

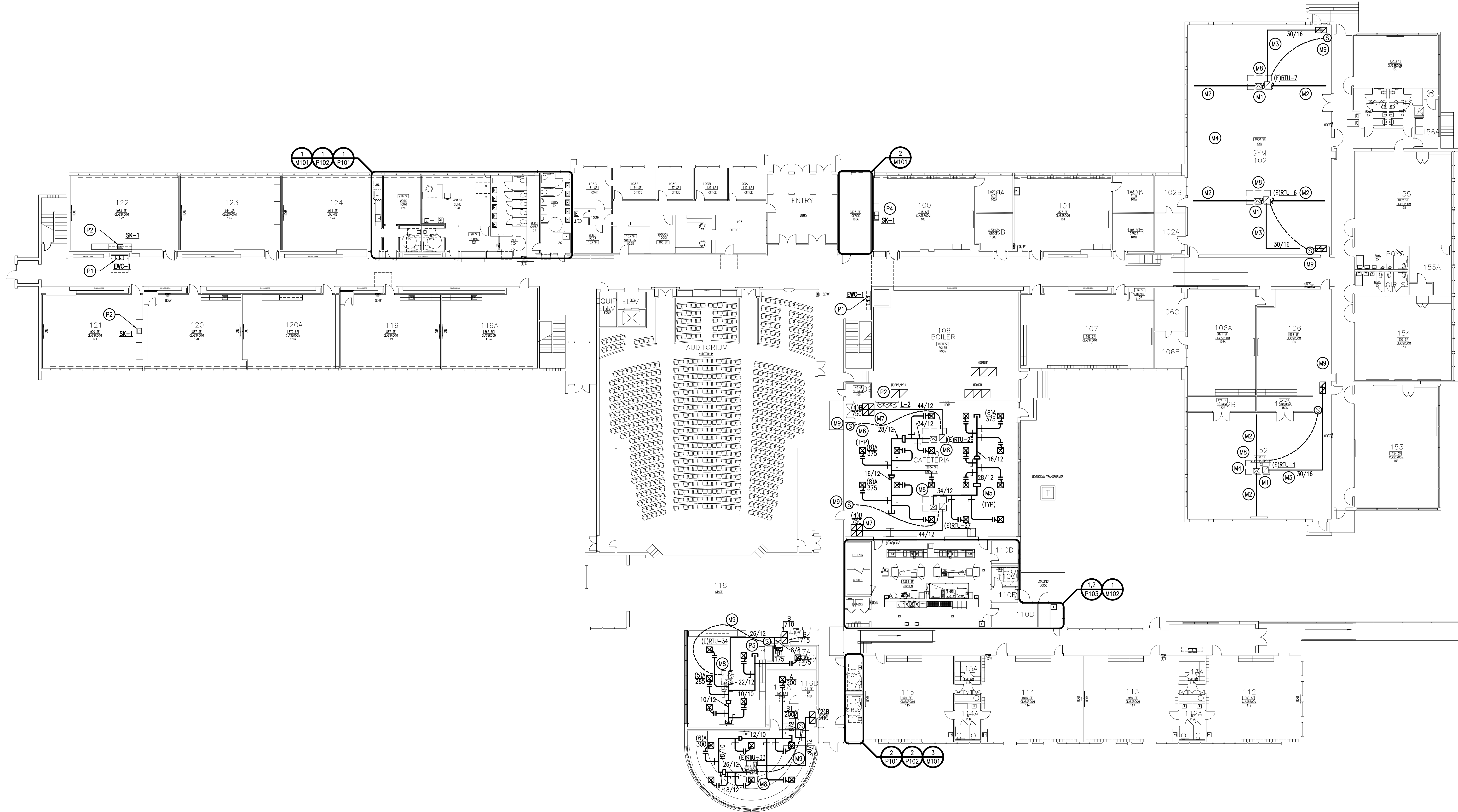
CFM	DUCT SIZE
50 - 75	5"
75 - 115	6"
115 - 160	7"
161 - 220	8"
221 - 290	9"
291 - 490	10"
491 - 700	12"

PLUMBING KEYNOTES: (PX)

- P1. INSTALL NEW FIXTURE. MODIFY EXISTING WATER AND WASTE PIPING AS REQUIRED FOR CONNECTIONS TO NEW FIXTURE.
- P2. INSTALL NEW FIXTURE. EXTEND EXISTING WATER AND WASTE PIPING AS REQUIRED FOR FINAL LOCATION OF NEW FIXTURE.
- P3. REINSTALL STORED FIXTURE. PROVIDE NEW SHUT-OFF VALVES AND RUN-OUT WATER PIPING.
- P4. INSTALL NEW FIXTURE. MODIFY WATER AND WASTE PIPING FROM REMOVED TOILETS.

MECHANICAL KEYNOTES: (MX)

- M5. ALL BALANCE DAMPERS SHALL HAVE A MINIMUM 2 INCH STAND-OFF HANDLE.
- M6. COORDINATE FINAL LOCATIONS OF ALL AIR DEVICES WITH LIGHTS AND ARCHITECTURAL REFLECTED CEILING PLAN.
- M7. INSTALL PLENUM FULL SIZE OF RETURN AIR GRILLES AND A MINIMUM OF 18 INCHES TALL. TAP TOP CENTER OF PLENUM WITH DUCTWORK.
- M8. CONTRACTOR SHALL CLEAN EXISTING RTU'S CASING. CLEAN COILS, HEAT EXCHANGER, LUBRICATE BEARING, REPLACE ANY BELTS AND CHANGE FILTERS. CHECK REFRIGERANT CHARGE AND REPORT FINDINGS TO OWNER IN WRITING.
- M9. MECHANICAL CONTRACTOR SHALL ENGAGE TPS ASSIGNED CONTROLS CONTRACTOR TO INSTALL NEW CONTROL SYSTEM, PER TPS CRITERIA, FOR UNITS BEING MODIFIED.
- M1. INSTALL PLENUM FROM SUPPLY AIR DISCHARGE FROM UNIT. INSTALL SPLITTER IN PLENUM. SPLITTER SHALL FORCE 50% AIR TO EACH SIDE. PLENUM SHALL BE A MINIMUM OF 20x20. COORDINATE DEPTH OF PLENUM WITH RETURN DUCTWORK. LINE PLENUM WITH MINIMUM 2 INCH, 3 POUND DENSITY LINER.
- M2. INSTALL FABRIC DUCT ON SUPPLY AIR PLENUM. PLENUM SHALL HAVE SHEET METAL COLLAR MINIMUM OF 18 INCHES DEEP FOR ATTACHMENT OF FABRIC DUCT. FABRIC DUCT SHALL HAVE ORIFICES AT 4 AND 8 O'CLOCK. FABRIC DUCT SHALL HAVE INTERNAL STRUCTURE TO STOP "POPPING" NOISE. USE 2 ROW STAINLESS STEEL CABLE. FINAL SIZE DUCTWORK SHALL BE PER MANUFACTURER FOR A TOTAL AIR FLOW OF 1500 CFM.
- M3. INSTALL RETURN AIR DUCTWORK TIGHT TO STRUCTURE. COORDINATE DEPTH OF SUPPLY AIR PLENUM WITH DEPTH OF RETURN AIR DUCTWORK.
- M4. COORDINATE LOCATION OF DUCTWORK WITH FINAL LOCATION OF LIGHTS.



1 OVERALL FIRST FLOOR MECHANICAL AND PLUMBING PLAN-NEW
 Scale: 1/16" = 1'-0"



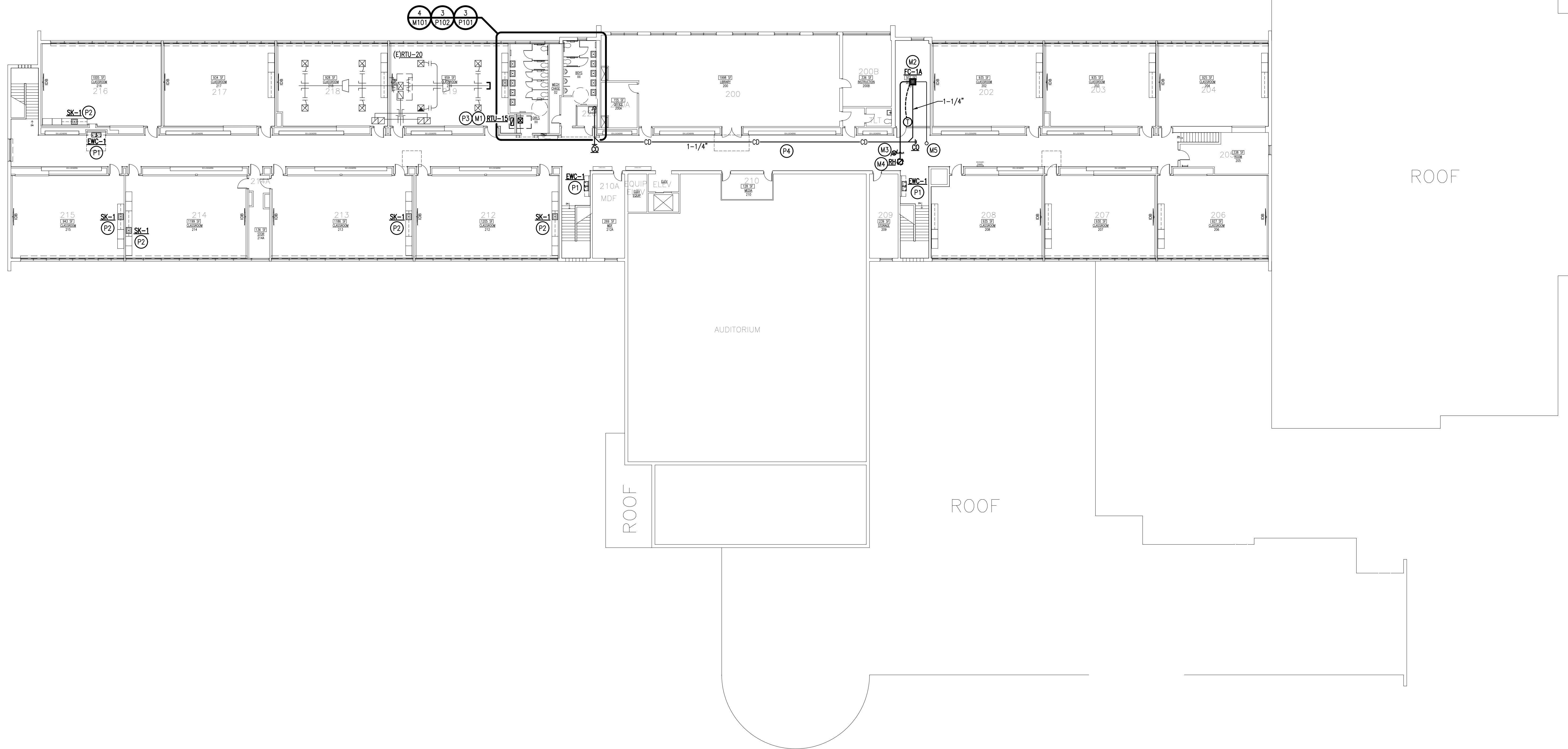
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PLUMBING KEYNOTES: (PK)

- P1. INSTALL NEW FIXTURE. MODIFY EXISTING WATER AND WASTE PIPING AS REQUIRED FOR CONNECTIONS TO NEW FIXTURE.
- P2. INSTALL NEW FIXTURE. EXTEND EXISTING WATER AND WASTE PIPING AS REQUIRED FOR FINAL LOCATION OF NEW FIXTURE.
- P3. MODIFY EXISTING GAS PIPING AS NEEDED TO SERVE NEW ROOF TOP UNIT. PROVIDE NEW UNION AND SHUT-OFF VALVE AT UNIT CONNECTION. PROVIDE A MINIMUM 6 INCH DIRT LEG. RECONNECT EXISTING CONDENSATE PIPING AND PROVIDE NEW TRAP.
- P4. INSTALL CONDENSATE PIPE FROM FAN COIL AND TERMINATE AT MOP SINK WITH 2 INCH AIR GAP. INSULATE CONDENSATE PIPE FROM FAN COIL TO MOP SINK. INSULATION SHALL HAVE JACKET WITH VAPOR BARRIER.

MECHANICAL KEYNOTES: (MX)

- M1. INSTALL NEW ROOF TOP UNIT ON EXISTING CURB. RECONNECT TO EXISTING DUCTWORK IN THE VERTICAL RISE. CONTRACTOR SHALL VERIFY EXACT SIZE OF EXISTING DUCTWORK TO BE CONNECTED. PROVIDE CURB ADAPTOR.
- M2. INSTALL FAN COIL AT THIS APPROXIMATE LOCATION. INSTALL HARD-WIRED THERMOSTAT AT 48 INCHES ABOVE FINISHED FLOOR. COORDINATE FINAL LOCATION OF FAN COIL WITH LIGHTS AND ARCHITECTURAL REFLECTED CEILING PLAN.
- M3. INSTALL MOTORIZED DAMPER IN OUTDOOR AIR DUCTWORK IN CORRIDOR. INTERLOCK DAMPER WITH FAN COIL FAN MOTOR. DAMPER OPENS WHEN SUPPLY FAN IS ENERGIZED. CLOSE WHEN FAN IS OFF.
- M4. INSTALL OUTDOOR AIR DUCTWORK FROM ROOF MOUNTED ROOF HOOD. ALL OUTDOOR AIR DUCTWORK SHALL BE FULLY INSULATED WITH 2 INCH DUCTWRAP.
- M5. ALL ROOF PENETRATIONS SHALL BE MADE WITH A HOODED ROOF CURB OR OTHER APPROVED METHOD BY THE ROOFING MANUFACTURER SO AS NOT TO VOID ROOF WARRANTY.



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ELECTRICAL KEYNOTES: (E)

- E1. REMOVE EXISTING LIGHTING AND READY FOR NEW WORK. PROVIDE TEMPORARY LIGHTING AS REQUIRED.
- E2. REMOVE ALL LOW-VOLTAGE CEILING MOUNTED DEVICES AND STORE FOR REUSE IN NEW WORK. REMOVE DAMAGED CEILING TILES WHERE DEVICES ARE LOCATED.
- E3. REMOVE EXISTING HORN/STROBES AND RETURN TO OWNER. N.A.C. CABLING TO REMAIN FOR NEW WORK.
- E4. REMOVE EXISTING DEVICES FROM WALLS AND READY FOR NEW WORK. RE: ARCH DWGS., E100 & E200.

PLUMBING KEYNOTES: (P)

- P9. REMOVE AND CAP FLOOR DRAINS IN CAFETERIA. COORDINATE FLOOR REPAIR WITH ARCHITECT.
- P10. WASHER AND DRYER TO REMAIN. RETURN ICE MAKER BACK TO OWNER.
- P11. REMOVE ALL WATER PIPING BACK TO SOURCE AND CAP AT MAINS. CAP SANITARY BELOW SLAB. REPAIR SLAB AS DIRECTED BY ARCHITECT.
- P12. REMOVE EXISTING MOP SINK. REMOVE WATER BACK TO MAIN AND CAP AT MAIN. REMOVE WASTE PIPE TO BELOW SLAB AND CAP.
- P13. REMOVE AND STORE EXISTING HAND SINKS ON BACK WALL OF KITCHEN. SINKS WILL BE REINSTALLED IN NEW WORK.

PLUMBING KEYNOTES: (M)

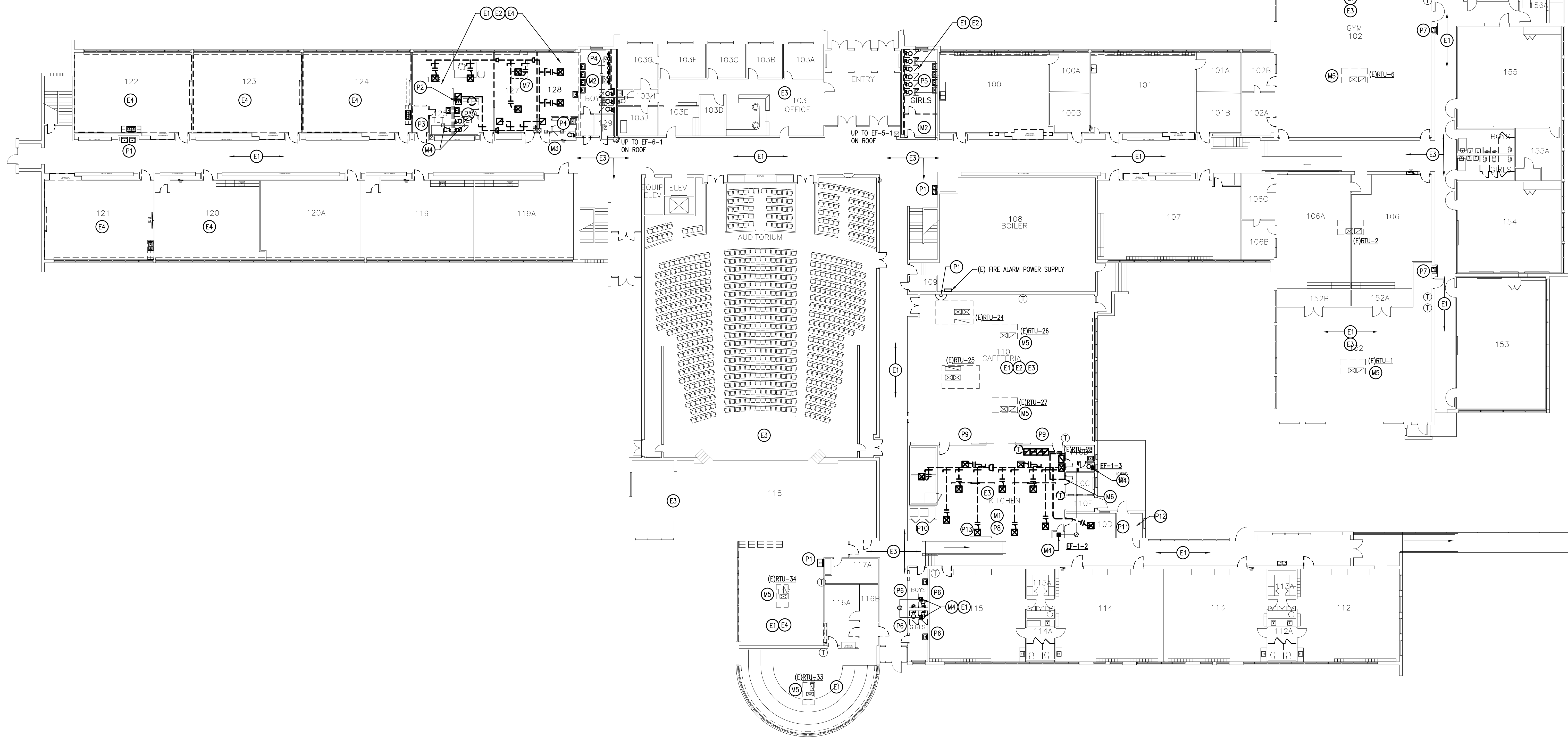
- M1. REMOVE EXISTING CONCENTRIC DIFFUSER, ALL ASSOCIATED DUCTWORK AND SUPPORTS. PREPARE AREA FOR INSTALLATION OF A DUCTED SYSTEM IN NEW WORK.
- M2. REMOVE EXISTING TOILET EXHAUST GRILLES AND ALL ASSOCIATED DUCTWORK, SUPPORTS AND CONTROLS. PREPARE AREA FOR INSTALLATION OF NEW PACKAGED UNIT TO SERVE KITCHEN. MODIFY ROOF OPENINGS AS REQUIRED FOR NEW EQUIPMENT.
- M3. REMOVE EXISTING CEILING MOUNTED EXHAUST FAN, ALL ASSOCIATED DUCTWORK AND CONTROLS. CAP ROOF HOOD WITH INSULATED SHEET METAL PANEL. INSULATED SHEET METAL PANEL SHALL HAVE A MINIMUM OF 2 INCH, 3 POUND DENSITY INSULATION. SLOPE CAP TO ONE SIDE FOR WATER RUN OFF. REMOVE WALL HEATER FROM TOILET. COORDINATE WITH ELECTRICAL FOR REMOVAL OF POWER.
- M4. REMOVE EXISTING CEILING MOUNTED EXHAUST FANS AND ALL ASSOCIATED CONTROLS. KEEP EXHAUST DUCTWORK IN PLACE. PREPARE AREA FOR INSTALLATION OF NEW CEILING MOUNTED EXHAUST FANS.

MECHANICAL KEYNOTES: (M)

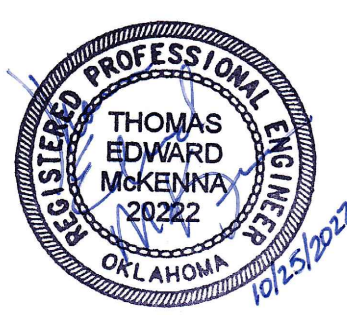
- M5. REMOVE EXISTING TOILET EXHAUST GRILLES AND ALL ASSOCIATED DUCTWORK, SUPPORTS AND CONTROLS. PREPARE AREA FOR INSTALLATION OF NEW PACKAGED UNIT TO SERVE KITCHEN. MODIFY ROOF OPENINGS AS REQUIRED FOR NEW EQUIPMENT.
- M6. REMOVE EXISTING ROOF MOUNTED PACKAGED UNIT, CURB AND ALL ASSOCIATED DUCTWORK, SUPPORTS AND CONTROLS. PREPARE AREA FOR INSTALLATION OF NEW PACKAGED UNIT TO SERVE KITCHEN. MODIFY ROOF OPENINGS AS REQUIRED FOR NEW EQUIPMENT.
- M7. REMOVE ALL HORIZONTAL DUCTWORK, SUPPORTS, CONTROLS AND GRILLES FROM THIS SPACE. KEEP VERTICAL DUCTWORK IN TACT AND PREPARE AREA FOR INSTALLATION OF NEW DUCTWORK ON NEW FLOOR PLAN.

MECHANICAL KEYNOTES: (M)

- M1. REMOVE KITCHEN HOOD, EXHAUST DUCTWORK, ROOF MOUNTED EXHAUST FAN AND ALL ASSOCIATED SUPPORTS.
- M2. REMOVE EXISTING TOILET EXHAUST GRILLES AND ALL ASSOCIATED DUCTWORK, SUPPORTS AND CONTROLS. PREPARE AREA FOR INSTALLATION OF NEW PACKAGED UNIT TO SERVE KITCHEN. MODIFY ROOF OPENINGS AS REQUIRED FOR NEW EQUIPMENT.
- M3. REMOVE EXISTING CEILING MOUNTED EXHAUST FAN, ALL ASSOCIATED DUCTWORK AND CONTROLS. CAP ROOF HOOD WITH INSULATED SHEET METAL PANEL. INSULATED SHEET METAL PANEL SHALL HAVE A MINIMUM OF 2 INCH, 3 POUND DENSITY INSULATION. SLOPE CAP TO ONE SIDE FOR WATER RUN OFF. REMOVE WALL HEATER FROM TOILET. COORDINATE WITH ELECTRICAL FOR REMOVAL OF POWER.
- M4. REMOVE EXISTING CEILING MOUNTED EXHAUST FANS AND ALL ASSOCIATED CONTROLS. KEEP EXHAUST DUCTWORK IN PLACE. PREPARE AREA FOR INSTALLATION OF NEW CEILING MOUNTED EXHAUST FANS.



TULSA PUBLIC SCHOOLS
 BELL ELEMENTARY SCHOOL
 6304 E ADMIRAL BVD
 TULSA, OK 74115



PROJECT TITLE
 BELL
 ELEMENTARY
 INTERIOR
 RENOVATION

REVISION

SHEET TITLE
 OVERALL FIRST
 FLOOR MEP
 PLAN-DEMO
 DATE: 10.25.2022
 SHEET NO.

MEPD101

1 OVERALL FIRST FLOOR MEP PLAN-DEMO
 Scale: 1/16" = 1'-0"



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ELECTRICAL KEYNOTES: (E)

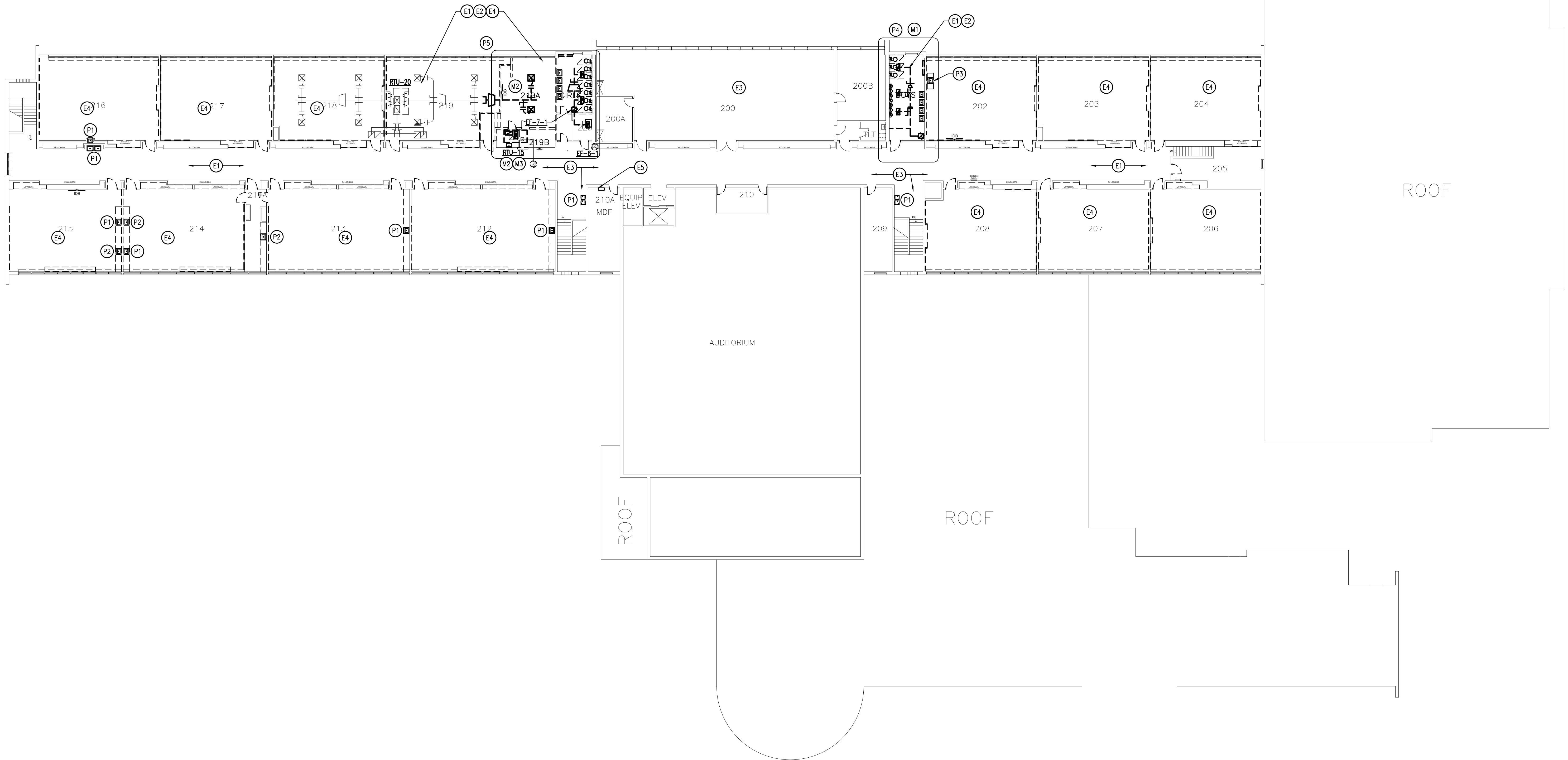
- E1. REMOVE EXISTING LIGHTING AND READY FOR NEW WORK. PROVIDE TEMPORARY LIGHTING AS REQUIRED.
- E2. REMOVE ALL LOW-VOLTAGE CEILING MOUNTED DEVICES AND STORE FOR REUSE IN NEW WORK. REMOVE DAMAGED CEILING TILES WHERE DEVICES ARE LOCATED.
- E3. REMOVE EXISTING HORN/STROBES AND RETURN TO OWNER. N.A.C. CABLING TO REMAIN FOR NEW WORK.
- E4. REMOVE EXISTING DEVICES FROM WALLS AND READY FOR NEW WORK. RE: ARCH DWGS., E100 & E200.
- E5. FIELD VERIFY AND LOCATE EXISTING FACP TO BE REPLACED WITH NEW ECS FACP.

PLUMBING KEYNOTES: (P)

- P1. REMOVE FIXTURE FROM WALL AND PROVIDE TEMPORARY CAP ON WATER AND WASTE PIPE. PREPARE AREA FOR INSTALLATION OF NEW FIXTURE.
- P2. REMOVE SINK AND ALL ASSOCIATED TRIM. CAP WATER, WASTE AND VENT BEHIND WALL. COORDINATE WITH ARCHITECT FOR REPAIR OF WALL.
- P3. REMOVE SINK AND ALL ASSOCIATED TRIM. PROVIDE TEMPORARY CAP FOR WASTE AND WATER PIPE. PREPARE AREA FOR INSTALLATION OF NEW SINKS.
- P4. REMOVE FIXTURES FROM TOILET GROUP. REMOVE BRANCH WATER PIPING BACK TO MAINS AND CAP AT MAINS. REMOVE BRANCH VENT PIPING BACK TO MAINS AND CAP AT MAIN. MAIN SANITARY STACK SHALL REMAIN IN SERVICE AS IT RECEIVES WASTE FROM TOILET TO THE WEST.
- P5. REMOVE ALL FIXTURES FROM TOILET GROUPS AND SURROUNDING ROOMS. REMOVE ALL WATER PIPING BACK TO RISER ON THE FIRST FLOOR. REMOVE ALL BRANCH WASTE AND VENT PIPING BACK TO SANITARY SEWER STACK. PREPARE AREA FOR NEW TOILET GROUPS AND CONNECT TO EXISTING SEWER STACK.

MECHANICAL KEYNOTES: (M)

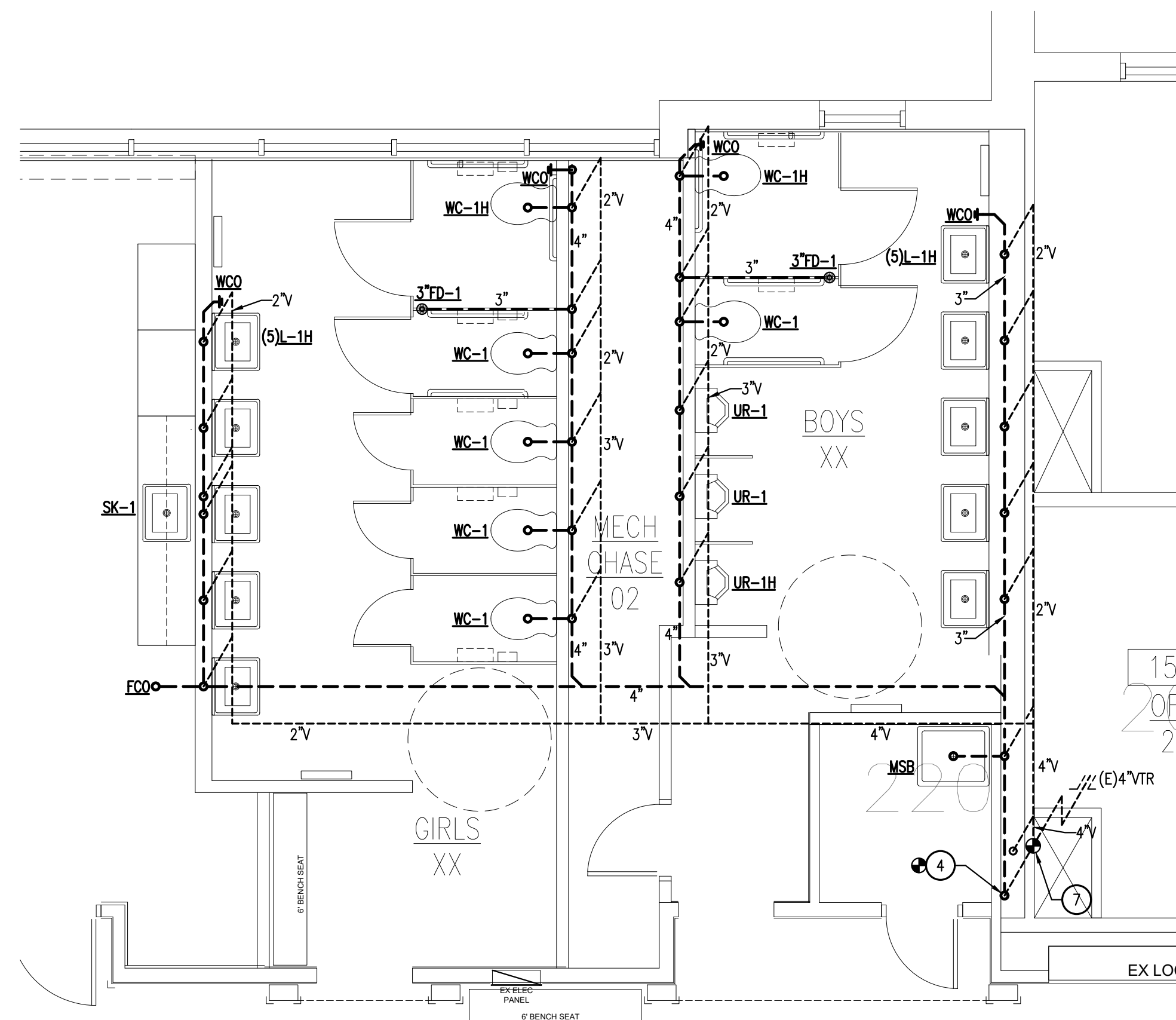
- M1. REMOVE EXISTING TOILET EXHAUST GRILLES AND ALL ASSOCIATED DUCTWORK, SUPPORTS AND CONTROLS. REMOVE ROOF MOUNTED EXHAUST FAN. COORDINATE WITH ELECTRICAL FOR REMOVAL OF POWER. CAP CURB WITH INSULATED SHEET METAL PANEL. INSULATED SHEET METAL PANEL SHALL HAVE A MINIMUM OF 2 INCH, 3 POUND DENSITY INSULATION. SLOPE CAP TO ONE SIDE FOR WATER RUN OFF. REMOVE WALL HEATER FROM TOILET. COORDINATE WITH ELECTRICAL FOR REMOVAL OF POWER.
- M2. CAP EXISTING DUCTWORK AT THIS APPROXIMATE LOCATION. COORDINATE EXACT LOCATION WITH NEW ARCHITECTURAL WALLS IN TOILETS. REBALANCE REMAINING AIR DEVICES TO ACCOMMODATE REMOVED GRILLES. NEW AIR FLOW FOR 8 REMAINING GRILLES SHALL BE 400 CFM/GRILLE. NOTIFY ENGINEER IF MORE THAN 8 AIR DEVICES REMAIN ON UNIT.
- M3. REMOVE EXISTING ROOF TOP UNIT FROM CURB AND RETURN TO OWNER. COORDINATE WITH ELECTRICAL FOR REMOVAL OF POWER. COORDINATE WITH PLUMBER TO PROVIDE TEMPORARY REMOVAL OF GAS AND CONDENSATE PIPE. PREPARE AREA FOR INSTALLATION OF ROOF TOP UNIT IN NEW WORK.



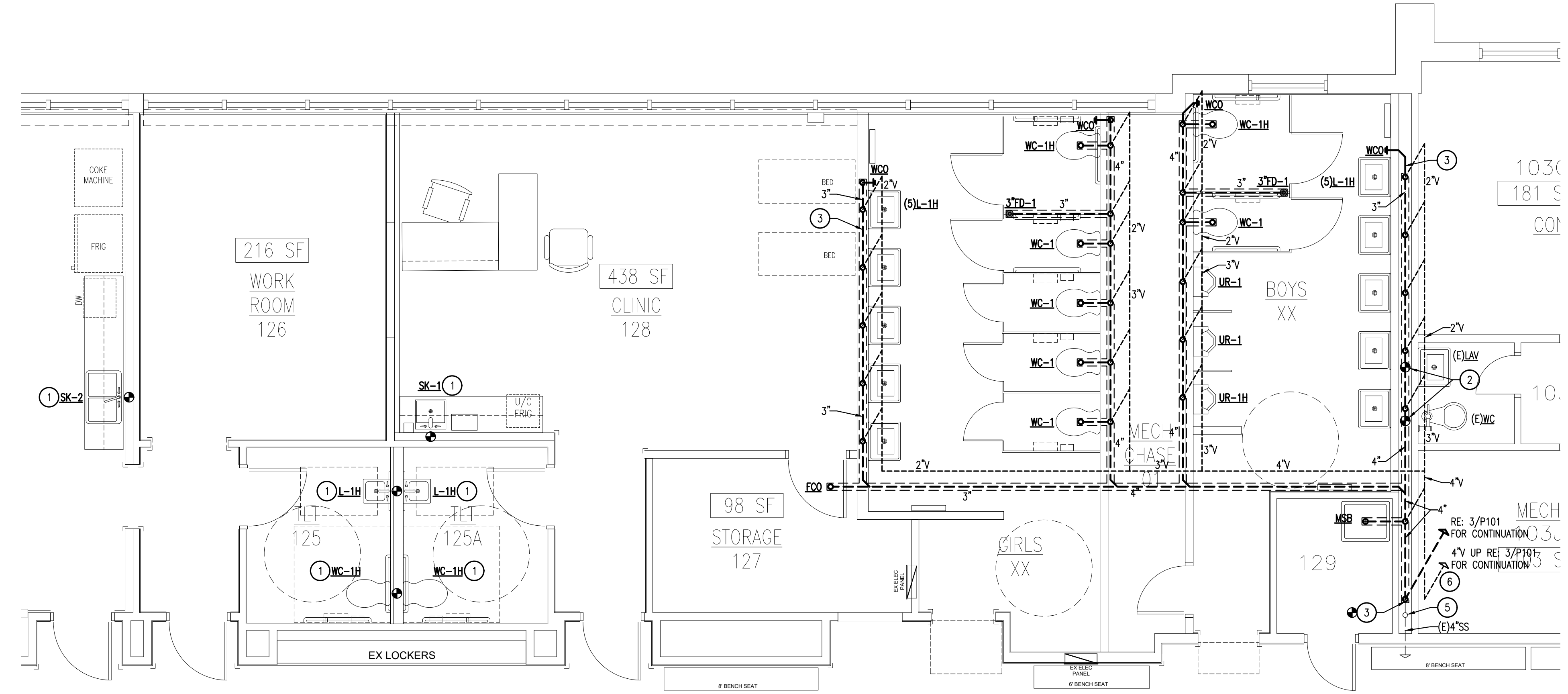
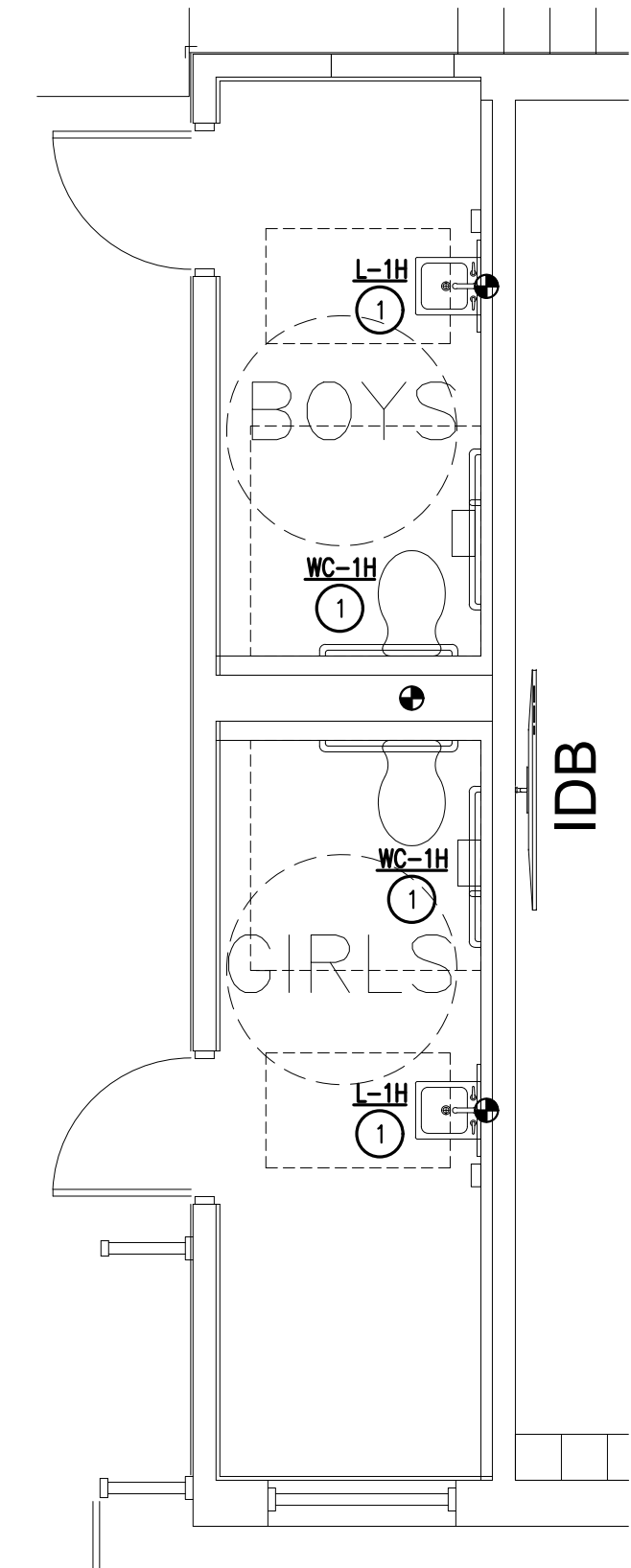
1 OVERALL SECOND FLOOR MEP PLAN-DEMO
 Scale: 1/16" = 1'-0"

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- KEYNOTES: (X)
1. MODIFY EXISTING WASTE PIPING TO ACCOMMODATE NEW FIXTURE POINTS OF CONNECTION.
 2. CONNECT EXISTING FIXTURES TO NEW WASTE AND VENT PIPING.
 3. ROUTE WASTE PIPE IN WALL AT 1/4"/FT SLOPE. DROP DOWN BELOW SLAB AT LAST LAV.
 4. CONNECT NEW SANITARY TO EXISTING AT THIS APPROXIMATE LOCATION. CONTRACTOR SHALL VERIFY EXACT LOCATION OF EXISTING SANITARY. NOTIFY ENGINEER IF INVERT CANNOT BE OBTAINED.
 5. VERIFY THAT WASTE STACK HAS A CLEANOUT AT THE BASE. PROVIDE ACCESS DOOR FOR CLEANOUT.
 6. ROUTE VENT TO 2ND FLOOR AND CONNECT TO EXISTING VENT THROUGH ROOF STACK.
 7. CONNECT NEW VENT PIPE TO EXISTING VENT THROUGH ROOF AT THIS APPROXIMATE LOCATION. NOTIFY ENGINEER IF EXISTING VENT THROUGH ROOF IS LESS THAN 4".



3 ENLARGED WASTE AND VENT PLAN-NEW
 Scale: 1/4" = 1'-0"
 SECOND FLOOR NORTH

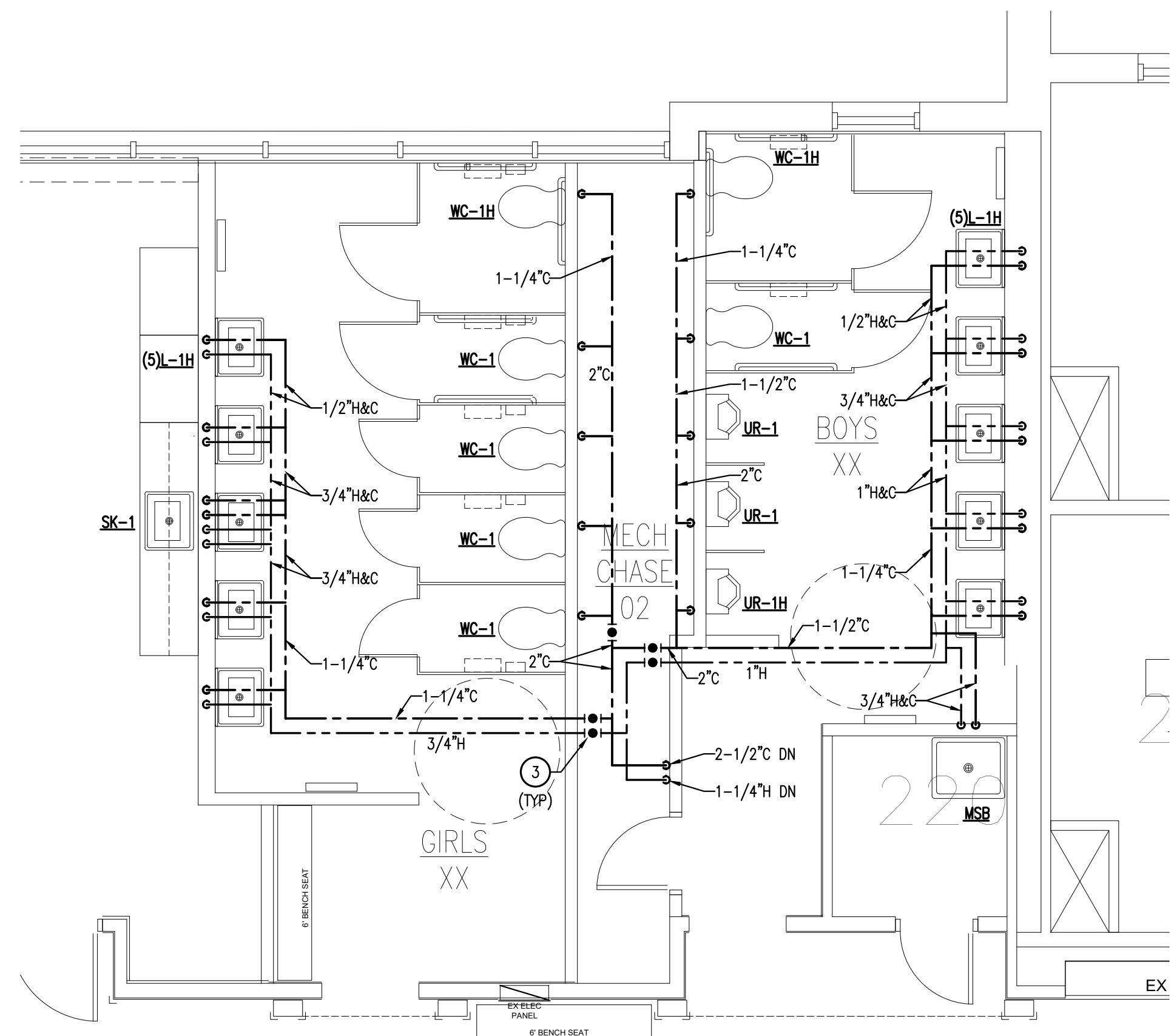


1 ENLARGED WASTE AND VENT PLAN-NEW
 Scale: 1/4" = 1'-0"
 FIRST FLOOR NORTH

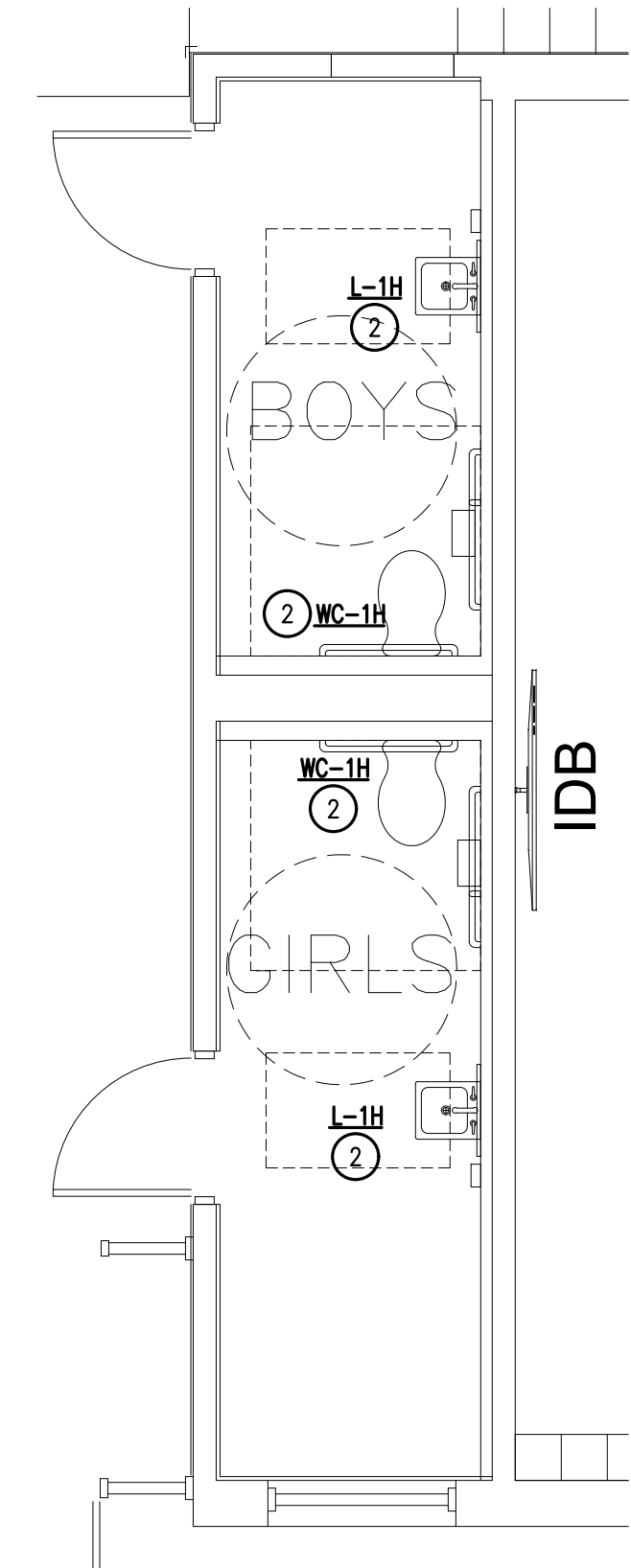
2 ENLARGED WASTE AND VENT PLAN-NEW
 Scale: 1/4" = 1'-0"
 FIRST FLOOR NORTH

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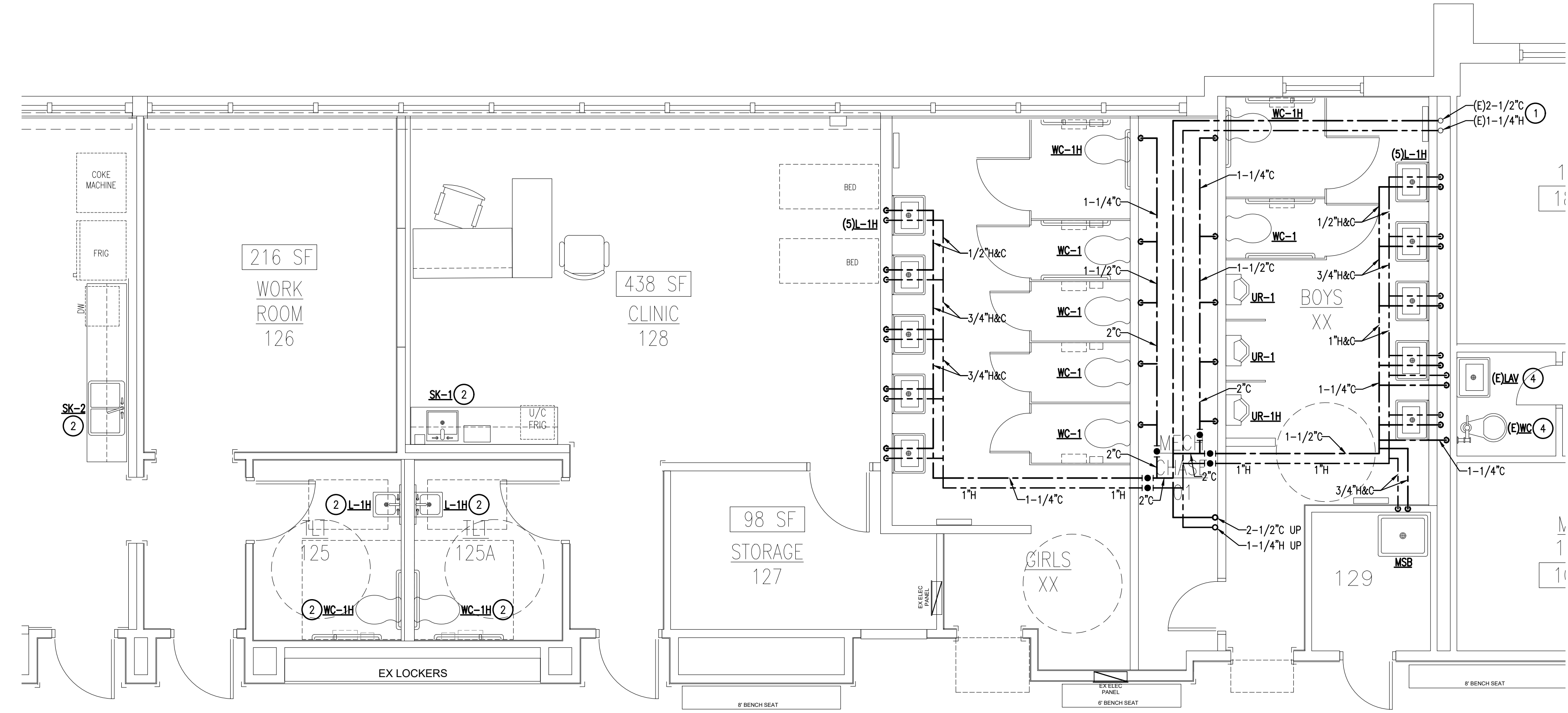
- KEYNOTES: (X)
1. CONNECT NEW WATER PIPE TO EXISTING AT THIS APPROXIMATE LOCATION. PROVIDE SHUT-OFF VALVE AT 24" AFF. PROVIDE ACCESS PANEL TO SHUT-OFF VALVE.
 2. MODIFY EXISTING WATER PIPING TO ACCOMMODATE NEW FIXTURE POINTS OF CONNECTION.
 3. LOCATE ALL SHUT-OFF VALVES FOR COMPLETE ACCESS.
 4. CONNECT EXISTING FIXTURES TO NEW WATER PIPE. INSTALL NEW SHUT-OFF VALVES AND RUN-OUT PIPING TO LAV. INSTALL THERMOSTATIC MIXING VALVE AT LAV. RE: PLUMBING FIXTURE SCHEDULE FOR MIXING VALVE MODEL.



3 ENLARGED WATER AND GAS PLAN-NEW
 Scale: 1/4" = 1'-0"
 SECOND FLOOR NORTH



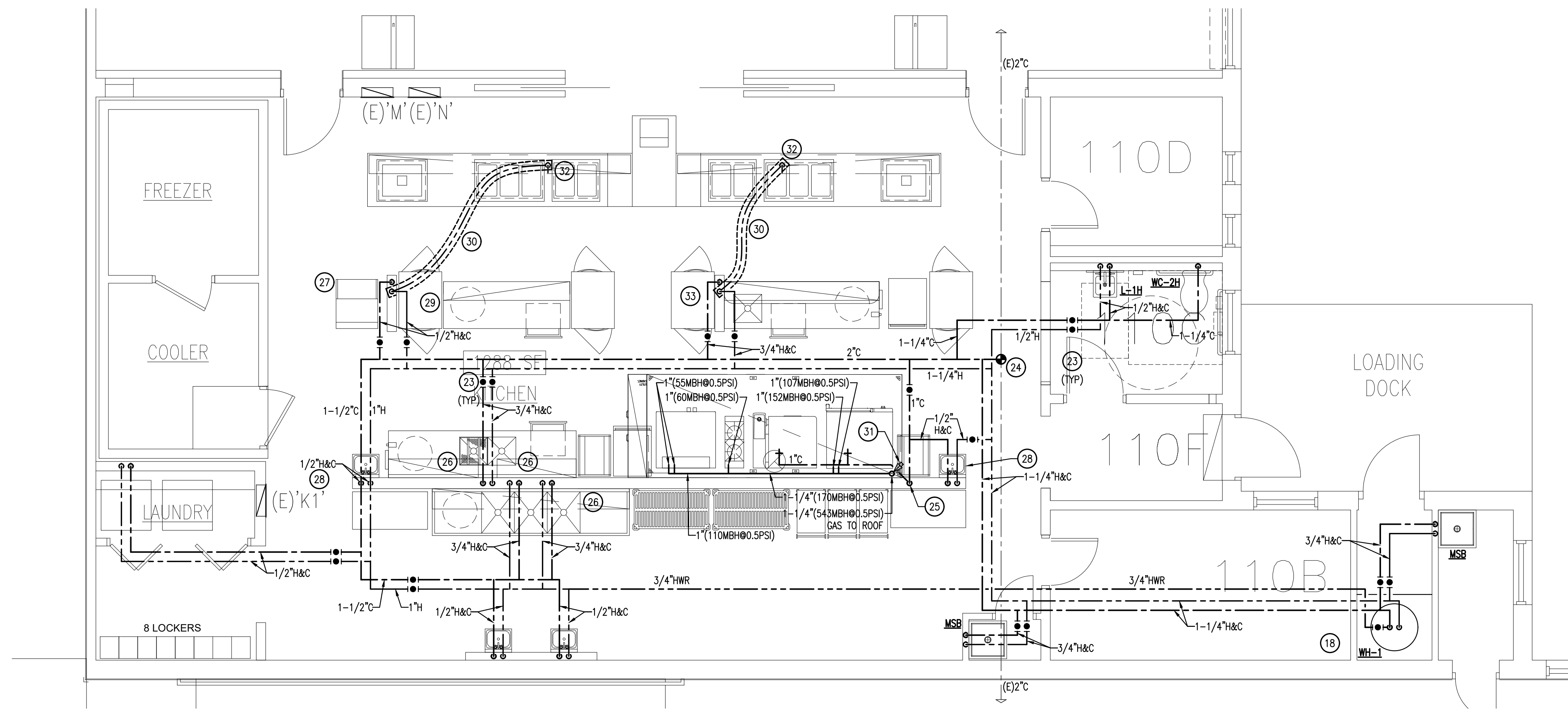
2 ENLARGED WATER AND GAS PLAN-NEW
 Scale: 1/4" = 1'-0"
 FIRST FLOOR NORTH



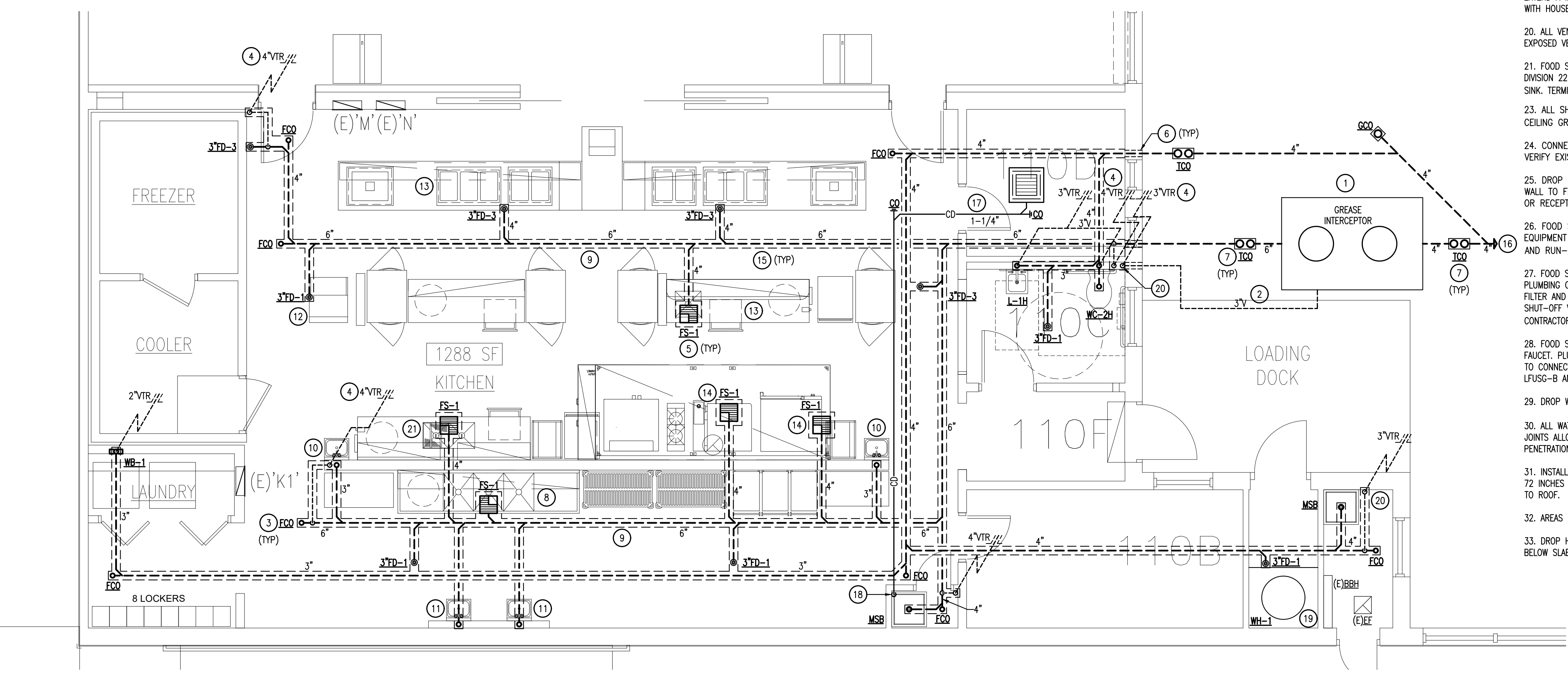
1 ENLARGED WATER AND GAS PLAN-NEW
 Scale: 1/4" = 1'-0"
 FIRST FLOOR NORTH

KEYNOTES: (X)

- 1,000 GALLON PRE-CAST CONCRETE GREASE INTERCEPTOR PER CITY OF TULSA REQUIREMENTS. PROVIDE TRAFFIC RATED MANHOLE COVERS. COORDINATE FINAL LOCATION WITH CIVIL AND ALL EXISTING UTILITIES.
- GREASE TRAP SHALL HAVE AN INDEPENDENT VENT THROUGH ROOF. DO NOT CONNECT ANY OTHER VENT SYSTEM TO GREASE TRAP VENT.
- ALL FLOOR CLEANOUTS SHALL BE FLUSH WITH FINISHED FLOOR. COORDINATE WITH ARCHITECT FOR FLOOR MATERIAL, FINISH, AND COLOR. CLEANOUTS SHALL BE NO CLOSER THAN 18 INCHES TO ANY WALL AND BE FULLY ACCESSIBLE.
- ALL VTR'S SHALL BE A MINIMUM OF 10 FEET FROM ANY HVAC OUTDOOR AIR INTAKE.
- COORDINATE FINAL LOCATION OF ALL DRAIN RECEPTORS FOR FOOD SERVICE EQUIPMENT WITH EQUIPMENT PROVIDER. COORDINATE WITH KITCHEN CONSULTANT DRAWINGS FOR FINAL LOCATION OF ALL DRAINS. RE: FS.1
- ALL PIPE PASSING THROUGH FOUNDATIONS OR FOOTINGS SHALL BE SLEEVED.
- ALL EXTERIOR CLEANOUTS SHALL BE FLUSH WITH FINISHED GRADE. ALL CLEANOUTS SHALL BE INSTALLED IN A CONCRETE PAD. CONCRETE SHALL BE A MINIMUM 8" THICK AND 2'x2'. INSTALL CLEANOUT IN CENTER OF PAD. PROVIDE TRAFFIC RATED COVER FOR ALL CLEANOUTS LOCATED IN DRIVES.
- FOOD SERVICE CONTRACTOR SHALL PROVIDE AND INSTALL 3-COMP SINK AND STRAINERS AND FLOW CONTROL VALVES. DIVISION 22 CONTRACTOR SHALL PROVIDE DRAIN PIPING FROM CONTROL VALVES AT SINK STRAINERS TO FLOOR SINK. TERMINATE DRAIN PIPING AT FLOOR SINK WITH A MINIMUM 2" AIR GAP.
- ALL WASTE GREASE WASTE PIPE SHALL BE CAST IRON.
- FOOD SERVICE CONTRACTOR SHALL PROVIDE HAND SINK FOR INSTALLATION BY PLUMBING CONTRACTOR. PLUMBING CONTRACTOR SHALL PROVIDE WASTE PIPING FROM STRAINER TO GREASE WASTE MAIN.
- PLUMBING CONTRACTOR SHALL REINSTALL STORED LAVATORY. PROVIDE INSULATION ON ALL HANDI-CAP WASTE PIPE. RE: PLUMBING FIXTURE SCHEDULE.
- FOOD SERVICE CONTRACTOR SHALL PROVIDE AND INSTALL ICE MACHINE. DIVISION 22 CONTRACTOR SHALL PROVIDE DRAIN PIPING FROM ICE MACHINE STORAGE BIN AND ICE MAKER. DO NOT MANIFOLD DRAIN LINES. TERMINATE DRAIN LINES AT FLOOR DRAIN WITH A MINIMUM 2" AIR GAP.
- PLUMBING CONTRACTOR SHALL PROVIDE DRAIN PIPING FROM FIXTURE TO FLOOR DRAIN. DO NOT MANIFOLD DRAIN PIPING. TERMINATE WITH A TURN DOWN AND 2 INCH AIR GAP.
- PLUMBING CONTRACTOR SHALL PROVIDE AND INSTALL WASTE PIPING FROM COOKING EQUIPMENT TO NEAREST DRAIN RECEPTOR. COORDINATE WITH FOOD SERVICE PROVIDER FOR FINAL MATERIAL TYPE FOR WASTE PIPING BASED ON MANUFACTURER'S REQUIREMENT AND RECOMMENDATIONS TO MAINTAIN WARRANTY. DO NOT MANIFOLD WASTE PIPING.
- INDICATES AREA OF SLAB CUTS. (TYPICAL)
- EXTEND SEWER PIPING TO SITE SEWER SYSTEM. CONTRACTOR SHALL VERIFY EXISTING LOCATION OF SITE SEWER AND PRICE ACCORDINGLY FOR ALL DRIVE WAY REPAIRS. NOTIFY ENGINEER IF INVERT CANNOT BE OBTAINED.
- ALL CONDENSATE LINES SHALL BE SCHEDULE 40 GALVANIZED PIPING INSULATED WITH 1" FIBERGLASS INSULATION WITH VAPOR BARRIER. DO NOT ROUTE CONDENSATE PIPING OVER ELECTRICAL EQUIPMENT WITHOUT A DRAIN PAN. ALL BRANCH CONDENSATE PIPING SHALL TAP THE TOP OF THE MAIN CONDENSATE PIPING. PROVIDE CLEANOUTS AT EACH CHANGE OF DIRECTION.
- EXTEND CONDENSATE PIPING DOWN WALL TO TERMINATE INTO MSB. TERMINATE CONDENSATE ABOVE MSB WITH A 2" AIR GAP.
- INSTALL WATER HEATER ON CONCRETE PAD. CHAMFER EDGES OF PAD. PAD SHALL EXTEND A MINIMUM 4 INCH IN FRONT OF HEATER. COORDINATE FLOOR DRAIN LOCATION WITH HOUSE KEEPING PAD.
- ALL VENT PIPING EXPOSED. SECURE VENT TO WALL WITH UNI-STRUT AND PIPE CLAMP. EXPOSED VENT PIPING SHALL BE CAST IRON. PAINT PIPE TO MATCH WALL FINISH.
- FOOD SERVICE CONTRACTOR SHALL PROVIDE AND INSTALL PREP SINK AND STRAINER. DIVISION 22 CONTRACTOR SHALL PROVIDE DRAIN PIPING FROM SINK STRAINERS TO FLOOR SINK. TERMINATE DRAIN PIPING AT FLOOR SINK WITH A MINIMUM 2" AIR GAP
- ALL SHUT-OFF VALVES SHALL BE FULLY ACCESSIBLE. INSTALL RED "DOT" ON CEILING GRID AT ALL VALVE LOCATIONS. (TYPICAL)
- CONNECT NEW COLD WATER LINE TO EXISTING AT THIS APPROXIMATE LOCATION. VERIFY EXISTING VALVE IS IN WORKING CONDITION.
- DROP COLD WATER PIPE IN FURRED OUT WALL. ROUTE HORIZONTALLY ALONG WALL TO FIXTURE. ALL WATER PIPING SHALL BE BELOW ANY ELECTRICAL CONDUITS OR RECEPTACLES.
- FOOD SERVICE CONTRACTOR SHALL PROVIDE AND INSTALL FOOD SERVICE EQUIPMENT AND FAUCET. PLUMBING CONTRACTOR SHALL PROVIDE SHUT-OFF VALVES AND RUN-OUT PIPING TO CONNECT TO FAUCET. (INSTALL AT 18" AFF)
- FOOD SERVICE CONTRACTOR SHALL PROVIDE ICE MACHINE AND WATER FILTER. PLUMBING CONTRACTOR SHALL PROVIDE SHUT-OFF VALVE AND RUN-OUT PIPING TO WATER FILTER AND FROM FILTER TO FIXTURE. INSTALL FILTER FOR COMPLETE ACCESS. PROVIDE SHUT-OFF VALVE AND UNION AHEAD FILTER CONNECTION. COORDINATE WITH FOOD SERVICE CONTRACTOR FOR POINT OF CONNECTION LOCATION. (INSTALL AT 50" AFF)
- FOOD SERVICE CONTRACTOR SHALL PROVIDE AND INSTALL PLUMBING FIXTURE AND FAUCET. PLUMBING CONTRACTOR SHALL PROVIDE SHUT-OFF VALVES AND RUN-OUT PIPING TO CONNECT TO FAUCETS. PROVIDE THERMOSTATIC MIXING VALVE EQUAL TO WATTS LFUSG-B AND INSULATION ON ALL WATER PIPING.
- DROP WATER IN WALL AND CONTINUE UNDER SLAB TO FIXTURES.
- ALL WATER PIPING UNDER SLAB SHALL BE PEX OR TYPE "K" SOFT COPPER. NO JOINTS ALLOWED ON WATER PIPE BELOW SLAB. PROVIDE SLEEVE AT ALL SLAB PENETRATIONS. SEAL SPACE BETWEEN PIPE AND SLEEVE WITH WATER PROOF CAULKING.
- INSTALL MECHANICAL GAS VALVE AT 60 INCHES AFF. INSTALL MANUAL GAS VALVE AT 72 INCHES AFF. ALL GAS VALVES SHALL BE FULLY ACCESSIBLE. EXTEND GAS PIPING UP TO ROOF.
- AREAS OF SAW CUTS.
- DROP HOT AND COLD IN WALL. ROUTE HOT AND COLD TO SINK. EXTEND HOT DOWN BELOW SLAB TO SERVING LINE.



3 ENLARGED WATER AND GAS PLAN-NEW
 Scale: 1/4" = 1'-0"
 FIRST FLOOR KITCHEN NORTH



1 ENLARGED WASTE AND VENT PLAN-NEW
 Scale: 1/4" = 1'-0"
 FIRST FLOOR KITCHEN NORTH

MECHANICAL SYMBOL LEGEND

	SUPPLY DIFFUSER, 4-WAY THROW		SIDEWALL AIR DEVICE
	SUPPLY DIFFUSER, 3-WAY THROW		RUNOUT BALANCE DAMPER
	SUPPLY DIFFUSER, 2-WAY THROW		MANUAL DAMPER
	RETURN GRILLE		OPPOSED BLADE DAMPER, MOTORIZED
	EXHAUST GRILLE OR FAN		THERMOSTAT/CO ₂ /HUMIDITY
	FLEX DUCT RUNOUT		CARBON MONOXIDE SENSOR
	DUCT TRANSITION (ONE LINE)		HUMIDISTAT
	FIRE DAMPER		TEMPERATURE SENSOR
	SMOKE DAMPER		COMBINATION FIRE/SMOKE DAMPER

ROOF TOP UNIT SCHEDULE

MARK	AREA SERVED	MANUFACTURER	MODEL NO.	COOLING CAPACITY				HEATING CAPACITY				OUTSIDE AIR		TOTAL E.S.P. (IWG)	FAN (H.P.)	EER (SEER)	ELECTRICAL DATA					W/CURB (LBS)	NOTES	ACCESSORIES
				TOTAL (MBH)	SENSIBLE (MBH)	INPUT (MBH)	OUTPUT (MBH)	CFM	MAX (CFM)	MIN (CFM)	VOLTAGE	M.C.A.	COMP (RLA)				O.F. (FLA)	I.F. (FLA)	POWER EXHAUST					
RTU-15	NURSE	LENNOX	LGM036U4E	34.1	28.3	53/65	43/52	1200	300	120	-	1.5	(22.5)	208/3/60	20	9.1	4.1	4.4	-	965	1,2,3,4,5,6	B,C,E,F,G,I,K,L,N,O,P,R,S		

NOTES:
 1. REFER TO PROJECT MANUAL SPECIFICATIONS FOR ADDITIONAL FEATURES, REQUIREMENTS AND SEQUENCE OF OPERATION.
 2. R410A REFRIGERANT.
 3. COOLING CAPACITIES ARE BASED ON UNIT CFM SUPPLY AIR AND 80°F, EDB/67°F, EWB, WITH 105°F AIR ENTERING CONDENSER. EER IS BASED ON ARI CONDITIONS.
 4. CFM LISTED ON SCHEDULE ARE NOMINAL. REFERENCE DRAWINGS FOR SPACE CFM REQUIREMENTS.
 5. ALL ROOM TEMPERATURE SENSOR WIRING IS TO HAVE 12 CONDUCTORS. REFERENCE ELECTRICAL SPECIFICATIONS FOR CONDUCTOR REQUIREMENTS.
 6. PROVIDED CONTROL DEVICES SHALL BE CAPABLE OF TWO STAGES OF COOLING AND UP TO TWO STAGES OF HEATING. REFER TO HEATING CAPACITIES LISTED ABOVE FOR UNITS WITH TWO STAGE HEATING.

ACCESSORIES:
 A. FACTORY 24" ROOF CURB TO MATCH SPECIFIED UNIT.
 B. DIRTY FILTER SWITCH.
 C. LOW AMBIENT KIT (COOLING AVAILABLE DOWN TO 0°F).
 D. FACTORY INSTALLED BAROMETRIC RELIEF DAMPER.
 E. CURB ADAPTOR.
 F. OUTSIDE AIR MOTORIZED DAMPER INTERLOCKED WITH CO₂ SENSOR. DAMPER TO BE CONTROLLED VIA ROOF TOP UNITS CONTROLLER LOGIC FOR PROPORTIONAL DEMAND CONTROL VENTILATION. (DAMPER SHALL GO TO FULL CLOSED POSITION WHEN INDOOR FAN SHUTS DOWN).
 G. TIE DOWN CLIPS.
 H. ECONOMIZER WITH DUAL ENTHALPY CONTROL AND BAROMETRIC RELIEF.
 I. FACTORY OR FIELD SUPPLIED HAIL GUARD.

ACCESSORIES:
 J. FIRELEITE SMOKE DETECTOR, WITH ADDRESSABLE RELAY MODULE AND SAMPLING TUBE.
 K. TIME DELAY.
 L. STAINLESS STEEL HEAT EXCHANGER.
 M. POWERED EXHAUST. SET EXHAUST FAN TO 25% OF SUPPLY AIR SETTING.
 N. SUPCO MODEL SLP0530 PRESSURE SENSOR.
 O. CONDENSATE OVERFLOW SENSOR.
 P. BAPI MODEL BA/CO-B4 CARBON MONOXIDE SENSOR.
 R. HUMIDITROL (MODULATING HOT GAS REHEAT FOR DEHUMIDIFICATION).
 S. 2" MERV 13 FILTERS.
 T. COMFORTSENSE 8500 ROOM TEMPERATURE, CARBON DIOXIDE, AND HUMIDITY SENSOR.

GRILLE, REGISTER AND DIFFUSER SCHEDULE

MARK	SERVICE	MANUFACTURER	STYLE	MODEL NO.	MATERIAL	MOUNTING	FACE	NECK SIZE	FINISH	NOTES
A	SUPPLY	TITUS	SQUARE CEILING	TMS	STEEL	LAY-IN	24x24	PER PLANS	WHITE	1,2,5
A1	SUPPLY	TITUS	SQUARE CEILING	TMS	STEEL	LAY-IN	12x12	PER PLANS	WHITE	1,2,5
A2	SUPPLY	TITUS	EGGCRATE	50F	ALUMINUM	LAY-IN	24x24	22x22	WHITE	1,2,5
A3	SUPPLY	TITUS	SQUARE CEILING	TMS	ALUMINUM	LAY-IN	24x24	PER PLANS	WHITE	1,2,5
B	RETURN	TITUS	1/2" SPACING-35° DEFLECTION	355RL	STEEL	LAY-IN	24x24	22x22	WHITE	1,2,3,4,5,6
B1	RETURN	TITUS	1/2" SPACING-35° DEFLECTION	355RL	STEEL	LAY-IN	24x12	22x10	WHITE	1,2,3,4,5,6
B2	RETURN	TITUS	EGGCRATE	50F	ALUMINUM	LAY-IN	24x24	22x22	WHITE	1,2,5
C	EXHAUST	TITUS	1/2" SPACING-35° DEFLECTION	355FL	ALUMINUM	SURFACE	24x24	22x22	WHITE	1,2,3,4,5,9
C1	EXHAUST	TITUS	1/2" SPACING-35° DEFLECTION	355FL	ALUMINUM	SURFACE	12x12	10x10	WHITE	1,2,3,4,5,9

NOTES:
 1. COORDINATE LOCATION OF AIR DEVICES WITH CEILING GRID, LIGHT LOCATIONS, STRUCTURAL MEMBERS AND ARCH. FEATURES.
 2. FINAL FINISH OF AIR DEVICES SHALL BE VERIFIED WITH OWNER.
 3. PROVIDE PLENUM FOR DUCT CONNECTION OR SQUARE TO ROUND NECK, AS REQUIRED.
 4. PAINT DUCT INTERIOR FLAT BLACK BEHIND AIR DEVICE.
 5. PROVIDE OPPOSED BLADE DAMPER.

NOTES:
 6. PROVIDE WITHOUT SCREW HOLES.
 7. PROVIDE FOAM GASKET AT FRAME.
 8. PROVIDE 1" FILTER FRAME AND FILTER.
 9. COUNTER SUNK SCREW HOLES.
 10. PANEL MOUNTED FRAME.
 11. HEAVY DUTY MOUNTING FRAME.

FAN COIL UNIT SCHEDULE

MARK (INDOOR UNIT)	AREA SERVED	MANUFACTURER	MODEL NO.	CFM	O.A. CFM	NOMINAL COOLING (MBH)	NOMINAL HEATING (MBH)	ELECTRICAL				WT. (LBS)	NOTES	ACCESSORIES
								FLA	VOLTAGE	RLA	M.O.C.P.			
FC-1A,1B (HPU-1)	OFFICE	LENNOX	M22A012S4-2P	380	35	11.0	12.6	-	208/1/60	1.0	FROM CU	36	1,2,3,6	C,D,E
FC-2 (HPU-2)	KITCHEN OFFICE	LENNOX	M22A012S4-2P	310	0	12.0	12.0	-	208/1/60	1.0	FROM CU	36	1,2,3,6	C,D,E

NOTES:
 1. COOLING CAPACITY LISTED BASED ON 95°F O.A., 80°F DB/67°F WB EAT.
 2. R410A REFRIGERANT.
 3. POWERED FROM OUTDOOR HEAT PUMP/CONDENSING UNIT.
 4. HEATING CAPACITY LISTED BASED ON 47°F O.A., 70° EXT.
 5. CFM LISTED IS FOR HIGH FLOW WITH DRY COIL.
 6. CFM LISTED IS FOR MEDIUM FLOW WITH DRY COIL.
 7. CFM LISTED IS FOR LOW FLOW WITH DRY COIL.

ACCESSORIES:
 A. FILTERS.
 B. LINEAR EXPANSION VALVE (LXV).
 C. INTERLOCK OPERATION WITH OUTDOOR HEAT PUMP/CONDENSING UNIT.
 D. HARD WIRED, WALL-MOUNTED, CONTROLLER.
 E. AUXILIARY CONDENSATE PUMP.
 F. RETURN AIR FILTER GRILLE.

MINI SPLIT HEAT PUMP/ CONDENSING UNIT SCHEDULE

MARK (OUTDOOR UNIT)	AREA SERVED	MANUFACTURER	MODEL NO.	NOMINAL COOLING CAPACITY (MBH)	NOMINAL HEATING CAPACITY (MBH)	SEER (EER)	ELECTRICAL DATA			WEIGHT (LBS)	NOTES	ACCESSORIES
							VOLTAGE	M.C.A.	M.O.C.P.			
HPU-1 (FC-1A,1B)	OFFICE	LENNOX	MLB030S4M-1P	28.0	28.0	20.0	208/1/60	25	40	168	1,2,4	A,B,C,D
HPU-2 (FC-2)	KITCHEN OFFICE	LENNOX	MLB012S4S-1P	12.0	12.0	21.5	208/1/60	15	15	75	1,2,4	A,B,C,D

NOTES:
 1. COOLING CAPACITIES ARE BASED ON UNIT CFM SUPPLY AIR AND 80°F, EDB/67°F, EWB, WITH 95°F AIR ENTERING CONDENSER. EER IS BASED ON ARI CONDITIONS.
 2. REFER TO PROJECT MANUAL SPECIFICATIONS FOR ADDITIONAL FEATURES AND REQUIREMENTS.
 3. HEATING CAPACITIES ARE BASED ON 47°F O.A., 70°F EXT AT INDOOR FCU.
 4. INTERLOCK OPERATION WITH INDOOR FCU'S, INDOOR UNIT POWERED BY OUTDOOR HEAT PUMP UNIT.

ACCESSORIES:
 A. CRANKCASE HEATER.
 B. R410A REFRIGERANT.
 C. ELECTRONIC EXPANSION VALVE.
 D. SUPCO PRESSURE SWITCH MODEL SLP0530.

EXHAUST FAN SCHEDULE

MARK	LOCATION	MANUFACTURER	MODEL NO.	CFM	E.S.P. I.W.G.	MAX RPM	SONES	H.P. (WATTS)	ELECTRICAL VOLTAGE	TYPE	NOTES	ACCESSORIES
EF-1,2,4,5,6,7	TOILET	COOK	GC-166	100	0.375	1100	2.0	(39)	115/1/60	CEILING	2,3,6,7,9	GBD,CB,DS,RH,BS
EF-3	TOILET	COOK	165C10D	2000	0.5	1050	9.4	1/3	115/1/60	ROOF	1,3,6	GBD,CB,DS,BS
KEF-1	KITCHEN	CAPTIVEAIRE	DU180HFA	2038	1.5	1187	14.7	1-1/2	208/3/60	ROOF	6,7,10,11	VCB,HK,DS

NOTES:
 1. TIMER CONTROLLED BY BMS.
 2. SWITCH WITH LIGHTS.
 3. SPEED CONTROL SWITCH AT UNIT, FACTORY INSTALLED.
 4. SPEED CONTROL WALL SWITCH.
 5. BELT DRIVE.
 6. DIRECT DRIVE.
 7. VIBRATION ISOLATION MOUNTING.
 8. WALL SWITCH.
 9. PROVIDE ALUMINUM GRILLE.
 10. INTERLOCK WITH HOOD CONTROL PANEL.
 11. GREASE BOX AND CUP.

ACCESSORIES:
 GBD-GRAVITY BACKDRAFT DAMPER
 MBD-MOTORIZED BACKDRAFT DAMPER
 BS-BIRD SCREEN
 CB-24" CURB
 CC-DISCONNECT SERVICE
 RH-ROOF HOOD WITH TIE DOWN CLIPS
 VCB-VENTIATED CURB
 HK-HINGE KIT

ELECTRIC HEATER SCHEDULE

MARK	MANUFACTURER	MODEL NO.	AMPS	W	BTUs	VOLTAGE	NOTES	ACCESSORIES
FFH	MARKEL	E3383D-RP	12.5	1500	5120	120/1/60	1	A,C,F,G

NOTES:
 1. INSTALL FAN FORCED HEATER FLUSH MOUNT TO CEILING. COORDINATE FINAL LOCATION WITH GRILLES, LIGHTS, OTHER CEILING MOUNTED EQUIPMENT, AND ARCHITECTURAL REFLECTED CEILING PLAN.
 2. INSTALL BASE BOARD HEATER WITH THE BOTTOM OF THE HEATER AT 18 INCHES ABOVE FINISHED FLOOR. COORDINATE FINAL LOCATION OF HEATER WITH ARCHITECTURAL ELEMENTS.

ACCESSORIES:
 A. CONTRACTOR PROVIDED REMOTE THERMOSTAT
 B. FACTORY INSTALLED INTEGRAL THERMOSTAT
 C. DISCONNECT SERVICE
 D. SURFACE MOUNTING ADAPTER
 E. LOUVER OUTLET
 F. BACK CAN FOR RECESS MOUNTING IN GYP CEILING
 G. VERIFY MOUNTING WITH ARCHITECTURAL CEILING PLAN.

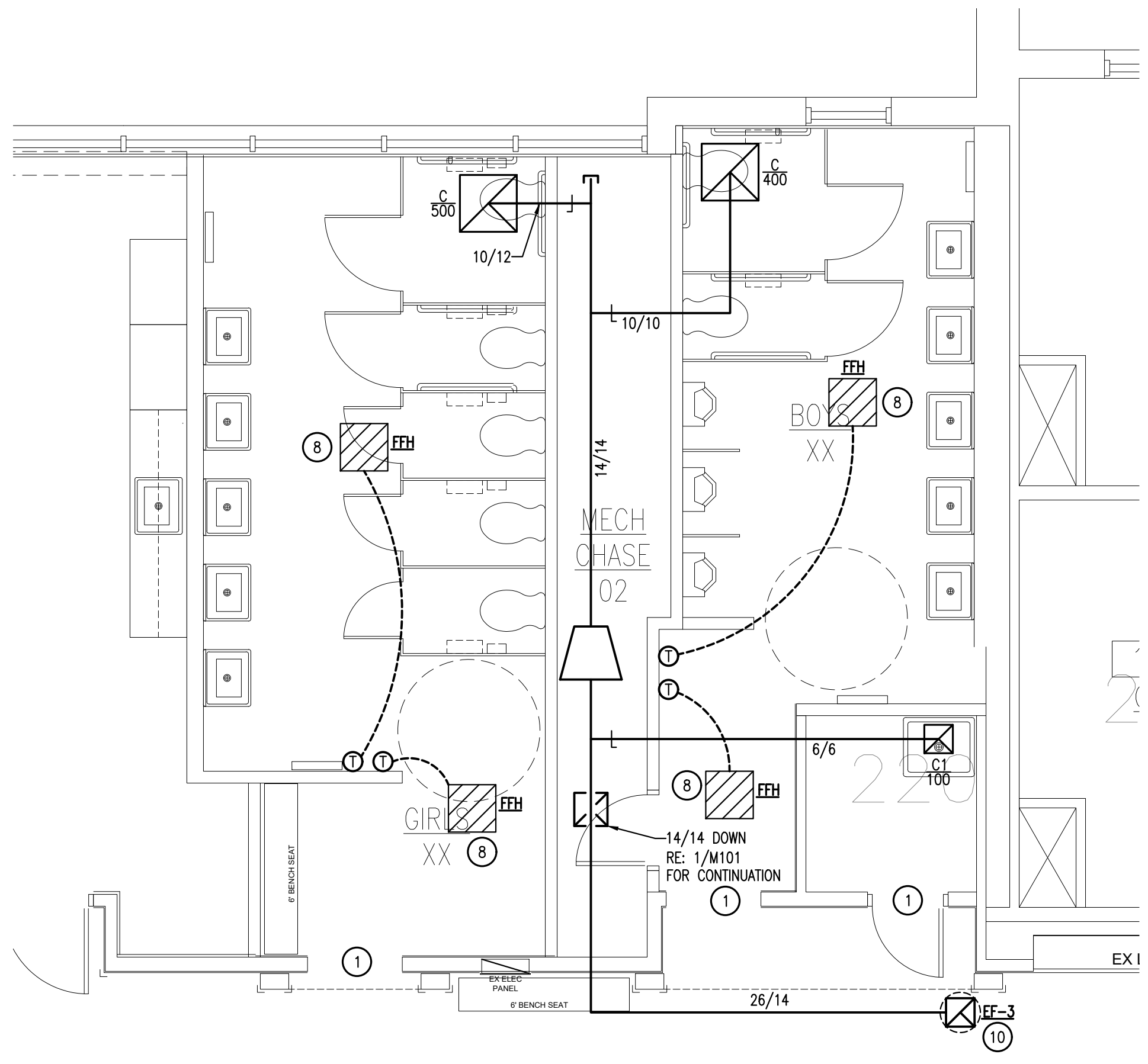
PARAGON ROOF TOP UNIT SCHEDULE

FAN INFORMATION				ELECTRICAL INFORMATION							COOLING INFORMATION								REHEAT INFORMATION				GAS HEAT INFORMATION				NOTES									
FAN UNIT NO	TAG	QTY	DOAS/RTU MODEL #	MANUFACTURER	BLOWER	RETURN AIR CFM	MAX OUTSIDE AIR CFM	TOTAL CFM	WEIGHT (LBS)	ESP	HP	PHASE	VOLT	MCA	MOCOP	OUTSIDE AIR DB	OUTSIDE AIR WB	MIXED AIR DB	MIXED AIR WB	LEAVING AIR DB	LEAVING AIR WB	LEAVING AIR DP	CAPACITY TOTAL	CAPACITY SENS.	IEER	ISMRE		DISCHARGE DB	DISCHARGE WB	CAPACITY DESIRED	CAPACITY MAX	MOISTURE REMOVAL RATE	GAS TYPE	INPUT BTUs	OUTPUT BTUs	TEMP RISE
2	DOAU-1	1	CASRTU3-1400-18-15T-DOAS	CAPTIVEAIRE	18P-3	2050	1850	3900	2569	0.75	5.0	3	208	70.9A	80A	85.4F	78.0F	79.9F	70.2F	55.2F	55.0F	54.9F	186.0 MBH	101.5 MBH	18.8	5.7	70.0F	60.6F	63.3 MBH	129.6 MBH	76.9 LBS/HR	NATURAL	354321	287000	63F	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16

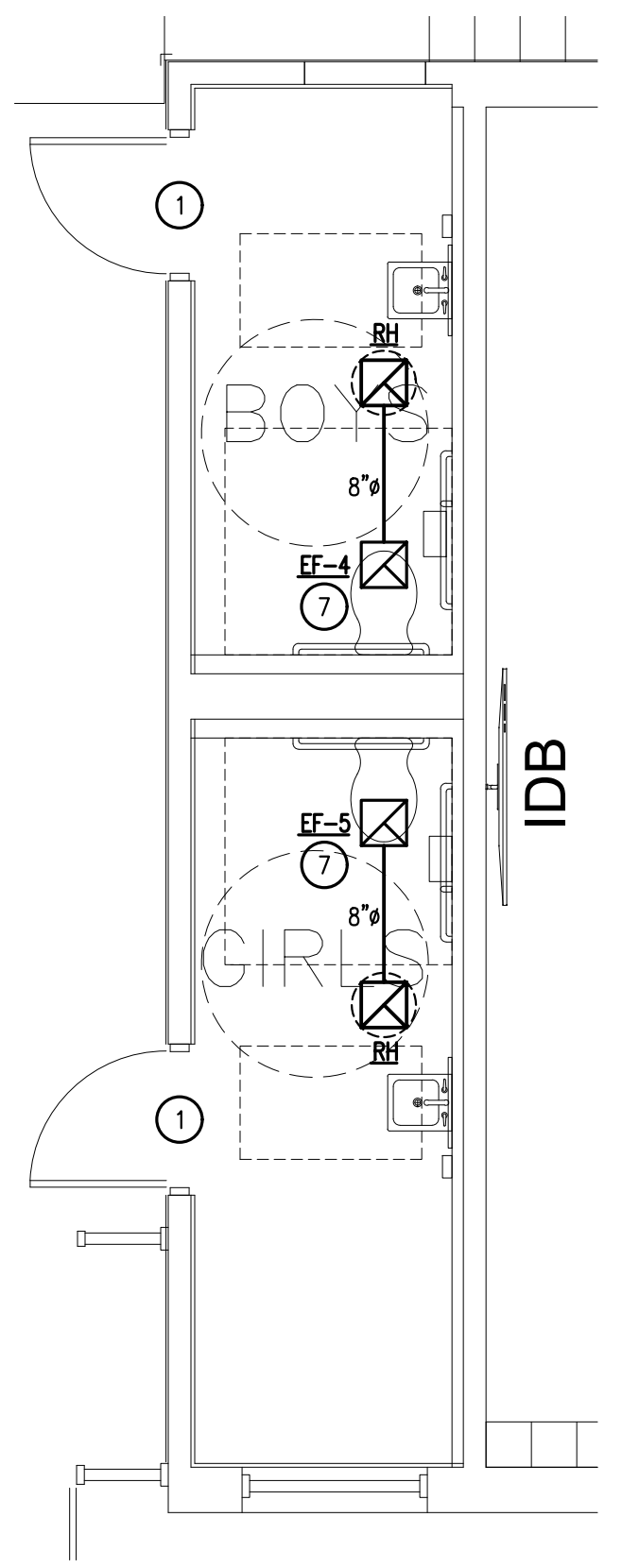
NOTES:
 1. INVERTER SCROLL COMPRESSOR WITH INTEGRATED OIL SENSOR. DIGITAL OR STAGED SCROLL NOT AN APPROVED EQUAL.
 2. DIRECT DRIVE PLENUM BLOWER. BELT DRIVEN BLOWERS ARE NOT ACCEPTABLE.
 3. INTEGRATED MONITORING VIA CELLULAR CONNECTION BY MANUFACTURER.
 4. REFRIGERATION PRESSURE MONITORING ON HIGH AND LOW PRESSURE SIDE OF SYSTEM INCLUDED THROUGH DIGITAL INTERFACE.
 5. EC MOTOR CONDENSING FANS.
 6. ELECTRONIC EXPANSION VALVE. TXV NOT ACCEPTABLE.
 7. SUCTION LINE ACCUMULATOR.
 8. FACTORY COMMISSIONING WITH 5 YEAR PARTS WARRANTY, 25 YEAR WARRANTY ON STAINLESS STEEL HEAT EXCHANGER.
 9. AVERAGING INTAKE, EVAP AND DISCHARGE TEMPERATURE SENSORS (DISCHARGE SENSOR TO BE FACTORY MOUNTED WITHIN UNIT).
 10. 2" EXTERIOR DUAL-WALL CONSTRUCTION W/ R-13 INSULATION-MINIMUM 200A EXTERIOR W/ 14GA BASE.
 11. 81% EFFICIENT FURNACE WITH MODULATING INDUCER TO MAINTAIN CONSTANT COMBUSTION EFFICIENCY ACROSS FIRING RANGE. 6:1 TURNDOWN WITH NG AND 5:1 TURNDOWN WITH LP.
 12. SUPPLY CFM MONITORING INTEGRAL TO UNIT WITH CFM MEASUREMENT INCLUDED THROUGH DIGITAL INTERFACE.
 13. FULLY MODULATING HOT GAS REHEAT.
 14. 15 DEGREE LOW AMBIENT OPERATION.
 15. HAIL GUARD FOR CONDENSING COIL.
 16. DOWN DISCHARGE/DOWN RETURN.

CFM	DUCT SIZE
50 - 75	5"
75 - 115	6"
115 - 160	7"
161 - 220	8"
221 - 290	9"
291 - 490	10"
491 - 700	12"

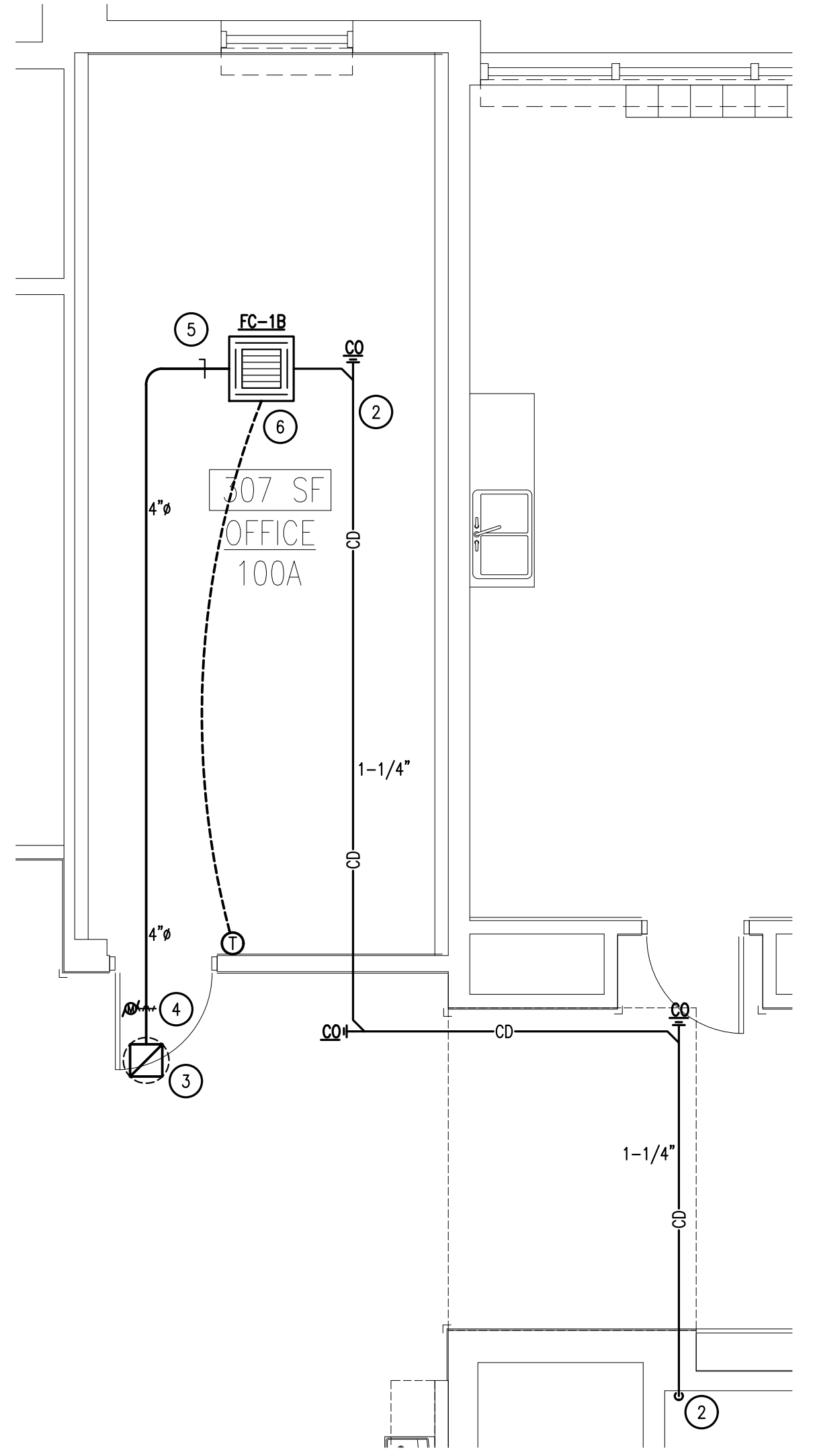
- KEYNOTES: (X)
- UNDERCUT DOOR MINIMUM 1 INCH.
 - INSTALL CONDENSATE PIPING FROM FAN COIL INTO BOILER ROOM. TERMINATE DRAIN OVER FLOOR DRAIN WITH A MINIMUM 2 INCH AIR GAP. INSTALL INSULATION ON ALL CONDENSATE PIPE. INSULATION SHALL BE PROVIDED WITH A VAPOR BARRIER.
 - INSTALL OUTDOOR AIR DUCTWORK FROM ROOF MOUNTED ROOF HOOD. ALL OUTDOOR AIR DUCTWORK SHALL BE FULLY INSULATED WITH 2 INCH DUCTWRAP. NEW OUTDOOR AIR DUCT SHALL FOLLOW PATH OF REMOVED EXHAUST DUCT.
 - INSTALL MOTORIZED DAMPER IN OUTDOOR AIR DUCTWORK IN CORRIDOR. INTERLOCK DAMPER WITH FAN COIL FAN MOTOR. DAMPER OPENS WHEN SUPPLY FAN IS ENERGIZED. CLOSE WHEN FAN IS OFF.
 - INSTALL MANUAL DAMPER IN OUTDOOR AIR DUCTWORK. SET DAMPER TO ALLOW FOR 35 CFM.
 - INSTALL FAN COIL AT THIS APPROXIMATE LOCATION. INSTALL HARD-WIRED THERMOSTAT AT 48 INCHES ABOVE FINISHED FLOOR. COORDINATE FINAL LOCATION OF FAN COIL WITH LIGHTS AND ARCHITECTURAL REFLECTED CEILING PLAN.
 - INSTALL CEILING MOUNTED EXHAUST FAN. ROUTE EXHAUST DUCT FROM FAN TO ROOF HOOD. INSTALL 2 INCH DUCT WRAP ON EXHAUST DUCT FROM FAN TO ROOF HOOD.
 - INSTALL FORCED FAN HEATERS IN TOILETS. INSTALL THERMOSTAT AT 48" A.F.F. PROVIDE VENTED, LOCKING METAL THERMOSTAT COVER FOR THERMOSTATS. RECESS MOUNT IN GYP BOARD CEILING.
 - CONNECT NEW DUCTWORK TO EXISTING AT THIS APPROXIMATE LOCATION. INSTALL TURNING VEINS IN 90° ELBOW. CONTRACTOR SHALL VERIFY EXACT SIZE AND LOCATION OF DUCTWORK.
 - INSTALL NEW EXHAUST FAN ON EXISTING CURB FROM REMOVED EXHAUST FAN. PROVIDE CURB ADAPTOR NEW FAN, AND NEW GRAVITY BACKDRAFT DAMPER.
 - COORDINATE FINAL LOCATION OF ALL AIR DEVICES WITH LIGHTS AND ARCHITECTURAL REFLECTED CEILING PLAN.
 - CONTRACTOR SHALL OBTAIN COST FOR INSTALLATION OF CONTROLS FROM TPS ASSIGNED CONTROLS CONTRACTOR.



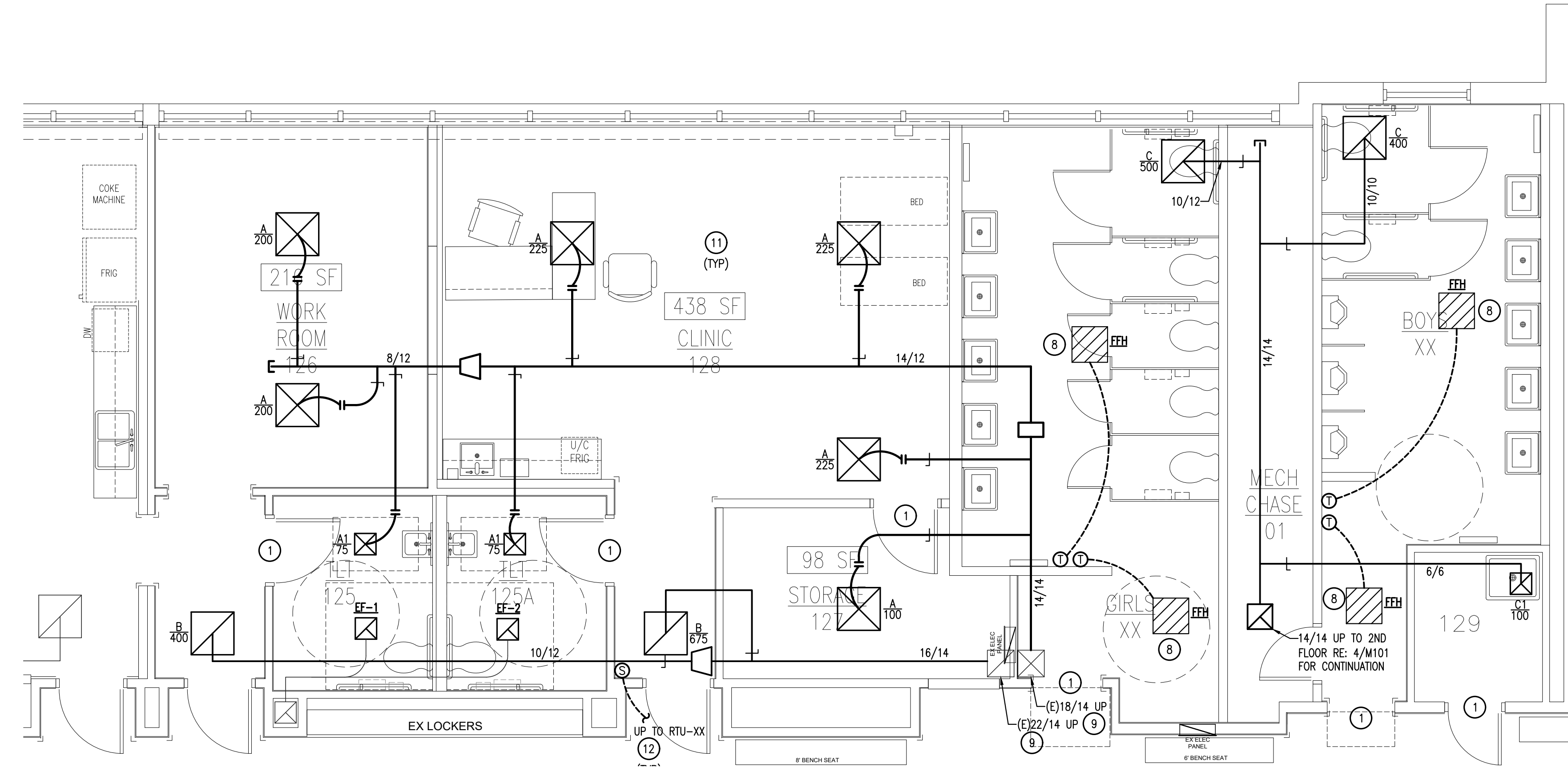
4 ENLARGED HVAC PLAN-NEW
 Scale: 1/4" = 1'-0"
 SECOND FLOOR NORTH



3 ENLARGED HVAC PLAN-NEW
 Scale: 1/4" = 1'-0"
 FIRST FLOOR NORTH



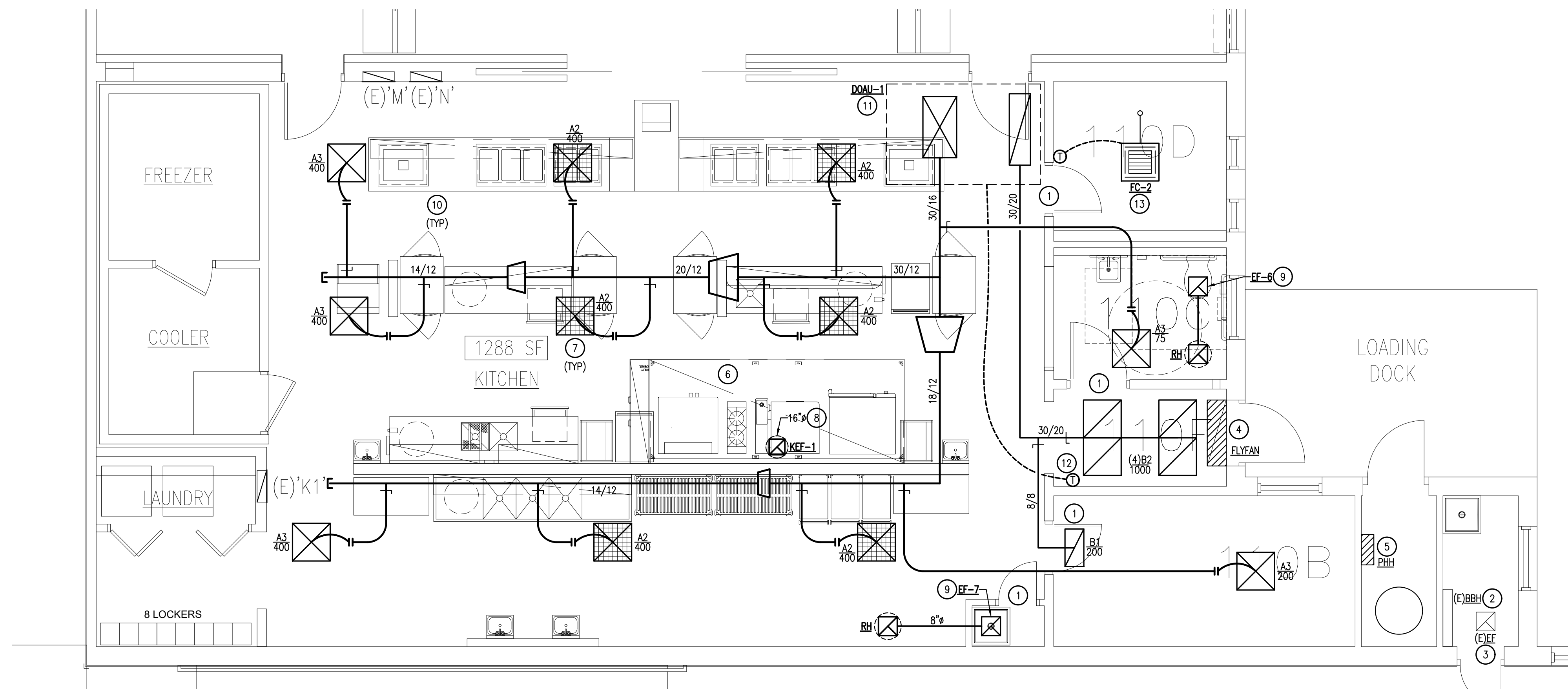
2 ENLARGED HVAC PLAN-NEW
 Scale: 1/4" = 1'-0"
 FIRST FLOOR NORTH



1 ENLARGED HVAC PLAN-NEW
 Scale: 1/4" = 1'-0"
 FIRST FLOOR NORTH

KEYNOTES: (X)

1. UNDERCUT DOOR MINIMUM 1 INCH.
2. CONTRACTOR SHALL VERIFY EXISTING BASE BOARD HEATER IS OPERATIONAL. NOTIFY OWNER OF FINDINGS.
3. CONTRACTOR SHALL VERIFY EXISTING EXHAUST FAN IS OPERATIONAL. NOTIFY OWNER OF FINDINGS.
4. FOOD SERVICE CONTRACTOR SHALL PROVIDE FLY FAN FOR MECHANICAL CONTRACTOR TO INSTALL.
5. INSTALL PUMP HOUSE HEATER EQUAL TO MARKELL RPH-1A PRODUCING 500 WATTS AT 120 VOLT.
6. INSTALL CAPTIVE AIRE HOOD MODEL #6624 ND-2. COORDINATE HOOD PROCUREMENT WITH ROD HAMMICK 918-258-0291.
7. EGGRATE GRILLES SHALL BE INSTALLED WITHIN 10 FEET OF HOOD.
8. EXHAUST DUCT SHALL COMPLY WITH NFPA 96.
9. INSTALL CEILING MOUNTED EXHAUST FAN. INSTALL 2 INCH DUCTWRAP ON EXHAUST DUCT FROM FAN TO ROOF HOOD. FINAL LOCATION OF ROOF HOOD SHALL BE NO CLOSER THAN 10 FEET TO ANY HVAC OUTDOOR AIR INTAKE.
10. COORDINATE FINAL LOCATIONS OF ALL AIR DEVICES IN CEILING WITH LIGHTS AND ARCHITECT RCP.
11. COORDINATE FINAL LOCATION OF ROOF TOP UNIT WITH BUILDING STRUCTURE. VERIFY NO VTR'S OR BUILDING EXHAUST IS WITHIN 10 FEET OF OUTDOOR AIR INTAKE.
12. CONTRACTOR SHALL OBTAIN A COST FOR INSTALLATION OF CONTROL SYSTEM FROM TPS ASSIGNED CONTROLS CONTRACTOR.
13. INSTALL FAN COIL IN OFFICE. LIQUID AND SUCTION LINES UP THROUGH ROOF TO HPU. INSTALL HARD WIRED THERMOSTAT AS MADE BY FAN COIL MANUFACTURER AT 48 INCHES AFF.



1 ENLARGED HVAC PLAN-NEW
 Scale: 1/4" = 1'-0" NORTH

FIRST FLOOR KITCHEN

ELECTRICAL KEYNOTES: (E)

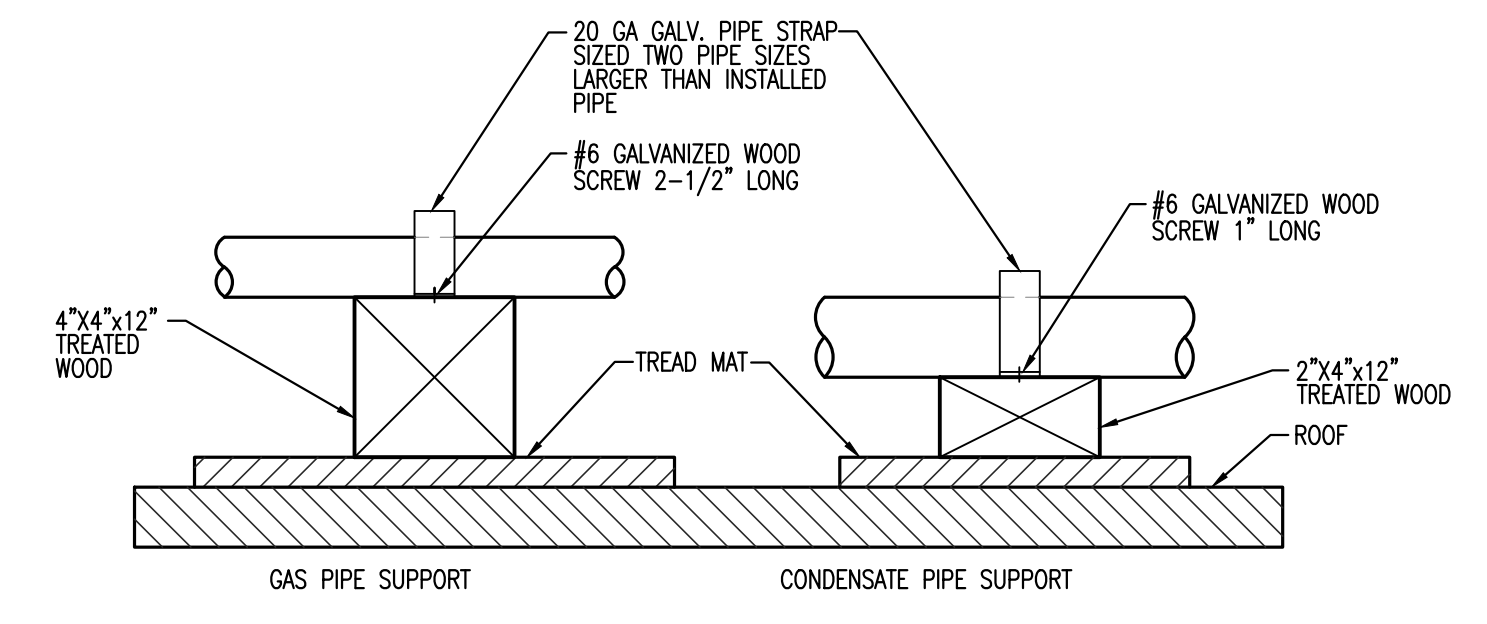
- E1. PROVIDE HEAVY DUTY, LOCKABLE, AND FUSIBLE NEMA 3R RATED DISCONNECT WITH FUSES SIZED PER ROOF TOP EQUIPMENT MANUFACTURER'S RECOMMENDATIONS AND N.E.C. REQUIREMENTS (TYPICAL THROUGHOUT).
- E2. PROVIDE CABLING AND RACEWAYS TO SERVE SUPCO LOW-PRESSURE SENSOR INSTALLED FOR ALL ROOF TOP UNITS. FINAL TERMINATION FOR DOOR CONTACT SWITCHES SHALL BE BY LOW-VOLTAGE CONTRACTOR.
- E3. COORDINATE DUCT DETECTOR DEVICES WITH DIVISION 23 CONTRACTOR. DEVICES SHALL BE CAPABLE TO COMMUNICATE WITH EXISTING FIRE ALARM CONTROL PANEL. PROVIDE I/O MODULE AS REQUIRED. ALL RTU'S 2000 CFM OR HIGHER SHALL REQUIRE DUCT DETECTORS.
- E4. CIRCUIT FED FROM NEW KITCHEN HOOD CONTROL PANEL. COORDINATE WITH CAPTIVE AIRE SHOP DRAWINGS TO ENERGIZE NEW KITCHEN HOOD MAKE-UP AIR UNIT.
- E5. ROUTE TWELVE CONDUCTORS THERMOSTAT CONTROL CABLES IN RACEWAYS TO BUILDING MANAGEMENT SYSTEM INTERFACE/CONTROLLER. FINAL TERMINATION BY OTHERS. RE: 3/E303.

PLUMBING KEYNOTES: (P)

- P1. CONNECT NEW GAS SERVICE PIPE TO EXISTING 3 INCH, 2 PSI PIPING AT THIS APPROXIMATE LOCATION.
- P2. INSTALL REGULATOR, UNION AND SHUT-OFF VALVE. REDUCE PRESSURE FROM 2PSI TO 0.5 PSI.
- P3. PAINT ALL NEW GAS PIPE YELLOW.
- P4. INSTALL TREATED LUMBER TO SUPPORT GAS AND CONDENSATE PIPE. (TYPICAL)
- P5. ALL GAS PIPE PENETRATIONS THROUGH ROOF SHALL BE MADE WITH HOODED ROOF CURB.
- P6. ROUTE CONDENSATE PIPE TO GUTTER. TERMINATE WITH A TURN DOWN INTO GUTTER. ALL CONDENSATE PIPE SHALL BE GALVANIZED.

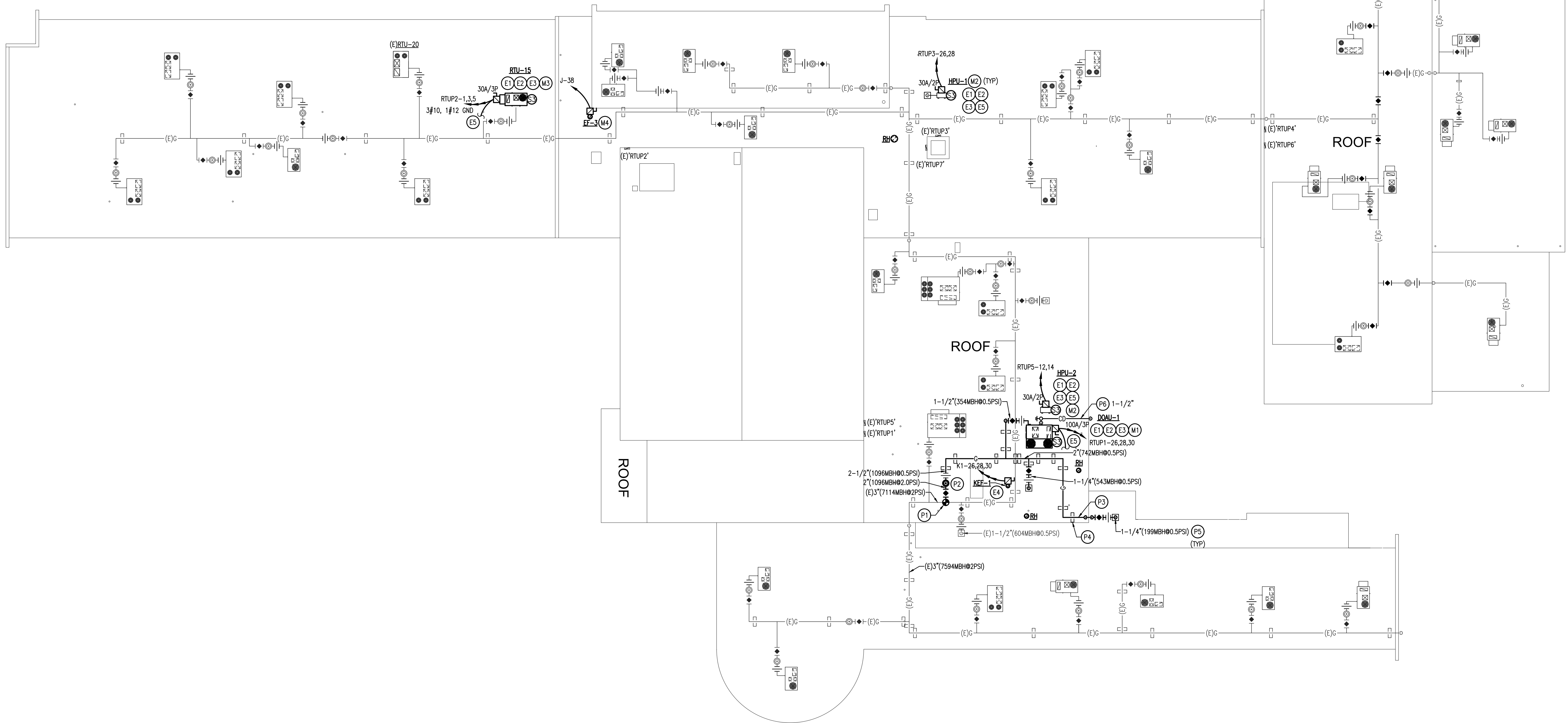
MECHANICAL KEYNOTES: (M)

- M1. INSTALL ROOF TOP UNIT AT THIS APPROXIMATE LOCATION. VERIFY NO VTR OR BUILDING EXHAUST IS WITHIN 10 FEET OF OUTDOOR AIR INTAKE.
- M2. INSTALL HEAT PUMP UNIT ON EQUIPMENT RAILS. SECURE HEAT PUMP UNIT TO RAILS, SECURE RAILS TO BUILDING. ROUTE REFRIGERANT LINES ON TREATED LUMBER. INSTALL TREAD MAT EXTENDING A MINIMUM OF 6 INCHES IN ALL DIRECTIONS OF SUPPORT. PENETRATE ROOF WITH HOODED ROOF CURB.
- M3. INSTALL NEW ROOF TOP UNIT ON EXISTING ROOF CURB. PROVIDE CURB ADAPTOR. COORDINATE WITH PLUMBING CONTRACTOR TO RECONNECT GAS AND CONDENSATE.
- M4. INSTALL NEW EXHAUST FAN ON EXISTING CURB. VERIFY EXHAUST FAN IS NO CLOSER THAN 10 FEET TO ANY HVAC OUTDOOR AIR INTAKE.



NOTE: PIPE SUPPORT TO BE SPACED PER SPECIFICATIONS FOR PIPE SIZE (10'-0\"/>

2 PIPE SUPPORT
 SCALE: NTS



1 OVERALL MEP ROOF PLAN-NEW
 Scale: 1/16" = 1'-0"
 NORTH

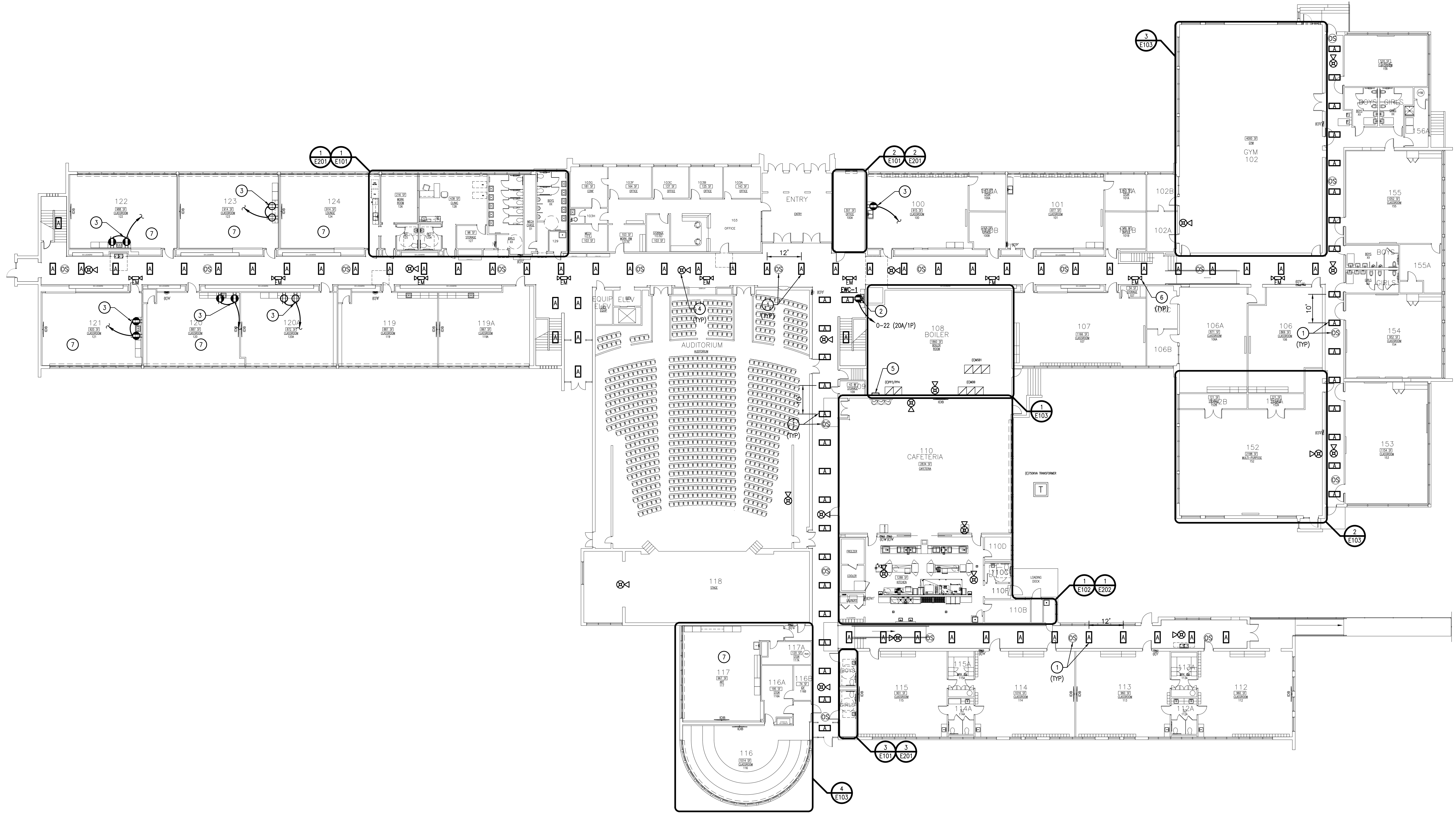
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KEYNOTES: (X)

- REPLACE EXISTING FIRE ALARM CONTROL PANEL WITH NEW SPECIFIED EMERGENCY COMMUNICATION SYSTEM WITH FIRE ALARM CONTROL PANEL. RECONNECT EXISTING NOTIFICATION ALARM CIRCUITS AND INITIATION DEVICES TO NEW FACP. ROUTE NEW CABLING FOR SPEAKER/STROBES IN EXISTING RACEWAYS. RE: 2/E301.
- PROVIDE EMERGENCY LIGHTING UNITS IN CORRIDORS SPACED 50'-0" MAXIMUM TO ACHIEVE 1-FOOTCANDLE AVERAGE AT THE FLOOR.
- COORDINATE CLASSROOM LAYOUT WITH TPS REPRESENTATIVE FOR ADDITIONAL POWER AND DATA OUTLETS. REUSE EXISTING DATA CABLING. RE:3/E301.

KEYNOTES: (X)

- PROVIDE NEW LED LIGHTING SCHEDULED IN CORRIDOR AT INDICATED SPACING. REUSE EXISTING STIENEL POWER PACKS AND OCCUPANCY SENSORS. COORDINATE WITH EXISTING CEILING GRID MOUNTED DEVICES AND RELOCATE AS REQUIRED. PROVIDE NEW ACOUSTIC CEILING GRID TO MATCH EXISTING IN EMPTY LOCATIONS.
- PROVIDE NEW POWER RECEPTACLES FOR ELECTRIC WATER COOLER PER MANUFACTURER SPECIFICATIONS AND MOUNTING HEIGHTS. PROVIDE SPECIFIED SURFACE RACEWAYS WHERE UNABLE TO CONCEAL.
- NEW RECEPTACLES FOR COUNTERTOPS AT +44" AFF. ENERGIZE FROM EXISTING CLASSROOM RECEPTACLE BRANCH CIRCUIT.
- REPLACE EXISTING HORN/STROBE DEVICES WITH NEW SPEAKER/STROBE DEVICES THROUGHOUT. PROVIDE NEW 4"x4" DEEP BACK BOXES.



1 OVERALL FIRST FLOOR ELECTRICAL PLAN-NEW

Scale: 1/16" = 1'-0"

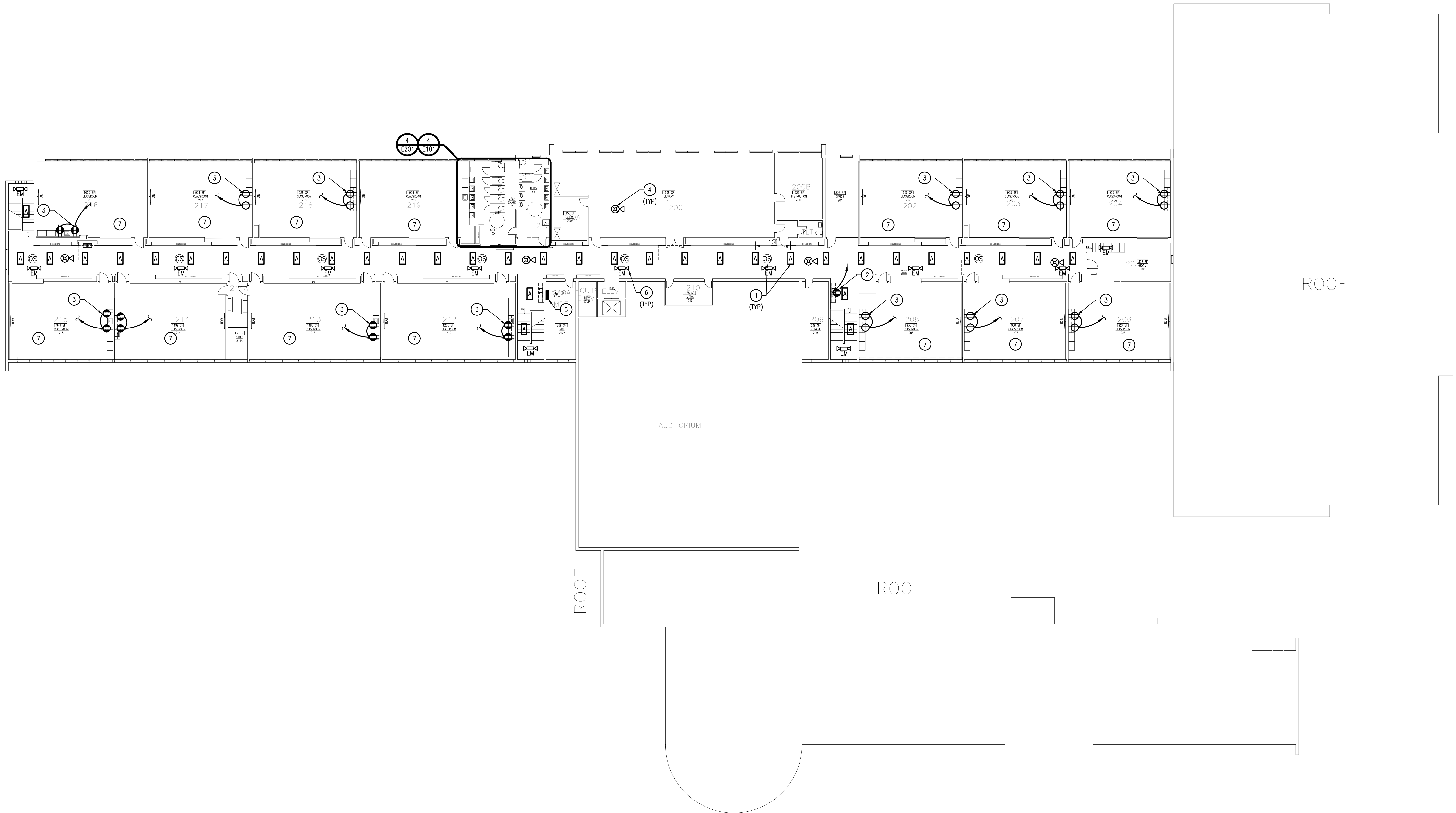
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KEYNOTES: (X)

5. REPLACE EXISTING FIRE ALARM CONTROL PANEL WITH NEW SPECIFIED EMERGENCY COMMUNICATION SYSTEM WITH FIRE ALARM CONTROL PANEL. RECONNECT EXISTING NOTIFICATION ALARM CIRCUITS AND INITIATION DEVICES TO NEW FACP. ROUTE NEW CABLING FOR SPEAKER/STROBES IN EXISTING RACEWAYS. RE: 2/E301.
6. PROVIDE EMERGENCY LIGHTING UNITS IN CORRIDORS SPACED 50'-0" MAXIMUM TO ACHIEVE 1-FOOTCANDLE AVERAGE AT THE FLOOR.
7. COORDINATE CLASSROOM LAYOUT WITH TPS REPRESENTATIVE FOR ADDITIONAL POWER AND DATA OUTLETS. REUSE EXISTING DATA CABLING. RE:3/E301.

KEYNOTES: (X)

1. PROVIDE NEW LED LIGHTING SCHEDULED IN CORRIDOR AT INDICATED SPACING. REUSE EXISTING STEINEL POWER PACKS AND OCCUPANCY SENSORS. COORDINATE WITH EXISTING CEILING GRID MOUNTED DEVICES AND RELOCATE AS REQUIRED. PROVIDE NEW ACOUSTIC CEILING GRID TO MATCH EXISTING IN EMPTY LOCATIONS.
2. PROVIDE NEW POWER RECEPTACLES FOR ELECTRIC WATER COOLER PER MANUFACTURER SPECIFICATIONS AND MOUNTING HEIGHTS. PROVIDE SPECIFIED SURFACE RACEWAYS WHERE UNABLE TO CONCEAL.
3. NEW RECEPTACLES FOR COUNTERTOPS AT +44" AFF. ENERGIZE FROM EXISTING CLASSROOM RECEPTACLE BRANCH CIRCUIT.
4. REPLACE EXISTING HORN/STROBE DEVICES WITH NEW SPEAKER/STROBE DEVICES THROUGHOUT. PROVIDE NEW 4"x4" DEEP BACK BOXES.



1 OVERALL SECOND FLOOR ELECTRICAL PLAN-NEW
 Scale: 1/16" = 1'-0" NORTH

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ELECTRICAL GENERAL NOTES:

- A. **SITE OBSERVATION:** CONTRACTOR AND ASSOCIATED DIVISION TRADES SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH THE SCOPE OF WORK DESIGNATED FOR THIS FACILITY PRIOR TO BIDDING. FAILURE TO SHOW UP AND ATTEND THE PRE-CONSTRUCTION MEETING MAY EXCLUDE CONTRACTORS FROM FUTURE CLAIMS. WHERE THE SCOPE OF WORK AND INTENT OF CONTRACT DOCUMENTS IS OPENLY EXPRESSED AND DOCUMENTED FOR FORMAL RESPONSES.
- B. **CODE COMPLIANCE, PERMITS AND LICENSES:** ALL WORK SHALL BE ACCOMPLISHED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES AND ORDINANCES. IN EVENT OF CONFLICT BETWEEN SPECIFICATIONS, CODES AND ORDINANCES, THE MOST STRINGENT REQUIREMENT FROM THE AUTHORITY HAVING JURISDICTION SHALL TAKE PRECEDENCE. PROCURE ALL NECESSARY PERMITS AND LICENSES REQUIRED FOR WORK. PAY ALL LAWFUL FEES, INCLUDING, BUT NOT LIMITED TO UTILITY DEPOSITS, INSPECTION FEES, AND TEMPORARY AND PERMANENT CONSTRUCTION PERMITS.
- C. **MATERIALS:** ALL MATERIALS SHALL BE NEW AND U.L. LISTED FOR THE APPLICATION. REUSE OF EXISTING MATERIALS MUST BE APPROVED PRIOR TO BID BY THE ENGINEER AND OWNER. PROVIDE PROTECTION FOR ALL ITEMS OF APPARATUS, EQUIPMENT, APPLIANCES, MATERIALS, EQUIPMENT, AND INSTALLATION SO AS TO PREVENT DAMAGE BY ANY TRADE. CONTRACTOR SHALL REPLACE AT NO EXPENSE TO THE OWNER, ANY ITEM THAT IS ACCEPTED, DEFACED, OR BROKEN PRIOR TO ACCEPTANCE BY OWNER.
- D. **SUBSTITUTIONS:** SUBSTITUTIONS SHALL NOT BE ALLOWED AFTER APPROVAL OF SUBMITTED EQUIPMENT AND DEVICES UNLESS BY SPECIAL PERMISSION. NOTIFY ARCHITECT AND REQUEST ADDITIONAL INFORMATION FOR PROPOSED SUBSTITUTIONS OR SUBSTITUTED EQUIPMENT OTHER THAN LISTED IN THE CONTRACT DOCUMENTS OR SUBMITTED DURING PRODUCT REVIEW WHICH REQUIRES ADDITIONAL SUPPORT, LAYOUT CONDITIONS, OR OTHER ELECTRICAL REQUIREMENTS. PROVIDE REQUIRED WORK ONLY AFTER WRITTEN NOTICE-TO-PROCEED FROM OWNER OR ENGINEER OF RECORD.
- E. **TYPICAL DEVICE MOUNTING HEIGHTS - UNLESS NOTED OTHERWISE:**
PANELBOARDS - 78" AFF TO TOP OF CABINET (MAX.)
CONTROL PANELS - 72" AFF TO TOP OF CABINET (MAX.)
DISCONNECTS - 64" AFF TO TOP OF CABINET (MAX.)
POWER/COMM. OUTLETS - 18" AFF TO CENTER OF DEVICE
TOGGLE SWITCHES - 48" AFF TO CENTER OF DEVICE
WHERE DEVICES ARE INDICATED TO BE ABOVE DOORS, CENTER BETWEEN TOP OF DOOR TRIM AND CEILING LINE. ARCHITECTURAL ELEVATIONS SHALL GOVERN OVER TYPICAL HEIGHTS LISTED. DEVICES LOCATED ABOVE COUNTERS SHALL BE MOUNTED 8" ABOVE COUNTERTOPS TO CENTER OF DEVICE.
- F. **DIVISION TRADE COORDINATION:** COORDINATE WITH DIVISION TRADES AND THE ACTUAL SITE CONDITIONS OF CONSTRUCTION. RESOLVE CONFLICTS BETWEEN DIVISION TRADES FOR LOCATION OF EQUIPMENT INSTALLED AND ACCESSORIES REQUIRED, SO THAT ANY CONFLICTS ARE COORDINATED AND THE EQUIPMENT IS INSTALLED AS A COMPLETE AND OPERABLE SYSTEM. COORDINATE POWER REQUIREMENTS FOR EQUIPMENT PRIOR TO SUBMITTAL REVIEW BY ENGINEER OF RECORD. COORDINATION OF OTHER TRADES SCOPE-OF-WORK AND MATERIALS ARE A NORMAL PART OF THE CONSTRUCTION PROCESS. THE INTENT OF THE WORK IS IDENTIFIED IN THE FULL SET OF CONTRACT DOCUMENTS, AND IS NOT LIMITED BY DIVISION TRADE DOCUMENTS. FAILURE TO COORDINATE THE WORK SHALL NOT BE SUBJECT TO MONETARY CLAIMS. INSTALL EQUIPMENT AND DEVICES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND SPECIFICATIONS, ADHERING TO REQUIRED CLEARANCES FOR OPERATION AND ACCESS FOR PRODUCT SERVICING. COORDINATE WITH DIVISION 22 & 23 MECHANICAL DUCTWORK SO AS NOT TO INSTALL JUNCTION BOXES ABOVE DUCT WORK OR INACCESSIBLE TO PERSONNEL.
- G. **DEVIATIONS FROM CONTRACT DOCUMENTS:** MECHANICAL AND ELECTRICAL PLANS ARE DIAGRAMMATIC, AND SHALL BE FOLLOWED FOR ACTUAL CONSTRUCTION WITHOUT DEVIATIONS. THE APPROVAL FROM THE ARCHITECT OR ENGINEER SHALL BE OBTAINED BEFORE ANY DEVIATIONS FROM THESE PLANS. DIVISION TRADES WHICH DEVIATE FROM PLANS WITHOUT NOTIFICATION SHALL NOT BE COMPENSATED AND SHALL BE RESPONSIBLE FOR THE ADDITIONAL WORK REQUIRED. CONTRACTOR SHALL COORDINATE THE GENERAL WORK ORDER THAT EACH DIVISION TRADE WORK AND THE WORK OF THEIR SUB-CONTRACTORS WILL BE PROPERLY INSTALLED. CONTRACTOR SHALL INFORM ARCHITECT OF EXISTING CONDITIONS THAT ARE DISCOVERED DURING WORK IN PROGRESS THAT WOULD REQUIRE DEVIATIONS FROM THE ORIGINAL CONSTRUCTION DOCUMENTS BEFORE PROCEEDING WITH WORK.
- H. **EXISTING SYSTEMS:** CONTRACTOR SHALL PROVIDE TEMPORARY WIRING AND CONNECTIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING CONSTRUCTION. WHEN WORK MUST BE PERFORMED ON ENERGIZED EQUIPMENT OR CIRCUITS, USE PERSONNEL EXPERIENCED IN SUCH OPERATIONS.
- I. **GROUNDING:** ALL LIGHT FIXTURES SHALL BE GROUNDED BY AN ISOLATED GROUNDING CONDUCTOR. PROVIDE BARE COPPER GROUND BAR INSULATED FROM BUILDING STEEL AT ELECTRICAL CLOSETS DEDICATED FOR LOW-VOLTAGE SYSTEMS. INTERCONNECT LOW-VOLTAGE GROUNDING SYSTEMS TO THE MAIN GROUNDING ELECTRODE SYSTEM SERVING BUILDING. WHERE REQUIRED BY CODE, PROVIDE IRREVERSIBLE GROUNDING CONNECTIONS USING EXOTHERMIC WELDS.
- J. **WET LOCATION LISTED DEVICES:** GFCI RECEPTACLES SHALL BE USED AT LOCATIONS WITHIN 6'-0" OF SINKS AND WATER. GFCI OUTLETS IN KITCHEN AREAS SHALL HAVE DEDICATED NEUTRAL(S). GFI BREAKERS SERVING KITCHEN EQUIPMENT SHALL BE DEDICATED CIRCUITS WITH DEDICATED NEUTRAL CONDUCTORS. PANELBOARDS AND METAL ENCLOSED DISCONNECTING MEANS SHALL BE NEMA 4X STAINLESS STEEL UNLESS NOTED OTHERWISE.
- K. **FIRE AND SMOKE WALL ASSEMBLIES:** CONTRACTOR SHALL IDENTIFY ALL FIRE AND SMOKE RATED WALLS AND PROVIDE SEALS AT NEW AND EXISTING PENETRATIONS THROUGH RATED WALLS. PROVIDE 20A/1P BREAKER WITH LOCK-ON DEVICE AT HANDLE FOR CONNECTION OF LINE-VOLTAGE SMOKE DAMPERS INSTALLED BY DIVISION 23 CONTRACTOR.
- L. **RACEWAYS AND JUNCTION BOXES:** CONDUIT RACEWAYS SHALL BE COMMERCIAL GRADE STEEL AND ALUMINUM U.L. LISTED FOR THE APPLICATION AND NOT LESS THAN 3/4" IN TRADE SIZE. METAL-CLAD CABLE IS ALLOWED ONLY IN LIMITED LIGHTING AND MALLWORK APPLICATIONS AND LOCATIONS SUBJECT TO THE APPROVAL BY THE ENGINEER OF RECORD PRIOR TO INSTALLATION. ALL EXPOSED EXTERIOR CONDUIT SHALL BE RIGID ONLY. IDENTIFY ALL EXPANSION JOINTS AND PROVIDE FOR EXPANSION JOINTS IN ALL CONDUITS CROSSING BUILDING BOUNDARIES. EXPOSED CONDUIT JUNCTION BOXES AND ACCESSORIES IN FINISHED AREAS TO BE PAINTED AS DIRECTED BY ARCHITECT. COORDINATE CONDUIT RUNS IN EXPOSED AREAS SO THAT ALL RUNS ARE MADE PARALLEL OR PERPENDICULAR TO STRUCTURE.
- M. **IDENTIFICATION:** COVERPLATES IN UNFINISHED AREAS AND CEILING CAVITIES SHALL BE GLOWED WITH 1/2" DIAMETER BLACK MARKER WITH CORRESPONDING CIRCUIT. PROVIDE ADHESIVE LABELS WITH PANEL AND CIRCUIT DESIGNATION ON COVERPLATES OF DEVICES IN FINISHED AREAS. PROVIDE 1-1/2" INCH LABELS AT BREAKERS: FIRE ALARM RED WITH WHITE LETTERS, SECURITY BLUE WITH WHITE LETTERS, MDP/DF POWER GREEN WITH WHITE LETTERS.
- N. **CONDUITS:** ABANDONED RACEWAYS FOR POWER AND DATA SHALL BE SEALED AT BOTH ENDS WITH HYDRAULIC CONCRETE. RACEWAYS BELOW GRADE THAT PENETRATES EXTERIOR WALLS OR SLAB SHALL BE SEALED TO PREVENT GROUND WATER ENTERING FACILITY.
- O. **EMS:** COORDINATE AND PROVIDE RELAY CONTACTS PER THE EMS CONTROL VENDOR DIRECTIONS FOR GANGED TOILET EXHAUST FANS, EXTERIOR LIGHTING CONTACTORS, SUMP PUMPS AND KITCHEN HOODS.

LOW-VOLTAGE CABLE GENERAL NOTES:

- A. **HORIZONTAL J-HOOKS:** BUNDLE AND TRAIN CABLE FOR EACH SYSTEM AND ROUTE CABLES IN ACCESSIBLE CEILING CAVITY ON MULTI-LEVEL J-HOOKS SIZED FOR 40% FULL AT 6'-0" INTERVALS BACK TO SYSTEM HEAD-END EQUIPMENT. IN LOCATIONS OF EXPOSED AND FINISHED CEILING STRUCTURES, ROUTE IN EMT RACEWAYS.
- B. **WALL RACEWAYS:** ROUTE IN 1" RACEWAY FROM WALL ACTIVATION OUTLET IN ROOMS/OFFICES CONCEALED TO CORRIDOR ACCESSIBLE CEILING CAVITY. PROVIDE END-BUSHING AND SLACK-CLIP AT CONDUIT ENDS. BUNDLE, TRAIN, ROUTE CABLES ON J-HOOKS AT 6'-0" INTERVALS BACK TO SYSTEM HEAD-END EQUIPMENT. ROUTE ALL LOW-VOLTAGE CABLES IN EMT RACEWAYS IN FINISHED AREAS TO BE PAINTED AS DIRECTED BY ARCHITECT. COORDINATE CONDUIT RUNS IN EXPOSED AREAS SO THAT ALL RUNS ARE MADE PARALLEL OR PERPENDICULAR TO STRUCTURE.
- C. **SYSTEM CABLES:** VERIFY EACH SYSTEM CABLE COLORS WITH OWNER PRIOR TO WORK. PROVIDE THE FOLLOWING PER OWNER/GUIDELINES:
DATA: BLUE
SECURITY: MATCH
ACCESS CONTROLS: MATCH
SURVEILLANCE: MATCH
AUDIO: MATCH
VIDEO: MATCH
WIRELESS POINTS: MATCH
- F. **RACEWAYS AND BOXES:** CONDUIT RACEWAYS SHALL BE COMMERCIAL GRADE STEEL AND ALUMINUM U.L. LISTED FOR THE APPLICATION AND NOT LESS THAN 1" IN TRADE SIZE. ALL EXPOSED EXTERIOR CONDUIT SHALL BE RIGID ONLY. IDENTIFY ALL EXPANSION JOINTS AND PROVIDE FOR EXPANSION JOINTS IN ALL CONDUITS CROSSING BUILDING BOUNDARIES. EXPOSED CONDUIT JUNCTION BOXES AND ACCESSORIES IN FINISHED AREAS TO BE PAINTED AS DIRECTED BY ARCHITECT. COORDINATE CONDUIT RUNS IN EXPOSED AREAS SO THAT ALL RUNS ARE MADE PARALLEL OR PERPENDICULAR TO STRUCTURE.
- G. **FIRE AND SMOKE WALL ASSEMBLIES:** CONTRACTOR SHALL IDENTIFY ALL FIRE AND SMOKE RATED WALLS AND PROVIDE U.L. LISTED SEALS AT NEW AND EXISTING PENETRATIONS.
- H. **EXISTING FIRE ALARM:** VERIFY EXISTING MAIN ALARM SYSTEM CAN ACCEPT NEW WORK INDICATED. PROVIDE ADDITIONAL ADDRESSABLE MODULES REQUIRED FOR INITIATING AND ANNUNCIATION. FIRE ALARM DEVICES AND APPLIANCES INDICATED SHALL BE U.L. LISTED FOR EXISTING FIRE ALARM SYSTEM. ROUTING OF HORIZONTAL CABLING TO DEVICES ON SPECIFIED HANGERS, WHERE RACEWAYS ARE EXPOSED, PAINT RED. SUBMIT UPGRADED FIRE ALARM SYSTEM SHOP DRAWINGS TO FIRE MARSHALL OR AUTHORITY HAVING JURISDICTION PRIOR TO INSTALLATION. SUBMIT APPROVED SHOP DRAWINGS TO OWNER AND ARCHITECT AT PROJECT CLOSEOUT. PROVIDE

LIGHT FIXTURE SCHEDULE

FIXTURE/TYPE	MANUFACTURER CATALOG NUMBER	VOLTS		LAMP TYPE	MOUNTING	FIXTURE NOTES
			WATTS			
	METALUX: 24FP4750C LSI: SFP24-LED-50-UE-DIM-50 SIGNIFY: 2FPZ-43L-850-4-DS-UNV-DM	120	41	LED 5000K > 80CRI	RECESSED	2'x4' LED EDGE-LIT FLAT PANEL
		120	45-48	LED 5000K	SURFACE/SUSPENDED	FIXTURE SHALL BE SURFACED MOUNTED OR SUSPENDED BY JACK-CHAIN FROM BUILDING STRUCTURE.
	METALUX: UHB18UNV1850CDU SIGNIFY: FSS240L850UNVDIM WILLIAMS: 75R2L42850DRVUNV	120	147	LED 5000K/18,000 LUMENS	RECESSED	12" ROUND LED HIGH-BAY GYMNASIUM FIXTURE PROVIDE WIRE GUARDS
		120	147	LED	CEILING, WALL, OR END MOUNTED	EMERGENCY EGRESS LIGHT PROVIDE WEATHER-PROOF DUAL REMOTE HEAD AT EXITS SHOWN ON DRAWINGS ATTACH TO FIXTURES SPECIFIED
	LITHONIA: ELA2 LED HO SD SURE LITES: SEL25R16SD DUAL LITE: EV41	120	8	LED	WALL MOUNTED	WEATHER-PROOF/VANDEL RESISTANT REMOTE HEAD UNIVERSAL MOUNT AT EXTERIOR OF BUILDING. INTERCONNECT TO EXIT LIGHT 90-MIN EMERGENCY BATTERY BACKUP INDICATED ON DRAWINGS.
		120	8	LED	CEILING, WALL, OR END MOUNTED	SINGLE OR DOUBLE FACE PER DRAWING. (90-MIN. BATTERY BACKUP)
	LITHONIA: LQM S W 3 R 120/277 EL N SD SURE LITES: LPXRSSD DUAL LITE: EVCURWD41-0	120	5	LED	CEILING, WALL, OR END MOUNTED	SINGLE OR DOUBLE FACE PER DRAWING. (90-MIN. BATTERY BACKUP)
		120	8	LED	CEILING, WALL, OR END MOUNTED	SINGLE OR DOUBLE FACE PER DRAWING. (90-MIN. BATTERY BACKUP)

- GENERAL NOTES:**
A) CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ACCESSORIES REQUIRED FOR COMPLETE FIXTURE PACKAGE SHOWN ON SCHEDULES, DETAILS, PLANS, AND SPECIFICATIONS.
B) NO SUBSTITUTIONS ACCEPTED.
C) CONTRACTOR SHALL PROVIDE DIMMING DRIVERS IN LED FIXTURES REQUIRED FOR CONTROL SYSTEM COMPATIBILITY.
D) PROVIDE WIRE GUARDS IN GYMNASIUM LOCATIONS.
E) PROVIDE GYPSUM BOARD CEILING FRAMING KIT IN AREAS WITH HARD CEILING.

OCCUPANCY/VACANCY AND DIMMER DEVICE SCHEDULE

FIXTURE/TYPE	MANUFACTURER CATALOG NUMBER	VOLTS		LOCATION	MOUNTING	FIXTURE NOTES
			WATTS			
	STEINEL: US HALLWAY COM2-24 64560	24	NA	CORRIDOR	CEILING	DIGITAL INFRARED PIR DETECTOR WITH AUTO HVAC N.O. CONTACTS. 7'-0" WIDE CORRIDORS.
		24	NA			
	STEINEL: US QUATTRO COM1-24 64700	24	NA	RESTROOMS/VESTIBULE	CEILING	DUAL TECHNOLOGY SENSOR. LARGE & SMALL TOILETS.
		24	NA			
	STEINEL: US QUATTRO HD COM2-24 64460	24	NA	WIDE CORRIDORS AND CLASSROOMS	HIGH CEILING	DIGITAL INFRARED PIR DETECTOR WITH AUTO HVAC N.O. CONTACTS. 65' X 65' COVERAGE.
		2400				
	STEINEL: POWER PACK TR150-63101	120		CLASSROOM/CORRIDOR	J-BOX IN CEILING	
		1200				
	LEVITON: DS710-10Z	120		PER DRAWINGS	WALL	LEVITON MARK 7, 0-10V DIMMER DS710-10Z
		1200				

- GENERAL NOTES:**
A) CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ACCESSORIES REQUIRED FOR COMPLETE DEVICES SHOWN ON SCHEDULES, DETAILS, PLANS, AND SPECIFICATIONS.
B) PROVIDE SINGLE WIRELESS REMOTE COMMISSIONING SETUP TOOL.
C) CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL WORK AND ACCESSORIES REQUIRED BY DEVICE SUBSTITUTIONS.
D) DEVICE SUBSTITUTIONS SHALL BE SUBMITTED 10 DAYS PRIOR TO BID DATE. SUBSTITUTIONS SHALL BE DELIVERED AS A COMPLETE PACKAGE. ALL SUBSTITUTIONS SHALL MEET OR EXCEED PRODUCT IN STYLE, CONSTRUCTION, REGULATORY CONFORMANCE, PERFORMANCE, AND MEET OWNER STANDARDS.

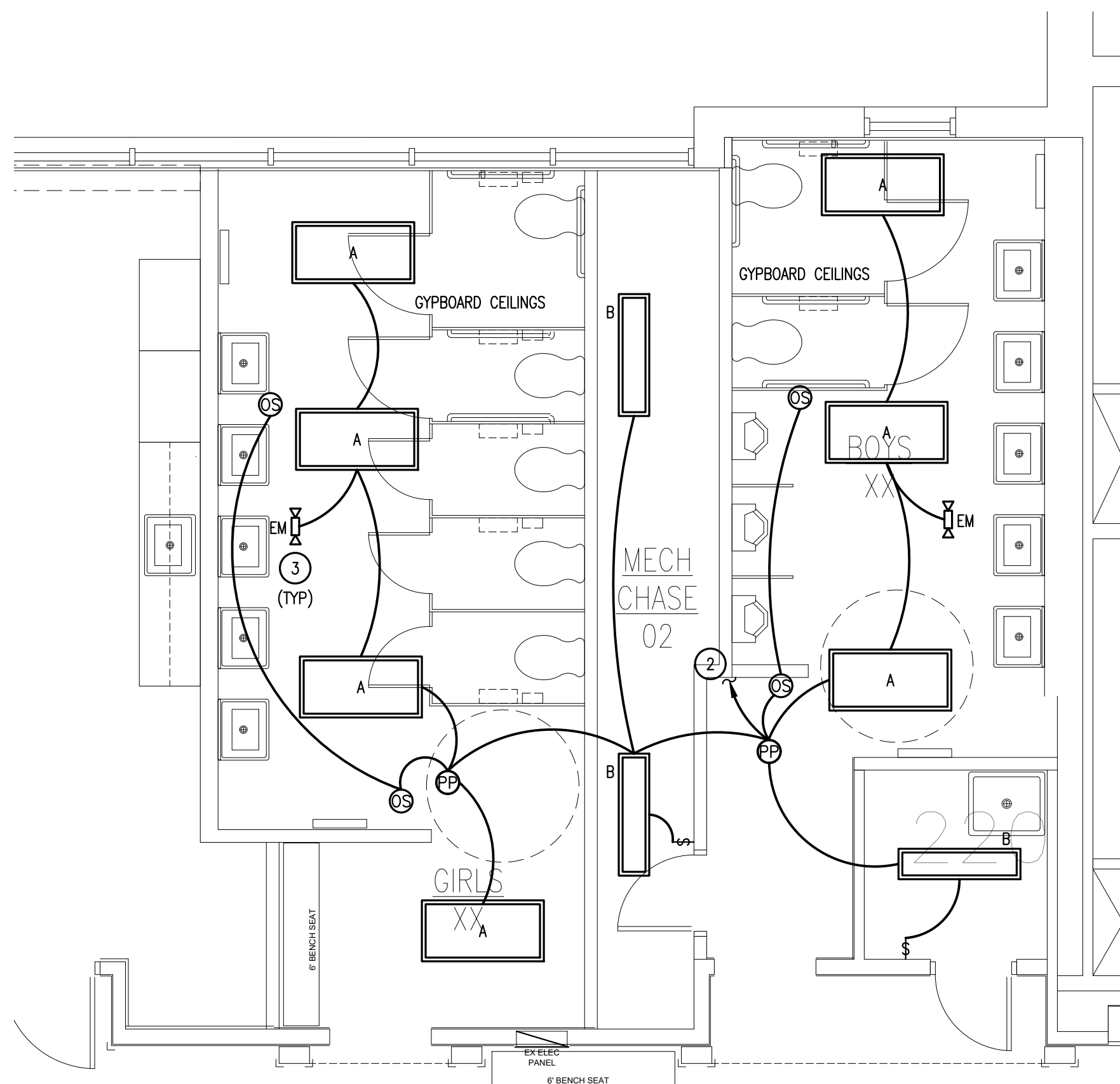
DEVICE SUBSCRIPT

'g' LOWER CASE LETTER INDICATES DEVICE CONTROL ARRANGEMENT	LV LOW-VOLTAGE
AF ABOVE FINISHED FLOOR	LFT LIQUID-TIGHT FLEXIBLE METAL CONDUIT
AFG ABOVE FINISHED GRADE	LT LIGHTING
AF/C HVAC	M FRACTIONAL HP RATED SWITCH
APL APPLIANCE	MT MOTOR
AF AMP FUSE	NL NIGHT LIGHT
AT AMP TRIP	OCPD OVER-CURRENT PROTECTION DEVICE
BMS BUILDING MANAGEMENT SYSTEM	OHE OVERHEAD ELECTRIC
BTC BRANCH TO CONNECTION	OHT OVERHEAD TELEPHONE
C COMMUNICATION	RD REMOVE (260450)
CKT CIRCUIT	(RR) REMOVE AND REINSTALL (260450)
CT CURRENT TRANSFORMER	(RS) REMOVE AND SALVAGE (260450)
CTL CONTROL	RC RECEPTACLE
D DATA OUTLET	RIP REMOVE-IN ONLY
(E) EXISTING TO REMAIN (260450)	S.E.R. SERVICE ENTRANCE RATED
(ER) EXISTING RELOCATED	SPD SURGE PROTECTION DEVICE
EM EMERGENCY CIRCUIT	S.T. SHUNT-TRIP BREAKER
EPO EMERGENCY POWER OFF	SW SPLIT WIRED RECEPTACLE FOR HALF SWITCHING
EQ EQUAL	UC UNDER COUNTER
EWC ELECTRIC WATER COOLER	UGE UNDERGROUND ELECTRIC
FACP FIRE ALARM CONTROL PANEL	UGT UNDERGROUND TELEPHONE
GFCI GROUND FAULT CIRCUIT INTERRUPTING RECEPTACLE	UF UNDERGROUND FIBER
GFI GROUND FAULT CIRCUIT INTERRUPTING BREAKER PROTECTED	UNO UNLESS NOTED OTHERWISE
GF FEED THROUGH GROUND FAULT CIRCUIT INTERRUPTING PROTECTED	WP WEATHERPROOF WHILE IN USE
JB JUNCTION BOX	WPS WEATHERPROOF SPRING COVER DEVICE
K KEY OPERATED	

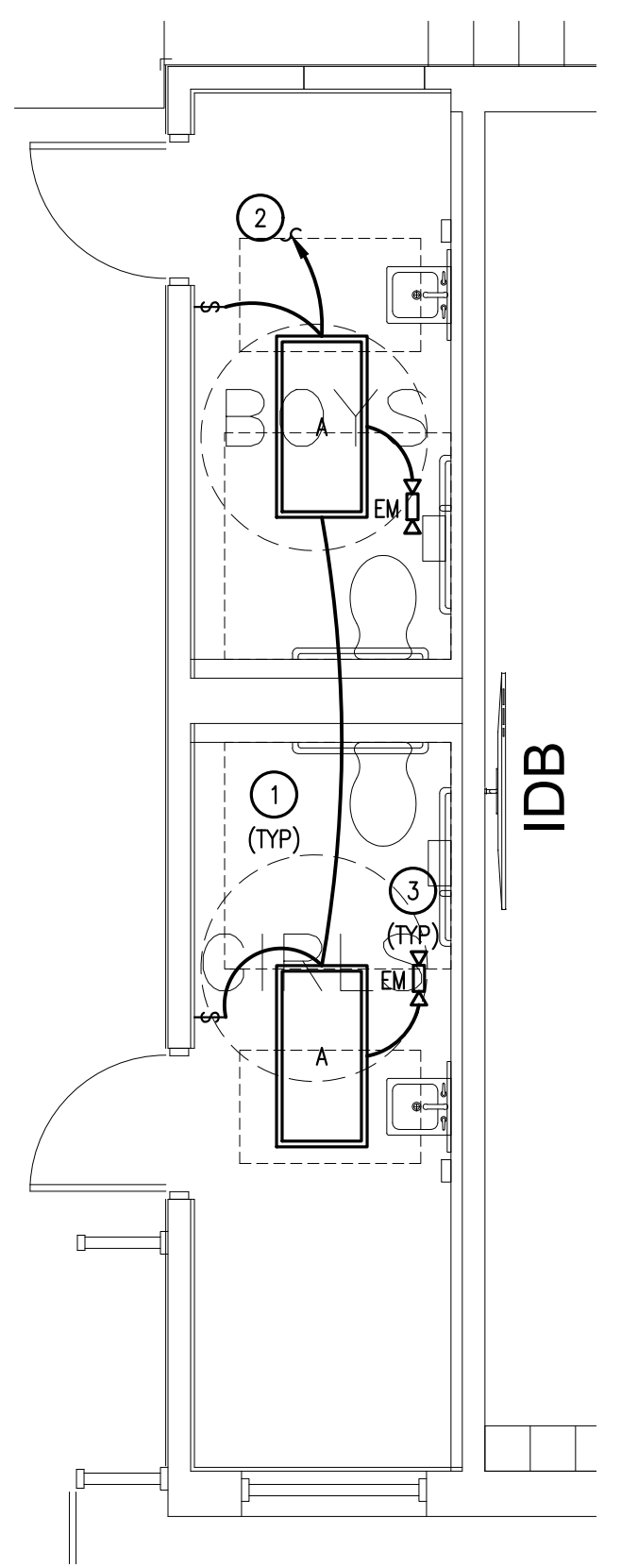
ELECTRICAL GRAPHIC SYMBOL LEGEND

WALL MOUNTED DEVICES	CONTROL DEVICES	SWITCHES/MOTORS/TRANSFORMERS/ETC
CEILING MOUNTED DEVICES	SECURITY DEVICES	
		RACEWAYS
FLUSH FLOOR MOUNTED DEVICES		
FIRE ALARM DEVICES	WALL MOUNTED, LOW-VOLTAGE DEVICES	SECURITY/ACCESS CONTROL LEGEND

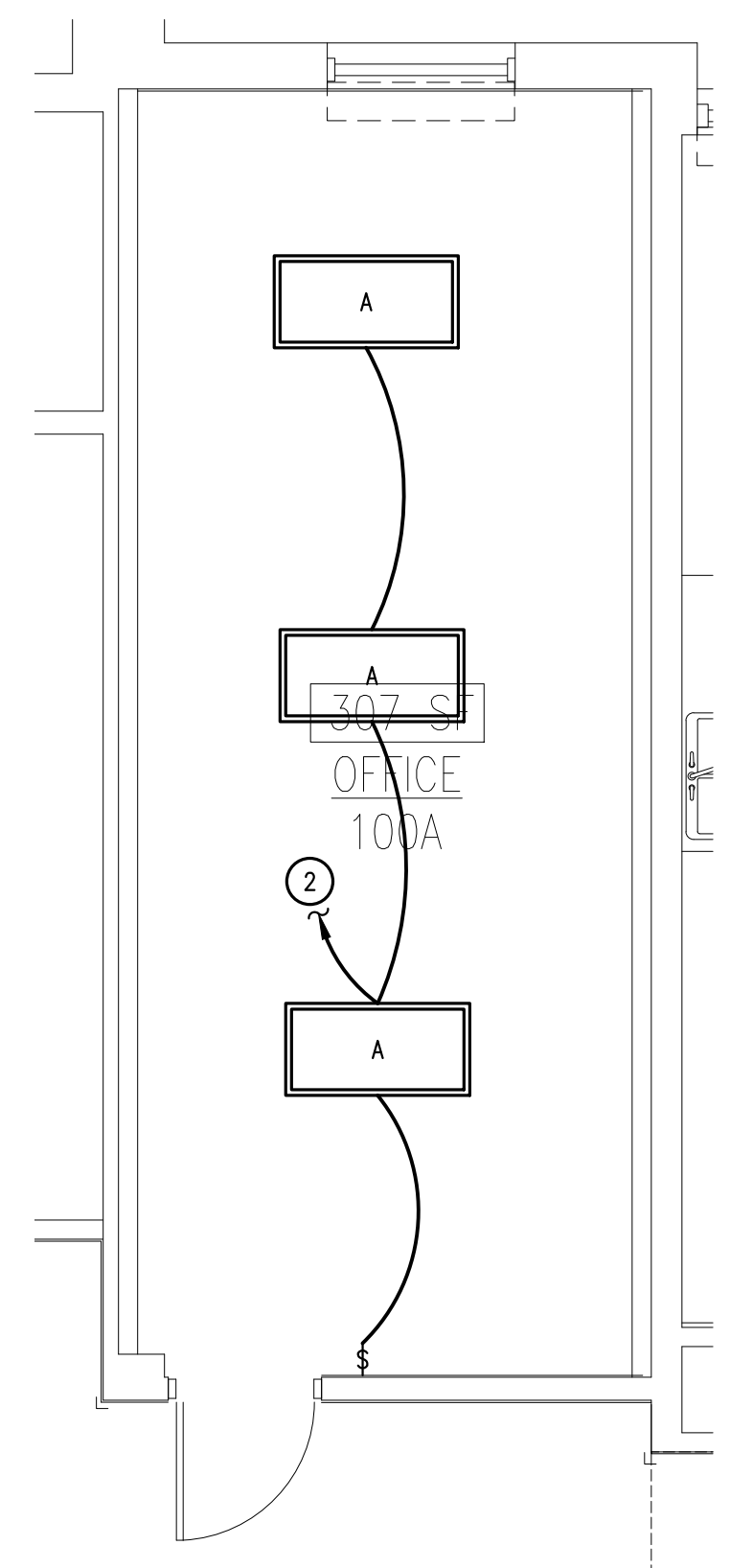
- KEYNOTES: (X)
1. COORDINATE LAYOUT WITH NEW CEILING GRID AND HVAC DIFFUSERS AND SPRINKLER HEADS.
 2. REUSE EXISTING CIRCUITS SERVING LIGHTING.
 3. EMERGENCY LIGHTING SHALL NOT BE SWITCHED.



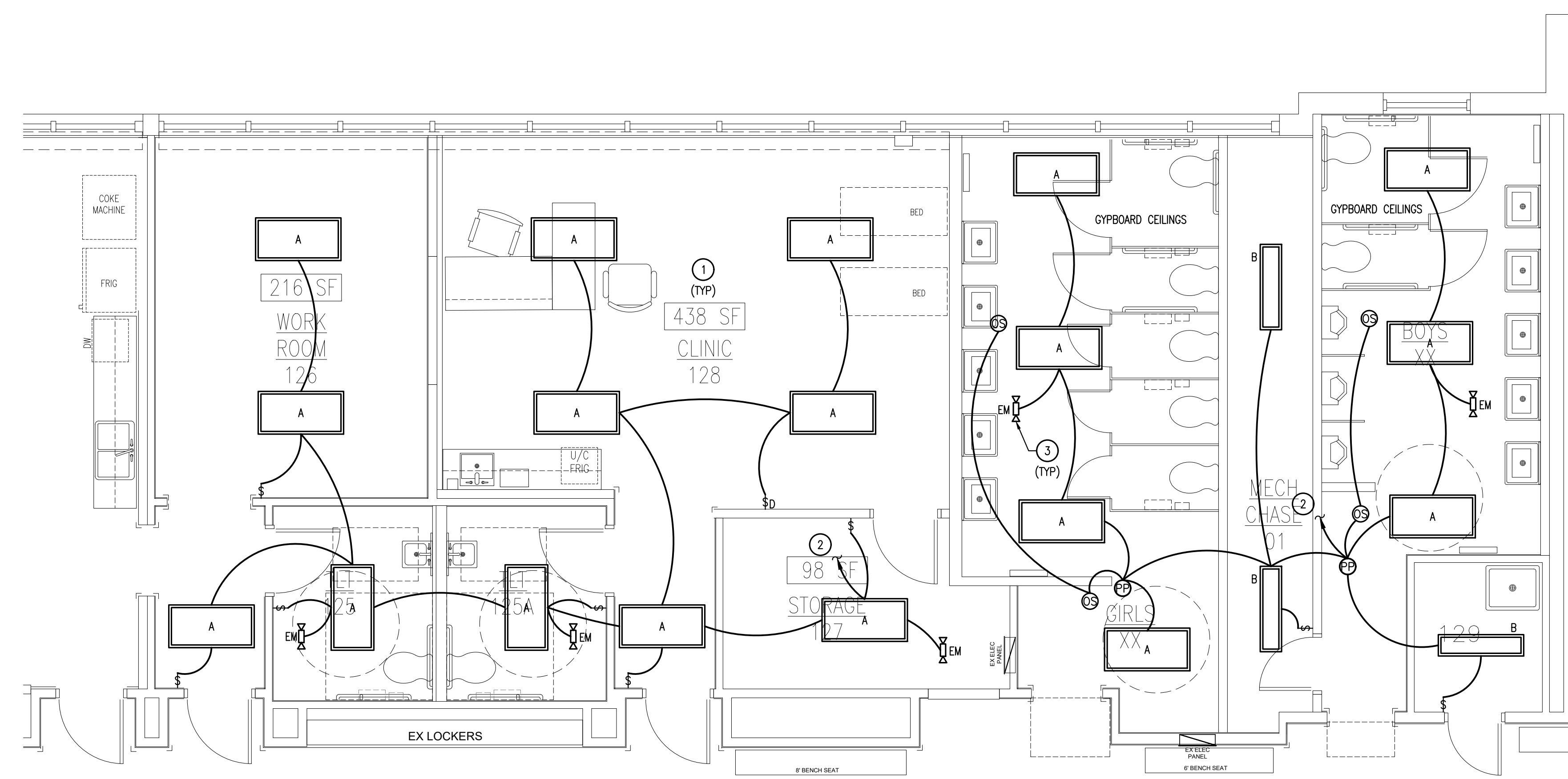
4 ENLARGED LIGHTING PLAN-NEW
Scale: 1/4" = 1'-0"
SECOND FLOOR NORTH



3 ENLARGED LIGHTING PLAN-NEW
Scale: 1/4" = 1'-0"
FIRST FLOOR NORTH



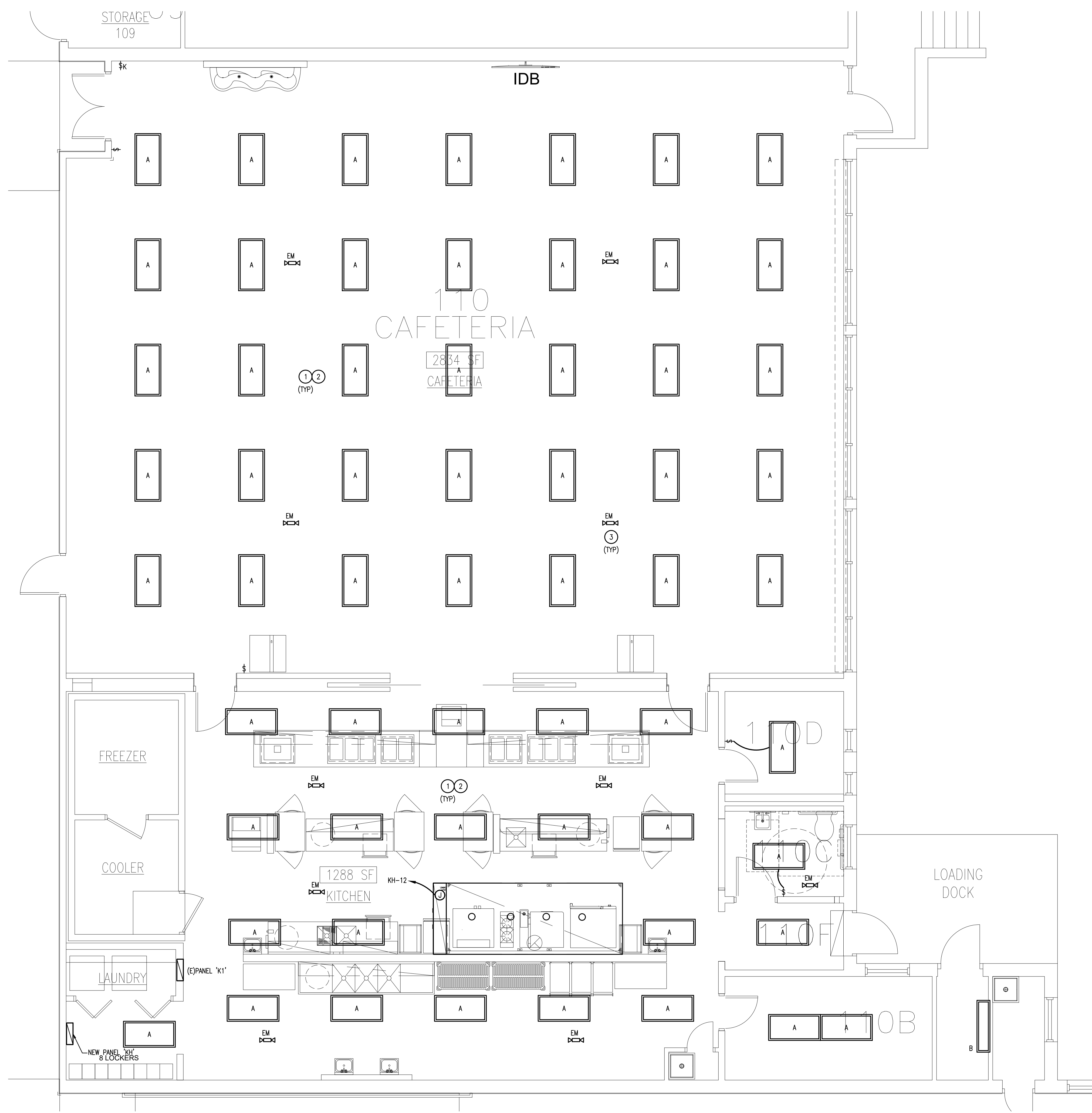
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Scale: 1/4" = 1'-0"
FIRST FLOOR NORTH



1 ENLARGED LIGHTING PLAN-NEW
Scale: 1/4" = 1'-0"
FIRST FLOOR NORTH

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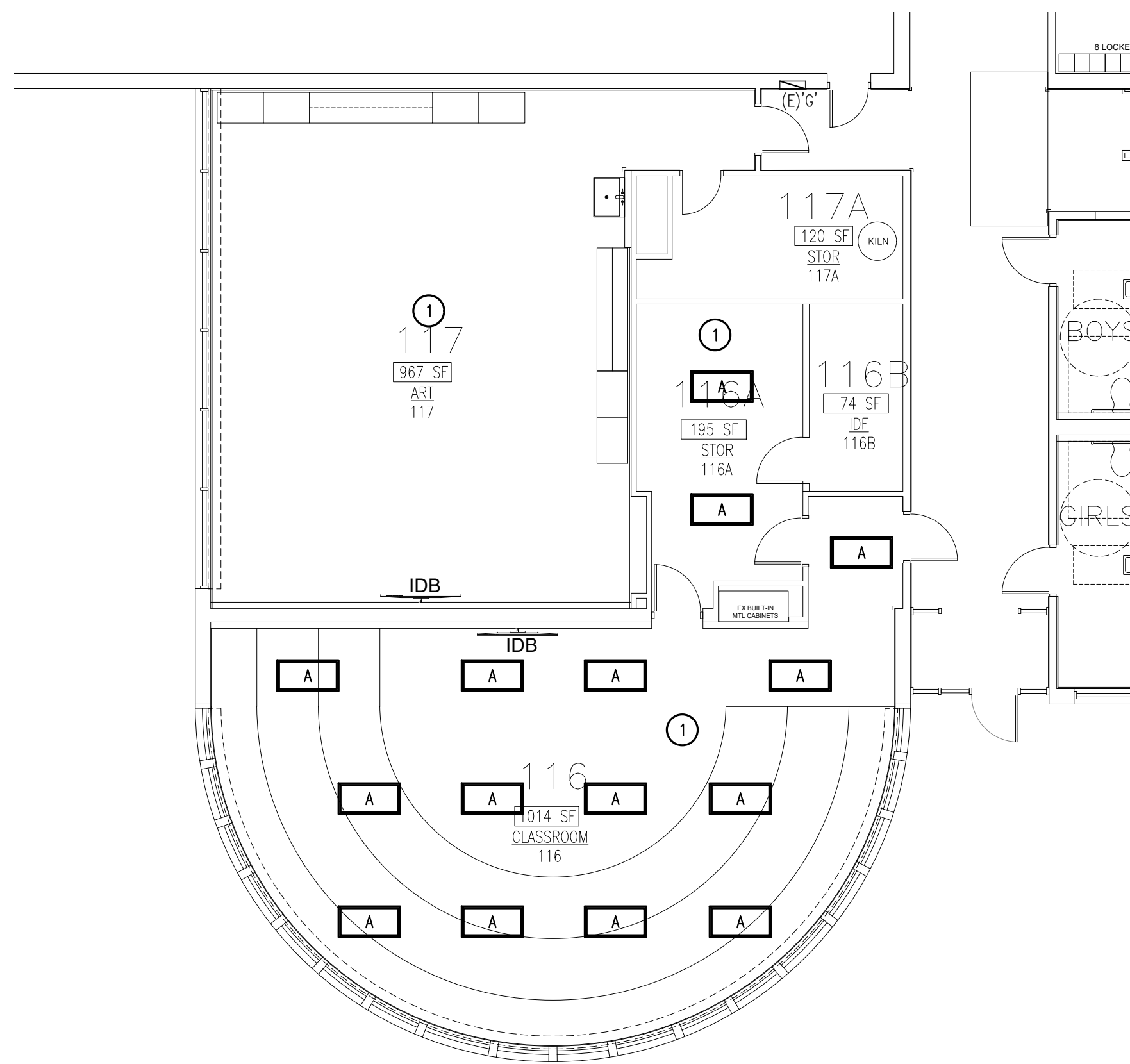
- KEYNOTES: (X)
- COORDINATE LAYOUT WITH NEW CEILING GRID AND HVAC DIFFUSERS AND SPRINKLER HEADS.
 - REUSE EXISTING SWITCHING AND CIRCUITS SERVING LIGHTING.
 - EMERGENCY LIGHTING SHALL NOT BE SWITCHED.



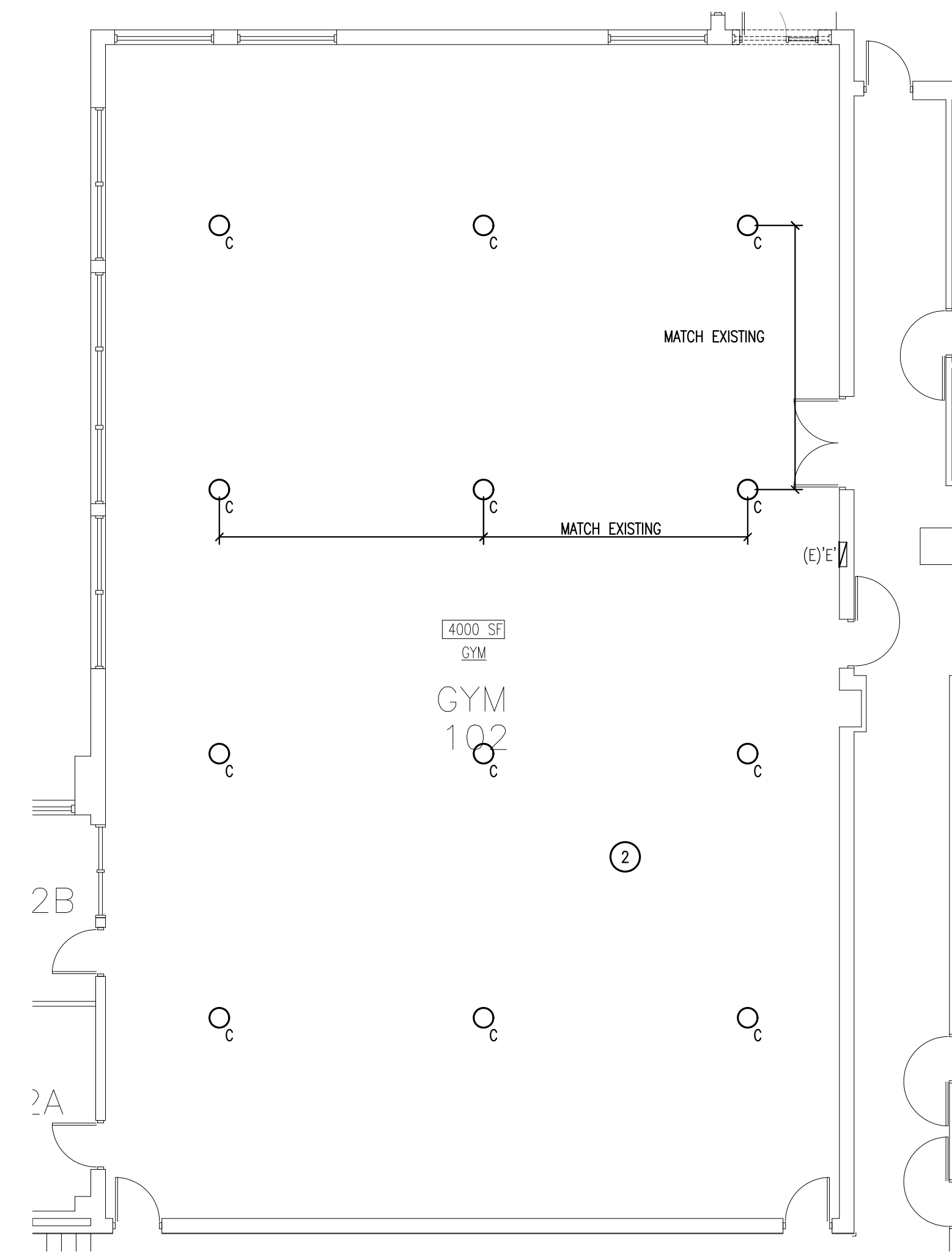
1 ENLARGED LIGHTING PLAN-NEW
Scale: 1/4" = 1'-0"
FIRST FLOOR KITCHEN



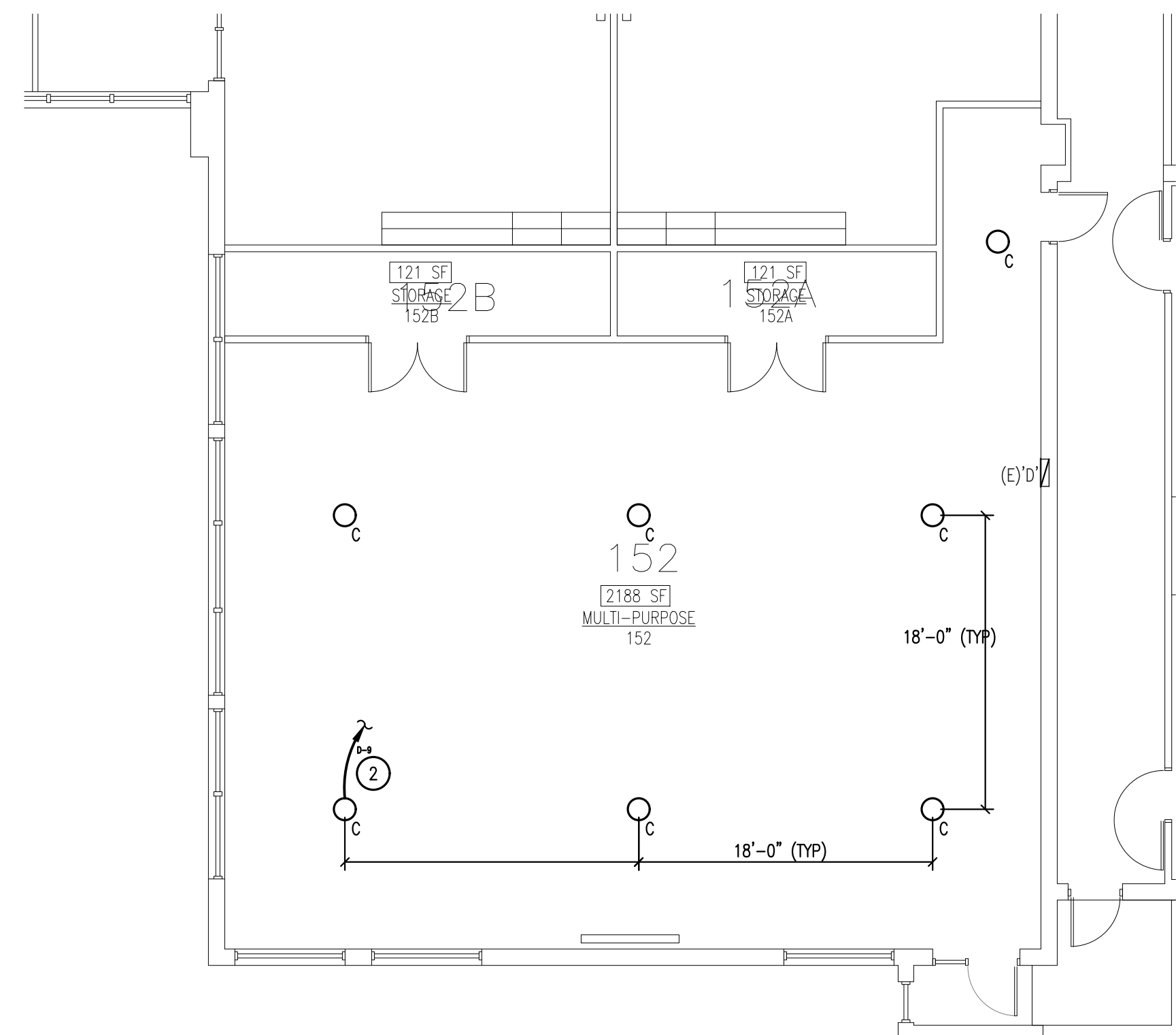
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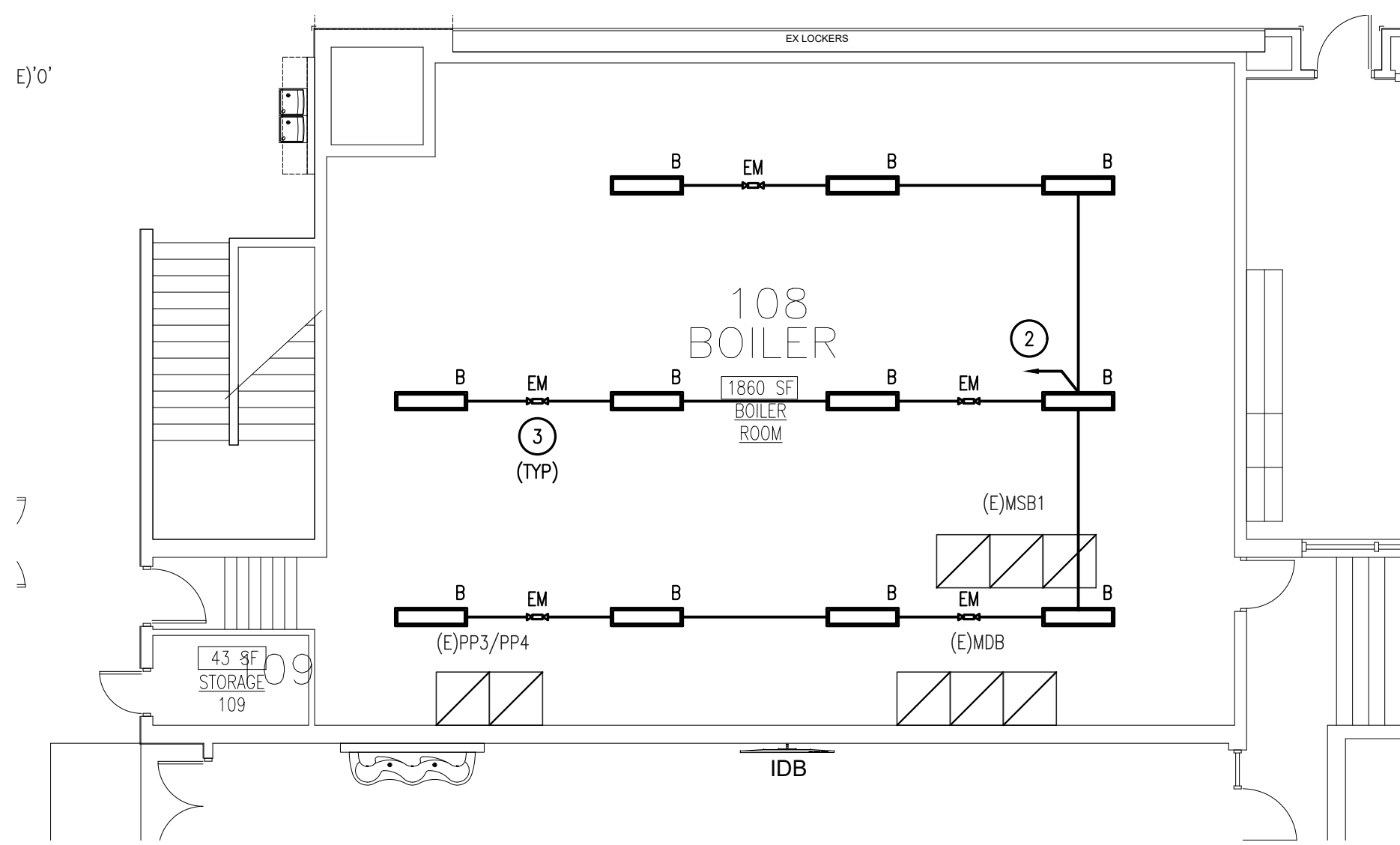
4 ENLARGED LIGHTING PLAN-NEW
Scale: 1/8" = 1'-0"
SECOND FLOOR NORTH



3 ENLARGED LIGHTING PLAN-NEW
Scale: 1/8" = 1'-0"
FIRST FLOOR NORTH



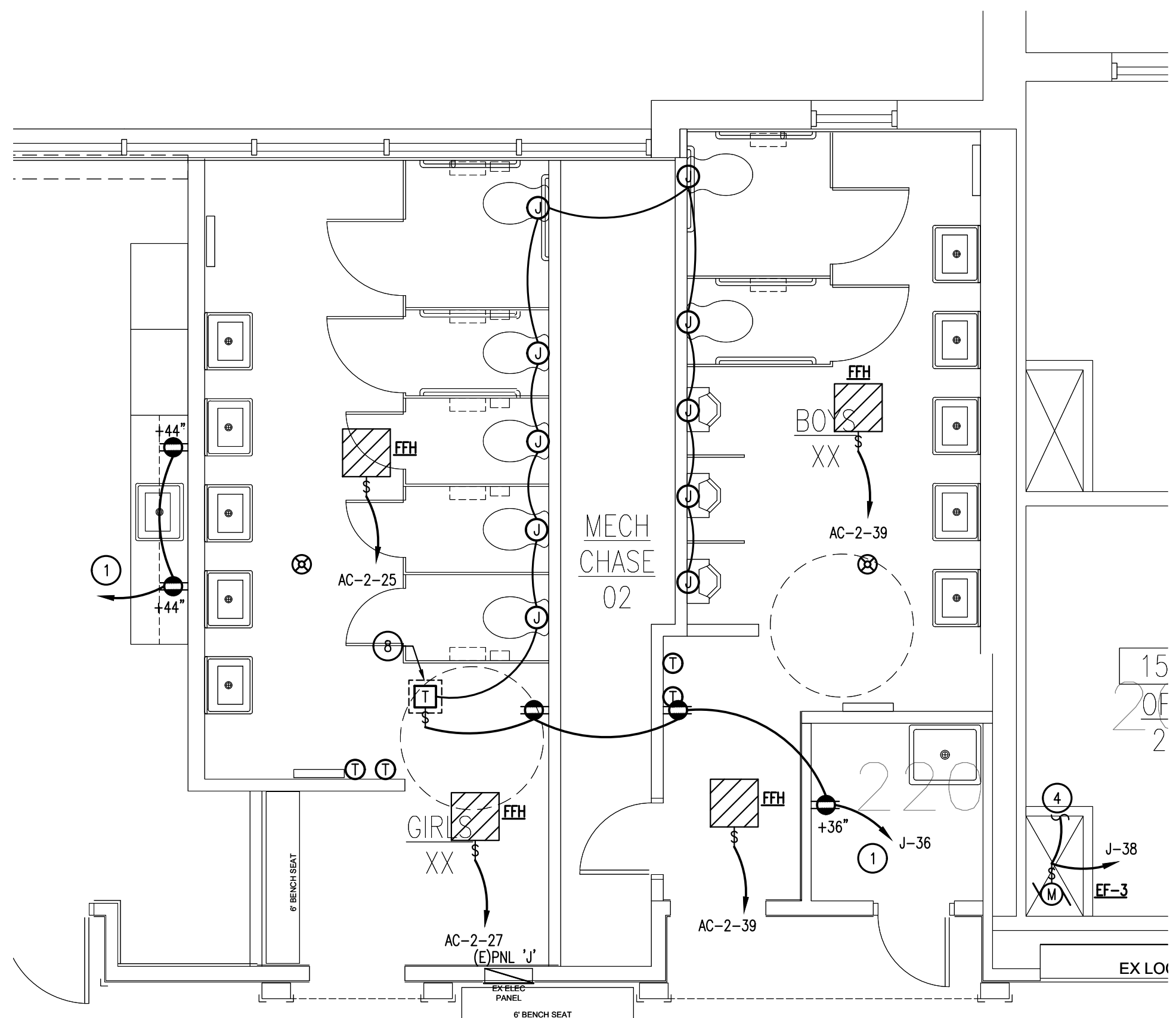
2 ENLARGED LIGHTING PLAN-NEW
Scale: 1/8" = 1'-0"
FIRST FLOOR NORTH



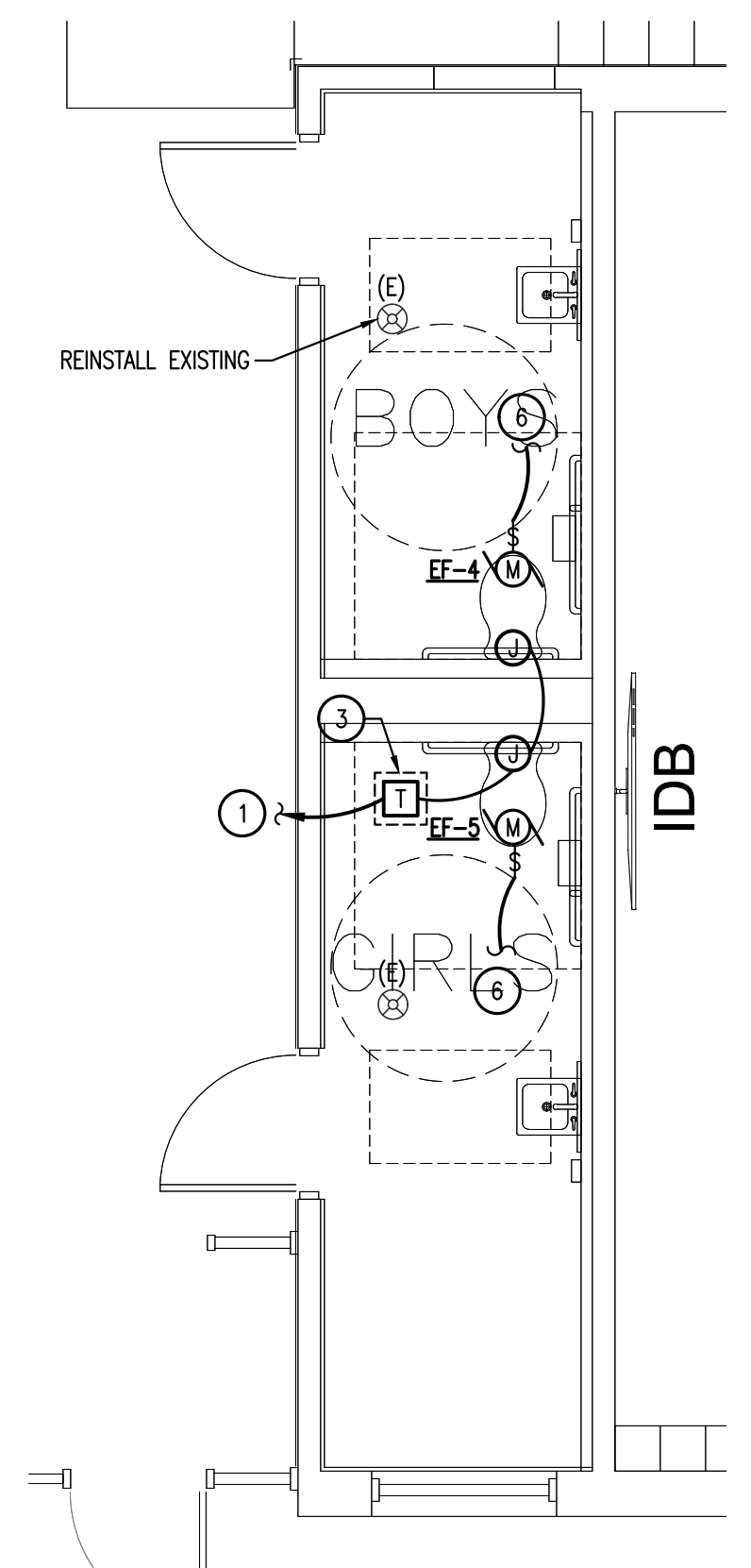
1 ENLARGED LIGHTING PLAN-NEW
Scale: 1/8" = 1'-0"
FIRST FLOOR NORTH

- KEYNOTES:**
- COORDINATE LAYOUT WITH NEW CEILING GRID AND HVAC DIFFUSERS AND SPRINKLER HEADS.
 - REUSE EXISTING CIRCUITS AND SWITCHING SERVING LIGHTING.
 - EMERGENCY LIGHTING SHALL NOT BE SWITCHED.

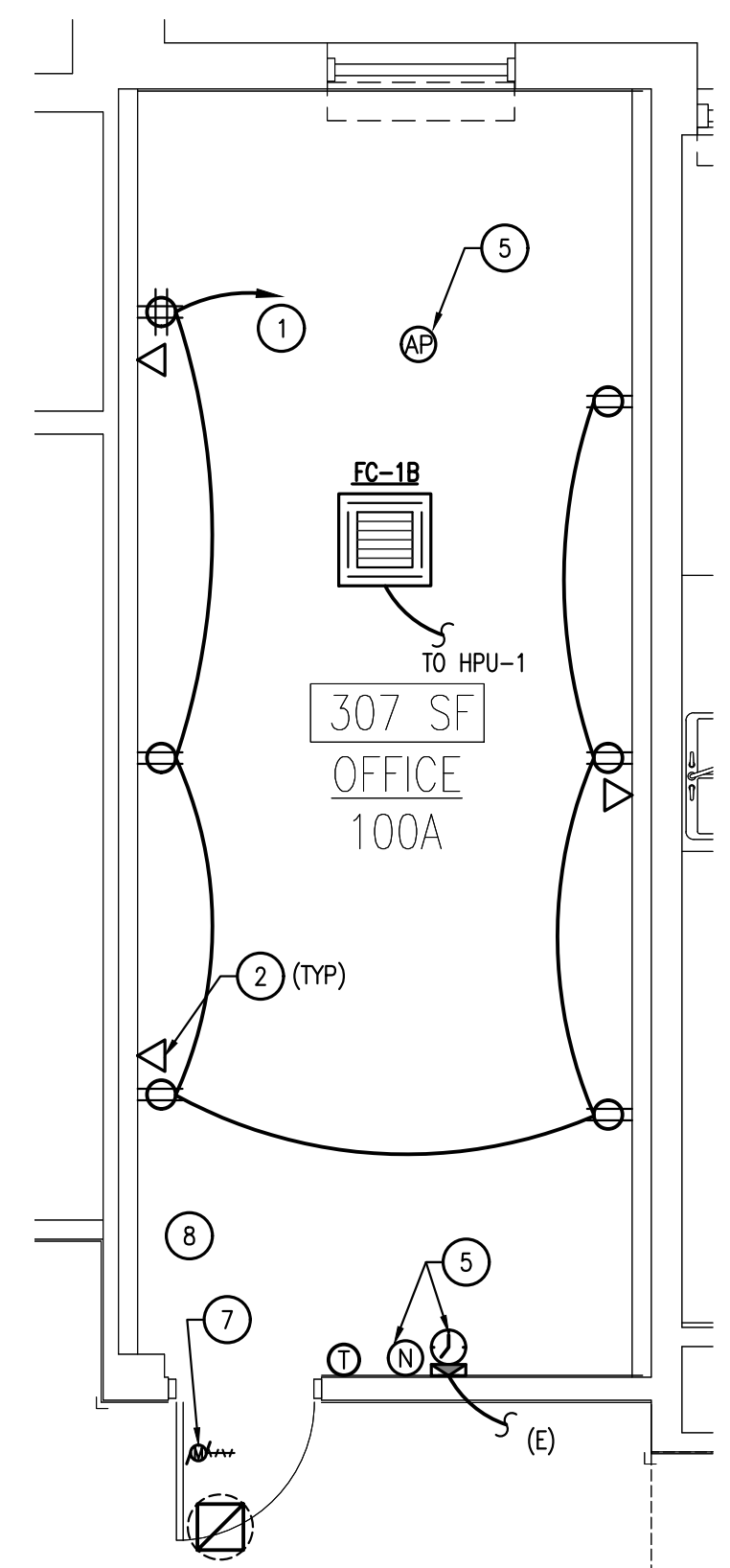
- KEYNOTES: (X)
1. CONTRACTOR TO POWER NEW DEVICES FROM EXISTING CIRCUIT IN AREA. FIELD VERIFY AND TRACE EXISTING PANELS. UPDATE AND PROVIDE NEW PANEL INDEX.
 2. COORDINATE EXACT LOCATION OF DATA OUTLETS AND ACTIVATED PORTS WITH TPS REPRESENTATIVE.
 3. **FLUSH VALVES:** INSTALL JUNCTION BOX ABOVE ACCESSIBLE CEILING FOR LOW-VOLTAGE CONTROL TRANSFORMER FOR AUTOMATIC FLUSH VALVES. PROVIDE JUNCTION BOX FOR FLUSH VALVE SENSOR AT EACH TOILET. MOUNT JUNCTION BOX PER FLUSH VALVE MANUFACTURER'S RECOMMENDATIONS. PROVIDE CONDUIT FROM FLUSH VALVES TO CONTROL TRANSFORMER FOR LOW-VOLTAGE WIRING.
 4. EXHAUST FAN TO BE CONTROLLED BY OWNER'S BUILDING MANAGEMENT SYSTEM. PROVIDE CONTROL RELAY PER BMS VENDOR SPECIFICATIONS. FINAL TERMINATION BY OWNER'S VENDOR.
 5. EXISTING FIRE ALARM, INTERCOM, CLOCKS, SPEAKERS, AND WIRELESS ACCESS POINTS SHALL BE NEW BY OWNER.
 6. EXHAUST FAN TO BE POWERED WITH LIGHTS.
 7. 120V FOR HVAC DAMPER WITH STEP-DOWN TRANSFORMER PER DIV. 23 SPECIFICATIONS.
 8. PROVIDE 3/4" RACEWAY CONCEALED TO THERMOSTAT BACKBOX. PROVIDE CONTROL WIRE PER DIV. 23 SPECIFICATIONS.



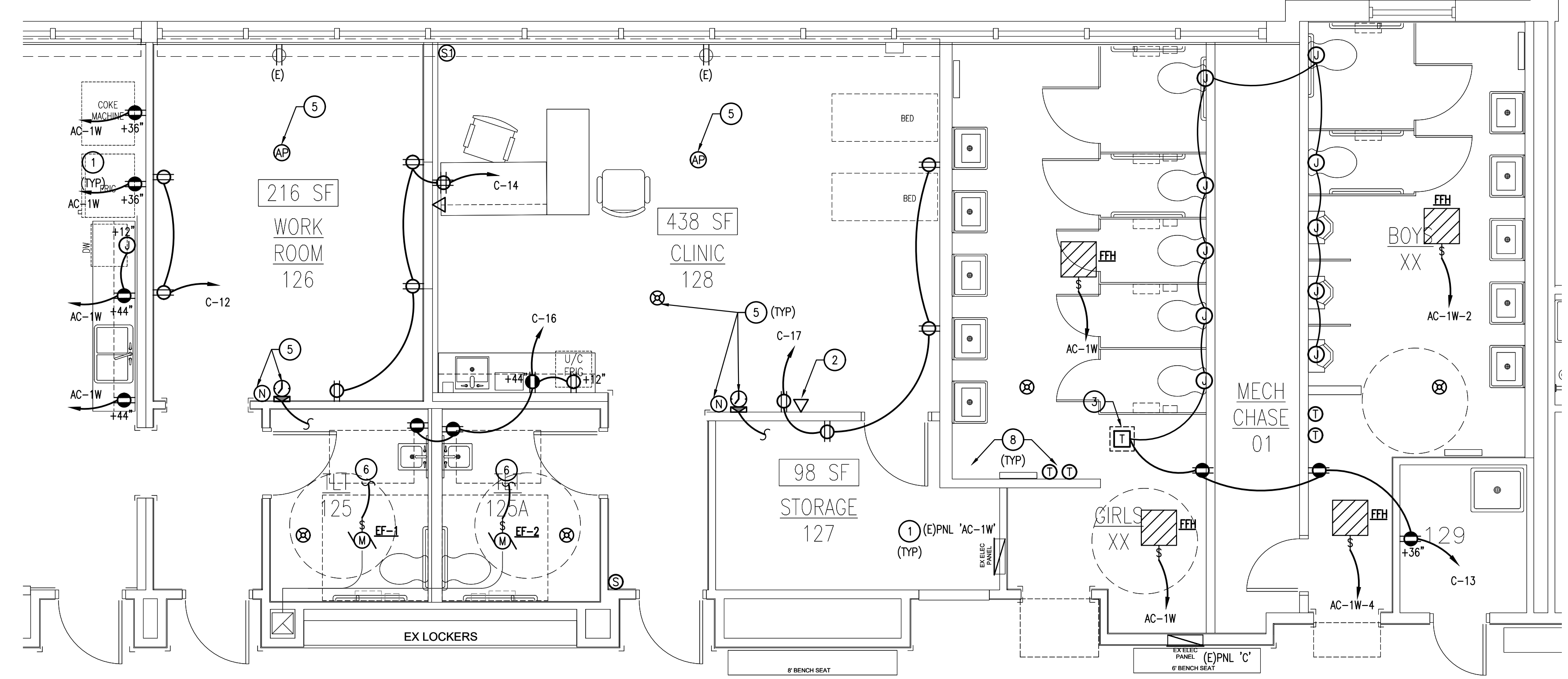
4 ENLARGED POWER PLAN-NEW
 Scale: 1/4" = 1'-0"
 SECOND FLOOR NORTH



3 ENLARGED POWER PLAN-NEW
 Scale: 1/4" = 1'-0"
 FIRST FLOOR NORTH



2 ENLARGED POWER PLAN-NEW
 Scale: 1/4" = 1'-0"
 FIRST FLOOR NORTH



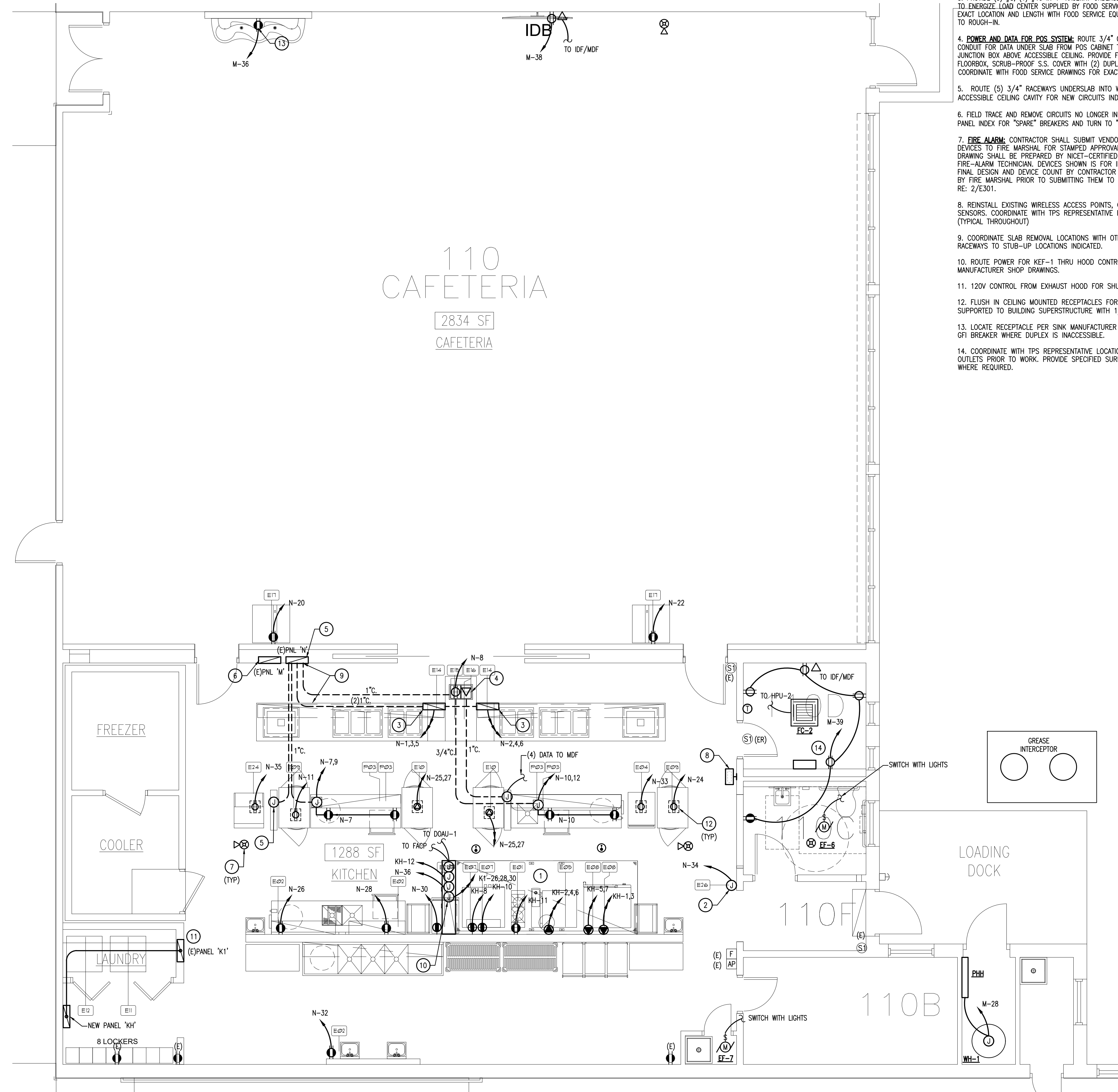
1 ENLARGED POWER PLAN-NEW
 Scale: 1/4" = 1'-0"
 FIRST FLOOR NORTH

2/20/2023 TERS Bell Elementary, Section 0201.dwg, 10/25/2022, 5:59:45 PM, D:\dwg\site\

ELECTRICAL EQUIPMENT SCHEDULE				
MARK	DESCRIPTION	VOLTS/PHASE	LOAD	REMARKS
E01	CONVENIENCE	120/1	16.0A	WALL/ 12" AFF, 20A DUPLEX RECEPTACLE
E02	CONVENIENCE	120/1	16.0A	WALL/ 50" AFF, 20A DUPLEX RECEPTACLE
E03	CONVENIENCE	120/1	16.0A	FLOOR/ 9" AFF, 20A DUPLEX RECEPTACLE (RE: 2/FS401)
E04	MOBILE PROOF/HOT CAB.	120/1	2.0KW	FLOOR/ 9" AFF, 20A DUPLEX RECEPTACLE (RE: 3/FS401)
E05	IVARIO PRO L	208/3	23KW	WALL/ 12" AFF/ CORD & PLUG BY DIVISION 26
E06	NOT USED			
E07	CONVECTION OVEN	120/1	15.0A	WALL/ 12" AFF
E08	COMBI-OVEN	208/3	900W	WALL/ 12" AFF/ CORD & PLUG BY DIVISION 26
E09	PASS-THRU REFRIGERATOR	120/1	1/3HP	CEILING/ 90" AFF/ DROP CORD RECEPTACLE (RE: 3/FS401)
E10	PASS-THRU HOT CABINET	120-208/1	1.5KW	CEILING/ 90" AFF/ DROP CORD RECEPTACLE (RE: 3/FS401)
E14	SERVING COUNTER	208/3	25.0A	125A, 4-WIRE LOAD CENTER IN EQUIPMENT BY OTHERS
E15	POS SYSTEM	120/1	12.0A	FLOOR BELOW POS COUNTER/9" AFF/DEDICATED CIRCUIT
E16	POS SYSTEM	DATA	DATA	FLOOR BELOW POS COUNTER/9" AFF/RJ45 OUTLET
E17	MILK COOLER	120/1	1/5HP	WALL/ 24" AFF
E24	ICE MAKER	120/1	12.7A	CEILING/ 78" AFF/ DROP CORD RECEPTACLE (RE: 3/FS401)
E25	MOBILE PROOF/HOT CAB.	120/1	2.0KW	WALL/ 50" AFF

NOTES

- REFER TO KITCHEN CONSULTANT PLANS FOR EXACT ROUGH-IN LOCATIONS AND MOUNTING HEIGHTS.
- REFER TO E001 AND FOOD SERVICE CONSULTANTS DRAWINGS FOR DEVICE SUBSCRIPTS.
- REFER TO FOOD SERVICE CONSULTANTS DRAWINGS AND EQUIPMENT MANUFACTURER INFORMATION FOR ADDITIONAL WORK PRIOR TO ROUGH-IN.



- KEYNOTES: (X)
- PROVIDE GFCI BREAKER FOR ALL SPECIAL RECEPTACLES UNDER EXHAUST HOOD.
 - PROVIDE CORD AND PLUG SET PER EQUIPMENT MANUFACTURER SPECS.
 - PROVIDE (3) #8, (1) #10 IN 1" RACEWAY UNDERSLAB AND TRANSITION TO FLMC TO ENERGIZE LOAD CENTER SUPPLIED BY FOOD SERVICE CONTRACTOR. COORDINATE EXACT LOCATION AND LENGTH WITH FOOD SERVICE EQUIPMENT CONTRACTOR PRIOR TO ROUGH-IN.
 - POWER AND DATA FOR POS SYSTEM:** ROUTE 3/4" CONDUIT FOR POWER AND 1" CONDUIT FOR DATA UNDER SLAB FROM POS CABINET TO NEAREST WALL TO JUNCTION BOX ABOVE ACCESSIBLE CEILING. PROVIDE FLUSH IN FLOOR RFB4 SERIES FLOORBOX, SCRUB-PROOF S.S. COVER WITH (2) DUPLEX AND (4) DATA PORTS. COORDINATE WITH FOOD SERVICE DRAWINGS FOR EXACT LOCATIONS OF OUTLETS.
 - ROUTE (5) 3/4" RACEWAYS UNDERSLAB INTO WALL AND UP TO ACCESSIBLE CEILING CAVITY FOR NEW CIRCUITS INDICATED TO PANEL 'N'.
 - FIELD TRACE AND REMOVE CIRCUITS NO LONGER IN USE TO PANEL 'M'. UPDATE PANEL INDEX FOR "SPARE" BREAKERS AND TURN TO "OFF" POSITION.
 - FIRE ALARM:** CONTRACTOR SHALL SUBMIT VENDOR SHOP DRAWINGS AND DEVICES TO FIRE MARSHAL FOR STAMPED APPROVAL PRIOR TO WORK. SHOP DRAWING SHALL BE PREPARED BY NICET-CERTIFIED LEVEL IV MINIMUM FIRE-ALARM TECHNICIAN. DEVICES SHOWN IS FOR INTENT PURPOSES ONLY. FINAL DESIGN AND DEVICE COUNT BY CONTRACTOR AND SHALL BE APPROVED BY FIRE MARSHAL PRIOR TO SUBMITTING THEM TO ARCHITECT AND ENGINEER. RE: 2/E301.
 - REINSTALL EXISTING WIRELESS ACCESS POINTS, CLOCKS, AND SECURITY SENSORS. COORDINATE WITH TPS REPRESENTATIVE FOR FINAL LOCATIONS. (TYPICAL THROUGHOUT)
 - COORDINATE SLAB REMOVAL LOCATIONS WITH OTHER TRADES. ROUTE RACEWAYS TO STUB-UP LOCATIONS INDICATED.
 - ROUTE POWER FOR KEF-1 THRU HOOD CONTROLLER PER HOOD MANUFACTURER SHOP DRAWINGS.
 - 120V CONTROL FROM EXHAUST HOOD FOR SHUNT-TRIP BREAKER.
 - FLUSH IN CEILING MOUNTED RECEPTACLES FOR EQUIPMENT SHALL BE SUPPORTED TO BUILDING SUPERSTRUCTURE WITH 1/4" ALL-THREAD.
 - LOCATE RECEPTACLE PER SINK MANUFACTURER SPECIFICATIONS. PROVIDE GFI BREAKER WHERE DUPLEX IS INACCESSIBLE.
 - COORDINATE WITH TPS REPRESENTATIVE LOCATION OF POWER AND DATA OUTLETS PRIOR TO WORK. PROVIDE SPECIFIED SURFACE MOUNT RACEWAYS WHERE REQUIRED.

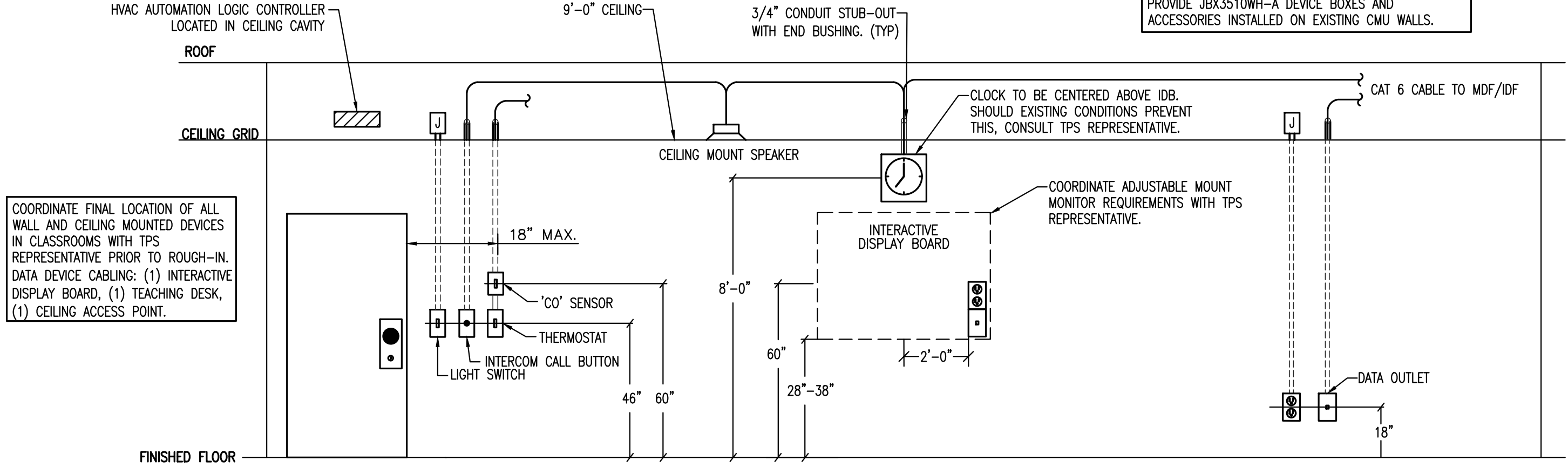
1 ENLARGED POWER PLAN-NEW
Scale: 1/4" = 1'-0"
FIRST FLOOR KITCHEN NORTH

2/2023 TFS Bell Elementary_Schematic/Design/E202.dwg, 10/25/2022, 5:39:48 PM, Dawson, Smithee

DIVISION 26: SHALL SUBMIT ALL LOW-VOLTAGE RACEWAYS AND BOXES PRIOR TO NEW WORK.

ACCESSIBLE PARTITION WALLS:
 NEW DEVICES TO BE FLUSH MOUNT WITH CONCEALED CONDUIT.

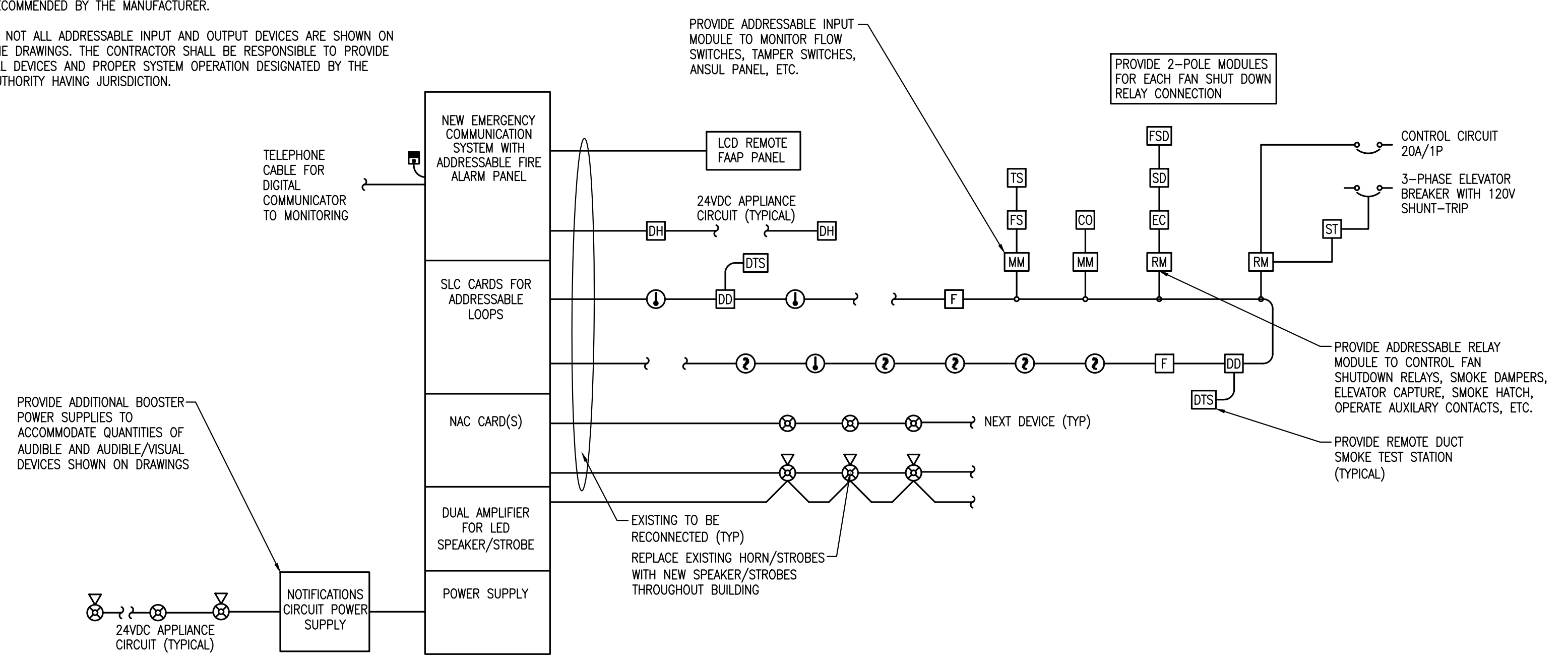
EXISTING/MASONRY WALLS:
 POWER: WIREMOLD 700 SERIES RACEWAYS.
 DATA/COM: LD5WHB RACEWAYS.
 PROVIDE JBX3510WH-A DEVICE BOXES AND ACCESSORIES INSTALLED ON EXISTING CMU WALLS.



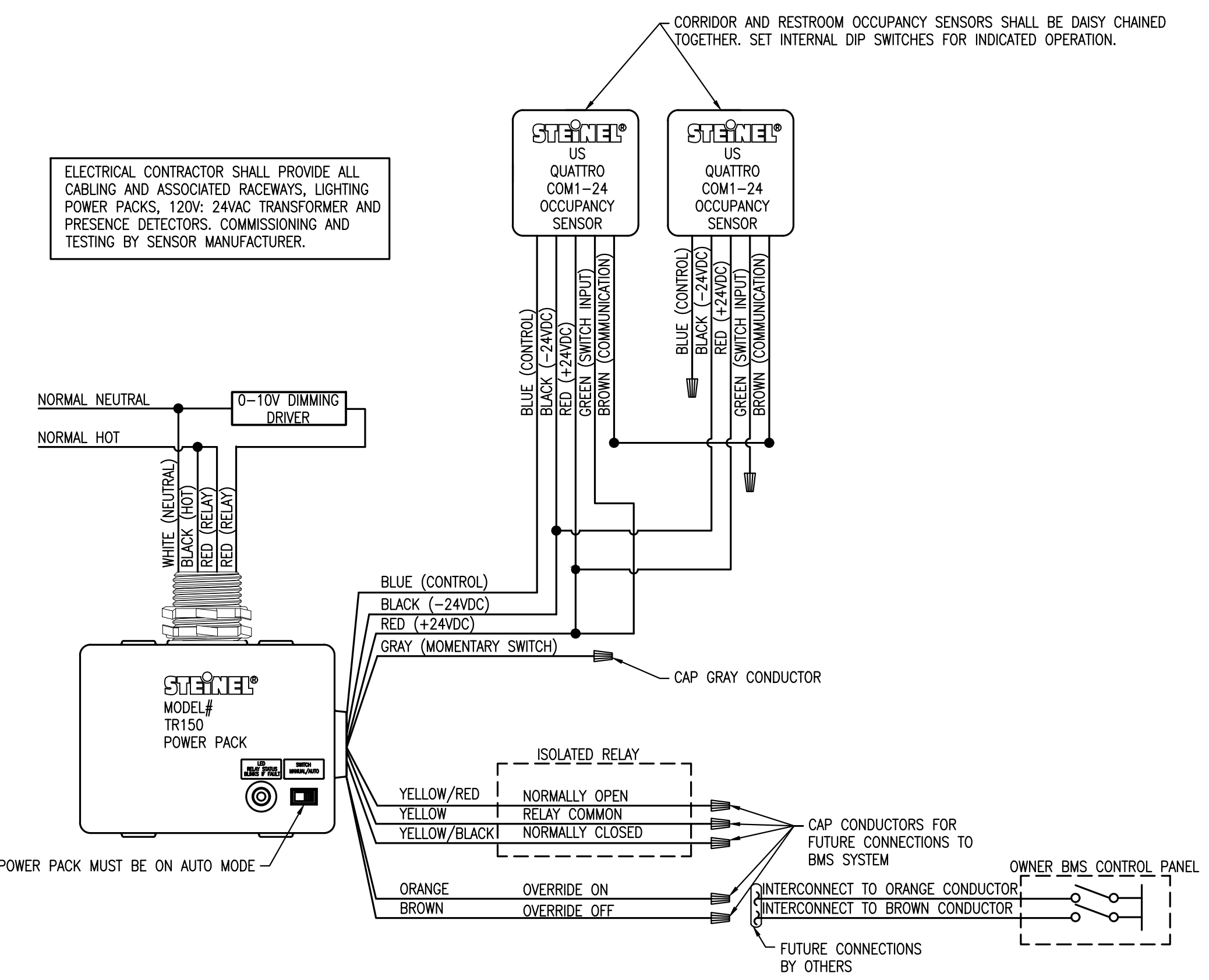
3 TYPICAL CLASSROOM DEVICE INSTALLATION ELEVATIONS
 Scale: NTS

FIRE ALARM RISER NOTES:

- A. THIS SCHEMATIC IS FOR REQUIRED SYSTEM COMPONENT ILLUSTRATION ONLY. REFER TO FLOOR PLANS FOR PROPOSED DEVICE LOCATIONS AND ESTIMATED QUANTITIES.
- B. PROVIDE ALL WIRING TYPES, SIZES AND INTERCONNECTIONS RECOMMENDED BY THE MANUFACTURER.
- C. NOT ALL ADDRESSABLE INPUT AND OUTPUT DEVICES ARE SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL DEVICES AND PROPER SYSTEM OPERATION DESIGNATED BY THE AUTHORITY HAVING JURISDICTION.



2 FIRE ALARM RISER DIAGRAM
 Scale: NTS



1 CORRIDOR/RESTROOM LIGHTING CONTROL DETAIL
 Scale: NTS

2/2022 AEB Bell Elementary_Schematic/Draw/E301.dwg - 10/25/2022 5:39:51 PM L.Dawson:stc



TULSA PUBLIC SCHOOLS



ENGINEER SEAL



TULSA PUBLIC SCHOOLS
BELL ELEMENTARY SCHOOL
6304 E ADMIRAL Blvd
TULSA, OK 74115

PROJECT TITLE
BELL
ELEMENTARY
INTERIOR
RENOVATION

REVISION

SHEET TITLE

ELECTRICAL
PANELBOARDS

DATE: 10.25.2022

SHEET NO.

E401

EXISTING PANELBOARD 'M'										
RECESSED MOUNTED GROUND BUS NEMA 1 ENCLOSURE					VOLT: 120/240V, 1PH, 3 WIRE AMPS: 250 AMP, MLO AIC: (E)					
CKT	DESCRIPTION	BRKR	PL	KVA	LINE	KVA	PL	BRKR	DESCRIPTION	CKT
1	MILK BOX	20	1	-	L1	-	1	20	CAFETERIA LIGHTS	2
3	CAFETERIA LIGHTS	20	1	-	L2	-	1	20	ICE MAKER	4
5	KITCHEN LIGHTS	20	1	-	L1	-	1	20	BAKERS OVEN	6
7	KITCHEN LIGHTS	20	1	-	L2	-	1	20	BATH LIGHTS/HEATER	8
9	HOOD LIGHTS	20	1	-	L1	-	1	20	COOKS OVEN	10
11	HEATED BULK FOOD BOX	20	1	-	L2	-	1	20	WASHER	12
13	BREAKFAST FREEZER	20	1	-	L1	-	1	20	OUTLET RIGHT LINE	14
15	POP MACH. RECEPES	20	1	-	L2	-	1	20	LINE REFRIGERATOR	16
17	COOK RECEP	20	1	-	L1	-	1	20	RECEP	18
19	SINK RECEP	20	1	-	L2	-	1	20	KITCHEN LIGHTS	20
21	STEAMER	20	1	-	L1	-	1	20	REFRIGERATOR	22
23	KRONOS	20	1	-	L2	-	1	20	REFRIGERATOR	24
25	FEEZER #12	20	1	-	L1	-	1	20	KITCHEN LIGHTS	26
27	CASH REGISTER	20	1	-	L2	-	1	20	SPARE	28
29	CAFETERIA LIGHTS	20	1	-	L1	-	1	20	RECEPES SW CORNER	30
31	OFFICE A/C	20	1	-	L2	-	1	20	BAKER OVEN	32
33	DRYER	20	1	-	L1	-	1	20	PRODUCE FRIDGE	34
35	SPARE	20	1	-	L2	-	1	20	SPARE	36
37	SPARE	20	1	-	L1	-	1	20	SPARE	38
39	OFFICE RECEPES	20	1	-	L2	-	1	20	SPARE	40
41	CAFETERIA LIGHTS	20	1	-	L1	-	1	20	SPARE	42

PHASE A	KVA	AMPS	CONNECTED	KVA	AMPS
PHASE B	-	-	FEEDER	-	-
FIELD TRACE AND VERIFY EXISTING CIRCUITS FOR NEW WORK.					

EXISTING PANELBOARD 'N'										
RECESSED MOUNTED GROUND BUS NEMA 1 ENCLOSURE					VOLT: 208Y/120V, 3PH, 4 WIRE AMPS: 250 AMP, MLO AIC: 10,000					
CKT	DESCRIPTION	BRKR	PL	KVA	PHASE	KVA	PL	BRKR	DESCRIPTION	CKT
1	E14 - SERVING COUNTER	40	3	3.00	A	3.00	3	40	E14 - SERVING COUNTER	2
3	-	-	-	3.00	B	3.00	-	-	-	4
5	-	-	-	3.00	C	3.00	-	-	-	6
7	E03 - CONVENIENCE RECEP	20	1	1.50	A	1.44	1	20	E15 - POS SYSTEM	8
9	E03 - CONVENIENCE RECEP	20	1	1.50	B	1.50	1	20	E03 - CONVENIENCE RECEP	10
11	E09 - PASS-THRU REFRIG	20	1	0.80	C	1.50	1	20	E03 - CONVENIENCE RECEP	12
13	EAST STEAM TABLE	15	3	-	A	-	3	15	UNKNOWN	14
15	-	-	-	-	B	-	-	-	-	16
17	-	-	-	-	C	-	-	-	-	18
19	UNKNOWN	15	3	-	A	0.65	1	20	E17 - MILK COOLER	20
21	-	-	-	-	B	0.65	1	20	E17 - MILK COOLER	22
23	-	-	-	-	C	0.80	1	20	E09 - PASS-THRU REFRIG	24
25	E10 - PASS-THRU HOT CABINET	20	2	0.45	A	1.50	1	20	E02 - CONVENIENCE RECEP	26
27	-	-	-	0.45	B	1.50	1	20	E02 - CONVENIENCE RECEP	28
29	E10 - PASS-THRU HOT CABINET	20	2	0.45	C	1.92	1	20	E25 - MOBILE PROOF/HOT CAB.	30
31	-	-	-	0.45	A	1.50	1	20	E02 - CONVENIENCE RECEP	32
33	E04 - MOBILE PROOF/HOT CAB.	20	1	1.92	B	1.20	1	20	E26 - FLY FAN	34
35	E24 - ICE MAKER	20	1	1.52	C	1.00	1	20	EXHAUST HOOD CONTROLS	36
37	SPARE	20	1	-	A	-	-	-	SPARE	38
39	SPARE	20	1	-	B	-	-	-	SPARE	40
41	SPARE	20	1	-	C	-	-	-	SPARE	42

PHASE A	KVA	AMPS	CONNECTED	KVA	AMPS
PHASE B	-	-	FEEDER	-	-
PHASE C	-	-		-	-
* PROVIDE LOCK-___ DEVICE AT BREAKER HANDLE					

EXISTING PANELBOARD 'K1'										
RECESSED MOUNTED GROUND BUS NEMA 1 ENCLOSURE					VOLT: 208Y/120V, 3PH, 4 WIRE AMPS: 225 AMP, MLO AIC: 22,000					
CKT	DESCRIPTION	BRKR	PL	KVA	PHASE	KVA	PL	BRKR	DESCRIPTION	CKT
1	COOLER CONDENSER	20	3	1.44	A	2.88	3	30	FREEZER CONDENSER	2
3	-	-	-	1.44	B	2.88	-	-	-	4
5	-	-	-	1.44	C	2.88	-	-	-	6
7	COOLER EVAPORATOR	20	1	0.50	A	2.09	2	25	FREEZER EVAPORATOR	8
9	FREEZER LIGHTS AND DEFROST	20	1	1.00	B	2.09	-	-	-	10
11	COOLER LIGHTS AND DEFROST	20	1	1.00	C	1.92	1	20	WALK-IN FREEZER HEAT TAPE	12
13	WASH ROOM LIGHTING	20	1	0.20	A	1.00	1	20	REFRIGERATOR (GF)	14
15	WASHING MACHINE (GF)	20	1	0.80	B	-	1	20	SPARE	16
17	SPARE	20	1	-	C	1.80	1	20	NEW REFRIGERATOR	18
19	DRYER	30	2	2.00	A	-	1	20	SPARE	20
21	-	-	-	2.00	B	-	1	20	SPARE	22
23	NEW PANEL 'KH'	100	4	10.07	C	-	1	20	SPARE	24
25	-	-	-	9.72	A	1.27	3	15	KEF-1	26
27	-	-	-	9.72	B	1.27	-	-	-	28
29	(SHUNT-TRIP)	-	-	-	C	1.27	-	-	-	30

PHASE A	KVA	AMPS	CONNECTED	KVA	AMPS
PHASE B	19.83	165.25	FEEDER	58.07	161.31
PHASE C	19.93	166.08		-	-
PHASE C	18.31	152.58		-	-
* PROVIDE LOCK-___ DEVICE AT BREAKER HANDLE					

EXISTING PANELBOARD 'C'										
RECESSED MOUNTED GROUND BUS NEMA 1 ENCLOSURE					VOLT: 120/240V, 1PH, 3 WIRE AMPS: 250 AMP, MLO AIC: (E)					
CKT	DESCRIPTION	BRKR	PL	KVA	LINE	KVA	PL	BRKR	DESCRIPTION	CKT
1	LIGHTS ROOM 122	20	1	-	L1	-	1	20	LIGHTS ROOM 123	2
3	LIGHTS ROOM 122	20	1	-	L2	-	1	20	LIGHTS ROOM 123	4
5	LIGHTS ROOM 123	20	1	-	L1	-	1	20	LIGHTS ROOM 123	6
7	LIGHTS ROOM 124	20	1	-	L1	-	1	20	LIGHTS ROOM 124	8
9	LIGHTS ROOM 124	20	1	-	L2	-	1	20	LIGHTS ROOM 125,126	10
11	LIGHTS ROOM 124	20	1	-	L2	-	1	20	LIGHTS ROOM 128	12
13	BOYS TOILET	20	1	-	L1	-	1	20	SPARE	14
15	HALL RECEPTACLE	20	1	-	L2	-	1	20	RECEPTACLES ROOM 127,128	16
17	REC ROOM 125,126	20	1	-	L1	-	1	20	RECEPTACLES ROOM 124-126	18
19	RECEPTACLES ROOM 112-124	20	1	-	L2	-	1	20	SPARE	20
21	SPARE	20	1	-	L1	-	1	20	SPARE	22
23	UNKNOWN	20	1	-	L2	-	1	20	UNKNOWN	24
25	SPARE	-	-	-	L1	-	-	-	SPARE	26
27	SPARE	-	-	-	L2	-	-	-	SPARE	28
29	SPARE	-	-	-	L1	-	-	-	SPARE	30

PHASE A	KVA	AMPS	CONNECTED	KVA	AMPS
PHASE B	-	-	FEEDER	-	-
HATCHED AREAS INDICATE NO WORK					

EXISTING PANELBOARD 'J'										
RECESSED MOUNTED GROUND BUS NEMA 1 ENCLOSURE					VOLT: 120/240V, 1PH, 3 WIRE AMPS: 250 AMP, MLO AIC: (E)					
CKT	DESCRIPTION	BRKR	PL	KVA	LINE	KVA	PL	BRKR	DESCRIPTION	CKT
1	HALL LIGHTS	20	1	-	L1	-	1	20	LIGHTS RM 219	2
3	LIGHTS RM 218	20	1	-	L2	-	1	20	LIGHTS ROOM 218	4
5	LIGHTS RM 218	20	1	-	L1	-	1	20	COMPUTER REC RM 217	6
7	LIGHTS RM 218	20	1	-	L2	-	1	20	LIGHTS RM 217,218	8
9	LIGHTS RM 218	20	1	-	L1	-	1	20	LIGHTS RM 217	10
11	UNKNOWN	20	1	-	L2	-	1	20	LIGHTS RM 216	12
13	UNKNOWN	20	1	-	L1	-	1	20	LIGHTS RM 215,216	14
15	LIGHTS RM 215	20	1	-	L2	-	1	20	LIGHTS RM 215	16
17	LIGHTS RM 213B	20	1	-	L1	-	1	20	LIGHTS RM 213A	18
19	COM RECEP RM 217	20	1	-	L2	-	1	20	LIGHTS RM 212	20
21	LIGHTS RM 212	20	1	-	L1	-	1	20	LIGHTS RM 212	22
23	LIGHTS RM 214	20	1	-	L2	-	1	20	LIGHTS RM 214	24
25	LIGHTS RM 214	20	1	-	L1	-	1	20	EXHAUST FAN	26
27	LIGHTS RM 216	20	1	-	L2	-	1	20	CORRIDOR RECEPES	28
29	RECEPES RM 219	20	1	-	L1	-	1	20	RECEPES RM 212	30
31	RECEPES RM 212,215	20	1	-	L2	-	1	20	RECEPES RM 212,213	32
33	RECEPES RM 214,215	20	1	-	L1	-	1	20	RECEPES RM 216,219	34
35	RECEPES RM 217,219	20	1	-	L2	-	1	20	SPARE	36
37	SPARE	20	1	-	L1	-	1	20	SPARE	38
39	RECEPES RM 215	20	1	-	L2	-	1	20	SPARE	40
41	SPARE	20	1	-	L1	-	1	20	SPARE	42

PHASE A	KVA	AMPS	CONNECTED	KVA	AMPS
PHASE B	-	-	FEEDER	-	-
HATCHED AREAS INDICATE NO WORK					

NEW PANELBOARD 'KH'										
RECESSED MOUNTED GROUND BUS NEMA 1 ENCLOSURE W/ STAINLESS STEEL COVER					VOLT: 208Y/120V, 3PH, 4 WIRE AMPS: 125 AMP, MLO AIC: 22,000					
CKT	DESCRIPTION	BRKR	PL	KVA	PHASE	KVA	PL	BRKR	DESCRIPTION	CKT
1	E08 - COMBI-OVEN (GF)	15	2	0.45	A	7.67	3	80	E05 - IVARIO PRO L	2
3	-	-	-	0.45	B	7.67	-	-	-	4
5	E08 - COMBI-OVEN (GF)	15	2	0.45	C	7.67	-	-	-	6
7	-	-	-	0.45	A	1.50	1	20	E07 - CONVECTION OVEN (GF)	8
9	SPARE	20	1	0.10	B	1.50	1	20	E07 - CONVECTION OVEN (GF)	10
11	E01 - CONVENIENCE OUTLET (GF)	20	1	1.50	C	0.10	1	20	EXHAUST HOOD LIGHTS	12
13	SPARE	20	1	-	A	-	1	20	SPARE	14
15	SPARE	20	1	-	B	-	1	20	SPARE	16
17	SPARE	20	1	-	C	-	1	20	SPARE	18

PHASE A	KVA	AMPS	CONNECTED	KVA	AMPS
PHASE B	10.07	83.92	FEEDER	29.51	81.97
PHASE C	9.72	81.00		-	-
PHASE C	9.72	81.00		-	-
* PROVIDE LOCK-___ DEVICE AT BREAKER HANDLE					

2/2022 1:05 PM Bell Elementary_Schematic_Dwg_E401.dwg - 10/25/2022 5:39:53 PM - Dawson/Santana

SURFACE MOUNTED GROUND BUS NEMA 3R ENCLOSURE

EXISTING PANELBOARD 'RTUP1'

VOLT: 208Y/120V, 3PH, 3 WIRE
AMPS: 400 AMP, MLO
AIC: 22,000

CKT	DESCRIPTION	BRKR	PL	KVA	PHASE	KVA	PL	BRKR	DESCRIPTION	CKT
1	RTU-28	70	3	6.10	A	3.70	3	45	RTU-30	2
3	-	-	-	6.10	B	3.70	-	-	-	4
5	-	-	-	6.10	C	3.70	-	-	-	6
7	RTU-27	60	3	5.90	A	2.80	3	30	RTU-29	8
9	-	-	-	5.90	B	2.80	-	-	-	10
11	-	-	-	5.90	C	2.80	-	-	-	12
13	RTU-32	60	3	4.60	A	3.70	3	45	RTU-34	14
15	-	-	-	4.60	B	3.70	-	-	-	16
17	-	-	-	4.60	C	3.70	-	-	-	18
19	RTU-31	45	3	3.70	A	3.70	3	45	RTU-53	20
21	-	-	-	3.70	B	3.70	-	-	-	22
23	-	-	-	3.70	C	3.70	-	-	-	24
25	SPARE	30	3	-	A	8.51	3	80	DOAU-1	26
27	-	-	-	-	B	8.51	-	-	-	28
29	-	-	-	-	C	8.51	-	-	-	30
31	-	-	-	-	A	-	-	-	-	32
33	-	-	-	-	B	-	-	-	-	34
35	-	-	-	-	C	-	-	-	-	36
37	-	-	-	-	A	-	-	-	-	38
39	-	-	-	-	B	-	-	-	-	40
41	-	-	-	-	C	-	-	-	-	42

PHASE	KVA	AMPS
PHASE A	42.83	356.9
PHASE B	42.83	356.9
PHASE C	42.83	356.9

CONNECTED FEEDER	KVA	AMPS
CONNECTED FEEDER	128.49	356.9
CONNECTED FEEDER	-	-

HATCHED AREAS INDICATE NO WORK

SURFACE MOUNTED GROUND BUS NEMA 3R ENCLOSURE

EXISTING PANELBOARD 'RTUP2'

VOLT: 208Y/120V, 3PH, 3 WIRE
AMPS: 600 AMP, MLO
AIC: 22,000

CKT	DESCRIPTION	BRKR	PL	KVA	PHASE	KVA	PL	BRKR	DESCRIPTION	CKT
1	RTU-15	30	3	2.76	A	6.80	3	70	RTU-16	2
3	-	-	-	2.76	B	6.80	-	-	-	4
5	-	-	-	2.76	C	6.80	-	-	-	6
7	RTU-20	70	3	6.80	A	4.60	3	60	RTU-17	8
9	-	-	-	6.80	B	4.60	-	-	-	10
11	-	-	-	6.80	C	4.60	-	-	-	12
13	RTU-21	70	3	6.80	A	6.80	3	70	RTU-18	14
15	-	-	-	6.80	B	6.80	-	-	-	16
17	-	-	-	6.80	C	6.80	-	-	-	18
19	RTU-22	60	3	5.90	A	6.80	3	70	RTU-19	20
21	-	-	-	5.90	B	6.80	-	-	-	22
23	-	-	-	5.90	C	6.80	-	-	-	24
25	SPARE	30	3	-	A	5.90	3	60	RTU-26	26
27	-	-	-	-	B	5.90	-	-	-	28
29	-	-	-	-	C	5.90	-	-	-	30
31	-	-	-	-	A	3.70	3	45	RTU-23	32
33	-	-	-	-	B	3.70	-	-	-	34
35	-	-	-	-	C	3.70	-	-	-	36
37	-	-	-	-	A	-	-	-	-	38
39	-	-	-	-	B	-	-	-	-	40
41	-	-	-	-	C	-	-	-	-	42

PHASE	KVA	AMPS
PHASE A	56.86	473.8
PHASE B	56.86	473.8
PHASE C	56.86	473.8

CONNECTED FEEDER	KVA	AMPS
CONNECTED FEEDER	170.6	473.8
CONNECTED FEEDER	-	-

HATCHED AREAS INDICATE NO WORK

SURFACE MOUNTED GROUND BUS NEMA 3R ENCLOSURE

PANELBOARD 'RTUP3'

VOLT: 208Y/120V, 3PH, 3 WIRE
AMPS: 400 AMP, MLO
AIC: 22,000

CKT	DESCRIPTION	BRKR	PL	KVA	PHASE	KVA	PL	BRKR	DESCRIPTION	CKT
1	RTU-11	70	3	6.80	A	8.90	3	90	RTU-9	2
3	-	-	-	6.80	B	8.90	-	-	-	4
5	-	-	-	6.80	C	8.90	-	-	-	6
7	RTU-10	70	3	6.80	A	3.70	3	45	RTU-8	8
9	-	-	-	6.80	B	3.70	-	-	-	10
11	-	-	-	6.80	C	3.70	-	-	-	12
13	RTU-14	45	3	3.70	A	3.70	3	45	RTU-13	14
15	-	-	-	3.70	B	3.70	-	-	-	16
17	-	-	-	3.70	C	3.70	-	-	-	18
19	RTU-23	50	3	4.80	A	3.70	3	45	RTU-12	20
21	-	-	-	4.80	B	3.70	-	-	-	22
23	-	-	-	4.80	C	3.70	-	-	-	24
25	-	-	-	-	A	2.60	2	40	HPU-1	26
27	-	-	-	-	B	2.60	-	-	-	28
29	-	-	-	-	C	2.60	-	-	-	30
31	-	-	-	-	A	-	-	-	-	32
33	-	-	-	-	B	-	-	-	-	34
35	-	-	-	-	C	-	-	-	-	36
37	-	-	-	-	A	-	-	-	-	38
39	-	-	-	-	B	-	-	-	-	40
41	-	-	-	-	C	-	-	-	-	42

PHASE	KVA	AMPS
PHASE A	44.70	372.5
PHASE B	44.70	372.5
PHASE C	42.10	350.8

CONNECTED FEEDER	KVA	AMPS
CONNECTED FEEDER	131.50	365.3
CONNECTED FEEDER	-	-

HATCHED AREAS INDICATE NO WORK

SURFACE MOUNTED GROUND BUS NEMA 3R ENCLOSURE

MODIFIED PANELBOARD 'RTUP5'

VOLT: 208Y/120V, 3PH, 4 WIRE
AMPS: 400 AMP, MLO
AIC: (E)

CKT	DESCRIPTION	BRKR	PL	KVA	PHASE	KVA	PL	BRKR	DESCRIPTION	CKT
1	RTU-25	175	3	18.0	A	3.36	3	40	RTU-29	2
3	-	-	-	18.0	B	3.36	-	-	-	4
5	-	-	-	18.0	C	3.36	-	-	-	6
7	RTU-24	175	3	18.0	A	2.16	2	28	CU-3	8
9	-	-	-	18.0	B	2.16	-	-	-	10
11	-	-	-	18.0	C	1.56	2	20	HPU-2	12
13	BLANK	-	-	-	A	1.56	-	-	-	14
15	BLANK	-	-	-	B	-	-	-	BLANK	16
17	BLANK	-	-	-	C	-	-	-	BLANK	18
19	BLANK	-	-	-	A	-	-	-	BLANK	20
21	BLANK	-	-	-	B	-	-	-	BLANK	22
23	BLANK	-	-	-	C	-	-	-	BLANK	24
25	BLANK	-	-	-	A	-	-	-	BLANK	26
27	BLANK	-	-	-	B	-	-	-	BLANK	28
29	BLANK	-	-	-	C	-	-	-	BLANK	30
31	BLANK	-	-	-	A	-	-	-	BLANK	32
33	BLANK	-	-	-	B	-	-	-	BLANK	34
35	BLANK	-	-	-	C	-	-	-	BLANK	36
37	BLANK	-	-	-	A	-	-	-	BLANK	38
39	BLANK	-	-	-	B	-	-	-	BLANK	40
41	BLANK	-	-	-	C	-	-	-	BLANK	42

PHASE	KVA	AMPS
PHASE A	43.08	359.0
PHASE B	41.52	346.0
PHASE C	40.92	341.0

CONNECTED FEEDER	KVA	AMPS
CONNECTED FEEDER	125.52	348.7
CONNECTED FEEDER	-	-

HATCHED AREAS INDICATE NO WORK

* PROVIDE LOCK-____ DEVICE AT BREAKER HANDLE