

ADDENDUM NUMBER TWO

**CHHS SCIENCE LAB RENOVATION
HAYWOOD COUNTY SCHOOLS**

MLA PROJECT NUMBER: 19017

Mark Lusk Architecture, PLLC
128 Woodburn Drive
Swannanoa, NC 28778
(828) 808-9757

DATE OF ISSUE: January 24, 2020

TO: ALL BIDDERS OF RECORD

This Addendum modifies the Contract Documents only in the manner and to the extent stated herein and shown on any accompanying drawings and will become a part of the Contract Documents. Except as specified or otherwise indicated by this Addendum, all work shall be in accordance with the basic requirements of the Contract Documents.

BIDDERS SHALL ACKNOWLEDGE RECEIPT OF ADDENDUM ON BID FORM.

This Addendum consists of one page(s) and any enclosures noted:

I. ENCLOSURES:

1. Sheets A201, A202
2. Sheets E1, E2, E3, P3
3. Bid Form

II. GENERAL INFORMATION / CLARIFICATIONS:

1. A201 - Owner provided casework. The contractor shall provide (furnish/install) fixtures along with supply and waste lines

III. CHANGES TO PROJECT MANUAL:

1. Section 123553 - Sinks shall be epoxy resin material only.
2. Bid Form, Addendum One - Pre Bid Conference Report - Substantial Completion date is revised from April 3, 2020 to April 30, 2020
3. See Bid Form for Alternates. Alternate 1 is revised and Alternate 2 added. Alternates describe revisions to the finish and materials. The tables are removed from the Alternate
4. The Tables (Table Elevations A and B) shall be included in the Base Bid (provided by a manufacturer as noted in 123553-2)
5. Drawer pulls shall be surface mounted stainless steel in lieu of recessed pulls.

IV. CHANGES TO DRAWINGS:

1. See E1, E2, E3, P3 for :
 - a. Sheets E1 and E3. The legend and fixture schedule were revised
 - b. Sheet E3. A weatherproof GFCI receptacle was added for the water heater Emergency Shut Off switch
 - c. Sheet E3. A GFCI receptacle was provided for maintenance at exhaust fan in the attic
 - d. Sheet E3. All GFCI receptacles were labeled
 - e. Sheet P3. Water supply lines added.
2. See A201 for revision to casework and Alternate

END OF ADDENDUM

BID FORM

BID OF: _____
(Contractor)

BID TO: HAYWOOD COUNTY CONSOLIDATED SCHOOL SYSTEM
(Owner)

PROJECT NAME: _____

PROJECT NUMBER: 19017 BID DATE: _____

BASE BID AGREEMENT

The undersigned, having examined all the Bidding Documents and acknowledging all Addendum(a) as follows:

Addendum(a)#

shall execute the entire Work in the Bidding Documents as described, for a LUMP SUM amount of:

_____ Dollars

(\$ _____) which sum is hereafter called the BASE BID.

DATE FOR COMMENCEMENT AND SUBSTANTIAL COMPLETION

The Date for Commencement shall be established in the Notice to Proceed. The Contractor shall not incur any expense until the contract has been awarded. An award requires that either the Contract be signed by both the awarding authority and the contractor or a Notice to Proceed is executed.

All work shall be substantially completed by April 30, 2020, subject to adjustments as provided in the Contract Documents.

The undersigned further agrees that from the compensation to be paid, the owner may retain as Step One liquidated damages the sum of One Hundred Fifty Dollars (\$150) for each calendar day the actual contract time for Substantial Completion exceeds the specified or adjusted contract time for Substantial Completion as provided in the Contract Documents.

BID SECURITY

The undersigned enclosed bid security in the amount of not less than five (5) percent of the BASE BID. The Contractor shall have twenty-one (21) days maximum from the date of the Notice of Intent to Award to deliver Performance and Payment Bond, Certificate of Insurance, and the Contract (signed by Contractor only). Failure to deliver these documents, as required, shall entitle the agency to consider the Contractor non-responsible and declare the bid security forfeited.

ADDENDA

The undersigned acknowledges the receipt of the addenda (as noted on page one of this Bid Form) and confirms that the BID as submitted reflects appropriate price responses.

ALTERNATE(S) TO THE BASE BID:

Alternate No. 1- Provide casework (Elevations A, B, C, D, E) with water based clear finish acrylic coat in lieu of chemical resistant coat on solid oak. Tables shall be in the Base Bid.

(Add or Subtract) _____ Dollars(\$)

Alternate No. 2- Provide casework (Elevations A, B, C, D, E) with water based clear finish acrylic coat in lieu of chemical resistant coat on Birch veneer plywood in lieu of solid oak. Tables shall be in the Base Bid.

(Add or Subtract) _____ Dollars(\$)

BID HOLDING TIME AND ACCEPTANCE

The undersigned agrees that this Base Bid may not be revoked or withdrawn after the time set for the opening of bids, but shall remain open for acceptance for a period of sixty (60) days following the bid date.

CERTIFICATION REGARDING DRUG-FREE WORKPLACE

The undersigned certifies that the contractor listed below will provide a "drug-free workplace" as that term is defined in Article 5 of Chapter 90 of the NC General Statutes.

PROGRESS PAYMENTS

Contractor's Application for Payment shall be submitted to the Architect on AIA Document G702 and G703 - 1983 Edition. The period covered by each application for Payment shall be not less than one calendar month. The Owner shall make progress payments to the Contractor on undisputed amounts certified by the Architect within thirty (30) days from receipt of the Application for Payment by the Owner.

CONTRACTOR'S CLASSIFICATIONS AND SUBCLASSIFICATIONS WITH LIMITATIONS

(Classification)	(Sub classification)	(Limitations)

(NC Contractor's License Number)

AUTHORIZATION

(Type or Print Name of Contractor)

(Type or Print Address)

(Type or Print Phone Number)

(Type or Print Fax Number)

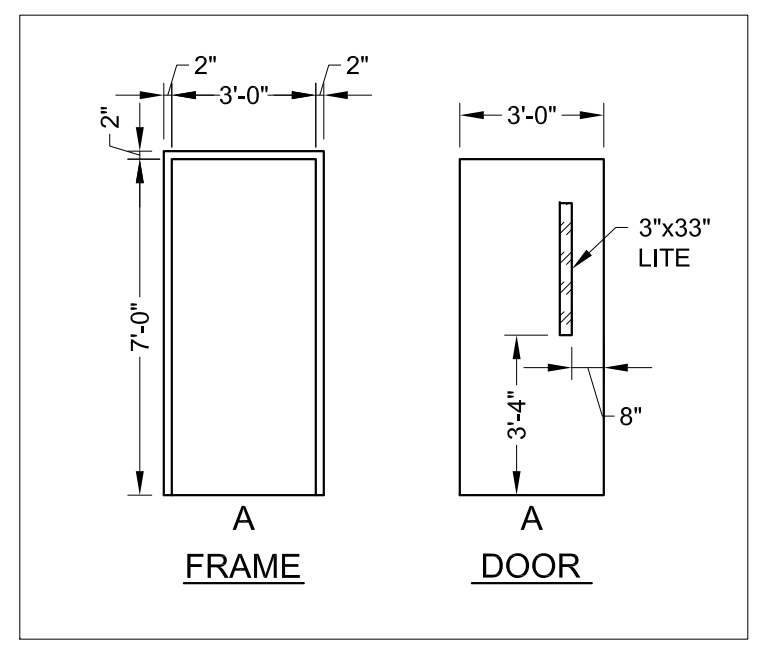
(Type or Print Name)

(Title)

(Signature)

(Date)

END OF BID DOCUMENT



DOOR/FRAME ELEVATIONS

DOOR SCHEDULE

DOORS	MATERIAL	SIZE	FRAME	HARDWARE	ELEVATION
01	WOOD	3'x7'	H.M.	SET A	A/A
02	WOOD	3'x7'	H.M.	SET A	A/A
03	EXISTING	3'x7'	EXISTING		
04	EXISTING	3'x7'	EXISTING		

LEGEND

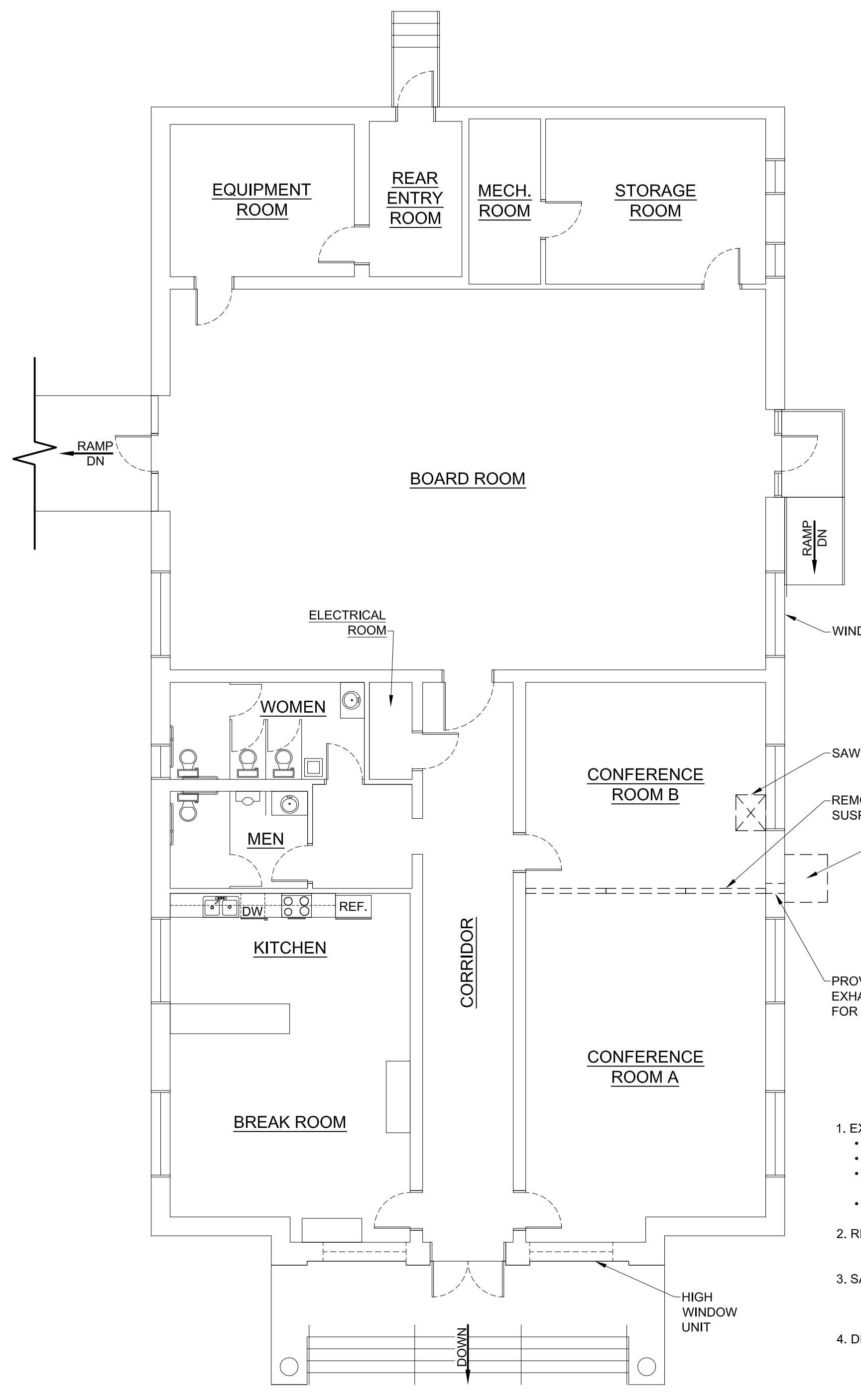
- 4" METAL STUD WALL W/ 1/2" GWB- EXTEND THRU EXISTING CEILING- MODIFY EXISTING CEILING SYSTEM
- EXIST'G 8" CMU WALLS W/ GWB & FURRING
- 1 HR RATED WALL

CONSTRUCTION NOTES

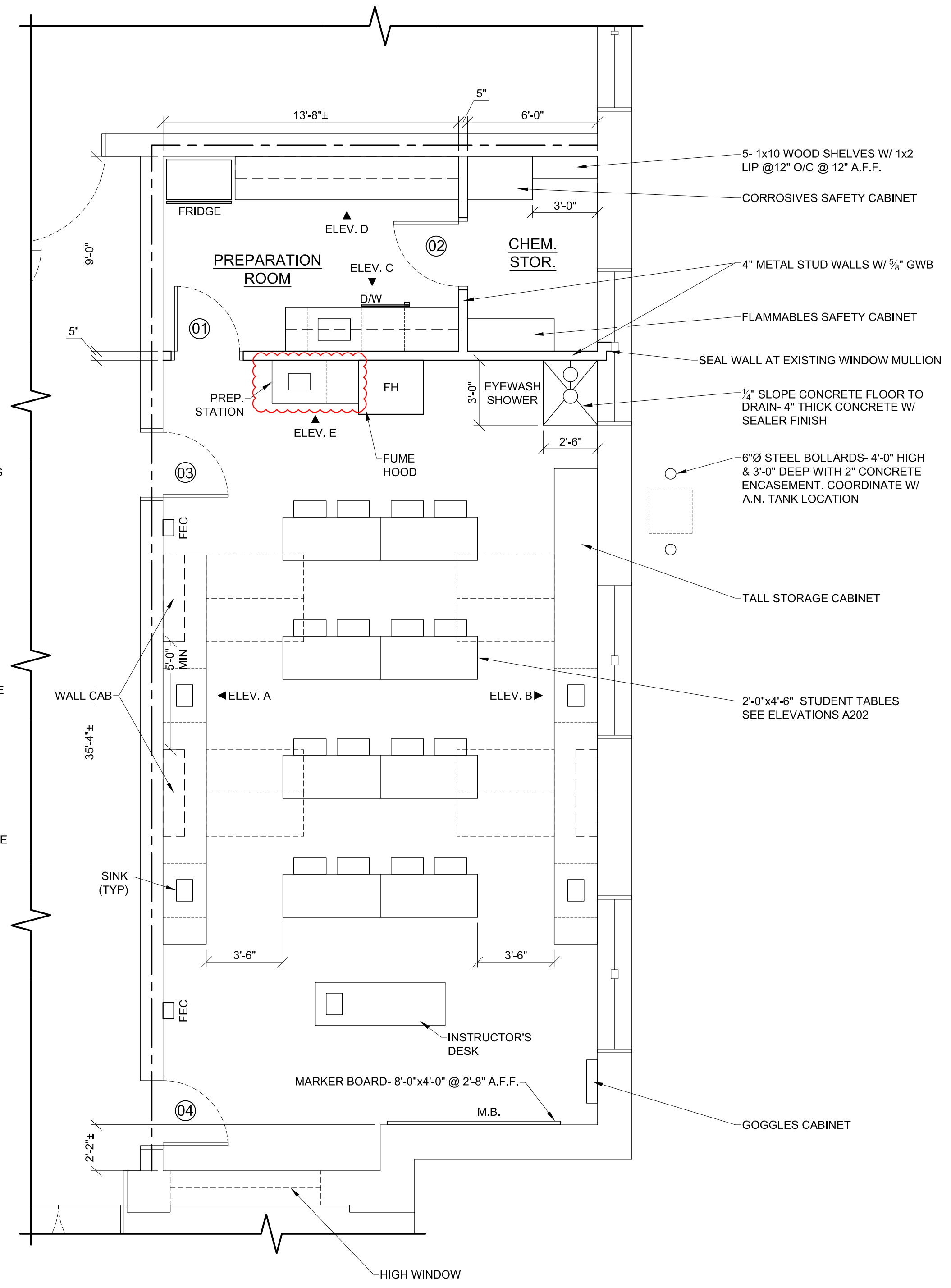
1. SEE BID FORM FOR ALTERNATES
 2. CONCRETE SHALL BE 3,500 PSI
 3. APPLIANCES, EQUIPMENT, SINK, & GAS CONTROLS SHALL BE ACCESSIBLE COMPLIANT.
 4. REPAINT/PAINT GWB WALLS.
 5. PROVIDE VINYL WALL BASE
- EQUIPMENT
1. INSTRUCTOR'S DESK- BASIS OF DESIGN- K-L06-WSD-72E
 2. FUME HOOD- BASIS OF DESIGN- FLINN SCIENTIFIC FUME HOOD- SE 8000- EXTERIOR EXHAUST W/ BASE SE 8004
 3. FLAMMABLE CABINET- BASIS OF DESIGN- DR. SAFE DS 530
 4. CORROSIVES CABINET- BASIS OF DESIGN- JUSTRITE 896002
 5. FRIDGE- BASIS OF DESIGN- THERMO SCIENTIFIC- 1218W09 W/ GLASS DOOR
 6. DISHWASHER- BASIS OF DESIGN- MIELE G 7893
 7. TALL STORAGE CABINET- BASIS OF DESIGN- U LINE H-3594ABL
 8. GOGGLES CABINET- BASIS OF DESIGN- FLINN SCIENTIFIC- SE 1000
 9. FEC- BASIS OF DESIGN- LARSONS 2909 SM- FULL GLASS, WHITE BAKED, ENAMEL FINISH

CONFERENCE ROOM NOTES

1. EXISTING CONSTRUCTION
 - CONCRETE FLOOR SLAB ON FILL W/ VCT
 - MASONRY WALLS W/ GWB ON FURRING
 - SUSPENDED CEILING SYSTEM W/ INSULATION BATTS (9'-9" A.F.F.)
 - WOOD DOORS/H.M. FRAMES
2. REMOVE WOOD CHAIR RAIL & BASE. PATCH WALLS
3. SAWCUT & PATCH EXISTING FLOOR FOR WASTE/WATER/GAS LINES- REFER TO MEP PLANS FOR LOCATIONS
4. DEMO EXISTING GWB FURRING & PATCH FOR GAS/WATER LINES & POWER CONDUIT. REFER TO MEP PLANS FOR LOCATIONS.



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



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

CHHS
 SCIENCE LAB
 RENOVATION

Project Number: 19017
 Checked:
 Drawn: A. Rognas
 Date: 1/7/2020
 Addendum: 1/24/2020

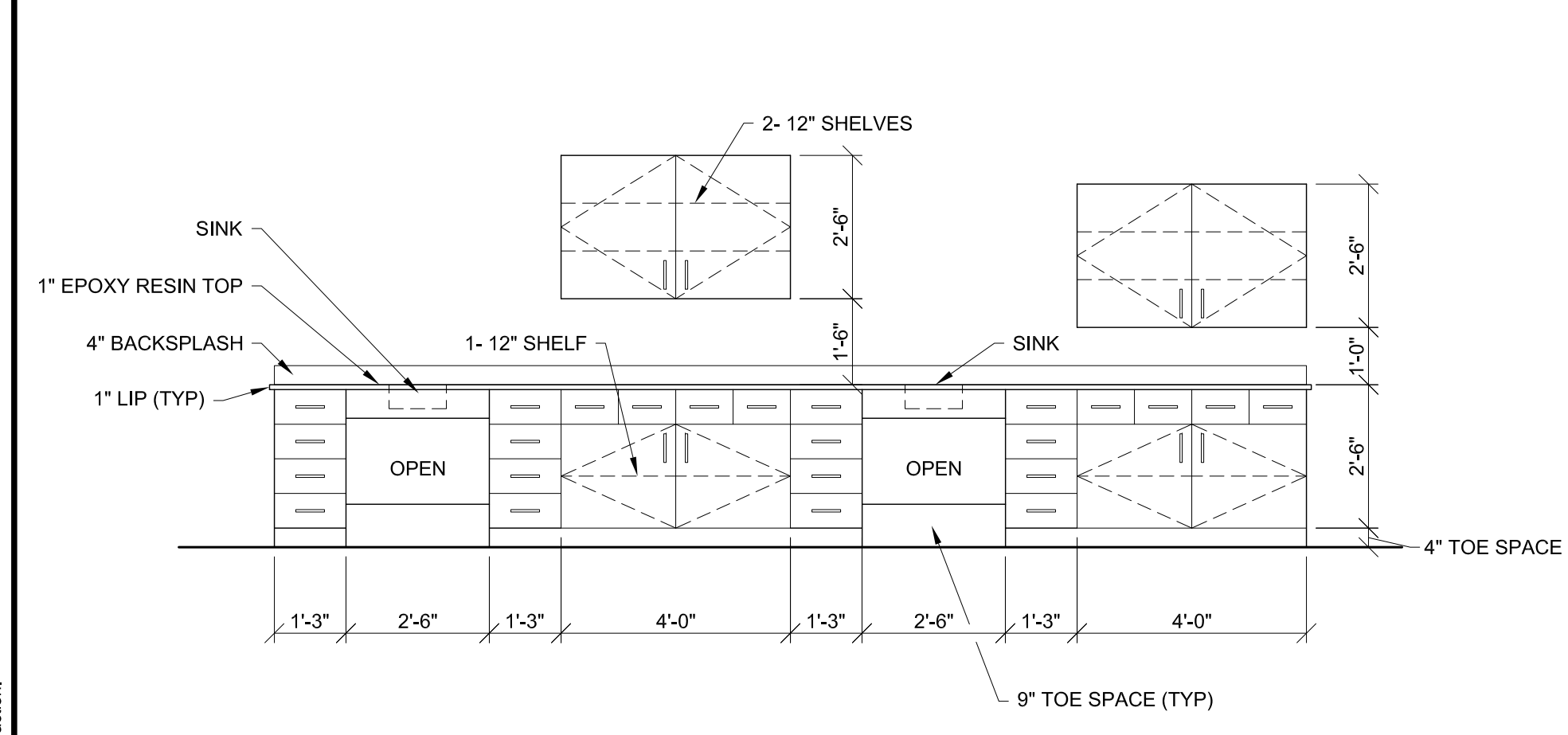
FLOOR PLAN

A201

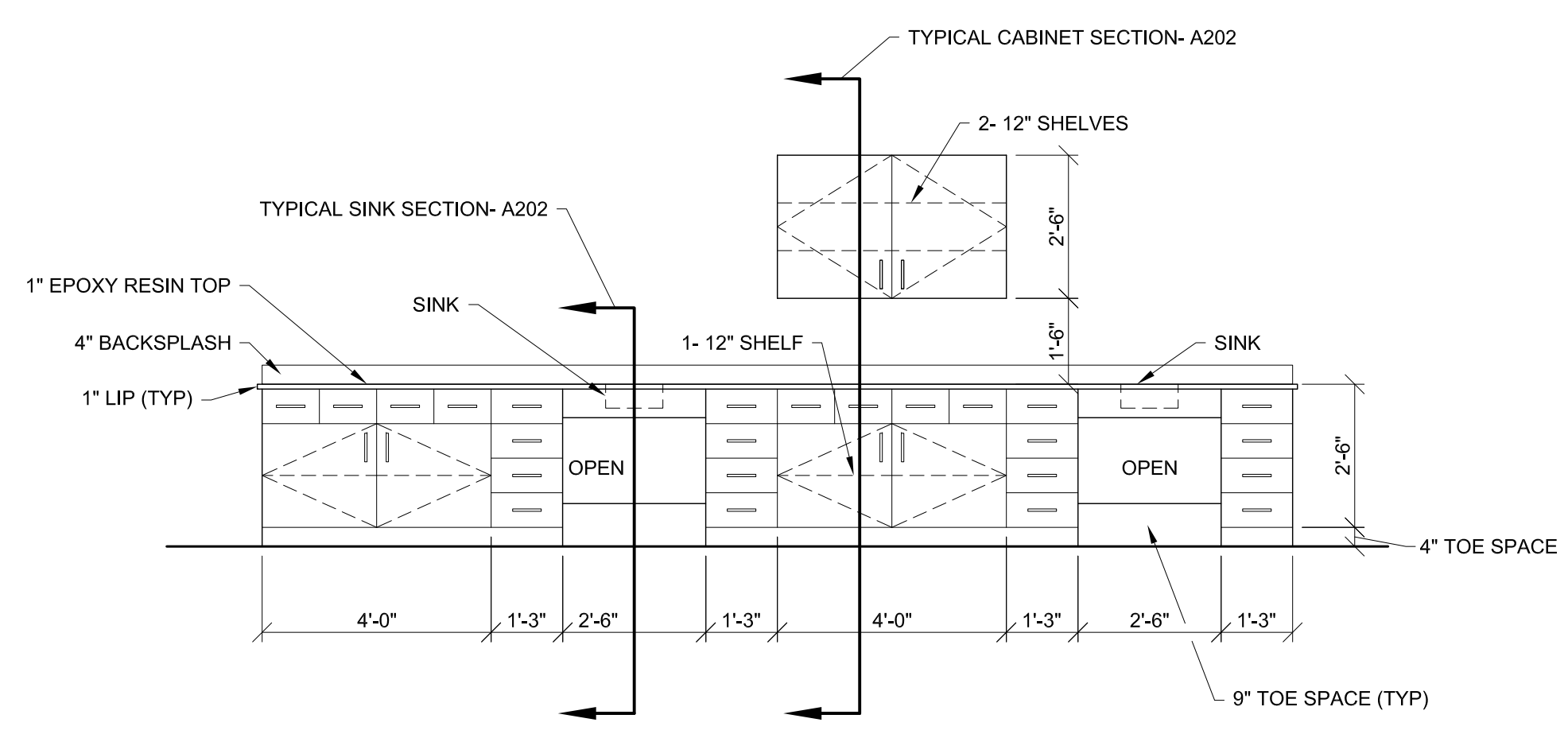
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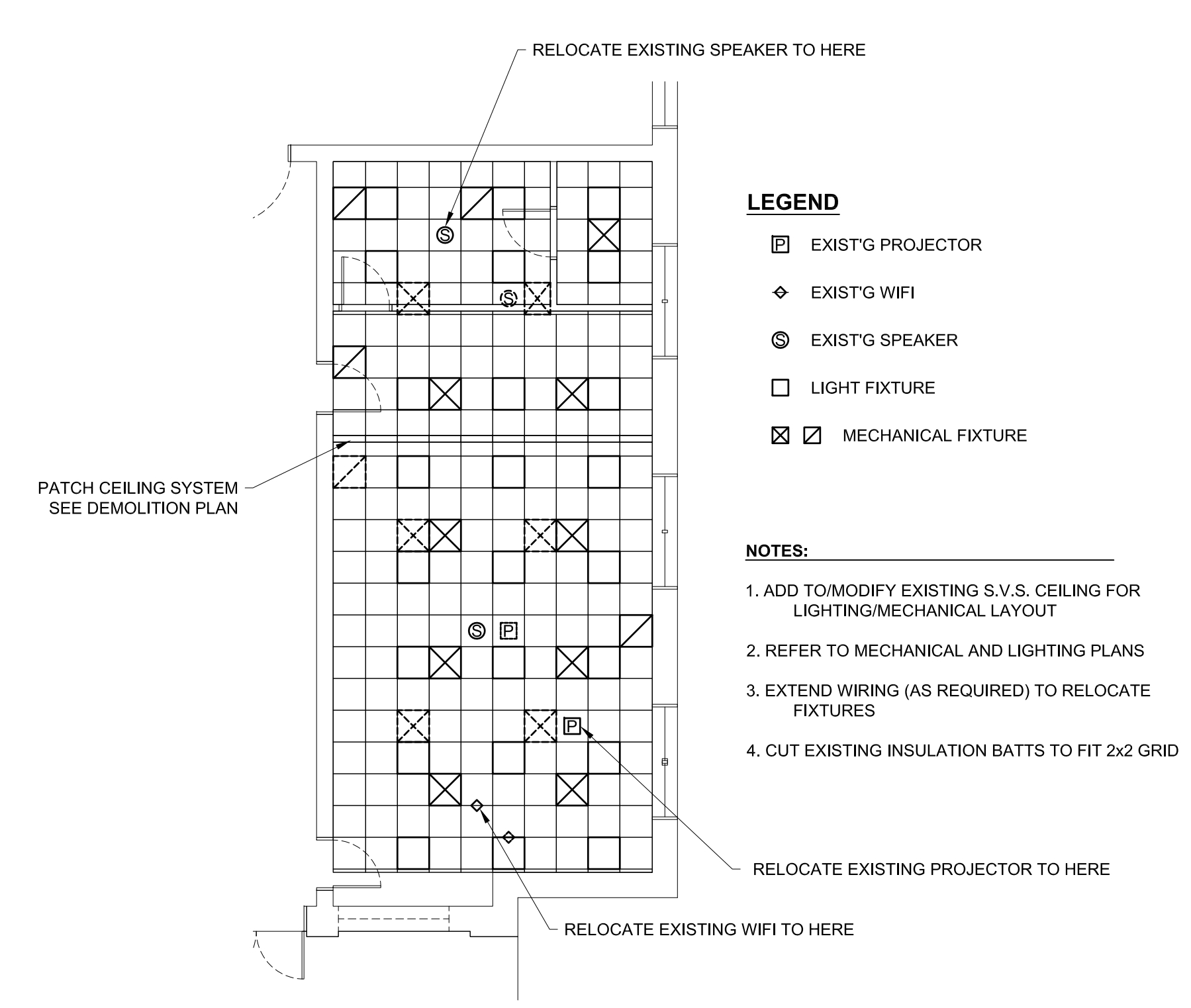
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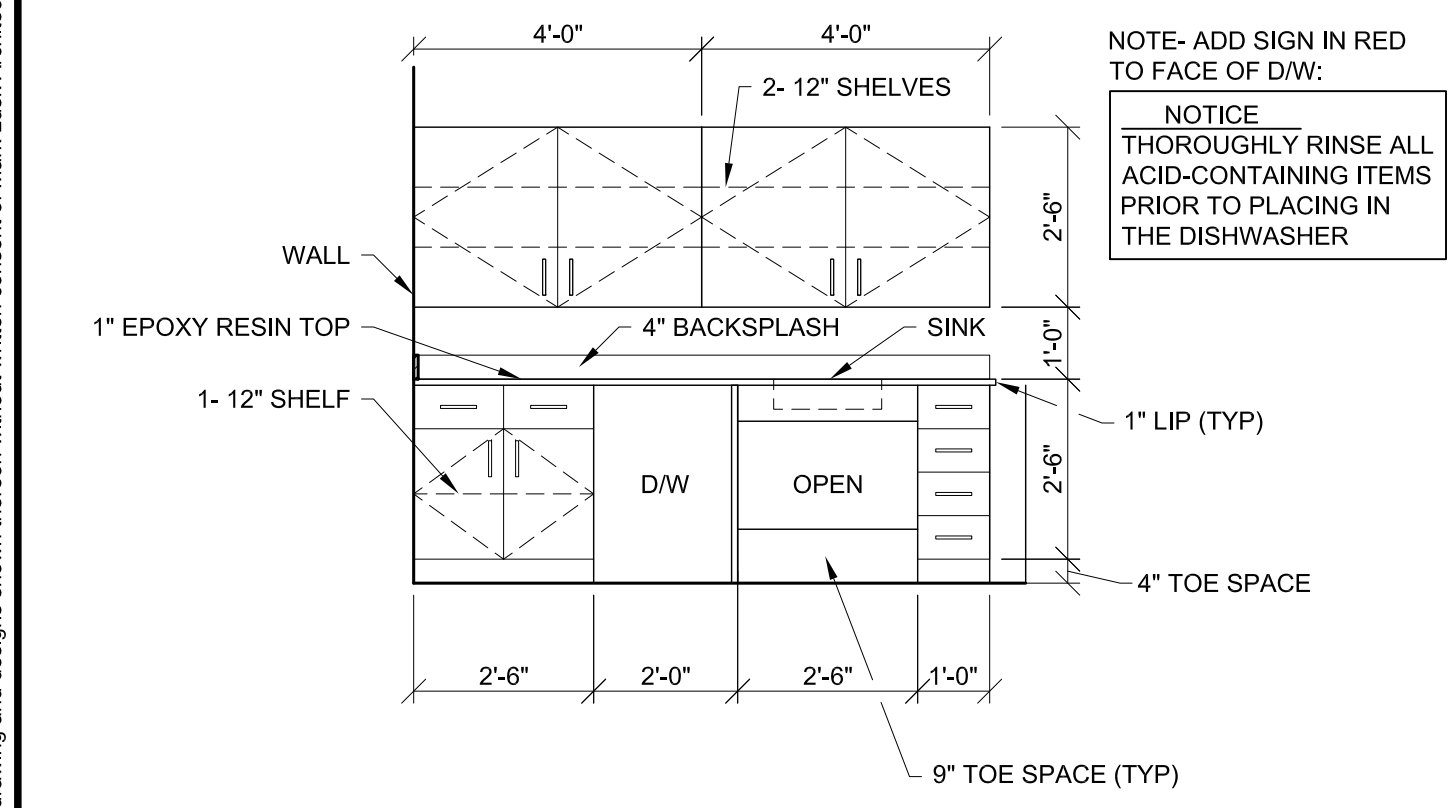
CASEWORK ELEVATION A
 SCALE: 3/8" = 1'-0"



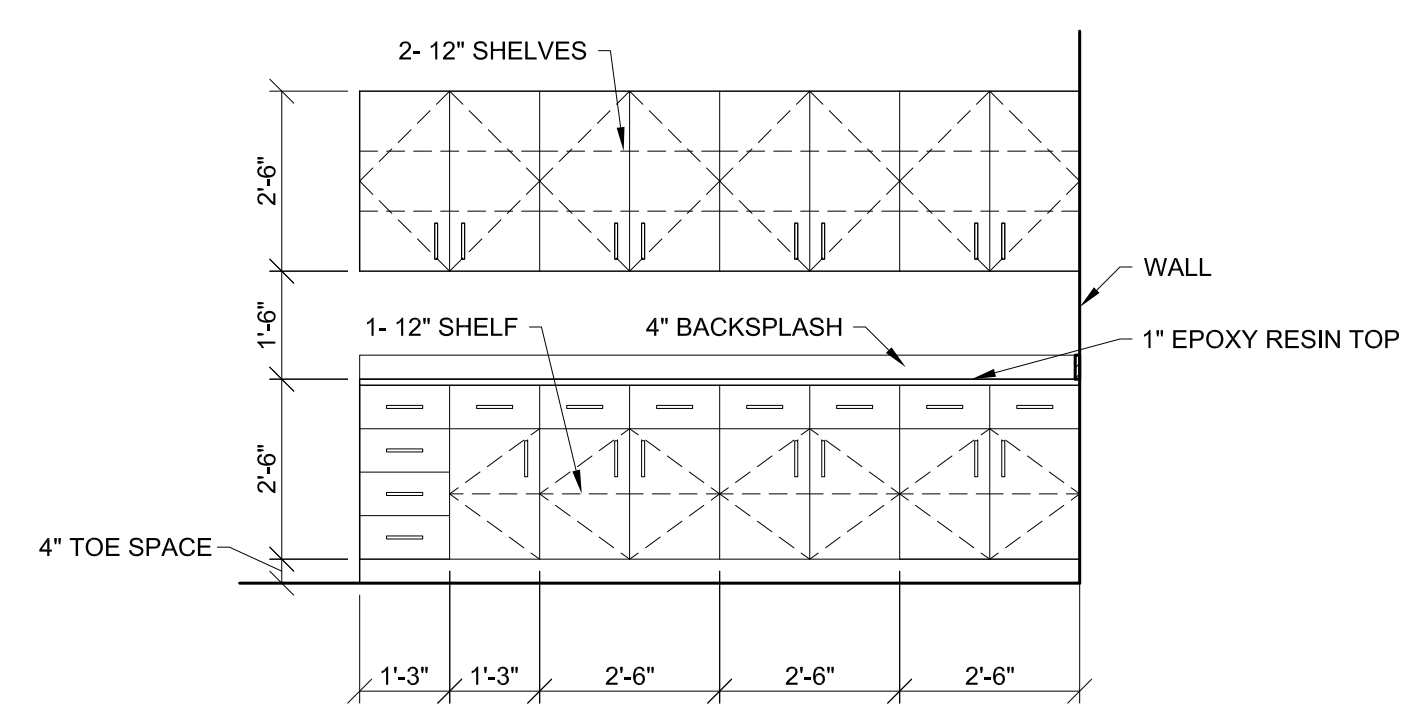
CASEWORK ELEVATION B
 SCALE: 3/8" = 1'-0"



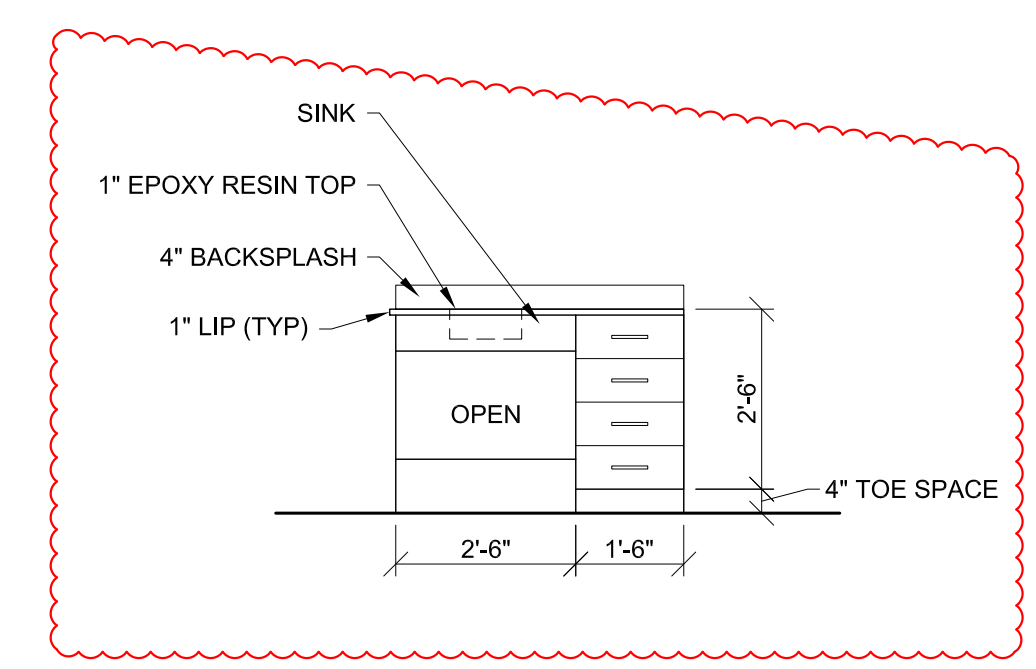
PROJ NORTH
REFLECTED CEILING PLAN
 SCALE: 3/8" = 1'-0"



CASEWORK ELEVATION C
 SCALE: 3/8" = 1'-0"



CASEWORK ELEVATION D
 SCALE: 3/8" = 1'-0"



CASEWORK ELEVATION E
 SCALE: 3/8" = 1'-0"

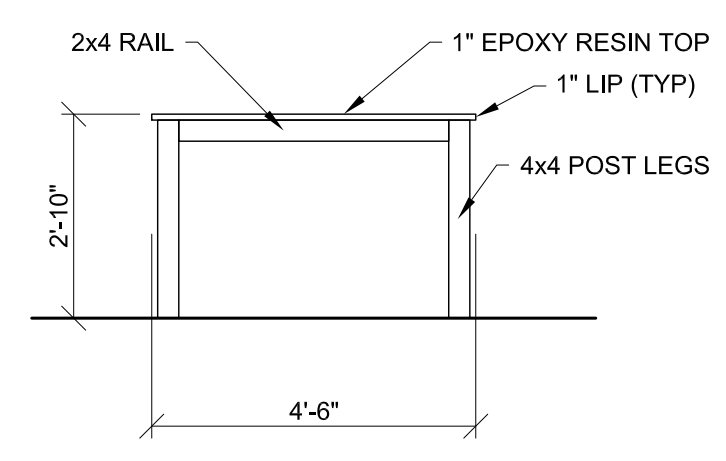


TABLE ELEVATION A
 SCALE: 3/8" = 1'-0"

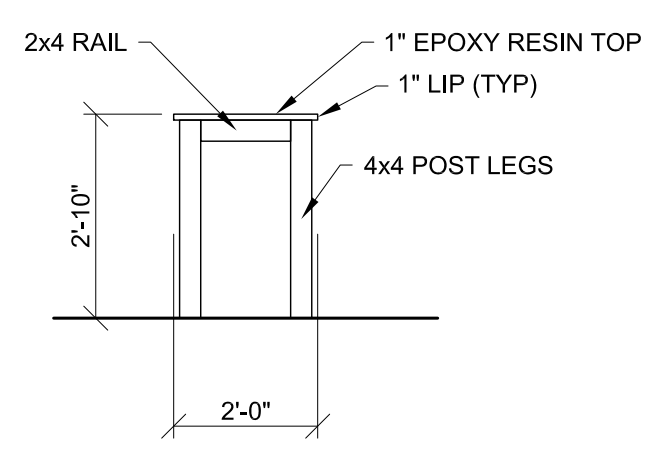
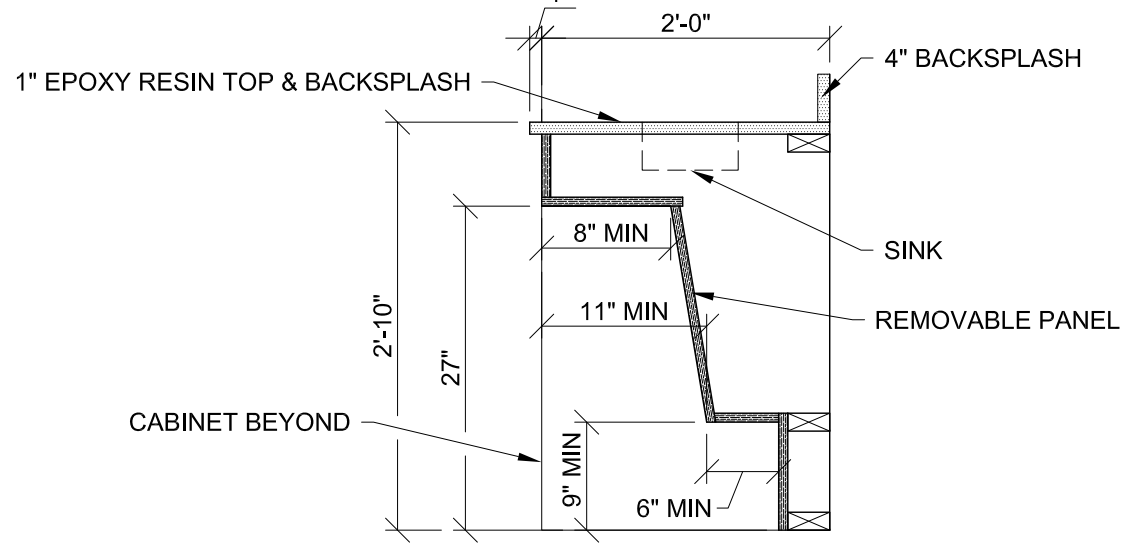
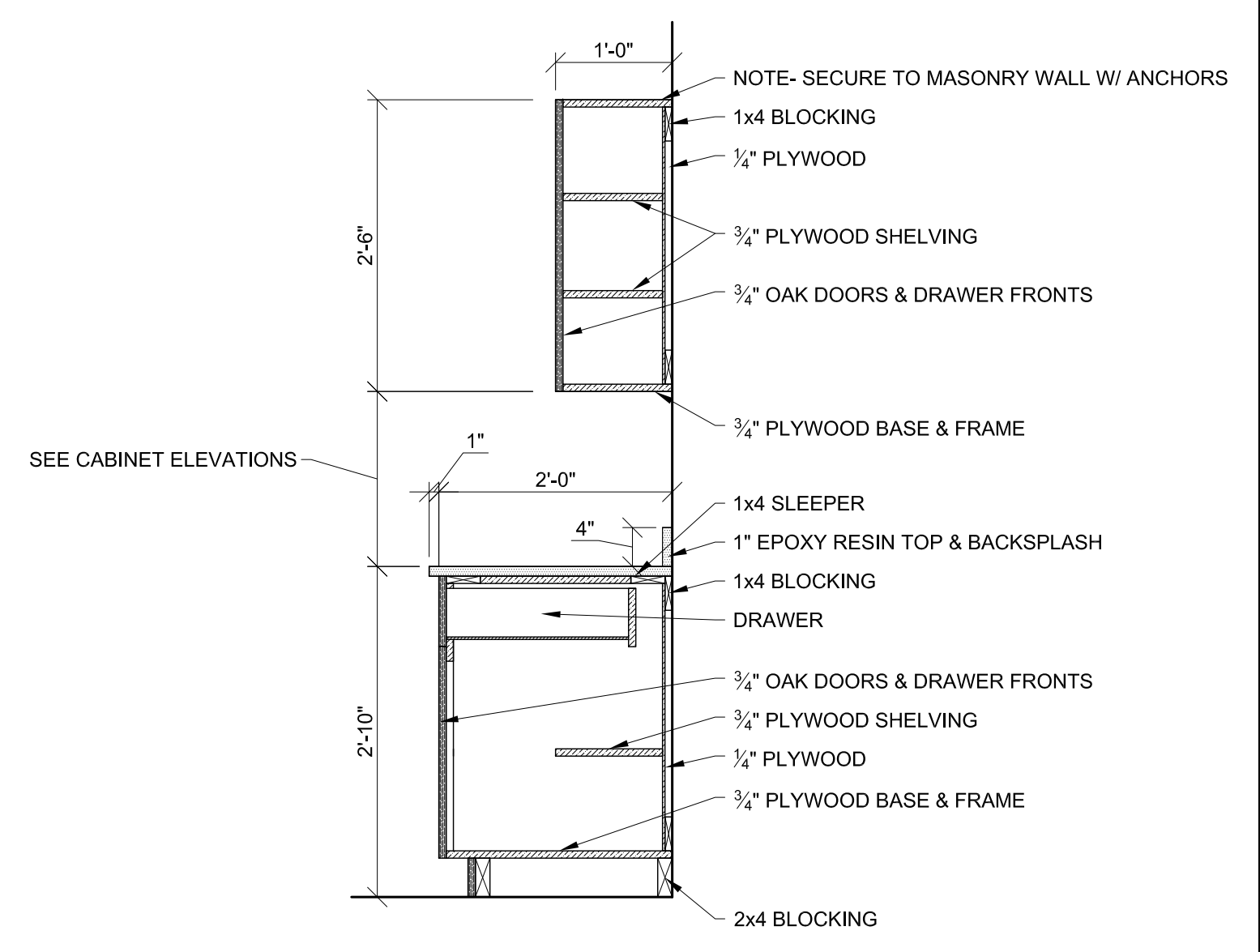


TABLE ELEVATION B
 SCALE: 3/8" = 1'-0"



SINK SECTION
 SCALE: 3/4" = 1'-0"



CABINET SECTION
 SCALE: 3/4" = 1'-0"

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ELECTRICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION
	JUNCTION BOX PER N.E.C.
	HOMERUN - PANEL DESIGNATION AND CIRCUIT NUMBER
	SINGLE POLE SWITCH - 20A - 120/277V - MOUNT 46" A.F.F. TO BOTTOM
	DIMMER SWITCH
	THREE-WAY SWITCH - 20A - 120/277V - MOUNT 46" A.F.F. TO BOTTOM
	INDICATES SWITCHES ARE TO PROVIDE MULTIPLE LIGHT LEVELS (INBOARD, OUTBOARD SWITCHING OF LAMPS)
	115 OR 277 VOLT MOTOR AS NOTED ON PLANS
	FUSED OR NON-FUSIBLE HEAVY DUTY DISCONNECT SWITCH - BY DIVISION 16
	2-POLE OR 3-POLE MANUAL MOTOR STARTER. PROVIDE WITH OVERLOAD PROTECTION.
	CEILING MOUNTED OCCUPANCY SENSOR WITH DUAL STAGE ILLUMINATION - NLIGHT RCMS-PS150-PDT-10-AR-G2 - VERIFY EXACT WIRING REQUIREMENTS WITH MANUFACTURERS CUT SHEETS BEFORE BEGINNING ANY WORK.
	STANDARD 20A OUTLET - NEMA 5-20R DUPLEX. MOUNT 16" A.F.F. "GFI" DENOTES GROUND FAULT TYPE, NON-FEED THRU, "EWC" DENOTES OUTLET FOR ELECTRIC WATER COOLER - COORDINATE LOCATION WITH PLUMBING CONTRACTOR - NEMA 5-20R DUPLEX "WP" DENOTES WEATHERPROOF IN USE NEMA 5-20R DUPLEX, "ACT" DENOTES MOUNTED ABOVE COUNTER TOP OR BACKSPLASH, "BP" DENOTES MOUNTED ON THE BACKSIDE OF THE BAR JUST BENEATH THE BARTOP TYPICAL FOR RESTAURANTS AND BARS, "TR" DENOTES TAMPER RESISTANT, "USB" DENOTES LEGRAND TM826USB.
	TWO STANDARD 20A OUTLETS IN A 2-GANG BOX - NEMA 5-20R DUPLEX - COMMON COVER PLATE - MOUNT 16" A.F.F. TO BOTTOM OF DEVICE.
	TELEPHONE/DATA OUTLET MTD. 16" AFF TO BOTTOM. PROVIDE 1" CONDUIT WITH PULL CORD FROM OUTLET TO COMMUNICATION BACKBOARD. STUB OUT 6" ABOVE BACKBOARD. PROVIDE NYLON BUSHING ON END OF CONDUIT. OUTLET BOX SHALL BE A 4" SQ. BOX WITH SINGLE GANG PLASTER RING. PROVIDE BLANK COVERPLATE ON OUTLET BOX.
	CABLE TV OUTLET MTD. 16" AFF TO BOTTOM OR AS INDICATED. PROVIDE 1" CONDUIT WITH PULL CORD FROM OUTLET TO COMMUNICATION BACKBOARD. STUB OUT 6" ABOVE BACKBOARD. PROVIDE NYLON BUSHING ON END OF CONDUIT. OUTLET BOX SHALL BE A 4" SQ. BOX WITH SINGLE GANG PLASTER RING. PROVIDE BLANK COVERPLATE ON OUTLET BOX.
	GROUNDING FOR SERVICE OR SEPARATELY DERIVED SYSTEM, PER N.E.C.
	SPECIAL POWER OUTLET.

WIRING DEVICE NOTES

- Switches shall be Hubbell CS115 or equivalent and receptacles shall be Hubbell CR20 or equivalent. Devices shall be white or as directed by architect.
 - Switches shall be as follows:
 single pole 20 amp CSB20AC1-I
 3 way 20 amp CSB20AC3-I
 4 way 20 amp CSB20AC4-I
 motor starter switch Square D type "K" series
 - Duplex receptacle shall be as follows:
 20 amp duplex PS5362I
 20 amp duplex-GFCI 2095IL
 20 amp duplex-Weather GFI 2095TRWRI
- Note: Duplex receptacles have nylon face and side wire type. Receptacles shall have brass contacts, brass terminal screws and green ground wire screw. GFCI receptacle shall be included with a trip indicator light.
- Coverplates shall be oversized stainless steel SSJX or as directed by architect.
 - Outlet boxes shall not be mounted back-to-back.
 - Receptacles shall be 20 amp unless 15 amp is required by equipment served.
 - Weatherproof in use covers shall be clear equal to Leviton. For horizontal mount covers use part no. "5997-CL". For vertical mount covers use part no. "5977-CL".
 - All outlets (including telephone and data) shall have cover plates.

2018 APPENDIX B BUILDING CODE SUMMARY: ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance:

Energy Code:	<input checked="" type="checkbox"/> Prescriptive	<input type="checkbox"/> Performance
ASHRAE 90.1:	<input checked="" type="checkbox"/> Prescriptive	<input type="checkbox"/> Performance

Lighting schedule(each fixture type)

lamp type required in fixture	(see fixture schedule)
number of lamps in fixture	(see fixture schedule)
ballast type used in fixture	(see fixture schedule)
number of ballasts in fixture	(see fixture schedule)
total wattage per fixture	(see fixture schedule)
total interior wattage (whole space allowable)	NOT TO EXCEED .926KW
total exterior wattage specified vs. allowed	NA

Additional Prescriptive Compliance:

506.2.1 - More Efficient Mechanical Equipment	<input checked="" type="checkbox"/> Prescriptive	<input type="checkbox"/> Performance
506.2.2 - Reduced Lighting Power Density	<input type="checkbox"/> Prescriptive	<input type="checkbox"/> Performance
506.2.3 - Energy Recovery Ventilation System	<input type="checkbox"/> Prescriptive	<input type="checkbox"/> Performance
506.2.4 - Higher Efficiency Service Water Heating	<input type="checkbox"/> Prescriptive	<input type="checkbox"/> Performance
506.2.5 - On-Site Supply of Renewable Energy	<input type="checkbox"/> Prescriptive	<input type="checkbox"/> Performance
506.2.6 - Automatic Daylighting Control Systems	<input type="checkbox"/> Prescriptive	<input type="checkbox"/> Performance

BRANCH CIRCUIT CONDUCTOR SIZING TABLE

For circuits with branch circuit protection rated 20 amps or less, copper conductors shall be sized according to the following:

voltage	distance (ft)	home run (AWG)	remainder (AWG)
120	0 - 50	12	12
	50 - 90	10	12
	90 - 140	8	10
208	140 +	6	10
	0 - 95	12	12
	95 - 160	10	12
	160 - 250	8	10
	250 +	6	10

ELECTRICAL NOTES

- The intent of these drawings and specifications are to describe the installation of a complete, fully adjusted, and operational system.
- Provide five sets of electrical equipment submittals to the GC for the architect, engineer, GC and owner to review and approve prior to purchasing.
- The contractor shall provide all supervision, labor, material, equipment, machinery, and any and all other items necessary to complete the system. All work shall be performed in a neat and workmanlike manner in accordance with industry standards.
- All work under this section shall be accomplished in strict accordance with state building codes and the National Electric Code. Coordinate with local power company requirements.
- The contractor shall obtain all necessary approval, obtain all permits and pay all fees required for the installation of their work.
- The drawings are diagrammatic only. The contractor may need to make field adjustments to accommodate actual field conditions.
- Devices located in rated walls shall have sufficient separation from other devices to allow proper installation and firestopping.
- The contractor shall refer to the architectural and structural drawings for the general construction of the building, for floors and ceiling heights, for locations of wall, partitions, beams, etc.
- Manufacturer's listed are to establish a standard of quality and not intended to limit the selection to these manufacturers. Any substitutions must be approved by the architect and engineer.
- Contractor shall verify all listed model numbers with manufacturers to insure proper application of equipment.
- Equipment and materials shall be handled, stored and protected in accordance with the manufacturer's recommendations.
- The contractor shall perform any and all trenching, excavation and backfilling required for the installation of this work.
- The contractor shall furnish all necessary scaffolding, staging, rigging and hoisting required for the completion of this work.
- All work shall be coordinated with the general contractor and other trades involved in the construction project. All work shall be carefully laid out in advance to coordinate architectural, structural, mechanical, plumbing and electrical features of construction.
- The electrical contractor shall visit the site before submitting his bid so as to be thoroughly familiar with the job conditions and/or peculiarities. No extra payment will be allowed for anything which could have been anticipated from a visit to the site.
- Equipment shall be installed in accordance with manufacturer's written instructions.
- Provide grounding for all conduits, motor frames, metal casings, receptacles, system neutral, etc. and as required by NEC as minimum. Resistance to ground shall not exceed 25 OHMS.
- A green insulated copper ground wire, sized per NEC, shall be installed in all raceways, electric metallic tubing used for feeders, branch circuits, flexible conduit, and as otherwise noted on the drawings.
- All fixtures shown on the plans shall be furnished and installed, complete with all mounting accessories, lamps and tubes. Fixtures shall be independently supported from structure. Re-use existing fixtures that are in good condition. If additional fixtures need to be supplied, match existing fixtures.
- All wiring shall be run in conduit. The minimum indoor conduit size shall be 1/2". Indoor conduit shall be electrical metallic tubing or type AC, MC, or nonmetallic sheathed cable may be used for branch circuits where allowed by NEC and not subject to physical damage, moisture or dampness. Connection to equipment shall be flexible metal conduit except in wet or damp locations use liquid tight flexible metal conduit. Indoor boxes and enclosures shall be NEMA type 1, except in damp or wet locations use NEMA type 4, stainless steel. Where nonmetallic conduit is used below the slab, provide a minimum of Schedule 80 PVC conduit to turn up into the building space or at any exterior walls, inside or outside framed walls, exterior landscape poles, or equipment. Use raceway fittings compatible with raceway and suitable for use and location. Run concealed raceways with a minimum of bends in the shortest practical distance considering the type of building construction and obstructions. Raceways shall run parallel to or at right angles to nearby surfaces or structural members, and follow the surface contours as much as practical. Provide grounding connections for raceway, boxes, and components as indicated and instructed by manufacturer. Tighten connections and terminals, including screws and bolts, according to equipment manufacturer's published torque-tightening values for equipment connectors. Where manufacturer's torquing requirements are not indicated, tighten connectors and terminals according to tightening torques specified in UL standard 486A.
- All underground raceways shall be identified by "underground line marking tape" located directly above the raceway at 6" below finished grade. Tape shall be permanent, bright-colored, continuous, magnetic strip, printed plastic tape compounded for direct burial not less than 6" wide and 4mils thick. Printed legend shall be indicative of the service it is marking. Conduits exposed to different temperatures shall be sealed as required by NEC Article 300.7A.
- Color for devices shall be coordinated with the general contractor.
- Receptacles shall comply with UL Standard 498, "electrical attachment plugs and receptacles," heavy-duty grade 20 AMP rated except as otherwise indicated.
- Ground-fault circuit interrupter (GFI) receptacles shall comply with UL Standard 943. "Ground fault circuit interrupters," with integral NEMA 5-20R duplex receptacle.
- Single pole and three-four-way toggle type snap switches shall be 20 AMP 120/277 V, AC, rated, quite-type A.C. switches. NRTL listed and labeled as complying with UL Standard 20 "general use snap switches," and with federal specification W-S-896.
- Wall plates: single and combination types shall be 302 stainless steel that mate and match with corresponding wiring devices.
- Conductors shall be color coded in accordance with NEC as follows:
 Phase 208/120 Volts 480/277 Volts
 A Black Brown
 B Red Orange
 C Blue Yellow
 Neutral White Gray
 Ground Green Green
- Electrical equipment shall be identified with labels of engraved plastic-laminate on each major unit of electrical equipment.
- Panelboards/loadcenters shall be type, rating, and features as indicated on the schedules. Enclosures shall be NEMA type 1, flush or surface mounted as indicated. Cabinet shall be code gauge, galvanized steel. Fronts shall be sheet steel with gray lacquer finish with hinged locking door. Ground and neutral bus shall be 100% rated. Bus shall be copper or aluminum. Main and neutral lugs shall be plug-on type. Equipment ground bus shall be adequate for feeder and branch-circuit equipment ground conductors bonded to box. Directory frame shall be metal, mounted inside each panel door. At the completion of this installation, type circuit designations on the directory card and leave in the card holder provided inside cabinet doors. Tandem circuit breakers shall not be used. Multi-pole breakers shall have common trip. The minimum interrupting rating for circuit breakers rated at 120/240 volts shall be 22,000 AMPS RMS symmetrical. For flush mounted panels provide a minimum of (4)-1" conduits stubbed to the ceiling space for future use.
- All wiring for equipment shall be copper with one of the following types of insulation: THW, THHW, THWN with a rating of at least 75 DEG. C. All wiring located above the ceiling shall be plenum-rated.
- Final locations of all exit and emergency lights shall be verified with the building inspector prior to installation.
- Branch circuits shall not exceed 80% of overcurrent protection. Devices shall be relocated to another circuit if found to be in excess of 80%.
- Electrical contractor shall be responsible to supply a coordinated study as described in the NEC or as required by permitting officials with all gear submitted involving generators, elevators, or any life safety equipment.

LIGHTING FIXTURE SCHEDULE

TAG	TYPE					VOLTAGE	FIXTURE WATTS	NUMBER	LAMPS		MOUNTING					DESCRIPTION	SPECIFICATIONS	
	INCAND.	FLUOR.	LED	METAL HAL.	H.P.S.				OTHER	WATTS / TYPE	RECESSED	CEILING	PENDANT	WALL	LANDSCAPE			# OF BALLASTS
A		X				120	-	-	LED		X						2 x 2 LED FLAT PANEL	MINIMUM 3300 LUMENS @ 3500 KELVIN WITH DIMMABLE DRIVERS

- CONTRACTOR SHALL COMPLY WITH INSULATION CONTACT (IC) RATING FOR RECESSED FIXTURES WHERE INSULATION IS INSTALLED DIRECTLY ABOVE CEILING (SEE ARCHITECTURAL SHEETS).
- VERIFY MOUNTING HEIGHT WITH OWNER PRIOR TO INSTALLATION



LOCATION:	EXISTING	PANEL:	MLO
MANUFACT.:	EXISTING	FED FROM:	EXISTING
MODEL:	EXISTING		
MOUNTING:	SURFACE		

		VOLTS				FULLY RATED EXISTING													
		208	120	Ph	W														
				3	4														
CONN VA	#	LOAD	Ph	N	G	C	BKR	A	B	C	BKR	Ph	N	G	C	LOAD	#	CONN VA	
540	1	(EX)HALL REC	-	-	-	-	20				20	-	-	-	-	(EX)LIGHTS	2	750	
540	3	(EX)HALL REC	-	-	-	-	20				20	-	-	-	-	(EX)CAN LTS	4	250	
540	5	(EX)HALL REC	-	-	-	-	20				20	-	-	-	-	(EX)MTG LTS	6	500	
125	7	(EX)HALL REC/LTS	-	-	-	-	20				20	-	-	-	-	(EX)MTG LTS	8	500	
790	9	(EX)KIT REC/LTS	-	-	-	-	20				20	-	-	-	-	(EX)MTG REC	10	1080	
900	11	(EX)DISHWASHER	-	-	-	-	20				20	-	-	-	-	(EX)MTG REC	12	1080	
330	13	(EX)BATHRM	-	-	-	-	20				20	-	-	-	-	(EX)KIT REC	14	540	
540	15	(EX)KIT REC	-	-	-	-	20				20	-	-	-	-	(EX)KIT REC	16	540	
540	17	(EX)KIT REC	-	-	-	-	20				20	-	-	-	-	(EX)KIT REC	18	540	
1200	19	(EX)MICROWAVE	-	-	-	-	20				20	-	-	-	-	(EX)KIT REC	20	540	
360	21	REC	12	12	12	1/2	20				20	-	-	-	-	(EX)FLOOR REC	22	360	
360	23	REC	12	12	12	1/2	20				20	-	-	-	-	(EX)FLOOR REC	24	360	
360	25	REC	12	12	12	1/2	20				20	12	12	12	1/2	REC	26	180	
360	27	REC	12	12	12	1/2	20				20	12	12	12	1/2	EF4	28	900	
360	29	REC	12	12	12	1/2	20				20	12	12	12	1/2	EF3	30	1200	
1620	31	REC	12	12	12	1/2	20				20	12	12	12	1/2	EF1&2	32	250	
1440	33	REC	12	12	12	1/2	20				20	12	12	12	1/2	SERVICE REC	34	180	
360	35	REC	12	12	12	1/2	20				20	12	12	12	1/2	IGWH	36	150	
900	37	REC	12	12	12	1/2	20											38	0
720	39	REC	12	12	12	1/2	20											40	0
1080	41	REC	12	12	12	1/2	20											42	0

42	SUBTOTAL AMPS Ph A	23
40	SUBTOTAL AMPS Ph B	28
35	SUBTOTAL AMPS Ph C	32

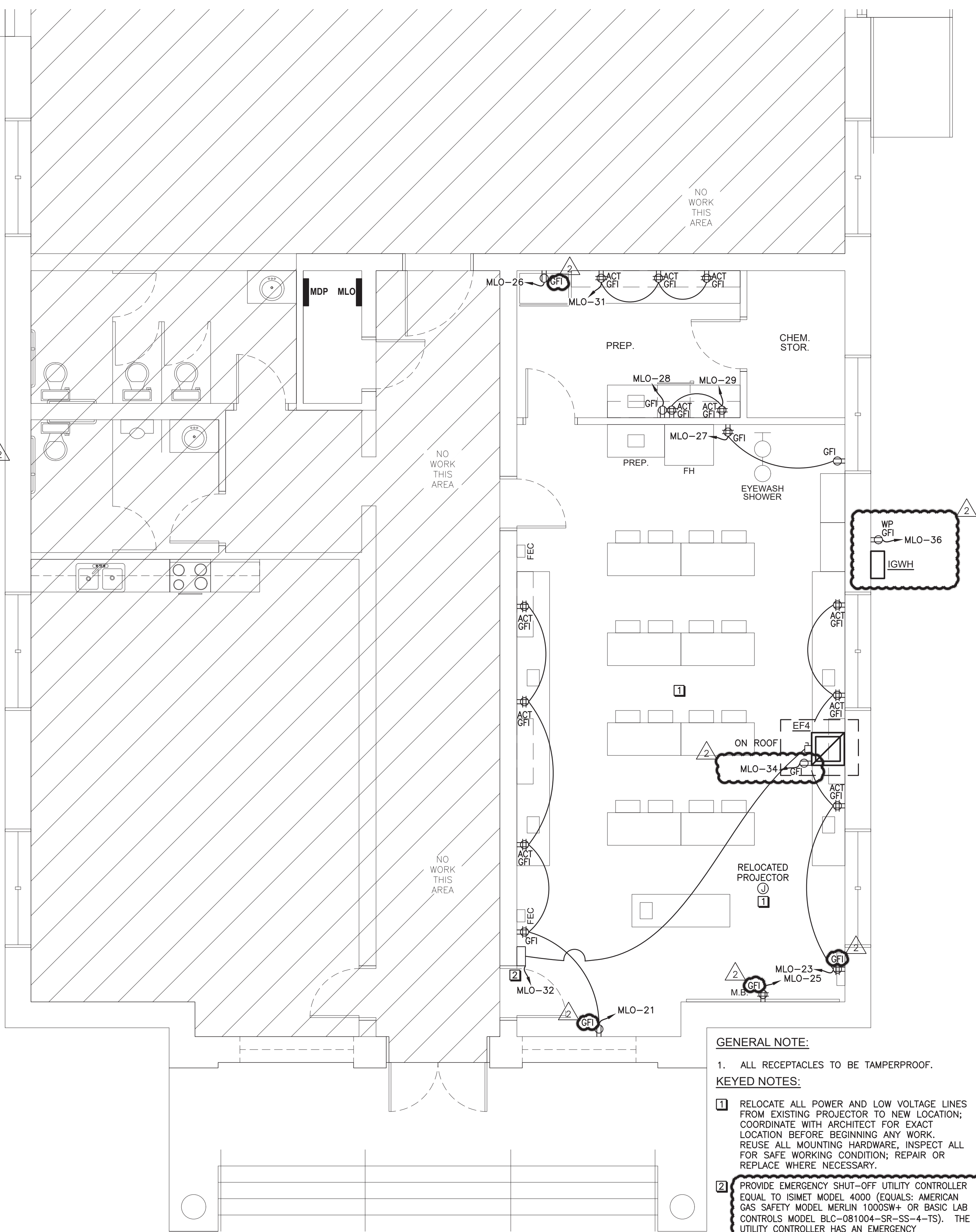
MAIN BREAKER:	AMPS	23
MAIN LUGS:	225 AMPS (MIN)	
BUS AMPACITY:	225 AMPS (MIN)	

LOAD	CONNECTED	DF	DEMAND
LIGHTING	2525	125	3156
A/C	0	100	0
HEATING	0	100	0
NON-VENT MOTORS	0	100	0
VENTILATION	2350	100	2350
KITCHEN	2100	100	2100
RECEPTACLES	16740	80	13370
MISCELLANEOUS	150	100	150
FUTURE	0	100	0
TOTAL	23865	66	21126 (VA) 59 (AMPS)

VA ph A	7835
VA ph B	8060
VA ph C	7970
TOTAL	23.9 kVA

NOTES

- PANEL SHALL BE PROVIDED WITH A FULL NEUTRAL.
- PANEL BUSSING MATERIAL SHALL BE CU.
- PROVIDE A FULLY RATED GROUND BUS.
- *BKR INDICATES GROUND FAULT TYPE CIRCUIT BREAKER.
- ALL BRANCH CIRCUITS SHALL BE FED WITH COPPER CONDUCTORS.
- SEE POWER RISER DIAGRAM FOR FEEDER AND CONDUIT SIZE.
- PANEL SHALL BE SERVICE ENTRANCE RATED.
- MDP SHALL BE DEAD FRONT.



GENERAL NOTE:

- ALL RECEPTACLES TO BE TAMPERPROOF.

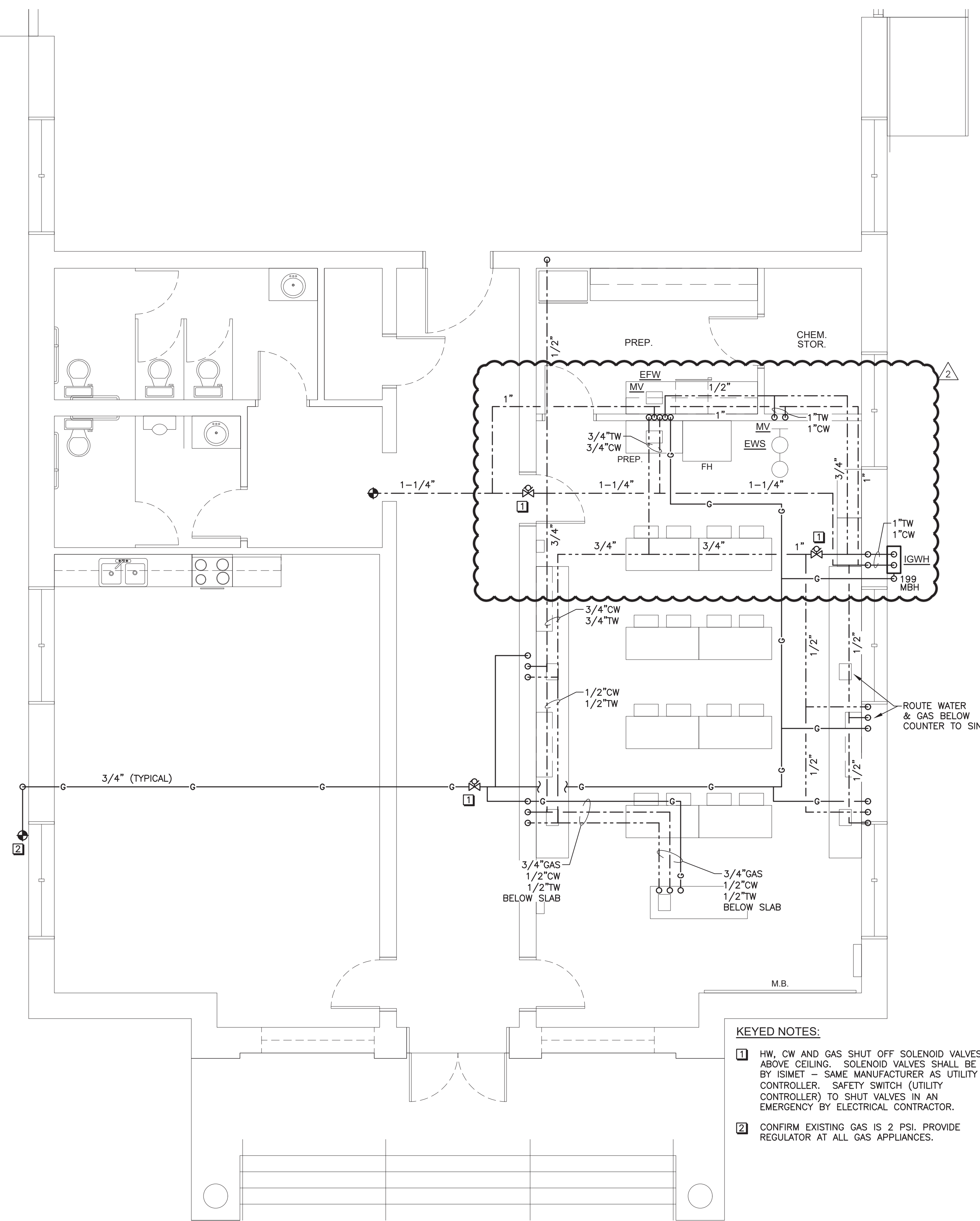
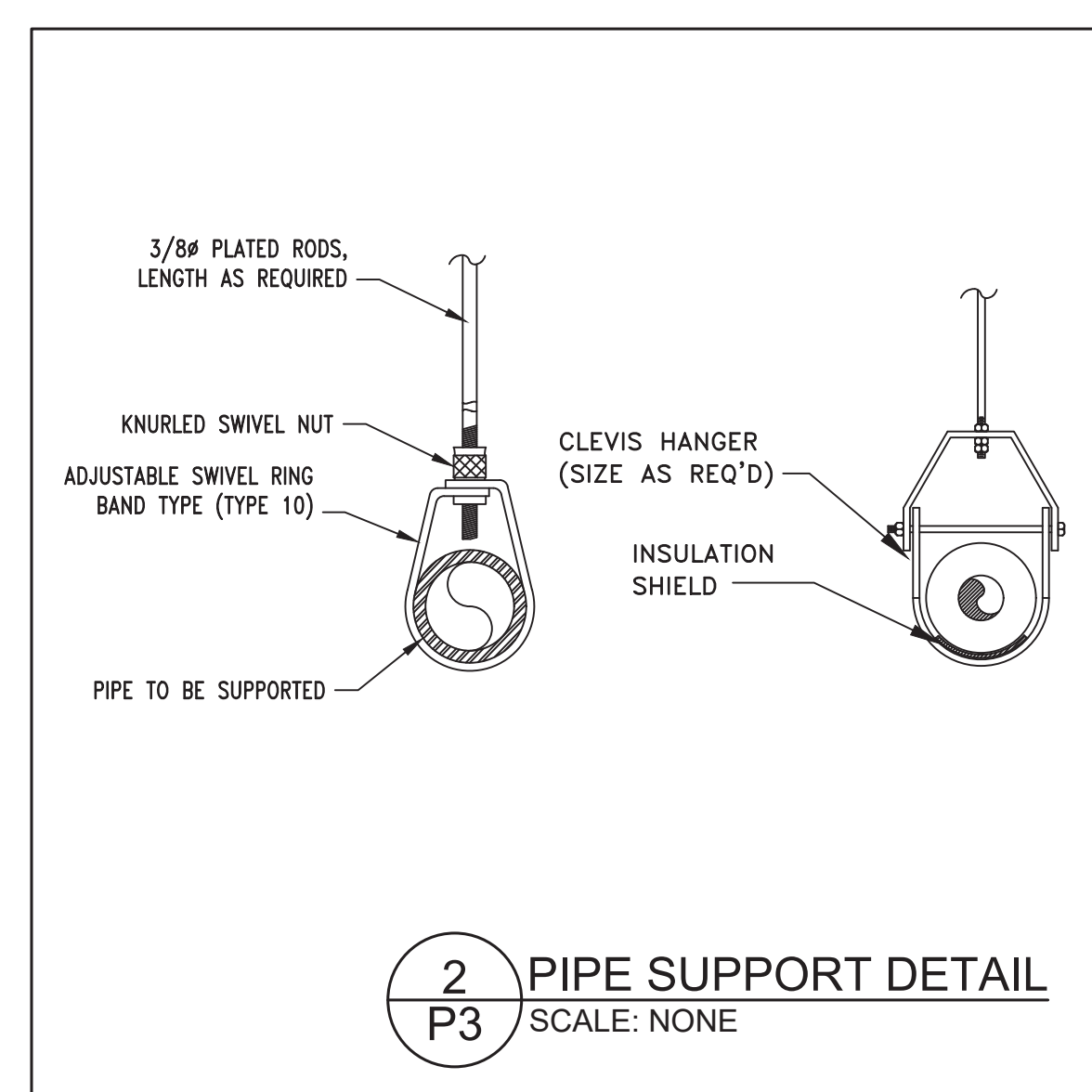
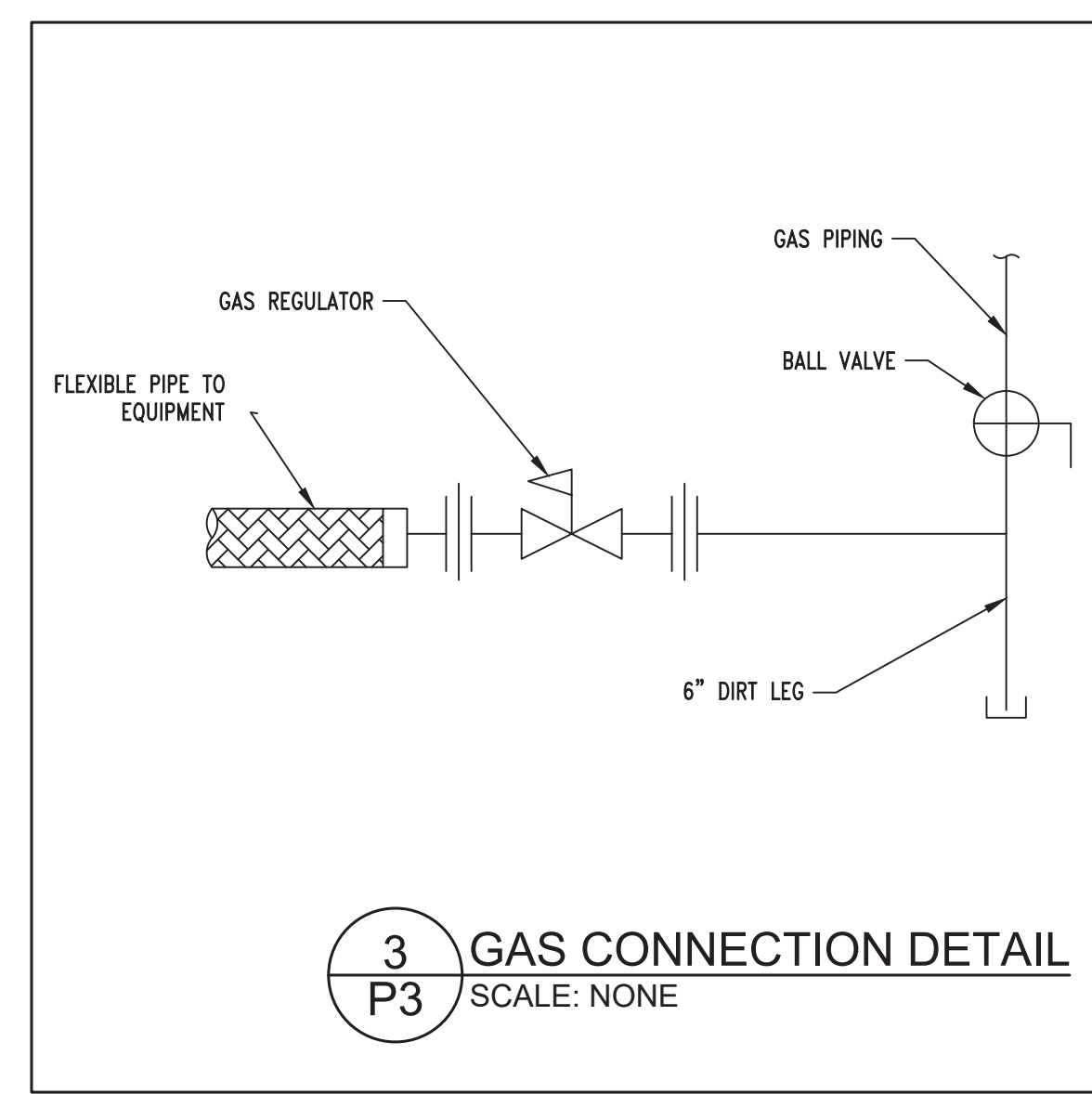
KEYED NOTES:

- RELOCATE ALL POWER AND LOW VOLTAGE LINES FROM EXISTING PROJECTOR TO NEW LOCATION; COORDINATE WITH ARCHITECT FOR EXACT LOCATION BEFORE BEGINNING ANY WORK. REUSE ALL MOUNTING HARDWARE, INSPECT ALL FOR SAFE WORKING CONDITION; REPAIR OR REPLACE WHERE NECESSARY.
- PROVIDE EMERGENCY SHUT-OFF UTILITY CONTROLLER EQUAL TO ISMET MODEL 4000 (EQUALS: AMERICAN GAS SAFETY MODEL MERLIN 1000SW+ OR BASIC LAB CONTROLS MODEL BLC-081004-SR-SS-4-TS). THE UTILITY CONTROLLER HAS AN EMERGENCY "MUSHROOM-TYPE" SWITCH THAT SHUTS OFF THE GAS, COLD AND HOT WATER SOLENOID VALVES, INTERRUPTS ALL POWER NOT SERVING FUME HOODS, EXHAUST SYSTEMS OR LIGHTING, AND TURNS ON THE EMERGENCY EXHAUST FAN (EF4).

1 POWER PLAN
E3 SCALE: 1/4" = 1'-0"

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1 PLUMBING SUPPLY PIPING PLAN
SCALE: 1/4" = 1'-0"

KEYED NOTES:

- HW, CW AND GAS SHUT OFF SOLENOID VALVES ABOVE CEILING. SOLENOID VALVES SHALL BE BY ISIMET - SAME MANUFACTURER AS UTILITY CONTROLLER. SAFETY SWITCH (UTILITY CONTROLLER) TO SHUT VALVES IN AN EMERGENCY BY ELECTRICAL CONTRACTOR.
- CONFIRM EXISTING GAS IS 2 PSI. PROVIDE REGULATOR AT ALL GAS APPLIANCES.

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CHHS SCIENCE LAB RENOVATION
ADDENDUM 2020-1-23

Project Number: 19017
Checked: TW
Drawn: -
Date: 1/7/2020
Revisions:

PLUMBING SUPPLY PIPING PLAN

P3