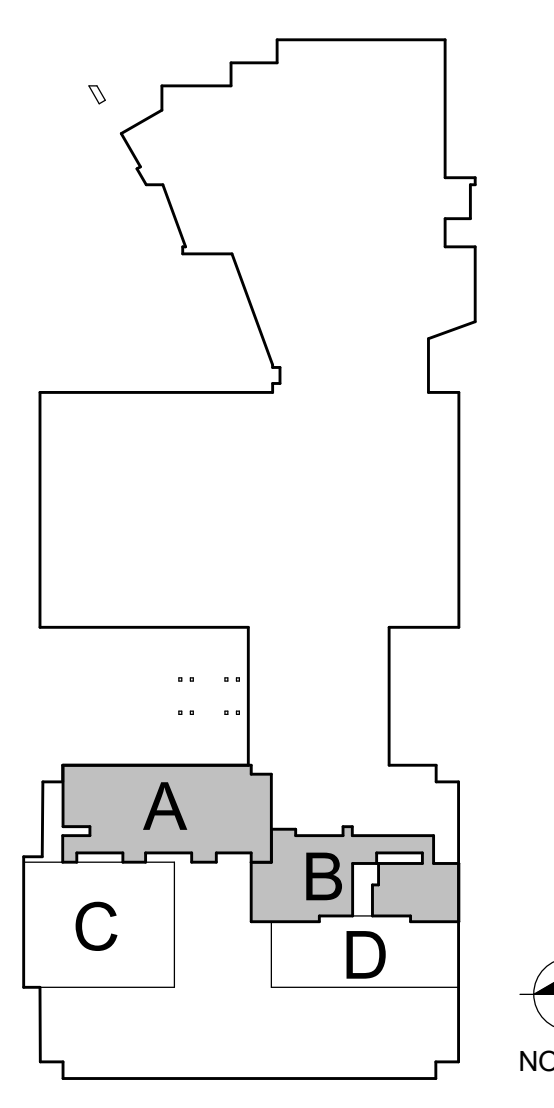
**DEMOLITION SYMBOL LEGEND**

- EXISTING WALLS TO REMAIN
- EXISTING WALLS TO BE REMOVED
- EXISTING DOOR TO REMAIN
- EXISTING DOOR TO BE REMOVED
- AREAS WITH NO ARCHITECTURAL SCOPE

**DEMOLITION KEY NOTES**

- REMOVE WALL.
- REMOVE FLOORING AND WALL BASE.
- REMOVE CUBICLE CURTAIN AND TRACK MOUNTED TO THE CEILING.
- REMOVE EXISTING ACOUSTICAL CEILING TILE AND GRID SYSTEM.
- REMOVE TACKBOARD.
- REMOVE FUME HOOD.
- REMOVE WASH BASIN.
- REMOVE WALL MOUNTED SHELVING.
- REMOVE CASEWORK, UPPER CABINETS AND SHELVING.
- REMOVE WALL CABINET AND SHELVING.
- REMOVE ALL WALL-MOUNTED CONDUITS AND APPLIANCES.
- REMOVE PEGBOARD.
- REMOVE WALL MOUNTED CHALK BOARD.
- REMOVE WALL MOUNTED RAIL.
- REMOVE DOOR, FRAME AND ALL ASSOCIATED HARDWARE.
- REMOVE COAT RACK.
- REMOVE LOCKERS.
- REMOVE WALL FOR NEW DUC PENETRATION ABOVE CEILING. REFER TO MECHANICAL.
- REMOVE DOOR LOCKSET AND SALVAGE EXISTING CYLINDER FOR REINSTALLATION IN THE NEW LOCKSET AT THE SAME LOCATION.
- REMOVE KICK PLATE.
- REMOVE AND SALVAGE WALL MOUNTED BOARDS, PICTURE FRAMES AND PLAQUE FOR RETURN TO OWNER.

**KEY PLAN**



**FIRST FLOOR ARCHITECTURAL DEMOLITION PLAN**  
 SCALE: 1/8" = 1'-0"  
 NORTH

PLOT INFO: 2/16/2024 10:32:27 AM

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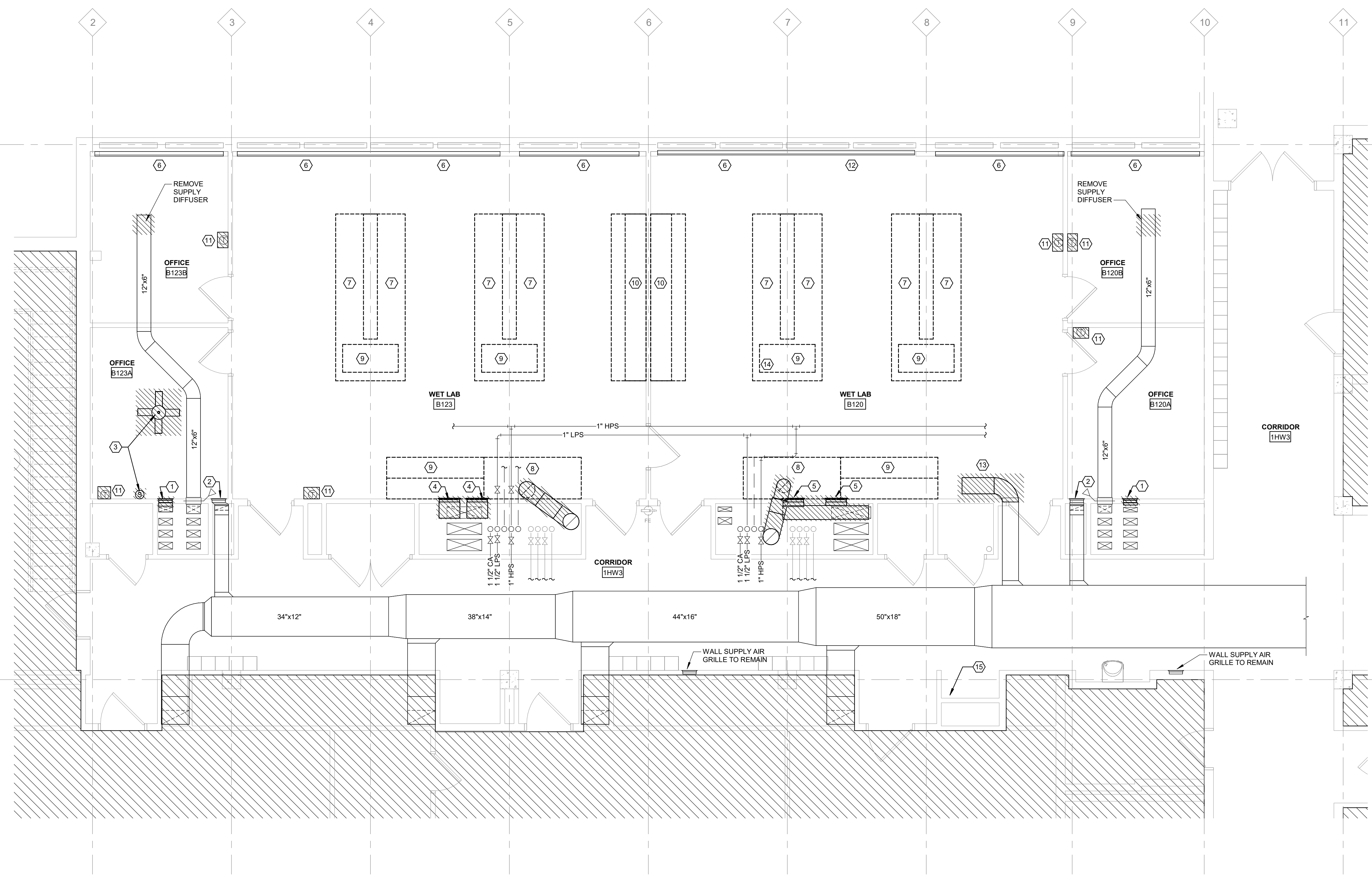
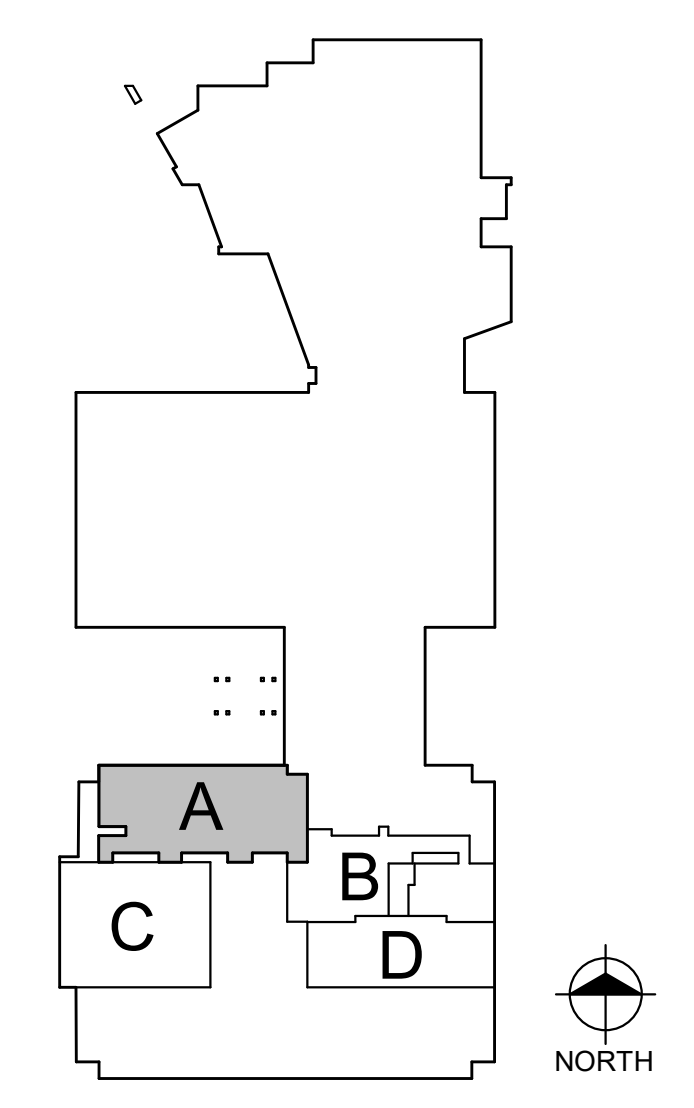
GENERAL DEMOLITION NOTES

- REMOVE ALL PORTIONS OF WORK IDENTIFIED BY CROSS HATCHING UNLESS NOTED OTHERWISE.
- FIELD DETERMINE EXACT LOCATIONS AND REMOVE PORTIONS OF DUCTWORK, PIPING AND EQUIPMENT SHOWN BY CROSS-HATCHING. SCHEDULE SHUT-DOWNS WITH OWNER. CAP ALL OPEN DUCT AND PIPE ENDS AT END OF EACH WORK DAY. REFER TO REMAINING DRAWINGS TO COORDINATE DEMOLITION EXTENT WITH NEW WORK.
- KEEP UTILITIES PASSING FROM ONE PHASE TO ANOTHER IN SERVICE THAT ARE ACTIVELY SERVING OCCUPIED AREAS IN THEIR PRESENT POSITION OR REROUTE AND RECONNECT TO EXTENT NECESSARY TO INSTALL CURRENT CONSTRUCTION PHASE NEW WORK.
- PATCH OPENINGS LEFT BY DEMOLITION IN WALLS, AND FLOORS TO MATCH SURROUNDING SURFACES.
- REPAIR ANY PIPE AND DUCT INSULATION DAMAGED DURING DEMOLITION TO ORIGINAL CONDITIONS.
- PROVIDE REMOVAL AND REINSTALLATION OF CEILINGS WHERE DEMOLITION REQUIRES CEILING REMOVAL. REPLACE DAMAGED CEILING TILES AND GRID TO MATCH EXISTING.
- PROVIDE FIRESTOP IN NEW AND EXISTING HOLES AND PENETRATIONS IN CORRIDORS AND OTHER RATED WALLS IN DEMOLITION WORK AREAS.
- PROVIDE ISOLATION, DRAIN AND FILLING OF PIPING SYSTEMS AS REQUIRED TO PERFORM DEMOLITION WORK.
- REMOVE ALL FIRE, FIRE/SMOKE AND SMOKE DAMPERS IN WALLS THAT ARE BEING REVISED TO NON-RATED WALLS. FIELD VERIFY LOCATIONS. REFER TO ARCHITECTURAL PLANS FOR COORDINATION. PATCH AND SEAL DUCTWORK AFTER DAMPER DEMOLITION.
- REMOVE ALL PNEUMATIC CONTROL COMPONENTS AND POWER AND CONTROL WIRING AND DEVICES ASSOCIATED WITH EQUIPMENT BEING REMOVED. PATCH SURFACES AT REMOVED EQUIPMENT AND WIRING AS REQUIRED AND PAINT OR INSTALL FINISHES TO MATCH SURROUNDING SURFACES IN ACCORDANCE WITH SPECIFICATION DIVISION 9.
- TEMPORARILY CAP OPEN DUCTS PRIOR TO PROPOSED WORK.

DEMOLITION KEY NOTES

- REMOVE WALL MOUNTED GRILLE AND 12"x4" DUCT TO VERTICAL DUCT.
- GRILLE TO REMAIN.
- DEMOLISH CEILING FAN, WALL MOUNTED SWITCH, WIRE AND ASSOCIATED SURFACE MOUNTED RACEWAY. REMOVE CONDUIT AND WIRING BACK TO POWER SOURCE.
- REMOVE WALL GRILLE AND 10"x16" DUCT TO 30"x10" VERTICAL DUCT.
- REMOVE WALL GRILLE AND 10"x18" DUCT TO 34"x10" VERTICAL DUCT.
- FINNED TUBE TO REMAIN.
- REMOVE COMPRESSED AIR, NATURAL GAS AND HW AND CW PIPES AT LAB BENCHES. CAP AND LABEL ALL PIPING BELOW FLOOR IN UTILITY TRENCH.
- REMOVE FUME HOOD EXHAUST DUCT AND COMPRESSED AIR, NATURAL GAS AND HW AND CW PIPES BACK TO WALL AND CAP FOR FUTURE CONNECTION. LABEL ALL PIPING.
- REMOVE SINK AND ASSOCIATED TRIM. REMOVE HW, CW, VENT AND SANITARY PIPES BACK TO WALL AND/OR FLOOR AND CAP AND LABEL FOR FUTURE CONNECTION.
- REMOVE COMPRESSED AIR AND NATURAL GAS PIPES AT LAB BENCH BACK TO WALL OR FLOOR AND CAP AND LABEL FOR FUTURE CONNECTION.
- REMOVE PNEUMATIC TEMPERATURE SENSOR.
- FINNED TUBE TO REMAIN. TRIM ENCLOSURE AND REMOVE FINNED TUBE AT PROPOSED WALL LOCATION. HEATING WATER PIPING TO REMAIN.
- REMOVE EXHAUST DUCT.
- REMOVE EYEWASH AND ASSOCIATED TRIM. REMOVE HW, CW, VENT AND SANITARY PIPES BACK TO FLOOR AND CAP AND LABEL FOR FUTURE CONNECTION.
- REMOVE CW AND SANITARY PIPES BACK TO WALL AND CAP FOR FUTURE CONNECTION. LABEL PIPING.

KEY PLAN



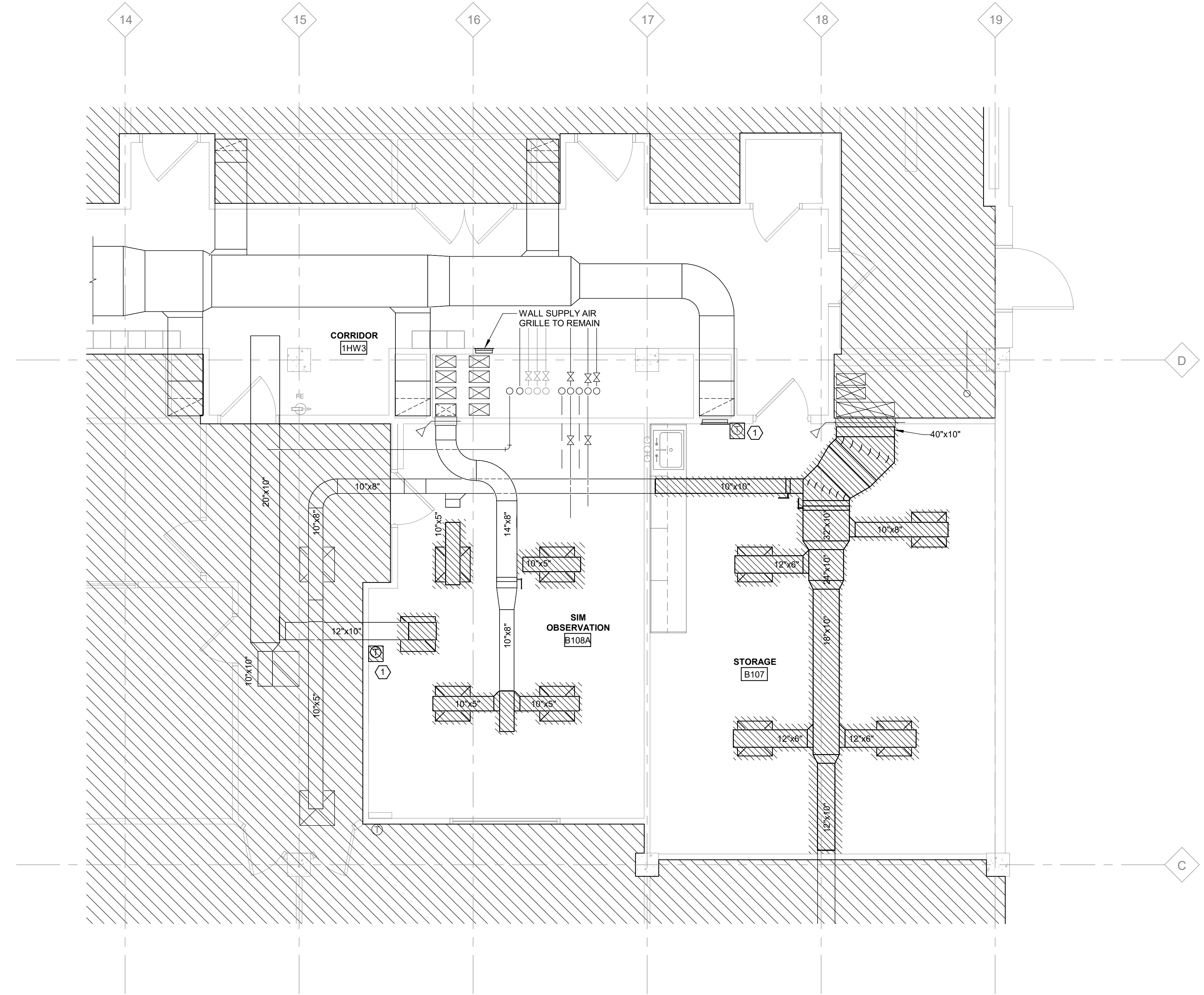
FIRST FLOOR MECHANICAL DEMOLITION PLAN - AREA A  
 SCALE: 1/4" = 1'-0"

PLOT INFO: 2/16/2024 6:39:14 AM

CAPITAL PROJ. NO.	CP23077
PR. MGR.	Z. KIEFER
ARCH.	D. LAUNSTEIN
MECH.	A. VANDERSTELT
ELEC.	K. HOWARD
CIVIL	
L.A.	
INT. DES.	D. WHITBECK
CONST. REP.	
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SCALE	AS SHOWN
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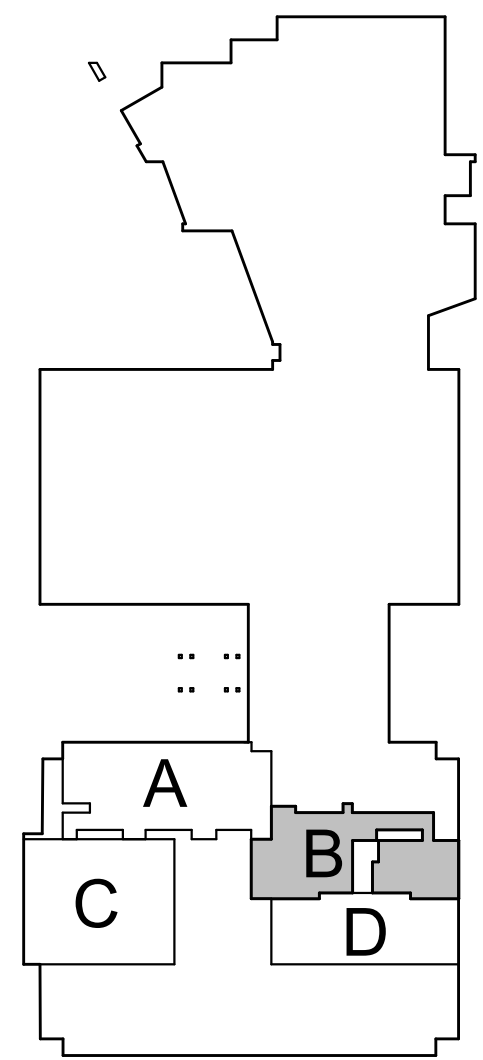
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DEMOLITION KEY NOTES

- 1. REMOVE PNEUMATIC TEMPERATURE SENSOR.

KEY PLAN



FIRST FLOOR MECHANICAL DEMOLITION PLAN - AREA B

SCALE: 1/4" = 1'-0"

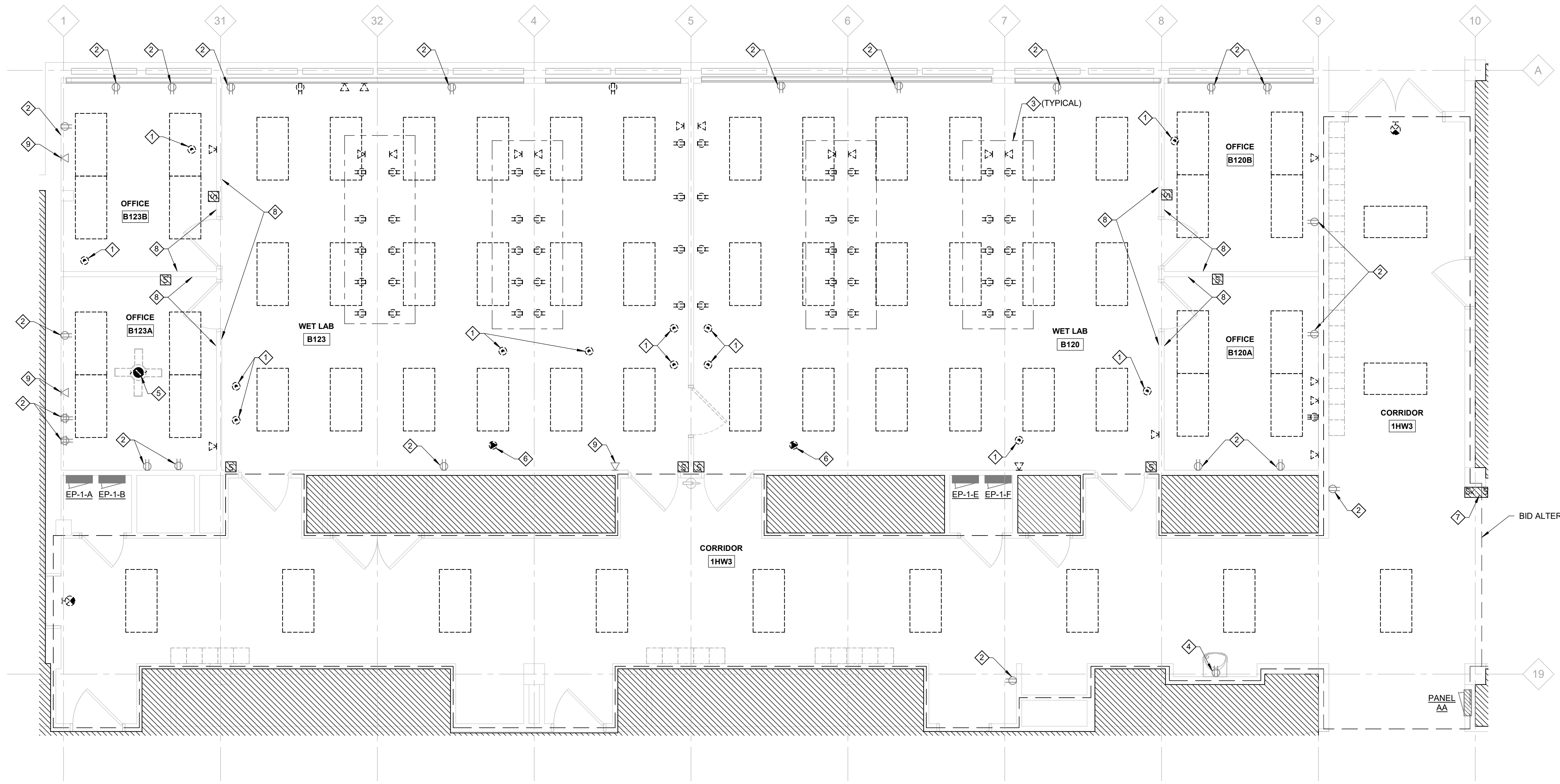
CAPITAL PROJ. NO.	CP23077
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ELEC.	K. HOWARD
CIVIL	
L.A.	
INT. DES.	D. WHITBECK
CONST. REP.	
APPR.	
DATE	
SCALE	AS SHOWN
REVISIONS	
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**GENERAL DEMOLITION NOTES**

- REMOVE EXISTING LIGHTING FIXTURES AND LIGHTING CONTROL DEVICES. UNO. REUSE EXISTING SWITCH LOCATIONS WHERE APPLICABLE. PROVIDE BLANK STAINLESS STEEL COVER PLATES FOR ANY SWITCH LOCATIONS/BOX LOCATIONS TO REMAIN IN BLOCK WALLS THAT ARE NOT REUSED.
- DASHED LINES INDICATE ELECTRICAL ITEMS TO BE REMOVED. REMOVE ASSOCIATED CONDUITS AND CONDUCTORS BACK TO SOURCE.
- FOR DEVICES FED FROM WALKER DUCTS, REMOVE ASSOCIATED CONDUCTORS BACK TO SOURCE. CONDUIT SHALL REMAIN. LABEL CONDUIT TO REMAIN AS SPARE AT EACH END AND SEAL.
- REUSE EXISTING LIGHTING CIRCUITS. SEE NEW LIGHTING PLANS ON SHEETS E004 AND E005.
- SALVAGE EXISTING LIGHTING FIXTURES AND TURN OVER TO MSU SURPLUS.

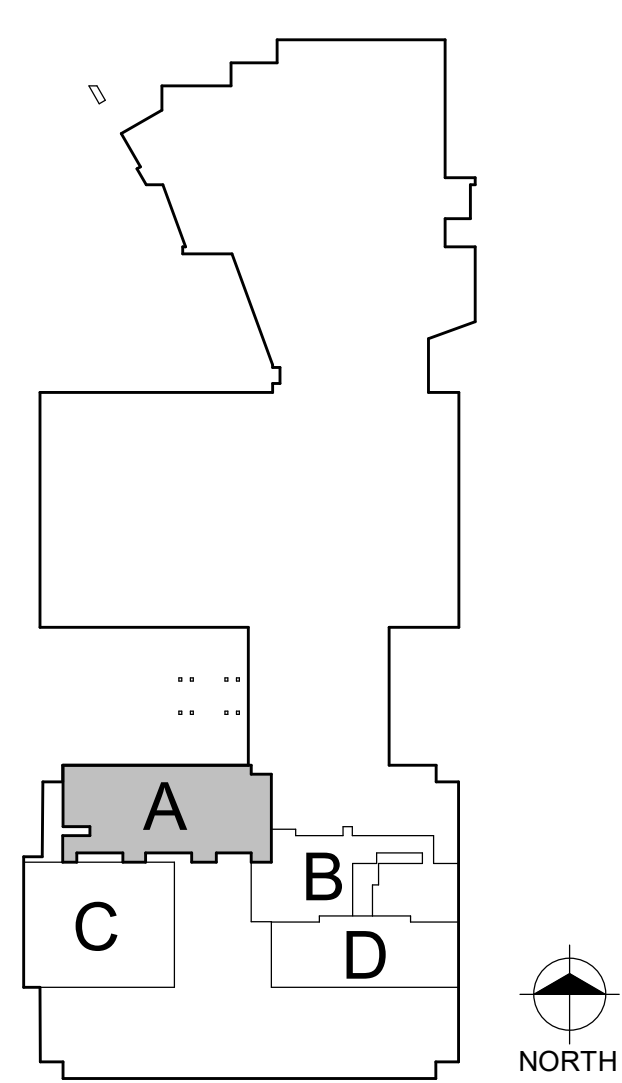
**KEY NOTES**

- REMOVE FLOOR MOUNTED RECEPTACLE. REMOVE ASSOCIATED CONDUCTORS BACK TO SOURCE. PROVIDE FIRESTOPPING TO FILL OPENING.
- RECEPTACLE LOCATION TO REMAIN. PROVIDE NEW RECEPTACLE IN SAME LOCATION.
- REMOVE FURNITURE AND ASSOCIATED WIRING DEVICES. REMOVE ASSOCIATED CONDUCTORS BACK TO SOURCE. PROVIDE STAINLESS STEEL BLANK COVER PLATES FOR FLOOR OPENINGS AS REQUIRED.
- RECEPTACLE LOCATION TO REMAIN. PROVIDE NEW GFI RECEPTACLE IN SAME LOCATION. REFER TO E211 FOR MORE INFORMATION.
- REMOVE POWER CONNECTION FOR CEILING FAN. REMOVE CONDUCTORS AND CONDUIT BACK TO SOURCE. CIRCUIT TO BE REUSED.
- REMOVE POWER CONNECTIONS FOR FUME HOODS. REMOVE CONDUCTORS AND CONDUIT BACK TO SOURCE. CIRCUITS TO BE REUSED.
- DEMOLISH LIGHT SWITCHES. REUSE BOX FOR NEW LIGHT SWITCH. PROVIDE BLANK STAINLESS STEEL COVER FOR UNUSED SPACES.
- REMOVE ALL SURFACE MOUNTED CONDUITS ON WALL.
- EXISTING DATA DEVICE TO REMAIN.



**1 FIRST FLOOR ELECTRICAL DEMOLITION PLAN - AREA A**  
 SCALE: 1/4" = 1'-0"

**KEY PLAN**



CAPITAL PROJ. NO.  
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PR. MGR.	Z. KIEFER
ARCH.	D. LAUNSTEIN
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DATE	
SCALE	AS SHOWN
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FIRST FLOOR ELEC  
 DEMO PLAN - AREA B

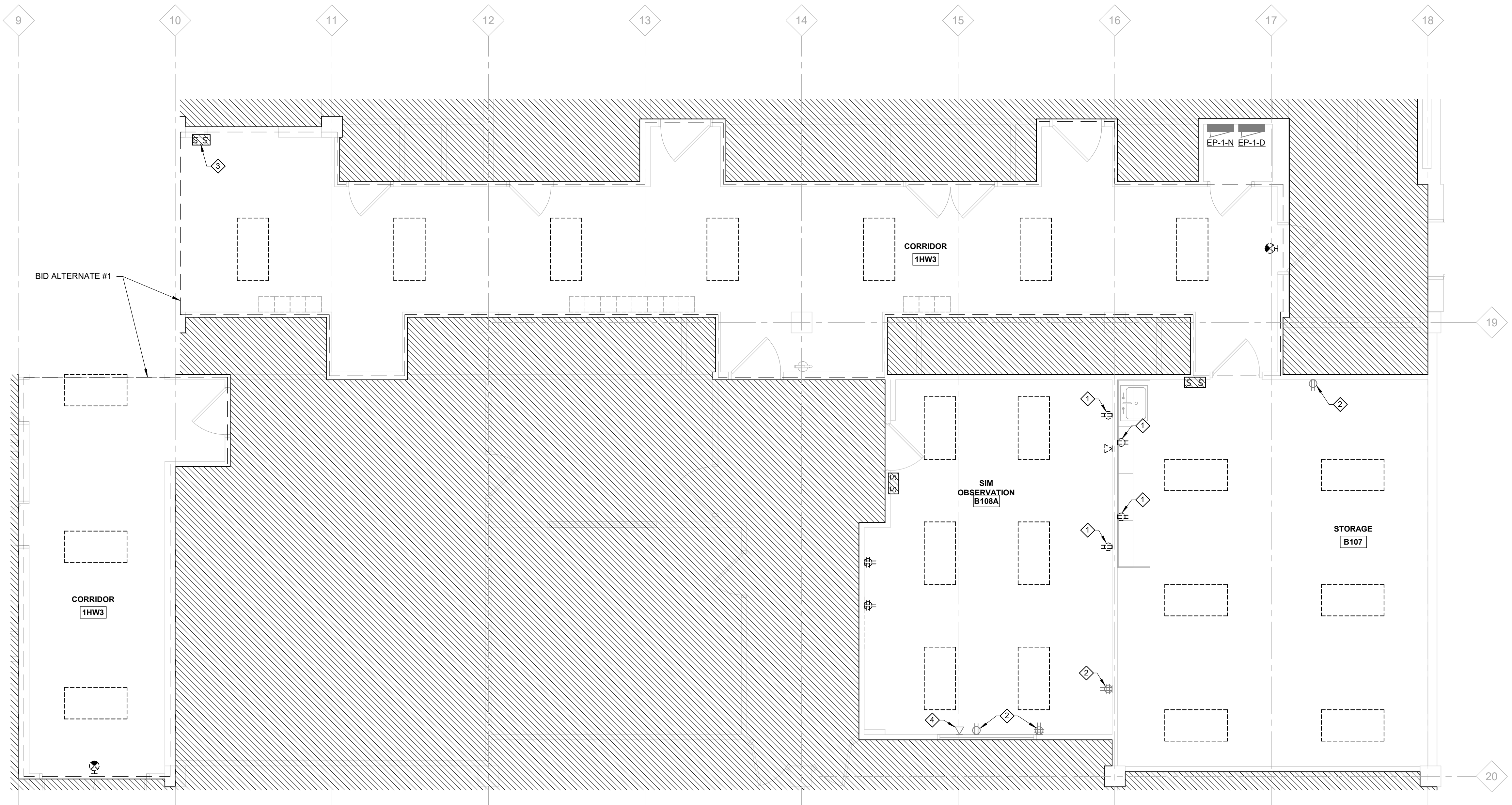
DE-002

GENERAL DEMOLITION NOTES

- REMOVE EXISTING LIGHTING FIXTURES AND LIGHTING CONTROL DEVICES. UNO. REUSE EXISTING SWITCH LOCATIONS WHERE APPLICABLE. PROVIDE BLANK STAINLESS STEEL COVER PLATES FOR ANY SWITCH LOCATIONS/BOX LOCATIONS TO REMAIN IN BLOCK WALLS THAT ARE NOT REUSED.
- DASHED LINES INDICATE ELECTRICAL ITEMS TO BE REMOVED. REMOVE ASSOCIATED CONDUITS AND CONDUCTORS BACK TO SOURCE.
- FOR DEVICES FED FROM WALKER DUCTS, REMOVE ASSOCIATED CONDUCTORS BACK TO SOURCE. CONDUIT SHALL REMAIN. LABEL CONDUIT TO REMAIN AS SPARE AT EACH END AND SEAL.
- REUSE EXISTING LIGHTING CIRCUITS. SEE NEW LIGHTING PLANS ON SHEETS E004 AND E005.
- SALVAGE EXISTING LIGHTING FIXTURES AND TURN OVER TO MSU SURPLUS.

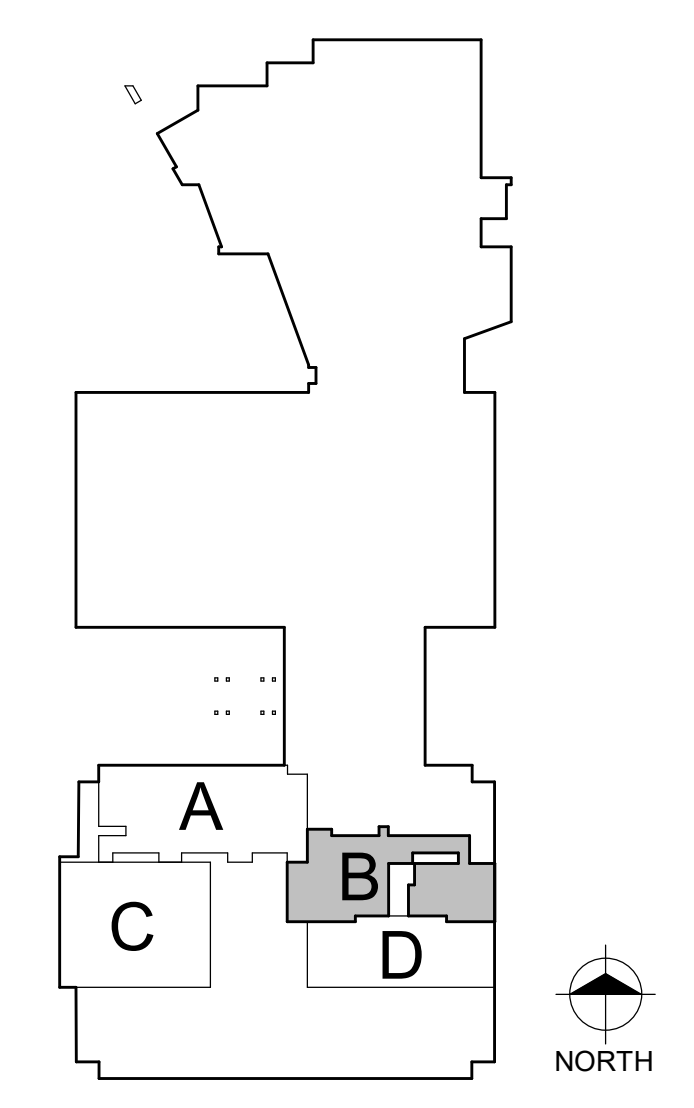
KEY NOTES

- RECEPTACLE LOCATION TO REMAIN. PROVIDE NEW GFI RECEPTACLE IN SAME LOCATION.
- RECEPTACLE LOCATION TO REMAIN. PROVIDE NEW RECEPTACLE IN SAME LOCATION.
- DEMOLISH LIGHT SWITCHES. REUSE BOX FOR NEW LIGHT SWITCH. PROVIDE BLANK STAINLESS STEEL COVER FOR UNUSED SPACES.
- EXISTING DATA DEVICE TO REMAIN.

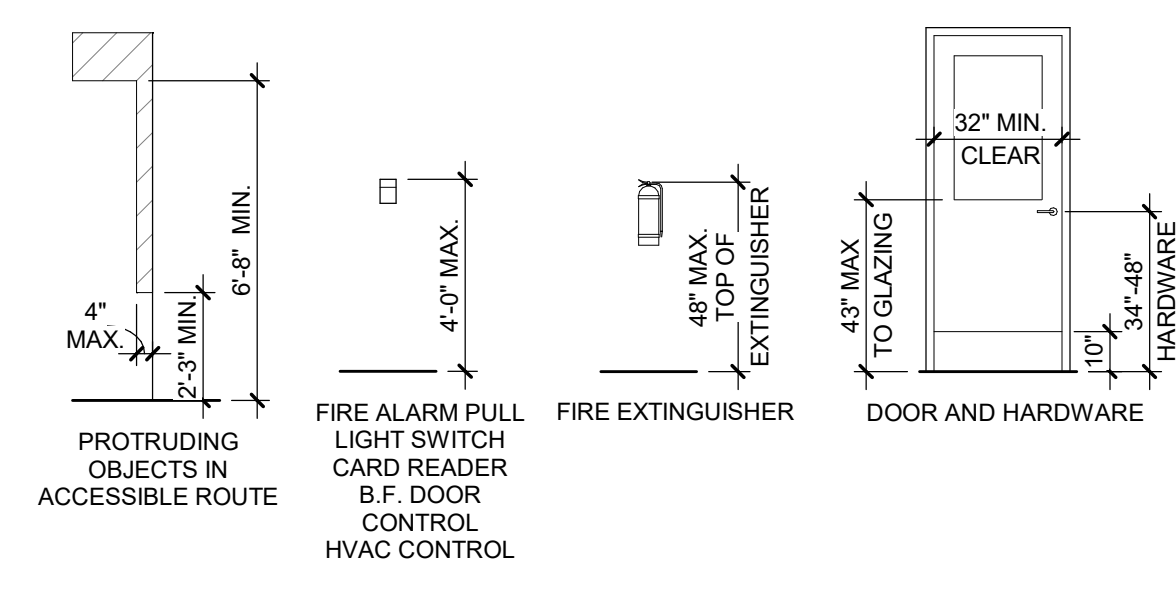


2 FIRST FLOOR ELECTRICAL DEMOLITION PLAN - AREA B  
 SCALE: 1/4" = 1'-0"

KEY PLAN



BARRIER FREE DETAILS



GENERAL NOTES

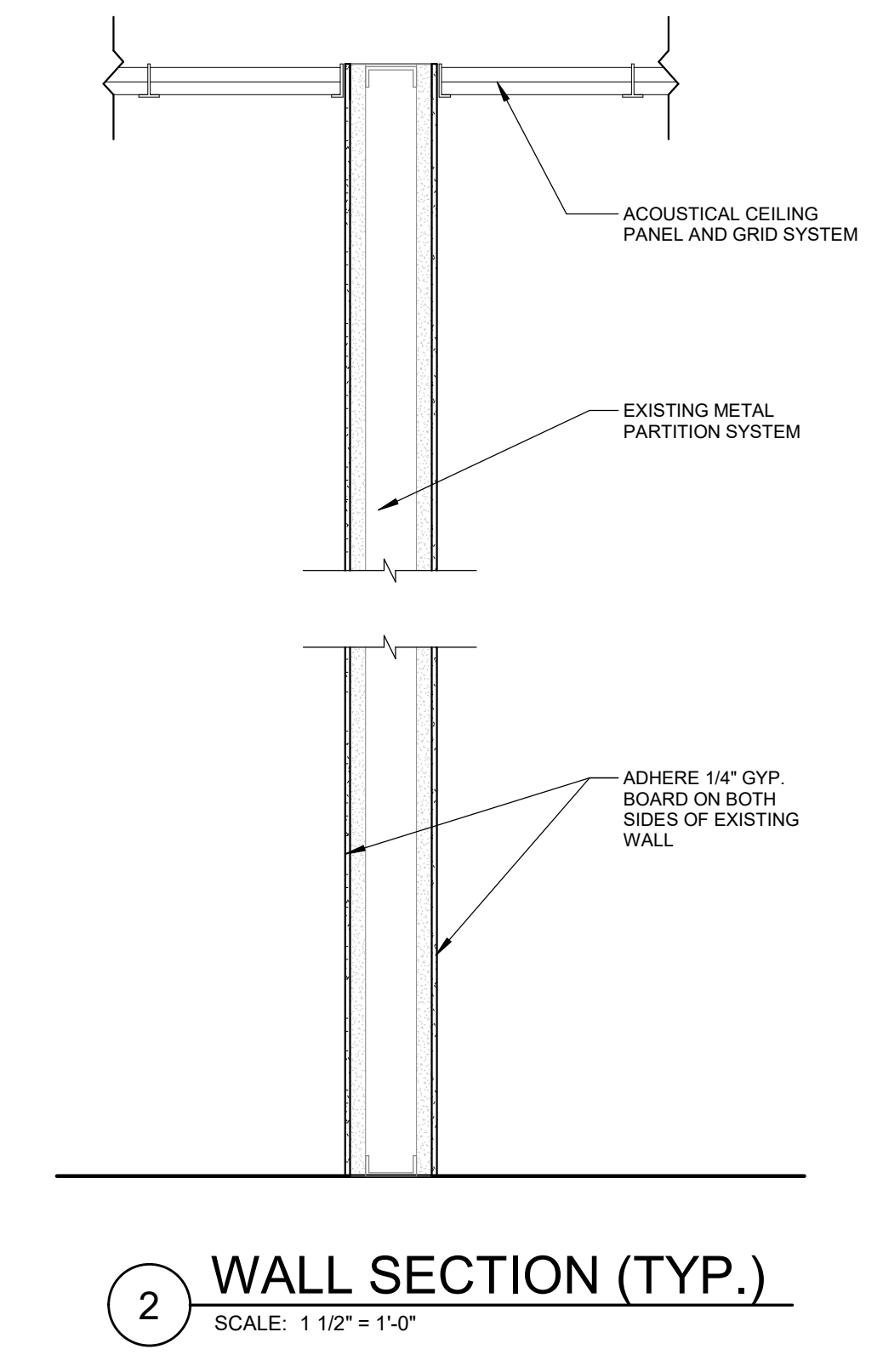
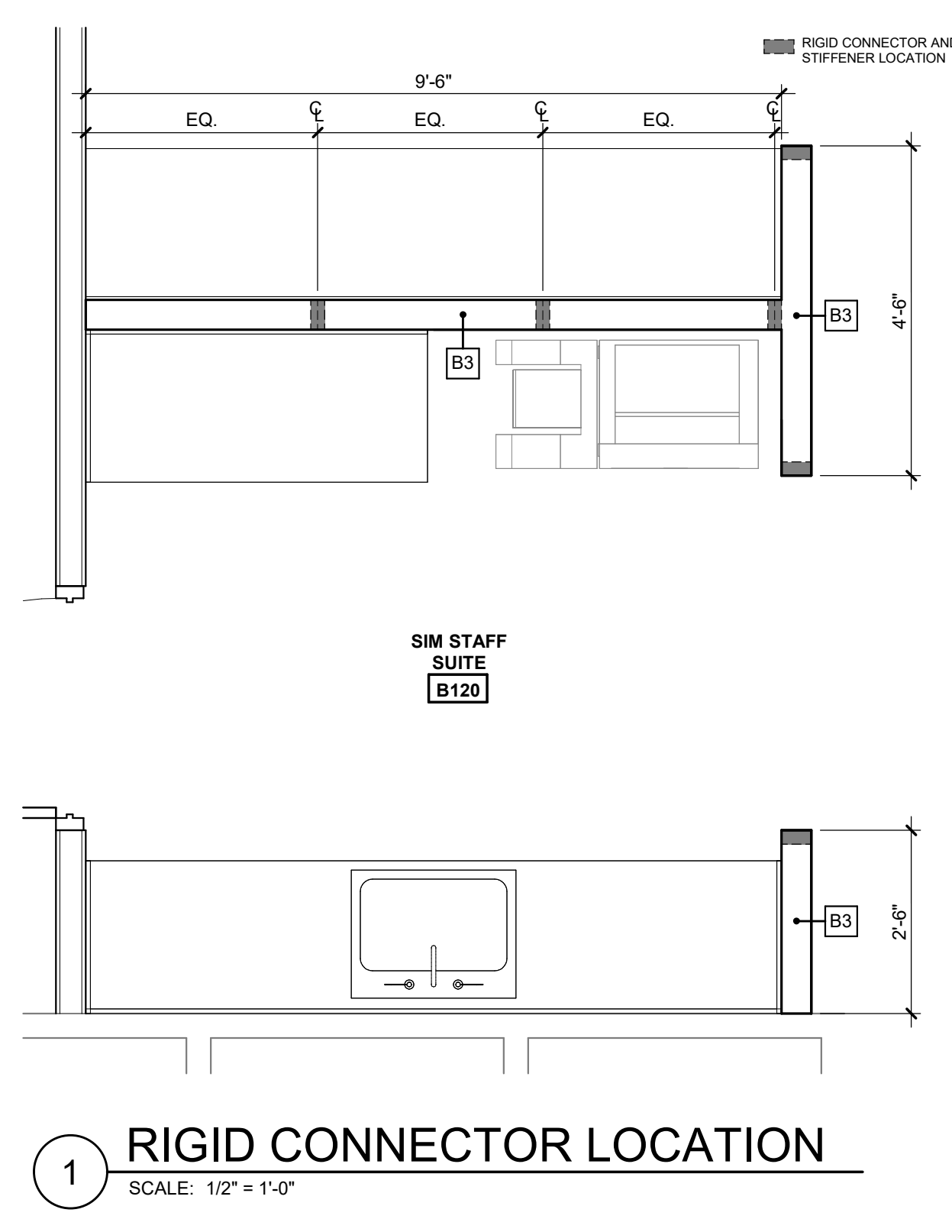
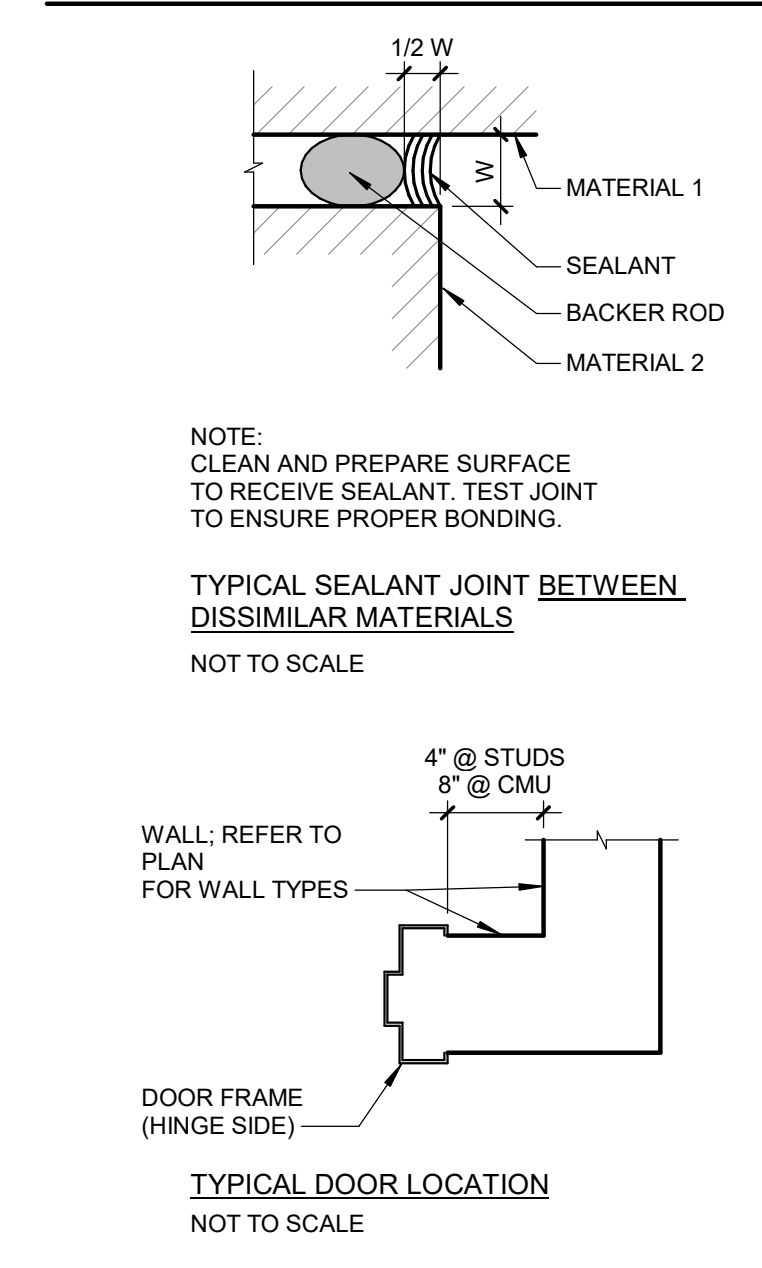
- COORDINATE ALL WORK INDICATED PER THE PROJECT MANUAL AND DRAWINGS - NOTE: THE MOST STRINGENT REQUIREMENT OR MORE COSTLY WORK SHALL GOVERN WHERE CONFLICTS OCCUR.
- COORDINATE PHASING AND SEQUENCING OF THE WORK TO MAINTAIN BUILDING SECURITY AND WEATHER TIGHTNESS.
- COORDINATE ALL CUT, PATCH, AND REPAIR WORK WITH ALL OTHER TRADES, INCLUDING MECHANICAL AND ELECTRICAL DRAWINGS. PATCHING OF FINISHES TO EXTEND TO NEAREST NATURAL BREAK OR SURFACE TERMINATION FOR A CLEAN, UNBLEMISHED APPEARANCE AT THE END OF CONSTRUCTION.
- PROVIDE INTERIOR AND/OR EXTERIOR SHORING, BRACING, OR SUPPORT AS REQUIRED TO PREVENT MOVEMENT, SETTLEMENT, DAMAGE, OR COLLAPSE OF THE STRUCTURE WHERE WORK OCCURS.
- VERIFY ALL DIMENSIONS INDICATED ON DRAWINGS PRIOR TO CONSTRUCTION; COMMENCEMENT OF WORK CONSTITUTES ACCEPTANCE OF CONDITIONS.
- AREAS WITHIN THE BUILDING ARE TO REMAIN OCCUPIED, PROVIDE AND MAINTAIN CONSTRUCTION BARRIER BETWEEN CONSTRUCTION AND OCCUPIED AREAS.
- REFER TO REFLECTED CEILING PLANS FOR CEILING HEIGHTS. ALL CEILING ELEVATIONS ARE ABOVE FINISH FLOOR.
- ALL DIMENSIONS ON FLOOR PLANS ARE SHOWN TO FINISHED FACE OF WALL, UNLESS OTHERWISE NOTED. REFER TO ENLARGED FLOOR PLANS, SECTIONS, AND DETAILS FOR OTHER DIMENSIONS.
- REFER TO ROOM FINISH SCHEDULE, ELEVATIONS AND REFLECTED CEILING PLANS FOR FINISHES.
- EXTEND ALL WALLS TIGHT TO DECK ABOVE, UNLESS NOTED OTHERWISE.
- MECHANICAL AND ELECTRICAL FIXTURES ARE SHOWN FOR REFERENCE AND COORDINATION ONLY. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR TYPES, LOCATIONS AND QUANTITIES REQUIRED.
- REFER TO MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR COMPLETE LISTING OF ALL PENETRATIONS.
- ALL BLOCKING / SHEATHING TO BE FIRE RETARDANT TREATED (FRT), EXCEPT NON-STRUCTURAL BLOCKING IN INTERIOR WALLS SUCH AS FOR HANDRAILS, MILLWORK, CABINETS, AND WINDOW AND DOOR FRAMES, OR AS OTHERWISE INDICATED.
- PROTECT EXISTING WALLS AND FLOORING TO REMAIN DURING CONSTRUCTION.
- THE EXISTING BUILDING MAY CONTAIN HAZARDOUS MATERIALS. THE OWNER HAS TESTED FOR AND WILL REMEDIATE ASBESTOS IN AFFECTED ROOMS PRIOR TO CONSTRUCTION. TEST REPORTS ARE AVAILABLE UPON REQUEST.

LEGEND	WALL TYPES					
	A			B		
REFER TO ACOUSTICAL WALLS WITH 'A' SUFFIX.	TYPE CHART			TYPE CHART		
	TAG	STUD SIZE	TOTAL WIDTH	TAG	STUD SIZE	TOTAL WIDTH
	A3	3 5/8"	4 7/8"	B3	3 5/8"	4 7/8"
	A3A	3 5/8"	4 7/8"			

WALL TYPE NOTES

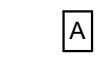
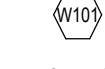





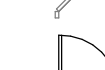

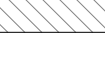


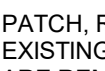
- STUD SIZE "A" LOCATION OF TAG INDICATES SIDE OF WALL W/ GYPSUM BOARD OR SIDE OF WALL WITH MULTIPLE LAYERS OF GYPSUM BOARD
- WALL TYPE LEGEND
- WALL TAG WITH "A" SUFFIX INDICATES ACOUSTICAL WALL, REFER TO ACOUSTICAL WALL NOTES BELOW.
  - PROVIDE DEFLECTION TRACKS OR CLIPS FOR ALL PARTITIONS ABUTTING STRUCTURE ABOVE.
  - EXTEND RATED PARTITIONS THROUGH THE INTERIOR FACE OF EXTERIOR WALL GYPSUM BOARD AND SEAL TO THE INSIDE FACE OF THE EXTERIOR BUILDING WALL SHEATHING.
  - INTERIOR METAL STUD PARTITIONS ARE DIMENSIONED FROM FACE OF GYPSUM BOARD OR TILE BACKER BOARD.
  - MAINTAIN THE FIRE-PROTECTION RATINGS FOR ALL OPENINGS IN RATED PARTITIONS.
  - WHERE THICKNESS VARIES BETWEEN TWO PARTITIONS IN AN UNINTERRUPTED CONTINUOUS WALL PLANE - OFFSET STUDS AND ALIGN FACE OF PARTITIONS.
  - METAL STUD FRAMING: MIN. 20 GAGE @ 16" O.C. U.N.O.
  - UL DESIGN NUMBERS REFER TO THE UNDERWRITERS LABORATORIES FIRE RESISTANCE DIRECTORY-LATEST EDITION.
  - FIRE RATED PARTITIONS SHALL HAVE FIRESTOP SEALANT AT THE HEAD, SILL, THROUGH PENETRATIONS, OPENINGS AND JUNCTURES WITH DISSIMILAR MATERIALS.
  - EXTEND ALL WALLS TIGHT TO DECK ABOVE UNLESS NOTED OR DETAILED OTHERWISE.
  - OFF-SET ALL RECESSED DEVICES BY MINIMUM OF ONE STUD CAVITY. DO NOT INSTALL BACK TO BACK OR WITHIN SAME STUD CAVITY.
  - PROVIDE BLOCKING IN WALL REQ'D TO SUPPORT BUILT-IN ITEMS, FIXTURES, MILLWORK, AND OTHER WALL SUPPORTED ITEMS.
  - REFER TO LIFE SAFETY PLANS FOR LOCATION AND DURATION OF RATED ASSEMBLIES.

STANDARD DETAILS



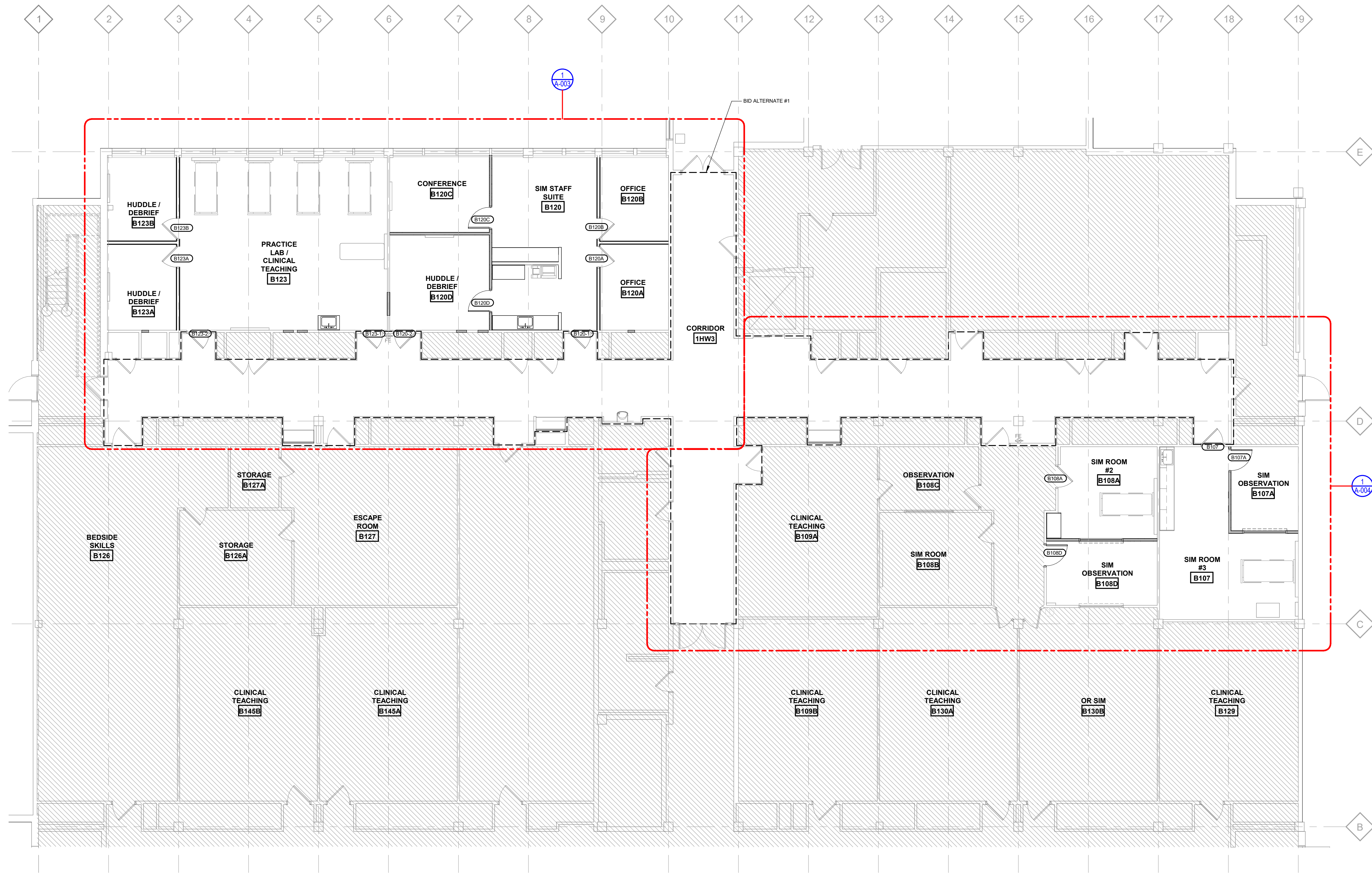


FLOOR PLAN SYMBOL LEGEND

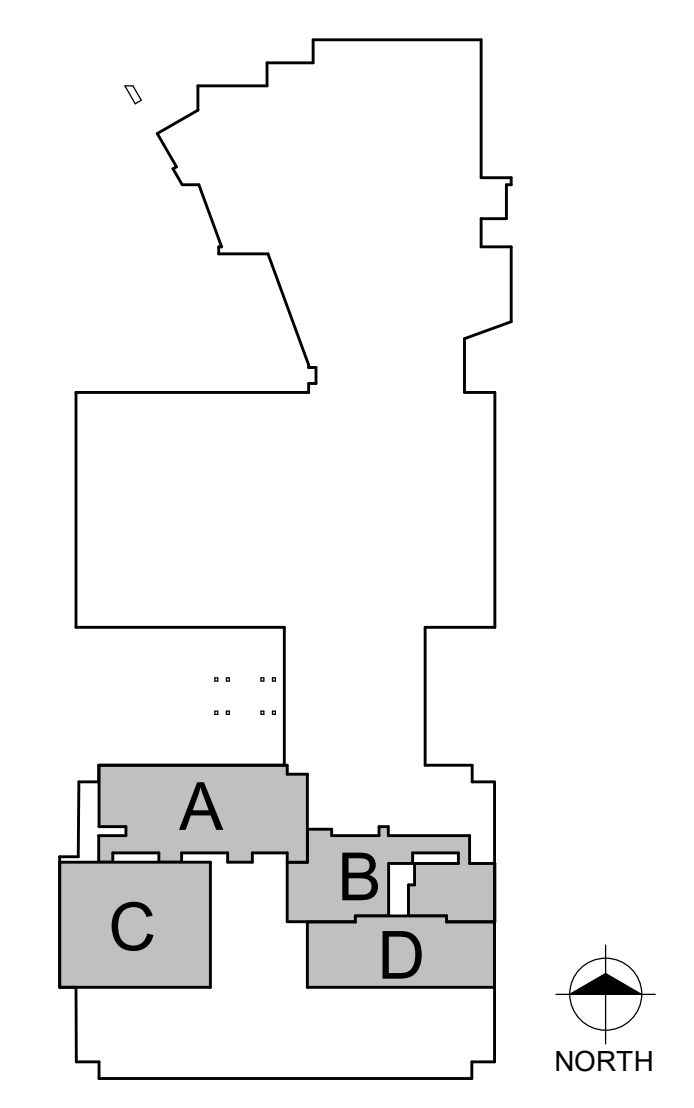
-  INTERIOR WALL TYPE; REFER TO SHEET A-001
-  WINDOW TAG
-  DOOR NUMBER
-  BARRIER FREE/ADA ACCESSIBLE
-  CASEWORK
-  1 HOUR FIRE RATING
-  2 HOUR FIRE RATING
-  METAL STUD WALL
-  EXISTING WALL
-  EXISTING DOOR
-  NEW DOOR
-  FLOOR DRAIN; REFER TO MECHANICAL
-  AREAS WITH NO ARCHITECTURAL SCOPE

GENERAL FLOOR PLAN NOTES

1. PATCH, REPAIR AND PAINT WALL TO MATCH SURROUNDING WHERE EXISTING CASEWORK, MECHANICAL, ELECTRICAL AND PLUMBING ITEMS ARE REMOVED. REFER TO DEMOLITION PLANS, MECHANICAL, ELECTRICAL AND PLUMBING DOCUMENTS FOR LOCATIONS AND DETAILS.



KEY PLAN



**FIRST FLOOR PLAN - OVERALL**  
 SCALE: 1/8" = 1'-0"  
 NORTH

CAPITAL PROJ. NO. CP23077	
PR. MGR.	Z. KIEFER
ARCH.	D. LAUNSTEIN
MECH.	A. VANDERSTELT
ELEC.	K. HOWARD
CIVIL	
L.A.	
INT. DES.	D. WHITBECK
CONST. REP.	
APPR.	
DATE	
SCALE	AS SHOWN
REVISIONS	
2/16/24 RELEASED FOR BID	

FIRST FLOOR PLAN - OVERALL

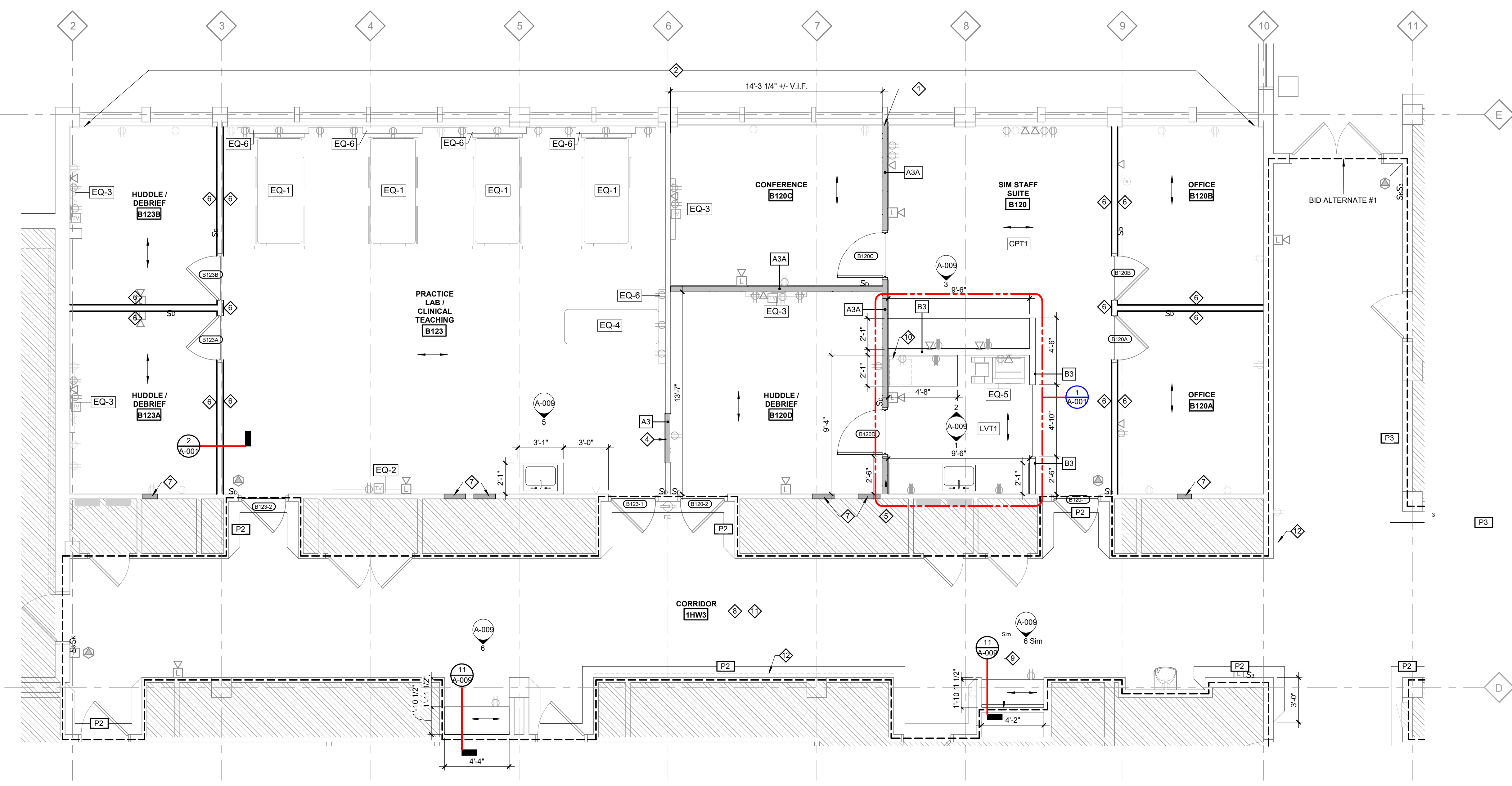
CAPITAL PROJ. NO.  
 CP23077

PR. MGR. Z. KIEFER  
 ARCH. D. LAUNSTEIN  
 MECH. A. VANDERSTELT  
 ELEC. K. HOWARD  
 CIVIL \_\_\_\_\_  
 L.A. \_\_\_\_\_  
 INT. DES. D. WHITBECK  
 CONST. REP. \_\_\_\_\_  
 APPR. \_\_\_\_\_  
 DATE \_\_\_\_\_  
 SCALE AS SHOWN  
 REVISIONS \_\_\_\_\_  
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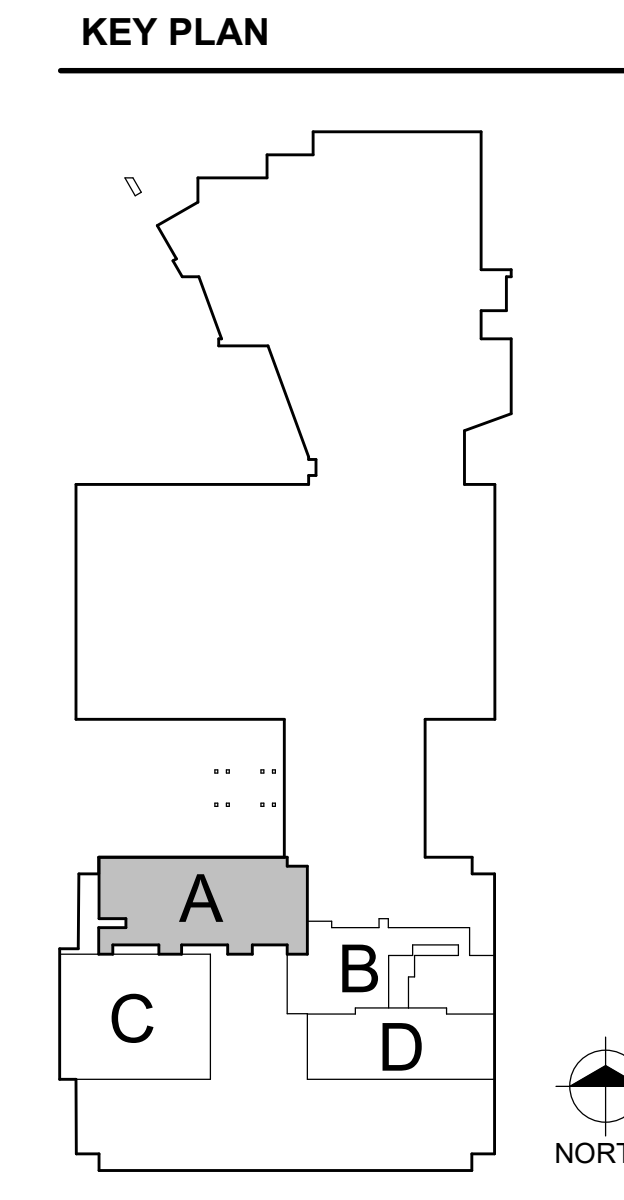
EQUIPMENT SCHEDULE						
MARK	MANUFACTURER	DESCRIPTION	MODEL	QUANTITY	ELECTRICAL	RESPONSIBILITY
EQ-1	HILL-ROM	HOSPITAL BED	P1600	6	110V / STANDARD	OF/OI
EQ-2	DTEN	75" VIDEO CONFERENCING AND COMPUTER DISPLAY SYSTEM		1	100 TO 240V AC, 50 TO 60 HZ	OF/OI
EQ-3	DTEN	55" VIDEO CONFERENCING AND COMPUTER DISPLAY SYSTEM		4	100 TO 240V AC, 50 TO 60 HZ	OF/OI
EQ-4	MIDMARK	EXAM TABLE	626	1	115 VAC, 50/60 Hz, 12 A	OF/OI
EQ-5		NETWORK PRINTER		1		OF/OI
EQ-6	AMICO	INTEGRATED CANOPY HEADWALL		9		OF/OI
EQ-7		INFANT WARMING STATION		1	110V / STANDARD	OF/OI

- NOTES
- EQUIPMENT INFORMATION FOR REFERENCE ONLY.
  - EQUIPMENT WILL BE OWNER FURNISHED AND OWNER INSTALLED.

- FLOOR PLAN SYMBOL LEGEND
- [A] INTERIOR WALL TYPE; REFER TO SHEET A-001
  - [W10] WINDOW TAG
  - [D01] DOOR NUMBER
  - [W10] BARRIER FREE/ADA ACCESSIBLE
  - [---] 1 HOUR FIRE RATING
  - [---] 2 HOUR FIRE RATING
  - [---] METAL STUD WALL
  - [---] EXISTING WALL
  - [---] EXISTING DOOR
  - [---] NEW DOOR
  - [FD] FLOOR DRAIN; REFER TO MECHANICAL
  - [---] AREAS WITH NO ARCHITECTURAL SCOPE
  - [X] WALL FINISH EXTENTS
  - [---] FLOORING PATTERN DIRECTION
  - [---] FLOOR FINISH TRANSITION (TS1)
  - [W-XXX] WINDOW TREATMENT LOCATION INDICATOR (WINDOW TREATMENTS TO SPAN ENTIRE LENGTH OF OPENING +2" ON EACH SIDE)
  - [W1] WINDOW LOCATION
- KEY NOTES
- ALIGN WALL WITH CENTERLINE OF EXISTING MULLION.
  - PAINT EXISTING FIN TUBE ENCLOSURES TO MATCH THE WALL.
  - NOT USED.
  - MATCH THE WIDTH OF THE EXISTING WALL.
  - SEAL AROUND DUCT PENETRATION ABOVE WALL IN CEILING PLENUM. REFER TO MECHANICAL.
  - INSTALL 1/4" GYP BOARD ON THE FACE OF EXISTING METAL WALL. SEE DETAIL 2/A-001.
  - FILL IN WALL PENETRATION FROM GRILLE AND DUCT REMOVAL WITH MASONRY BLOCK. MATCH SURROUNDING SURFACE TEXTURE AND COLOR. REFER TO MECHANICAL.
  - ALL CORRIDOR WALLS TO BE PAINTED P1 UNO. BID ALTERNATE #1.
  - INSTALL NEW ACCESS PANEL ON THE WALL FOR FUTURE PIPING ACCESS. REFER TO MECHANICAL.
  - UNDERCOUNTER REFRIGERATOR PROVIDED AND INSTALLED BY OWNER. VERIFY SIZE AND COORDINATE WITH FABRICATOR AS NECESSARY.
  - PROVIDE ALTERNATE PRICING FOR SHEET VINYL FLOORING TO BE APPLIED ON TOP OF EXISTING TERRAZZO IN CORRIDOR. ROLL SHEET FLOORING UP EXISTING COVE BASE AND CAP WITH TARKETT COVE TRIM. USE SHAW NATURELIFE II. COLOR: JAPANESE OAK-GREEN.
  - FUTURE ARTWORK BY OWNER



**1** FIRST FLOOR PLAN - AREA A  
 SCALE: 1/4" = 1'-0"



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L.A.	
INT. DES.	D. WHITBECK
CONST. REP.	
APPR.	
DATE	
SCALE	AS SHOWN
REVISIONS	
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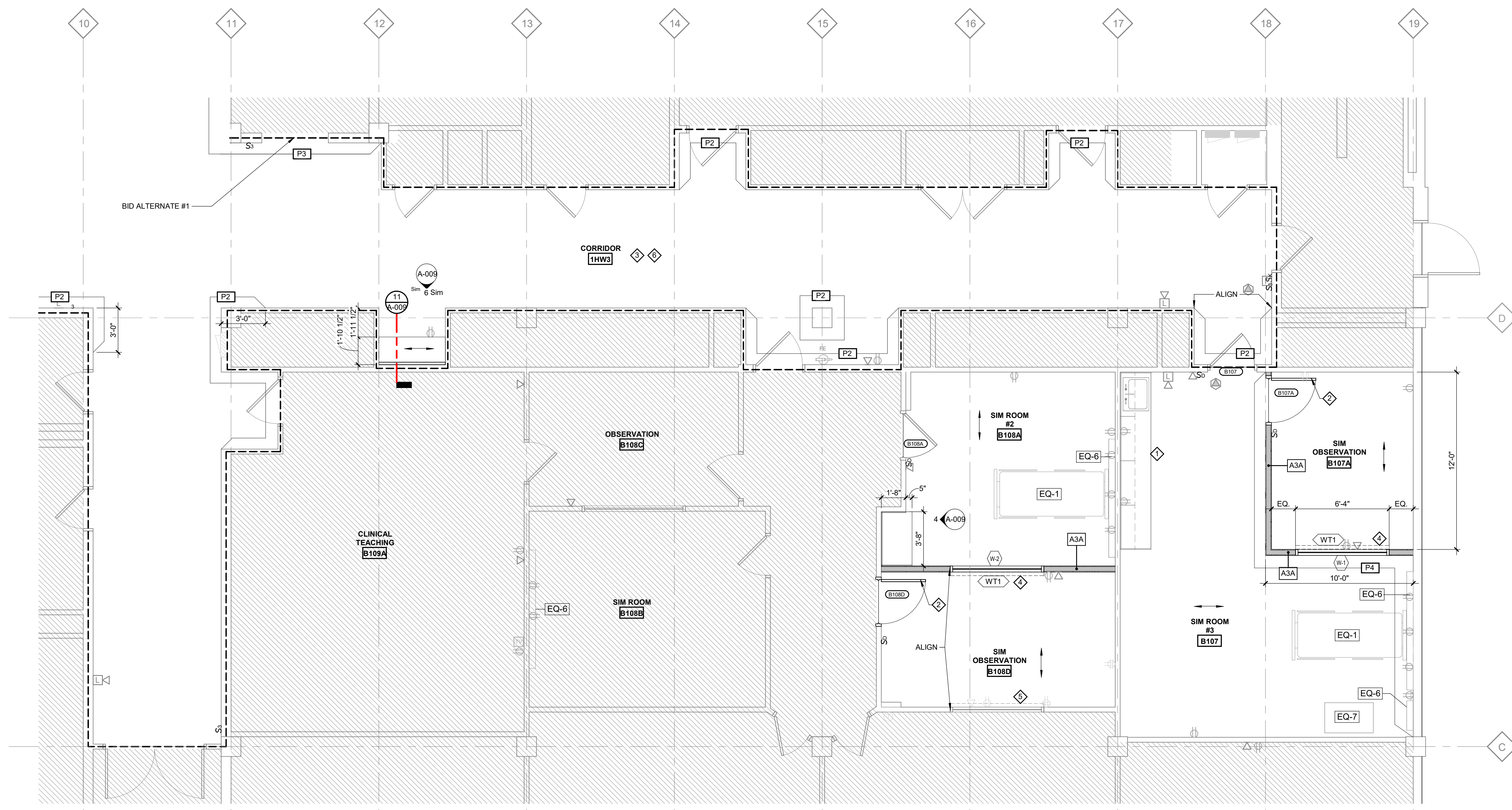
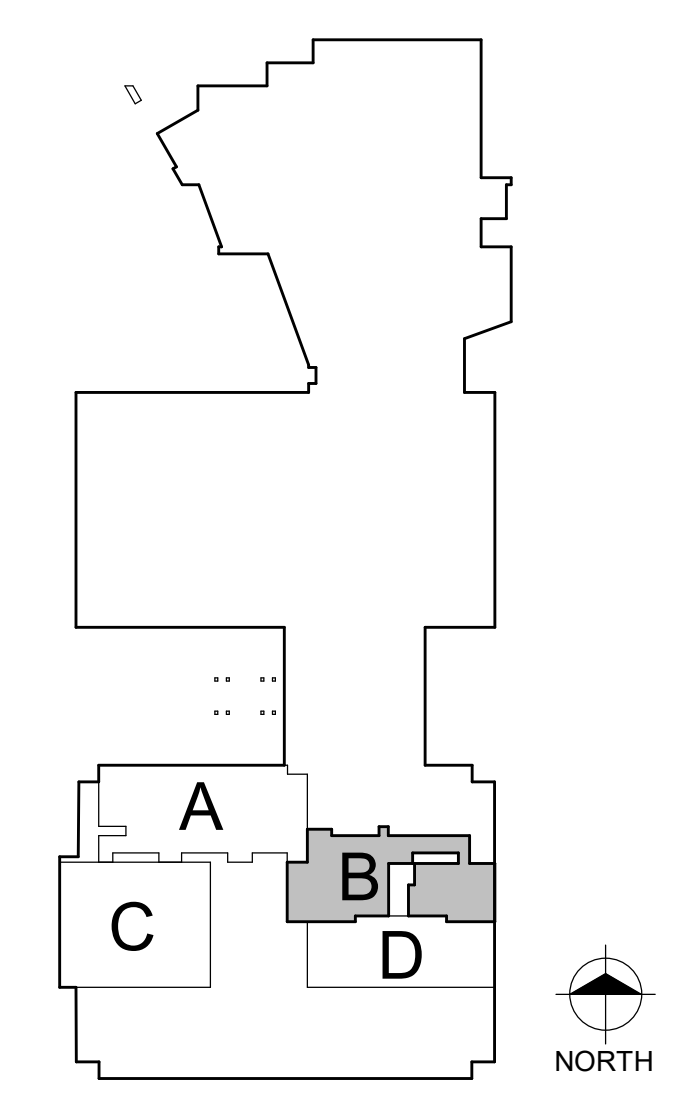
FLOOR PLAN SYMBOL LEGEND

- [A] INTERIOR WALL TYPE; REFER TO SHEET A-001
- [W10] WINDOW TAG
- [101] DOOR NUMBER
- [♿] BARRIER FREE/ADA ACCESSIBLE
- [---] 1 HOUR FIRE RATING
- [---] 2 HOUR FIRE RATING
- [---] METAL STUD WALL
- [---] EXISTING WALL
- [---] EXISTING DOOR
- [---] NEW DOOR
- [FD] FLOOR DRAIN; REFER TO MECHANICAL
- [---] AREAS WITH NO ARCHITECTURAL SCOPE
- [X] WALL FINISH EXTENTS
- [---] FLOORING PATTERN DIRECTION
- [---] FLOOR FINISH TRANSITION (TS1)
- [W-XXX] WINDOW TREATMENT LOCATION INDICATOR (WINDOW TREATMENTS TO SPAN ENTIRE LENGTH OF OPENING +2" ON EACH SIDE)
- [W1] WINDOW LOCATION

KEY NOTES

- 1 EXISTING CASEWORK TO REMAIN.
- 2 ROLLER SHADE AT DOOR LITE ON THE ROOM SIDE.
- 3 ALL CORRIDOR WALLS TO BE PAINTED P1 UNO.
- 4 INSTALL NEW ROLLER SHADE ABOVE OBSERVATION WINDOW.
- 5 EXISTING ROLLER SHADE TO REMAIN.
- 6 PROVIDE ALTERNATE PRICING FOR SHEET VINYL FLOORING TO BE APPLIED ON TOP OF EXISTING TERRAZZO IN CORRIDOR. ROLL SHEET FLOORING UP EXISTING COVE BASE AND CAP WITH TARKETT COVE TRIM. USE SHAW NATURELIFE II, COLOR: JAPANESE OAK-GREEN.



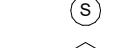
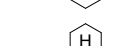


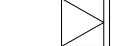
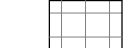
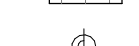

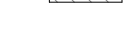
KEY PLAN



**1** FIRST FLOOR PLAN - AREA B  
 SCALE: 1/4" = 1'-0"

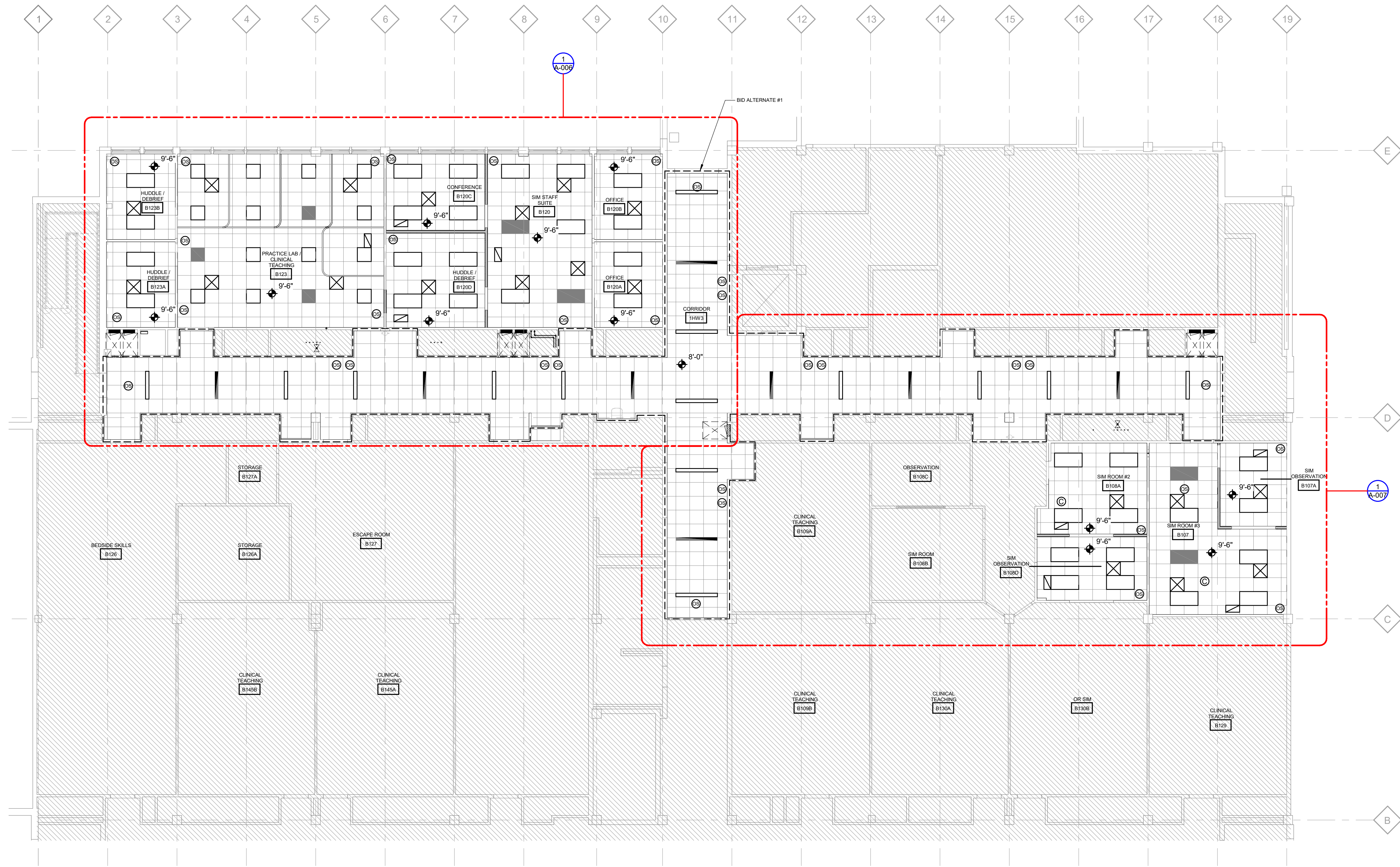
CAPITAL PROJ. NO.	CP23077
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CIVIL	
L.A.	
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SCALE	AS SHOWN
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**RCP SYMBOL LEGEND**

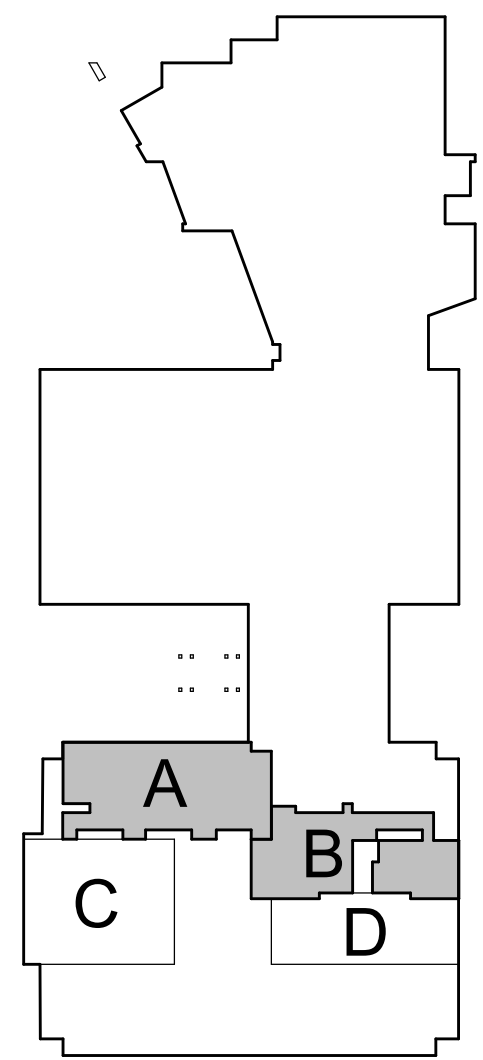
-  2x4 LIGHT FIXTURE
-  CEILING MOUNTED EXIT SIGN
-  CEILING MOUNTED SPEAKER
-  FIRE ALARM SMOKE DETECTOR
-  FIRE ALARM HEAT DETECTOR
-  RETURN OR EXHAUST AIR GRILLE
-  SUPPLY AIR DIFFUSER
-  ACCESS HATCH
-  24x24 CEILING TILE AND GRID (ACP-1)
-  CEILING HEIGHT ELEVATION
-  AREAS WITH NO ARCHITECTURAL SCOPE

**GENERAL REFLECTED CEILING PLAN NOTES**

1. ALL CEILING GRIDS ARE TO BE CENTERED ON ROOM / AREA U.N.O



**KEY PLAN**



**FIRST FLOOR REFLECTED CEILING PLAN - OVERALL**  
 SCALE: 1/8" = 1'-0"  
 NORTH

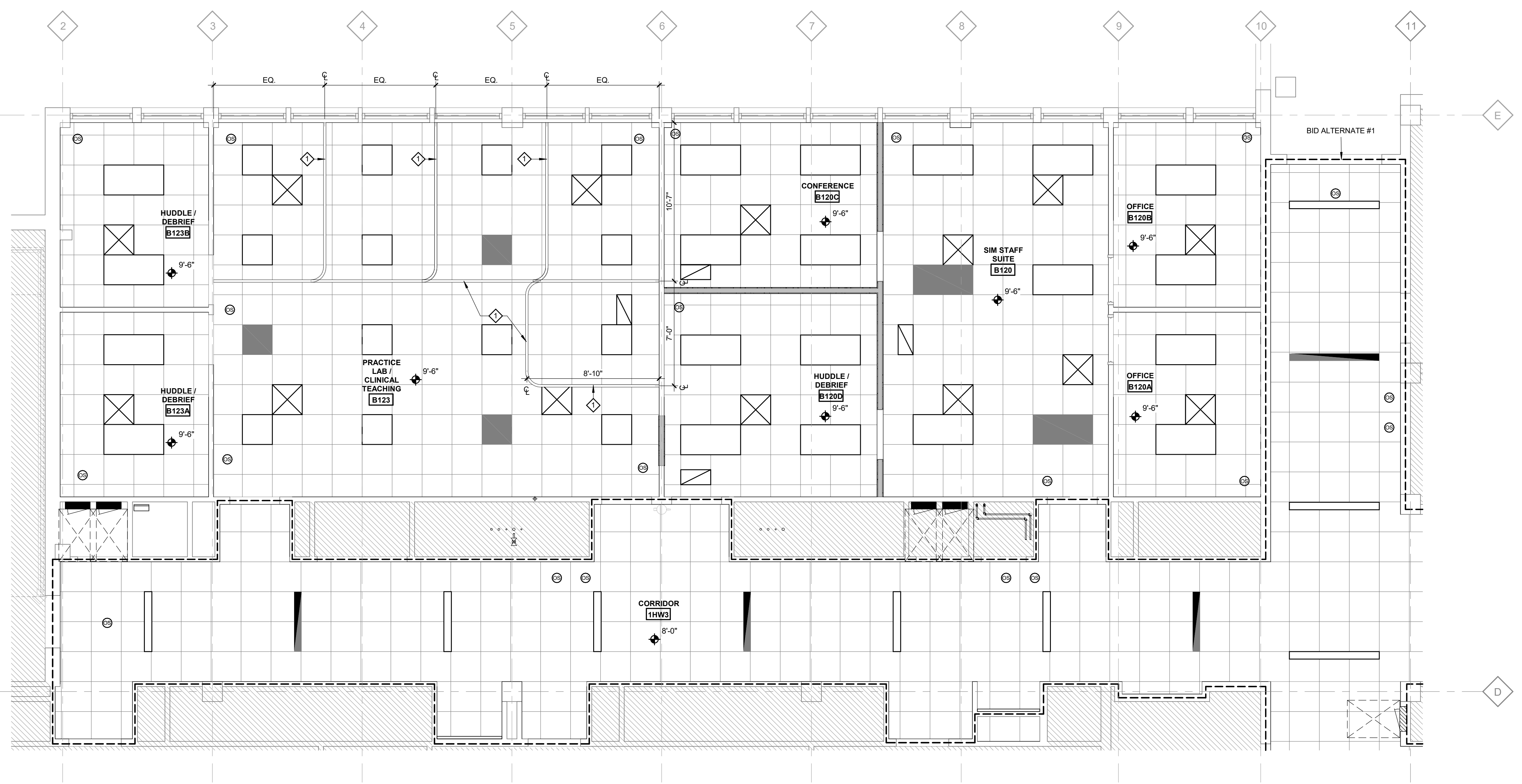
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PR. MGR.	Z. KIEFER
ARCH.	D. LAUNSTEIN
MECH.	A. VANDERSTELT
ELEC.	K. HOWARD
CIVIL	_____
L.A.	_____
INT. DES.	D. WHITBECK
CONST. REP.	_____
APPR.	_____
DATE	AS SHOWN
SCALE	AS SHOWN
REVISIONS	_____
2/16/24	RELEASED FOR BID

RCP SYMBOL LEGEND

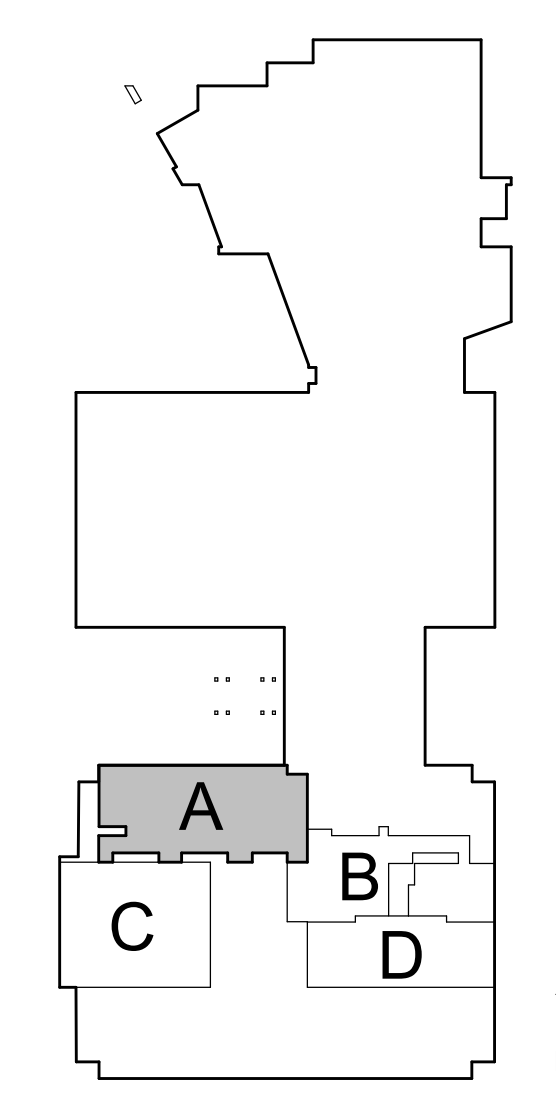
- 2x4 LIGHT FIXTURE
- CEILING MOUNTED EXIT SIGN
- CEILING MOUNTED SPEAKER
- FIRE ALARM SMOKE DETECTOR
- FIRE ALARM HEAT DETECTOR
- RETURN OR EXHAUST AIR GRILLE
- SUPPLY AIR DIFFUSER
- ACCESS HATCH
- 24x24 CEILING TILE AND GRID (ACP1)
- CEILING HEIGHT ELEVATION
- AREAS WITH NO ARCHITECTURAL SCOPE

KEY NOTES

- 1 INSTALL CUBICLE CURTAIN TRACK, CURTAINS AND TRACKS PROVIDED BY OWNER.



KEY PLAN



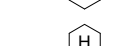






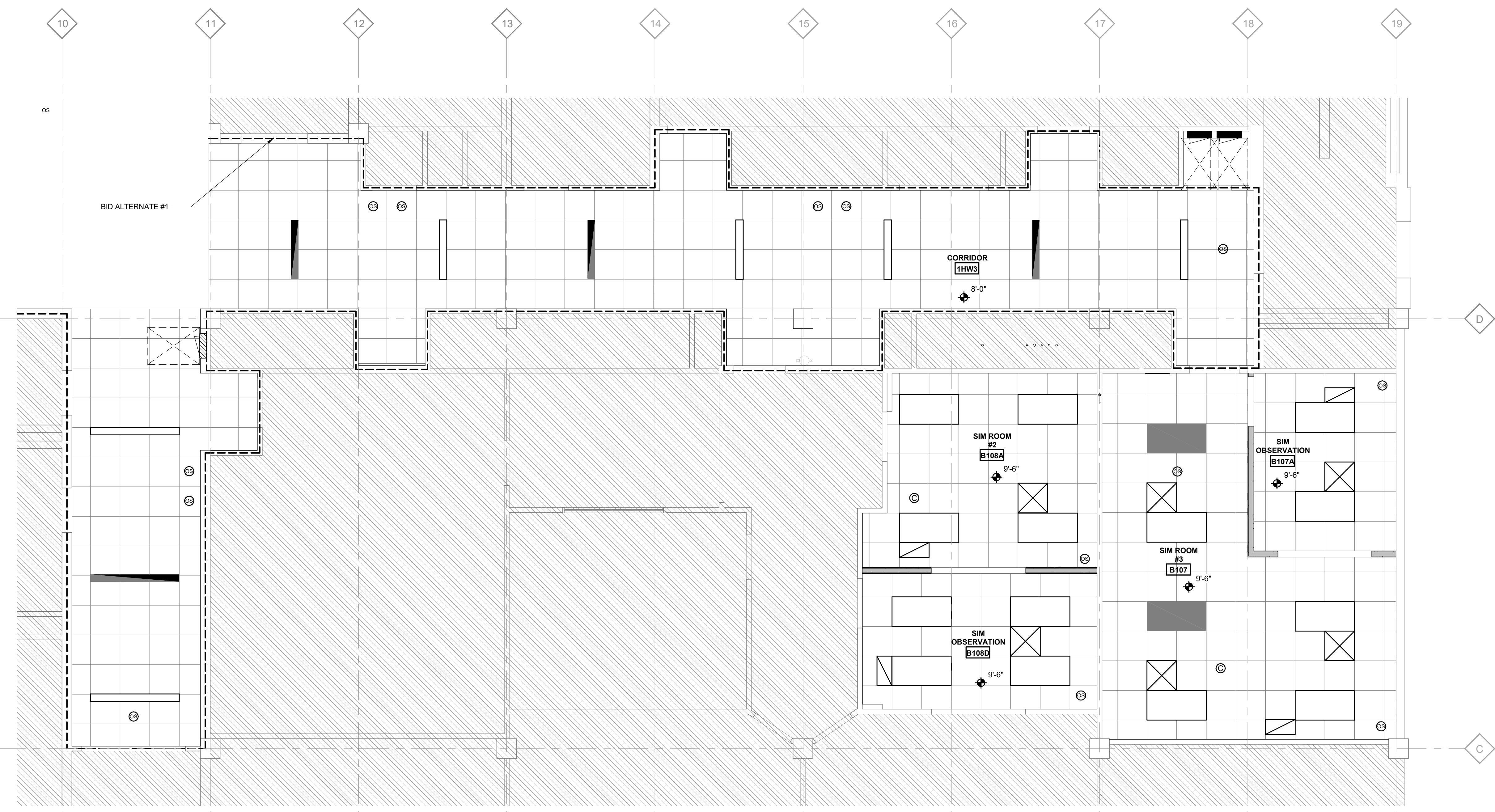
**1 REFLECTED CEILING PLAN - AREA A**  
SCALE: 1/4" = 1'-0"

CAPITAL PROJ. NO.  
 CP23077

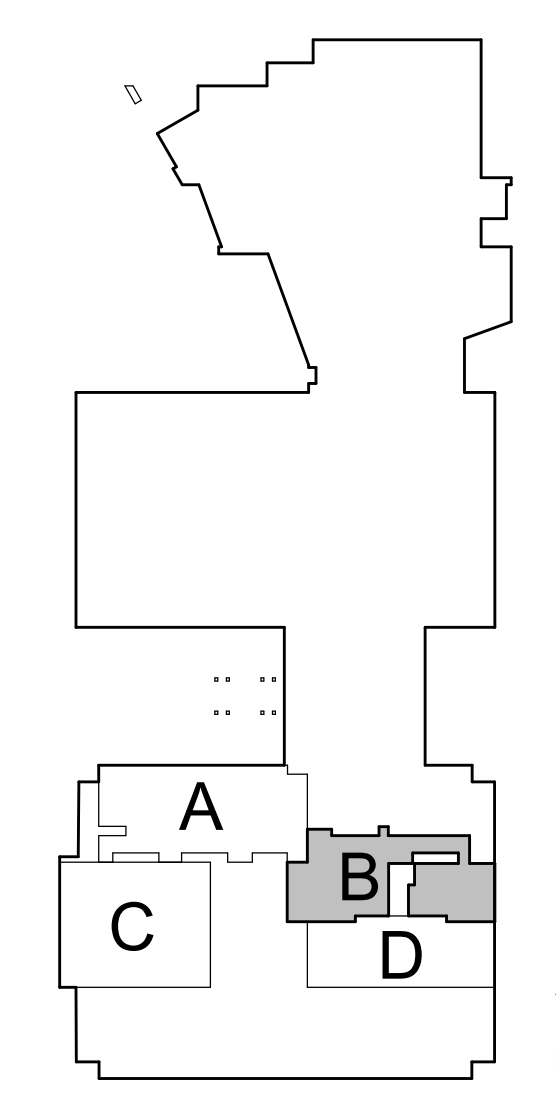
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RCP SYMBOL LEGEND

-  2x4 LIGHT FIXTURE
-  CEILING MOUNTED EXIT SIGN
-  CEILING MOUNTED SPEAKER
-  FIRE ALARM SMOKE DETECTOR
-  FIRE ALARM HEAT DETECTOR
-  RETURN OR EXHAUST AIR GRILLE
-  SUPPLY AIR DIFFUSER
-  ACCESS HATCH
-  24x24 CEILING TILE AND GRID (ACP-1)
-  CEILING HEIGHT ELEVATION
-  AREAS WITH NO ARCHITECTURAL SCOPE



KEY PLAN



**1 REFLECTED CEILING PLAN - AREA B**  
 SCALE: 1/4" = 1'-0"

ROOM FINISH SCHEDULE									
NO.	NAME	FLOORS				WALLS			FINISH REMARKS
		FLOOR	BASE	NORTH	EAST	SOUTH	WEST	SEE PLAN	
1HW3	CORRIDOR	ETR	VB1	P1	P3	P1	P1	P1	1
B107	SIM ROOM #3	LVT1	VB1	P1	P3	P1	P1	P1	2
B107A	SIM OBSERVATION	CPT1	VB1	P1	P3	P1	P1	P1	
B108A	SIM ROOM #2	LVT1	VB1	P1	P3	P1	P1	P1	2
B108D	SIM OBSERVATION	CPT1	VB1	P1	P3	P1	P1	P1	
B120	SIM STAFF SUITE	CPT1, LVT1	VB1	P1	P3	P1	P1	P1	2
B120A	OFFICE	CPT1	VB1	P1	P3	P1	P1	P1	
B120B	OFFICE	CPT1	VB1	P1	P3	P1	P1	P1	
B120C	CONFERENCE	CPT1	VB1	P1	P3	P1	P1	P3	
B120D	Huddle / DEBRIEF	CPT1	VB1	P1	P3	P1	P1	P3	
B123	PRACTICE LAB / CLINICAL TEACHING	LVT1	VB1	P1	P3	P1	P1	P1	2
B123A	Huddle / DEBRIEF	CPT1	VB1	P1	P3	P1	P1	P3	
B123B	Huddle / DEBRIEF	CPT1	VB1	P1	P3	P1	P1	P3	

FINISH REMARKS  
 1. CONSULT DESIGNER ON BASE AND FLOOR TRANSITION AS REQUIRED.  
 2. P1 ON ALL WALLS NOT NOTED ON FLOOR PLAN.

FINISH MATERIAL LEGEND									
MATERIAL	TAG	MANUFACTURER	STYLE	COLOR	SIZE	FINISH	INSTALLATION	NOTES	
<b>FLOORS</b>									
CARPET	CPT1	MILLIKEN	STEREOVISION, LIGHT WAVE	LWV141-118 SYNTHWAVE	25 CM x 1 M	--	ASHLAR	4	
LUXURY VINYL TILE	LVT1	MANNINGTON	SPACIA	SS5W2633 FEATURED OAK	7.25" x 48"	--	RANDOM STAGGER		
<b>BASE</b>									
VINYL BASE	VB1	TARKETT	JOHNSONITE TV VINYL BASE	63 BURNT UMBER	4"	--	--		
<b>WALLS</b>									
PAINT	P1	SHERWIN WILLIAMS	--	SW 7012 CREAMY	--	SEE SPEC	--		
PAINT	P2	SHERWIN WILLIAMS	--	SW 6746 JULEP	--	SEE SPEC	--		
PAINT	P3	SHERWIN WILLIAMS	--	SW 6465 SPEARMINT	--	SEE SPEC	--		
PAINT	P4	NOT USED	--	--	--	--	--		
PAINT	P5	SHERWIN WILLIAMS	--	SW 7017 DORIAN GRAY	--	SEE SPEC	--		
<b>CEILING</b>									
ACOUSTIC CEILING PANEL	ACP1	USG	RADAR 2220 SHADOWLINE TAPERED	WHITE	2' x 2'	--	--		
ACOUSTIC CEILING GRID	ACP1	USG	DONN DX	WHITE	15/16" W	--	--		
<b>CASEWORK</b>									
PLASTIC LAMINATE	PL1	FORMICA	--	8828-58 EARTHEN TWILL	--	MATTE	--		
PLASTIC LAMINATE	PL2	WILSONART	--	D91-60 SLATE GRAY	--	MATTE	--		
<b>MILLWORK</b>									
PLASTIC LAMINATE	PL3	WILSONART	--	8201K-12 GREY ELM	5' WIDTH	SOFTGRAIN	--		
UPHOLSTERY	UPH1	MOMENTUM	SILICA EXCURSION	MADRAS	54" WIDTH	--	--	5	
<b>MISCELLANEOUS</b>									
PLASTIC LAMINATE	PL4	PIONITE	--	W0862 HEARTH OAK	--	SUEDE	--		
TRANSITION STRIP	TS1	TARKETT	SLIM LINE TRANSITION	63 BURNT UMBER	--	--	--	1	
WOOD	WD1	--	WHITE OAK	STAINED TO MATCH LVT1	1" THICK	SEMI-GLOSS	--		
WINDOW TREATMENT	WT1	SWF CONTRACT	R SERIES MANUAL SHADE, CONCEAL	SHALE C2621	SEE WINDOW SCHEDULE	--	OUTSIDE MOUNT	2, 3	

FINISH NOTES:  
 1. VERIFY TRANSITION REQUIRED TO EXISTING TERRAZZO  
 2. CONTACT MICHELLE DYE, AT SPRINGS WINDOW FASHIONS FOR ORDERING & PURCHASING (MOBILE: 614.563.2142)  
 3. ALIGN BOTTOM OF FASCIA TO TOP OF WINDOW TRIM. OVERSIZE SHADE BY 2" ON ALL SIDES OF WINDOW.  
 4. CONTACT KATHY CAIN AT MILLIKEN FOR ORDERING & PURCHASING (MOBILE: 616.293.9693)  
 5. CONTACT BRANDI WEISS AT MOMENTUM FOR ORDERING & PURCHASING (MOBILE: 313.720.2871)

GENERAL FINISH NOTES

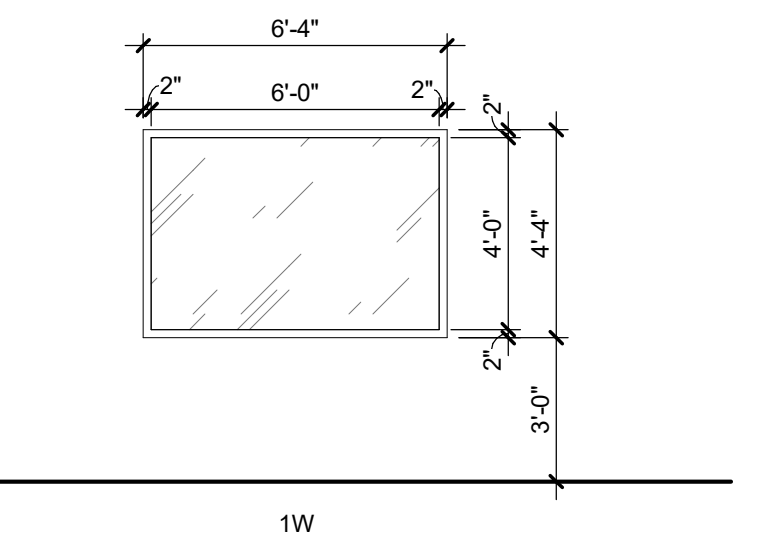
- GENERAL:
  - REPAIR ALL EXISTING MATERIALS SCHEDULED TO REMAIN, USING OWNER'S ATTIC STOCK. IF NO ATTIC STOCK EXISTS, USE NEW MATERIAL TO MATCH EXISTING.
  - PATCH AND REPAIR ALL DAMAGED SURFACES AND MATERIALS WHERE DEMOLITION OCCUR.
  - REFER TO INTERIOR ELEVATIONS FOR ADDITIONAL FINISH INFORMATION.
- FLOORINGS:
  - INSTALL FLOORING MATERIAL IN DIRECTION INDICATED ON FINISH PLAN, UNLESS NOTED OTHERWISE.
  - PROVIDE CEMENTITIOUS COMPOUND BETWEEN FLOOR MATERIALS OF DIFFERENT THICKNESS. FEATHER FLOOR FOR SMOOTH TRANSITION. SLOPE: 1/8"=12"
  - USE TRANSITION STRIPS WHERE INDICATED ON FINISH LEGEND.
  - FLOORING TRANSITIONS TO TAKE PLACE AT CENTER OF DOOR IN CLOSED POSITION.
- BASE:
  - TYPICAL BASE PROFILE AT CARPET TO BE STRAIGHT.
  - TYPICAL BASE PROFILE AT RESILIENT FLOORING TO BE COVE.
- DOOR FRAMES:
  - PAINT ALL INTERIOR HOLLOW METAL FRAMES P3.
- DIFFUSERS AND COVERS:
  - PAINT ALL WALL DIFFUSERS AND AIR GRILLE COVERS TO MATCH ADJACENT WALL COLOR.
- WINDOW SILLS:
  - EXISTING WINDOW SILLS TO REMAIN.
- COUNTERTOPS:
  - TYPICAL PLASTIC LAMINATE COUNTERTOP EDGE PROFILE TO BE SQUARE.
- CEILING:
  - REFER TO REFLECTED CEILING PLAN FOR CEILING TYPES AND LOCATIONS.
  - REFER TO REFLECTED CEILING PLAN LEGEND FOR FINISH DESIGNATIONS.

DOOR SCHEDULE																			
NO.	LOCATION	PANEL SIZE				DOOR				FRAME						LABEL	HDW	NOTES	
		QTY	W	H	T	TYPE	MATERIAL	EXT FINISH	INT FINISH	GLASS	TYPE	MATERIAL	EXT FINISH	INT FINISH	HEAD				JAMB
Existing																			
B107	SIM ROOM #3	1	3'-0"	7'-0"	1 3/4"	N	WD	ETR	ETR	TEMP	S1	HM	P5	P5			03	1,3	
B108A	SIM ROOM #2	1	3'-0"	7'-0"	1 3/4"	F	WD	ETR	ETR	TEMP	S1	HM	P5	P5			03	1	
B120-1	SIM STAFF SUITE	1	3'-0"	7'-0"	1 3/4"	N	WD	ETR	ETR	TEMP	S1	HM	P5	P5			03	1,3	
B120-2	Huddle / DEBRIEF	1	3'-0"	7'-0"	1 3/4"	N	WD	ETR	ETR	TEMP	S1	HM	P5	P5			03	1,3	
B120A	SIM STAFF SUITE	1	3'-0"	7'-0"	1 3/4"	GL	WD	ETR	ETR	TEMP	S1	HM	P5	P5			04	1,4	
B120B	SIM STAFF SUITE	1	3'-0"	7'-0"	1 3/4"	GL	WD	ETR	ETR	TEMP	S1	HM	P5	P5			04	1,4	
B123-1	PRACTICE LAB / CLINICAL TEACHING	1	3'-0"	7'-0"	1 3/4"	N	WD	ETR	ETR	TEMP	S1	HM	P5	P5			03	1,3	
B123-2	PRACTICE LAB / CLINICAL TEACHING	1	3'-0"	7'-0"	1 3/4"	N	WD	ETR	ETR	TEMP	S1	HM	P5	P5			03	1,3	
B123A	PRACTICE LAB / CLINICAL TEACHING	1	3'-0"	7'-0"	1 3/4"	GL	WD	ETR	ETR	TEMP	S1	HM	P5	P5			03	1,4	
B123B	PRACTICE LAB / CLINICAL TEACHING	1	3'-0"	7'-0"	1 3/4"	GL	WD	ETR	ETR	TEMP	S1	HM	P5	P5			03	1,4	
New Construction																			
B107A	SIM OBSERVATION	1	3'-0"	7'-0"	1 3/4"	G	WD	PL4	PL4	TEMP	S1	HM	P5	P5	H1	J1		02	5
B108D	SIM OBSERVATION	1	3'-0"	7'-0"	1 3/4"	G	WD	PL4	PL4	TEMP	S1	HM	P5	P5	H1	J1		02	5
B120C	SIM STAFF SUITE	1	3'-0"	7'-0"	1 3/4"	N	WD	PL4	PL4	TEMP	S1	HM	P5	P5	H1	J1		02	
B120D	Huddle / DEBRIEF	1	3'-0"	7'-0"	1 3/4"	N	WD	PL4	PL4	TEMP	S1	HM	P5	P5	H1	J1		01	

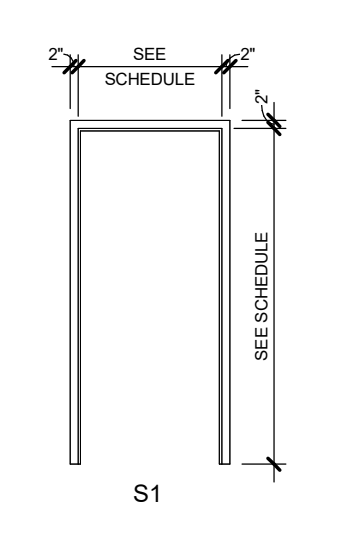
- NOTES  
 1. EXISTING DOOR TO REMAIN.  
 2. NOT USED.  
 3. REPLACE EXISTING KICK PLATE.  
 4. EXISTING LOUVER TO REMAIN FOR VENTILATION.  
 5. INSTALL ROLLER SHADE AT DOOR LITE ON THE ROOM SIDE.

- ABBREVIATIONS  
 S SINGLE  
 G HALF GLASS  
 GL HALF GLASS WITH LOUVER  
 GU GLAZING UNIT (REFER TO SCHEDULE FOR GLASS TYPE)  
 N NARROW LIGHT  
 F FLUSH  
 ETR EXISTING TO REMAIN  
 LV LOUVER

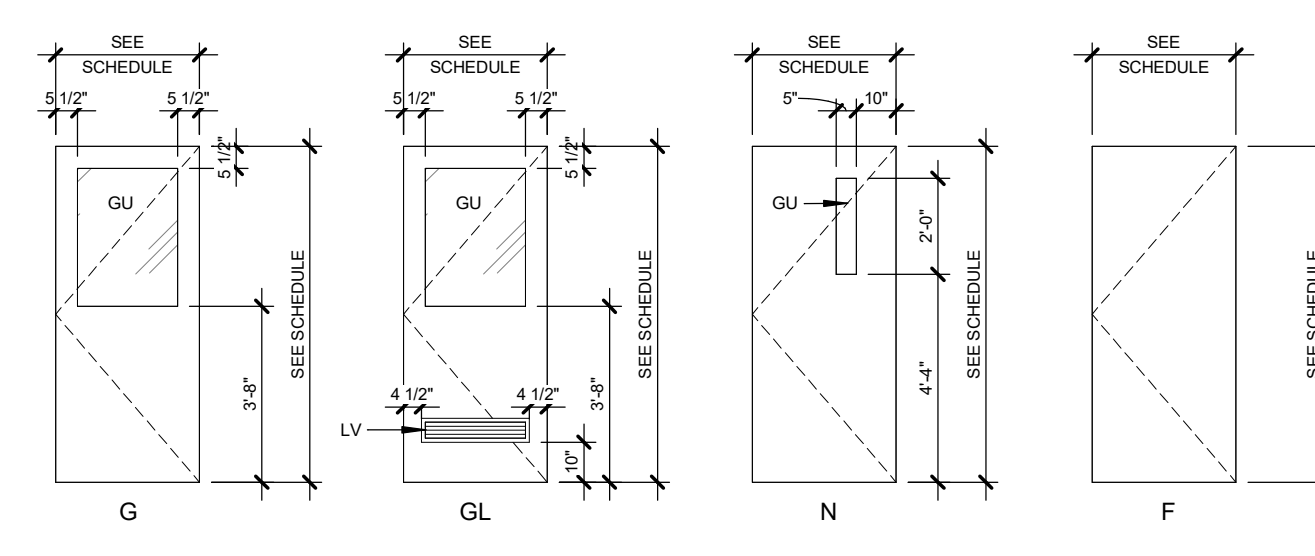
WINDOW SCHEDULE												
Mark	LOCATION	QUANTITY	TYPE	HEAD HEIGHT	WIDTH	HEIGHT	GLASS TYPE	FRAME			LABEL	NOTES
								MATERIAL	DETAIL	INT FINISH		
W-1	B107A SIM OBSERVATION	1	1W	7'-4"	6'-4"	4'-4"	TEMP	HM	W1			
W-2	B108A SIM OBSERVATION	1	1W	7'-4"	6'-4"	4'-4"	TEMP	HM	W1			



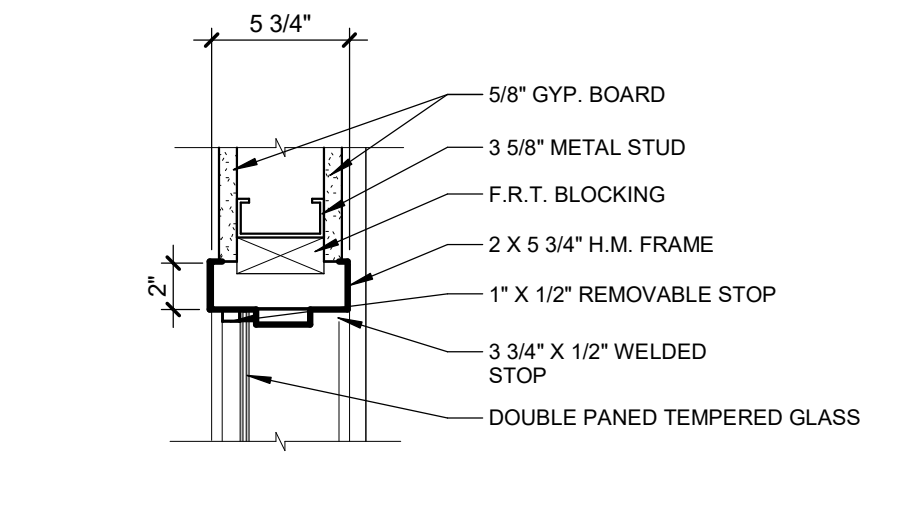
WINDOW TYPES  
 SCALE: 1/4" = 1'-0"



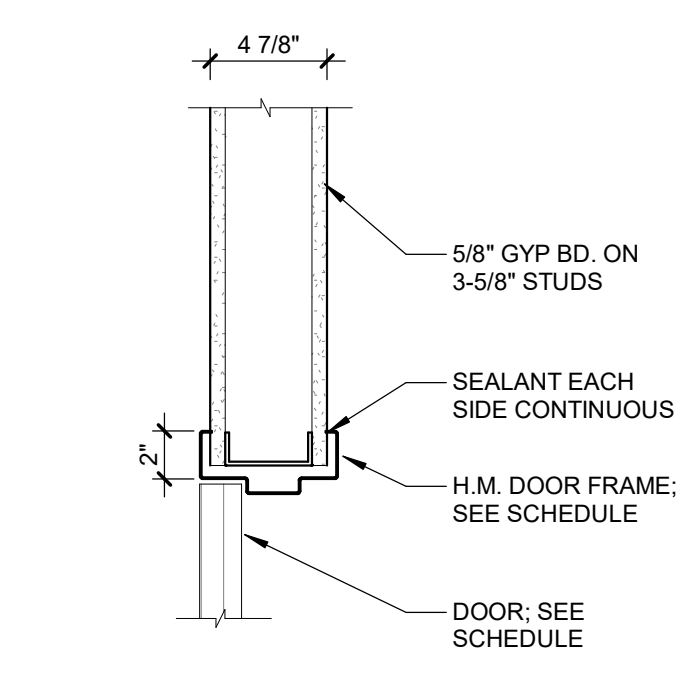
FRAME TYPES  
 SCALE: 1/4" = 1'-0"



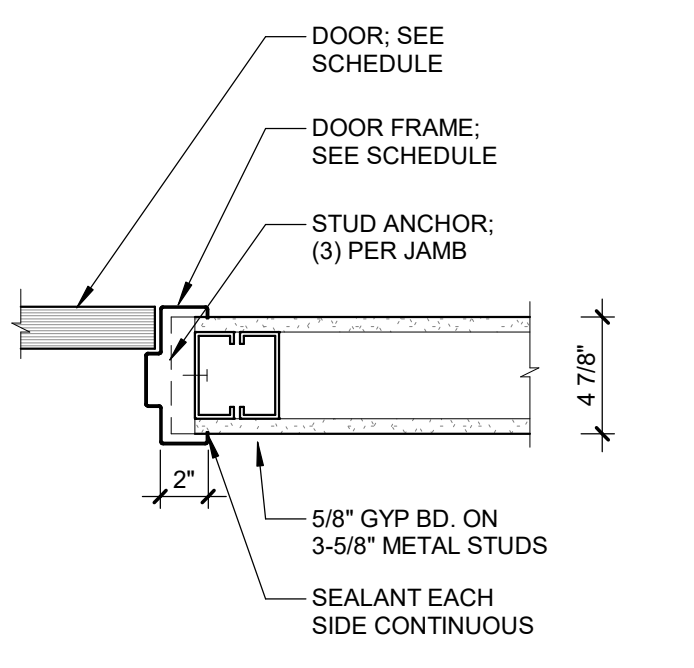
DOOR TYPES  
 SCALE: 1/4" = 1'-0"



W1 WINDOW HEAD/JAMB (SIM.)  
 SCALE: 1 1/2" = 1'-0"

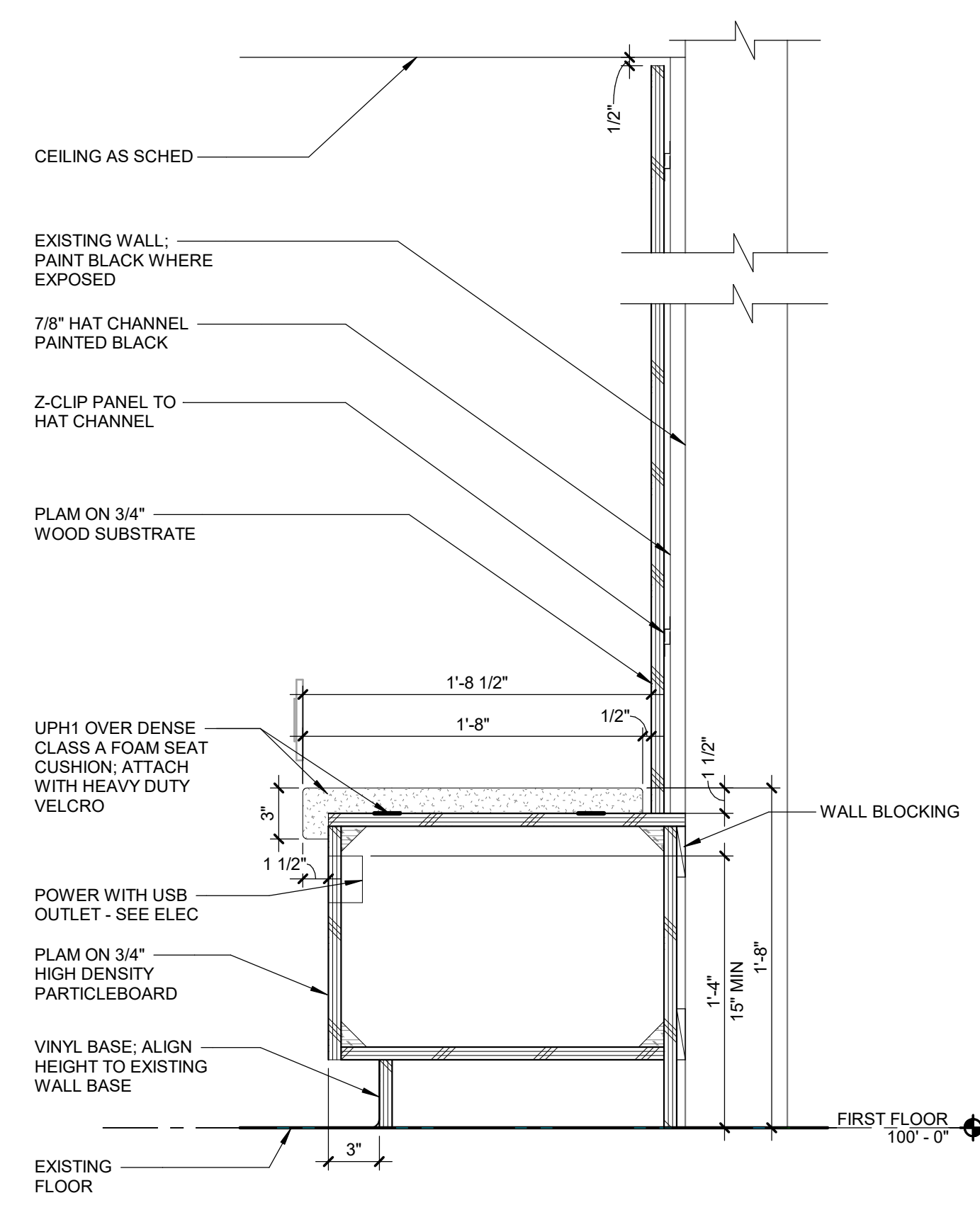


H1 HEAD DETAIL  
 SCALE: 1 1/2" = 1'-0"

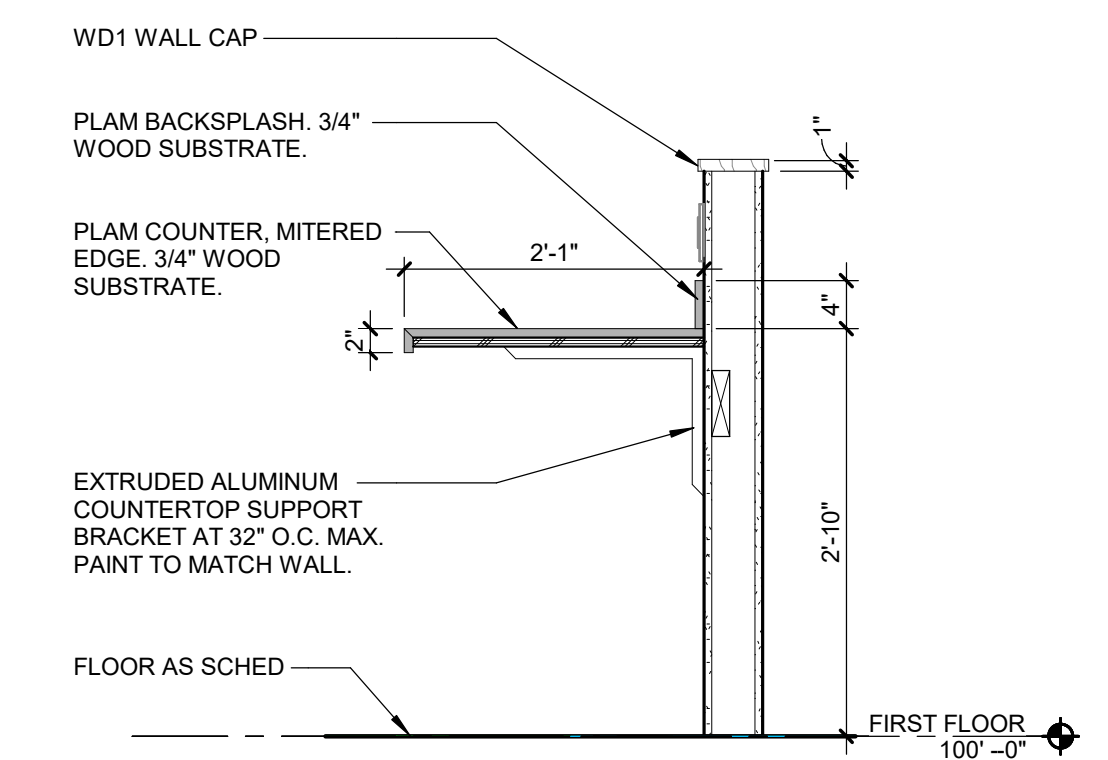


J1 JAMB DETAIL  
 SCALE: 1 1/2" = 1'-0"

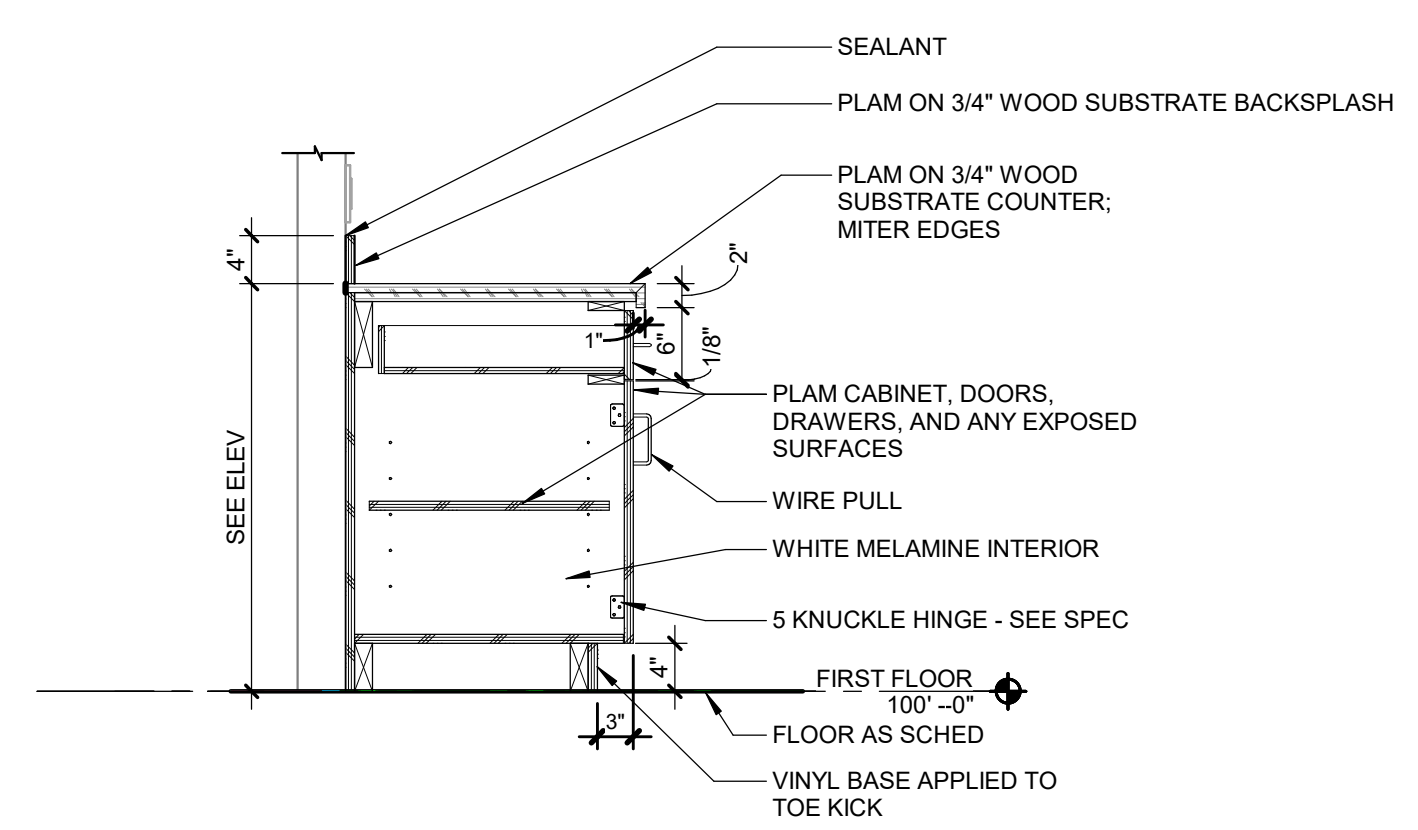
CAPITAL PROJ. NO.	OP23077
PR. MGR.	Z. KIEFER
ARCH.	D. LAUNSTEIN
MECH.	A. VANDERSTELT
ELEC.	K. HOWARD
CIVIL	
L.A.	
INT. DES.	D. WHITBECK
CONST. REP.	
APPR.	
DATE	AS SHOWN
SCALE	AS SHOWN
REVISIONS	
2/16/24 RELEASED FOR BID	



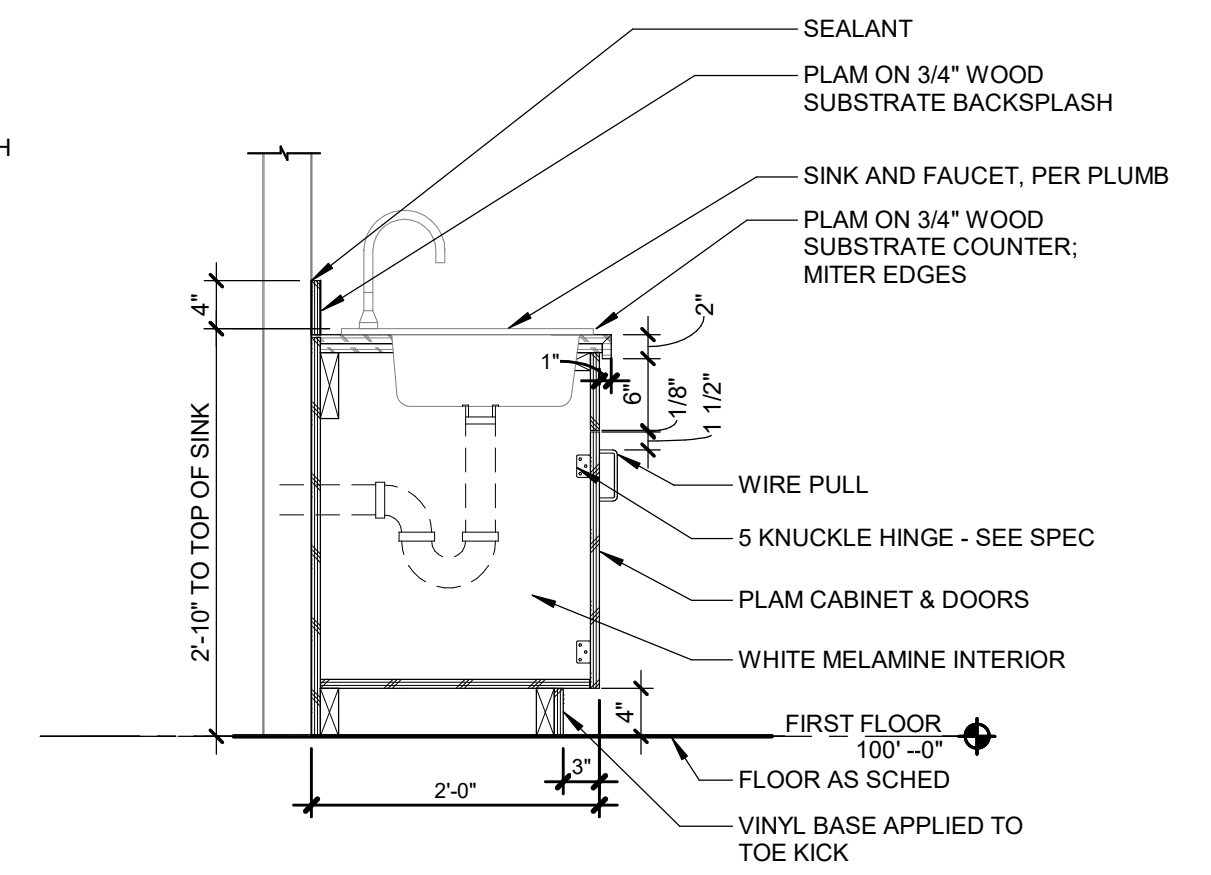
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 SCALE: 1 1/2" = 1'-0"



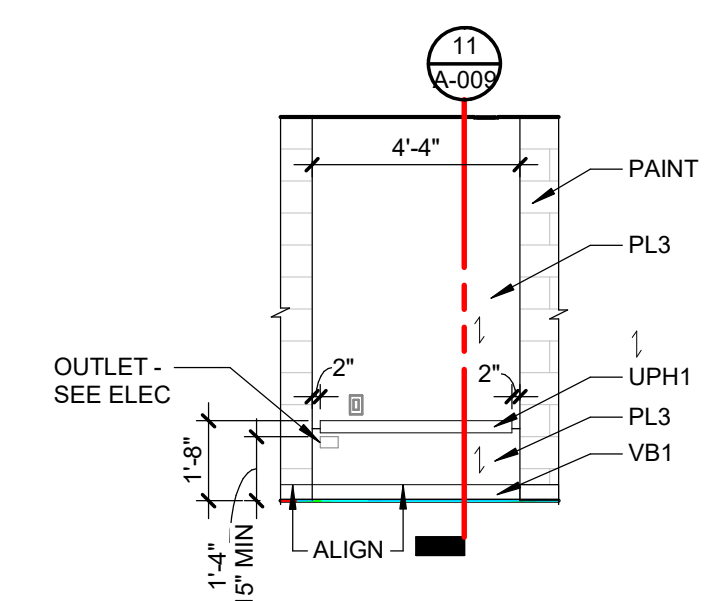
10 DETAIL  
 SCALE: 3/4" = 1'-0"



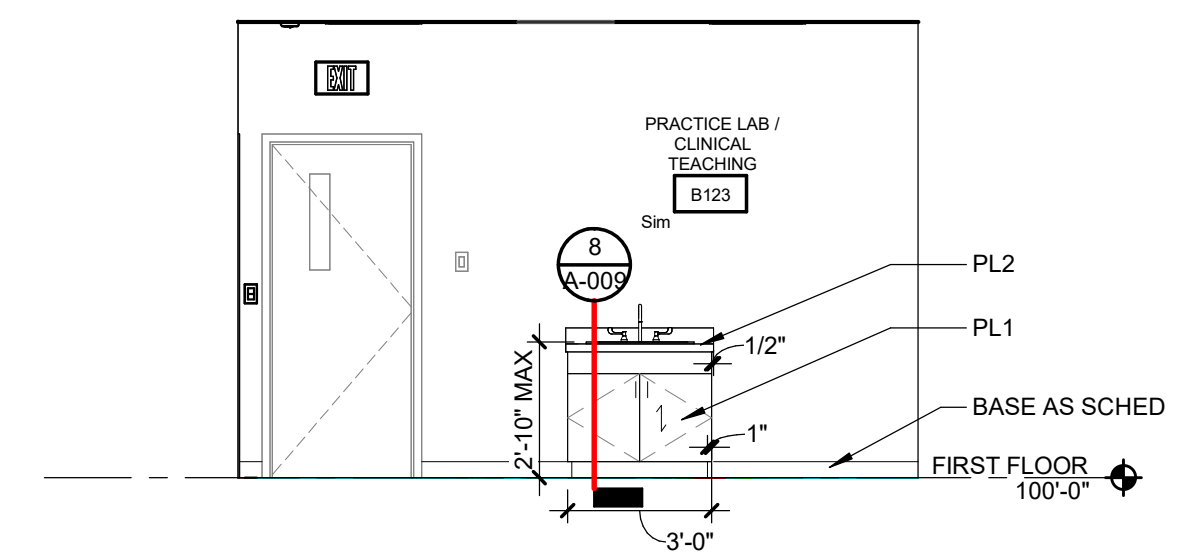
9 DETAIL  
 SCALE: 3/4" = 1'-0"



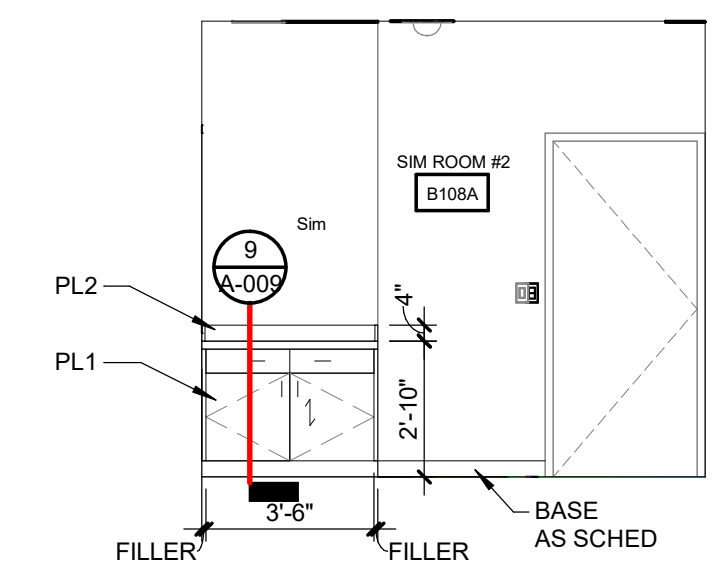
8 DETAIL  
 SCALE: 3/4" = 1'-0"



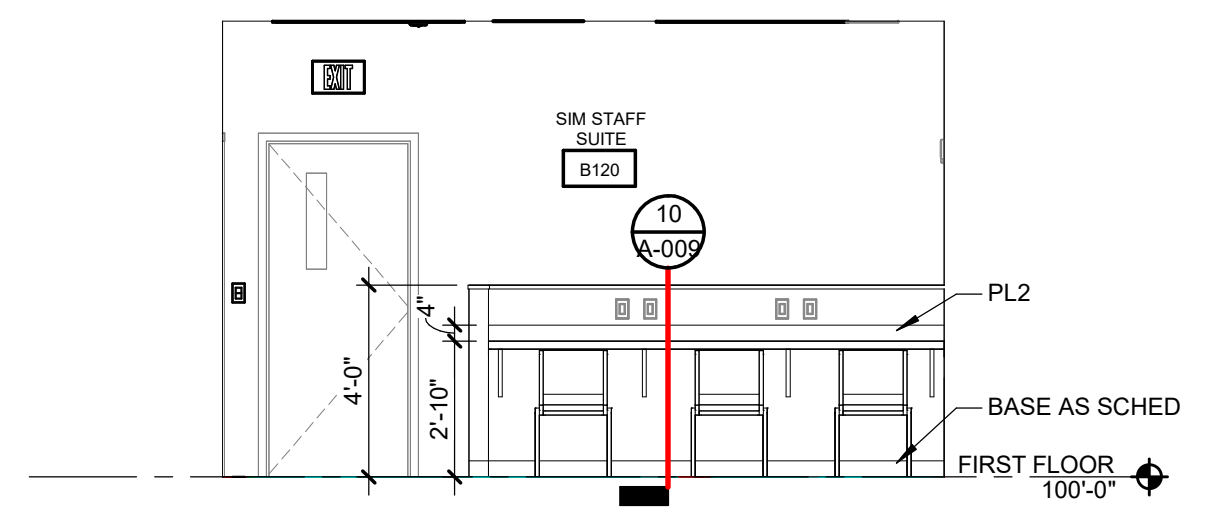
6 ELEVATION  
 SCALE: 1/4" = 1'-0"



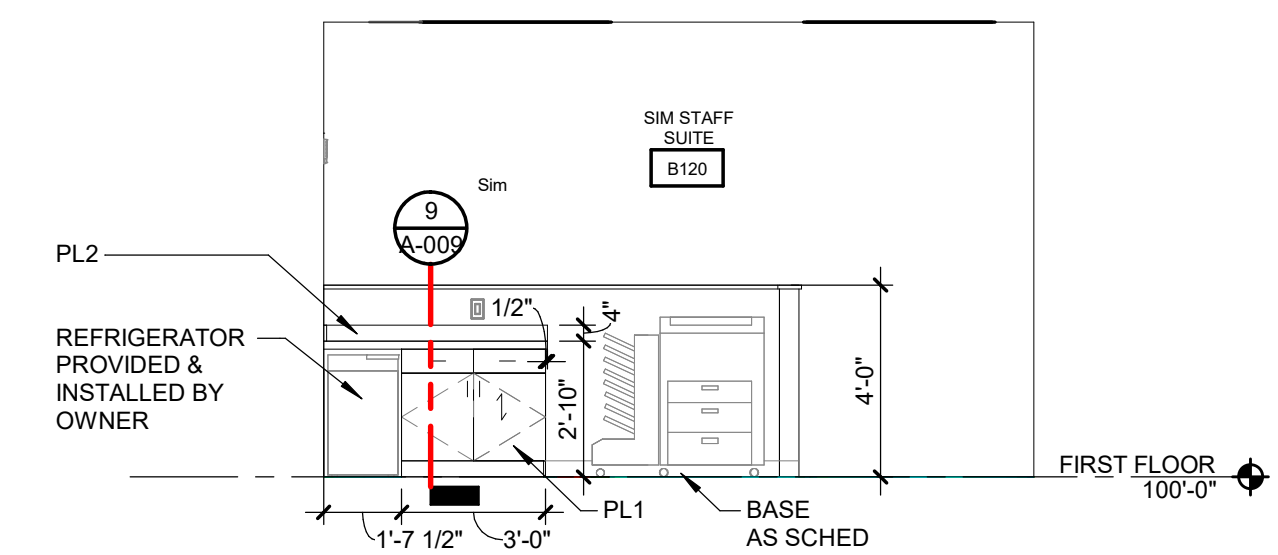
5 ELEVATION  
 SCALE: 1/4" = 1'-0"



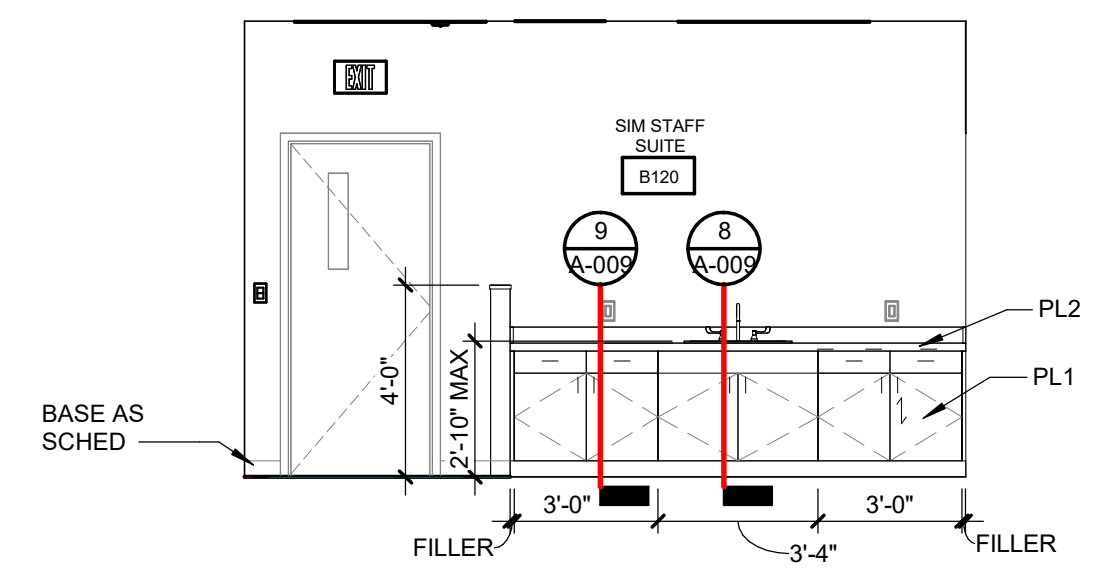
4 ELEVATION  
 SCALE: 1/4" = 1'-0"



3 ELEVATION  
 SCALE: 1/4" = 1'-0"



2 ELEVATION  
 SCALE: 1/4" = 1'-0"



1 ELEVATION  
 SCALE: 1/4" = 1'-0"



CAPITAL PROJ. NO.  
 CP23077

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L.A.	
INT. DES.	D. WHITBECK
CONST. REP.	
APPR.	
DATE	
SCALE	AS SHOWN
REVISIONS	
2/16/24 RELEASED FOR BID	

FIRE PROTECTION COVERAGE LEGEND

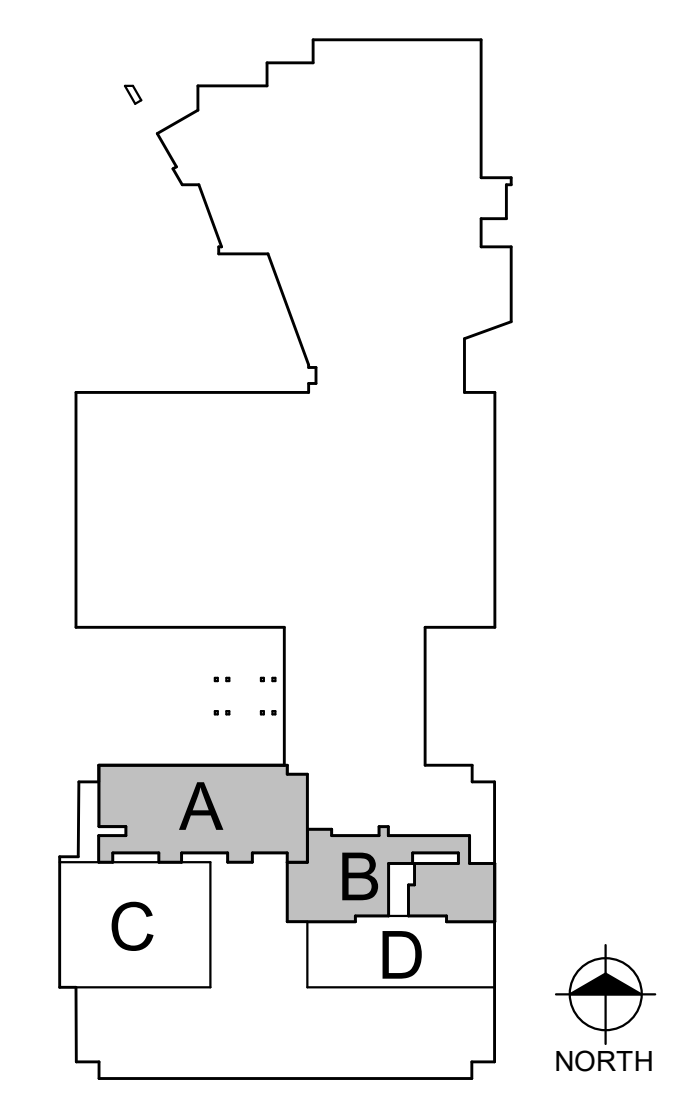


FIRE PROTECTION GENERAL NOTES

- REVISE EXISTING AUTOMATIC SPRINKLER SYSTEM AT INDICATED WORK SCOPE AREAS. INSTALL NEW SPRINKLER HEADS TO ACCOMMODATE REVISED CEILING GRID, SUPPLY DIFFUSERS, RETURN GRILLES AND LIGHTING PATTERN TO PROVIDE A COORDINATED SPRINKLER LAYOUT. SUBMIT LAYOUT DRAWINGS FOR ARCHITECTURAL REVIEW AND ACCEPTANCE.
- PROVIDE ORDINARY HAZARD, GROUP 2 OCCUPANCY SPRINKLER HEAD COVERAGE AT 0.2 GPM/SF DENSITY FOR MOST REMOTE 1,500 SF AREA IN ALL ROOMS. VERIFY SPRINKLER DENSITIES WITH OWNER'S INSURANCE UNDERWRITER PRIOR TO SPRINKLER LAYOUT DESIGN. PROVIDE UL LISTED AND FM APPROVED EQUIPMENT.
- INVESTIGATE SITE TO VERIFY EXISTING CONDITIONS. REVISE PIPE SIZES AS REQUIRED TO ACCOMMODATE UPDATED SPRINKLER LAYOUT.
- HYDRAULICALLY DESIGN AND INSTALL SPRINKLER SYSTEM IN ACCORDANCE WITH CURRENT STATE OF MICHIGAN BUILDING CODE, STATE OF MICHIGAN FIRE CODE AND NFPA 13. PROVIDE QUICK RESPONSE CONCEALED SPRINKLER HEADS WITH WHITE COVERS.
- APPROVED SHOP DRAWINGS TO BE REVIEWED BY AUTHORITY HAVING JURISDICTION.
- COORDINATE FIRE PROTECTION SYSTEM WITH ALL OTHER TRADES TO AVOID CONFLICT. PROVIDE FITTINGS, OFFSETS AND TRANSITIONS AS REQUIRED FOR A COMPLETE WORKABLE INSTALLATION. DON'T USE FLEXIBLE SPRINKLER CONNECTIONS. DUCTWORK, STORM, SANITARY AND VENT PIPING TO TAKE PRECEDENCE OVER FIRE PROTECTION PIPING.
- INSTALL EQUIPMENT IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S RECOMMENDATIONS AND APPLICABLE CODES.
- CORE DRILL WALL AND SLAB OPENINGS AS REQUIRED FOR NEW PIPING. COORDINATE REINFORCING STEEL LOCATIONS TO AVOID DAMAGE. PROVIDE FIRESTOPPING AT RATED WALL PENETRATIONS.
- PROVIDE ADEQUATE ACCESS TO VALVES AND SPRINKLER HEADS. COORDINATE REQUIREMENTS.
- PROVIDE ALL WORK NECESSARY TO ENSURE THAT PIPING OR SPRINKLER HEADS WON'T FREEZE. USE DRY PENDENT TYPE HEADS, WARM AIR VENTILATION PATHWAYS, OR OTHER APPROVED MEANS TO ACHIEVE FREEZEPROOF INSTALLATION.
- MINIMIZE SYSTEM SERVICE INTERRUPTION AND COORDINATE WITH OWNER WHERE NEW CONNECTIONS TO EXISTING PIPE ARE INDICATED. USE HOT TAP CONNECTIONS AS REQUIRED.
- PRIOR TO CONNECTING TO EXISTING PIPING, CONFIRM EXISTING PIPING BEING CONNECTED TO IS ACTIVE FOR REUSE



KEY PLAN



**FIRST FLOOR FIRE PROTECTION PLAN**  
 SCALE: 1/8" = 1'-0"  
 NORTH

PLOT INFO: 2/16/2024 1:29:30 PM

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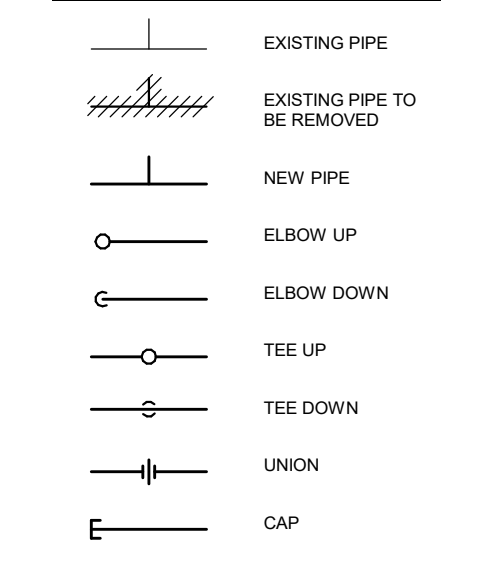
GENERAL NOTES

PLUMBING PIPING NOTES

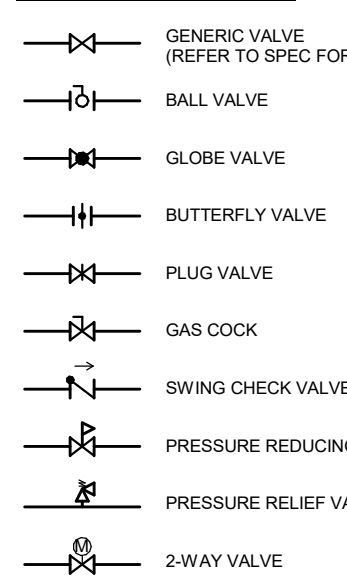
- CLOSELY COORDINATE THE INSTALLATION OF ALL PIPING WITH NEW SHEET METAL, HVAC PIPING, ELECTRICAL, AND STRUCTURAL CONDITIONS. PROVIDE REQUIRED OFFSETS AND FITTINGS WHETHER INDICATED OR NOT. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR CLEARANCES. THE LOCATION OF SANITARY, STORM, AND VENT LINES TAKE PRECEDENCE OVER HVAC AND FIRE PROTECTION PIPING, AND ELECTRICAL CONDUIT AND CABLE TRAY.
- RELOCATE ALL EXISTING DUCT, PIPING AND CONDUIT HANGERS THAT ARE IN CONFLICT WITH NEW PIPING.
- PIPING AND EQUIPMENT SHOWN LIGHTLY IS EXISTING TO REMAIN.
- AT RENOVATED AREAS THE INDICATED ROUTING OF PIPING SYSTEMS IS INTENDED TO INDICATE REUSE OF AS MUCH OF THE EXISTING SYSTEMS AS POSSIBLE. THE ROUTE SHOWN AND INFORMATION GIVEN IS NOT INTENDED TO REPRESENT EXACTLY WHERE AND HOW TO INSTALL THESE SYSTEMS. IT HAS BEEN DETERMINED THAT ADEQUATE SPACE EXISTS BUT NO ATTEMPT HAS BEEN MADE TO INDICATE THE LOCATION AND IDENTIFY EVERY INTERFERENCE. NOR THE RESULTANT REQUIRED RESOLUTION OF INTERFERENCES. INCLUDE ADDITIONAL PIPE, MATERIAL, LABOR, AND LAYOUT TIME REQUIRED TO RESOLVE INTERFERENCES AND THEIR REROUTING.
- PIPE ROUTING INDICATED IS SCHEMATIC IN CONCEPT. FIELD LOCATE EXACT TIE-IN-POINTS TO EXISTING PIPING. FINAL ROUTING SHALL BE COORDINATED WITH SHEET METAL, ELECTRICAL, AND STRUCTURAL SYSTEMS. PROVIDE ALL NECESSARY OFFSETS. COORDINATE TIME OF EXISTING PIPING REROUTING WITH OWNER TO MINIMIZE DOWNTIME.
- PROVIDE SHUTOFF VALVES ON ALL RUNOUT PIPING SERVING MULTIPLE FIXTURES.
- REMOVE AND REPLACE CEILING GRID AND TILES AS REQUIRED TO ACCESS THE WORK. REPLACE DAMAGED GRID AND TILES TO MATCH EXISTING.
- SLEEVE AND SEAL EXTERIOR WALL AND ROOF PENETRATIONS TO A WEATHER TIGHT CONDITION. SLEEVE AND SEAL INTERIOR FLOOR PENETRATIONS TO A WATERTIGHT CONDITION.
- PROVIDE FIRESTOP IN NEW AND EXISTING HOLES AND PENETRATIONS IN RATED WALLS.
- SAWCUT CONCRETE AS REQUIRED TO INSTALL NEW PIPING. FINISH CONCRETE PATCH TO RECEIVE NEW SURFACE FINISH AS REQUIRED.
- CORE DRILL OPENINGS IN WALLS AND SLABS AS REQUIRED FOR NEW PIPING. COORDINATE LOCATION OF REINFORCING STEEL TO AVOID DAMAGE.
- MINIMIZE SYSTEM SERVICE INTERRUPTION AND COORDINATE WITH OWNER WHERE NEW CONNECTIONS TO EXISTING PIPE ARE INDICATED. TIE-IN METHODS TO INCLUDE HOT TAP AS REQUIRED.
- NEW PIPING ROUTED OVER ELECTRICAL GEAR MUST MEET CLEARANCE REQUIREMENTS OF THE NEC.
- VALVE INDICATIONS ARE GENERIC. REFER TO SPECIFICATION FOR ACCEPTABLE VALVE TYPES PER APPLICATION.
- PRIOR TO MAKING CONNECTIONS TO EXISTING PIPING FOR REUSE. CONFIRM THAT EXISTING PIPING BEING TIED INTO IS ACTIVE FOR REUSE.

LEGEND

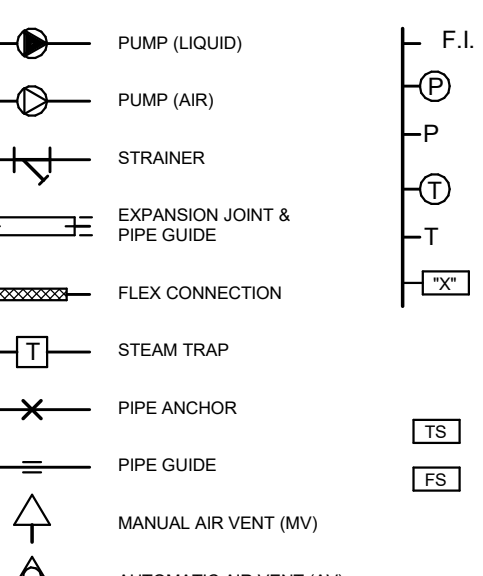
PIPE/FITTING SYMBOLS



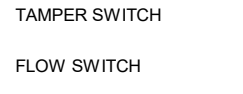
VALVE SYMBOLS



MISC. PIPING SYMBOLS



CONTROLS

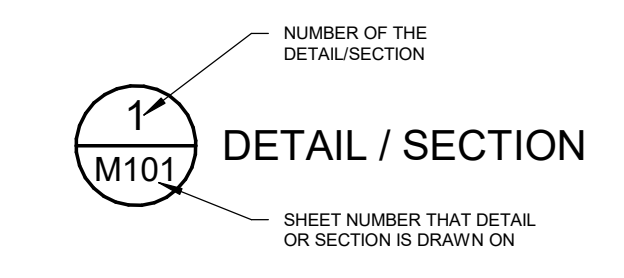


GENERAL ABBREVIATIONS

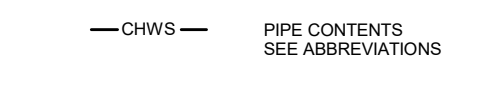
AFF	ABOVE FINISHED FLOOR	MC	MECHANICAL CONTRACTOR
AI	ACOUSTICAL INSULATION	MD	MOTORIZED DAMPER
AL	ACOUSTICAL LINING	NC	NOT IN CONTRACT
AP	ACCESS PANEL	OA	OUTSIDE AIR
BD	BALANCING DAMPER	RA	RETURN AIR
BD	BACKDRAFT DAMPER	RF	RETURN FAN
CI	CAST IRON	RAG	RETURN AIR GRILLE
CS	CLINIC SINK	RC	RAIN CONDUCTOR
DF	DRINKING FOUNTAIN	RD	ROOF DRAIN
EA	EXHAUST AIR	S	SINK
EF	EXHAUST FAN	SA	SUPPLY AIR
EAG	EXHAUST AIR GRILLE	SA	SUPPLY AIR
EC	ELECTRICAL CONTRACTOR	SF	SUPPLY FAN
EM SH	EMERGENCY SHOWER	SS	SERVICE SINK
EW	EYEWASH	SS	SERVICE SINK
EWC	ELECTRIC WATER	TCC	TEMPERATURE CONTROL CONTRACTOR
FC	FLEXIBLE CONNECTION	UR	URINAL
FD	FLOOR DRAIN	VAV	VARIABLE AIR VOLUME
FS	FLOOR SINK	VI	VIBRATION ISOLATOR
GC	GENERAL CONTRACTOR	VTR	VENT THRU ROOF
HI	HOSE BIBB	WC	WATER CLOSET
IE	INVERT ELEVATION	WC	WATER COLUMN
L	LOUVER	WH	WALL HYDRANT
LAV	LAVATORY	YA	YARD HYDRANT

PIPE CONTENTS ABBREVIATIONS

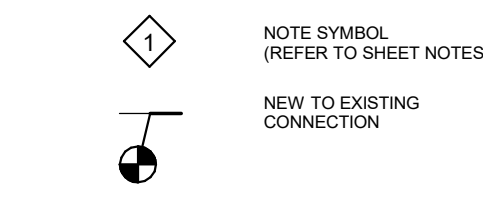
AR	ARGON GAS	AW	ACID WASTE
AV	ACID VENT	BF	BOILER FEED
AW	ACID WASTE	CA	COMPRESSED AIR
BF	BOILER FEED	CA	CHILLED WATER RETURN
CA	COMPRESSED AIR	CHWR	CHILLED WATER RETURN
CHWR	CHILLED WATER RETURN	CHWS	CHILLED WATER SUPPLY
CHWS	CHILLED WATER SUPPLY	COND	CONDENSATE
COND	CONDENSATE	CR	CONDENSER WATER RETURN
CR	CONDENSER WATER RETURN	CS	CONDENSER WATER SUPPLY
CS	CONDENSER WATER SUPPLY	DWR	DEIONIZED WATER RETURN
DWR	DEIONIZED WATER RETURN	DWS	DEIONIZED WATER SUPPLY
DWS	DEIONIZED WATER SUPPLY	FOR	FUEL OIL RETURN
FOR	FUEL OIL RETURN	FOS	FUEL OIL SUPPLY
FOS	FUEL OIL SUPPLY	FP	FIRE PROTECTION WATER SUPPLY
FP	FIRE PROTECTION WATER SUPPLY	G	GAS SUPPLY
G	GAS SUPPLY	HPS	HIGH PRESSURE STEAM
HPS	HIGH PRESSURE STEAM	HWR	HEATING WATER RETURN
HWR	HEATING WATER RETURN	HWS	HEATING WATER SUPPLY
HWS	HEATING WATER SUPPLY	LA	LABORATORY AIR
LA	LABORATORY AIR	LPS	LOW PRESSURE STEAM
LPS	LOW PRESSURE STEAM	LV	LABORATORY VACUUM
LV	LABORATORY VACUUM	MA	MEDICAL AIR
MA	MEDICAL AIR	MPS	MEDIUM PRESSURE STEAM
MPS	MEDIUM PRESSURE STEAM	N2	NITROGEN
N2	NITROGEN	N2O	NITROUS OXIDE
N2O	NITROUS OXIDE	NPW	NON-POTABLE WATER
NPW	NON-POTABLE WATER	OXY	OXYGEN
OXY	OXYGEN	PC	PUMPED CONDENSATE
PC	PUMPED CONDENSATE	PHWR	PRIMARY HEATING WATER RETURN
PHWR	PRIMARY HEATING WATER RETURN	PHWS	PRIMARY HEATING WATER SUPPLY
PHWS	PRIMARY HEATING WATER SUPPLY	PW	POTABLE WATER
PW	POTABLE WATER	RWR	REVERSE OSMOSIS WATER RETURN
RWR	REVERSE OSMOSIS WATER RETURN	ROS	REVERSE OSMOSIS WATER SUPPLY
ROS	REVERSE OSMOSIS WATER SUPPLY	SAN	SANITARY
SAN	SANITARY	SCW	SOFT COLD WATER
SCW	SOFT COLD WATER	SM	STEAM
SM	STEAM	STM	STORM SEWER
STM	STORM SEWER	V	VACUUM
V	VACUUM	VAC	VACUUM
VAC	VACUUM	WWR	WELL WATER RETURN
WWR	WELL WATER RETURN	WWS	WELL WATER SUPPLY
WWS	WELL WATER SUPPLY		

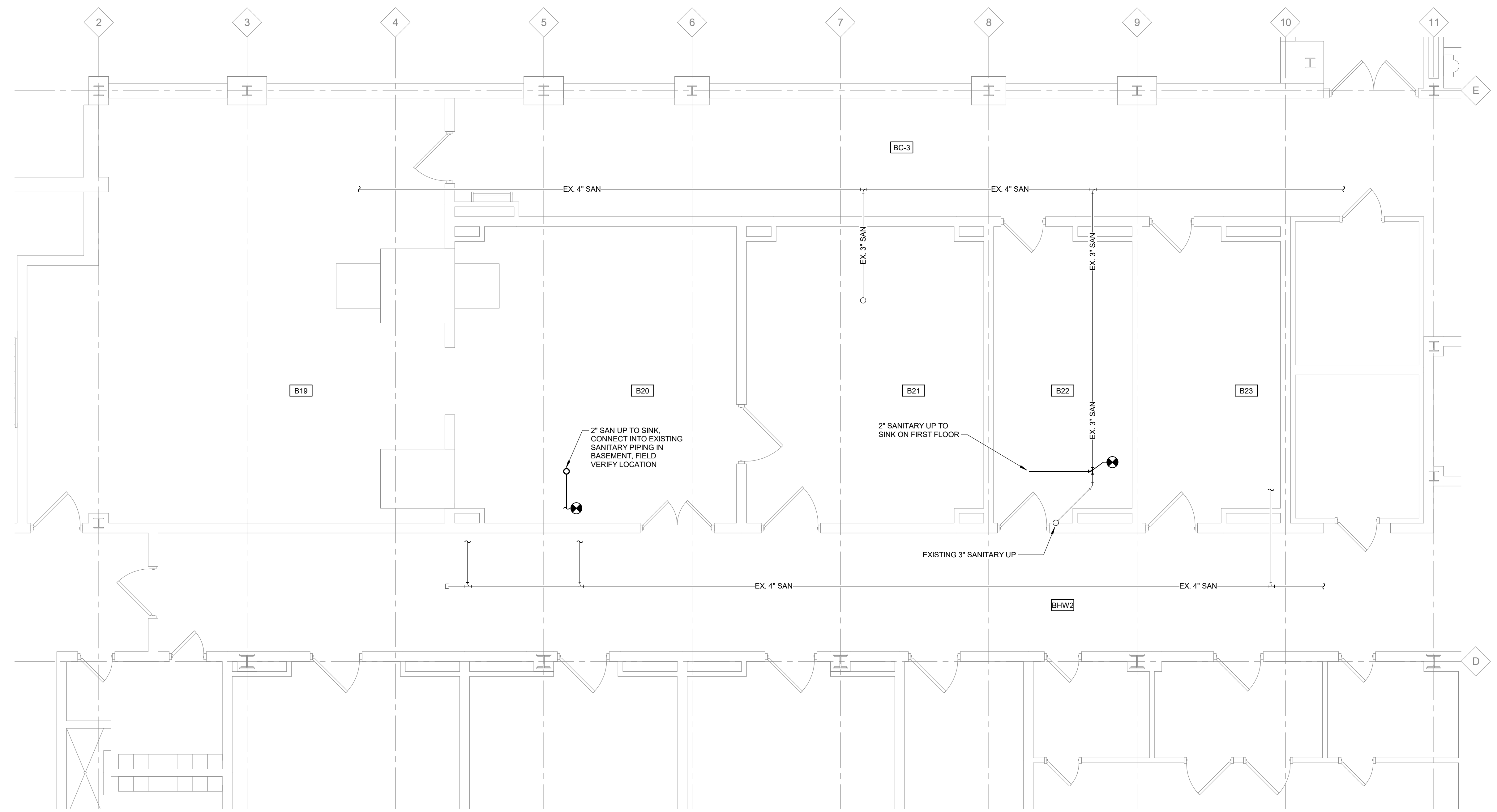


PIPING DESIGNATION



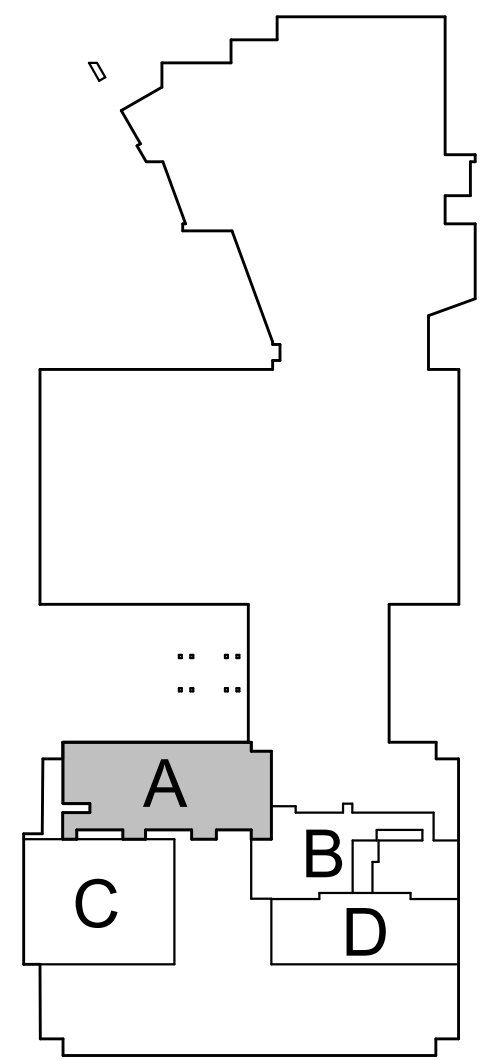
GENERAL DESIGNATION





**BASEMENT PLUMBING PLAN - AREA A**  
 SCALE: 1/4" = 1'-0"

**KEY PLAN**



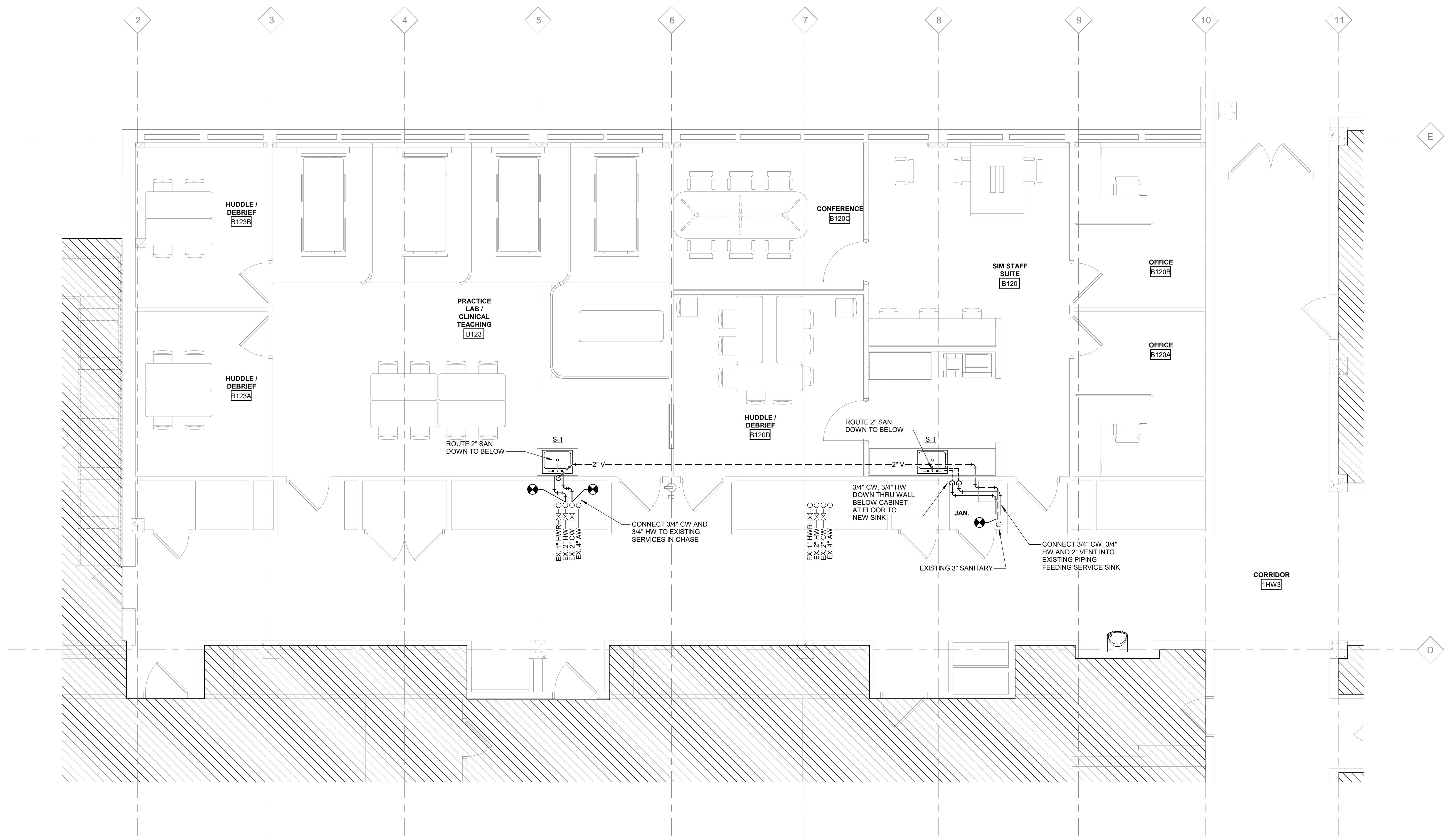
CAPITAL PROJ. NO. OP23077	
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BASEMENT PLUMBING  
 PLAN - AREA A

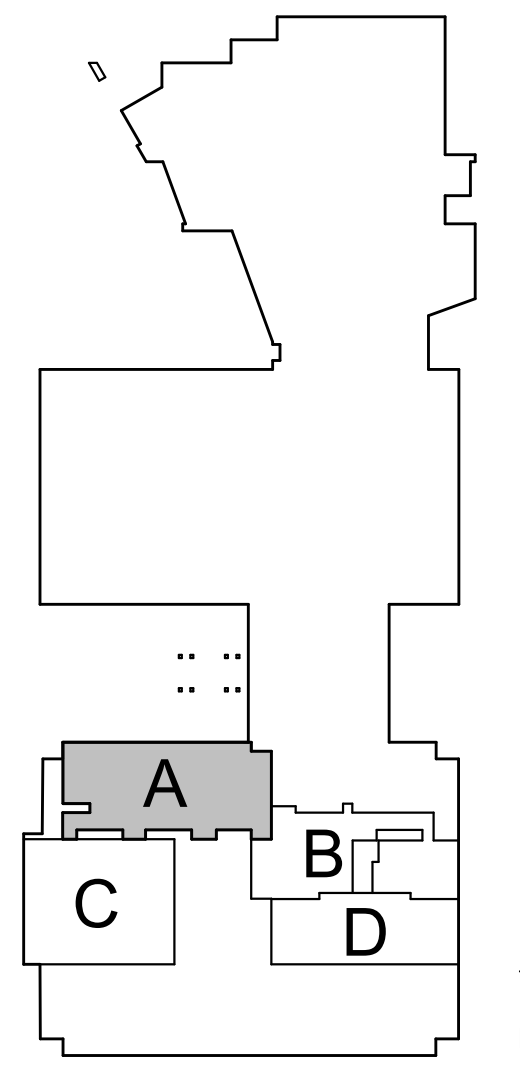
**P-002**

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ID TAG	DESCRIPTION
S-1	ADA COMPLIANT SINGLE COMPARTMENT COUNTERTOP MOUNTED SINK 1. BOWL: ZURN MODEL Z5114, WHITE VITREOUS CHINA, 20"x17" BOWL WITH 4 INCH CENTER FAUCET HOLES AND MODEL Z8746-PC ADA GRID STRAINER. 2. FAUCET: CHICAGO FAUCET MODEL 420-T41ABCP, CHROME PLATED SOLID BRASS, 4 INCH SINGLE LEVER WITH HOT AND COLD WATER INDICATORS, NPS 1/2 MALE SHANK, RIGID SPOUT, 0.5 GPM AERATOR, NON-COMPRESSION MANUAL OPERATION AND THERMOSTATIC CERAMIC TEMPERING DEVICE. 3. SUPPLIES: NPS 3/8" CHROME PLATED COPPER WITH STOPS. 4. DRAIN: NPS 1-1/4" CHROME PLATED. 5. TRAP: NPS 1-1/4", 17 GAGE THICK TUBULAR BRASS WASTE TO WALL WITH WALL ESCUTCHEON.



KEY PLAN



**FIRST FLOOR PLUMBING PLAN - AREA A**  
 SCALE: 1/4" = 1'-0"  
 NORTH

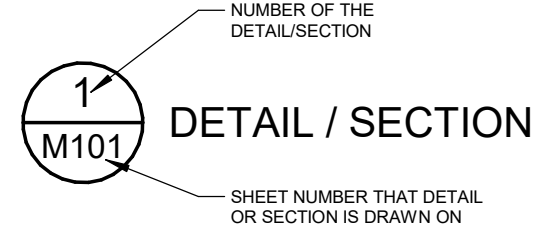
GENERAL NOTES

SHEET METAL NOTES

- COORDINATE THE INSTALLATION OF ALL DUCTWORK WITH NEW PLUMBING, ELECTRICAL AND STRUCTURAL CONDITIONS. PROVIDE REQUIRED OFFSETS AND FITTINGS WHETHER INDICATED OR NOT. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR CLEARANCES. OBTAIN APPROVAL OF ALTERNATE DUCT ROUTING BEFORE PROCEEDING IN ORDER TO ENSURE THAT THE AVAILABLE STATIC PRESSURE REMAINS ADEQUATE. DUCTWORK LOCATION TAKES PRECEDENCE OVER HVAC AND FIRE PROTECTION PIPING, AND ELECTRICAL CONDUIT AND CABLE TRAY.
- REFER TO DUCT TAKEOFF DETAILS. SPIN-IN TYPE WITH SCOOPS IS NOT ACCEPTABLE. PROVIDE A MINIMUM OF 2 FEET BETWEEN RUNOUT TAKEOFFS FROM TRUNK DUCTS.
- VERIFY THERMOSTAT, SENSOR, AND HUMIDISTAT LOCATIONS WITH ARCHITECT AND ENGINEER BEFORE ROUGH-IN.
- RELOCATE ALL EXISTING DUCTWORK, PIPING, CONDUIT AND HANGERS THAT ARE IN CONFLICT WITH NEW DUCT.
- EXISTING DUCTWORK AND EQUIPMENT SHOWN LIGHTLY IS EXISTING TO REMAIN.
- SET DIFFUSER BLADES TO THROW AIR IN DIRECTIONS INDICATED BY ARROWS.
- MOUNT RUNOUT BALANCING DAMPERS AS CLOSE TO MAIN DUCT AS POSSIBLE.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR DIFFUSER LOCATIONS.
- DUCTWORK LAYOUT HAS BEEN DESIGNED TO ABSORB NOISE. PROVIDE ALL FITTINGS AS INDICATED.
- NEW DUCTWORK AS INDICATED IS SCHEMATIC IN CONCEPT. FIELD LOCATE EXACT TIE-IN POINTS TO EXISTING DUCTWORK AND COORDINATE FINAL ROUTING WITH EXISTING CONDITIONS AND NEW EQUIPMENT. PROVIDE ALL NECESSARY OFFSETS. COORDINATE TIME OF EXISTING DUCTWORK REROUTING WITH OWNER TO MINIMIZE DOWNTIME.
- AT RENOVATED AREAS THE INDICATED ROUTING OF DUCTWORK SYSTEMS IS INTENDED TO INDICATE REUSE OF AS MUCH OF THE EXISTING SYSTEMS AS POSSIBLE. THE ROUTE SHOWN AND INFORMATION GIVEN IS NOT INTENDED TO REPRESENT EXACTLY WHERE AND HOW TO INSTALL THESE SYSTEMS. IT HAS BEEN DETERMINED THAT ADEQUATE SPACE EXISTS BUT NO ATTEMPT HAS BEEN MADE TO INDICATE THE LOCATION AND IDENTITY OF EVERY INTERFERENCE. NOR THE RESULTANT REQUIRED RESOLUTION OF INTERFERENCES. INCLUDE ADDITIONAL DUCT MATERIAL, LABOR, AND LAYOUT TIME REQUIRED TO RESOLVE INTERFERENCES AND THEIR REROUTING.
- REPAIR AND SEAL EXISTING DAMAGED DUCT LINING AND INSULATION WHERE ACCESSIBLE. FIELD VERIFY LOCATIONS.
- REMOVE AND REPLACE CEILING GRID AND TILE TO ACCESS THE WORK IF REQUIRED. REPLACE DAMAGED GRID AND TILE TO MATCH EXISTING.
- REBALANCE ALL NEW AND EXISTING DIFFUSERS AND GRILLES TO CFM INDICATED.
- INSULATED FLEXIBLE DUCT AT SUPPLY DIFFUSERS NOT TO EXCEED 5 FEET MAXIMUM LENGTH AND 45 DEGREE MAXIMUM TURN.

LEGEND

<p><b>PIPE/FITTING SYMBOLS</b></p> <p><b>VALVE SYMBOLS</b></p> <p><b>PIPING DESIGNATION</b></p> <p><b>GENERAL DESIGNATION</b></p>	<p><b>MISC. PIPING SYMBOLS</b></p> <p><b>CONTROLS</b></p>	<p><b>HVAC DUCTWORK SYMBOLS</b></p>	<p><b>GENERAL ABBREVIATIONS</b></p> <table border="1"> <tr><td>AF</td><td>ABOVE FINISHED FLOOR</td><td>MC</td><td>MECHANICAL CONTRACTOR</td></tr> <tr><td>AI</td><td>ACCUSTICAL INSULATION</td><td>MD</td><td>MOTORIZED DAMPER</td></tr> <tr><td>AL</td><td>ACCESS PANEL</td><td>NIC</td><td>NOT IN CONTRACT</td></tr> <tr><td>AP</td><td>BALANCING DAMPER</td><td>OA</td><td>OUTSIDE AIR</td></tr> <tr><td>BD</td><td>BACKDRAFT DAMPER</td><td>RA</td><td>RETURN AIR</td></tr> <tr><td>BDD</td><td>CAST IRON</td><td>RF</td><td>RETURN AIR GRILLE</td></tr> <tr><td>CI</td><td>CLINIC SINK</td><td>RD</td><td>RAIN CONDUCTOR</td></tr> <tr><td>CS</td><td>DRINKING FOUNTAIN</td><td>RO</td><td>ROOF DRAIN</td></tr> <tr><td>DF</td><td>EXHAUST AIR</td><td>S</td><td>SINK</td></tr> <tr><td>EA</td><td>EXHAUST FAN</td><td>SA</td><td>SUPPLY AIR</td></tr> <tr><td>EAG</td><td>EXHAUST AIR GRILLE</td><td>SAF</td><td>SUPPLY FAN</td></tr> 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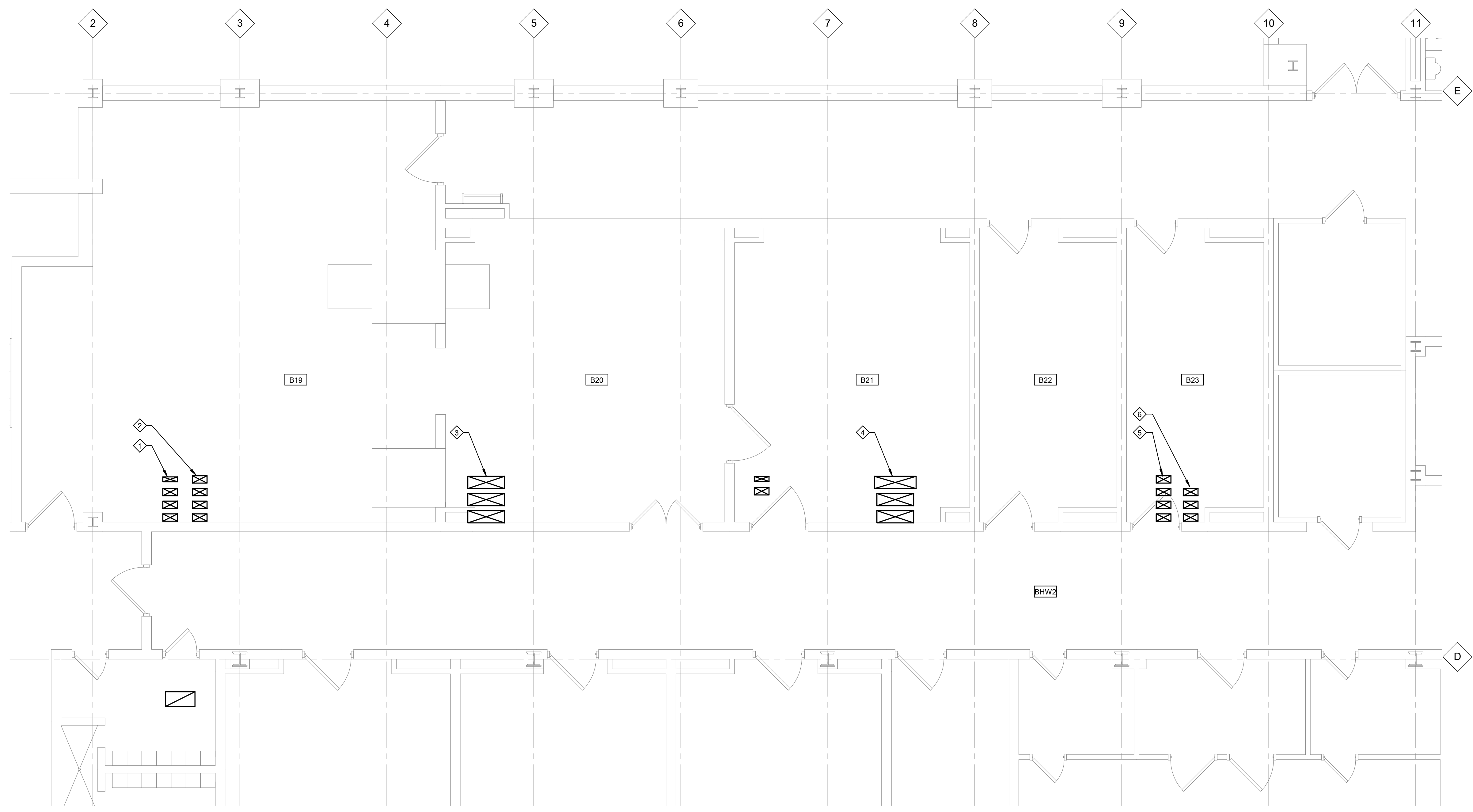
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GENERAL NOTES AND LEGEND

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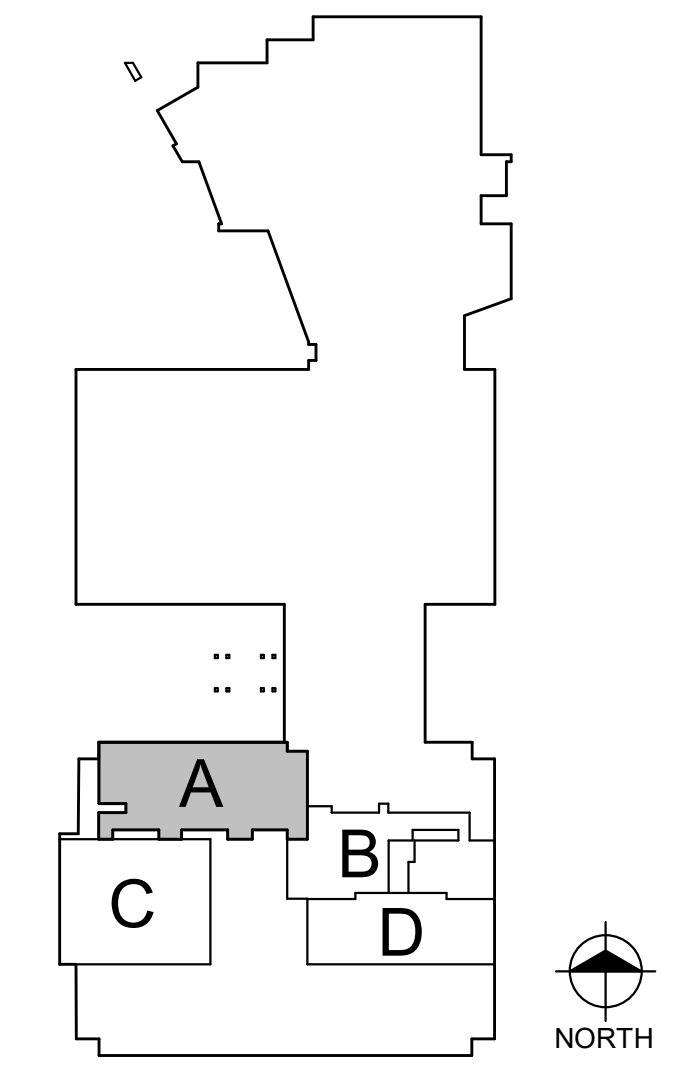
NOTES

1. DAMPERS ARE ACCESSIBLE IN PLENUM AREA BETWEEN BASEMENT FLOOR AND FIRST FLOOR. ARRANGE ACCESS TO PLENUM WITH OWNER AND COMPLY WITH PPE PROTOCOLS AS AREA HAS ASBESTOS CONTAINING MATERIALS.

KEY NOTES

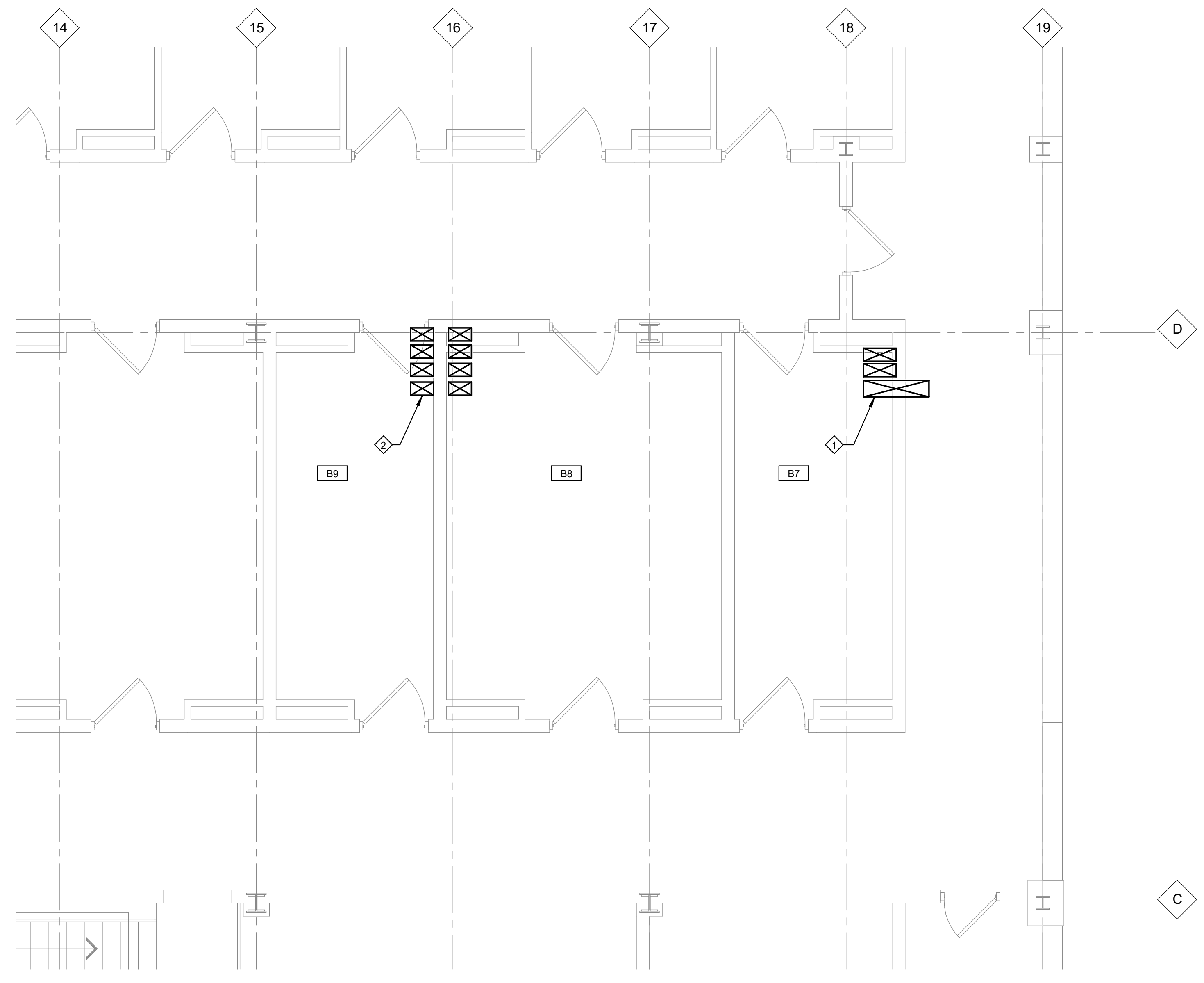
- 12"x4" DUCT: POSITION EXISTING DAMPER TO PROVIDE 100 CFM TO HUDDLE/DEBRIEF B123A.
- 12"x6" DUCT: POSITION EXISTING DAMPER TO PROVIDE 130 CFM TO HUDDLE/DEBRIEF B123B.
- 30"x10" DUCT: POSITION EXISTING DAMPER TO PROVIDE 500 CFM TO PRACTICE LAB/CLINICAL TEACHING B123.
- 34"x10" DUCT: POSITION EXISTING DAMPER TO PROVIDE 750 CFM TO SIM STAFF SUITE B120, CONFERENCE B120C AND HUDDLE/DEBRIEF B120D.
- 12"x6" DUCT: POSITION EXISTING DAMPER TO PROVIDE 130 CFM TO OFFICE B120B.
- 12"x4" DUCT: POSITION EXISTING DAMPER TO PROVIDE 100 CFM TO OFFICE B120A.

KEY PLAN



**BASEMENT FLOOR HVAC PLAN - AREA A**  
 SCALE: 1/4" = 1'-0"  
 NORTH

CAPITAL PROJ. NO.	CP23077
PR. MGR.	Z. KIEFER
ARCH.	D. LAUNSTEIN
MECH.	A. VANDERSTELT
ELEC.	K. HOWARD
CIVIL	
L.A.	
INT. DES.	D. WHITBECK
CONST. REP.	
APPR.	
DATE	
SCALE	AS SHOWN
REVISIONS	
2/16/24	RELEASED FOR BID



**BASEMENT FLOOR HVAC PLAN - AREA B**  
 SCALE: 1/4" = 1'-0"  
 NORTH

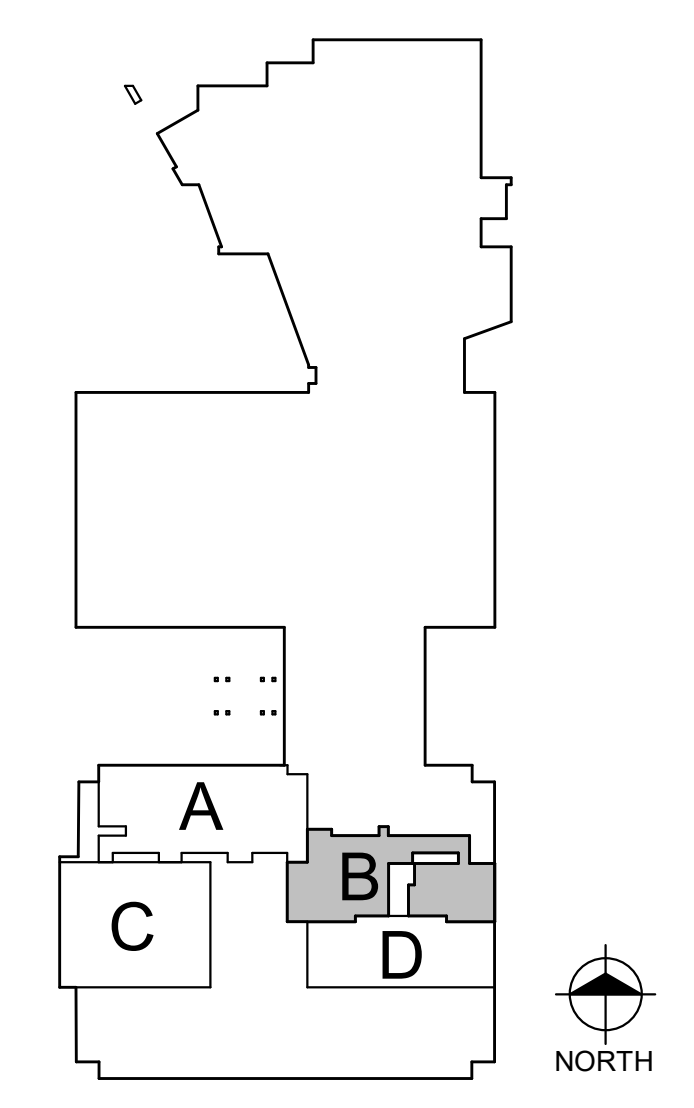
**NOTES**

1. DAMPERS ARE ACCESSIBLE IN PLENUM AREA BETWEEN BASEMENT FLOOR AND FIRST FLOOR. ARRANGE ACCESS TO PLENUM WITH OWNER AND COMPLY WITH PPE PROTOCOLS AS AREA HAS ASBESTOS CONTAINING MATERIALS.

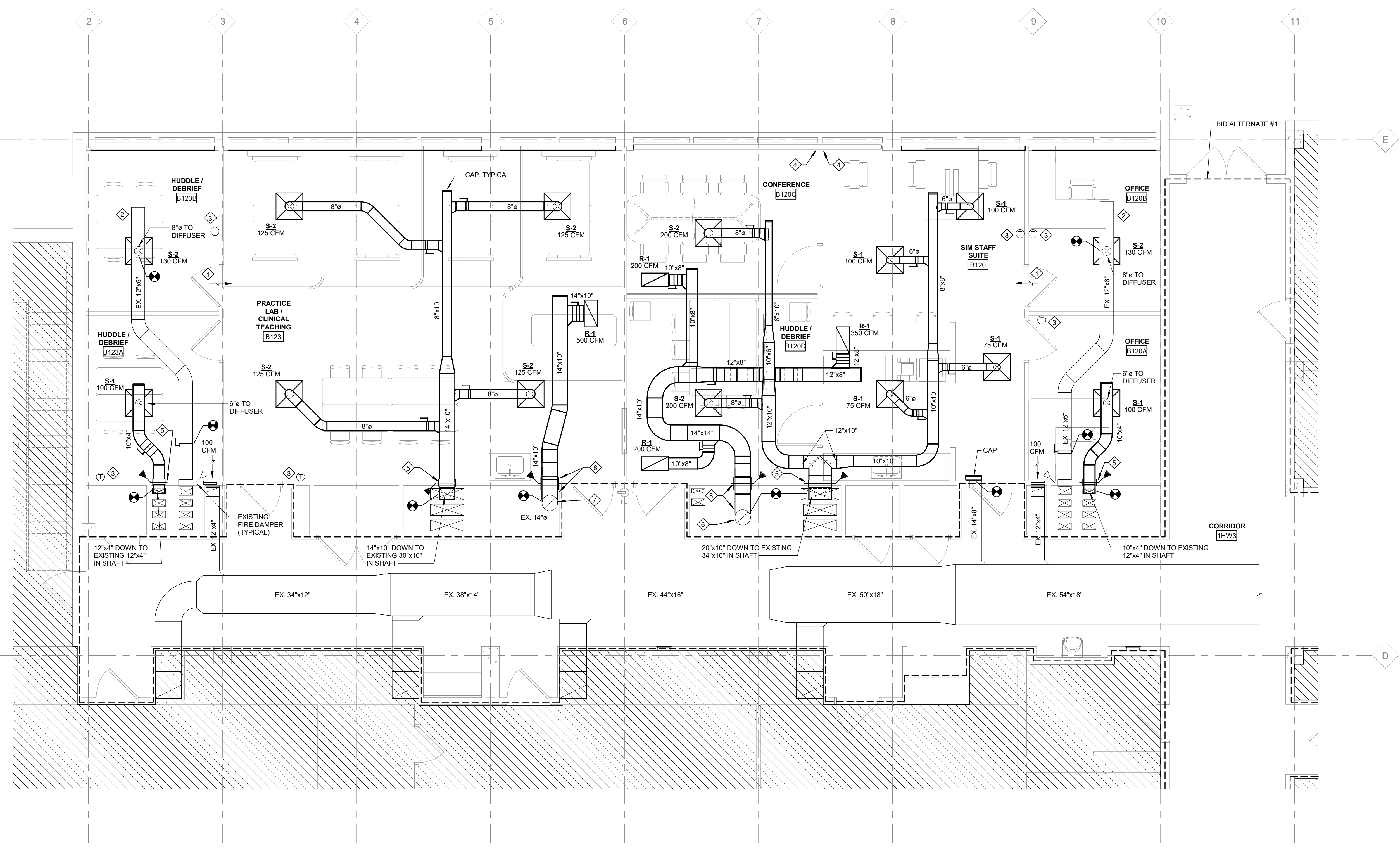
**KEY NOTES**

- 40"x10" DUCT. POSITION EXISTING DAMPER TO PROVIDE 1,510 CFM TO SIM ROOM #3 B107, SIM OBSERVATION B107A, SIM SUITE B108 AND CLINICAL TEACHING B129.
- 14"x8" DUCT. POSITION EXISTING DAMPER TO PROVIDE 350 CFM TO SIM ROOM #2 B108A AND SIM OBSERVATION B108D.

**KEY PLAN**

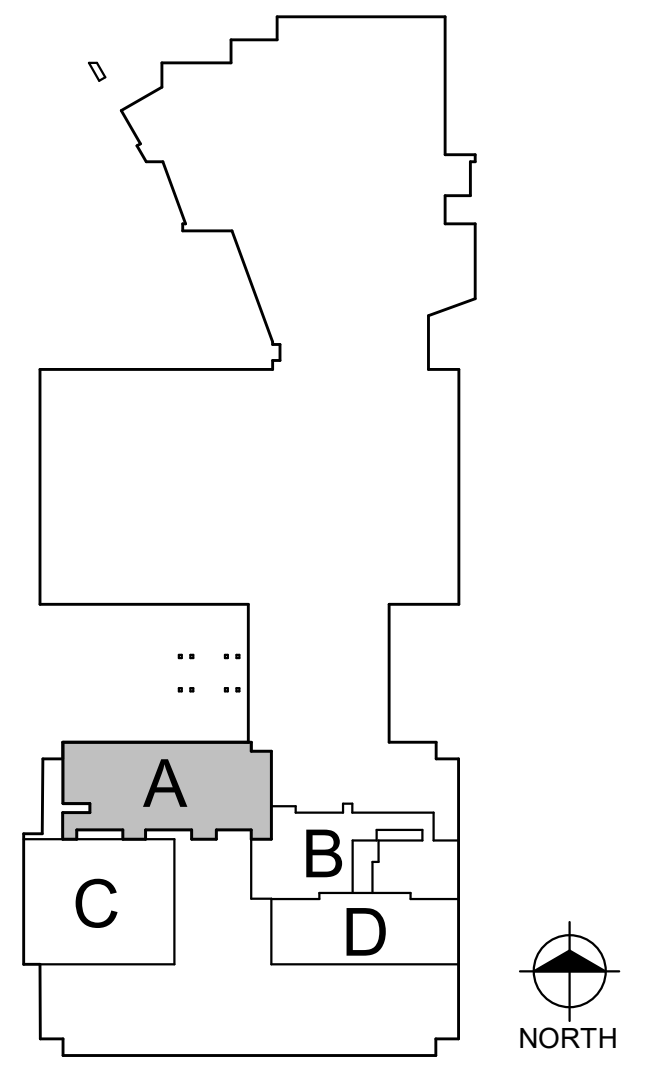


CAPITAL PROJ. NO.	CP23077
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L.A.	
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CONST. REP.	
APPR.	
DATE	
SCALE	AS SHOWN
REVISIONS	
	2/16/24 RELEASED FOR BID



- KEY NOTES
- 130 CFM TRANSFER AIR THROUGH EXISTING DOOR GRILLE.
  - PROVIDE AIRTIGHT SHEET METAL PATCH AT REMOVED DIFFUSER.
  - PNEUMATIC TEMPERATURE SENSOR; CONNECT TO EXISTING CONTROL SYSTEM AND CALIBRATE TO CONNECTED DEVICE CONTROL RANGE, SEE SPECIFICATIONS.
  - PROVIDE FIN TUBE ENCLOSURE END CAP AT PROPOSED WALL THAT MATCHES EXISTING FIN TUBE ENCLOSURE DESIGN. INSTALL BEFORE FIN TUBE ENCLOSURE IS REPAINTED.
  - PROVIDE DUCT WALL PENETRATION ABOVE LAY-IN CEILING INTO SHAFT, REMOVE AND REPLACE MASONRY WALL AS REQUIRED TO INSTALL FIRE DAMPER. PATCH TO MATCH EXISTING, REFER TO ARCHITECTURAL SHEETS.
  - SET EXISTING EXHAUST VALVE V-C B120 TO 750 CFM. CONFIRM VALVE LOCATION WITH OWNER.
  - SET EXISTING EXHAUST VALVE V-C B123 TO 500 CFM. CONFIRM VALVE LOCATION WITH OWNER.
  - RECONFIGURE SHAFT EXHAUST DUCT TO PROVIDE PERPENDICULAR DUCT PENETRATION AT WALL. INSTALL ROUND FIRE DAMPER WITH CINCH PLATE AT WALL PENETRATION. REMOVE AND REPLACE MASONRY WALL AS REQUIRED TO RECONFIGURE EXHAUST DUCT AND INSTALL FIRE DAMPER AND INTEGRAL SLEEVE. PATCH TO MATCH EXISTING, REFER TO ARCHITECTURAL SHEETS.

KEY PLAN



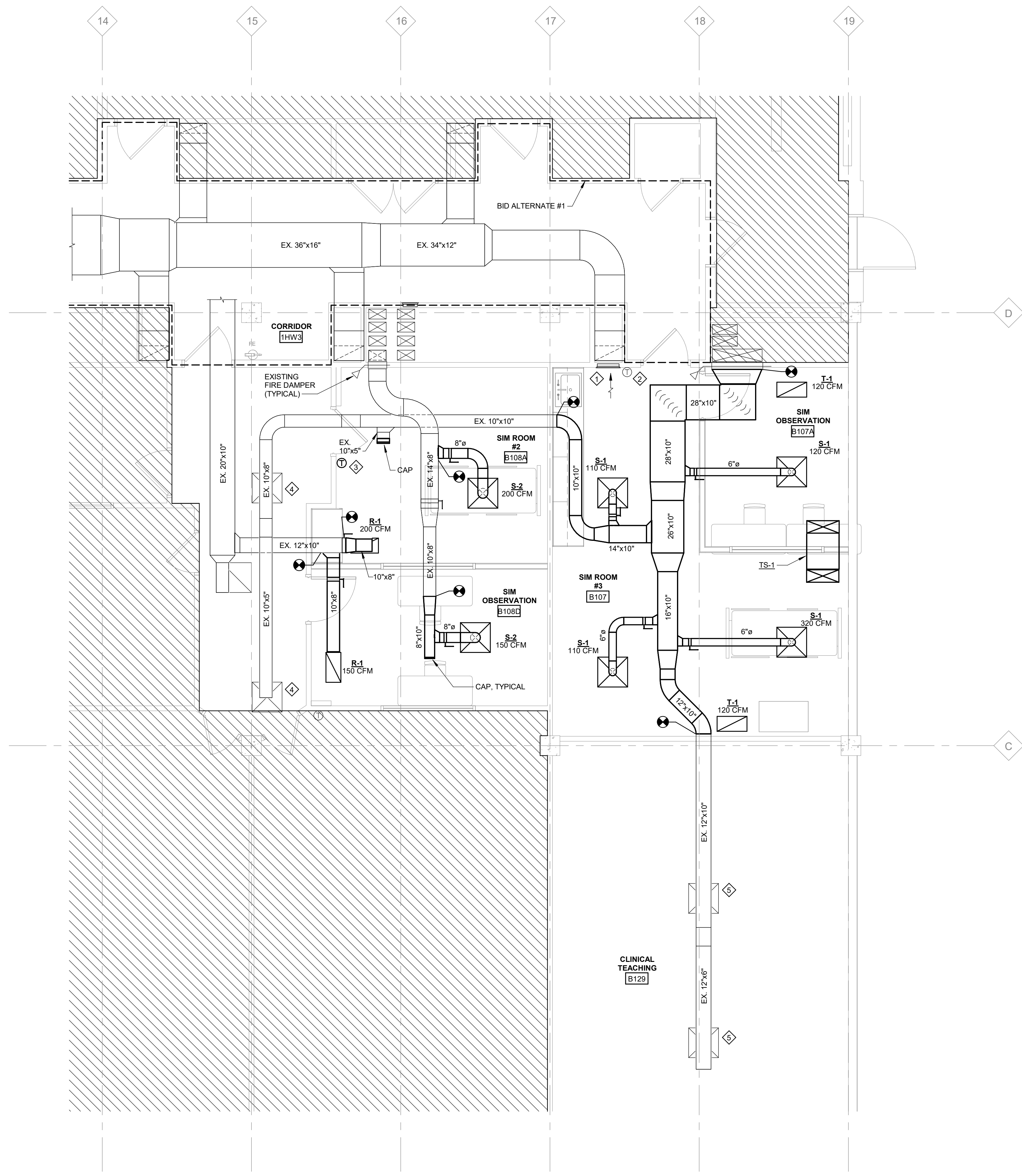
FIRST FLOOR HVAC SHEET METAL PLAN - AREA A  
 SCALE: 1/4" = 1'-0"  
 NORTH



CAPITAL PROJ. NO.	CP23077
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MECH.	A. VANDERSTELT
ELEC.	K. HOWARD
CIVIL	
L.A.	
INT. DES.	D. WHITBECK
CONST. REP.	
APPR.	
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SCALE	AS SHOWN
REVISIONS	
2/16/24 RELEASED FOR BID	

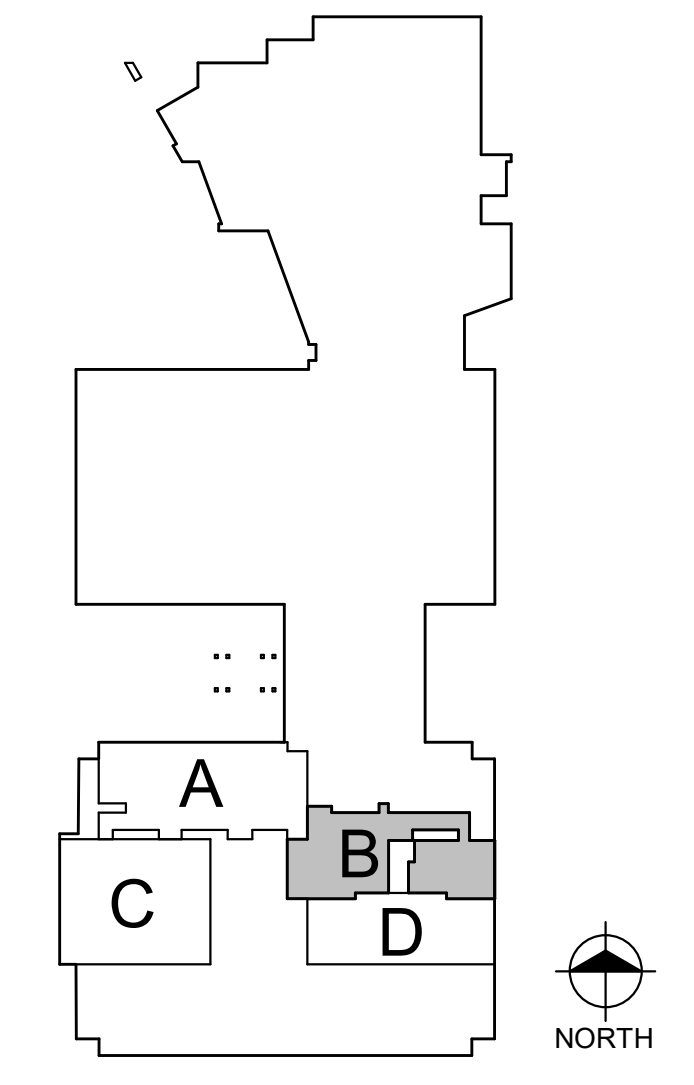
FIRST FLOOR SHEET  
 METAL PLAN - AREA B

M-005



- KEY NOTES
1. LOW AND HIGH WALL EXHAUST GRILLES TO REMAIN. BALANCE EACH GRILLE TO 225 CFM.
  2. PNEUMATIC TEMPERATURE SENSOR; CONNECT TO EXISTING CONTROL SYSTEM AND CALIBRATE TO CONNECTED DEVICE CONTROL RANGE. SEE SPECIFICATIONS.
  3. PNEUMATIC TEMPERATURE SENSOR; CONNECT TO EXISTING CONTROL SYSTEM AND CALIBRATE TO CONNECTED DEVICE CONTROL RANGE. SEE SPECIFICATIONS. EXTEND PNEUMATIC SYSTEM AS REQUIRED TO SENSOR LOCATION.
  4. BALANCE EXISTING DIFFUSER IN SIM SUITE B108 TO 150 CFM. PROVIDE BALANCING DAMPER AS REQUIRED.
  5. BALANCE EXISTING DIFFUSER IN CLINICAL TEACHING B129 TO 275 CFM. PROVIDE BALANCING DAMPER AS REQUIRED.

KEY PLAN

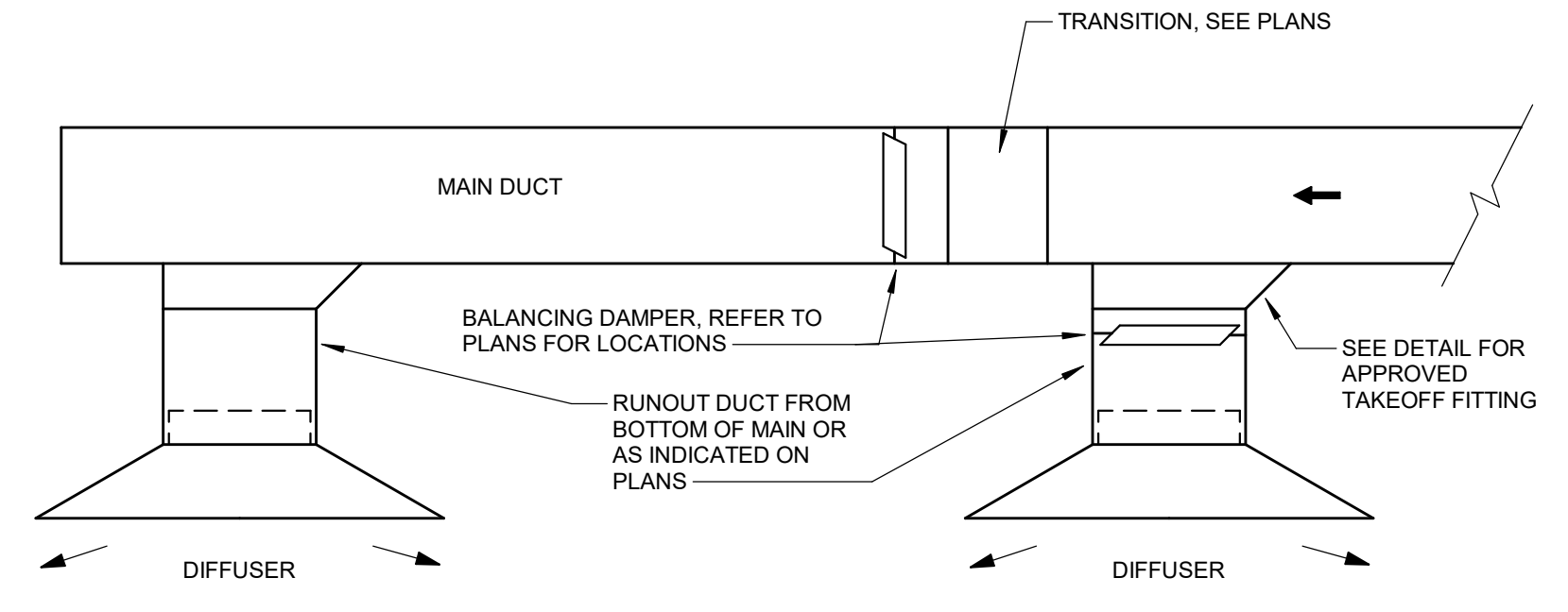


FIRST FLOOR HVAC SHEET METAL PLAN - AREA B  
 SCALE: 1/4" = 1'-0"  
 NORTH

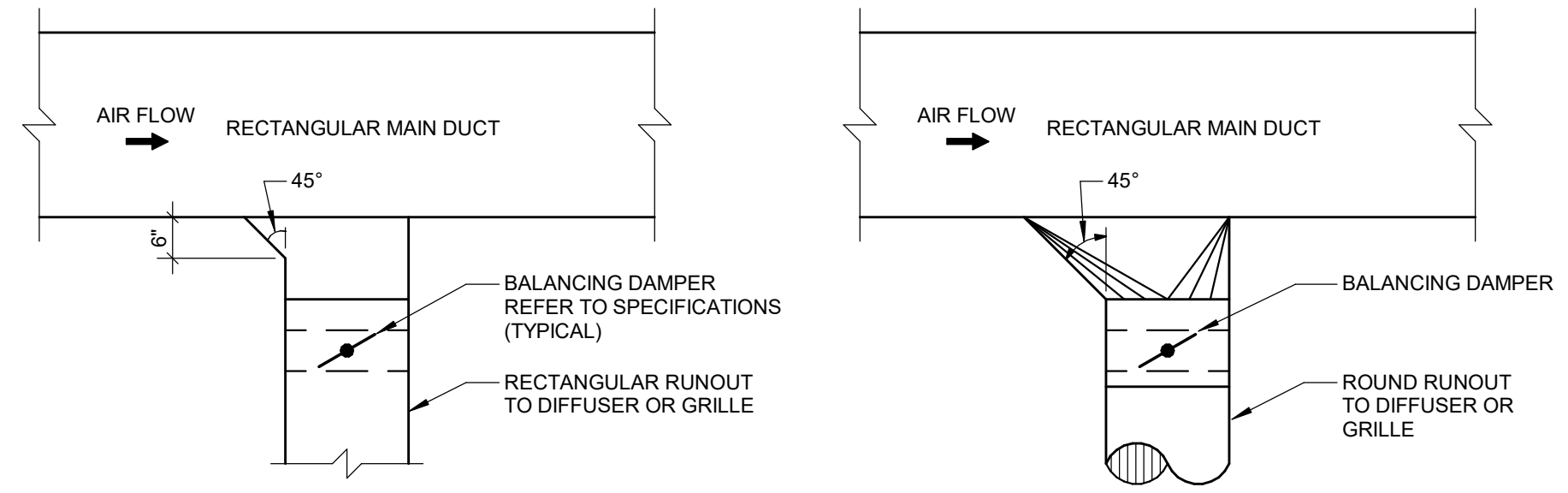
TRANSFER SILENCER SCHEDULE									
TAG	MFG	MODEL	CFM	WIDTH IN.	HEIGHT IN.	THICKNESS IN.	LENGTH IN.	APD IN. W.G.	ACOUSTIC MEDIA
TS-1	PRICE	XTU	200	26	10	7	48	0.1	FIBERGLASS

REGISTER, GRILLE AND DIFFUSER SCHEDULE													
ID TAG	MANUFACTURER	MODEL	CFM MAX	NECK SIZE (IN)	FACE SIZE (IN)	MAX APD (IN W.C)	MAX NC	MAX THROW (FT)	THROW PATTERN	MATERIAL	FINISH	DAMPER (Y/N)	NOTES
R-1	TITUS	3FL	500	22x10	24x12	0.06	20	---	---	ALUMINUM	26 WHITE	No	2
S-1	TITUS	TMS	120	6"	24x24	0.04	15	5	4 WAY	STEEL	26 WHITE	No	1,2
S-2	TITUS	TMS	210	8"	24x24	0.04	15	8	4 WAY	STEEL	26 WHITE	No	1,2
T-1	TITUS	3FL	500	22x10	24x12	0.06	20	---	---	ALUMINUM	26 WHITE	No	2

NOTES  
 1. MINIMUM THROW VALUES BASED ON 50 FPM TERMINAL VELOCITY.  
 2. LAY-IN.

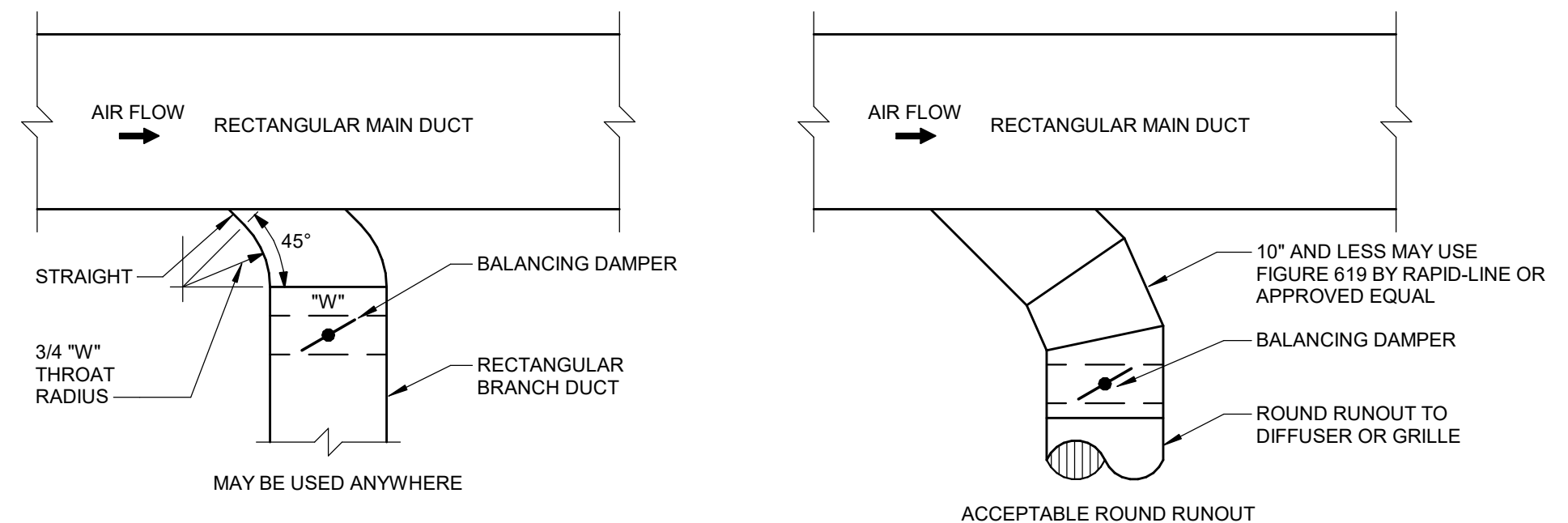


DUCT WITH DIFFUSER DETAIL  
 NO SCALE



USE ONLY WHERE RECTANGULAR RUNOUTS ARE INDICATED ON DRAWINGS

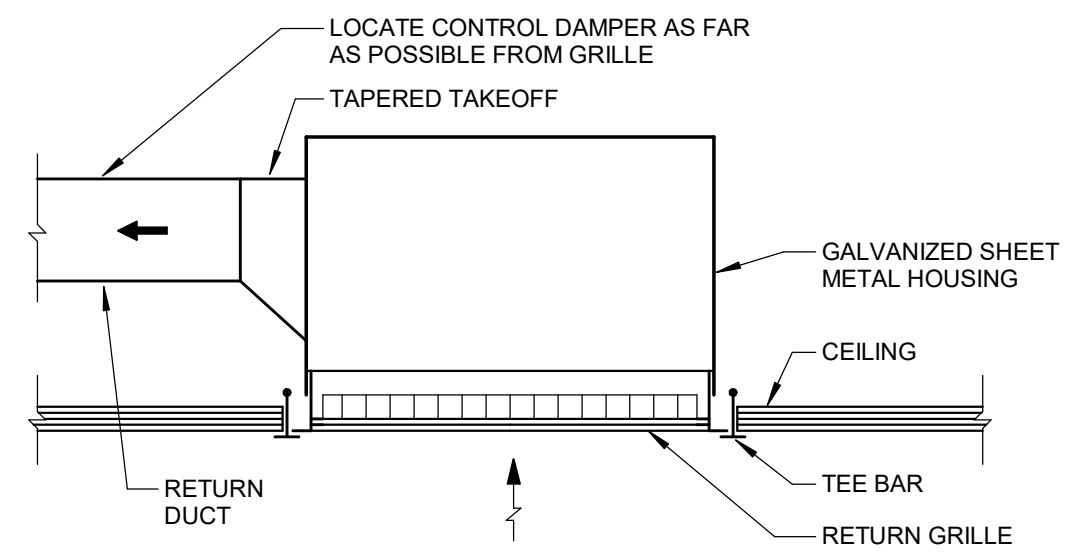
ACCEPTABLE ROUND RUNOUT



MAY BE USED ANYWHERE

ACCEPTABLE ROUND RUNOUT

RUNOUT AND BRANCH CONNECTIONS  
 NO SCALE



TYPICAL RETURN GRILLE DETAIL  
 NO SCALE

ELECTRICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION
S	SINGLE POLE MANUAL LIGHTING SWITCH
S <sub>2</sub>	TWO POLE MANUAL LIGHTING SWITCH
S <sub>3</sub>	THREE-WAY MANUAL LIGHTING SWITCH
S <sub>4</sub>	FOUR-WAY MANUAL LIGHTING SWITCH
S <sub>4x</sub>	SINGLE POLE MANUAL LIGHTING SWITCH WITH NEMA 4X COVER
S <sub>0</sub>	MANUAL DIMMER LIGHTING SWITCH
S <sub>P</sub>	SINGLE POLE MANUAL LIGHTING SWITCH WITH PILOT LIGHT
S <sub>T</sub>	MANUAL TIMER LIGHTING SWITCH
S <sub>F</sub>	SINGLE POLE MANUAL FUSED SWITCH
S <sub>M</sub>	SINGLE POLE MANUAL MOTOR STARTER
S <sub>MP</sub>	SINGLE POLE MANUAL MOTOR STARTER WITH PILOT LIGHT
S <sub>L</sub>	SINGLE POLE LOW VOLTAGE SWITCH
S <sub>OC</sub>	OCCUPANCY SENSOR WALL SWITCH
⊙	CEILING MOUNTED OCCUPANCY SENSOR
⊙	WALL MOUNTED OCCUPANCY SENSOR
⊙	POWER PACK FOR OCCUPANCY SENSOR
⊙	RELAY PACK FOR OCCUPANCY SENSOR
⊙	UL 924 EMERGENCY LIGHTING CONTROL UNIT
⊙	CLG MTD DAYLIGHT HARVESTING PHOTO SENSOR
⊕	SIMPLEX RECEPTACLE
⊕	DUPLEX RECEPTACLE
⊕	DUPLEX RECEPTACLE (ABOVE COUNTER)
⊕	DOUBLE DUPLEX RECEPTACLE
⊕	DOUBLE DUPLEX RECEPTACLE (ABOVE COUNTER)
⊕	SPECIAL RECEPTACLE (AS NOTED)
⊕	CEILING MOUNTED SIMPLEX RECEPTACLE
⊕	CEILING MOUNTED DUPLEX RECEPTACLE
⊕	CEILING MOUNTED DOUBLE DUPLEX RECEPTACLE
⊕	CEILING MOUNTED SPECIAL RECEPTACLE
⊕	SIMPLEX RECEPTACLE (CONTROLLED)
⊕	DUPLEX RECEPTACLE (CONTROLLED)
⊕	DUPLEX RECEPTACLE (CONTROLLED - ABOVE COUNTER)
⊕	DOUBLE DUPLEX RECEPTACLE (CONTROLLED)
⊕	DOUBLE DUPLEX RECEPT (CONTROLLED - ABOVE COUNTER)
⊕	CEILING MOUNTED SIMPLEX RECEPTACLE (CONTROLLED)
⊕	CEILING MOUNTED DUPLEX RECEPTACLE (CONTROLLED)
⊕	CLG MTD DOUBLE DUPLEX RECEPTACLE (CONTROLLED)
⊕	POWER AND DATA POKE-THRU FLOOR DEVICE
⊕	POWER AND DATA FLOOR BOX
⊕	VIDEO MONITOR POWER AND DATA WALL BOX
⊕	CONTACTOR
⊕	CEILING MOUNTED JUNCTION BOX
⊕	WALL MOUNTED JUNCTION BOX
⊕	FLOOR MOUNTED JUNCTION BOX
⊕	PHOTOCELL
⊕	PUSHBUTTON
⊕	TIME CLOCK
⊕	LOW VOLTAGE TRANSFORMER
⊕	THERMOSTAT
⊕	HUMIDISTAT
⊕	SPECIAL CONNECTION (AS NOTED)
⊕	PANELBOARD (480Y/277V) OR (480V)
⊕	PANELBOARD (208Y/120V) OR (120/240V)
⊕	SINGLE PHASE MOTOR CONNECTION
⊕	THREE PHASE MOTOR CONNECTION
⊕	NON FUSIBLE DISCONNECT SWITCH
⊕	FUSIBLE DISCONNECT SWITCH (Z=NO. POLES; X=SWITCH SIZE; Y=FUSE SIZE; MOUNT AT 5'-0" AFF. UNO)
⊕	MOTOR STARTER (N=STARTER SIZE; X=STARTER TYPE; (RV: REDUCED VOLTAGE; BLANK: FULL VOLTAGE); MOUNT AT 5'-0" AFF. UNO)
⊕	COMBINATION MOTOR STARTER / DISCONNECT SWITCH (N=STARTER SIZE; X=STARTER TYPE; (RV: REDUCED VOLTAGE; BLANK: FULL VOLTAGE); MOUNT AT 5'-0" AFF. UNO)
⊕	GROUND ROD
---	CONDUIT UNDER FLOOR
---	CONDUIT ABOVE FLOOR
⊕	SURFACE OR RECESSED LUMINAIRE
⊕	SURFACE OR RECESSED DIRECTIONAL LUMINAIRE
⊕	WALL MOUNTED LUMINAIRE
⊕	TRACK MOUNTED LUMINAIRE
⊕	EMERGENCY LUMINAIRE
⊕	NIGHT LIGHT LUMINAIRE
⊕	EMERGENCY NIGHT LIGHT LUMINAIRE
⊕	BATTERY POWERED EMERGENCY LIGHTING UNIT
⊕	CEILING MOUNTED EXIT SIGN
⊕	WALL MOUNTED EXIT SIGN
⊕	SITE LUMINAIRE AND POLE

FIRE ALARM SYMBOL LEGEND

SYMBOL	DESCRIPTION
⊕	FACP MAIN FIRE ALARM CONTROL PANEL
⊕	FAAP FIRE ALARM REMOTE ANNUNCIATOR PANEL
⊕	NACP NOTIFICATION APPLIANCE CONTROL PANEL
⊕	MANUAL PULL STATION
⊕	HEAT DETECTOR; CEILING MOUNTED
⊕	HEAT DETECTOR; WALL MOUNTED
⊕	SMOKE DETECTOR; CEILING MOUNTED
⊕	SMOKE DETECTOR; WALL MOUNTED
⊕	ELEVATOR SMOKE DETECTOR
⊕	DUCT-TYPE SMOKE DETECTOR
⊕	BEAM-TYPE SMOKE DETECTOR; WALL MOUNTED
⊕	REMOTE TEST STATION; CEILING MOUNTED
⊕	REMOTE TEST STATION; WALL MOUNTED
⊕	CARBON MONOXIDE DETECTOR; CEILING MOUNTED
⊕	CARBON MONOXIDE DETECTOR; WALL MOUNTED
⊕	AUDIO DEVICE; CEILING MOUNTED
⊕	AUDIO DEVICE; WALL MOUNTED
⊕	VISUAL DEVICE; CEILING MOUNTED
⊕	VISUAL DEVICE; WALL MOUNTED
⊕	COMBINATION AUDIO/VISUAL DEVICE; CEILING MOUNTED
⊕	COMBINATION AUDIO/VISUAL DEVICE; WALL MOUNTED
⊕	SMOKE DAMPER
⊕	FIRE PROTECTION SPRINKLER FLOW SWITCH
⊕	FIRE PROTECTION SPRINKLER TAMPER SWITCH
⊕	FIRE PROTECTION POST INDICATOR VALVE
⊕	FIRE PROTECTION CO2 SYSTEM FLOW SWITCH
⊕	FIRE FIGHTER'S PHONE OUTLET
⊕	FIRE ALARM BELL
⊕	MAGNETIC DOOR HOLDER
⊕	FIRE ALARM INTERLOCK / CONTROL CONNECTION

SYSTEMS SYMBOL LEGEND

SYMBOL	DESCRIPTION
⊕	VOICE / DATA OUTLET
⊕	OUTLET FOR WALL MOUNTED TELEPHONE
⊕	DATA OUTLET; CEILING MOUNTED
⊕	WIRELESS ACCESS POINT OUTLET; CEILING MOUNTED
⊕	MICROPHONE OUTLET; WALL MOUNTED
⊕	MICROPHONE OUTLET; CEILING MOUNTED
⊕	POWER / DATA POLE
⊕	POWER / DATA FLOOR BOX
⊕	SPEAKER OUTLET; CEILING MOUNTED
⊕	SPEAKER OUTLET; WALL MOUNTED
⊕	VIDEO MONITOR OUTLET; WALL MOUNTED
⊕	CLOCK OUTLET; WALL MOUNTED
⊕	INTERCOM OUTLET; WALL MOUNTED
⊕	VOLUME CONTROL OUTLET; WALL MOUNTED
---	CABLE TRAY
○	VERTICAL CONDUIT SLEEVE; THROUGH FLOOR
---	HORIZONTAL CONDUIT SLEEVE; IN ACCESSIBLE CEILING SPACE

SECURITY SYMBOL LEGEND

SYMBOL	DESCRIPTION
⊕	CAMERA OUTLET; CEILING OR PENDANT MOUNTED
⊕	CAMERA OUTLET; WALL MOUNTED
⊕	KEYPAD CONTROLLER OUTLET
⊕	PROXIMITY CARD READER OUTLET
⊕	PANIC BUTTON OUTLET
⊕	MOTION DETECTOR OUTLET
⊕	GLASS BREAK SENSOR OUTLET
⊕	SECURITY SIREN OUTLET
⊕	DOOR PROP ALARM OUTLET
⊕	DOOR MAGNETIC CONTACTS
⊕	ELECTRIC DOOR STRIKE
⊕	ELECTRIC DOOR LATCH
⊕	ELECTRIC POWER TRANSFER HINGE
⊕	REQUEST-TO-EXIT DEVICE OUTLET

NURSE CALL SYMBOL LEGEND

SYMBOL	DESCRIPTION
⊕	NURSE CALL EMERGENCY PULLBUTTON
⊕	NURSE CALL MASTER STATION
⊕	NURSE CALL PATIENT BED STATION
⊕	NURSE CALL STAFF STATION
⊕	NURSE CALL DUTY STATION
⊕	CODE BLUE
⊕	STAFF ASSIST
⊕	ZONE LIGHT

GENERAL ELECTRICAL ABBREVIATIONS

A, AMP	AMPERES	KW	KILOWATT
AC	ALTERNATING CURRENT	KWHR	KILOWATT-HOUR
ACP	ACOUSTICAL CEILING PANEL	LED	LIGHT-EMITTING DIODE
ADA	AMERICANS WITH DISABILITIES ACT	LS	LIGHT SWITCH OR LIMIT SWITCH
AFF	ABOVE FINISHED FLOOR	LT	LIGHT OR LEVEL TRANSDUCER
AHJ	AUTHORITY HAVING JURISDICTION	LTFMC	LIQUID-TIGHT FLEXIBLE METAL CONDUIT
AIC	AMPERE-INTERRUPTING CURRENT	LTG	LIGHTING
AL	ALUMINUM	LV	LOW VOLTAGE
ATM	AUTOMATIC TELLER MACHINE	M	METER
ATS	AUTOMATIC TRANSFER SWITCH	MANUF	MANUFACTURER
BMS	BUILDING MANAGEMENT SYSTEM	MCA	MINIMUM CIRCUIT AMPACITY
BRKR	BREAKER	MCB	MAIN CIRCUIT BREAKER
C	CONDUIT OR CELSIUS	MCC	MOTOR CONTROL CENTER
CB	CIRCUIT BREAKER	MCP	MOTOR CIRCUIT PROTECTOR
CATV	CABLE TELEVISION	MH	MANHOLE
CIP	CAST-IN-PLACE	MLO	MAIN LUGS ONLY
CJ	CONTROL JOINT	MT	MOUNT
CKT	CIRCUIT	MTD	MOUNTED
CLG	CEILING	MV	MEDIUM VOLTAGE
CM	CONSTRUCTION MANAGER	N, NEUT	NEUTRAL
CMU	CONCRETE MASONRY UNIT	NC	NORMALLY CLOSED
COAX	COAXIAL	NEC	NATIONAL ELECTRICAL CODE
CONC	CONCRETE	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
CP	CONTROL PANEL	NL	NIGHT LIGHT
CT	CURRENT TRANSFORMER	NO	NORMALLY OPEN
CU	COPPER	NOM	NOMINAL
Cx	COMMISSIONING	NTS	NOT TO SCALE
CxA	COMMISSIONING AGENT	OD	OUTSIDE DIAMETER
DB	DECIBEL	OH	OVERHEAD
DC	DIRECT CURRENT	OHD	OVERHEAD DOOR
DEM	DEMOLISH	OL	OVERLOAD
DEMO	DEMOLISH OR DEMOLITION	PA	PUBLIC ADDRESS
DF	DRINKING FOUNTAIN	PB	PULL BOX OR PUSHBUTTON
DISC	DISCONNECT	PFC	POWER FACTOR CORRECTION
DPDT	DOUBLE POLE DOUBLE THROW	PH	PHASE
DPST	DOUBLE POLE SINGLE THROW	PNL	PANEL OR PANELBOARD
EC	ELECTRICAL CONTRACTOR	PT	POTENTIAL TRANSFORMER
EJ	EXPANSION JOINT	PTZ	PAN-TILT-ZOOM
ELEC	ELECTRICAL	PWR	POWER
ELEV	ELEVATOR OR ELEVATION	RCP	REFLECTED CEILING PLAN
EM	EMERGENCY	REBAR	REINFORCING BAR
ENT	ELECTRICAL METALLIC TUBING	RECEPT	RECEPTACLE
ENCL	ENCLOSURE	RM	ROOM
ETR	EXISTING TO REMAIN	RNMC	RIGID NON-METALLIC CONDUIT
EWC	ELECTRIC WATER COOLER	ROW	RIGHT-OF-WAY
EWH	ELECTRIC WATER HEATER	RMC	RIGID METAL CONDUIT
EXIST	EXISTING	SEC	SECONDARY
F	FUSE OR FAHRENHEIT	SPD	SURGE PROTECTIVE DEVICE
FA	FIRE ALARM	SPDT	SINGLE POLE DOUBLE THROW
FAAP	FIRE ALARM ANNUNCIATOR PANEL	SPECS	SPECIFICATIONS
FACP	FIRE ALARM CONTROL PANEL	SPST	SINGLE POLE SINGLE THROW
FF&E	FIXTURES, FURNISHINGS & EQUIPMENT	SQ	SQUARE
FIXT	FIXTURE	SS	STAINLESS STEEL
FLA	FULL LOAD AMPERES	SV	SOLENOID VALVE
FM	FACTORY MUTUAL	SWBD	SWITCHBOARD
FMC	FLEXIBLE METAL CONDUIT	SWGR	SWITCHGEAR
FO	FIBER OPTIC	TCC	TEMPERATURE CONTROL CONTRACTOR
FRT	FIRE RETARDANT	TCP	TEMPERATURE CONTROL PANEL
GC	GENERAL CONTRACTOR	TRANS	TRANSFORMER
GEN	GENERATOR	TS	TIME SWITCH
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	TYP	TYPICAL
GFI	GROUND FAULT INTERRUPTER	UL	UNDERWRITERS LABORATORIES
GND, G	GROUND	UNO	UNLESS NOTED OTHERWISE
GYP BD	GYPSUM BOARD	UPS	UNINTERRUPTIBLE POWER SUPPLY
HH	HANDHOLE	V	VOLTS
HOA	HAND-OFF-AUTO	VA	VOLT-AMPERE
HP	HORSE POWER	VAC	VOLTS-ALTERNATING CURRENT
HV	HIGH VOLTAGE	VDC	VOLTS-DIRECT CURRENT
ID	INSIDE DIAMETER	VFD	VARIABLE FREQUENCY DRIVE
JB	JUNCTION BOX	W	WATTS
KO	KNOCKOUT	WH	WATER HEATER
KVA	KILOVOLT AMPERE	WP	WEATHERPROOF

GENERAL NOTES

- SYMBOLS AND GENERAL DESCRIPTIONS IN SYMBOL LEGENDS ARE INDICATED FOR GENERAL REFERENCE ONLY. NOT ALL SYMBOLS ARE USED ON THIS PROJECT. SEE SCHEDULES, SPECIFICATIONS, AND PLANS FOR ADDITIONAL INFORMATION INCLUDING MOUNTING HEIGHTS.
- ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND REPRESENT THE ELECTRICAL DESIGN INTENT. PROVIDE ALL WORK AND MATERIALS REQUIRED FOR COMPLETE AND FUNCTIONAL ELECTRICAL SYSTEMS THAT FULLY MEET THE ELECTRICAL DESIGN INTENT. ELECTRICAL WORK TO BE CONFORM TO THE LATEST EDITION OF THE NEC AS ADOPTED BY THE AUTHORITY HAVING JURISDICTION. SEE SPECIFICATIONS FOR ADDITIONAL INSTALLATION REQUIREMENTS AND ITEMS THAT MAY BE REQUIRED ABOVE AND BEYOND THE MINIMUM REQUIREMENTS THAT ARE OUTLINED IN THE NATIONAL ELECTRICAL CODE (NEC).
- THOROUGHLY AND CAREFULLY REVIEW ALL DRAWINGS, SPECIFICATIONS AND WORK SCOPES IN CONTRACT DOCUMENTS PRIOR TO BIDS AND CONSTRUCTION. WHERE THERE ARE CONFLICTS AMONG THE DRAWINGS, SPECIFICATIONS AND WORK SCOPES, THE MORE STRINGENT OR GREATER QUANTITY REQUIREMENTS APPLY.
- ALL ELECTRICAL EQUIPMENT TO BE UL LISTED.
- SEE INDIVIDUAL SPECIFICATION SECTIONS FOR SPECIFIC REQUIREMENTS RELATED TO TESTING, MANUFACTURER STARTUP, TRAINING, ETC. ALL APPLICABLE TESTING AND MANUFACTURER STARTUP REPORTS TO BE SUBMITTED AND APPROVED PRIOR TO THE DEVELOPMENT OF ELECTRICAL PUNCH LISTS.
- ALL CONDUCTORS, INCLUDING THE GROUNDED CONDUCTORS (NEUTRALS), TO BE LABELED AT ALL ENDS AND JOINTS WITH THE CORRESPONDING PANELBOARD NAME AND CIRCUIT NUMBER, OR OTHERWISE IDENTIFIED TO CORRESPOND WITH THE ASSOCIATED EQUIPMENT MANUFACTURER'S IDENTIFICATION SYSTEM.
- AT A MINIMUM, PROVIDE 1#12, 1#12N, 1#12G FOR 20A BRANCH CIRCUITING, UNO. MINIMUM CONDUIT SIZE IS 3/4". UNO. NO MORE THAN NINE CURRENT CARRYING CONDUCTORS, TO ALLOWED IN A RACEWAY, UNO. EQUIPMENT GROUNDING CONDUCTORS TO BE SIZED IN ACCORDANCE WITH THE NEC AND MAY BE SHARED. ALL REQUIRED CONDUCTORS (NEUTRALS) TO BE TREATED AS CURRENT CARRYING CONDUCTORS.
- PROVIDE A DEDICATED GROUNDED CONDUCTOR (NEUTRAL) FOR EACH BRANCH CIRCUIT. SHARED NEUTRALS ARE NOT ALLOWED.
- INSTALL GREEN, INSULATED, COPPER EQUIPMENT GROUNDING CONDUCTORS IN RACEWAYS INCLUDING FLEXIBLE METAL CONDUITS AND NON-METALLIC RACEWAYS. GREEN, INSULATED, EQUIPMENT GROUNDING CONDUCTORS TO BE INSTALLED WITH ALL FEEDERS AND BRANCH CIRCUITS.
- PROVIDE FIRESTOPPING FOR ALL CONDUIT AND OTHER ELECTRICAL EQUIPMENT PENETRATIONS THROUGH FLOORS, WALLS, AND CEILINGS TO MAINTAIN FIRE RATINGS. SEE ARCHITECTURAL FOR FIRE RATINGS OF FLOORS, WALLS, AND CEILINGS.
- LIMIT VOLTAGE DROP IN CONDUCTORS TO 2% FOR FEEDERS AND 3% FOR BRANCH CIRCUITS ASSUMING FULL LOAD CONDITIONS. VOLTAGE DROP NOT TO EXCEED 5% FROM THE ELECTRICAL SERVICE TO THE FURTHEST ELECTRICAL DEVICE.
- CALCULATE AND APPLY THE APPROPRIATE NEC DERATING FACTOR FOR CONDUCTORS INSTALLED IN ROOF MOUNTED CONDUITS.
- PROVIDE THERMAL SEALS IN ALL CONDUITS THAT RUN FROM CONDITIONED SPACES TO UNCONDITIONED SPACES.
- ALL WIRING FOR INTERIOR LED LUMINAIRES THAT ARE REQUIRED TO BE DIMMED TO INCLUDE (2) #18 AWG WIRES FROM EACH LUMINAIRE TO THE ASSOCIATED LIGHTING CONTROLLER FOR 0-10V LIGHTING CONTROL. ALL CONTROL WIRES TO BE LABELED.
- SEE ARCHITECTURAL REFLECTED CEILING PLANS AND ELEVATIONS FOR LOCATIONS OF CEILING AND WALL MOUNTED DEVICES.
- ALL LUMINAIRES TO BE SUPPORTED FROM THE BUILDING STRUCTURE.
- ALL JUNCTION BOXES SERVING BRANCH CIRCUIT WIRING TO BE LABELED TO IDENTIFY THE CIRCUIT(S) ROUTED THROUGH EACH RESPECTIVE JUNCTION BOX BY UTILIZING BRADY LABELS.
- WHERE PLENUMS ARE UTILIZED FOR HVAC AIR DISTRIBUTION, PROVIDE PLENUM RATED CABLES AND CONDUCTORS IN PLENUMS. SEE MECHANICAL FOR LOCATIONS OF HVAC PLENUMS.
- ELECTRICAL EQUIPMENT INSTALLED ABOVE CEILINGS TO BE INSTALLED IN READILY ACCESSIBLE LOCATIONS, SUCH AS, BUT NOT LIMITED TO, ABOVE DOORWAYS TO ROOMS. COORDINATE LOCATIONS WITH OTHER TRADES TO AVOID CONFLICTS WITH OTHER EQUIPMENT AND THE NEED FOR EXCESSIVELY LONG LADDER REQUIREMENTS TO ACCESS EQUIPMENT AND DIFFICULT AND AWKWARD CLIMBING AND/OR UNNECESSARY BENDING DURING SERVICING OF EQUIPMENT.
- CONDUCTORS INSTALLED IN WIREWAYS THAT CONTAIN MORE THAN 30 CURRENT CARRYING CONDUCTORS TO BE DERATED IN ACCORDANCE WITH THE NEC.
- DO NOT USE LOAD CENTERS, PANELBOARDS, SWITCHBOARDS, MOTOR CONTROL CENTERS, AND OTHER POWER DISTRIBUTION EQUIPMENT AS RACEWAYS.
- SEE SPECIFICATION SECTION 26 05 34, RACEWAYS FOR ELECTRICAL SYSTEMS, FOR PROJECT SPECIFIC RACEWAY INSTALLATION REQUIREMENTS.
- SEE SPECIFICATION SECTION 26 05 53, IDENTIFICATION FOR ELECTRICAL SYSTEMS, FOR PROJECT SPECIFIC IDENTIFICATION REQUIREMENTS.
- EXISTING ELECTRICAL ITEMS INDICATED IN THE DRAWINGS ARE BASED ON THE OWNER'S LIMITED RECORD DRAWINGS AND ENGINEER'S LIMITED FIELD OBSERVATIONS. CONTRACTOR AND ALL APPLICABLE SUB-CRONTACTORS TO VISIT THE SITE TO UNDERSTAND COMPLETELY THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. PERFORM ALL INCIDENTAL ELECTRICAL DEMOLITION AND/OR RELOCATION OF DEVICES AND EQUIPMENT REQUIRED TO FACILITATE THE DEMOLITION WORK OF OTHER TRADES AT NO ADDITIONAL COST TO THE OWNER.
- DRAWINGS DO NOT INDICATE ALL ELECTRICAL EQUIPMENT AND DEVICES INTENDED TO BE REMOVED OR MODIFIED. DRAWINGS INDICATE MAJOR ELECTRICAL EQUIPMENT, FIXTURES, AND DEVICES THAT ARE REQUIRED TO BE REMOVED OR MODIFIED. REMOVE, OR RELOCATE ELECTRICAL EQUIPMENT, FIXTURES, AND DEVICES AS NECESSARY FOR A COMPLETE AND PROFESSIONAL INSTALLATION. SEE LIGHTING, POWER, SYSTEMS, ARCHITECTURAL, PLUMBING, AND MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
- UNLESS NOTED OTHERWISE, DISPOSE OF ALL REMOVED MATERIALS OFF SITE AND INCLUDE ALL COSTS FOR DISPOSAL IN BID. DISPOSAL OF MATERIALS TO COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS INCLUDING TCPL TESTING.

Proj. No.: 231606  
 Dwg. By: ACF  
 Designer: ACF  
 Reviewer: RMM  
 Manager: KN

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Infrastructure  
 Planning and Facilities

MICHIGAN STATE  
 UNIVERSITY

Michigan State University  
 East Lansing, Michigan  
 Life Science - Renovations to Room B108A

CAPITAL PROJ. NO.	OP23077
PR. MGR.	Z. KIEFER
ARCH.	D. LAUNSTEIN
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DATE	
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REVISIONS	
2/16/24	RELEASED FOR BID

LEGENDS AND  
 GENERAL NOTES

E-001  
 27 OF 36

FIRE ALARM DEVICES SCHEDULE				
SYMBOL	DESCRIPTION	MANUFACTURER	CATALOG NO.	REMARKS
F	MANUAL PULL STATION	NATIONAL TIME AND SIGNAL CORPORATION	541S	MOUNT AT 46-INCHES TO CENTER OF BOX, UNO. PROVIDE BACKBOX AS RECOMMENDED BY FIRE ALARM SYSTEM MANUFACTURER.
S	CEILING MOUNTED PHOTOELECTRIC SMOKE DETECTOR	NATIONAL TIME AND SIGNAL CORPORATION	DX900-PHOTO	PROVIDE BACKBOX AS RECOMMENDED BY FIRE ALARM SYSTEM MANUFACTURER.
	FIRE ALARM INTERLOCK / CONTROL CONNECTION	-	-	REFER TO LIGHTING CONTROL DIAGRAM ON SHEET E-010.
15	COMBINATION AUDIO SPEAKER / VISUAL STROBE SIGNAL, WALL MOUNTED	NATIONAL TIME AND SIGNAL CORPORATION	SG-CXSS 15Z	MOUNT AT 80-INCHES AFF TO BOTTOM OF BOX, UNO. PROVIDE BACKBOX AS RECOMMENDED BY FIRE ALARM SYSTEM MANUFACTURER.
30	COMBINATION AUDIO SPEAKER / VISUAL STROBE SIGNAL, WALL MOUNTED	NATIONAL TIME AND SIGNAL CORPORATION	SG-CXSS 30Z	MOUNT AT 80-INCHES AFF TO BOTTOM OF BOX, UNO. PROVIDE BACKBOX AS RECOMMENDED BY FIRE ALARM SYSTEM MANUFACTURER.
60	COMBINATION AUDIO SPEAKER / VISUAL STROBE SIGNAL, WALL MOUNTED	NATIONAL TIME AND SIGNAL CORPORATION	SG-CXSS 60Z	MOUNT AT 80-INCHES AFF TO BOTTOM OF BOX, UNO. PROVIDE BACKBOX AS RECOMMENDED BY FIRE ALARM SYSTEM MANUFACTURER.

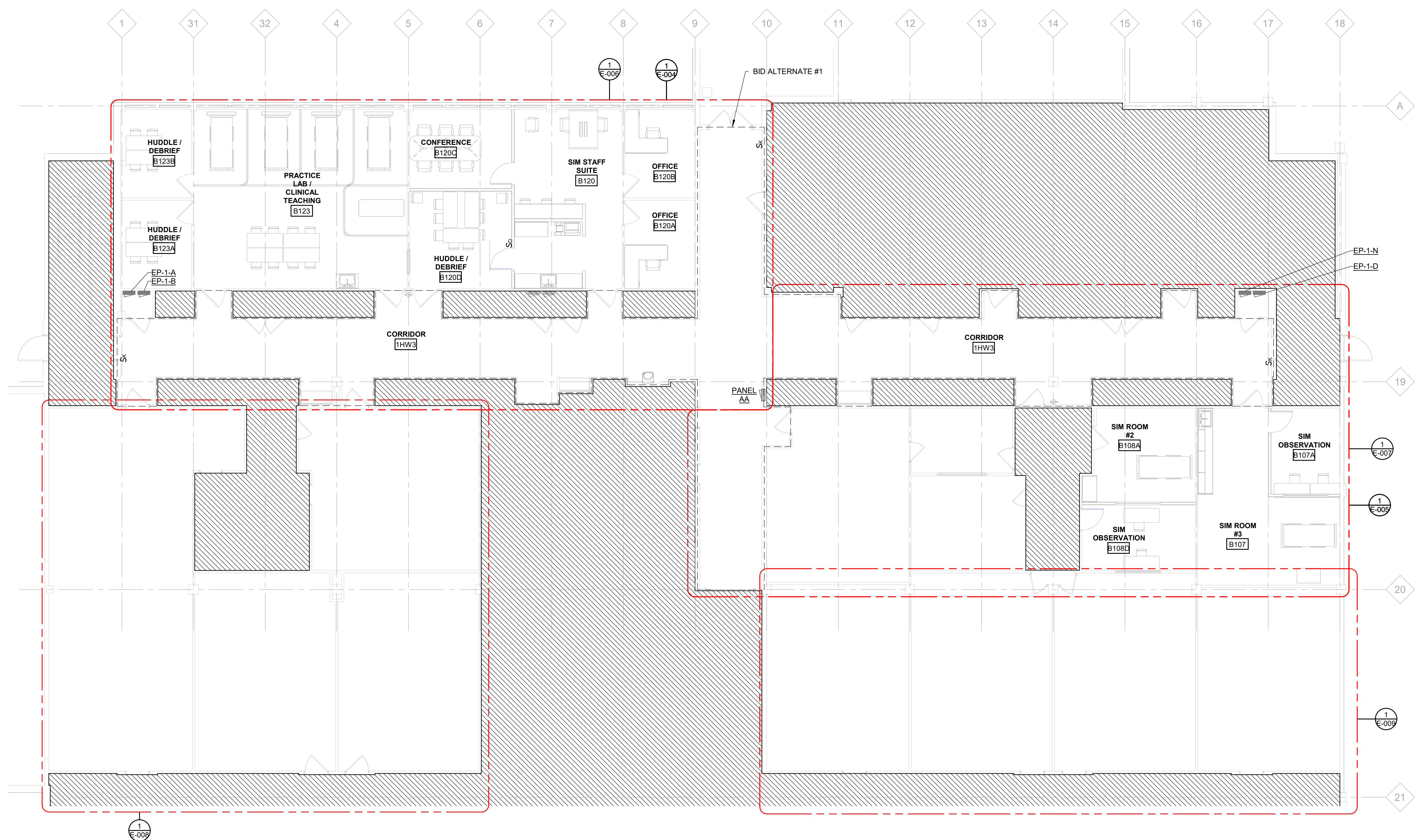
DATA DEVICE SCHEDULE				
SYMBOL	DESCRIPTION	MANUF.	CAT. NO.	REMARKS
1D	DATA OUTLET WITH 1 DATA DROP	HUBBELL	HUBBELL HXJ6OR HUBBELL SSFL12, SSFL14, AND SSFL1	MOUNT 18" AFF, UNO. PROVIDE EXTRA DEEP TWO GANG STEEL BOX WITH A SINGLE GANG PLASTER RING AND A 1" CONDUIT INSTALLED TO NEAREST FLOOR COMMUNICATION ROOM.
2D	DATA OUTLET WITH 2 DATA DROPS	HUBBELL	HUBBELL HXJ6OR HUBBELL SSFL12, SSFL14, AND SSFL1	MOUNT 18" AFF, UNO. PROVIDE EXTRA DEEP TWO GANG STEEL BOX WITH A SINGLE GANG PLASTER RING AND A 1" CONDUIT INSTALLED TO NEAREST FLOOR COMMUNICATION ROOM.

LUMINAIRE SCHEDULE											
MARK	DESCRIPTION	MANUFACTURER	CATALOG NO.	OR EQUAL BY	LUMINAIRE DATA						REMARKS
					VOLTAGE	LOAD	LUMENS	CCT	CRI	DIMMING	
L1	4" RECESSED LED LINEAR, 3200 LUMENS	MARK	SL4L-L0P-4FT-FLP-FL-80CRI-40K-800LMF-MIN10-277	LITHONIA COLUMBIA	277 V	32 VA	3,200 lm	4000 K	80	0-10V	
L2	6" RECESSED LED LINEAR, 3000 LUMENS	MARK	SL4L-L0P-6FT-FLP-FL-80CRI-40K-600LMF-MIN10-277	LITHONIA COLUMBIA	277 V	36 VA	3,600 lm	4000 K	80	0-10V	
R1	2x4 RECESSED LED TROFFER, 4200 LUMENS	METALUX	24GR-LD5-42-A125-UNV-L840-HCD-1-PAF	LITHONIA COLUMBIA	277 V	35 VA	4,200 lm	4000 K	80	0-10V	
R2	2x4 RECESSED LED TROFFER, 3400 LUMENS	METALUX	24GR-LD5-34-A125-UNV-L840-HCD-1-PAF	LITHONIA COLUMBIA	277 V	27 VA	3,400 lm	4000 K	80	0-10V	
R3	2x2 RECESSED LED TROFFER, 3200 LUMENS	METALUX	22GR-LD5-32-A125-UNV-L840-HCD-1-PAF	LITHONIA COLUMBIA	277 V	20 VA	3,200 lm	4000 K	80	0-10V	
X1	SINGLE FACE LED EXIT SIGN, BACK MOUNTED, GREEN LETTERING	SURE-LITES	CX 6 1 SD G		277 V	6 VA					CHEVRONS AS INDICATED ON PLANS

WIRING DEVICES - RECEPTACLE SCHEDULE				
SYMBOL	DESCRIPTION	MANUFACTURER	CATALOG NO.	REMARKS
	DUPLEX RECEPTACLE, BROWN	HUBBELL	HBL5362	MOUNT 18" AFF, UNO.
	DUPLEX RECEPTACLE (ABOVE COUNTER), BROWN	HUBBELL	HBL5362	MOUNT 42" AFF, UNO.
GFI	GFCI DUPLEX RECEPTACLE, BROWN	LEVITON	GFPL2-PL	MOUNT 18" AFF, UNO.
GFI	GFCI DUPLEX RECEPTACLE (ABOVE COUNTER), BROWN	LEVITON	GFPL2-PL	MOUNT 42" AFF, UNO.
U	DUPLEX RECEPTACLE WITH (1) USB A AND (1) USB C, BROWN	HUBBELL	USB15AC5WR	MOUNT 18" AFF, UNO.
	DOUBLE DUPLEX RECEPTACLE, BROWN	HUBBELL	(2) HBL5362I	MOUNT AT 18" AFF, UNO.
	2-GANG RECESSED WALL BOX FOR VIDEO MONITOR POWER AND DATA WITH DUPLEX RECEPTACLE	LEGRAND WIREMOLD	EFSB2	MOUNT AT 60" AFF, UNO; PROVIDE (1) HUBBELL #HBL5362I DUPLEX RECEPTACLE, PROVIDE 3/4" C FOR POWER AND 1" C TO ACCESSIBLE CEILING SPACE FOR DATA.

WIRING DEVICES - OCCUPANCY SENSOR AND LOW VOLTAGE LTG CONTROL DEVICE SCHEDULE				
SYMBOL	DESCRIPTION	MANUFACTURER	CATALOG NO.	REMARKS
PP	OCCUPANCY SENSOR POWER PACK	-	-	REFER TO LIGHTING CONTROL DIAGRAM ON SHEET E-010.
EU	EMERGENCY LIGHTING CONTROL UNIT	-	-	REFER TO LIGHTING CONTROL DIAGRAM ON SHEET E-010.
A	DUAL TECHNOLOGY OCCUPANCY SENSOR - CEILING MOUNTED	LEVITON	OSW-12MOW	REFER TO LIGHTING CONTROL DIAGRAM ON SHEET E-010.
B	DUAL TECHNOLOGY OCCUPANCY SENSOR - CEILING MOUNTED	LEVITON	OSC20-MOW	REFER TO LIGHTING CONTROL DIAGRAM ON SHEET E-010.
G	DUAL TECHNOLOGY OCCUPANCY SENSOR - CEILING MOUNTED	WATTSTOPPER	DT-200	REFER TO LIGHTING CONTROL DIAGRAM ON SHEET E-010.
H	DUAL TECHNOLOGY OCCUPANCY SENSOR - CEILING MOUNTED	WATTSTOPPER	DT-300	REFER TO LIGHTING CONTROL DIAGRAM ON SHEET E-010.

WIRING DEVICES - MANUAL LIGHTING SWITCH SCHEDULE				
SYMBOL	DESCRIPTION	MANUFACTURER	CATALOG NO.	REMARKS
K	20A, 120-277V, SINGLE POLE MANUAL KEYED SWITCH, BROWN	HUBBELL	HBL 1202L	MOUNT AT 46" AFF, UNO.
3	20A, 120-277V, 3-WAY MANUAL SWITCH, BROWN	HUBBELL	HBL 1202	REFER TO LIGHTING CONTROL DIAGRAM ON SHEET E601. MOUNT AT 46" AFF, UNO.
D	20A, 120-277V, MANUAL DIMMER SWITCH	LEVITON	IP710-DL-W	REFER TO LIGHTING CONTROL DIAGRAM. MOUNT AT 46" AFF, UNO.

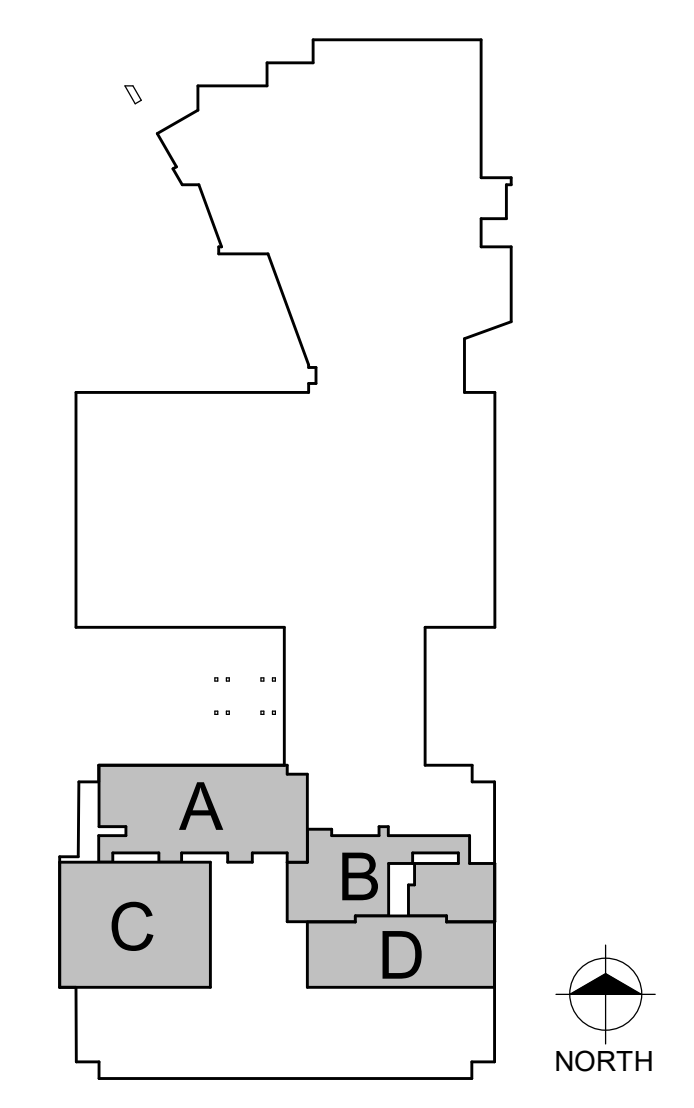


OVERALL FIRST FLOOR ELECTRICAL PLAN

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

NOT IN SCOPE

KEY PLAN



CAPITAL PROJ. NO. CP23077	
PR. MGR.	Z. KIEFER
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MECH.	A. VANDERSTELT
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REVISIONS	
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OVERALL FIRST FLOOR ELECTRICAL PLAN

E-003

277V LIGHTING CIRCUIT SCHEDULE						
CIRCUIT NO.	DESCRIPTION	VOLTAGE	LOAD	COMMENT	PANEL	CIRCUIT NO.
1	AREA B LIGHTING	277 V	491 VA	REUSE EXISTING ROOM CIRCUIT		
2	AREA A LIGHTING	277 V	896 VA	REUSE EXISTING ROOM CIRCUIT		
3	CORRIDOR LIGHTING	277 V	426 VA	REUSE EXISTING ROOM CIRCUIT		
4	EM LIGHTING AREAS A, B, AND C	277 V	464 VA	REUSE EXISTING EM LIGHTING ROOM CIRCUIT		

**GENERAL NOTES**

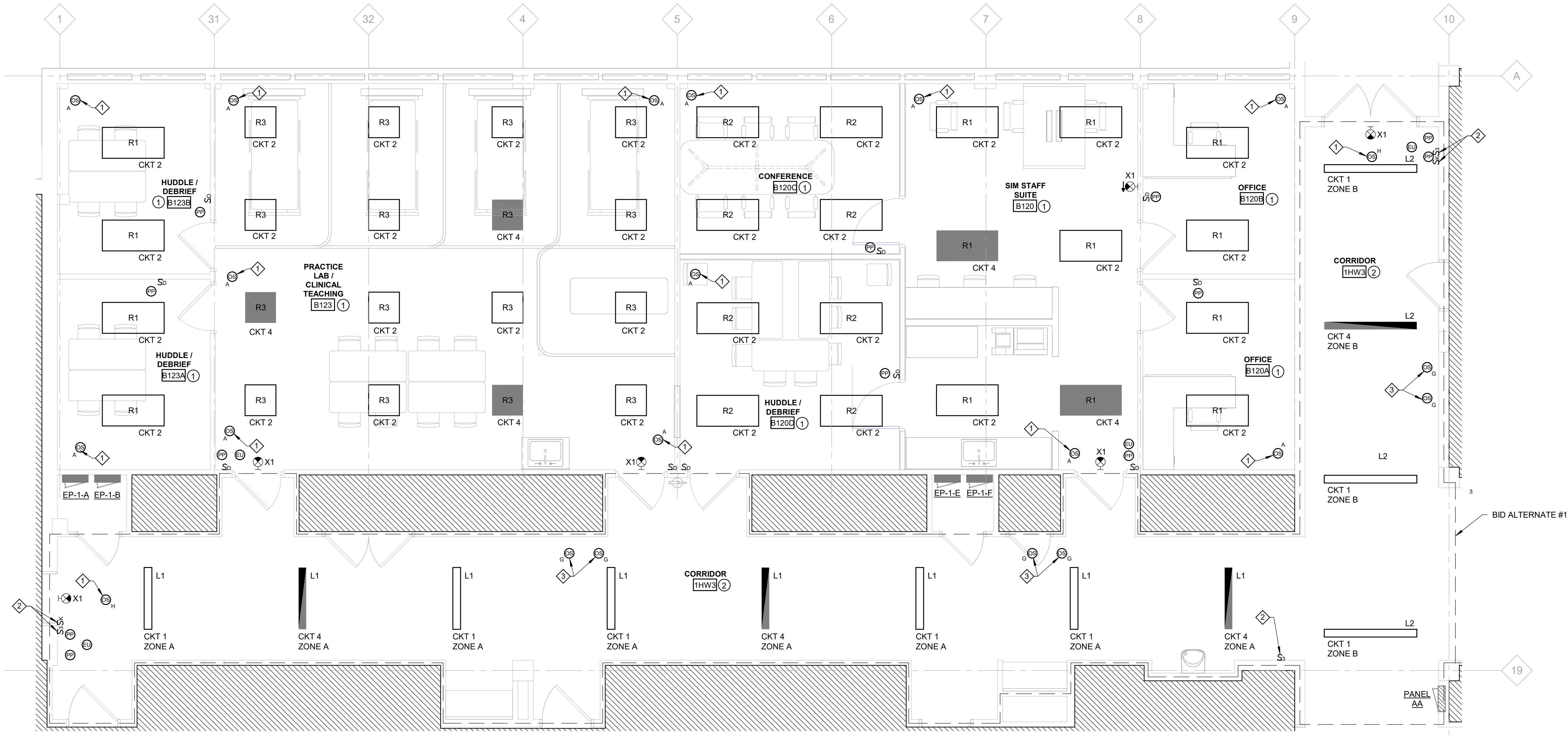
- PERFORM ALL WORK IN ACCORDANCE WITH THE NEC AND MICHIGAN STATE UNIVERSITY CONSTRUCTION STANDARDS.
- PROVIDE FIRE STOPPING FOR ALL CONDUIT AND OTHER ELECTRICAL EQUIPMENT PENETRATIONS THROUGH FLOORS, WALLS AND CEILINGS TO MAINTAIN EXISTING FIRE RATINGS.
- UNLESS NOTED OTHERWISE, ALL CONDUIT AND WIRING SHALL BE CONCEALED. ELECTRICAL CONNECTIONS SHOWN ON DRAWINGS ARE DIAGRAMMATIC AND ARE USED TO ILLUSTRATE CIRCUITING AND WIRING REQUIREMENTS ONLY.
- ELECTRICAL EQUIPMENT INSTALLED ABOVE CEILINGS SHALL BE INSTALLED IN READILY ACCESSIBLE LOCATIONS, SUCH AS, BUT NOT LIMITED TO, ABOVE DOORWAYS TO ROOMS. COORDINATE ALL LOCATIONS WITH OTHER TRADES TO AVOID CONFLICTS WITH OTHER EQUIPMENT AND THE NEED FOR EXCESSIVELY LONG LADDER REQUIREMENTS TO ACCESS EQUIPMENT AND DIFFICULT AND AWKWARD CLIMBING AND/OR UNNECESSARY BENDING DURING SERVICING OF EQUIPMENT.
- ALL CONTROLS WIRING SHALL BE IN CONDUIT. COORDINATE THIS WORK WITH OTHER TRADES.
- FOR NEW LIGHTING SWITCHING, REUSE EXISTING ELECTRICAL BOXES WHERE APPLICABLE.
- SPOT ABATE WALLS WHERE SURFACE MOUNTED CONDUIT AND DEVICES ARE TO BE INSTALLED.
- PROVIDE BOX EXTENSION, AS REQUIRED, ON WALLS WHERE EXISTING DEVICE IS TO REMAIN AND WALL IS BEING FURRED OUT TO EXTEND EXISTING ELECTRICAL BOX TO NEW FINISHED WALL SURFACE.

**GENERAL LIGHTING CONTROL NOTES**

- MSU STANDARDS REQUIRE THAT MINOR MOTION ACTIVATE MOTION SENSING OCCUPANCY SENSORS. SEE MSU LIGHTING DETAILS FOR ADDITIONAL INFORMATION.
- POWER PACKS, ROOM CONTROLLERS, AND OTHER DEVICES MOUNTED ABOVE ACCESSIBLE CEILINGS SHALL BE MOUNTED ABOVE SWITCH IN THE SPACE SERVED.

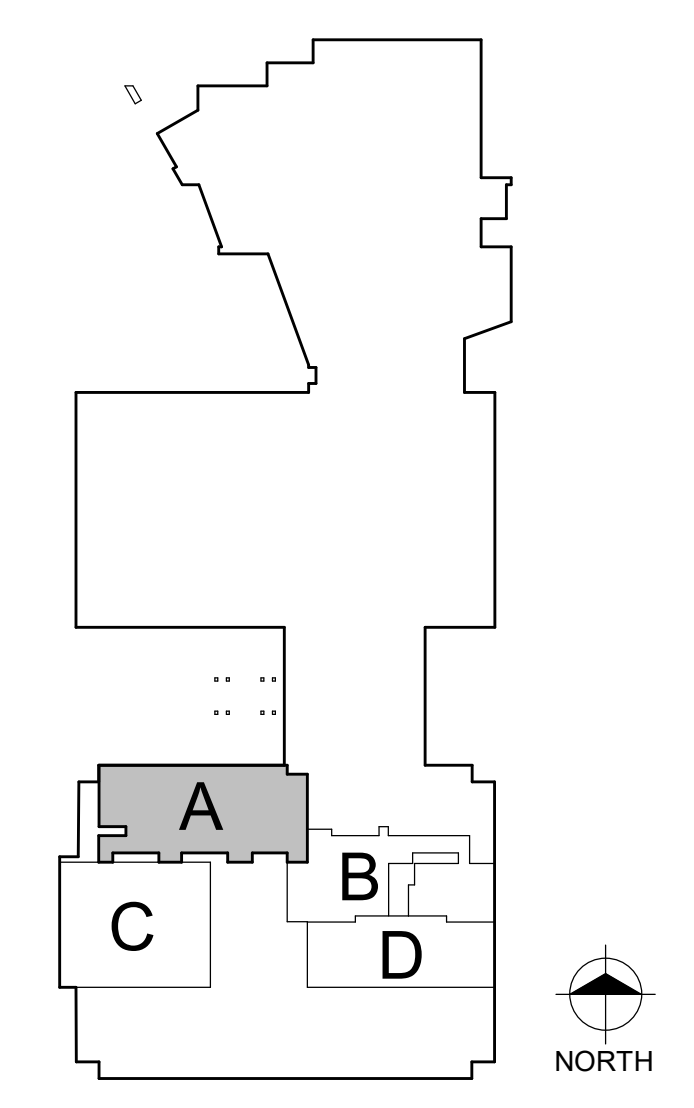
**KEY NOTES**

- CEILING MOUNT OCCUPANCY SENSOR.
- PROVIDE SURFACE MOUNTED BOX FOR LIGHT SWITCH. PROVIDE SURFACE MOUNTED CONDUIT VIRTICALLY FROM ACCESSIBLE CEILING SPACE TO SWITCH LOCATION.
- CEILING MOUNT OCCUPANCY SENSORS BACK TO BACK.



**1 FIRST FLOOR LIGHTING PLAN - AREA A**  
 SCALE: 1/4" = 1'-0"

**KEY PLAN**



CAPITAL PROJ. NO.  
 CP23077

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MECH.	A. VANDERSTELT
ELEC.	K. HOWARD
CIVIL	
L.A.	
INT. DES.	D. WHITBECK
CONST. REP.	
APPR.	
DATE	
SCALE	AS SHOWN
REVISIONS	
2/16/24 RELEASED FOR BID	

GENERAL NOTES

- PERFORM ALL WORK IN ACCORDANCE WITH THE NEC AND MICHIGAN STATE UNIVERSITY CONSTRUCTION STANDARDS.
- PROVIDE FIRE STOPPING FOR ALL CONDUIT AND OTHER ELECTRICAL EQUIPMENT PENETRATIONS THROUGH FLOORS, WALLS AND CEILINGS TO MAINTAIN EXISTING FIRE RATINGS.
- UNLESS NOTED OTHERWISE, ALL CONDUIT AND WIRING SHALL BE CONCEALED. ELECTRICAL CONNECTIONS SHOWN ON DRAWINGS ARE DIAGRAMMATIC AND ARE USED TO ILLUSTRATE CIRCUITING AND WIRING REQUIREMENTS ONLY.
- ELECTRICAL EQUIPMENT INSTALLED ABOVE CEILINGS SHALL BE INSTALLED IN READILY ACCESSIBLE LOCATIONS, SUCH AS, BUT NOT LIMITED TO, ABOVE DOORWAYS TO ROOMS. COORDINATE ALL LOCATIONS WITH OTHER TRADES TO AVOID CONFLICTS WITH OTHER EQUIPMENT AND THE NEED FOR EXCESSIVELY LONG LADDER REQUIREMENTS TO ACCESS EQUIPMENT AND DIFFICULT AND AWKWARD CLIMBING AND/OR UNNECESSARY BENDING DURING SERVICING OF EQUIPMENT.
- ALL CONTROLS WIRING SHALL BE IN CONDUIT. COORDINATE THIS WORK WITH OTHER TRADES.
- FOR NEW LIGHTING SWITCHING, REUSE EXISTING ELECTRICAL BOXES WHERE APPLICABLE.
- SPOT ABATE WALLS WHERE SURFACE MOUNTED CONDUIT AND DEVICES ARE TO BE INSTALLED.
- PROVIDE BOX EXTENSION, AS REQUIRED, ON WALLS WHERE EXISTING DEVICE IS TO REMAIN AND WALL IS BEING FURRED OUT TO EXTEND EXISTING ELECTRICAL BOX TO NEW FINISHED WALL SURFACE.

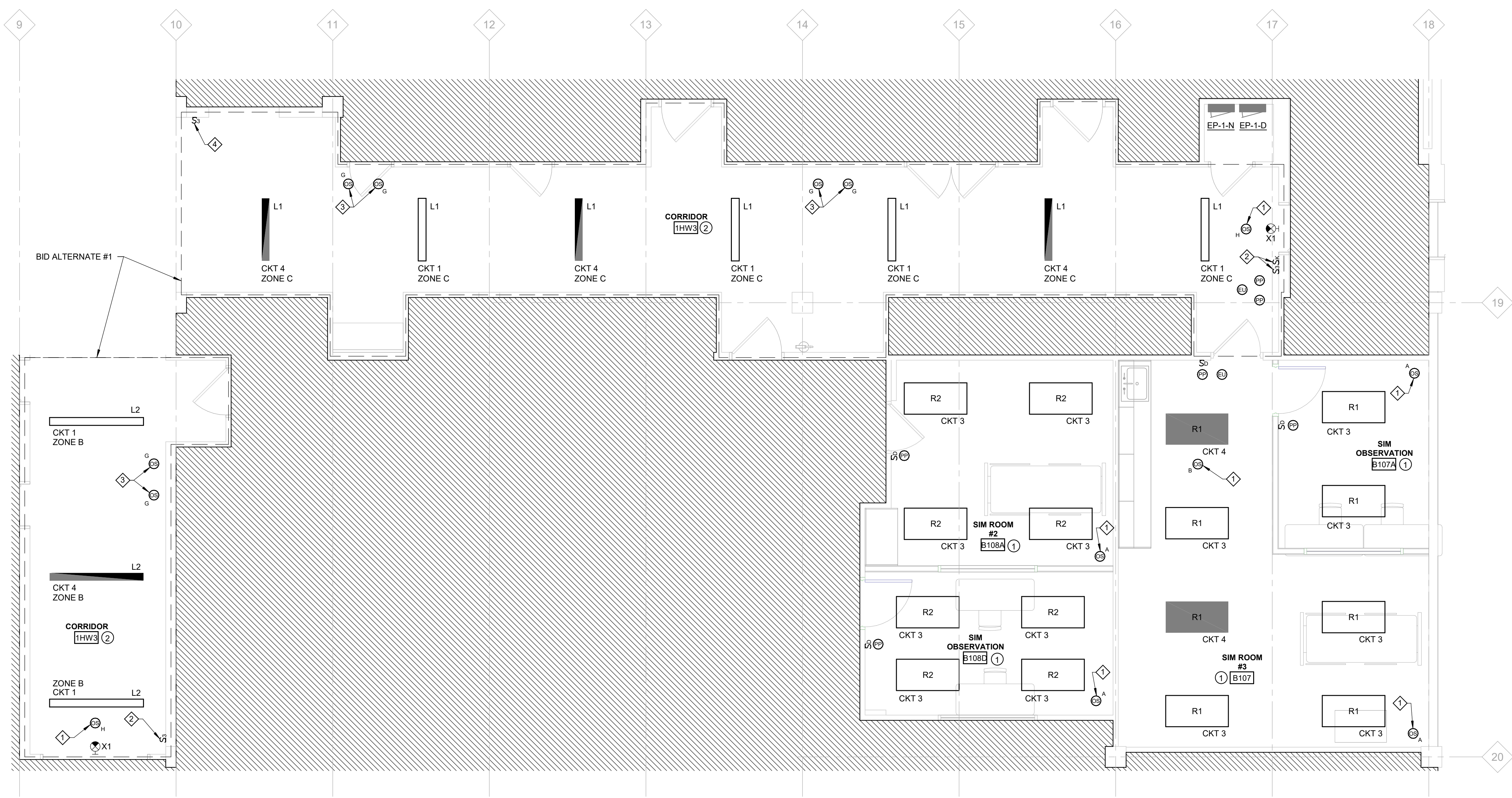
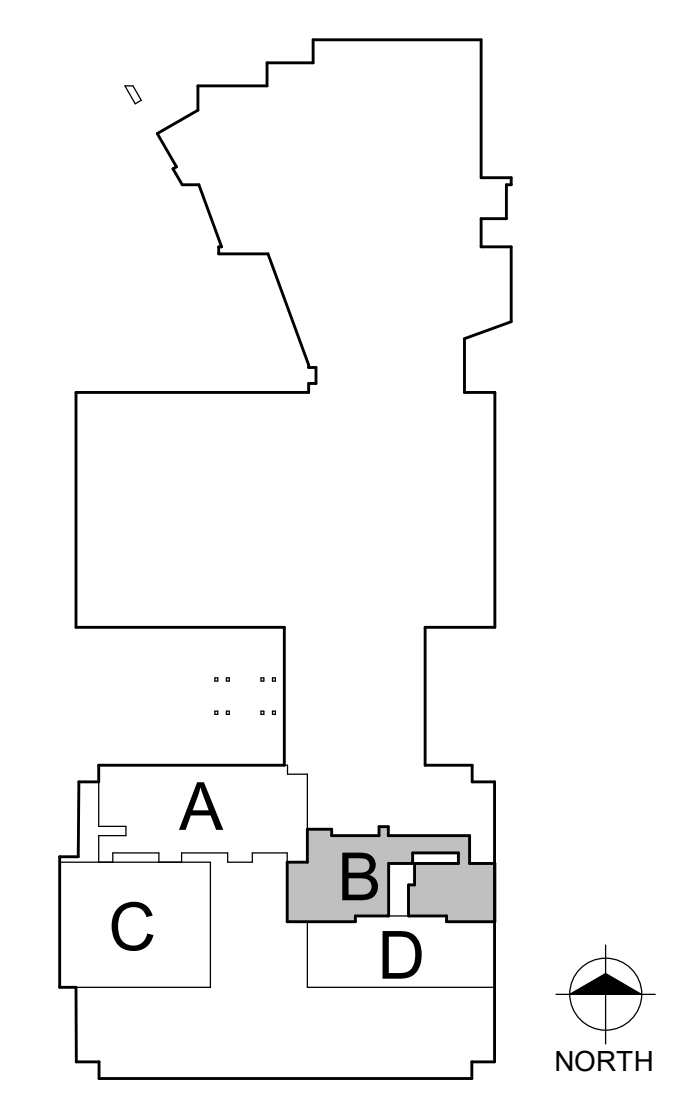
GENERAL LIGHTING CONTROL NOTES

- MSU STANDARDS REQUIRE THAT MINOR MOTION ACTIVATE MOTION SENSING OCCUPANCY SENSORS. SEE MSU LIGHTING DETAILS FOR ADDITIONAL INFORMATION.
- POWER PACKS, ROOM CONTROLLERS, AND AND OTHER DEVICES MOUNTED ABOVE ACCESSIBLE CEILINGS SHALL BE MOUNTED ABOVE SWITCH IN THE SPACE SERVED.

KEY NOTES

- CEILING MOUNT OCCUPANCY SENSOR.
- PROVIDE SURFACE MOUNTED BOX FOR LIGHT SWITCH. PROVIDE SURFACE MOUNTED CONDUIT VIRTICALLY FROM ACCESSIBLE CEILING SPACE TO SWITCH LOCATION.
- CEILING MOUNT OCCUPANCY SENSORS BACK TO BACK.
- REUSE EXISTING SWITCH LOCATION.

KEY PLAN



1 FIRST FLOOR LIGHTING PLAN - AREA B  
 SCALE: 1/4" = 1'-0"

ROOM	ROOM USAGE	SQ FEET
B107	CLASSLAB	366
B107A	CLASSLAB	116
B108A	CLASSLAB	192
B108D	CLASSLAB	145
B120	OFFICE	389
B120A	OFFICE	122
B120B	OFFICE	122
B120C	OFFICE	157
B120D	OFFICE	194
B123	CLASSLAB	744
B123A	OFFICE	123
B123B	OFFICE	122
1HW3	PUBLIC CORRIDOR	2092

208/120V CIRCUIT SCHEDULE						
CIRCUIT NUMBER	DESCRIPTION	VOLTAGE	LOAD	COMMENTS	PANEL	CIRCUIT NO.
1	SIM STAFF SUITE RECEPT	120 V	720 VA	REUSE EXISTING ROOM CIRCUIT.		
2	SIM STAFF SUITE RECEPT	120 V	360 VA	REUSE EXISTING ROOM CIRCUIT.		
3	RECEPT STAFF SUITE	120 V	1200 VA	REUSE EXISTING ROOM CIRCUIT.		
4	COPIER	120 V	1200 VA	REUSE EXISTING ROOM CIRCUIT.		
5	OFFICE B120A RECEPT	120 V	360 VA	REUSE EXISTING ROOM CIRCUIT.		
6	OFFICE B120B RECEPT	120 V	360 VA	REUSE EXISTING ROOM CIRCUIT.		
7	CONFERENCE B120C RECEPT	120 V	540 VA	REUSE EXISTING ROOM CIRCUIT.		
8	HUDDLE B120D RECEPT	120 V	360 VA	REUSE EXISTING ROOM CIRCUIT.		
9	CONFERENCE B120C MONITOR	120 V	180 VA	REUSE EXISTING ROOM CIRCUIT.		
10	HUDDLE B120D RECEPT	120 V	180 VA	REUSE EXISTING ROOM CIRCUIT.		
11	HUDDLE B123B MONITOR	120 V	180 VA	REUSE EXISTING ROOM CIRCUIT.		
12	HUDDLE B123A MONITOR	120 V	180 VA	REUSE EXISTING ROOM CIRCUIT.		
13	HUDDLE B123A RECEPT	120 V	720 VA	REUSE EXISTING ROOM CIRCUIT.		
14	HUDDLE B123B RECEPT	120 V	540 VA	REUSE EXISTING ROOM CIRCUIT.		
15	HUDDLE B123 RECEPT	120 V	720 VA	REUSE EXISTING ROOM CIRCUIT.		
16	HEADWALL UNIT B123	120 V	1800 VA	REUSE EXISTING ROOM CIRCUIT.		
17	HEADWALL COMPRESSOR B123	120 V	1800 VA	REUSE EXISTING ROOM CIRCUIT.		
18	HEADWALL UNIT B123	120 V	1800 VA	REUSE EXISTING ROOM CIRCUIT.		
19	HEADWALL COMPRESSOR B123	120 V	1800 VA	REUSE EXISTING ROOM CIRCUIT.		
20	HEADWALL UNIT B123	120 V	1800 VA	REUSE EXISTING ROOM CIRCUIT.		
21	HEADWALL COMPRESSOR B123	120 V	1800 VA	REUSE EXISTING ROOM CIRCUIT.		
22	HEADWALL UNIT B123	120 V	180 VA	REUSE EXISTING ROOM CIRCUIT.		
23	HEADWALL COMPRESSOR B123	120 V	180 VA	REUSE EXISTING ROOM CIRCUIT.		
24	HEADWALL UNIT B123	120 V	1800 VA	REUSE EXISTING ROOM CIRCUIT.		
25	HOSPITAL BED PUMP B123	120 V	180 VA	REUSE EXISTING ROOM CIRCUIT.		
26	CORRIDOR WATER COOLER	120 V	180 VA	REUSE EXISTING ROOM CIRCUIT.		
27	HEADWALL COMPRESSOR 108A	120 V	1800 VA	REUSE EXISTING ROOM CIRCUIT.		
28	HEADWALL UNIT B108A	120 V	1800 VA	REUSE EXISTING ROOM CIRCUIT.		
29	HEADWALL COMPRESSOR 107	120 V	1800 VA	REUSE EXISTING ROOM CIRCUIT.		
30	HEADWALL UNIT B107	120 V	1800 VA	REUSE EXISTING ROOM CIRCUIT.		
31	SIM ROOMS RECEPT	120 V	540 VA	REUSE EXISTING ROOM CIRCUIT.		
32	SIM OBSERV 107A RECEPT	120 V	540 VA	REUSE EXISTING ROOM CIRCUIT.		
33	SIM OBSERV 108D RECEPT	120 V	1080 VA	REUSE EXISTING ROOM CIRCUIT.		
34	RECEPT B123	120 V	360 VA	REUSE EXISTING ROOM CIRCUIT.		
35	CORRIDOR RECEPT	120 V	360 VA	REUSE EXISTING ROOM CIRCUIT.		
36	HEADWALL UNIT B107	120 V	1800 VA	REUSE EXISTING ROOM CIRCUIT.		

208/120V CIRCUIT SCHEDULE Copy 1						
CIRCUIT NUMBER	DESCRIPTION	VOLTAGE	LOAD	COMMENTS	PANEL	CIRCUIT NO.
37	WARMING STATION	120 V	180 VA	REUSE EXISTING ROOM CIRCUIT.		
38	SERVER RACK	120 V	500 VA	REUSE EXISTING ROOM CIRCUIT.		
39	CORRIDOR BENCH RECEPT	120 V	540 VA	REUSE EXISTING ROOM CIRCUIT.		
40	PRACTICE LAB/CLIN TEACH MON.	120 V	180 VA	REUSE EXISTING ROOM CIRCUIT.		
41	HEADWALL UNIT B108B	120 V	1800 VA	REUSE EXISTING ROOM CIRCUIT.		
42	HEADWALL COMPRESSOR B108B	120 V	1800 VA	REUSE EXISTING ROOM CIRCUIT.		
43	COFFEE MAKER	120 V	1200 VA	REUSE EXISTING ROOM CIRCUIT.		
44	MINI FRIDGE	120 V	1200 VA	REUSE EXISTING ROOM CIRCUIT.		
45	TOASTER	120 V	1200 VA	REUSE EXISTING ROOM CIRCUIT.		
46	CONFERENCE TABLE	120 V	360 VA	REUSE EXISTING ROOM CIRCUIT.		
47	TABLE HUDDLE B120D	120 V	360 VA	REUSE EXISTING ROOM CIRCUIT.		
48	B123 RECEPT	120 V	720 VA	REUSE EXISTING ROOM CIRCUIT.		
49	TABLE HUDDLE B123A	120 V	360 VA	REUSE EXISTING ROOM CIRCUIT.		
50	TABLE HUDDLE B123B	120 V	360 VA	REUSE EXISTING ROOM CIRCUIT.		
51	TABLE HUDDLE B120D	120 V	360 VA	REUSE EXISTING ROOM CIRCUIT.		
52	OFFICE B120A COMPUTER	120 V	360 VA	REUSE EXISTING ROOM CIRCUIT.		
53	OFFICE B120B COMPUTER	120 V	360 VA	REUSE EXISTING ROOM CIRCUIT.		
54	SIM STAFF SUITE RECEPT	120 V	360 VA	REUSE EXISTING ROOM CIRCUIT.		
55	SIM ROOM #3 RECEPT	120 V	360 VA	REUSE EXISTING ROOM CIRCUIT.		
56	SIM ROOM #2 RECEPT	120 V	540 VA	REUSE EXISTING ROOM CIRCUIT.		
57	B129 RECEPT	120 V	180 VA	REUSE EXISTING ROOM CIRCUIT.		
58	B109A MONITOR	120 V	180 VA	REUSE EXISTING ROOM CIRCUIT.		
59	B126 MONITORS	120 V	360 VA	REUSE EXISTING ROOM CIRCUIT.		
60	B145A/B145B MONITORS	120 V	360 VA	REUSE EXISTING ROOM CIRCUIT.		
61	B109B/B130A MONITORS	120 V	360 VA	REUSE EXISTING ROOM CIRCUIT.		
62	B129/B130B MONITORS	120 V	360 VA	REUSE EXISTING ROOM CIRCUIT.		

NOTES:  
 1. INTENT IS TO REUSE EXISTING CIRCUIT IN ROOMS. CONTRACTOR SHALL TRACE CIRCUITS AS REQUIRED. CIRCUIT INDICATED ARE INTENDED TO INDICATE CIRCUIT QUANTITIES NEEDED.

GENERAL NOTES

- PERFORM ALL WORK IN ACCORDANCE WITH THE NEC AND MICHIGAN STATE UNIVERSITY CONSTRUCTION STANDARDS.
- PROVIDE FIRE STOPPING FOR ALL CONDUIT AND OTHER ELECTRICAL EQUIPMENT PENETRATIONS THROUGH FLOORS, WALLS AND CEILINGS TO MAINTAIN EXISTING FIRE RATINGS.
- UNLESS NOTED OTHERWISE, ALL CONDUIT AND WIRING SHALL BE CONCEALED. ELECTRICAL CONNECTIONS SHOWN ON DRAWINGS ARE DIAGRAMMATIC AND ARE USED TO ILLUSTRATE CIRCUITING AND WIRING REQUIREMENTS ONLY.
- ALL CONTROLS WIRING SHALL BE IN CONDUIT. COORDINATE THIS WORK WITH OTHER TRADES.
- PROVIDE NATIONAL TIME AND SIGNAL FIRE ALARM INITIATION DEVICES AND AUDIOVISUAL NOTIFICATION DEVICES. THESE DEVICES WILL BE CONNECTED TO NATIONAL TIME AND SIGNAL 902 PANEL USED FOR ELEVATOR RECALL.
- NATIONAL TIME AND SIGNAL TO PROVIDE FIRE ALARM PROGRAMMING AND UPDATE FIRE ALARM GRAPHIC ANNUNCIATORS AS REQUIRED IN THE LIFE SCIENCE BUILDING.
- PROVIDE BOX EXTENSION, AS REQUIRED, ON WALLS WHERE EXISTING DEVICES IS TO REMAIN AND WALL IS BEING FURRED OUT TO EXTEND EXISTING ELECTRICAL BOX TO NEW FINISHED WALL SURFACE.

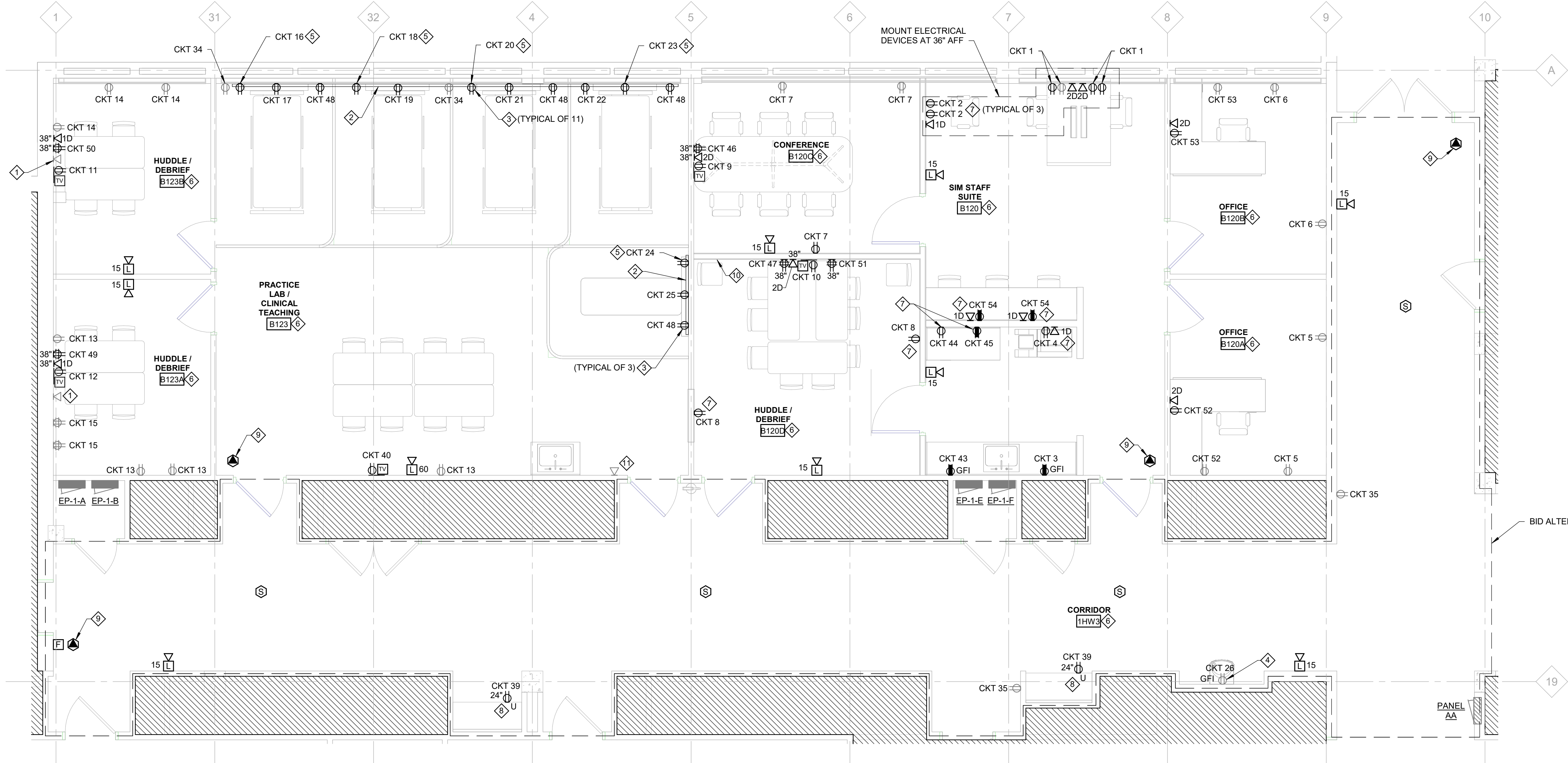
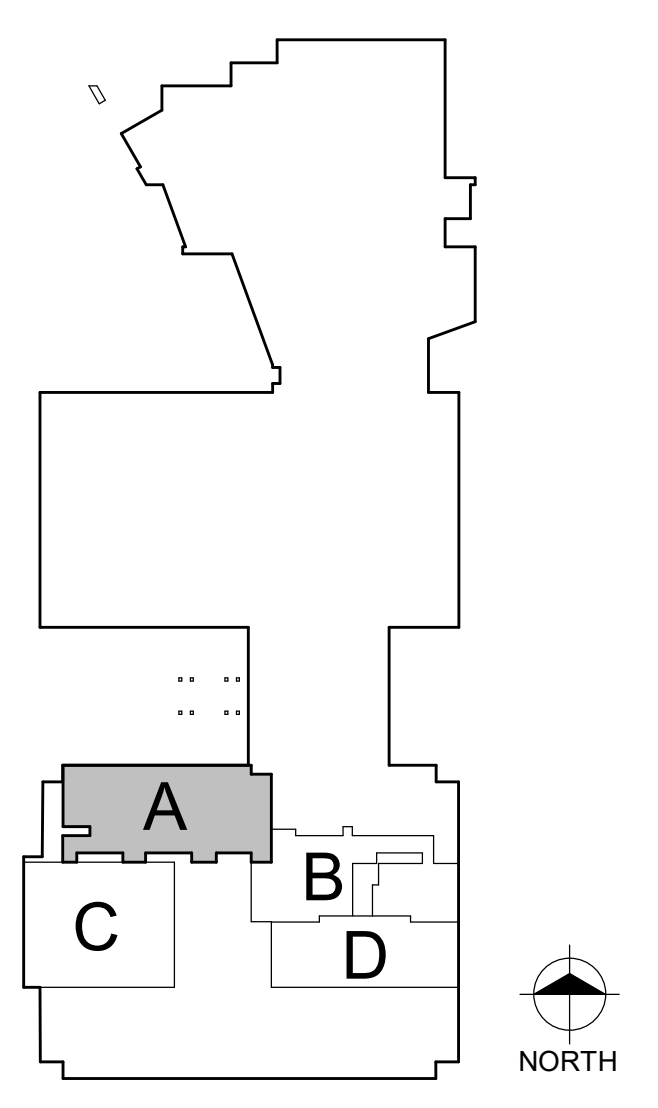
KEY NOTES

- EXISTING DATA DEVICE TO REMAIN.
- PROVIDE LEGRAND V2400 STEEL RACEWAY. ROUTE RACEWAY VERTICALLY FROM CEILING THEN HORIZONTALLY ACROSS THE WALL. MOUNT HORIZONTAL RACEWAY 3'-0" AFF.
- PROVIDE LEGRAND SINGLE-GANG DEVICE BOX FOR ONE DUPLEX RECEPTACLE.
- REPLACE EXISTING RECEPTACLE WITH GFI RECEPTACLE.
- HEADWALL IS CORD AND PLUG CONNECTION AND WILL BE CONNECTED TO DUPLEX RECEPTACLE.
- SURFACE MOUNT ALL NEW DEVICES ON EXISTING WALLS. PROVIDE SURFACE MOUNTED CONDUIT FROM ACCESSIBLE CEILING SPACE TO NEW DEVICE LOCATION.
- RECESS DEVICE(S) IN NEW WALL.
- CONCEAL CONDUIT BEHIND WOOD SHEATHING. REFER TO ARCHITECTURAL.
- PROVIDE FIRE ALARM INTERCONNECTION AS REQUIRED TO ENERGIZE EM LIGHTING WHEN FIRE ALARM SYSTEM IS IN AN ALARM CONDITION. REFER TO LIGHTING CONTROL DIAGRAM NOTE 2 ON SHEET E010.
- RECESS ALL ELECTRICAL DEVICES IN NEW WALL.
- EXISTING DATA DEVICE TO REMAIN. REUSE FOR WALL MOUNTED TELEPHONE.

GENERAL DATA NOTES

- PROVIDE J-HOOKS SPACED AT 36" ABOVE THE CEILING FOR DATA AND LIGHTING LOW VOLTAGE CABLE IN ACCOUSTICAL CEILING. PROVIDE CONDUIT IN EXPOSED CEILING FOR DATA AND LIGHTING LOW VOLTAGE CABLE.
- MSU IT SERVICES TO PROVIDE FACEPLATES, DATA JACKS, CABLING, AND TERMINATIONS.
- MSU TO PROVIDE NEW SWITCHES FOR POE. COORDINATE WITH MSU AND FIELD VERIFY.
- EXISTING LOW VOLTAGE ORIGINATES FROM ONE OF THE FOLLOWING TELECOM CLOSETS: B204, B224, B235, B243. FIELD VERIFY FOR EXACT LOCATIONS.

KEY PLAN



1 FIRST FLOOR POWER AND SYSTEMS PLAN - AREA A  
 SCALE: 1/4" = 1'-0"

CAPITAL PROJ. NO.  
 CP23077

PR. MGR.	Z. KIEFER
ARCH.	D. LAUNSTEIN
MECH.	A. VANDERSTELT
ELEC.	K. HOWARD
CIVIL	
L.A.	
INT. DES.	D. WHITBECK
CONST. REP.	
APPR.	
DATE	
SCALE	AS SHOWN
REVISIONS	
2/16/24 RELEASED FOR BID	



GENERAL NOTES

- PERFORM ALL WORK IN ACCORDANCE WITH THE NEC AND MICHIGAN STATE UNIVERSITY CONSTRUCTION STANDARDS.
- PROVIDE FIRE STOPPING FOR ALL CONDUIT AND OTHER ELECTRICAL EQUIPMENT PENETRATIONS THROUGH FLOORS, WALLS AND CEILINGS TO MAINTAIN EXISTING FIRE RATINGS.
- UNLESS NOTED OTHERWISE, ALL CONDUIT AND WIRING SHALL BE CONCEALED. ELECTRICAL CONNECTIONS SHOWN ON DRAWINGS ARE DIAGRAMMATIC AND ARE USED TO ILLUSTRATE CIRCUITING AND WIRING REQUIREMENTS ONLY.
- ALL CONTROLS WIRING SHALL BE IN CONDUIT. COORDINATE THIS WORK WITH OTHER TRADES.
- PROVIDE NATIONAL TIME AND SIGNAL FIRE ALARM INITIATION DEVICES AND AUDIOVISUAL NOTIFICATION DEVICES. THESE DEVICES WILL BE CONNECTED TO NATIONAL TIME AND SIGNAL 902 PANEL USED FOR ELEVATOR RECALL.
- NATIONAL TIME AND SIGNAL TO PROVIDE FIRE ALARM PROGRAMMING AND UPDATE FIRE ALARM GRAPHIC ANNUNCIATORS AS REQUIRED IN THE LIFE SCIENCE BUILDING.
- PROVIDE BOX EXTENSION, AS REQUIRED, ON WALLS WHERE EXISTING DEVICE IS TO REMAIN AND WALL IS BEING FURRED OUT TO EXTEND EXISTING ELECTRICAL BOX TO NEW FINISHED WALL SURFACE.

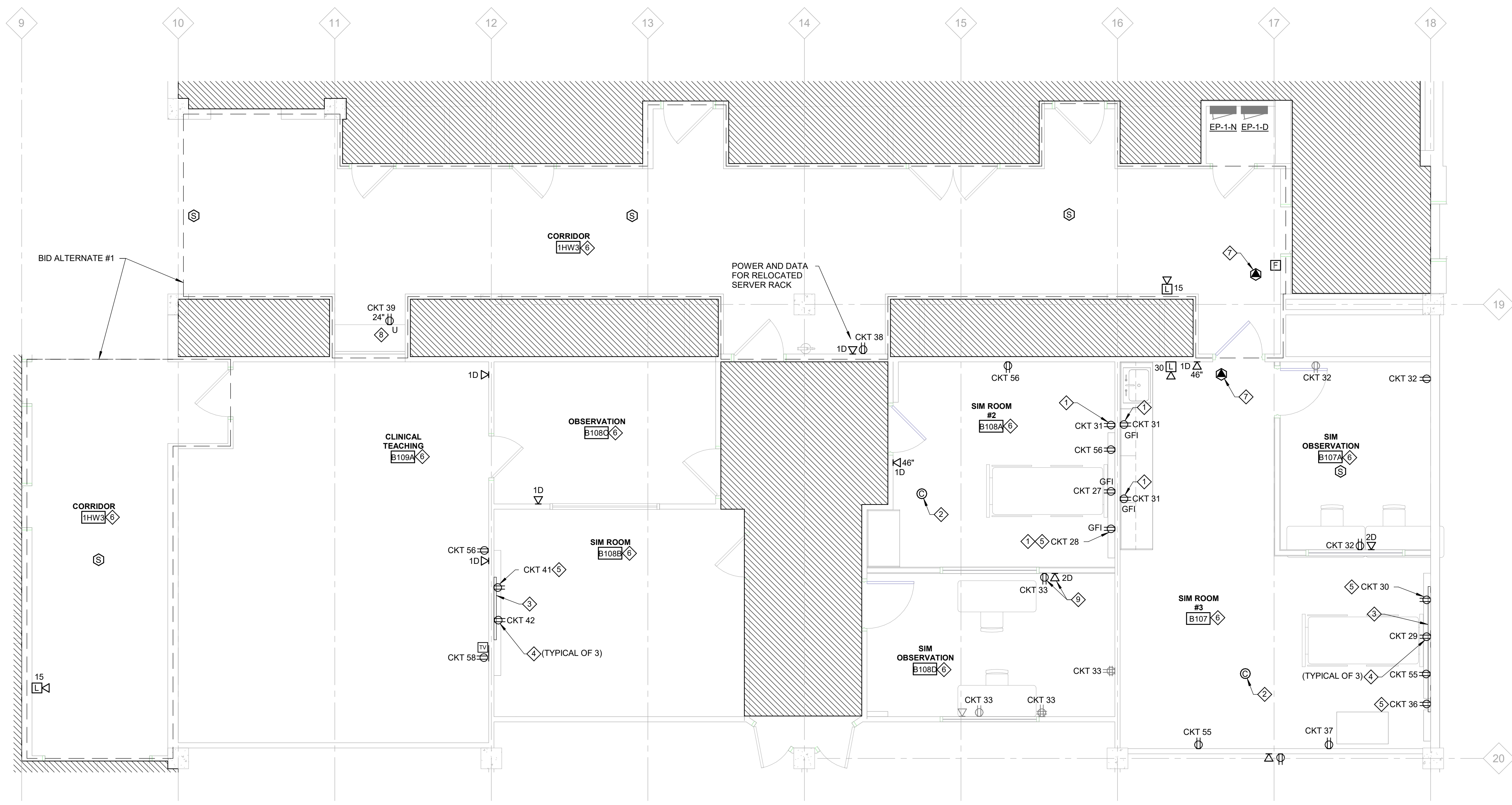
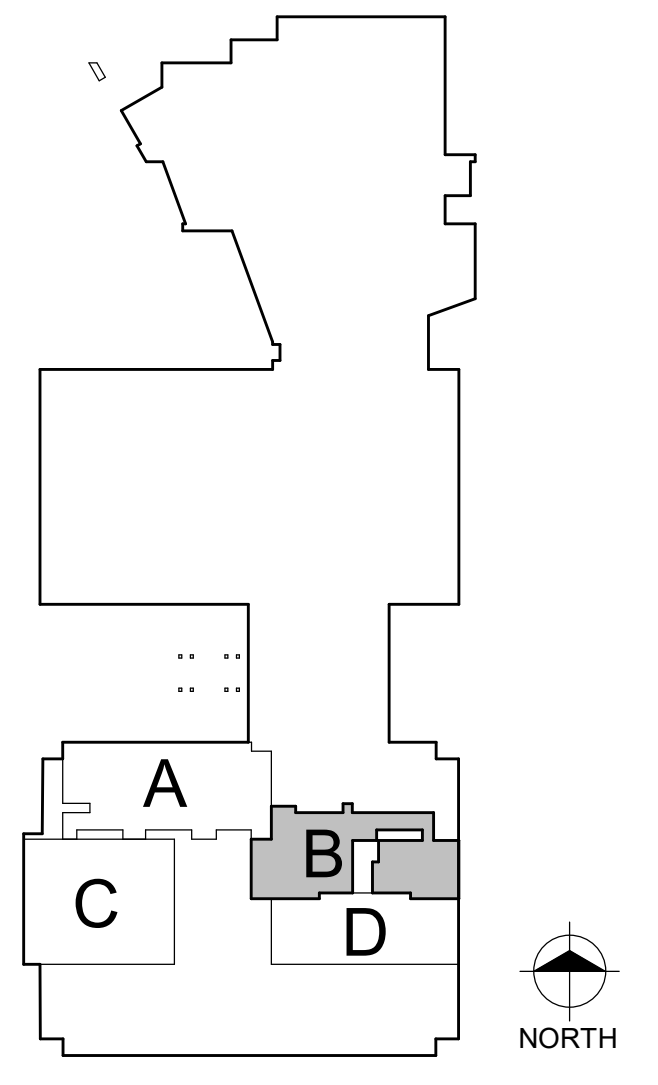
KEY NOTES

- REPLACE EXISTING RECEPTACLE WITH GFI RECEPTACLE.
- AXIS M3086-V DOME CAMERA PROVIDE BY MSU. CONTRACTOR SHALL INSTALL AND RUN CABLE TO THE NEAREST IT CLOSET UNO.
- PROVIDE LEGRAND V2400 STEEL RACEWAY. ROUTE RACEWAY VERTICALLY FROM CEILING THEN HORIZONTALLY ACROSS THE WALL. MOUNT HORIZONTAL RACEWAY 3'-8" AFF.
- PROVIDE LEGRAND SINGLE-GANG DEVICE BOX FOR ONE DUPLEX RECEPTACLE.
- HEADWALL IS CORD AND PLUG CONNECTION AND WILL BE CONNECTED TO DUPLEX RECEPTACLE.
- SURFACE MOUNT ALL NEW DEVICES ON EXISTING WALLS. PROVIDE SURFACE MOUNTED CONDUIT FROM ACCESSIBLE CEILING SPACE TO NEW DEVICE LOCATION.
- PROVIDE FIRE ALARM INTERCONNECTION AS REQUIRED TO ENERGIZE EM LIGHTING WHEN FIRE ALARM SYSTEM IS IN AN ALARM CONDITION. REFER TO LIGHTING CONTROL DIAGRAM NOTE 2 ON SHEET E010.
- CONCEAL CONDUIT BEHIND WOOD SHEATING. REFER TO ARCHITECTURAL.
- RECESS ELECTRICAL DEVICES IN NEW WALL.

GENERAL DATA NOTES

- PROVIDE J-HOOKS SPACED AT 36" ABOVE THE CEILING FOR DATA AND LIGHTING LOW VOLTAGE CABLE IN ACCOUSTICAL CEILING. PROVIDE CONDUIT IN EXPOSED CEILING FOR DATA AND LIGHTING LOW VOLTAGE CABLE.
- MSU IT SERVICES TO PROVIDE FACEPLATES, DATA JACKS, CABLING AND TERMINATIONS.
- MSU TO PROVIDE NEW SWITCHES FOR POE. COORDINATE WITH MSU AND FIELD VERIFY.
- EXISTING LOW VOLTAGE ORIGINATES FROM ONE OF THE FOLLOWING TELECOM CLOSETS: B204, B224, B235, B243. FIELD VERIFY FOR EXACT LOCATIONS.
- CAMERA CABLING TO BE ROUTED TO THE NEAREST IT CLOSET.

KEY PLAN



1 FIRST FLOOR POWER AND SYSTEMS PLAN - AREA B  
 SCALE: 1/4" = 1'-0"

CAPITAL PROJ. NO.	CP23077
PR. MGR.	Z. KIEFER
ARCH.	D. LAUNSTEIN
MECH.	A. VANDERSTELT
ELEC.	K. HOWARD
CIVIL	
L.A.	
INT. DES.	D. WHITBECK
CONST. REP.	
APPR.	
DATE	
SCALE	AS SHOWN
REVISIONS	
2/16/24 RELEASED FOR BID	

**GENERAL NOTES**

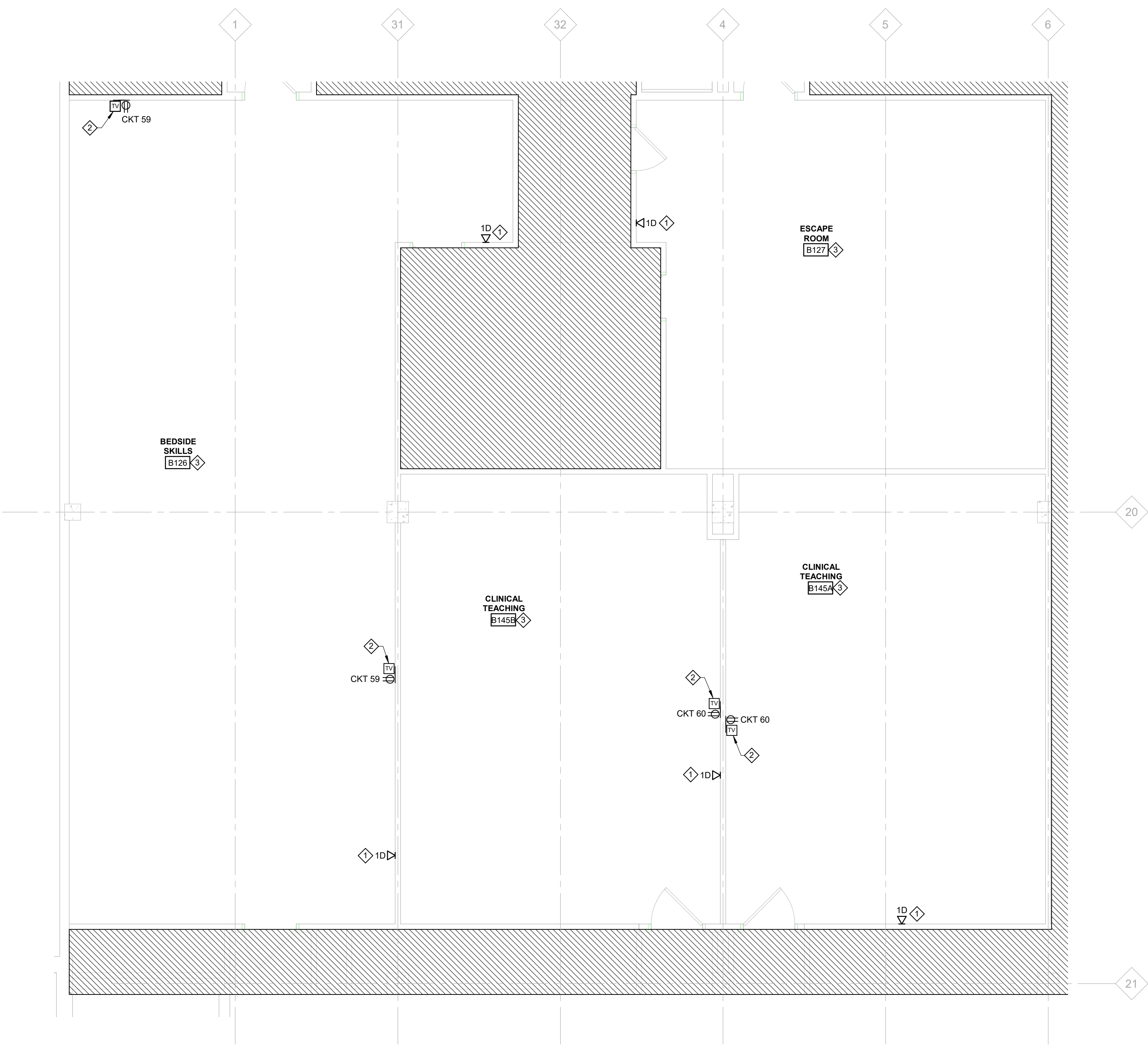
- PERFORM ALL WORK IN ACCORDANCE WITH THE NEC AND MICHIGAN STATE UNIVERSITY CONSTRUCTION STANDARDS.
- PROVIDE FIRE STOPPING FOR ALL CONDUIT AND OTHER ELECTRICAL EQUIPMENT PENETRATIONS THROUGH FLOORS, WALLS AND CEILINGS TO MAINTAIN EXISTING FIRE RATINGS.
- UNLESS NOTED OTHERWISE, ALL CONDUIT AND WIRING SHALL BE CONCEALED. ELECTRICAL CONNECTIONS SHOWN ON DRAWINGS ARE DIAGRAMMATIC AND ARE USED TO ILLUSTRATE CIRCUITING AND WIRING REQUIREMENTS ONLY.
- ALL CONTROLS WIRING SHALL BE IN CONDUIT. COORDINATE THIS WORK WITH OTHER TRADES.
- PROVIDE BOX EXTENSION, AS REQUIRED, ON WALLS WHERE EXISTING DEVICE IS TO REMAIN AND WALL IS BEING FURRED OUT TO EXTEND EXISTING ELECTRICAL BOX TO NEW FINISHED WALL SURFACE.

**KEY NOTES**

- PROVIDE DATA OUTLET FOR WALL MOUNTED TELEPHONE. COORDINATE EXACT LOCATION WITH OWNER.
- PROVIDE POWER AND DATA OUTLET FOR WALL MOUNTED MONITOR. COORDINATE EXACT LOCATION WITH OWNER.
- SURFACE MOUNT ALL NEW DEVICES ON EXISTING WALLS. PROVIDE SURFACE MOUNTED CONDUIT FROM ACCESSIBLE CEILING SPACE TO NEW DEVICE LOCATION.

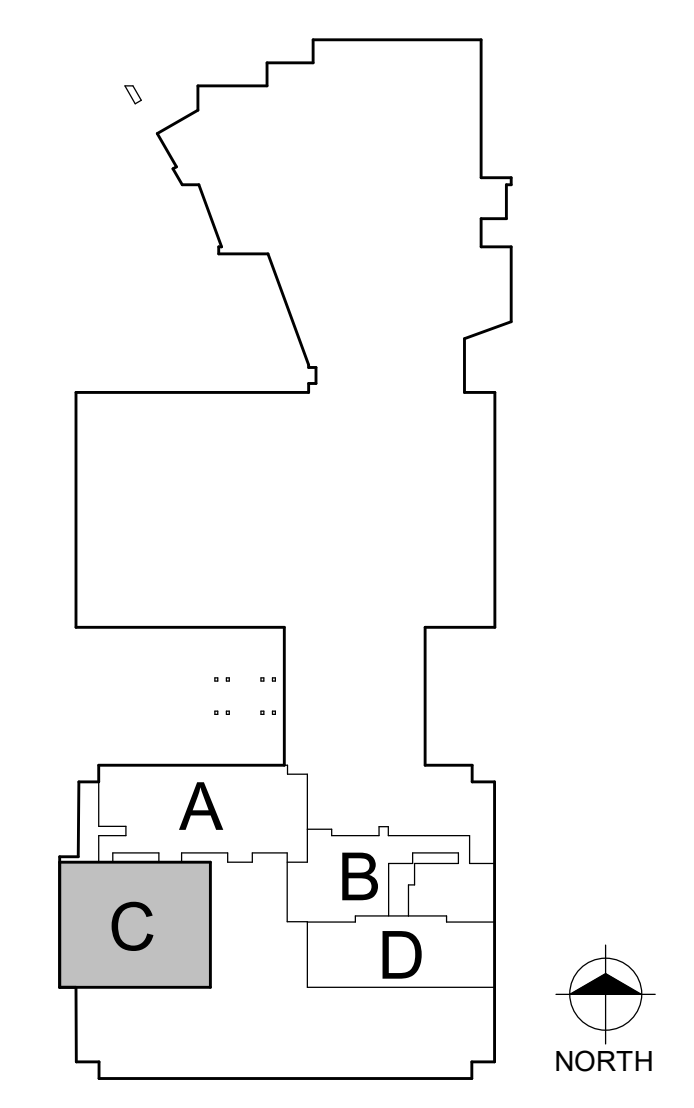
**GENERAL DATA NOTES**

- PROVIDE J-HOOKS SPACED AT 36" ABOVE THE CEILING FOR DATA AND LIGHTING LOW VOLTAGE CABLE IN ACCOUSTICAL CEILING. PROVIDE CONDUIT IN EXPOSED CEILING FOR DATA AND LIGHTING LOW VOLTAGE CABLE.
- MSU IT SERVICES TO PROVIDE FACEPLATES, DATA JACKS, CABLING, AND TERMINATIONS.
- MSU TO PROVIDE NEW SWITCHES FOR POE. COORDINATE WITH MSU AND FIELD VERIFY.
- EXISTING LOW VOLTAGE ORIGINATES FROM ONE OF THE FOLLOWING TELECOM CLOSETS: B204, B224, B235, B243. FIELD VERIFY FOR EXACT LOCATIONS.



**1 FIRST FLOOR POWER AND SYSTEMS PLAN - AREA C**  
 SCALE: 1/4" = 1'-0"

**KEY PLAN**



CAPITAL PROJ. NO.  
 CP23077

PR. MGR.	Z. KIEFER
ARCH.	D. LAUNSTEIN
MECH.	A. VANDERSTELT
ELEC.	K. HOWARD
CIVIL	
L.A.	
INT. DES.	D. WHITBECK
CONST. REP.	
APPR.	
DATE	
SCALE	AS SHOWN
REVISIONS	
2/16/24 RELEASED FOR BID	

GENERAL NOTES

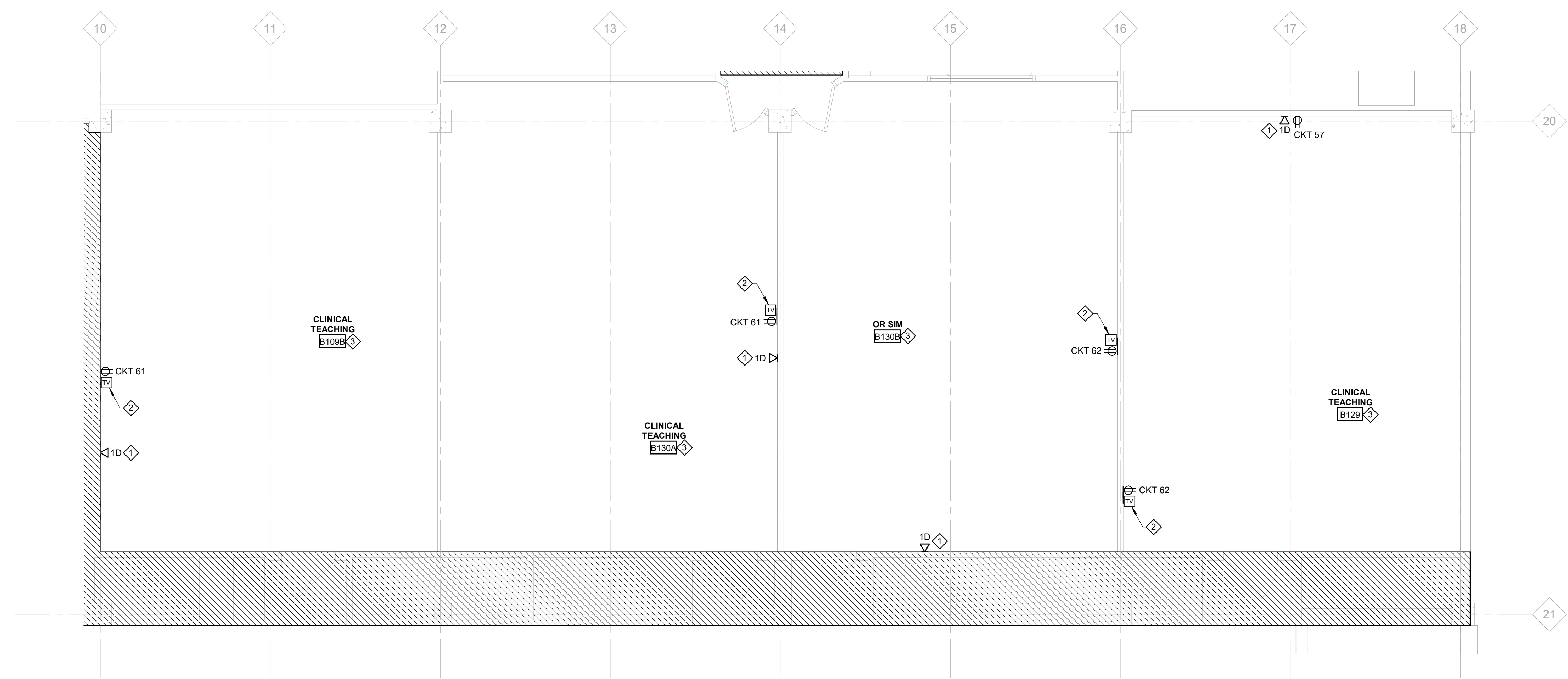
- PERFORM ALL WORK IN ACCORDANCE WITH THE NEC AND MICHIGAN STATE UNIVERSITY CONSTRUCTION STANDARDS.
- PROVIDE FIRE STOPPING FOR ALL CONDUIT AND OTHER ELECTRICAL EQUIPMENT PENETRATIONS THROUGH FLOORS, WALLS AND CEILINGS TO MAINTAIN EXISTING FIRE RATINGS.
- UNLESS NOTED OTHERWISE, ALL CONDUIT AND WIRING SHALL BE CONCEALED. ELECTRICAL CONNECTIONS SHOWN ON DRAWINGS ARE DIAGRAMMATIC AND ARE USED TO ILLUSTRATE CIRCUITING AND WIRING REQUIREMENTS ONLY.
- ALL CONTROLS WIRING SHALL BE IN CONDUIT. COORDINATE THIS WORK WITH OTHER TRADES.
- PROVIDE BOX EXTENSION, AS REQUIRED, ON WALLS WHERE EXISTING DEVICE IS TO REMAIN AND WALL IS BEING FURRED OUT TO EXTEND EXISTING ELECTRICAL BOX TO NEW FINISHED WALL SURFACE.

KEY NOTES

- PROVIDE DATA OUTLET FOR WALL MOUNTED TELEPHONE. COORDINATE EXACT LOCATION WITH OWNER.
- PROVIDE POWER AND DATA OUTLET FOR WALL MOUNTED MONITOR. COORDINATE EXACT LOCATION WITH OWNER.
- SURFACE MOUNT ALL NEW DEVICES ON EXISTING WALLS. PROVIDE SURFACE MOUNTED CONDUIT FROM ACCESSIBLE CEILING SPACE TO NEW DEVICE LOCATION.

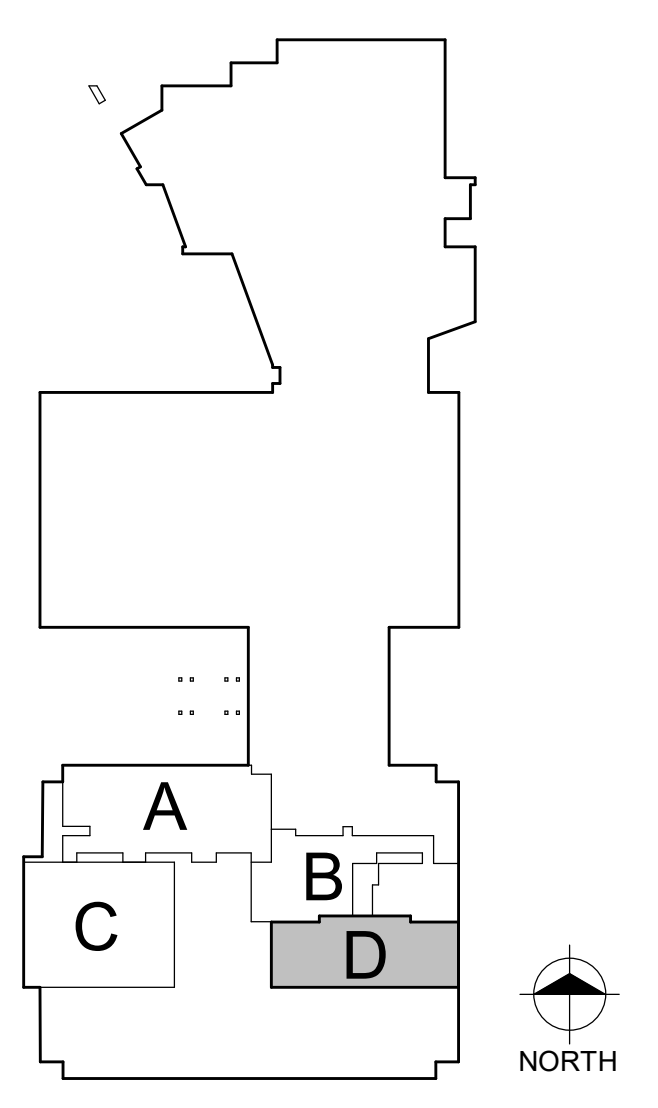
GENERAL DATA NOTES

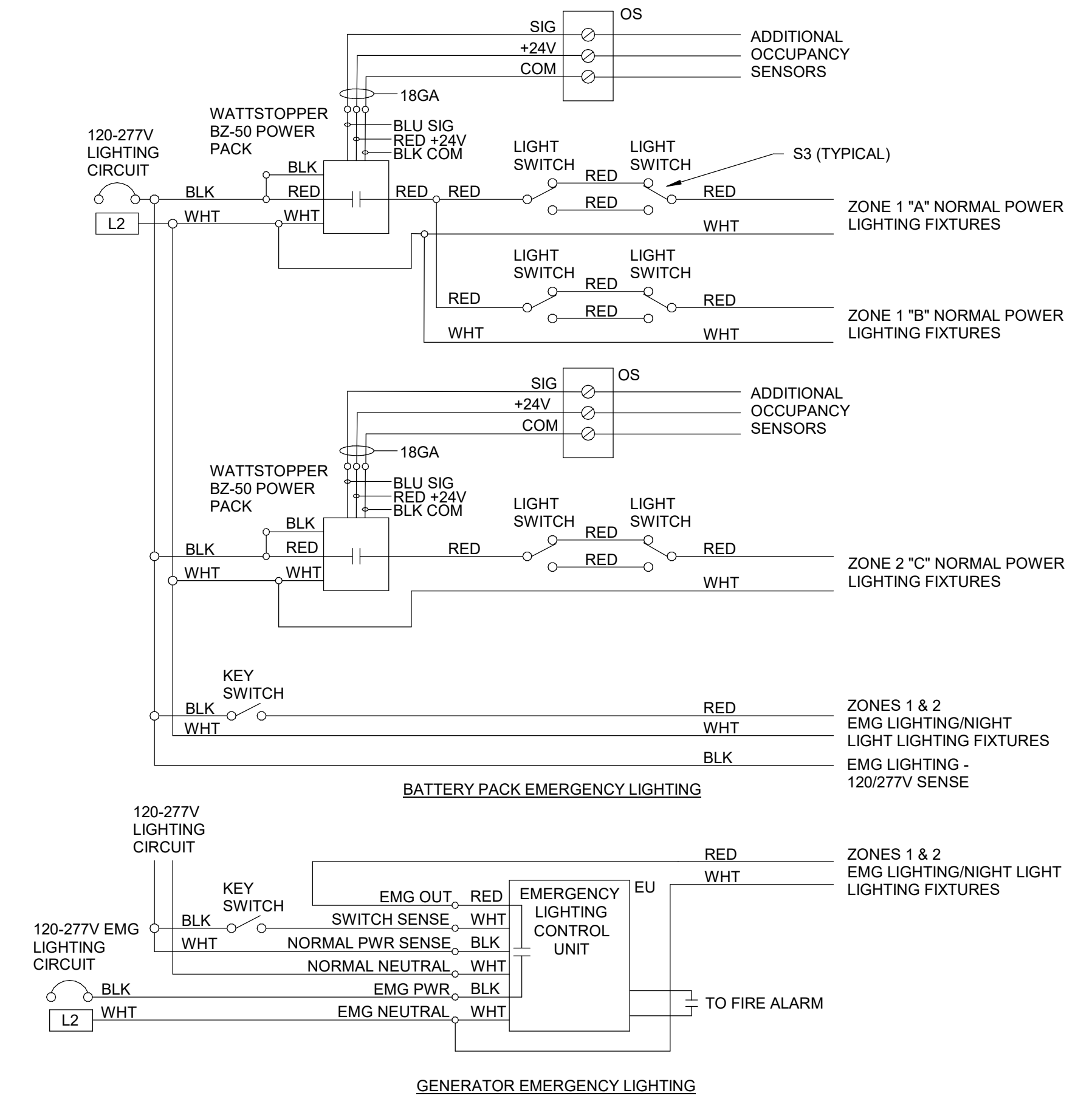
- PROVIDE J-HOOKS SPACED AT 36" ABOVE THE CEILING FOR DATA AND LIGHTING LOW VOLTAGE CABLE IN ACCOUSTICAL CEILING. PROVIDE CONDUIT IN EXPOSED CEILING FOR DATA AND LIGHTING LOW VOLTAGE CABLE.
- MSU IT SERVICES TO PROVIDE FACEPLATES, DATA JACKS, CABLING, AND TERMINATIONS.
- MSU TO PROVIDE NEW SWITCHES FOR POE. COORDINATE WITH MSU AND FIELD VERIFY.
- EXISTING LOW VOLTAGE ORIGINATES FROM ONE OF THE FOLLOWING TELECOM CLOSETS: B204, B224, B235, B243. FIELD VERIFY FOR EXACT LOCATIONS.



1 FIRST FLOOR POWER AND SYSTEMS PLAN - AREA D  
 SCALE: 1/4" = 1'-0"

KEY PLAN





**NOTES:**

1. DIAGRAM SHOWN IS FOR A TYPICAL CORRIDOR USING NON-DIMMING LED LIGHTING FIXTURES. SEE PAGE 2 FOR CORRIDOR LIGHTING FIXTURE AND OCCUPANCY SENSOR DRAWING.
2. PROVIDE 3-WAY SWITCHING WHEN REQUIRED.
3. PROVIDE KEY SWITCH, P/N: LEVITON 1221-2IL SWITCH WITH 555000-PRT KEY.
4. EMERGENCY LIGHTING: PROVIDE EMG BATTERY PACK OR ELCU. P/N: WATTSTOPPER ELCU-200.
5. CONNECT ELCU TO FIRE ALARM SYSTEM.
6. CONTROL IS AUTO ON/AUTO OFF.

P/N: WATTSTOPPER DT-200 WALL/CORNER MOUNT (OS-G) & BZ-50 POWER PACK.

1. TURN DIP SWITCH 6 ON FOR OPTION 1 WITH EITHER TECHNOLOGY.
2. SET ULTRASONIC TO MAX. AS REQD.
3. ALL OTHER SETTINGS ARE DEFAULT.
4. (4) OS MAX FOR EA POWER PACK. PROVIDE 2ND POWER PACK WITH THE +24VDC AND COM WIRED IN PARALLEL FOR UP TO (8) OS.

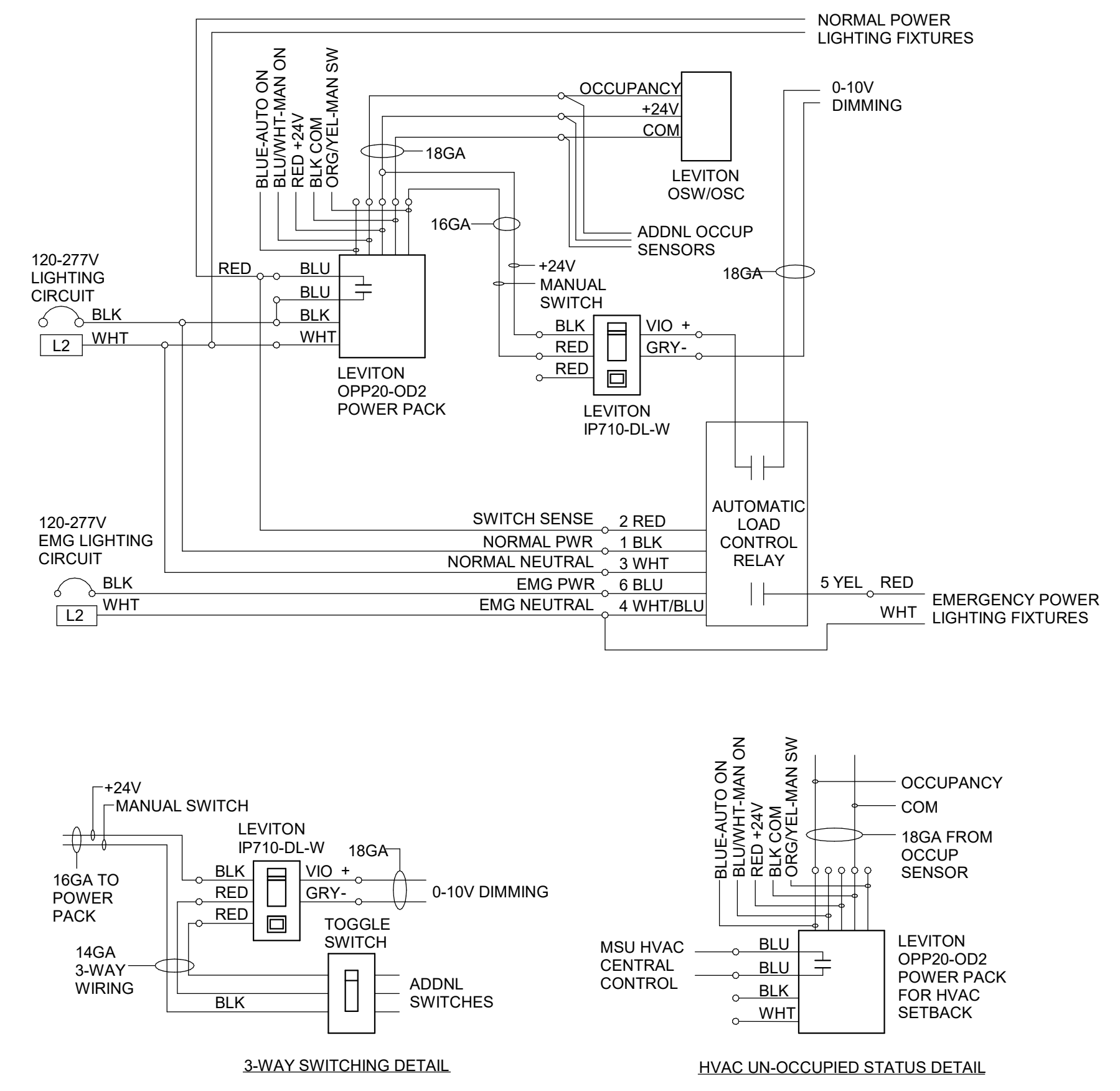
**COMMISSIONING NOTES:**  
 USE THE FOLLOWING PROCEDURE FOR CHECKOUT. VERIFY WITH THE LATEST MFG LITERATURE.

1. TURN DIP SW1 TO TEST MODE ON ALL OCCUPANCY SENSORS TO INITIATE TEST MODE.
2. TURN THE CIRCUIT BREAKER OFF, WAIT 10 SECONDS AND TURN CIRCUIT BREAKER BACK ON. AFTER A 30 SECOND WARMUP, THE OCCUPANCY SENSORS WILL NOW BE IN TEST MODE WITH A 10 SECOND TIMEOUT FOR 5 MINUTES.
3. LEAVE THE CORRIDOR, WAIT 10 SECONDS AND VERIFY THE LIGHTING IS OFF.
4. ENTER THE CORRIDOR AND VERIFY THE LIGHTING COMES BACK ON. WALK AROUND THE LENGTH OF THE CORRIDOR FOR APPROX 60 SECONDS TO VERIFY THE LIGHTING STAYS ON.
5. TURN DIP SW1 TO TEST MODE OFF ALL OCCUPANCY SENSORS TO INITIATE AUTO MODE.
6. TURN THE CIRCUIT BREAKER OFF, WAIT 10 SECONDS AND TURN CIRCUIT BREAKER BACK ON. AFTER A 30 SECOND WARMUP, THE OCCUPANCY SENSORS WILL NOW BE IN AUTO MODE.

DIP SWITCH SETTINGS			
TIME DELAY	1	2	3
TEST MODE/20 MN	↓	↓	↓
20 MINUTES	↑	↓	↑
WALK-THROUGH	4		
DISABLED	↑		
PIR SENSITIVITY	5		
ENABLED	↑		
OCCUP. LOGIC	6	7	8
OPTION 1	↑	↓	↓

OPTION 1 = EITHER TECHNOLOGY FOR INITIAL & MAINTAIN OCCUPANCY AND RE-TRIGGER AT 5 SECONDS

LIGHTING CONTROL NOTE 2 DIAGRAM - MSU LIGHTING DETAIL 06



**NOTES:**

1. CONTROL IS MANUAL ON/AUTO OFF.
2. FOR NEW CONSTRUCTION PROVIDE EXTRA DEEP SINGLE GANG BOX.
3. WHEN REQUIRED PROVIDE 3-WAY SWITCHING.
4. WHEN REQUIRED PROVIDE POWER PACK FOR HVAC UN-OCCUPIED STATUS.
5. PROVIDE EMERGENCY LIGHTING BATTERY PACK.
6. SET DIP SWITCHES AS SHOWN. ALL OTHER SETTINGS ARE DEFAULT.

**OCCUPANCY SENSOR/POWER PACK:**  
 P/N: LEVITON OSW12-M0W WALL/CORNER MOUNT (OS-A), OSC20-M0W CEILING MOUNT (OS-B) & OPP20-OD2 POWER PACK.

1. CHANGE TIME DELAY TO 20 MINUTES.
2. SET DIP SW A3 ON TO DISABLE AUTO-ADAPTING.
3. SET DIP SW A4 ON TO DISABLE WALK THRU.
4. (4) OCCUP SENSOR MAX FOR EACH POWER PACK. PROVIDE 2ND POWER PACK WITH THE +24VDC AND COM WIRED IN PARALLEL FOR UP TO (8) OCCUP SENSORS.
5. CAP UNUSED POWER PACK LEADS.

**COMMISSIONING NOTES:**  
 USE THE FOLLOWING PROCEDURE FOR CHECKOUT. VERIFY WITH THE LATEST MFG LITERATURE.

1. TURN DIP SWITCH B3 ON AND THEN OFF TO INITIATE THE TEST MODE. THE OCCUPANCY SENSOR WILL BE IN TEST MODE WITH A 6 SECOND TIMEOUT FOR 15 MINUTES. THE UNIT WILL GO BACK TO AUTO MODE AFTER 15 MINUTES.
2. LEAVE THE ROOM AND CLOSE THE DOOR. WAIT 10 SECONDS AND VERIFY THE LIGHTING IS OFF.
3. ENTER THE ROOM, TURN ON THE LIGHT SWITCH, AND VERIFY THE LIGHTING TURNS ON.
4. WALK AROUND THE PERIMETER OF ROOM FOR APPROX. 60 SEC. TO VERIFY THE LIGHTING STAYS ON.
5. INITIAL SETTINGS OF 50% INFRARED AND 75% ULTRASONIC. ADJUST THE INFRARED SETTING HIGHER IF OCCUPANCY IS NOT DETECTED WHEN WALKING INTO THE ROOM. ADJUST THE ULTRASONIC HIGHER IF THE LIGHTING IS NOT STAYING ON WHEN WALKING AROUND THE PERIMETER IF THE ROOM. OCCUPANCY SENSOR RED LIGHT = INFRARED DETECTION & GREEN LIGHT = ULTRASONIC DETECTION.

LIGHTING CONTROL NOTE 1 DIAGRAM - MSU LIGHTING DETAIL 08B