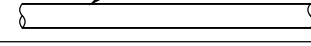
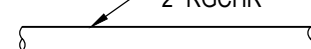
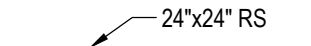
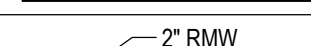
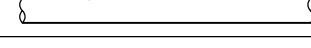

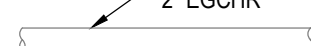
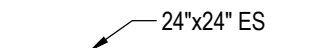
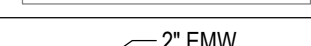
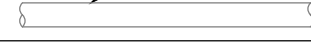
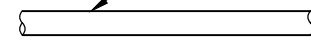
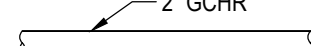
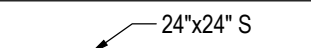
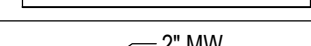
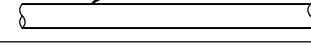
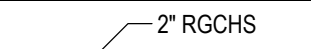
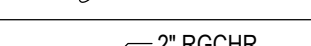
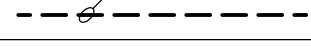
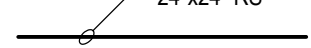
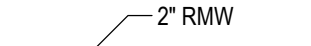
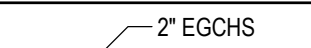
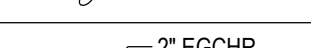
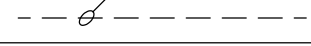
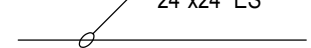
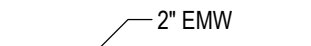



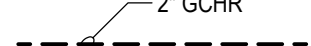
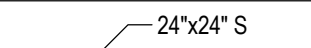
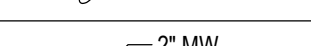
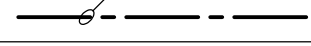
MECHANICAL REMOVAL LINE TYPES (TWO-LINE)	
LINE TYPES & ABBREVIATIONS	DESCRIPTION
 2" RGCHS	REMOVE GLYCOL CHILLED WATER SUPPLY (SIZE AS INDICATED)
 2" RGCHR	REMOVE GLYCOL CHILLED WATER RETURN (SIZE AS INDICATED)
 24"x24" RS	REMOVE SUPPLY DUCTWORK (SIZE AS INDICATED)
 2" RMW	REMOVE MAKEUP WATER PIPING (SIZE AS INDICATED)
 2" RD	REMOVE DRAIN PIPING (SIZE AS INDICATED)



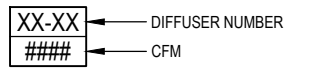
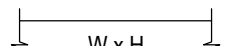

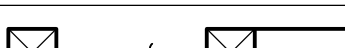
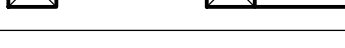
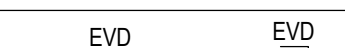
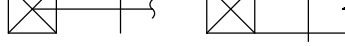















MECHANICAL EXISTING LINE TYPES (TWO-LINE)	
LINE TYPES & ABBREVIATIONS	DESCRIPTION
 2" EGCHS	EXISTING GLYCOL CHILLED WATER SUPPLY (SIZE AS INDICATED)
 2" EGCHR	EXISTING GLYCOL CHILLED WATER RETURN (SIZE AS INDICATED)
 24"x24" ES	EXISTING SUPPLY DUCTWORK (SIZE AS INDICATED)
 2" EMW	EXISTING MAKEUP WATER PIPING (SIZE AS INDICATED)
 2" ED	EXISTING DRAIN PIPING (SIZE AS INDICATED)



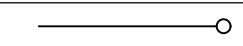
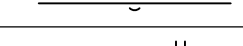
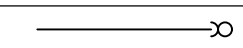
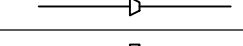
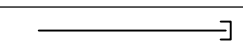
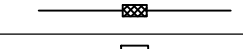
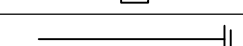
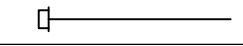

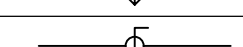
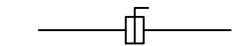
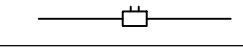
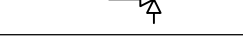

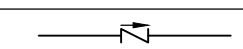
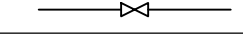
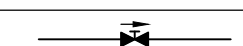
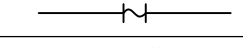
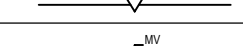
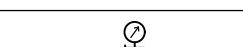
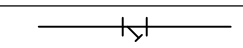
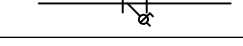
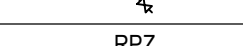
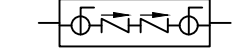

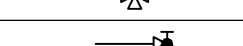
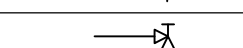
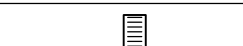
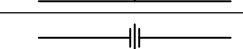
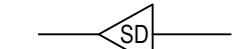






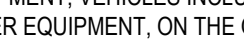
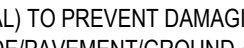
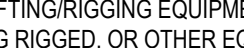
MECHANICAL LINE TYPES (TWO-LINE)	
LINE TYPES & ABBREVIATIONS	DESCRIPTION
 2" GCHS	GLYCOL CHILLED WATER SUPPLY (SIZE AS INDICATED)
 2" GCHR	GLYCOL CHILLED WATER RETURN (SIZE AS INDICATED)
 24"x24" S	SUPPLY DUCTWORK (SIZE AS INDICATED)
 2" MW	MAKEUP WATER PIPING (SIZE AS INDICATED)
 2" D	DRAIN PIPING (SIZE AS INDICATED)

MECHANICAL REMOVAL LINE TYPES	
LINE TYPES & ABBREVIATIONS	DESCRIPTION
 2" RGCHS	REMOVE GLYCOL CHILLED WATER SUPPLY PIPING (SIZE AS INDICATED)
 2" RGCHR	REMOVE GLYCOL CHILLED WATER RETURN PIPING (SIZE AS INDICATED)
 24"x24" RS	REMOVE SUPPLY DUCTWORK (SIZE AS INDICATED)
 2" RMW	REMOVE MAKEUP WATER PIPING (SIZE AS INDICATED)
 2" RD	REMOVE DRAIN PIPING (SIZE AS INDICATED)

MECHANICAL EXISTING LINE TYPES	
LINE TYPES & ABBREVIATIONS	DESCRIPTION
 2" EGCHS	EXISTING GLYCOL CHILLED WATER SUPPLY PIPING (SIZE AS INDICATED)
 2" EGCHR	EXISTING GLYCOL CHILLED WATER RETURN PIPING (SIZE AS INDICATED)
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MECHANICAL LINE TYPES	
LINE TYPES & ABBREVIATIONS	DESCRIPTION
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 2" D	DRAIN PIPING (SIZE AS INDICATED)

MECHANICAL SYMBOLS LEGEND	
SYMBOL	DESCRIPTION
GENERAL	
	CONNECT NEW WORK TO EXISTING
	POINT OF DISCONNECT
DUCTWORK	
	EXISTING REGISTER, GRILLE, DIFFUSER (RGD). RGD TAGS WITH A "X" SUFFIX REPRESENTS EXISTING RGD'S ("EG-X")
	EXISTING DUCTWORK
	DEMO/PROPOSED DUCTWORK
	SUPPLY DUCT UP
	SUPPLY DUCT DOWN
	EXISTING VOLUME DAMPER
	VOLUME DAMPER
	DROP
	RISE
	DIRECTION OF AIRFLOW
	DEMO/PROPOSED SUPPLY DIFFUSER
	EXISTING SUPPLY DIFFUSER
	THERMOSTAT/TEMPERATURE SENSOR
CONTROLS	
	CONTROL CONNECT
	CONTROL THERMOSTAT
	FREEZE STAT
	PRESSURE SENSOR / SWITCH
	COMBINATION STARTER
	FLOW SWITCH
	START/STOP
	VARIABLE FREQUENCY DRIVE
	DIFFERENTIAL PRESSURE SENSOR

MECHANICAL SYMBOLS LEGEND	
VALVES AND PIPING ACCESSORIES	
	DIRECTION OF FLUID FLOW
	LINE BREAK
	PIPE DOWN
	PIPE UP
	PIPE TAKE-OFF FROM BOTTOM
	BLIND FLANGE
	P-TRAP
	PIPE CONCENTRIC REDUCER
	PIPE ECCENTRIC REDUCER
	PIPE CAP
	FLEXIBLE CONNECTOR
	FLOOR DRAIN
	WALL CLEANOUT
	PIPE PLUG
	PUMP
	BALANCING VALVE
	BALL VALVE
	BUTTERFLY VALVE
	CIRCUIT SETTER
	PRESSURE RELIEF VALVE
	GAS COCK
	PLUG VALVE
	CHECK VALVE
	GATE VALVE
	GLOBE VALVE
	TRIPLE DUTY VALVE
	ISOLATION JOINT
	AUTOMATIC AIR VENT
	MANUAL AIR VENT
	PRESSURE GAUGE & VALVE
	STRAINER
	STRAINER BALL
	STRAINER GATE
	RPZ BALL VALVE
	2-WAY CONTROL VALVE
	3-WAY CONTROL VALVE
	ANGLE GLOBE
	ANGLE VALVE
	THERMOMETER
	PIPE UNION
	SUCTION DIFFUSER

MECHANICAL ABBREVIATIONS	
#	NUMBER
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
ATC	AUTOMATIC TEMPERATURE CONTROL
BTU	BRITISH THERMAL UNIT
CAP	CAPACITY
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
DDC	DIRECT DIGITAL CONTROL
DIA	DIAMETER
DN	DOWN
DPS	DIFFERENTIAL PRESSURE SENSOR
DWG	DRAWING
E	EXISTING
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULB TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
ELEV	ELEVATION
ESP	EXTERNAL STATIC PRESSURE
EWB	ENTERING WET BULB TEMPERATURE
EWT	ENTERING WATER TEMPERATURE
EXIST.	EXISTING
FD	FIRE DAMPER
FL	FLOOR
FS	FLOW SWITCH
FT	FEET OR FOOT
GA	GAUGE OR GAGE
GAL	GALLON
GPM	GALLONS PER MINUTE
GRS	GALVANIZED RIGID STEEL
HD	HEAD
HOG	HOT DIPPED GALVANIZED
HP	HORSEPOWER
IPLV	INTEGRATED PART LOAD VALUES
LAT	LEAVING AIR TEMPERATURE
LDB	LEAVING DRY BULB TEMPERATURE
LF	LINEAR FEET OR FOOT
LWB	LEAVING WET BULB TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MCA	MINIMUM CIRCUIT AMPS
MFR	MANUFACTURER
MIN	MINIMUM
MOP / MOCP	MAXIMUM OVER CIRCUIT PROTECTION
MW	MAKE-UP WATER
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NPLV	NON-STANDARD PART LOAD VALUES
OA	OUTSIDE AIR
OC	ON CENTER
PD	PRESSURE DROP
P/T	PRESSURE / TEMPERATURE
RA	RETURN AIR
RH	RELATIVE HUMIDITY
SA	SUPPLY AIR
SF	SQUARE FEET OR SQUARE FOOT
SP	STATIC PRESSURE
T&B	TOP AND BOTTOM
TDV	TRIPLE DUTY VALVE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE
VIF	VERIFY IN FIELD

EQUIPMENT LIFTING NOTES

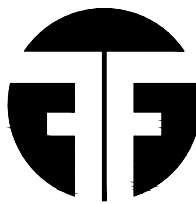
- PROVIDE HEAVY DUTY SPREADER PLATES BELOW THE ENTIRETY OF LIFTING/RIGGING EQUIPMENT, VEHICLES INCLUDING TRUCKS, THE EQUIPMENT BEING RIGGED, AND OTHER EQUIPMENT, ON THE GRADE/PAVEMENT/GROUND TO SPREAD OUT THE LOAD. HEAVY DUTY SPREADER PLATES SHALL BE MINIMUM 1/2" THICK STEEL PLATES (OR EQUAL) TO PREVENT DAMAGING UNDERGROUND UTILITIES. THE EXISTING GRADE/PAVEMENT/GROUND AND UNDERGROUND UTILITIES SHALL NOT BE DAMAGED BY LIFTING/RIGGING EQUIPMENT. VEHICLES INCLUDING TRUCKS, THE EQUIPMENT BEING RIGGED, OR OTHER EQUIPMENT, DAMAGE TO GRADE/PAVEMENT/GROUND AND OR UNDERGROUND UTILITIES SHALL BE RESTORED TO PRIOR CONDITION BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE STATE.

GENERAL NOTES

- FIELD VERIFY EXISTING CONDITIONS PRIOR TO INITIATING WORK FOR THIS PROJECT. CONTRACT DOCUMENTS HAVE BEEN DEVELOPED FROM EXISTING DRAWINGS AND FIELD INVESTIGATION. NOTIFY THE DIRECTOR'S REPRESENTATIVE OF INCONSISTENCIES IDENTIFIED BETWEEN THE CONTRACT DOCUMENTS AND FIELD CONDITIONS THAT IMPACT THE ABILITY TO PERFORM THE WORK INDICATED ON THE CONTRACT DOCUMENTS.
- PERFORM CUTTING AND PATCHING REQUIRED FOR THE WORK, UNLESS OTHERWISE NOTED. PATCHING SHALL MATCH SURROUNDING EXISTING SURFACES IN KIND. PROVIDE FIRE STOPPING FOR PENETRATIONS THROUGH INTERIOR WALLS.
- COORDINATE UTILITY SHUT DOWNS WITH DIRECTOR'S REPRESENTATIVE.
- PRIOR TO STARTING CONTRACT WORK, VERIFY EXISTING CONDITIONS AT JOB SITE THAT EFFECT CONTRACT WORK. THE CONTRACTOR IS FULLY RESPONSIBLE TO REPAIR AT OWN EXPENSE BUILDING SYSTEM COMPONENTS, DAMAGED DURING CONTRACT WORK AT NO COST TO STATE.
- PRIOR TO DRILLING THE CONCRETE FLOOR SLAB AND THE WALL, AS REQUIRED TO INSTALL CONTROLS WIRING/CONDUIT AND ANY OTHER UTILITIES PENETRATING FLOORS/WALLS, LOCATE AND MARK EXISTING IN-CONCRETE SLAB ELECTRICAL CONDUIT AND STEEL RE-BARS USING ELECTRONIC DEVICE SUCH AS SCANNER. THE CONTRACTOR IS FULLY RESPONSIBLE TO REPAIR AT OWN EXPENSE ELECTRICAL CIRCUIT (CONDUIT AND WIRES) DAMAGED DURING THE CONTRACT WORK AT NO COST TO STATE.

CONSULTANT:

CERTIFICATE OF AUTHORIZATION #: 017869



Friedman Fisher Associates, P.C.

WARNING:

THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL, I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS "A" MISDEMEANOR.



REGISTRATION EXPIRES:
10/31/24

CONTRACT:

HVAC

TITLE:
REPLACE BUILDING CHILLERS,
BUILDING 144

LOCATION:
COOK CHILL PRODUCTION CENTER
145 OLD ORANGEBURG ROAD
ORANGEBURG, NY

CLIENT:
OFFICE OF
MENTAL HEALTH

	12/6/2023	BID DOCUMENTS
MARK	DATE	DESCRIPTION
PROJECT NUMBER:	47430	- H
DESIGNED BY:	CHS	
DRAWN BY:	CHS	
FIELD CHECK:		
APPROVED:		
SHEET TITLE:		
SYMBOLS LEGEND & ABBREVIATIONS		
DRAWING NUMBER:		
M-001		
SHEET	5	OF 18