

PROJECT

HVAC REPLACEMENT PROJECT AT JUVENILE DETENTION CENTER

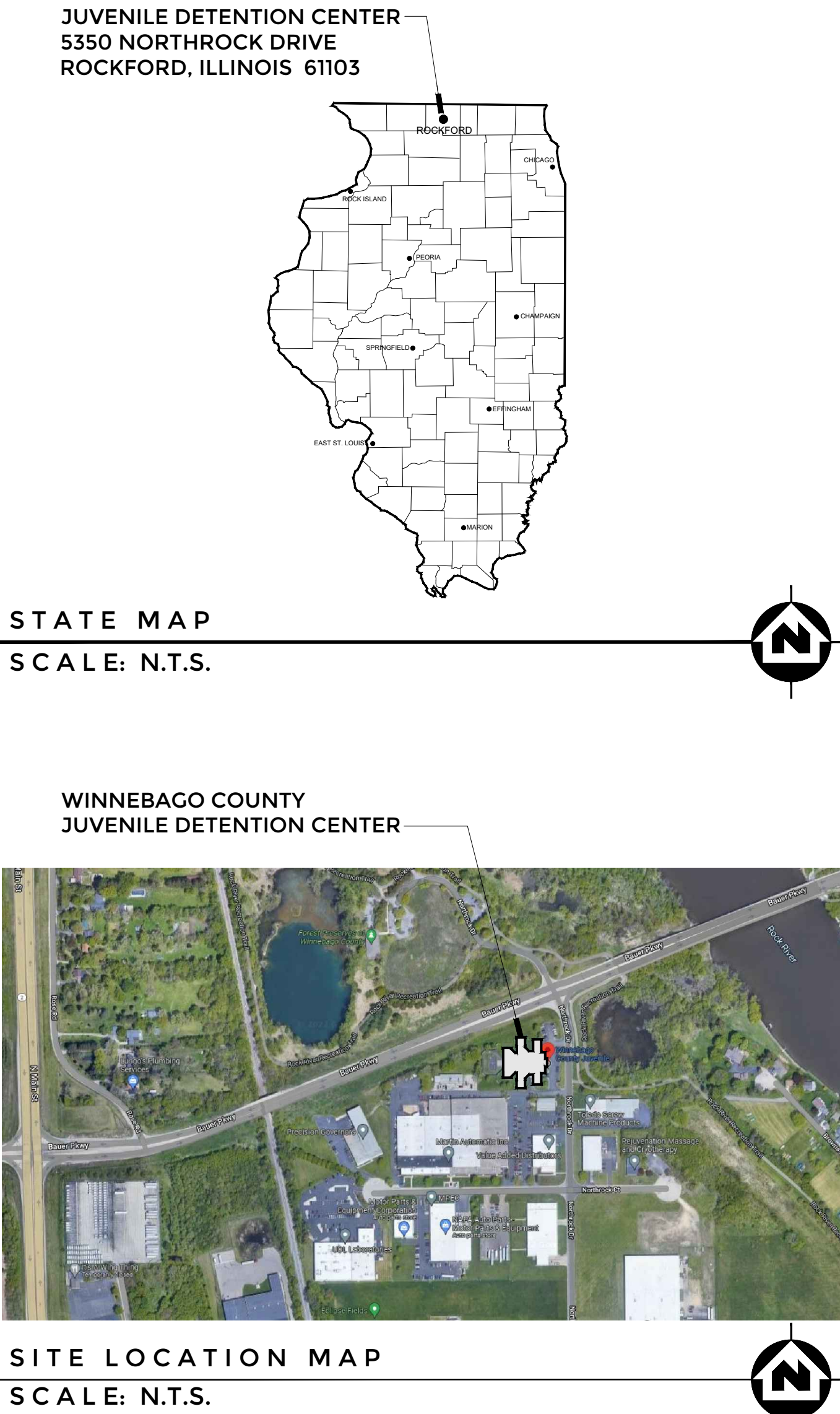
5350 NORTHROCK DRIVE
ROCKFORD, ILLINOIS 61103

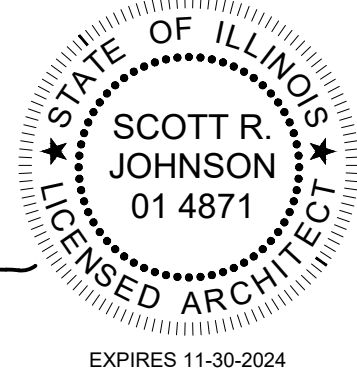


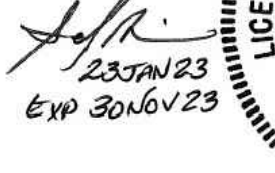
IFB NO. 23B-2276

OWNER

WINNEBAGO COUNTY

404 ELM STREET
ROCKFORD, ILLINOIS 61101



ARCHITECT OF RECORD		MECHANICAL / PLUMBING / ELECTRICAL						
<div><div><div>RICHARD L. JOHNSON ASSOCIATES</div><div>4703 Charles Street</div><div>Rockford IL 61108</div><div>PHONE: 815/398-1231 FAX 815/398-1280</div><div>www.rljarch.com</div><div>IL Design Firm No. 187-000524</div></div><div></div><div></div></div>		<div><div><div>SYSTEM DESIGN SERVICE ENGINEERING</div><div>3600 East State Street, Suite 215</div><div>Rockford, IL 61108</div><div>PHONE: 815/399-3381 FAX 815/399-3381</div><div>www.sdsegroup.com</div><div>IL Design Firm No. 184.004999</div></div><div></div><div></div></div>						
SHEET INDEX							BID INDEX	
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HVAC REPLACEMENT PROJECT AT JUVENILE DETENTION CENTER FOR

WINNEBAGO COUNTY

ROCKFORD, ILLINOIS

RICHARD L. JOHNSON

ASSOCIATES | ARCHITECTS

PROJECT INFORMATION

January 25, 2023

Rev. Date

Rev. Date

Rev. Date

2022-063

2022-063

2022-063

2022-063

SHEET IDENTIFICATION

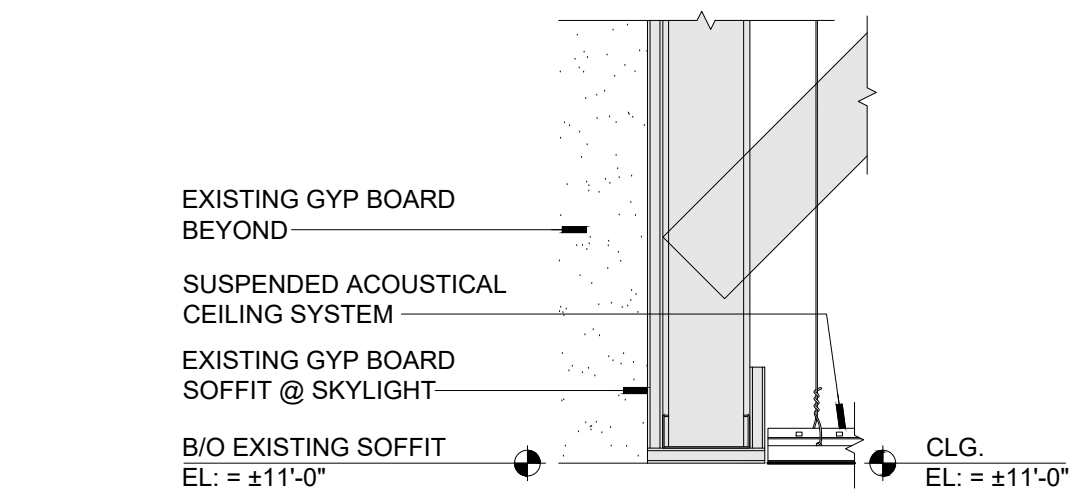
TITLE SHEET

SHEET NUMBER

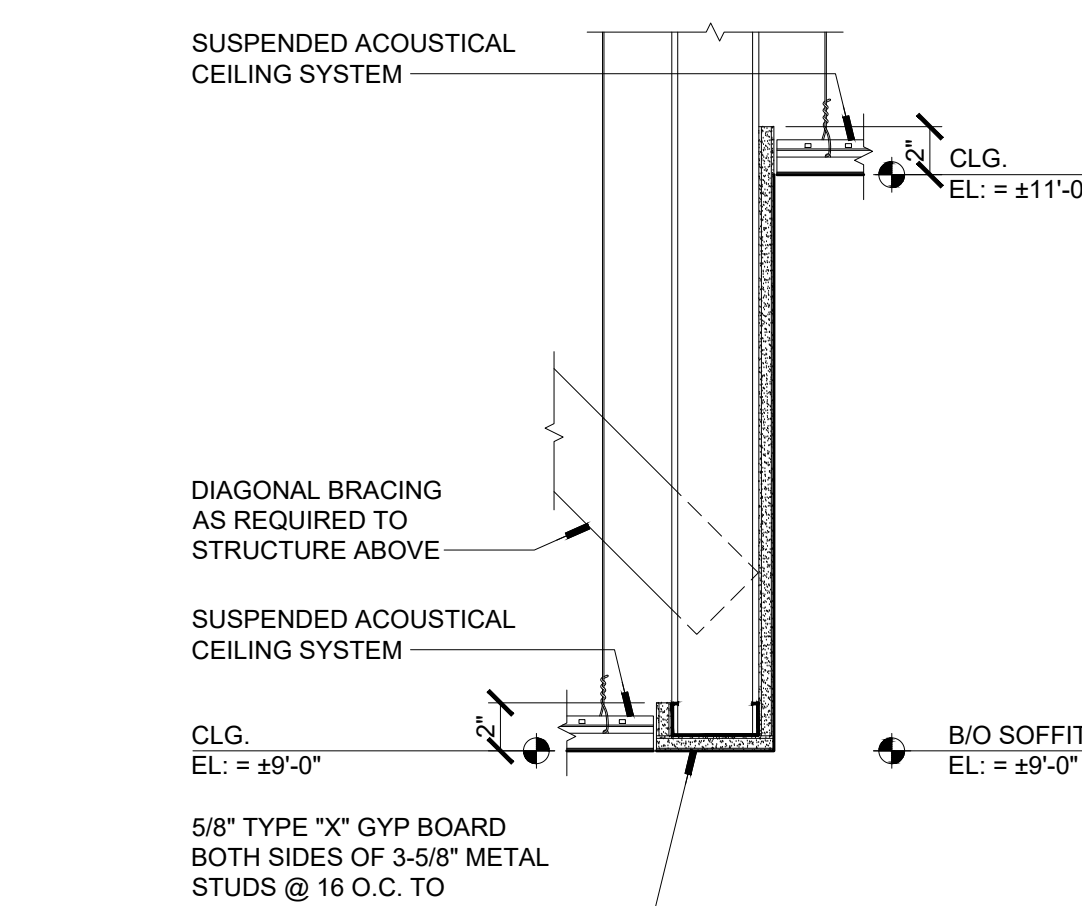
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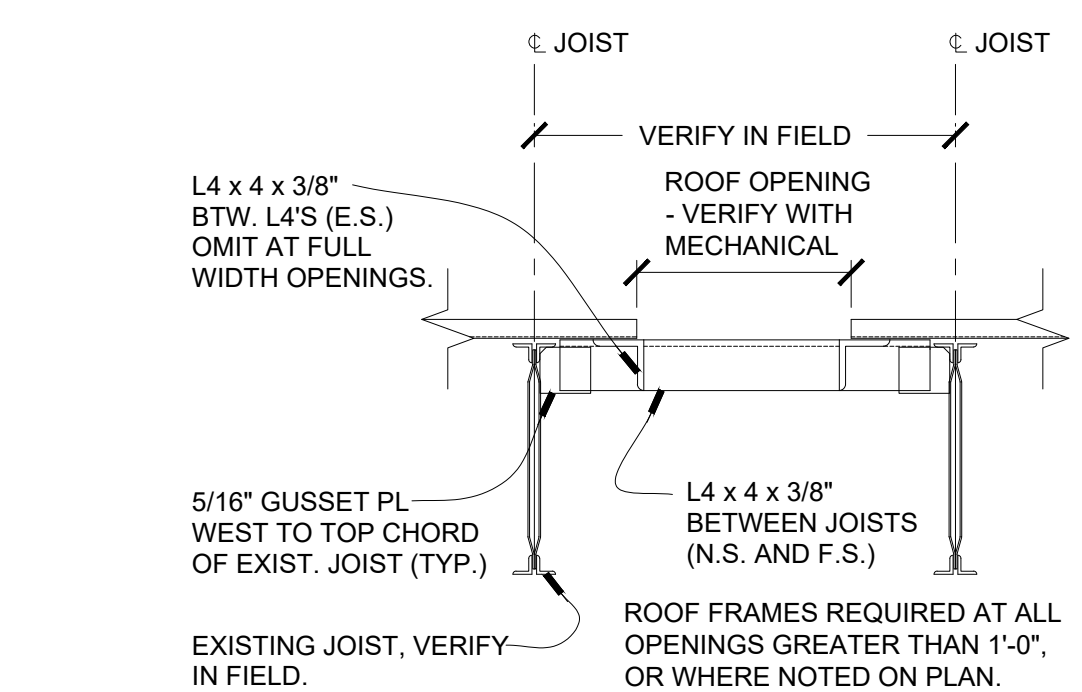
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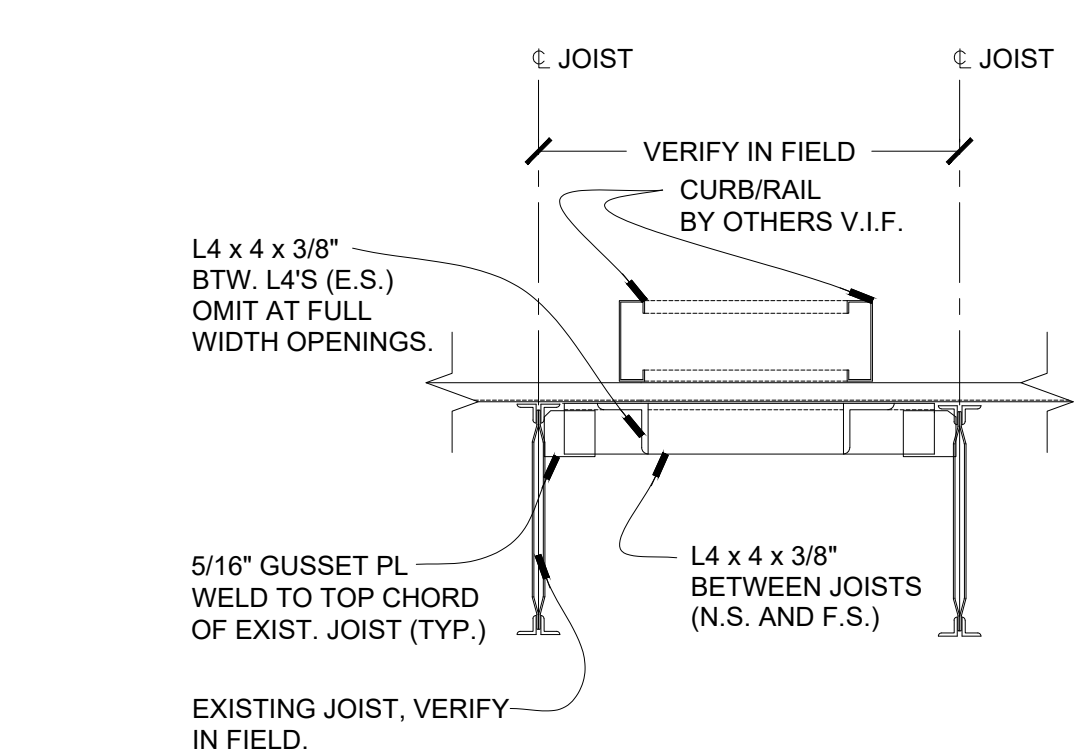
5 **DETAIL**
SCALE: 1-1/2"=1'-0"



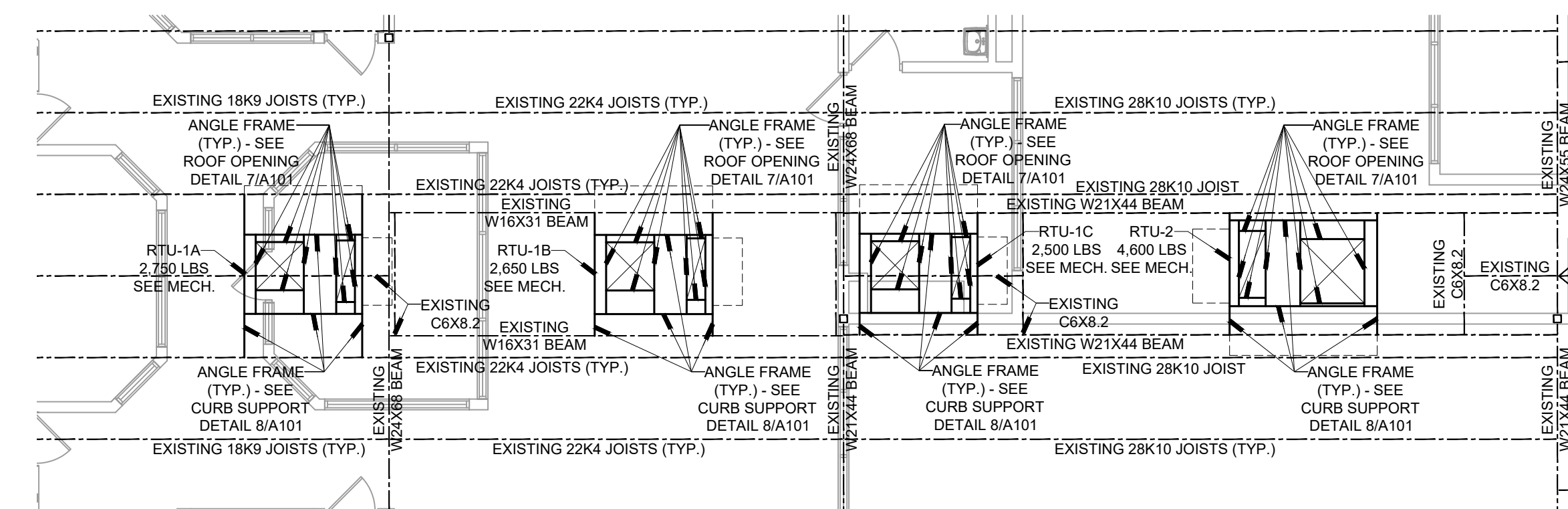
6 DETAIL
SCALE: 1-1/2"=1'-0"



7 ROOF OPENING DETAIL
N.T.S.

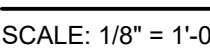


8 CURB SUPPORT DETAIL
N.T.S.



3 PARTIAL STRUCTURAL PLAN - BASE BID
SCALE: 1/8"=1'-0"

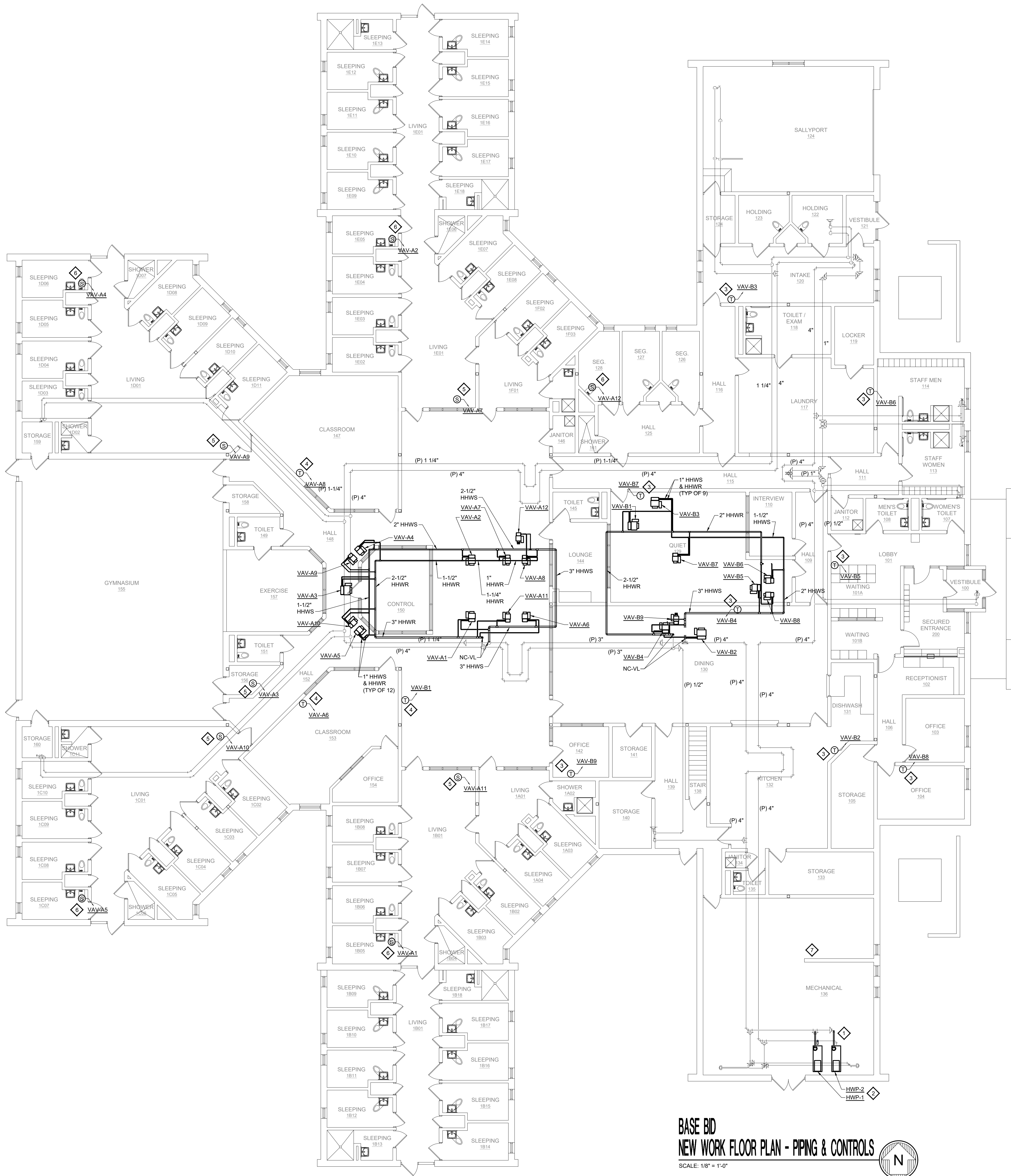
4 PARTIAL STRUCTURAL PLAN - ALT BID
SCALE: 1/8"=1'-0"



M101
OF
10

1. REMOVE (PX) EXISTING RTU'S AND DUCT CONNECTIONS AS SHOWN. REMOVE EXISTING CONTROL AND ELECTRICAL WIRING. EXISTING ROOF CURB SHALL REMAIN.
2. DISCONNECT DUCTWORK FROM SUPPLY DIFFUSER AND REMOVE (PX) EXISTING SUPPLY CEILING DIFFUSER WHERE CEILINGS WILL BE REMOVED.
3. REMOVE (PX) EXISTING RETURN CEILING DIFFUSER WHERE CEILINGS WILL BE REMOVED.
4. REMOVE (PX) WALL MOUNTED ZONE TEMPERATURE SENSOR.
5. REMOVE (PX) RETURN DUCT MOUNTED ZONE TEMPERATURE SENSOR.
6. REMOVE (PX) EXHAUST DUCT MOUNTED ZONE TEMPERATURE SENSOR.





BASE BID
NEW WORK FLOOR PLAN - PIPING & CONTROLS

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

KEY NOTES

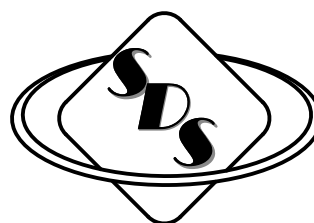
1. PRESSURE TEST, FLUSH, FILL, AND CHEMICALLY TREAT BOILER WATER UPON COMPLETION OF PIPING WORK. APPROXIMATE SYSTEM VOLUME IS 600 GAL.
2. PROVIDE AND INSTALL NEW PUMPS, PIPING, SUCTION DIFFUSERS, FLEXIBLE CONNECTORS, TRIPLE DUTY VALVES, AND BUTTERFLY VALVES PER DETAIL ON SHEET M106.
3. NEW WALL MOUNTED ZONE TEMPERATURE SENSOR WITH DISPLAY AND OVERRIDE.
4. NEW WALL MOUNTED BRUSHED ALUMINUM BLANK ZONE TEMPERATURE SENSOR.
5. NEW DUCT RETURN DUCT MOUNTED ZONE TEMPERATURE SENSOR.
6. NEW EXHAUST DUCT MOUNTED ZONE TEMPERATURE SENSOR.
7. INSTALL NEW BOILER SYSTEM CONTROLLER. ALL EXISTING POINTS AND SEQUENCE OF OPERATIONS FOR BOILERS AND PUMPS SHALL REMAIN.

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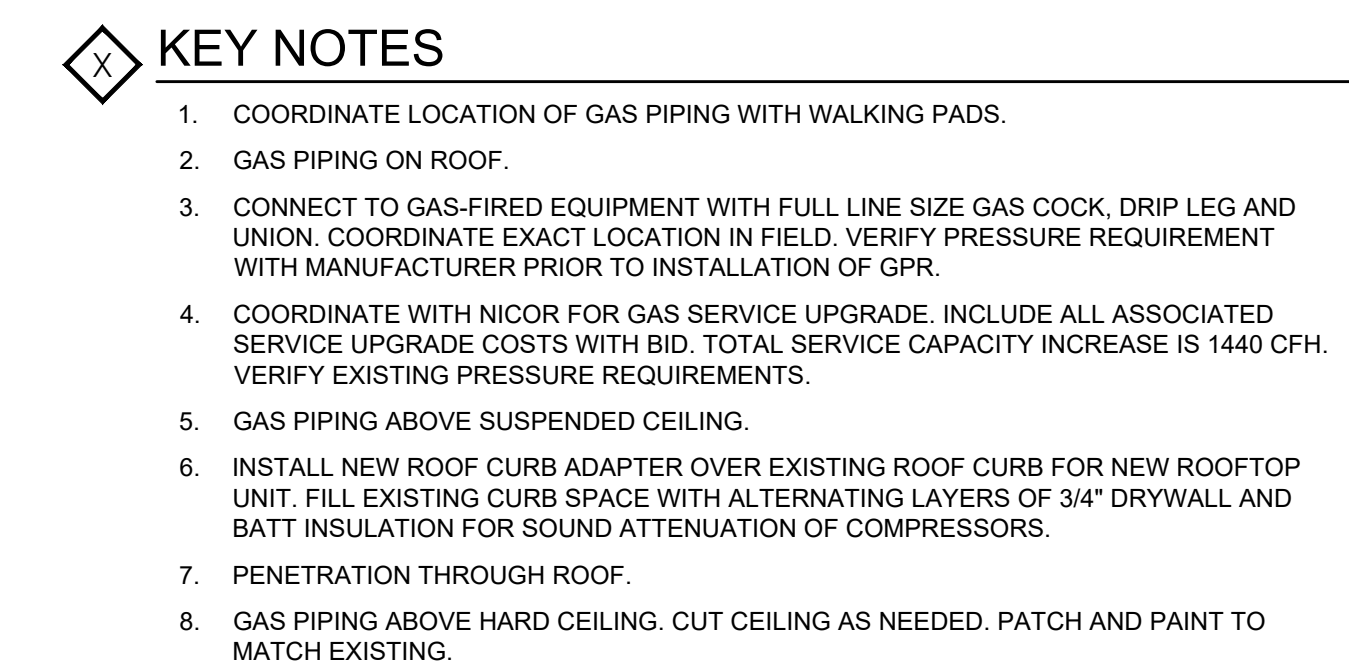
SHEET IDENTIFICATION
**BASE BID MECHANICAL PIPING AND CONTROLS
NEW WORK PLAN**

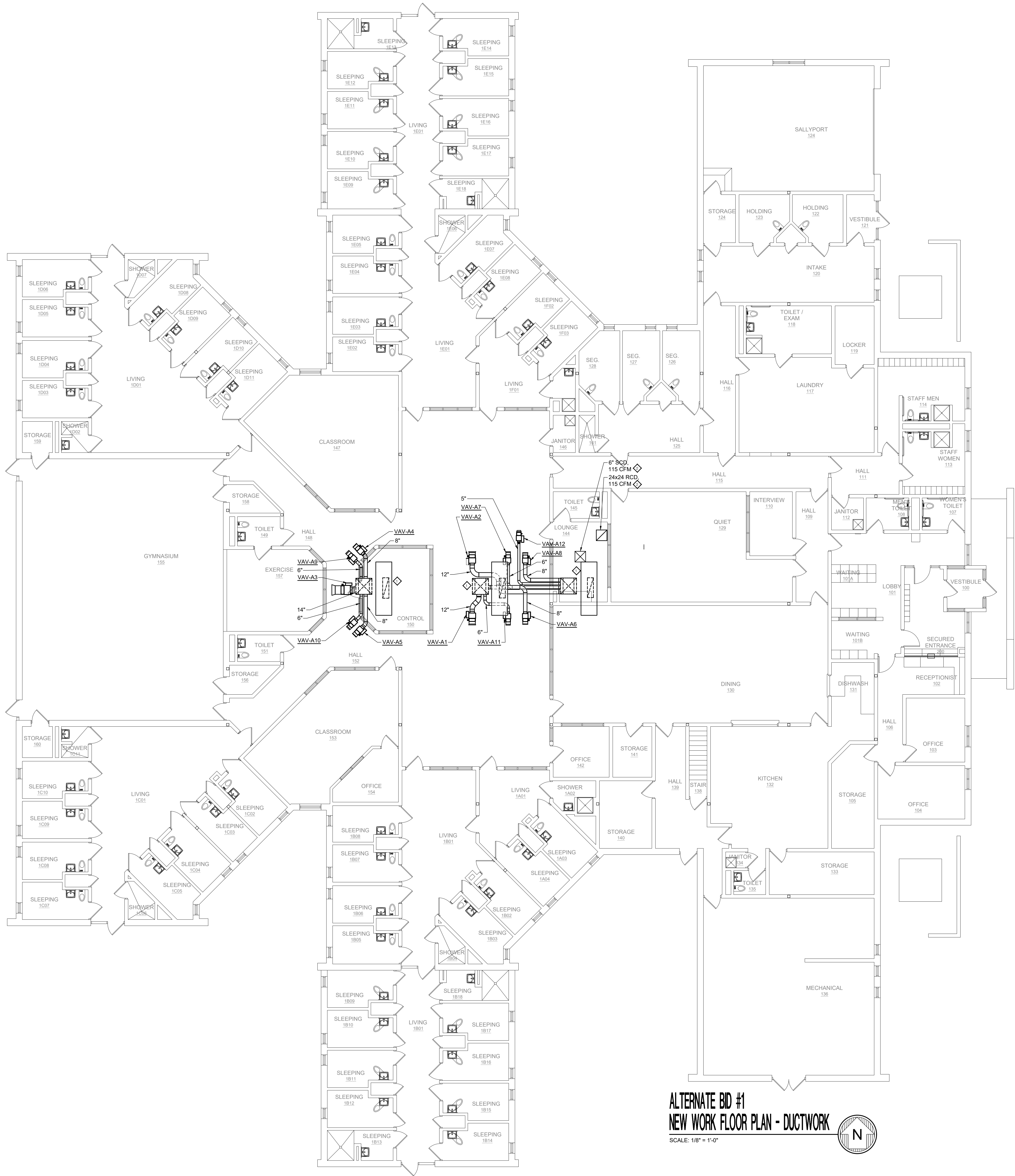
PROJECT INFORMATION	
Date	January 25, 2023
Rev. Date	
RLJA Proj	2022-053



SYSTEMS DESIGN SERVICE
ARCHITECTS

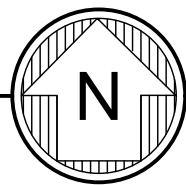
3600 EAST STATE STREET SUITE 215 • ROCKFORD, ILLINOIS 61108
PHONE: (815) 399-3381 FAX: (815) 399-3383 WWW.SDSGROUP.COM





ALTERNATE BID #1
NEW WORK FLOOR PLAN - DUCTWORK

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



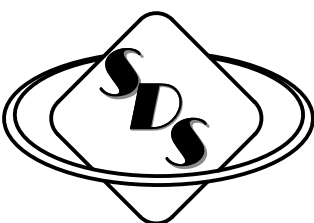
KEY NOTES


1. CONNECT NEW VAV DUCT TO EACH EXISTING ZONE DUCTWORK. RETURN SHALL BE PLENUM, RETURN DUCT SHALL DROP AND HAVE A "T" WITH MINIMUM 5' ON EACH SIDE TO REDUCE FAN NOISE TRANSMISSION.
2. INSTALL NEW DIFFUSER IN NEW CEILING GRID AND RECONNECT EXISTING DUCTWORK TO NEW.

GENERAL NOTES

1. ALTERNATE BID #1 SHALL INCLUDE RTU-1A, RTU-1B, AND RTU-1C AND ASSOCIATED DUCTWORK IN LIEU OF RTU-1.

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1. COORDINATE LOCATION OF GAS PIPING WITH WALKING PADS.
2. GAS PIPING ON ROOF.
3. CONNECT TO GAS-FIRED EQUIPMENT WITH FULL LINE SIZE GAS COCK, DRIP, LEAK AND UNION. COORDINATE EXACT LOCATION IN FIELD. VERIFY PRESSURE REQUIREMENT AND FLOW CAPACITY OF GAS PIPING AND LOCATION OF COMPRESSORS.
4. COORDINATE WITH NICOR FOR GAS SERVICE UPGRADE. INCLUDE ALL ASSOCIATED SERVICE UPGRADE COSTS WITH BID. TOTAL SERVICE CAPACITY INCREASE IS 1516 CFH. VERIFY EXISTING PRESSURE REQUIREMENTS.
5. INSTALL NEW ROOF CURB ADAPTER OVER EXISTING ROOF CURB FOR NEW ROOFTOP UNIT. FILL EXISTING CURB SPACE WITH ALTERNATING LAYERS OF 3/4" DRYWALL AND BATT INSULATION FOR SOUND ATTENUATION OF COMPRESSORS.
6. INSTALL NEW ROOF CURB FOR NEW ROOFTOP UNIT. CUT AND PATCH ROOF AS REQUIRED FOR CURB INSTALLATION.
7. SEE SHEET M105 FOR CONTINUATION.

1. ALTERNATE BID #1 SHALL INCLUDE RTU-1A, RTU-1B, AND RTU-1C AND ASSOCIATED DUCTWORK AND PIPING IN LIEU OF RTU-1.
2. RTU-1A AND RTU-1C TO BE COMPLETELY INSTALLED AND OPERATIONAL PRIOR TO DEMOLITION OF EXISTING RTU AND INSTALLATION OF RTU-1B.



NOTES: SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

1. FLOW CROSS AND CONTROL POWER TRANSFORMER SHALL BE PROVIDED WITH UNIT. CONTROLS CONTRACTOR TO FURNISH AND INSTALL DDC CONTROLS; UNIT CONTROLLER, DAMPER ACTUATOR, THREE WAY MODULATING CONTROL VALVE AND ACTUATOR, SUPPLY DISCHARGE AIR TEMPERATURE SENSOR, WALL OR DUCT MOUNTED TEMPERATURE SENSOR (AS SHOWN ON DRAWINGS), WIRING, PROGRAMMING, GRAPHICS, ETC. FOR UNIT PERFORMANCE, CONTROL, MONITORING, ALARMING, AND POINTS LIST. UNIT TO BE TIED INTO EXISTING CHA CONTRACTOR'S BUILDING MANAGEMENT SYSTEM.
2. MINIMUM AIRFLOWS SHOWN MAY BE ADJUSTED UPWARD OR DOWNWARD TO GIVE COMFORT LEVEL AS REQUIRED. VAV TO BE PRESSURE INDEPENDENT CONTROL.

NOTES: SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

1. UNIT SHALL BE EQUIPPED WITH VFD ON SUPPLY AND EXHAUST FANS, FULL MODULATING ULTRA LOW LEAK ECONOMIZER WITH ADJUSTABLE TEMPERATURE/ENTHALPY CONTROLS AND BAROMETRIC RELIEF, POWERED EXHAUST, STAINLESS STEEL HEAT EXCHANGER, MODULATING GAS HEAT, DIGITAL SCROLL COMPRESSORS WITH COMPRESSOR VALVES, HINGED ACCESS DOORS, DOUBLE WALL CONSTRUCTION WITH R-13 INSULATION, OUTSIDE AIR GOOD, CLOGGED FILTER SWITCH, DAMPER ACTUATORS, AND POWERED CONVENIENCE OUTLET. UNIT SHALL HAVE 5/8" K&C SCQR RATING. UNIT SHALL HAVE TWO POWER CONNECTIONS (CIRCUIT 1: COMPRESSORS AND CONDENSERS, CIRCUIT 2: SUPPLY FAN, EXHAUST FAN, COMBUSTION FAN, AND ELECTRICAL PRE-HEAT), DISCONNECT SWITCHES SHALL BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
2. ALPHA CONTROLS TO FURNISH AND INSTALL ALL DDC CONTROLS. UNIT CONTROLLER, WALL MOUNTED SPACE/DUCT SENSORS SYSTEM SENSORS, RELAYS, TRANSFORMERS, WIRING, PROGRAMMING, GRAPHICS ETC. AS SHOWN IN SPECIFICATIONS, CONTROLS DIAGRAMS, AND POINTS LIST. UNIT TO BE TIED INTO EXISTING ALPHA CONTROLS BUILDING MANAGEMENT SYSTEM.
3. PROVIDE MANUFACTURER'S ROOF CURB, MINIMUM 18" TALL.
4. PROVIDE ROOF CURB ADAPTER TO BE MATED TO EXISTING CURB (THYBAR OR EQUAL), VERIFY EXISTING CURB DIMENSIONS IN FIELD.
5. UNIT TO HAVE MINIMUM VENTILATION QUANTITIES SET AS CALLED FOR DURING OCCUPANCY. SET ECONOMIZER CHANGEOVER CONTROL TO LOWEST DEWPOINT (50 DEG. F). POSSIBLE TO LIMIT MOISTURE CONTENT OF AIR ENTERING BUILDING.
6. PROVIDE DEEP SEAL TRAPPED CONDENSATE FROM DRAIN PAN CONNECTION TO ROOF.
7. UNIT TO HAVE FULL SIZE GAS CONNECTION WITH LINE SIZE VALVE, UNION AND DIRT LEG.
8. UNIT TO HAVE FULL SIZE FLEXIBLE DUCT CONNECTION AT UNIT WITH FULL SIZE SUPPLY AND RETURN DUCT CONNECTIONS WITH 1" DL AT DROPS.
9. EXTERNAL STATIC PRESSURE DOES NOT INCLUDE FILTER, ECONOMIZER, OR UNIT PRESSURE DROPS.
10. HVAC CONTRACTOR TO COORDINATE ALL FINAL SIZES WITH MANUFACTURER(S) PRIOR TO ORDERING, TO ASSURE PROPER USE AND SELECTION. CONTROL PACKAGES TO INCLUDE ALL NECESSARY RELAYS, DUCT SMOKE DETECTOR (IF E.C.), CONTACTORS, CONTROL, CABINET PANELS, TRANSFORMERS, WIRING TERMINAL STRIP, WIRING DIAGRAMS, COMPLETE INSTALLATION AND ALL SUBSTITUTION LISTS/STARTUP AND CHECK OUT PROCEDURE FOR THE SYSTEM BY MANUFACTURER'S REP AND FACTORY CHECK OUT WITH WRITTEN ASSURANCE THAT THE SYSTEM IS OPERATING AND INSTALLED IN CONFORMANCE WITH MANUFACTURER'S REQUIREMENTS/RECOMMENDATIONS.

A. ACCEPTABLE MANUFACTURERS: BELL & GOSSET, GRUNDFOSS. CONFIRM/VERIFY SIZE WITH MANUFACTURER FOR PROJECT USES/IZING.

B. HWP-1: SYSTEM LOOP PUMP, BASK MOUNTED END SECTION, 8" & 6" MODEL, 1.5AD SERIES-1510, VOLTAGE 480-3/40, 1.5 HP, 8" BFM, 30' HD., 2" SECTION, 15" DISCHARGE, 145T FRAME. PROVIDE WITH 3" B&G MODEL 30S-25 TRIPMUT. VALVE AND 2" B&G MODEL 30S-25 SECTION DIFFUSER. MOTOR CONTROLLER BY ELECTRICAL CONTRACTOR. COORDINATE.

B. HWP-2: SYSTEM LOOP PUMP, BASK MOUNTED END SECTION, 8" & 6" MODEL, 1.5AD SERIES-1510, VOLTAGE 480-3/40, 1.5 HP, 8" BFM, 30' HD., 2" SECTION, 15" DISCHARGE, 145T FRAME. PROVIDE WITH 3" B&G MODEL 30S-25 TRIPMUT. VALVE AND B&G MODEL DB-3X SUCTION DIFFUSER.

C. HWP-3: SYSTEM LOOP PUMP, BASK MOUNTED END SECTION, 8" & 6" MODEL, 1.5AD SERIES-1510, VOLTAGE 480-3/40, 1.5 HP, 8" BFM, 30' HD., 2" SECTION, 15" DISCHARGE, 145T FRAME. PROVIDE WITH 3" B&G MODEL 30S-25 TRIPMUT. VALVE AND B&G MODEL DB-3X SUCTION DIFFUSER.

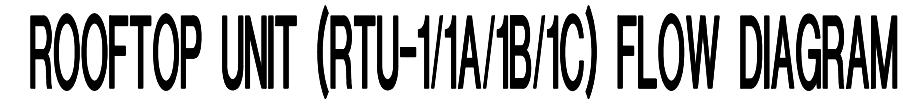
D. CONTROLS CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL CONTROLS, PROGRAMMING, WIRING, ETC. REQUIRED TO THE NEW PUMPS INTO EXISTING CONTROL SYSTEM.



Rooftop Unit (RTU-1/1A/1B/1C)	System Point Names
Outside Air Temperature	OAT
Outside Air Damper Command	OaDmPrCmd
Outside Air Damper Set Point	OaDmPrStPt
Outside Air Damper Status	OaDmPrSts
Return Air Damper Command	RaDmPrCmd
Return Air Damper Set Point	RaDmPrStPt
Return Air Damper Status	RaDmPrSts
Smoke Alarm	SmkAlrm
Filter Pressure Setpoint	FltrSPt
Filter Alarm	FltrAlrm
Mixed Air Temperature	MAT
Heating Command	HtgCmd
Heating Status	HtgSts
High Limit Alarm	HighLimit
Cooling Command	ClgCmd
Cooling Status	ClgSts
Supply Fan Status	SFanSts
Supply Fan Command	SFanCmd
Supply Fan Alarm	SFanAlrm
Supply Air Temperature Setpoint	SATStPt
Supply Air Temperature	SAT
Supply Air Static Pressure Setpoint	StaticStPt
Supply Air Static Pressure	Static
Economizer Set Point	EconStPt
Occupied Command	OccCmd
Unoccupied Command	UnOccCmd
Occupied Cooling Set Point	OccClgStPt
UnOccupied Cooling Set Point	UnOccClgStPt
Occupied Heating Set Point	OccHtgStPt
UnOccupied Heating Set Point	UnOccHtgStPt

Rooftop Unit (RTU-2)	System Point Names
Outside Air Temperature	OAT
Outside Air Damper Command	OaDmPrCmnd
Outside Air Damper Set Point	OaDmPrStPt
Outside Air Damper Status	OaDmPrSts
Pre-Heating Command	PrEHtgCmnd
Pre-Heating Status	PrEHtgSts
Return Air Damper Command	RaDmPrCmnd
Return Air Damper Set Point	RaDmPrStPt
Return Air Damper Status	RaDmPrSts
Smoke Alarm	SmkAlm
Filter Pressure Setpoint	FltrStPt
Filter Alarm	FltrAlm
Mixed Air Temperature	MAT
Heating Command	HtgCmnd
Heating Status	HtgSts
High Limit Alarm	HghLmIt
Cooling Command	ClgCmnd
Cooling Status	ClgSts
Supply Fan Status	SfAnSts
Supply Fan Command	SfAnCmnd
Supply Fan Alarm	SfAnAlm
Supply Air Temperature Setpoint	SATStPt
Supply Air Temperature	SAT
Supply Air Static Pressure Setpoint	StaticStPt
Supply Air Static Pressure	Static
Economizer Set Point	EconStPt
Occupied Command	OccCmnd
Unoccupied Command	UnOccCmnd
Occupied Cooling Set Point	OccClgStPt
UnOccupied Cooling Set Point	UnOccClgStPt
Occupied Heating Set Point	OccHtgStPt
UnOccupied Heating Set Point	UnOccHtgStPt

Variable Air Volume Box (VAV)	System Point Names
Damper Command	DamperCmd
Damper Set Point	FlowStPt
Heating Command (HW Valve)	HtgCmd
Heating Status (HW Valve)	HtgSts
Supply Air Flow	Flow
Supply Air Temperature	SAT
Space Temperature	SpaceTemp
Occupied Command	OccCmd
Unoccupied Command	UnOccCmd
Occupied Heating Set Point	OccHtgStPt
Occupied Cooling Set Point	OccClgStPt
Unoccupied Heating Set Point	UnOccHtgStPt
Unoccupied Cooling Set Point	UnOccClgStPt



A. THE FOLLOWING REMOVED PRESENT EQUIPMENT AND MATERIALS WHICH ARE IN GOOD OPERATING CONDITION (OR ARE PLACED IN GOOD CONDITION), SUITABLE FOR REUSE, SHALL BE REPAIRED, REFINISHED, OR APPROVED FOR REUSE IN WRITING BY ENGINEER, OR CALLED FOR MAY BE REUSED (P/R, P/XN, AND P/N).

B. REMOVED OUTCOURSE MUST NOT BE REUSED.

C. REMOVED EQUIPMENT SHALL BE IDENTIFIED AND FOLLOWING REMOVED PRESENT EQUIPMENT SHALL BECOME PROPERTY OF CONTRACTOR, AND SHALL BE REMOVED FROM PREMISES (P/C).

D. EQUIPMENT OR DESIGNATED DRAWINGS

C. CONTRACTOR SHALL:

1. PROVIDE NEW FLOORS UNDER REMOVED PRESENT EQUIPMENT AND WHERE CALL FOR:

2. REPAIR FLOORS UNDER WALLS ADJACENT TO REMOVED EQUIPMENT, TO MATCH ADJACENT CONSTRUCTION.

3. NEW IN FLOOR PATCHES CHANGES WHICH ARE NO LONGER REQUIRED AND NEATLY PATCH TO MATCH ADJACENT CONSTRUCTION.

4. CUT OPENINGS REQUIRED FOR:

A. HIS WORK;

B. ADMISSION OF NEW EQUIPMENT;

C. REMOVAL OF PRESENT EQUIPMENT;

D. NEW CONNECTION TO PRESENT CONSTRUCTION.

5. PATCH AND REPAIR UNDER WALLS, CEILING 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 NOT BEEN CUT, REMOVED, DISTURBED OR MARKED, AS REQUIRED, TO RESTORE IT TO ORIGINAL CONDITION BEFORE BEING DISTURBED.

7. UNPAINTED REMOVED EQUIPMENT, WALLS, CEILING, FLOOR, ETC. SHALL BE FILLED G. PRESENT PAINTED CONSTRUCTION WHICH IS MARKED SHALL BE REPAIRED SAME AS NEW CONSTRUCTION.

8. MAINTAIN ALL DIMENSIONS OR SYMBOLS, WHEN APPLIED TO PRESENT (TO EXISTING) LINE, DEVICE OR EQUIPMENT, SHALL HAVE THE FOLLOWING MEANINGS:

NC NEW CONNECTIONS TO PRESENT DUCTWORK, EQUIPMENT, PIPING, ETC.
INSTALL, TEST, COVER, PAINT, ETC., SAME AS NEW WORK.

P TO REMAIN UNCHANGED, IF CHANGE CANNOT BE AVOIDED, CHANGE "P" TO
"PXR", AT NO INCREASE IN CONTRACT PRICE. VERIFY LOCATION.

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

PXR SAME AS "PX", EXCEPT 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.

PXN REMOVED, CLEANED AND RESTORED TO GOOD OPERATING CONDITION AND 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 WORK.

PN COMPLETELY REINSTALL DEVICE AT NEW LOCATION TO EXISTING OR NEW DUCTWORK AS SHOWN, SAME AS NEW WORK. PROVIDE ALL NECESSARY DUCT OR PIPE EXTENSIONS AS REQUIRED.

I. WORK OF EVERY DIVISION SHALL BE COORDINATED WITH ALL OTHER WORK AND PRESENT CONDITIONS, SO THAT

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 THE OWNER.

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 ARCHITECT IN WRITING, PRESENT DIFFUSERS, GRILLS, REGISTER, SWAP CHANGES ETC. SHALL BE PROVIDED AS PER DRAWING, UNLESS ANOTHER METHOD IS SHOWN ON DRAWINGS OR THE DEVICES ARE SERVING OTHER EQUIPMENT, WHERE SPECIFICALLY APPROVED BY ARCHITECT IN WRITING, OPENINGS MAY BE PERMITTED TO REMAIN AND BE PROVIDED WITH NEAT FLUSH COVERS, EXTENDING OVER ENTIRE WALL OPENING.

CONSTRUCTION PATCHED AS PER NOTE "PX". NEW CONNECTIONS TO PRESENT DUCTS/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.

INTERNET AND TELEPHONE SERVICES TO THE PRESENT BUILDING WILL NOT BE INTERRUPTED, EXCEPT AS APPROVED BY THE OWNER/ARCHITECT.

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 ALIGNMENT TO ACCOMMODATE EXISTING UTILITIES, OBSTACLES, AND SURROUNDING CONSTRUCTION. ALL CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER. FOR PRESENT CONSTRUCTION, CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES, OBSTACLES, 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 CLARITY OF PRESENTATION.

CONTRACTOR IS ALLOWED TO MAKE MINOR CHANGES TO THE PIPING TO AVOID FIELD CONFLICTS AT NO ADDITIONAL COST TO THE OWNER, AND AS LONG AS THE RELOCATION DOES NOT AFFECT THE PERFORMANCE OF THE SYSTEM.

EACH CONTRACTOR SHALL CHECK DRAWINGS OF THE OTHER CONTRACTORS 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 ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE INSTALLATION.

FURNISH ALL TRADES ADVANCE INFORMATION ON LOCATIONS AND SIZES OF PIPING, 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 ARCHITECT.

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 MECHANICAL CONTRACTOR TO GIVE QUANTITIES OF PATCHING REQUIREMENTS TO A GENERAL CONTRACTOR. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

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, AIR CONDITIONING, AND ELECTRICAL DESIGNS ARE BASED ON THE REQUIREMENTS FOR THE SPECIFIED EQUIPMENT MANUFACTURER. 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 TRAPPED COOLING COIL CONDENSATE DRAIN LINES FROM ALL ROOFTOP UNITS TO ROOF.

4. CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR FOR ALL CEILING DIFFUSERS, REGISTERS, AND/OR GRILLES AS TO LOCATION, QUANTITIES AND PROPER TYPES FOR SURFACE MOUNT AND/OR LAY-IN SUSPENDED CEILINGS AND LIGHT PATTERNS. OPENINGS SHALL BE IN CENTER OF TILES OR AS DIRECTED BY ARCHITECT/ENGINEER.

5. CONTRACTOR SHALL INCLUDE IN HIS WORK THE RELOCATION OF ALL CROSS BRACING, AS REQUIRED TO FIT DUCTS BETWEEN JOISTS. THIS WORK SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR WITH ARCHITECTURAL APPROVAL.

6. CONTRACTOR SHALL PROVIDE ALL DUCT DROPS AND OFFSETS TO AVOID INTERFERENCES WITH JOISTS, OTHER DUCTS, LIGHTS, PIPES, ETC.

7. ALL DUCTWORK TO BE HELD TIGHT TO STRUCTURAL ROOF JOISTS, BEAMS, ETC. AS CLEARANCE IS MINIMAL. COORDINATE WITH OTHER CONTRACTORS TO AVOID CONFLICT. ALL DUCTWORK IS ABOVE SUSPENDED CEILINGS, UNLESS NOTED OTHERWISE.

8. SHEETMETAL DUCT SIZES MAY BE ALTERED TO FIT JOB CONDITIONS, BUT NET FREE AREAS MUST BE MAINTAINED. INCREASE SHEETMETAL DUCT SIZE TO ALLOW FOR DUCT LINING. INSULATE DUCTWORK AS NOTED.

9. INSTALL 1" OF NON-SHRINK GROUT AROUND DUCTWORK ON EACH WALL FACE TO SEAL OPENINGS AND ELIMINATE SOUND TRANSFER WITH AIR-TIGHT CONNECTIONS.

10. OUTDOOR INTAKE SHEET METAL DUCTWORK SHALL BE WATER-TIGHT WITH SOLDERED SEAMS. PITCH DUCTWORK TO WALL LOUVER AND SCREEN TO DRAIN ALL MOISTURE TO BUILDING EXTERIOR. INTAKES TO BE INSULATED. CAULK AROUND INTAKE AT EXTERIOR WALL, COORDINATE WITH GENERAL CONTRACTOR.

11. CONTRACTOR SHALL INCLUDE IN HIS WORK (1) SET OF FILTERS TO BE USED DURING CONSTRUCTION FOR ALL AIR HANDLING EQUIPMENT, FURNACES, ENERGY RECOVERY VENTILATORS, ROOFTOP UNITS, RETURN FANS, FILTER BOXES, FAN OPERATED VAV BOXES, ETC. CONTRACTOR PRIOR TO AIR BALANCING AND BUILDING OCCUPANCY SHALL INSTALL A COMPLETE SET OF CLEAN FILTERS, PROVIDE TO OWNER (1) COMPLETE SPARE/REPLACEMENT SET OF FILTERS FOR EACH PIECE OF EQUIPMENT. PROVIDE ALSO TO OWNER IN WRITING REPLACEMENT SIZES, TYPE, NUMBER PER EQUIPMENT, LOCATIONS, ETC.

12. UPON BALANCING, IF SYSTEM(S) CANNOT BE SUCCESSFULLY BALANCED AS AGREED BY OWNER/ARCHITECT/ENGINEER THEN ADDITIONAL DAMPERS, BELTS, SHEAVES, OR PULLEYS WILL BE INSTALLED TO PROVIDE PROPER AIR QUANTITIES, ACCEPTABLE SOUND LEVELS AND TEMPERATURE/HUMIDITY REQUIREMENTS BY THE HVAC CONTRACTOR WITHOUT INCREASE IN CONTRACT PRICE WITHIN THE GUARANTEE PERIOD.

13. 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.

14. PRESENT PAINTED CONSTRUCTION WHICH IS MARRED SHALL BE REPAINTED SAME AS NEW CONSTRUCTION.

15. 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.

16. SEE SPECIFICATIONS FOR ADDITIONAL NOTES, SYMBOLS, ABBREVIATIONS, PREFIXES AND SUFFIXES.

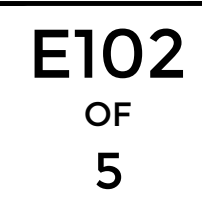
MARK	DESCRIPTION	MARK	DESCRIPTION
AAD	AUTOMATIC ALUMINUM DAMPERS	MC	MECHANICAL CONTRACTOR
ACCU	AIR COOLED CONDENSING UNIT	MTD	MOUNTED
AD	ACCESS DOOR	NC	NEW CONNECTION
AFC	ADJUSTABLE FLEXIBLE CONNECTION	OA	OUTDOOR AIR
AFF	ABOVE FINISH FLOOR	OAD	OUTDOOR AIR DAMPER
ALUM	ALUMINUM	OAI	OUTDOOR AIR INTAKE
AP	ACCESS PANEL	OAO	OUTDOOR AIR DUCT
ASC	ABOVE SUSPENDED CEILING	P	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	RED	RETURN AIR DUCT
CD	CEILING DIFFUSER (S) SUPPLY (R) RETURN	REF	REFERENCE
CFM	CUBIC FEET PER MINUTE	REFRIG.	REFRIGERANT LIQUID,SUCTION,HGBP
CLG	CEILING	RG	RETURN GRILLE
CTC	CLOSE TO CEILING (EXPOSED)	RR	RETURN REGISTER
CR	CONDENSATE RETURN	RTU	ROOFTOP UNIT
CTW	CLOSE TO WALL (EXPOSED)	SCD	SUPPLY CEILING DIFFUSER
D	DRAIN	SIM	SIMILAR
DC	DUCT COVERING	SG	SUPPLY GRILLE
DDO	DOOR CUTOFF (BY OTHERS)	SLD	SUPPLY LINEAR DIFFUSER
DLC	DUCT LINING	SM	SHEET METAL
DS	DISCONNECT SWITCH	SR	SUPPLY REGISTER
DV	DOOR VENT (BY OTHERS)	SS	STAINLESS STEEL
EC	ELECTRICAL CONTRACTOR	STW	SLEEVE THRU WALL AND SEAL
EH	EXHAUST HOOD	SUD	SUPPLY DUCT
ER	EXHAUST REGISTER	TB	TO BELOW FLOOR
EF	EXHAUST FAN	TC	TEMPERATURE CONTROL
EG	EXHAUST GRILLE	TFA	TO FLOOR ABOVE
EX.D	EXHAUST DUCT	TFB	TO FLOOR BELOW
EXP	EXPOSED	TFD	TRANSFER DUCT
FAD	FRESH AIR DUCT	TG	TRANSFER GRILLE
FBO	FURNISHED BY OTHERS	TJA	THRU JOIST ABOVE
FBA	FROM FLOOR ABOVE	TD	TOP OF DUCT
FFB	FROM FLOOR BELOW	TR	THROUGH ROOF
FLD	FIRE DAMPER	TYD	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
LPS	LOW PRESSURE STEAM	W/	WITH

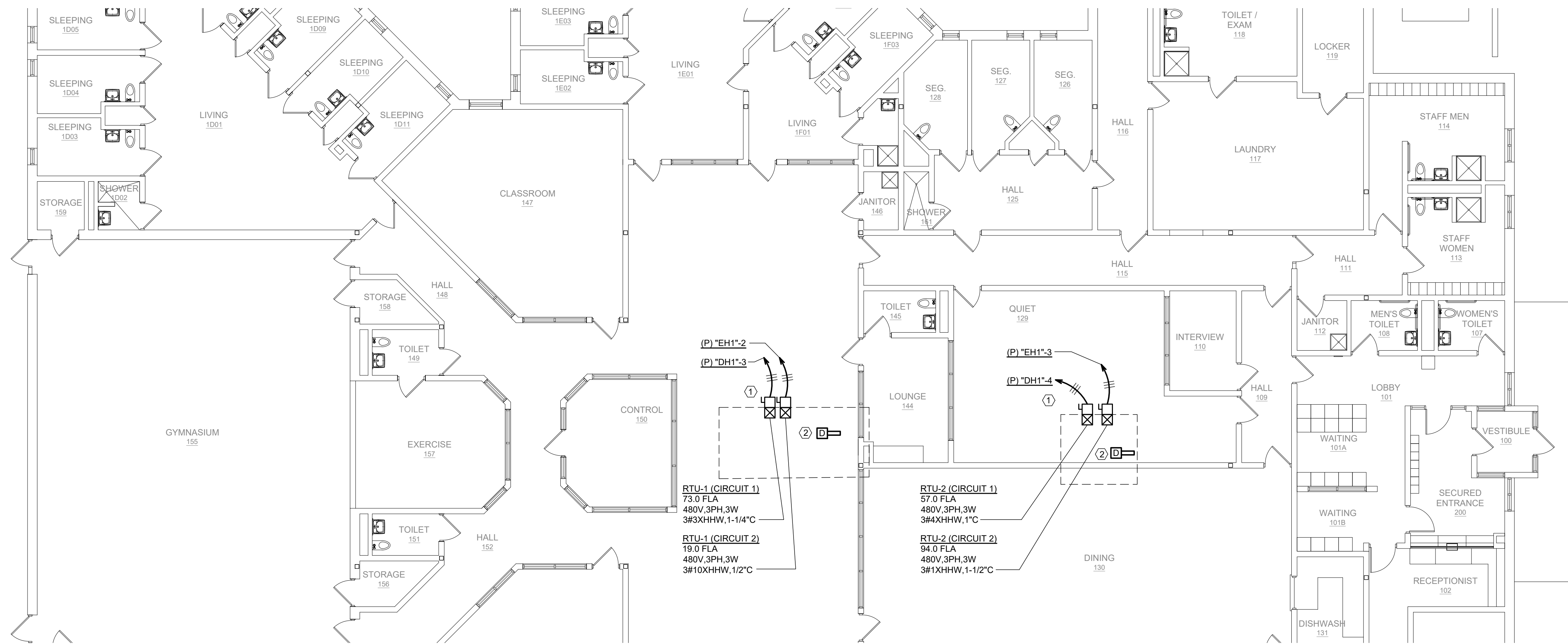
SEE SPECIFICATIONS FOR ADDITIONAL ABBREVIATIONS, PREFIXES, SUFFIXES, ETC

(SEE SPECIFICATIONS FOR ADDITIONAL NOTES, SYMBOLS, ABBREVIATIONS, ETC.)

UP		= SUPPLY DUCT (SU.D.)		= EXHAUST DUCT (EX.D.)	DOWN
		= RETURN DUCT (RE.D.)		= VENT DUCT (VE.D.)	
		= OUTDOOR DUCT (OU.D.)		= OUTDOOR DUCT (OU.D.)	
		= SUPPLY CEILING DIFFUSER			
		= SUPPLY REGISTER (SR)		= SUFFIX (-W) = WALL MOUNT - CFM TYP.	
		= RETURN REGISTER (RR)		= SUFFIX (-C) = CEILING MOUNT	
		= EXHAUST REGISTER (ER)		= SUFFIX (-F) = FLOOR MOUNT	
		= VENT REGISTER (VR)		= SUFFIX (-#) = TYPE AS SCHEDULED	
		= SUPPLY GRILLE (SG)			
		= RETURN GRILLE (RG)			
		= EXHAUST GRILLE (EG)			
		= VENT GRILLE (VG)			
DCO		= DOOR CUT-OFF (DCO); BY OTHERS			
DV		= DOOR VENT (DV); BY OTHERS			
	D	= DUCT R-RISE, D-DROP WITH DIRECTION OF AIR FLOW			
	R	= DUCT R-FALL, R-DROP WITH DIRECTION OF AIR FLOW			
		= SUPPLY CEILING DIFFUSER (SCD)			
	4 WAY			3 WAY	
	OPPOSITE			CORNER	
	1 WAY				
		= U.L. FIRE DAMPER - DIRECT METAL SLEEVE AROUND DUCT IN WALL, ADJACENT ACCESS DOOR			
		= MANUAL VOLUME DAMPER - MUST BE ACCESSIBLE			
		= MOTORIZED VOLUME DAMPER - MUST BE ACCESSIBLE			
		= BRANCH DUCT TAKE-OFF WITH MANUAL VOLUME EXTRACTOR, MUST BE ACCESSIBLE			
		= ADJUSTABLE FLEXIBLE CONNECTION (AFC) BETWEEN DUCTS			
		= ADJUSTABLE FLEXIBLE CONNECTION TO REGISTER, DIFFUSERS, ETC.			
		= VANED ELBOW - SMACNA PLATE #22			
		= RADIUS ELBOW - SMACNA PLATE #21 LOW VELOCITY			
		= THERMOSTAT - ARROW INDICATES UNITS CONTROLLED, -G = WITH GUARD, 4"-0" FOR HANDICAP.			
X.Y., N X O		= DUCT SIZE (1ST FIGURE SIDE SHOWN, 2ND FIGURE SIDE NOT SHOWN) BOTH SIDES REFER TO INSIDE DIMENSION, DIMENSIONS IN INCHES.			
		= DIAMETER, DIMENSIONS IN INCHES.			
X Ø		= EQUIPMENT NOTE, DESIGNATION, OR ITEM.			

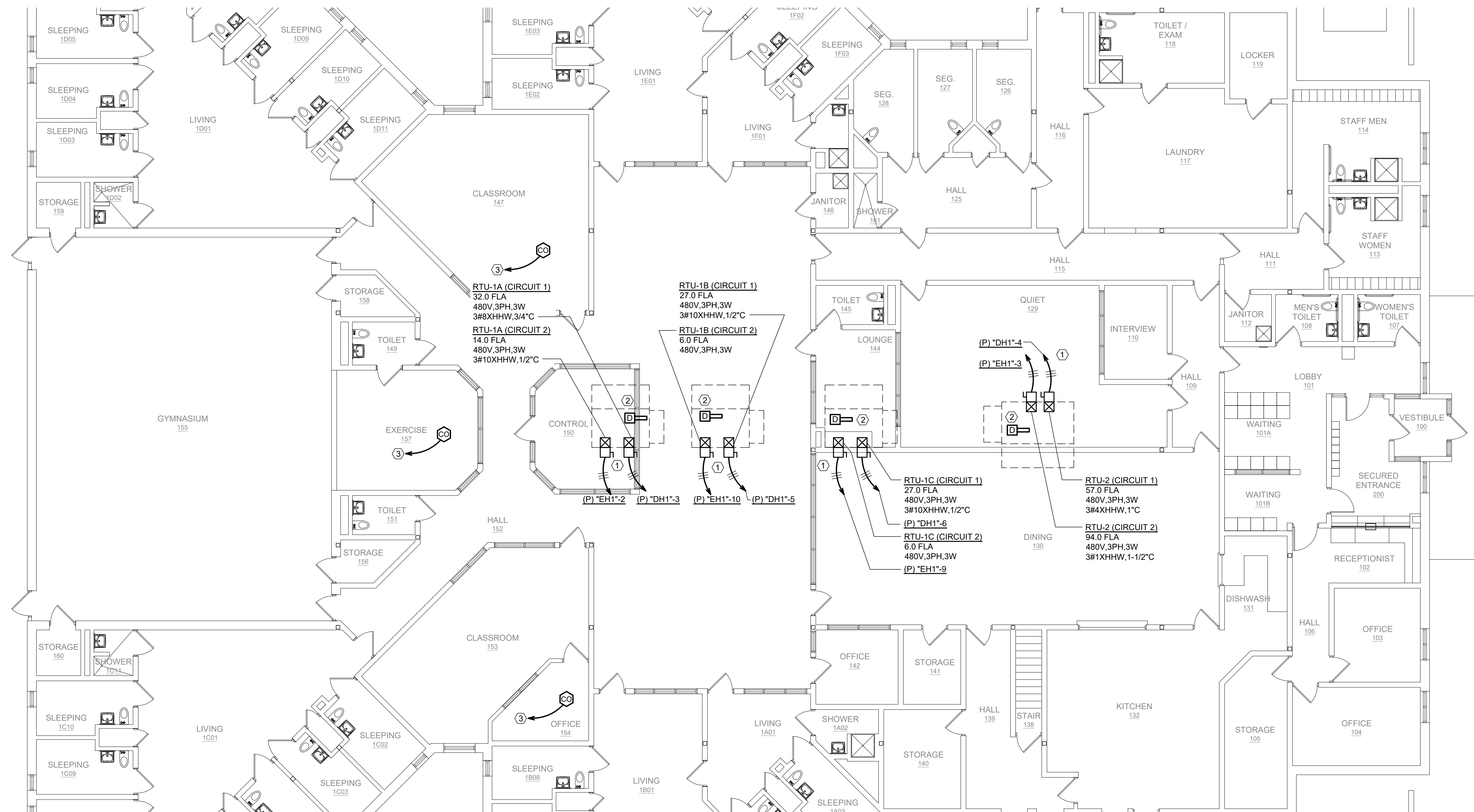
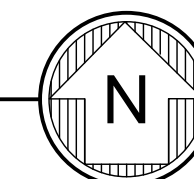
EQUIPMENT. EQUIPMENT





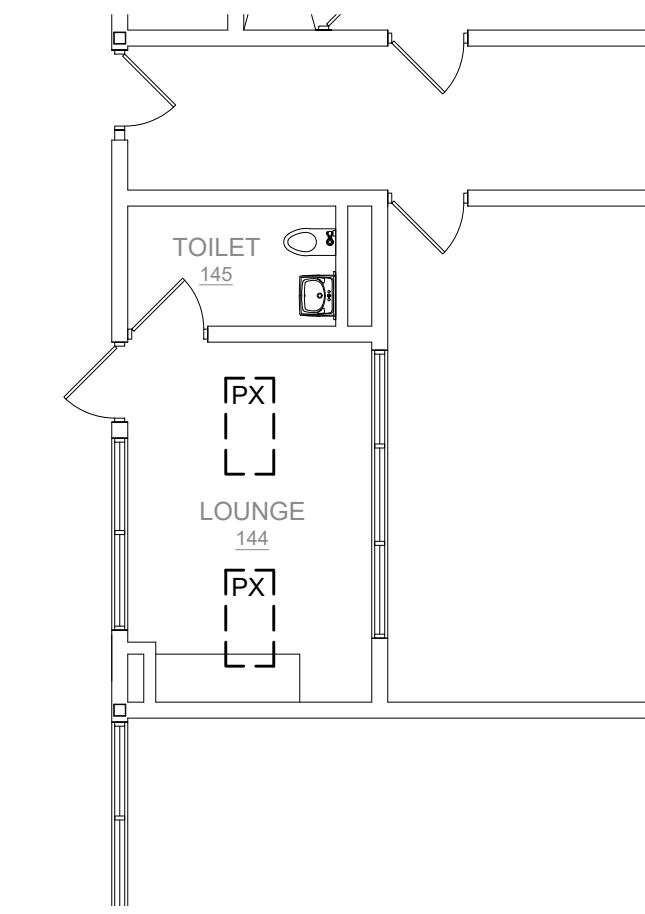
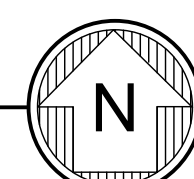
**BASE BID
NEW WORK PARTIAL FLOOR PLAN - ELECTRICAL**

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



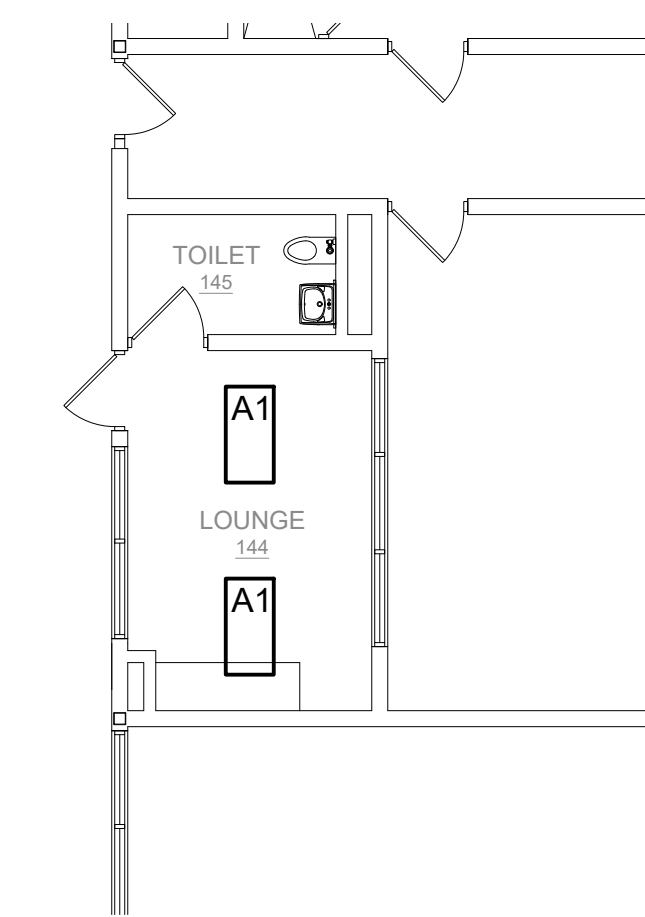
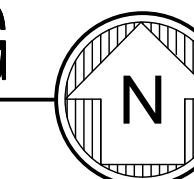
**ALTERNATE BID #1
NEW WORK PARTIAL FLOOR PLAN - ELECTRICAL**

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



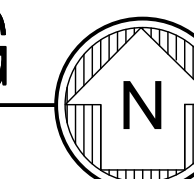
**ALTERNATE BID #1
DEMOLITION PARTIAL FLOOR PLAN - LIGHTING**

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



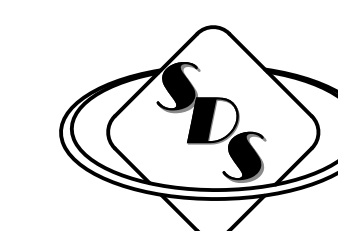
**ALTERNATE BID #1
NEW WORK PARTIAL FLOOR PLAN - LIGHTING**

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



DRAWING KEY NOTES

1. PROVIDE NEW WIRE FROM MOCP DEVICES IN PRESENT PANELS "DH1" AND "EH1" TO EACH NEW ROOF TOP UNIT. UTILIZE EXISTING CONDUITS IF IN ACCEPTABLE CONDITION.
2. WIRE NEW FIRE ALARM DEVICES TO PRESENT FACP. (TYPICAL FOR ALL NEW DEVICES). LOCATE REMOTE TEST STATIONS AS DIRECTED BY THE OWNER.



SYSTEMS DESIGN SERVICE
3600 EAST STATE STREET SUITE 215 • ROCKFORD, ILLINOIS 61108
PHONE: (815) 399-3381 FAX: (815) 399-3383 WWW.SDSGROUP.COM

SHEET IDENTIFICATION

**BASE BID & ALTERNATE BID #1
ELECTRICAL DEMOLITION AND NEW WORK
PLANS**

PROJECT INFORMATION	DATE	REV.	DATE	REV.
Date	January 25, 2023	Rev.	Date	Rev.
Rev.		Rev.	Date	Rev.
Rev.		Rev.	Date	Rev.
Rev.		Rev.	Date	Rev.

SHEET NUMBER

E103
OF
5

HVAC REPLACEMENT PROJECT AT
JUVENILE DETENTION CENTER FOR
WINNEBAGO COUNTY
ROCKFORD, ILLINOIS

RICHARD L. JOHNSON
ASSOCIATES | ARCHITECTS

PANEL SCHEDULES - BASE BID (REVISED FOR NEW WORK)

SCALE: # =PRESENT PANEL: "DH1" - REVISED FOR BASE BID															
LOCATION: MECH/ELECTRICAL				VOLTAGE: 480 /277 V				A.I.C. RATING: EXST.							
SUPPLY FROM: UTILITY				PHASE: 3 PH				MAINS TYPE: M.BKR							
MOUNTING: SURFACE				WIRE: 4 W				MAINS RATING: 800 A							
ENCLOSURE: NEMA 1								MCB RATING: 800 A							
CKT	DESCRIPTION	TRIP	POLES	DEMAND CODE	A		B		C		DEMAND CODE	POLES	TRIP	DESCRIPTION	CKT
1	(P) PANEL "EH1" (BASE BID)	300	3	G	52,067	49,138					G	3	300	(P) TRANSFORMER 1	2
				G			51,000	47,971			G				
				G					53,333	50,021	G				
				H	20,206	15,777					H				
3	NEW RTU-1 (CKT 1 COOL) BASE BID	90	3	H			20,206	15,777			H	3	90	NEW RTU-2 (CKT 1 COOL) BASE BID	4
				H							H				
				H					20,206	15,777	H				
5	SPACE													SPACE	6
7	SPACE													SPACE	8
9	SPACE													SPACE	10
11	SPACE													SPACE	12
13	SPACE													SPACE	14
15	SPACE													SPACE	16
					137,188	VA	134,954	VA	139,337	VA					
LOAD CLASSIFICATION		DEMAND CODE	CONNECTED LOAD		DEMAND FACTOR		DEMAND		PANEL TOTALS TOTAL CONN. LOAD: 411,479 VA TOTAL DEMAND LOAD: 389,889 VA TOTAL CONN. CURRENT: 495 A TOTAL DEMAND CURRENT: 469 A						
HVAC/MECH		H	107,949	VA	80.0%	86,359	VA								
RECEPTACLES		R	0	VA	-	0	VA								
LIGHTING		L	0	VA	125.0%	0	VA								
GENERAL		G	303,530	VA	100.0%	303,530	VA								
KITCHEN		K	0	VA	100.0%	0	VA								
LARGEST MOTOR		1 HP	0	VA	125.0%	0	VA								

PANEL SCHEDULES - ALTERNATE BID#1 (REVISED FOR NEW WORK)

PRESENT PANEL: "DH1" - REVISED FOR ALTERNATE BID #1															
LOCATION: MECH/ELECTRICAL				VOLTAGE: 480 /277 V				A.I.C. RATING: EXST.							
SUPPLY FROM: UTILITY				PHASE: 3 PH				MAINS TYPE: M.BKR							
MOUNTING: SURFACE				WIRE: 4 W				MAINS RATING: 800 A							
ENCLOSURE: NEMA 1								MCB RATING: 800 A							
CKT	DESCRIPTION	TRIP	POLES	DEMAND CODE	A		B		C		DEMAND CODE	POLES	TRIP	DESCRIPTION	CKT
1	(P) PANEL "EH1" (ALT. BID #1)	300	3	G	54,003	49,138					G	3	300	(P) TRANSFORMER 1	2
				G			52,936	47,971			G				
				G					55,269	50,021	G				
3	NEW RTU-1A (CKT 1 COOL) ALT. #1 BID	NEW 45	3	H	8,857	15,777					H	3	90	NEW RTU-2 (CKT 1 COOL) BASE BID	4
				H			8,857	15,777			H				
				H					8,857	15,777	H				
5	NEW RTU-1B (CKT 1 COOL) ALT. #1 BID	NEW 35	3	H	7,473	7,473					H	3	NEW 35	NEW RTU-1C (CKT 1 COOL) ALT. #1 BID	6
				H			7,473	7,473			H				
				H					7,473	7,473	H				
7	SPACE													SPACE	8
9	SPACE													SPACE	10
11	SPACE													SPACE	12
13	SPACE													SPACE	14
15	SPACE													SPACE	16
					142,721	VA	140,487	VA	144,870	VA					
LOAD CLASSIFICATION		DEMAND CODE	CONNECTED LOAD		DEMAND FACTOR		DEMAND		PANEL TOTALS TOTAL CONN. LOAD: 428,078 VA TOTAL DEMAND LOAD: 404,330 VA TOTAL CONN. CURRENT: 515 A TOTAL DEMAND CURRENT: 486 A						
HVAC/MECH		H	118,740	VA	80.0%		94,992	VA							
RECEPTACLES		R	0	VA	-		0	VA							
LIGHTING		L	0	VA	125.0%		0	VA							
GENERAL		G	309,338	VA	100.0%		309,338	VA							
KITCHEN		K	0	VA	100.0%		0	VA							
LARGEST MOTOR		1 HP	0	VA	125.0%		0	VA							

PRESENT PANEL: "EH1" - REVISED FOR BASE BID															
LOCATION: MECH/ELECTRICAL				VOLTAGE: 480 /277 V				A.I.C. RATING: EXST.							
SUPPLY FROM: PANEL DH1				PHASE: 3 PH				MAINS TYPE: M. BKR.							
MOUNTING: SURFACE				WIRE: 4 W				MAINS RATING: 400 A							
ENCLOSURE: NEMA 1								MCB RATING: 400 A							
CKT	DESCRIPTION	TRIP	POLES	DEMAND CODE	A		B		C		DEMAND CODE	POLES	TRIP	DESCRIPTION	CKT
1	(P) TRANSFORMER T-2	90	3	G	15,503	5,259					H	3	NEW 35	NEW RTU-1 (CKT 2 HTG) BASE BID	2
				G			14,436	5,259			H				
				G					16,769	5,259	H				
3	NEW RTU-2 (CKT 2 HTG) BASE BID	125	3	H	26,019	830					H	3	20	NEW HWP-1	4
				H			26,019	830			H				
				H					26,019	830	H				
5	(P) PMCP-3	20	3	H	1,148	830					H	3	20	NEW HWP-2	6
				H			1,148	830			H				
				H					1,148	830	H				
7	(P) PMCP-4	20	3	H	1,148	1,330					H	3	20	(P) AIR COMPRESSOR	8
				H			1,148	1,330			H				
				H					1,148	1,330	H				
9	SPACE													SPACE	10
11	SPACE													SPACE	12
13	SPACE													SPACE	14
15	SPACE													SPACE	16
					52,067 VA		51,000 VA		53,333 VA						
LOAD CLASSIFICATION		DEMAND CODE		CONNECTED LOAD		DEMAND FACTOR		DEMAND		PANEL TOTALS TOTAL CONN. LOAD: 156,400 VA TOTAL DEMAND LOAD: 134,462 VA TOTAL CONN. CURRENT: 189 A TOTAL DEMAND CURRENT: 162 A					
HVAC/MECH		H		109,692 VA		80.0%		87,754 VA							
RECEPTACLES		R		0 VA		-		0 VA							
LIGHTING		L		0 VA		125.0%		0 VA							
GENERAL		G		46,708 VA		100.0%		46,708 VA							
KITCHEN		K		0 VA		100.0%		0 VA							
LARGEST MOTOR		1 HP		0 VA		125.0%		0 VA							

PRESENT PANEL: "EH1" - REVISED FOR ALTERNATE BID #1															
LOCATION: MECH/ELECTRICAL				VOLTAGE: 480 /277 V				A.I.C. RATING: EXST.							
SUPPLY FROM: PANEL DH1				PHASE: 3 PH				MAINS TYPE: M. BKR.							
MOUNTING: SURFACE				WIRE: 4 W				MAINS RATING: 400 A							
ENCLOSURE: NEMA 1								MCB RATING: 400 A							
CKT	DESCRIPTION	TRIP	POLES	DEMAND CODE	A		B		C		DEMAND CODE	POLES	TRIP	DESCRIPTION	CKT
1	(P) TRANSFORMER T-2	90	3	G	15,503	3,875					H	3	NEW 25	NEW RTU-1A (CKT 2 HTG) ALT. BID #1	2
				G			14,436	3,875			H				
				G					16,769	3,875	H				
3	NEW RTU-2 (CKT 2 HTG)	125	3	H	26,019	830					H	3	20	NEW HWP-1	4
				H			26,019	830			H				
				H					26,019	830	H				
5	(P) PMCP-3	20	3	H	1,148	830					H	3	20	NEW HWP-2	6
				H			1,148	830			H				
				H					1,148	830	H				
7	(P) PMCP-4	20	3	H	1,148	1,330					H	3	20	(P) AIR COMPRESSOR	8
				H			1,148	1,330			H				
				H					1,148	1,330	H				
9	NEW RTU-1C (CKT 2 HTG) ALT. BID #1	NEW 15	3	H	1,660	1,660					H	3	NEW 15	NEW RTU-1B (CKT 2 HTG) ALT. BID #1	10
				H			1,660	1,660			H				
				H					1,660	1,660	H				
11	SPACE													SPACE	12
13	SPACE													SPACE	14
15	SPACE													SPACE	16
					54,003	VA	52,936	VA	55,269	VA					
LOAD CLASSIFICATION		DEMAND CODE	CONNECTED LOAD		DEMAND FACTOR		DEMAND		PANEL TOTALS						
HVAC/MECH		H	115,500 VA		80.0%		92,400 VA		TOTAL CONN. LOAD: 162,208 VA						
RECEPTACLES		R	0 VA		-		0 VA		TOTAL DEMAND LOAD: 139,108 VA						
LIGHTING		L	0 VA		125.0%		0 VA								
GENERAL		G	46,708 VA		100.0%		46,708 VA		TOTAL CONN. CURRENT: 196 A						
KITCHEN		K	0 VA		100.0%		0 VA		TOTAL DEMAND CURRENT: 167 A						
LARGEST MOTOR		1 HP	0 VA		125.0%		0 VA								

