# MAIN PUMP BUILDING HVAC UPGRADES **ROCK RIVER WATER RECLAMATION DISTRICT** CIP# 2002

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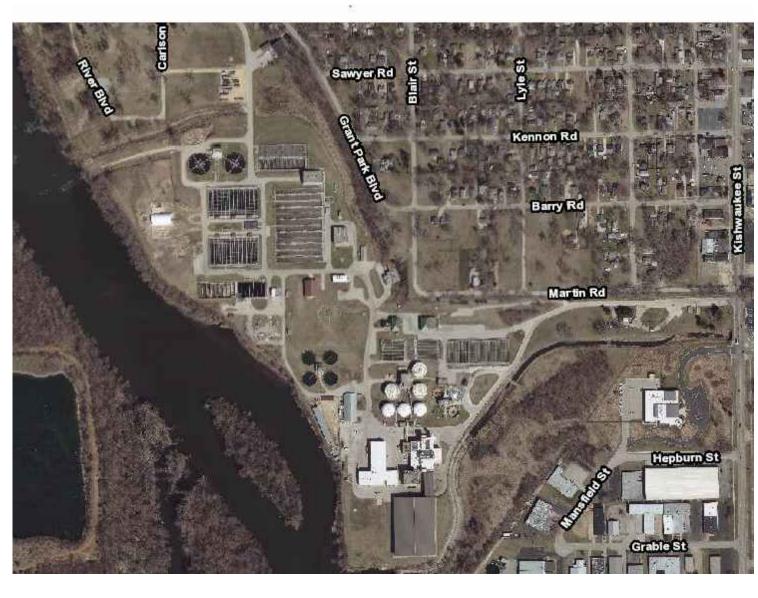
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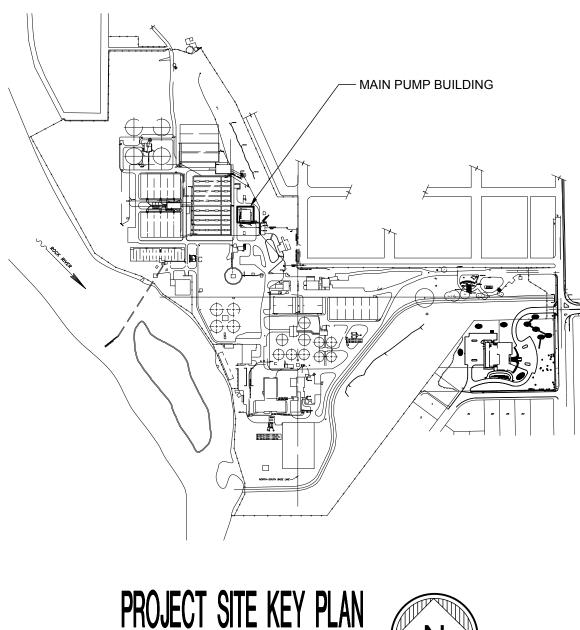
**OFFICIALS** 

TIMOTHY S. HANSON, DISTRICT DIRECTOR CHRISTOPHER T. BAER, P.E., ENGINEERING MANAGER

M5 - UPPER CONTROL/SCREEN ROOMS DEMOLITION PLAN







NO SCALE



3600 EAST STATE ROCKFORD, I PHONE (815) 399–338 WWW.SDSEG	· /
MAIN PUMP BUILDING HVAC UPGRADES	Rock River Water Reclamation District 3333 Kishwaukee Street Rockford, Illinois 61109
No.Descripti150% REVIEW275% REVIEW390% REVIEW4ISSUED FOR (	08/09/19 08/30/19 11/14/19
COVER	SHEET
	02 (SDSE 19-013) CEMBER 20, 2019 SDS SDSE

# PRESENT EQUIPMENT AND DEMOLITION NOTES

- A. WORK SHALL BE COORDINATED SO THAT HEATING, PLUMBING, AND ELECTRICAL SERVICES TO THE PRESENT BUILDING WILL NOT BE INTERRUPTED, EXCEPT AS APPROVED BY RRWRD OPERATIONS.
- B. REMOVED DUCTWORK AND PIPING MUST NOT BE REUSED. C. EQUIPMENT DESIGNATED ON DRAWINGS WHICH IS NOT REUSED (PX) SHALL BECOME PROPERTY OF CONTRACTOR, AND SHALL BE REMOVED FROM PREMISES.
- EQUIPMENT SO DESIGNATED ON DRAWINGS. D. FOLLOWING PRESENT EQUIPMENT SHALL BE CAREFULLY REMOVED, INTACT, MATCH MARKED, INSOFAR AS IS PRACTICAL, SHALL REMAIN PROPERTY OF OWNER, AND SHALL BE DELIVERED TO OWNER OUTSIDE OF BUILDING IF INDICATED OR AS DIRECTED BY RRWRD OPERATIONS (PX-DO).
- 1. EQUIPMENT SO DESIGNATED ON DRAWINGS. E. CONTRACTOR SHALL
- 1. PROVIDE NEW FLOORS UNDER REMOVED PRESENT EQUIPMENT AND WHERE CALLED FOR
- 2. REPAIR FLOORS UNDER AND WALLS ADJACENT TO REMOVED EQUIPMENT, TO MATCH ADJACENT CONSTRUCTION.
- 3. CAP CHASES WHICH ARE NO LONGER REQUIRED AND NEATLY PATCH TO MATCH ADJACENT CONSTRUCTION.
- 4. CUT OPENINGS AT A 90 DEGREE ANGLE REQUIRED FOR: a. HIS WORK;
- ADMISSION OF NEW EQUIPMENT; b
- REMOVAL OF PRESENT EQUIPMENT;
- NEW CONNECTION TO PRESENT CONSTRUCTION. 5. PATCH AND REPAIR UNUSED PRESENT HOLES AND OPENINGS, AND THOSE LEFT BY
- THE REMOVAL OF PRESENT EQUIPMENT AND ADMISSION OF NEW EQUIPMENT. 6. PATCH AND REPAIR PRESENT EQUIPMENT, AND BUILDING CONSTRUCTION WHICH HAS BEEN CUT, REMOVED, DISTURBED OR MARRED, AS REQUIRED, TO RESTORE IT TO
- ORIGINAL CONDITION BEFORE BEING DISTURBED. F. WHERE EQUIPMENT, DUCTWORK, PIPING, ACHORS/SUPPORTS, ETC. ARE REMOVED AND UNUSED OPENINGS REMAIN IN EQUIPMENT, DUCTWORK, PIPING, WALLS, CEILING, FLOOR. ETC., OPENINGS SHALL BE FILLED WITH LIKE MATERIAL TO MATCH EXISTING AND PAINTED TO MATCH EXISTING TO CREATE A FINISHED LOOK.
- G. PRESENT PAINTED CONSTRUCTION WHICH IS MARRED SHALL BE REPAIRED AND PAINTED SAME AS NEW CONSTRUCTION TO MATCH EXISTING.
- H. CERTAIN ABBREVIATIONS OR SYMBOLS, WHEN APPLIED TO PRESENT (TO EXISTING) LINE, DEVICE OR EQUIPMENT, SHALL HAVE THE FOLLOWING MEANINGS:
- NEW CONNECTIONS TO PRESENT DUCTWORK, EQUIPMENT, PIPING, ETC. INSTALL, TEST, <u>NC</u> COVER, PAINT, ETC., SAME AS NEW WORK.
- TO REMAIN UNCHANGED, IF CHANGE CANNOT BE AVOIDED, DUE TO CONTRACTOR CONVENIENCE, CHANGE "P" TO "PXR", AT NO INCREASE IN CONTRACT PRICE.
- TO BE COMPLETELY REMOVED, INCLUDING UNNEEDED CONNECTIONS, PIPING, DUCTS, PΧ CONTROLS, WIRING, CONDUIT, BASES, ETC., OF EVERY KIND. UNUSED OPENINGS PLUGGED OR CAPPED, TESTED, COVERED, PAINTED SAME AS NEW WORK. OTHER DISTURBED WORK OF EVERY KIND RESTORED, PATCHED, TESTED, COVERED, PAINTED, ETC., TO EQUAL ORIGINAL CONDITION. REMOVED MATERIAL MUST NOT BE REUSED UNLESS OTHERWISE SPECIFIED OR DIRECTED BY ENGINEER.
- PXR REMOVED, CLEANED AND RESTORED TO GOOD OPERATING CONDITION AND REINSTALLED, SAME AS NEW WORK, IN ORIGINAL POSITION, OR CLOSE TO ORIGINAL LOCATION. IF RECONDITIONING IS IMPRACTICAL, PROVIDE NEW DEVICE, AS APPROVED BY ENGINEER, AT NO INCREASE IN CONTRACT PRICE. OTHER DISTURBED WORK OF EVERY KIND RESTORED, PATCHED, TESTED, COVERED, PAINTED, ETC., EQUAL TO EXISTING OR NEW WORK.
- REMOVED, CLEANED AND RESTORED TO GOOD OPERATING CONDITION AND PXN REINSTALLED SAME AS NEW WORK, IN NEW POSITION MARKED "PN". IF RECONDITIONING IS IMPRACTICAL, PROVIDE NEW DEVICE, AS APPROVED BY ENGINEER, AT NO INCREASE IN CONTRACT PRICE. UNUSED OPENINGS PLUGGED OR CAPPED, TESTED, COVERED, PAINTED SAME AS EXISTING OR NEW WORK. OTHER DISTURBED WORK OF EVERY KIND RESTORED, PATCHED, TESTED, COVERED, PAINTED, ETC., EQUAL TO EXISTING OR NEW
- COMPLETELY REINSTALL DEVICE AT NEW LOCATION TO EXISTING OR NEW DUCTWORK <u>PN</u> AS SHOWN, SAME AS NEW WORK. PROVIDE ALL NECESSARY DUCT OR PIPE EXTENSIONS AS REQUIRED.
- PX-DO SAME AS "PX", EXCEPT REMOVED, CLEANED AND RESTORED INTACT, AS FAR AS PRACTICAL, MATCHED MARKED, AND OTHERWISE IDENTIFIED AS REQUIRED AND DELIVERED AS INDICATED BY RRWRD OPERATIONS.
- I. WORK OF EVERY DIVISION SHALL BE COORDINATED WITH ALL OTHER WORK AND PRESENT CONDITIONS, SO THAT
- 1. ELECTRICAL SERVICES TO PRESENT BUILDINGS OR PORTIONS OF BUILDING WILL NOT BE INTERRUPTED DURING PERIODS WHEN THOSE SERVICES ARE NEEDED.
- 2. SPECIAL SYSTEMS SUCH AS FIRE ALARM, SOUND, ETC., OF EVERY KIND TO PRESENT BUILDINGS WILL NOT BE INTERRUPTED DURING WORKING AND/OR OCCUPIED HOURS, EXCEPT AS APPROVED BY RRWRD (WARREN ADAM, 815-871-0787).
- 3. REMOVAL OF ROOFING SYSTEM SHALL BE COORDINATED TO MINIMIZE EXPOSURE OF BUILDING INTERIOR TO PRECIPITATION. TEMPORARY PROTECTIONS SHALL BE UTILIZED TO PROTECT THE BUILDING INTERIOR AND THE EXISTING CONCRETE DECKING PRIOR TO INSTALLATION OF THE NEW ROOFING SYSTEM.
- J. DUCTWORK SERVING NEW AND/OR PRESENT MECHANICAL DEVICES IN FINISHED PRESENT ROOMS OR SPACES SHALL BE CONCEALED IN FINISHED ROOMS, WHERE POSSIBLE OR SHALL BE RUN IN ADJOINING UNFINISHED ROOMS, SHAFTS, CHAMBERS, CLOAK ROOMS, ETC., EXCEPT WHERE EXPOSED DUCT IS PERMITTED IN FINISHED PRESENT ROOMS BY ENGINEER IN WRITING, PRESENT DIFFUSERS, GRILLS, REGISTERS, SWITCHES, ETC. SHALL BE REMOVED AS PER NOTE "PX" UNLESS ANOTHER SYMBOL IS SHOWN ON DRAWINGS OR THE DEVICES ARE SERVING OTHER EQUIPMENT. WHERE SPECIFICALLY APPROVED BY ENGINEER IN WRITING, OPENINGS MAY BE PERMITTED TO REMAIN AND BE PROVIDED WITH NEAT FLUSH COVERS, EXTENDING OVER ENTIRE WALL OPENING.
- K. UNNEEDED EQUIPMENT, DUCTWORK, ETC., SHALL BE COMPLETELY REMOVED; AND CONSTRUCTION PATCHED AS PER NOTE "PX". NEW CONNECTIONS TO PRESENT DUCTS/PIPING/EQUIPMENT, SHALL BE MADE, TESTED, COVERED, PAINTED, ETC., SAME AS NEW EQUIPMENT. PRESENT EQUIPMENT, AND OTHER COVERING DISTURBED BY CONTRACTOR SHALL BE REPAIRED TO EQUAL NEW CONDITION AND PAINTED SAME AS NEW COVERING.

# MECHANICAL GENERAL NOTES:

1. DRAWINGS ARE GENERALLY DIAGRAMMATIC. EACH CONTRACTOR SHALL MAKE REQUIRED CHANGES FROM THE GENERAL ROUTING SHOWN ON THESE DRAWINGS SUCH AS OFF SETS, BENDS OR CHANGES IN ELEVATION DUE TO COORDINATION WITH THE WORK OF OTHER TRADES AND THE BUILDING CONSTRUCTION. ALL CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER. FOR PRESENT CONSTRUCTION, VERIFY ALL EXISTING CONDITIONS PRIOR TO BIDDING TO AVOID CONFLICT. IT IS INTENDED THAT ALL EQUIPMENT, MATERIAL, DEVICES, ETC., SHALL BE LOCATED SYMMETRICALLY WITH THE ARCHITECTURAL ELEMENTS, NOTWITHSTANDING THE FACT THAT LOCATIONS INDICATED BY THESE DRAWINGS MAY BE DISTORTED FOR CLEARNESS OF PRESENTATION.

EACH CONTRACTOR SHALL CHECK DRAWINGS OF THE OTHER TRADES TO VERIFY SPACES IN WHICH THEIR WORK WILL BE INSTALLED IS CLEAR OF OBSTRUCTIONS. MAINTAIN MAXIMUM HEADROOM AND SPACE CONDITIONS AT ALL POINTS IN THE BUILDING. WHERE HEADROOM OR SPACE CONDITIONS APPEAR INADEQUATE, NOTIFY ENGINEER BEFORE PROCEEDING WITH THE INSTALLATION.

FURNISH ALL TRADES ADVANCE INFORMATION ON LOCATIONS AND SIZES OF DUCTWORK, EQUIPMENT, FRAMES, BOXES, SLEEVES AND OPENINGS NEEDED FOR WORK, AND ALSO FURNISH INFORMATION AND SHOP DRAWINGS TO PERMIT TRADES AFFECTED TO INSTALL THEIR WORK PROPERLY AND WITHOUT DELAY.

WHERE THERE IS EVIDENCE THAT WORK OF ONE TRADE WILL INTERFERE WITH WORK OF OTHER TRADES, ALL TRADES SHALL ASSIST IN WORKING OUT SPACE CONDITIONS TO MAKE SATISFACTORY ADJUSTMENTS.

CONTRACTOR TO REVIEW, PRIOR TO BIDDING, ALL DRAWINGS TO COORDINATE VARIOUS WORK AS CALLED FOR. CONTRACTOR SHALL CAREFULLY CHECK ALL DRAWINGS FOR ALL TRADES, AND ANY LACK OF COORDINATION BETWEEN HIS WORK AND DRAWINGS FOR JOB CONDITIONS SHALL BE IMMEDIATELY REPORTED TO ENGINEER.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING, INCLUDING CORE DRILLING, SAW CUTTING, ETC., AS REQUIRED TO ACCOMMODATE HIS WORK. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION, INCLUDING SECTIONS 01 00 00 "PROJECT REQUIREMENTS" AND 02 41 19 "SELECTIVE DEMOLITION".

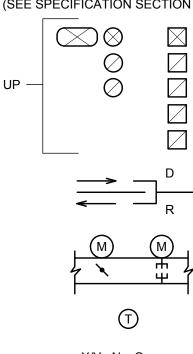
CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND REPLACEMENT OF PRESENT CEILINGS, LIGHT FIXTURES, DIFFUSERS, DUCTWORK, PIPING, CONDUIT, ETC., AS REQUIRED FOR THE INSTALLATION OF HIS WORK. REMOVAL, REPLACEMENT AND PAYMENT FOR MECHANICAL/ELECTRICAL ITEMS SHALL BE THE RESPONSIBILITY OF THE APPLICABLE MECHANICAL CONTRACTOR. REMOVAL AND REPLACEMENT OF PRESENT CEILINGS, ETC., SHALL BE THE RESPONSIBILITY OF CONTRACTOR MAKING THE DISTURBANCE BUT SAME SHALL BE DONE BY A GENERAL CONTRACTOR. IT SHALL BE THE RESPONSIBILITY OF THE APPROPRIATE MECHANICAL CONTRACTOR TO GIVE QUANTITIES OF REMOVAL/REPLACEMENT REQUIREMENTS TO A GENERAL CONTRACTOR.

- 2. HEATING, VENTILATING, AND ELECTRICAL DESIGNS ARE BASED ON THE REQUIREMENTS FOR THE SPECIFIED EQUIPMENT MANUFACTURER. CONDUITS, DISCONNECTS, BREAKERS, FUSES, AND WIRE SIZES ARE SELECTED ON THE BASIS OF SPECIFIED EQUIPMENT MANUFACTURER. INCREASED CURRENT REQUIREMENTS NECESSITATING LARGER WIRE, BREAKERS, FUSES, SWITCHES, ETC. TO ACCOMMODATE ANY ALTERNATE OR SUBSTITUTE MANUFACTURER'S EQUIPMENT OTHER THAN AS SHOWN ON DRAWINGS OR SCHEDULES SHALL BE PROVIDED WITHOUT INCREASE IN CONTRACT PRICE BY THE CONTRACTOR FURNISHING EQUIPMENT. WIRE SIZES ARE SELECTED ON THE BASIS OF SPECIFIED EQUIPMENT.
- 3. CONTRACTOR SHALL PROVIDE ALL DUCT DROPS AND OFFSETS TO AVOID INTERFERENCES WITH JOISTS, OTHER DUCTS, LIGHTS, PIPES, ETC.
- 4. ALL DUCTWORK TO BE HELD TIGHT TO STRUCTURAL ROOF JOISTS, BEAMS, ETC. AS CLEARANCE IS MINIMAL. COORDINATE WITH OTHER CONTRACTORS TO AVOID CONFLICT.
- 5. WHERE DUCTWORK IS REPLACED, USE SAME DUCT ROUTING AND OPENINGS FOR NEW DUCTWORK AS THE DUCTWORK THAT WAS REMOVED.
- 6. DUCT SIZES MAY BE ALTERED TO FIT JOB CONDITIONS, BUT NET FREE AREAS MUST BE MAINTAINED.
- 7. INSTALL 1" OF NON-SHRINK GROUT AROUND DUCTWORK ON EACH WALL FACE TO SEAL OPENINGS AND ELIMINATE SOUND TRANSFER WITH AIR-TIGHT CONNECTIONS.
- 8. ALL THERMOSTATS LOCATED UP 4'-0" TO MEET ADA REQUIREMENTS WITH PLASTIC OR CAST GUARDS, AS SPECIFIED. ALL THERMOSTATS LOCATED ON EXTERIOR WALLS OR COLUMNS MUST BE MOUNTED ON THERMAL INSULATING BLOCKS.
- 9. MECHANICAL CONTRACTOR TO BE RESPONSIBLE FOR PROVIDING SUFFICIENT VENTILATION FOR ENSURING THE SAFETY OF THE CONTRACTORS PERFORMING WORK WHILE VENTILATION UNITS ARE OUT OF SERVICE REQUIRED EQUIPMENT SHALL BE NO ADDITIONAL COST TO OWNER. AT THE END OF EACH WORK DAY, WHERE VENTILATION IS NOT IN SERVICE, MECHANICAL CONTRACTOR TO COORDINATE WITH RRWRD OPERATIONS FOR VENTILATION STATUS AND DIRECTION.
- 10. THE USER OF THE DRAWINGS AGREES TO HOLD THE ENGINEER HARMLESS FOR ANY RESPONSIBILITY IN REGARD TO CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES AND FOR ANY SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK AND FURTHER SHALL HOLD THE ENGINEER HARMLESS FOR COST AND PROBLEMS ARISING FROM THE NEGLIGENCE OF THE CONTRACTOR, SUBCONTRACTOR, TRADESMEN OR WORKMEN, THE USE OF THESE DRAWINGS ALSO IMPLIES THAT THE ENGINEER SHALL TAKE NO RESPONSIBILITY FOR THE PLANNED USER'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE DRAWINGS OR CONTRACT DOCUMENTS.

## BASIC ABBREVIATIONS

MARK	DESCRIPTION	MARK	DESCRIPTION
AAD	AUTOMATIC ALUMINUM DAMPERS	MC	MECHANICAL CONTRACTOR
ACCU	AIR COOLED CONDENSING UNIT	MCS	MONITORING AND CONTROL SYSTEM
AD	ACCESS DOOR	NC-VL	NEW CONNECTION-VERIFY LOCATION
AFC	ADJUSTABLE FLEXIBLE CONNECTION	OA	OUTDOOR AIR
AFF	ABOVE FINISH FLOOR	OAD	OUTDOOR AIR DAMPER
ALUM	ALUMINUM	OAI	OUTDOOR AIR INTAKE
AP	ACCESS PANEL	OU.D.	OUTDOOR AIR DUCT
ASC	ABOVE SUSPENDED CEILING	Р	PRESENT
BOD	BOTTOM OF DUCT	PC	PLUMBING CONTRACTOR
BDD	BACK DRAFT DAMPER	PRE	POWER ROOF EXHAUSTER
BJA	BETWEEN JOISTS ABOVE	RAD	RETURN AIR DAMPER
CAD	COMBUSTION AIR DAMPER	RE.D.	RETURN AIR DUCT
CD	CEILING DIFFUSER (S) SUPPLY (R) RETURN	RD	ROOF DRAIN
CFM	CUBIC FEET PER MINUTE	REFRIG.	REFRIGERANT-LIQUID,SUCTION,HGBP
CLG	CEILING	RG	RETURN GRILLE
CO	CLEANOUT	RR	RETURN REGISTER
СТС	CLOSE TO CEILING (EXPOSED)	RTU	ROOFTOP UNIT
CTF	CLOSE TO FLOOR	SCD	SUPPLY CEILING DIFFUSER
CTW	CLOSE TO WALL (EXPOSED)	SIM	SIMILAR
D	DOWN	SG	SUPPLY GRILLE
DC	DOOR CONTACT	SLD	SUPPLY LINEAR DIFFUSER
DDC	DIRECT DIGITAL CONTROLS	SM	SHEET METAL
DL	DUCT LINING	SR	SUPPLY REGISTER
DV	DOOR VENT (BY OTHERS)	SS	STAINLESS STEEL
EC	ELECTRICAL CONTRACTOR	SUH	SUSPENDED UNIT HEATER
EH	EXHAUST HOOD	SU.D.	SUPPLY DUCT
ER	EXHAUST REGISTER	TFA	TO FLOOR ABOVE
EF	EXHAUST FAN	TC	TEMPERATURE CONTROL
EG	EXHAUST GRILLE	TFA	TO FLOOR ABOVE
EX.D.	EXHAUST DUCT	TFB	TO FLOOR BELOW
EXP	EXPOSED	TF.D.	TRANSFER DUCT
FFB	FROM FLOOR BELOW	TG	TRANSFER GRILLE
FBO	FURNISHED BY OTHERS	TJA	THRU JOIST ABOVE
FFA	FROM FLOOR ABOVE	TOD	TOP OF DUCT
FFB	FROM FLOOR BELOW	TR	THROUGH ROOF
FRP	FIBERGLASS REINFORCED PLASTIC	TYP	TYPICAL
G	GAS PIPING	VE.D.	VENT AIR DUCT
GC	GENERAL CONTRACTOR	VD	VOLUME DAMPER
HGBP	HOT GAS BYPASS PIPING	VG	VENT GRILLE
HVAC	HEATING, VENTILATING & AIR CONDITION.	VTR	VENT THRU ROOF
IL	INTAKE LOUVER	W/	WITH

HVAC SHEET METAL SYMBOLS:



X/Y , N x O

XØ EQUIPMENT, EQUIPMENT

SEE SPECIFICATION SECTION 01 42 00 FOR ADDITIONAL ABBREVIATIONS, PREFIXES, SUFFIXES, ETC.

(SEE SPECIFICATION SECTION 01 42 00 AND DIVISION 23 SECTIONS FOR ADDITIONAL NOTES, SYMBOLS, ABBREVIATIONS, ETC.)

						1	
=	SUPPLY DUCT (SU.D.)	=	$\ge$	$\otimes$	$\bigcirc$		
=	RETURN DUCT (RE.D.)	=	$\square$	$\oslash$			
=	EXHAUST DUCT (EX.D.)	=	$\square$	$\oslash$		— DOWN	
=	VENT DUCT (VE.D.)	=	$\square$				
=	OUTDOOR DUCT (OU.D.)	=	$\square$				
						1	

= DUCT R=RISE, D=DROP WITH DIRECTION OF AIR FLOW

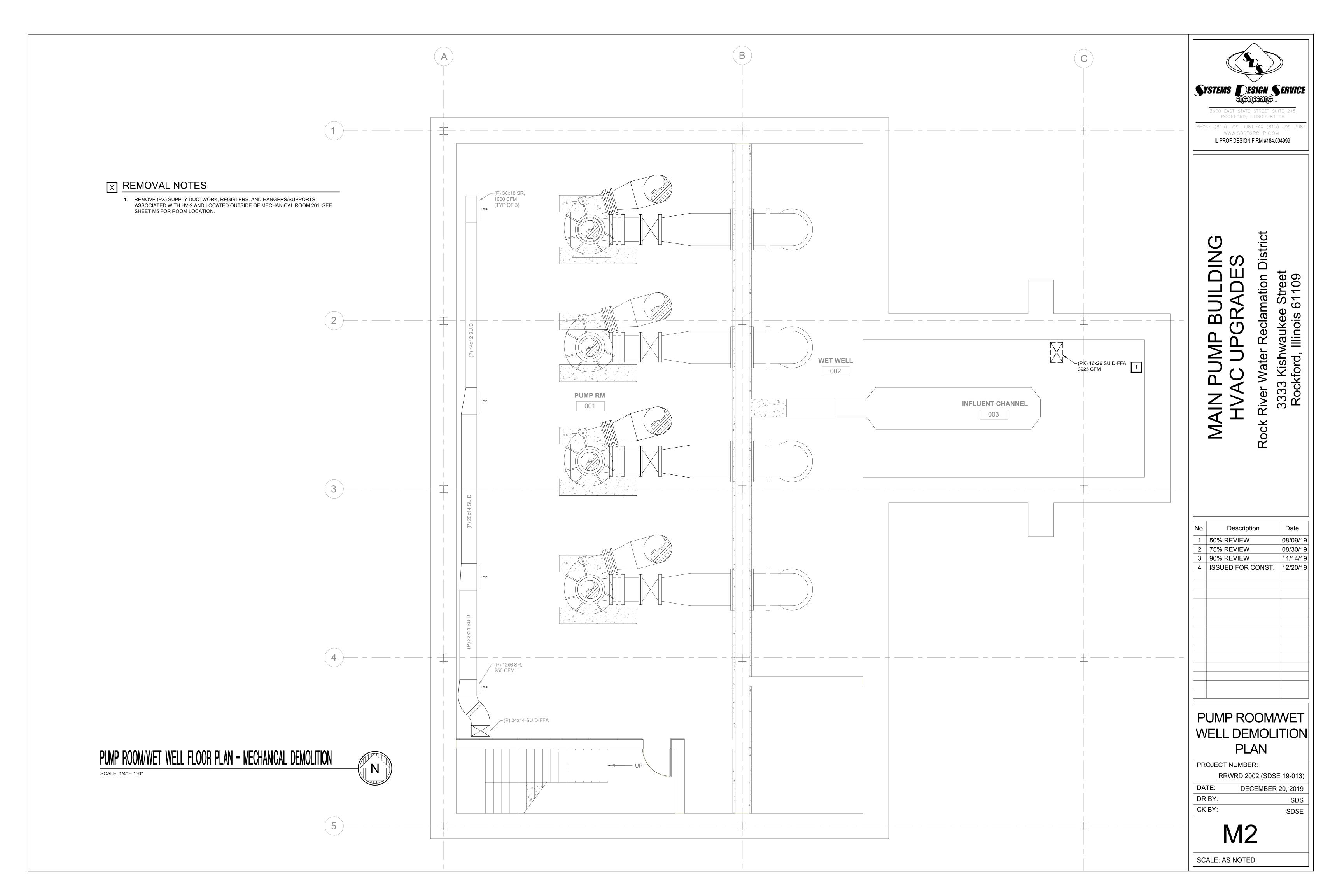
= MOTORIZED VOLUME DAMPER - MUST BE ACCESSIBLE

= THERMOSTAT - ARROW INDICATES UNITS CONTROLLED,

-G = WITH GUARD, 4'-0" FOR HANDICAP.

= DUCT SIZE (1ST FIGURE SIDE SHOWN, 2ND FIGURE SIDE NOT SHOWN) BOTH SIDES REFER TO INSIDE DIMENSION, DIMENSIONS IN INCHES.

= DIAMETER, DIMENSIONS IN INCHES. = EQUIPMENT NOTE, DESIGNATION, OR ITEM. SYSTEMS ESIGN SERVICE ajenaanje ROCKFORD, ILLINOIS 61108 DNE (815) 399–3381 FAX (815) 399–338 WWW.SDSEGROUP.COM IL PROF DESIGN FIRM #184.004999 trict Z Ś  $\square$ tion ÕÕ 57 σ  $\neg$ 1 Q σ S m <u>.</u> C vau **(**) ß Ð σ σ kfo C C er ς Ω Ω R R <u>∽</u>!<  $\mathcal{O}$ 4 N Date Description 50% REVIEW 08/09/19 2 75% REVIEW 08/30/19 90% REVIEW 11/14/19 ISSUED FOR CONST. 12/20/19 MECHANICAL NOTES & **ABBREVIATIONS PROJECT NUMBER:** RRWRD 2002 (SDSE 19-013) DATE: DECEMBER 20, 2019 DR BY: SDS CK BY: SDSE IVI SCALE: AS NOTED



1. REMOVE (PX) SUPPLY DUCTWORK, REGISTERS, AND HANGERS/SUPPORTS ASSOCIATED WITH HV-2 AND LOCATED OUTSIDE OF MECHANICAL ROOM 201, SEE SHEET M5 FOR ROOM LOCATION.

1

2

3

4

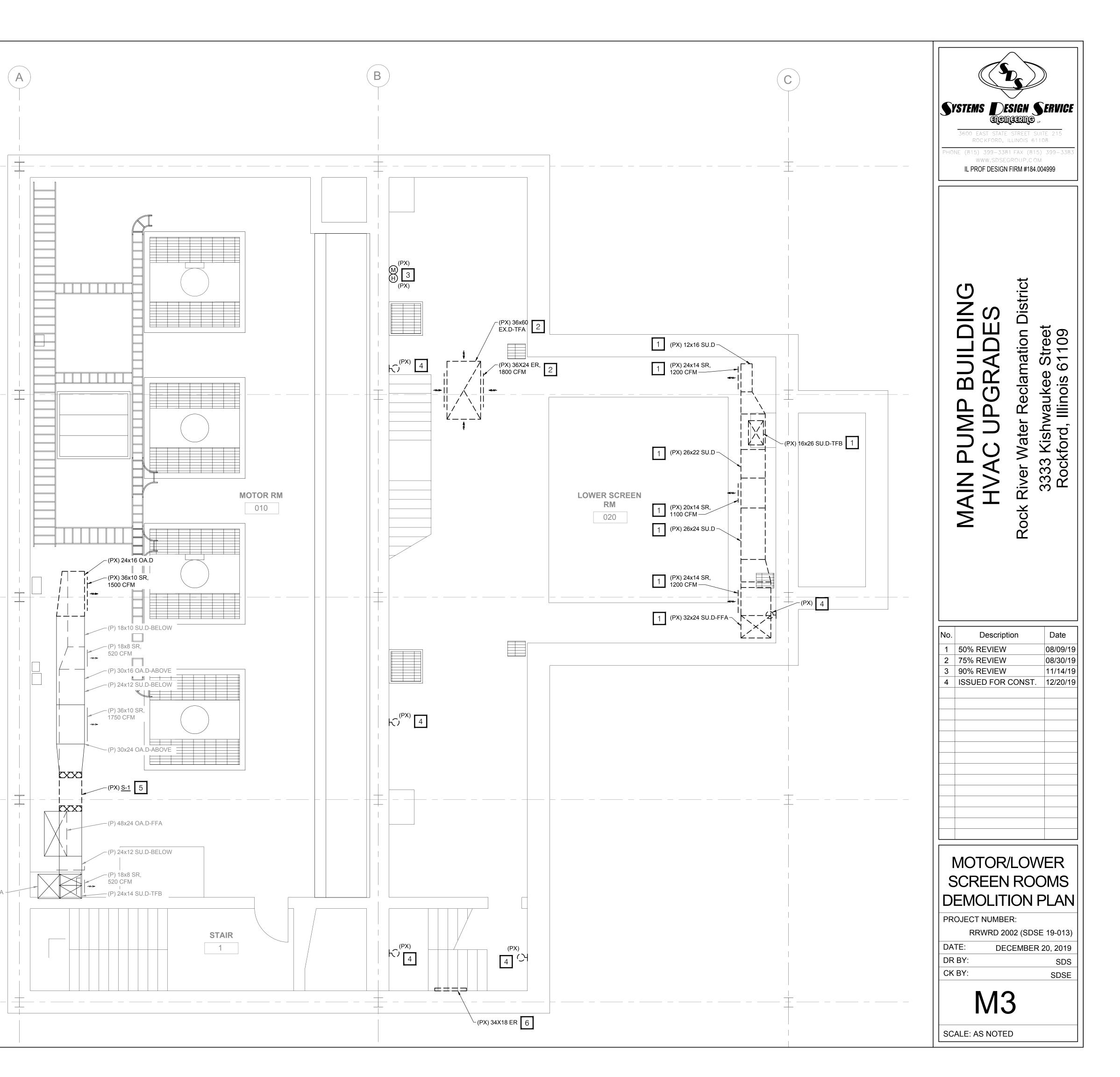
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<sup>™</sup> N <sup>™</sup>

- 2. REMOVE (PX) EXHAUST DUCTWORK, REGISTERS, AND HANGERS/SUPPORTS ASSOCIATED WITH EF-1 AND EF-2 LOCATED OUTSIDE OF MECHANICAL ROOM 202, SEE SHEET M5 FOR ROOM LOCATION.
- 3. REMOVE (PX) GAS DETECTION SYSTEM AND ALL ASSOCIATED DEVICES & WIRING. CUT AND PATCH WALL TO MATCH EXISTING WHERE REQUIRED FOR NEW DEVICE INSTALLATION IN SAME LOCATION.
- 4. REMOVE (PX) GAS DETECTION WARNING LIGHT FIXTURE. CUT AND PATCH WALL TO MATCH EXISTING WHERE REQUIRED FOR NEW FIXTURE INSTALLATION IN SAME LOCATION.
- 5. REMOVE (PX) INLINE SUPPLY FAN AND ASSOCIATED FLEX CONNECTIONS TO RIGID DUCTWORK AS REQUIRED FOR NEW SUPPLY FAN INSTALLATION.
- 6. REMOVE (PX) WALL REGISTER, CLEAN OPENING IN WALL PRIOR TO NEW REGISTER INSTALLATION.

# MOTOR ROOM/LOWER SCREEN ROOM FLOOR PLAN - MECHANICAL DEMOLITION



- 1. REMOVE (PX) DAMPER, PNEUMATIC ACTUATOR, AND ASSOCIATED TUBING. LOUVER TO REMAIN. REMOVE AND REINSTALL DUCTWORK AS REQUIRED FOR ACTUATOR AND DAMPER REMOVAL.
- 2. REMOVE (PX) GAS DETECTION SYSTEM PANEL AND ALL ASSOCIATED DEVICES, WIRING, CONDUIT, TUBING. ETC. PATCH WALL TO MATCH EXISTING WHERE NEW DEVICES WILL NOT BE INSTALLED IN SAME LOCATION.
- 3. REMOVE (PX) HOT WATER CONTROL VALVE FROM UNIT. REMOVE (PX) HWS/HWR PIPING AS REQUIRED FOR REMOVAL CONTROL VALVE. REMOVE (PX) ASSOCIATED WALL MOUNTED THERMOSTAT AND TUBING/WIRING.
- 4. REMOVE (PX) THERMOSTAT/TEMPERATURE SENSOR AND ASSOCIATED PNEUMATIC TUBING OR WIRING. INSTALL BLANK STAINLESS STEEL COVER PLATE AT LOCATIONS WHERE THERMOSTAT IS REMOVED AND NEW THERMOSTAT WILL NOT BE INSTALLED.
- 5. REMOVE (PX) SUPPLY DUCTWORK, REGISTERS, AND HANGERS/SUPPORTS ASSOCIATED WITH HV-2 AND LOCATED OUTSIDE OF MECHANICAL ROOM 201, SEE SHEET M5 FOR ROOM LOCATION.
- 6. REMOVE (PX) EXHAUST DUCTWORK, REGISTERS, AND HANGERS/SUPPORTS ASSOCIATED WITH EF-1 AND EF-2 LOCATED OUTSIDE OF MECHANICAL ROOM 202, SEE SHEET M5 FOR ROOM LOCATION.
- 7. REMOVE (PX) GAS DETECTION WARNING LIGHT FIXTURE. PATCH WALL TO MATCH EXISTING AFTER LIGHT IS REMOVED.
- 8. REMOVE (PX) GAS DETECTION WARNING LIGHT FIXTURE. CUT AND PATCH WALL TO MATCH EXISTING WHERE REQUIRED FOR NEW FIXTURE INSTALLATION IN SAME LOCATION.
- 9. REMOVE (PX) PNEUMATIC ACTUATOR AND ASSOCIATED TUBING. LOUVER & DAMPER TO REMAIN. REMOVE AND REINSTALL DUCTWORK AS REQUIRED FOR ACTUATOR REMOVAL.
- 10. REMOVE (PX) TEMPERATURE AND PRESSURE SENSORS.
- 11. EXISTING BOILER SYSTEM OUTDOOR TEMPERATURE SENSOR TO REMAIN.

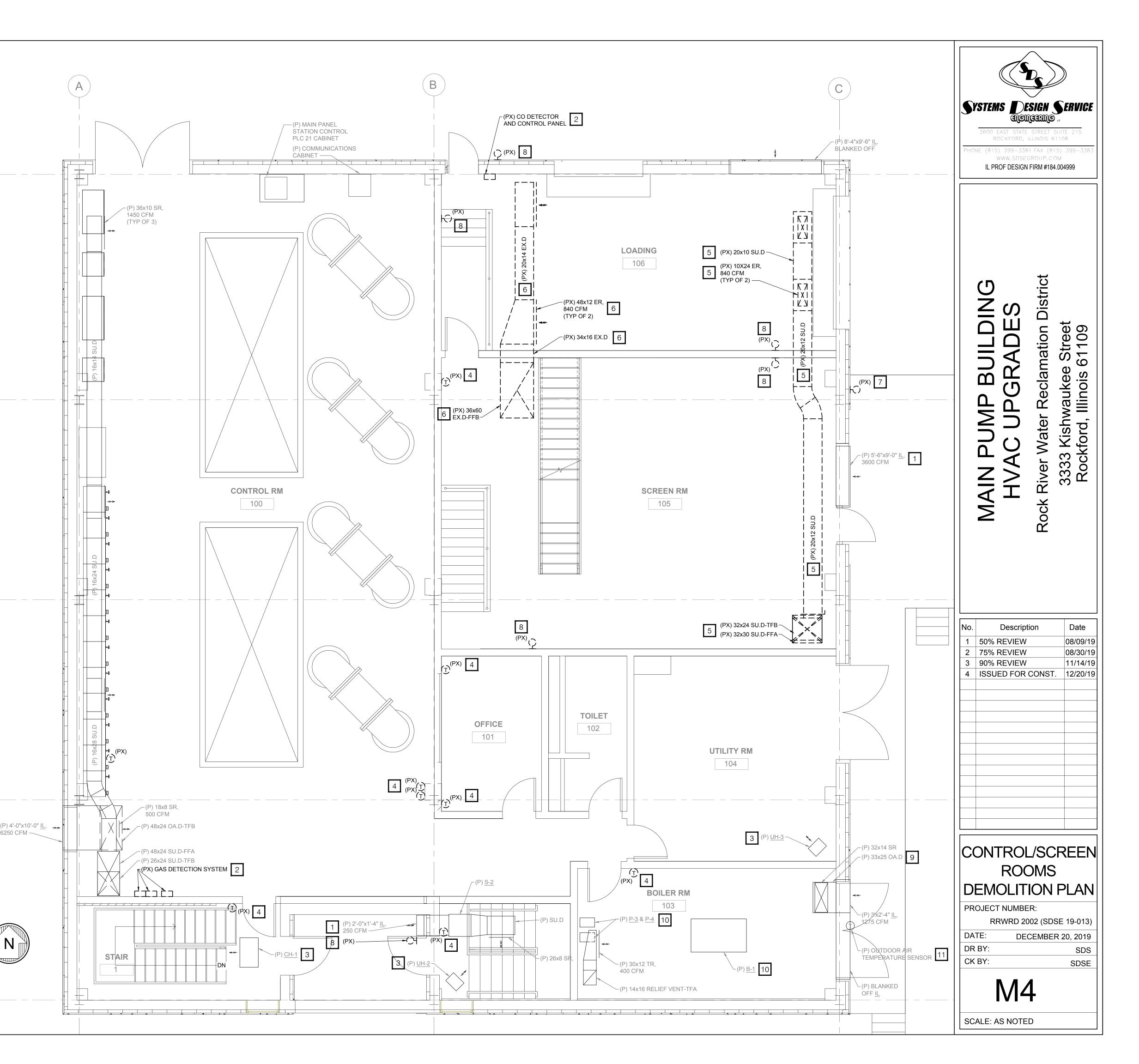
#### CONTROL ROOM/SCREEN ROOM FLOOR PLAN - MECHANICAL DEMOLITION SCALE: 1/4" = 1'-0"



1

3

4



1. REMOVE (PX) MOTOR, BELTS, PULLEYS, BEARINGS, FILTERS, ETC. EXAMINE SHAFT AND BLOWER WHEEL FOR DAMAGE OR WEAR. 1

2

3

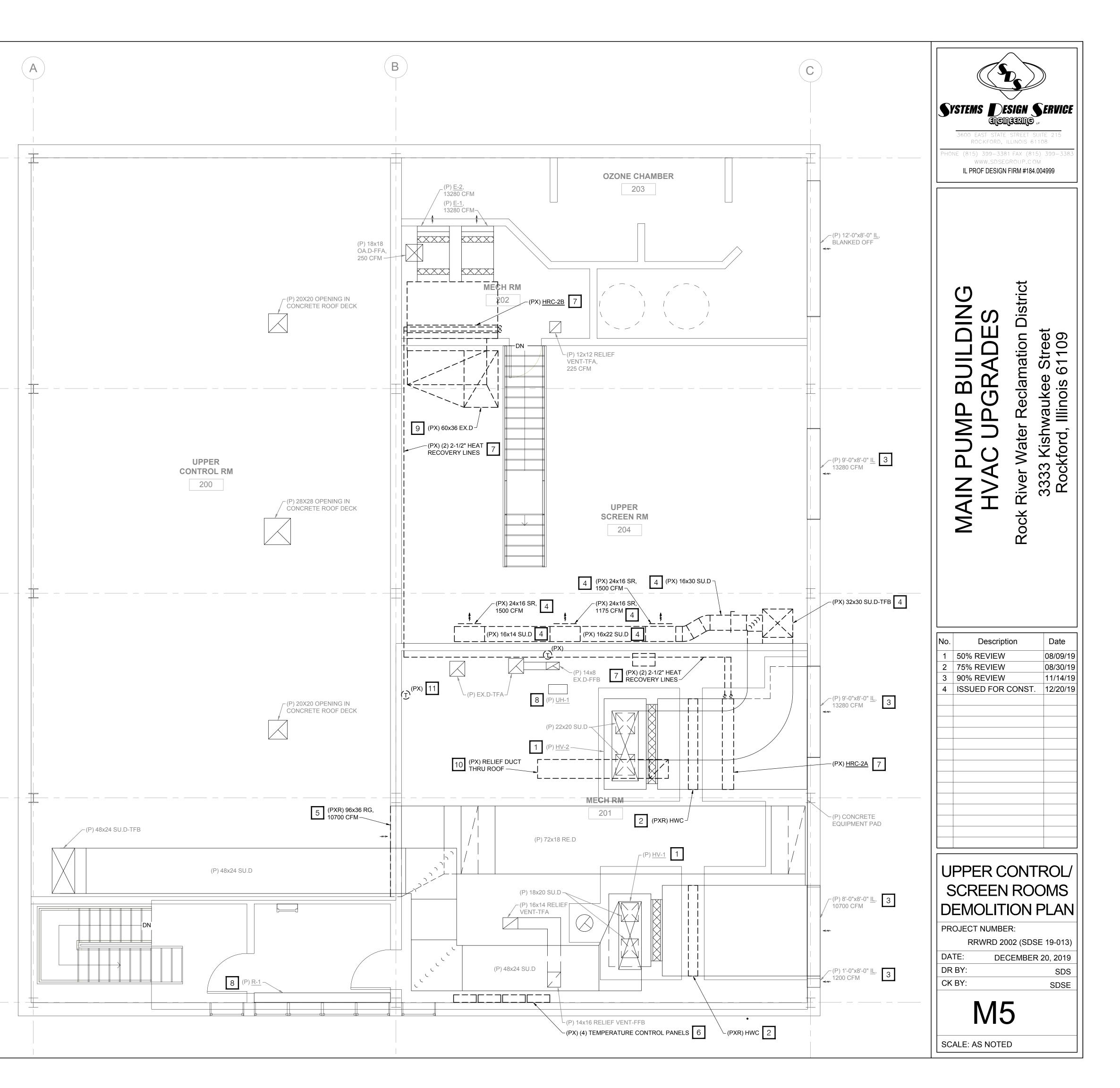
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N

- REMOVE, CLEAN, AND RE-INSTALL (PXR) HOT WATER COIL AND REMOVE (PX) CONTROL VALVE FROM UNIT. REMOVE (PX) HWS/HWR PIPING AS REQUIRED FOR REMOVAL OF HW COIL AND CONTROL VALVE. SEE SPECIFICATION 23 01 30 "HVAC REFURBISHING".
- 3. REMOVE (PX) DAMPER, PNEUMATIC ACTUATOR, AND ASSOCIATED TUBING. LOUVER TO REMAIN. REMOVE AND REINSTALL DUCTWORK AS REQUIRED FOR ACTUATOR AND DAMPER REMOVAL.
- 4. REMOVE (PX) SUPPLY DUCTWORK, REGISTERS, AND HANGERS/SUPPORTS ASSOCIATED WITH HV-2 AND LOCATED OUTSIDE OF MECHANICAL ROOM 201.
- 5. REMOVE, CLEAN, AND REINSTALL (PXR) RETURN REGISTER IN SAME LOCATION.
- 6. REMOVE (PX) FOUR TEMPERATURE CONTROL PANELS AND ASSOCIATED WIRING/TUBING.
- 7. REMOVE (PX) ALL PIPING, HANGERS/SUPPORTS, COILS, PUMPS, ETC. ASSOCIATED WITH HEAT RECOVERY SYSTEM.
- 8. REMOVE (PX) HOT WATER CONTROL VALVE FROM UNIT. REMOVE (PX) HWS/HWR PIPING AS REQUIRED FOR REMOVAL CONTROL VALVE. REMOVE (PX) ASSOCIATED WALL MOUNTED THERMOSTAT AND TUBING/WIRING.
- 9. REMOVE (PX) EXHAUST DUCTWORK, REGISTERS, AND HANGERS/SUPPORTS ASSOCIATED WITH EF-1 AND EF-2 LOCATED OUTSIDE OF MECHANICAL ROOM 202.
- REMOVE (PX) RELIEF DUCTWORK TO ROOF. PATCH OPENING IN CONCRETE DECK TO MATCH EXISTING AND PREP AREA FOR NEW ROOF INSTALLATION. SEE ROOF DECK PATCHING DETAIL ON SHEET M15.
- 11. REMOVE (PX) THERMOSTAT/TEMPERATURE SENSOR AND ASSOCIATED PNEUMATIC TUBING OR WIRING. INSTALL BLANK STAINLESS STEEL COVER PLATE AT LOCATIONS WHERE THERMOSTAT IS REMOVED AND NEW THERMOSTAT WILL NOT BE INSTALLED.

# UPPER CONTROL ROOM/SCREEN ROOM FLOOR PLAN - MECHANICAL DEMOLITION



- 1. REMOVE (PX) EXHAUST FAN ON ROOF, ROOF CURB AND EXISTING OPENING IN CONCRETE DECK TO REMAIN.
- 2. REMOVE (PX) EXISTING SINGLE-PLY MEMBRANE BALLASTED ROOF SYSTEM, INCLUDING EXISTING SUBSTRATE MATERIAL, INSULATION, FLASHING, COPING, AND WOOD NAILER AND PREPARE FOR NEW ROOF INSTALLATION.

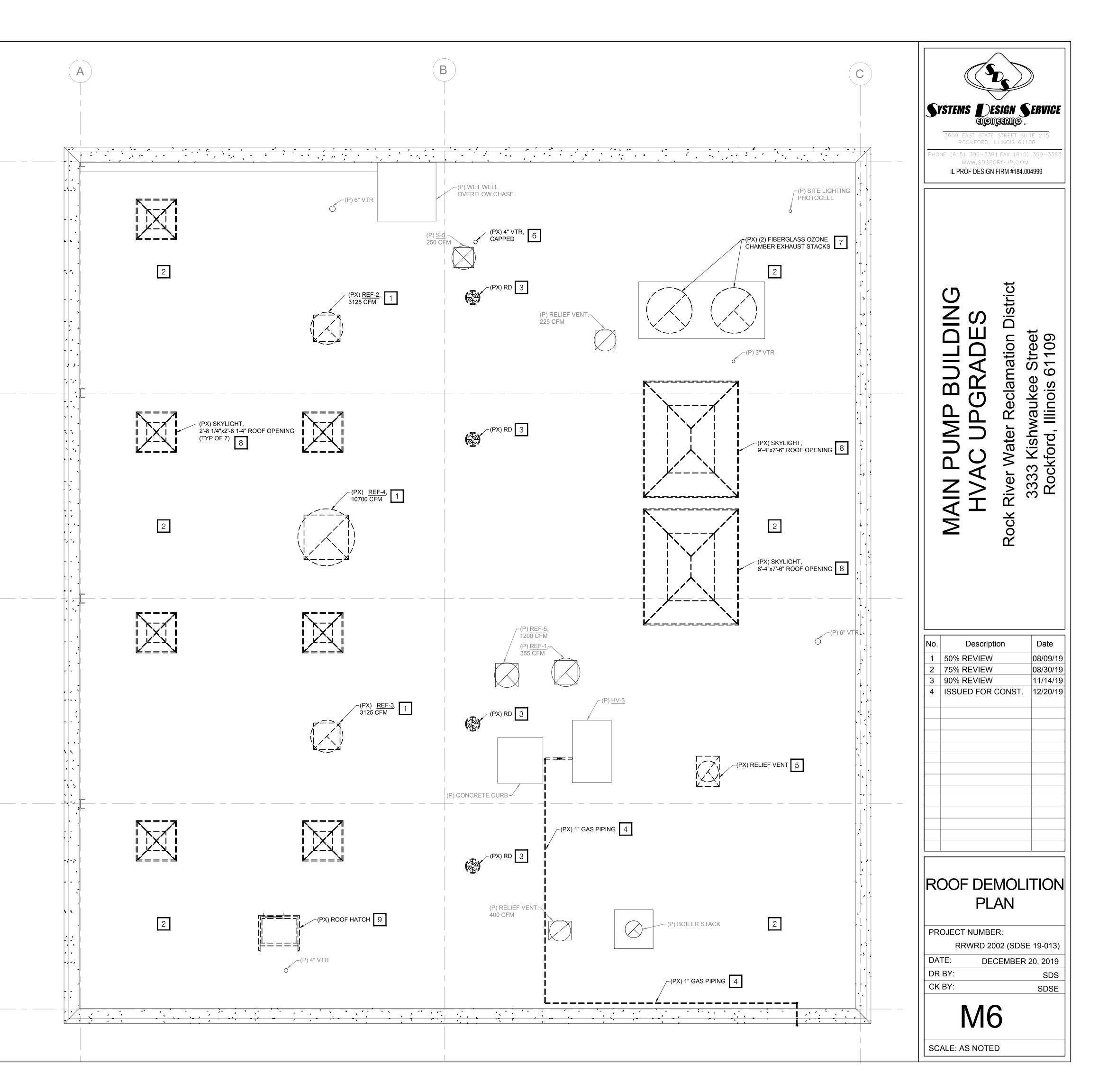
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- REMOVE (PX) EXISTING ROOF DRAIN AND FLASHING TO ALLOW FOR NEW ROOF AND ROOF DRAIN INSTALLATION. REMOVE AND REPLACE EXPOSED STORM DRAIN PIPING IN ROOM BELOW.
- 4. REMOVE (PX) EXISTING GAS PIPING, GAS PRESSURE REGULATORS, SUPPORTS, ETC. ON ROOF TO ALLOW FOR NEW ROOF INSTALLATION.
- REMOVE (PX) RELIEF VENT ON ROOF AND ASSOCIATED DUCTWORK IN ROOM BELOW. PATCH OPENING IN CONCRETE DECK TO MATCH EXISTING AND PREP AREA FOR NEW ROOF INSTALLATION. SEE ROOF DECK PATCHING DETAIL ON SHEET M15.
- 6. REMOVE CAPPED VENT PIPE AND PIPING BELOW ROOF. PATCH OPENING IN CONCRETE DECK TO MATCH EXISTING AND PREP AREA FOR NEW ROOF INSTALLATION. SEE ROOF DECK PATCHING DETAIL ON SHEET M15.
- 7. REMOVE (PX) (2) FIBERGLASS EXHAUST STACKS. EXHAUST STACKS ARE BOLTED ON TO CONCRETE PAD ON ROOF.
- 8. REMOVE EXISTING SKYLIGHT AND WOOD NAILER, EXISTING CONCRETE CURB TO REMAIN, TYPICAL FOR ALL SKYLIGHTS SHOWN ON PLAN.
- 9. REMOVE EXISTING ROOF HATCH AND CURB COMPLETE DOWN TO EXISTING ROOF DECK. RE-WORK EXISTING RUNG LADDER AS REQUIRED.





KEY NOTES

 NEW DUCTWORK SHALL BE FRP, NEW DUCTWORK HANGERS/SUPPORTS, REGISTERS, AND ACCESSORIES SHALL BE TYPE 316 STAINLESS STEEL, SEE SPECIFICATION 23 31 16 "NON METAL DUCTS".

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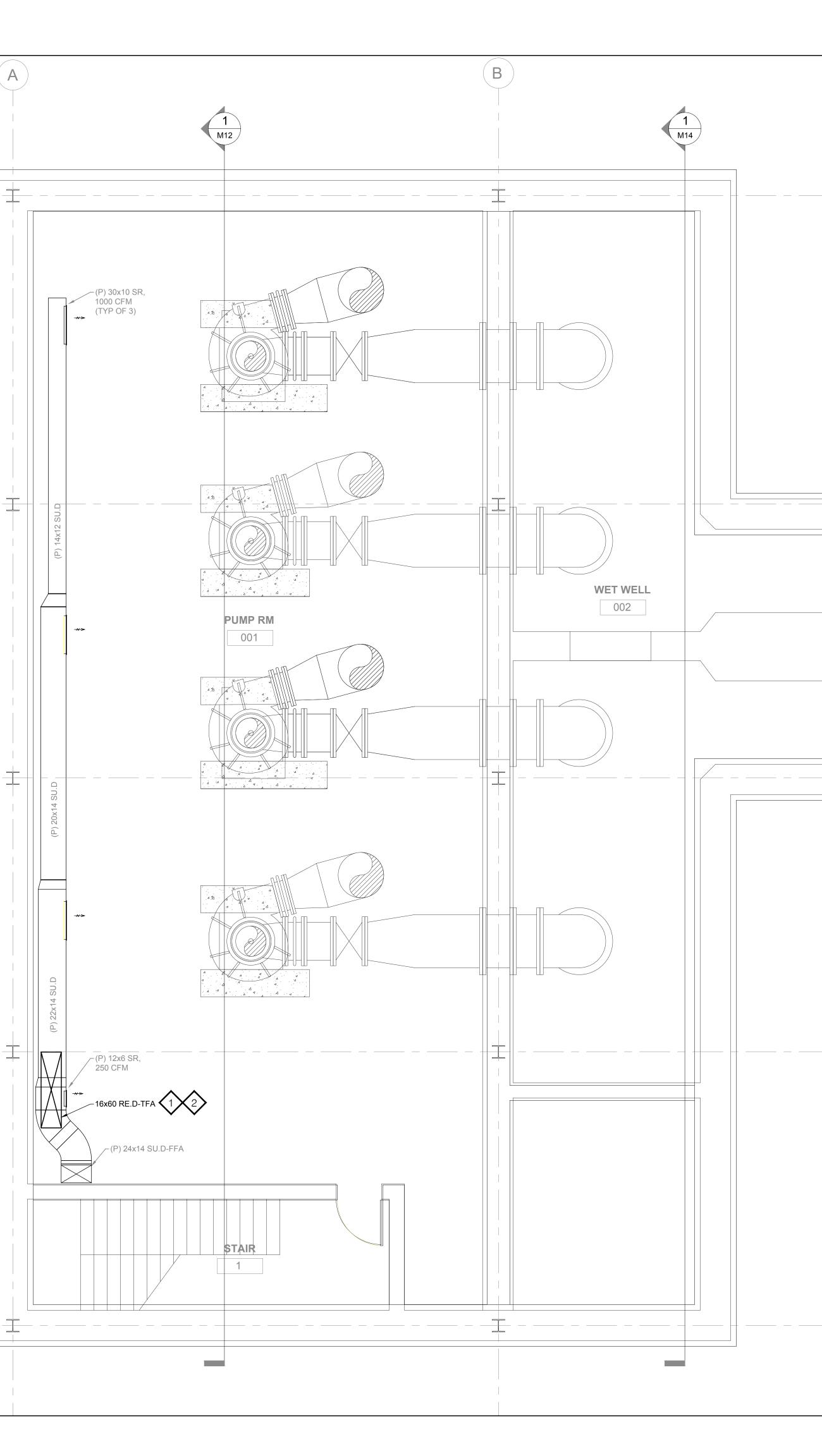
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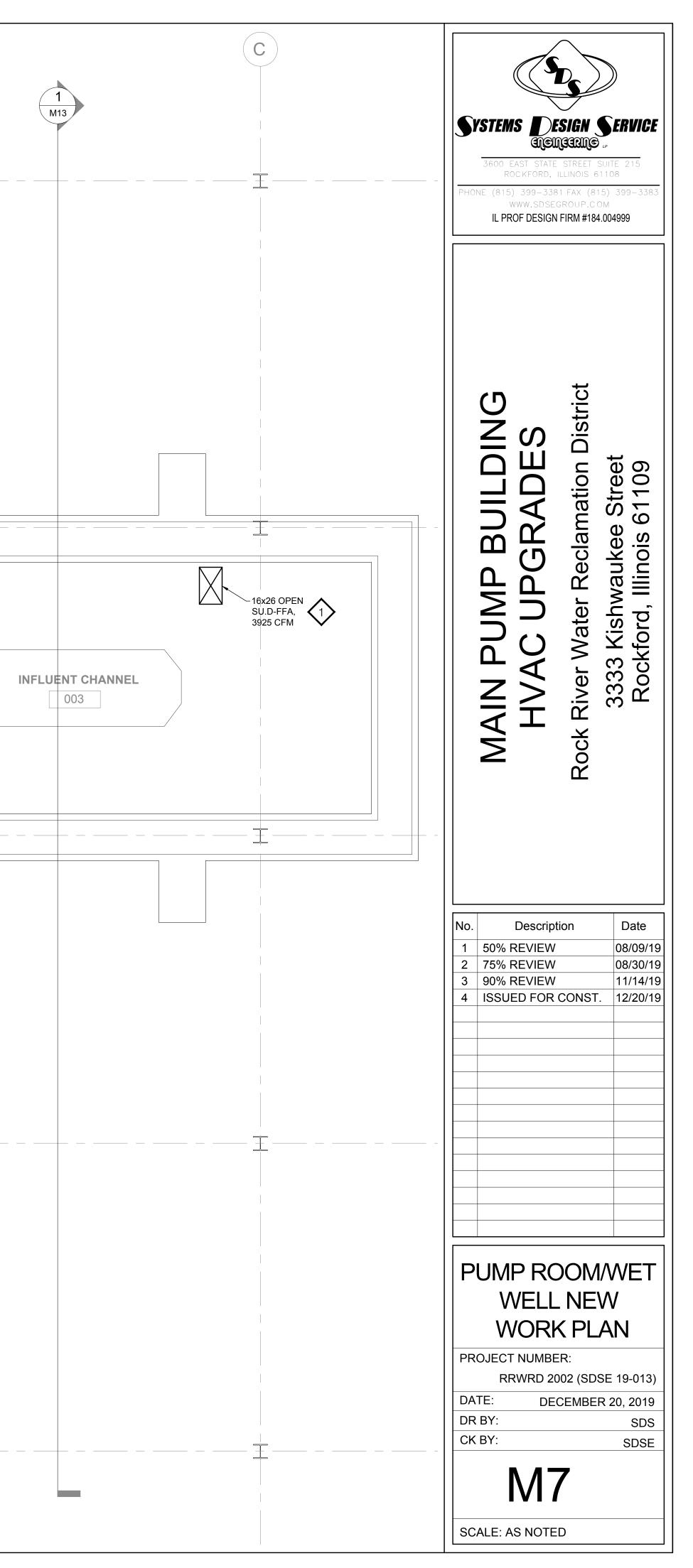
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 NEW RETURN DUCT DROP TO FLOOR BELOW (APPROXIMATELY 18" BELOW CEILING LEVEL-VERIFY IN FIELD) TO ALLOW S-1 TO RE-CIRCULATE AIR FROM FLOOR BELOW FOR ADDITIONAL COOLING WHEN OUTDOOR AIR TEMPERATURE EXCEEDS DESIRED TEMPERATURE. SEE SECTION DETAIL ON SHEET M12.









1. NEW DUCTWORK SHALL BE FRP, NEW DUCTWORK HANGERS/SUPPORTS, REGISTERS, AND ACCESSORIES SHALL BE TYPE 316 STAINLESS STEEL, SEE SPECIFICATION 23 31 16 "NON METAL DUCTS".

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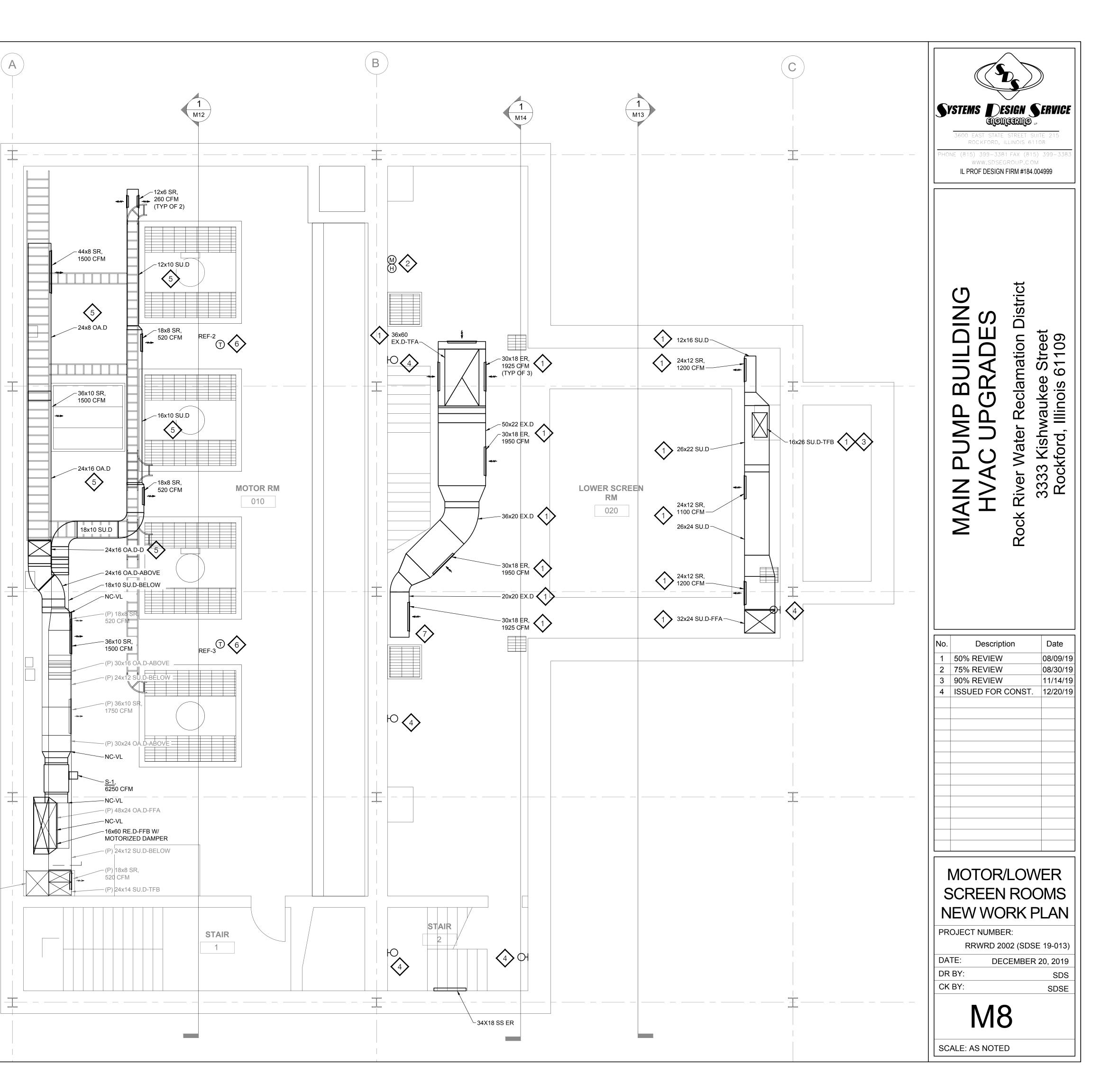
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- 2. NEW METHANE AND HYDROGEN SULFIDE WALL SENSORS TO BE WIRED TO CONTROL PANEL IN OFFICE 101. CUT AND PATCH WALL TO MATCH EXISTING AS REQUIRED FOR INSTALLATION.
- 3. USE EXISTING OPENING IN FLOOR TO INFLUENT CHANNEL, SEAL DUCT PENETRATION.
- 4. NEW HYDROGEN SULFIDE/METHANE/LEL ALARM CONDITION (BLUE) AND FIRE ALARM CONDITION (RED) VISUALS AND AUDIBLE ALARM. USE EXISTING VISUAL LOCATION, VERIFY EXACT LOCATION IN FIELD. CUT AND PATCH WALL TO MATCH EXISTING AS REQUIRED FOR INSTALLATION.
- 5. NEW DUCTWORK SHALL BE SUPPORTED FROM STRUCTURE.
- 6. TEMPERATURE SENSOR TO BE LOCATED AT CEILING.
- 7. NEW EXHAUST DUCTWORK TO BE CLEAR OF WET WELL ACCESS DOOR IN FLOOR, VERIFY IN FIELD.

#### MOTOR ROOM/LOWER SCREEN ROOM FLOOR PLAN - MECHANICAL NEW WORK SCALE: 1/4" = 1'-0"



NEW DUCTWORK SHALL BE FRP, NEW DUCTWORK HANGERS/SUPPORTS, REGISTERS, AND ACCESSORIES SHALL BE TYPE 316 STAINLESS STEEL, SEE SPECIFICATION 23 31 16 "NON METAL DUCTS".

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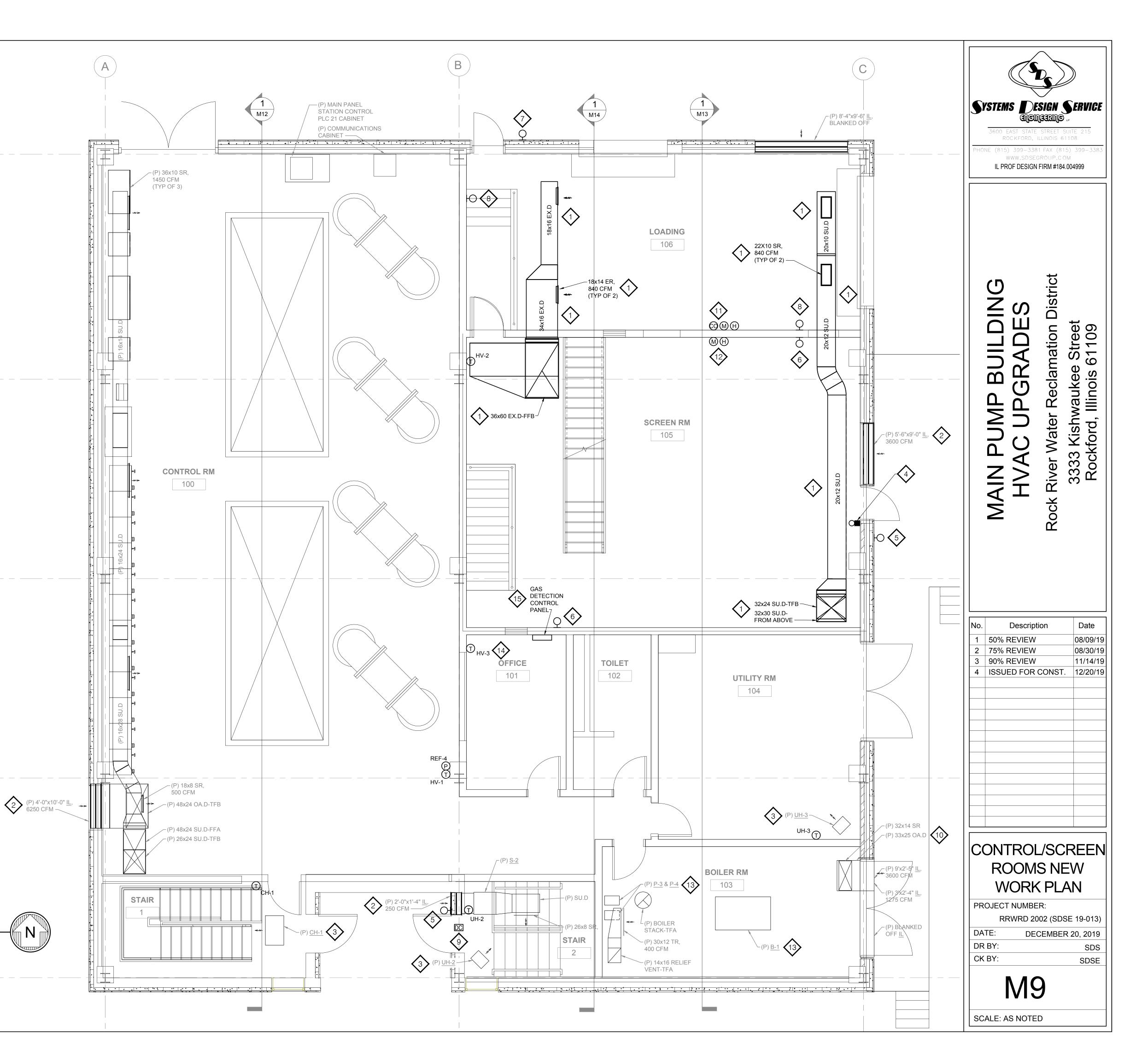
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- 2. PROVIDE AND INSTALL NEW INTAKE DAMPER, DDC ACTUATOR, AND CONTROL WIRING. REMOVE AND REINSTALL DUCTWORK AS REQUIRED FOR DAMPER AND ACTUATOR INSTALLATION.
- 3. PROVIDE AND INSTALL NEW DDC MODULATING CONTROL VALVE AND WALL MOUNTED TEMPERATURE SENSOR FOR EXISTING HW COIL, PROVIDE NEW PIPING CONNECTIONS AS REQUIRED FOR INSTALLATION OF CONTROL VALVE AND COIL. RE-INSULATE PIPING THAT WAS REMOVED AND REINSTALLED OR REPLACED.
- 4. LOCAL EXHAUST SYSTEM OVERRIDE BUTTON FOR EF-2.
- 5. NEW HYDROGEN SULFIDE/METHANE/LEL ALARM CONDITION (BLUE) AND FIRE ALARM CONDITION (RED) VISUALS. CUT AND PATCH WALL TO MATCH EXISTING AS REQUIRED FOR INSTALLATION.
- 6. NEW HYDROGEN SULFIDE/METHANE/LEL ALARM CONDITION (BLUE) AND FIRE ALARM CONDITION (RED) VISUALS AND AUDIBLE ALARM. USE EXISTING VISUAL LOCATION, VERIFY EXACT LOCATION IN FIELD. CUT AND PATCH WALL TO MATCH EXISTING AS REQUIRED FOR INSTALLATION.
- 7. NEW CARBON MONOXIDE/HYDROGEN SULFIDE/METHANE/LEL ALARM CONDITION (BLUE) AND FIRE ALARM CONDITION (RED) VISUALS. USE EXISTING VISUAL LOCATION, VERIFY EXACT LOCATION IN FIELD. CUT AND PATCH WALL TO MATCH EXISTING AS REQUIRED FOR INSTALLATION.
- 8. NEW CARBON MONOXIDE/HYDROGEN SULFIDE/METHANE/LEL ALARM CONDITION (BLUE) AND FIRE ALARM CONDITION (RED)VISUALS AND AUDIBLE ALARM. USE EXISTING VISUAL LOCATION, VERIFY EXACT LOCATION IN FIELD. CUT AND PATCH WALL TO MATCH EXISTING AS REQUIRED FOR INSTALLATION.
- 9. DOOR CONTACTS FOR S-2. S-2 TO RUN WHEN DOOR IS OPENED FOR AN ADJUSTABLE AMOUNT OF TIME. S-2 TO ALSO RUN ON A TIME SCHEDULE WHEN NOT OCCUPIED, AMOUNT OF TIME AND FREQUENCY SHALL BE ADJUSTABLE AT THE MCS. SEE SPECIFICATION 23 09 93 "SEQUENCE OF OPERATIONS FOR HVAC".
- 10. PROVIDE AND INSTALL NEW DDC ACTUATOR AND CONTROL WIRING FOR EXISTING DAMPER. REMOVE AND REINSTALL DUCTWORK AS REQUIRED FOR ACTUATOR INSTALLATION.
- 11. NEW CARBON MONOXIDE, METHANE, AND HYDROGEN SULFIDE WALL SENSORS TO BE WIRED TO CONTROL PANEL IN OFFICE 101. CUT AND PATCH WALL TO MATCH EXISTING AS REQUIRED FOR INSTALLATION.
- 12. NEW METHANE AND HYDROGEN SULFIDE WALL SENSORS TO BE WIRED TO CONTROL PANEL IN OFFICE 101. CUT AND PATCH WALL TO MATCH EXISTING AS REQUIRED FOR INSTALLATION.
- 13. INSTALL NEW DIFFERENTIAL DDC DIFFERENTIAL PRESSURE SENSORS FOR AUTOMATIC PUMP CHANGEOVER UPON PUMP FAILURE. INSTALL NEW HEADER SUPPLY AND RETURN TEMPERATURE SENSORS.
- 14. NEW WALL TEMPERATURE SENSOR FOR HV-3 SHALL HAVE DIGITAL READOUT AND LOCAL TEMPERATURE OVERRIDE CAPABILITIES (+/- 3 DEGREES).
- 15. NEW GAS DETECTION SYSTEM CONTROL PANEL SHALL HAVE DRY CONTACTS TO THE SCADA SYSTEM FOR EACH ALARM CONDITION. CONTRACTOR TO PROVIDE AND INSTALL WIRING AND TERMINATION AT GAS DETECTION PANEL; FINAL TERMINATION AT SCADA PANEL BY OWNER.

## CONTROL ROOM/SCREEN ROOM FLOOR PLAN - MECHANICAL NEW WORK



- 1. CONTRACTOR TO CLEAN AND REFURBISH HV-1 AND HV-2; REPLACE PULLEYS, BELTS, MOTORS, FILTERS, ETC. SEE MECHANICAL SPECIFICATION 23 01 30 "HVAC REFURBISHING". MOTORS TO BE REPLACED WITH PREMIUM EFFICIENCY MOTORS. SEE MOTOR REPLACEMENT SCHEDULE ON SHEET M15.
- 2. PROVIDE AND INSTALL NEW INTAKE DAMPER, DDC ACTUATOR, AND CONTROL WIRING. REMOVE AND REINSTALL DUCTWORK AS REQUIRED FOR DAMPER AND ACTUATOR INSTALLATION. VERIFY EXACT SIZE IN FIELD PRIOR TO ORDERING.
- 3. RE-INSTALL (PXR) CLEANED HOT WATER COIL, PROVIDE AND INSTALL NEW DDC MODULATING CONTROL VALVE AND WALL MOUNTED TEMPERATURE SENSOR FOR EXISTING HW COIL, PROVIDE NEW PIPING CONNECTIONS AS REQUIRED FOR INSTALLATION OF CONTROL VALVE AND COIL. RE-INSULATE PIPING THAT WAS REMOVED AND REINSTALLED OR REPLACED.
- 4. NEW DUCTWORK SHALL BE FRP, NEW DUCTWORK HANGERS/SUPPORTS, REGISTERS, AND ACCESSORIES SHALL BE TYPE 316 STAINLESS STEEL, SEE SPECIFICATION 23 31 16 "NON METAL DUCTS".
- 5. REMOVE, CLEAN, AND REINSTALL (PXR) RETURN REGISTER IN SAME LOCATION.
- TOUCH SCREEN MONITORING AND CONTROL SYSTEM (MCS). SEE SPECIFICATION 23 10 10 "MONITORING AND CONTROL SYSTEM FOR HVAC".
- 7. PROVIDE SHEET METAL COVER WHERE HEAT RECOVERY COIL WAS REMOVED, CAULK/SEAL, AND PAINT TO MATCH EXISTING UNIT.
- 8. NEW DDC OUTDOOR AIR TEMPERATURE SENSOR, TO BE TIED INTO MCS.
- 9. PROVIDE AND INSTALL NEW DDC MODULATING CONTROL VALVE AND WALL MOUNTED TEMPERATURE SENSOR FOR EXISTING HW COIL, PROVIDE NEW PIPING CONNECTIONS AS REQUIRED FOR INSTALLATION OF CONTROL VALVE AND COIL. RE-INSULATE PIPING THAT WAS REMOVED AND REINSTALLED OR REPLACED.

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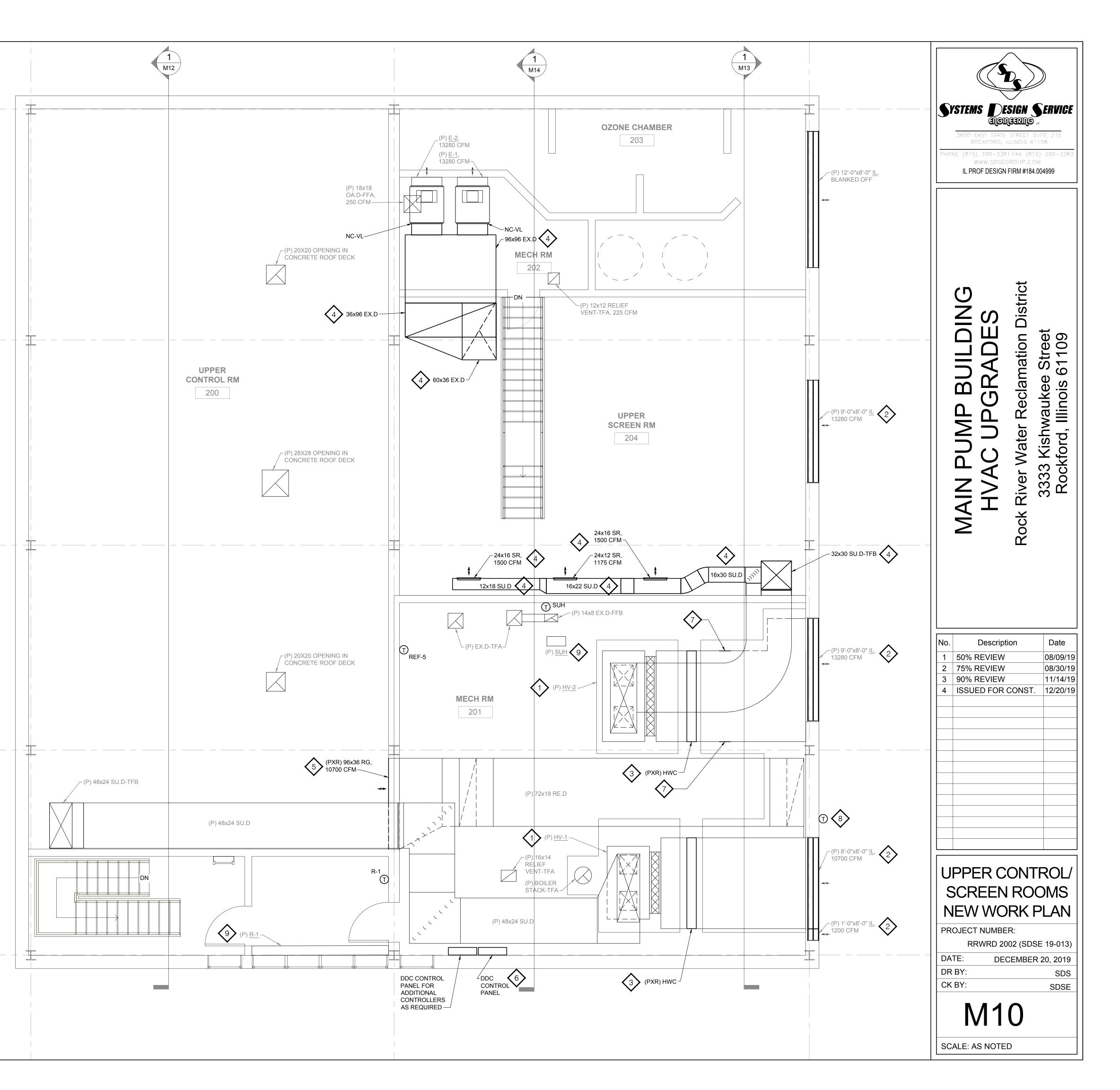
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### UPPER CONTROL ROOM/SCREEN ROOM FLOOR PLAN - MECHANICAL NEW WORK







1. INSTALL NEW ROOF EXHAUST FAN. PROVIDE AND INSTALL NEW ROOF CURB ADAPTER TO MATCH THE NEW FAN BASE TO THE EXISTING CURB.

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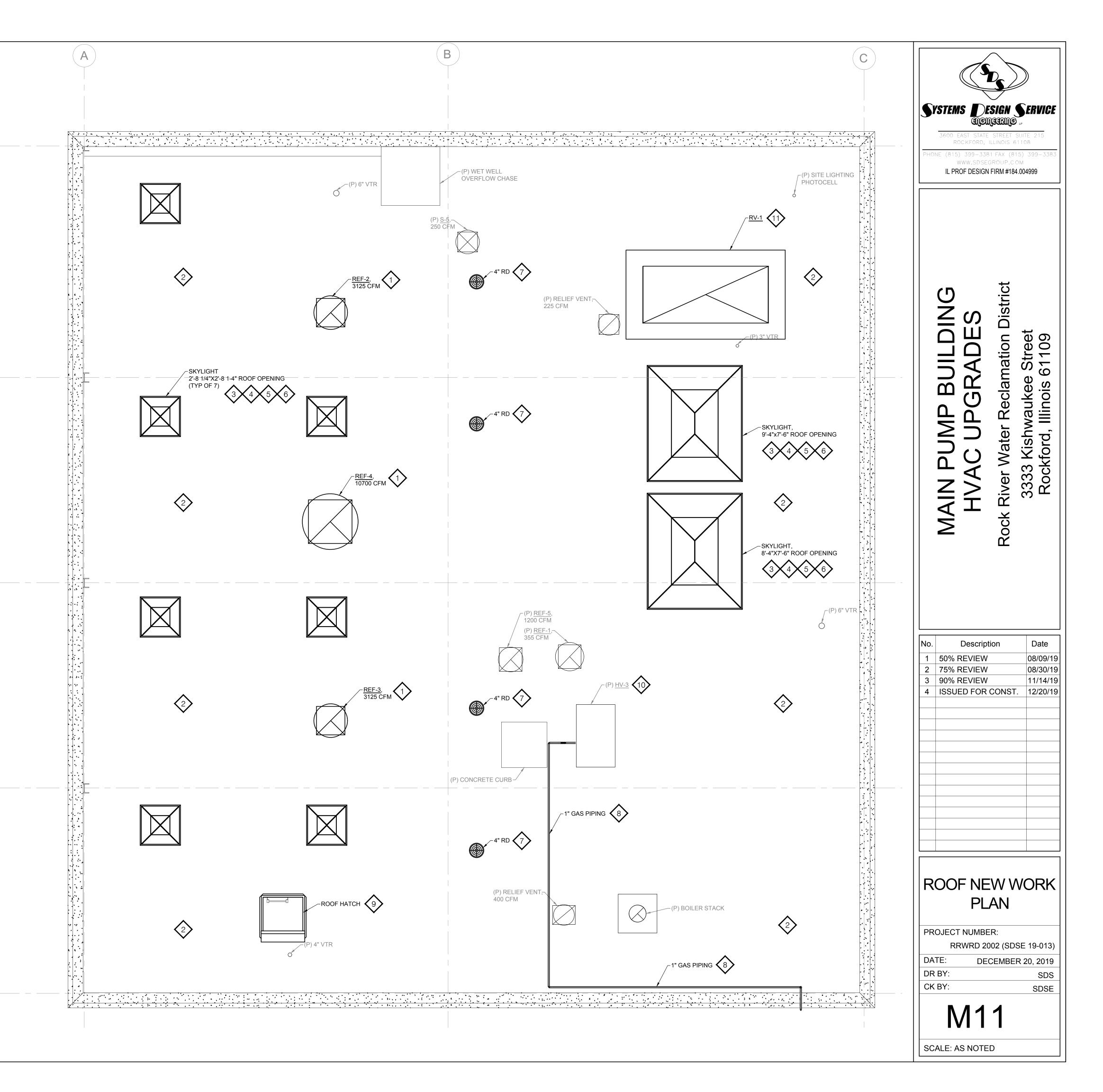
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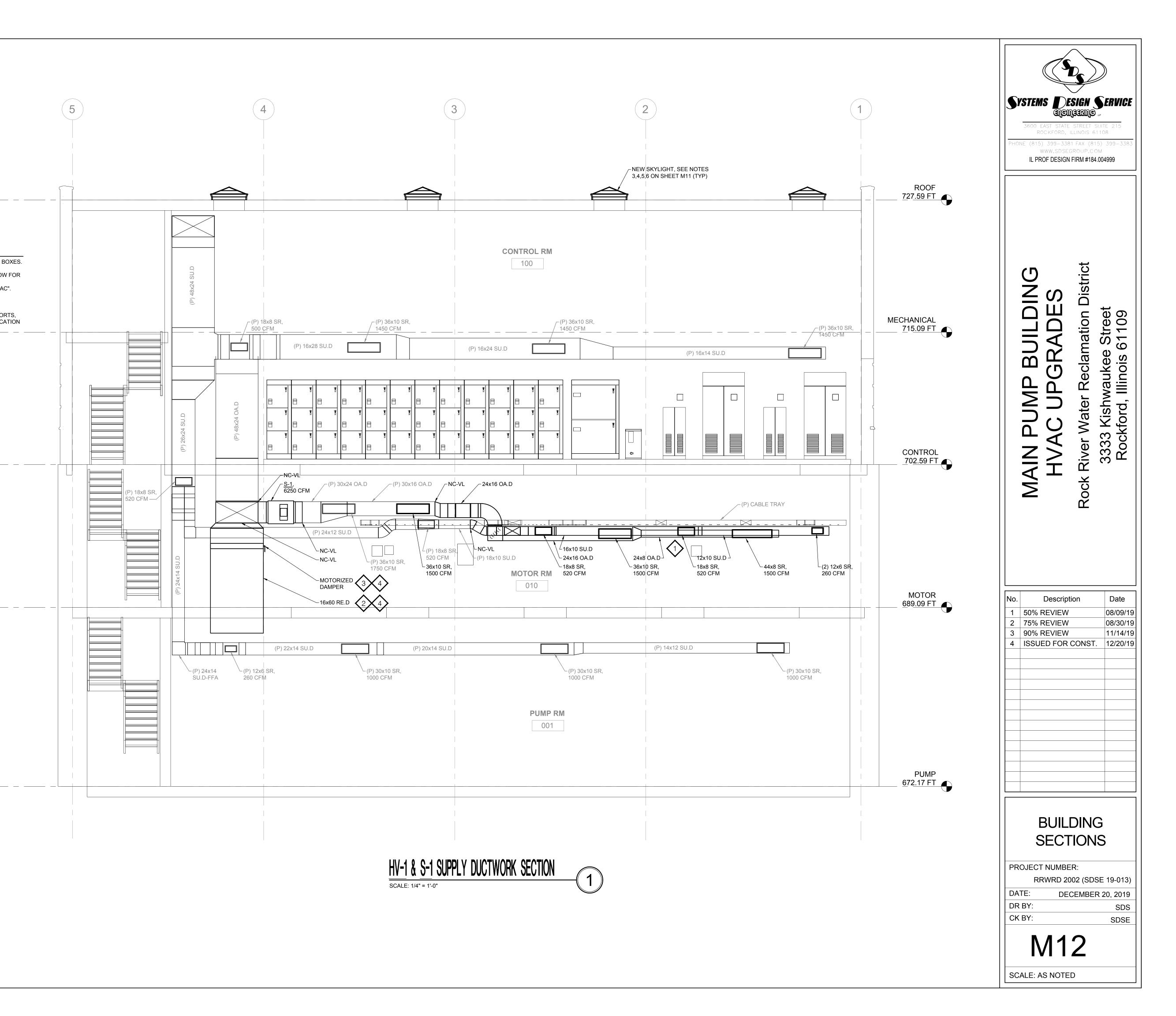
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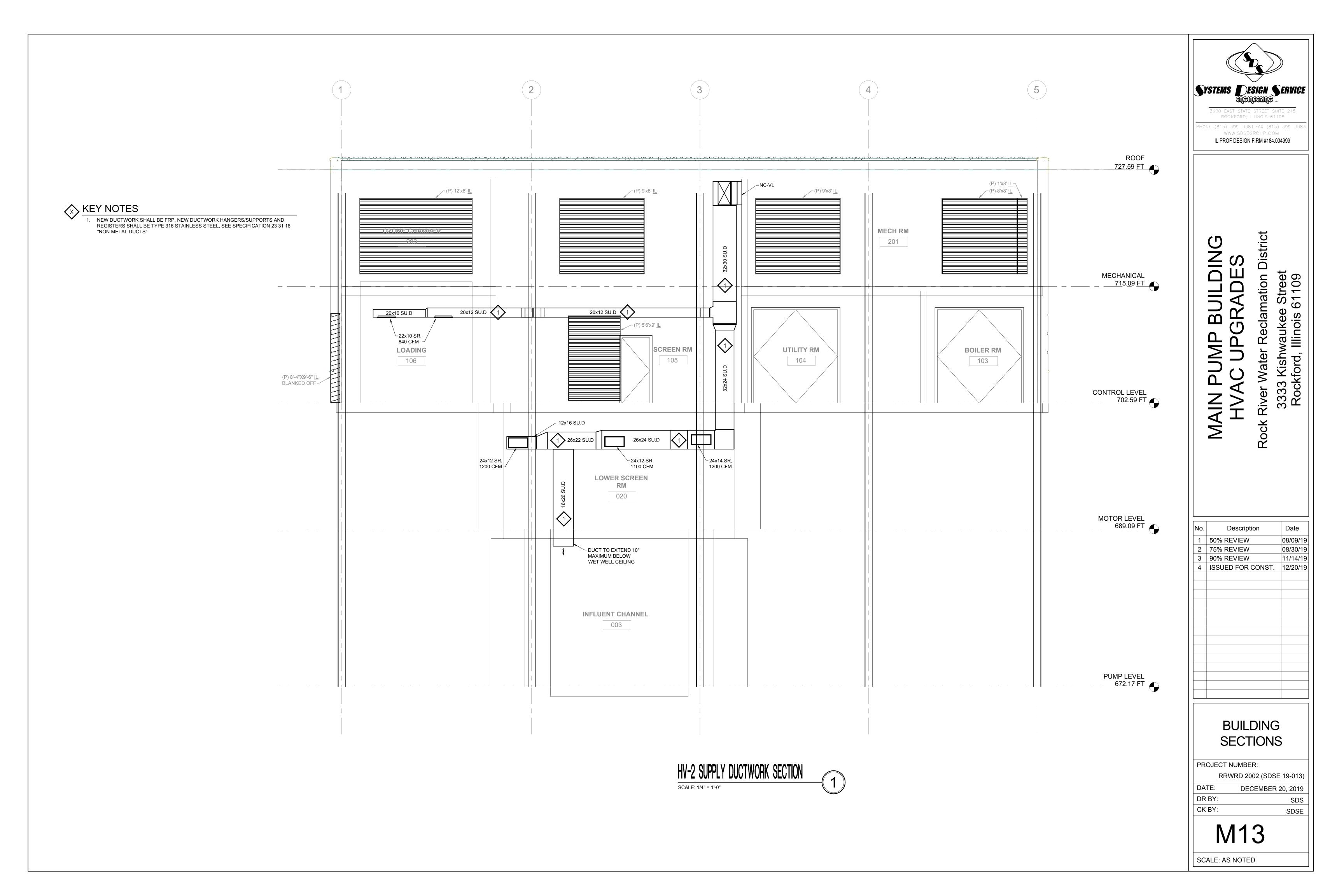
- 2. NEW TPO ROOFING SYSTEM, INCLUDING NEW RIGID BOARD INSULATION, WHITE 60 MIL TPO MEMBRANE, METAL FLASHING, WOOD NAILER, METAL COPING, FILLER, WALKWAY PADS AND APPURTENANCES AS REQUIRED FOR A COMPLETE SYSTEM. FOR ROOFING REQUIREMENTS, SEE SPECIFICATIONS 07 01 50 "PREPARATION FOR RE-ROOFING", 07 54 23 "THERMOPLASTIC POLYOLEFIN ROOFING", AND 07 62 00 "METAL FLASHINGS".
- 3. PROVIDE AND INSTALL NEW SKYLIGHT AND PINE BOARD WOOD NAILER OVER EXISTING CONCRETE CURB. PROVIDE MEMBRANE FLASHING UP AND OVER PINE WOOD NAILER AS REQUIRED FOR WATER-TIGHT CONDITION. CONTRACTOR SHALL FLASH ALL PENETRATIONS PER MANUFACTURER'S WARRANTY STANDARDS. PROVIDE SADDLES AT ALL SKYLIGHTS. SEE SPECIFICATION 08 62 00 "SKYLIGHTS".
- 4. OPENING SIZES SHOWN ON DRAWINGS ARE APPROXIMATE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEASURING THE ACTUAL ROOF OPENINGS PRIOR TO ORDERING THE NEW SKYLIGHTS. THE NEW SKYLIGHTS SHALL BE MANUFACTURED BY WASCO INC. MAJOR INDUSTRIES OR DISTRICT APPROVED EQUAL.
- PROPOSED SKYLIGHTS SHALL HAVE THERMOFORMED ACRYLIC DOMES AND ALUMINUM PERIMETER FRAMING DESIGNED FOR A LIVE LOAD OF 40 POUNDS PER SQUARE FOOT AND A WIND UPLIFT LOAD OF 20 POUNDS PER SQUARE FOOT.
- 6. THE ACRYLIC DOMES SHALL BE DOUBLE DOME TYPE CONTAINED IN ALUMINUM CURB FRAMES AND SHALL HAVE INTEGRAL CONDENSATION AND WEEPAGE GUTTERS. THE ACRYLIC PLASTIC SHALL BE CLEAR WHITE. THE CURB FRAMES SHALL BE ANODIZED ALUMINUM WITH A MINIMUM THICKNESS OF 1/16".
- 7. PROVIDE AND INSTALL NEW ROOF DRAIN, SIMILAR IN SIZE TO EXISTING, USE EXISTING CONCRETE ROOF DECK OPENINGS. SEE ROOF DRAIN DETAIL ON SHEET M15. INSTALL NEW PVC STORM DRAIN PIPING AND INSULATION PER SPECIFICATION SECTION 22 14 13 " STORM DRAINAGE PIPING AND SPECIALTIES" WHERE PIPING IS EXPOSED IN ROOM BELOW.
- INSTALL NEW GAS PIPING, SHUTOFF VALVE, GAS PRESSURE REGULATOR, SUPPORTS, ETC. TO ROOFTOP UNIT ON NEW ROOF INSTALLATION. GAS PIPING SHALL BE SAME SIZE AS PIPING THAT WAS REMOVED. PAINT (YELLOW) GAS PIPING ON ROOF PRIOR. SEE SPECIFICATION 23 11 23 "NATURAL GAS PIPING".
- 9. PROVIDE AND INSTALL NEW ROOF HATCH AND CURB. PROVIDE MEMBRANE FLASHING UP AND OVER NEW CURB AS REQUIRED FOR WATER-TIGHT CONDITION. CURB SHALL BE A MINIMUM 12" ABOVE THE TOP OF THE NEW ROOF. CONTRACTOR SHALL FLASH ALL PENETRATIONS PER MANUFACTURER'S WARRANTY STANDARDS. PROVIDE SADDLES AT ROOF HATCH. NEW ROOF HATCH SHALL BE SIMILAR IN SIZE TO EXISTING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEASURING THE ACTUAL ROOF OPENINGS PRIOR TO ORDERING THE ROOF HATCH. USE EXISTING ROOF DECK OPENING. SEE SPECIFICATION 07 72 00 "ROOF ACCESSORIES".
- 10. CONTROLS CONTRACTOR TO PROVIDE NEW BACNET CONTROL CARD FOR HV-3 TO TIE INTO NEW MCS.
- 11. PROVIDE AND INSTALL NEW GRAVITY RELIEF VENT ON EXISTING CONCRETE PAD ON ROOF. SEE EQUIPMENT SCHEDULE ON SHEET M15. (2) EXISTING 4' DIAMETER OPENINGS IN CONCRETE PAD TO REMAIN. NEW RELIEF HOOD TO ENCOMPASS EXISTING OPENINGS.

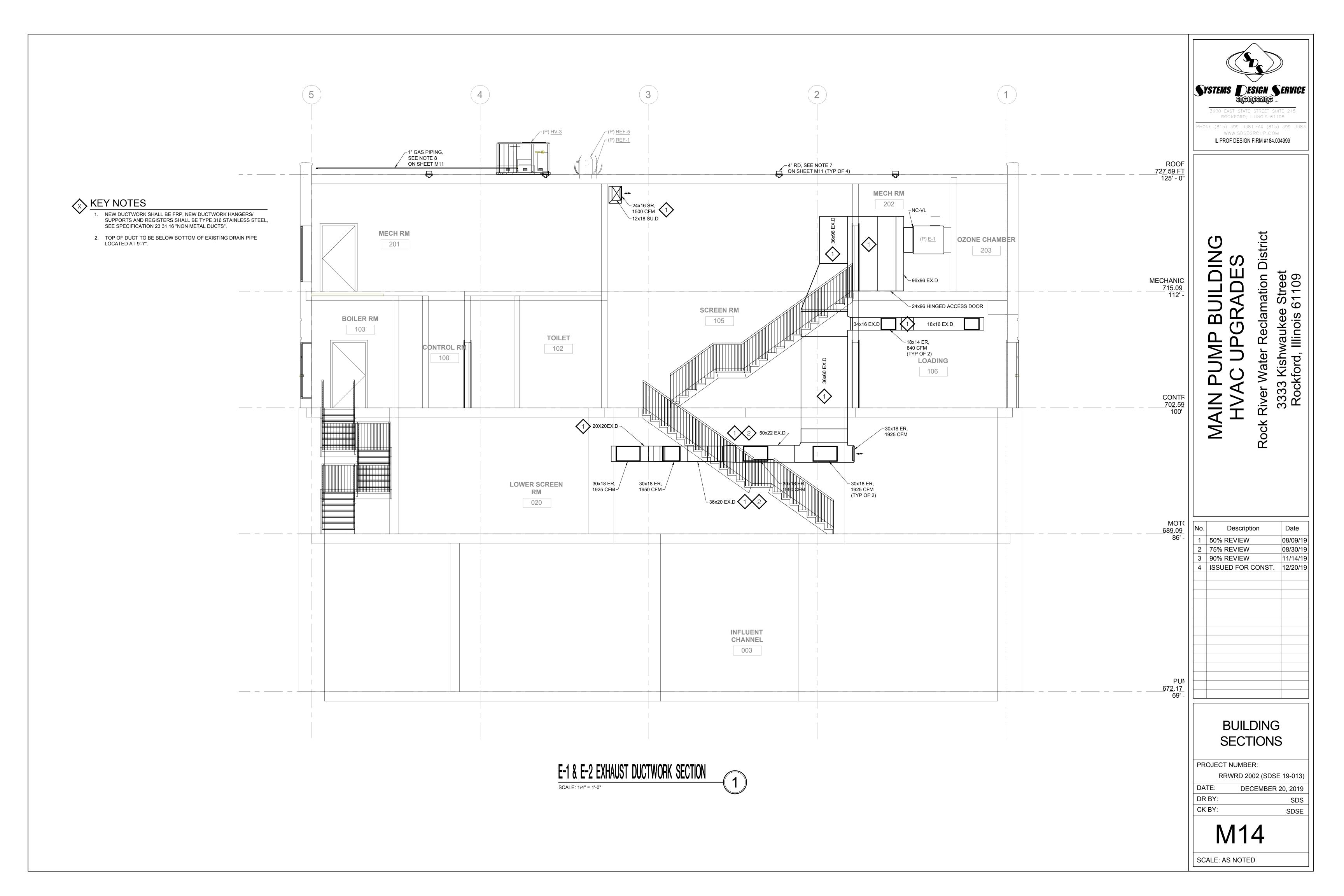
ROOF PLAN - NEW WORK m N r SCALE: 1/4" = 1'-0"



- 1. ENSURE NEC CLEARANCE IS MAINTAINED IN FRONT OF ALL ELECTRICAL JUNCTION BOXES.
- 2. NEW RETURN DUCT DROP TO ALLOW S-1 TO RE-CIRCULATE AIR FROM FLOOR BELOW FOR ADDITIONAL COOLING WHEN OUTDOOR AIR TEMPERATURE EXCEEDS DESIRED TEMPERATURE. SEE SPECIFICATION 23 09 93 "SEQUENCE OF OPERATIONS FOR HVAC".
- 3. NEW RETURN DUCT 24V MODULATING MOTORIZED DAMPER.
- 4. NEW DUCTWORK IN PUMP ROOM SHALL BE FRP, NEW DUCTWORK HANGERS/SUPPORTS, DAMPERS, AND ACCESSORIES SHALL BE TYPE 316 STAINLESS STEEL, SEE SPECIFICATION 23 31 16 "NON METAL DUCTS".







# POWER ROOF EXHAUSTER (REF) SCHEDULE:

PLAN NO. SERVICE MFGR. MODEL CFM/ESP DAMPER SIZE HP/VOLTAGE DRIVE/SPEEDS APPROX. WT. NOTES REF-2 CONTROL ROOM GREENHECK G-183-VG 3125/0.5" 18x18 1.0/120-1-60 DIRECT/VARIABLE 90 LBS. REF-3 CONTROL ROOM GREENHECK G-183-VG 3125/0.5" 18x18 1.0/120-1-60 DIRECT/VARIABLE 90 LBS. REF-4 CONTROL ROOM GREENHECK GB-330VGD--30 10700/0.5" 36x36 3/480-3-60 VFD/VARIABLE 250 LBS.

NOTES: SEE SPECIFICATION 23 34 23 "HVAC POWER VENTILATORS" FOR ADDITIONAL INFORMATION.

1. PROVIDE UNIT WITH VARI-GREEN EC MOTOR, 0-10V INPUT SIGNAL, VARI-GREEN TRANSFORMER (WIRED AND MOUNTED), MANUFACTURER'S DISCONNECT SWITCH, CONTROL DIAL FOR BALANCING, GRAVITY BACKDRAFT DAMPER (BDD), ALUMINUM BIRDSCREEN, JUNCTION BOX (WIRED AND MOUNTED), AND MANUFACTURER'S PREFABRICATED ROOF CURB ADAPTER (MIN. 12" HIGH) TO MATCH UP TO EXISTING ROOF CURB (VERIFY IN FIELD).

 PROVIDE UNIT WITH VFD RATED PREMIUM EFFICIENT MOTOR, BUILT IN VFD, 0-10V INPUT SIGNAL, TRANSFORMER (WIRED AND MOUNTED), MANUFACTURER'S DISCONNECT SWITCH, GRAVITY BACKDRAFT DAMPER (BDD), ALUMINUM BIRDSCREEN, JUNCTION BOX (WIRED AND MOUNTED), AND MANUFACTURER'S PREFABRICATED ROOF CURB ADAPTER (MIN. 12" HIGH) TO MATCH UP TO EXISTING ROOF CURB (VERIFY IN FIELD).

# REPLACEMENT MOTOR SCHEDULE:

EQUIPMENT	HV-1	HV-2
MFGR.	BALDOR	BALDOR
MODEL	EM2513T-CI	EM2513T-CI
HP	15	15
RPM	1750	1750
VOLTAGE	480-3-60	480-3-60
FRAME	254T	254T
NOTES	1	1
NOTES	1	1

NOTES: SEE SPECIFICATION 23 05 13 "COMMON MOTOR REQUIREMENTS FOR HVAC EQUIPMENT" FOR ADDITIONAL INFORMATION.

1. ALL MOTORS TO BE PREMIUM EFFICIENT.

# DAMPER SCHEDULE:

SERVICE	HV-1	HV-2	MECH. ROOM 201	SCREEN ROOM 105	UPPER SCREEN ROOM 204	S-1
MANUFACTURER	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK
MODEL	VCD-23	VCD-23	VCD-23	SEVCD-23	SEVCD-23	VCD-23
TYPE	INTAKE	INTAKE	INTAKE	INTAKE	INTAKE	INTAKE
WxH	96x96	108x96	12x96	66x108	108x96	48x120
# OF ACTUATORS	2	4	2	2	4	2
MIN CFM	6075	13280	1200	3600	13280	3125
MAX CFM	10700	13280	1200	3600	13280	6250
MAX CFM	10700	13280	1200	3600	13280	6250
NOTES	2-5,7	1,3-5,7	1,3-5,7	1,3-6	1,3-6	2-5,7

NOTES: SEE SPECIFICATION 23 09 26 "CONTROL DAMPERS" FOR ADDITIONAL INFORMATION.

 PROVIDE INTAKE DAMPER WITH 2 POSITION 120V ACTUATOR, WIRED BY CONTROLS CONTRACTOR. INCLUDE INSECT SCREEN. DAMPERS TO HAVE SEALS AND INSULATION PER 2015 IECC. DAMPERS TO BE INTERLOCKED WITH RESPECTIVE EQUIPMENT AND TO OPEN WHEN THAT EQUIPMENT IS OPERATIONAL, SEE SEQUENCE OF OPERATIONS.

2. PROVIDE INTAKE DAMPER WITH MODULATING 24V ACTUATOR, WIRED BY E.C.PROVIDE WITH INSECT SCREEN. DAMPERS TO HAVE SEALS AND INSULATION PER 2015 IECC. DAMPERS TO BE INTERLOCKED WITH RESPECTIVE EQUIPMENT AND TO OPEN WHEN THAT EQUIPMENT IS OPERATIONAL, SEE SEQUENCE OF OPERATIONS.

3. ACTUATOR SHALL BE POWERED OPEN, SPRING CLOSED.

4. VERIFY EXACT SIZE IN FIELD PRIOR TO ORDERING.

5. SECTIONS TO BE SCREWED TOGETHER IN LIEU OF WELDING TO AID IN INSTALLATION.

6. DAMPER SHALL BE TYPE 316 STAINLESS STEEL, SUITABLE FOR CORROSIVE ENVIRONMENT.

# SUPPLY FAN (S) SCHEDULE:

7. DAMPER SHALL BE GALVANIZED STEEL.

PLAN NO. SERVICE MFGR. MODEL TYPE CFM/ESP HP/VOLTAGE DRIVE/SPEEDS APPROX. WT. NOTES

S-1 OUTSIDE AIR GREENHECK QEI-16-I-20 HORIZONTAL 6250/0.5" 2.0/480-3-60 BELT/VFD 330 LBS. 1-3

NOTES: SEE SPECIFICATION 23 34 13 "AXIAL HVAC FANS" FOR ADDITIONAL INFORMATION.

1. PROVIDE UNIT WITH VFD RATED MOTOR, MOUNTING SUPPORTS, CONCRETE GRAY PERMATECTOR COATING, ISOLATION SPRING HANGERS, ACCESS DOOR, INLET AND OUTLET FLANGES, EXTENDED LUBE LINES, BELT GUARD, MOUNTING RAILS, TRANSFORMER, MANUFACTURER'S DISCONNECT SWITCH, JUNCTION BOX (WIRED AND MOUNTED). CONTROL TO COME FROM MCC.

2. VFD TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR, COORDINATE REQUIREMENTS.

3. CONFIRM EXISTING SPACE AVAILABLE IN FIELD WITH NEW UNIT DIMENSIONS PRIOR TO ORDERING.

ROOF DECK PATCHING DETAIL

NO SCALE



PLAN NO.	RV-1
SERVICE	OZONE CHAMBER
MFGR.	GREENHECK
MODEL	FGR
THROAT SIZE	60x132
THROAT AREA (SQ. FT.)	55
CFM	26,560
APPROX. WT. IN LBS.	300
NOTES	1-2

 NOTES: SEE SPECIFICATION 23 37 23 "HVAC GRAVITY VENTILATORS" FOR ADDITIONAL INFORMATION.
 PROVIDE WITH HI-PRO POLYESTER COATING, 5" MANUFACTURER BASE, BIRD SCREEN. UNIT TO BE MOUNTED TO EXISTING

CONCRETE PAD ON ROOF.
 FIELD VERIFY EXACT DIMENSIONS REQUIRED TO FIT ON EXISTING

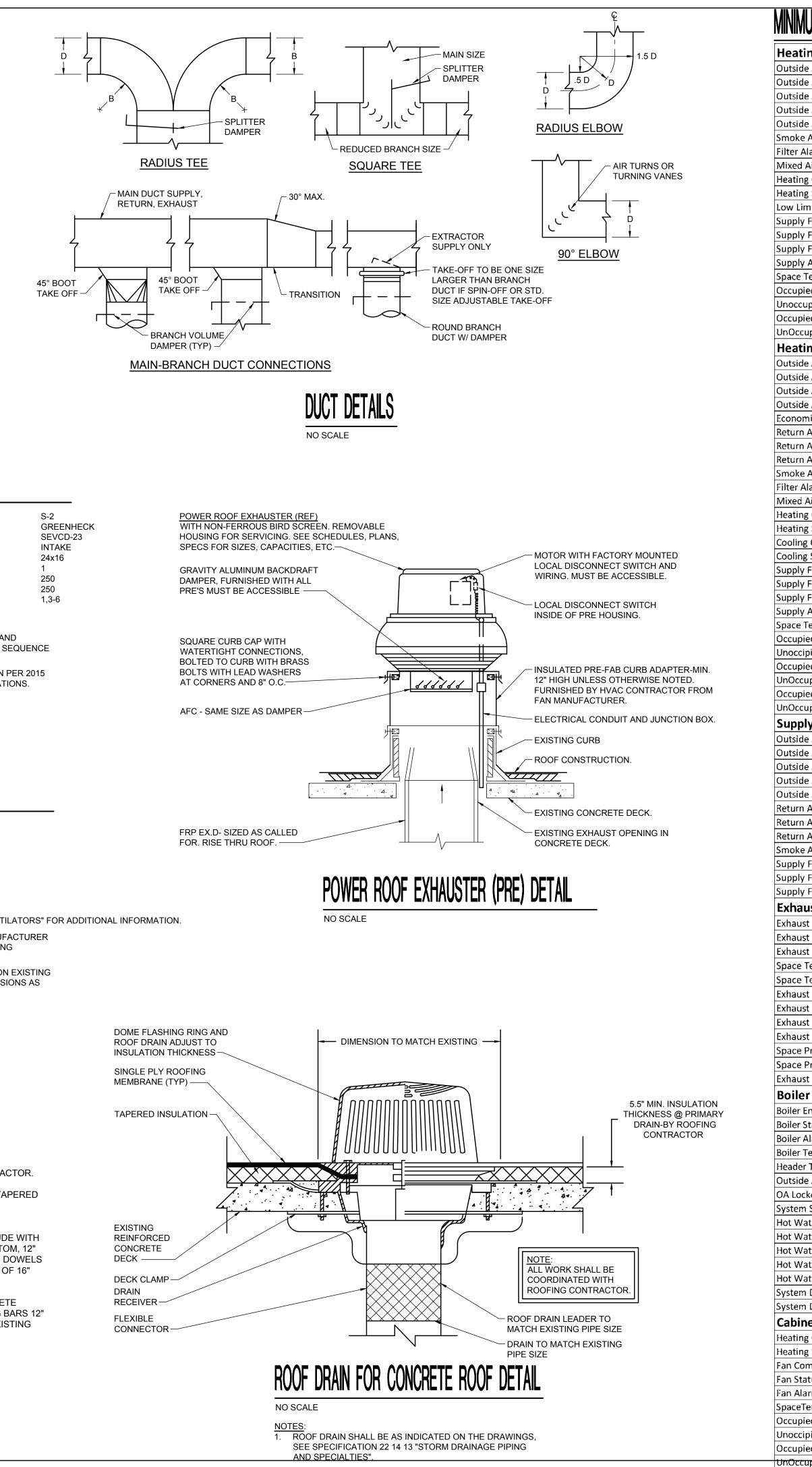
CONCRETE PAD PRIOR TO ORDERING, ADJUST DIMENSIONS AS REQUIRED.

- TPO ROOF MEMBRANE (60 MIL) - BY ROOFING CONTRACTOR.

-5.5" MIN. ISO (2 LAYERS- 2.5" AND 3" MIN.), R-30 MIN., TAPERED AS REQUIRED FOR 1/8"/FOOT SLOPE - BY ROOFING CONTRACTOR.

-MECHANICALLY ROUGHENED SURFACE, 1/4" AMPLITUDE WITH ASTM A615 GRADE 60 #5 DOWEL BARS TOP AND BOTTOM, 12" ON CENTER (TYP). MINIMUM 6" EMBEDMENT. SECURE DOWELS WITH HILTI HIT-RE500V3 ADHESIVE. USE LAP LENGTH OF 16" BETWEEN #5 DOWELS AND #5 REINFORCING BARS.

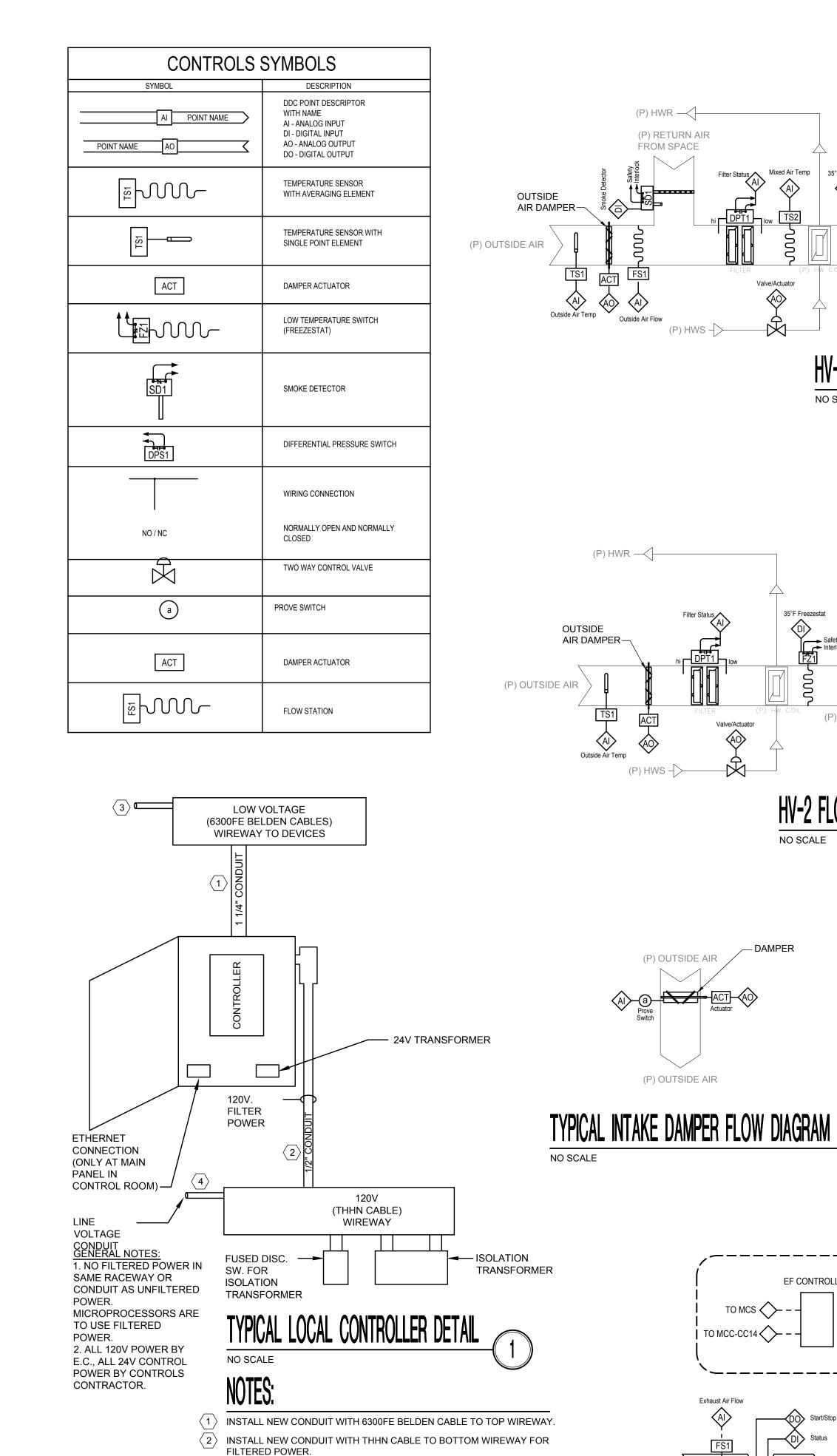
 INFILL OPENING WITH 5000 PSI LIGHTWEIGHT CONCRETE DECKING AND ASTM A615 GRADE 60 #5 REINFORCING BARS 12" ON CENTER WITH MINIMUM 1.5" COVER TO MATCH EXISTING CONSTRUCTION. - BY MECHANICAL CONTRACTOR.



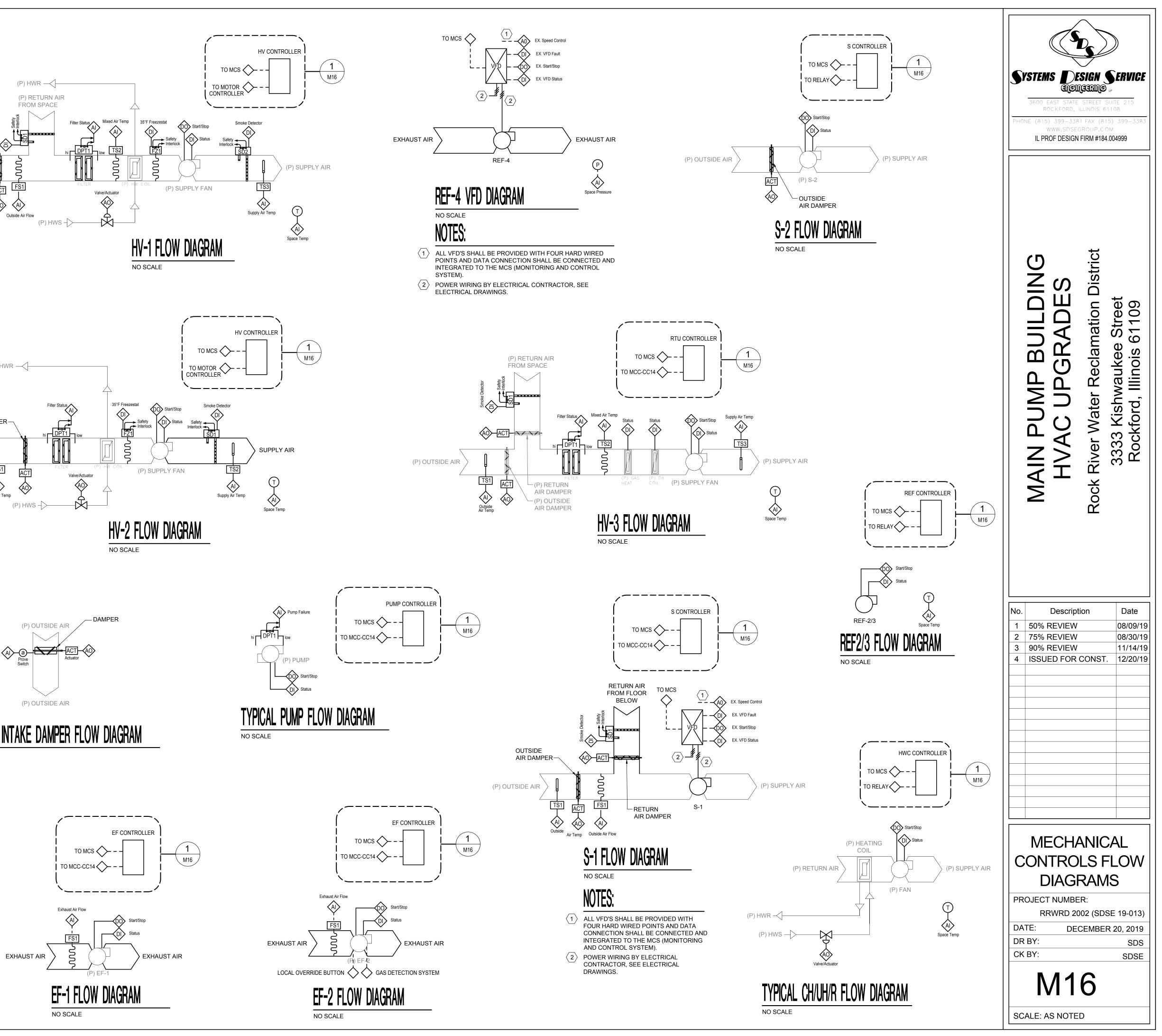
# MINMUM CONTROLS POINTS LIST:

	System Point Names
Outside Air Temperature	OAT
Dutside Air Flow (HV-1) Dutside Air Damper Command	OaFlw OaDmprCmd
Dutside Air Damper Set Point	OaDmprStPt
Dutside Air Damper Status	OaDmprSts
Smoke Alarm Filter Alarm	SmkAlm FltrAlm
Mixed Air Temperature (HV-1)	MAT
Heating Command	HtgCmd
Heating Status	HtgSts
.ow Limit Alarm	LowLimit
Supply Fan Command Supply Fan Status	SFanCmd SFanSts
Supply Fan Alarm	SFanAlm
Supply Air Temperature	SAT
Space Temperature	SpaceTemp
Dccupied Command Jnoccupied Command	OccCmd UnOccCmd
Dccupied Heating Set Point	OccHtgStPt
JnOccupied Heating Set Point	UnOccHtgStPt
Heating & Ventilating Unit (HV-3)	System Point Names
Dutside Air Temperature	OAT
Dutside Air Damper Command Dutside Air Damper Set Point	OaDmprCmd OaDmprMinStPt
Dutside Air Damper Set Fornt	OaDmprSts
Conomizer Set Point	EconStPt
Return Air Damper Command	RaDmprCmd
Return Air Damper Set Point	RaDmprStPt RaDmprStc
Return Air Damper Status	RaDmprSts SmkAlm
ilter Alarm	FilterAlm
Mixed Air Temperature	MAT
leating Command	HtgCmd
Heating Status	HtgSts
Cooling Command Cooling Status	ClgCmd ClgSts
Supply Fan Command	SFanCmd
Supply Fan Status	SFanSts
Supply Fan Alarm	SFanAlm
Supply Air Temperature	SAT
Space Temperature Occupied Command	SpaceTemp OccCmd
Jnoccipied Command	UnOccCmd
Occupied Heating Set Point	OccHtgStPt
JnOccupied Heating Set Point	UnOccHtgStPt
Occupied Cooling Set Point	OccClgStPt
UnOccupied Cooling Set Point	UnOccClgStPt
Supply Fan Unit (S-1 & S-2) Outside Air Temperature (S-1)	System Point Names
Outside Air Femperature (5-1)	OaFlw
Outside Air Damper Command	OaDmprCmd
Outside Air Damper Set Point	OaDmprStPt
Outside Air Damper Status	OaDmprSts
Return Air Damper Command (S-1) Return Air Damper Set Point (S-1)	RaDmprCmd
Return Air Damper Set Point (S-1)	RaDmprStPt RaDmprSts
Smoke Alarm (S-1)	SmkAlm
Supply Fan Command	SFanCmd
Supply Fan Status	SFanSts
	SFanAlm
Supply Fan Alarm	
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF-	
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command	ExFanCmd
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status	
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Alarm	ExFanCmd ExFanSts
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Alarm Space Temperature (REF-2 & REF-3) Space Temperature Set Point (REF-2 & REF-3)	ExFanCmd ExFanSts ExFanAlm SpaceTemp SpaceTempStPt
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Alarm Space Temperature (REF-2 & REF-3) Space Temperature Set Point (REF-2 & REF-3) Exhaust Fan VFD Command (REF-4)	ExFanCmd ExFanSts ExFanAlm SpaceTemp SpaceTempStPt ExFanVfdCmd
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Alarm Space Temperature (REF-2 & REF-3) Space Temperature Set Point (REF-2 & REF-3) Exhaust Fan VFD Command (REF-4) Exhaust Fan VFD Status (REF-4)	ExFanCmd ExFanSts ExFanAlm SpaceTemp SpaceTempStPt ExFanVfdCmd ExFanVfdSts
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Alarm Space Temperature (REF-2 & REF-3) Space Temperature Set Point (REF-2 & REF-3) Exhaust Fan VFD Command (REF-4) Exhaust Fan VFD Status (REF-4) Exhaust Fan VFD Speed (REF-4)	ExFanCmd ExFanSts ExFanAlm SpaceTemp SpaceTempStPt ExFanVfdCmd
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Alarm Space Temperature (REF-2 & REF-3) Space Temperature Set Point (REF-2 & REF-3) Exhaust Fan VFD Command (REF-4) Exhaust Fan VFD Status (REF-4) Exhaust Fan VFD Speed (REF-4) Exhaust Fan VFD Alarm (REF-4)	ExFanCmd ExFanSts ExFanAlm SpaceTemp SpaceTempStPt ExFanVfdCmd ExFanVfdSts ExFanVfdSpd
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Alarm Space Temperature (REF-2 & REF-3) Space Temperature Set Point (REF-2 & REF-3) Exhaust Fan VFD Command (REF-4) Exhaust Fan VFD Status (REF-4) Exhaust Fan VFD Speed (REF-4) Exhaust Fan VFD Alarm (REF-4) Space Pressure (REF-4) Space Pressure Set Point (REF-4)	ExFanCmd ExFanSts ExFanAlm SpaceTemp SpaceTempStPt ExFanVfdCmd ExFanVfdSts ExFanVfdSpd ExFanVfdAlm SpacePress SpacePressStPt
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Alarm Space Temperature (REF-2 & REF-3) Space Temperature Set Point (REF-2 & REF-3) Exhaust Fan VFD Command (REF-4) Exhaust Fan VFD Status (REF-4) Exhaust Fan VFD Speed (REF-4) Exhaust Fan VFD Alarm (REF-4) Space Pressure (REF-4) Space Pressure Set Point (REF-4) Exhaust Flow (E-1 & E-2)	ExFanCmd         ExFanSts         ExFanAlm         SpaceTemp         SpaceTempStPt         ExFanVfdCmd         ExFanVfdSts         ExFanVfdSpd         ExFanVfdAlm         SpacePress         SpacePressStPt
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Alarm Space Temperature (REF-2 & REF-3) Space Temperature Set Point (REF-2 & REF-3) Exhaust Fan VFD Command (REF-4) Exhaust Fan VFD Status (REF-4) Exhaust Fan VFD Speed (REF-4) Exhaust Fan VFD Alarm (REF-4) Space Pressure (REF-4) Space Pressure Set Point (REF-4) Exhaust Flow (E-1 & E-2) Boiler (B-1) & Hot Water System (P-3 & P-4)	ExFanCmdExFanCmdExFanStsExFanAlmSpaceTempSpaceTempStPtExFanVfdCmdExFanVfdStsExFanVfdSpdExFanVfdAlmSpacePressSpacePressStPtExFlwSystem Point Names
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Alarm Space Temperature (REF-2 & REF-3) Space Temperature Set Point (REF-2 & REF-3) Exhaust Fan VFD Command (REF-4) Exhaust Fan VFD Status (REF-4) Exhaust Fan VFD Speed (REF-4) Exhaust Fan VFD Alarm (REF-4) Space Pressure (REF-4) Exhaust Flaw (E-1 & E-2) Boiler (B-1) & Hot Water System (P-3 & P-4) Boiler Enable	ExFanCmd         ExFanSts         ExFanAlm         SpaceTemp         SpaceTempStPt         ExFanVfdCmd         ExFanVfdSts         ExFanVfdSpd         ExFanVfdAlm         SpacePress         SpacePressStPt         ExFlw         System Point Names         BoilerEna
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Alarm Space Temperature (REF-2 & REF-3) Space Temperature Set Point (REF-2 & REF-3) Exhaust Fan VFD Command (REF-4) Exhaust Fan VFD Status (REF-4) Exhaust Fan VFD Speed (REF-4) Exhaust Fan VFD Alarm (REF-4) Space Pressure (REF-4) Space Pressure Set Point (REF-4) Exhaust Flow (E-1 & E-2) Boiler (B-1) & Hot Water System (P-3 & P-4) Boiler Enable Boiler Status	ExFanCmdExFanCmdExFanStsExFanAlmSpaceTempSpaceTempStPtExFanVfdCmdExFanVfdStsExFanVfdSpdExFanVfdAlmSpacePressSpacePressStPtExFlwSystem Point NamesBoilerEnaBoilerSts
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Alarm Space Temperature (REF-2 & REF-3) Space Temperature Set Point (REF-2 & REF-3) Exhaust Fan VFD Command (REF-4) Exhaust Fan VFD Status (REF-4) Exhaust Fan VFD Speed (REF-4) Exhaust Fan VFD Alarm (REF-4) Space Pressure (REF-4) Space Pressure Set Point (REF-4) Exhaust Flow (E-1 & E-2) Boiler (B-1) & Hot Water System (P-3 & P-4) Boiler Enable Boiler Status Boiler Alarm	ExFanCmd         ExFanSts         ExFanAlm         SpaceTemp         SpaceTempStPt         ExFanVfdCmd         ExFanVfdSts         ExFanVfdSpd         ExFanVfdAlm         SpacePress         SpacePressStPt         ExFlw         System Point Names         BoilerEna
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Alarm Space Temperature (REF-2 & REF-3) Exhaust Fan VFD Command (REF-2 & REF-3) Exhaust Fan VFD Command (REF-4) Exhaust Fan VFD Status (REF-4) Exhaust Fan VFD Speed (REF-4) Exhaust Fan VFD Alarm (REF-4) Exhaust Fan VFD Alarm (REF-4) Exhaust Fan VFD Alarm (REF-4) Exhaust Flow (E-1 & E-2) Boiler (B-1) & Hot Water System (P-3 & P-4) Boiler Enable Boiler Status Boiler Alarm Boiler Temperature	ExFanCmdExFanCmdExFanStsExFanStsExFanAlmSpaceTempSpaceTempStPtExFanVfdCmdExFanVfdStsExFanVfdSpdExFanVfdAlmSpacePressSpacePressStPtExFlwSystem Point NamesBoilerEnaBoilerStsBoilerAlm
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Alarm Space Temperature (REF-2 & REF-3) Space Temperature Set Point (REF-2 & REF-3) Exhaust Fan VFD Command (REF-4) Exhaust Fan VFD Status (REF-4) Exhaust Fan VFD Speed (REF-4) Exhaust Fan VFD Alarm (REF-4) Space Pressure (REF-4) Space Pressure (REF-4) Exhaust Flow (E-1 & E-2) Boiler (B-1) & Hot Water System (P-3 & P-4) Boiler Enable Boiler Status Boiler Temperature Header Temperature Dutside Air Temperature	ExFanCmdExFanCmdExFanStsExFanAlmSpaceTempSpaceTempStPtExFanVfdCmdExFanVfdStsExFanVfdSpdExFanVfdAlmSpacePressSpacePressStPtExFlwSystem Point NamesBoilerStsBoilerAlmBlrTempSystemTempOAT
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Alarm Space Temperature (REF-2 & REF-3) Space Temperature Set Point (REF-2 & REF-3) Exhaust Fan VFD Command (REF-4) Exhaust Fan VFD Status (REF-4) Exhaust Fan VFD Speed (REF-4) Exhaust Fan VFD Alarm (REF-4) Space Pressure (REF-4) Space Pressure (REF-4) Exhaust Flow (E-1 & E-2) Boiler (B-1) & Hot Water System (P-3 & P-4) Boiler Enable Boiler Status Boiler Alarm Boiler Temperature Header Temperature Dutside Air Temperature DA Lockout Set Point	ExFanCmdExFanCmdExFanStsExFanStsExFanAlmSpaceTempSpaceTempStPtExFanVfdCmdExFanVfdStsExFanVfdSpdExFanVfdAlmSpacePressSpacePressStPtExFlwSystem Point NamesBoilerEnaBoilerStsBoilerAlmBIrTempSystemTempOATOaStPt
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Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Alarm Space Temperature (REF-2 & REF-3) Exhaust Fan VFD Command (REF-2 & REF-3) Exhaust Fan VFD Command (REF-4) Exhaust Fan VFD Status (REF-4) Exhaust Fan VFD Speed (REF-4) Exhaust Fan VFD Alarm (REF-4) Exhaust Fan VFD Alarm (REF-4) Exhaust Fan VFD Alarm (REF-4) Exhaust Flow (E-1 & E-2) Boiler Pressure Set Point (REF-4) Exhaust Flow (E-1 & E-2) Boiler Status Boiler Status Boiler Temperature Header Temperature Dutside Air Temperature Dutside Air Temperature Set Point Hot Water Supply Temperature Hot Water Return Temperature Hot Water Return Temperature	ExFanCmdExFanCmdExFanStsExFanStsExFanAlmSpaceTempSpaceTempStPtExFanVfdCmdExFanVfdStsExFanVfdSpdExFanVfdAlmSpacePressSpacePressStPtExFlwSystem Point NamesBoilerEnaBoilerStsBoilerAlmBIrTempSystemTempOATOaStPtSystemStPtHWS
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Alarm Space Temperature (REF-2 & REF-3) Exhaust Fan VFD Command (REF-2 & REF-3) Exhaust Fan VFD Command (REF-4) Exhaust Fan VFD Status (REF-4) Exhaust Fan VFD Speed (REF-4) Exhaust Fan VFD Alarm (REF-4) Exhaust Fan VFD Alarm (REF-4) Exhaust Fan VFD Alarm (REF-4) Exhaust Flow (E-1 & E-2) Boiler (B-1) & Hot Water System (P-3 & P-4) Boiler Enable Boiler Status Boiler Temperature Header Temperature Header Temperature Dutside Air Temperature Dutside Air Temperature Set Point Hot Water Supply Temperature Hot Water Return Temperature Hot Water Supply Pump Command	ExFanCmdExFanStsExFanStsExFanAlmSpaceTempSpaceTempStPtExFanVfdCmdExFanVfdStsExFanVfdSpdExFanVfdAlmSpacePressSpacePressStPtExFlwSystem Point NamesBoilerStsBoilerAlmBilrTempSystemTempOATOaStPtSystemStPtHWSHWR
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Alarm Space Temperature (REF-2 & REF-3) Space Temperature Set Point (REF-2 & REF-3) Exhaust Fan VFD Command (REF-4) Exhaust Fan VFD Speed (REF-4) Exhaust Fan VFD Speed (REF-4) Exhaust Fan VFD Alarm (REF-4) Space Pressure (REF-4) Space Pressure Set Point (REF-4) Exhaust Flow (E-1 & E-2) Boiler (B-1) & Hot Water System (P-3 & P-4) Boiler Enable Boiler Status Boiler Temperature Header Temperature Dutside Air Temperature Dutside Air Temperature Set Point Hot Water Supply Temperature Hot Water Supply Temperature Hot Water Supply Pump Command Hot Water Supply Pump Status Hot Water Supply Pump Alarm	ExFanCmdExFanStsExFanStsExFanAlmSpaceTempSpaceTempStPtExFanVfdCmdExFanVfdStsExFanVfdSpdExFanVfdAlmSpacePressSpacePressStPtExFlwSystem Point NamesBoilerEnaBoilerStsBoilerAlmBlrTempSystemTempOATOaStPtSystemStPtHWSHWRPumpCmdPumpAlm
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Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Alarm Space Temperature (REF-2 & REF-3) Exhaust Fan VFD Command (REF-4) Exhaust Fan VFD Command (REF-4) Exhaust Fan VFD Speed (REF-4) Exhaust Fan VFD Speed (REF-4) Exhaust Fan VFD Alarm (REF-4) Exhaust Fan VFD Alarm (REF-4) Exhaust Flow (E-1 & E-2) Boiler (B-1) & Hot Water System (P-3 & P-4) Boiler Enable Boiler Status Boiler Temperature Header Temperature Dutside Air Temperature Dutside Air Temperature Doutside Air Temperature Hot Water Supply Temperature Hot Water Supply Temperature Hot Water Supply Temperature Hot Water Supply Pump Command Hot Water Supply Pump Status Hot Water Supply Pump Alarm Experime Differential Pressure Set Point Experime Source Set Point Experime Source Set Point Experimential Pressure Set Poi	ExFanCmdExFanStsExFanStsExFanAlmSpaceTempSpaceTempStPtExFanVfdCmdExFanVfdStsExFanVfdSpdExFanVfdAlmSpacePressSpacePressStPtExFlwSystem Point NamesBoilerEnaBoilerStsBoilerAlmBIrTempSystemTempOATOaStPtSystemStPtHWSHWRPumpCmdPumpStsPumpAlmDPDpStPt
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Alarm Space Temperature (REF-2 & REF-3) Exhaust Fan VFD Command (REF-2) Exhaust Fan VFD Command (REF-4) Exhaust Fan VFD Status (REF-4) Exhaust Fan VFD Speed (REF-4) Exhaust Fan VFD Alarm (REF-4) Exhaust Fan VFD Alarm (REF-4) Exhaust Flow (E-1 & E-2) Boiler (B-1) & Hot Water System (P-3 & P-4) Boiler Enable Boiler Status Boiler Temperature Header Temperature Dutside Air Temperature Dutside Air Temperature DA Lockout Set Point System Supply Temperature Hot Water Supply Temperature Hot Water Supply Temperature Hot Water Supply Pump Command Hot Water Supply Pump Status Hot Water Supply Pump Alarm System Differential Pressure Set Point Cabinet Heater (CH), Unit Heater (UH), & Radi	ExFanCmdExFanStsExFanStsExFanAlmSpaceTempSpaceTempStPtExFanVfdCmdExFanVfdStsExFanVfdSpdExFanVfdAlmSpacePressSpacePressStPtExFlwSystem Point NamesBoilerEnaBoilerStsBoilerAlmBlrTempSystemTempOATOaStPtSystemStPtHWSHWRPumpCmdPumpAlmDPDpStPtator (R)System Point Names
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Alarm Space Temperature (REF-2 & REF-3) Exhaust Fan VFD Command (REF-4) Exhaust Fan VFD Status (REF-4) Exhaust Fan VFD Speed (REF-4) Exhaust Fan VFD Speed (REF-4) Exhaust Fan VFD Alarm (REF-4) Exhaust Fan VFD Alarm (REF-4) Exhaust Fan VFD Alarm (REF-4) Exhaust Flow (E-1 & E-2) Boiler (B-1) & Hot Water System (P-3 & P-4) Boiler Enable Boiler Status Boiler Temperature Header Temperature Header Temperature Dutside Air Temperature Dutside Air Temperature Hot Water Supply Temperature Hot Water Supply Temperature Hot Water Supply Temperature Hot Water Supply Pump Command Hot Water Supply Pump Status Hot Water Supply Pump Alarm System Differential Pressure System Differential Pressure Set Point Cabinet Heater (CH), Unit Heater (UH), & Radi Heating Command	ExFanCmd ExFanSts ExFanAlm SpaceTemp SpaceTempStPt ExFanVfdCmd ExFanVfdSts ExFanVfdSpd ExFanVfdAlm SpacePress SpacePress SpacePressStPt ExFlw System Point Names BoilerEna BoilerSts BoilerEna BoilerSts BoilerAlm BIrTemp SystemTemp OAT OAT OAT OAT OAT OAStPt SystemStPt HWS HWR PumpCmd PumpSts PumpAlm DP DP DpStPt ator (R) System Point Name
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Alarm Exhaust Fan Alarm Exhaust Fan Alarm Exhaust Fan Alarm Exhaust Fan VFD Command (REF-2 & REF-3) Exhaust Fan VFD Status (REF-4) Exhaust Fan VFD Speed (REF-4) Exhaust Fan VFD Alarm (REF-4) Exhaust Fan VFD Alarm (REF-4) Exhaust Fan VFD Alarm (REF-4) Exhaust Flow (E-1 & E-2) Boiler (B-1) & Hot Water System (P-3 & P-4) Boiler Status Boiler Status Boiler Temperature Header Temperature Dutside Air Temperature Dutside Air Temperature Extension Supply Temperature Hot Water Supply Temperature Hot Water Supply Temperature Hot Water Supply Pump Command Hot Water Supply Pump Status Hot Water Supply Pump Alarm Extension Differential Pressure Extension Extension Extension Command Heating Command Heating Command Heating Status	ExFanCmdExFanStsExFanStsExFanAlmSpaceTempSpaceTempStPtExFanVfdCmdExFanVfdStsExFanVfdSpdExFanVfdAlmSpacePressSpacePressStPtExFlwSystem Point NamesBoilerEnaBoilerStsBoilerAlmBlrTempSystemTempOATOaStPtSystemStPtHWSHWRPumpCmdPumpAlmDPDpStPtator (R)System Point Names
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Alarm Space Temperature (REF-2 & REF-3) Space Temperature Set Point (REF-2 & REF-3) Exhaust Fan VFD Command (REF-4) Exhaust Fan VFD Status (REF-4) Exhaust Fan VFD Speed (REF-4) Exhaust Fan VFD Alarm (REF-4) Space Pressure Set Point (REF-4) Exhaust Flow (E-1 & E-2) Boiler (B-1) & Hot Water System (P-3 & P-4) Boiler Status Boiler Status Boiler Temperature Header Temperature Header Temperature Dutside Air Temperature Dot Lockout Set Point Hot Water Supply Temperature Hot Water Supply Pump Command Hot Water Supply Pump Status Hot Water Supply Pump Alarm System Differential Pressure System Differential Pressure Set Point Heating Command Heating Status Fan Command	ExFanCmd ExFanSts ExFanAlm SpaceTemp SpaceTempStPt ExFanVfdCmd ExFanVfdSpd ExFanVfdSpd ExFanVfdAlm SpacePress SpacePress SpacePressStPt ExFlw System Point Names BoilerEna BoilerSts BoilerAlm BlrTemp SystemTemp OAT OaStPt SystemStPt HWS HWR PumpCmd PumpCmd PumpAlm DP DP DpStPt ator (R) System Point Name
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Status Exhaust Fan Alarm Space Temperature (REF-2 & REF-3) Exhaust Fan VFD Command (REF-4) Exhaust Fan VFD Status (REF-4) Exhaust Fan VFD Speed (REF-4) Exhaust Fan VFD Alarm (REF-4) Exhaust Fan VFD Alarm (REF-4) Exhaust Flow (E-1 & E-2) Boiler (B-1) & Hot Water System (P-3 & P-4) Boiler Status Boiler Status Boiler Temperature Header Temperature Header Temperature Dutside Air Temperature DA Lockout Set Point Hot Water Supply Temperature Hot Water Supply Pump Command Hot Water Supply Pump Status Hot Water Supply Pump Status Hot Water Supply Pump Status Hot Water Supply Pump Alarm Expremential Pressure Set Point <b>Cabinet Heater (CH), Unit Heater (UH), &amp; Radi</b> Heating Command Heating Status Fan Command Fan Status	ExFanCmd ExFanSts ExFanAlm SpaceTemp SpaceTempStPt ExFanVfdCmd ExFanVfdSpd ExFanVfdSpd ExFanVfdAlm SpacePress SpacePress SpacePressStPt ExFlw System Point Names BoilerEna BoilerEna BoilerSts BoilerAlm BIrTemp SystemTemp OAT OaStPt SystemStPt HWS HWR PumpCmd PumpSts PumpAlm DP DP DpStPt Ator (R) System Point Name
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Alarm Space Temperature (REF-2 & REF-3) Space Temperature Set Point (REF-2 & REF-3) Exhaust Fan VFD Command (REF-4) Exhaust Fan VFD Status (REF-4) Exhaust Fan VFD Speed (REF-4) Exhaust Fan VFD Alarm (REF-4) Exhaust Fan VFD Alarm (REF-4) Exhaust Fan VFD Alarm (REF-4) Exhaust Flow (E-1 & E-2) Boiler (B-1) & Hot Water System (P-3 & P-4) Boiler Enable Boiler Status Boiler Temperature Header Temperature Dutside Air Temperature DA Lockout Set Point System Supply Temperature Set Point Hot Water Supply Temperature Hot Water Supply Pump Command Hot Water Supply Pump Status Hot Water Supply Pump Alarm System Differential Pressure System Differential Pressure Syst	ExFanCmdExFanStsExFanAlmSpaceTempSpaceTempStPtExFanVfdCmdExFanVfdStsExFanVfdSpdExFanVfdAlmSpacePressSpacePressStPtExFlwSystem Point NamesBoilerEnaBoilerStsBoilerAlmBlrTempSystemTempOATOaStPtSystemStPtHWSHWRPumpCmdPumpAlmDPDpStPtAtor (R)System Point NamesSystemStSSystemStPtBoilerStsBoilerAlmBlrTempSystemStPtHtgCmdPumpAlmDPSpStPtStanCmdFanCmdFanStsSFanAlmSFanAlmSpaceTemp
Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Status Exhaust Fan Alarm Space Temperature (REF-2 & REF-3) Space Temperature Set Point (REF-4) Exhaust Fan VFD Command (REF-4) Exhaust Fan VFD Speed (REF-4) Exhaust Fan VFD Alarm (REF-4) Space Pressure (REF-4) Space Pressure Set Point (REF-4) Exhaust Flow (E-1 & E-2) Boiler (B-1) & Hot Water System (P-3 & P-4) Boiler Enable Boiler Status Boiler Temperature Header Temperature Dutside Air Temperature Dutside Air Temperature Da Lockout Set Point System Supply Temperature Hot Water Supply Pump Command Hot Water Supply Pump Status Hot Water Supply Pump Status Hot Water Supply Pump Alarm System Differential Pressure System Differential Pressure System Differential Pressure System Differential Pressure Set Point Cabinet Heater (CH), Unit Heater (UH), & Radii Heating Command Heating Status San Command Alarm SpaceTemperature Docupied Command	ExFanCmdExFanStsExFanAlmSpaceTempSpaceTempStPtExFanVfdCmdExFanVfdStsExFanVfdSpdExFanVfdAlmSpacePressSpacePressStPtExFlwSystemPoint NamesBoilerEnaBoilerStsBoilerAlmBlrTempSystemTempOATOaStPtSystemStPtHWRPumpCmdPumpAlmDPDpStPtAt r (R)System Point NamesSigtesSystemStPtBactor (R)SystemPathBactor (R)SystemPathSystemStPtBactor (R)SystemPathBactor (R)SystemPath
Supply Fan Alarm Exhaust Fans (REF-2, REF-3, REF-4, EF-1, & EF- Exhaust Fan Command Exhaust Fan Status Exhaust Fan Alarm Space Temperature (REF-2 & REF-3) Space Temperature Set Point (REF-2 & REF-3) Exhaust Fan VFD Command (REF-4) Exhaust Fan VFD Spaed (REF-4) Exhaust Fan VFD Speed (REF-4) Exhaust Fan VFD Alarm (REF-4) Space Pressure (REF-4) Space Pressure Set Point (REF-4) Exhaust Flow (E-1 & E-2) Boiler (B-1) & Hot Water System (P-3 & P-4) Boiler CB-1) & Hot Water System (P-3 & P-4) Boiler Temperature Datiside Air Temperature Datiside Ai	ExFanCmdExFanStsExFanAlmSpaceTempSpaceTempStPtExFanVfdCmdExFanVfdStsExFanVfdSpdExFanVfdAlmSpacePressSpacePressStPtExFlwSystem Point NamesBoilerEnaBoilerStsBoilerAlmBlrTempSystemTempOATOaStPtSystemStPtHWSHWRPumpCmdPumpAlmDPDpStPtAtor (R)System Point NamesSystemStSSystemStPtBoilerStsBoilerAlmBlrTempSystemStPtHtgCmdPumpAlmDPSpStPtStanCmdFanCmdFanStsSFanAlmSFanAlmSpaceTemp

SYSTEMS DESIGN SERVICE COCUSSENCE (************************************	
MAIN PUMP BUILDING HVAC UPGRADES Rock River Water Reclamation District 3333 Kishwaukee Street Rockford, Illinois 61109	
No.       Description       Date         1       50% REVIEW       08/09/19         2       75% REVIEW       08/30/19         3       90% REVIEW       11/14/19         4       ISSUED FOR CONST.       12/20/19         4       ISSUED FOR CONST.       12/20/19         5       1       1         6       1       1         7       1       1         8       1       1         9       1       1         1       1       1         1       1       1         1       1       1         1       1       1         1       1       1         1       1       1       1         1       1       1       1         1       1       1       1         1       1       1       1         1       1       1       1         1       1       1       1         1       1       1       1         1       1       1       1         1       1       1       1         1 </th <td>9 9</td>	9 9
Image: Scale: As noted	



- $\langle 3 \rangle$  TO BACNET DEVICES PER FLOW DIAGRAMS.
- (4) INSTALL NEW 3/4" CONDUIT WITH 3-#12 THHN CABLES FROM BOTTOM WIREWAY. CONTROL CONTRACTOR TO SOURCE 110V FROM LOCAL DISTRIBUTION SUPPLY. SEE ELECTRICAL DRAWINGS.



### PRESENT FOUR MENT AND DEMOLITION NOTES

LUEDE	NT EQUIFIVIENT AND DEIVIOLITION NOTES		ELEVITIVAL JINDULJ
	SHALL BE COORDINATED SO THAT HEATING, PLUMBING, AND ELECTRICAL SERVICES TO	⊢⊶	SURFACE OR PENDANT LED FIXTUR
	RESENT BUILDING WILL NOT BE INTERRUPTED, EXCEPT AS APPROVED BY RRWRD OPERATIONS.	Ħ	GROUNDED DUPLEX RECEPTACLE
C. ANY OF BECOM	'ED PIPE MUST NOT BE REUSED. REMOVED WIRE SHALL BE REMOVED FROM THE SITE BY CONTRACTOR (PX). ABOVE EQUIPMENT WHICH IS NOT REUSED AND FOLLOWING REMOVED PRESENT EQUIPMENT SHALL E PROPERTY OF CONTRACTOR, AND SHALL BE REMOVED FROM PREMISES BY HIM (PX). PMENT SO DESIGNATED ON DRAWINGS.		OUTLET WITH FINAL CONNECTIONS FURNISHED BY OTHERS (FBO). PROV SAFETY SWITCH, WIRING ETC. FOR ( VERIFY EXACT LOCATION AND HEIG
D. FOLLO	WING PRESENT EQUIPMENT SHALL BE CAREFULLY REMOVED, INTACT, MATCH MARKED, INSOFAR AS	ЮH	WALL JUNCTION BOX WITH FLUSH C
IS PRAC	CTICAL, SHALL REMAIN PROPERTY OF OWNER, AND SHALL BE DELIVERED TO OWNER OUTSIDE OF	Юн	TEMPERATURE PROBE
	NG IF INDICATED OR AS DIRECTED BY RRWRD OPERATIONS (PX-DO). PMENT SO DESIGNATED ON DRAWINGS.	$\square$	EQUIPMENT MOTOR
	ACTOR SHALL:	Ē	SAFETY SWITCH (F=FUSED)
1. PROV	/IDE NEW FLOORS UNDER REMOVED PRESENT EQUIPMENT AND WHERE CALLED FOR	ЦЭ	CONTROLLER
	AIR FLOORS UNDER AND WALLS ADJACENT TO REMOVED EQUIPMENT, TO MATCH ADJACENT STRUCTION.	М	MOTOR STARTER (VFD=VARIBLE FR
	CHASES WHICH ARE NO LONGER REQUIRED AND NEATLY PATCH TO MATCH		SURFACE ELECTRICAL PANELBOARI
ADJA	CENT CONSTRUCTION. OPENINGS REQUIRED FOR:	XFMR =	TRANSFORMER
B. AD C. RE D. NE 5. PATC	S WORK; DMISSION OF NEW EQUIPMENT; EMOVAL OF PRESENT EQUIPMENT; EW CONNECTION TO PRESENT CONSTRUCTION. CH AND REPAIR UNUSED PRESENT HOLES AND OPENINGS, AND THOSE LEFT BY THE REMOVAL OF SENT EQUIPMENT AND ADMISSION OF NEW EQUIPMENT.		CONDUIT RUN CONCEALED (OR PAR CONCEALED) IN CEILINGS OR WALLS CONDUIT RUN CONCEALED IN OR UI CONDUIT RUN EXPOSED, IN STRAIG CONDUIT RUN UNDERGROUND
REM	CH AND REPAIR PRESENT EQUIPMENT, AND BUILDING CONSTRUCTION WHICH HAS NOT BEEN CUT, DVED, DISTURBED OR MARRED, AS REQUIRED, TO RESTORE IT TO ORIGINAL CONDITION BEFORE G DISTURBED.		HOMERUN TO PANEL, IN CONDUIT, ( ARROWS INDICATE NUMBER OF CIR
F. UNUSE	D OPENINGS IN ENCLOSURES, IN CONDUITS, BOXES, CABINETS, AND PANELS SHALL BE CAPPED.	NOTES:	ELECTRICAL OUTLET BOXES INSTAL
G. PRESE	NT PAINTED CONSTRUCTION WHICH IS MARRED SHALL BE REPAIRED SAME AS NEW CONSTRUCTION.	NOTES.	SHALL COMPLY WITH LATEST IBC, S
	N ABBREVIATIONS OR SYMBOLS, WHEN APPLIED TO PRESENT (TO EXISTING) LINE, DEVICE OR IENT, SHALL HAVE THE FOLLOWING MEANINGS.		
<u>NC</u>	NEW CONNECTIONS TO PRESENT PIPING, DEVICE WIRING, EQUIPMENT, ETC. INSTALL, TEST, COVER, PAINT, ETC., SAME AS NEW WORK.		ELECTRICAL ABBREVIAT
<u>P</u>	TO REMAIN UNCHANGED, IF CHANGE CANNOT BE AVOIDED DUE TO CONTRACTOR CONVENIENCE CHANGE "P" TO PXR, AT NO INCREASE IN CONTRACT PRICE.	AC AFF ASC	ABOVE COUNTER ABOVE FINISHED FLOOR ABOVE SUSPENDED CEILING
<u>PX</u>	TO BE COMPLETELY REMOVED, INCLUDING UNNEEDED CONNECTIONS, PIPING, DUCTS, WIRING, BASES, ETC., OF EVERY KIND. UNUSED OPENINGS PLUGGED OR CAPPED, TESTED, COVERED, PAINTED SAME AS NEW WORK. OTHER DISTURBED WORK OF EVERY KIND RESTORED, PATCHED, TESTED, COVERED, PAINTED, ETC., TO EQUAL ORIGINAL CONDITION. REMOVED	C CTC CTF CTW	CONDUIT CLOSE TO CEILING CLOSE TO FLOOR CLOSE TO WALL

<u>PXR</u> SAME AS "PX", EXCEPT REMOVED, CLEANED AND RESTORED TO GOOD OPERATING CONDITION AND REINSTALLED, SAME AS NEW WORK, IN ORIGINAL OR REVISED POSITION. IF RECONDITIONING IS IMPRACTICAL, PROVIDE NEW DEVICE, AS APPROVED BY ENGINEER, AT NO INCREASE IN CONTRACT PRICE.

MATERIAL MUST NOT BE REUSED UNLESS OTHERWISE SPECIFIED OR DIRECTED BY ENGINEER.

- SAME AS "PX", EXCEPT REMOVED, CLEANED AND RESTORED INTACT, AS FAR AS PRACTICAL, <u>PX-DO</u> MATCHED MARKED, AND OTHERWISE IDENTIFIED AS REQUIRED AND DELIVERED AS INDICATED AND DIRECTED BY RRWRD OPERATIONS.
- COMPLETELY REINSTALL DEVICE, LINE OR EQUIPMENT REMOVED, AT NEW LOCATION, SAME, <u>PN ETC.</u> AS NEW WORK
- H. WORK SHALL BE COORDINATED WITH ALL OTHER WORK AND PRESENT CONDITIONS, SO THAT: 1. ELECTRICAL SERVICES TO PRESENT BUILDINGS OR PORTIONS OF BUILDING WILL NOT BE INTERRUPTED DURING PERIODS WHEN THOSE SERVICES ARE NEEDED.
- 2. SPECIAL SYSTEMS SUCH AS FIRE ALARM, SOUND, ETC., OF EVERY KIND TO PRESENT BUILDINGS WILL NOT BE INTERRUPTED DURING WORKING AND/OR OCCUPIED HOURS, EXCEPT AS APPROVED BY RRWRD (WARREN ADAM (815) 871-0787).
- I. NEW CONDUIT SERVING NEW AND/OR PRESENT ELECTRICAL DEVICES IN FINISHED PRESENT ROOMS OR SPACES SHALL BE CONCEALED IN FINISHED ROOMS, WHERE POSSIBLE OR SHALL BE RUN IN ADJOINING UNFINISHED ROOMS, SHAFTS, CHAMBERS, ETC., WHERE EXPOSED CONDUIT IS PERMITTED IN FINISHED PRESENT ROOMS BY OWNER IN WRITING, IT SHALL BE WIREMOLD, WITH MATCHING BOXES RUN INCONSPICUOUSLY AS POSSIBLE, IN STRAIGHT LINES, PARALLEL TO WALLS AND CEILINGS, WITH NEAT BENDS, UNNEEDED BOXES, SWITCHES AND WIRING SHALL BE COMPLETELY REMOVED AND OPENINGS PATCHED. PRESENT FIXTURES, BOXES, WIRING, SWITCHES, ETC. SHALL BE REMOVED AS NOTED UNLESS ANOTHER DISPOSITION IS SHOWN ON DRAWINGS. WHERE SPECIFICALLY APPROVED BY RRWRD OPERATIONS IN WRITING, BOXES MAY BE PERMITTED TO REMAIN AND BE PROVIDED WITH NEAT FLUSH COVERS, EXTENDING OVER ENTIRE WALL OPENING.
- J. UNNEEDED ELECTRICAL FIXTURES, SWITCHES, STARTERS, DEVICES, ETC., SHALL BE COMPLETELY REMOVED; AND CONSTRUCTION PATCHED. NEW CONNECTIONS TO PRESENT EQUIPMENT, SHALL BE MADE, TESTED, COVERED, PAINTED, ETC., SAME AS NEW EQUIPMENT. PRESENT EQUIPMENT, AND OTHER COVERING DISTURBED BY CONTRACTOR SHALL BE REPAIRED TO EQUAL NEW CONDITION AND PAINTED SAME AS NEW COVERING.
- K. WHERE DEVICES ARE OMITTED FROM PRESENT BRANCH CIRCUITS, THE REMAINING DEVICES, ON THE SAME CIRCUIT AND/OR CONDUIT RUN, SHALL BE REWIRED, IF NEEDED AND AS REQUIRED, TO REMAIN ON THEIR RESPECTIVE CIRCUITS AND IN OPERATING CONDITION.

### GENERAL NOTES APPLY TO ALL SHEETS:

SEE DETAILS AND SCHEDULES ON DRAWINGS AND SPECIFICATIONS FOR MEANING OF ABBREVIATIONS AND ADDITIONAL REQUIREMENTS AND INFORMATION. CHECK ARCHITECTURAL, STRUCTURAL, AND OTHER MECHANICAL AND ELECTRICAL DRAWINGS FOR SCALE, SPACE LIMITATIONS, BEAMS, DOOR SWINGS, WINDOWS. COORDINATION, ADDITIONAL INFORMATION, ETC. AND REPORT ANY DESCREPANCIES, CONFLICTS, ETC. TO RRWRD OPERATIONS PRIOR TO SUBMITTING BID.

ALL EQUIPMENT FURNISHED BY OTHERS (FBO) SHALL BE PROVIDED WITH PROPER MOTOR STARTERS, DISCONNECTS, CONTROLS, ETC. UNLESS SPECIFICALLY NOTED OTHERWISE. THE ELECTRICAL CONTRACTOR SHALL INSTALL AND COMPLETELY WIRE ALL ASSOCIATED EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S WIRING DIAGRAMS AND AS REQUIRED FOR A COMPLETE OPERATING INSTALLATION. ELECTRICAL CONTRACTOR SHALL VERIFY AND COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF (FBO) EQUIPMENT PRIOR TO ROUGH-IN OF CONDUIT AND WIRING TO AVOID CONFLICTS.

CONTRACTOR SHALL VERIFY FINAL LOCATIONS AND CEILING TYPES FOR ALL ELECTRICAL EQUIPMENT WITH ARCHITECTURAL REFLECTED CEILING PLAN AND ALL TRADES BEFORE ORDERING OR ROUGH-IN OF EQUIPMENT TO AVOID CONFLICTS.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING, INCLUDING CORE DRILLING, SAW CUTTING, ETC., AS REQUIRED TO ACCOMMODATE HIS WORK. CUTTING AND PATCHING AND PAYMENT OF SAID WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR REQUIRING THE DISTURBANCE BUT SAME SHALL BE DONE BY A GENERAL CONTRACTOR. IT SHALL BE THE RESPONSIBILITY OF THE APPROPRIATE ELECTRICAL CONTRACTOR TO GIVE QUANTITIES OF PATCHING REQUIREMENTS TO A GENERAL CONTRACTOR.

CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND REPLACEMENT OF PRESENT CEILINGS, LIGHT FIXTURES, DIFFUSERS, DUCTWORK, PIPING, CONDUIT, ETC., AS REQUIRED FOR THE INSTALLATION OF HIS WORK. REMOVAL, REPLACEMENT AND PAYMENT FOR MECHANICAL/PLUMBING ITEMS SHALL BE THE RESPONSIBILITY OF THE APPLICABLE ELECTRICAL CONTRACTOR. REMOVAL AND REPLACEMENT OF PRESENT CEILINGS, ETC., SHALL BE THE RESPONSIBILITY OF CONTRACTOR MAKING THE DISTURBANCE BUT SAME SHALL BE DONE BY A GENERAL CONTRACTOR. IT SHALL BE THE RESPONSIBILITY OF THE APPROPRIATE ELECTRICAL CONT``RACTOR TO GIVE QUANTITIES OF REMOVAL/REPLACEMENT REQUIREMENTS TO A GENERAL CONTRACTOR.

### FLECTRICAL SYMBOLS

	SURFACE OR PENDANT LED FIXTUR
	GROUNDED DUPLEX RECEPTACLE
	OUTLET WITH FINAL CONNECTIONS FURNISHED BY OTHERS (FBO). PRO SAFETY SWITCH, WIRING ETC. FOR VERIFY EXACT LOCATION AND HEIO
	WALL JUNCTION BOX WITH FLUSH
	TEMPERATURE PROBE
	EQUIPMENT MOTOR
	SAFETY SWITCH (F=FUSED)
	CONTROLLER
	MOTOR STARTER (VFD=VARIBLE FF
ľ	SURFACE ELECTRICAL PANELBOAF
	TRANSFORMER
<b>`</b>	CONDUIT RUN CONCEALED (OR PA CONCEALED) IN CEILINGS OR WALL
~	CONDUIT RUN CONCEALED IN OR L
<u>`</u>	CONDUIT RUN EXPOSED, IN STRAIC CONDUIT RUN UNDERGROUND
	CONDOIT KON UNDERGROUND
4	HOMERUN TO PANEL, IN CONDUIT, ARROWS INDICATE NUMBER OF CI
S:	ELECTRICAL OUTLET BOXES INSTA

FBO

FFA

FFB

FLA

GFI

ΗP

IWS

JB

KW

# FIRE ALARM SYSTEM SYMBOLS

FACP	NEW SIMPLEX FIRE ALARM CONTRO
<b>∕</b> F <b>∕</b>	FIRE ALARM SYSTEM WIRING IN CO
A	FIRE ALARM SYSTEM EXPLOSION P AND HORN WALL MOUNTED DEVICE
€BD	FIRE ALARM SYSTEM EXPLOSION P DEVICE. COORDINATE MOUNTING H
F	FIRE ALARM SYSTEM EXPLOSION P DEVICE MEETING ALL NFPA AND A.I REQUIREMENTS. (MOUNT WITHIN 5'
HD	HIGH TEMP EXPLOSION PROOF CEI
	DUCT MOUNTED EXPLOSION PROO

H = PROVIDE CLASS 1, DIVISION 1 RATED DEVICES WHEN LOCATED WITHIN THE CLASSIFIED AREAS INDICATED ON SHEETS E8, E9, AND E10.

# FIRE ALARM SYSTEM NOTES:

FIRE ALARM SYSTEM SHALL BE INSTALLED AND WIRED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WIRING DIAGRAMS. CONTRACTOR SHALL PROVIDE IN SHOP DRAWINGS THE FINAL WIRING SCHEMATICS, DIAGRAMS AND BATTERY CALCULATIONS. E.C. TO VERIFY ALL REQUIREMENTS WITH LOCAL AUTHORITY PRIOR TO SUBMITTING FINAL BID TO INCLUDE ALL NECESSARY MATERIALS REQUIRED FOR A COMPLETE SYSTEM. ELECTRICAL CONTRACTOR TO INCLUDE ALL NECESSARY LABOR AND MATERIALS REQUIRED FOR FIRE ALARM SYSTEM. ALL LABOR AND MATERIALS SHALL BE INCLUDED IN FINAL BID. COORDINATE WITH THE LOCAL AUTHORITY PRIOR TO SUBMITTING FINAL BIDS TO INCLUDE ALL MATERIAL AND LABOR.

ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL RELATED PERMIT APPLICATIONS, AND FEES.

ALL CANDELA INTENSITIES SHALL BE FIELD ADJUSTED PER NFPA 72 SECTION 7.5. (TYPICAL).

ALL NEW ALARM DEVICES SHALL MEET ALL NFPA AND ADA OPERATION AND MOUNTING REQUIREMENTS.

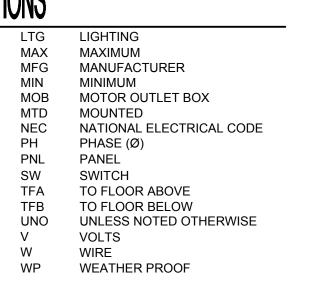
# ELECTRICAL COORDINATION NOTE

THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS ASSOCIATED WITH ALL OTHER TRADES THAT INVOLVE THE ELECTRICAL CONTRACTOR TO PROVIDE POWER WIRING FOR DEVICES AND SYSTEMS PROVIDED BY OTHER TRADES. ELECTRICAL CONTRACTOR SHALL COORDINATE ALL ASPECTS OF WORK RELATED TO THESE SYSTEMS AND DEVICES PRIOR TO SUBMITTING FINAL BID. INCLUDE ALL NECESSARY LABOR AND MATERIALS ASSOCIATED WITH OTHER TRADES AS REQUIRED FOR COMPLETE OPERATIONAL SYSTEMS THAT REQUIRE THE ELECTRICAL CONTRACTOR TO WIRE.

# GENERAL DEMOLITION NOTE:

FOR ALL WALLS, CEILINGS, FLOORS, ETC. REQUIRED FOR CONSTRUCTION DEMOLITION WORK OR NEW CONSTRUCTION WORK, INCLUDING, BUT NOT LIMITED TO ITEMS SHOWN: REMOVE (PX) AND/OR REMOVE AND RELOCATE (PXN-PN) ALL ELECTRICAL EQUIPMENT, DEVICES, BOXES, CONDUIT, WIRING, ETC., AS REQUIRED, FOR DEMOLITION OF PRESENT CONSTRUCTION AND TO AVOID INTERFERENCE WITH NEW CONSTRUCTION. (VERIFY BEFORE BIDDING TO INCLUDE ALL NECESSARY MATERIALS AND LABOR).

#### IS TO EQUIPMENT. EQUIPMENT OVIDE NECESSARY RECEPTACLE, R COMPLETE INSTALLATION IGHT BEFORE ROUGH-IN. I COVERPLATE REQUENCY DRIVE) RD ARTIALLY UNDER FLOORS CHARACTER MARKS= NUMBER OF WIRES, IGHT LINES IF NONE ARE SHOWN TWO ARE REQUIRED , CONCEALED IRCUITS ALLED IN FIRE RATED ASSEMBLIES , SECTION 712 (NOT LESS THAN 24" O.C.) ATIONS



ROL PANEL

ONDUIT, CONCEALED WHERE POSSIBLE

PROOF MULTI-CANDELA STROBE LIGHT SIGNAL E. MOUNT AT 80" AFF.(VERIFY)

PROOF WALL MOUNTED BEAM DETECTOR HEIGHT WITH MANUFACTURER.

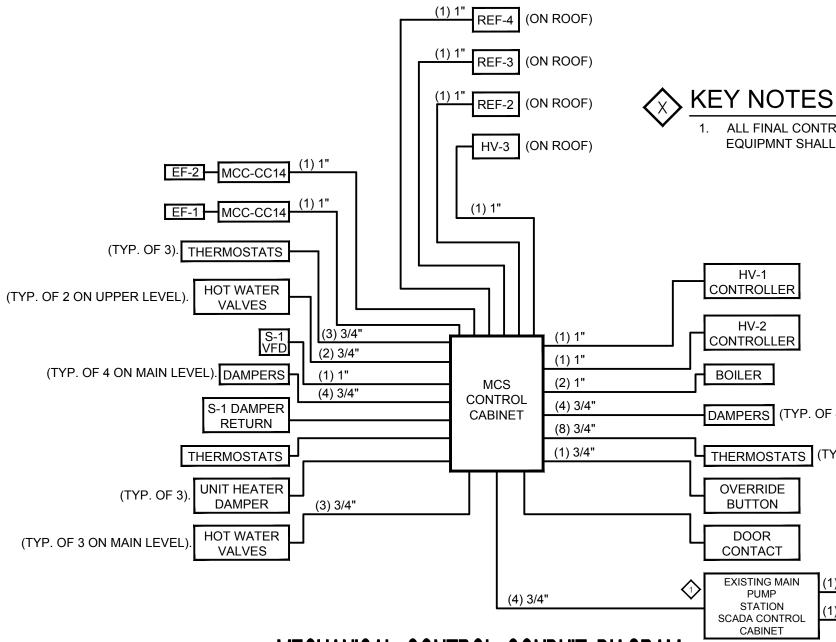
PROOF MANUAL PULL STATION ALARM .D.A. OPERATION AND MOUNTING HEIGHT 5'-0" OF DOOR).

EILING MOUNTED HEAT DETECTOR

OF SMOKE DETECTOR

# LIGHTING FIXTURE SCHEDULE

FIXTURE TYPE	LAMP SIZE AND TYPE	MOUNTING	MANUFACTURER'S NUMBER	REMARKS				
A	80 CRI L.E.D., 5000K LP850, 5,534 LUMENS (49 WATTS)	MOUNT TO SUPPORT STRUCTURE AS REQ'D FOR INSTALL. (COORD).	LITHONIA NO. XVML-L48-5000LM-MVOLT XVML-STSL-LATCH-XVMLJSB	3-1/4"W X 47-13/16"L SURFACE MOUN WITH WATERTIGHT SEAL MULTI-VOL ACCESSORIES FOR INSTALLATION. F CONDITIONS AND NEW WORK.				
EM	L.E.D. LAMPS FURNISHED WITH FIXTURE - VERIFY	CEILING OR WALL AS REQUIRED (VERIFY)	LITHONIA NO. ELM4L-LED-SDRT- 120/277VOLT OR EQUAL	UNIVERSAL SELF-POWERED EMERGI 120/277 VOLT AC INPUT. PROVIDE MC				
NOTES:	FIXTURE SELECTION N	UST BE APPR	OVED BY THE OWNER PRIOR T	O ORDERING FIXTURES SPECIFIED ON				
	THE FIXTURE SCHEDULE DOES NOT NECESSARILY LIST ALL ACCESSORIES AND HARDWARE NECESSAR THE CEILING CONSTRUCTION TO BE ENCOUNTERED FOR THIS PROJECT. IT IS THE ELECTRICAL CONTRA PROVIDE THE CORRECT COMPONENTS, ACCESSORIES AND HARDWARE AS REQUIRED FOR THE INSTAL SHALL BE PROVIDED AT NO EXTRA COST.							



MECHANICAL CONTROL CONDUIT DIAGRAM

NO SCALE

# PANEL SCHEDULE - REVISED FOR NEW WORK

	PANEL: EXISTING LP-14A															
	LOCATION:	CONTROL ROOM 100	)		VOLTAGE:	TAGE:         208         /120 V		A.I.C. RATING:		EXIST.	kAIC					
	SUPPLY FROM: MCC-CC14 PHASE: 3 PH			MAINS TYPE:			MLO									
	MOUNTING: RECESSED			<b>WIRE:</b> 4 W				MAINS RATING:			100	A				
	ENCLOSURE:	NEMA 1										N	ICB RATING:	100	A	
				•	•			1		•		•				
СКТ	DESCRIPTION		TRIP	POLES	DEMAND		A		3		0	DEMAND	POLES	TRIP	DESCRIPTION	скт
					CODE							CODE				<b>_</b>
1	EXISTING LTG		20	1	L	900	900					L	1	20	EXISTING LTG	2
3	EXISTING LTG		20	1	L			900	900			L	1	20	EXISTING LTG	4
5	EXISTING LTG		20	1	L					900	900	L	1	20	EXISTING LTG	6
7	EXISTING LTG		20	1	L	900	900					G	1	20	NEW FACP	8
9	EXISTING LTG		20	1	L			900	900			L	1	20	EXISTING LTG	10
11	SPARE		20	1							900	L	1	20	EXISTING LTG	12
13	EXISTING LTG		20	1	L	900	900					L	1	20	EXISTING LTG	14
15	EXISTING LTG		20	1	L			900	900			L	1	20	EXISTING LTG	16
17	EXISTING LTG		20	1	L					900	900	L	1	20	EXISTING LTG	18
19	SPARE - REF 3 & 4 (P	X)	20	1			900					L	1	20	EXISTING LTG	20
21	EXISTING LTG		20	1	L			900	900			L	1	20	EXISTING LTG	22
23	EXISTING		20	1	G					600	300	G	1	20	EXISTING	24
25	EXISTING		20	1	R	600	300					G	1	20	EXISTING	26
27	EXISTING		20	1	R			900	500			G	1	20	EXISTING	28
29	EXISTING		20	1	R					500	350	G	1	20	(10) DAMPER ACTUATOR'S	30
31	EXISTING		20	1	R	500	500					G	1	20	EXISTING	32
33	(3) DAMPER ACTUAT	OR'S	20	1	G			83	600			R	1	20	RECEPT	34
35	SPARE		20	1							600	R	1	20	EXISTING	36
37	SPARE		20	1									1	20	SPARE	38
39	NEW REF-2		30	1	Н			1,920	500			G	1	20	MCS CONTROL PANEL	40
41	NEW REF-3		30	1	Н					1,920	300	G	1	20	MCS CONTROL PANEL	42
					TOTAL CONN:	8,200	VA	11,703	VA	9,070	VA					
			1							1			1			
LOAD C	LASSIFICATION	DEMAND CODE	c		LOAD	DEMAND	FACTOR	DEM		4					PANEL TOTALS	
HVAC/M	ECH	Н		3,840	VA	80	.0%	3,072	VA						TOTAL CONN. LOAD: 28,973 VA	
RECEPT	ACLES	R		3,700	VA	100	0.0%	3,700		4				т	DTAL DEMAND LOAD:   33,980   VA	4
LIGHTIN	G	L		17,100	VA	125	5.0%	21,375								4
GENER	AL	G		4,333	VA	100.0%		4,333	VA				TOTAL CONN. CURRENT: 81 A			
KITCHE	N	К		0	VA	100.0%			VA			TOTAL DEMAND CURRENT: 94 A				
	RGEST MOTOR 1 HP		1,200	VA	125.0%		1,500	VA								
NOTES.	DROVIDE LOCK ON DE															

NOTES: PROVIDE LOCK-ON DEVICE FOR FACP.

JNTED, FULLY GASKETED, LED FIXTURE WITH POLYCARB LENS DLT LED DRIVER. PROVIDE ALL REQUIRED MOUNTING . FIELD COORDINATE EXACT PLACEMENT WITH EXISTING

GENCY LIGHT UNIT WITH SELF-DIAGNOSTIC FEATURE AND OUNTING HARDWARE AS REQUIRED FOR INSTALLATION.

ON THIS SCHEDULE. RY FOR THE COMPLETION OF INSTALLATION, NOR DOES IT DETAIL

RACTORS RESPONSIBILITY TO PROPERLY DETERMINE AND LATION. ALL ADDITIONAL HARDWARE FOR MOUNTING FIXTURES

ALL FINAL CONTROL WIRE TERMINATIONS TO EQUIPMNT SHALL BE COMPLETED BY THE OWNER.

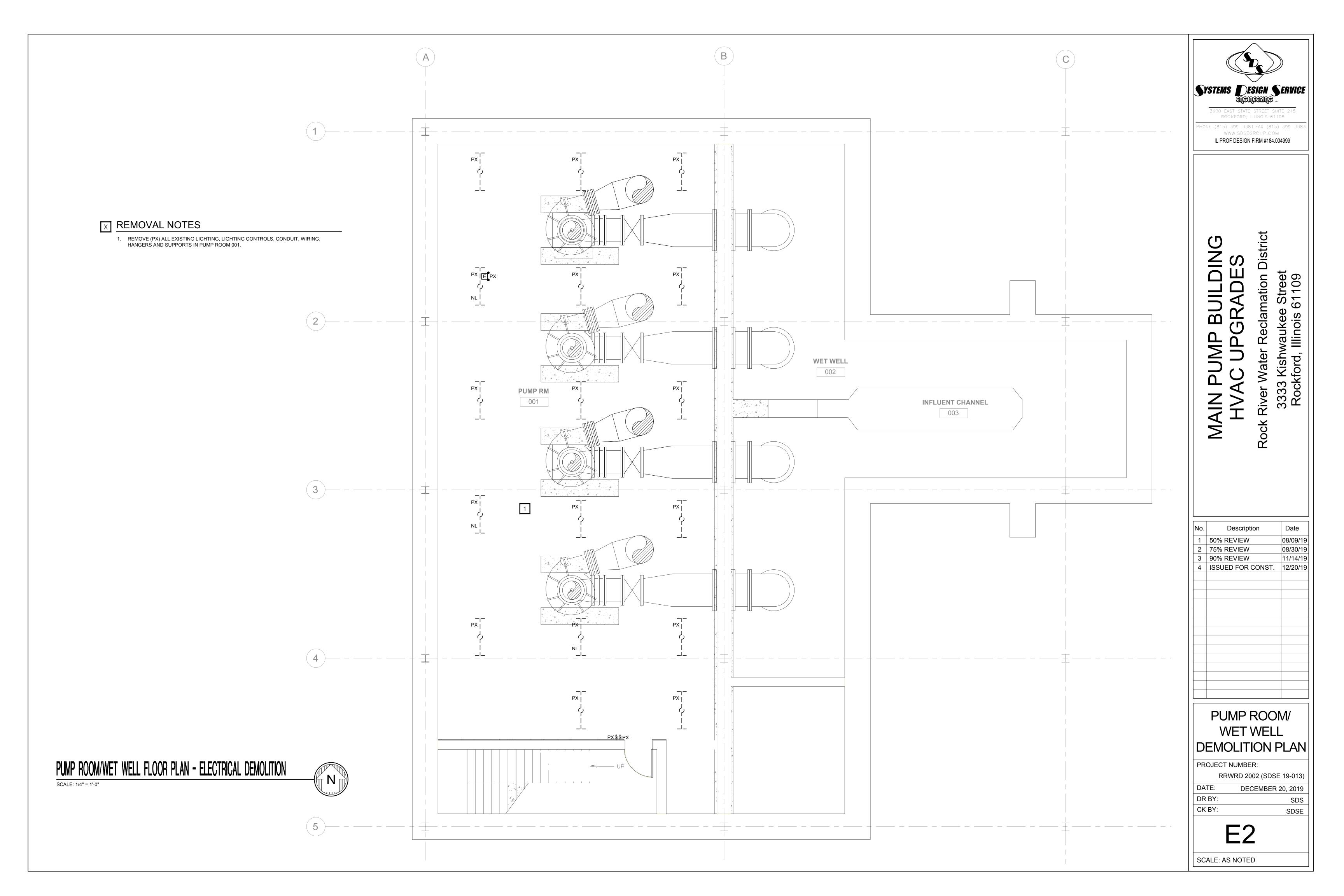
DAMPERS (TYP. OF 4 ON UPPER LEVEL).

THERMOSTATS (TYP. OF 8).

(1) 3/4" FACP 1) 3/4" GAS DETECTIC PANEL

	A.I.C. RATING:				kAIC			
		N	MAINS TYPE:	MLO				
		MA	INS RATING:	100	A			
MCB RATING:				100	A			
С		DEMAND	POLES	TRIP	DESCRIPTION	СКТ		
		CODE			DESCRIPTION			
		L	1	20	EXISTING LTG	2		
		L	1	20	EXISTING LTG	4		
900	900	L	1	20	EXISTING LTG	6		
		G	1	20	NEW FACP	8		
		L	1	20	EXISTING LTG	10		
	900	L	1	20	EXISTING LTG	12		
		L	1	20	EXISTING LTG	14		
		L	1	20	EXISTING LTG	16		
900	900	L	1	20	EXISTING LTG	18		
		L	1	20	EXISTING LTG	20		
		L	1	20	EXISTING LTG	22		
600	300	G	1	20	EXISTING	24		
		G	1	20	EXISTING	26		
		G	1	20	EXISTING	28		
500	350	G	1	20	(10) DAMPER ACTUATOR'S	30		
		G	1	20	EXISTING	32		
		R	1	20	RECEPT	34		
	600	R	1	20	EXISTING	36		
			1	20	SPARE	38		
		G	1	20	MCS CONTROL PANEL	40		
1,920	300	G	1	20	MCS CONTROL PANEL	42		
0.070	1/4							

Image: Constraint of the street suite street st						
MAIN PUMP BUILDING HVAC UPGRADES	Rock River Water Reclamation District 3333 Kishwaukee Street Rockford, Illinois 61109					
No.         Descripti           1         50% REVIEW           2         75% REVIEW           3         90% REVIEW           4         ISSUED FOR 0           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -	08/09/19 08/30/19 11/14/19					
ELECTRICAL NOTES,         SYMBOLS, ABBREV.,         FIXT. SCHEDULE &         CONTROL DIAGRAM         PROJECT NUMBER:         RRWRD 2002 (SDSE 19-013)         DATE:       DECEMBER 20, 2019         DR BY:       SDS         CK BY:       SDSE						
SCALE: AS NOTED						



- 1. REMOVE (PX) 4'-0" LINEAR LIGHTING, ASSOCIATED CONTROLS, CONDUITS, WIRING, HANGERS AND SUPPORTS AS REQUIRED FOR NEW WORK.
- 2. REMOVE (PX) 4'-0" LINEAR LIGHTING AND CONTROLS. CONDUIT, WIRING, HANGERS, AND SUPPORTS SHALL REMAIN. REMOVE AND REPLACE WIRING IF IT'S FED THROUGH EACH FIXTURE.
- 3. REMOVE (PX) GAS DETECTION WARNING LIGHT FIXTURE, CONDUIT TO REMAIN FOR NEW FIXTURE INSTALLATION.
- 4. REMOVE (PX) MOTOR AND WIRING FOR S-1. 5. REMOVE (PX) GAS DETECTION SYSTEM, REMOVE ALL WIRING. CONDUIT TO REUSED,
- EXTEND/MODIFY AS REQUIRED FOR NEW SYSTEM.

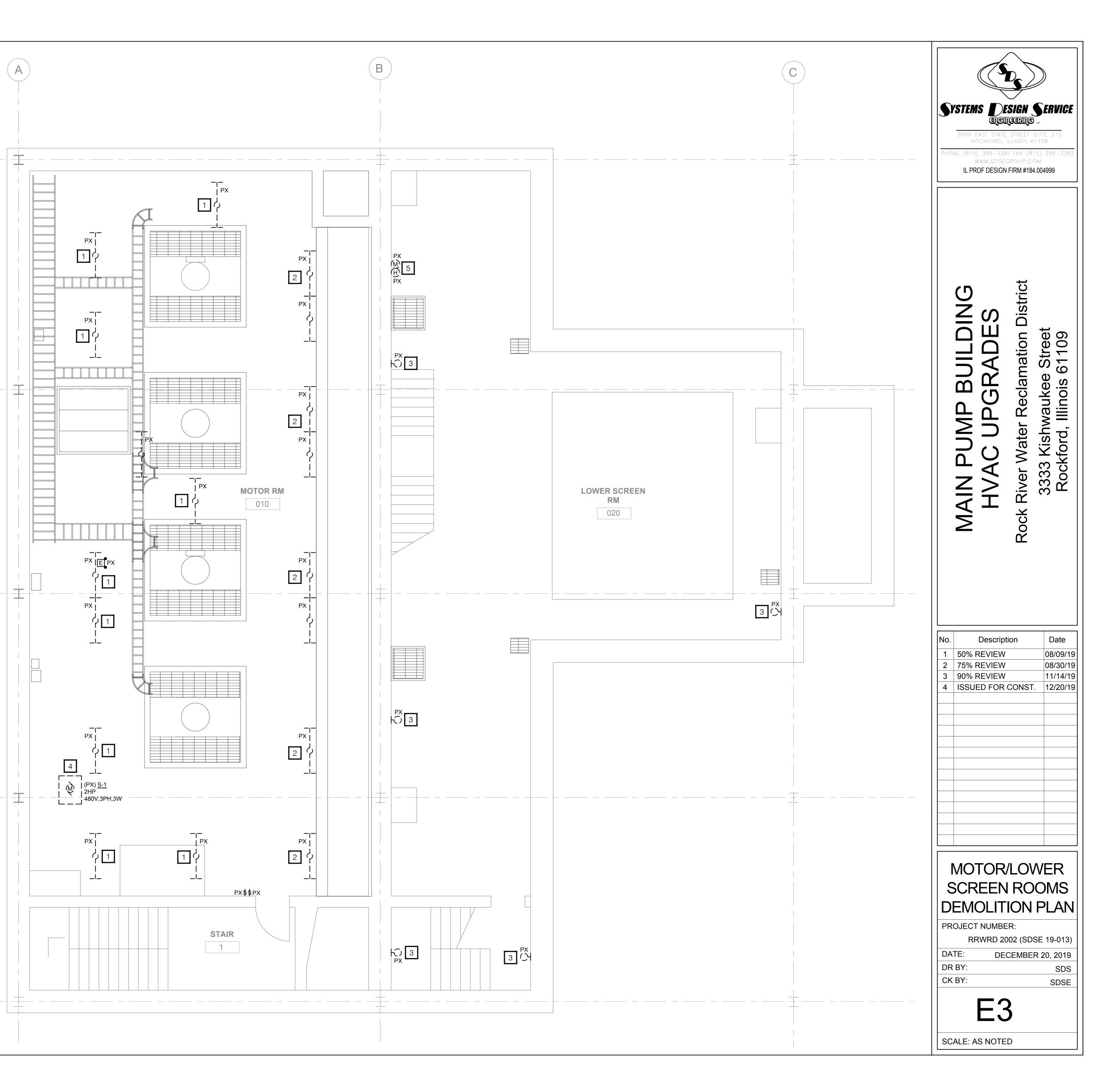
# MOTOR ROOM/LOWER SCREEN ROOMS FLOOR PLAN - ELECTRICAL DEMOLITION



2

3

4



- REMOVE (PX) GAS DETECTION SYSTEM PANELS, WIRING AND CONDUIT.
   REMOVE (PX) CO DETECTOR AND CONTROL PANEL, AND ASSOCIATED WIRING. CONDUIT
- SHALL REMAIN. 3. REMOVE (PX) MOTOR STARTER/CONTROL BUCKET IN MCC-CC14 FOR SUPPLY FAN S-1.
- (BUCKET LOCATED IN THE 3RD STRUCTURE, 5TH COMPARTMENT). 4. REMOVE (PX) GAS DETECTION WARNING LIGHT FIXTURE. CONDUIT TO REMAIN FOR NEW FIXTURE INSTALLATION.
- 5. REMOVE (PX) GAS DETECTION WARNING LIGHT FIXTURE. CONDUIT TO REUSED,
- EXTEND/MODIFY AS REQUIRED FOR NEW WARNING LIGHT FIXTURE LOCATION. 6. REMOVE (PX) MOTOR STARTER/CONTROL BUCKETS IN MCC-CC14 FOR AIR HANDLERS
- HV-1 & HV-2. (BUCKETS LOCATED IN THE 2ND STRUCTURE, 4TH & 5TH COMPARTMENTS).
- 7. REMOVE (PX) MOTOR STARTER/CONTROL BUCKETS IN MCC-CC14 FOR EXHAUST FANS E-1 & E-2. (BUCKETS LOCATED IN THE 2ND STRUCTURE, 1ST & 2ND COMPARTMENTS).
- 8. REMOVE (PX) MOTOR STARTER/CONTROL BUCKET IN MCC-CC14 FOR EXHAUST FAN
- REF-4. (BUCKET LOCATED IN THE 3RD STRUCTURE, 4TH COMPARTMENT). 9. EXISTING TEMPERATURE PROBE TO REMAIN OPERATIONAL AND CONNECTED TO THE PLANT CONTROL SYSTEM.

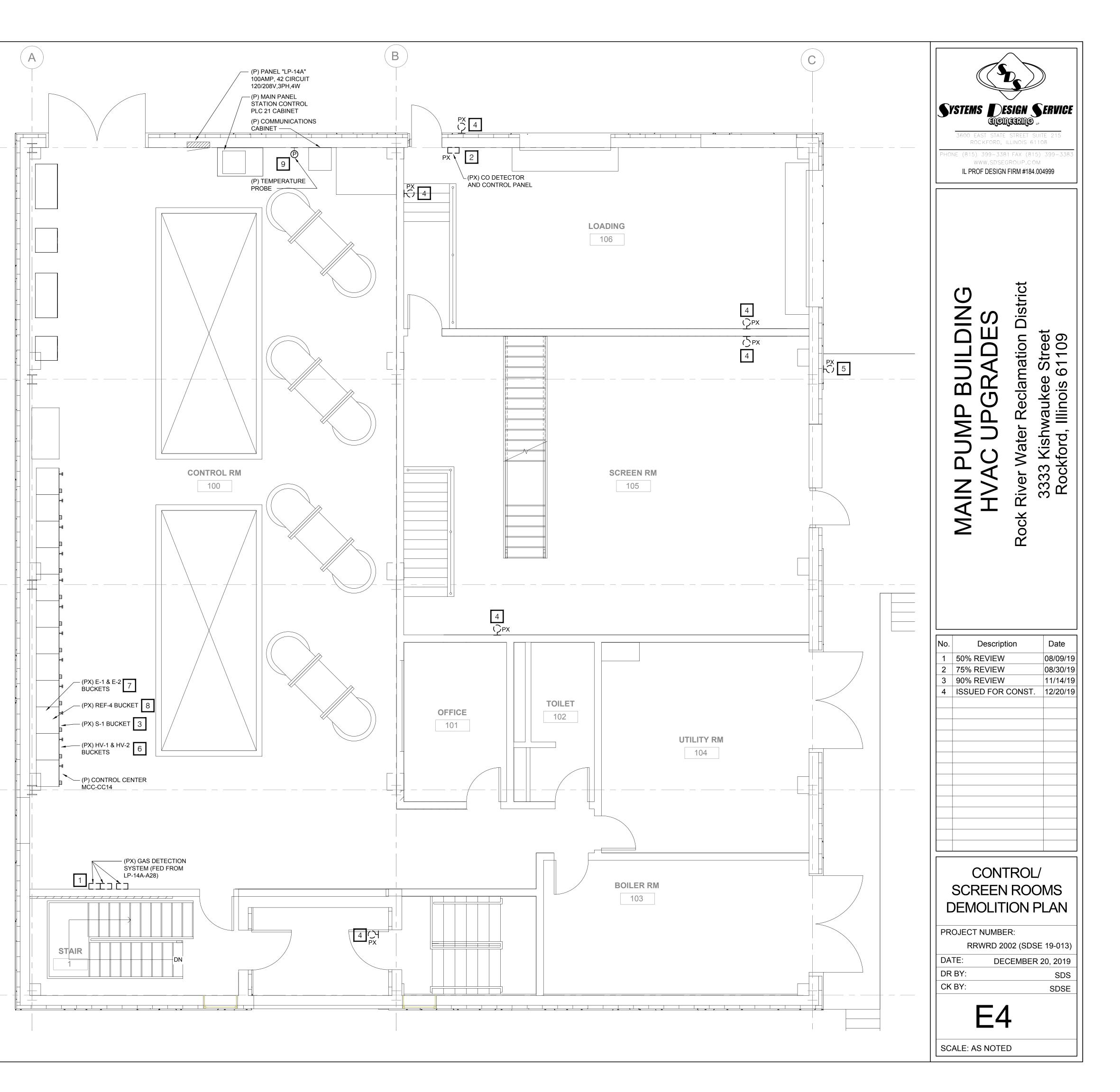
2

3

4

5

CONTROL ROOM/SCREEN ROOM FLOOR PLAN - ELECTRICAL DEMOLITION



1. REMOVE (PX) FOUR TEMPERATURE CONTROL PANELS AND ASSOCIATED CONDUIT AND WIRING.

(1)

2

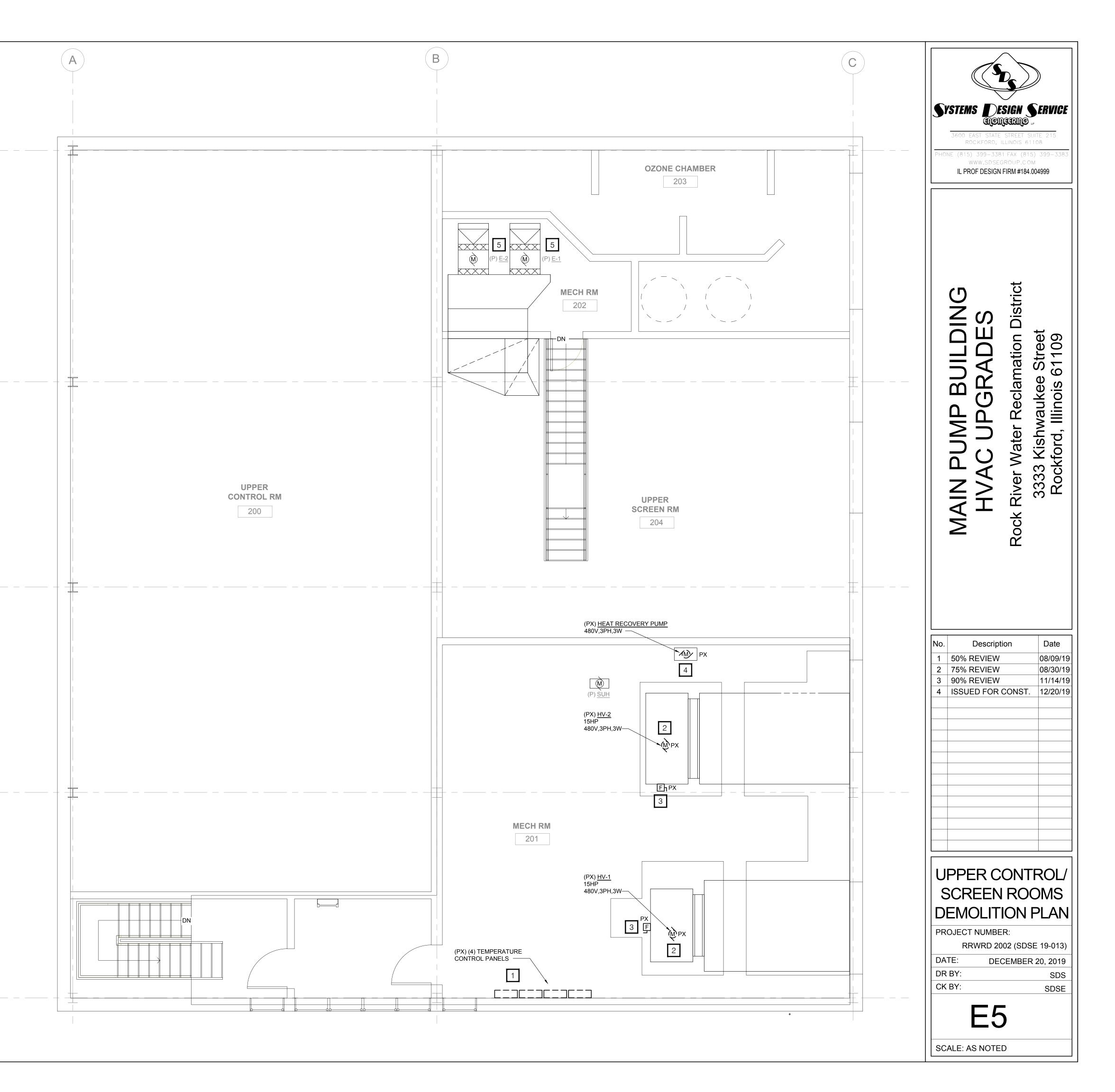
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- DISCONNECT MOTOR AS DIRECTED BY HVAC CONTRACTOR.
   REMOVE (PX) 30 AMP DISCONNECT SWITCH SERVING EACH UNIT. (HV-1 & HV-2).
- REMOVE (FX) 30 AMF DISCONNECT SERVING EACH ONT: (ITV-1 & ITV-2).
   REMOVE (PX) HEAT RECOVERY PUMP MOTOR AND ALL ASSOCIATED CONDUIT AND
- WIRING FOR SYSTEM REMOVAL. COORDINATE WITH HVAC CONTRACTOR.
  5. EXHAUST FANS E-1 & E-2 FED FROM MOTOR STARTER/CONTROL IN MCC-CC14.

UPPER CONTROL ROOM/SCREEN ROOM FLOOR PLAN - ELECTRICAL DEMOLITION



- 1. ELECTRICAL CONTRACTOR TO DISCONNECT ELECTRICAL CONNECTION, AND WIRING FROM LP-14A FOR REF-2, AND REF-3 AS DIRECTED BY HVAC CONTRACTOR. EXISTING CONDUIT TO REMAIN.
- ELECTRICAL CONTRACTOR TO DISCONNECT ELECTRICAL CONNECTION, WIRING AND REMOVE BUCKET FROM MCC-CC14 FOR REF-4.

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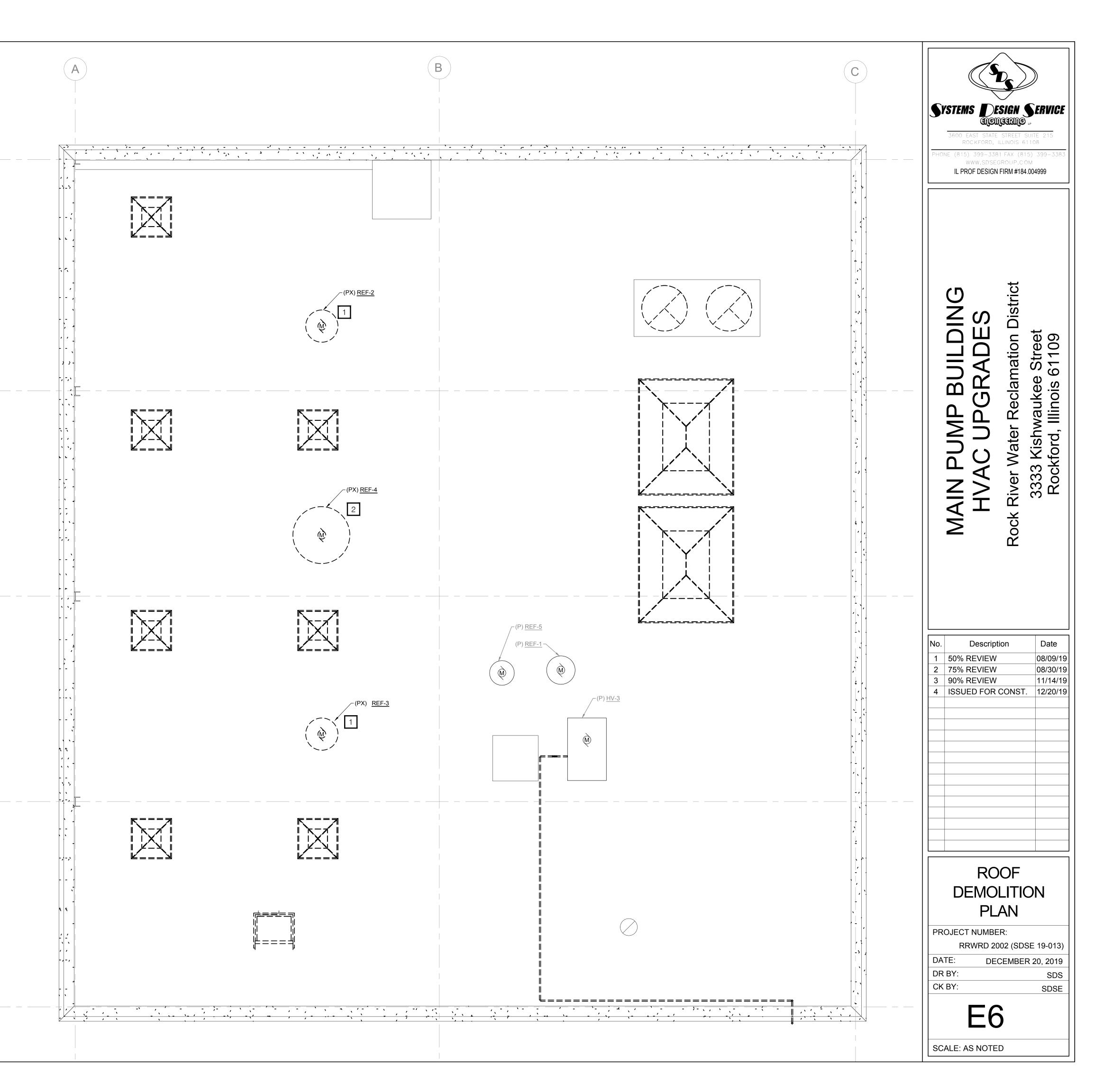
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ROOF PLAN - ELECTRICAL DEMOLITION SCALE: 1/4" = 1'-0"







ELECTRICAL CONTRACTOR SHALL INSTALL AND WIRE NEW LED LIGHT FIXTURES TO PRESENT BRANCH CIRCUIT <u>"LP-14A"-1,3</u> (FIELD VERIFY) CURRENTLY SERVING FIXTURES BEING REPLACED IN PUMP ROOM 001. INCLUDE NEW RIGID CONDUIT, WIRING, STAINLESS STEEL HANGERS AND SUPPORTS. PROVIDE NEW, HEAVY DUTY, INDUSTRIAL TYPE WALL TOGGLE SWITCHES.



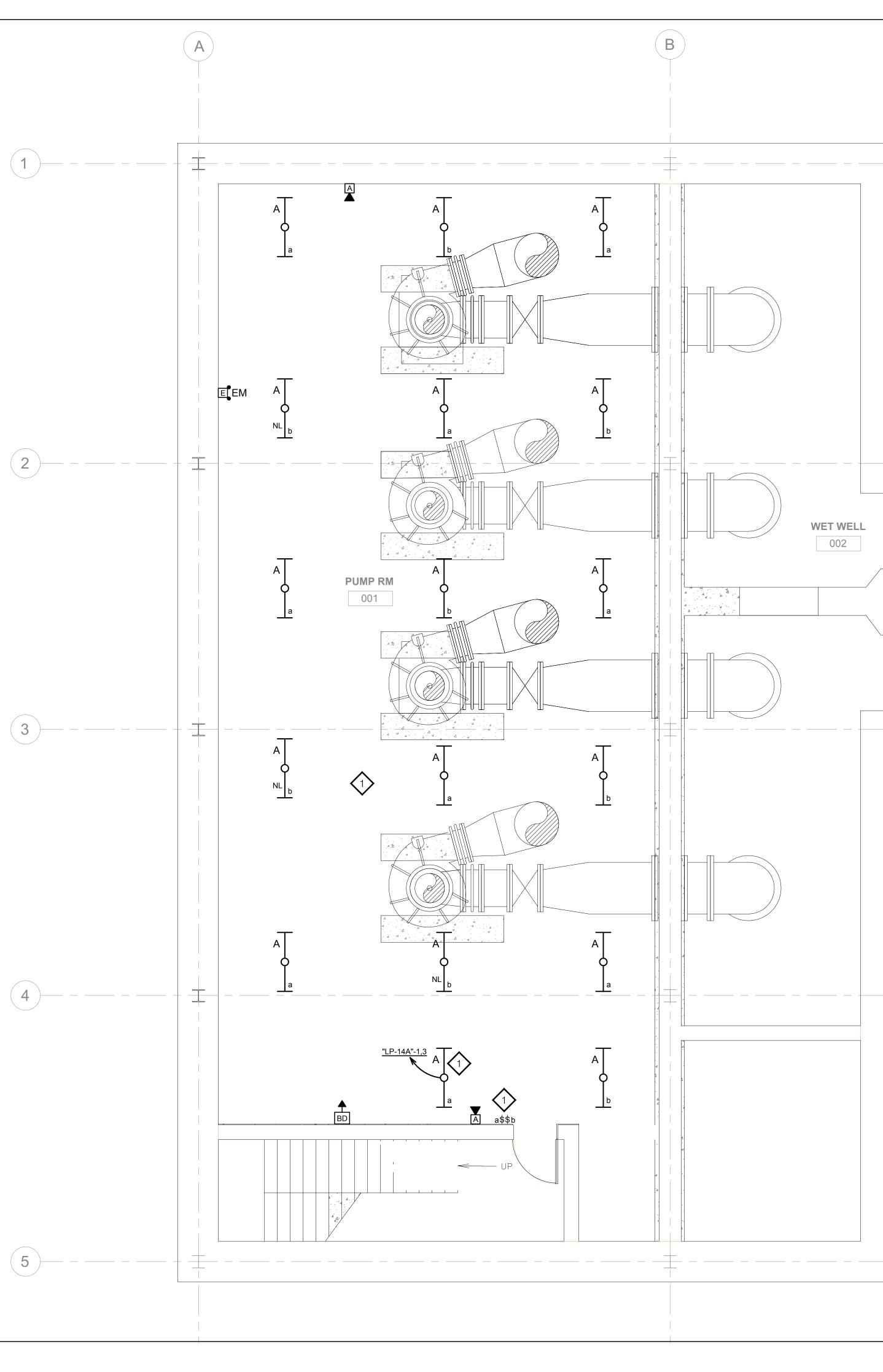
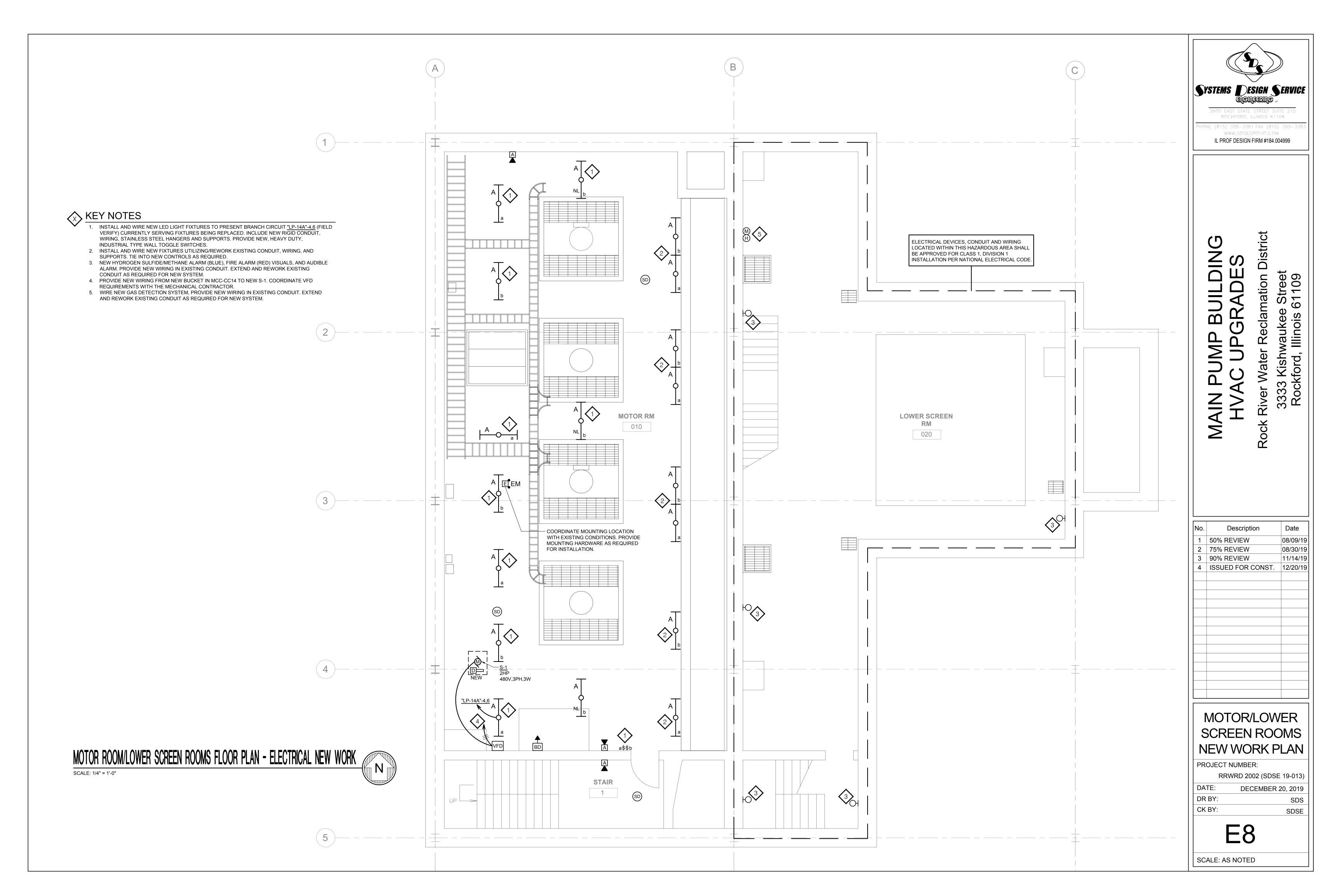


	Image: Construction of the state street suite 215 Rockford, illinois 61108         PHONE (815) 399–3381 FAX (815) 399–3383 WWW.SDSEGROUP.COM         IL PROF DESIGN FIRM #184.004999
INFLUENT CHANNEL 003	MAIN PUMP BUILDING HVAC UPGRADES Rock River Water Reclamation District 3333 Kishwaukee Street Rockford, Illinois 61109
	No.         Description         Date           1         50% REVIEW         08/09/19           2         75% REVIEW         08/30/19           3         90% REVIEW         11/14/19           4         ISSUED FOR CONST.         12/20/19           -         -         -           -         - <td< th=""></td<>
	PUMP ROOM/ VET VELL VET VET VELL VET VET VET VET VET VET VET VET VET VET





1. WIRE NEW GAS DETECTION CONTROL PANEL, PROVIDE INTERCONNECT IN CONDUIT TO FACP AND SCADA AS REQUIRED. COORDINATE WITH HVAC CONTRACTOR. CONDUIT AND WIRING BY ELECTRICAL CONTRACTOR, TERMINATIONS TO SCADA BY OWNER.

- 2. WIRE NEW GAS DETECTION WARNING LIGHT FIXTURE. PROVIDE NEW WIRE IN EXISTING CONDUIT. 3. WIRE NEW GAS DETECTION WARNING LIGHT FIXTURE FIRE ALARM (RED), GAS (BLUE). PROVIDE NEW WIRE IN EXISTING CONDUIT. REWORK EXISTING CONDUIT AS REQUIRED FOR NEW FIXTURE LOCATION.
- 4. WIRE CARBON MONOXIDE AND NITROGEN DIOXIDE WALL SENSORS TO NEW CONTROL PANEL IN OFFICE 101.
- 5. WIRE METHANE AND HYDROGEN SULFIDE WALL SENSORS TO NEW CONTROL PANEL IN OFFICE 101.
- 6. WIRE EXHAUST SYSTEM OVERRIDE BUTTON FOR EF-2 AS DIRECTED BY HVAC CONTRACTOR.
- 7. NEW MOTOR STARTER/CONTROL BUCKETS IN MCC-CC14 FOR EXHAUST FANS E-1 & E-2. 8. NEW LSI MOLDED CASE CIRCUIT BREAKER BUCKET IN MCC-CC14 FOR EXHAUST FAN REF-4.
- 9. NEW LSI MOLDED CASE CIRCUIT BREAKER BUCKET IN MCC-CC14 FOR SUPPLY FAN S-1.
- 10. NEW LSI MOLDED CASE CIRCUIT BREAKER BUCKET IN MCC-CC14 FOR AIR HANDLERS HV-1 & HV-2. 11. WIRE NEW FIRE ALARM CONTROL PANEL, PROVIDE INTERCONNECT IN CONDUIT TO GAS DETECTION CONTROL PANEL AND SCADA AS REQUIRED. COORDINATE WITH HVAC CONTRACTOR. CONDUIT AND WIRING BY ELECTRICAL CONTRACTOR, TERMINATIONS TO SCADA BY OWNER.

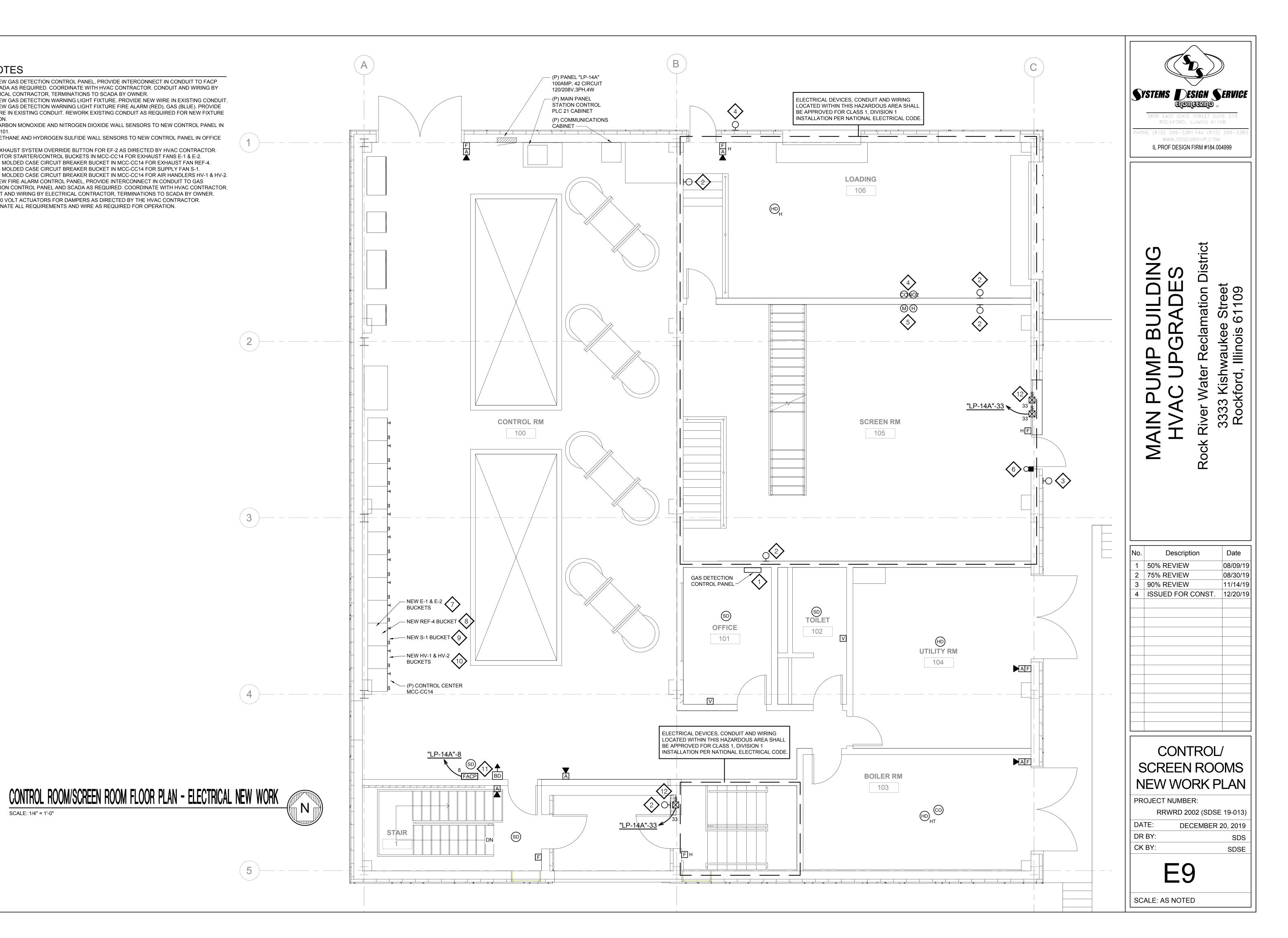
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12. WIRE 120 VOLT ACTUATORS FOR DAMPERS AS DIRECTED BY THE HVAC CONTRACTOR. COORDINATE ALL REQUIREMENTS AND WIRE AS REQUIRED FOR OPERATION.



 ELECTRICAL CONTRACTOR SHALL REWIRE NEW MOTORS AS DIRECTED BY HVAC CONTRACTOR. (FED FROM NEW BREAKER BUCKETS IN MCC-CC14).
 PROVIDE NEW MOTOR CONTROLLERS FOR HV-1 & HV-2. COORDINATE LOCATION WITH EXISTING

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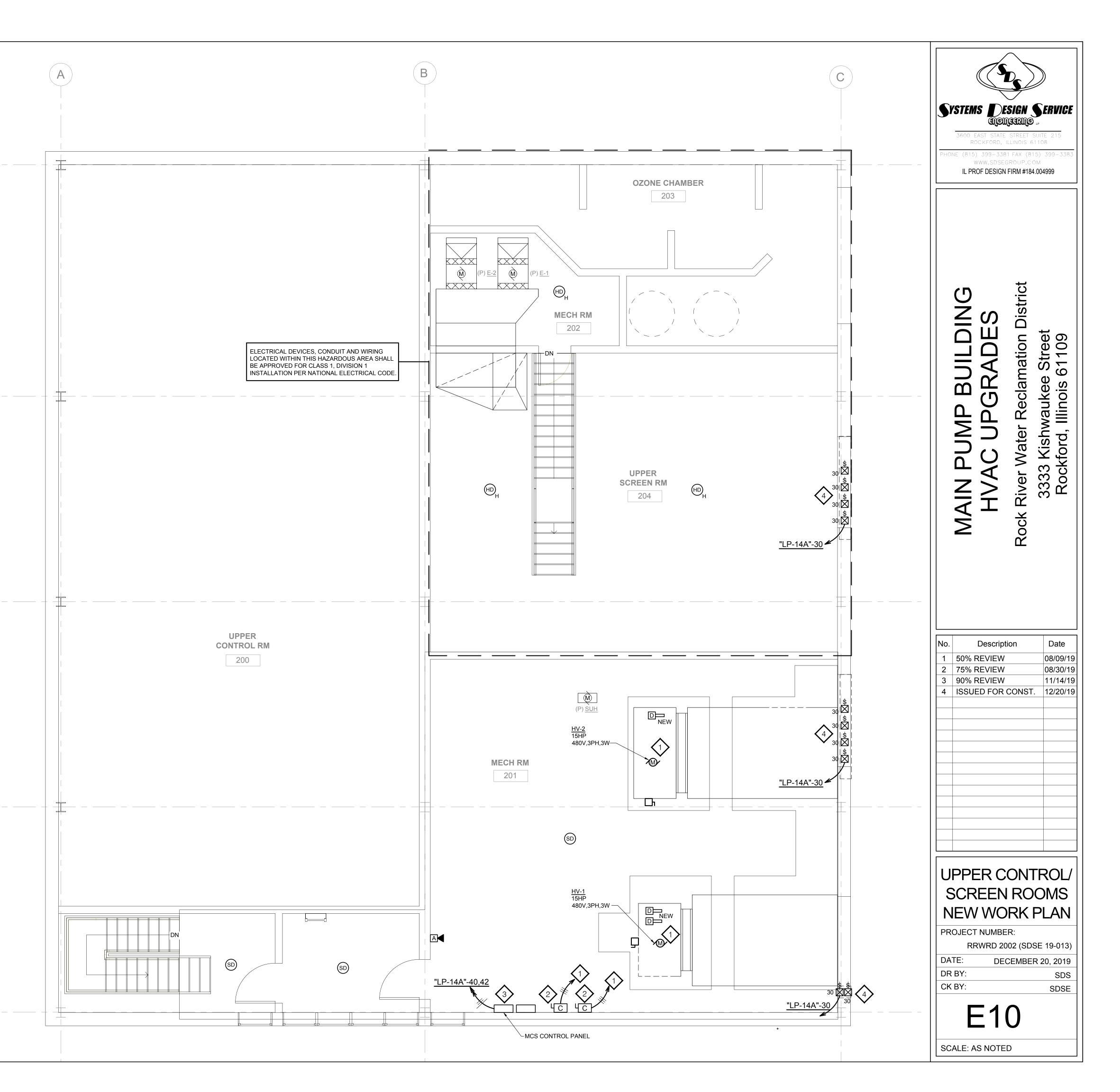
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- 2. PROVIDE NEW MOTOR CONTROLLERS FOR HV-1 & HV-2. COORDINATE LOCATION WITH E CONDITIONS. REFER TO SPECIFICATIONS SECTION 26 29 13.
   3. MCS MONITORING AND CONTROL SYSTEM. WIRE AS DIRECTED BY HVAC CONTRACTOR.
- 4. WIRE 120 VOLT ACTUATORS FOR DAMPERS AS DIRECTED BY THE HVAC CONTRACTOR. COORDINATE ALL REQUIREMENTS AND WIRE AS REQUIRED FOR OPERATION.

# UPPER CONTROL ROOM/SCREEN ROOM FLOOR PLAN - ELECTRICAL NEW WORK



 ELECTRICAL CONTRACTOR TO WIRE NEW REF-2, AND REF-3 TO A NEW 30A/1POLE BREAKER IN PRESENT PANEL LP-14A. BRANCH CIRCUITS #39 AND #41 (FIELD VERIFY). UTILIZE EXISTING CONDUIT.

- 2. ELECTRICAL CONTRACTOR TO REWIRE NEW REF-4 TO NEW BREAKER BUCKET IN MCC-CC14. UTILIZE EXISTING CONDUIT AND MODIFY AS NECESSARY.
- 3. COMPLETELY INSTALL A NEW LIGHTNING PROTECTION SYSTEM, REFER TO SPECIFICATIONS SECTION 26 41 00 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

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