

Jeffords Science Center Lab Renovation

Castleton University
Castleton, Vermont



Project
Castleton State College

Jeffords Science Center
Lab Renovation

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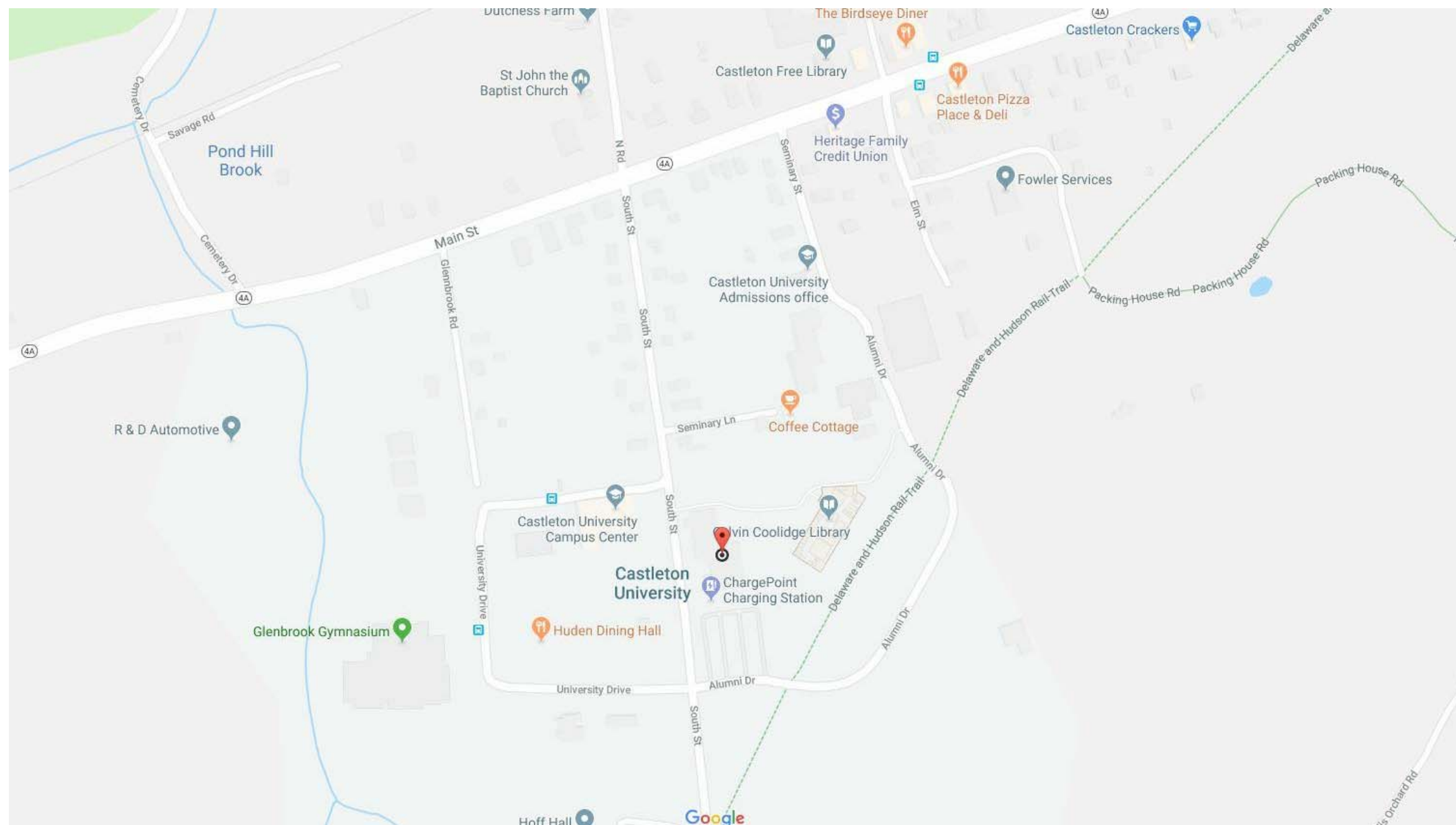
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LOCAL MAP



PROJECT TEAM

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DRAWING LIST

ARCHITECTURAL

- AD-101 GROUND LEVEL - CHEMISTRY DEMO PLAN
- AD-102 LEVEL 2 - EXERCISE SCIENCE & BIO. LABS DEMO
- A-001 ABBREVIATIONS, SYMBOLS, & PARTITION TYPES
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- A-102 GROUND LEVEL CHEMISTRY PREP & CHEMICAL STORAGE
- A-103 GROUND LEVEL - MICRO BIOLOGY LAB
- A-104 LEVEL 2 - PHYSICS LAB
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- A-202 LEVEL 2 REFLECTED CEILING PLAN
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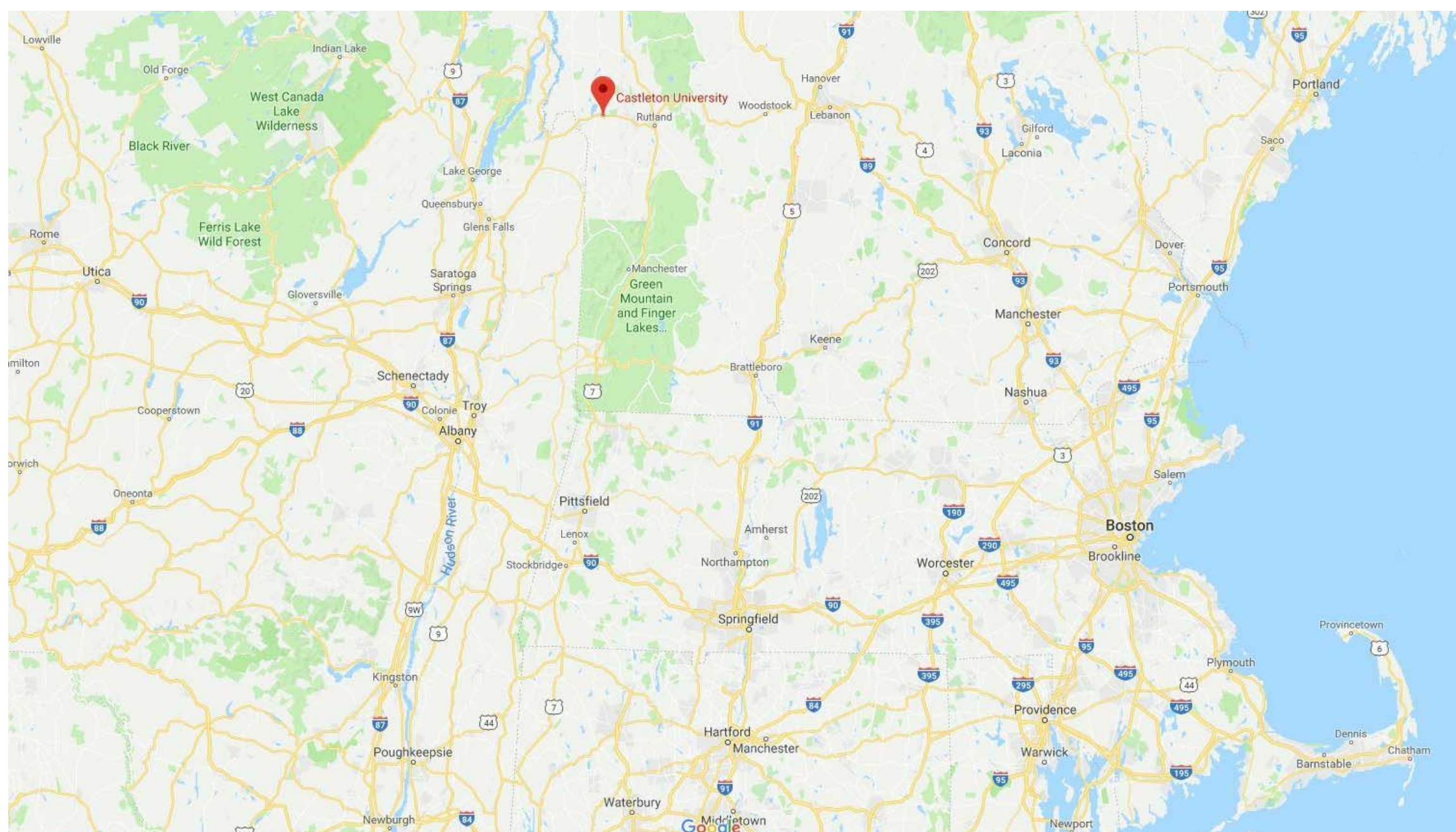
ELECTRICAL

- E-000 ELECTRICAL LEGENDS SCHEDULES NOTES
- E-101 ELECTRICAL CHEMISTRY LAB
- E-103 ELECTRICAL MICRO BIOLOGY LAB
- E-104 ELECTRICAL PHYSICS LAB
- E-105 ELECTRICAL EXERCISE SCIENCE LAB

MECHANICAL

- M-000 MECHANICAL LEGENDS SCHEDULES NOTES
- M-101 MECH & PLUMBING CHEMISTRY LAB
- M-103 MECH & PLUMBING MICROBIOLOGY LAB
- M-104 MECH & PLUMBING PHYSICS LAB
- M-105 MECH & PLUMBING EXERCISE SCIENCE LAB

AREA MAP



Revisions

No.	Description	Date

Seal:

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COVER

DESIGN DEVELOPMENT
COST ESTIMATE SET



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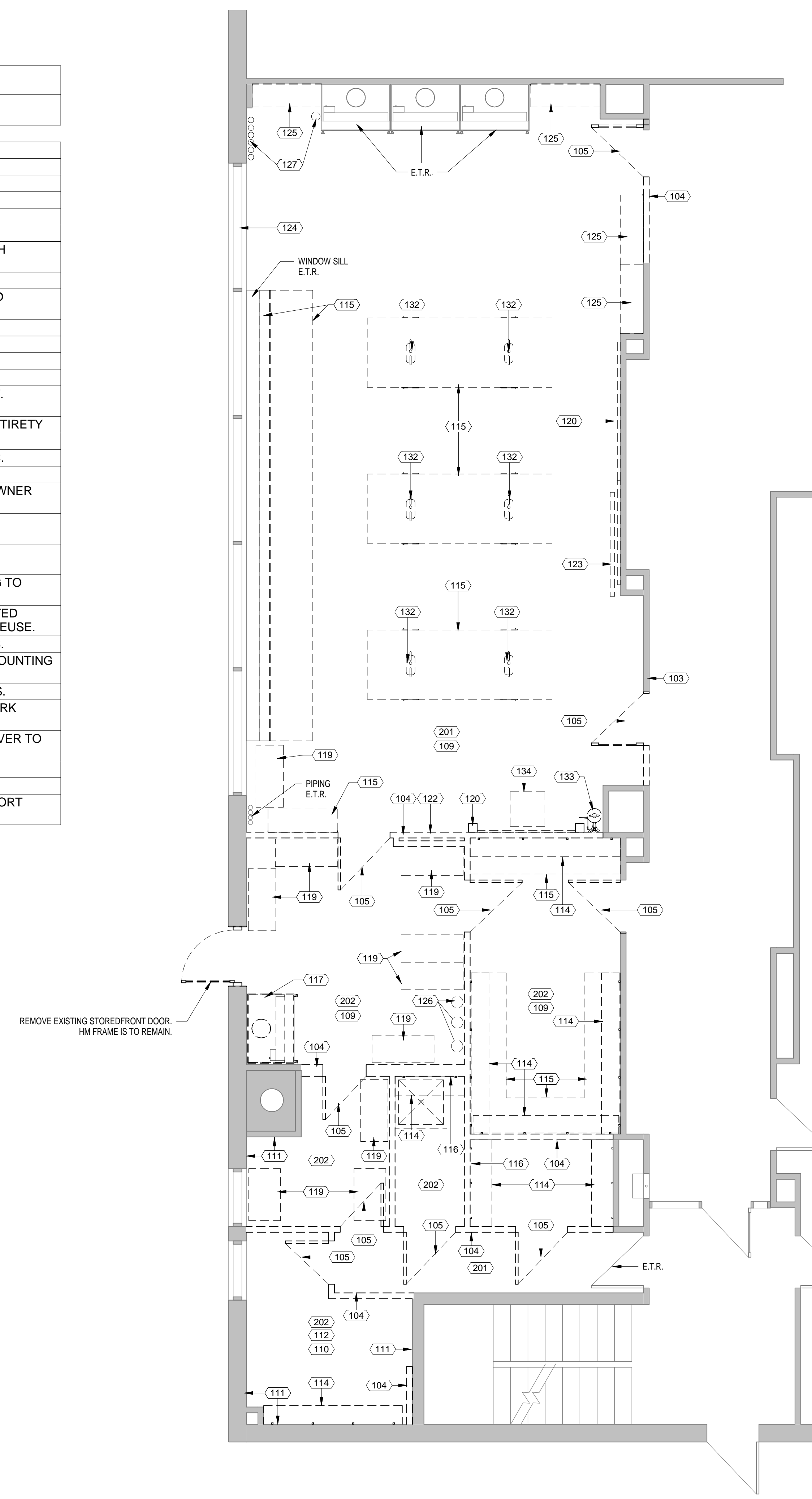
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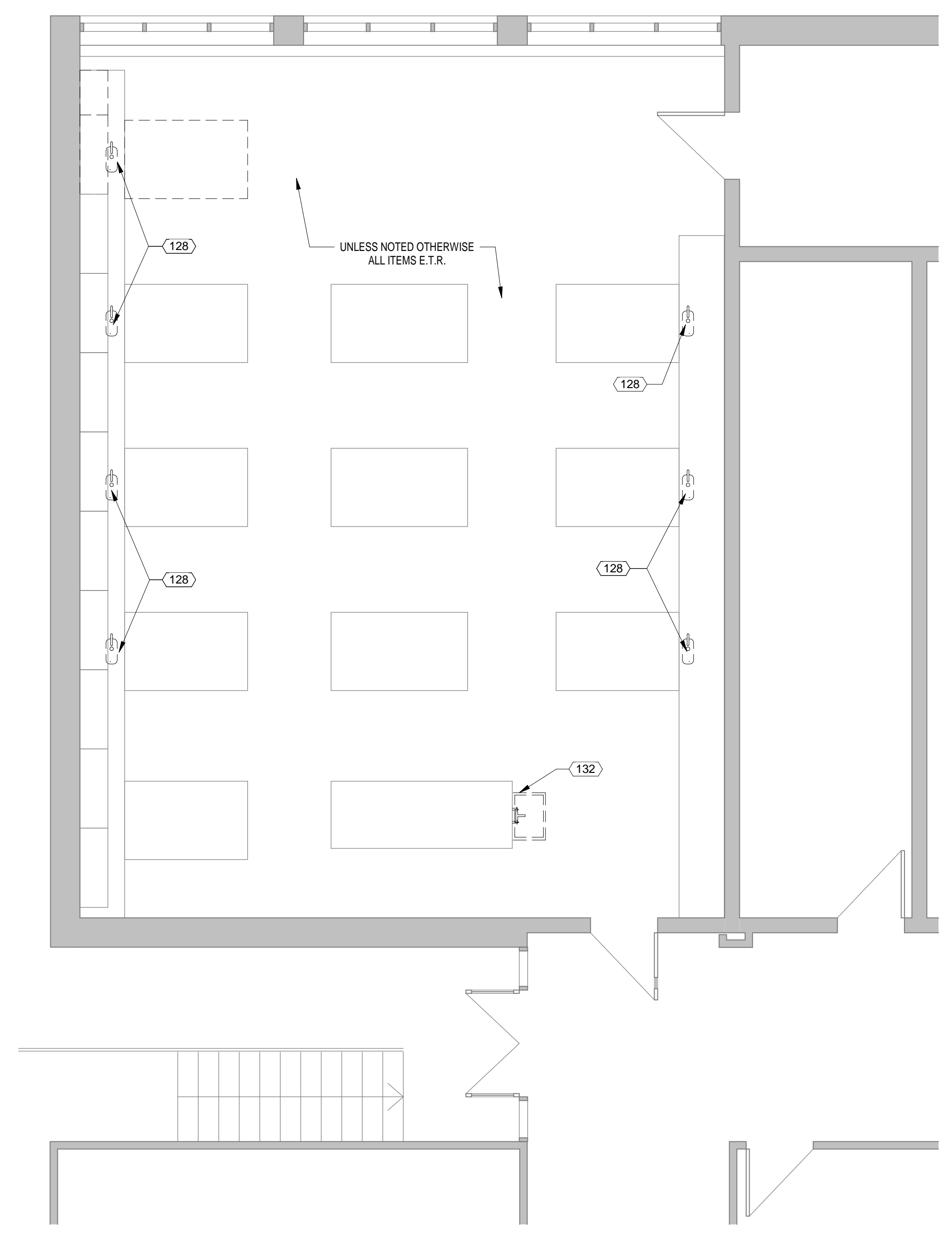
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DEMO Keynote Legend	
Key Value	Keynote Text
101	REMOVE METAL STUD AND GWB PARTITION IN ITS ENTIRETY
103	SAWCUT AND REMOVE PORTION OF CMU WALL FOR NEW OPENING
104	REMOVE CMU WALL FROM FLOOR TO UNDERSIDE OF STURCTURE
105	REMOVE DOOR AND FRAME IN THEIR ENTIRETY
109	REMOVE VCT
110	REMOVE CERAMIC FLOOR TILE AND SETTING BED
111	REMOVE CERAMIC WALL TILE AND SETTING BED. PROVIDE SMOOTH SURFACE FOR NEW FINISHES FOR WALLS TO REMAIN.
112	REMOVE EXISTING CARPET
113	REMOVE EXISTING PLUMBING FIXTURES; REFER TO PLUMBING AND ABATEMENT DRAWINGS
114	REMOVE SHELIVING IN ITS ENTIRETY
115	CASEWORK TO BE REMOVED IN ITS ENTIRETY.
116	REMOVE WALL MOUNTED BRACKET, HOOKS, ETC.
117	REMOVE EXISTING FUME HOOD IN ITS ENTIRETY
119	REMOVE EXISTING CHEMICAL AND FLAMMABLE STORAGE CABINET. SALVAGE AND TURN OVER TO OWNER
120	REMOVE CHALKBOARD, MARKERBOARD, OR TACKBOARD IN ITS ENTIRETY
122	REMOVE ELECTRICAL PANEL, SEE ELECTRICAL DRAWINGS
123	REMOVE PROJECTION SCREEN AND ALL SUPPORT BRACKETS, ETC.
124	REMOVE ALL WINDOW SHADES AND BLINDS IN ITS ENTIRETY.
125	CAREFULLY REMOVE CASEWORK.SALVAGE AND TURN OVER TO OWNER FOR REUSE.
126	CAREFULLY REMOVE FIRE SUPPRESSION SYSTEM.SALVAGE FOR REUSE,REFER TO MEP DWGS.
127	CAREFULLY REMOVE R.O. WATER SYSTEM AND ALL ASSOCIATED COMPONENTS. SALVAGE FOR REUSE,REFER TO MEP DWGS.
128	CAREFULLY REMOVE EXISTING SINK FIXTURE. EXISTING PLUMBING TO REMAIN FOR RECONNECTION, REFER TO MEP DWGS.
130	CAREFULLY REMOVE UPPER CABINET CASEWORK & ALL ASSOCIATED CASEWORK HARDWARE. SALVAGE AND RETURN TO OWNER FOR REUSE.
132	REMOVE EXISTING PLUMBING ITS ENTIRETY, REFER TO MEP DWGS.
133	CAREFULLY REMOVE EXISTING EYEWASH AND ALL ASSOCIATED MOUNTING COMPONENTS. SALVAGE FOR REUSE, REFER TO MEP DWGS.
134	SALVAGE EXISTING EQUIPMENT FOR REUSE, REFER TO MEP DWGS.
136	CAREFULLY REMOVE BASE CABINETS & ALL ASSOCIATED CASEWORK HARDWARE.SALVAGE AND TURN OVER TO OWNER FOR REUSE.
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1 Ground Level - Chemistry Demo
1/4" = 1'-0"



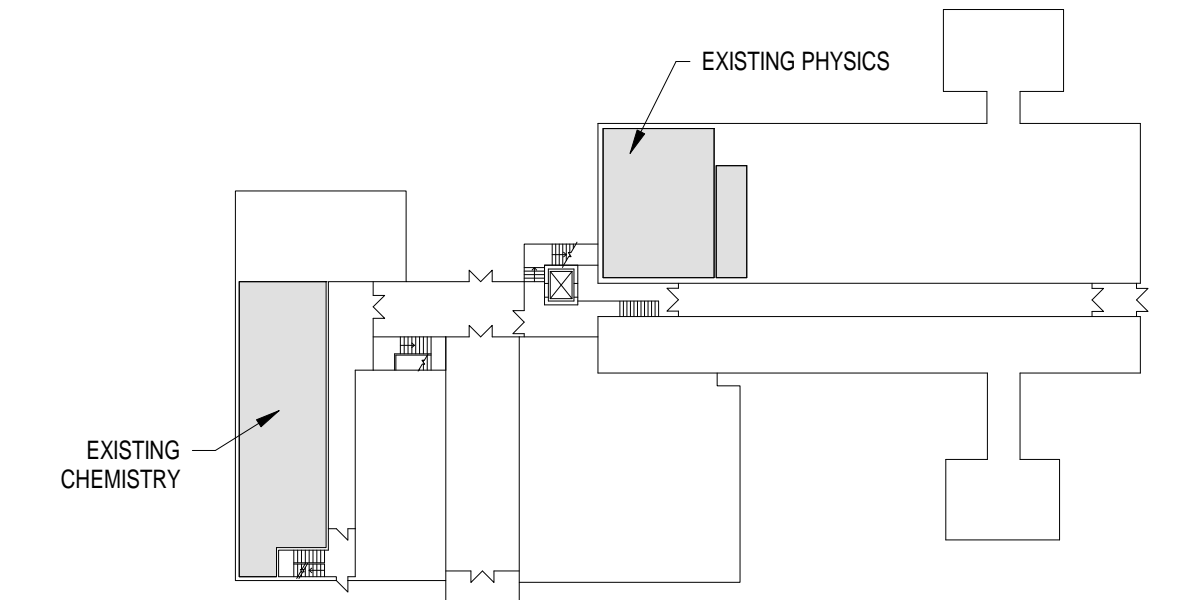
2 Ground Level - Physics Demo
1/4" = 1'-0"

DEMOLITION NOTES:

1. SHADED WALLS AND SOLID LINES INDICATE ITEMS TO REMAIN.
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7. CLOSE AND SEAL DOORS BETWEEN WORK AREA DURING DEMOLITION WORK AND NEW CONSTRUCTION.

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KEY PLAN
GROUND FLOOR

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GROUND LEVEL -
CHEMISTRY
DEMO PLAN

AD-101



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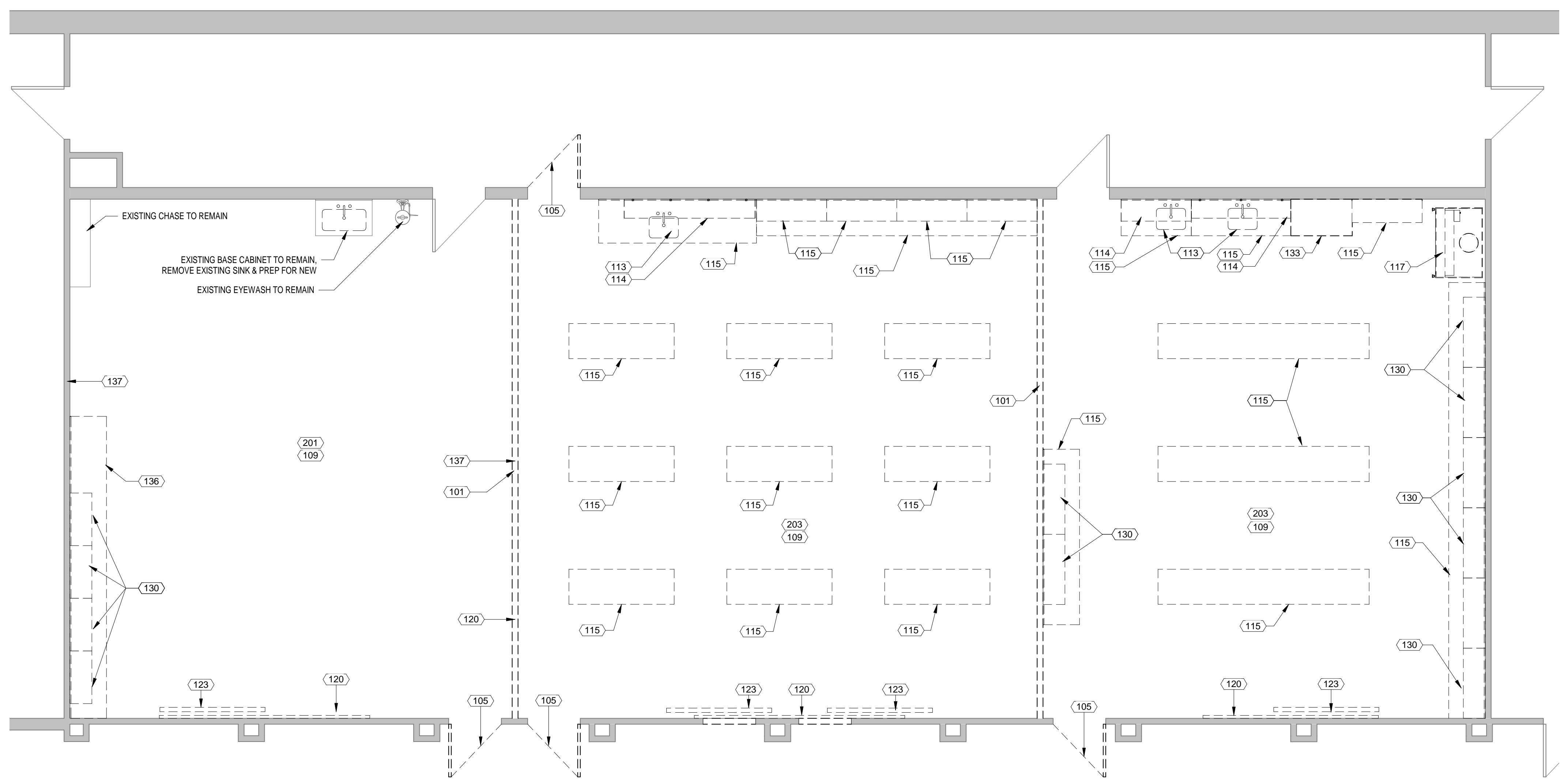
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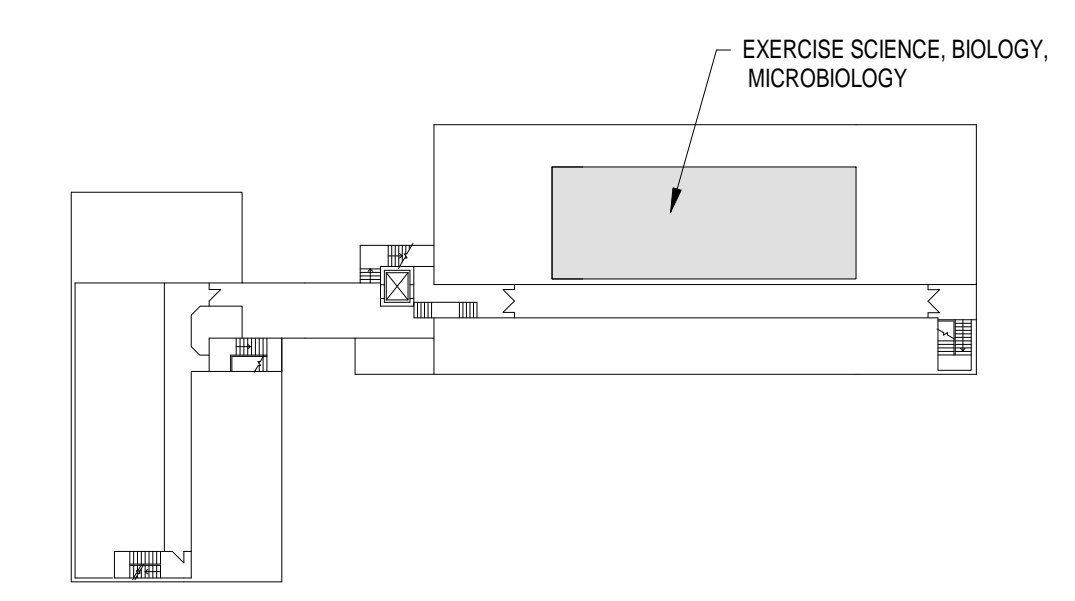
2 LEVEL 2 - Exercise Science, Biology Labs
1/4" = 1'-0"

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KEY PLAN
SECOND FLOOR

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LEVEL 2 -
EXERCISE
SCIENCE & BIO.
LABS DEMO

AD-102



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STANDARD ARCHITECTURAL ABBREVIATIONS

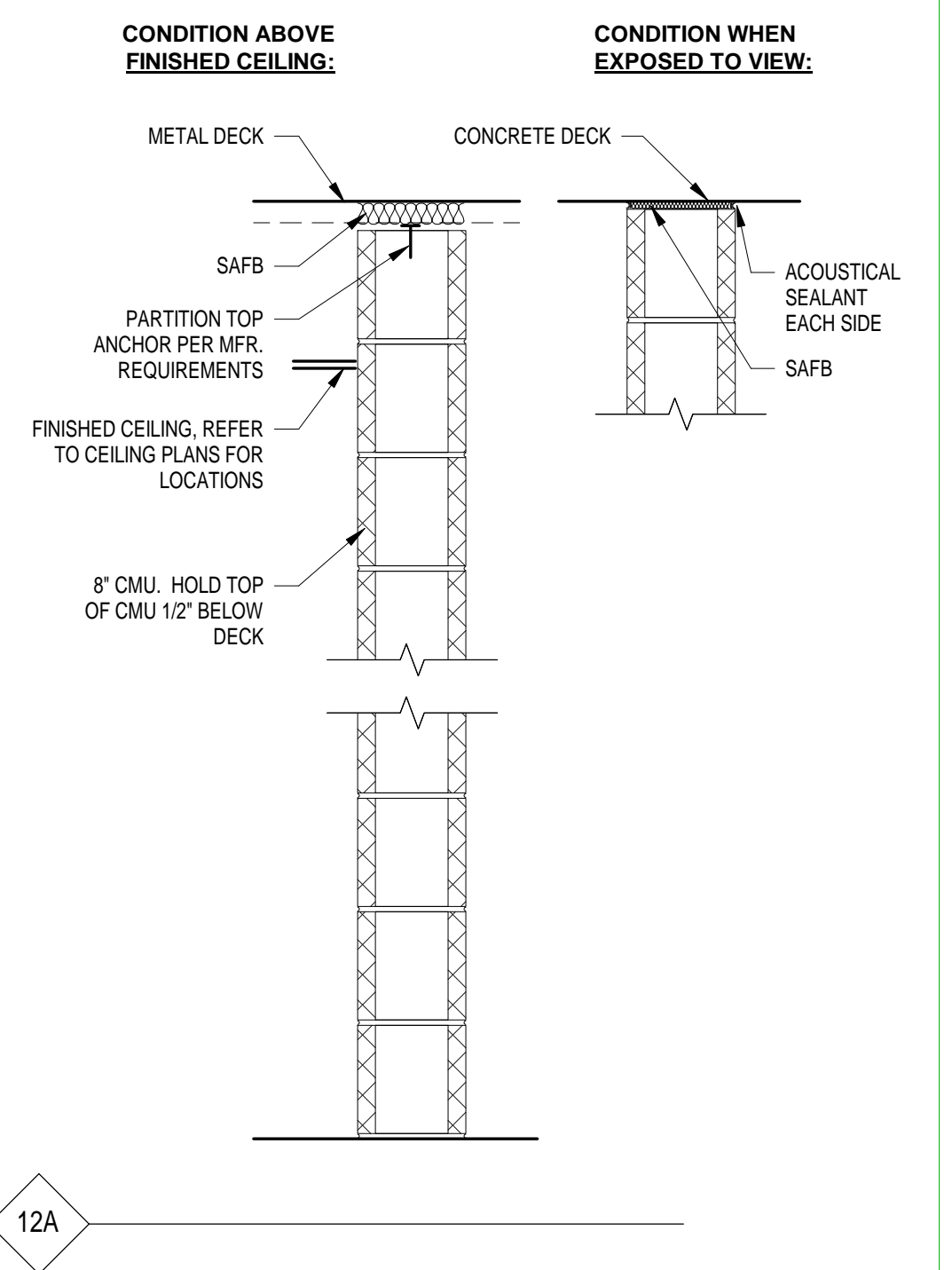
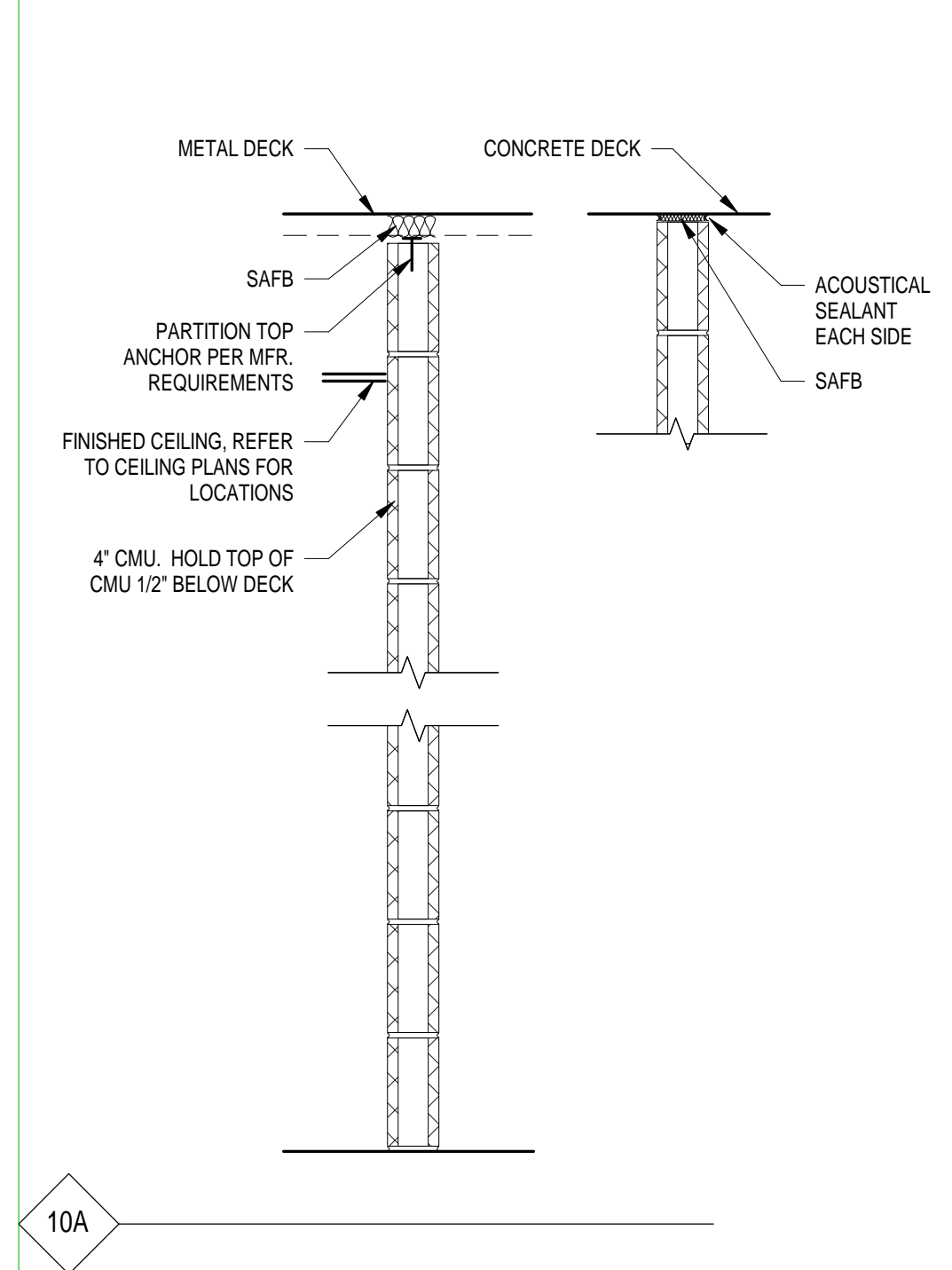
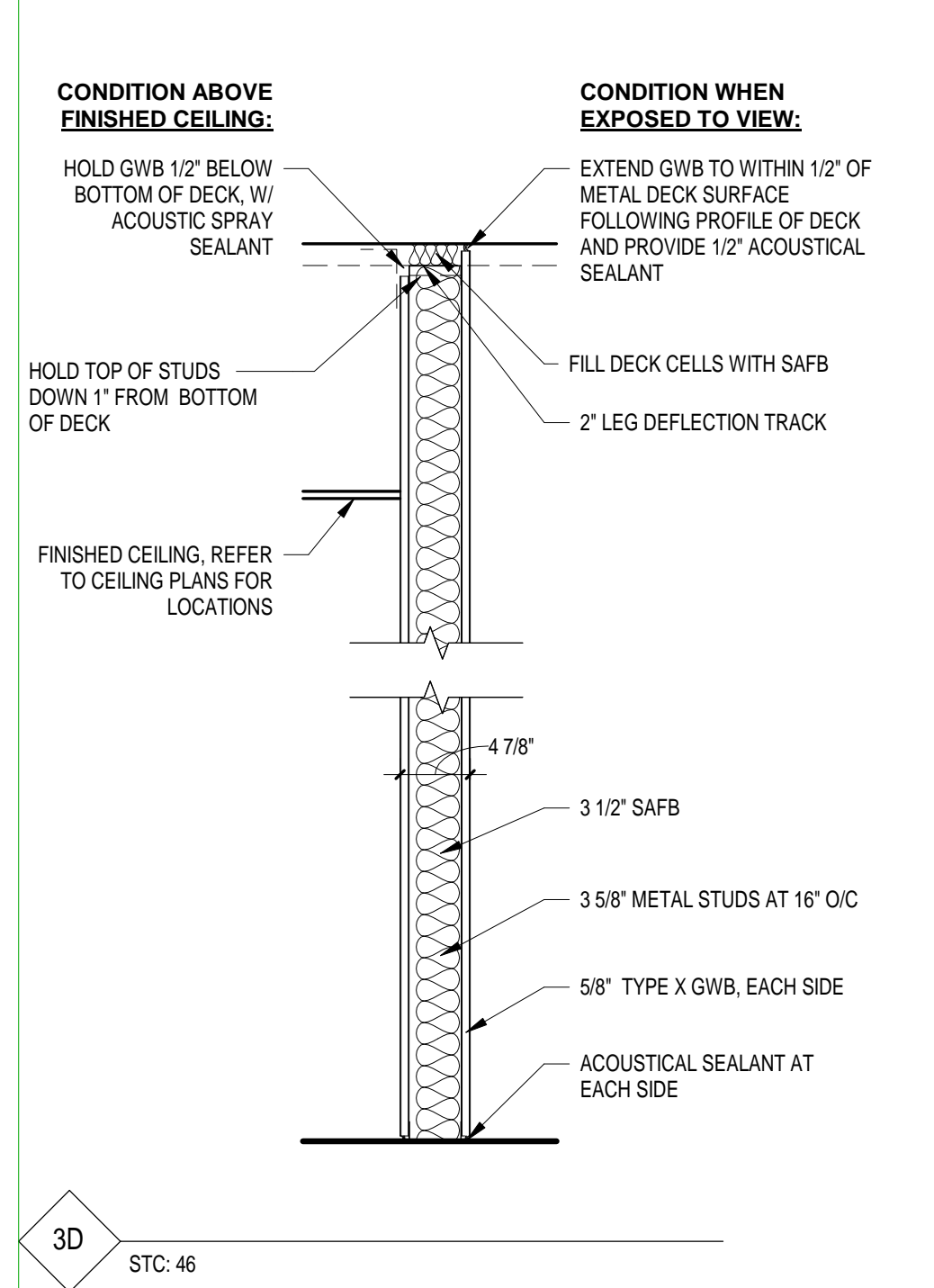
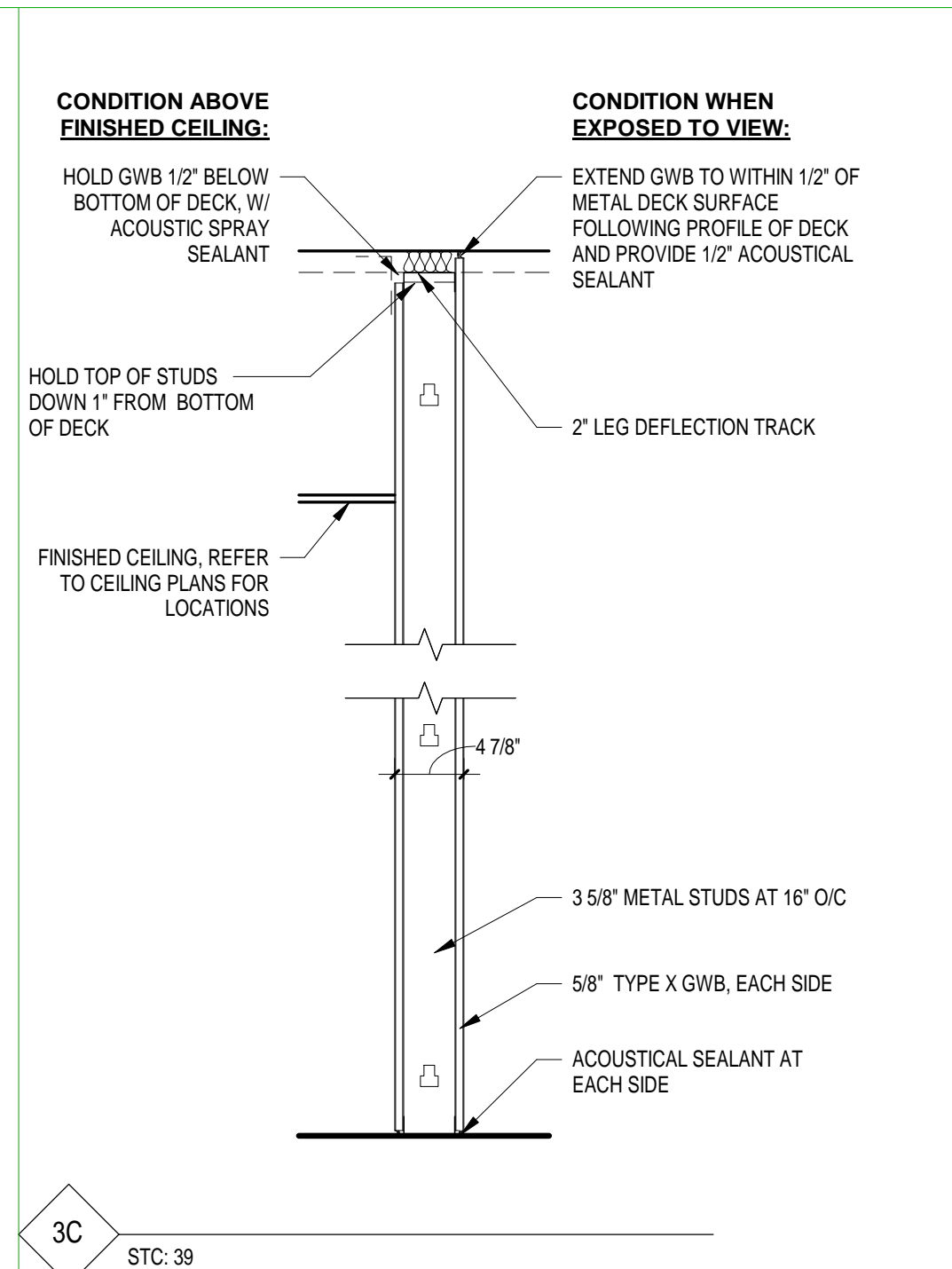
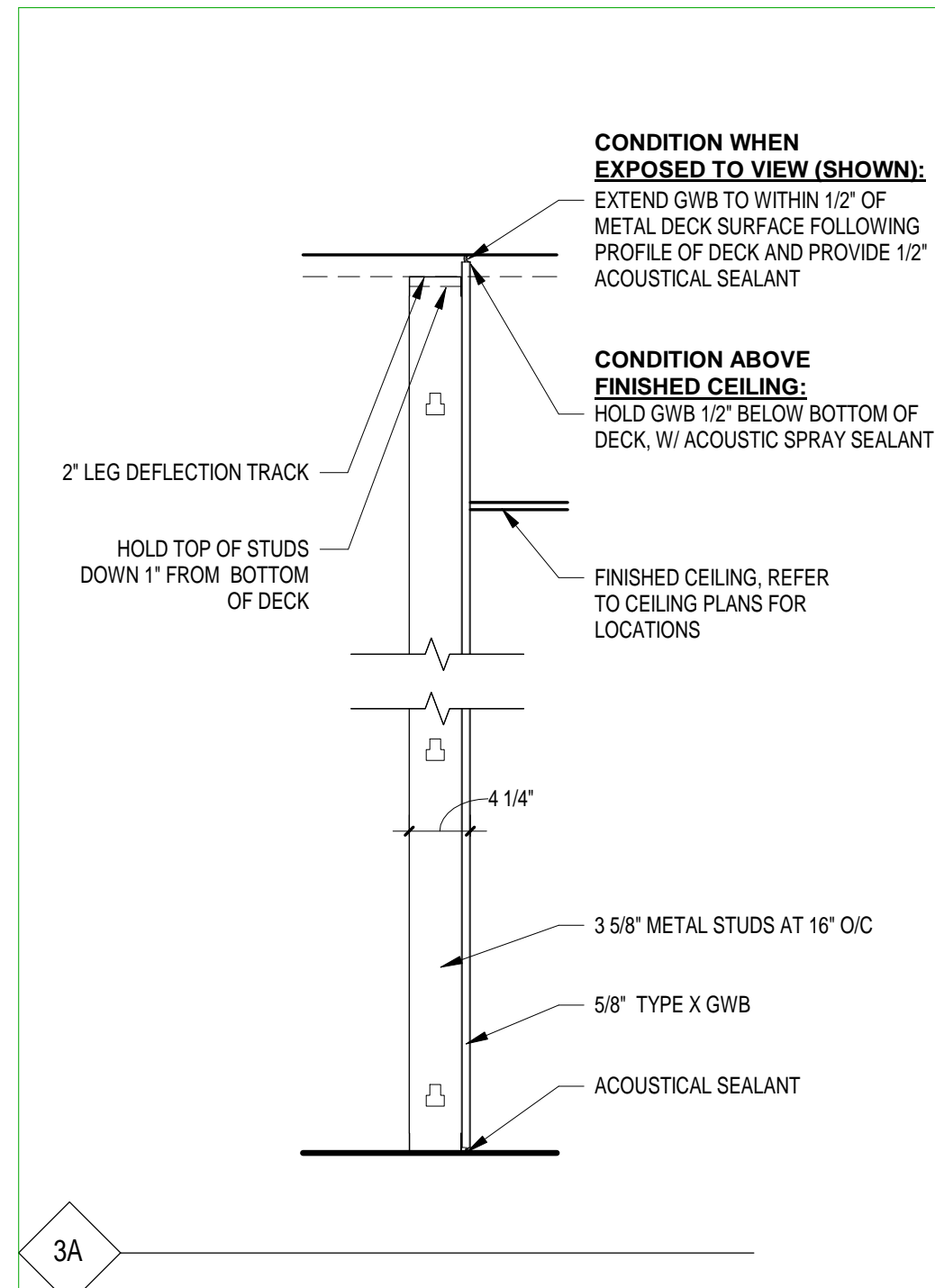
GENERAL ABBREVIATIONS		DOOR AND WINDOW ABBREVIATIONS	
ACWP	Aluminum Composit Wall Panel	ALUM	Aluminum
AD	Access Door	ANOD	Anodized
AF	Above Finish Floor	F	Flush
AHU	Air Handling Unit	FCTRY	Factory
ALUM	Aluminum	FN	Finish
BLDG	Building	FG	Fixed Glass
BO	Bottom Of	G	Glazed
BOD	Bottom Of Deck	GALV	Galvanized
CB	Chalk Board	GHM	Galvanized Hollow Metal
CBB	Cementitious Backer Board	HDWD	Hardwood
CI	Contractor Installed	HG	Half Glazing
CJ	Control Joint	HGT	Height
CL	Center Line	HM	Hollow Metal
CLG	Ceiling	IG	Insulating Glass
CM	Construction Manager	INSUL	Insulated
CMU	Concrete Masonry Unit	LSG	Laminated Safety Glass
CO	Clean Out	MATL	Material
CONC	Concrete	MO	Masonry Opening
CONT	Continuous	MTD	Mounted
CS	Diaper Changing Station	MTL	Metal
DA	Door Actuator	NG	Narrow Glass
DF	Drinking Fountain	NR	Non-Rabbeted
DTL	Detail	OPNG	Opening
DWGS	Drawings	PSG	Paint Semi-Gloss
EFS	Exterior Finish System	RO	Rough Opening
EHD	Electric Hand Dryer	SKV	Stained and Varnished
EIFS	Exterior Insulation and Finish System	SCWD	Solid Core Wood
ELEC	Electrical	SPG	Spandrel Glass
ELEV	Elevation	TG	Tempered Glass
EP	Electrical Panel	WG	Wire Glass
ETR	Existing To Remain		
EXIST	Existing		
EXPJ	Expansion Joint		
EXJT	Fire Extinguisher and Cabinet		
FE	Fire Extinguisher		
FEC	Fire Extinguisher and Cabinet		
FG	Fiberglass Batt		
FIN	Finish		
FLR	Floor		
FO	Face Of		
FRG	Fire Resistive Glazing		
FRP	Fiberglass Reinforced Plastics		
FTG	Footing		
GA	Gauge		
GALV	Galvanized		
GB	Grab Bar		
GC	General Contractor		
GW	Gypsum Wallboard		
HB	Hose Bib		
HDWD	Hardwood		
HORIZ	Horizontal		
HR	Hour		
ID	Inside Diameter		
LG	Light Gauge Metal Framing		
LGHF	Long Leg Horizontal		
LLV	Long Leg Vertical		
LVL	Laminated Veneer Lumber		
MAX	Maximum		
MECH	Mechanical		
MEP	Mechanical (HVAC), Electrical and Plumbing		
MFR	Manufacturer		
MIN	Minimum		
MO	Masonry Opening		
MR	Mirror		
MRGWB	Moisture Resistant Gypsum Wallboard		
MTD	Mounted		
MTL	Metal		
NFHB	Non-Freeze Hose Bib		
NIC	Not In Contact		
NTV	Combination Napkin/Tampon Vendor		
OC	On Center		
OD	Outside Diameter		
OH	Overhead		
OI	Owner Installed		
OP	Owner Provided		
OPP	Opposite Of		
OPNG	Opening		
PAF	Powder Actuated Fastener		
PL	Plat		
PLYWD	Plywood		
PS	Projection Screen		
PT	Pressure Treated		
PTD	Paper Towel Dispenser		
RD	Roof Drain		
RDL	Roof Drain Leader		
RENF	Reinforced/Reinforcing		
REQD	Required		
RH	Robe Hook		
RM	Room		
RO	Rough Opening		
RTU	Roof Top Unit		
SAFB	Sound Attenuating Fiberglass Batt		
SD	Soap Dispenser		
SF	Square Feet		
SFRM	Sprayed Fire-Resistive Material		
SHWR	Shower		
SIM	Similar to		
SL	Slate		
SND	Sanitary Napkin Dispenser		
SP	Storm Pipe		
SQ	Square		
SRD	Secondary Roof Drain		
STL	Steel		
SV	Sanitary Vent		
TB	Tack Board		
TO	Top Of		
TPD	Toilet Paper Dispenser		
TYP	Typical		
UNO	Unless Noted Otherwise		
VAR	Varies		
VERT	Vertical		
VIF	Verify In Field		
VTR	Vent Thru Roof		
WB	White Board		
WC	Water Cooler		
WD	Wood		
WR	Waste Receptacle		
WS	Window Shade		
WWF	Welded Wire Fabric		

SYMBOLS LEGEND

	A-101	BUILDING ELEVATION CALLOUT
	CW22	CURTAIN WALL ELEVATION CALLOUT
	A-101	INTERIOR ELEVATION CALLOUT
	A-101	BUILDING SECTION CALLOUT
	A-101	WALL SECTION CALLOUT
	A-101	DETAIL CALLOUT
	101	DOOR TAG
	ST01	WINDOW TAG; INTERIOR & EXTERIOR
	16A	WALL TAG
	1	REVISION
	145	KEY NOTE
	A	STRUCTURAL GRID LINE
	101	ROOM TAG
	Name Elevation	LEVEL / ELEVATION TAG
		ELEVATION MARK
		CONSTRUCTION ABOVE
		CONSTRUCTION BELOW

PARTITION TYPE NOTES:

- PROVIDE MOISTURE RESISTANT GYPSUM WALL BOARD (MRGWB) AT WALLS TO RECEIVE ALL TYPES OF TILE.
- REFER TO STRUCTURAL DRAWINGS FOR SUPPORT AT TOP OF ELEVATOR CMU PARTITIONS.
- REFER TO STRUCTURAL DRAWINGS FOR EXTERIOR WALL FRAMING REQUIREMENTS.
- PROVIDE FIRE STOPPING TO MAINTAIN UL DESIGNS FOR ALL PENETRATIONS AND TOP OF WALL CONDITIONS AT FIRE RATED PARTITIONS.
- PROVIDE ACOUSTICAL SEALANT AT ALL PENETRATIONS IN PARTITIONS THAT EXTEND TO UNDERSIDE OF DECK. EXCLUDE ACOUSTICAL SEALANT AT FIRE RATED PARTITIONS.
- PROVIDE BLOCKING FOR ALL ACCESSORIES, EQUIPMENT, FIXTURES, CASEWORK, AND FINISH CARPENTRY AND WHERE INDICATED INCLUDING OWNER PROVIDED/INSTALLED ITEMS. REFER TO SPECIFICATIONS.
- PROVIDE KICKERS TO STRUCTURE AT WALL OPENINGS FOUR FEET AND GREATER IN WIDTH OR WHEN DUCTWORK OPENINGS OCCUR ABOVE DOOR FRAMES.
- PROVIDE GWB CONTROL JOINTS EVERY 30' AND AS INDICATED ON DRAWINGS.



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ABBREVIATIONS,
SYMBOLS, &
PARTITION TYPES

A-001



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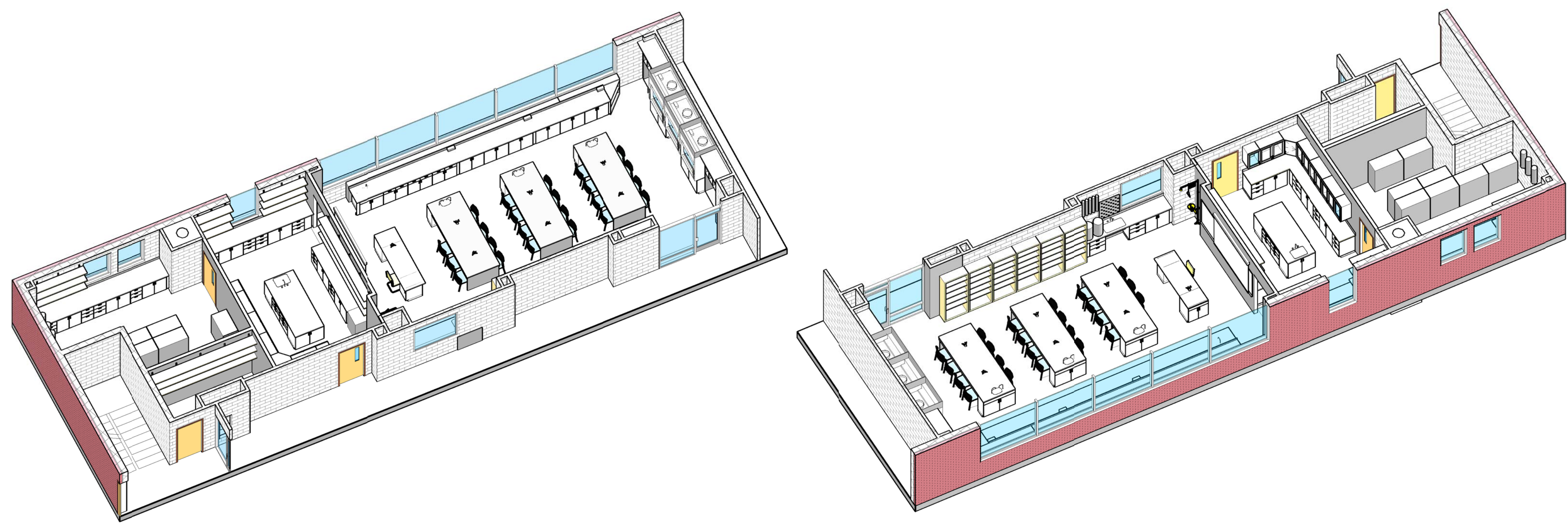
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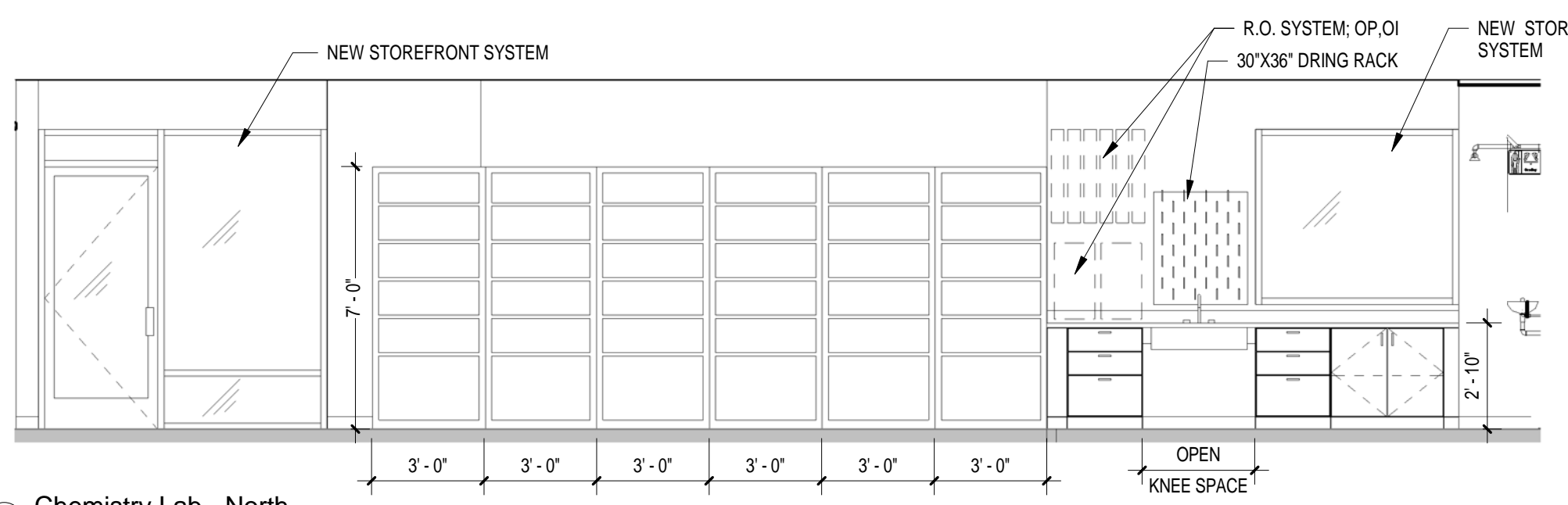
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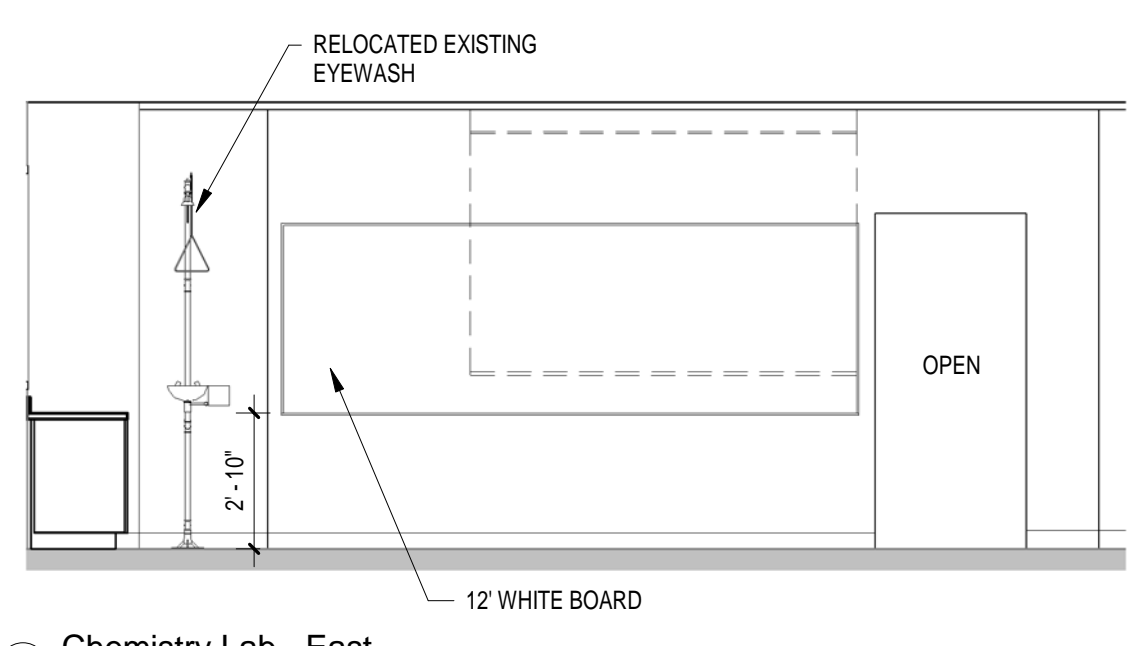


2 Chemistry 3D - South & West

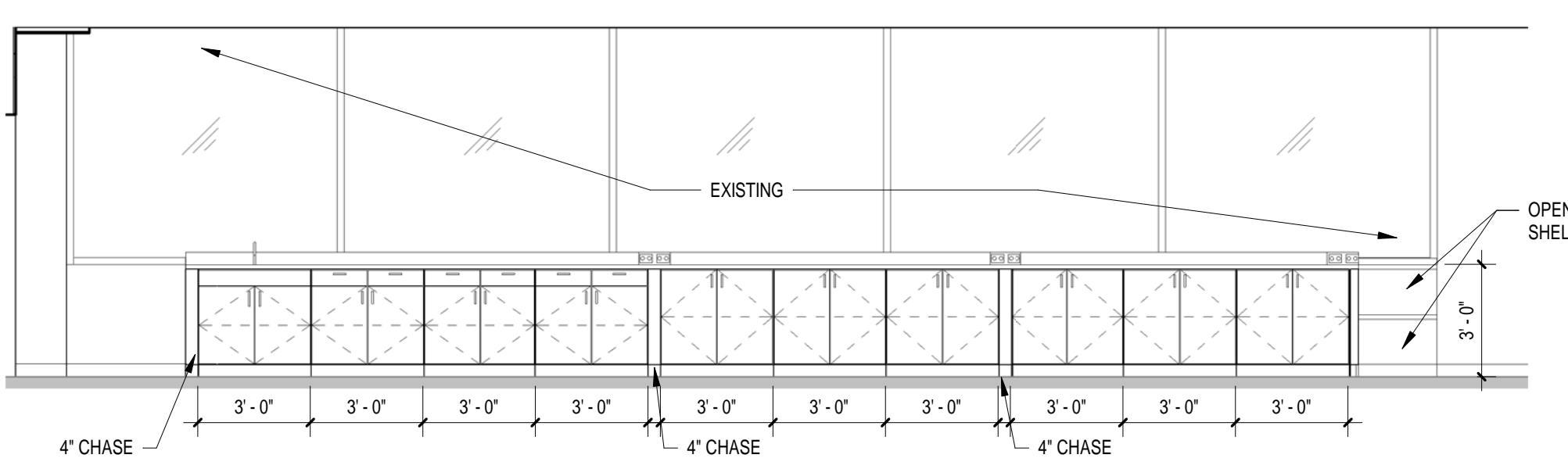
3 Chemistry 3D - North & East



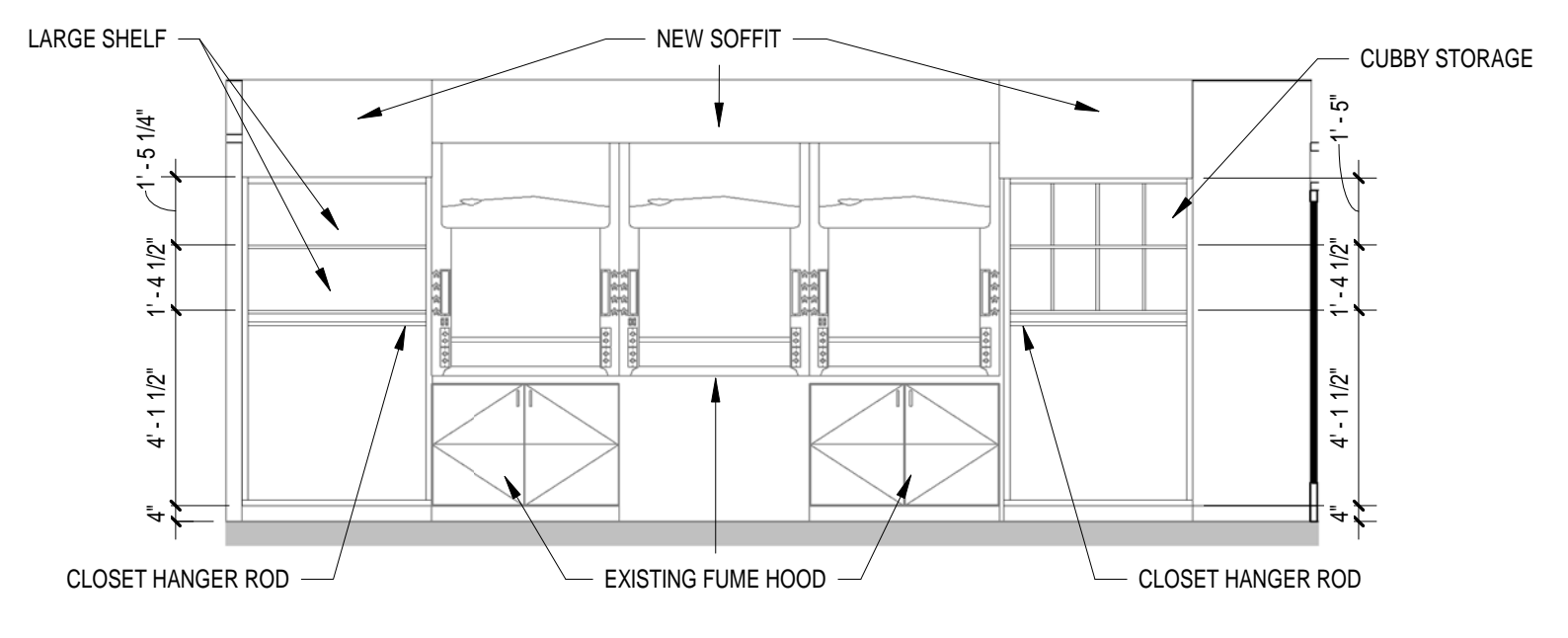
4 Chemistry Lab - North
1/4" = 1'-0"



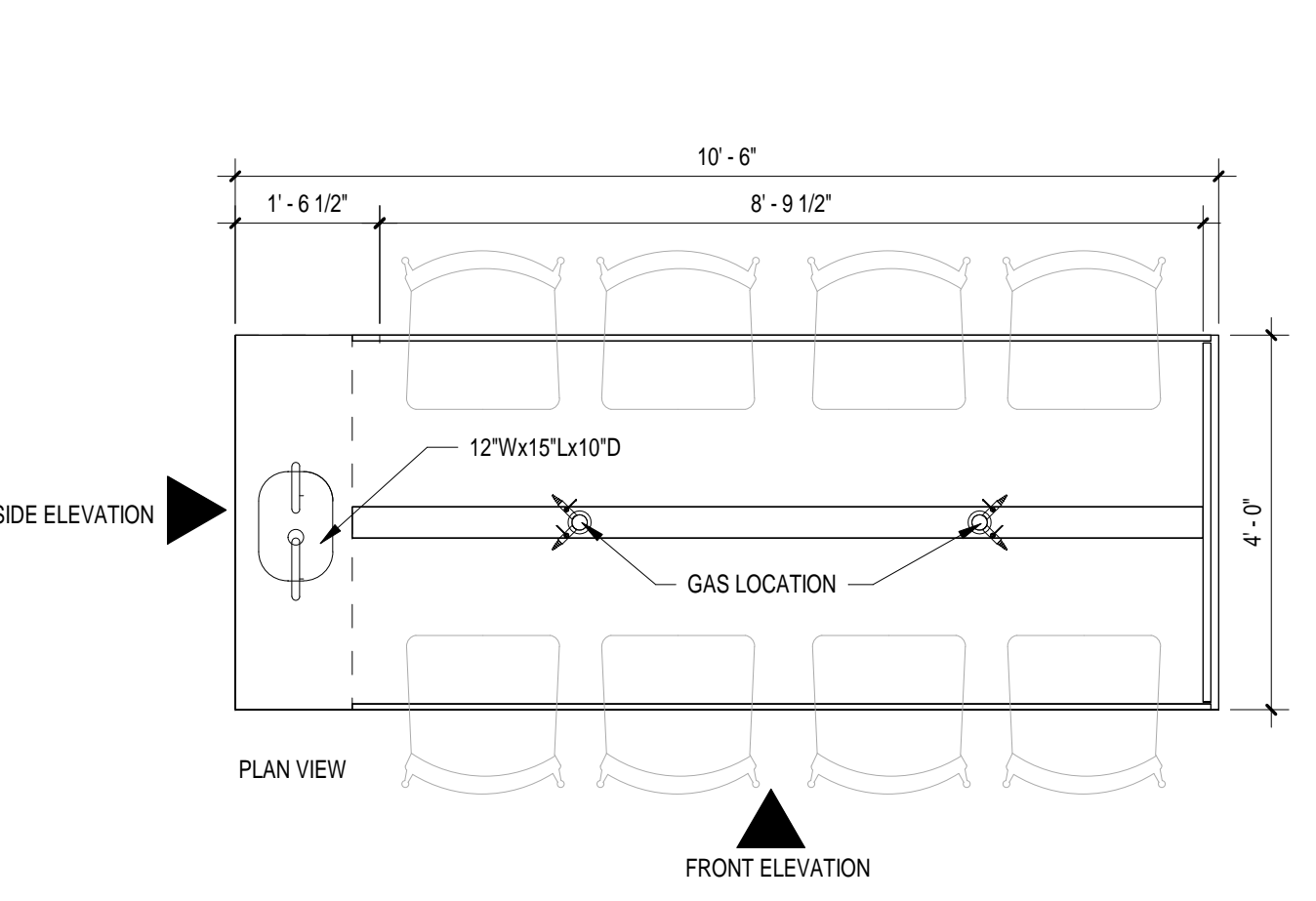
5 Chemistry Lab - East
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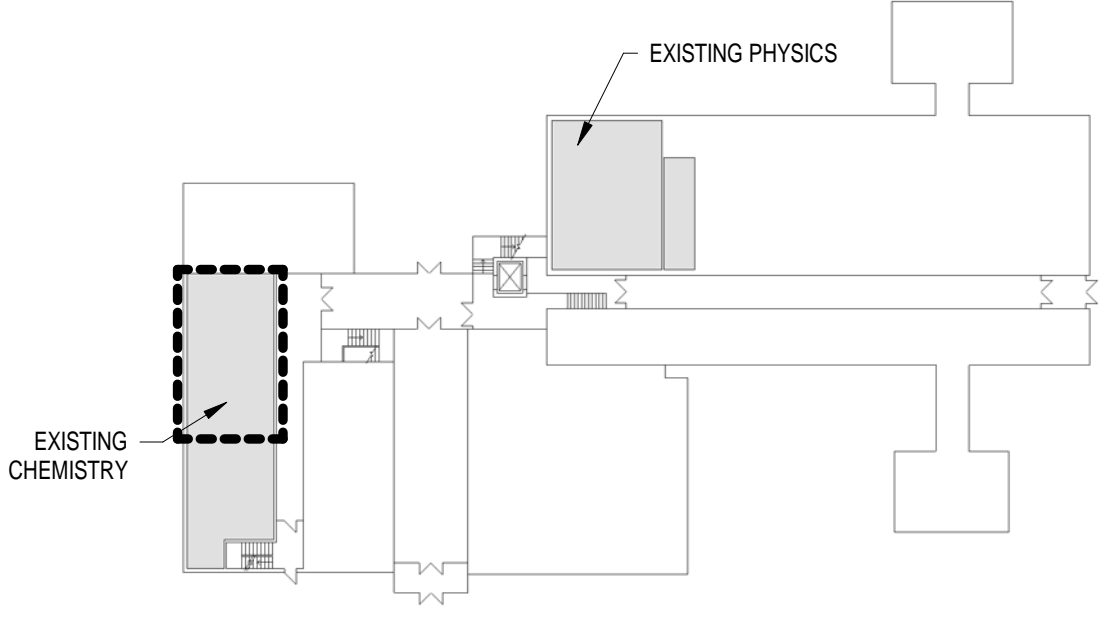
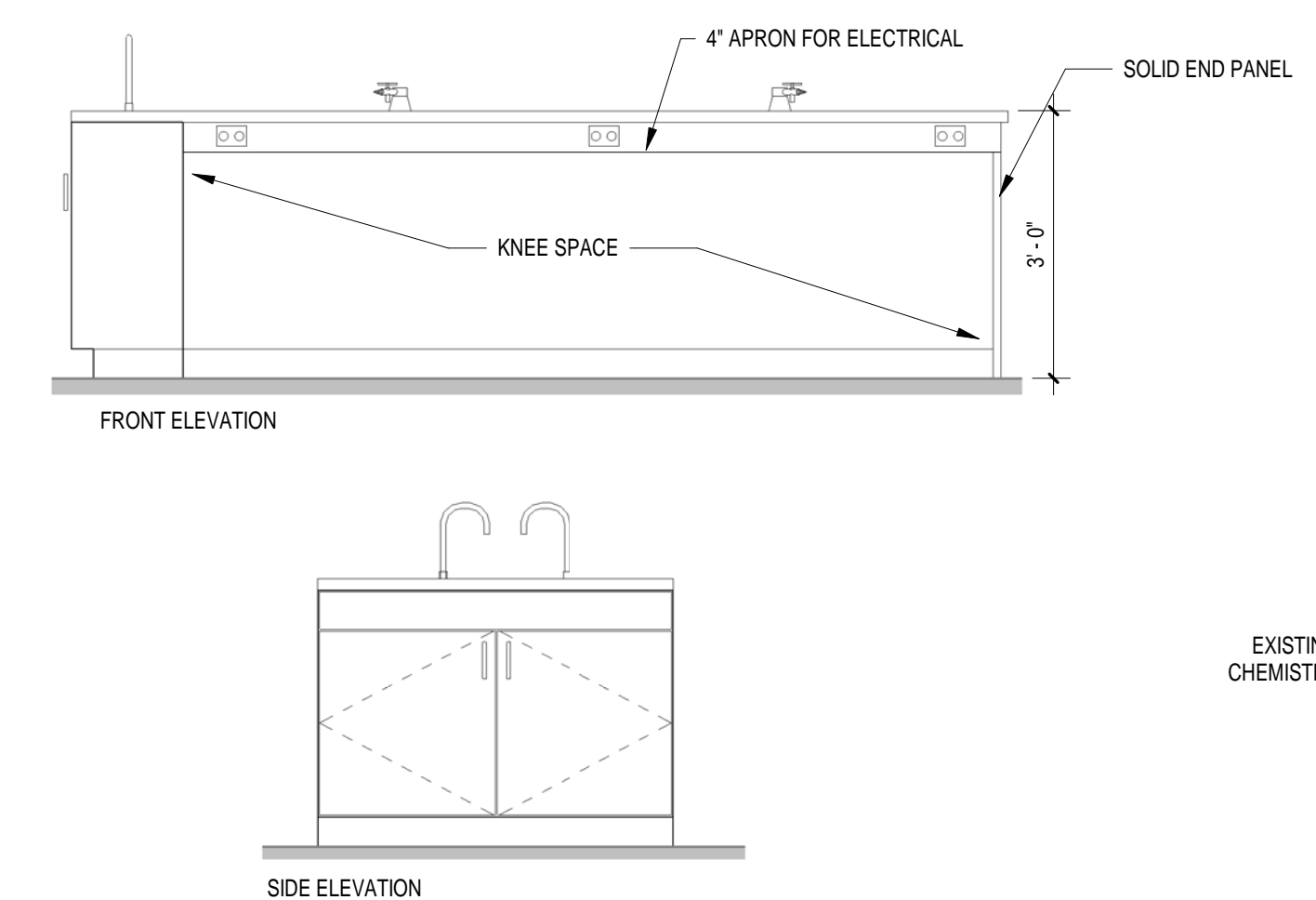
6 Chemistry Lab - South
1/4" = 1'-0"



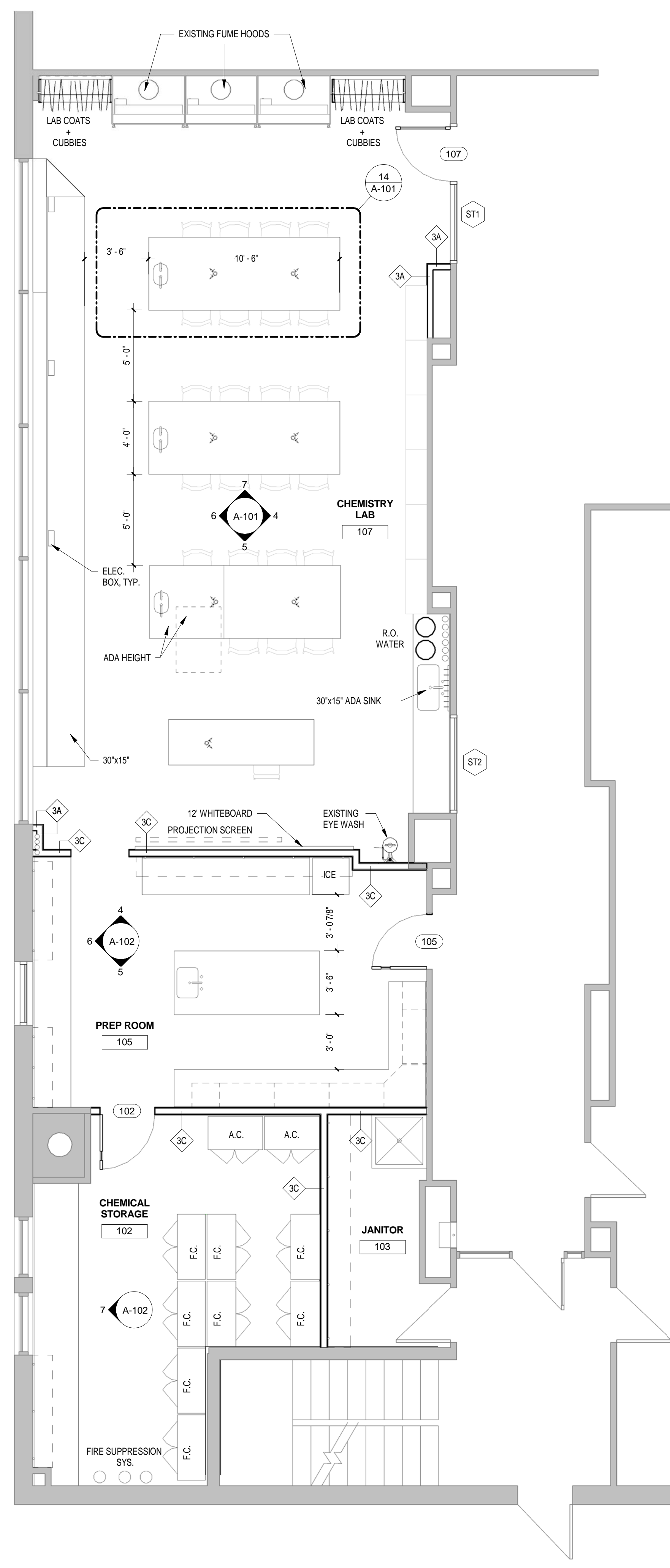
7 Chemistry Lab - West
1/4" = 1'-0"



14 Chemistry Lab - Student Station
1/2" = 1'-0"



KEY PLAN
GROUND FLOOR



1 Ground Level - Chemistry Lab
1/4" = 1'-0"

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GROUND LEVEL -
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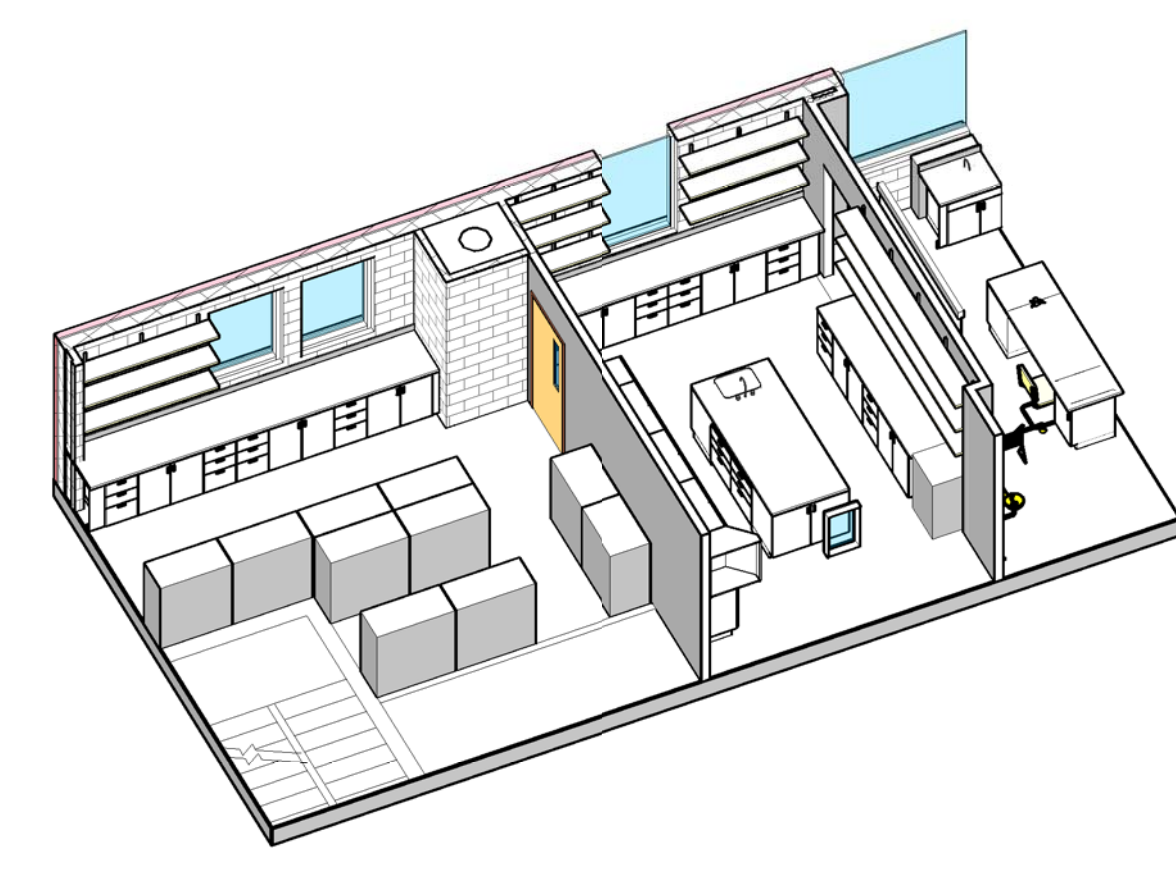
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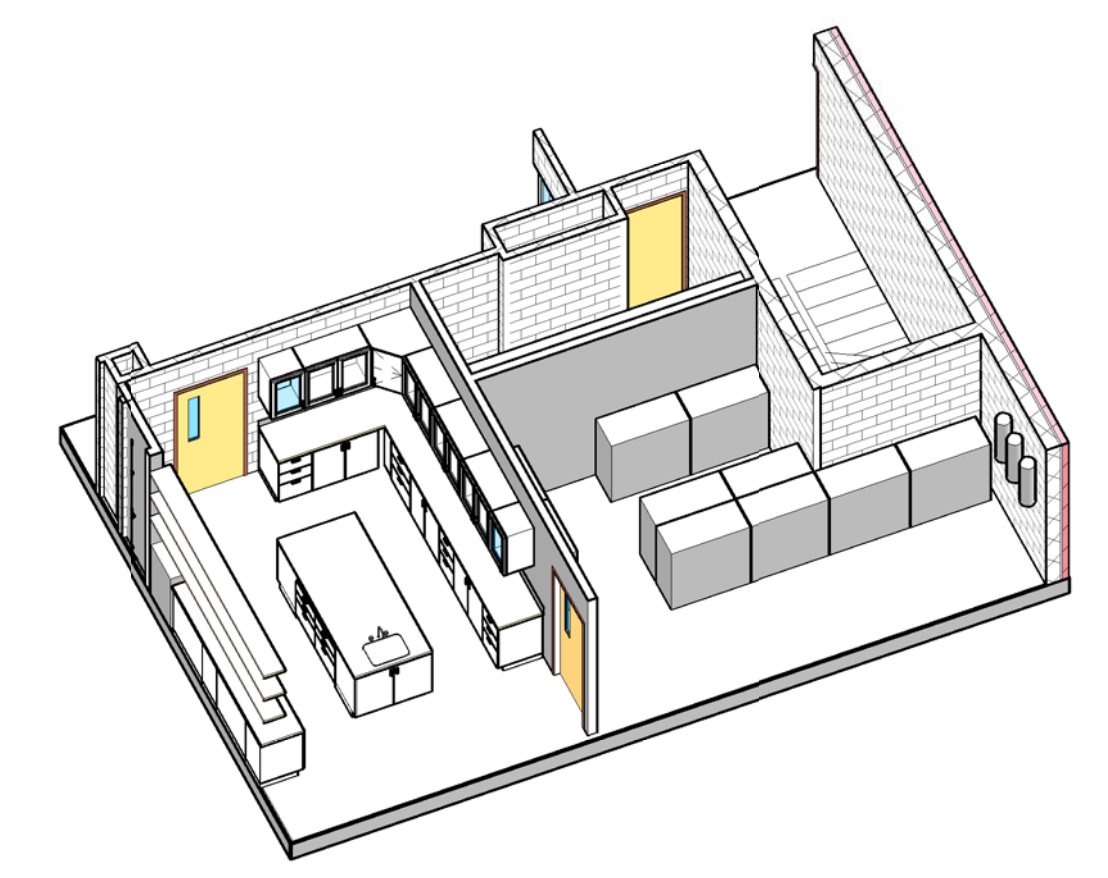
tel. 518-793-0786
fax. 518-793-1735
JMZarchitects.com

M.E.P. Engineer:
Huston Engineering, LLC
251 River Street, Suite 201
Troy, New York 12810

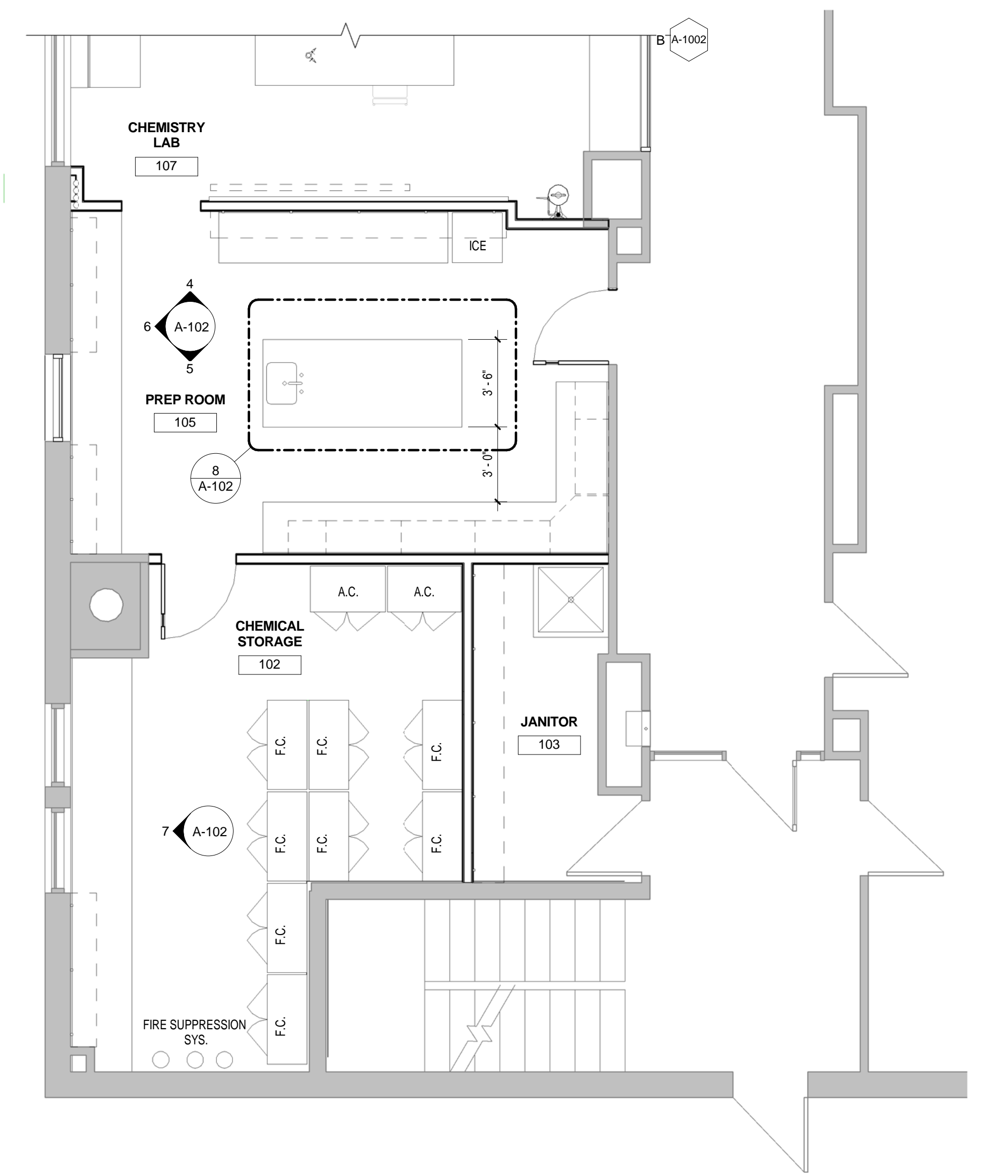
tel. 518-326-0369
fax. 518-326-0474
hustonengineering.com



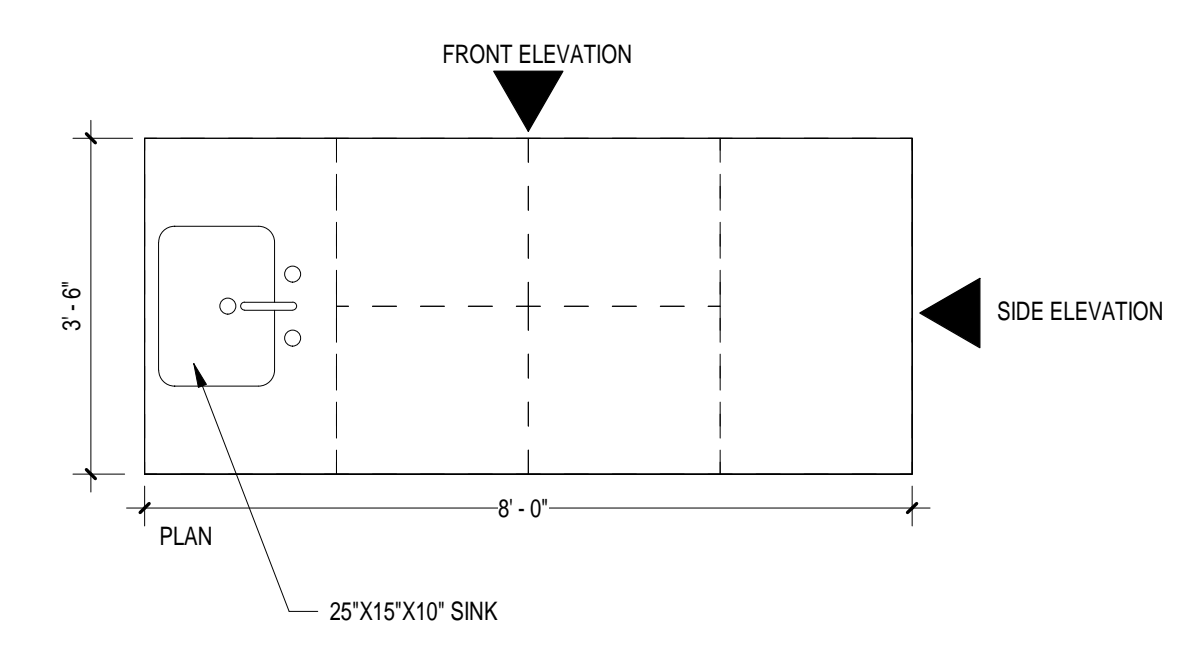
3 Chemistry 3D Prep - South & West



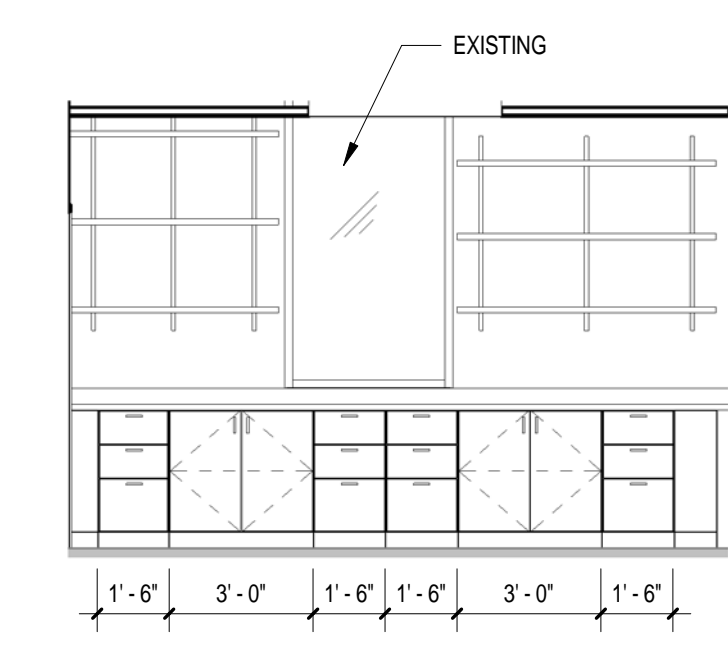
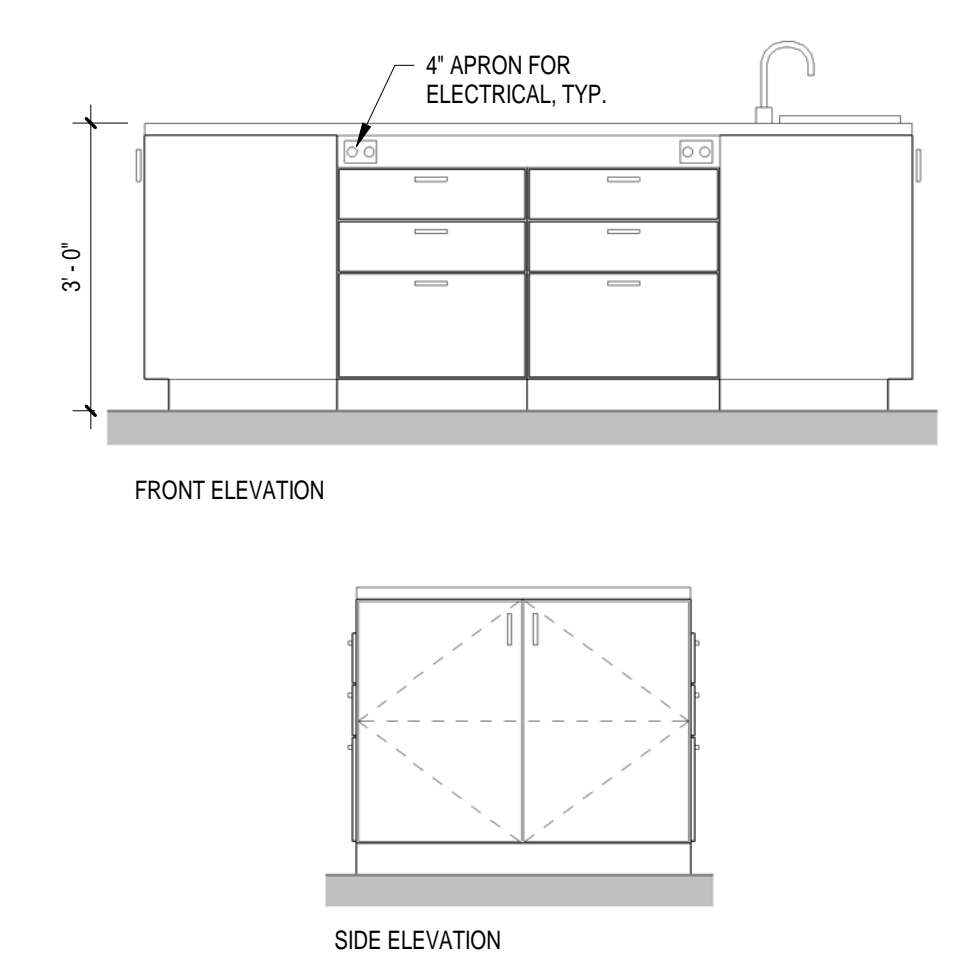
2 Chemistry 3D - Prep North & East



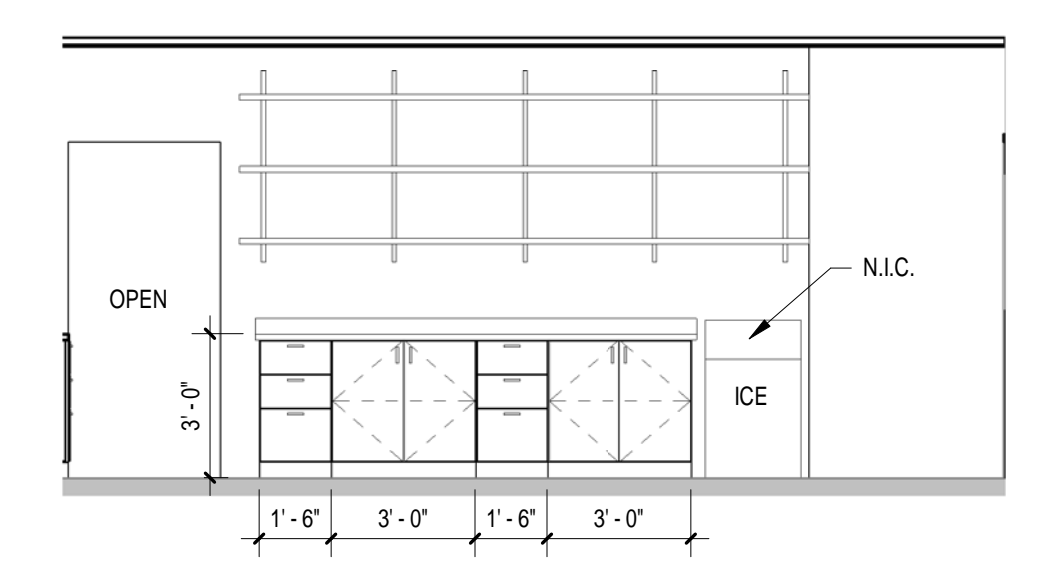
1 Chemistry Prep & Chemical Storage
1/4" = 1'-0"



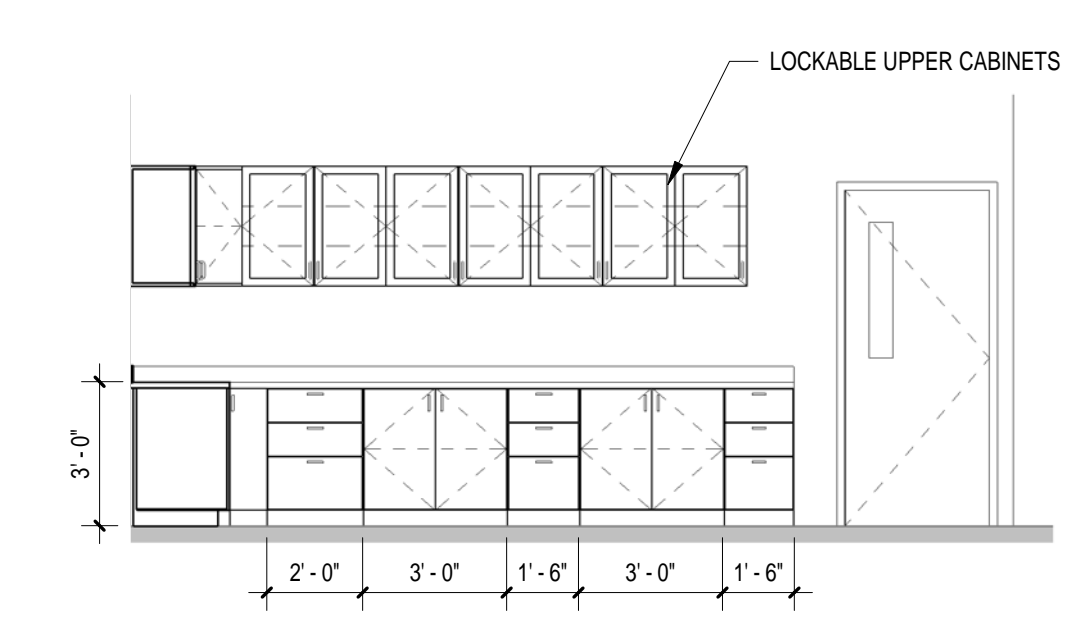
8 Chemistry Prep - Island Station
1/2" = 1'-0"



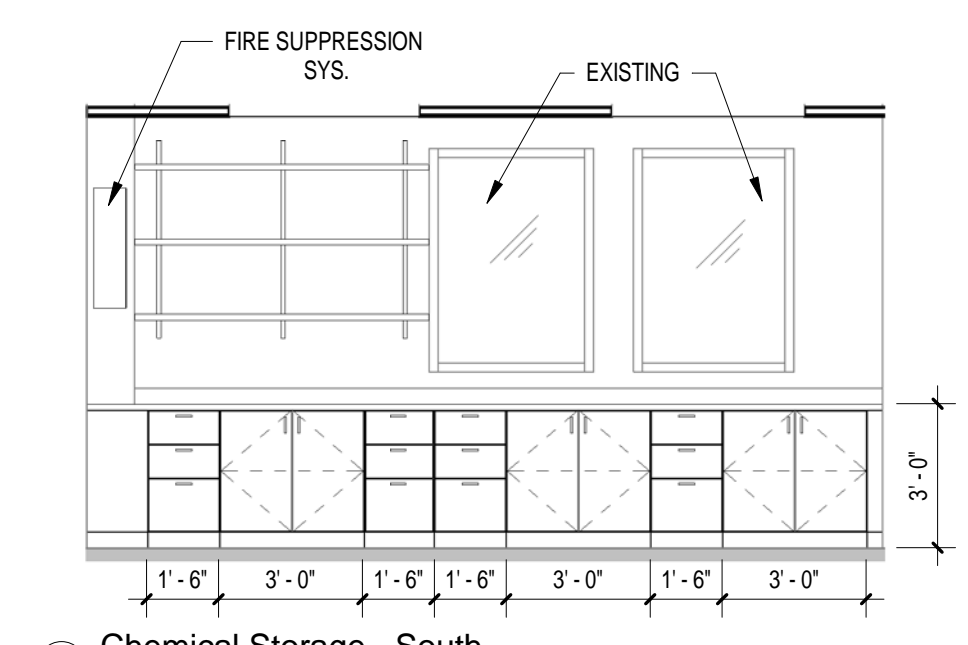
6 Chemistry Prep - South
1/4" = 1'-0"



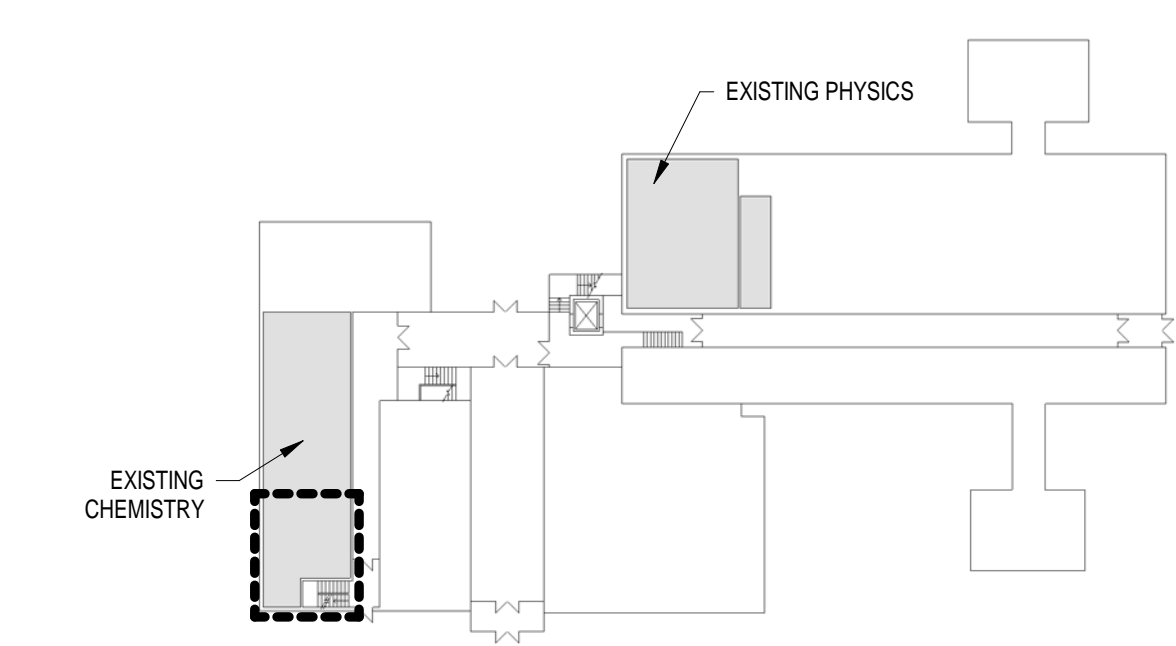
4 Chemistry Prep - West
1/4" = 1'-0"



5 Chemistry Prep - East
1/4" = 1'-0"



7 Chemical Storage - South
1/4" = 1'-0"



KEY PLAN
GROUND FLOOR

Revisions		
No.	Description	Date

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GROUND LEVEL
CHEMISTRY PREP
& CHEMICAL
STORAGE

A-102



Project
Castleton State College

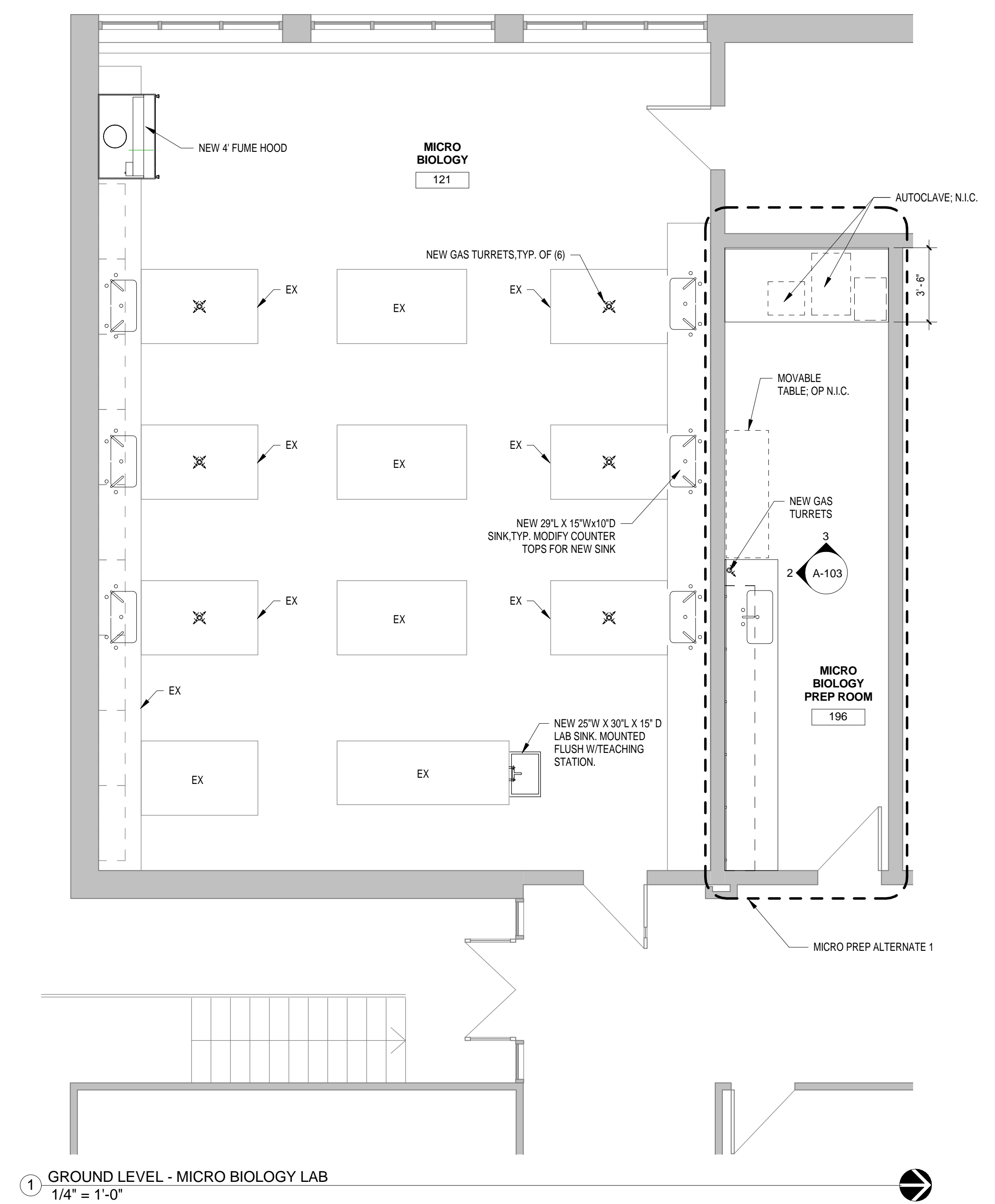
Jeffords Science Center
Lab Renovation

Enter address here

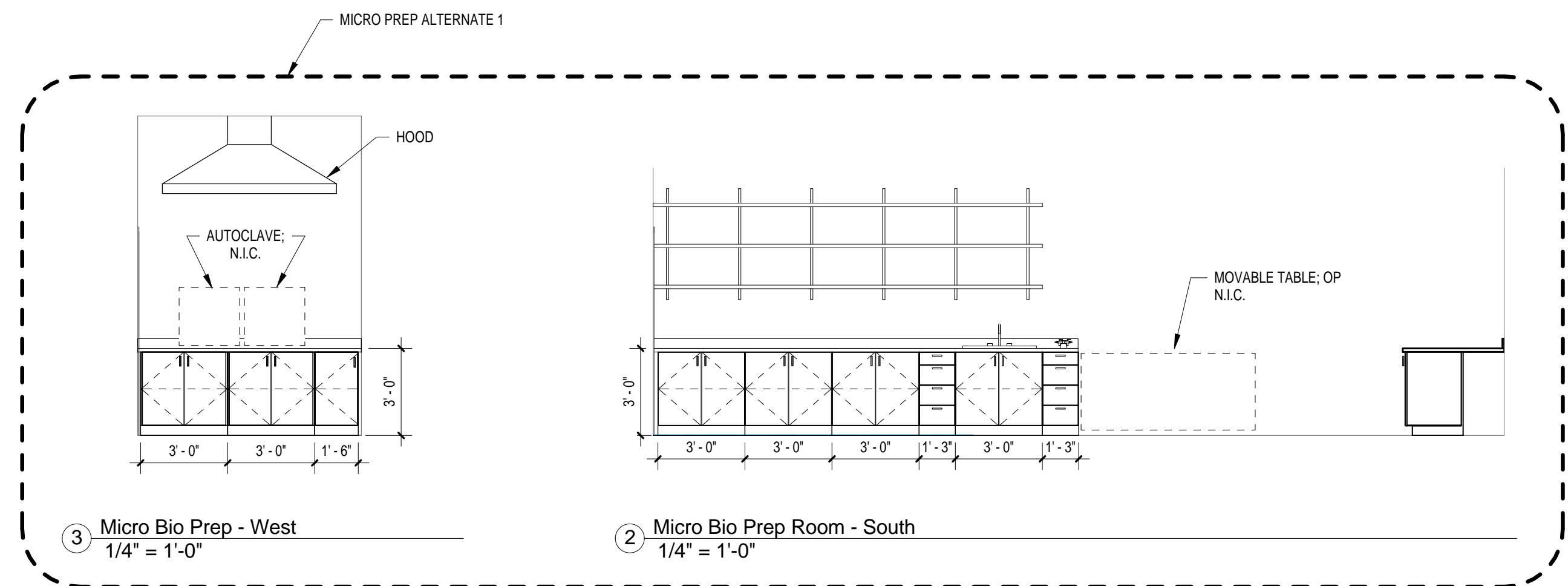
Architect:
JMZ Architects and Planners, P.C.

190 Glen Street
P.O. Box 725
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tel. 518-793-0786
fax. 518-793-1735
JMZarchitects.com

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Troy, New York 12810
tel. 518-326-0369
fax. 518-326-0474
hustonengineering.com

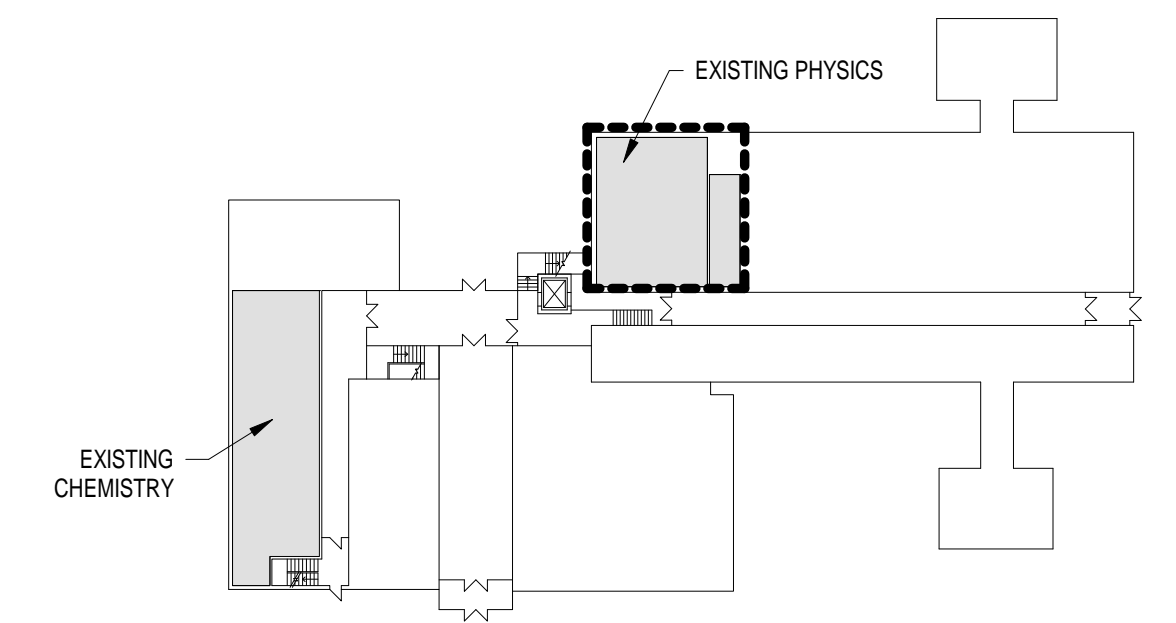


1 GROUND LEVEL - MICRO BIOLOGY LAB
1/4" = 1'-0"



3 Micro Bio Prep - West
1/4" = 1'-0"

2 Micro Bio Prep Room - South
1/4" = 1'-0"



KEY PLAN
GROUND FLOOR

Revisions		
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GROUND LEVEL -
MICRO
BIOLOGY LAB

A-103



Project
Castleton State College

Jeffords Science Center
Lab Renovation

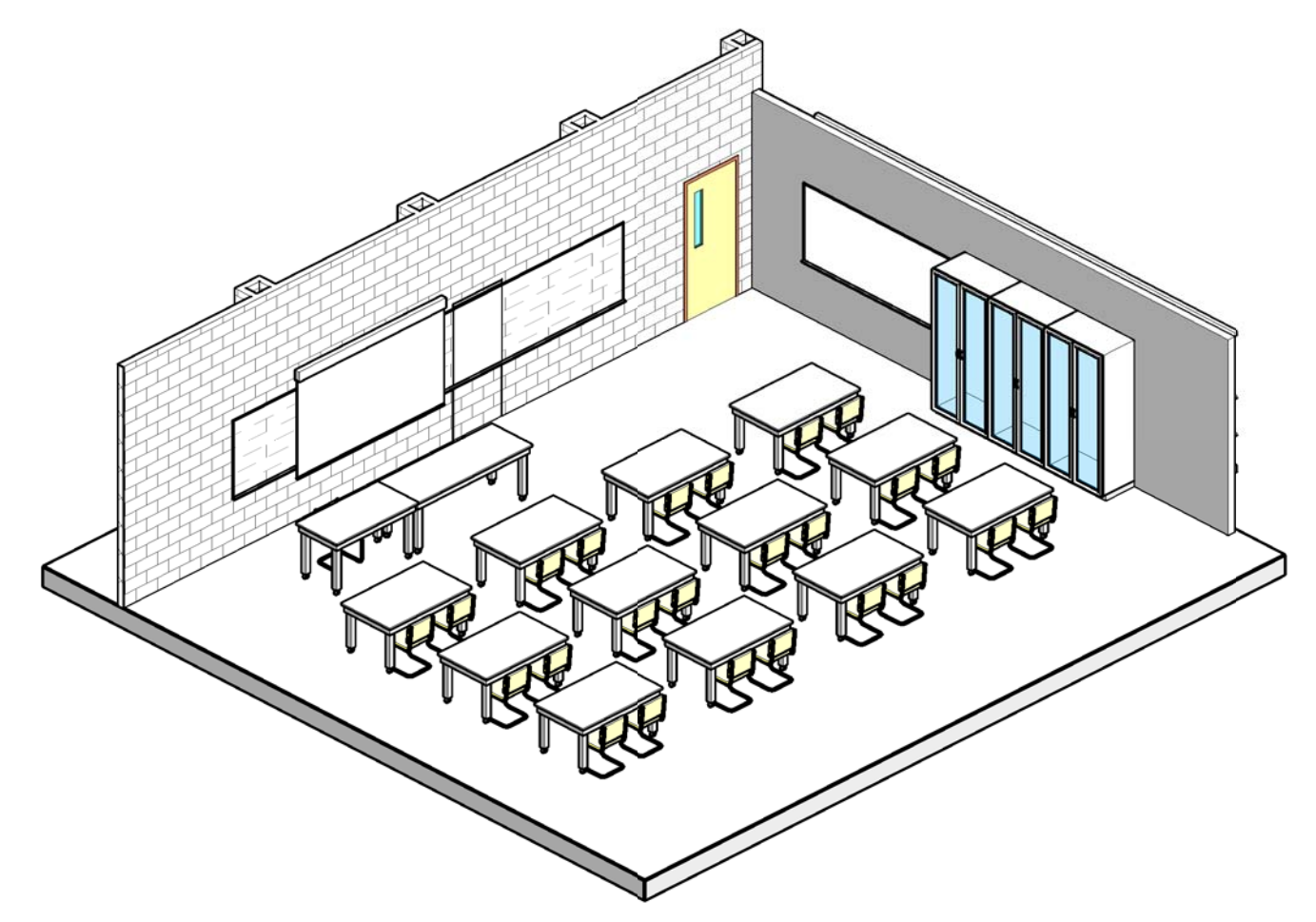
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Architect:
JMZ Architects and
Planners, P.C.

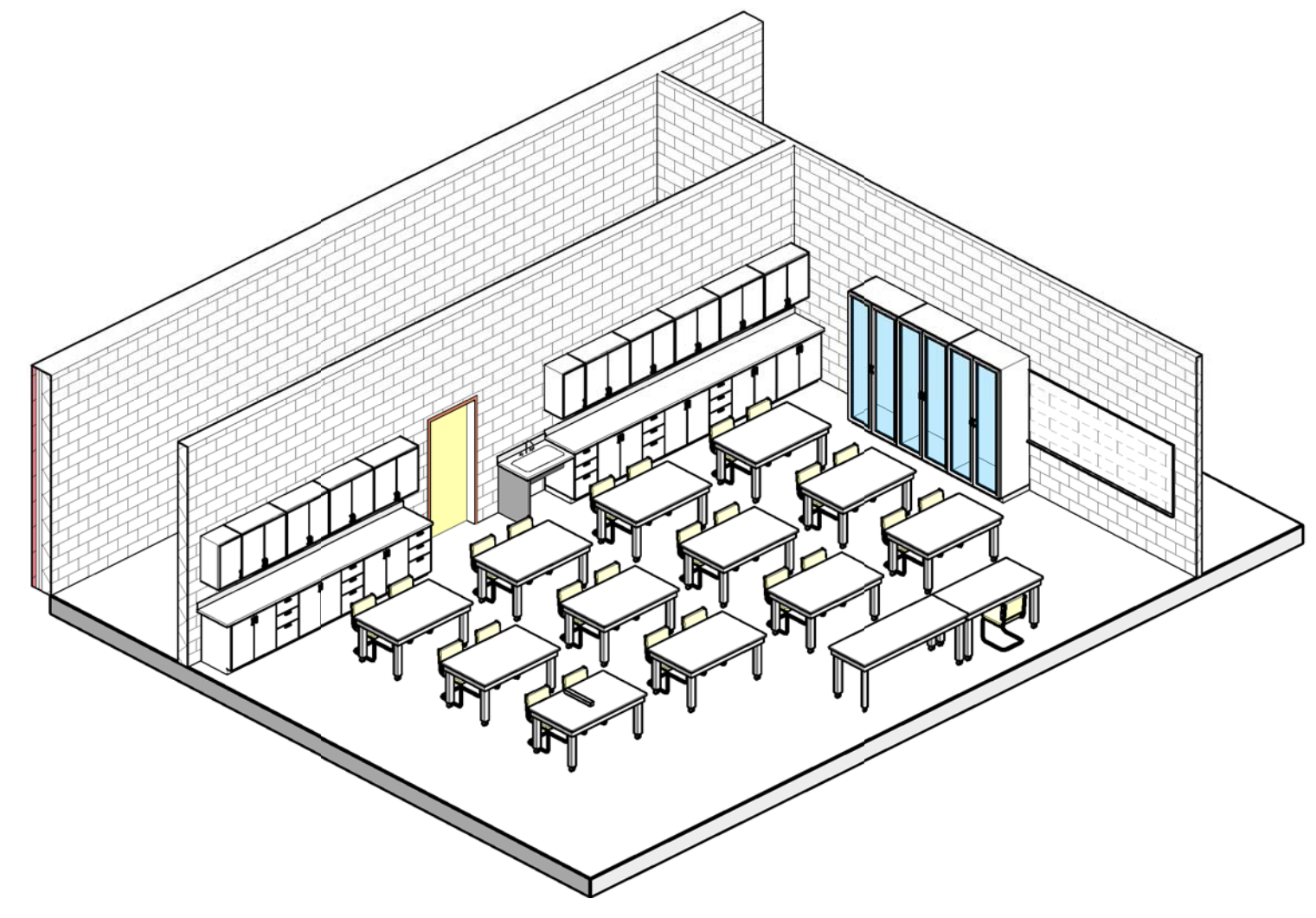
190 Glen Street
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tel. 518-793-0786
fax. 518-793-1735
JMZarchitects.com

M.E.P. Engineer:
Huston Engineering, LLC
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Troy, New York 12810

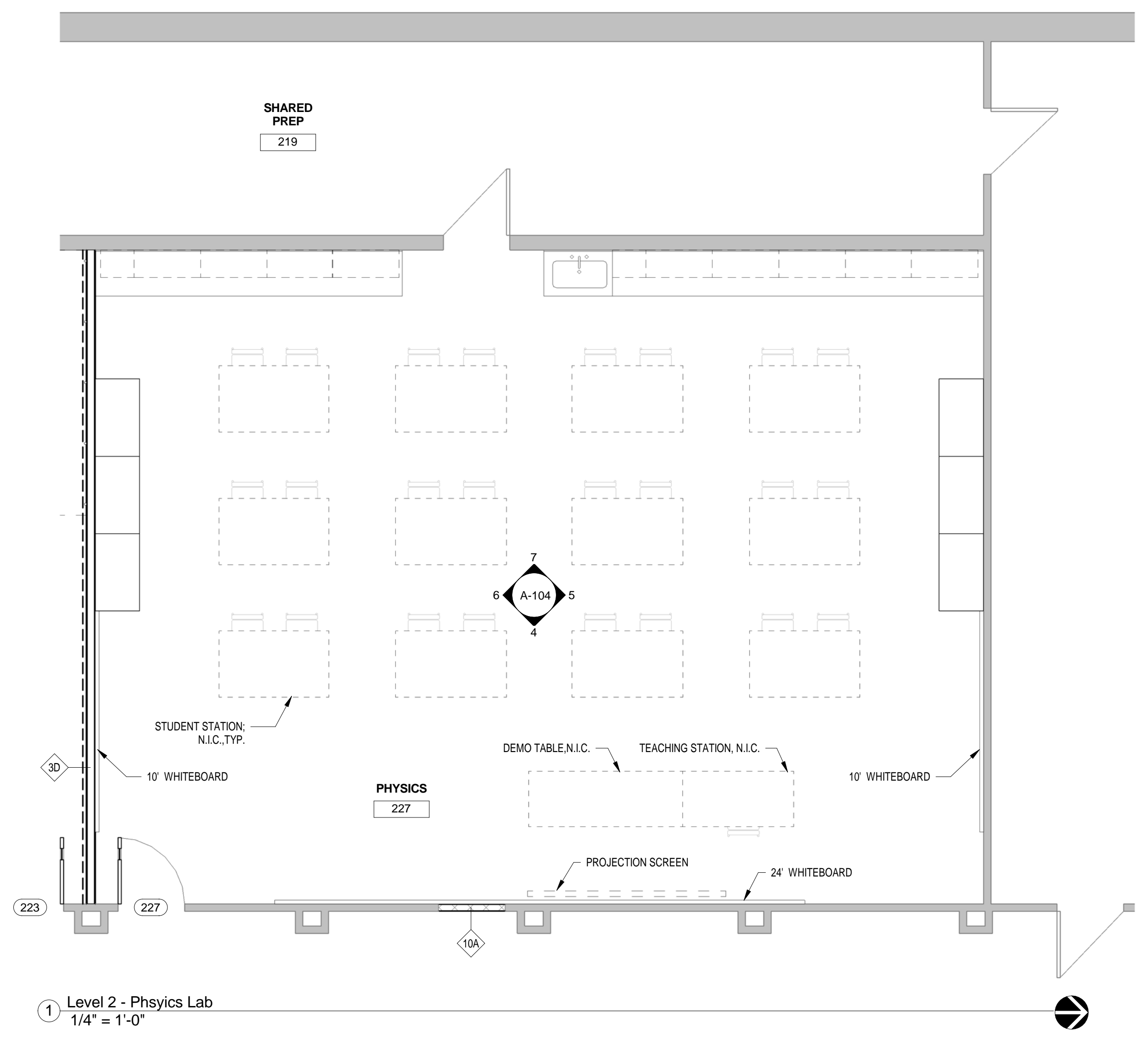
tel. 518-326-0369
fax. 518-326-0474
hustonengineering.com



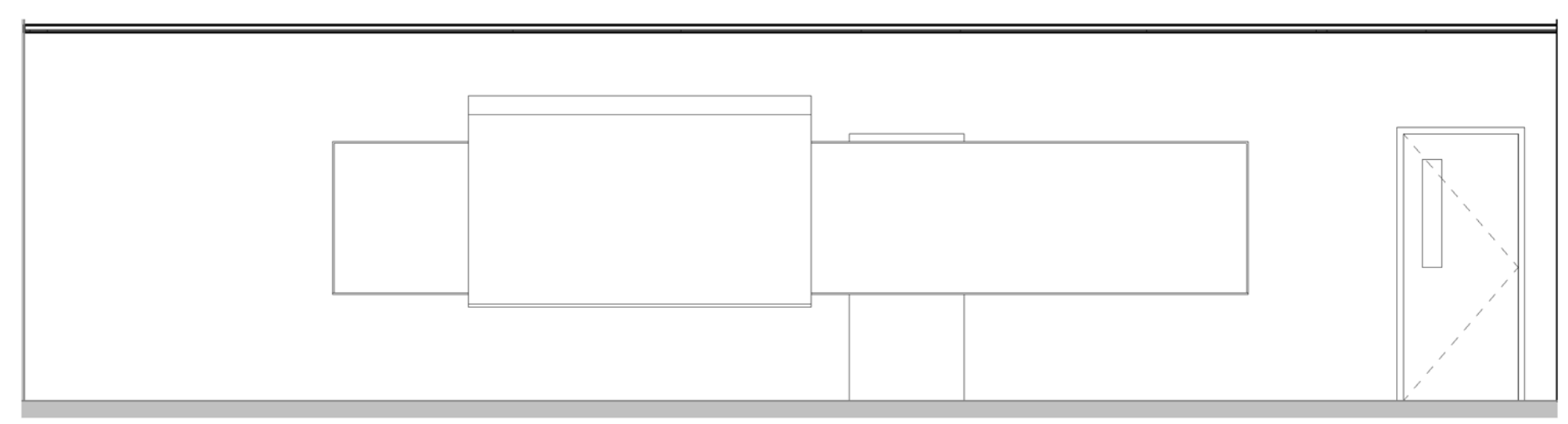
③ Physics 3D - South & East



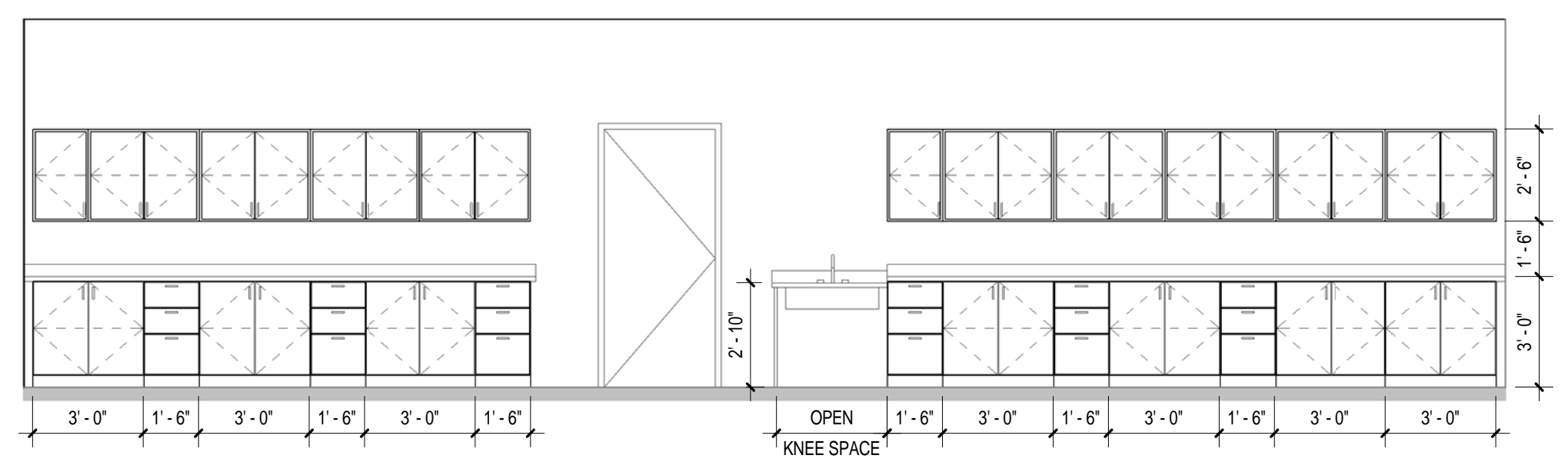
② Physics 3D - North & West



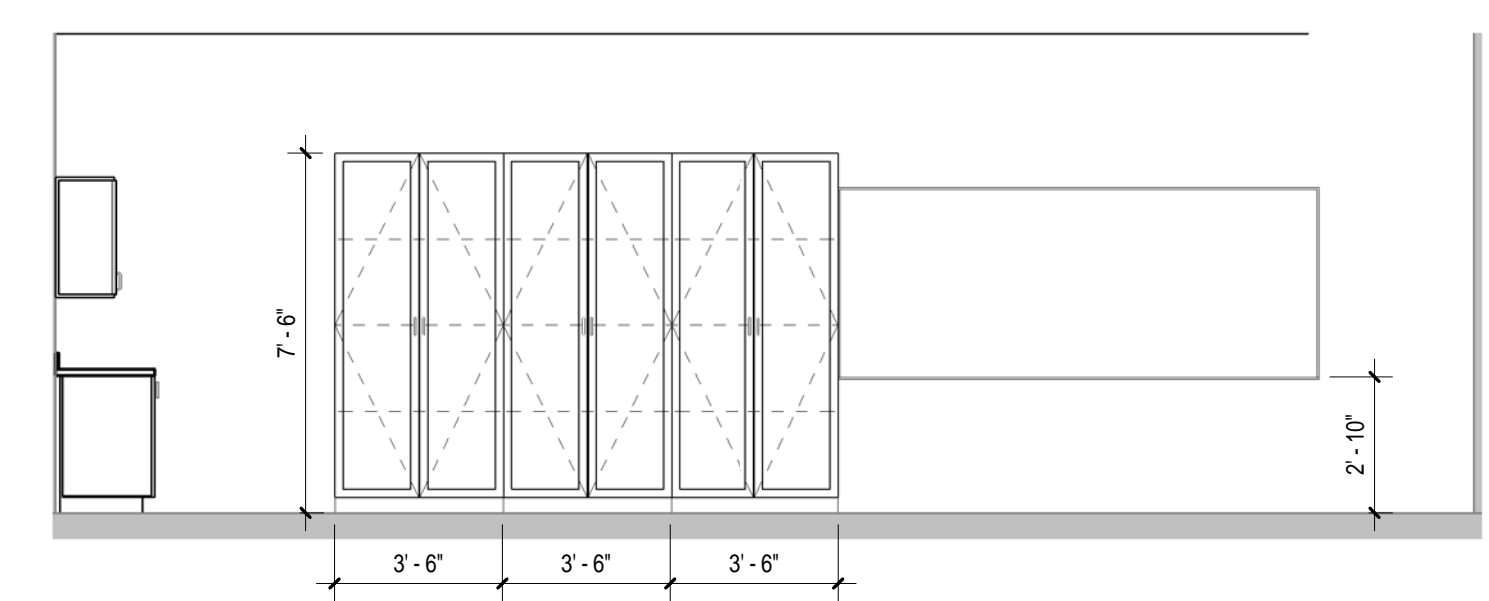
① Level 2 - Physics Lab
1/4" = 1'-0"



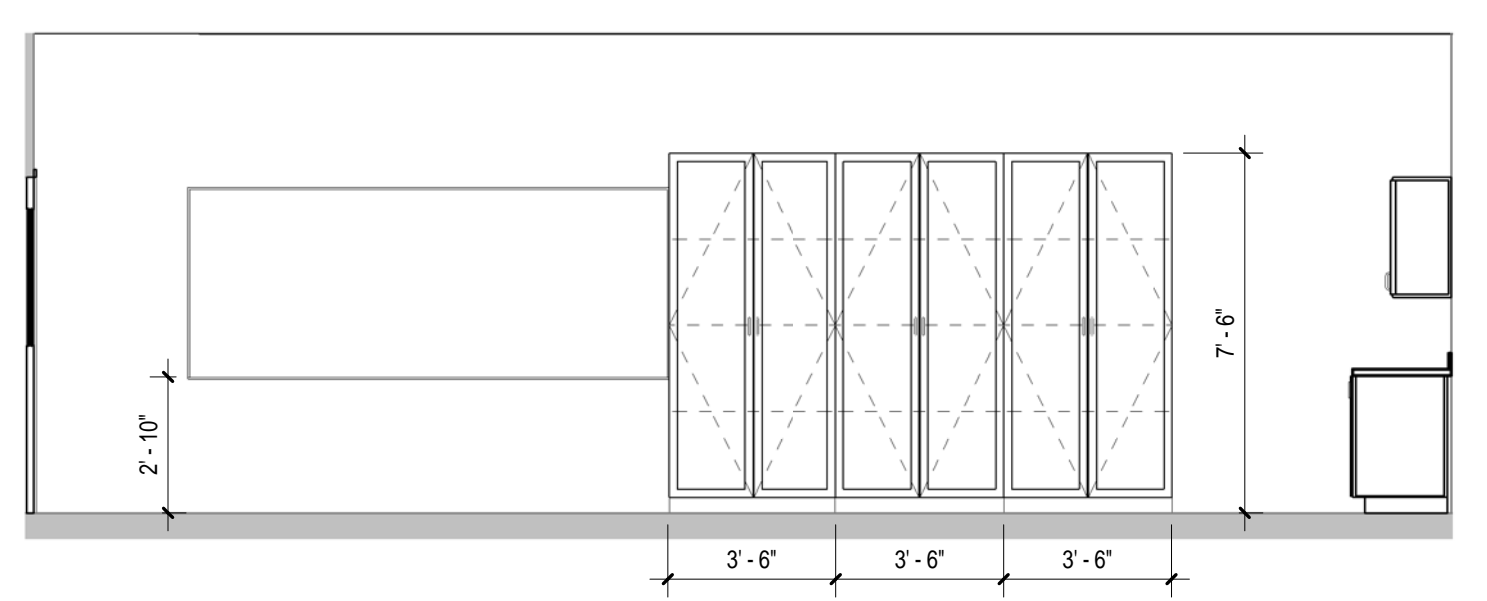
④ Physics Lab - East
1/4" = 1'-0"



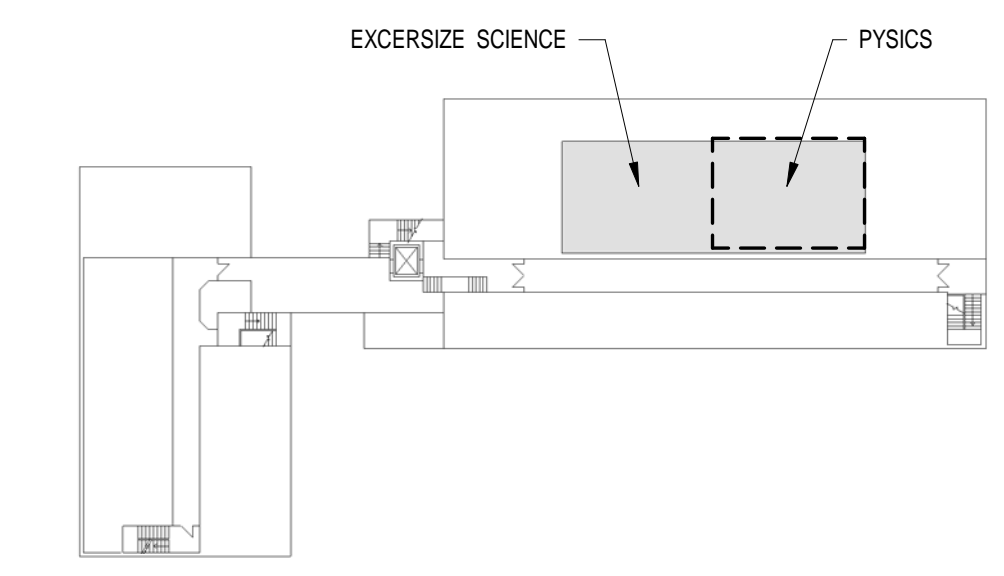
⑦ Physics Lab - West
1/4" = 1'-0"



⑤ Physics Lab - North
1/4" = 1'-0"



⑥ Physics Lab - South
1/4" = 1'-0"



KEY PLAN
SECOND FLOOR



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LEVEL 2 -
PHYSICS LAB

A-104



Project
Castleton State College

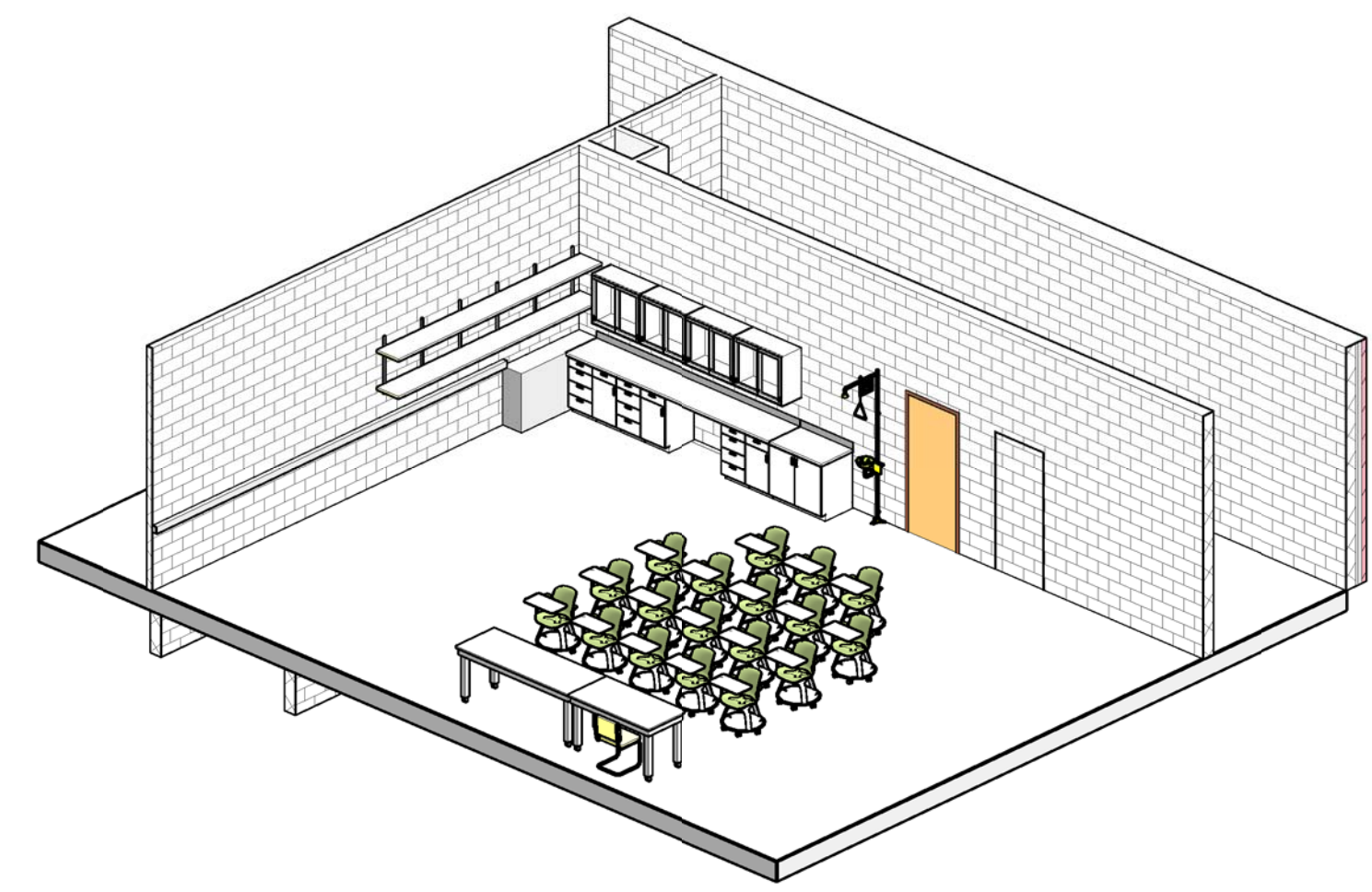
Jeffords Science Center
Lab Renovation

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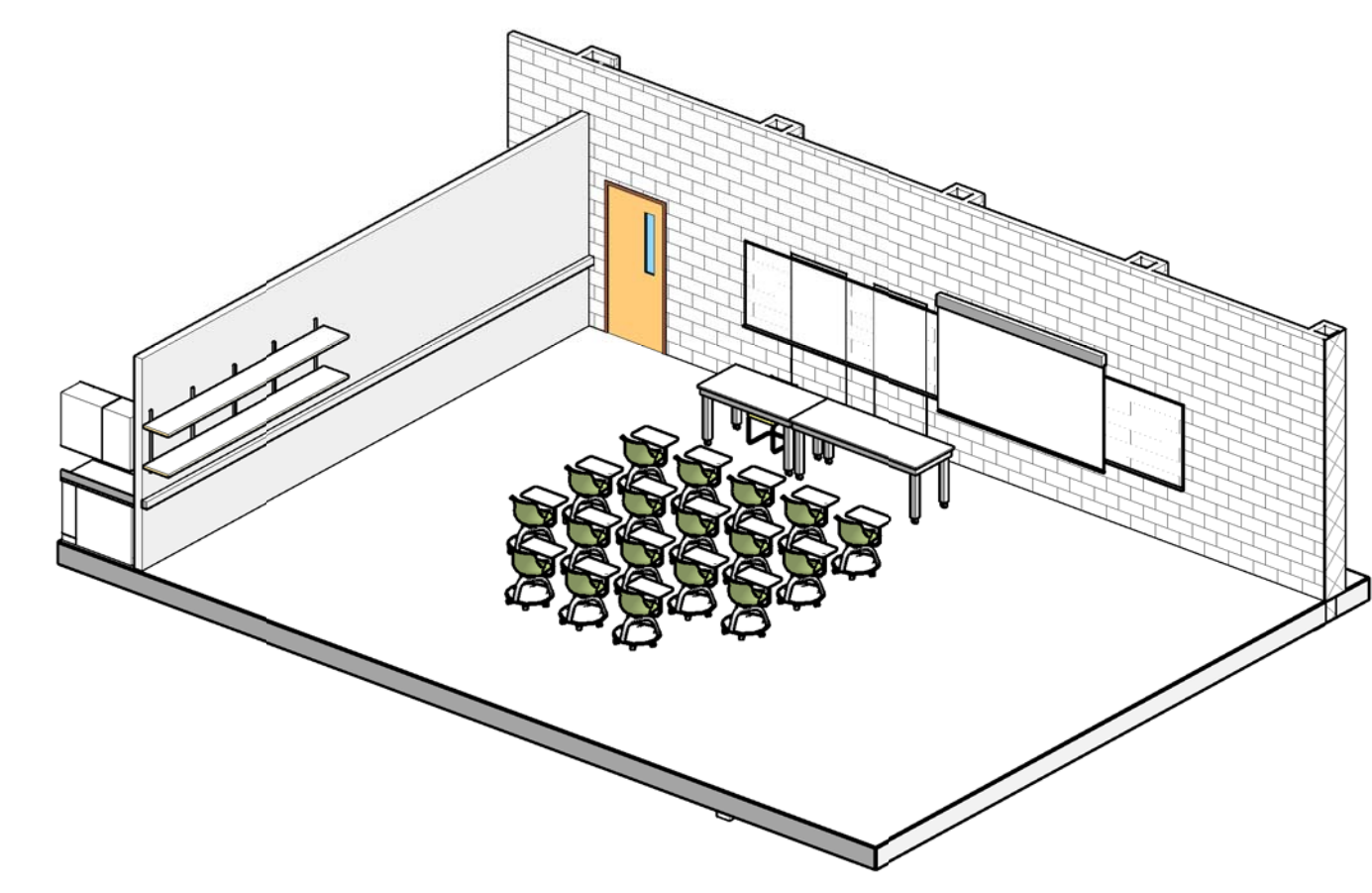
Architect:
JMZ Architects and
Planners, P.C.

190 Glen Street
P.O. Box 725
Glens Falls, New York 12801
tel. 518-793-0786
fax. 518-793-1735
JMZarchitects.com

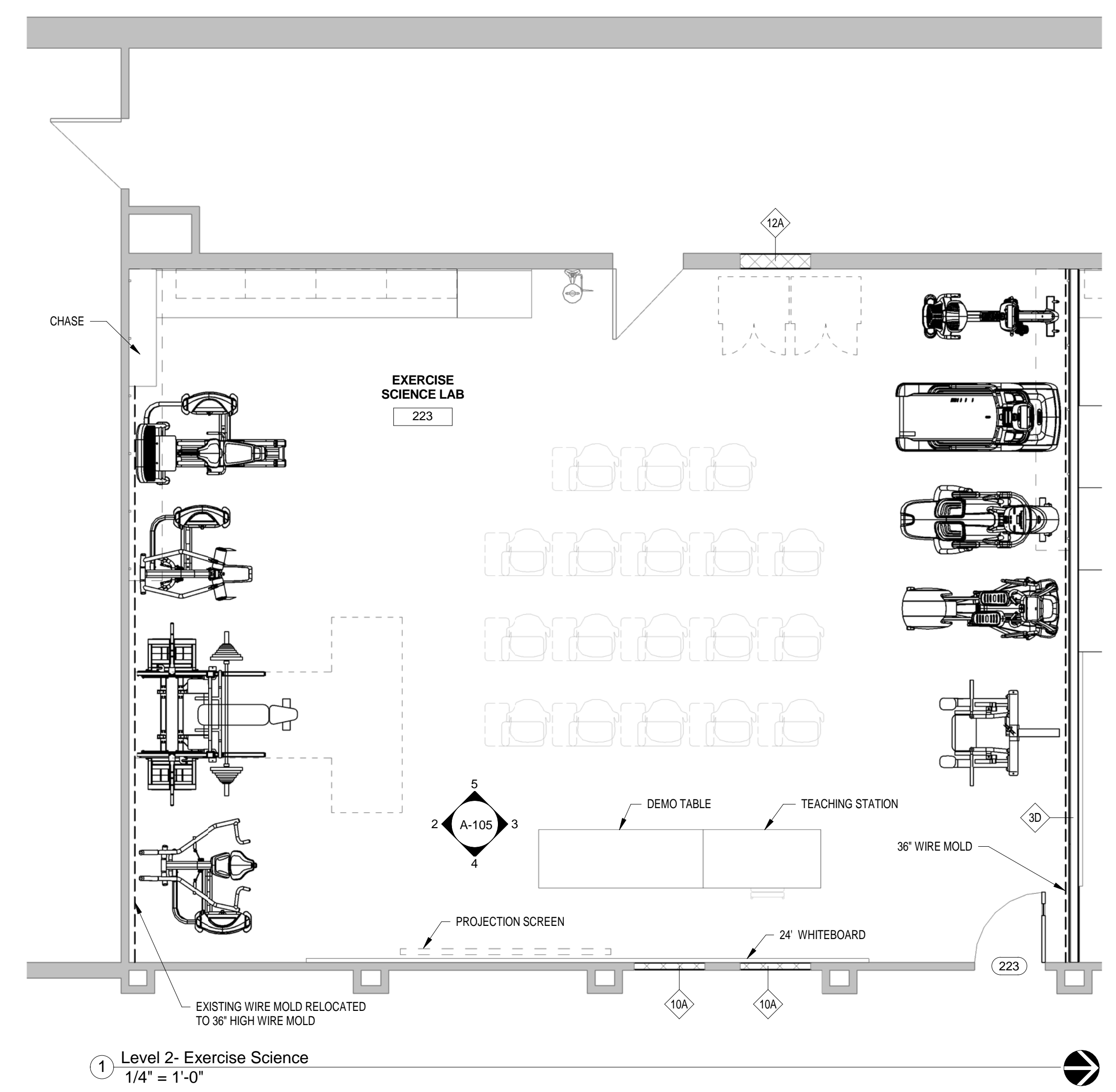
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Troy, New York 12810
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fax. 518-326-0474
hustonengineering.com



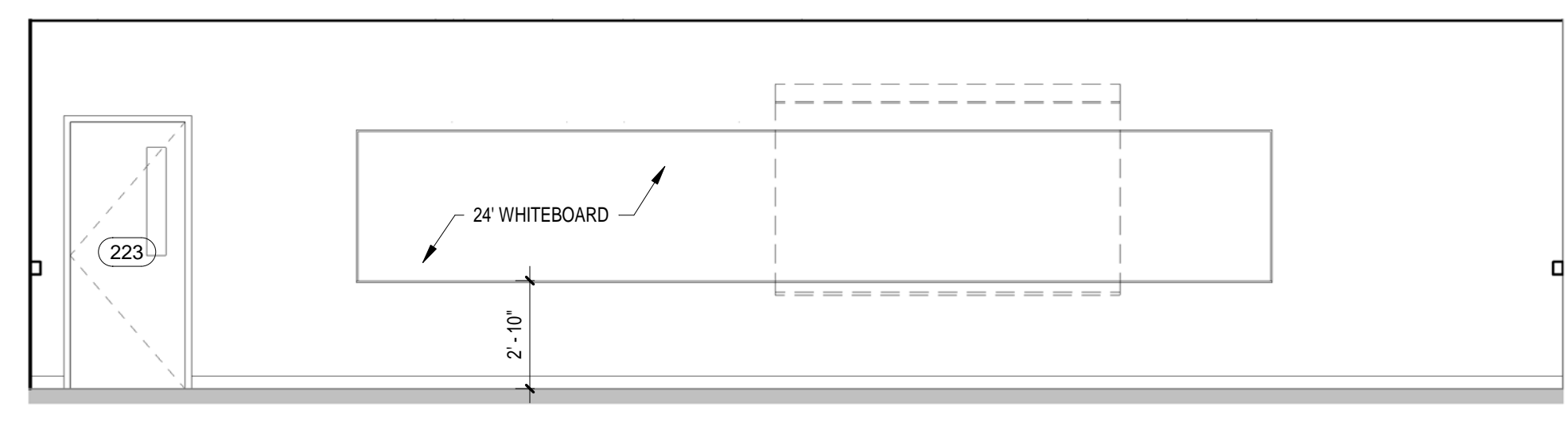
6 EXERCISE SCIENCE LAB 3D - SOUTH & WEST



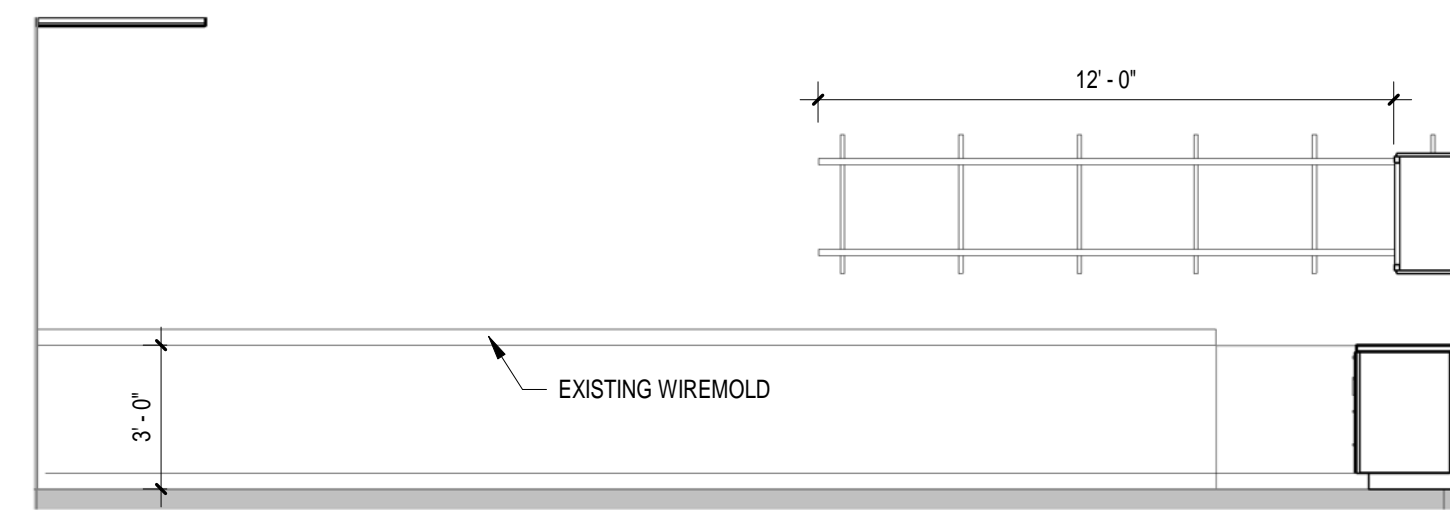
7 EXERCISE SCIENCE LAB 3D - NORTH & EAST



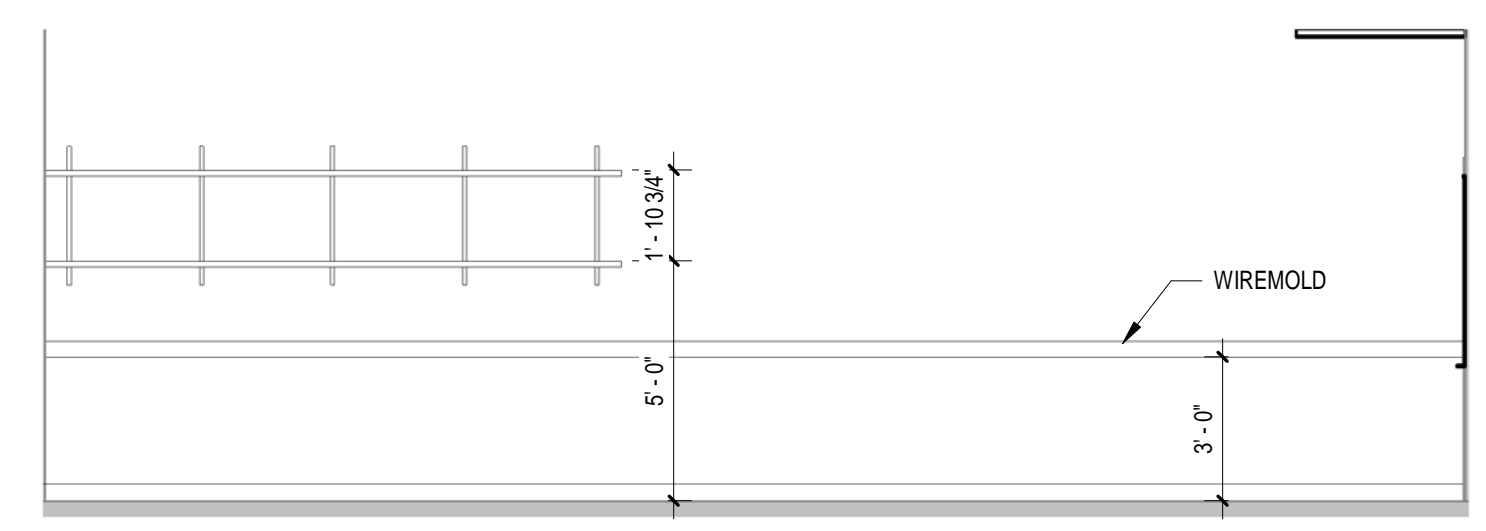
1 Level 2- Exercise Science
1/4" = 1'-0"



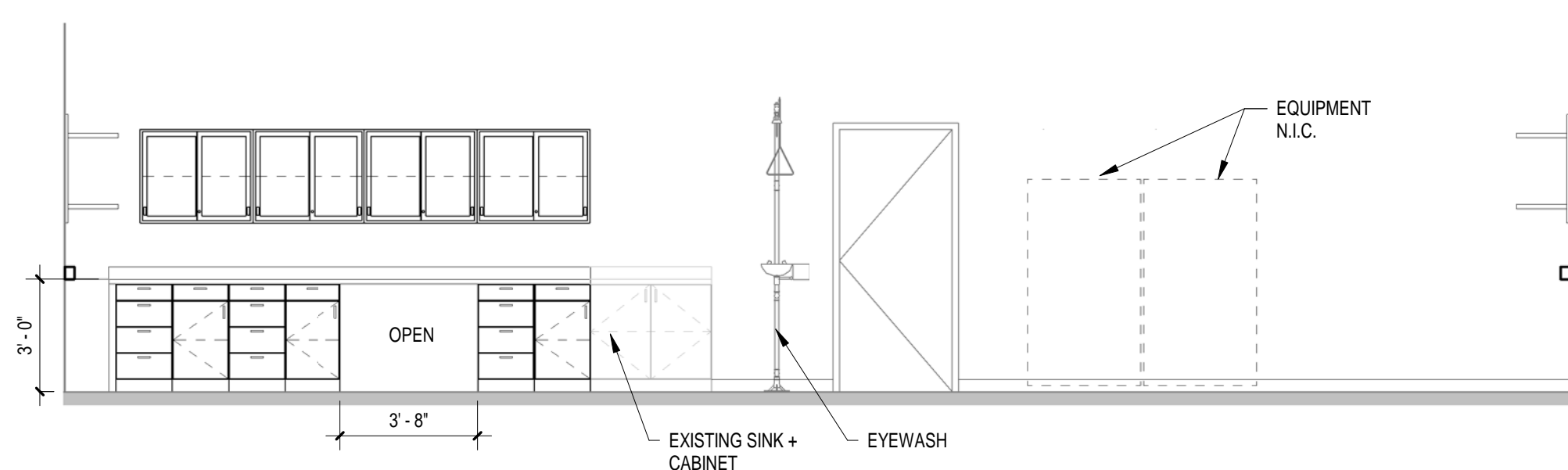
4 EXERCISE SCIENCE LAB - EAST
1/4" = 1'-0"



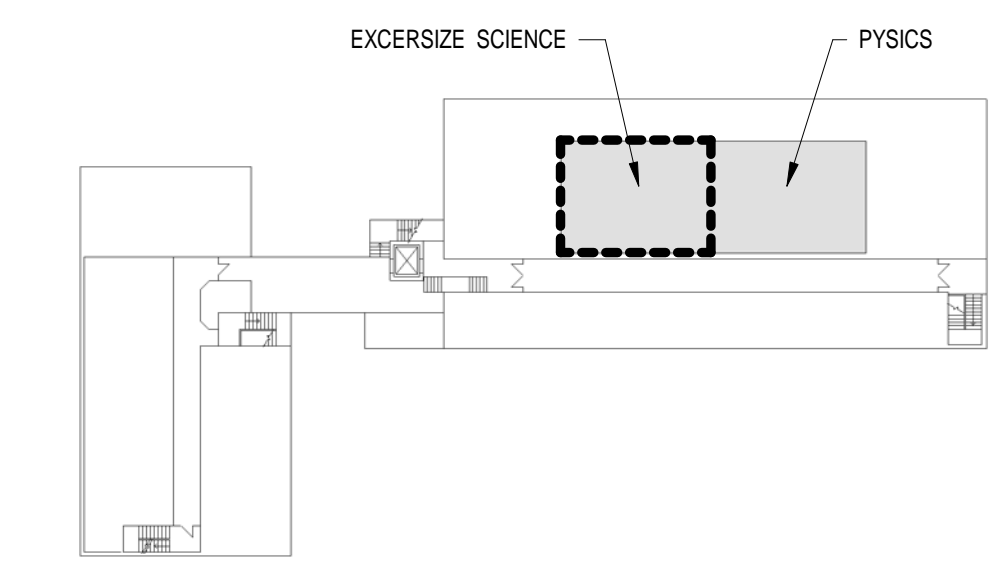
2 EXERCISE SCIENCE LAB - SOUTH
1/4" = 1'-0"



3 EXERCISE SCIENCE LAB - NORTH
1/4" = 1'-0"



5 EXERCISE SCIENCE LAB - WEST
1/4" = 1'-0"



KEY PLAN
SECOND FLOOR



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LEVEL 2 -
EXERCISE
SCIENCE

A-105



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Castleton State College

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Planners, P.C.

190 Glen Street
P.O. Box 725
Glens Falls, New York 12801

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fax. 518-793-1735
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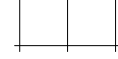
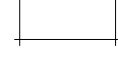
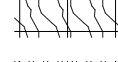


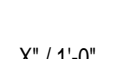






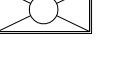






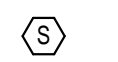
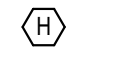










M.E.P. Engineer:

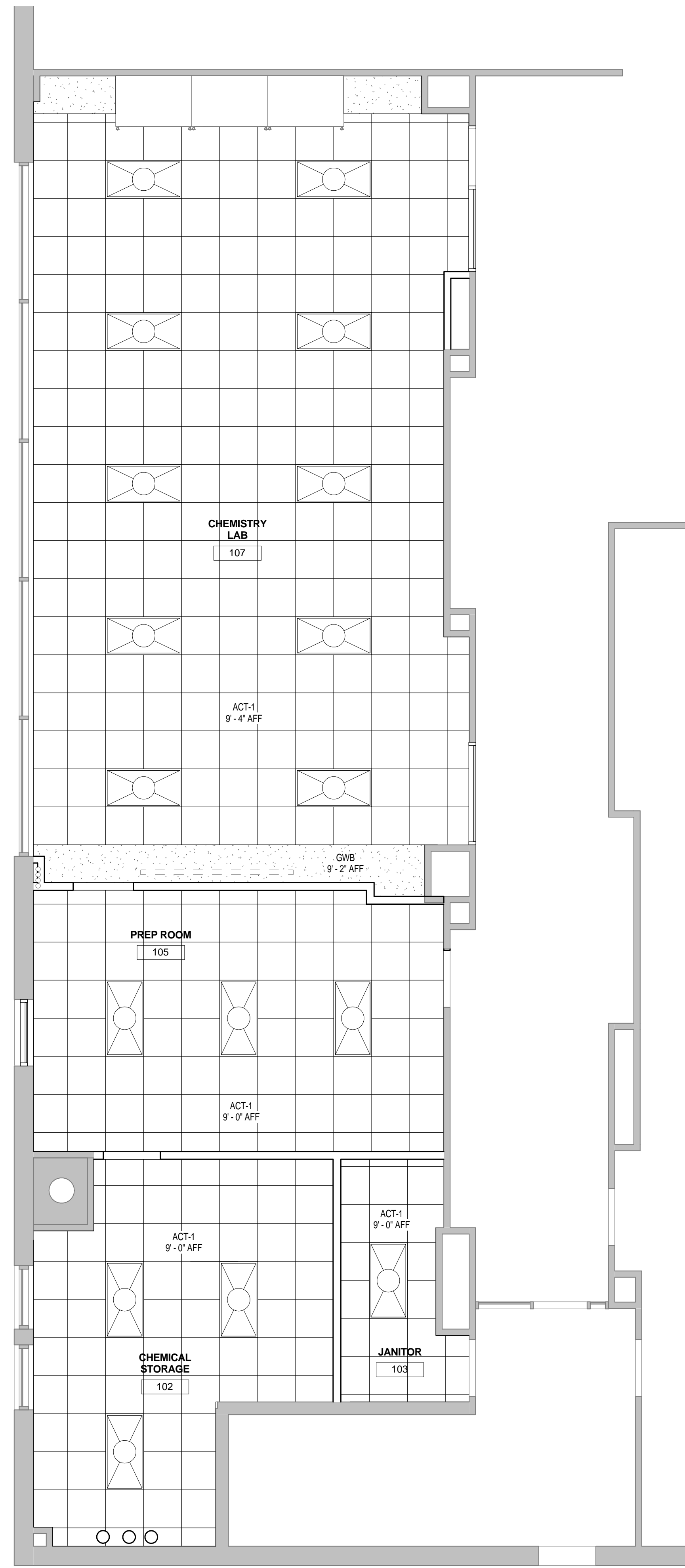
Huston Engineering, LLC
251 River Street, Suite 201
Troy, New York 12810

tel. 518-326-0369
fax. 518-326-0474
hustonengineering.com



CEILING LEGEND

-  GWB CEILING - PAINT (PF)
-  ACOUSTIC CEILING TILE (ACT-1)
-  ACOUSTIC CEILING TILE (ACT-2)
-  ACOUSTIC CEILING TILE (ACT-3)
-  ACOUSTIC CEILING TILE (ACT-4)
-  CONTROL JOINT
-  DRAFT CURTAIN
-  SLOPING OR CURVED CEILING
-  CEILING MOUNTED PROJECTOR (OP/O)
-  PROJECTION SCREEN
-  ACCESS PANEL
-  RECESSED DOWNLIGHT
-  2X2 LIGHT FIXTURE
-  2X2 DIRECTIONAL LIGHT FIXTURE
-  2X4 LIGHT FIXTURE
-  1X4 LIGHT FIXTURE
-  PENDANT LIGHT FIXTURE
-  RECESSED LINEAR LIGHT FIXTURE
-  WALL MOUNTED LIGHT FIXTURE
-  LINEAR DIFFUSER
-  RETURN-AIR DIFFUSER
-  SUPPLY-AIR DIFFUSER
-  SMOKE DETECTOR
-  HEAT DETECTOR
-  OCCUPANCY SENSOR
-  WIRELESS ACCESS POINT
-  SPEAKER
-  SECURITY CAMERA
-  EMERGENCY LIGHT UNIT
-  EXIT SIGN - SEE PLANS FOR DIRECTIONALITY AND SINGLE / DOUBLE FACED
-  SPRINKLER HEAD
-  SPRINKLER HEAD- CONCEALED PENDANT



1 CHEMISTRY CEILING PLAN
1/4" = 1'-0"

CEILING NOTES:

1. ALL CEILING GRIDS TO BE CENTERED IN ROOM UNLESS NOTED OTHERWISE.
2. LOCATE ALL CEILING ITEM PER REFLECTED CEILING PLANS. COORDINATE WITH MECHANICAL AND ELECTRICAL PLANS.
3. ALL CEILING HEIGHTS INDICATED ON REFLECTED CEILING PLAN ARE DISTANCE ABOVE FINISHED FLOOR LEVELS OF BUILDING, UNLESS NOTED OTHERWISE.
4. CEILING DIMENSIONS ARE TO FACE OF FINISH UNLESS NOTED OTHERWISE.
5. ALL ACOUSTIC TILE CEILINGS TO BE ACT-1 UNLESS NOTED OTHERWISE.
6. PROVIDE CONTROL JOINTS IN GWB CEILING WHERE INDICATED ON DRAWINGS AND WHERE GWB SURFACES EXCEED 30'.
7. COORDINATE FINAL PROJECTOR LOCATIONS WITH OWNER.
8. ALL GWB CEILINGS, SOFFITS AND BULKHEADS TO BE PAINTED (PF).
9. SPRINKLER HEADS TO BE CENTERED ON CEILING TILES UNLESS NOTED OTHERWISE.
10. CEILING ITEMS TO BE CENTERED ON CEILING TILES UNLESS NOTED OTHERWISE.

Revisions		
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Date: Issue Date	JMZ Project No. 1813
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GROUND LEVEL
REFLECTED
CEILING PLAN

A-201



Project
Castleton State College

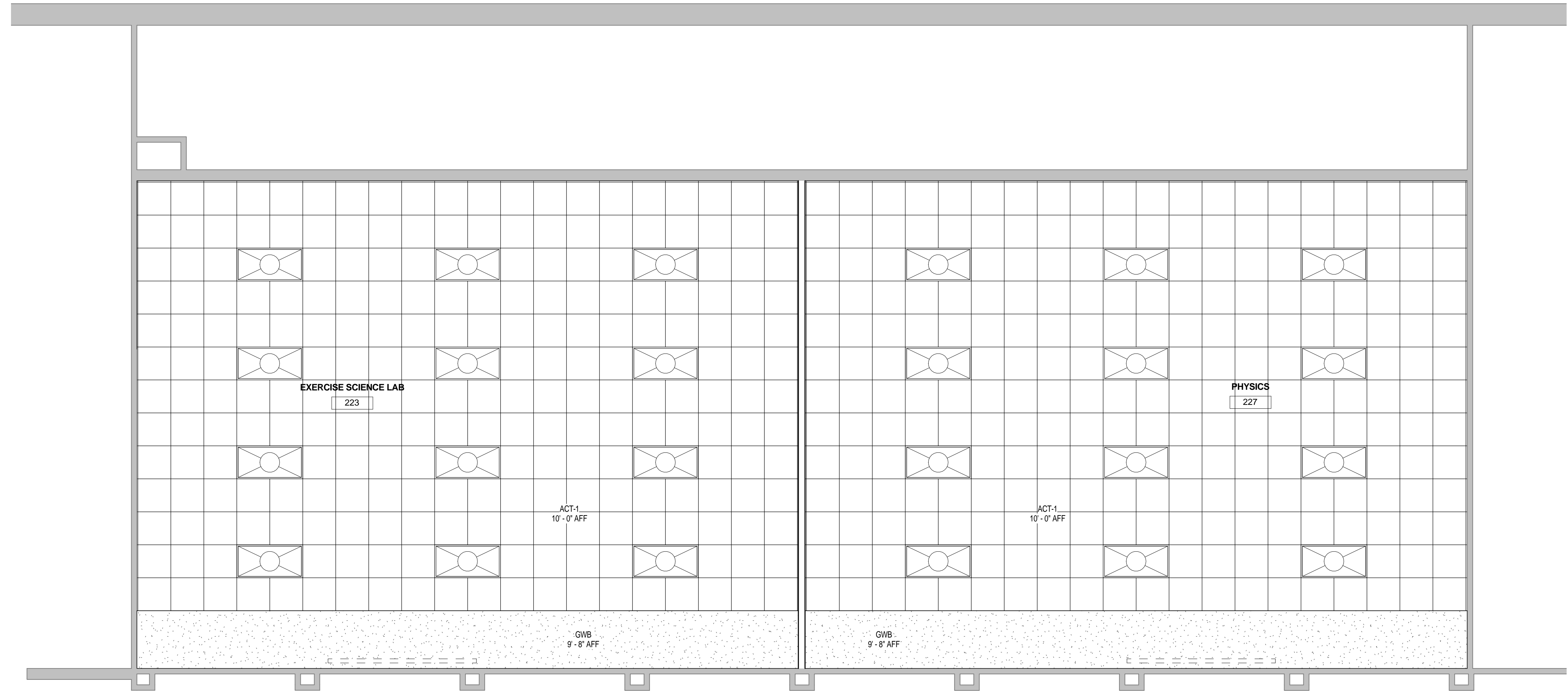
Jeffords Science Center
Lab Renovation

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Architect:
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Planners, P.C.

190 Glen Street
P.O. Box 725
Glens Falls, New York 12801
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fax. 518-793-1735
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Troy, New York 12810
tel. 518-326-0369
fax. 518-326-0474
hustonengineering.com



CEILING LEGEND

- GWB CEILING - PAINT (PF)
- ACOUSTIC CEILING TILE (ACT-1)
- ACOUSTIC CEILING TILE (ACT-2)
- ACOUSTIC CEILING TILE (ACT-3)
- ACOUSTIC CEILING TILE (ACT-4)
- CJ CONTROL JOINT
- DRAFT CURTAIN
- SLOPING OR CURVED CEILING
- CEILING MOUNTED PROJECTOR (OPI/OI)
- PROJECTION SCREEN
- ACCESS PANEL
- RECESSED DOWNLIGHT
- 2X2 LIGHT FIXTURE
- 2X2 DIRECTIONAL LIGHT FIXTURE
- 2X4 LIGHT FIXTURE
- 1X4 LIGHT FIXTURE
- PENDANT LIGHT FIXTURE
- RECESSED LINEAR LIGHT FIXTURE
- WALL MOUNTED LIGHT FIXTURE
- LINEAR DIFFUSER
- RETURN-AIR DIFFUSER
- SUPPLY-AIR DIFFUSER
- SMOKE DETECTOR
- HEAT DETECTOR
- OCCUPANCY SENSOR
- WIRELESS ACCESS POINT
- SPEAKER
- SECURITY CAMERA
- EMERGENCY LIGHT UNIT
- EXIT SIGN - SEE PLANS FOR DIRECTIONALITY AND SINGLE / DOUBLE FACED
- SPRINKLER HEAD
- SPRINKLER HEAD- CONCEALED PENDANT

1 Physics & Exercise Science
1/4" = 1'-0"

CEILING NOTES:

1. ALL CEILING GRIDS TO BE CENTERED IN ROOM UNLESS NOTED OTHERWISE.
2. LOCATE ALL CEILING ITEM PER REFLECTED CEILING PLANS. COORDINATE WITH MECHANICAL AND ELECTRICAL PLANS.
3. ALL CEILING HEIGHTS INDICATED ON REFLECTED CEILING PLAN ARE DISTANCE ABOVE FINISHED FLOOR LEVELS OF BUILDING, UNLESS NOTED OTHERWISE.
4. CEILING DIMENSIONS ARE TO FACE OF FINISH UNLESS NOTED OTHERWISE.
5. ALL ACOUSTIC TILE CEILINGS TO BE ACT-1 UNLESS NOTED OTHERWISE.
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9. SPRINKLER HEADS TO BE CENTERED ON CEILING TILES UNLESS NOTED OTHERWISE.
10. CEILING ITEMS TO BE CENTERED ON CEILING TILES UNLESS NOTED OTHERWISE.

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LEVEL 2
REFLECTED
CEILING PLAN

A-202



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Castleton State College

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hustonengineering.com



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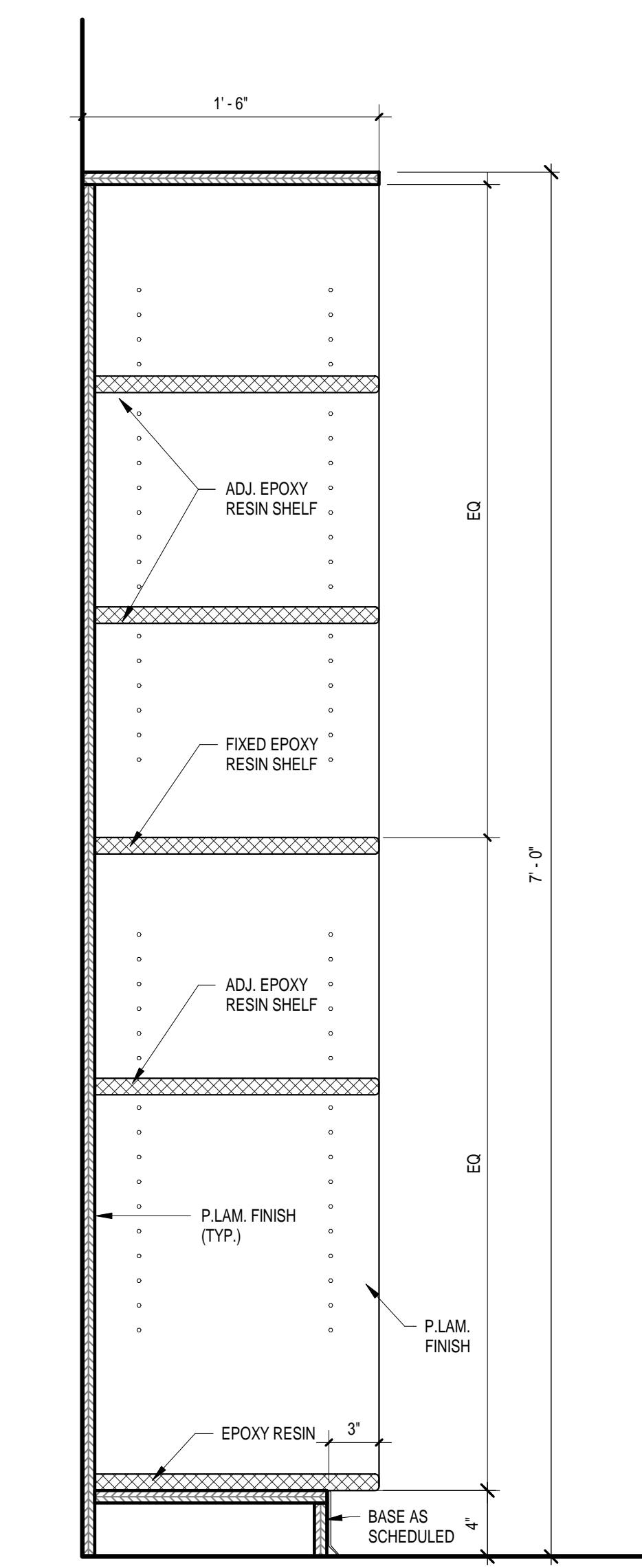
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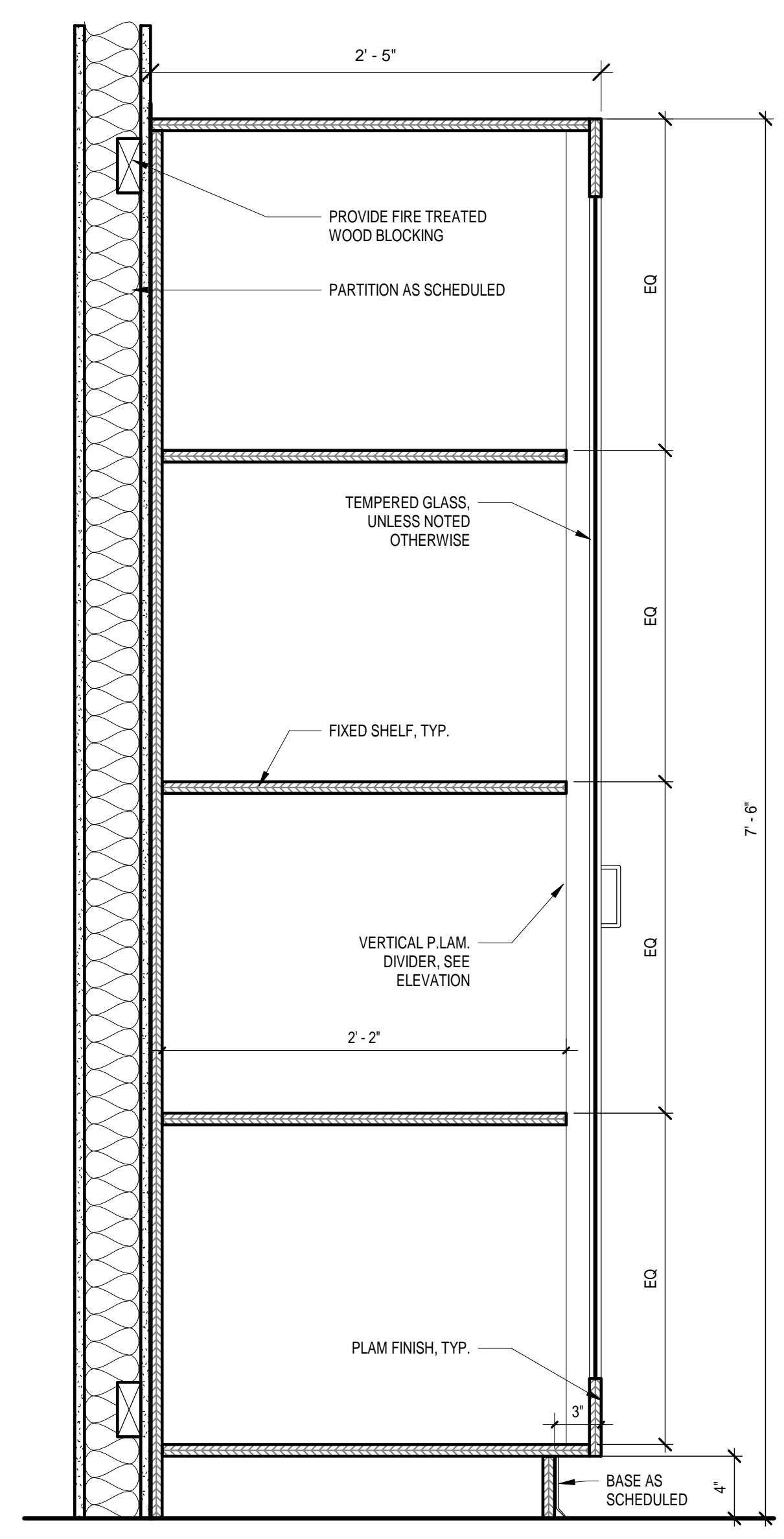
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CASEWORK
DETAILS

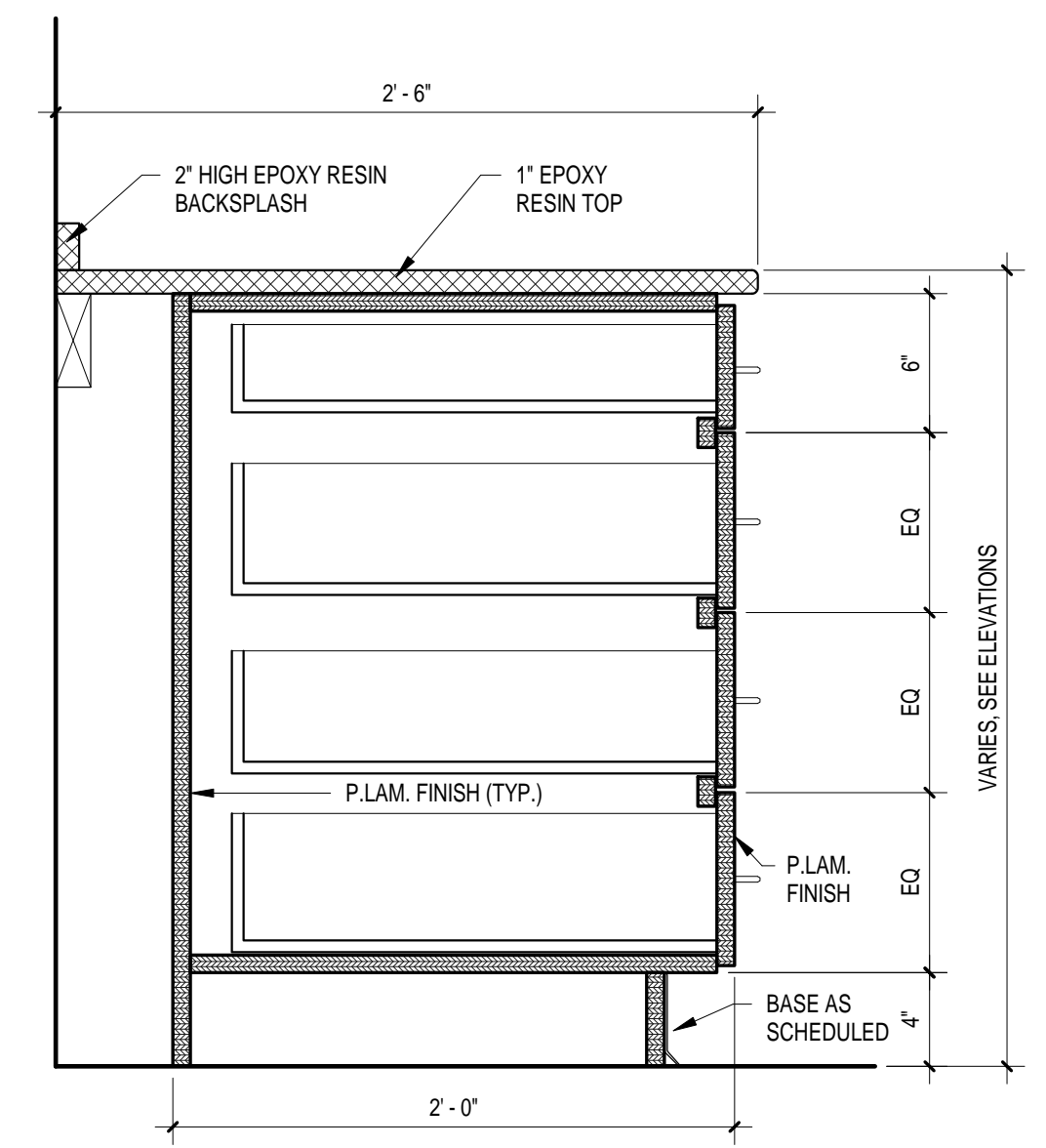
A-901



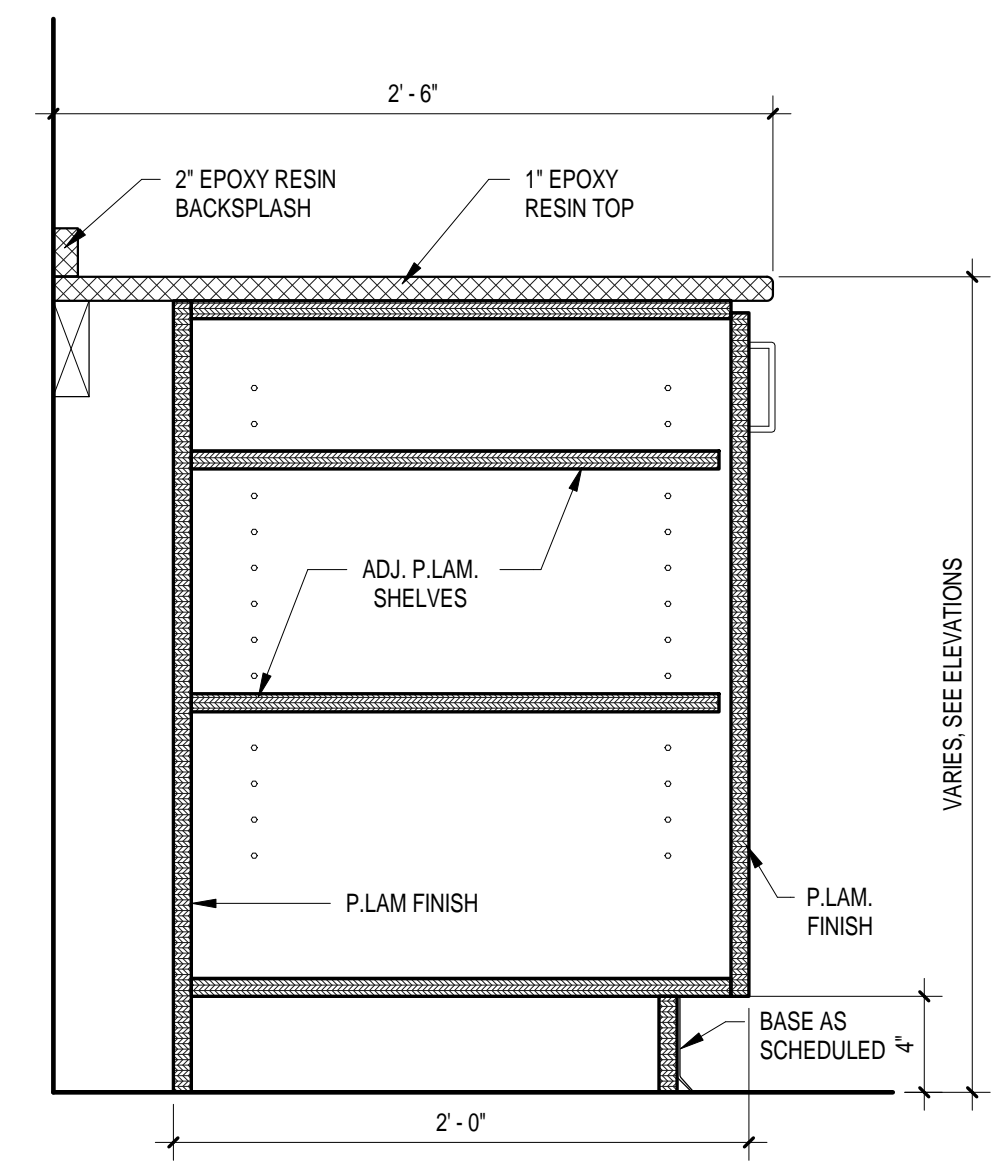
① SECTION AT SHELVING
1 1/2" = 1'-0"



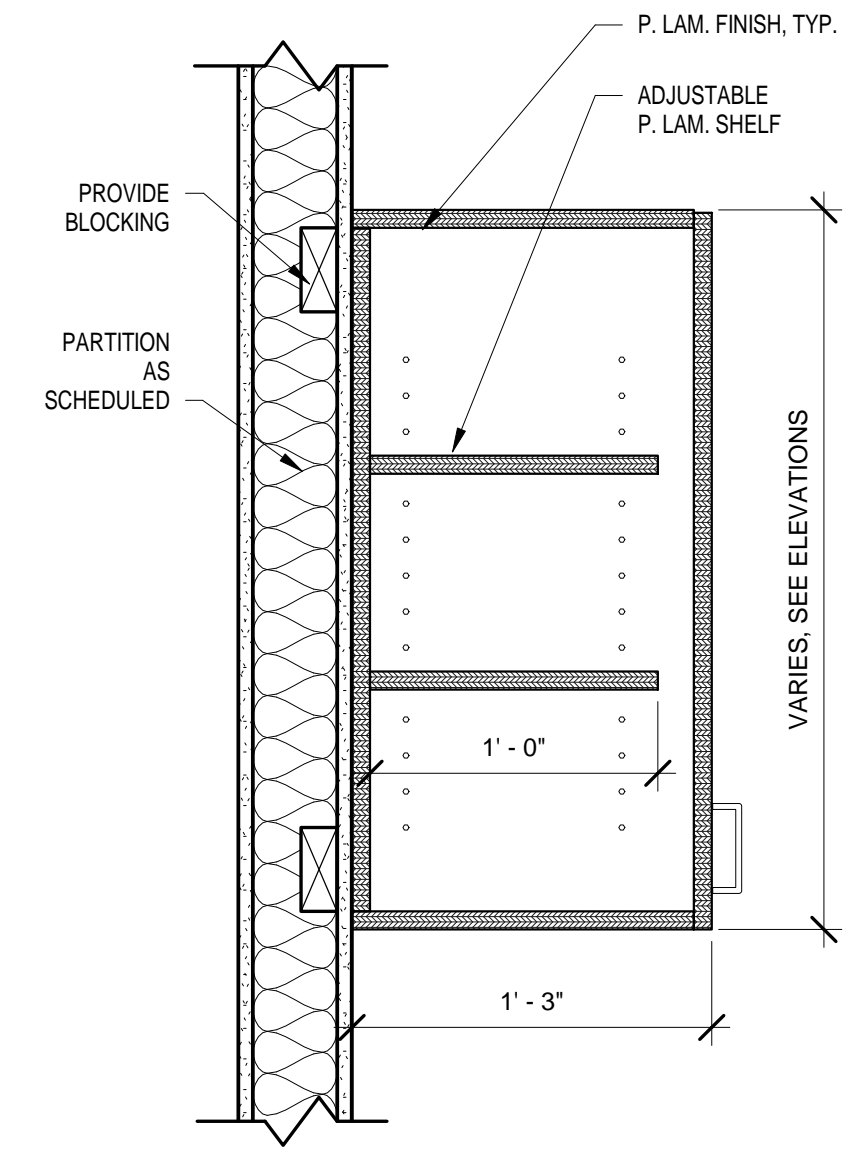
② A9 - Microscope Cabinet
1 1/2" = 1'-0"



③ A9 - Base Cabinet Drawers Epoxy Top
1 1/2" = 1'-0"



④ A9 - Base Cabinet Epoxy Top
1 1/2" = 1'-0"



⑤ A9 - Upper Cabinet Section
1 1/2" = 1'-0"



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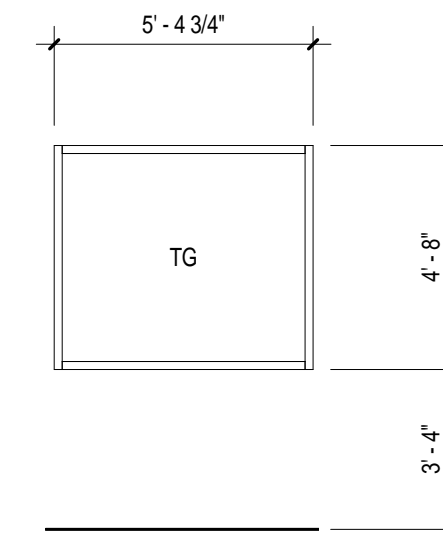
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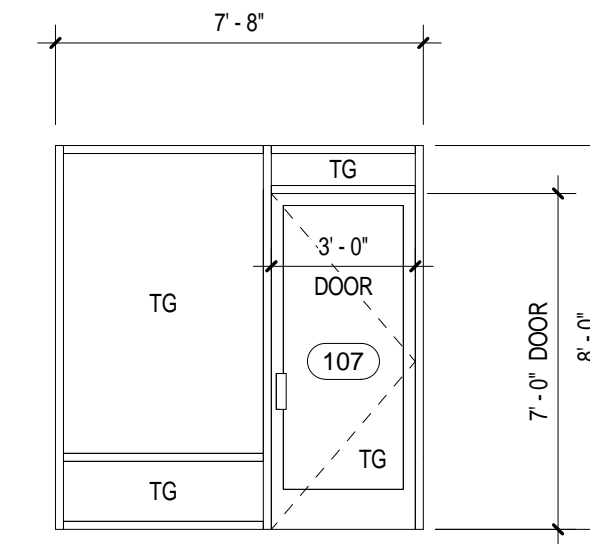
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hustonengineering.com



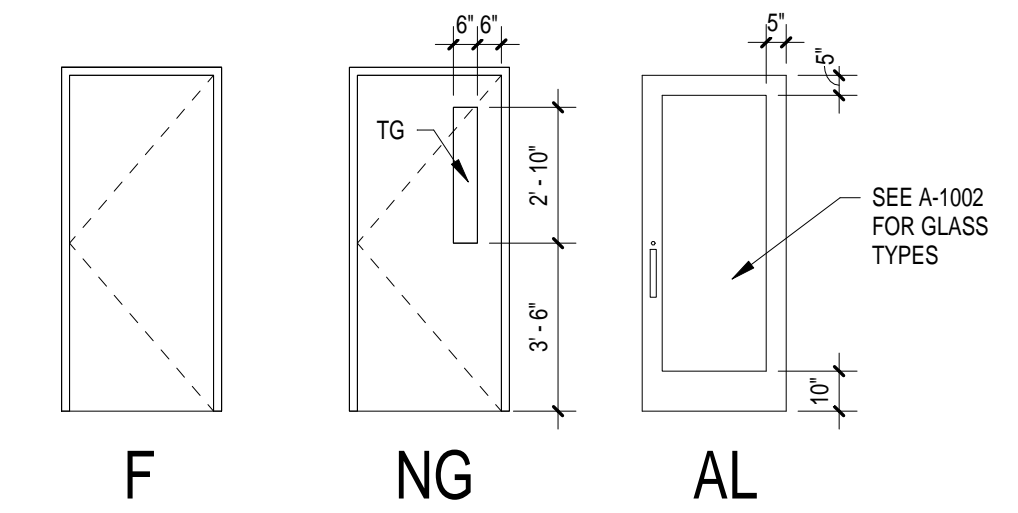
DOOR SCHEDULE												
NO.	DOOR					FRAME			FIRE RATING	DETAILS	DOOR HARDWARE	COMMENTS
	WIDTH	HEIGHT	TYPE	MATERIAL	FINISH	TYPE	MATERIAL	FINISH				
102	3' - 0"	7' - 0"	NG	SCWD	FCTRY	S	HM	PSG				
105	3' - 0"	7' - 0"	NG	SCWD	FCTRY	M	HM	PSG				
107	3' - 0"	7' - 0"	AL	ALUM	FCTRY	ST1	ALUM	FCTRY				
223	3' - 0"	7' - 0"	NG	SCWD	FCTRY	M	HM	PSG				
227	3' - 0"	7' - 0"	NG	SCWD	FCTRY	M	HM	PSG				



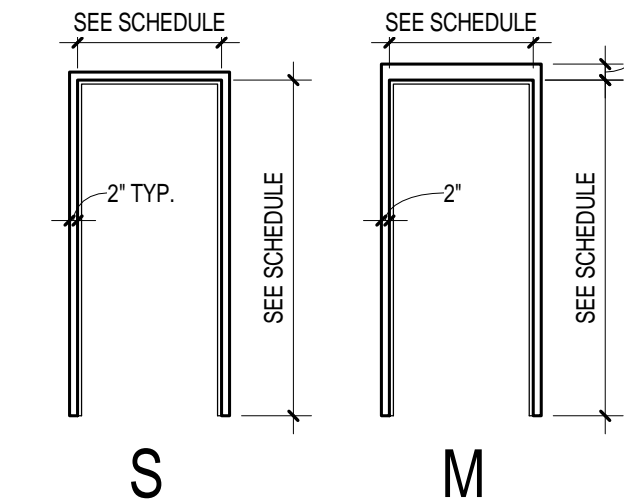
○ ST - 02
1/4" = 1'-0"



○ ST - 01
1/4" = 1'-0"



DOOR TYPES - SEE BELOW FOR FRAME INFORMATION



INTERIOR DOOR FRAME TYPES

Revisions		
No.	Description	Date

Seal:

DESIGN MANUAL
COST ESTIMATE
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CONSTRUCTION

Date: Issue Date	JMZ Project No. 1813
Checked By:	

DOOR
SCHEDULE AND
DETAILS

A-1002



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Revisions

No.	Description	Date

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Date: 09/12/2018
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JMZ Project No.

ELECTRICAL LEGENDS, SCHEDULES, NOTES

E-000

LIGHTING FIXTURE SCHEDULE

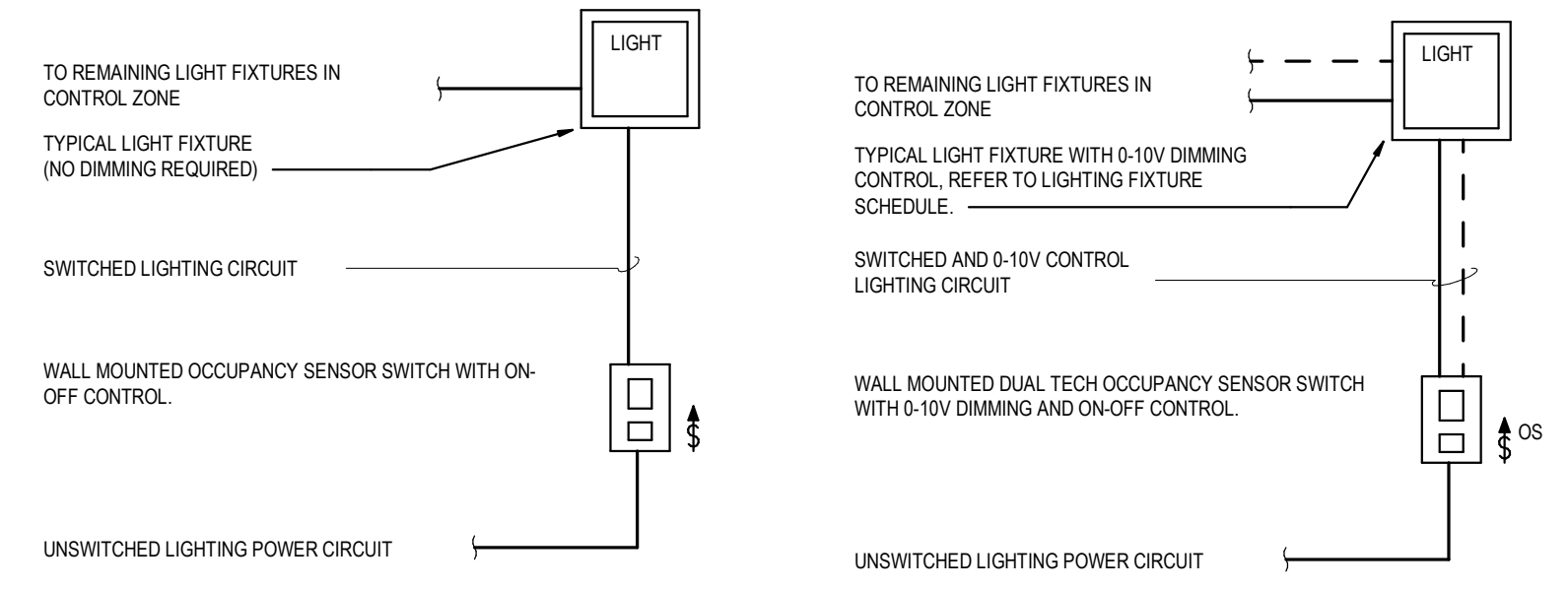
TAG	STYLE	SIZE (WxLxH)	DESCRIPTION	LAMPS/OCT/ DELIVERED LUMENS	DIMMING	FIXTURE VA	VOLTAGE	FIXTURE EFFICIENCY OR EFFICACY	BASIS OF DESIGN (+ ALTERNATE LISTED BELOW)	
									MANUFACTURER	MODEL
LP-1	LED INDUSTRIAL UTILITY PENDANT	4.4" x 6.8" x 51.7"	ENCLOSED AND GASKETED UTILITY FIXTURE WITH RIBBED CLEAR ACRYLIC SHIELD, FIBERGLASS HOUSING, IP65, CHAIN HANGER KIT, WHITE FINISH, UL WET	3500K 4800 LM	NO	52	120	114 LM/W	HUBBELL LITHONIA	LXEM VAP LED
LS-2	LED INDUSTRIAL SURFACE	9" x 3" 48"	LOW PROFILE SURFACE MOUNTED INDUSTRIAL FIXTURE, WRAPAROUND ACRYLIC LENS, UL DAMP	3500K 5600 LM	NO	55	120	102 LM/W	HUBBELL LITHONIA	LAW SBL4
LR-1	LED RECESSED TROFFER	2' x 4' x 3.1"	RECESSED TROFFER CONSTRUCTED OF STEEL HOUSING WITH PRISMATIC ACRYLIC LENS, HINGED FLUSH STEEL DOOR OPENABLE WITH ACCESS TO LED BOARDS AND DRIVER FROM BELOW, GRID CEILING	3500K 4600 LM	0-10V	47	120	103 LM/W	HUBBELL LITHONIA	LJT-24-ML 2TL4-48L
LR-2	LED RECESSED VOLUMETRIC	2' x 4' x 4"	RECESSED ARCHITECTURAL LAY-IN CONSTRUCTED OF STEEL HOUSING WITH DESIGNER SHAPED ACRYLIC CENTER LENS, ACCESS TO LED BOARD AND DRIVER FROM BELOW, GRID CEILING	3500K 4100 LM	0-10V	42	120	103 LM/W	HUBBELL LITHONIA	LCAI-24-LWG 2VTL4-40L

NOTES
1 REFER TO SPECIFICATION 265100 FOR ADDITIONAL REQUIREMENTS. PARTICULARLY TAKE NOTE OF LED WARRANTY, REPLACEMENT PARTS, AND SAMPLE REQUIREMENTS.
2 CONTRACTOR TO VERIFY CEILING TYPE PRIOR TO ORDERING.
3 ALL FIXTURES SHALL BE DLC RATED. FIXTURES THAT ARE NOT DLC RATED SHALL BE SPECIFICALLY NOTED ON THE COVER SHEET OF THE SUBMITTAL, AND MAY BE REJECTED ON THIS BASIS ALONE DURING THE SUBMITTAL PHASE.
4 BASIS OF DESIGN FIXTURE INDICATED ABOVE. FIXTURES LISTED AS APPROVED EQUALS OR ANY OTHER FIXTURE SUBMITTED AS AN EQUAL SHALL MEET ALL OF THE STANDARD AND INDICATED CHARACTERISTICS FOR THE BASIS OF DESIGN FIXTURE INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION TYPE, CONSTRUCTION MATERIALS, AND ALL OPTIONS RELATED TO DISTRIBUTION, FINISH, AND FUNCTION. ALTERNATE FIXTURES SHALL HAVE A FIXTURE EFFICIENCY AND LUMEN OUTPUT NOT LESS THAN 95% OF THAT INDICATED IN THE ABOVE TABLE. ALTERNATE FIXTURES MAY BE REJECTED BASED ON AESTHETIC CHARACTERISTICS ALONE.

ROOM CONTROLLER DIGITAL SWITCH SCHEDULE

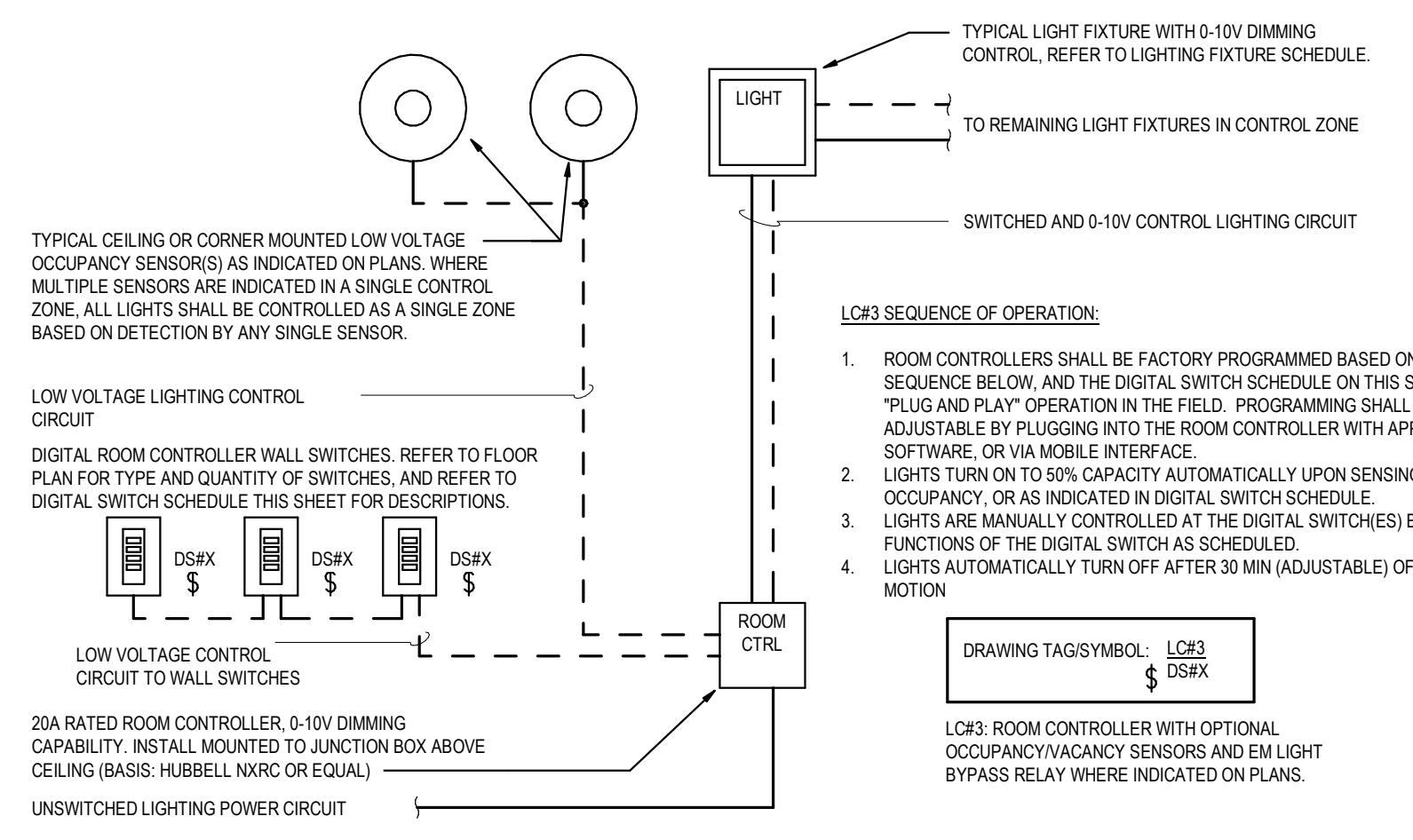
TAG	LOCATIONS	TYPE	SCENES	CUSTOM BUTTON LABELS	NOTES
DS-1	GENERAL	4 BUTTON ORLO (ON/RAISE/LOWER/OFF)	N/A	STANDARD LABELS	
DS-2	LABS	6 BUTTON 2 SCENE, ON, OFF + RAISE/LOWER	BUTTON 1: a AND b FIXTURES ON TO 100% BUTTON 2: a AND b FIXTURES ON TO 40% BUTTON 3: a FIXTURES 20%, b FIXTURES OFF BUTTON 4: a AND b FIXTURES OFF	BUTTON 1: HIGH BUTTON 2: LOW BUTTON 3: PRES BUTTON 4: OFF	

NOTES
1. ALL DIGITAL SWITCH DEVICES SHALL BE PROVIDED AS A COMPLETE PACKAGE WITH COMPATIBLE ROOM CONTROLLERS AND OCCUPANCY SENSORS AS DETAILED IN LIGHTING CONTROL DETAILS.
2. PROVIDE FACTORY ROOM CONTROLLER PROGRAMMING FOR PLUG AND PLAY SWITCH OPERATION AS SCHEDULED. SWITCH FUNCTIONS SHALL BE FIELD ADJUSTABLE THRU ROOM CONTROLLER PROGRAMMING WITH DIRECT PLUG-IN CONNECTION OR VIA MOBILE INTERFACE.
3. MINIMUM DIM LEVEL FOR ALL SWITCHES SHALL BE SET TO 20% UNLESS OTHERWISE INDICATED.
4. PROVIDE CUSTOM SWITCH ENGRAVING AT EACH SWITCH AS INDICATED. A SHOT DRAWING SHOWING DETAILS SPECIFIC TO EACH CUSTOM LABEL SHALL BE INCLUDED AS PART OF SUBMITTAL. MFR SHALL ACCOUNT FOR 50% ADDITIONAL CUSTOM LABELING UP TO 1 YEAR AFTER SUBSTANTIAL COMPLETION, FOR OWNER TO ADJUST LABELING AS DESIRED. MFR SHALL PROVIDE (2) SAMPLES OF EACH STYLE SWITCH WITH ENGRAVING FOR REVIEW AT TIME OF SUBMITTAL.
5. PROVIDE SINGLE-GANG ROUGH-IN AT 48" AFF WITH CONDUIT TO ABOVE CEILING AT EACH DIGITAL SWITCH LOCATION. REFER TO COMMUNICATIONS / DIGITAL SWITCH ROUGH-IN DETAIL.



SWITCH CONFIGURATION:
ALL SETTINGS AND DIP SWITCHES SHALL BE CONFIGURED AS DESCRIBED BELOW PRIOR TO SWITCH INSTALLATION.
1. RELAY 1: AUTO ON
2. RELAY 1: AUTO OFF AFTER 30 MINUTES WITH NO MOTION
DRAWING TAGSYMBOL: LCR1
LCR1: WALL MOUNTED SWITCH SENSOR WITH ON/OFF CONTROL.

SWITCH CONFIGURATION:
ALL SETTINGS AND DIP SWITCHES SHALL BE CONFIGURED AS DESCRIBED BELOW PRIOR TO SWITCH INSTALLATION.
1. RELAY 1: AUTO ON TO 50%
2. RELAY 1: AUTO OFF AFTER 30 MINUTES WITH NO MOTION
3. OCCUPANT MAY CONTROL FIXTURE UP TO 100% OUTPUT MANUALLY.
DRAWING TAGSYMBOL: LCR2
LCR2: WALL MOUNTED SWITCH SENSOR WITH 0-10V DIMMING CONTROL.



1 LIGHTING CONTROL DETAILS NOT TO SCALE

POWER DEVICES LEGEND

- DUPLEX RECEPTACLE
- ELEVATION IN INCHES (18" UON)
- BLANK - STANDARD
- G - GFCI (GROUND FAULT)
- WP - WEATHERPROOF "IN-USE" COVER
- TV - DEDICATED FOR TV OR SIMILAR EQUIPMENT
- C - CEILING MOUNTED
- LAV - SENSOR FAUCET, COORDINATE LOCATION WITH PLUMBING
- QUAD RECEPTACLE. SEE TYPES ABOVE.
- SPECIAL RECEPTACLE - AS INDICATED
- WHERE RECEPTACLES ARE STACKED IN PLAN VIEW, IT IS INTENDED THE RECEPTACLES BE INSTALLED HORIZONTALLY ALIGNED AT THE MOUNTING HEIGHTS INDICATED AT EACH RCPT.
- 4" SQ JUNCTION BOX FOR POWER TO INDICATED EQUIPMENT
- 4" SQ JUNCTION BOX FOR FURNITURE INFED
- DISCONNECT SWITCH
- MOTOR CONTROL DEVICE
- COMBINATION MOTOR STARTER OR VFD AS INDICATED
- SHT1-N-1 C1
- TOP LINE DENOTES THE PANEL SUPPLYING THE LOAD
- LOWER LINE IDENTIFIES THE CIRCUIT NUMBER IN THE PANEL
- BOXED CIRCUIT TAG
- UNLESS OTHERWISE NOTED, THE BOXED CIRCUIT TAG INDICATES THAT ALL THE DEVICES WITHIN THE ROOM ARE POWERED FROM THE SPECIFIED CIRCUIT.
- TOP LINE DENOTES PANEL
- LOWER LINE IDENTIFIES CIRCUIT NUMBER IN PANEL

LIGHTING DEVICES LEGEND

- LIGHTING FIXTURE
- SYMBOL INDICATES GENERAL LIGHTING SHAPE AND SIZE. REFER TO SPECIFICATIONS FOR DETAILS.
- TAG NUMBER
- MOUNTING TYPE:
R = RECESSED
P = PENDENT
S = SURFACE
G = GROUND
T = TRACK
LAMP TYPE:
F = FLUORESCENT
L = LED LAMP
M = METAL HALIDE LAMP
I = INCANDESCENT
D = DISCHARGE (HID)
- WALL SWITCH
BLANK - STANDARD
K - KEY OPERATED
- WALL MOUNTED MOTION SENSOR
- LOW VOLTAGE CEILING MOUNTED VACANCY SENSOR CONNECTED TO ROOM CONTROLLER OR LIGHTING CONTROL PANEL. SEE LIGHTING CONTROL DIAGRAMS.
- CEILING MTD DOUBLE FACE EXIT SIGN
ARROWS INDICATE CHEVRON DIRECTION.
- WALL MOUNTED BRACKET + WALL OR END MOUNT
- CEILING MTD SINGLE FACE EXIT SIGN
ARROWS INDICATE CHEVRON DIRECTION
- WALL MOUNTED BRACKET + WALL OR END MOUNT
- EMERGENCY LIGHT FIXTURE
- WALL MTD SINGLE FACE EXIT SIGN WITH (2) ADJUSTABLE SWIVEL HEADS AND EMERGENCY BATTERY PACK

COMMUNICATION AND AV LEGEND

- DATA RECEPTACLE
- ELEVATION IN INCHES (18" UON)
- T - TELEPHONE
- BLANK - STANDARD
- W - WALL MOUNTED
- AV - WALL MTD AV RCPT
- FB - PANELED BUTTON
- COAX CABLE COUNT
- PHONE CABLE COUNT
- DATA CABLE COUNT
- DLG MOUNTED STANDARD PROJECTOR
- PROVIDE DATA JACK ABOVE CEILING
- PROVIDE RECEPTACLE FLUSH TO CEILING
- POKE THRU DEVICE WITH POWER AND DATA OUTLETS
- RECESSED FLOOR BOX WITH POWER AND DATA OUTLETS
- WIRELESS ACCESS POINT WITH DATA LOCATION ABOVE CEILING
- RECESSED FLOOR BOX WITH POWER, DATA, AND AV OUTLETS.
- AV
- AV CABLE PASS-THRU WALL PLATE

ACCESS CONTROL LEGEND

- CR CARD READER
- EL ELECTRIC LATCH HARDWARE
- RX REQUEST TO EXIT DEVICE

EXISTING/DEMO LEGEND

- TYPICAL DEVICES TO BE DEMOLISHED PER DRAWING NOTES UNLESS OTHERWISE NOTED. MOST ITEMS ARE NOT SPECIFICALLY CALLED OUT. REFER TO GENERAL DEMOLITION NOTES FOR DEVICES WITH DEMO LINE TYPE.
- PANEL OR OTHER EQUIPMENT TO BE DEMOLISHED PER DRAWING NOTES.
- DEVICE WITH THIN LINE INDICATES EXISTING DEVICE TO REMAIN UNLESS OTHERWISE NOTED.
- PANEL OR EQUIPMENT WITH THIN LINE INDICATES EXISTING TO REMAIN UNLESS OTHERWISE NOTED.

FIRE ALARM DEVICES LEGEND

- M MANUAL PULL STATION
- WALL MTD HORNSTROBE
- C - DENOTES CEILING MTD
- STROBE CANDELA INDICATED; IF NOT INDICATED SET FOR 75 Cd.
- WALL MOUNTED STROBE
- CANDELA INDICATED; IF NOT INDICATED SET FOR 75 Cd.
- CEILING MTD PHOTOELECTRIC SMOKE DETECTOR
- DUCT MOUNTED SMOKE DETECTOR WITH TEST STATION
- CEILING MTD HEAT DETECTOR
- COMBINATION RATE OF RISE (135°F/20°F)
- 190 CEILING MTD HEAT DETECTOR 190°F FIXED TEMPERATURE
- CEILING MTD CARBON MONOXIDE DETECTOR
- CARBON MONOXIDE ALARM
- ADDRESSABLE MONITOR MODULE
- ADDRESSABLE COMMAND MODULE

ELECTRICAL DRAWING SYMBOLS

- SECTION NUMBER
- SHEET NUMBER
- SECTION CALL-OUT
- DETAIL NUMBER
- SHEET NUMBER
- DETAIL CALL-OUT
- CODED NOTE

ABBREVIATIONS

- AFF ABOVE FINISHED FLOOR
- AFG ABOVE FINISHED GRADE
- AV AUDIO/VIDEO
- AWG AMERICAN WIRE GAUGE
- CKT CIRCUIT
- CFCI CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
- CFOI CONTRACTOR FURNISHED, OWNER INSTALLED
- DN DOWN
- EC ELECTRICAL CONTRACTOR
- EMT ELECTRICAL METALLIC TUBING
- ETR EXISTING TO REMAIN
- FA FIRE ALARM
- JCI JOHNSON CONTROLS INC (IN REFERENCE TO FA)
- LCP LIGHTING CONTROL PANEL
- LTP LIQUID TIGHT FLEXIBLE METAL CONDUIT
- MC MECHANICAL CONTRACTOR
- OFCI OWNER FURNISHED, CONTRACTOR INSTALLED
- OFOI OWNER FURNISHED, OWNER INSTALLED
- PC PLUMBING CONTRACTOR
- RCPIT RECEPTACLE
- RGC RIGID GALVANIZED CONDUIT
- RMC RIGID METALLIC CONDUIT
- SS STAINLESS STEEL
- UNION UNLESS OTHERWISE NOTED
- VFD VARIABLE FREQUENCY DRIVE

POWER GENERAL NOTES

- PRIOR TO ROUGH-IN CAREFULLY REVIEW CASEWORK SUBMITTALS FOR CRITICAL DIMENSIONS, SUCH AS SPACES FOR UNDERCOUNTER FRIDGES OR DISHWASHERS, STEPS IN COUNTERTOPWORKSURFACE HEIGHTS, ETC.
- WHERE DEVICES ARE INSTALLED BELOW BUILT-IN COUNTER, COORDINATE COUNTERTOP HOLE AND GROMMET WITH GENERAL CONTRACTOR. REFER TO ARCHITECTURAL INTERIOR ELEVATIONS FOR EXACT LOCATIONS OF WALL DEVICES. COORDINATE ALL DEVICE LOCATIONS WITH WALL FINISHES AND OTHER WALL MOUNTED EQUIPMENT, FURNITURE, WALL MOUNTED ACCESSORIES, ETC.
- PROVIDE APPROPRIATE EXTENSION RING TO ALL BACKBOXES WHERE ARCHITECTURAL FINISHES ARE THICKER THAN TYPICAL WALL DETAIL. ALL RECEPTACLES SHALL BE RECESSED NO MORE THAN 1/4" INTO THE FACE OF NONCOMBUSTIBLE WALL SURFACES AND SHALL BE FLUSH OR PROJECT FROM THE FACES OF COMBUSTIBLE WALL SURFACES.
- COORDINATE ALL CORE LOCATIONS FOR POKE THRU'S AND CONDUIT PENETRATIONS WITH GENERAL TRADE. REFER TO STRUCTURAL DRAWINGS TO AVOID JOISTS/BEAMS.
- REFER TO ARCHITECTURAL DOOR SCHEDULES FOR DOORS TO BE PROVIDED WITH ACCESS CONTROL.
- REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF FIRE OR SMOKE RESISTANT CONSTRUCTION. AT ANY RATED WALL PENETRATION OF ANY TYPE, INSTALL INTUMESCENT SEALANT IN STRICT CONFORMANCE WITH MANUFACTURERS UL LISTED INSTALLATION DETAIL. REFER TO FIRESTOPPING SPECIFICATION 07840 FOR INTUMESCENT SEALANT REQUIREMENTS. NOTE THAT ALL FLOORS AND ROOFS ON THE PROJECT ARE ALSO FIRE RATED, AND SHALL BE PROVIDED WITH UL LISTED INTUMESCENT INSTALLATION.

LIGHTING GENERAL NOTES

- REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF ALL CEILING MOUNTED DEVICES.
- REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF FIRE OR SMOKE RESISTANT CONSTRUCTION. AT ANY RATED WALL PENETRATION OF ANY TYPE, INSTALL INTUMESCENT SEALANT IN STRICT CONFORMANCE WITH MANUFACTURERS UL LISTED INSTALLATION DETAIL. REFER TO FIRESTOPPING SPECIFICATION 07840 FOR INTUMESCENT SEALANT REQUIREMENTS. NOTE THAT ALL FLOORS AND ROOFS ON THE PROJECT ARE ALSO FIRE RATED, AND SHALL BE PROVIDED WITH UL LISTED INTUMESCENT INSTALLATION.

SPECIAL SYSTEMS GEN. NOTES

- ALL WALL AND CEILING MOUNTED DEVICES SHALL BE LOCATED IN CONFORMANCE WITH NFPA-72 STANDARDS.
- REFER TO ARCHITECTURAL INTERIOR ELEVATIONS FOR EXACT LOCATIONS OF WALL DEVICES. COORDINATE ALL DEVICE LOCATIONS WITH WALL FINISHES AND WALL MOUNTED EQUIPMENT.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF ALL CEILING MOUNTED DEVICES.

ELECTRICAL GENERAL NOTES

- PANEL ORIGIN AND TERMINATION PANEL/EQUIPMENT LABELED AT ORIGIN AND END OF INDICATED CONDUIT RUN. CONDUIT MAY CONTINUE UP TO HIGHER FLOORS, ROUTE WITH WALL STUD SPACE AS SHOWN.
- FOR CONDUIT RUNS THAT EXTEND TO HIGHER FLOORS, PROVIDE JUNCTION BOX ABOVE CEILING AS NECESSARY TO MEET MAXIMUM NUMBER OF TURNS ALLOWED BY CODE OR AS DESIRED TO ASSIST WITH PULL LENGTHS. ACCOUNT FOR OFFSETTING CONDUITS BETWEEN FLOOR TO LINE UP WITH WALLS.
- REFER TO E-500 FOR CONDUIT AND CONDUCTOR SIZING.
- REFER TO E-200 FOR FLOOR BOX AND PENETRATION LOCATIONS. COORDINATE FINAL LOCATION WITH ARCHITECTURAL TRADE. WHERE NECESSARY OR AS DESIRED, ADDITIONAL CONDUIT MAY BE ROUTED UNDERSLAB.
- COORDINATE ALL CONDUIT ROUTING WITH FOUNDATION FOOTING LOCATIONS AS SHOWN. REFER TO F-100 FOR FOOTING DETAILS.
- SECURE CONDUIT INTO STRUCTURAL FILL TO PREVENT CONDUIT FROM FLOATING DURING CONCRETE POUR.

EXISTING FACILITY NOTES:

- WHERE WORK IS INDICATED WITHIN THE EXISTING FACILITY, IT WILL BE COMPLETED WITHIN FUNCTIONING BUILDING AND WORK SEQUENCING WILL BE CRITICAL TO MINIMIZE INTERRUPTION OF BUILDING SERVICES. ANY WORK REQUIRING SHUTDOWN OF BUILDING SERVICES, OR WORK LOCATED OUTSIDE THE PROJECT LIMITS SHALL BE CAREFULLY COORDINATED WITH THE OWNER. SEQUENCE WORK TO MINIMIZE DOWNTIME. COMPLY WITH OWNER'S REQUIREMENTS FOR DOWNTIME PROCEDURES AND NOTIFICATIONS, AND PERFORM THIS WORK OFF HOURS WITH MANPOWER NECESSARY TO GUARANTEE FULLY RESTORED SERVICES AND SPACES AT THE END OF THE SHIFT.
- ALL EXISTING CEILINGS AND FINISHES WITHIN THE FACILITY OUTSIDE THE WORK AREA ARE INTENDED TO REMAIN AND CARE MUST BE TAKEN TO AVOID DAMAGE DURING WORK. CONTRACTOR SHALL BE RESPONSIBLE TO MAKE NECESSARY EFFORTS TO PREVENT DAMAGE AND PROVIDE REPAIRS WHERE DAMAGE DOES OCCUR. NOTE THAT THIS INCLUDES STAINING, SCUFFING, ETC.



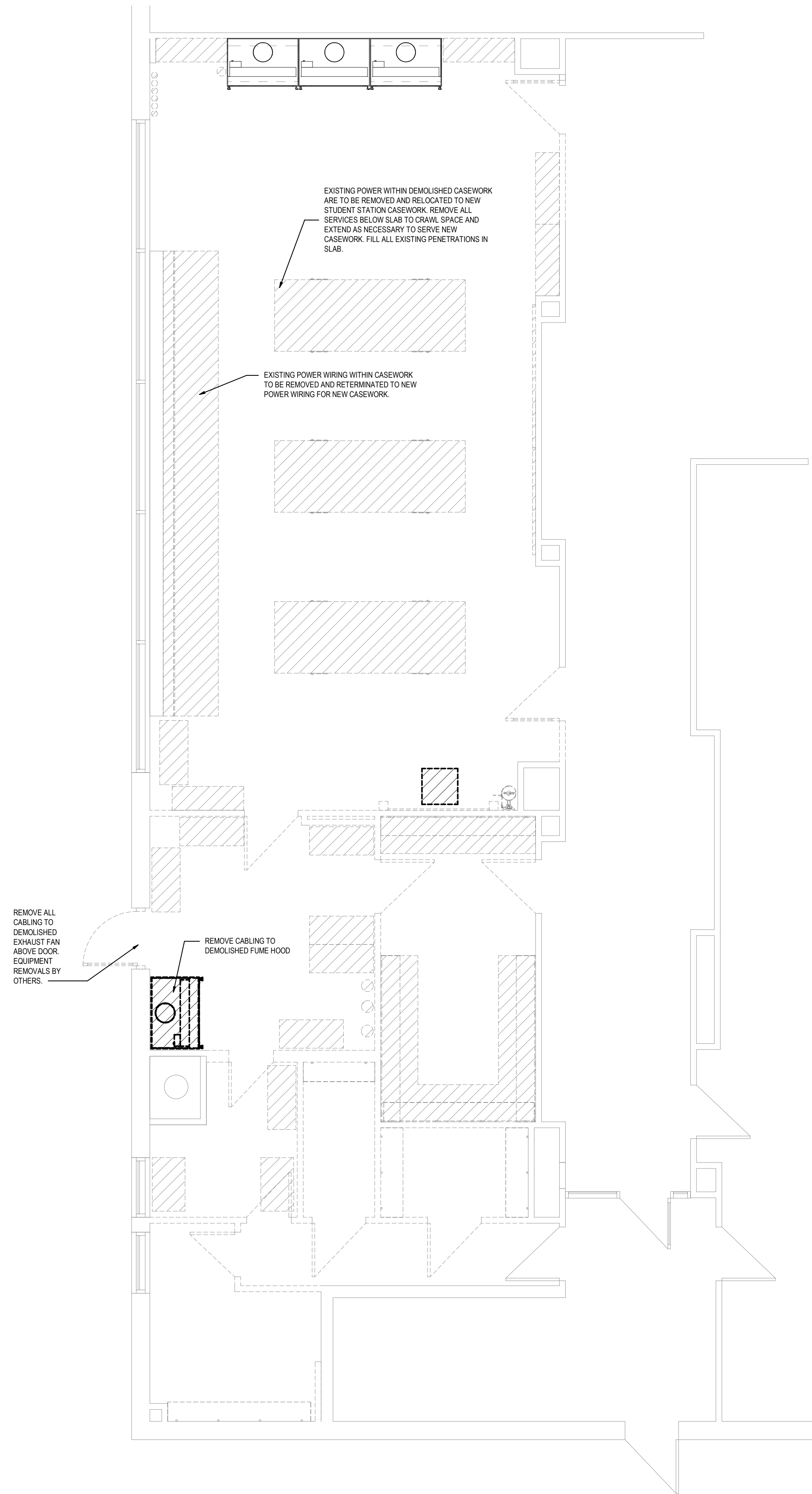
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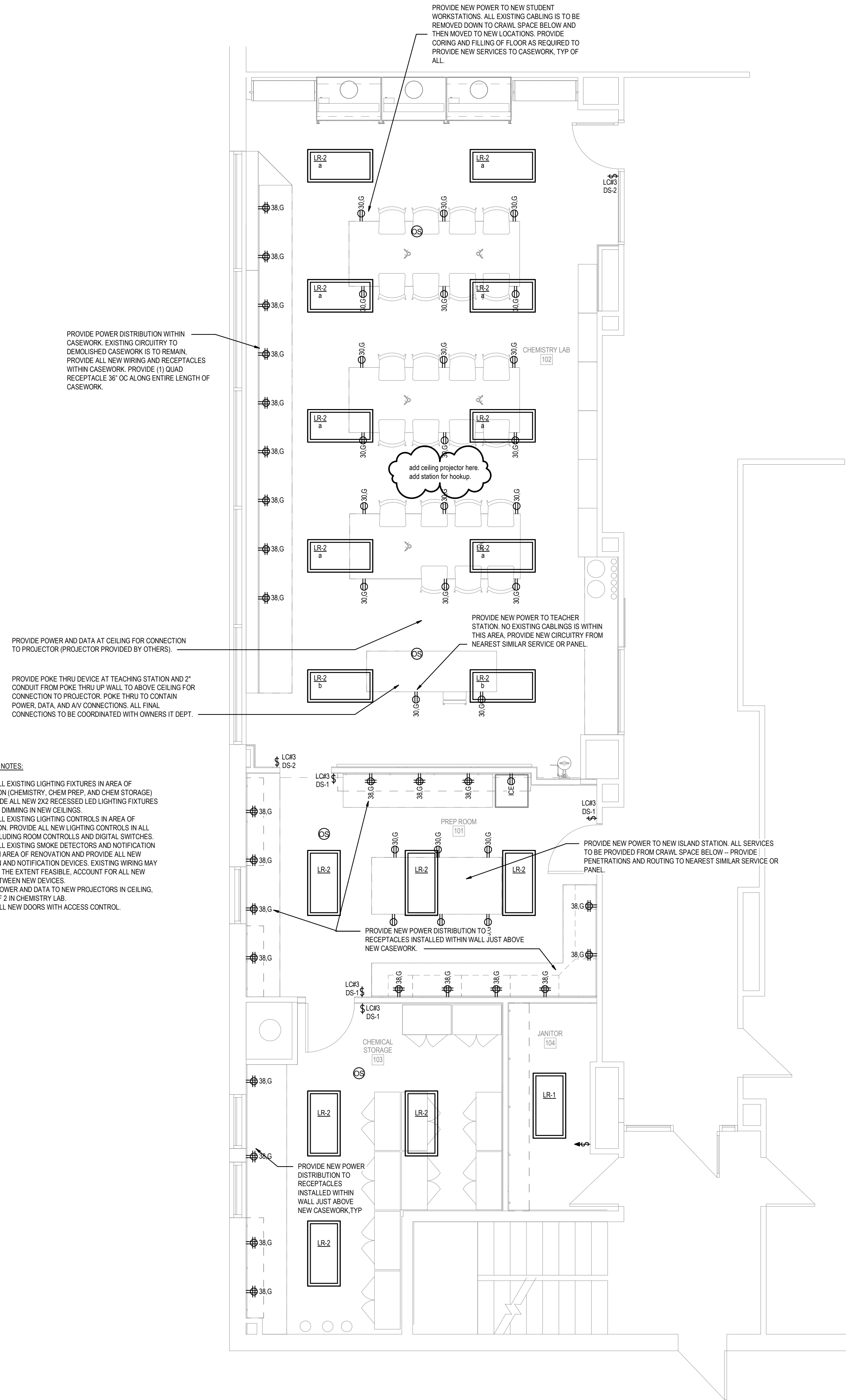
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1 CHEMISTRY ELEC DEMO
 1/4" = 1'-0"

COST ESTIMATE NOTES:

1. REMOVE ALL EXISTING LIGHTING FIXTURES IN AREA OF RENOVATION (CHEMISTRY, CHEM PREP, AND CHEM STORAGE) AND PROVIDE ALL NEW 2X2 RECESSED LED LIGHTING FIXTURES WITH 0-10V DIMMING IN NEW CEILINGS.
2. REMOVE ALL EXISTING LIGHTING CONTROLS IN AREA OF RENOVATION. PROVIDE ALL NEW LIGHTING CONTROLS IN ALL AREAS INCLUDING ROOM CONTROLS AND DIGITAL SWITCHES.
3. REMOVE ALL EXISTING SMOKE DETECTORS AND NOTIFICATION DEVICES IN AREA OF RENOVATION AND PROVIDE ALL NEW DETECTION AND NOTIFICATION DEVICES. EXISTING WIRING MAY REMAIN TO THE EXTENT FEASIBLE. ACCOUNT FOR ALL NEW WIRING BETWEEN NEW DEVICES.
4. PROVIDE POWER AND DATA TO NEW PROJECTORS IN CEILING. TYPICAL OF 2 IN CHEMISTRY LAB.
5. PROVIDE ALL NEW DOORS WITH ACCESS CONTROL.



2 CHEMISTRY ELEC PLAN
 1/4" = 1'-0"

Revisions		
No.	Description	Date
1	Revision 1	Date 1

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Date: 09/12/2018
 Checked By: JMZ Project No. 1813

ELECTRICAL CHEMISTRY LAB

E-101



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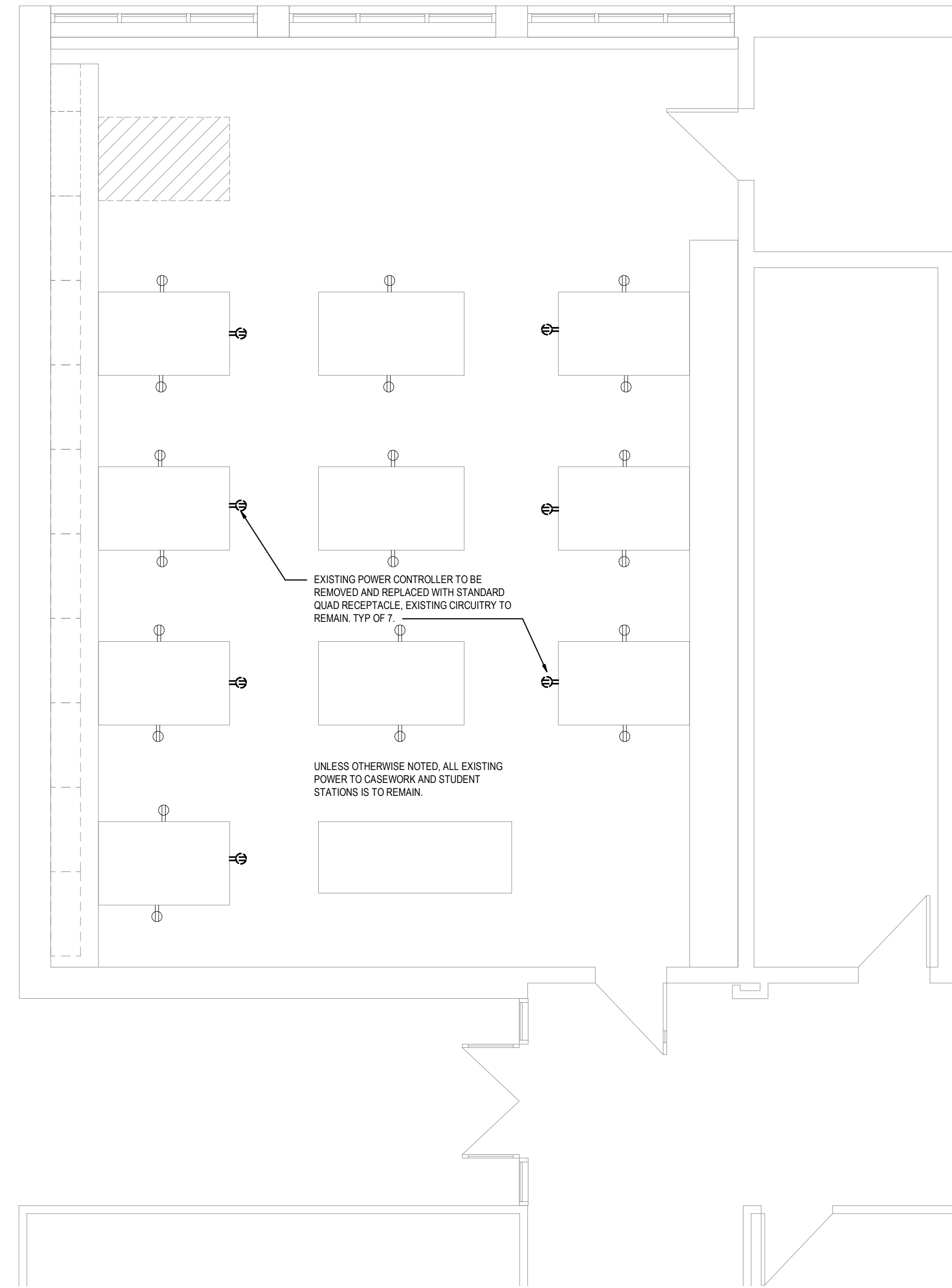
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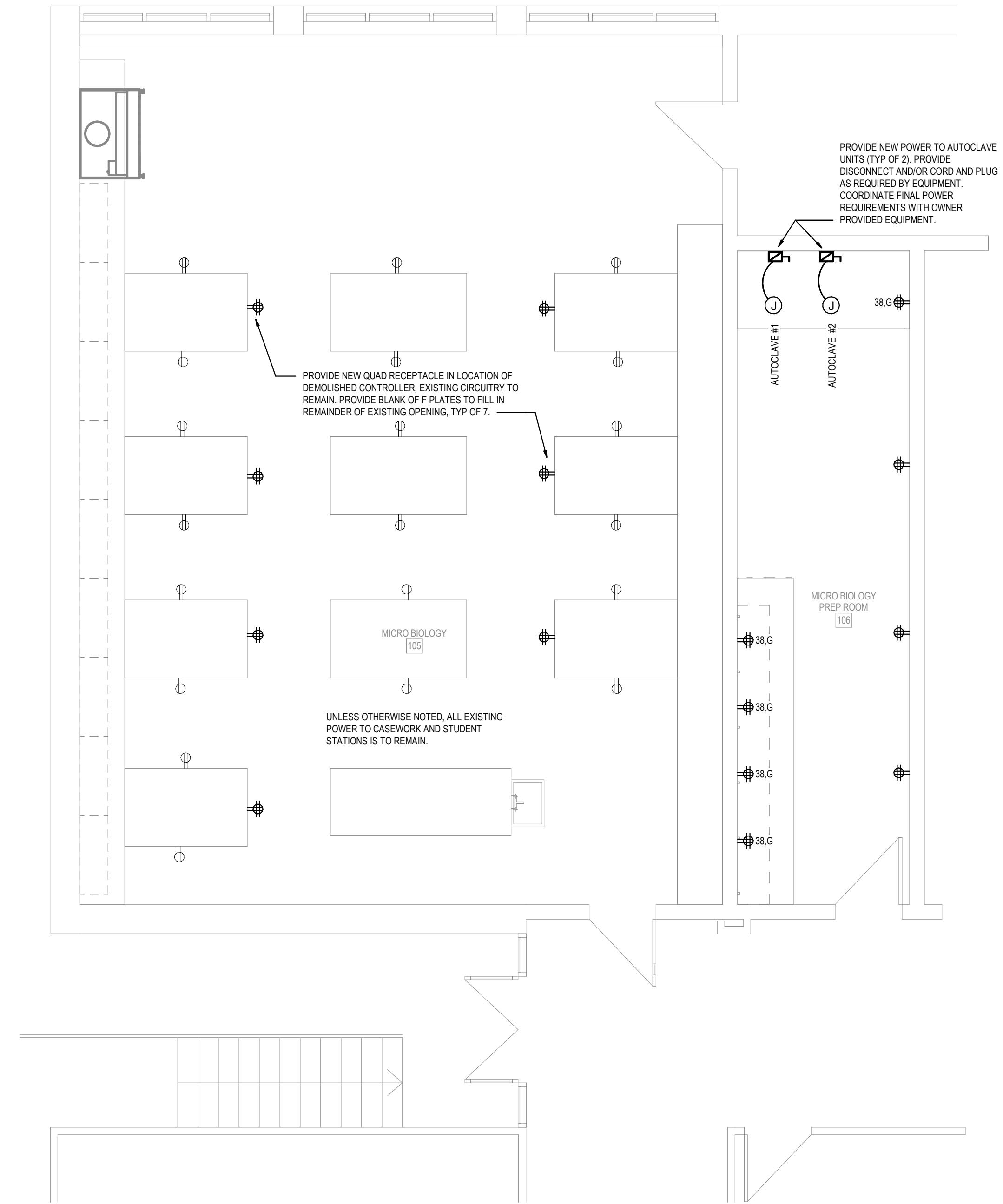
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1 MICRO BIOLOGY ELEC DEMO
1/4" = 1'-0"



2 MICRO BIOLOGY ELEC PLAN
1/4" = 1'-0"

COST ESTIMATE NOTES:

IN ADDITION TO THOSE NOTES AND DETAILS SHOWN ON THESE PLANS, ACCOUNT FOR THE FOLLOWING:

1. REMOVE ALL EXISTING LIGHTING FIXTURES IN AREA OF RENOVATION (MICRO BIOLOGY AND MICRO BIOLOGY PREP) AND PROVIDE ALL NEW 2X2 RECESSED LED LIGHTING FIXTURES WITH 0-10V DIMMING IN NEW CEILING.
2. REMOVE ALL EXISTING LIGHTING CONTROLS IN AREA OF RENOVATION. PROVIDE ALL NEW LIGHTING CONTROLS IN ALL AREAS INCLUDING ROOM CONTROLS AND DIGITAL SWITCHES.
3. REMOVE ALL EXISTING SMOKE DETECTORS AND NOTIFICATION DEVICES IN AREA OF RENOVATION AND PROVIDE ALL NEW DETECTION AND NOTIFICATION DEVICES. EXISTING WIRING MAY REMAIN TO THE EXTENT FEASIBLE. ACCOUNT FOR ALL NEW WIRING BETWEEN NEW DEVICES.
4. PROVIDE POWER AND DATA TO NEW PROJECTORS IN CEILING, TYPICAL OF 2.
5. PROVIDE ALL NEW DOORS WITH ACCESS CONTROL.

Revisions

No.	Description	Date

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NOT FOR
CONSTRUCTION

Date: 09/12/2018	JMZ Project No. 1813
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ELECTRICAL
MICRO
BIOLOGY LAB

E-103



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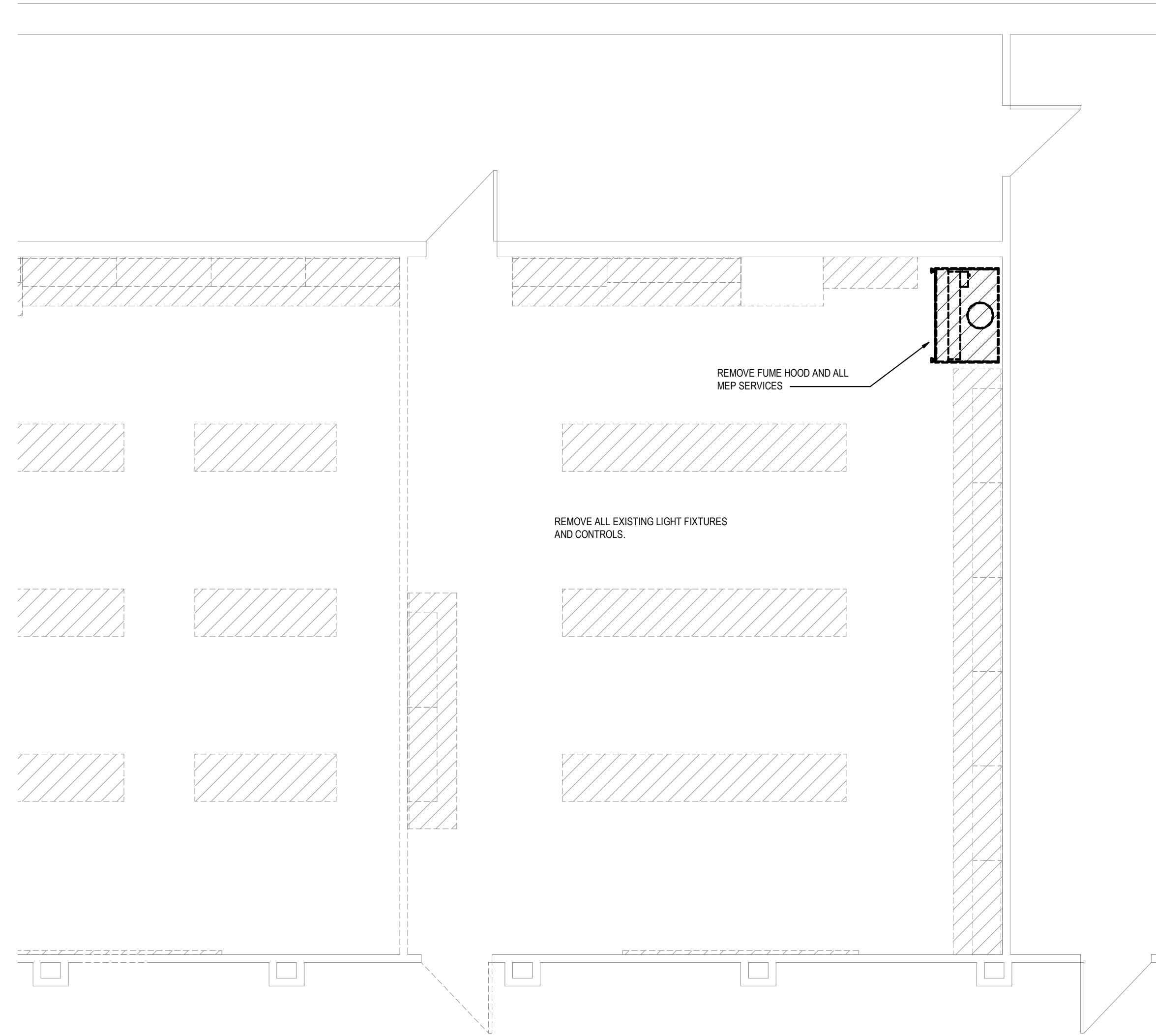
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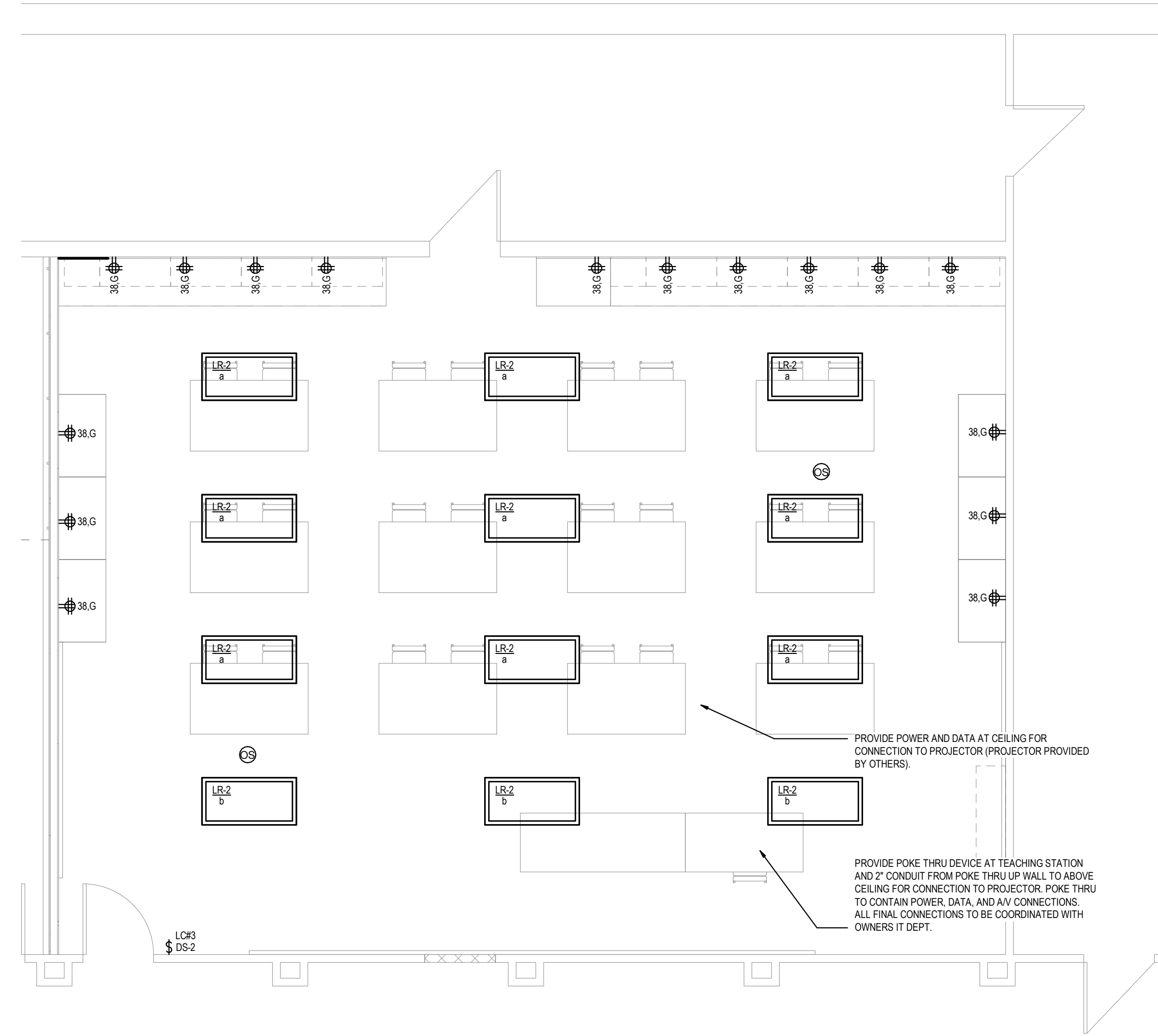
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1 PHYSICS ELEC DEMO
1/4" = 1'-0"



2 PHYSICS ELEC PLAN
1/4" = 1'-0"

COST ESTIMATE NOTES:

IN ADDITION TO THOSE NOTES AND DETAILS SHOWN ON THESE PLANS, ACCOUNT FOR THE FOLLOWING:

1. REMOVE ALL EXISTING SMOKE DETECTORS AND NOTIFICATION DEVICES IN AREA OF RENOVATION AND PROVIDE ALL NEW DETECTION AND NOTIFICATION DEVICES. EXISTING WIRING MAY REMAIN TO THE EXTENT FEASIBLE, ACCOUNT FOR ALL NEW WIRING BETWEEN NEW DEVICES.
2. PROVIDE POWER AND DATA TO NEW PROJECTORS IN CEILING, TYPICAL OF 2.
3. PROVIDE ALL NEW DOORS WITH ACCESS CONTROL.

Revisions

No.	Description	Date

Seal

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Date: 09/12/2018 JMZ Project No.

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ELECTRICAL
PHYSICS LAB

E-104



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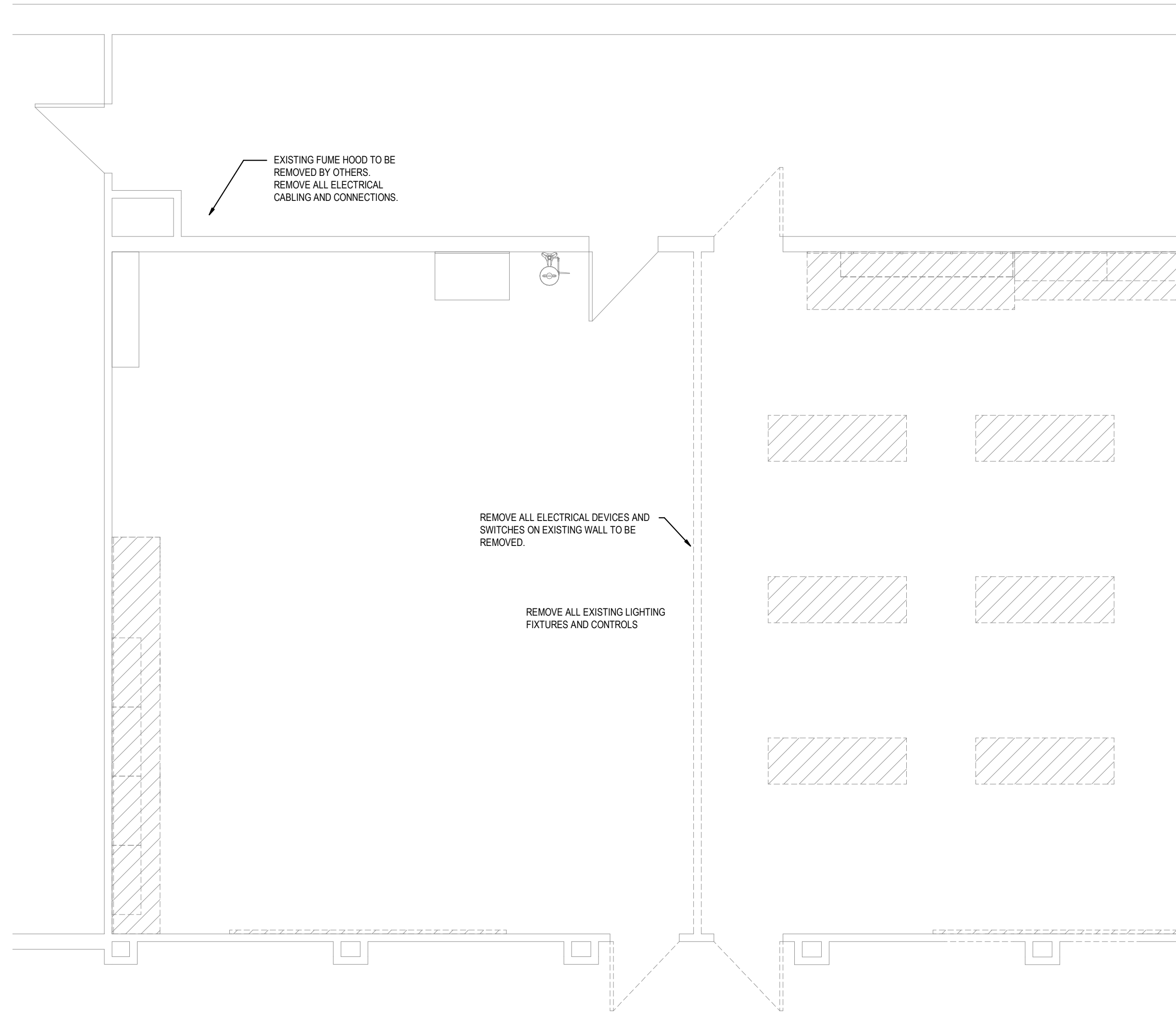
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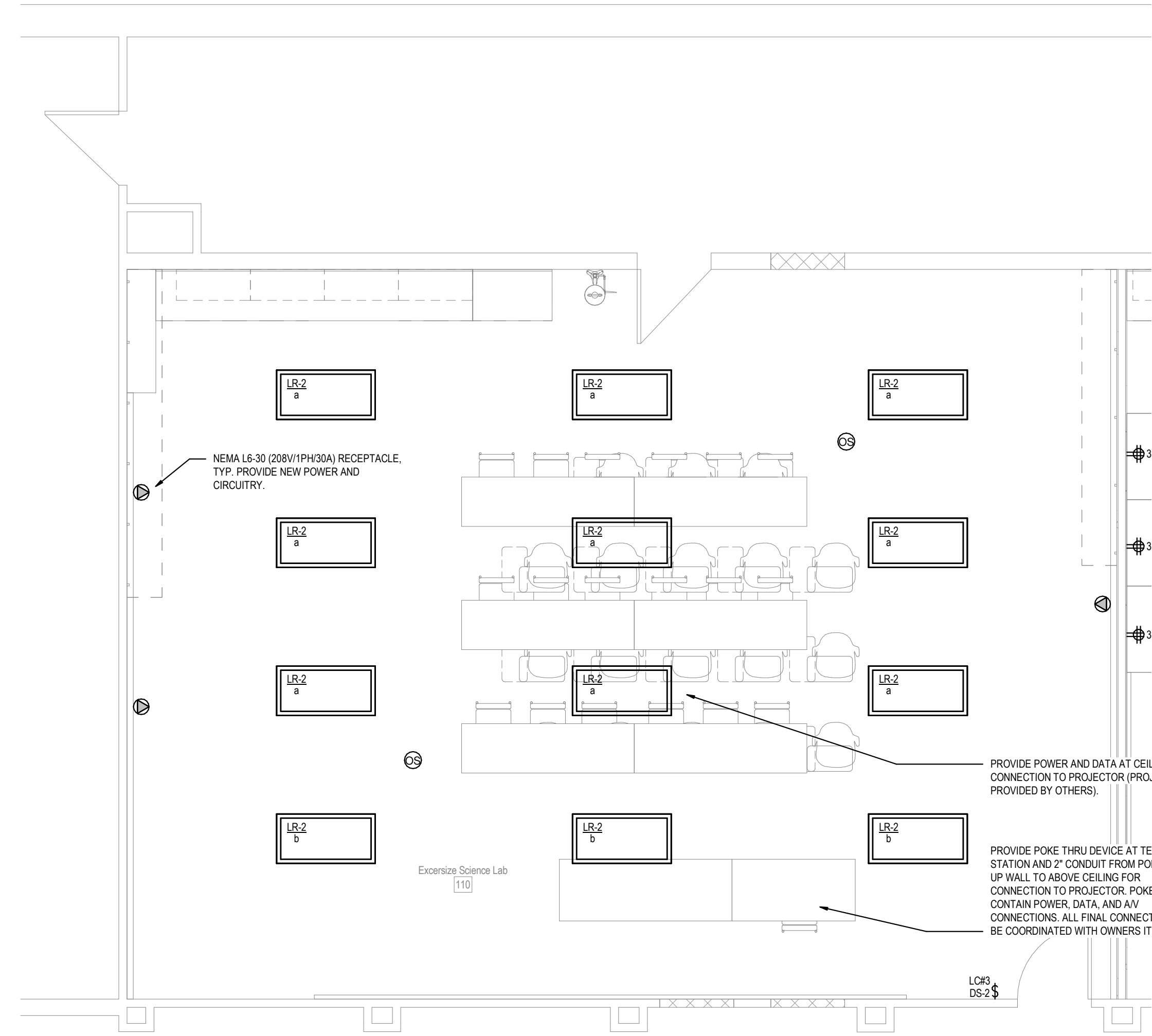
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1 EXERCISE SCIENCE ELEC DEMO
1/4" = 1'-0"



2 EXERCISE SCIENCE ELEC PLAN
1/4" = 1'-0"

COST ESTIMATE NOTES:

IN ADDITION TO THOSE NOTES AND DETAILS SHOWN ON THESE PLANS, ACCOUNT FOR THE FOLLOWING:

1. REMOVE ALL EXISTING SMOKE DETECTORS AND NOTIFICATION DEVICES IN AREA OF RENOVATION AND PROVIDE ALL NEW DETECTION AND NOTIFICATION DEVICES. EXISTING WIRING MAY REMAIN TO THE EXTENT FEASIBLE. ACCOUNT FOR ALL NEW WIRING BETWEEN NEW DEVICES.
2. PROVIDE POWER AND DATA TO NEW PROJECTORS IN CEILING, TYPICAL OF 2.
3. PROVIDE ALL NEW DOORS WITH ACCESS CONTROL.

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ELECTRICAL
EXERCISE
SCIENEC LAB

E-105



Project
Castleton State College

Jeffords Science Center Lab Renovation

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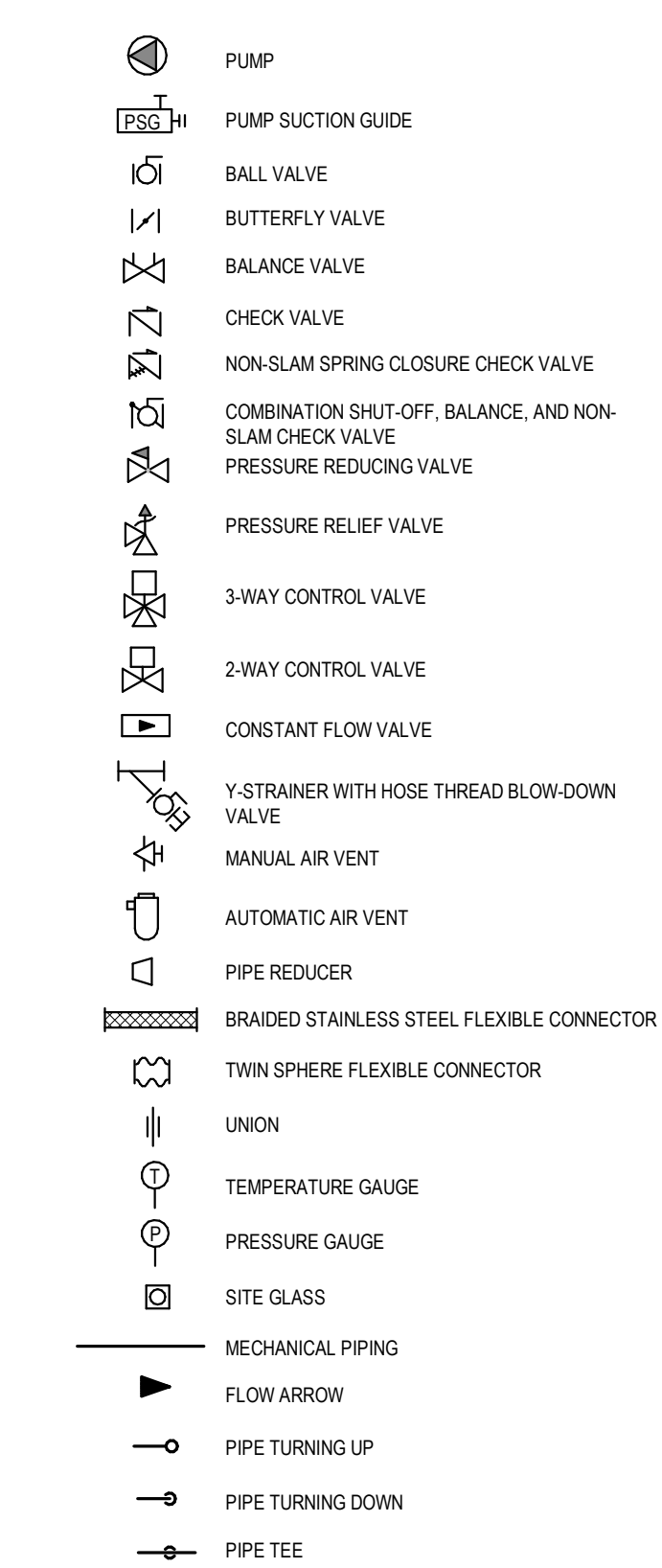
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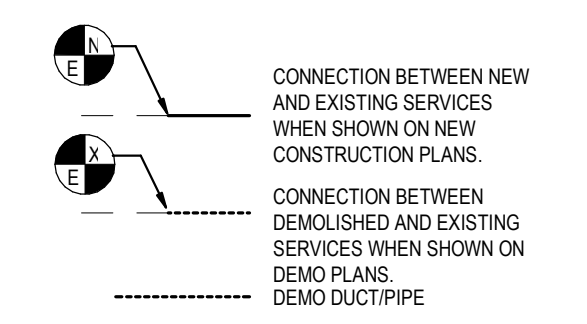
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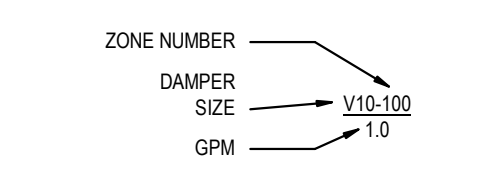
MECHANICAL PIPING LEGEND



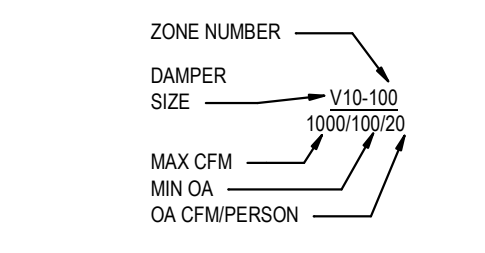
NEW/EXISTING/DEMO



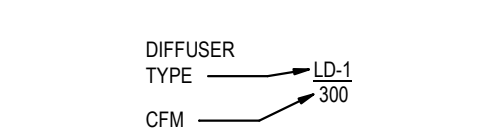
VAV TAG - WATER



VAV TAG - AIR



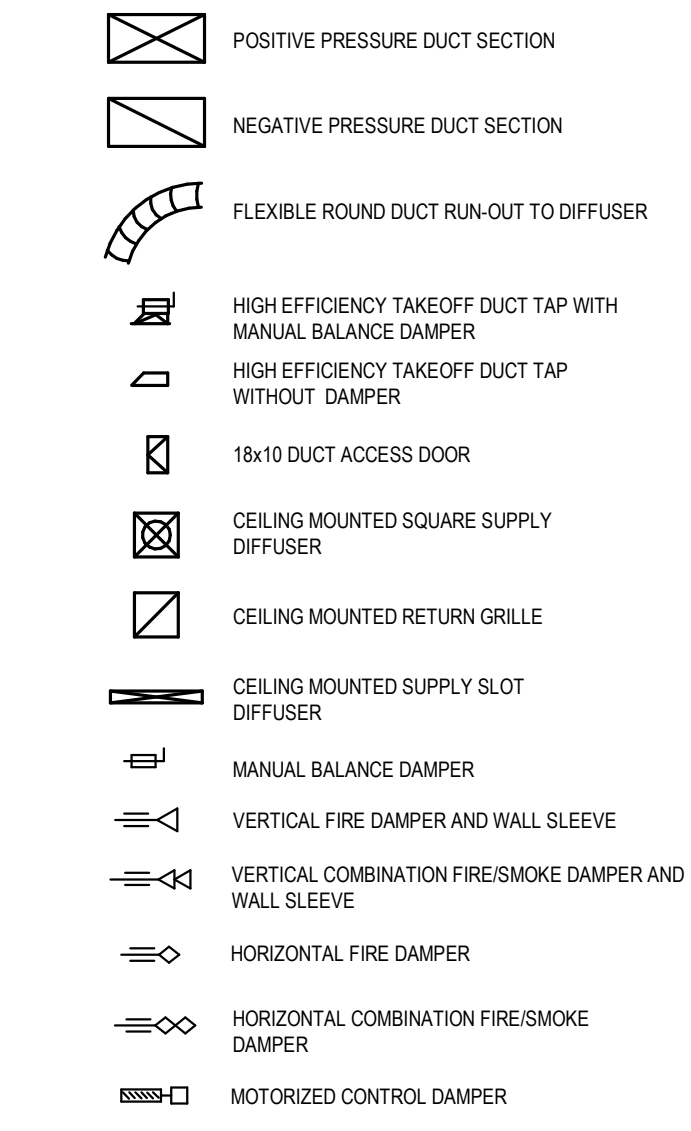
DIFFUSER TAG



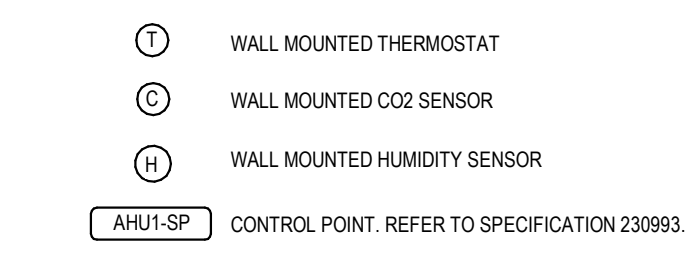
ABBREVIATIONS LEGEND

- AFF ABOVE FINISHED FLOOR
- BF BOTTOM FLAT
- BDP BOTTOM OF DUCT
- BOP BOTTOM OF PIPE
- CHWS CHILLED WATER SUPPLY
- CHWR CHILLED WATER RETURN
- EC ELECTRICAL CONTRACTOR
- ETR EXISTING TO REMAIN
- EUH ELECTRIC UNIT HEATER
- EXH EXHAUST
- GHWS 30% GLYCOL HOT WATER SUPPLY
- GHWR 30% GLYCOL HOT WATER RETURN
- HPC HIGH PRESSURE CONDENSATE
- HPS HIGH PRESSURE STEAM (100PSI)
- HWS HOT WATER SUPPLY
- HWR HOT WATER RETURN
- KEC KITCHEN EQUIPMENT CONTRACTOR
- KH KITCHEN HOOD
- LPC LOW PRESSURE CONDENSATE
- LPS LOW PRESSURE STEAM (10PSI)
- MC MECHANICAL CONTRACTOR
- MPC MEDIUM PRESSURE CONDENSATE
- MPS MEDIUM PRESSURE STEAM (40PSI)
- MSW MULTISPLIT WALL UNIT
- OA OUTDOOR AIR
- OR OFFSET IN RISE
- OWA OPENABLE WINDOW AREA
- PC PUMPED CONDENSATE
- RA RETURN AIR
- RL REFRIGERANT LIQUID
- RS REFRIGERANT SUCTION
- RTN RETURN
- RTU ROOF TOP UNIT
- SA SUPPLY AIR
- SD SUPPLY DIFFUSER
- TD TRANSFER DUCT
- TF TOP FLAT
- TXV THERMOSTATIC EXPANSION VALVE
- TYP TYPICAL
- VFD VARIABLE FREQUENCY DRIVE
- WMS WIRE MESH SCREEN (80% FREE)

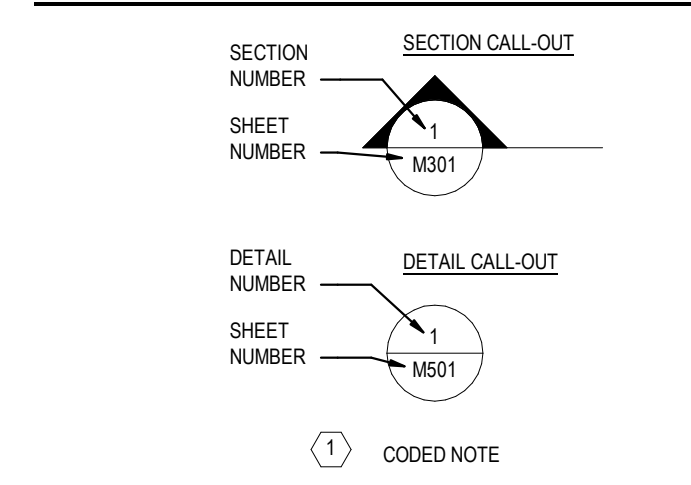
MECHANICAL DUCTWORK LEGEND



MECHANICAL CONTROLS LEGEND

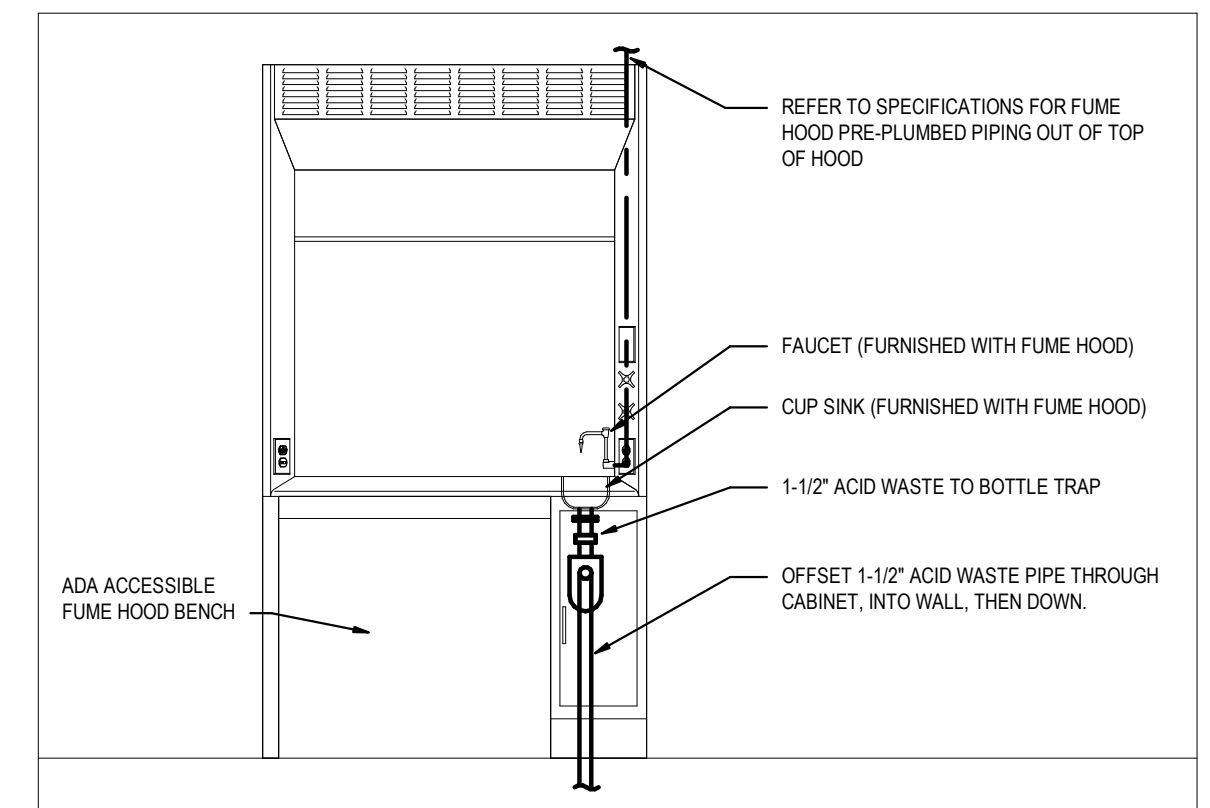


MECHANICAL DRAWING SYMBOLS

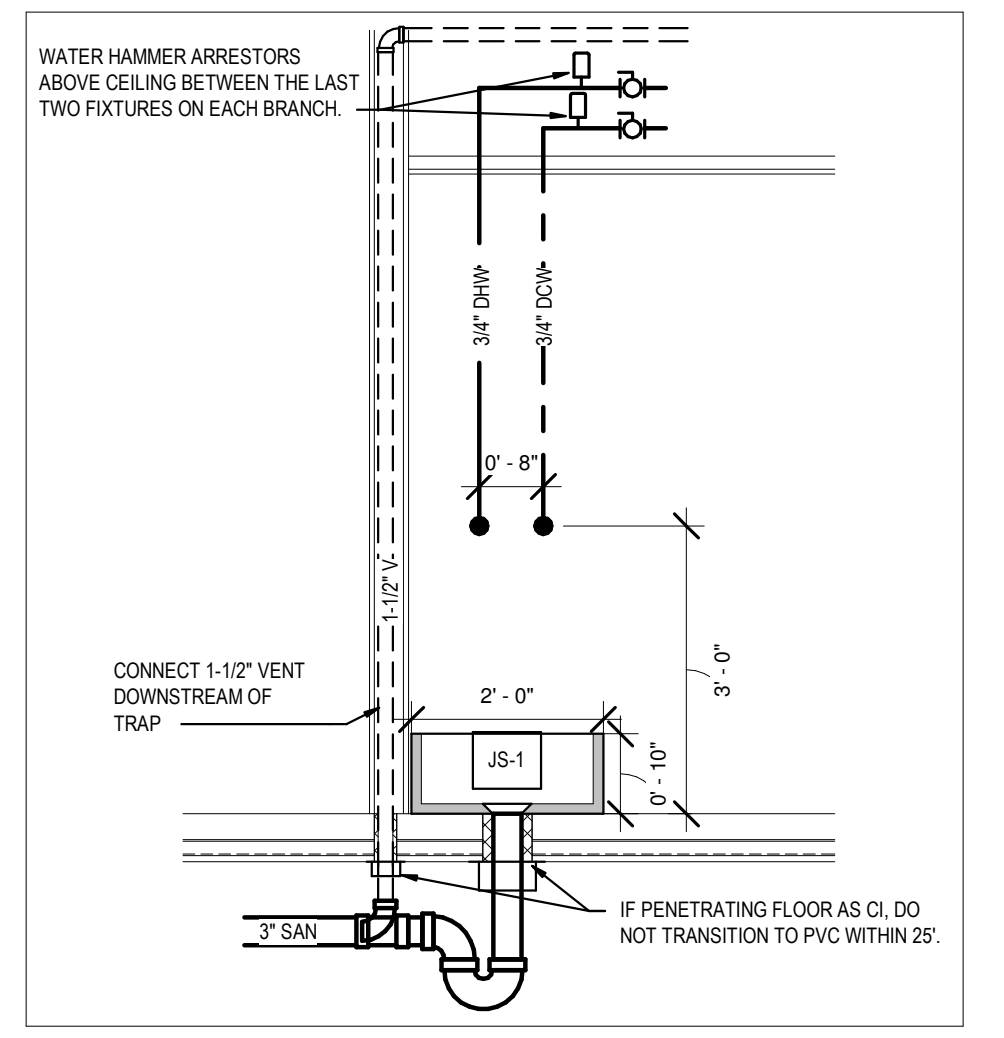


GENERAL NOTES

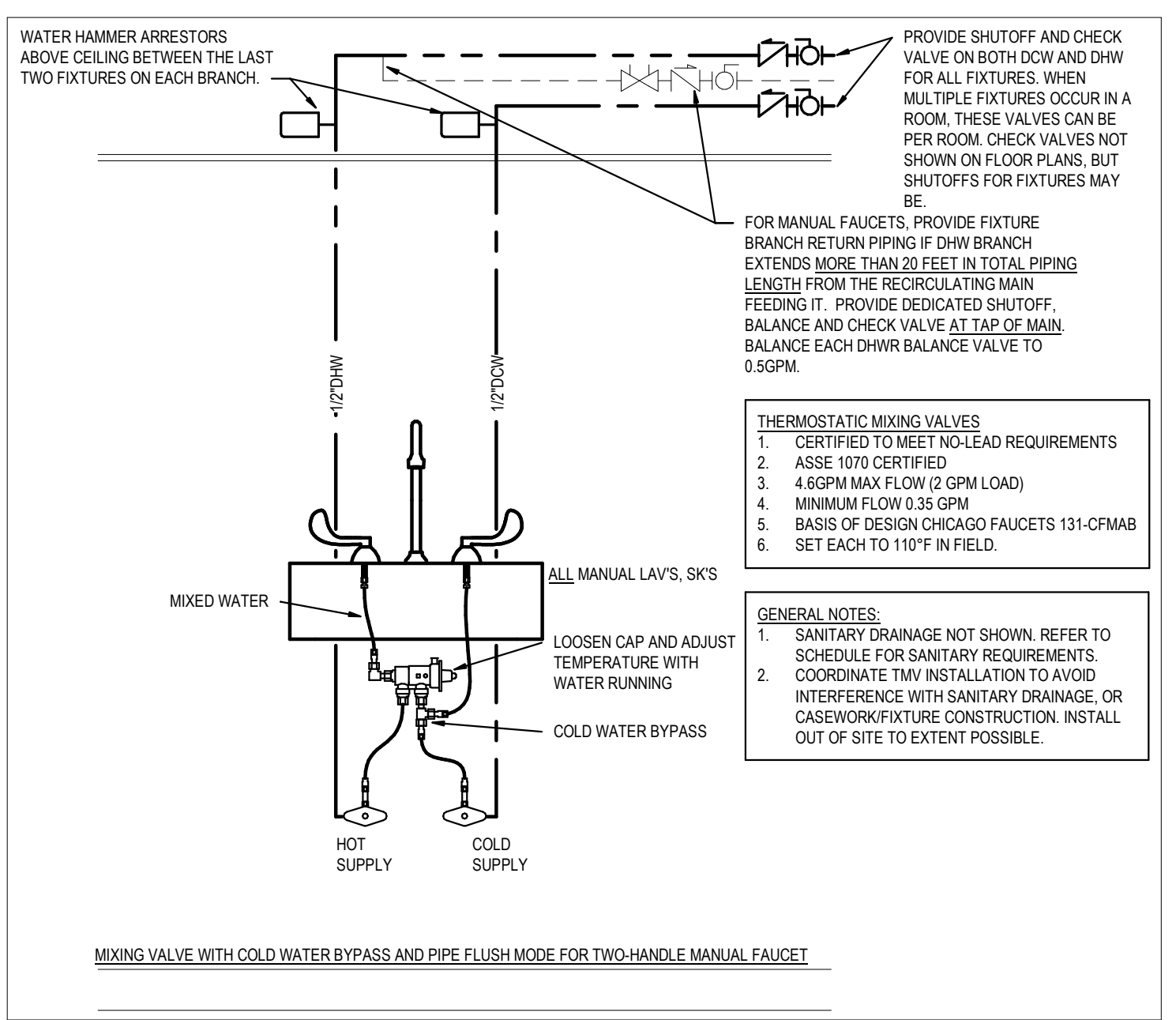
1. COORDINATE DUCTWORK AND EQUIPMENT INSTALLATION WITH WALL CONSTRUCTION. DO NOT RUN DUCTWORK ALONG THE TOP OF WALLS OR THE EDGE OF SOFFITS, AND DO NOT INSTALL EQUIPMENT IN WALLS OR SOFFITS. CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE ENTIRE CONSTRUCTION DOCUMENT SET, MOST NOTABLY ALL M, E, P, FP AND ARCHITECTURAL DRAWINGS, AND SHALL BE RESPONSIBLE FOR MAKING NECESSARY EFFORTS TO COORDINATE INSTALLATION WITH OTHER TRADES. PRIOR TO INSTALLATION OF WALL MOUNTED T-STATS, CO2 SENSORS, OR SWITCHES, REFER TO ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS OF WALL MOUNTED DEVICES SUCH AS WHITE BOARDS, COAT HOOKS, OR CABINETS, AND MAKE NECESSARY ADJUSTMENTS TO DEVICE LOCATION TO AVOID CONFLICT.
2. SIZES FOR DUCT BRANCHES SERVING VAV'S, ARE NOT SHOWN ON PLAN FOR CLARITY. REFER TO VAV INSTALLATION DETAIL FOR UPSTREAM AND DOWNSTREAM DUCT SIZES, TRANSITION/OFFSETS, AND HANGING DETAILS. DIFFUSER BRANCH RUNOUT SIZES NOT SHOWN ON PLAN FOR CLARITY. ALL RUNOUTS SHALL BE THE SAME SIZE AS THE DIFFUSER NECK SIZE INDICATED ON W-400.
3. PIPING BRANCH RUNOUT SIZES SHALL BE EQUAL TO THE CONNECTION SIZE INDICATED ON THE EQUIPMENT SCHEDULE OR DETAILS OR A MINIMUM OF 3/4", WHICH EVER IS GREATER.
4. DO NOT RUN PIPING OR DUCTWORK OTHER THAN WHAT IS SPECIFICALLY SHOWN THRU ELECTRIC ROOMS OR CLOSETS, DATA ROOMS, STAIR ENCLOSURES, OR SHAFTS.
5. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF FIRE RATED CONSTRUCTION. AT ALL FLOOR, AND WALL PENETRATIONS W/O DAMPERS, INSTALL INTUMESCENT SEALANT IN STRICT CONFORMANCE WITH MANUFACTURER'S LISTED INSTALLATION DETAIL. REFER TO FIRESTOPPING SPECIFICATION FOR INTUMESCENT SEALANT REQUIREMENTS. ALL DUCTWORK AND EQUIPMENT SHALL BE INSTALLED AS HIGH AS POSSIBLE, EITHER TIGHT TO DECK OR TIGHT TO STEEL FIREPROOFING (WITH CLEARANCE FOR INSULATION AS APPLICABLE) UNLESS OTHERWISE NOTED. ANY NECESSARY OFFSETS OR TRANSITIONS SHALL BE PROVIDED, WHETHER SHOWN OR NOT, TO ALLOW DUCTWORK TO SERVE AREAS INDICATED AND FIT WITHIN CEILING PLENUM.
6. PROVIDE INLETS, AS REQUIRED ON STRUCTURAL DRAWINGS, FOR OPENINGS IN MASONRY WALLS.
7. DUCTWORK LAYOUT AND LOCATIONS OF FIRE DAMPERS AND FIRE SMOKE DAMPERS ARE CAREFULLY COORDINATED WITH FIRE AND SMOKE RATED WALLS. ANY PROPOSED CHANGES TO DUCT LAYOUT RELATIVE TO LOCATIONS OF RATED WALLS MUST BE REVIEWED BY ENGINEER.
8. ALL OPEN ENDED (OED) RETURN DUCTS ARE TO BE FINISHED WITH AFFIXED WIRE MESH SCREENS (WMS).
9. DUCTED RETURN GRILLES SHALL BE BALANCED TO APPROXIMATELY 85% OF THE SUPPLY AIR VOLUME SERVING THE RESPECTIVE SPACE. OPEN ENDED RETURN DUCTS SHALL BE BALANCED TO APPROXIMATELY 85% OF THE SUM OF THE SUPPLY AIR SERVING ALL OF THE RESPECTIVE SPACES ASSOCIATED WITH THE OPEN ENDED RETURN DUCT.



3 FUME HOOD PLUMBING DETAIL
NOT TO SCALE



2 JANITOR SINK DETAIL
NOT TO SCALE



1 DOMESTIC CONNECTION DETAIL FOR MANUAL SINKS
NOT TO SCALE

TAG	TYPE	SERVICE	ESP (\"/>							
				EF-1	ROOFTOP, MIXED FLOW, UPBLAST	BIOLOGY	3.0	2100	2083	3
EF-2	INLINE	CHEMISTRY PREP/STORAGE	0.75	750	1201	1/2	-	15750		21\"/>

NOTES:
1. FOR EF-1, PROVIDE HIGH VELOCITY OUTLET NOZZLE (HV, 5000 FPM), SOUND ATTENUATING WINDBAND, 24\"/>



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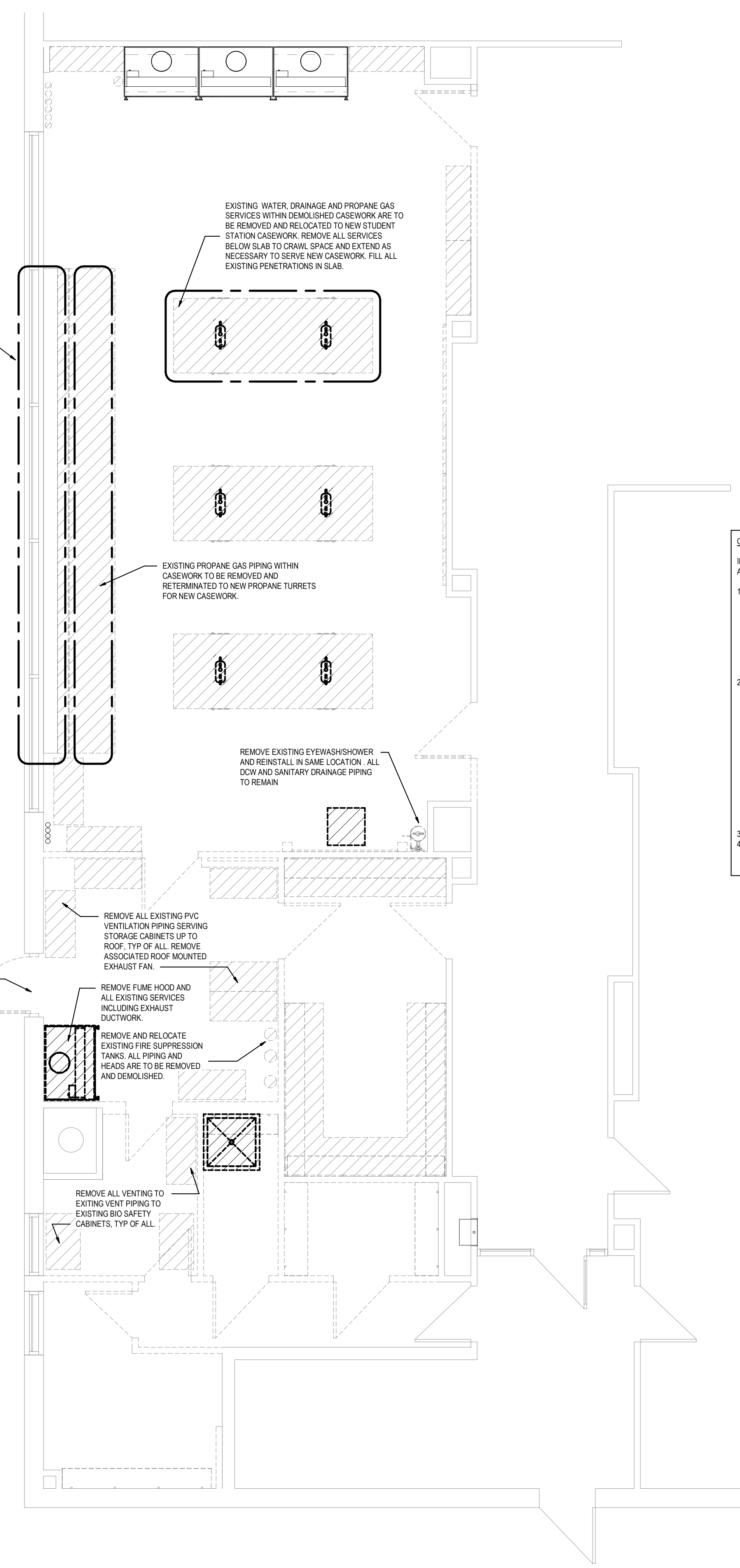
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MECH & PLUMBING CHEMISTRY LAB

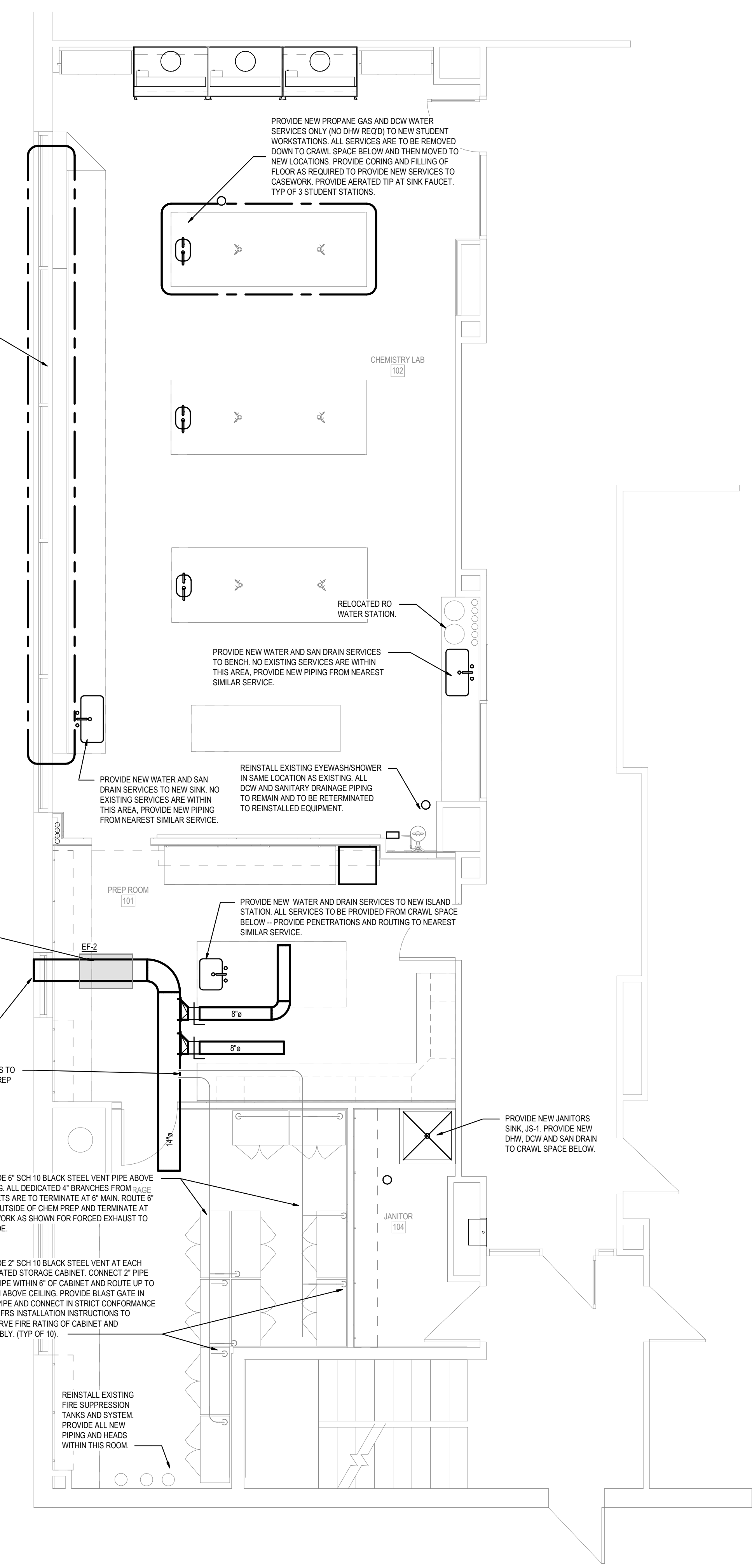
M-101



2 DEMO - CHEMISTRY
1/4" = 1'-0"

COST ESTIMATE NOTES:
IN ADDITION TO THOSE NOTES AND DETAILS SHOWN ON THESE PLANS, ACCOUNT FOR THE FOLLOWING:

- ALL OF THE EXISTING SINKS WITHIN CHEMISTRY ARE CURRENTLY DRAINED TO AN EXISTING ACID NEUTRALIZATION TANK WITHIN THE BASEMENT CRAWL SPACE. THE EXISTING PIPING IS OK TO REMAIN (EXCEPT AS MODIFIED DUE TO RECONFIGURATION OF LAB CASEWORK AS NOTED ON FLOOR PLANS), BUT THE TANK IS NEARING ITS END OF LIFE AND NEEDS TO BE REPLACED. PROVIDE NEW 50 GALLON ACID NEUTRALIZATION TANK ON EXISTING CONCRETE EQUIPMENT PAD AND RETERMINATE ALL EXISTING PIPING.
- PROVIDE NEW HVAC TO PREP ROOM AND CHEM STORAGE:
 - PROVIDE NEW EXHAUST FAN AND AIR TERMINALS WITHIN CHEM PREP AND STORAGE AS INDICATED ON DRAWINGS.
 - MODIFY EXISTING SUPPLY DUCTWORK CURRENTLY SERVING CHEMISTRY TO EXTEND TO PREP AND STORAGE. (1) OF THE (4) EXISTING SUPPLY RISERS IS TO BE DEMOLISHED DOWN TO CRAWL SPACE AND MODIFIED TO EXTEND UP INTO PREP/STORAGE AREA IN A LOCATION TBD.
 - PROVIDE ALL NEW BRANCH DUCTWORK AND DISTRIBUTION WITHIN PREP AND STORAGE AREAS.
 - MODIFY EXISTING AHU WITHIN CRAWL SPACE BY REMOVING THE EXISTING SUPPLY FAN AND PROVIDING A NEW 10HP MOTOR IN ITS PLACE.
- REFER TO ARCHITECTURAL PLANS FOR SINK SIZES.
- PROVIDE STANDALONE PROPANE LEAK DETECTION ALARM AND DETECTOR WITHIN CHEMISTRY LAB. COORDINATE FINAL LOCATION WITH OWNER.



1 CHEMISTRY
1/4" = 1'-0"



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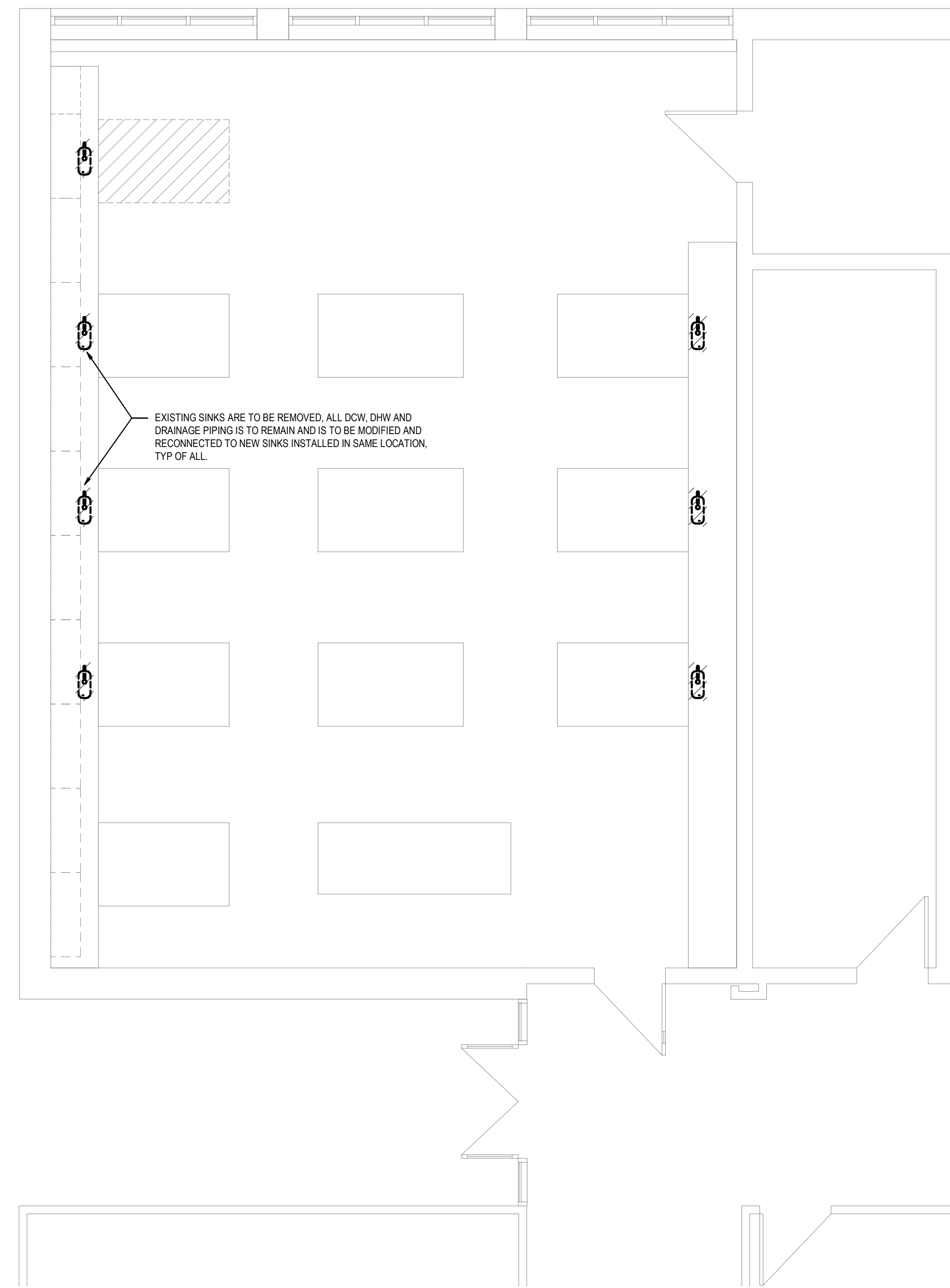
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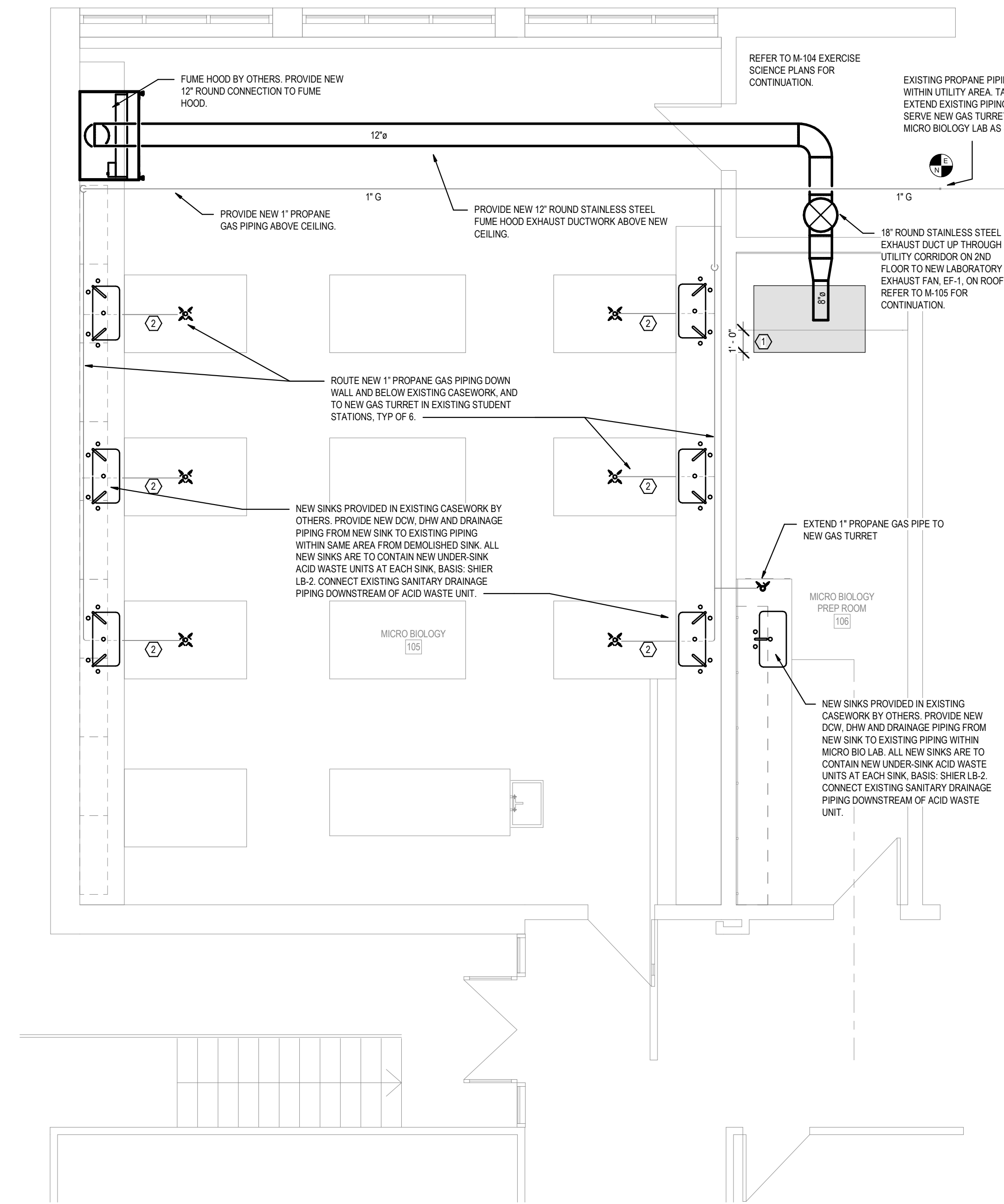
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2 DEMO - MICRO BIOLOGY
1/4" = 1'-0"



1 MICRO BIOLOGY
1/4" = 1'-0"

CODED NOTES:

- 1 PROVIDE NEW TYPE 2 STAINLESS STEEL EXHAUST HOOD ABOVE OWNER AUTOCLAVE EQUIPMENT. HOOD SHALL EXTEND 1' BEYOND FRONT FACE OF EQUIPMENT. COORDINATE FINAL LOCATION IN FIELD WITH OWNER. PROVIDE 8" ROUND NECK WITH BALANCE VALVE AND CONNECT TO NEW EXHAUST DUCTWORK. TAB CONTRACTOR SHALL BALANCE HOOD SUCH THAT EXHAUST PLUME IS CAPTURED UPON OPENING OF (1) AUTOCLAVE UNIT AT A TIME. BASIS: CAPTIVE AIR VHB WITH REMOVEABLE CONDENSATE BAFFLE
- 2 ROUTE GAS PIPING WITHIN CENTER APRON OF STUDENT STATION AND UP TO GAS TURRET.

COST ESTIMATE NOTES:

IN ADDITION TO THOSE NOTES AND DETAILS SHOWN ON THESE PLANS, ACCOUNT FOR THE FOLLOWING:

- 1. THE ADDITION OF THE FUME HOOD AND TYPE 2 EXHAUST HOOD IN PREP AREA WILL REQUIRE RE-BALANCING OF THE EXISTING AHU-2 SYSTEM CURRENTLY SERVING THESE SPACES. ACCOUNT FOR PRE-BALANCE, READJUSTMENT OF DISTRIBUTION, AND FINAL BALANCING TO ADJUST THE MAKE UP AIR INTO BOTH MICRO BIOLOGY AND MICRO BIOLOGY PREP AREAS.
- 2. REFER TO ARCHITECTURAL PLANS FOR SINK SIZES.
- 3. PROVIDE STANDALONE PROPANE LEAK DETECTION ALARM AND DETECTOR WITHIN CHEMISTRY LAB. COORDINATE FINAL LOCATION WITH OWNERS.

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MECH &
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MICRO
BIOLOGY LAB

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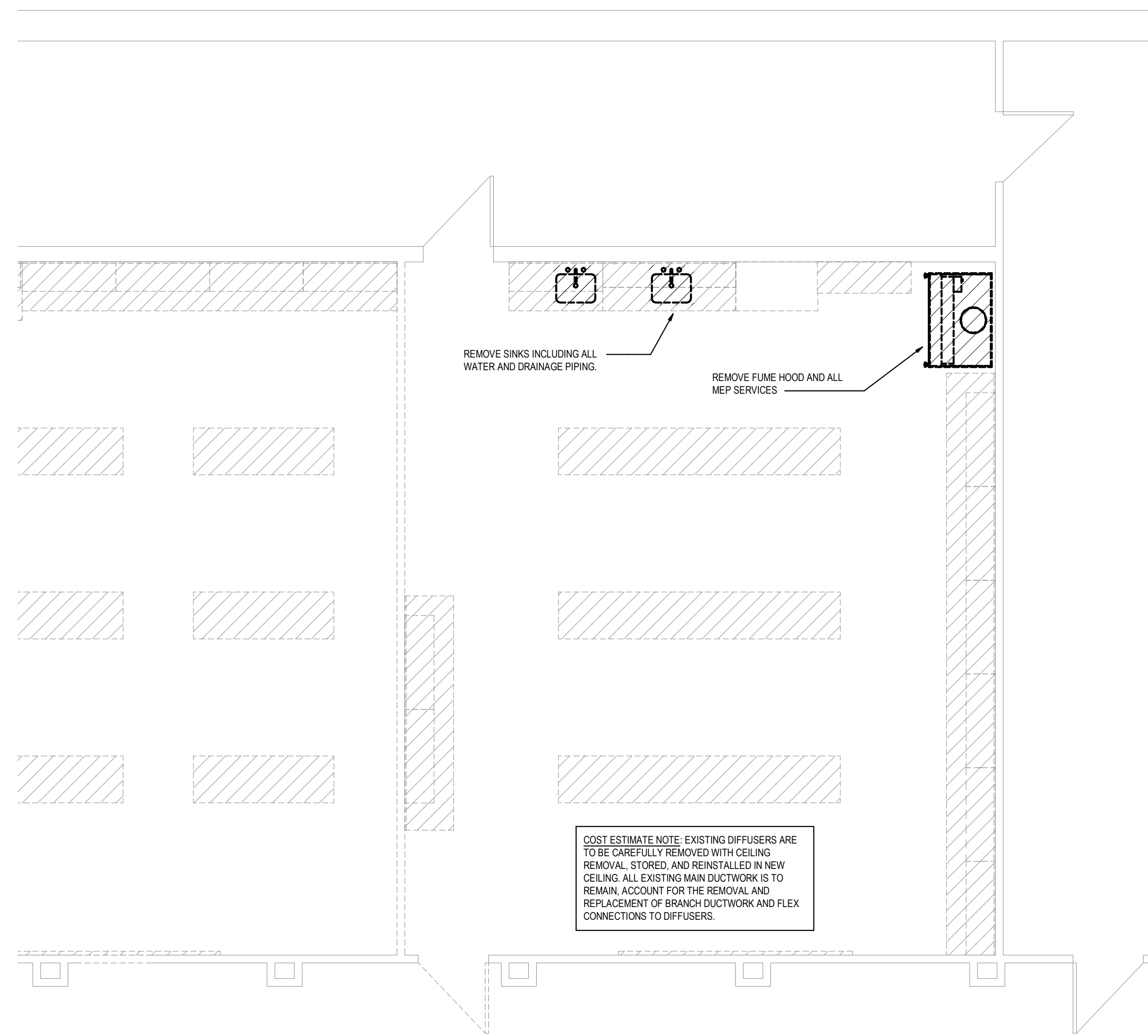
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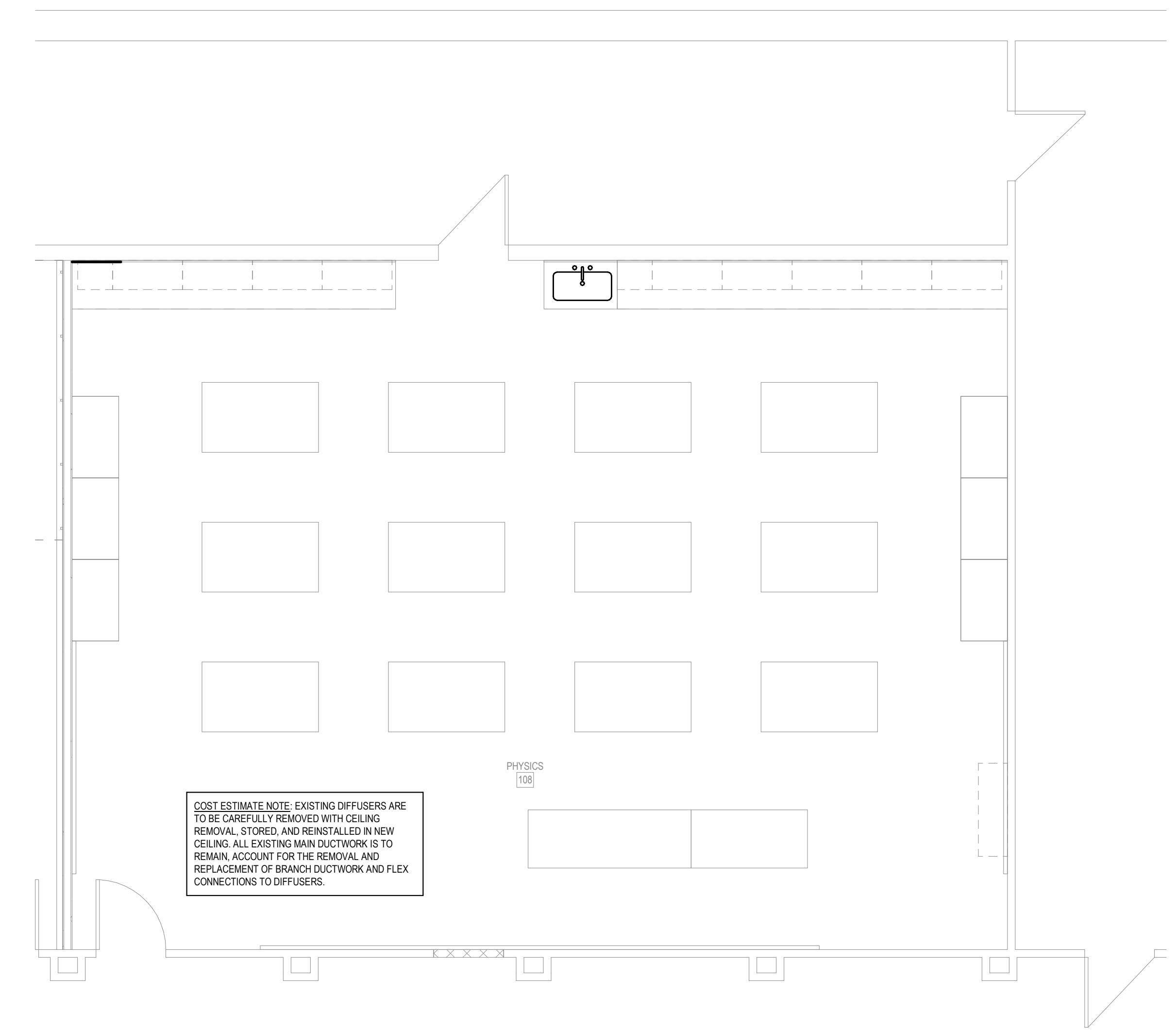
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COST ESTIMATE NOTE: EXISTING DIFFUSERS ARE TO BE CAREFULLY REMOVED WITH CEILING REMOVAL, STORED, AND REINSTALLED IN NEW CEILING. ALL EXISTING MAIN DUCTWORK IS TO REMAIN. ACCOUNT FOR THE REMOVAL AND REPLACEMENT OF BRANCH DUCTWORK AND FLEX CONNECTIONS TO DIFFUSERS.

2 DEMO - PHYSICS
1/4" = 1'-0"



COST ESTIMATE NOTE: EXISTING DIFFUSERS ARE TO BE CAREFULLY REMOVED WITH CEILING REMOVAL, STORED, AND REINSTALLED IN NEW CEILING. ALL EXISTING MAIN DUCTWORK IS TO REMAIN. ACCOUNT FOR THE REMOVAL AND REPLACEMENT OF BRANCH DUCTWORK AND FLEX CONNECTIONS TO DIFFUSERS.

1 PHYSICS
1/4" = 1'-0"

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PHYSICS LAB

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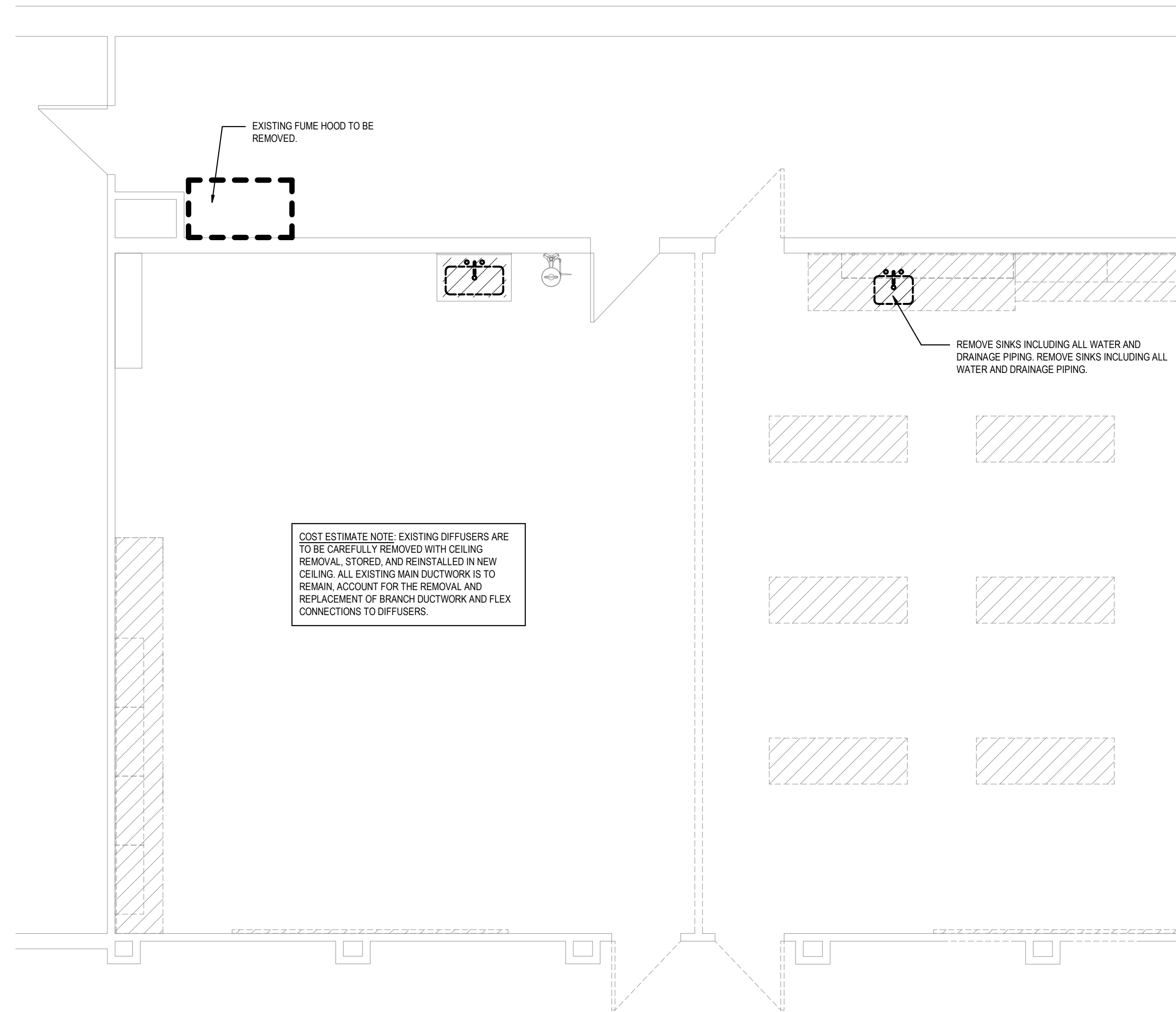
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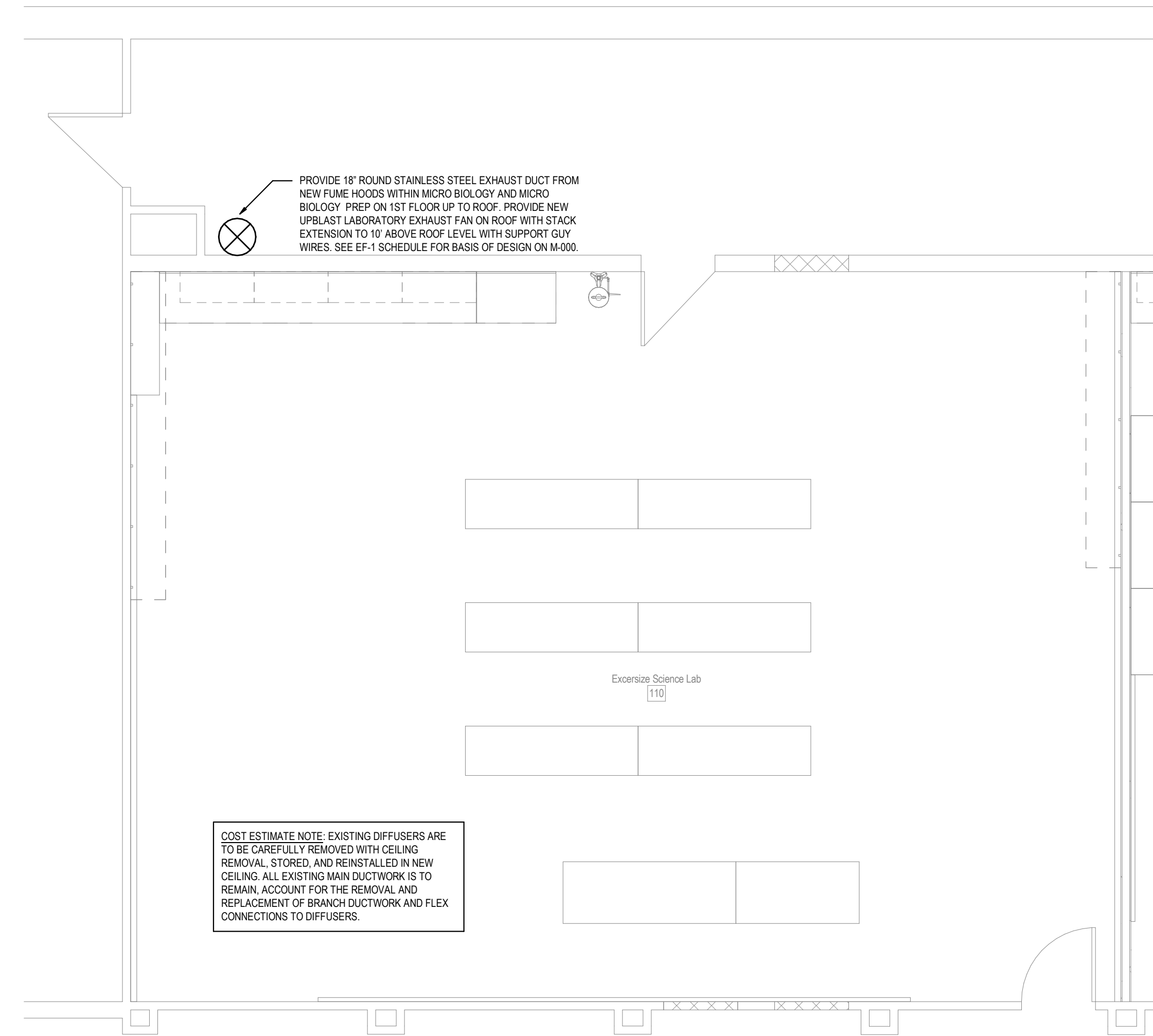
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2 DEMO - EXERCISE SCIENCE
 1/4" = 1'-0"



1 EXERCISE SCIENCE
 1/4" = 1'-0"

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**MECH &
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 EXERCISE
 SCIENCE LAB**

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