DANE COUNTY
MECHANICAL, ELECTRICAL & PIPING INFRASTRUCTURE IMPROVEMENTS
BID PACK 3 - MECHANICAL SYSTEMS

City County Building
210 Martin Luther King Jr. Blvd.
Madison, Wisconsin

Dane County Public Works
Engineering Division
1919 Alliant Energy Center Way,
Madison, WI 53713

Dane County Bid No. 313056

CONSTRUCTION DOCUMENTS

MARCH 13, 2014

DRAWING INDEX:

OWNER

DANE COUNTY PUBLIC WORKS
CITY COUNTY BUILDING
210 MARTIN LUTHER KING JR. BLVD.
MADISON, WISCONSIN

MECHANICAL ENGINEER

HENNEMAN ENGINEERING, INC
1232 FOURIER DR, SUITE 101
MADISON, WI 53717

PH: (608) 833-7000
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WISCONSIN
MATTHEW L. HEIL
E-36013
MADISON
PROFESSIONAL ENGINEER
5/13/14

ELECTRICAL ENGINEER

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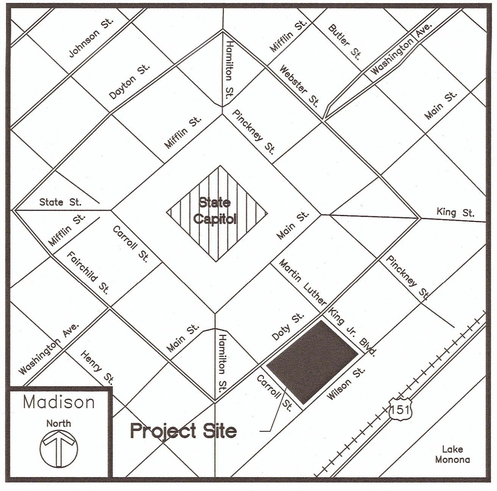

SITE LOCATION MAP

AREA LOCATION MAP

Henneman Engineering Inc.
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Email: info@henneman.com
Website: http://www.henneman.com JOB NO. 13-7805

PUBLIC WORKS BID NO. 313056

DANE COUNTY MECHANICAL, ELECTRICAL & PIPING INFASTRUCTURE IMPROVEMENTS - BID PACK 3 - MECHANICAL SYSTEMS
CITY COUNTY BUILDING
210 MARTIN LUTHER KING JR. BLVD.
MADISON, WISCONSIN

DRAWN BY	HEI
APPROVED BY	HEI
CHECKED BY	HEI
ISSUE DATE	MARCH 13, 2014

REVISIONS

NO.	DATE	DESCRIPTION

SHEET TITLE:
TITLE SHEET

T001
SHEET NO.

GENERAL DEMOLITION AND NEW WORK NOTES:

1. THIS CONTRACTOR SHALL VERIFY THE EXISTING CONDITIONS AT THE PROJECT SITE BEFORE SUBMITTING BIDDING. CONTRACTOR IS ADVISED THAT ALL LOCATIONS ARE APPROXIMATE.

2. THIS CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS TO FAMILIARIZE HIMSELF WITH EXTENT OF ALTERATION/REMODELING WORK AND MORE SPECIFICALLY NOTE WHERE NEW PARTITIONING IS BEING INSTALLED, WHERE EXISTING PARTITIONING IS BEING REMOVED, WHERE CEILINGS ARE BEING REMOVED AND OR REPLACED, ETC.

3. THESE DRAWINGS ARE NECESSARILY DIAGRAMMATIC IN NATURE. NOT ALL FITTINGS, OFFSETS, VENTS, OR DRAINS ARE SHOWN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING AND INCLUDE ALL FITTINGS, OFFSETS, VENTS, AND DRAINS AS REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONING SYSTEM.

4. THE ARCHITECT/ENGINEER RESERVES THE RIGHT TO CHANGE THE LOCATION OF ALL EQUIPMENT, DUCTWORK, PIPING AND CONDUIT FIVE FEET IN ANY DIRECTION WITHOUT THESE CHANGES BEING MADE THE SUBJECT OF AN EXTRA CHARGE PROVIDED SUCH CHANGES ARE MADE BEFORE FINAL INSTALLATION.

5. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING NECESSARY FOR THE WORK OF THIS CONTRACT UNLESS SPECIFICALLY INDICATED OTHERWISE WITHIN THE ARCHITECTURAL DRAWINGS OR SPECIFICATIONS.

6. IT IS MANDATORY THAT THE EXISTING BUILDING REMAIN IN CONTINUOUS & NON-INTERRUPTED OPERATION DURING REMODELING/ALTERING OF THE EXISTING BUILDING. SERVICES TO EXISTING BUILDING SHALL BE KEPT ON CONTINUOUS OPERATION INCLUDING DOMESTIC WATER, SANITARY, STORM, STEAM, HEATING, HOT WATER, HVAC SUPPLY, RETURN & EXHAUST, ETC. ANY ABSOLUTELY NECESSARY INTERRUPTION OF THESE SERVICES TO ACCOMPLISH PROJECT CONSTRUCTION SHALL BE ARRANGED WITH THE OWNER, A MINIMUM OF TWO (2) WEEKS IN ADVANCE. TEMPORARY SERVICES SHALL BE FURNISHED AND INSTALLED WHERE NECESSARY TO ACCOMPLISH THIS PURPOSE. TEMPORARIES SHALL BE REMOVED ONLY AFTER NEW PERMANENT SERVICES ARE INSTALLED AND FULLY OPERATIONAL.

FIRE PROTECTION SPRINKLER HEAD SCHEDULE

STYLE	LINKAGE TYPE	FINISH	QUICK RESPONSE	MIN. TEMP. RATING (°F)	AREA(S) TO BE INSTALLED
UPRIGHT OR PENDENT	BULB	BRASS	YES	155	AREAS WITHOUT CEILINGS

PLUMBING/FIRE PROTECTION SYMBOLS LIST

SYMBOL	DESCRIPTION
●	RECESSED PENDENT QUICK RESPONSE SPRINKLER HEAD
○	EXISTING SPRINKLER HEAD
⊗	EXISTING SPRINKLER HEAD - TO BE REMOVED
◉	CONCEALED QUICK RESPONSE SPRINKLER HEAD
✕	UPRIGHT QUICK RESPONSE SPRINKLER HEAD
▼	SIDEWALL MOUNTED QUICK RESPONSE SPRINKLER HEAD
⊘	DRY PENDENT QUICK RESPONSE SPRINKLER HEAD
—— D ——	FIRE PROTECTION DRAIN PIPING
—— F ——	FIRE PROTECTION MAIN SUPPLY PIPING
—— FDC ——	FIRE DEPARTMENT CONNECTION SUPPLY PIPING
—— SPR ——	FIRE PROTECTION SPRINKLER SUPPLY PIPING
—— STP ——	FIRE PROTECTION STANDPIPE SUPPLY PIPING
—— DSPR ——	FIRE PROTECTION DRY SPRINKLER SUPPLY PIPING
————	SANITARY LINE ABOVE FLOOR
—— SAN ——	SANITARY LINE BELOW FLOOR
—— ST ——	STORM WATER PIPING
—— OF ——	OVERFLOW STORM WATER PIPING
– – – – –	VENT PIPING
– – CWV – –	CLEARWATER VENT PIPING
—— CWW ——	CLEARWATER WASTE PIPING
——– ——–	COLD WATER SUPPLY PIPING
——– – ——–	HOT WATER SUPPLY PIPING
——– – – ——–	HOT WATER RECIRCULATION / RETURN PIPING
	FIRE DEPARTMENT CONNECTION
	FIRE PUMP TEST CONNECTION
	2-1/2" FIRE DEPARTMENT VALVE
	FIRE VALVE CABINET
FS	FLOW SWITCH
	BALANCING VALVE
	PRESSURE REDUCING VALVE
	BALL VALVE
	CHECK VALVE
	GATE VALVE
	INDICATING BUTTERFLY VALVE
	OUTSIDE SCREW & YOKE (OS&Y) GATE VALVE
	DOUBLE CHECK VALVE ASSEMBLY
	CAPPED PIPING
	FLOW
	ELBOW TURNED UP
	ELBOW TURNED DOWN
	TEE - TOP OUTLET
	TEE - BOTTOM OUTLET
FCO	CLEANOUT - FLOOR OR YARD
CO	CLEANOUT - PLUG TYPE
	NEW CONNECTION TO EXISTING
LH	LIGHT HAZARD OCCUPANCY
OH-1	ORDINARY HAZARD (GROUP-1) OCCUPANCY
	SCREWED UNION
	THERMOMETER
	HOSE BIBB / WALL HYDRANT
2"FD-A	FLOOR DRAIN, DESIGNATION, NUMBER & SIZE
2"RD-A	ROOF DRAIN, DESIGNATION, NUMBER & SIZE
F-1	FIXTURE DESIGNATION & NUMBER
	WATER HAMMER ARRESTOR / SHOCK STOP
	TEMPERATURE & PRESSURE RELIEF VALVE
	REDUCED PRESSURE BACKFLOW PREVENTER
M	WATER METER
	DOWNSPOUT NOZZLE
	CIRCULATION PUMP

NOTE:
THIS IS A COMPOSITE LIST OF SYMBOLS, NOT ALL PERTAIN SPECIFICALLY TO THIS JOB.

SHEET INDEX

PLUMBING/FIRE PROTECTION ABBREVIATIONS LIST

ABBR	DESCRIPTION
AF	ABOVE FLOOR
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
ASC	ABOVE SUSPENDED CEILING
ASR	AUTOMATIC SPRINKLER RISER
BOP	BOTTOM OF PIPE
BT	BRINE TANK
BV	BALL VALVE
CI	CAST IRON
CO	CLEANOUT
CP	CIRCULATING PUMP
CSW	COLD SOFT WATER
CW	COLD WATER
DCVA	DOUBLE CHECK VALVE ASSEMBLY
DFU	DRAINAGE FIXTURE UNITS
DIA	DIAMETER
DN	DOWN
DSN	DOWNSPOUT NOZZLE
DSP	DRY STANDPIPE
DSPR	DRY SPRINKLER PIPE
DTR	DRAIN TILE RECEIVER
EC	ELECTRICAL CONTRACTOR
EWC	ELECTRIC WATER COOLER
EXH	EXHAUST
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FDV	FIRE DEPARTMENT VALVE
FFA	FROM FLOOR ABOVE
FFB	FROM FLOOR BELOW
FFE	FINISHED FLOOR ELEVATION
FHC	FIRE HOSE CABINET
FPC	FIRE PROTECTION CONTRACTOR
FS	FLOW SWITCH
FT	FOOT
FVC	FIRE VALVE CABINET
FWCO	FINISHED WALL CLEANOUT
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
GWH	GAS-FIRED WATER HEATER
HB	HOSE BIBB
HC	HEATING CONTRACTOR
HW	HOT WATER
HWR	HOT WATER RECIRCULATION / RETURN
IE	INVERT ELEVATION
L	LAVATORY (LAV)
MB	MOP BASIN
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NPCW	NON-POTABLE COLD WATER
OF	OVERFLOW - STORM
PC	PLUMBING CONTRACTOR
PD	PUMP DISCHARGE
PT	PLASTER TRAP
RD	ROOF DRAIN
RIO	ROUGH-IN ONLY
RM	ROOM
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RV	RELIEF VENT
S	SINK
SAN	SANITARY
SE	SEWAGE EJECTOR
SH	SHOWER
SP	STANDPIPE
SPR	SPRINKLER
SSD	SUB-SOIL DRAIN
ST	STORM
TFA	TO FLOOR ABOVE
TFB	TO FLOOR BELOW
TS	TAMPER SWITCH
U	URINAL
UF	UNDER FLOOR
V	VENT
VS	VENT STACK
VTR	VENT THRU ROOF
W	WASTE
WC	WATER CLOSET
WCO	WALL CLEANOUT
WH	WALL HYDRANT
WHA	WATER HAMMER ARRESTOR
WM	WATER METER
WS	WATER SOFTENER
WSFU	WATER SUPPLY FIXTURE UNITS
WV	WET VENT

NOTE:
THIS IS A COMPOSITE LIST OF ABBREVIATIONS, NOT ALL PERTAIN SPECIFICALLY TO THIS JOB.

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SHEET TITLE:
PLUMBING - FIRE PROTECTION SYMBOLS, ABBREVIATIONS AND NOTES

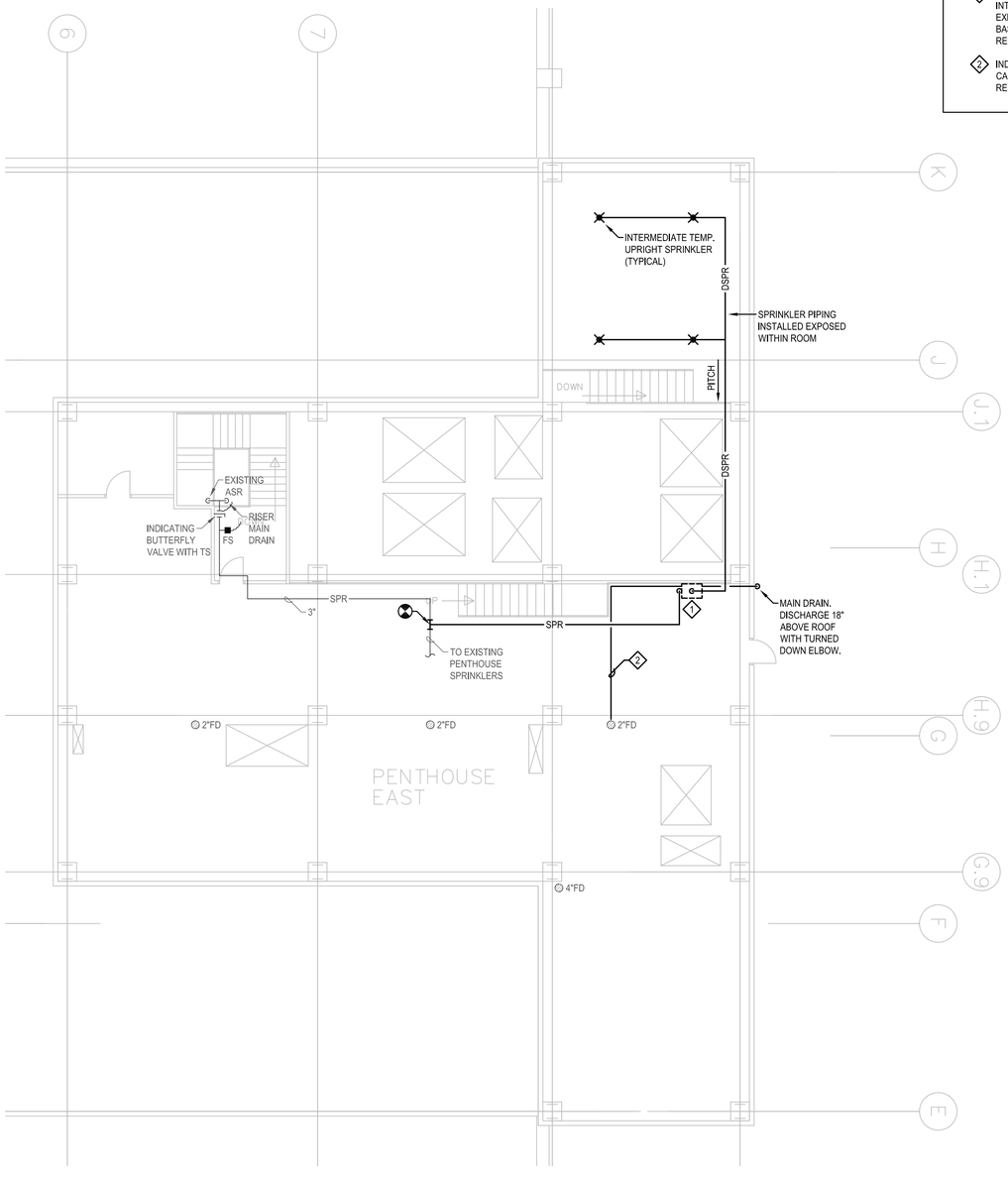
P000
SHEET NO.

GENERAL NOTES (SHEET P202):

1. ROOM WITH NEW SPRINKLER HEADS CONTAINS DELICATE, SYSTEM CRITICAL EQUIPMENT REQUIRING DUST, WATER AND DIRT FREE CONDITIONS. PLAN AND WORK ACCORDINGLY. PROTECT ALL EXISTING EQUIPMENT DURING CONSTRUCTION.

KEYED NEW WORK NOTES (SHEET P202):

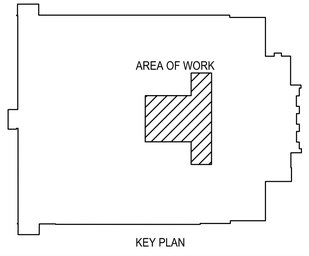
1. DOUBLE INTERLOCK PRE-ACTION EQUIPMENT. ALARMS FROM DOUBLE INTERLOCK PRE-ACTION EQUIPMENT SHALL BE INSTALLED TO TIE INTO EXISTING PANELS IN FACILITY MAINTENANCE ROOM LOCATED IN BASEMENT (CONTACT OWNER FOR EXACT LOCATION OF PANELS). REFER TO DETAIL 1/P500.
2. INDIRECT WASTE FROM DRIP FUNNEL. RUN ON FLOOR. PROVIDE STEEL CABLING RAMPS AROUND PIPING FROM WALL TO EXISTING FLOOR DRAIN. REFER TO SPECIFICATIONS FOR PRODUCT DATA.



1 PENTHOUSE NEW WORK PLAN - PLUMBING - FIRE PROTECTION

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

12" 0 1' 5' 10' 20'



KEY PLAN

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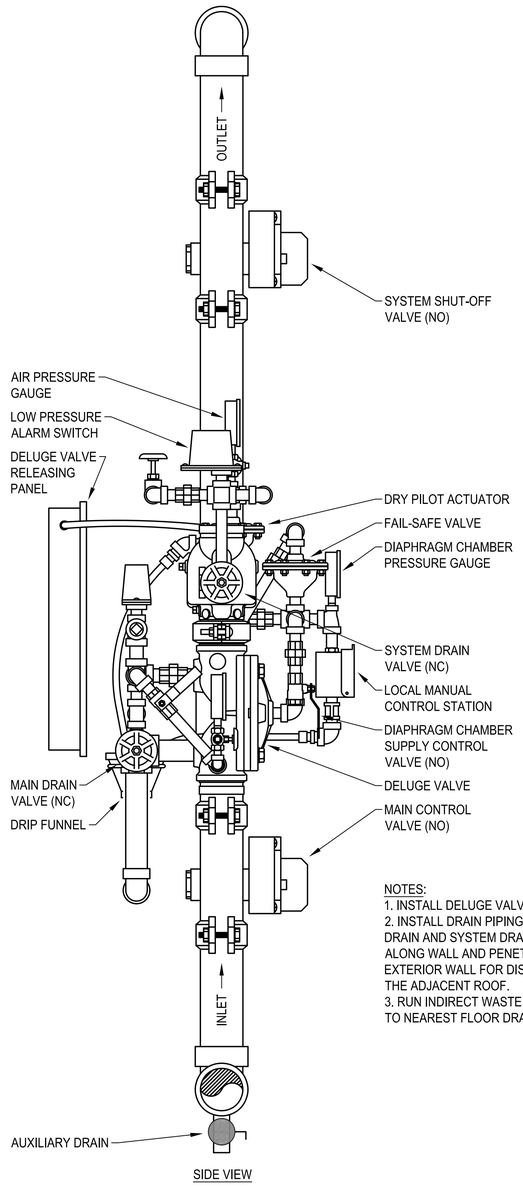
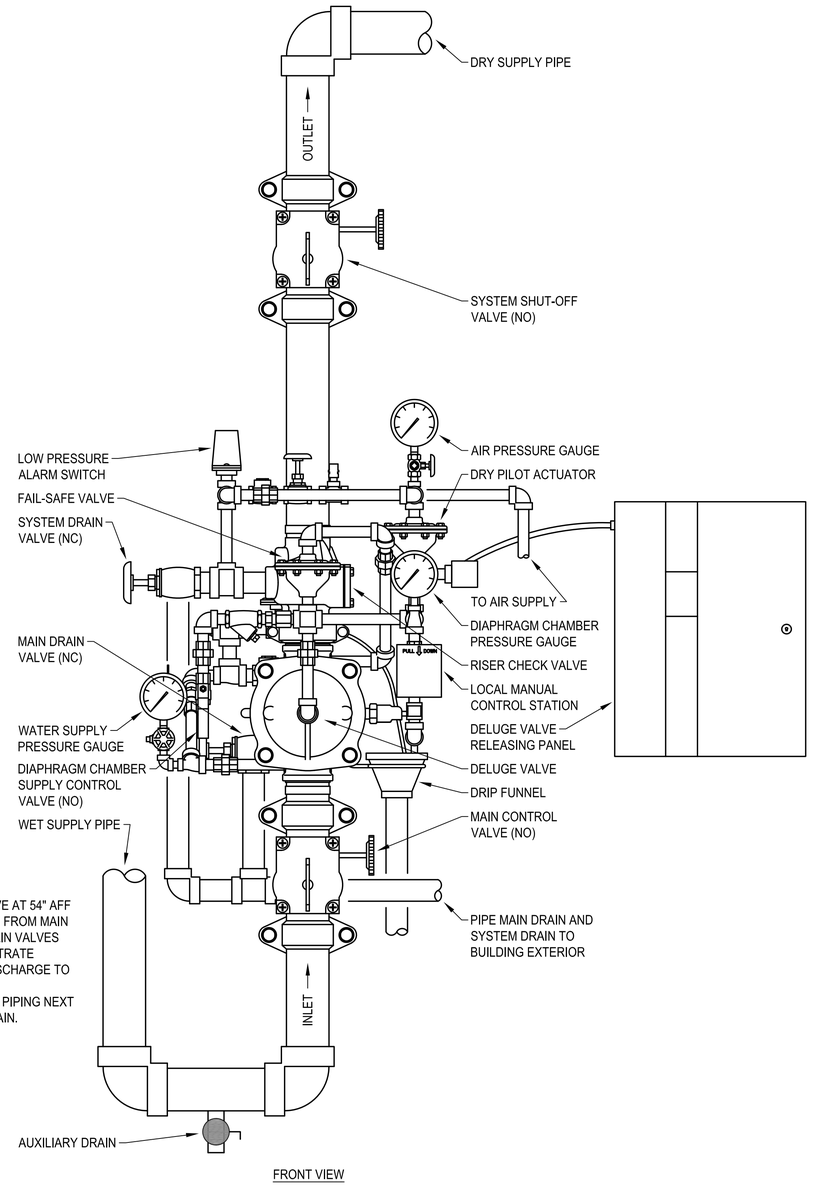
SHEET TITLE:
PENTHOUSE NEW WORK PLAN PLUMBING - FIRE PROTECTION

P202

SHEET NO.



SIDE VIEW



FRONT VIEW

NOTES:
1. INSTALL DELUGE VALVE AT 54" AFF
2. INSTALL DRAIN PIPING FROM MAIN DRAIN AND SYSTEM DRAIN VALVES ALONG WALL AND PENETRATE EXTERIOR WALL FOR DISCHARGE TO THE ADJACENT ROOF.
3. RUN INDIRECT WASTE PIPING NEXT TO NEAREST FLOOR DRAIN.

1 DOUBLE INTERLOCK PRE-ACTION SPRINKLER SYSTEM RISER DETAIL

NO SCALE

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SHEET TITLE:
PLUMBING - FIRE PROTECTION DETAILS

P500
SHEET NO.

L:_PROJECTS\7905\01 - DRAWINGS\0 - WORKING DRAWINGS\P500.dwg
3/13/2014 11:07 AM
HAZELTINE, JEANNE

GENERAL DEMOLITION & NEW WORK NOTES:

1. THIS CONTRACTOR SHALL VERIFY THE EXISTING CONDITIONS AT THE PROJECT SITE BEFORE SUBMITTING COST PROPOSAL. CONTRACTOR IS ADVISED THAT ALL LOCATIONS ARE APPROXIMATE.

2. AN ATTEMPT HAS BEEN MADE TO SHOW THE APPROXIMATE LOCATION OF ALL STRUCTURE, EQUIPMENT, PIPING, FIXTURES, DUCTWORK, AND OUTLETS. THIS CONTRACTOR SHALL VISIT THE SITE TO VERIFY COMPONENTS, LOCATIONS AND SIZES SHOWN OR NOT SHOWN. ALL COMPONENTS NEED TO BE REMOVED IN THE DEMOLITION AREA UNLESS NOTED ON THE DRAWINGS.

3. IT IS MANDATORY THAT THE EXISTING BUILDING REMAIN IN CONTINUOUS & NON-INTERRUPTED OPERATION DURING REMODELING/ALTERING OF THE EXISTING BUILDING. SERVICES TO EXISTING BUILDING SHALL BE KEPT ON CONTINUOUS OPERATION INCLUDING DOMESTIC WATER, SANITARY, STORM, STEAM, HEATING, HOT WATER, HVAC SUPPLY, RETURN & EXHAUST, ETC. ANY ABSOLUTELY NECESSARY INTERRUPTION OF THESE SERVICES TO ACCOMPLISH PROJECT CONSTRUCTION SHALL BE ARRANGED WITH THE OWNER. A MINIMUM OF TWO (2) WEEKS IN ADVANCE. TEMPORARY SERVICES SHALL BE FURNISHED AND INSTALLED WHERE NECESSARY TO ACCOMPLISH THIS PURPOSE. TEMPORARIES SHALL BE REMOVED ONLY AFTER NEW PERMANENT SERVICES ARE INSTALLED AND FULLY OPERATIONAL.

4. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR HIS OWN DEMOLITION, REMOVAL, CAPPING, STORING, ABANDONING, DISCONNECTING, RELOCATING AND RECONNECTION OF EXISTING EQUIPMENT AND MATERIAL. ALL CUTTING, PATCHING, REPAIRING, REPLACEMENT AND REFINISHING SHALL MATCH THE EXISTING CONSTRUCTION AS NEARLY AS POSSIBLE.

5. EXCEPT WHERE OTHERWISE SHOWN OR NOTED ON DRAWING - "TO BE RETAINED, RELOCATED" OR HEREINAFTER NOTED, ALL EXISTING EQUIPMENT AND MATERIAL IN AREAS TO BE REMODELED/ALTERED SHALL BE REMOVED WHERE THEY INTERFERE WITH PROPOSED NEW CONSTRUCTION &/OR INTERFERE W/PROPOSED USAGE OF SPACE BY OWNER AS FOLLOWS:

   (A) REMOVE ANY PIPES PROTRUDING ABOVE FINISHED FLOOR OR THROUGH WALL AND CAP AND FINISH OVER WITH MATERIAL TO MATCH EXISTING.

   (B) REMOVE ALL FIXTURES, CARRIERS, SUPPLY & WASTE & VENT PIPING, STEAM, HEATING HOT WATER, HVAC SUPPLY, RETURN & EXHAUST AS NOTED. CAP AT NEAREST ACTIVE MAIN. SUPPLY & RETURN MAINS TO BE VALVED & CAPPED.

   (C) IN REMODELED/ALTERED AREAS ANY PIPING OR DUCTWORK PASSING THROUGH THE REMODELED AREAS TO SERVE (OR BEING SERVED FROM EXISTING ADJACENT, REMOTE, OR SURROUNDING AREA THAT ARE TO REMAIN) SHALL BE RETAINED AND KEPT OPERATIONAL AND SHALL BE REROUTED IN ALL CASES WHERE THEY INTERFERE WITH ANY NEW WORK OR USAGE TO BE ACCOMPLISHED IN THE REMODELED AREA.

   (D) PENETRATIONS THROUGH EXISTING WALLS AND FLOORS FORMERLY OCCUPIED BY REMOVED PIPING SHALL BE PATCHED TO MATCH EXISTING CONSTRUCTION.

6. PHASE DEMOLITION OF EXISTING COMPUTER ROOM UNITS AND INSTALLATION OF NEW COMPUTER ROOM UNITS AS FOLLOWS:

   (A) PROVIDE TEMPORARY COOLING FOR COMPUTER EQUIPMENT 120 AND TELEPHONE EQUIPMENT ROOM 121. REFER TO SCHEDULE. PROVIDE AIR MOVEMENT FANS AS REQUIRED TO MAINTAIN TEMPERATURE IN BOTH ROOMS.

   (B) REMOVE CRU-3 FROM STORAGE 119. MECHANICAL CONTRACTOR SHALL DISPOSE OF CRU-3.

   (C) INSTALL TWO (2) NEW COMPUTER ROOM UNITS IN STORAGE 119 AND DUCTWORK TO ADJACENT SPACES. MAINTAIN AS OPERATIONAL EXISTING SPOT COOLING EQUIPMENT AND CRU-1 AND CRU-2 SERVING COMPUTER EQUIPMENT 120 AND RADIO EQUIPMENT 117. COORDINATE DOWNTIME WITH OWNER FOR PIPING CONNECTIONS.

   (D) AFTER CRU-3A IS OPERATIONAL AND PROVIDING COOLING TO RADIO EQUIPMENT 117, REMOVE CRU-2 AND INSTALL NEW COMPUTER ROOM UNIT IN RADIO EQUIPMENT 117. MECHANICAL CONTRACTOR SHALL DISPOSE OF CRU-2.

   (E) AFTER NEW UNITS ARE OPERATIONAL, REMOVE OLD COMPUTER ROOM UNITS AND TEMPORARY COOLING FROM COMPUTER EQUIPMENT 120 AND TELEPHONE EQUIPMENT 121. MECHANICAL CONTRACTOR SHALL DISPOSE OF CRU-1. TURN OVER EXISTING TEMPORARY COOLING UNIT TO OWNER. REMOVE TEMPORARY COOLING UNIT PROVIDED UNDER THIS PROJECT.

7. MECHANICAL CONTRACTOR SHALL REMOVE AND REINSTALL CEILING TILES AND GRID AS NECESSARY FOR DEMOLITION AND INSTALLATION OF DUCTWORK AND PIPING.

8. THESE DRAWINGS ARE NECESSARILY DIAGRAMMATIC IN NATURE. NOT ALL FITTINGS, OFFSETS, VENTS, OR DRAINS ARE SHOWN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING AND INCLUDE ALL FITTINGS, OFFSETS, VENTS, AND DRAINS AS REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONING SYSTEM.

9. THE ENGINEER RESERVES THE RIGHT TO CHANGE THE LOCATION OF ALL EQUIPMENT, DUCTWORK, PIPING AND CONDUIT FIVE FEET IN ANY DIRECTION WITHOUT THESE CHANGES BEING MADE THE SUBJECT OF AN EXTRA CHARGE PROVIDED SUCH CHANGES ARE MADE BEFORE FINAL INSTALLATION.

10. COORDINATE CONSTRUCTION SCHEDULE WITH OWNER. WORK MAY HAVE TO BE DONE AT NIGHT.

11. PROVIDE MANUAL AIR VENTS ON ALL RISERS & CHANGES IN PIPE ELEVATIONS.

12. PROVIDE ALL LABOR, FITTINGS, INSTALLATION AND PIPING NECESSARY TO INSTALL PIPING. COORDINATE WITH OTHER TRADES.

13. ALL DUCT WORK PENETRATIONS THRU FIRE OR SMOKE RATED WALLS MUST MAINTAIN THE RATING OF THE WALL. FIRE DAMPERS ARE REQ'D WHERE DUCTS PENETRATE WALLS HAVING A FIRE RESISTANCE RATING OF 1 HOUR OR 2 HOURS. FIRE DAMPERS USED FOR PROTECTION OF WALLS OR FLOORS W/ FIRE RESISTANCE RATINGS OF LESS THAN 3 HOURS SHALL HAVE A U.L. 1 1/2 HOUR FIRE PROTECTION RATING.

14. ALL SUPPLY AIR DIFFUSERS, RETURN AND EXHAUST GRILLES SHALL HAVE VOLUME CONTROL DAMPERS IN THE DUCT RUNOUT.

15. REGARDLESS OF FLEX DUCT LENGTH SHOWN ON DRAWINGS, MAXIMUM LENGTH OF 60" AS SPECIFIED SHALL NOT BE EXCEEDED. FLEX DUCT INSTALLATION SHALL BE AT TERMINAL ENDS ONLY. THE DUCTWORK AT ANY FIRE AND/OR SMOKE DAMPER MUST BE HARD DUCTWORK, NOT FLEX DUCT.

16. OWNER SHALL FURNISH 3 NEW COMPUTER ROOM UNITS (REFER TO M600). MECHANICAL CONTRACTOR SHALL INSTALL THESE UNITS. REFER TO SPECIFICATION.

MECHANICAL SYMBOL LIST

SYMBOL	DESCRIPTION
	SUPPLY OR OUTDOOR AIR DUCT (TOWARDS VIEWER)
	SUPPLY OR OUTDOOR DUCT (AWAY FROM VIEWER)
	RETURN AIR DUCT (TOWARDS VIEWER)
	RETURN AIR DUCT (AWAY FROM VIEWER)
	EXHAUST OR RELIEF AIR DUCT (TOWARDS VIEWER)
	EXHAUST OR RELIEF AIR DUCT (AWAY FROM VIEWER)
## / ## SA	SUPPLY — FIRST NUMBER IS SIDE SHOWN, SECOND NUMBER IS SIDE NOT SHOWN, SAME NOTATION FOR OA AND EA
## / ## RA	RETURN
	TURNING VANES
	MANUAL VOLUME DAMPER
BD	BACKDRAFT DAMPER
FD	FIRE DAMPER
SD	SMOKE DAMPER
FSD	FIRE / SMOKE DAMPER
	FLEXIBLE DUCT CONNECTION
	FLEXIBLE DUCT
	ACCESS PANEL
	ACCESS DOOR
R	INCLINED RISE (IN DIRECTION OF AIR FLOW)
D	INCLINED DROP (IN DIRECTION OF AIR FLOW)
SA	SUPPLY AIR
RA	RETURN AIR
OA	OUTDOOR AIR
EA	EXHAUST AIR
FE	FUME EXHAUST
T	ROOM TEMPERATURE SENSOR
P	ROOM PRESSURE SENSOR
H	HUMIDISTAT
T	THERMOSTAT
P	DUCT STATIC PRESSURE SENSOR
	EXISTING TO BE REMOVED
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
CH	CHILLED WATER SUPPLY
CHR	CHILLED WATER RETURN
MU	MAKE UP WATER
D	DRAIN LINE
	BUTTERFLY VALVE
	BALL VALVE
	GATE VALVE
	CHECK VALVE
	GLOBE VALVE
	AUTOMATIC TWO-WAY CONTROL VALVE (ELECTRIC)
	AUTOMATIC THREE-WAY CONTROL VALVE (ELECTRIC)
	AUTOMATIC TWO-WAY CONTROL VALVE (PNEUMATIC)
	AUTOMATIC THREE-WAY CONTROL VALVE (PNEUMATIC)
	BALANCING VALVE
	PIPE ANCHOR
	THERMOMETER
	PIPE GUIDE
	PRESSURE GAUGE
	MANUAL AIR VENT
	SAFETY/RELIEF VALVE
	ELBOW TURNED UP
	ELBOW TURNED DOWN
	TEE - TOP OUTLET
	TEE - BOTTOM OUTLET
	SCREWED UNION
	FLANGED UNION
	PRESSURE REDUCING VALVE
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	WYE STRAINER
	GAUGE COCK (REFER TO SPECIFICATIONS)
	CAP OR PLUG FOR < 2", BLIND FLANGE FOR > 2"
	VACUUM BREAKER
	FLOW MEASURING DEVICE
#	DUCT PRESSURE GLASS (N - INDICATES NEGATIVE PRESSURE)
S	SMOKE DETECTOR

NOTE: NOT ALL SYMBOLS ARE USED.

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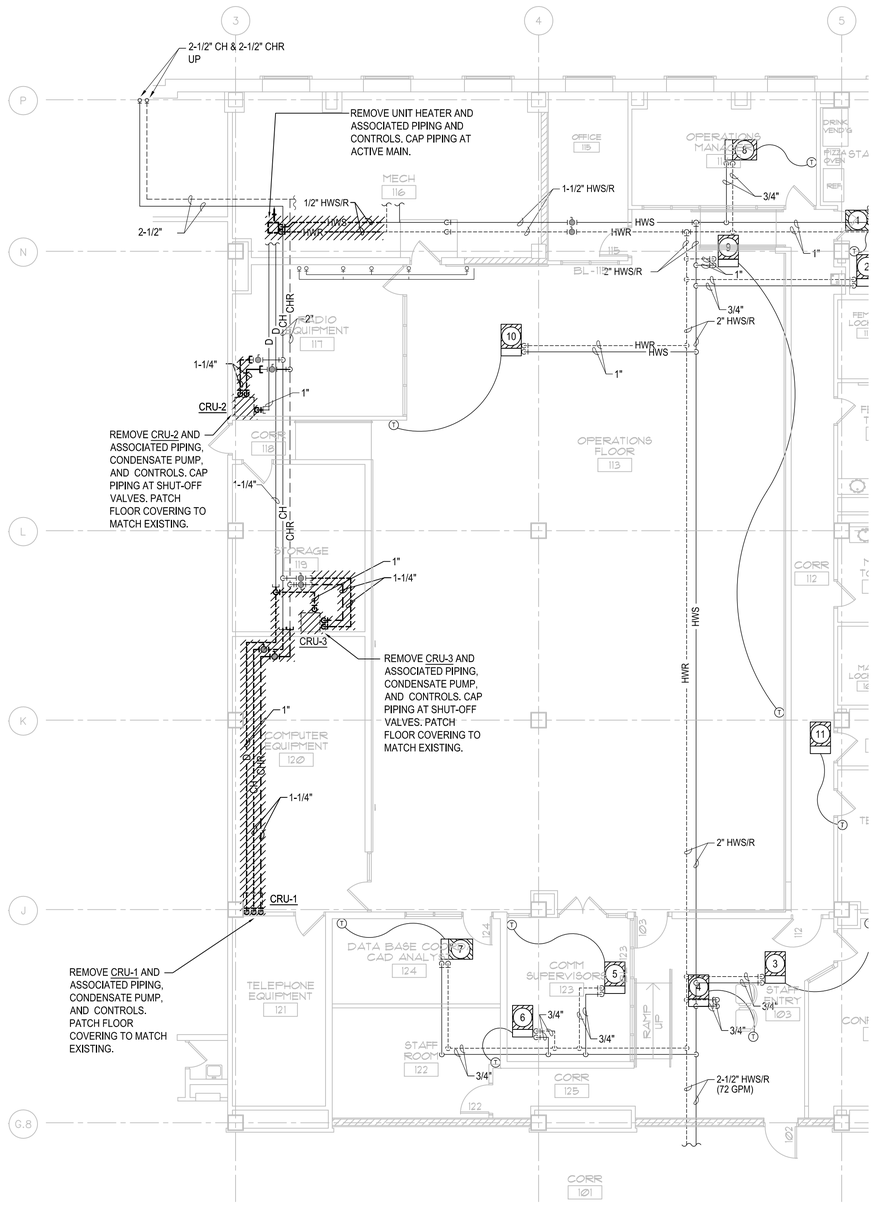
SHEET TITLE:
MECHANICAL SYMBOLS, ABBREVIATIONS AND NOTES

M000
SHEET NO.



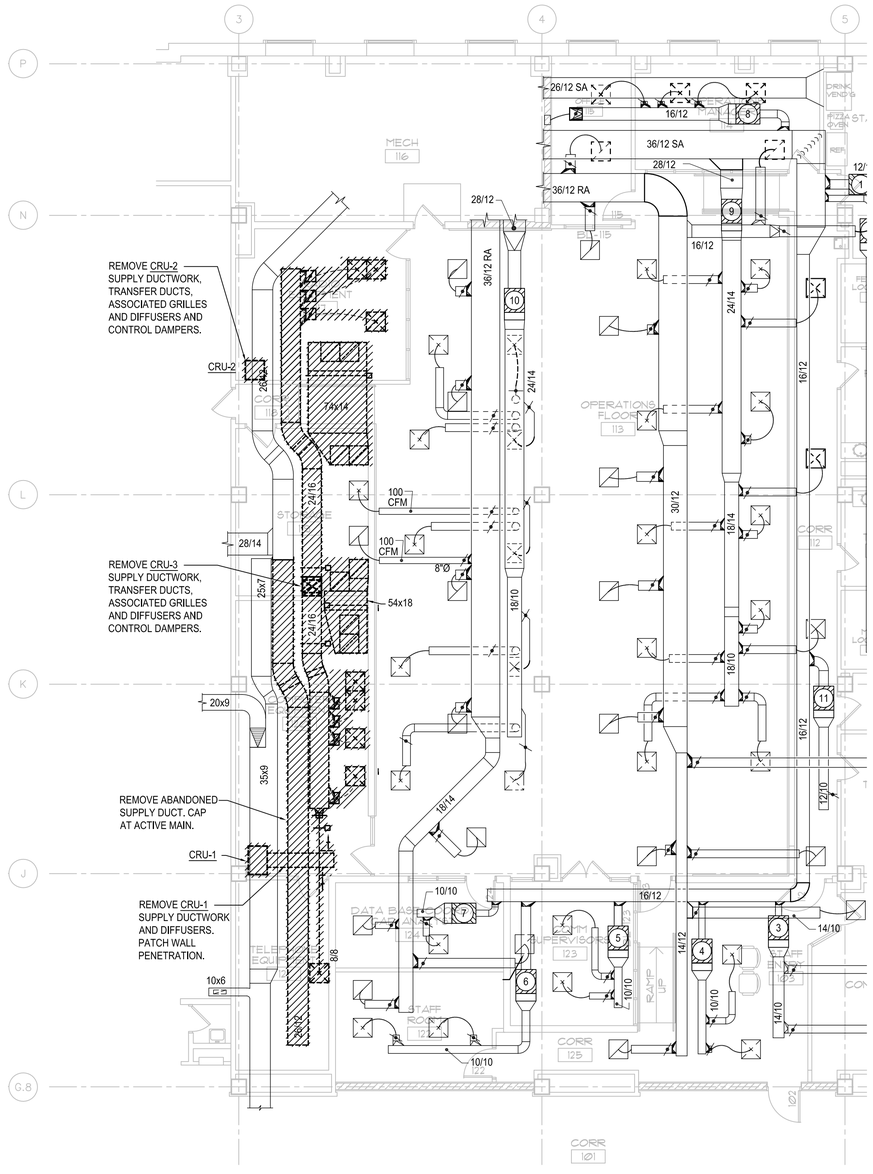
2 FIRST FLOOR DEMOLITION PLAN - MECHANICAL - PIPING

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

12" 0 1' 5' 10' 20'

GENERAL DEMO NOTES:

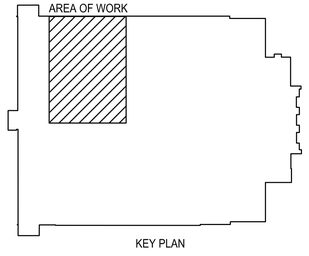
1. PATCH WALL TO MATCH SURROUNDING, WHERE EXISTING DUCTWORK OR PIPING IS REMOVED WHERE PENETRATION IS NOT USED FOR NEW DUCTWORK OR PIPING.
2. MECHANICAL CONTRACTOR SHALL REMOVE AND REINSTALL CEILING TILES AND GRID AS NECESSARY FOR DEMOLITION AND INSTALLATION OF DUCTWORK AND PIPING.
3. ALL ROOMS CONTAIN DELICATE, SYSTEM CRITICAL EQUIPMENT REQUIRING DUST, WATER, DEBRIS, AND DIRT FREE CONDITIONS. PLAN AND WORK ACCORDINGLY. PROTECT ALL EXISTING EQUIPMENT.



1 FIRST FLOOR DEMOLITION PLAN - MECHANICAL - DUCTWORK

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

12" 0 1' 5' 10' 20'



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PUBLIC WORKS BID NO. 313056

DANE COUNTY MECHANICAL, ELECTRICAL & PIPING INFASTRUCTURE IMPROVEMENTS - BID PACK 3 - MECHANICAL SYSTEMS

CITY COUNTY BUILDING
210 MARTIN LUTHER KING JR. BLVD.
MADISON, WISCONSIN

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ISSUE DATE	MARCH 13, 2014

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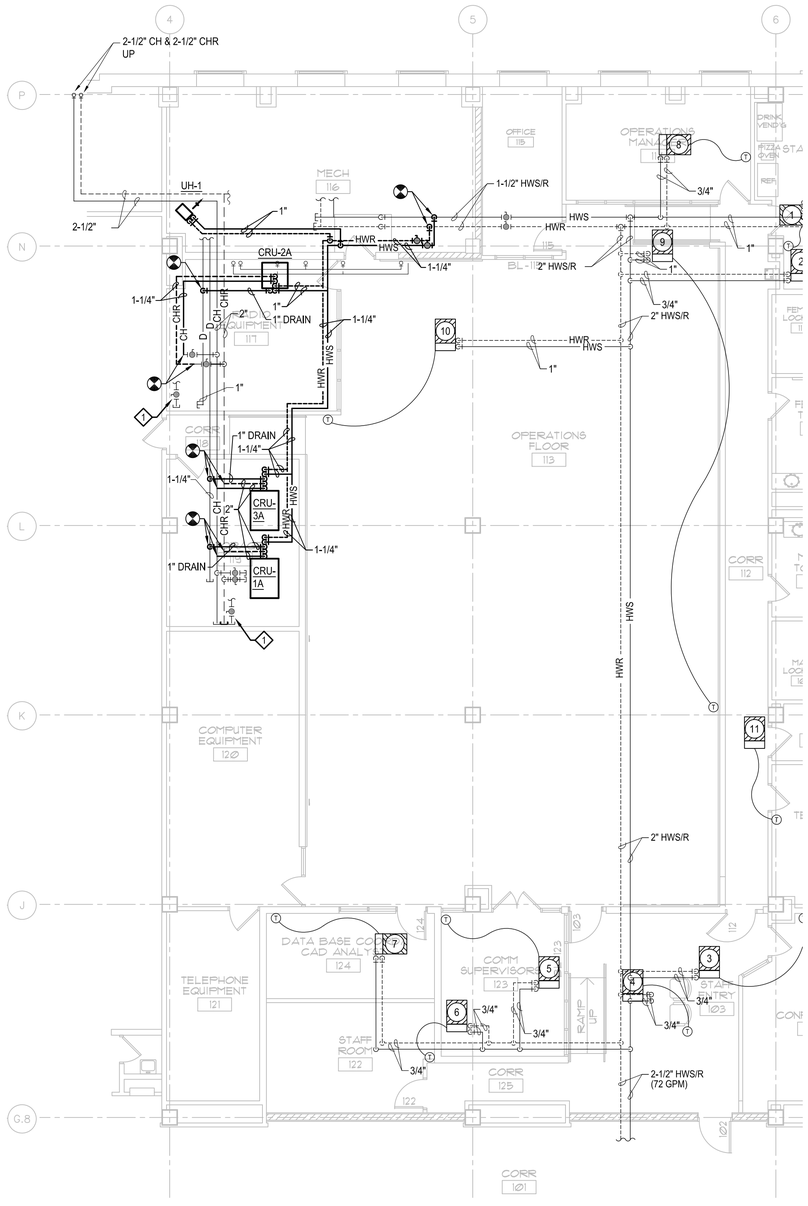
NO.	DATE	DESCRIPTION

SHEET TITLE:
FIRST FLOOR DEMOLITION PLAN - MECHANICAL

M101

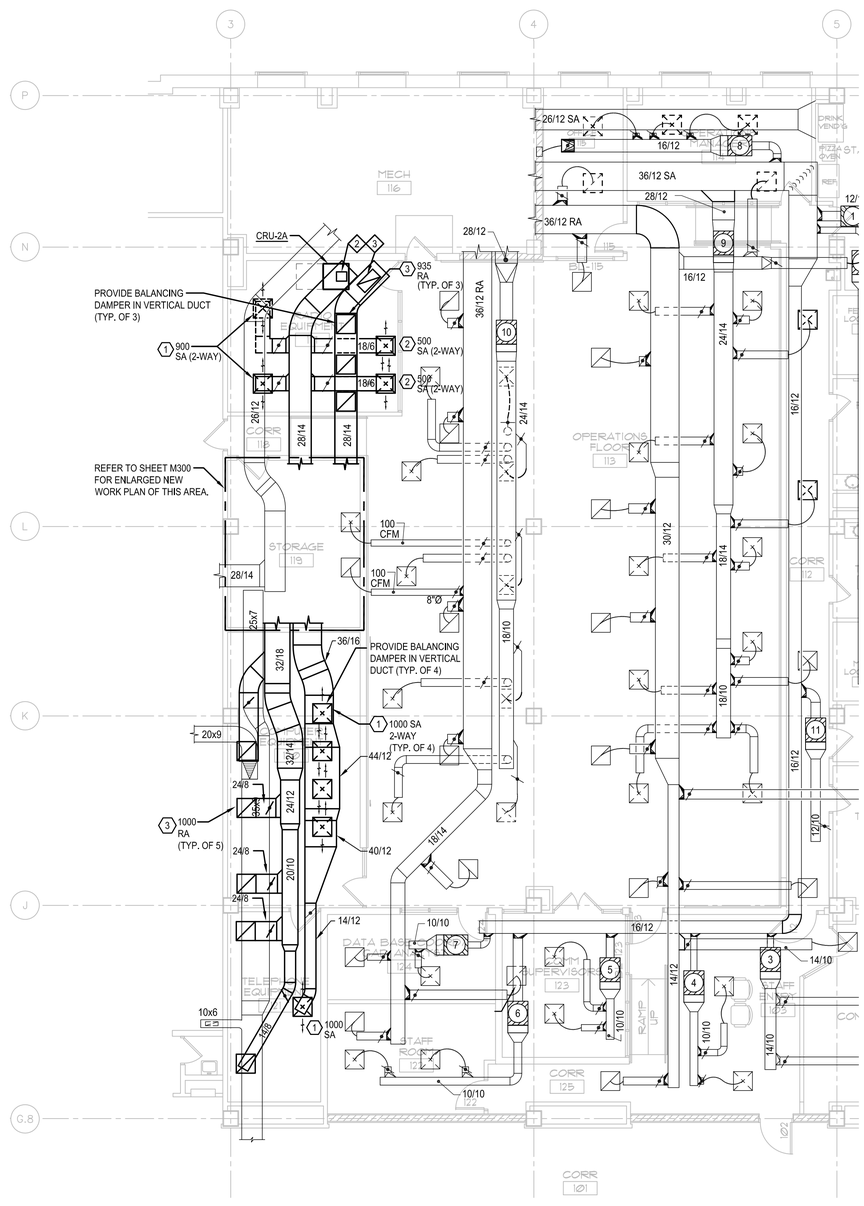
SHEET NO.



2 FIRST FLOOR NEW WORK PLAN - MECHANICAL - PIPING

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

12" 0 1' 5' 10' 20'



1 FIRST FLOOR NEW WORK PLAN - MECHANICAL - DUCTWORK

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

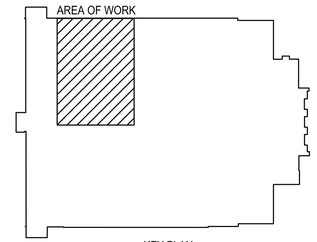
12" 0 1' 5' 10' 20'

KEYED NEW WORK NOTES:

1. CONNECT COMPUTER ROOM UNIT HUMIDIFIER MAKE-UP TO EXISTING 1/2"CW PIPING.
2. 12/12 SA DOWN TO CRU-2A. TRANSITION TO UNIT CONNECTION SIZE.
3. 28/14 RA DOWN TO CRU-2A. TRANSITION TO UNIT CONNECTION SIZE.

GENERAL NEW WORK NOTES:

1. COORDINATE NEW DUCTWORK INSTALLATION WITH EXISTING CONDUIT AND FIRE PROTECTION PIPING.
2. MECHANICAL CONTRACTOR SHALL REMOVE AND REINSTALL CEILING TILES AND GRID AS NECESSARY FOR DEMOLITION AND INSTALLATION OF DUCTWORK AND PIPING.
3. ALL ROOMS CONTAIN DELICATE, SYSTEM CRITICAL EQUIPMENT REQUIRING DUST, WATER, DEBRIS, AND DIRT FREE CONDITIONS. PLAN AND WORK ACCORDINGLY. PROTECT ALL EXISTING EQUIPMENT.



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REVISIONS

NO.	DATE	DESCRIPTION

SHEET TITLE:
FIRST FLOOR NEW WORK PLAN - MECHANICAL

M201

SHEET NO.

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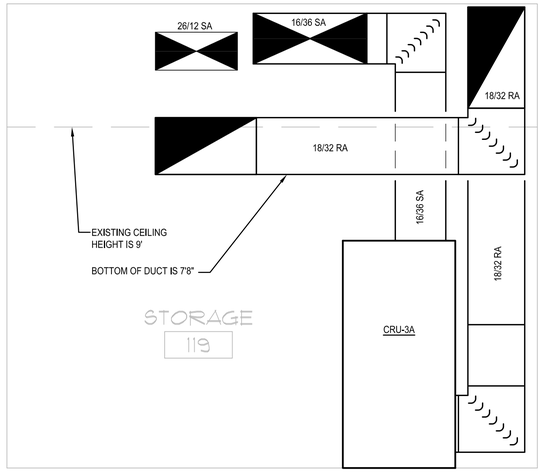
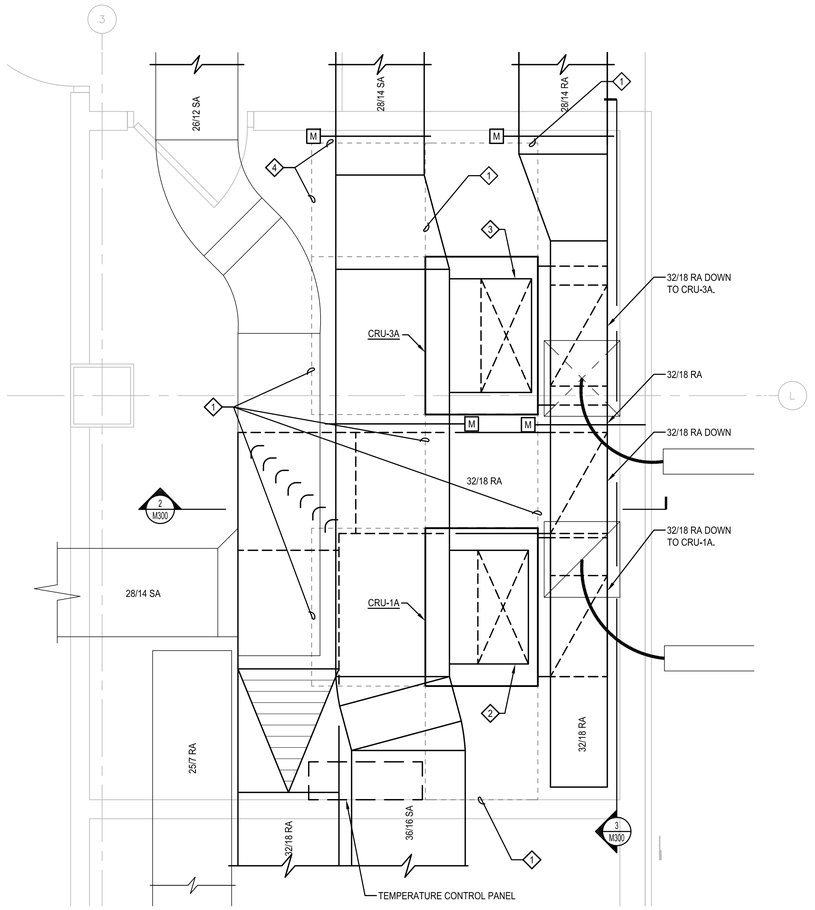
HAZELTINE, JEANNE



2 SECTION LOOKING NORTH

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

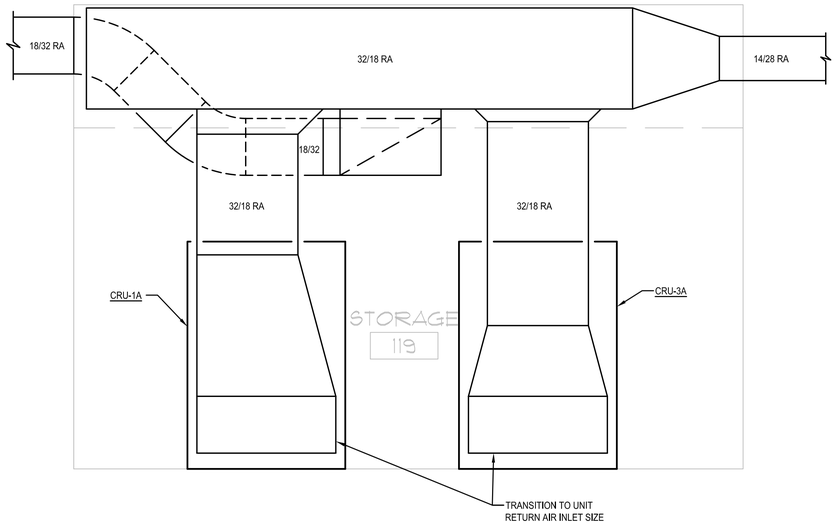
12" 0 1' 5'



1 STORAGE 119 ENLARGED PLAN

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

12" 0 1' 5'



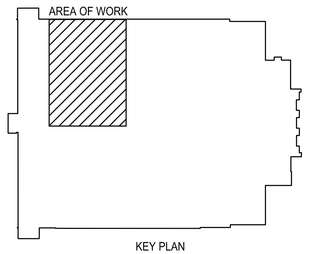
3 SECTION LOOKING WEST

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

12" 0 1' 5'

KEYED NEW WORK NOTES:

1. MAINTAIN COMPUTER ROOM UNIT MAINTENANCE CLEARANCE. PROVIDE PERMANENT FLOOR MARKINGS DESIGNATING "MAINTENANCE CLEARANCE, KEEP CLEAR"
2. 36/16 SA DOWN TO CRU-1A.
3. 36/16 SA DOWN TO CRU-3A.
4. PROVIDE PERMANENT FLOOR MARKINGS DESIGNATING "MAINTENANCE STORAGE, KEEP CLEAR"



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CITY COUNTY BUILDING
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MADISON, WISCONSIN

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REVISIONS

NO.	DATE	DESCRIPTION

SHEET TITLE:
MECHANICAL SECTIONS AND ENLARGED PLANS

M300
SHEET NO.

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HAZELTINE, JEANNE

INSTALLATION REQUIREMENTS
IN ADDITION TO THE MANUFACTURER'S INSTRUCTIONS THE FOLLOWING GUIDELINES WILL BE ENFORCED:

DIVISION 23 WORK:
A. DUCT DETECTOR MAY BE INSTALLED IN ANY WALL OF THE DUCT UNLESS OTHERWISE RESTRICTED BY THE MANUFACTURERS INSTRUCTIONS.

B. CUT INLET SAMPLING TUBE TO SUIT DIMENSION OF DUCT. PROVIDE SAMPLING TUBE MOUNTING SUPPORT.

C. CONTRACTOR TO NOTE THAT AIR INLET SAMPLING TUBES ARE DESIGNED FOR DIFFERING DUCT WIDTHS EMPLOYING AIR INLET HOLES IN A QUANTITY MATCHING THE DUCT WIDTH. VERIFY EACH INLET TUBE IS APPROPRIATELY SIZED FOR THE DUCT WIDTH (TYPICALLY 10 TO 12 HOLES, EACH 0.193" DIAMETER HOLES [#11 DRILL BIT]).

D. ANGLE CUT RETURN TUBE AT A LENGTH AS RECOMMEND BY MANUFACTURER IF REQUIRED. SUPPORT IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS

E. POSITION INLET HOLES FACING UPSTREAM OF AIRFLOW. THIS INITIAL INSTALLATION POSITION SHALL BE USED AS THE STARTING POINT FOR DIFFERENTIAL PRESSURE TESTING. IF REQUIRED ADJUST AS STATED IN THE TESTING/ADJUSTING PROCEDURE AS RECOMMENDED BY THE MANUFACTURER. ANGLE CUT OF RETURN TUBE SHALL BE ORIENTATED DOWNSTREAM OF AIR FLOW.

INSTALLATION REQUIREMENTS (CONTINUED):
IN ADDITION TO THE MANUFACTURER'S INSTRUCTIONS THE FOLLOWING GUIDELINES WILL BE ENFORCED:

F. ONCE ACCEPTABLE DIFFERENTIAL PRESSURE READINGS ARE OBTAINED, TUBES SHALL BE LOCKED IN PLACE IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS.

G. SAMPLING TUBES SHALL BE MOUNTED RIGIDLY TO PREVENT NOISE, CHATTER AND MECHANICAL FATIGUE. ANY INSTALLATION FOUND UNACCEPTABLE WILL BE CORRECTED AT THE INSTALLING CONTRACTORS EXPENSE.

H. AIR LEAKS ARE UNACCEPTABLE, THIS INSTALLING CONTRACTOR SHALL PROVIDE GASKETS, OR DUCT SEALANT AROUND INLET AND OUTLET AIR TUBES. SEALING AROUND DETECTOR HOUSING PERIMETER IS NOT ACCEPTABLE.

I. ONCE THE DETECTOR IS INSTALLED, VERIFY CORRECT DIFFERENTIAL PRESSURE READINGS ACROSS SAMPLING TUBES AND RECORD. INSTALL MANUFACTURER FURNISHED SAMPLING TUBE FILTERS.

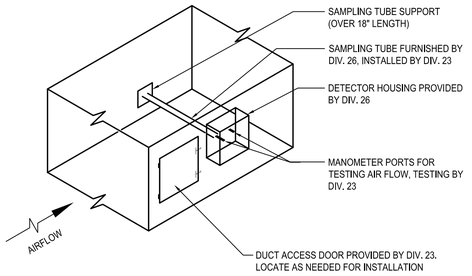
J. IF DUCT IS INSULATED, PROVIDE DETECTOR STANDOFFS EQUIVALENT IN DEPTH OF THE DUCT WALL INSULATION TO RIGIDLY SUPPORT DETECTOR ASSEMBLY. SEAL ANY AIR HOLES THAT ARE NOT INSIDE DUCT WALL WITH DUCT SEALANT AND TAPE.

K. AT EACH DUCT DETECTOR INSTALLATION LOCATION PROVIDE A SERVICE OPENING. INCLUDE A MINIMUM 12" X 12" ACCESS DOOR AS SPECIFIED IN DIVISION 23.

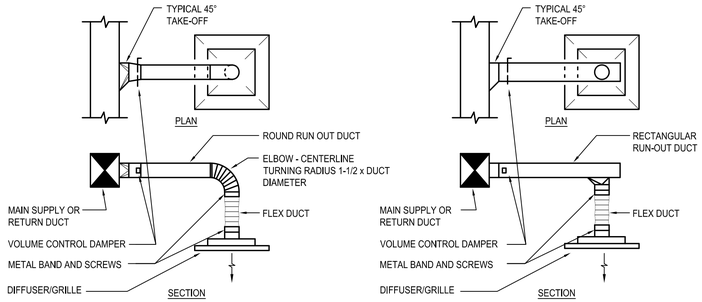
L. AFTER SAMPLING TUBE ASSEMBLY IS INSTALLED AND TESTED, COORDINATE WITH DIVISION 26 CONTRACTOR FOR SMOKE DETECTOR INSTALLATION.

DIVISION 26 WORK:
M. DUCT DETECTOR ASSEMBLY SHALL BE MOUNTED RIGIDLY TO PREVENT NOISE, CHATTER AND MECHANICAL FATIGUE. ANY INSTALLATION FOUND UNACCEPTABLE WILL BE CORRECTED AT THE INSTALLING CONTRACTORS EXPENSE.

DIVISION 23 AND DIVISION 26 COORDINATION:
N. AFTER SAMPLING TUBE ASSEMBLY AND DUCT DETECTOR ASSEMBLY IS INSTALLED AND PRIOR TO TESTING, VERIFY ENTIRE ASSEMBLY IS INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

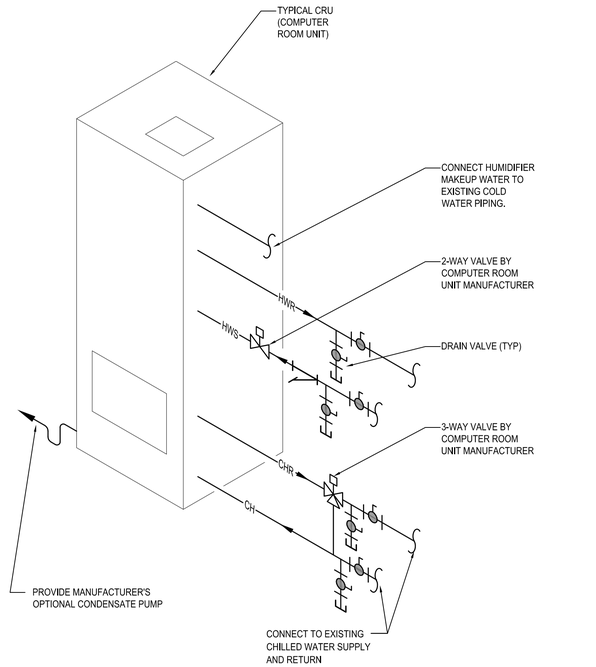


3 SMOKE DETECTOR INSTALLATION DETAIL
NO SCALE



NOTES:
1. CONTRACTOR HAS THE OPTION TO USE EITHER METHOD SHOWN.
2. MAXIMUM LENGTH OF FLEXIBLE DUCT SHALL BE 5'. FLEXIBLE DUCT MAY BE UTILIZED TO FORM 90° CHANGE IN DIRECTION MAXIMUM.
3. CONTRACTOR SHALL PROVIDE TRANSITION FROM NECK SIZE INDICATED TO DUCT SIZE INDICATED AS REQUIRED.

1 SUPPLY AND RETURN DUCT TAKE-OFF DETAIL
NO SCALE



2 COMPUTER ROOM UNIT PIPING SCHEMATIC
NO SCALE

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SHEET TITLE:
MECHANICAL DETAILS

M500
SHEET NO.

TEMPORARY COOLING UNIT

SERVES	MANUFACTURER MODEL	REFRIGERANT	ELECTRICAL DATA			REMARKS
			FAN MOTOR OUTPUT (KW)	COMPRESSOR OUTPUT (KW)	VOLTS	
COMPUTER EQUIPMENT ROOM 120 & TELEPHONE EQUIPMENT ROOM 121	MOVINCOOL OFFICE PRO 24 - OR EQUAL	R-410A	0.57	1.8	230	1, 2

REMARKS:
1. COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO PURCHASE.
2. THIS UNIT IS TO BE PROVIDED FOR THE DURATION REQUIRED FOR THIS PROJECT ONLY (REFER TO PHASING NOTES ON SHEET M000). THE EXISTING TEMPORARY COOLING UNITS LOCATED IN THE SPACE WILL REMAIN DURING THIS PROJECT AND BE TURNED OVER TO THE OWNER AT THE CONCLUSION OF THIS PROJECT.

HOT WATER UNIT HEATER SCHEDULE

PLAN MARK (UH-)	LOCATION	AIRFLOW DIRECTION	CAPACITY (MBH)	AIRSIDE					MOTOR				REMARKS
				FLOW (CFM)	E.A.T. (°F)	FLOW (GPM)	PRESS. DROP (FT.)	E.W.T. (°F)	MOTOR SPEED (RPM)	MOTOR SIZE (HP)	VOLT.	PHASE	
UH-1	MECH ROOM	HORZ	37.4	5.3	60	5.3	0.23	160	1000	1/20	115	1	1

REMARKS:
1. 10' MAXIMUM MOUNTING HEIGHT.

COMPUTER ROOM AIR-CONDITIONING (INDOOR) UNIT SCHEDULE

MARK	DESCRIPTION	MANUFACTURER MODEL	MIN. OPERATING CFM	COOLING CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	CHILLED WATER FLOW (GPM)	ELECTRICAL DATA						REMARKS
							FAN FLA	WSA	MAX. FUSE	VOLTS	PHASE	HERTZ	
CRU-1A	UPFLOW CHILLED WATER AIR-CONDITIONING UNIT WITH REAR DUCTED RETURN	LIEBERT CW041	5000	137	117	37	13.4	16.8	20	460	3	60	1,2,3,4,5,6,7,8,9
CRU-2A	UPFLOW CHILLED WATER AIR-CONDITIONING UNIT WITH REAR DUCTED RETURN	LIEBERT BU102	2800	60.3	57.9	15	10.6	13.3	15	460	3	60	1,2,3,4,5,6,7,8,10
CRU-3A	UPFLOW CHILLED WATER AIR-CONDITIONING UNIT WITH REAR DUCTED RETURN	LIEBERT CW041	5000	137	117	37	13.4	16.8	20	460	3	60	1,2,3,4,5,6,7,8,9

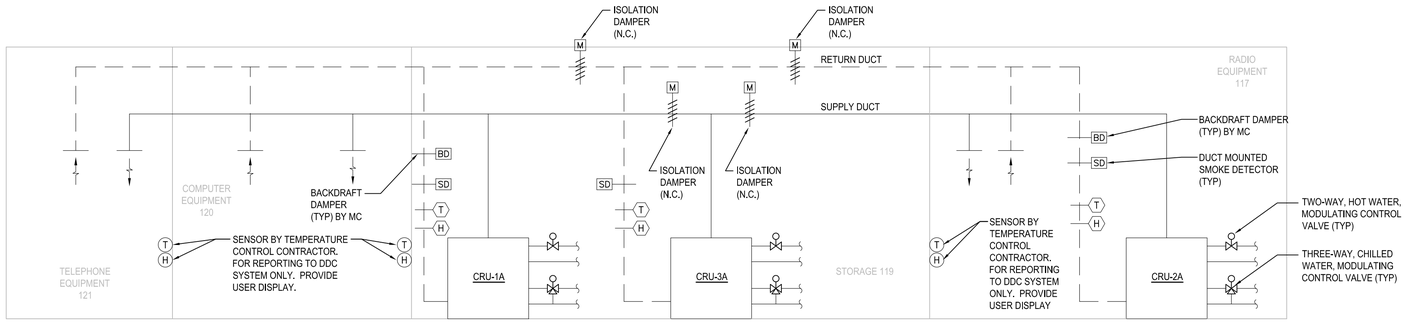
REMARKS:
1. PROVIDE FACTORY CONDENSATE PUMP.
2. PROVIDE FACTORY FILTERS.
3. PROVIDE UNIT WITH FACTORY MICROPROCESSOR CONTROL.
4. PROVIDE FACTORY THERMOSTAT.
5. UNIT SHALL BE FLOOR MOUNTED.
6. HOT WATER AND CHILLED WATER CONTROL VALVES BY UNIT MANUFACTURER.
7. PROVIDE VFD.
8. PROVIDE CANISTER HUMIDIFIER. PROVIDE NEW CANISTER AT SUBSTANTIAL COMPLETION AND A SPARE CANISTER.
9. PROVIDE HOT WATER REHEAT COILWITH 49.5 MBH, 5 GPM.
10. PROVIDE HOT WATER REHEAT COIL WITH 88.7 MBH, 5 GPM.

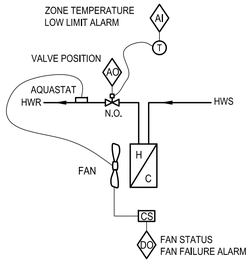
FOR INFORMATION ONLY. OWNER HAS PRE-PURCHASED THESE UNITS UNDER BID PACK 2. MC SHALL INSTALL THESE UNITS UNDER BID PACK 3.

GRILLE AND DIFFUSER SCHEDULE

PLAN MARK	DESCRIPTION	MAX. CFM	NECK SIZE	FACE SIZE	MAX. S.P. (IN. W.C.)	MAX. NOISE LEVEL (NC)	THROW (FT.)	MATERIAL	FRAME	AIR PATTERN	BASIS OF DESIGN MANUFACTURER AND MODEL	REMARKS
SUPPLY AIR												
1	SQUARE CEILING DIFFUSER	1000	15"	24"x24"	0.10"	28	8-12-22	ALUMINUM	LAY-IN	2-WAY	TITUS TMS	
2	SQUARE CEILING DIFFUSER	500	12"	24"x24"	0.10"	25	5-7-15	ALUMINUM	LAY-IN	2-WAY	TITUS TMS	
RETURN / EXHAUST / TRANSFER AIR												
3	LOUVERED RETURN GRILLE, 3/4" SPACING, 35° DEFLECTION	1000	22"x22"	24"x24"	0.10	25	-	ALUMINUM	LAY-IN	-	TITUS 350 FL	

REMARKS:





A. CONTROL SEQUENCE:
1. WHEN THE ZONE TEMPERATURE IS BELOW ZONE TEMPERATURE SET POINT, THE HOT WATER CONTROL VALVE SHALL MODULATE OPEN TO MAINTAIN THE ZONE TEMPERATURE. WHEN THE AQUASTAT SENSES THAT HOT WATER RETURN PIPING TEMPERATURE IS ABOVE 100°F, THE UNIT FAN SHALL CYCLE ON.
2. WHEN THE ZONE TEMPERATURE IS ABOVE ZONE TEMPERATURE SET POINT, THE HOT WATER CONTROL VALVE SHALL MODULATE CLOSED. WHEN THE AQUASTAT SENSES THAT HOT WATER RETURN PIPING TEMPERATURE IS BELOW 100°F, THE UNIT FAN SHALL CYCLE OFF.

B. ALARMS, INTERLOCKS AND SAFETIES:
1. ON FAN MOTOR FAILURE, SEND ALARM SIGNAL TO THE BUILDING DDC SYSTEM.
2. IF ZONE TEMPERATURE FALLS 20°F (ADJ) BELOW ZONE SET POINT TEMPERATURE, SEND ALARM SIGNAL TO THE BUILDING DDC SYSTEM.

2 HOT WATER UNIT HEATER CONTROL - DDC CONTROL

NO SCALE

SEQUENCE OF OPERATION:

GENERAL
A TWO-WAY, MODULATING CONTROL VALVE FOR HOT WATER CONTROL FURNISHED AND INSTALLED BY COMPUTER ROOM UNIT MANUFACTURER, A THREE-WAY, AND MODULATING CONTROL VALVE FOR CHILLED WATER CONTROL FURNISHED AND INSTALLED BY COMPUTER ROOM UNIT MANUFACTURER. DUCT MOUNTED SMOKE DETECTOR SHALL BE FURNISHED AND WIRED BY E.C. AND INSTALLED BY M.C. FOR EACH COMPUTER ROOM UNIT . ISOLATION DAMPERS SHALL BE PROVIDED BY TEMPERATURE CONTROL CONTRACTOR. WIRING TO LIEBERT UNIT BY TEMPERATURE CONTROL CONTRACTOR.

UPON FAILURE OF CRU-1A, COMPUTER ROOM UNIT SELF CONTAINED CONTROLS SHALL OPEN ISOLATION DAMPERS AND SHALL SEND SIGNAL TO CRU-3A SELF CONTAINED CONTROL SYSTEM TO START CRU-3A. UPON FAILURE OF CRU-2A, COMPUTER ROOM UNIT SELF CONTAINED CONTROLS SHALL OPEN ISOLATION DAMPERS AND SHALL SEND SIGNAL TO CRU-3A SELF CONTAINED CONTROL SYSTEM TO START CRU-3A.

TEMPERATURE CONTROL CONTRACTOR AND UNIT MANUFACTURER SHALL COORDINATE REQUIRED COMPUTER ROOM UNIT ACCESSORIES PRIOR TO UNIT SHOP DRAWING SUBMITTAL SO THAT THE UNIT CAN COMMUNICATE WITH THE DDC SYSTEM VIA BACNET MSTP. THE FOLLOWING SHALL BE AVAILABLE FROM THE COMPUTER ROOM UNIT TO THE BUILDING DDC SYSTEM FOR EACH UNIT:

ROOM TEMPERATURE
ROOM HUMIDITY
UNIT STATUS (FOR EXAMPLE COOLING, DEHUMIDIFYING, ETC)
ALL ALARMS (REFER TO SPECIFICATION FOR LIST OF REQUIRED ALARMS)

IN ADDITION TO THE ABOVE REFERENCED POINTS, THE TEMPERATURE CONTROL CONTRACTOR SHALL PROVIDE MINIMUM 15 POINTS FOR OWNER TO CHOOSE FROM AVAILABLE POINTS AND SHALL PROVIDE THE COST PER ADDITIONAL POINT.

CRU-1A
SELF CONTAINED CONTROL SYSTEM SHALL MAINTAIN ROOM TEMPERATURE AT 72° (ADJUSTABLE) AND ROOM HUMIDITY AT 50% (ADJUSTABLE). FAILURE SHALL BE REPORTED TO DDC SYSTEM. ELECTRONIC SMOKE DETECTOR FURNISHED AND WIRED BY E.C. AND INSTALLED BY M.C. SMOKE DETECTOR SHALL SENSE SMOKE IN AIRSTREAM, SEND ALARM TO FIRE ALARM SYSTEM (BY E.C.) ,AND SEND ALARM TO THE DDC SYSTEM. DDC SYSTEM SHALL SHUT DOWN THE UNIT.

CRU-2A
SELF CONTAINED CONTROL SYSTEM SHALL MAINTAIN ROOM TEMPERATURE AT 72° (ADJUSTABLE) AND ROOM HUMIDITY AT 50% (ADJUSTABLE). FAILURE SHALL BE REPORTED TO DDC SYSTEM. ELECTRONIC SMOKE DETECTOR FURNISHED AND WIRED BY E.C. AND INSTALLED BY M.C. SMOKE DETECTOR SHALL SENSE SMOKE IN AIRSTREAM, SEND ALARM TO FIRE ALARM SYSTEM (BY E.C.) AND SEND ALARM TO THE DDC SYSTEM. DDC SYSTEM SHALL SHUT DOWN THE UNIT.

CRU-3A
SELF CONTAINED CONTROL SYSTEM SHALL MAINTAIN ROOM TEMPERATURE AT 72° (ADJUSTABLE) AND ROOM HUMIDITY AT 50% (ADJUSTABLE). FAILURE SHALL BE REPORTED TO DDC SYSTEM. ELECTRONIC SMOKE DETECTOR FURNISHED AND WIRED BY E.C. AND INSTALLED BY M.C. SMOKE DETECTOR SHALL SENSE SMOKE IN AIRSTREAM, SEND ALARM TO FIRE ALARM SYSTEM (BY E.C.) AND SEND ALARM TO THE DDC SYSTEM. DDC SYSTEM SHALL SHUT DOWN THE UNIT.

1 COMPUTER ROOM UNIT CONTROL

NO SCALE

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SHEET TITLE:
MECHANICAL SCHEDULES AND CONTROL SEQUENCES

M600

SHEET NO.

GENERAL DEMOLITION & NEW WORK NOTES:

GENERAL NOTES:

1. ALL BRANCH CIRCUITS SHALL HAVE GROUND CONDUCTORS.
2. THE ELECTRICAL CONTRACTOR SHALL PROVIDE, IF REQUIRED, ADJUSTMENTS (±) 6'-0" IN THE LOCATION OF ALL SYSTEM DEVICES, FIXTURES, OUTLETS, PANELS, ETC. IN ORDER TO EXPEDITE THE ELECTRICAL WORK. THE POSITION OF ALL WORK AS SHOWN IS INTENDED TO BE FIXED AND IN THE PROPER LOCATION, SUCH REQUIRED ADJUSTMENT SHALL BE DETERMINED BY THE A/E..
3. PROVIDE SEPARATE NEUTRAL FOR EACH BRANCH CIRCUIT PHASE CONDUCTOR.
4. WHERE NEW DEVICES ARE SHOWN THE ELECTRICAL CONTRACTOR SHALL DO ALL CUTTING. THE GENERAL CONTRACTOR SHALL DO ALL PATCHING AND PAINTING OF EXISTING WALLS. THE ELECTRICAL CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH EXISTING WALL CONSTRUCTION. WHERE POSSIBLE ELECTRICAL CONTRACTOR MAY USE EXISTING BRANCH CIRCUIT CONDUIT BUT NEW CIRCUIT WIRING WILL NEED TO BE PULLED.
5. SMOKE DETECTORS SHALL BE MOUNTED A MINIMUM OF 3'-0". FROM EACH AIR SUPPLY DIFFUSER.

GENERAL ELECTRICAL DEMOLITION REQUIREMENTS:

1) ELECTRICAL CONTRACTOR SHALL VERIFY THE EXISTING CONDITIONS AT THE PROJECT SITE BEFORE SUBMITTING COST PROPOSAL.
2) THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE TO VERIFY DEVICES NOT SHOWN. ALL DEVICES NEED TO BE REMOVED IN THE DEMOLITION AREA UNLESS NOTED ON THE DRAWINGS.
3) IT IS MANDATORY THAT THE EXISTING BUILDING REMAIN IN CONTINUOUS AND NON-INTERRUPTED OPERATION DURING REMODELING/ALTERING. SERVICES TO EXISTING BUILDING SHALL BE KEPT ON CONTINUOUS OPERATION INCLUDING POWER, LIGHTING, TELEPHONE, FIRE ALARM, ETC.. ANY ABSOLUTELY NECESSARY INTERRUPTION OF THESE SERVICES TO ACCOMPLISH PROJECT CONSTRUCTION, SHALL BE HELD TO A MINIMUM AND ARRANGED WITH THE OWNER THROUGH THE GENERAL CONTRACTOR TWO (2) WEEKS IN ADVANCE. TEMPORARY SERVICES SHALL BE FURNISHED AND INSTALLED WHERE NECESSARY TO ACCOMPLISH THIS PURPOSE. TEMPORARIES SHALL BE REMOVED ONLY AFTER NEW PERMANENT SERVICES ARE INSTALLED AND FULLY OPERATIONAL.
4) ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR HIS OWN DEMOLITION, REMOVAL, CAPPING, STORING, ABANDONING, DISCONNECTING, RELOCATING AND RECONNECTION OF EXISTING ELECTRICAL EQUIPMENT AND MATERIAL. ALL CUTTING, PATCHING, REPAIRING, REPLACEMENT AND REFINISHING, SHALL MATCH THE EXISTING CONSTRUCTION AS NEARLY AS POSSIBLE.
5) EXCEPT WHERE OTHERWISE SHOWN OR NOTED ON DRAWING - "TO BE RETAINED, RELOCATED" OR HEREINAFTER NOTED, ALL EXISTING ELECTRICAL EQUIPMENT AND MATERIAL IN AREAS TO BE REMODELED/ALTERED SHALL BE REMOVED WHERE THEY INTERFERE WITH PROPOSED NEW CONSTRUCTION AND/OR INTERFERE WITH PROPOSED USAGE OF SPACE BY OWNER AS FOLLOWS:
   - A) REMOVE ANY CONDUITS PROTRUDING ABOVE FINISHED FLOOR, CAP AND FINISH OVER WITH FLOOR MATERIAL TO MATCH EXISTING.
   - B) REMOVE ALL LIGHT FIXTURES, RECEPTACLES, SWITCHES, ETC. AND ASSOCIATED WIRING.REMOVE ALL SURFACE MOUNTED CONDUIT/BOXES AND THEIR ASSOCIATED WIRING.
   - C) REMOVE ALL CONCEALED RACEWAYS, BOXES AND WIRING FROM PARTITIONS BEING DEMOLISHED.
   - D) REMOVE ALL EXISTING WIRING/CABLING FROM ALL EXISTING CONCEALED RACEWAYS IN PARTITION THAT ARE TO REMAIN.
   - E) ANY FEEDERS, CONDUITS, BRANCH CIRCUITS, SIGNAL AND TELEPHONE CIRCUITS, ETC., PASSING THROUGH THE REMODELED AREAS TO SERVE (OR BE SERVED FROM) EXISTING ADJACENT, REMOTE OR SURROUNDING AREAS THAT ARE TO REMAIN, SHALL BE RETAINED AND KEPT OPERATIONAL AND SHALL BE REROUTED IN ALL CASES WHERE THEY INTERFERE WITH ANY NEW WORK OR USAGE TO BE ACCOMPLISHED IN THE REMODELED AREA.
   - F) WHERE DEVICES ARE OMITTED FROM PRESENT BRANCH CIRCUITS, THE REMAINING DEVICES SHALL BE REWIRED, IF NEEDED AND AS REQUIRED, TO REMAIN ON THEIR RESPECTIVE CIRCUITS AND IN OPERATING CONDITION.
6) ALL WIRING (POWER, LIGHTING) NOT REUSED FOR REMODELING AREAS SHALL BE COMPLETELY REMOVED BACK TO ASSOCIATED PANELS. EMPTY BOXES AND CONDUITS SHALL BE REMOVED BEYOND REMODELED AREA (ABOVE CEILING).
7) THE OWNER SHALL HAVE THE FIRST CHOICE TO ACCEPT EXISTING DEVICES BEING REMOVED.

ELECTRICAL ABBREVIATIONS

ABBR	DESCRIPTION	ABBR	DESCRIPTION
A,	AMP AMPERE	MMC	MANUAL MOTOR CONTROLLER
AC	ABOVE COUNTER	MOA	MULTI-OUTLET ASSEMBLY
AFF	ABOVE FINISHED FLOOR	MSS	MANUAL STARTER SWITCH
AIC	AMPERE INTERRUPTING CAPACITY	MTR	MOTOR
AL	ALUMINUM	MC	MECHANICAL CONTRACTOR
ARCH	ARCHITECT, ARCHITECTURE	MFR	MANUFACTURER
ATS	AUTOMATIC TRANSFER SWITCH	N/C	NORMALLY CLOSED
AUX	AUXILIARY	N/O	NORMALLY OPEN
AV	AUDIO - VISUAL	NEC	NATIONAL ELECTRICAL CODE
AP	ACCESS PANEL	NEMA	NATIONAL ELECTRICAL MFR'S ASSOC.
BC	BELOW COUNTER	NFSS	NON- FUSED SAFETY SWITCH
BTM	BOTTOM	NIC	NOT IN CONTRACT
C	CONDUIT	NL	NIGHT LIGHT
CB	CIRCUIT BREAKER	NTS	NOT TO SCALE
CCTV	CLOSED CIRCUIT TELEVISION	O.C.	ON CENTER
CRT	CATHODE-RAY TUBE	OL	OVERLOADS
C/T	CURRENT TRANSFORMER	P	POLE
CU	COPPER	PF	POWER FACTOR
CTR	COUNTER	PH	PHASE
DC	DIRECT CURRENT	PNL	PANEL
DISC	DISCONNECT	PP	POWER POLE
DIST	DISTRIBUTION	PR	PAIR
DN	DOWN	PRI	PRIMARY
EC	ELECTRICAL CONTRACTOR	P/T	POTENTIAL TRANSFORMER
ECB	ENCLOSED CIRCUIT BREAKER	PVC	POLYVINYL CHLORIDE
ELEC	ELECTRIC, ELECTRICAL	PC	PLUMBING CONTRACTOR
EM	EMERGENCY	RMC	RIGID METALLIC CONDUIT
EMT	ELECTRICAL METALLIC TUBING	REQD	REQUIRED
EQ	EQUIPMENT	RVT	REDUCED VOLTAGE TRANSFORMER
EWC	ELECTRIC WATER COOLER	S/N	SOLID NEUTRAL
EX	EXISTING	SPEC	SPECIFICATION
EXP	EXPLOSION PROOF	SPKR	SPEAKER
EXT	EXTERIOR	SP	SPARE
F	FUSE	SW	SWITCH
FA	FIRE ALARM	SWBD	SWITCHBOARD
FLR	FLOOR	SWGR	SWITCHGEAR
FVNR	FULL VOLTAGE NON-REVERSING	SQFT	SQUARE FOOT
FVR	FULL VOLTAGE REVERSING	SS	STAINLESS STEEL
FBO	FURNISHED BY OWNER/ OTHERS	SC	SECURITY CONTRACTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	TEL	TELEPHONE TERM TERMINAL
GND, GRD	GROUND	XFMR	TRANSFORMER
GC	GENERAL CONTRACTOR	TV	TELEVISION
GWH	GAS WATER HEATER	TYP	TYPICAL
HOA	HAND-OFF-AUTOMATIC SWITCH	UE	UNDERGROUND ELECTRICAL
HP	HORSEPOWER	UG	UNDERGROUND
HV	HIGH VOLTAGE	UH	UNIT HEATER
HVAC	HEATING, VENTILATING, AIR CONDITIONING	UT	UNDERGROUND TELEPHONE
HC	HEATING CONTRACTOR	UOD	UNLESS OTHERWISE DENOTED
IMC	INTERMEDIATE METALLIC CONDUIT	V	VOLT
JB	JUNCTION BOX	VA	VOLT AMPERES
KV	KILOVOLT	VFD	VARIABLE FREQUENCY DRIVE
KVA	KILOVOLT-AMPERE	VOL	VOLUME
KVAR	KILOVOLT-AMPERE REACTIVE	VC	VENTILATION CONTRACTOR
KW	KILOWATT	W	WATT
KWH	KILOWATT HOUR	W/	WITH
LV	LOW VOLTAGE	W/O	WITHOUT
MCC	MOTOR CONTROL CENTER	WG	WIRE GUARD/PROTECTIVE SHIELDING
MCP	MOTOR CIRCUIT PROTECTOR	WP	WEATHERPROOF
MCB	MAIN CIRCUIT BREAKER	2S1W	2 SPEED SINGLE WINDING
MIN	MINIMUM	2S2W	2 SPEED DOUBLE WINDING
MISC	MISCELLANEOUS	TFA	TO FLOOR ABOVE
MLO	MAIN LUGS ONLY	TFB	TO FLOOR BELOW

NOTE:
THIS IS A COMPOSITE LIST OF ABBREVIATIONS, NOT ALL PERTAIN SPECIFICALLY TO THIS JOB.

FIRE ALARM SYMBOLS

SYMBOL	DESCRIPTION
FACP	FIRE ALARM CONTROL PANEL
FAAP	FIRE ALARM ANNUNCIATOR PANEL
NAC	NOTIFICATION APPLIANCE CIRCUIT EXTENDER PANEL
F	FIRE ALARM CONTROL PANEL
A	ANNUNCIATOR PANEL
AS	SMOKE DETECTOR - AIR SAMPLING DEVICE
BR	BEAM DETECTOR RECEIVER
BT	BEAM DETECTOR TRANSMITTER
CM	CONTROL MODULE
MM	MONITOR MODULE
D	AUTOMATIC SENSOR - DUCT SMOKE DETECTOR
DT	DUCT SMOKE DETECTOR TEST SWITCH
DP	DUCT DAMPER POSITION INDICATOR
FJ	FIRE FIGHTER HANDSET JACK
FP	FIRE FIGHTER HANDSET
H	AUTOMATIC SENSOR - HEAT DETECTOR
I	AUTOMATIC SENSOR - IONIZATION DETECTOR
M	MAGNETIC DOOR HOLD-OPEN
P	MANUAL PULL STATION
R	ADDRESSABLE RELAY / MONITOR RELAY
RS	FAN SHUTDOWN RELAY
S	AUTOMATIC SENSOR - SMOKE DETECTOR
FS	WATER FLOW SWITCH
TS	WATER VALVE TAMPER SWITCH
	AUDIBLE ALARM - HORN / SPEAKER / BELL / CHIME
	AUDIBLE / VISUAL ALARM - HORN / SPEAKER / BELL / CHIME
	VISUAL ALARM
	CEILING AUDIBLE ALARM - HORN / SPEAKER / BELL / CHIME
	CEILING AUDIBLE / VISUAL ALARM - HORN / SPEAKER / BELL / CHIME
	CEILING VISUAL ALARM

RECEPTACLES

SYMBOL	DESCRIPTION
	SURFACE RACEWAY, SEE SPECIFICATIONS, SEE DRAWINGS FOR LENGTH
	SIMPLEX RECEPTACLE
	CEILING SIMPLEX RECEPTACLE
E	SIMPLEX RECEPTACLE EMERGENCY
	SIMPLEX RECEPTACLE EMERGENCY ABOVE COUNTER
	DUPLEX RECEPTACLE NORMAL
EWC	ELECTRIC WATER COOLER
G	GROUND FAULT CIRCUIT INTERRUPTER
I	ISOLATED GROUND
S	TRANSIENT VOLTAGE SURGE SUPPRESSOR
T	TAMPER RESISTANT
W	WEATHER PROOF
XR	X-RAY VIEWER
	DUPLEX RECEPTACLE ABOVE COUNTER NORMAL
E	DUPLEX RECEPTACLE EMERGENCY
E	DUPLEX RECEPTACLE ABOVE COUNTER EMERGENCY
	CEILING MOUNTED DUPLEX RECEPTACLE
E	FLOOR MOUNTED DUPLEX RECEPTACLE EMERGENCY
E	CEILING MOUNTED DUPLEX RECEPTACLE EMERGENCY
	FLOOR MOUNTED DUPLEX RECEPTACLE
	RECEPTACLES GROUPED IN COMMON FLOOR BOX
	TWO DUPLEX RECEPTACLES ALIGNED VERTICALLY
	SWITCHED TOP HALF NORMAL NORMAL
E	SWITCHED TOP HALF EMERGENCY
	QUADRUPLEX RECEPTACLE NORMAL
E	QUADRUPLEX RECEPTACLE EMERGENCY
	CEILING QUADRUPLEX RECEPTACLE NORMAL
	FLOOR MOUNTED QUADRUPLEX RECEPTACLE NORMAL
E	FLOOR MOUNTED QUADRUPLEX RECEPTACLE EMERGENCY
	TWO QUADRUPLEX RECEPTACLES ALIGNED VERTICALLY
	SIMPLEX SPECIAL RECEPTACLE
E	SIMPLEX SPECIAL RECEPTACLE EMERGENCY
	FLOOR MOUNTED SPECIAL RECEPTACLE
	CEILING MOUNTED SPECIAL RECEPTACLE
E	FLOOR MOUNTED SPECIAL RECEPTACLE EMERGENCY
E	CEILING MOUNTED SPECIAL RECEPTACLE EMERGENCY
	POKE-THRU WITH DUPLEX RECEPTACLE(S)
	POKE-THRU WITH COMBINATION COMM/TEL OUTLET(S) AND DUPLEX RECEPTACLE(S)
FF	POKE-THRU MODULAR FURNITURE FEED, POWER

POWER SYSTEMS

SYMBOL	DESCRIPTION
SWBD-1	LARGE ELECTRICAL EQUIPMENT WITH DESIGNATION - DRAWN TO SCALE
XXX #	MECHANICAL EQUIPMENT CONNECTION WITH DESIGNATION
	MOTOR WITH DESIGNATION
G	GENERATOR SYSTEM WITH DESIGNATION
T	TRANSFORMER WITH DESIGNATION - DRAWN TO SCALE
	DISCONNECT SWITCH, NON-FUSED
	DISCONNECT SWITCH WITH OVERCURRENT PROTECTION
	MOTOR STARTER
	COMBINATION MOTOR STARTER / DISCONNECT SWITCH
J	JUNCTION BOX
P	PULL BOX
C	CONTACTOR
	EQUIPMENT CONNECTION, NORMAL POWER
	EQUIPMENT CONNECTION, EMERGENCY POWER
MMS	MANUAL MOTOR STARTER WITH OVERLOAD PROTECTION
	GROUND BAR
	DISTRIBUTION PANEL WITH DESIGNATION
	BRANCH PANEL WITH DESIGNATION
VFD	VARIABLE FREQUENCY DRIVE; FURNISHED BY MC/HC/VC INSTALLED BY EC
VFD	VARIABLE FREQUENCY DRIVE; FURNISHED BY MC/HC/VC INSTALLED BY EC
GEN	GENERATOR REMOTE ANNUNCIATOR
	LIGHTNING PROTECTION SYSTEM AIR TERMINAL
DC	LIGHTNING PROTECTION SYSTEM DOWN CONDUCTOR LOCATION
GRD	LIGHTNING PROTECTION SYSTEM GROUND ROD LOCATION

NOTE: THESE ARE COMPOSITE LISTS OF SYMBOLS, NOT ALL PERTAIN SPECIFICALLY TO THIS JOB.

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PUBLIC WORKS BID NO. 313056

DANE COUNTY MECHANICAL, ELECTRICAL & PIPING INFASTRUCTURE IMPROVEMENTS - BID PACK 3 - MECHANICAL SYSTEMS

CITY COUNTY BUILDING
210 MARTIN LUTHER KING JR. BLVD.
MADISON, WISCONSIN

DRAWN BY	HEI
APPROVED BY	HEI
CHECKED BY	HEI
ISSUE DATE	MARCH 13, 2014

REVISIONS

NO.	DATE	DESCRIPTION

SHEET TITLE:
ELECTRICAL SYMBOLS, ABBREVIATIONS AND NOTES

E000
SHEET NO.

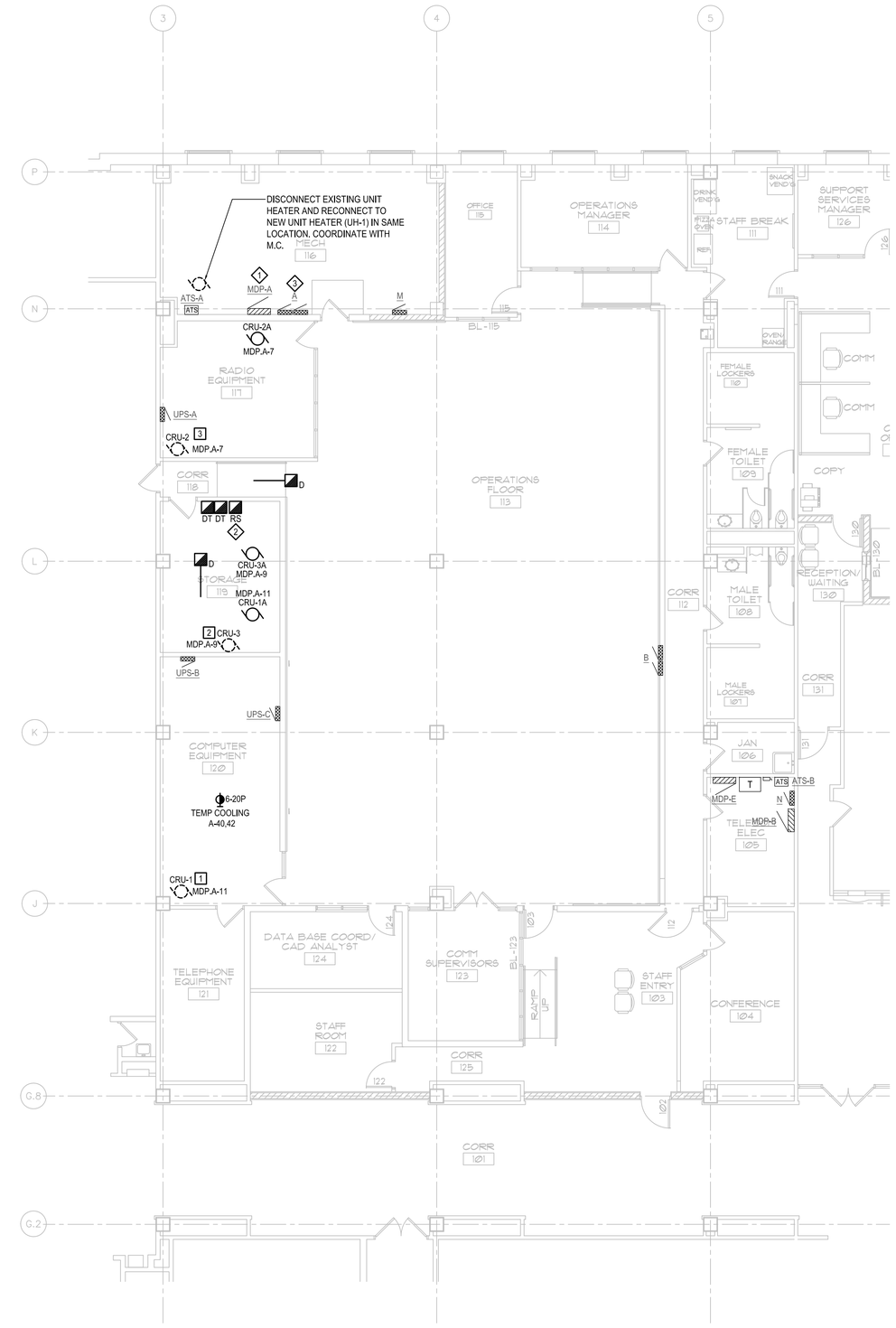
L:_PROJECTS\78051 - DRAWINGS\0 - WORKING DRAWINGS\E000.dwg
HAZELTINE, JEANNE
3/13/2014 10:58 AM

EXISTING EMERGENCY DISTRIBUTION PANEL SCHEDULE						
NAME	VOLTAGE	PHASE	WIRE		OCP	SQUARE D I-LINE
MDP-A	480	3	4		MAIN LUG	HCM SERIES
BREAKER NO.	FRAME AMPS	TRIP AMPS	TCL VA	DEMAND VA	LOAD SERVED	REMARKS
1	250	110	10,838	10,821	TRANS A	EXISTING TO REMAIN
2	100	100	37,212	35,352	PANEL WP	EXISTING TO REMAIN
3	100	40	21,009	19,959	HUM 1	EXISTING TO REMAIN
4	100	100	33,200	33,200	PANEL R	EXISTING TO REMAIN
5	100	40	**	**	HUM 2	EXISTING TO REMAIN
6	100	100	53,146	47,596	PANEL M	EXISTING TO REMAIN
7	100	15	6,975	6,627	CRU 2	REUSE FOR CRU-2A
8	100	70	14,400	14,400	UPS A INPUT	EXISTING TO REMAIN
9	100	15	6,975	6,627	CRU 3	REMOVE & REPLACE
10	100	60	**	**	UPS A BYPASS	EXISTING TO REMAIN
11	100	15	6,975	6,627	CRU 1	REMOVE & REPLACE
12						4.5" SPACE
13	250	200	103,302	98,137	PANEL WPA	EXISTING TO REMAIN
14						4.5" SPACE
AIC =	42,000	TOTALS:	294,032	279,346	TCL A =	354
BUS SIZE =	400	MAIN =	400A MLO		DEMAND A =	336

** NON CONCURRENT LOAD

REVISED EMERGENCY DISTRIBUTION PANEL SCHEDULE						
NAME	VOLTAGE	PHASE	WIRE		OCP	SQUARE D I-LINE
MDP-A	480	3	4		MAIN LUG	HCM SERIES
BREAKER NO.	FRAME AMPS	TRIP AMPS	TCL VA	DEMAND VA	LOAD SERVED	REMARKS
1	250	110	10,838	10,821	TRANS A	EXISTING TO REMAIN
2	100	100	37,212	35,352	PANEL WP	EXISTING TO REMAIN
3	100	40	21,009	19,959	HUM 1	EXISTING TO REMAIN
4	100	100	33,200	31,540	PANEL R	EXISTING TO REMAIN
5	100	40	**	**	HUM 2	EXISTING TO REMAIN
6	100	100	53,146	47,596	PANEL M	EXISTING TO REMAIN
7	100	15	8,813	8,813	CRU 2A	EXISTING TO REMAIN
8	100	70	14,400	14,400	UPS A INPUT	EXISTING TO REMAIN
9	100	20	11,140	11,140	CRU 3A	NEW BREAKER
10	100	60	**	**	UPS A BYPASS	EXISTING TO REMAIN
11	100	20	11,140	11,140	CRU 1A	NEW BREAKER
12						4.5" SPACE
13	250	200	103,302	98,137	PANEL WPA	EXISTING TO REMAIN
14						4.5" SPACE
AIC =	42,000	TOTALS:	304,200	288,898	TCL A =	366
BUS SIZE =	400	MAIN =	400A MLO		DEMAND A =	348

** NON CONCURRENT LOAD



1 PARTIAL FIRST FLOOR PLAN - ELECTRICAL

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

12' 0 1' 5' 10' 20'

LINE WEIGHT KEY

- ALL ITEMS INDICATED BY A LIGHT SOLID LINE ARE EXISTING TO REMAIN
- ALL ITEMS INDICATED BY A DARK DASHED LINE ARE EXISTING TO BE REMOVED OR RELOCATED.
- ALL ITEMS INDICATED BY A DARK SOLID LINE ARE NEW

GENERAL NOTES (SHEET E201):

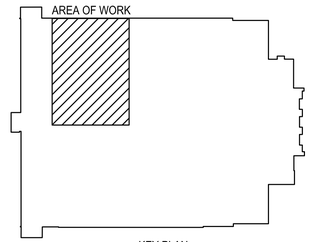
1. ELECTRICAL CONTRACTOR SHALL WORK TO MINIMIZE ALL POWER OUTAGES AS MUCH AS POSSIBLE. ANY REQUIRED OUTAGES SHALL BE COORDINATED WITH THE OWNER 2 WEEKS PRIOR TO OUTAGE.
2. DUCT SMOKE DETECTORS FURNISHED AND WIRED BY DIV. 26, INSTALLED IN DUCTWORK BY DIV. 23.
3. ELECTRICAL CONTRACTOR SHALL COORDINATE REQUIRED FIRE ALARM DEVICES AND SYSTEM CONNECTION WITH BUILDING FIRE ALARM SUPPLIER SIMPLEX. DEVICES SHOWN ARE INTENDED TO ILLUSTRATE DESIGN INTENT AND IT IS THE RESPONSIBILITY OF THE AWARDED ELECTRICAL CONTRACTOR TO INCLUDE ALL PARTS, LABOR AND MATERIAL REQUIRED FOR A COMPLETE SYSTEM, INCLUDING ANY REQUIRED EXPANSIONS OR EXTENSIONS TO ACCOMMODATE THE REQUIRED WORK.
4. ELECTRICAL CONTRACTOR SHALL REMOVE AND REINSTALL CEILING TILES AND GRID AS NECESSARY FOR DEMOLITION AND INSTALLATION OF ELECTRICAL SYSTEMS.
5. ALL ROOMS CONTAIN DELICATE, SYSTEM CRITICAL EQUIPMENT REQUIRING DUST, WATER, DEBRIS, AND DIRT FREE CONDITIONS. PLAN AND WORK ACCORDINGLY, PROTECT ALL EXISTING EQUIPMENT.

KEYED NEW WORK NOTES (SHEET E201):

1. REFER TO EXISTING EMERGENCY DISTRIBUTION PANEL SCHEDULE FOR CIRCUIT BREAKER MODIFICATIONS AT MDP-A.
2. FIRE ALARM FAN SHUTDOWN RELAY. INTERLOCK RELAY CONTACT WITH EMERGENCY SHUTDOWN TERMINALS ON CRU COOLING UNIT. DETECTION OF SMOKE IN EITHER DUCT SMOKE DETECTOR SHALL SHUTDOWN BOTH CRU COOLING UNITS AN INITIATE TROUBLE CONDITION AT FIRE ALARM CONTROL PANEL. ALL WIRING BY DIV. 26 CONTRACTOR. CONNECT DEVICES TO EXISTING FIRE ALARM SYSTEM AND INCLUDE REQUIRED PROGRAMMING AT SYSTEM HEAD END.
3. INSTALL 20A-2P CIRCUIT BREAKER IN EXISTING SPACES 40,42 FOR TEMPORARY 208V COOLING UNIT IN PANEL A (LEFT). REMOVE (2)20A-1P TO ALLOW FOR NEW BREAKER. RESTORE PANEL TO EXISTING CONDITION WHEN TEMPORARY COOLING IS NO LONGER REQUIRED.

KEYED DEMOLITION NOTES (SHEET E201):

1. DISCONNECT COOLING UNIT AND RECONFIGURE EXISTING RACWAY/CONDUCTORS TO SUPPLY NEW COOLING UNIT CRU-1A
2. DISCONNECT COOLING UNIT AND RECONFIGURE EXISTING RACWAY/CONDUCTORS TO SUPPLY NEW COOLING UNIT CRU-3A
3. DISCONNECT COOLING UNIT AND RECONFIGURE EXISTING RACWAY/CONDUCTORS TO SUPPLY NEW COOLING UNIT CRU-2A



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ISSUE DATE	MARCH 13, 2014

REVISIONS

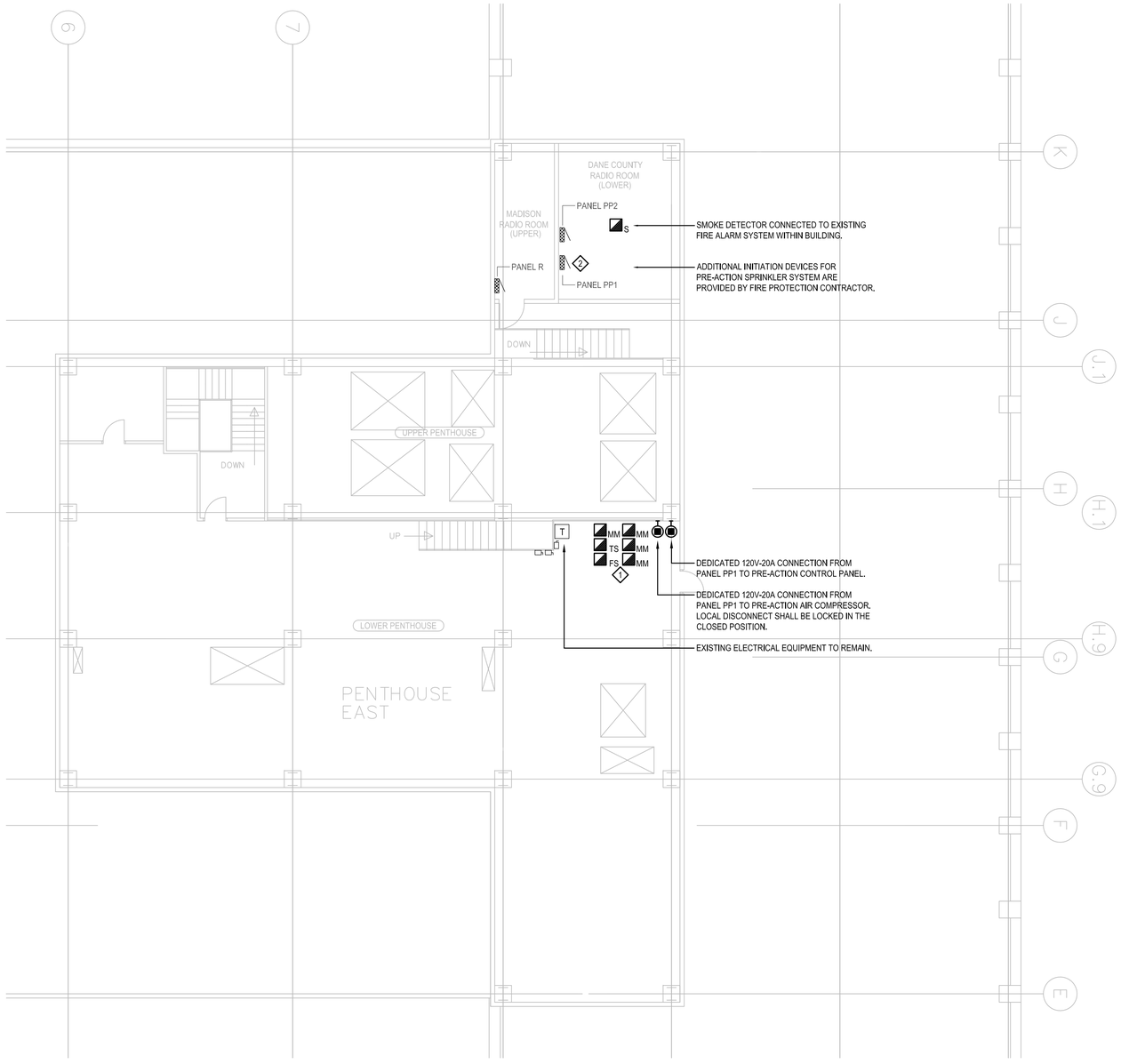
NO.	DATE	DESCRIPTION

SHEET TITLE:

PARTIAL FIRST FLOOR PLAN - ELECTRICAL

E201

SHEET NO.



1 PENTHOUSE NEW WORK PLAN - ELECTRICAL

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

12" 0 1' 5' 10' 20'

LINE WEIGHT KEY

- ALL ITEMS INDICATED BY A LIGHT SOLID LINE ARE EXISTING TO REMAIN
- ALL ITEMS INDICATED BY A DARK DASHED LINE ARE EXISTING TO BE REMOVED OR RELOCATED.
- ALL ITEMS INDICATED BY A DARK SOLID LINE ARE NEW

GENERAL NOTES (SHEET E202):

1. ELECTRICAL CONTRACTOR SHALL COORDINATE REQUIRED FIRE ALARM DEVICES AND SYSTEM CONNECTION WITH BUILDING FIRE ALARM SUPPLIER SIMPLEX. DEVICES SHOWN ARE INTENDED TO ILLUSTRATE DESIGN INTENT AND IT IS THE RESPONSIBILITY OF THE AWARDED ELECTRICAL CONTRACTOR TO INCLUDE ALL PARTS, LABOR AND MATERIAL REQUIRED FOR A COMPLETE SYSTEM, INCLUDING ANY REQUIRED EXPANSIONS OR EXTENSIONS TO ACCOMMODATE THE REQUIRED WORK.

KEYED NEW WORK NOTES (SHEET E202):

1. FIRE ALARM INTERFACE MODULES FOR: FLOW SWITCH, TAMPER VALVE, AIR PRESSURE SWITCH AND CONTROL PANEL SUPERVISORY, TROUBLE AND ALARM CONDITIONS. CONNECT NEW DEVICES TO EXISTING FIRE ALARM SYSTEM IN BUILDING. INCLUDE PROGRAMMING AT SYSTEM HEAD END.
2. INSTALL (2)20A-1P CIRCUIT BREAKERS IN EXISTING PANEL PP1 FOR PRE-ACTION CONTROL PANEL AND AIR COMPRESSOR. FURNISH BREAKERS WITH HANDLE ACCESSORY TO LOCK BREAKER IN CLOSED POSITION.

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DANE COUNTY MECHANICAL, ELECTRICAL & PIPING INFASTRUCTURE IMPROVEMENTS - BID PACK 3 - MECHANICAL SYSTEMS

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MADISON, WISCONSIN

DRAWN BY HEI
APPROVED BY HEI
CHECKED BY HEI
ISSUE DATE MARCH 13, 2014

REVISIONS

NO.	DATE	DESCRIPTION

SHEET TITLE:
PARTIAL PENTHOUSE PLAN - ELECTRICAL

E202
SHEET NO.

L:_PROJECTS\7905\01 - DRAWINGS\0 - WORKING DRAWINGS\E202.dwg
3/13/2014 11:00 AM HAZELTINE, JEANNE