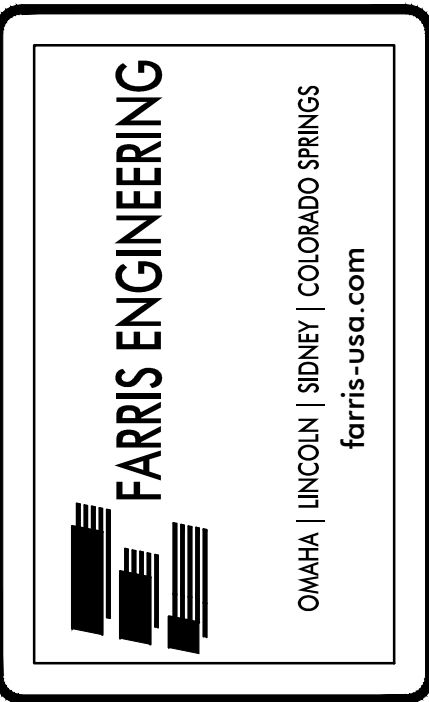


OPS Pool HVAC Upgrade

Omaha, Nebraska



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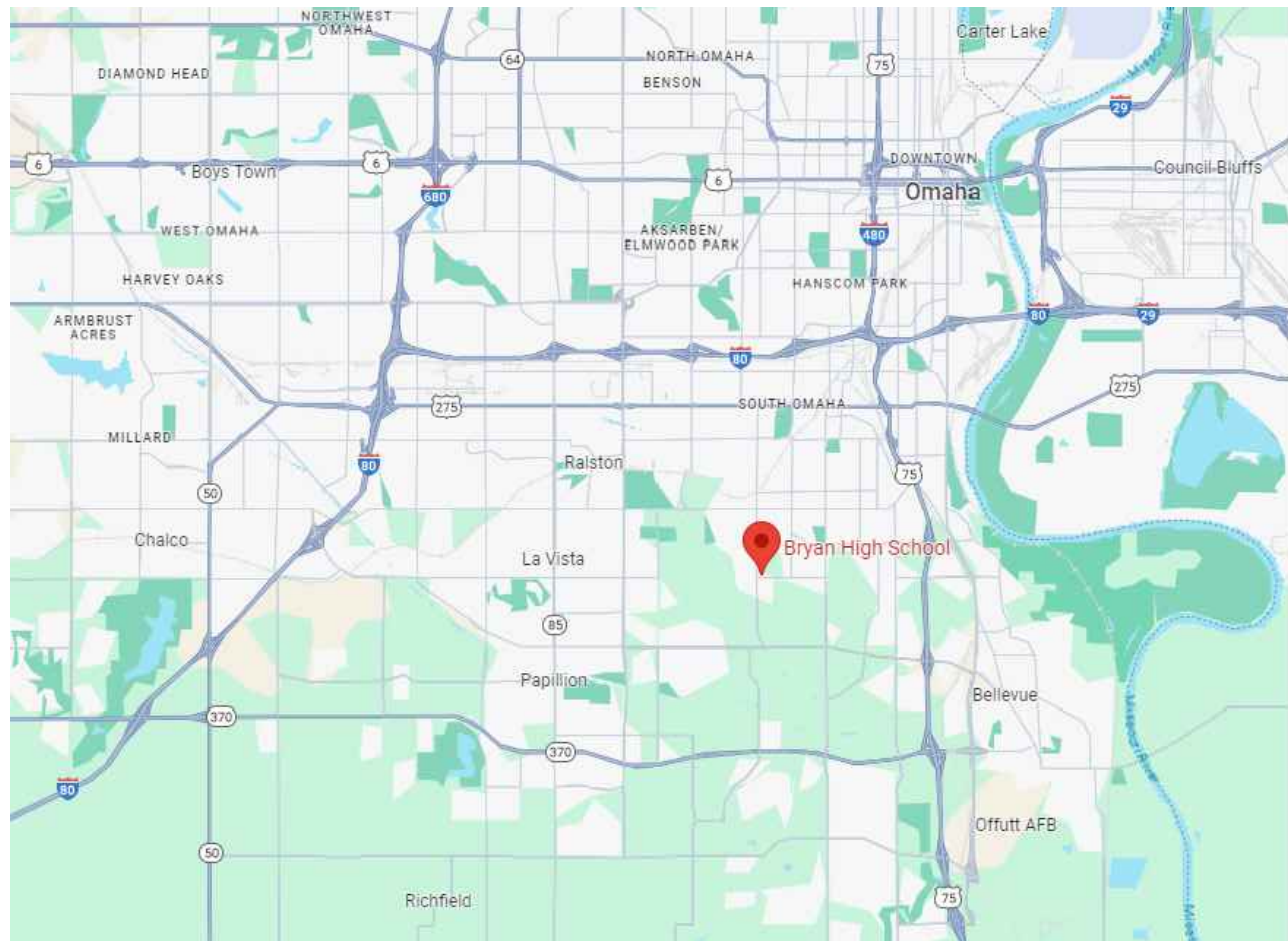
OPS Pool
HVAC Upgrade
Omaha, Nebraska

DESIGNED BY:	LMB
DRAWN BY:	LMB
CHECKED BY:	RER
DATE:	12/29/2023
PROJECT NO:	232051

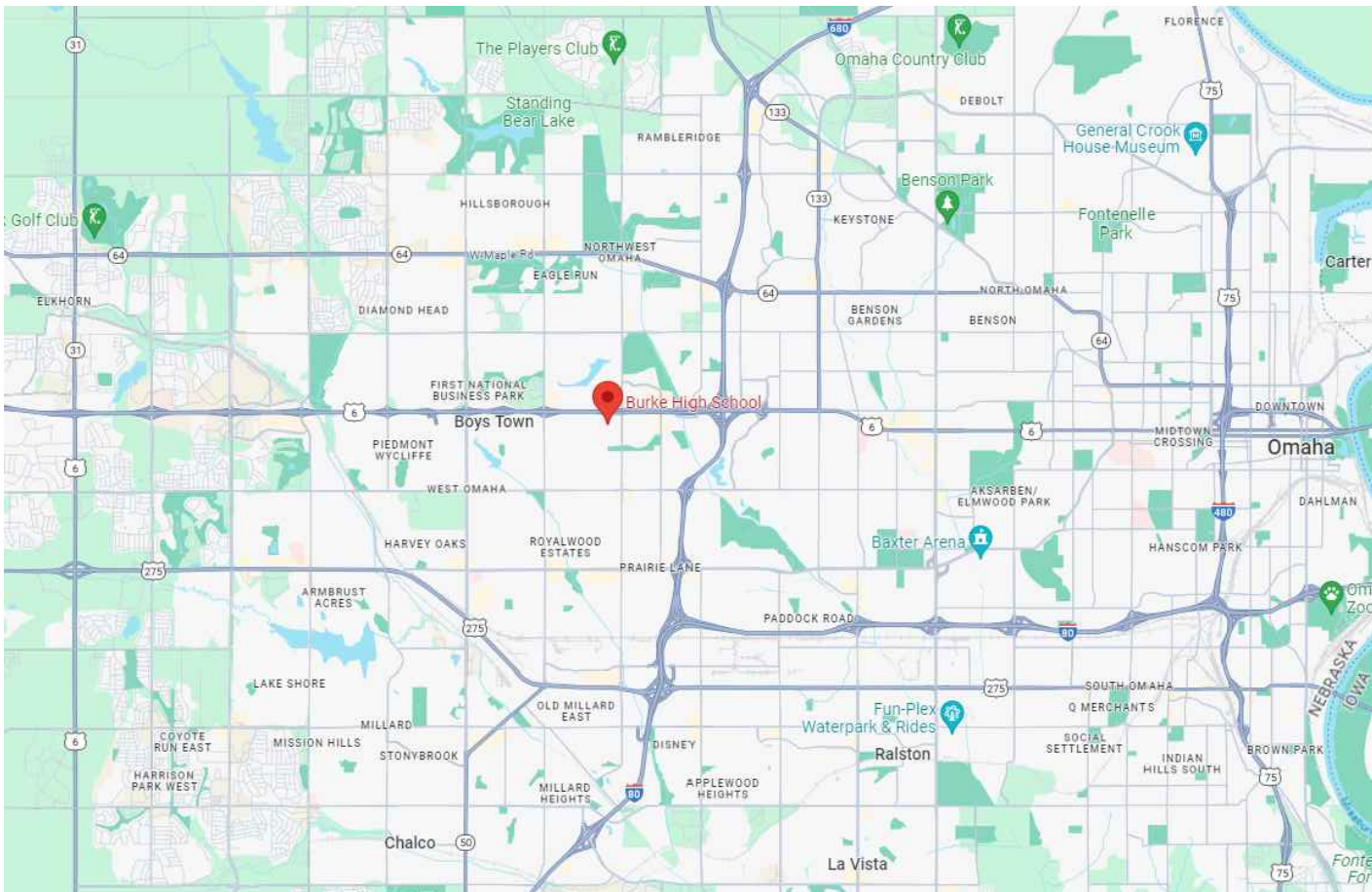
SHEET TITLE
COVER SHEET
AND INDEX
OF DRAWINGS

SHEET NO
G-001

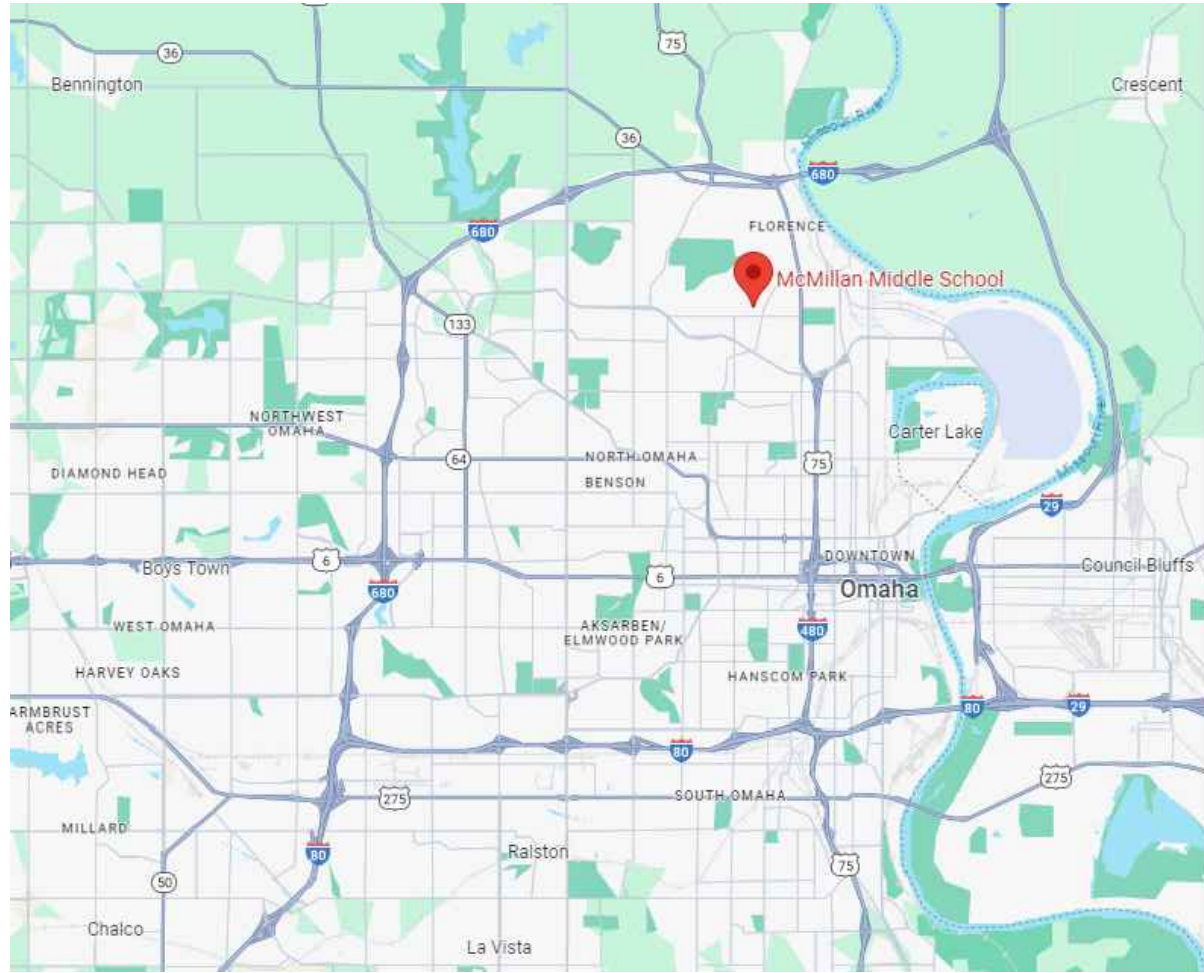
BRYAN HIGH SCHOOL
4700 GILES ROAD, OMAHA, NE 68157



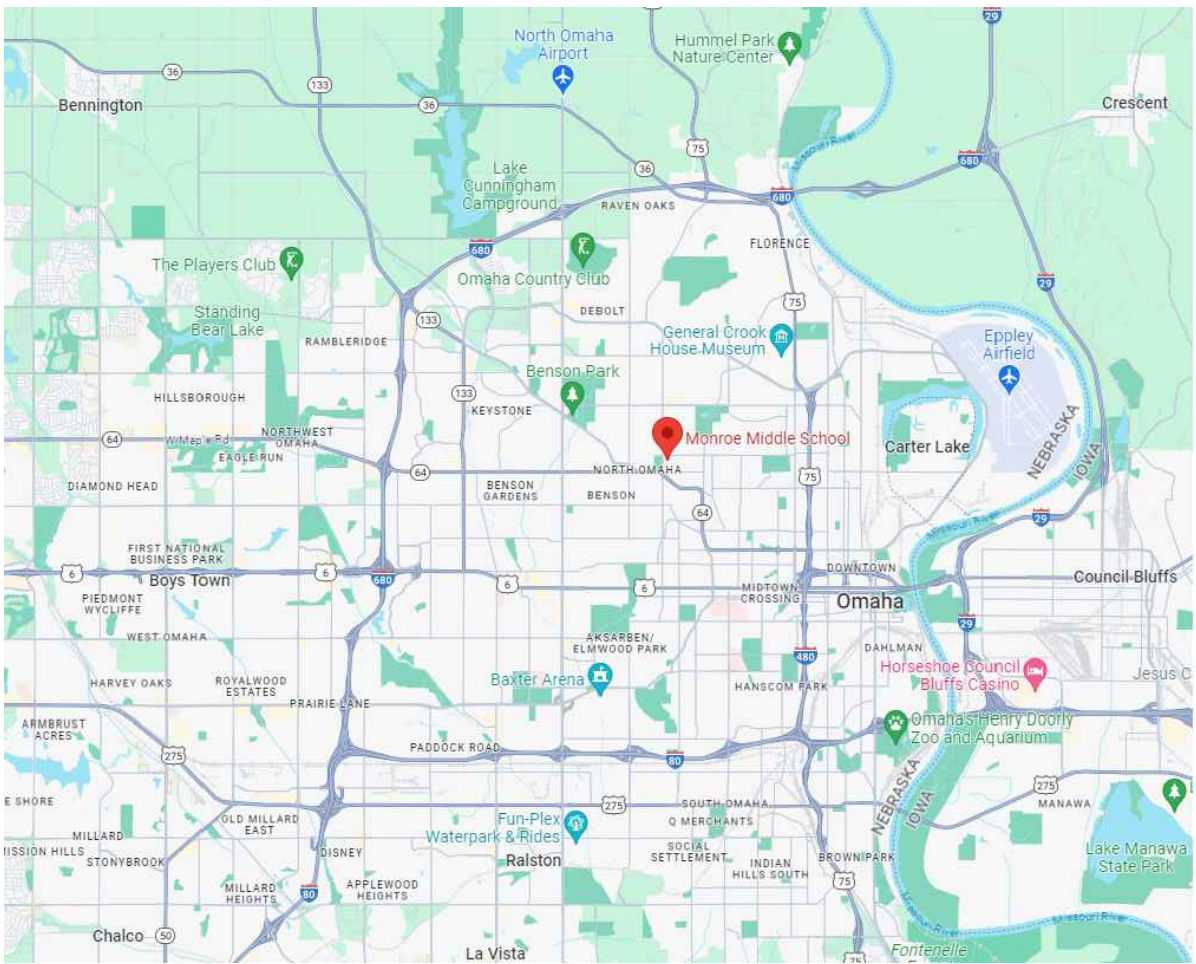
BURKE HIGH SCHOOL
12200 BURKE ST, OMAHA, NE 68154



MCMILLAN MIDDLE SCHOOL
3802 REDICK AVE, OMAHA, NE 68112



MONROE MIDDLE SCHOOL
5105 BEDFORD AVE, OMAHA, NE 68104



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ROOM FINISH SCHEDULE

NO.	DESCRIPTION	FLOOR	BASE	NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL		CEILING		NOTES
				MAT.	FIN.	MAT.	FIN.	MAT.	FIN.	MAT.	FIN.	MAT.	FIN.	
E001A	CHEMICAL ROOM	CONC	--	CMU	--	CMU	--	CMU	--	CMU	--	EXP	--	--
E001B	CHEMICAL ROOM	CONC	--	CMU	--	CMU	--	CMU	--	CMU	--	EXP	--	--

ALL ROOMS NOT LISTED ON ROOM FINISH SCHEDULE ARE EXISTING TO REMAIN.

ROOM FINISH SCHEDULE LEGEND

CONC CONCRETE
CMU CONCRETE MASONRY UNIT
EX EXISTING
EXP EXPOSED

DOOR AND FRAME SCHEDULE

NO.	DOOR			FRAME			DETAILS	SHEET	DOOR GLASS	KEY TYPE	HDWR SET	FIRE RATING	NOTES
	SIZE	TYPE	MAT.	TYPE	MAT.	DEPTH							
E001A	3'-6" x 7'-2" x 1'-3/4"	DA	FG	F01	FG	4'-3/4"	5 & 6	A-101	--	--	1	--	1
E001B	3'-6" x 7'-2" x 1'-3/4"	DA	FG	F01	FG	4'-3/4"	5 & 6	A-101	--	--	1	--	1

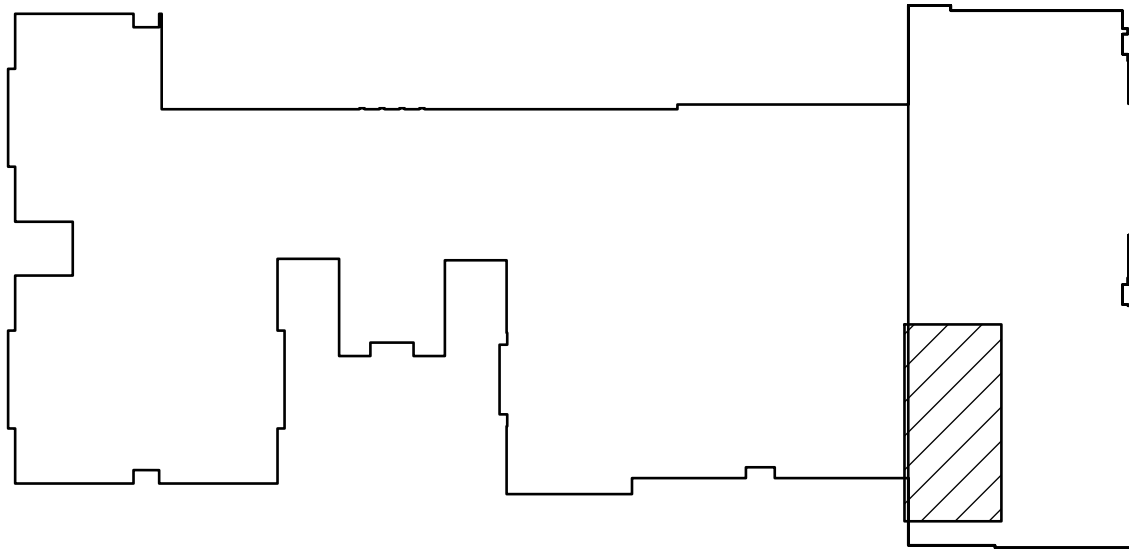
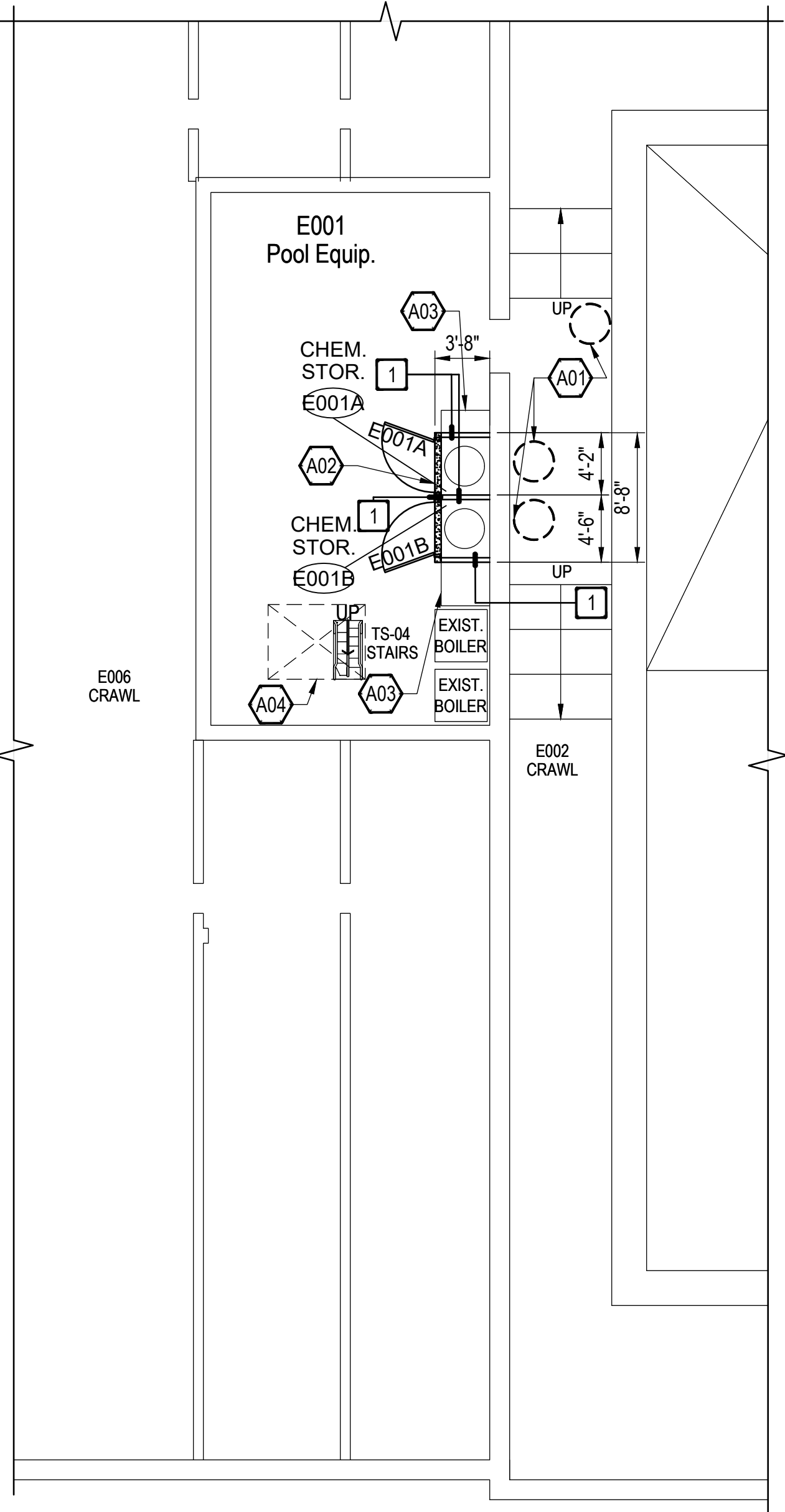
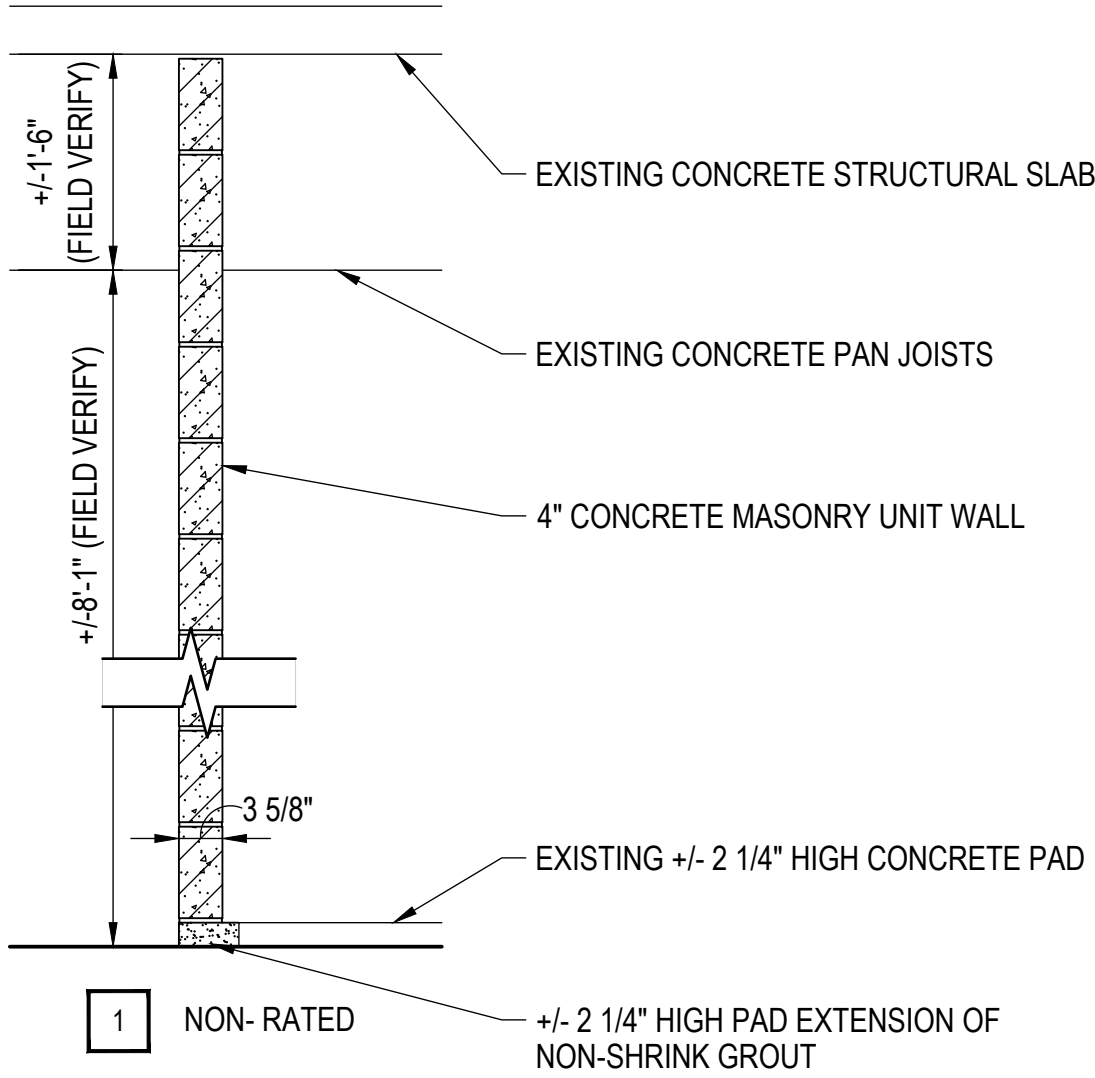
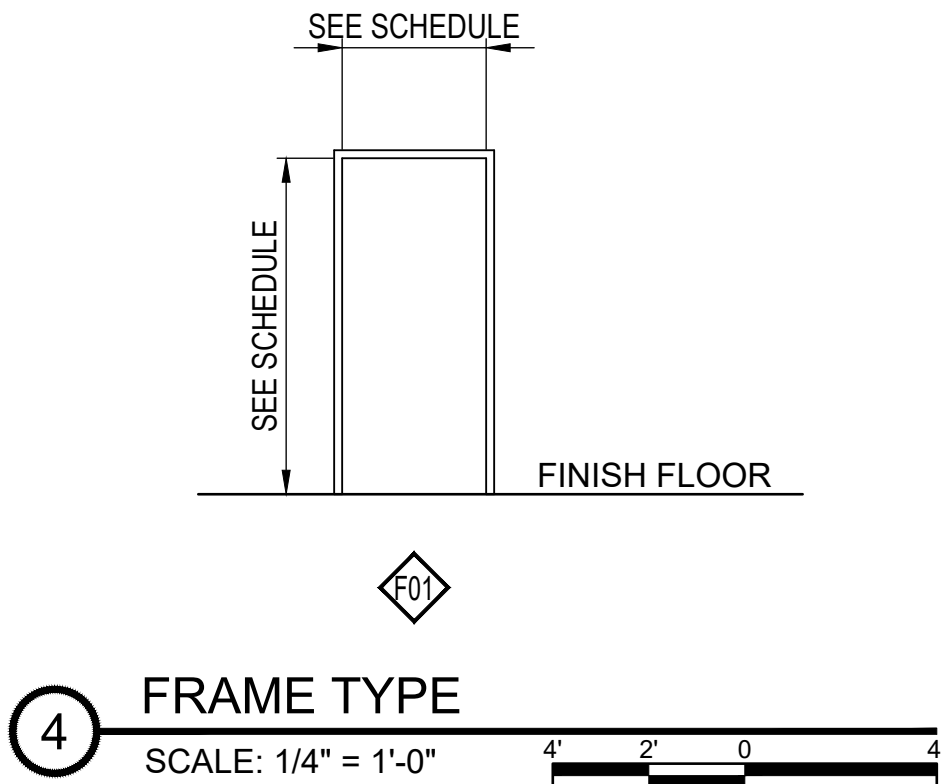
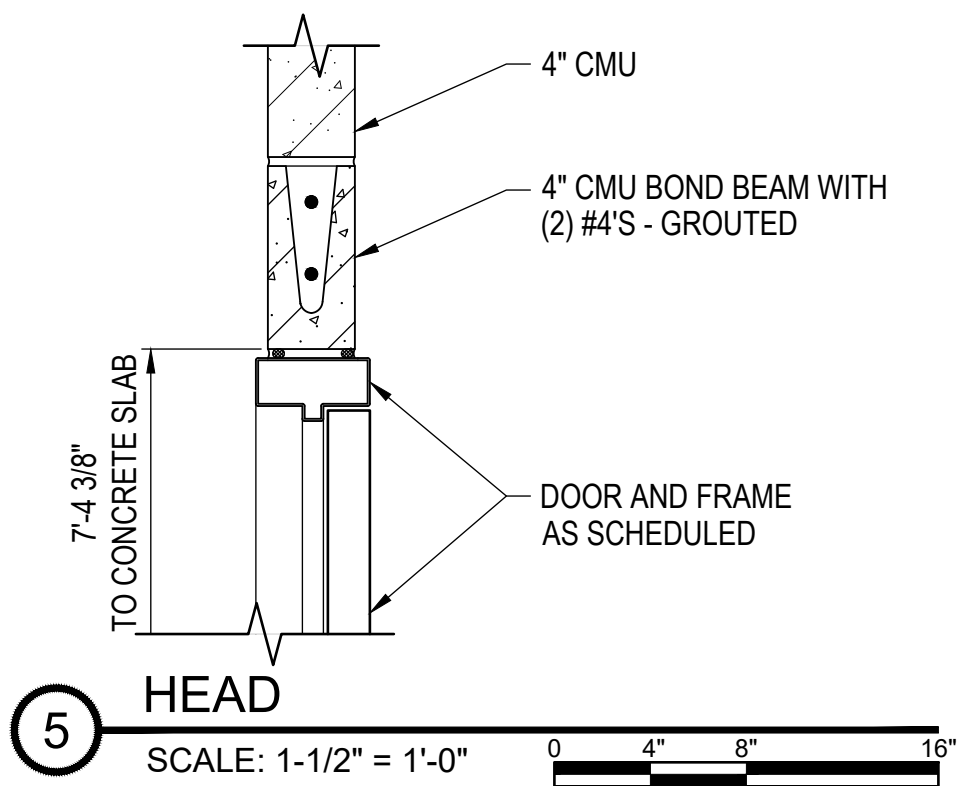
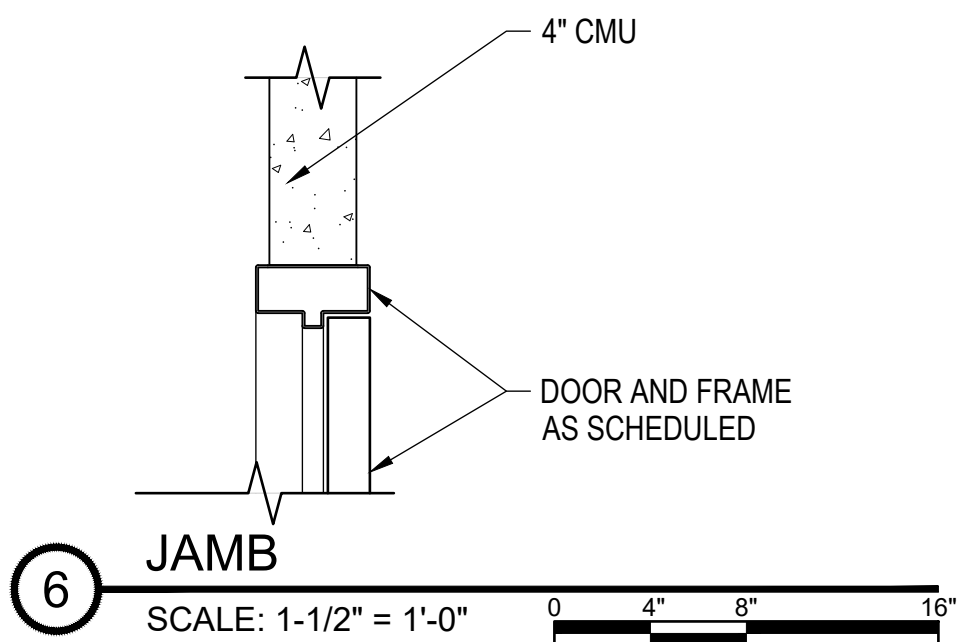
DOORS NOT LISTED ON DOOR AND FRAME SCHEDULE ARE EXISTING TO REMAIN.

DOOR AND FRAME SCHEDULE LEGEND

FG FIBERGLASS

DOOR AND FRAME SCHEDULE NOTES

1. VERIFY DOOR HEIGHT WITH CMU OPENING HEIGHT PER DETAIL 5/A-201.



KHA
Kenneth Hahn
Architects
1343 South 75th Street
Omaha, NE 68124-1610
KHA Project No. 112-029

FLOOR PLAN KEY NOTES

- A01 REMOVE PLASTIC CHEMICAL CONTAINERS AND ASSOCIATED PIPING; SEE MECHANICAL
- A02 EXTEND EXISTING +/- 2 1/4" CONCRETE PAD UNDER STIPPLED AREA AS SHOWN IN EACH ROOM; SEE WALL TYPE 1
- A03 EXISTING +/- 2 1/4" HIGH CONCRETE PAD
- A04 OPENING IN SLAB ABOVE, WHICH IS THE ACCESS POINT FOR DELIVERY OF MATERIALS AND EQUIPMENT TO THE WORK AREA.

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#	Description	Date

OPS Pool
HVAC Upgrade
Omaha, Nebraska

DESIGNED BY: GJH
DRAWN BY: KLM
CHECKED BY: GJH
DATE: 10/2023
PROJECT NO: 232051

SHEET TITLE
MONROE
PARTIAL TUNNEL
PLAN

SHEET NO
A-201

MECHANICAL SYMBOLS LEGEND
(AS APPLICABLE)

PIPING AND SPECIALTIES

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
— RD —	REFRIGERANT DISCHARGE	— PGR —	PROPYLENE GLYCOL RETURN		INLINE PUMP
— RL —	REFRIGERANT LIQUID	— PGS —	PROPYLENE GLYCOL SUPPLY		AIR VENT - MANUAL
— RS —	REFRIGERANT SUCTION	— FOR —	FUEL OIL RETURN		AIR VENT - AUTOMATIC
— CD —	COIL CONDENSATE DRAIN	— FOS —	FUEL OIL SUPPLY		FLOW SWITCH
— LPS (XX) —	LOW PRESSURE STEAM (PRESSURE)	— FOV —	FUEL OIL VENT		PRESSURE SWITCH
— MPS (XX) —	MEDIUM PRESSURE STEAM (PRESSURE)	— CR —	CONDENSER WATER RETURN		AIR SEPARATOR
— HPS (XX) —	HIGH PRESSURE STEAM (PRESSURE)	— CS —	CONDENSER WATER SUPPLY		THERMOMETER
— LPC —	LOW PRESSURE CONDENSATE	— HPWR —	HEAT PUMP WATER RETURN		THERMOMETER WELL
— MPC —	MEDIUM PRESSURE CONDENSATE	— HPWS —	HEAT PUMP WATER SUPPLY		BALL JOINT
— HPC —	HIGH PRESSURE CONDENSATE		PITCH OF PIPE, RISE (R) OR DROP (D)		PUMP SUCTION DIFFUSER
— PC —	PUMPED CONDENSATE		PIPE ANCHOR - MAIN		FLOAT THERMOSTATIC TRAP
— MU —	MAKE-UP WATER		PIPE ANCHOR - INTERMEDIATE		FLOWMETER - ORIFICE
— HCR —	HOT/CHILLED WATER RETURN		HANGER - ROD		FLOWMETER - VENTURI
— HCS —	HOT/CHILLED WATER SUPPLY		HANGER - SPRING		DUPLEX STRAINER
— HWR —	HEATING WATER RETURN		ALIGNMENT GUIDE		
— HWS —	HEATING WATER SUPPLY		FLEX CONNECTOR		
— CWR —	CHILLED WATER RETURN		EXPANSION - LOOP		
— CWS —	CHILLED WATER SUPPLY		EXPANSION - JOINT		
— EGR —	ETHYLENE GLYCOL RETURN				
— EGS —	ETHYLENE GLYCOL SUPPLY				

DUCTWORK

	SUPPLY, OUTSIDE OR MIXED AIR DUCT (UP)		RECTANGLE DUCT (WIDTH/HEIGHT)		OPPOSED BLADE DAMPER
	SUPPLY, OUTSIDE OR MIXED AIR DUCT (DOWN)		ROUND DUCT (DIAMETER)		PARALLEL BLADE DAMPER
	SUPPLY, OUTSIDE OR MIXED AIR DUCT (SECTION)		FLAT OVAL DUCT (WIDTH/HEIGHT)		FIRE DAMPER (IN HORIZONTAL DUCT)
	RETURN AIR DUCT (UP)		FLEXIBLE DUCTWORK TO EQUIPMENT		SMOKE DAMPER (IN HORIZONTAL DUCT)
	RETURN AIR DUCT (DOWN)		INSULATED FLEXIBLE DUCTWORK		FIRE DAMPER (IN VERTICAL DUCT)
	RETURN AIR DUCT (SECTION)		ELEVATION CHANGE (RISE OR DROP)		SMOKE DAMPER (IN VERTICAL DUCT)
	RELIEF OR EXHAUST AIR DUCT (UP)		HIGH EFF. TAKE OFF FITTING WITH VOLUME DAMPER		FIRE/SMOKE DAMPER (IN HORIZONTAL DUCT)
	RELIEF OR EXHAUST AIR DUCT (DOWN)		BACKDRAFT DAMPER		FIRE/SMOKE DAMPER (IN VERTICAL DUCT)
	RELIEF OR EXHAUST AIR DUCT (SECTION)		TURNING VANES		DUCT ACCESS PANEL
	ROUND DUCT (UP)		VOLUME CONTROL DAMPER		RELIEF PANEL
	ROUND DUCT (DOWN)		VOLUME CONTROL DAMPER		
	ROUND DUCT (SECTION)		DUCT END CAP		

H.V.A.C.

	SUPPLY DIFFUSER		VAV TERMINAL UNIT		THERMOSTAT
	SUPPLY REGISTER		FAN POWERED VAV TERMINAL UNIT		THERMOSTAT WITH GUARD
	SUPPLY SLOT DIFFUSER		SIDE WALL DIFFUSER		TEMPERATURE SENSOR - XX-X DENOTES SERVED
	RETURN REGISTER		ROUND DIFFUSER		CARBON MONOXIDE SENSOR
	RETURN GRILLE		EXTERIOR LOUVER		CARBON DIOXIDE SENSOR
	EXHAUST REGISTER		SUPPLY IDENTIFICATION TAG X DENOTES TYPE		NITROGEN DIOXIDE SENSOR
	EXHAUST GRILLE		RETURN/ EXHAUST/LOUVER IDENTIFICATION TAG X DENOTES TYPE		HUMIDITY SENSOR
	DUAL DUCT TERMINAL UNIT		MOTORIZED ACTUATOR		PRESSURE SENSOR
			PNEUMATIC ACTUATOR		TEMPERATURE SENSOR WITH GUARD
					HUMIDISTAT
					EMERGENCY SHUTDOWN SWITCH

PLUMBING

— — —	DOMESTIC COLD WATER PIPING	— AW —	ACID WASTE BELOW FLOOR OR GRADE	— PA —	PROCESSED AIR
— — —	DOMESTIC HOT WATER SUPPLY	— = AW =	EXIST ACID WASTE BELOW FLOOR/GRADE	— IR —	IRRIGATION PIPING
— — —	DOMESTIC HOT WATER REGRIC.	— AW —	ACID WASTE ABOVE FLOOR OR GRADE	— P —	TRAP PRIMER
	PIPE REMOVAL	— GW —	GREASE WASTE BELOW FLOOR OR GRADE	— G (GX) —	NATURAL GAS PIPING (PSIG)
— SAN —	SANITARY BELOW FLOOR OR GRADE	— = GW =	EXIST GREASE WASTE BELOW FLOOR/GRADE	— WB —	HOSE BIBB
— = SAN =	EXISTING SANITARY BELOW FLOOR/GRADE	— GW —	GREASE WASTE ABOVE FLOOR OR GRADE	— HW —	WALL HYDRANT
— SAN —	SANITARY ABOVE FLOOR OR GRADE	— OSW —	OIL/SAND BELOW FLOOR OR GRADE	— CO —	CLEAN OUT
— ST —	STORM BELOW FLOOR OR GRADE	— = OSW =	EXISTING OIL/SAND BELOW FLOOR/GRADE	— FCO —	FLOOR CLEAN OUT
— = ST =	EXISTING STORM BELOW FLOOR/GRADE	— OSW —	OIL/SAND ABOVE FLOOR OR GRADE		FLOOR DRAIN
— ST —	STORM ABOVE FLOOR OR GRADE	— SCW —	SOFTENED COLD WATER PIPING		VENT THRU ROOF (X DENOTES IDENTIFICATION)
— SO —	STORM OVERFLOW BELOW FLOOR/GRADE	— PD —	PUMPED DISCHARGE		ROOF DRAIN
— = SO =	EXIST. STORM OVERFLOW BELOW FLOOR/GRADE	— V —	VENT PIPING		OVERFLOW ROOF DRAIN
— SO —	STORM OVERFLOW ABOVE FLOOR/GRADE	— AV —	ACID VENT PIPING		DOWNSPOUT NOZZLE
		— CA —	COMPRESSED AIR		

VALVES

	GATE VALVE		STOP/CHECK GATE VALVE (ARROW IND. FLOW)		MULTIPURPOSE VALVE
	ANGLE GATE VALVE		SPRING GATE CHECK VALVE (ARROW IND. FLOW)		PRESSURE REDUCING VALVE
	BALL VALVE		SWING GATE CHECK VALVE (ARROW IND. FLOW)		PRESSURE REDUCING PILOT VALVE
	LOCKABLE BALL VALVE		ANGLE STOP/CHECK VALVE		REDUCED PRESS. BACKFLOW ASSY.
	BUTTERFLY VALVE		2-WAY ELECTROMOTOR VALVE		DOUBLE CHK VALVE BACKFLOW ASSY.
	GLOBE VALVE		2-WAY AIRMOTOR VALVE		DOUBLE DETECTOR CHECK VALVE
	ANGLE GLOBE VALVE		2-WAY MANUAL VALVE		OUTSIDE STEM & YOKE VALVE
	PLUG VALVE		3-WAY ELECTROMOTOR VALVE		QUICK CLOSING FUSIBLE LINK VALVE
	DIAPHRAGM VALVE		3-WAY AIRMOTOR VALVE		QUICK OPENING VALVE
	DIAPHRAGM ACTUATED VALVE		SAFETY PRESSURE RELIEF VALVE		PRESSURE GAUGE & BALL VALVE
	VALVE IN VERTICAL LINE		PRESSURE RELIEF VALVE		GATE VALVE WITH GLOBE VALVE BY-PASS
	HOSE GATE VALVE		TEMPERATURE MIXING VALVE		GLOBE VALVE WITH GLOBE VALVE BY-PASS
	HOSE GLOBE VALVE		AUTO FLOW VALVE		SPRINKLER - CONCEALED
	HOSE ANGLE VALVE		FLOAT VALVE		SPRINKLER - RECESSED
	SOLENOID VALVE		LOCK SHIELD		SPRINKLER - SIDEWALL
	POST INDICATOR VALVE		CIRCUIT SETTER		SPRINKLER - UPRIGHT
					SPRINKLER - ZONE CONTROL

FITTINGS

	ELBOW		ELBOW - DOUBLE BRANCH		REDUCER - CONCENTRIC
	LONG RADIUS ELBOW		ELBOW - SIDE OUTLET UP		REDUCER - ECCENTRIC STRAIGHT INVERT
	SHORT RADIUS ELBOW		ELBOW - SIDE OUTLET DOWN		REDUCER - ECCENTRIC STRAIGHT CROWN
	45° ELBOW		ELBOW - OUTLET DOWN		CAPPED CONNECTION
	TEE		ELBOW - OUTLET UP		THREADED CONNECTION
	CROSS		TEE - OUTLET DOWN		FLANGED CONNECTION
	LATERAL		TEE - OUTLET UP		STRAINER
	TEE - SINGLE SWEEP		TEE - SIDE OUTLET DOWN		STRAINER WITH BALL VALVE DRAIN
			TEE - SIDE OUTLET UP		STRAINER WITH COUPLER
			SIAMESE CONNECTION		BUSHING
					FLOW DIRECTION

MISCELLANEOUS

	EQUIPMENT IDENTIFICATION TAG (ELECTRICAL CONNECTION REQUIRED)		NEW CONNECTION POINT		WATER CLOSET
	DETAIL REFERENCE SHEET REFERENCE		POINT OF DISCONNECT		URINAL
	SECTION CUT REFERENCE SHEET REFERENCE		OUTSIDE AIR		LAVATORY
	ELECTRICAL PANEL - SHOWN FOR COORDINATION PURPOSES ONLY		VENTILATION AIR		SINK
	ELECTRICAL PANEL - SHOWN FOR COORDINATION PURPOSES ONLY		EXHAUST AIR		DRINKING FOUNTAIN
	ELECTRICAL TRANSFORMER - SHOWN FOR COORDINATION PURPOSES ONLY		RELIEF OR RETURN AIR		ELECTRIC WATER COOLER
			SUPPLY AIR		SERVICE SINK
			MIXED AIR		SHOWER
			RELIEF OR RETURN FAN		DOMESTIC WATER HEATER
			EXHAUST FAN		MOP SINK BASIN
			TYPICAL		LIGHT LINEWORK = EXISTING OR DEMOLITION DARK LINEWORK = NEW

MEDICAL PIPING

— MA —	MEDICAL AIR	— N —	MEDICAL NITROGEN	— VAC —	MEDICAL VACUUM
— NOX —	MEDICAL NITROUS OXIDE	— OX —	MEDICAL OXYGEN	— WAG —	WASTE ANESTHETIC GAS DISPOSAL

GENERAL MECHANICAL NOTES

- LIGHT LINE WEIGHT INDICATES EXISTING ITEMS AND ASSOCIATED MATERIALS TO REMAIN. BOLD LINE WEIGHT INDICATES NEW WORK TO BE INSTALLED UNDER THIS CONTRACT.
- ROUTING INDICATED ON DRAWINGS IS APPROXIMATE AND DOES NOT INCLUDE ALL OFFSETS, FITTINGS, VALVES, ETC. CONTRACTOR TO FIELD VERIFY DUCT SIZE AND SERVICE PRIOR TO FINAL CONNECTION. COORDINATE LOCATION OF HVAC WORK WITH LIGHTING, STRUCTURAL MEMBERS, PIPING SYSTEMS, ETC. PROVIDE OFFSETS AND CLEARANCES OR RELOCATE HVAC WORK AS REQUIRED TO AVOID CONFLICTS WITH WORK OF ALL OTHER TRADES.
- HVAC WORK SHALL NOT BE LOCATED OVER ELECTRICAL, DATA, OR COMMUNICATION EQUIPMENT ROOMS. HVAC WORK SHALL NOT BE LOCATED ABOVE ELECTRICAL / DATA / COMMUNICATION EQUIPMENT OR PANELS.
- SUPPORT ALL DUCTWORK, PIPING, EQUIPMENT, ETC. FROM BUILDING STRUCTURE. HOLD PIPING TIGHT TO BOTTOM OF STRUCTURAL MEMBERS OR RUN THROUGH JOIST WEBS IF POSSIBLE. DO NOT USE WIRE OR PERFORATED METAL TO SUPPORT PIPING. DO NOT SUPPORT PIPING FROM OTHER PIPING, DUCTWORK AND/OR ELECTRICAL CONDUITS. DO NOT SUPPORT FROM BOTTOM OF CHORD OF BAR JOIST OR FROM METAL ROOF DECK.
- ALL DUCT SIZES SHOWN ARE CLEAR AIRWAY DIMENSIONS. INCREASE SHEET METAL SIZE TO ACCOMMODATE DUCT LINER AS REQUIRED.
- ELBOWS SHALL BE CONSTRUCTED WITH CENTERLINE RADIUS OF NOT LESS THAN 1-1/2 TIMES THE WIDTH OF DUCT. WHERE SPACE CONDITIONS DO NOT PERMIT THIS RADIUS OR WHERE INDICATED ON DRAWINGS SQUARE ELBOWS WITH TURNING VANES SHALL BE USED.
- SIZE TRANSITIONS WITH A MINIMUM SLOPE OF 1:4.
- PROVIDE DRAW BANDS AND SEAL END OF DUCT INSULATION ON ALL FLEXIBLE CONNECTIONS. MAXIMUM LENGTH OF FLEXIBLE DUCTS SHALL BE THREE FEET.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY SEALING PENETRATIONS THROUGH A FIRE RATED, SMOKE RATED OR COMBINATION FIRE & SMOKE RATED SEPARATIONS. SEE SPECIFICATIONS FOR FIRE & SMOKE RATED SEALANTS. SEE ARCHITECTURAL PLANS FOR RATED SEPARATIONS.
- COORDINATE ALL GRILLE, REGISTER AND DIFFUSER LOCATIONS WITH REFLECTED CEILING PLAN, LIGHT FIXTURES, SPRINKLER HEADS, COMMUNICATION/SOUND DEVICES AND FIRE ALARM DEVICES.
- INSTALL ESCUTCHEON PLATES ON ALL WALL PENETRATIONS SERVING ROUND DUCT WALL PENETRATIONS. FABRICATE ESCUTCHEON PLATES TO TRIM THE OPENING IN THE WALL.
- INSTALL WALL ANGLE FOR ALL RECTANGULAR DUCT PENETRATIONS THROUGH WALLS.
- FOR EXPOSED DUCTWORK THOROUGHLY CLEAN, REMOVE ALL SHIPPING LABELS AND OTHER IDENTIFICATION TAGS. DUCTWORK DESIGNATED TO BE PAINTED SHALL HAVE PHOSPHATIZED FINISH. PROVIDE MILL-PHOSPHATIZED FINISH FOR EXPOSED NOT DESIGNATED TO BE PAINTED. COORDINATE WITH ARCHITECTURAL DRAWINGS DUCTWORK DESIGNATED FOR PAINTING AND EXPOSED DUCTWORK REQUIREMENTS.
- PROVIDE DUCT MOUNTED ACCESS DOOR AT FIRE DAMPER, SMOKE DAMPER OR COMBINATION FIRE/SMOKE DAMPERS TO ALLOW FOR MAINTENANCE AND VISUAL INSPECTION PER NFPA REQUIREMENTS.
- VOLUME DAMPERS ABOVE INACCESSIBLE CEILINGS SHALL HAVE EXTENSION RODS AND ESCUTCHEON PLATES.
- LOCATE AND INSTALL EQUIPMENT TO PROVIDE ALL CODE AND MANUFACTURER'S RECOMMENDED CLEARANCES. KEEP HVAC PIPING, DUCTWORK, ETC. OUT OF CLEARANCE AREAS.
- ALL OPENINGS IN WALLS AND FLOORS FOR PIPING SHALL BE CORE DRILLED OR SAW CUT, UNLESS OTHERWISE NOTED.
- ALL HVAC PIPING WORK SHALL BE LOCATED ABOVE CEILINGS, IN A PIPE CHASE, OR OTHER CONCEALED LOCATIONS, UNLESS OTHERWISE NOTED. LOCATE AND ARRANGE VALVES, DRAIN FITTINGS, ETC. TO BE ACCESSIBLE THROUGH LAY-IN CEILINGS, ACCESS PANELS OR ACCESS DOORS. PROVIDE ACCESS PANEL OR ACCESS DOOR FOR ALL VALVES, DRAIN FITTINGS, ETC. AT NON-ACCESSIBLE LOCATIONS.
- INSTALL SECTIONAL VALVES ON EACH BRANCH AND/OR RISER SERVING TWO OR MORE HYDRONIC TERMINALS OR EQUIPMENT CONNECTIONS. INSTALL VALVES ADJACENT TO MAIN.
- INSTALL SHUTOFF VALVES ON INLET AND OUTLET OF EACH MECHANICAL EQUIPMENT ITEM AND/OR EACH HYDRONIC TERMINAL.
- SLOPE HVAC PIPING TO DRAIN VALVES. PROVIDE MANUAL AIR VENTS AT HIGH POINTS AND AT TOP OF RISERS.
- SEAL ALL HVAC PENETRATIONS. SEAL PENETRATIONS THROUGH RATED WALLS, FLOORS OR CEILINGS WITH MATERIALS APPROPRIATE FOR RATING.
- PIPING IN EXTERIOR WALLS SHALL BE LOCATED ON THE INTERIOR SIDE OF BUILDING INSULATION AND VAPOR BARRIER.
- COORDINATE INSTALLATION OF BUILDING INSULATION TO RUN CONTINUOUS BETWEEN PIPING AND EXTERIOR WALL SURFACE.
- PVC PIPING SHALL NOT BE INSTALLED IN ANY RETURN AIR PLENUM UNLESS THE PIPING IS INSTALLED IN A PRE-APPROVED RATED ASSEMBLY.
- COORDINATE DUCTWORK WITH STRUCTURAL CROSS BRACING. PROVIDE TOP AND BOTTOM BRIDGING BETWEEN JOISTS WHERE DUCTWORK IS TO BE INSTALLED BETWEEN THE JOISTS. COORDINATE WITH ALL TRADES.

GENERAL MECHANICAL DEMOLITION NOTES

- CROSSHATCHING INDICATES EXISTING ITEMS AND ASSOCIATED MATERIALS SHALL BE REMOVED.
- DRAWINGS INDICATE APPROXIMATE ROUTING OF PIPING, DUCTWORK AND MAJOR COMPONENTS AND DO NOT INCLUDE ALL OFFSETS, FITTINGS, VALVES, ETC. CONTRACTOR SHALL FIELD VERIFY EXACT SIZE AND ROUTING PRIOR TO REMOVAL OR RELOCATION. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR REMOVAL OF MISCELLANEOUS MECHANICAL ITEMS LOCATED ON OR IN ANY WALLS TO BE REMOVED.
- EXISTING INSULATION DAMAGED DURING DEMOLITION / CONSTRUCTION ACTIVITIES SHALL BE REPAIRED WITH SIMILAR MATERIALS.
- ALL OPENINGS THROUGH WALLS AND FLOOR SLABS NOT BEING REUSED SHALL BE PATCHED WITH LIKE MATERIALS AND PAINTED TO MATCH EXISTING.
- ALL OPENINGS THROUGH ROOF NOT BEING REUSED SHALL BE PATCHED WITH LIKE MATERIALS AND SEALED WATERTIGHT.

GENERAL PLUMBING NOTES

- LIGHT LINE WEIGHT INDICATES EXISTING ITEMS AND ASSOCIATED MATERIALS TO REMAIN. BOLD LINE WEIGHT INDICATES NEW WORK TO BE INSTALLED UNDER THIS CONTRACT.
- ROUTING INDICATED ON DRAWINGS IS APPROXIMATE AND DOES NOT INCLUDE ALL OFFSETS, FITTINGS, VALVES, ETC. CONTRACTOR TO FIELD VERIFY PIPE SIZE AND SERVICE PRIOR TO FINAL CONNECTION. COORDINATE LOCATION OF PLUMBING PIPING WORK WITH LIGHTING, STRUCTURAL MEMBERS, HVAC, PIPING SYSTEMS, ETC. PROVIDE OFFSETS AND CLEARANCES OR RELOCATE PLUMBING WORK AS REQUIRED TO AVOID CONFLICTS WITH WORK OF ALL OTHER TRADES.
- PLUMBING WORK SHALL NOT BE LOCATED OVER ELECTRICAL, DATA OR COMMUNICATION EQUIPMENT ROOMS. PLUMBING WORK SHALL NOT BE LOCATED ABOVE ELECTRICAL / DATA / COMMUNICATION EQUIPMENT OR PANELS.
- SUPPORT ALL PLUMBING PIPING, EQUIPMENT, ETC. FROM BUILDING STRUCTURE. HOLD PIPING TIGHT TO BOTTOM OF STRUCTURAL MEMBERS OR RUN THROUGH JOIST WEBS IF POSSIBLE. DO NOT USE WIRE OR PERFORATED METAL TO SUPPORT PIPING. DO NOT SUPPORT PIPING FROM OTHER PIPING, DUCTWORK AND/OR ELECTRICAL CONDUITS. DO NOT SUPPORT FROM BOTTOM OF CHORD OF BAR JOIST OR FROM METAL ROOF DECK.
- ROUTE ABOVE GRADE DRAINAGE PIPING AS HIGH AS POSSIBLE AND COORDINATE WITH OTHER TRADES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY SEALING PENETRATIONS THROUGH A FIRE RATED, SMOKE RATED OR COMBINATION FIRE & SMOKE RATED SEPARATIONS. SEE SPECIFICATIONS FOR FIRE & SMOKE RATED SEALANTS. SEE ARCHITECTURAL PLANS FOR RATED SEPARATIONS.
- INSTALL ESCUTCHEON PLATES ON ALL WALL AND FLOOR PENETRATIONS SERVING EXPOSED PLUMBING PIPING WALL PENETRATIONS.
- ALL OPENINGS IN WALLS AND FLOORS FOR PIPING SHALL BE CORE DRILLED OR SAW CUT, UNLESS OTHERWISE NOTED.
- LOCATE AND INSTALL EQUIPMENT TO PROVIDE ALL CODE AND MANUFACTURER'S RECOMMENDED CLEARANCES. KEEP HVAC PIPING, DUCTWORK, ETC. OUT OF CLEARANCE AREAS.
- ALL PLUMBING PIPING WORK SHALL BE LOCATED ABOVE CEILINGS, IN A PIPE CHASE, OR OTHER CONCEALED LOCATIONS, UNLESS OTHERWISE NOTED. LOCATE AND ARRANGE VALVES, DRAIN FITTINGS, ETC. TO BE ACCESSIBLE THROUGH LAY-IN CEILINGS, ACCESS PANELS OR ACCESS DOORS. PROVIDE ACCESS PANEL OR ACCESS DOOR FOR ALL VALVES, DRAIN FITTINGS, ETC. AT NON-ACCESSIBLE LOCATIONS.
- INSTALL SECTIONAL VALVES ON EACH BRANCH AND/OR RISER SERVING TWO OR MORE PLUMBING FIXTURES OR EQUIPMENT CONNECTIONS. INSTALL VALVES ADJACENT TO MAIN.
- INSTALL SHUTOFF VALVES ON INLET AND OUTLET OF PLUMBING EQUIPMENT.
- INSTALL STOPS AT EACH PLUMBING FIXTURE EXCEPT AT FLUSHMETER LOCATIONS.
- SEAL ALL PLUMBING PIPING PENETRATIONS. SEAL PENETRATIONS THROUGH RATED WALLS, FLOORS OR CEILINGS WITH MATERIALS APPROPRIATE FOR RATING.
- PIPING IN EXTERIOR WALLS SHALL BE LOCATED ON THE INTERIOR SIDE OF BUILDING INSULATION AND VAPOR BARRIER.
- COORDINATE INSTALLATION OF BUILDING INSULATION TO RUN CONTINUOUS BETWEEN PIPING AND EXTERIOR WALL SURFACE.
- COORDINATE EXACT LOCATION OF FLOOR DRAINS AND FLOOR SINKS. TOP OF GRATE SHALL BE 1/8" BELOW FINISHED FLOOR ELEVATION.
- COMPLY WITH LOCAL UTILITY COMPANY RULES AND REGULATIONS FOR ALL GAS METER INSTALLATIONS. COORDINATE EXACT LOCATION OF GAS CONNECTIONS WITH EQUIPMENT SUPPLIED.
- COPPER PIPING LOCATED ABOVE GRADE SHALL BE TYPE "L"; COPPER PIPING LOCATED BELOW GRADE SHALL BE TYPE "K" AND RUN CONTINUOUS WITHOUT JOINTS BELOW GRADE. TYPE "M" COPPER SHALL NOT BE USED ON PRESSURIZED PIPING SYSTEMS.
- DRAINAGE PIPING 3 INCHES AND SMALLER SHALL SLOPE NO LESS THAN 1/4 INCH PER FOOT. DRAINAGE PIPING 4 INCHES AND LARGER SHALL SLOPE NO LESS THAN 1/8 INCH PER FOOT.
- INSTALL WALL CLEAN OUTS (WCO) WHEN LOCATED BEHIND A WATER CLOSET AT 30" A.F.F. OR AT 42" A.F.F. ABOVE CABINERY ON ALL SANITARY & STORM STACKS.
- COORDINATE EXACT STORM PIPE CONNECTIONS WITH STORM DRAIN LOCATIONS SHOWN ON ARCHITECTURAL ROOF PLAN.
- INSTALL VENT-THRU-ROOF (VTR) A MINIMUM OF 10'-0" AWAY FROM ANY OUTSIDE AIR INTAKE.
- REMOVE, REPAIR AND REPLACE WALLS, FLOORS, ROOFS AND CEILINGS TO MATCH EXISTING, WHERE NECESSARY FOR PIPING AND FIXTURE REMOVAL & INSTALLATION.
- KITCHEN EQUIPMENT FURNISHED BY KITCHEN EQUIPMENT CONTRACTOR - PLUMBING CONTRACTOR SHALL ROUGH-IN AND MAKE FINAL CONNECTIONS TO UTILITIES REQUIRED AND PROVIDE PIPING, STOPS, WATER HAMMER ARRESTERS, TRAPS AND FITTINGS FOR EQUIPMENT TO BE IN OPERATIONAL ORDER. COORDINATE WITH KITCHEN EQUIPMENT SUPPLIER FOR CONNECTIONS AND LOCATIONS. SEE KITCHEN EQUIPMENT CONNECTION SCHEDULE FOR RESPONSIBILITY OF WHO FURNISHES VACUUM BREAKERS AND PRESSURE REDUCING VALVES.
- PVC PIPING SHALL NOT BE INSTALLED IN ANY RETURN AIR PLENUM UNLESS THE PIPING IS INSTALLED IN A PRE-APPROVED RATED ASSEMBLY.
- PROVIDE ACCESSIBLE SHUTOFF VALVE INSIDE THE BUILDING FOR EACH WALL HYDRANT.
- CONTRACTOR SHALL COORDINATE ALL CONNECTIONS OF PLUMBING SYSTEMS WITH EXTERIOR SITE UTILITIES AND SERVICES PRIOR TO INSTALLING ANY PIPING ON THE INTERIOR. CONTRACTOR SHALL CONFIRM THAT ALL INTERIOR PIPE INVERTS AND PIPE INVERTS AT THE 5' LINE MATCH EXTERIOR PIPE INVERTS, PRIOR TO INSTALLING ANY INTERIOR PIPING BELOW FLOOR.

NOTICE:
DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SHOP AND OTHER APPROPRIATE DRAWINGS OR AT SITE. LAY OUT AND COORDINATE ALL WORK PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, AND CODES. VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF CLEARANCES FOR ALL TRADES. THIS NOTICE APPLIES TO ALL FARRIS ENGINEERING PLANS.

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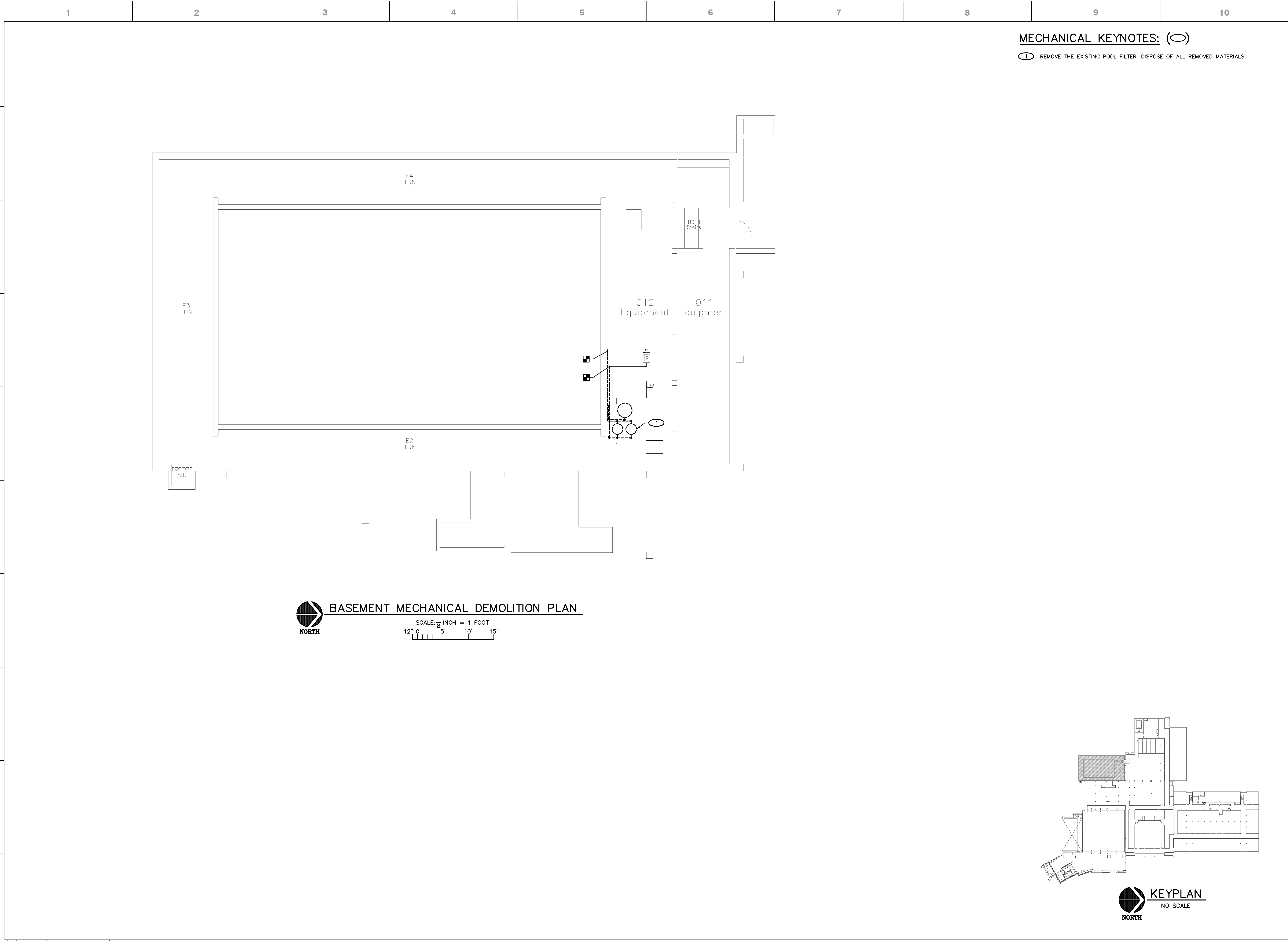
OPS Pool
HVAC Upgrade

Omaha, Nebraska

DESIGNED BY: RER
DRAWN BY: MAN
CHECKED BY: RER
DATE: 12/29/2023
PROJECT NO: 232051

SHEET TITLE
**MECHANICAL
SYMBOLS LEGEND
AND GENERAL
NOTES**

SHEET NO
M-001



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PROFESSIONAL MECHANICAL ENGINEER

RYAN G. RICHARDS

E-12604

STATE OF NEBRASKA

12/29/2023

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#	Description

**OPS Pool
HVAC Upgrade**

Omaha, Nebraska

DESIGNED BY: **RER**

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CHECKED BY: **RER**

DATE: **12/29/2023**

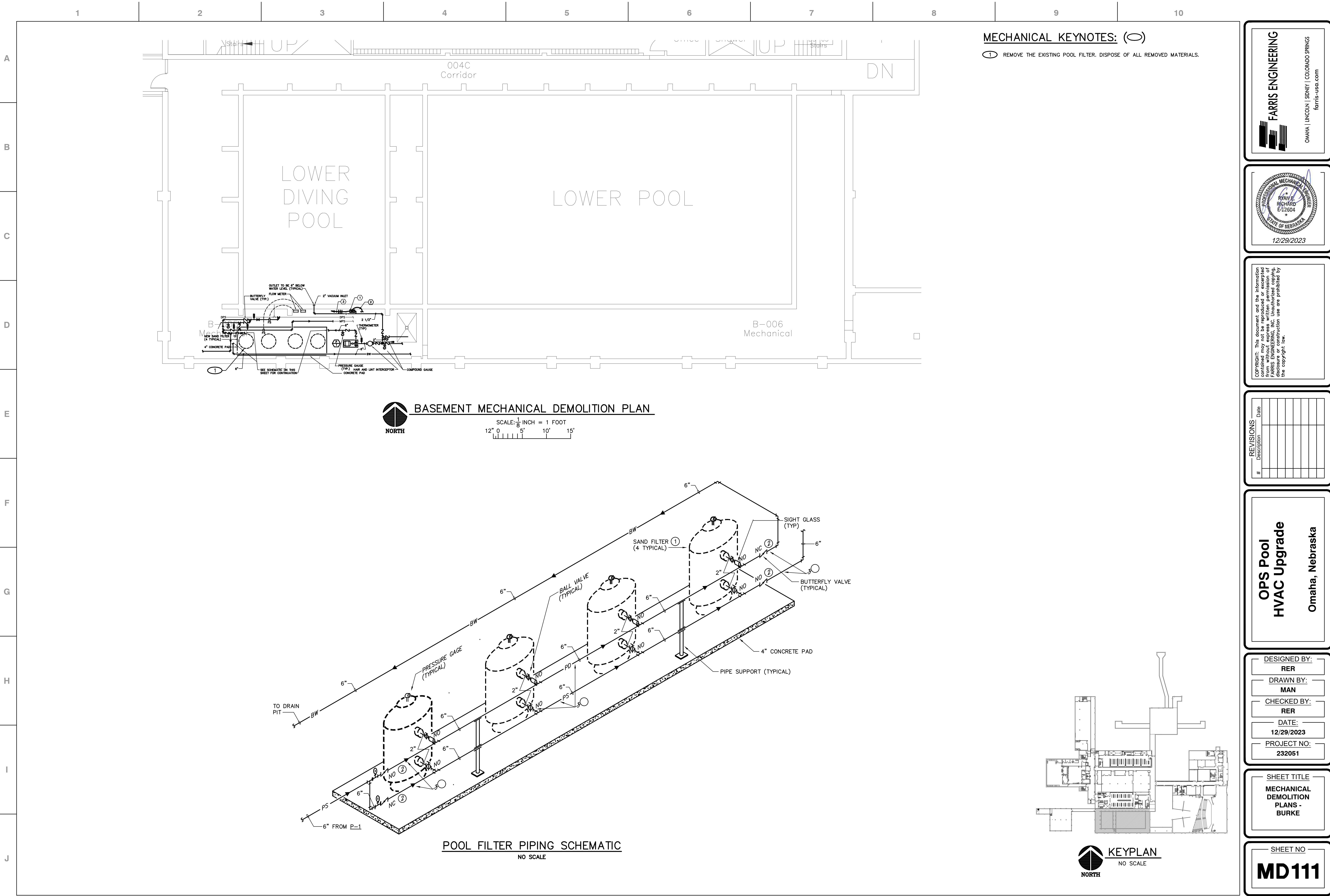
PROJECT NO: **232051**

SHEET TITLE

**MECHANICAL
DEMOLITION
PLANS -
BRYAN**

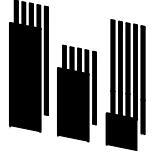
SHEET NO

MD101




MECHANICAL KEYNOTES: (O)

1 REMOVE THE EXISTING POOL FILTER. DISPOSE OF ALL REMOVED MATERIALS.



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OPS Pool HVAC Upgrade
Omaha, Nebraska

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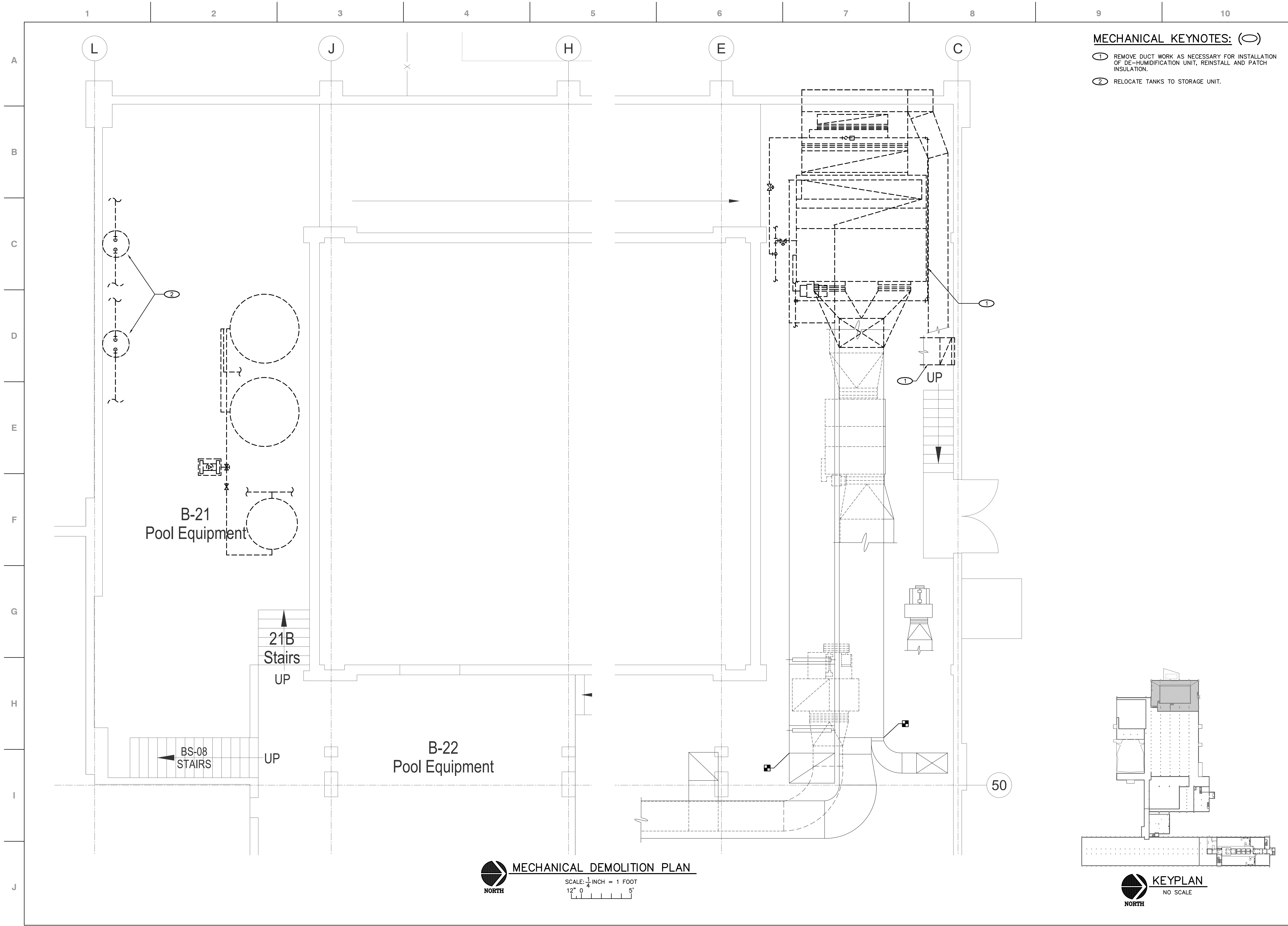
CHECKED BY:
RER

DATE:
12/29/2023

PROJECT NO:
232051

SHEET TITLE
MECHANICAL DEMOLITION PLANS - BURKE

SHEET NO
MD111



MECHANICAL KEYNOTES: (○)

- 1 REMOVE DUCT WORK AS NECESSARY FOR INSTALLATION OF DE-HUMIDIFICATION UNIT, REINSTALL AND PATCH INSULATION.
- 2 RELOCATE TANKS TO STORAGE UNIT.

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PROFESSIONAL MECHANICAL ENGINEER

RYAN E. MCWILLAN
E-12604
STATE OF NEBRASKA

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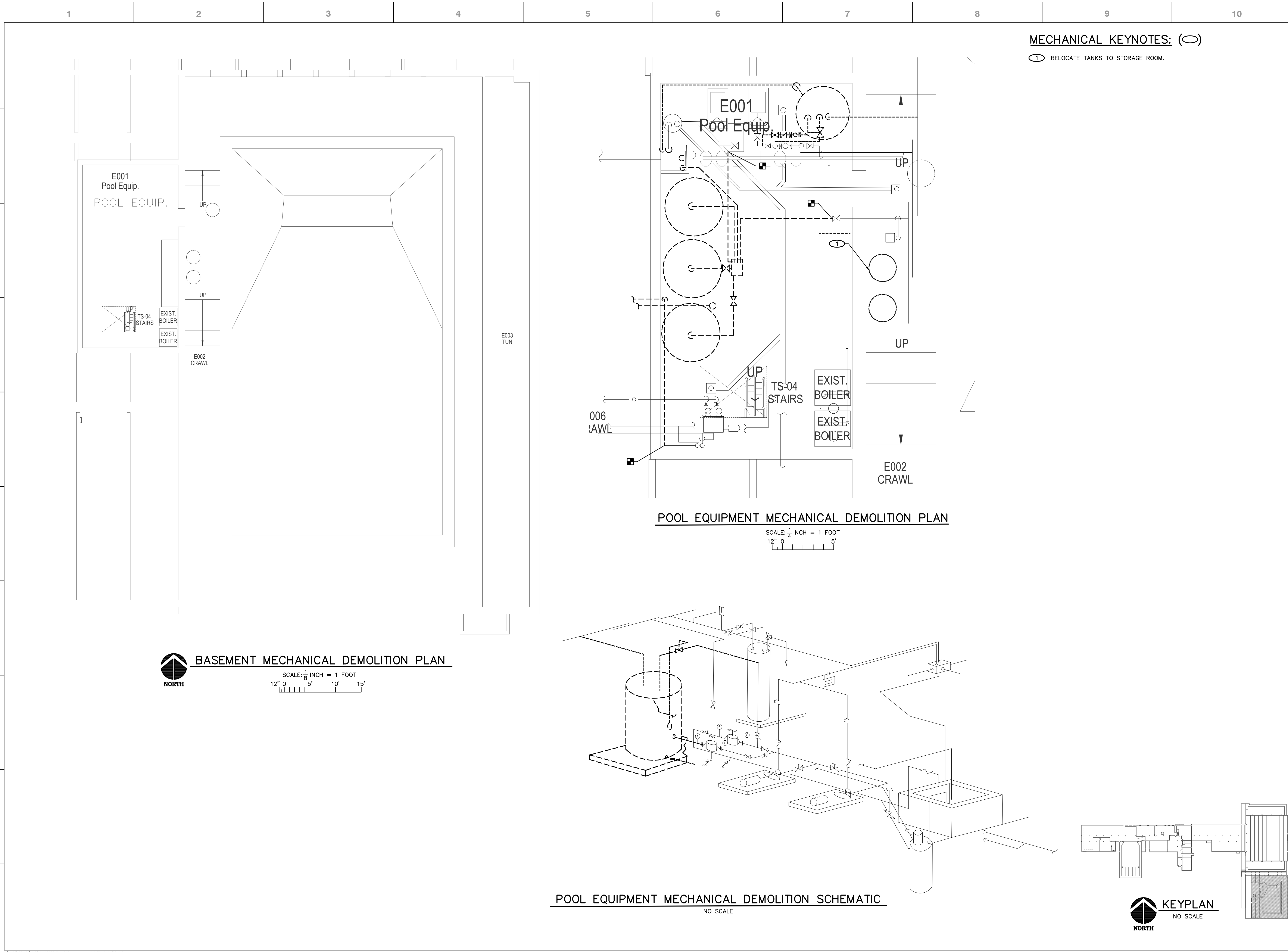
PROJECT NO:
232051

SHEET TITLE

MECHANICAL
DEMOLITION
PLANS -
MCMILLAN

SHEET NO

MD121



MECHANICAL KEYNOTES: (O)

1 RELOCATE TANKS TO STORAGE ROOM.

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RYAN E. FARRIS
E-12604
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12/29/2023

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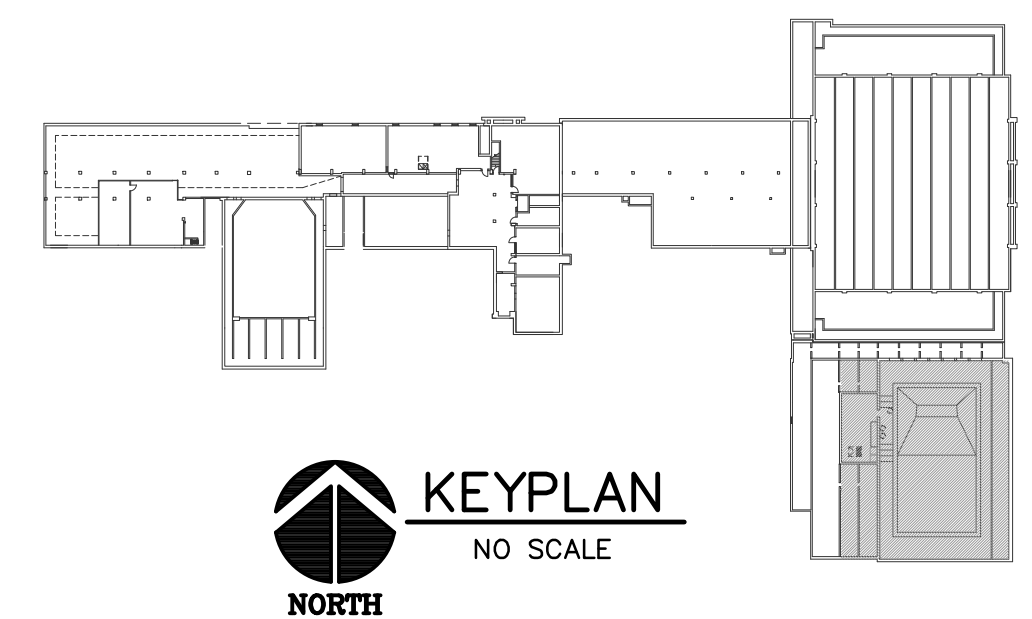
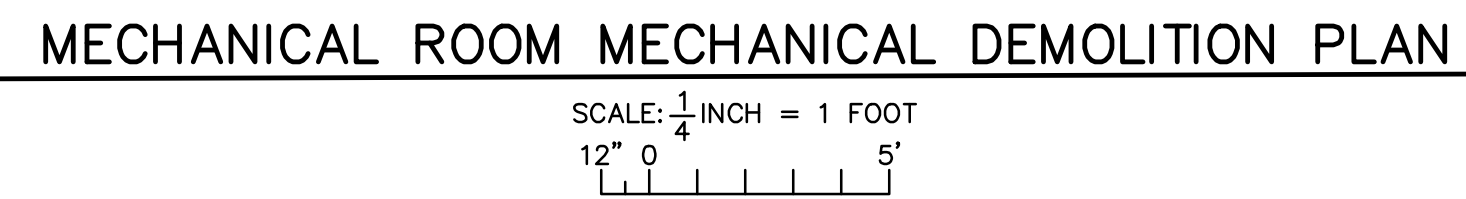
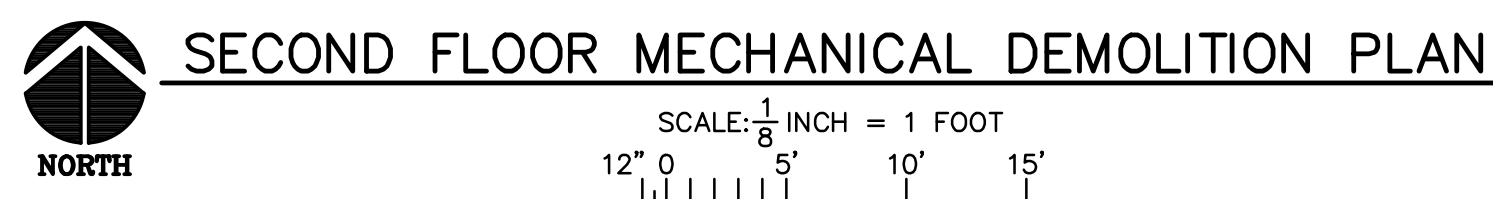
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**OPS Pool
HVAC Upgrade**
Omaha, Nebraska

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DATE: **12/29/2023**
PROJECT NO: **232051**

SHEET TITLE
**BASMENT
MECHANICAL
PLANS - MONROE**

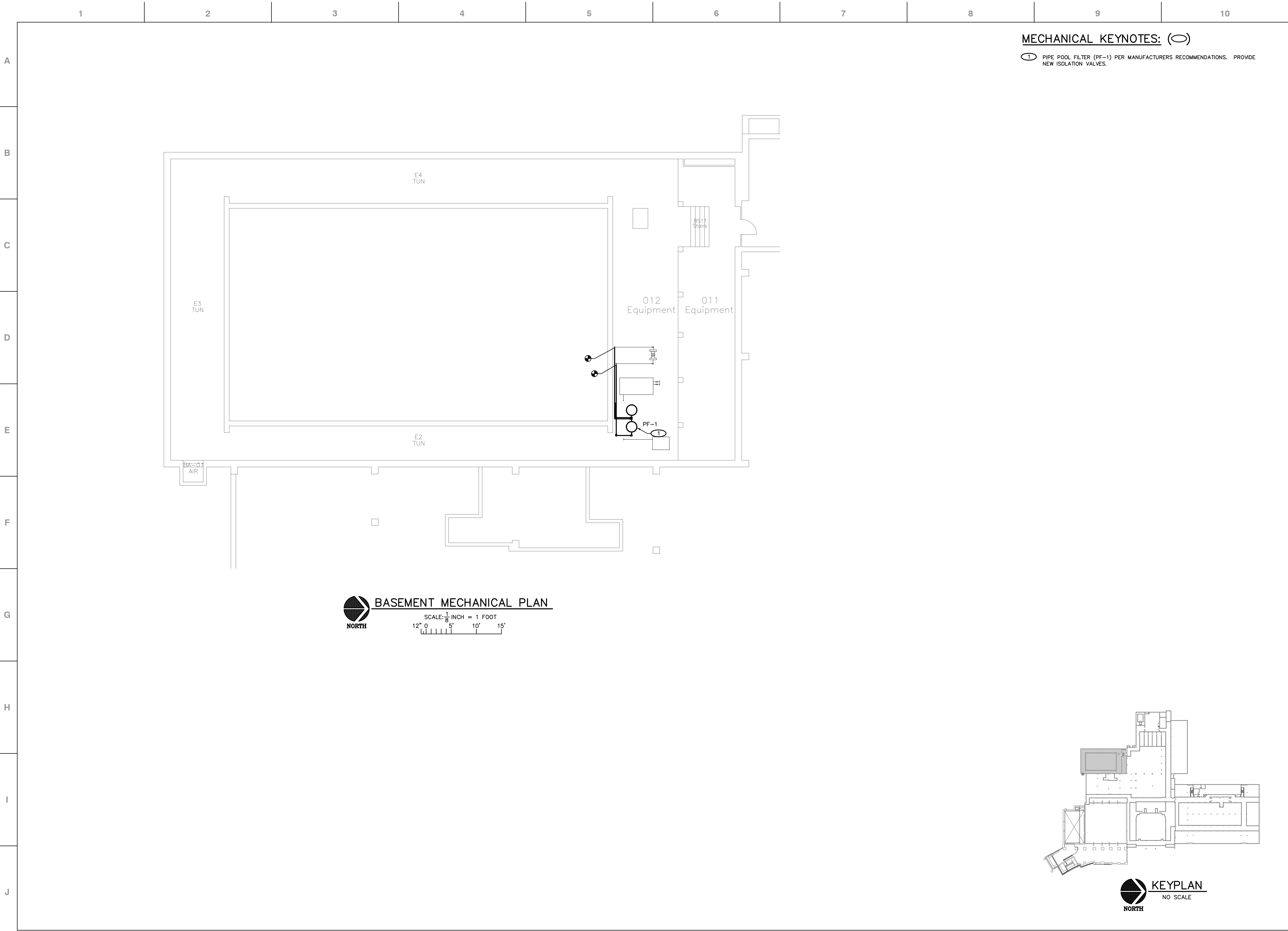
SHEET NO
MD131



① REMOVE DUCT WORK AS NECESSARY FOR INSTALLATION OF DE-HUMIDIFICATION UNIT, REINSTALL AND PATCH INSULATION.

— SHEET NO —

MD132



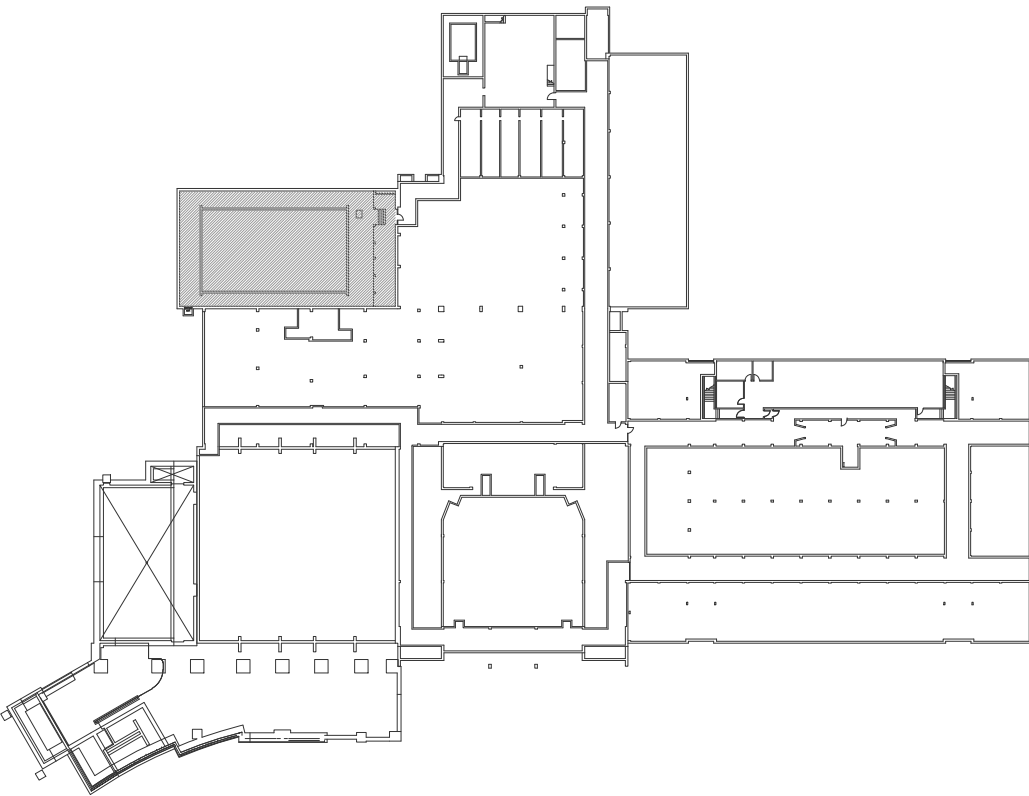
MECHANICAL KEYNOTES: (O)

1 PIPE POOL FILTER (PF-1) PER MANUFACTURERS RECOMMENDATIONS. PROVIDE NEW ISOLATION VALVES.

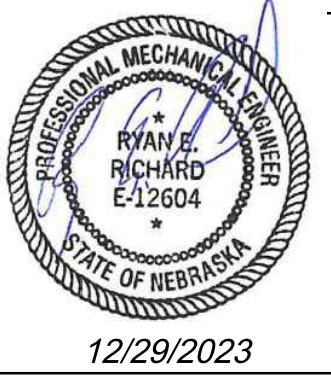
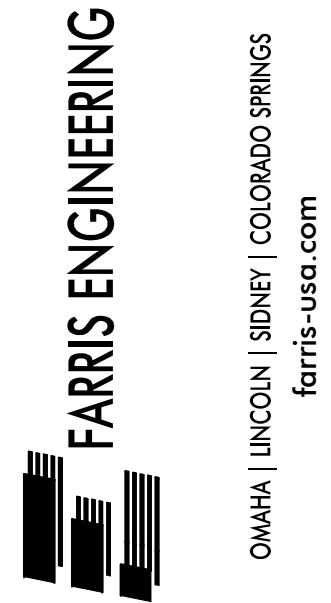


BASEMENT MECHANICAL PLAN

SCALE: 1/8" = 1 FOOT
12' 0' 5' 10' 15'



KEYPLAN
NO SCALE



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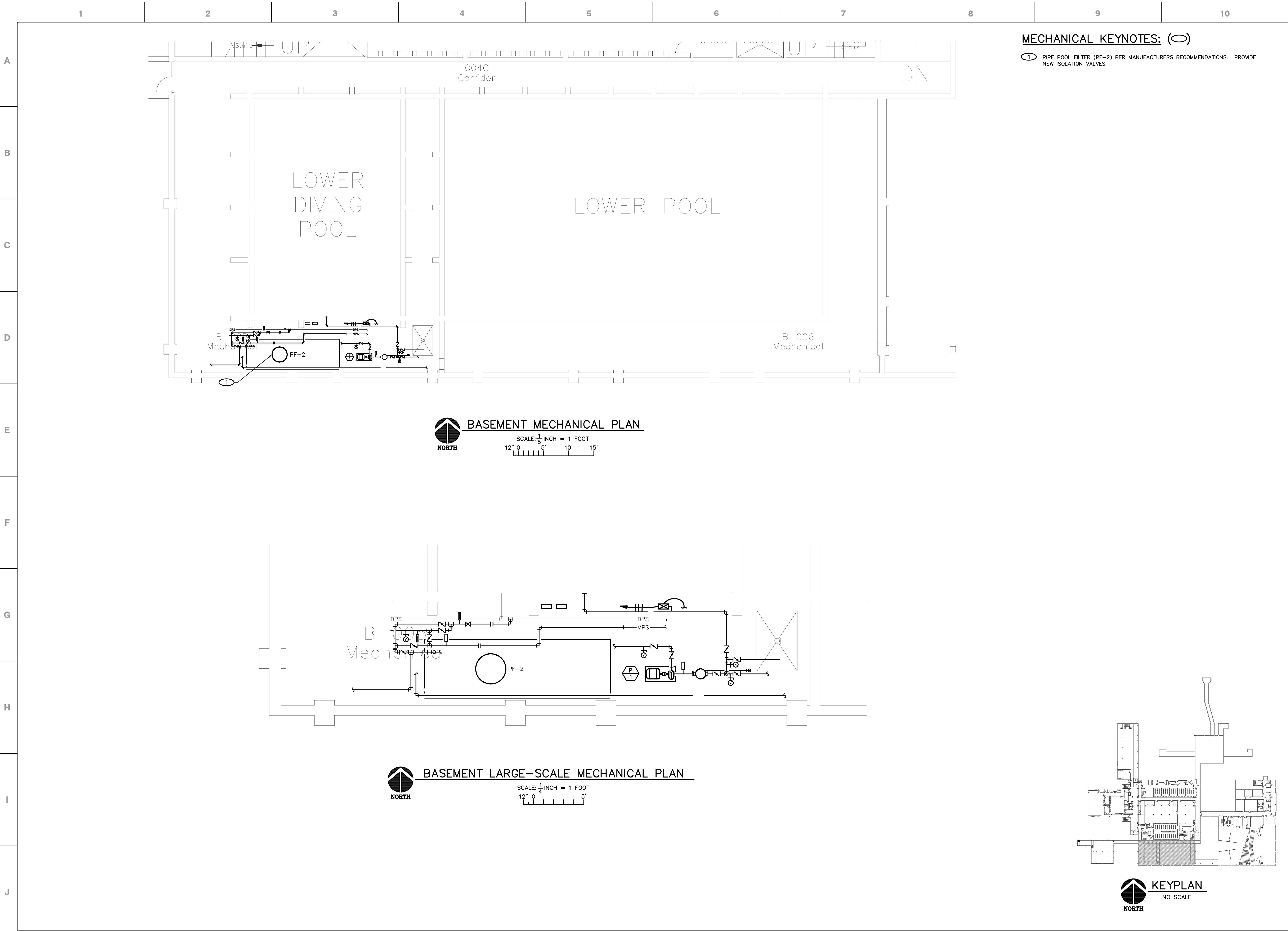
REVISIONS	
#	Description

OPS Pool
HVAC Upgrade
Omaha, Nebraska

DESIGNED BY: **RER**
DRAWN BY: **MAN**
CHECKED BY: **RER**
DATE: **12/29/2023**
PROJECT NO: **232051**

SHEET TITLE
**MECHANICAL
PLANS -
BRYAN**

SHEET NO
M-101



MECHANICAL KEYNOTES: (O)

- 1 PIPE POOL FILTER (PF-2) PER MANUFACTURERS RECOMMENDATIONS. PROVIDE NEW ISOLATION VALVES.

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PROFESSIONAL MECHANICAL ENGINEER

RYAN E. BURKE
No. 00000000
E-12604
STATE OF NEBRASKA

12/29/2023

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HVAC Upgrade

Omaha, Nebraska

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RER

DATE:
12/29/2023

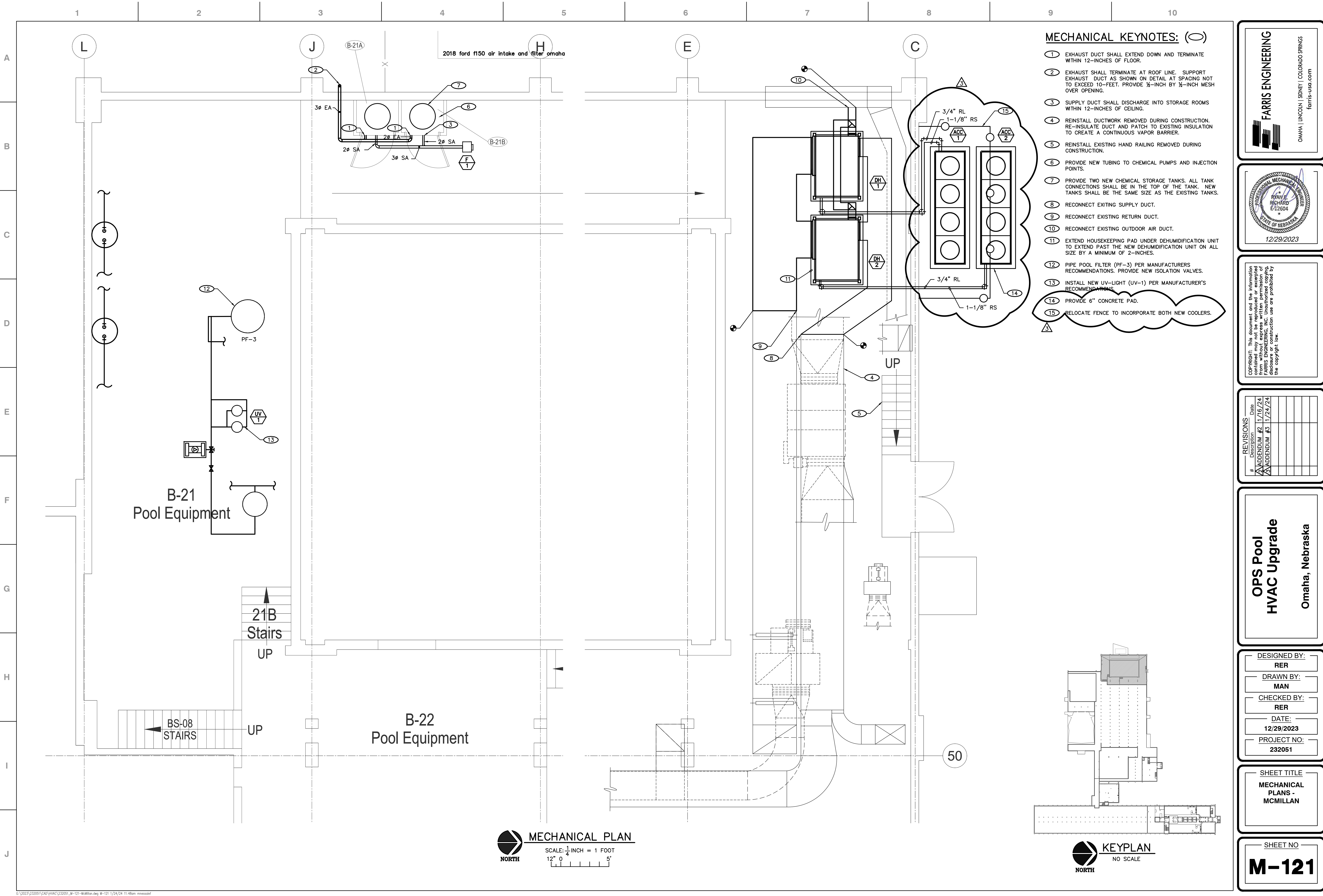
PROJECT NO:
232051

SHEET TITLE

MECHANICAL
PLANS -
BURKE

SHEET NO

M-111



MECHANICAL KEYNOTES: (○)

- EXHAUST DUCT SHALL EXTEND DOWN AND TERMINATE WITHIN 12-INCHES OF FLOOR.
- EXHAUST SHALL TERMINATE AT ROOF LINE. SUPPORT EXHAUST DUCT AS SHOWN ON DETAIL AT SPACING NOT TO EXCEED 10-FEET. PROVIDE 1/2-INCH BY 1/2-INCH MESH OVER OPENING.
- SUPPLY DUCT SHALL DISCHARGE INTO STORAGE ROOMS WITHIN 12-INCHES OF CEILING.
- REINSTALL DUCTWORK REMOVED DURING CONSTRUCTION. RE-INSULATE DUCT AND PATCH TO EXISTING INSULATION TO CREATE A CONTINUOUS VAPOR BARRIER.
- REINSTALL EXISTING HAND RAILING REMOVED DURING CONSTRUCTION.
- PROVIDE NEW TUBING TO CHEMICAL PUMPS AND INJECTION POINTS.
- PROVIDE TWO NEW CHEMICAL STORAGE TANKS. ALL TANK CONNECTIONS SHALL BE IN THE TOP OF THE TANK. NEW TANKS SHALL BE THE SAME SIZE AS THE EXISTING TANKS.
- RECONNECT EXITING SUPPLY DUCT.
- RECONNECT EXISTING RETURN DUCT.
- RECONNECT EXISTING OUTDOOR AIR DUCT.
- EXTEND HOUSEKEEPING PAD UNDER DEHUMIDIFICATION UNIT TO EXTEND PAST THE NEW DEHUMIDIFICATION UNIT ON ALL SIZE BY A MINIMUM OF 2-INCHES.
- PIPE POOL FILTER (PF-3) PER MANUFACTURERS RECOMMENDATIONS. PROVIDE NEW ISOLATION VALVES.
- INSTALL NEW UV-LIGHT (UV-1) PER MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE 6" CONCRETE PAD.
- RELOCATE FENCE TO INCORPORATE BOTH NEW COOLERS.

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PROFESSIONAL MECHANICAL ENGINEER

RYAN E. FARRIS

1/16/24

E12604

STATE OF NEBRASKA

12/29/2023

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#	REVISIONS	Description	Date
1	ADDENDUM #2	1/16/24	
2	ADDENDUM #3	1/24/24	

OPS Pool HVAC Upgrade

Omaha, Nebraska

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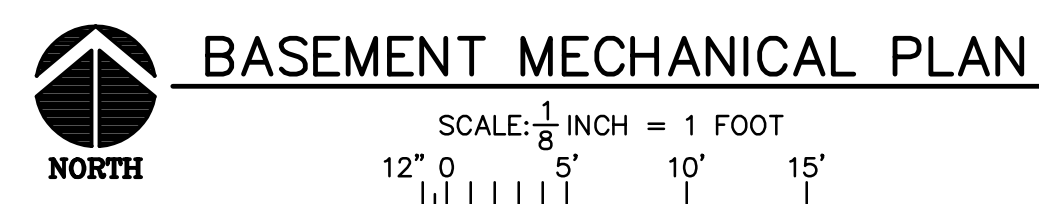
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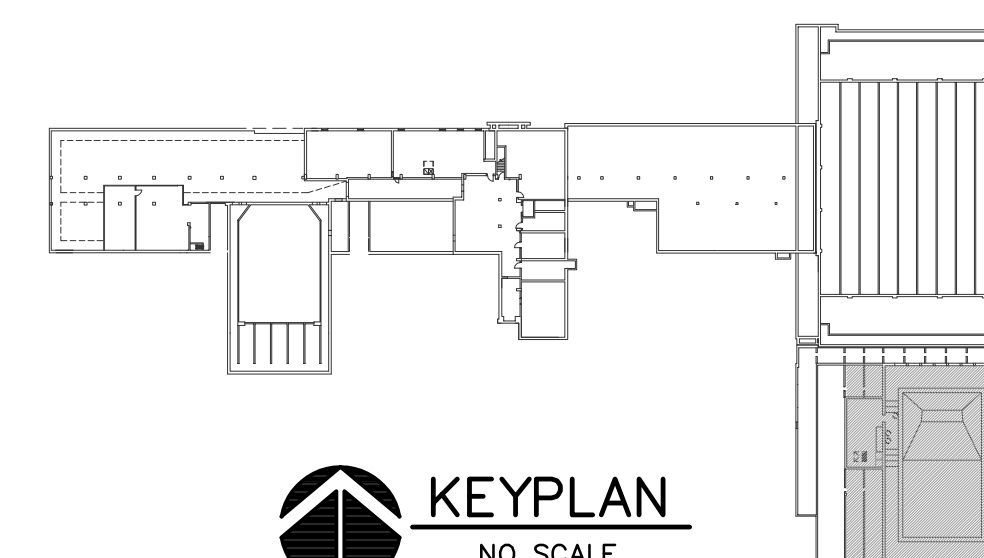
PROJECT NO:
232051

SHEET TITLE
MECHANICAL PLANS - MCMILLAN

SHEET NO
M-121




SCALE: $\frac{1}{4}$ INCH = 1 FOOT



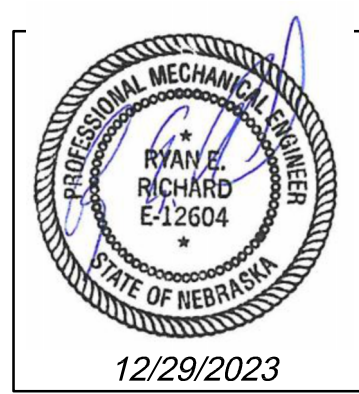
MECHANICAL KEYNOTES: (O)

- 1 EXHAUST DUCT THROUGH EXISTING WALL WITHIN 12-INCHES OF FLOOR.
- 2 EXHAUST DUCT SHALL EXTEND TO END OF TUNNEL AND OUTSIDE. THE EXHAUST DUCT SHALL TERMINATE AT ROOF LINE. SUPPORT EXHAUST DUCT AS SHOWN ON DETAIL AT SPACING NOT TO EXCEED 10- FEET. PROVIDE 1/2-INCH BY 1/2-INCH MESH OVER OPENING.
- 3 EXHAUST DUCT SHALL DISCHARGE INTO STORAGE ROOMS WITHIN 12-INCHES OF CEILING.
- 4 RELOCATE TWO EXISTING CHEMICAL STORAGE TANKS.
- 5 PROVIDE NEW TUBING TO CHEMICAL PUMPS AND INJECTION POINTS.
- 6 PIPE POOL FILTER (PF-4) PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE NEW ISOLATION VALVES.
- 7 INSTALL NEW UV-LIGHT (UV-2) PER MANUFACTURER'S RECOMMENDATIONS.



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**OPS Pool
HVAC Upgrade**

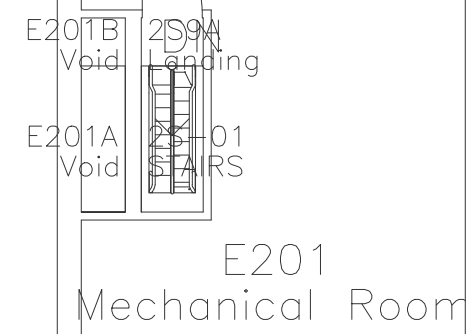
Omaha, Nebraska

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CHECKED BY: **RER**
DATE: **12/29/2023**
PROJECT NO: **232051**

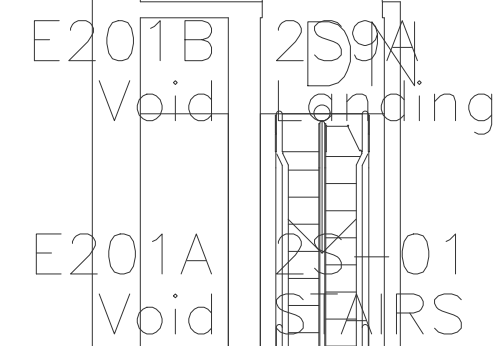
SHEET TITLE

**BASEMENT
MECHANICAL
PLANS -
MONROE**

SHEET NO
M-131



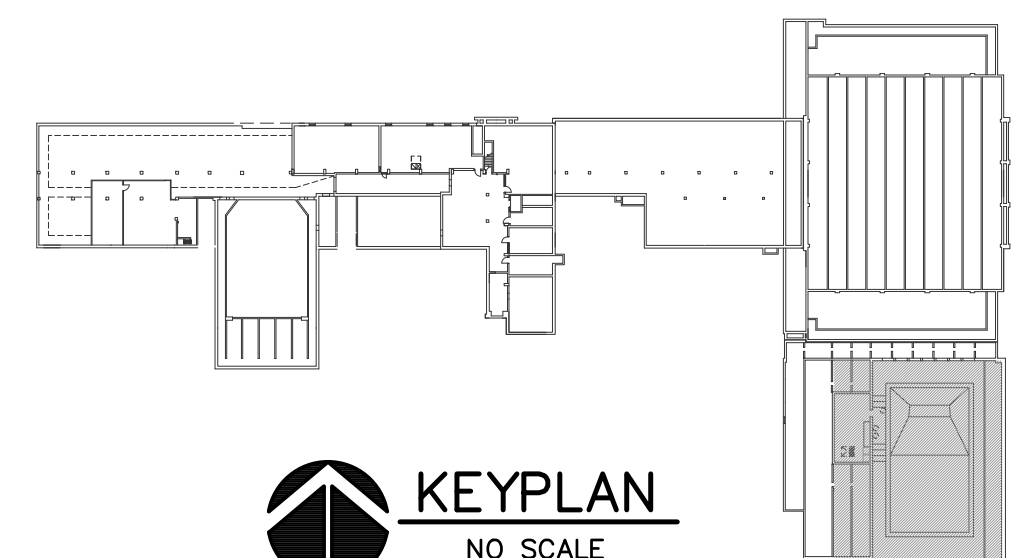
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SCALE: $\frac{1}{4}$ INCH = 1 FOOT



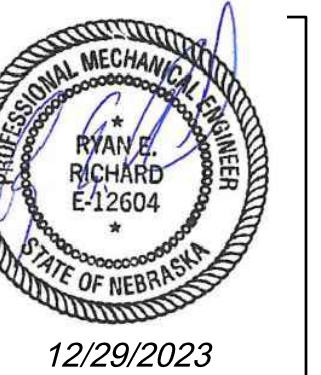
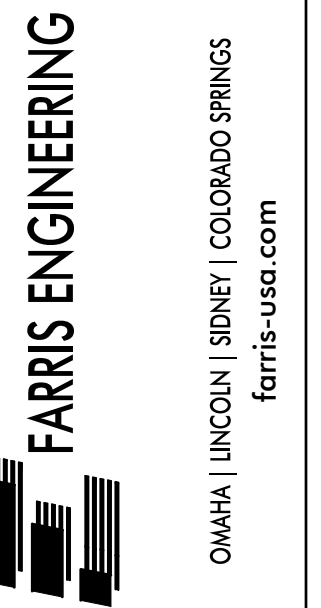
SCALE: $\frac{1}{8}$ INCH = 1 FOOT



NORTH

KEYPLAN
NO SCALE

- ① RECONNECT EXISTING 24/40 RETURN DUCT.
- ② RECONNECT EXISTING EXHAUST DUCT TO ROOF.
- ③ RECONNECT EXISTING OUTDOOR AIR DUCT.
- ④ RECONNECT EXISTING 26/42 SUPPLY DUCT.
- ⑤ EXTEND HOUSEKEEPING PAD UNDER DEHUMIDIFICATION UNIT TO EXTEND PAST THE NEW DEHUMIDIFICATION UNIT ON ALL SIZE BY A MINIMUM OF 2-INCHES.



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[illegible]

**UPS Pool
HVAC Upgrade**

Omaha, Nebraska

DESIGNED BY:

ER

DRAWN BY: _____

AN

CHECKED BY: _____

ER

DATE: _____

12/29/2023

PROJECT NO: 7

232051

SHEET TITLE

**SECOND FLOOR
MECHANICAL
PLANS -
MONROE**

SHEET NO

M-132

ELECTRICAL SYMBOLS LEGEND
(AS APPLICABLE)

SWITCHING

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
\$ a	SINGLE POLE SWITCH - LETTER INDICATES SWITCH LEG	\$ T	TIMER SWITCH
\$ 2	DOUBLE POLE SWITCH	\$ S	SENSOR SWITCH - WALL MOUNTED; SEE LIGHTING CONTROL SCHEME NARRATIVE FOR TYPE
\$ 3	THREE-WAY SWITCH	\$ S,D	DIMMING SENSOR SWITCH - WALL MOUNTED; SEE LIGHTING CONTROL SCHEME NARRATIVE FOR TYPE
\$ 4	FOUR-WAY SWITCH	◇ S,#	SENSOR - CEILING MOUNTED; SEE LIGHTING CONTROL SCHEME NARRATIVE FOR TYPE
\$ D	DIMMER SWITCH	◇ S,#	SENSOR - WALL MOUNTED; SEE LIGHTING CONTROL SCHEME NARRATIVE FOR TYPE
\$ H	HORSEPOWER RATED SWITCH	◇ DS,#	DAYLIGHT SENSOR - CEILING MOUNTED
\$ F	FUSED SWITCH	H ⊕	LIGHTING CONTROL STATION - LETTER INDICATES TYPE
\$ TE	THERMAL ELEMENT		
\$ M	MOMENTARY CONTACT SWITCH		
\$ K	KEY OPERATED SWITCH		
\$ P	PILOT LIGHT SWITCH		

LIGHTING

LABEL INFORMATION		LETTER INDICATES LUMINAIRE MARK, NUMBER INDICATES ZONE IDENTIFIER, NO NUMBER INDICATES SINGLE ZONE	
	LUMINAIRE		WALL MOUNTED LUMINAIRE
	LUMINAIRE - EMERGENCY		WALL MOUNTED LUMINAIRE - NIGHT LIGHT
	LUMINAIRE - NIGHT LIGHT		WALL MOUNTED LUMINAIRE - EMERGENCY
	WALL MOUNTED LUMINAIRE		EXIT SIGN - WALL/CEILING MOUNTED (SHADING DENOTES EXIT FACE SIDE)
	WALL MOUNTED LUMINAIRE - EMERGENCY		COMBINATION EXIT SIGN/EMERGENCY LIGHTING UNIT (SHADING DENOTES EXIT FACE SIDE)
	WALL MOUNTED LUMINAIRE - NIGHT LIGHT		PHOTOCELL, DAYLIGHT SENSOR
	STRIP LUMINAIRE		EXTERIOR LUMINAIRE - POLE MOUNTED
	STRIP LUMINAIRE - EMERGENCY		EXTERIOR LUMINAIRE - POLE MOUNTED
	STRIP LUMINAIRE - NIGHT LIGHT		EXTERIOR LUMINAIRE - POLE MOUNTED
	LUMINAIRE		EXTERIOR LUMINAIRE - POLE MOUNTED
	LUMINAIRE - NIGHT LIGHT		FLOOD LIGHT LUMINAIRE
	LUMINAIRE - EMERGENCY		EMERGENCY BATTERY PACK
	TRACK LUMINAIRE		EMERGENCY LUMINAIRE REMOTE HEADS

POWER DEVICES

	SINGLE RECEPTACLE		LIGHTING & APPLIANCE PANELBOARD
	DUPLEX RECEPTACLE		POWER DISTRIBUTION EQUIPMENT
	FOUR-PLEX RECEPTACLE - TWO DUPLEX RECEPTACLES		TRANSFORMER
	RANGE RECEPTACLE		ENCLOSED CIRCUIT BREAKER
	SPECIAL RECEPTACLE		CABINET (TYPE INDICATED)
	DUPLEX RECEPTACLE - GROUND-FAULT CIRCUIT-INTERRUPTER		MOTOR STARTER, LIGHTING CONTACTOR
	DUPLEX RECEPTACLE - ISOLATED GROUND		SAFETY SWITCH
	DUPLEX RECEPTACLE - WEATHER-RESISTANT GROUND-FAULT CIRCUIT-INTERRUPTER		COMBINATION MOTOR STARTER & SAFETY SWITCH
	DUPLEX RECEPTACLE - ON APPLIANCE CIRCUIT		MOTOR
	DUPLEX RECEPTACLE - TAMPER-RESISTANT		CORD DROP (J-BOX AT CEILING)
	DUPLEX RECEPTACLE - ARC-FAULT RATED		CORD DROP (SPECIAL RECEPTACLE AT CEILING)
	DUPLEX RECEPTACLE - WITH USB PORTS		MULTI-OUTLET ASSEMBLY
	DUPLEX RECEPTACLE - EMERGENCY (RED)		FLUSH FLOOR BOX
	DUPLEX RECEPTACLE - CEILING MOUNTED		FLUSH POKE-THRU
	DUPLEX RECEPTACLE - SPLIT-WIRE/PLUG LOAD CONTROLLED		DAMPER
	JUNCTION BOX		SOLENOID

RACEWAYS

	HOME RUN TO PANEL		TELEPHONE CONDUIT
	UNSWITCHED LIGHTING CIRCUIT		CONDUIT UP
	MASTER SATELLITE FIXTURE CONNECTION		CONDUIT DOWN
	EMERGENCY CIRCUIT		CONDUIT SEAL
	NIGHT LIGHTING CIRCUIT		CABLE TRAY
	SOUND SYSTEM RACEWAY		CONDUIT SLEEVE (NUMBER INDICATES SIZE)

MISCELLANEOUS

	EQUIPMENT IDENTIFICATION TAG	NF	NON-FUSED
	DETAIL REFERENCE	WP	WEATHER-PROOF
	STREET REFERENCE	WG	WIRE GUARD
FACP	FIRE ALARM CONTROL PANEL	XP	EXPLOSION PROOF
FAAP	FIRE ALARM ANNUNCIATOR PANEL	30/3/10/3R	RATED AMPACITY/NO. POLES/FUSING REQ'D/NEMA ENCL. NO.
HOA	HAND-OFF-AUTO	MR	MANUFACTURER'S RECOMMENDATION
CCT, CIRCUIT		AL	ALUMINUM
PART, CCT, CIRCUIT	PARTIAL CIRCUIT		LIGHT LINEWORK = EXISTING OR DEMOLITION
AFF	ABOVE FINISHED FLOOR		DARK LINEWORK = NEW

COMMUNICATIONS

	TELEPHONE OUTLET - WALL MOUNTED		TELEPHONE CABINET
	TELEPHONE OUTLET BOX		CLOCK HANGER OUTLET
	DATA OUTLET BOX		CLOCK - WALL MOUNTED
	PHONE OUTLET BOX - CEILING MOUNTED		CLOCK - CEILING MOUNTED (DOUBLE FACE)
	DATA OUTLET BOX - CEILING MOUNTED		CLASSROOM CLOCK & SPEAKER
	WIRELESS ACCESS POINT - CEILING MOUNTED		INTERCOM CALL SWITCH
	COMBINATION TELEPHONE/ATA OUTLET BOX - ONE JACK EACH		INTERCOM ADMINISTRATION STATION (LETTER INDICATES TYPE)
	DATA OUTLET BOX - BLANK PLATE, 1" CONDUIT		INTERCOM CLASSROOM/STAFF STATION (LETTER INDICATES TYPE)
	MICROPHONE OUTLET (NUMBER INDICATES QUANTITY)		AUDIO/VISUAL AUXILIARY OUTLET (LETTER INDICATES TYPE)
	MICROPHONE OUTLET - WALL MOUNTED (NUMBER INDICATES QUANTITY)		T.V. ANTENNA OUTLET
	LINE INPUT OUTLET (NUMBER INDICATES QUANTITY)		INTERCOMPAGING VOLUME CONTROL
	LINE INPUT OUTLET - WALL MOUNTED (NUMBER INDICATES QUANTITY)		SOUND SYSTEM VOLUME CONTROL
	INTERCOMPAGING SPEAKER - CEILING MOUNTED		DOOR INTERCOM
	INTERCOMPAGING SPEAKER - WALL MOUNTED		GROUND BAR
	INTERCOMPAGING SPEAKER HORN - WALL MOUNTED		PROJECTOR CONTROL STATION
	SOUND SYSTEM SPEAKER - CEILING MOUNTED		PROJECTOR INPUT STATION - LETTER INDICATES TYPE
	SOUND SYSTEM SPEAKER - WALL MOUNTED		
	PROGRAM BELL		

FIRE ALARM

	HEAT DETECTOR - COMBINATION		FIRE ALARM COMBINATION SPEAKER/VISUAL - WALL MOUNTED
	HEAT DETECTOR - FIXED TEMPERATURE		FIRE ALARM BELL - WALL MOUNTED
	HEAT DETECTOR - FIXED TEMPERATURE (CONNECTED TO ELEVATOR RECALL)		FIRE ALARM HORN - CEILING MOUNTED
	SMOKE DETECTOR		FIRE ALARM VISUAL SIGNAL - CEILING MOUNTED
	SMOKE DETECTOR - DUCT MOUNTED		FIRE ALARM SPEAKER - CEILING MOUNTED
	SMOKE DETECTOR (CONNECTED TO ELEVATOR RECALL)		FIRE ALARM COMBINATION SPEAKER/VISUAL - CEILING MOUNTED
	CARBON MONOXIDE DETECTOR		FLOW SWITCH
	CARBON MONOXIDE DETECTOR - DUCT MOUNTED		TAMPER SWITCH
	FIRE ALARM MANUAL STATION		DUCT DETECTOR REMOTE ALARM INDICATOR
	FIRE ALARM HORN - WALL MOUNTED		FAN SHUT-DOWN RELAY
	FIRE ALARM VISUAL SIGNAL - WALL MOUNTED		MAGNETIC DOOR HOLDER
	FIRE ALARM COMBINATION HORN/VISUAL - WALL MOUNTED		SMOKE BEAM DETECTOR
	FIRE ALARM SPEAKER - WALL MOUNTED		SMOKE BEAM REFLECTOR

GENERAL ELECTRICAL DEMOLITION NOTES
APPLY TO ALL ELECTRICAL SHEETS

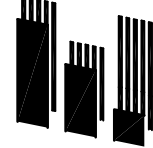
- A. COMPLETELY REMOVE ALL ELECTRICAL WIRING, CONDUIT, SWITCHES, DISCONNECTS, LUMINAIRES, AND ASSOCIATED ANCILLARY EQUIPMENT SHOWN CROSSHATCHED. ITEMS INDICATED FOR REMOVAL ARE ONLY SUGGESTIVE OF THE AMOUNT OF DEMOLITION WORK INVOLVED. PERFORM A SITE INVESTIGATION TO AID IN DETERMINING THE COMPLETE EXTENT OF DEMOLITION WORK.
- B. COORDINATE AND SCHEDULE ALL NECESSARY POWER OUTAGES WITH THE OWNER'S REPRESENTATIVE PRIOR TO PROCEEDING WITH SUCH WORK SO OPERATIONS IN ADJACENT OCCUPIED PORTIONS OF THE BUILDING ARE NOT INTERRUPTED OR RESTRICTED WITHOUT PRIOR APPROVAL.
- C. REMOVE ALL EXISTING BRANCH CIRCUITS INDICATED AS COMPLETELY AS POSSIBLE. REMOVE EXISTING CONDUCTORS COMPLETELY FROM THEIR RACEWAYS AND DO NOT REUSE EXCEPT WHERE SPECIFICALLY INDICATED. WHERE AN EXISTING DEVICE IS REMOVED FROM AN EXISTING CIRCUIT, PROVIDE NEW WIRING AND MAINTAIN CONTINUITY OF EXISTING CIRCUIT.
- D. REMOVE EXISTING LUMINAIRES, LAMPS, BALLASTS, AND RELATED COMPONENTS INDICATED AS COMPLETELY AS POSSIBLE. DELIVER EQUIPMENT CONSIDERED SALVAGEABLE BY THE OWNER'S REPRESENTATIVE AND NOT SHOWN FOR REUSE TO THE OWNER'S STORAGE LOCATION. REMOVE NON-SALVAGEABLE EQUIPMENT FROM THE SITE. PROPERLY DISPOSE OF LAMPS AND BALLASTS CONSIDERED HAZARDOUS WASTE.
- E. REMOVE EXISTING SURFACE MOUNTED BOXES, CONDUIT, SURFACE METAL RACEWAY, WIREWAY, ETC. INDICATED AS COMPLETELY AS POSSIBLE. PATCH ABANDONED PENETRATIONS FROM REMOVED FASTENERS. ABANDON IN PLACE NON-ACCESSIBLE BOXES SHOWN REMOVED AND COVER WITH STAINLESS STEEL COVER PLATES. ABANDON IN PLACE NON-ACCESSIBLE CONDUIT SHOWN REMOVED AND CAP OFF IN A SUITABLE MANNER PER LOCAL INSPECTOR'S REQUIREMENTS. CHSEL RACEWAYS STUBBED FROM A CONCRETE FLOOR OR WALL 2 INCHES BELOW ADJACENT SURFACE, GROUT, AND SCREED.
- F. COORDINATE REUSED EXISTING BOX AND CONDUIT LOCATIONS WITH NEW WORK LOCATIONS.
- G. REMOVE ELECTRICAL WORK AT ALL MECHANICAL EQUIPMENT SHOWN REMOVED. COORDINATE EQUIPMENT REMOVAL LOCATIONS WITH MECHANICAL DRAWINGS.
- H. OPS HAS FIRST RIGHTS TO SALVAGE ANY ITEMS TO BE REMOVED FROM SITE. CONTRACTOR IS RESPONSIBLE FOR DISPOSING OF BALANCE OF DEMOLITION MATERIALS, INCLUDING LIGHTING BALLASTS.

GENERAL ELECTRICAL NOTES
APPLY TO ALL ELECTRICAL SHEETS

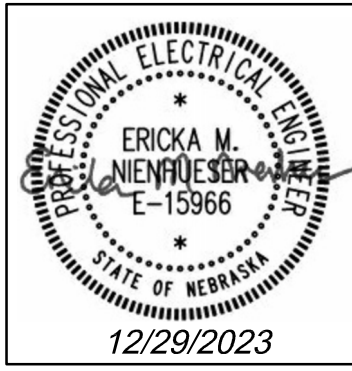
- A. MOUNTING HEIGHTS INDICATED ARE TO CENTER OF ROUGH-IN ABOVE FINISHED FLOOR (AFF).
- B. INSTALL ALL CONDUCTORS IN CONTINUOUS RACEWAY. PROVIDE INSULATED EQUIPMENT GROUNDING CONDUCTOR.
- C. PROVIDE DEDICATED NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT PHASE CONDUCTOR. EXCEPTION: WHERE AN EQUIPMENT MANUFACTURER REQUIRES A MULTIWIRE BRANCH CIRCUIT FOR ONLY ONE UTILIZATION EQUIPMENT AND WHERE ALL UNGROUNDED CONDUCTORS OF THAT CIRCUIT ARE OPENED SIMULTANEOUSLY BY THE BRANCH CIRCUIT OVERCURRENT DEVICE.
- D. CONCEAL ALL CONDUITS IN NEW WALLS, EXISTING STUD WALLS, OR ABOVE SURROUNDING SURFACES. COORDINATE FINISHES WITH ARCHITECT.
- E. WHERE CONDUIT CANNOT BE CONCEALED IN EXISTING WALL OR CEILING CAVITIES, INSTALL CONDUCTORS IN SURFACE METAL RACEWAYS; SURFACE CONDUIT OR METAL SURFACE RACEWAY AT ENGINEER'S DISCRETION.
- F. PAINT SURFACE CONDUIT IN FINISHED AREAS, WHEN ALLOWED, TO MATCH SURROUNDING SURFACES. COORDINATE FINISHES WITH ARCHITECT.
- G. METAL SURFACE RACEWAYS SHALL BE WIREMOLD #V500, #V700, OR #V2400 SERIES WITH FACTORY IVORY FINISH OR APPROVED EQUIVALENT. METAL SURFACE RACEWAYS FOR TELEVISION CABLE SHALL BE WIREMOLD #V700 OR LARGER. METAL SURFACE RACEWAYS FOR TELECOMMUNICATIONS CABLES SHALL BE #V2400 OR LARGER. COMPLY WITH EIA/TIA STANDARDS FOR CABLE BENDING RADIUS.
- H. INSTALL EXPOSED OR CONCEALED RACEWAY NEAR METAL CORRUGATED SHEET ROOF DECKING SO NEAREST OUTER RACEWAY SURFACE IS NOT LESS THAN 6 INCHES FROM THE NEAREST SURFACE OF THE ROOF DECKING. EXCEPTION: RIGID METAL CONDUIT AND INTERMEDIATE METAL CONDUIT SHALL NOT BE REQUIRED TO MAINTAIN THIS CLEARANCE.
- I. PATCH, PAINT, REPAIR OR REPLACE ALL WALLS, CEILINGS, OR OTHER BUILDING ELEMENTS DISTURBED DURING INSTALLATION OF ELECTRICAL WORK.
- J. USE ROOM NUMBERS ASSIGNED BY OPS AND NOT ROOM NUMBERS LISTED ON DRAWINGS FOR LABELING OF PANELBOARD DIRECTORIES, FIRE ALARM PANEL PROGRAMMING, ETC. INCLUDE A DESCRIPTION OF LOAD SUCH AS LIGHTS, RECEPTACLES, MECHANICAL UNIT LOCATIONS, ETC. ON TYPED PANELBOARD DIRECTORIES.
- K. REFER TO MECHANICAL/ELECTRICAL COORDINATION SCHEDULE SHEET M-701 FOR ADDITIONAL REQUIREMENTS ON DISCONNECTS, MOTOR STARTERS, ETC.
- L. CONNECT SMOKE AND FIRE/SMOKE DAMPERS TO 120V POWER AND CONTROL WITH FIRE ALARM SYSTEM. VERIFY EXACT QUANTITY AND LOCATION OF DAMPERS WITH MECHANICAL DRAWINGS.
- M. COORDINATE LOCATION OF RECESSED LUMINAIRES, SPEAKERS, ETC. WITH FIRE RATED CEILINGS. PROVIDE ENCLOSURES TO MAINTAIN THE FIRE INTEGRITY RATING OF THE CEILING. COORDINATE EXACT LOCATIONS OF FIRE RATED CEILINGS WITH ARCHITECTURAL DRAWINGS.

NOTICE:
DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SHOP AND OTHER APPROPRIATE DRAWINGS OR AT SITE. LAY OUT AND COORDINATE ALL WORK PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, AND CODES. VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF CLEARANCES FOR ALL TRADES. THIS NOTICE APPLIES TO ALL FARRIS ENGINEERING PLANS.

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REVISIONS		Date							
#	Description								

OPS Pool
HVAC Upgrade
Omaha, Nebraska

DESIGNED BY:

BEL

DRAWN BY:

BEL

CHECKED BY:

EMN

DATE:

12/29/2023

PROJECT NO:

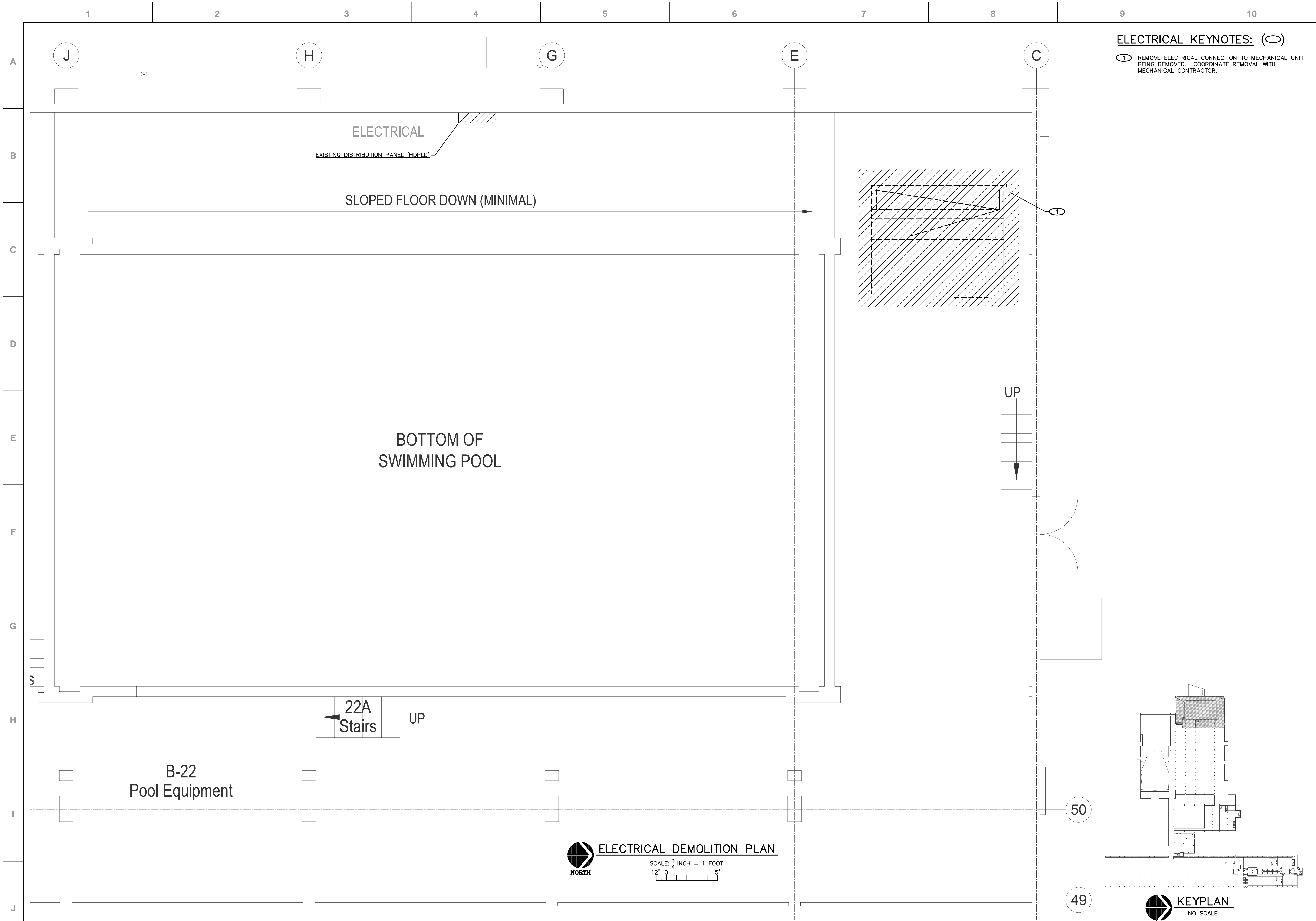
232051

SHEET TITLE

ELECTRICAL
SYMBOLS LEGEND
AND GENERAL
NOTES

SHEET NO

E-001



ELECTRICAL KEYNOTES: (○)

○ REMOVE ELECTRICAL CONNECTION TO MECHANICAL UNIT BEING REMOVED. COORDINATE REMOVAL WITH MECHANICAL CONTRACTOR.

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ERICKA M. NIENHUIS
E-15966
12/29/2023

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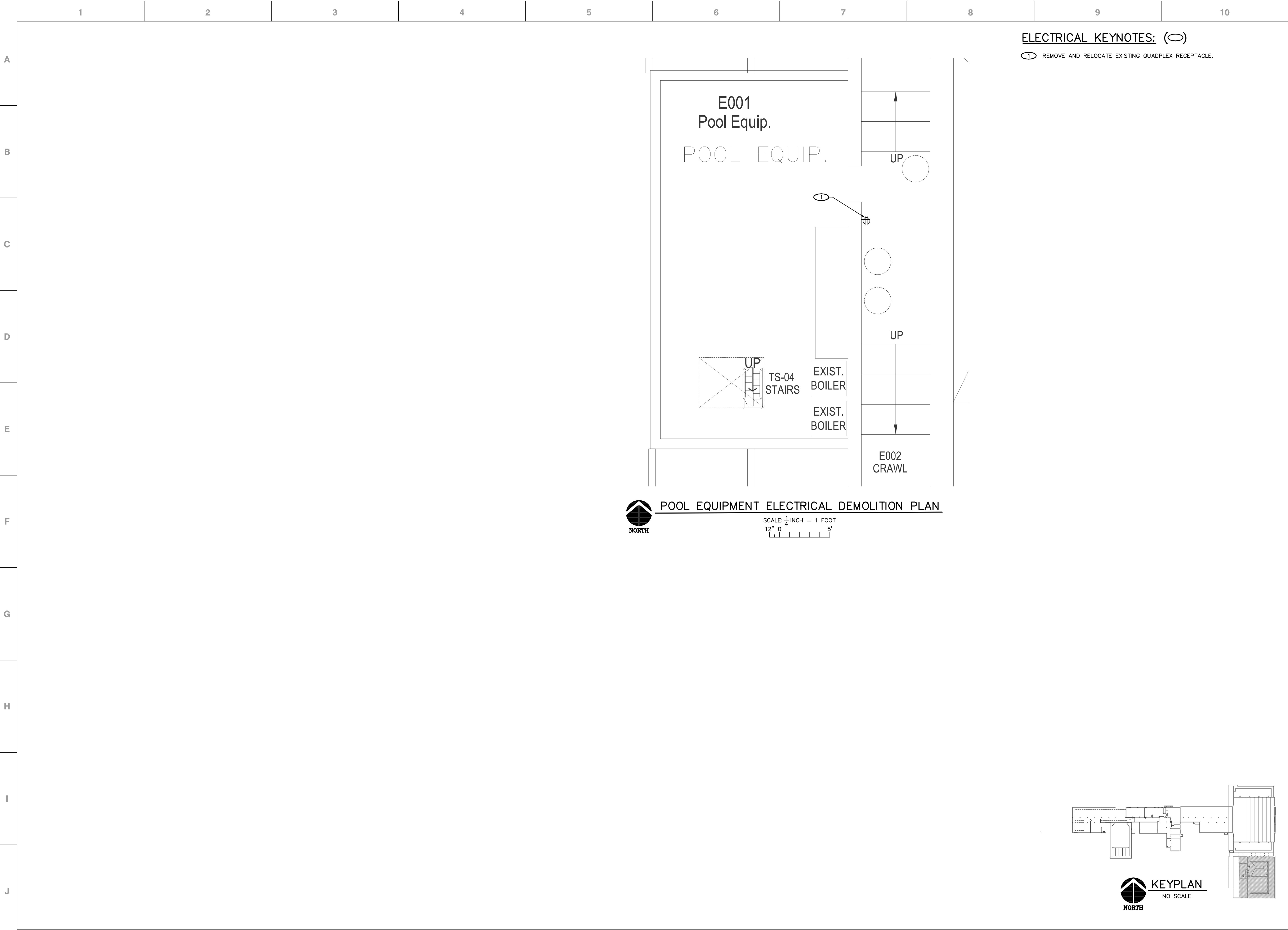
PROJECT NO:
232051

SHEET TITLE

ELECTRICAL
DEMOLITION
PLANS -
MCMILLAN

SHEET NO

ED121



ELECTRICAL KEYNOTES: (○)

1 REMOVE AND RELOCATE EXISTING QUADPLEX RECEPTACLE.

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PROFESSIONAL ELECTRICAL ENGINEER

ERICKA M. NIENHUIS
E-15966

STATE OF NEBRASKA

12/29/2023

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Omaha, Nebraska

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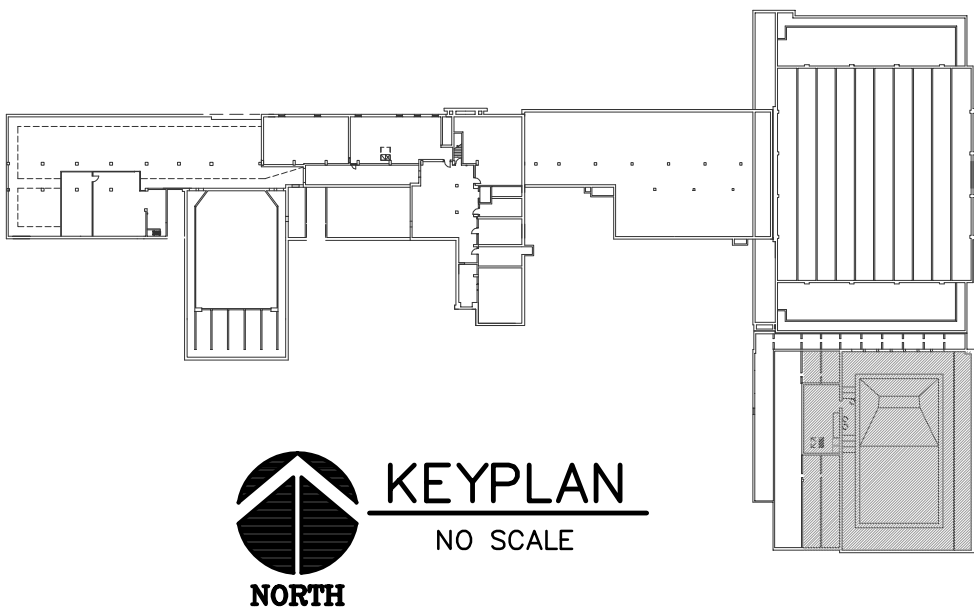
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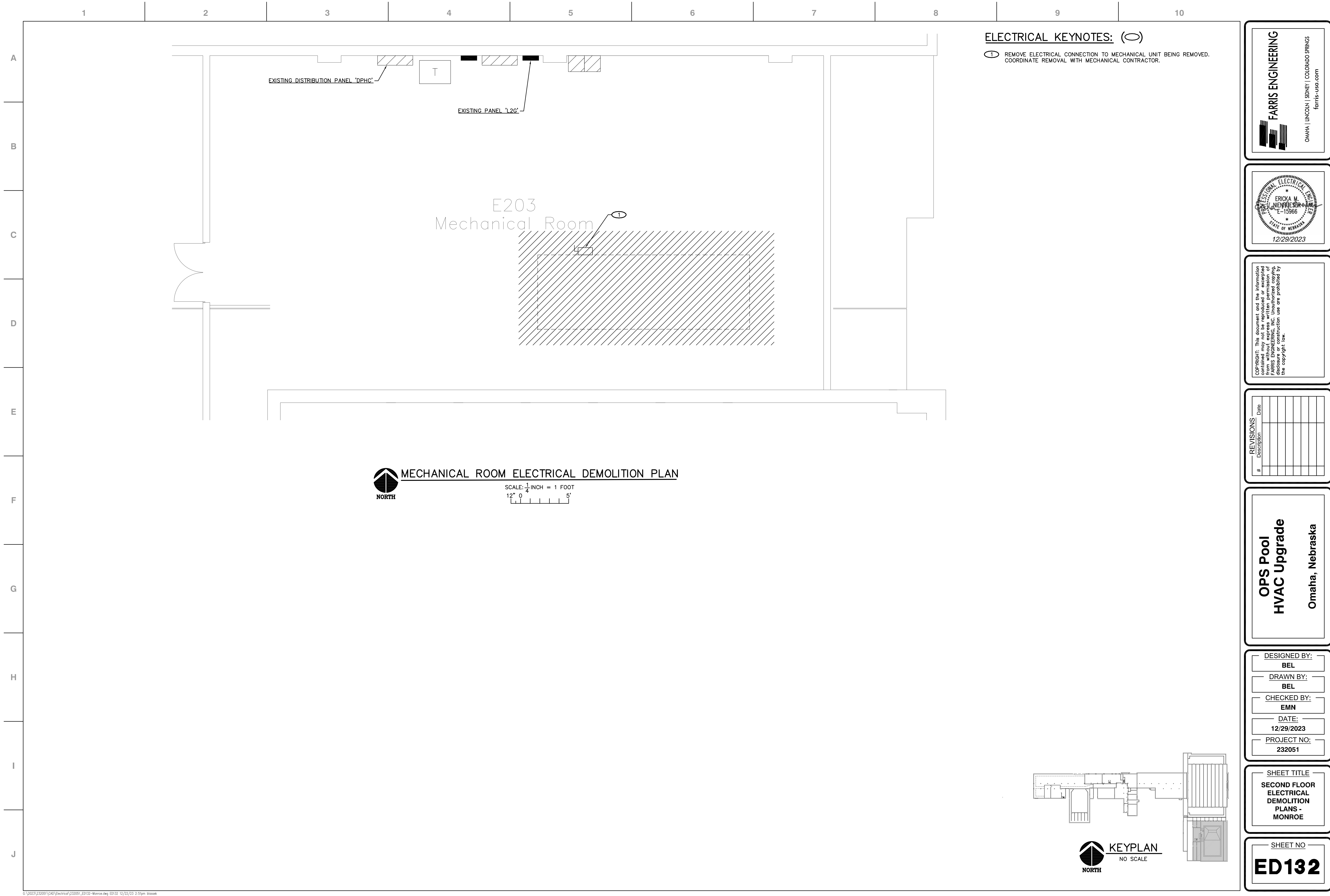
SHEET TITLE

BASEMENT
ELECTRICAL
DEMOLITION
PLANS -
MONROE

SHEET NO

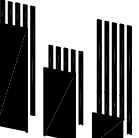
ED131





ELECTRICAL KEYNOTES: (O)

1 REMOVE ELECTRICAL CONNECTION TO MECHANICAL UNIT BEING REMOVED. COORDINATE REMOVAL WITH MECHANICAL CONTRACTOR.

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Omaha, Nebraska

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12/29/2023


PROJECT NO:
232051

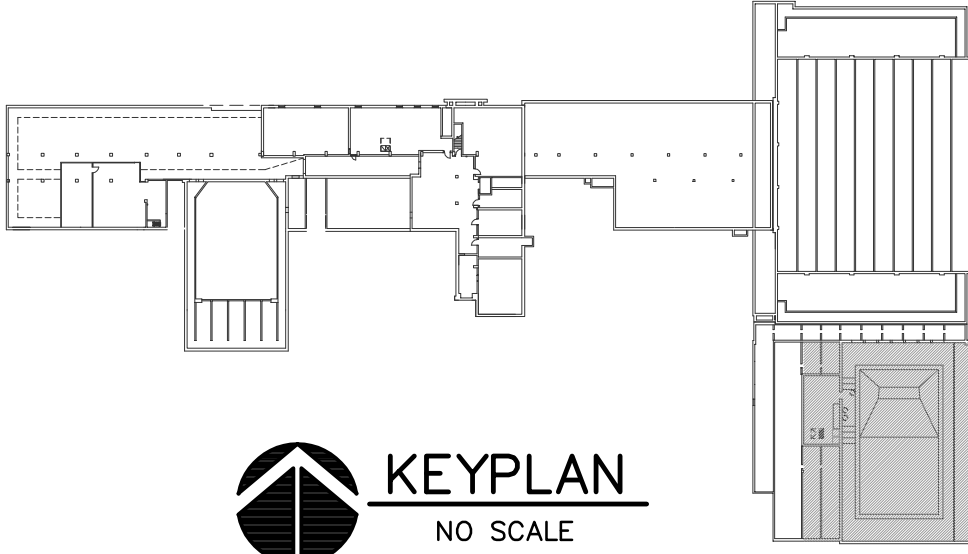
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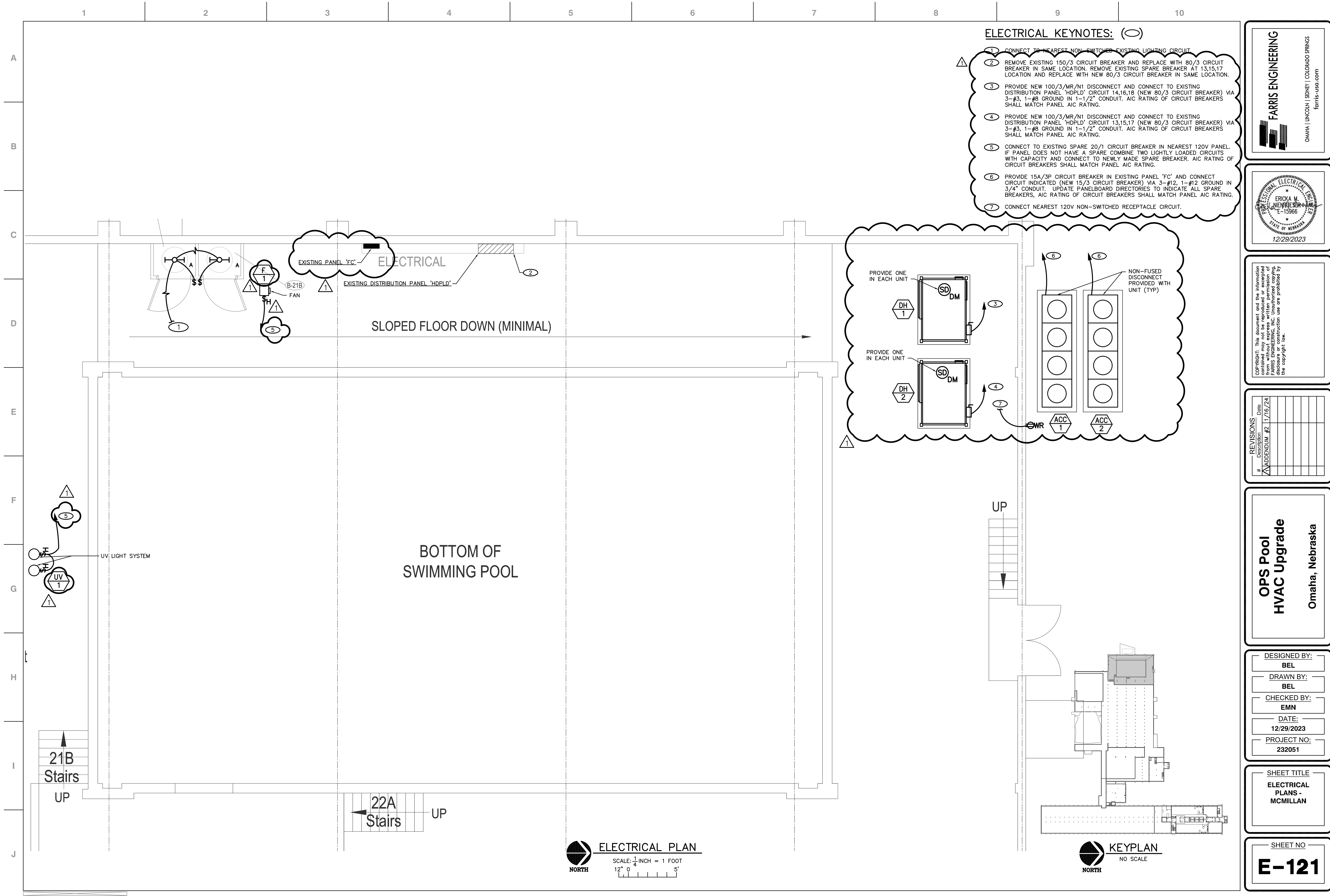
**SECOND FLOOR
ELECTRICAL
DEMOLITION
PLANS -
MONROE**

SHEET NO

ED132

**KEYPLAN**
NO SCALE





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REVISIONS		Date
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1	ADDENDUM #2	1/16/24

**OPS Pool
HVAC Upgrade**

Omaha, Nebraska

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12/29/2023

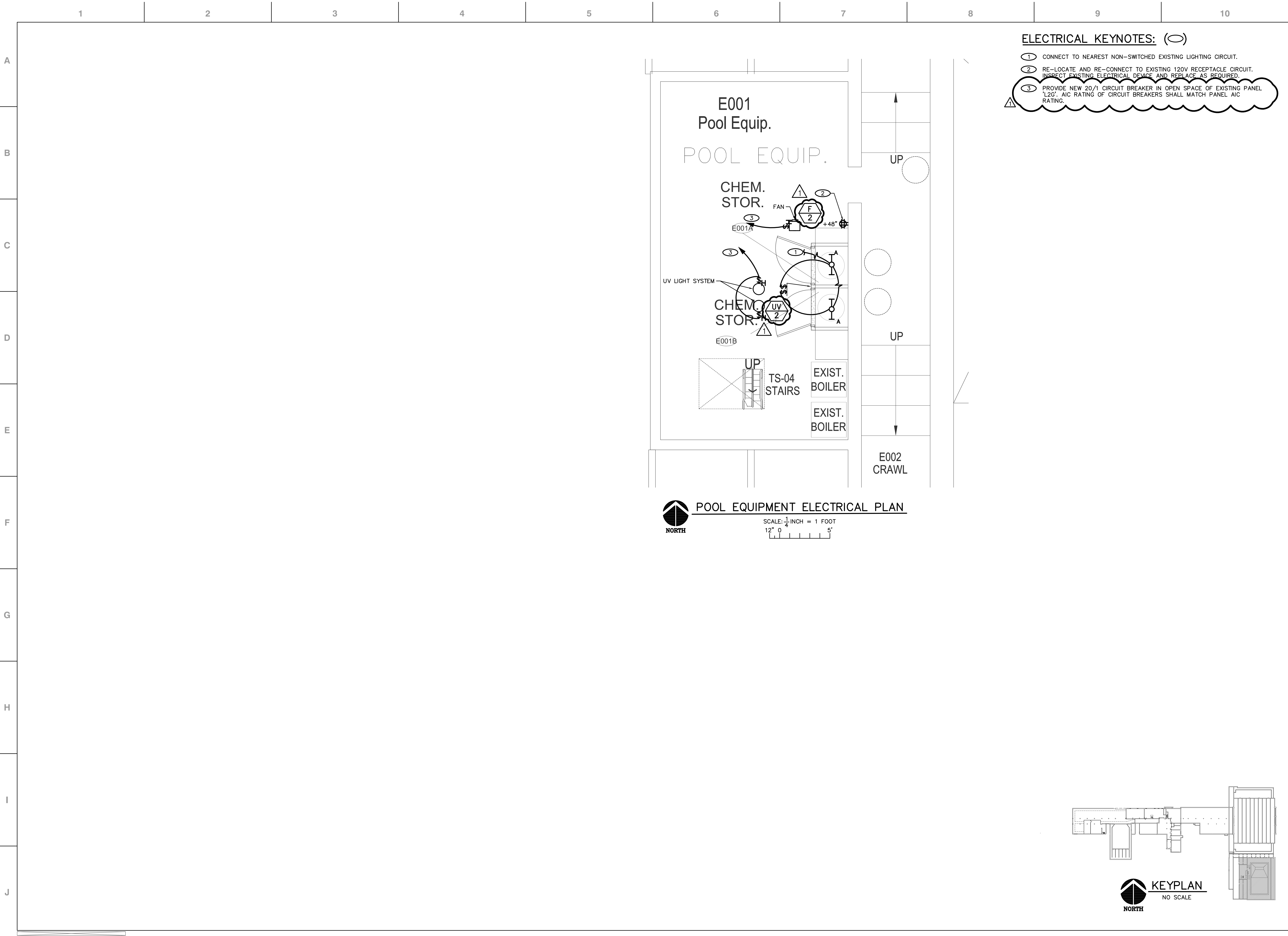
PROJECT NO:
232051

SHEET TITLE

**ELECTRICAL
PLANS -
MCMILLAN**

SHEET NO

E-121



ELECTRICAL KEYNOTES: (O)

- 1 CONNECT TO NEAREST NON-SWITCHED EXISTING LIGHTING CIRCUIT.
- 2 RE-LOCATE AND RE-CONNECT TO EXISTING 120V RECEPTACLE CIRCUIT. INSPECT EXISTING ELECTRICAL DEVICE AND REPLACE AS REQUIRED.
- 3 PROVIDE NEW 20/1 CIRCUIT BREAKER IN OPEN SPACE OF EXISTING PANEL 'L2G'. AIC RATING OF CIRCUIT BREAKERS SHALL MATCH PANEL AIC RATING.

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PROFESSIONAL ELECTRICAL ENGINEER

ERICKA M. NIENHUIS
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REVISIONS		Date
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1	ADDENDUM #2	1/16/24

OPS Pool
HVAC Upgrade

Omaha, Nebraska

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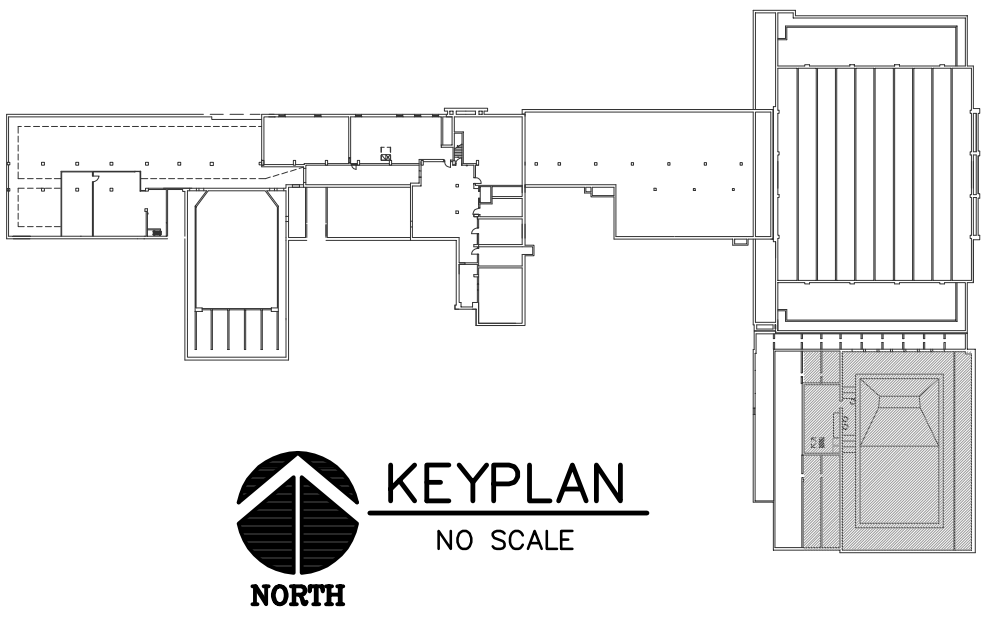
PROJECT NO:
232051

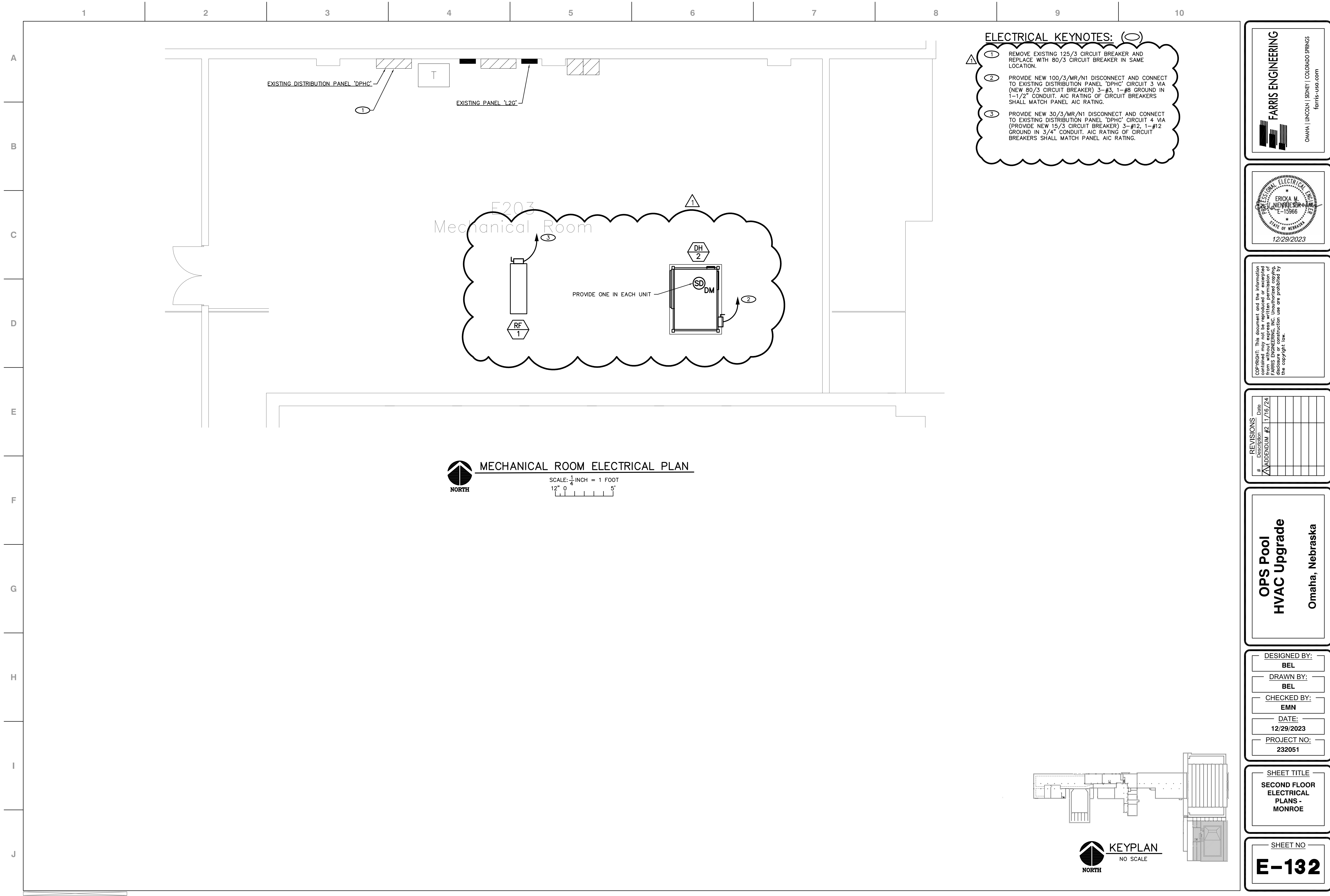
SHEET TITLE

BASEMENT
ELECTRICAL
PLANS -
MONROE

SHEET NO

E-131





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1	ADDENDUM #2		1/16/24

OPS Pool

HVAC Upgrade

Omaha, Nebraska

DESIGNED BY: BEL

DRAWN BY: BEL

CHECKED BY: EMN

DATE: 12/29/2023

PROJECT NO: 232051

SHEET TITLE

SECOND FLOOR ELECTRICAL PLANS - MONROE

SHEET NO

E-132

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LUMINAIRE SCHEDULE

MARK	DESCRIPTION	MANUFACTURER/SERIES	CATALOG NO.	LIGHT SOURCE		FINISH	MOUNTING	INPUT WATTS	VOLTS	ACCEPTABLE MANUFACTURERS	REMARKS
				QTY	TYPE						
A	GASKETED, ENCLOSED CORROSION-RESISTANT INDUSTRIAL	LITHONIA	DMW2 L24-3000LM-AFL-MD-MVOLT-QZ10-40K-80CBI-WI-FEND2-STSL	-	3000LM/4000K/L/LED	WHITE	SUSPENDED	27	120/277	REMARK1	2

LUMINAIRE SCHEDULE REQUIREMENTS:

A. SUBMIT SHOP DRAWINGS FOR EACH LUMINAIRE, BALLAST/DRIVER, AND LAMP TYPE USED ON PROJECT.

B. ACCEPTABLE MANUFACTURERS LISTED ARE CAPABLE OF PROVIDING EQUIVALENT LUMINAIRES. SUBMIT PRODUCT AND ACCESSORIES EQUIVALENT OR SUPERIOR TO THE SPECIFIED LUMINAIRE IN PHOTOMETRIC PERFORMANCE, CONSTRUCTION QUALITY, INCLUDED ACCESSORIES, AND AESTHETICS. ADDITIONAL MANUFACTURERS NOT LISTED MAY ALSO BE SUBMITTED FOR APPROVAL PRIOR TO BID. APPROVAL WILL BE BASED ON AN ASSESSMENT OF THE PRODUCT'S QUALITY, PHOTOMETRIC PERFORMANCE, INCLUDED ACCESSORIES, AND AESTHETICS.

C. ALL LUMINAIRES SHALL HAVE A U.L. LABEL. ALL LUMINAIRES USED IN EXTERIOR APPLICATIONS SHALL HAVE A U.L. WET LABEL.

D. VERIFY MOUNTING COMPATIBILITY OF LUMINAIRES WITH CEILING SYSTEMS/MATERIALS PRIOR TO ORDERING LUMINAIRES. NOTIFY ENGINEER OF ANY CONFLICTS WITH THE PROPOSED INSTALLATION.

E. PROVIDE FACTORY INSTALLED INTEGRAL DISCONNECTING MEANS FOR LUMINAIRES PER 2014 NEC ARTICLE 410.130.(G). NOTE THAT EXCEPTION NO. 4 WILL NOT BE ACCEPTED.

F.. PHILIPS, OSRAM SYLVANIA, G.E., CREE, NICHIA, XICATO, AND SAMSUNG ARE ACCEPTABLE LED MANUFACTURERS.

G.. PROVIDE LED LUMINAIRES WITH MINIMUM 5-YEAR WARRANTY AND INTEGRAL SURGE PROTECTION. LED MODULES, DRIVERS, AND POWER SUPPLIES SHALL BE FIELD-REPLACEABLE.

LUMINAIRE SCHEDULE REMARKS:

1. LITHONIA, COLUMBIA, DAY-BRITE, H.E. WILLIAMS, AND METALUX ARE ACCEPTABLE MANUFACTURERS FOR LUMINAIRE TYPE INDICATED.

2. VERIFY EXISTING VOLTAGE SERVING EXISTING LIGHTING IN EXISTING BUILDING PRIOR TO ORDERING.

TO FIRE ALARM CONTROL PANEL

CONNECT TO SPARE 20 AMP, 1 POLE, 120V. CIRCUIT BREAKER IN NEAREST PANEL. PROVIDE LOCKING DEVICE ON BREAKER TO LOCK IN THE ON POSITION.

CONTROL RELAY (VERIFY CONTROL VOLTAGE)

TO F.A.C.P. (TYP.)

PROVIDE A SEPARATE DUCT MOUNT SMOKE DETECTOR LOCATED PER NFPA AT EACH DAMPER INDICATED TO HAVE DETECTOR ON MECHANICAL DRAWINGS (TYP.).

REMOTE ALARM INDICATOR (TYP.).

QUANTITY OF UNITS CONNECTED PER CIRCUIT SHALL BE SUCH THAT VOLTAGE DROP DOES NOT EXCEED 2% TO ANY UNIT. VERIFY INPUT LOAD WITH MANUFACTURERS DATA.

SEE MECHANICAL DRAWINGS FOR DAMPER TYPES AND LOCATIONS. THIS DETAIL APPLICABLE TO BOTH SMOKE AND FIRE/ SMOKE DAMPERS.

SMOKE DAMPER CONNECTION DETAIL

NO SCALE

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ERICKA M. LAMENUE-SCHAEFER

E-15966

12/29/2023

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#	Description	Date

OPS Pool HVAC Upgrade

Omaha, Nebraska

DESIGNED BY: BEL

DRAWN BY: BEL

CHECKED BY: EMN

DATE: 12/29/2023

PROJECT NO: 232051

SHEET TITLE

ELECTRICAL SCHEDULES

SHEET NO

E-701

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