A. THE CONTRACTOR SHALL ACCEPT THE SITE IN ITS PRESENT CONDITION & DEMOLISH AND/OR REMOVE FROM THE AREA OF THE PROJECT ALL STRUCTURES, BOTH SURFACE & SUBSURFACE, TREES, BRUSH, ROOTS, DEBRIS, ORGANIC MATTER, & ALL OTHER MATTER DETERMINED BY THE INSPECTOR TO BE DELETERIOUS. SUCH MATERIAL SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR.

B. EXCAVATIONS SHALL BE ADEQUATELY SHORED, BRACED & SHEETED SO THAT THE EARTH WILL NOT SLIDE OR SETTLE & SO THAT ALL EXISTING IMPROVEMENTS OF ANY KIND WILL BE FULLY PROTECTED FROM DAMAGE. WHERE THE EXCAVATION FOR A CONDUIT TRENCH, AND/OR STRUCTURE IS FIVE FEET OR MORE IN DEPTH, THE CONTRACTOR SHALL PROVIDE ADEQUATE SHEETING, WHICH SHALL CONFORM TO THE APPLICABLE CONSTRUCTION SAFETY ORDERS OF THE DIVISION OF INDUSTRIAL SAFETY OF THE STATE OF CALIFORNIA. THE CONTRACTOR SHALL ALWAYS COMPLY WITH OSHA REQUIREMENTS.

C. EXISTING UNDERGROUND UTILITIES & IMPROVEMENTS ARE SHOWN IN THEIR APPROX. LOCATIONS BASED UPON RECORD INFO. AVAILABLE TO THE ARCHITECT AT THE TIME OF PREPARATION OF THESE PLANS. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD & NO GUARANTEE IS MADE AS TO THE ACCURACY OR COMPLETENESS OF THE INFO. SHOWN. THE CONTRACTOR SHALL NOTIFY UTILITY COMPANIES AT LEAST 2 WORKING DAYS IN ADVANCE OF CONSTRUCTION TO FIELD LOCATE UTILITIES. CALL UNDERGROUND SERVICE ALERT (U.S.A), 1-800-642-2444.

D. PROPERTY DIMENSIONS AS SHOWN ARE BASED ON RECORD INFO. & SHOULD BE FIELD VERIFIED BY A PROPERTY SURVEY PRIOR TO CONSTRUCTION.

E. REFER TO ELECTRICAL FOR UTILITY INFORMATION. CONTRACTOR TO COORDINATE ALL TRADES TO MAINTAIN PROPER CLEARANCES & AVOID CONFLICTS.
ANCHORAGE + BRACING NOTES

GENERAL NOTES

MECHANICAL SCHEDULES

PUMP SCHEDULE

WATER CHILLER SCHEDULE (AIR COOLED)
### HVAC REPLACEMENT AT VARIOUS BUILDINGS FOR:

- MERCED COLLEGE
  - MERCED, CA. 95348
  - MERCED COMMUNITY COLLEGE DISTRICT

#### 1. FACTORY-INTEGRATED MODULATING 0-100% DRY-BULB ECONOMIZER.

#### 2. SINGLE-POINT POWER FOR AIR HANDLER.

#### 3. FACTORY-MOUNTED VFD'S AND PREMIUM EFFICIENCY MOTORS AND GROUND SHAFT PROTECTION.

#### 4. FACTORY-INSTALLED BACNET COMPATIBLE CONTROL MODULE FOR DDC TIE-INTO CAMPUS JOHNSON METASYS.

#### 5. SUPPLY DUCT SMOKE DETECTOR (SYSTEM SENSOR D4120). PROVIDE CONDUIT AND CONDUCTORS AS REQUIRED FOR UNIT SHUTDOWN UPON DETECTION OF SMOKE. FURNISH REMOTE TEST SWITCH (RTS451KEY) TO...

#### 6. FIELD-INSTALLED, DUCT-MOUNTED MODULATING POWERED EXHAUST WITH PRESSURE TRANSDUCER AND HONEYWELL JADE CONTROLLER. PROVIDE SEPARATE POWER CONNECTION PER SCHEDULE ABOVE.

#### 7. FACTORY-INSTALLED, UNIT-MOUNTED MODULATING POWERED EXHAUST WITH PRESSURE TRANSDUCER AND HONEYWELL JADE CONTROLLER. PROVIDE SEPARATE POWER CONNECTION PER SCHEDULE ABOVE.

#### 8. CO2 SENSOR FOR DEMAND CONTROL VENTILATION. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION.

### ACCESSORIES

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<tr>
<th>Type</th>
<th>Model Number</th>
<th>Quantity / Size</th>
<th>Efficiency (MERV)</th>
<th>Type</th>
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### ELECTRICAL

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<td>12.0-12.0</td>
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</table>
REMOVE AIR COOLED CHILLER.

REMOVE GROUND MOUNTED END SUCTION PUMP. (TYP OF 2)

REMOVE PIPE SHOWN HATCHED.

(E) AIR SEPARATOR AND EXPANSION TANK TO REMAIN.

(E) CHWR PIPE TO REMAIN.

(E) CHWS PIPE TO REMAIN.

(E) BOILER AND PUMPS TO REMAIN. HWS/R PIPING NOT SHOWN FOR CLARITY.

CHILLER MOUNTED ON (E) HOUSE KEEPING PAD PER DETAIL 1/M800.

PUMP FRAME MOUNTED ON (E) HOUSEKEEPING PAD PER DETAIL 2/M800.

PIPE MOUNTED ON (E) UNISTRUT FRAMES WITH (N) PIPE CLAMP.

FIELD VERIFY ACTUAL PIPE SIZE AND MATCH EXISTING.
1/8" = 1'-0"

REMOVE ROOF MOUNTED AIR HANDLER, CHW AND HHW COIL VALVE ASSEMBLY. PRESERVE CONDENSATE MAIN.

REMOVE FLOOR MOUNTED AIR HANDLER WITHIN MECHANICAL PENTHOUSE AND CHW AND HHW COIL VALVE ASSEMBLY. PRESERVE CONDENSATE MAIN.

REMOVE AND PRESERVE EXTERIOR LOUVERS TO PENTHOUSE FOR UNIT ACCESS.

REMOVE DUCT ROUTED OVER UNIT.

REMOVE DUCT SHOWN AS HATCHED. (TYP.)

PRESERVE (E) SA OPENING.
PRESERVE (E) RA OPENING.
HVAC REPLACEMENT AT VARIOUS BUILDINGS FOR:

MERCED COLLEGE

MERCED COMMUNITY COLLEGE DISTRICT

MERCED, CA.  95348
DUCT SUPPORT ON ROOF OPTIONS

DUCT DETECTOR

WWW.NPCENG.COM

1. MOUNT DUCT DETECTOR IN DUCT UPSTREAM OF BRANCH TAKE-OFFS.

2. UPON DETECTION OF SMOKE UNITS SHALL BE SHUT-DOWN AUTOMATICALLY.

3. MAXIMUM 5'-0" O.C. SPACING.

NOTES:

OPTION A

STEEL SUPPORT W/ ALL 2-1/2"x2-1/2"x3/16" GALV.

OPTION B

STEEL VERTICAL SUPPORT W/ ALL 2-1/2"x2-1/2"x3/16" GALV.

3/16" AROUND DUCT SEE VIEW 'A' ABOVE

EXHAUST TUBE 2" THERMAL INSULATION

INTAKE TUBE SEALANT. WITH G.E. SILICONE PER L) SEAL WATER TIGHT DUCT WITH #8 SMS (MIN 3 EQUALLY SPACED)

RUBBER STOPPERS.

AIR SAMPLING VERIFICATION

SECURED TO ROOF DECK 1/8" PLATE UNDER CURB

PIPE SUPPORT CHANNEL, UNISTRUT OR UNISTRUT P2942 POST BASE

AIRFLOW 3" MINIMUM (E) HOUSEKEEPING PAD.

CONDENSATE DRAIN. SEE PLAN FOR SIZE (TYP)

BALL VALVE. (TYP)

AIRFLOW 1" MINIMUM (E) HOUSEKEEPING PAD.

CONDENSATE DRAIN.

STRAINER.

PETE'S PLUG. (TYP)

AIRFLOW 3" MINIMUM (TYP)

1/2"Ø "KWIK-BOLT," (TYP OF 2)

THREADED ROD. (TYP)

PUMP. (TYP)

CENTRIFUGAL PUMP.

B&G SUCTION DIFFUSER.

MICROMETAL 16 GAUGE EQUIP.

BYPASS FEEDER WHEN

REFRIGERANT PIPE.

SPECIFIED.

BYPASS FEEDER WHEN

SUPPLY.

RE-BID DOCUMENTS06/03/22--

SECURE PUMP TO PAD B&G SUCTION DIFFUSER.

SET IN MASTIC. (TYP)

DB SERIES DURA-BLOCK SYSTEM (E) CURB AND ROOFING

MICROMETAL 16 GAUGE EQUIP.

BYPASS FEEDER WHEN

REFRIGERANT PIPE.

SPECIFIED.

BYPASS FEEDER WHEN

SUPPLY.

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SECURE PUMP TO PAD B&G SUCTION DIFFUSER.

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SECURE PUMP TO PAD B&G SUCTION DIFFUSER.

SET IN MASTIC. (TYP)

DB SERIES DURA-BLOCK SYSTEM (E) CURB AND ROOFING

MICROMETAL 16 GAUGE EQUIP.
A. ELECTRICAL FACILITIES SHOWN DASHED ARE EXISTING:
1. THOSE SHOWN LIGHTWEIGHT (FADED) SHALL REMAIN AND REQUIRE MODIFICATION AS NOTED.
2. THOSE SHOWN HEAVYWEIGHT (DARK) REQUIRE REMOVAL AS NOTED.

B. EXISTING ELECTRICAL FACILITIES AND CIRCUITING SHOWN ARE BASED ON LIMITED RECORD DRAWINGS AND LIMITED SITE VISITS. THE DRAWINGS MAY NOT ACCURATELY REPRESENT ACTUAL EXISTING CONDITIONS IN THE FIELD. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND RING OUT EXISTING CIRCUITS TO DETERMINE EXACT ROUTING.

KEYNOTES

DISCONNECT EXISTING AIR COOLED CHILLER. DISCONNECT AND REMOVE EXISTING FLEX CONDUIT. PRESERVE EXISTING BRANCH CIRCUIT FEEDER.

DISCONNECT EXISTING PUMPS. DISCONNECT AND REMOVE EXISTING FLEX CONDUIT AND EXISTING CONDUCTORS TO JUNCTION BOX EQUIPMENT DISCONNECTS. MOTOR STARTERS AND CONTROL WIRING SHALL REMAIN AND BE CONNECTED IN ASSOCIATION WITH NEW PUMPS.

Provide NEW 18"x18"x6" NEMA 3R PULLCAN. PROVIDE NEW 2" LIQUIDTIGHT FLEXIBLE CONDUIT WITH 3#2/0 CU THWN AND 1#4 CU GND AND PROVIDE CONNECTION TO 460V, 3ɸ, 145 MCA, 175 MOCP WATER CHILLER 'CH-1'.

Provide NEW 3/4"C LIQUIDTIGHT FLEXIBLE CONDUIT WITH 3#12 CU THWN AND 1#12 CU GND. PROVIDE CONNECTION TO 460V, 3ɸ, 3HP PUMP 'P-1'.

Provide NEW 3/4" LIQUIDTIGHT FLEXIBLE CONDUIT WITH 3#12 CU THWN AND 1#12 CU GND. PROVIDE CONNECTION TO 460V, 3ɸ, 3HP PUMP 'P-2'.

GENERAL NOTES
A. ELECTRICAL FACILITIES SHOWN DASHED ARE EXISTING:

- PROVIDE HANDLING UNIT 'AHU-S7'. THWN AND 1#10 CU GND, FOR 460V, 3ɸ, 13.9 FLA, 17.4 MCA, 25 MOCP AIR DISCONNECT WITH 25A FUSES. PROVIDE POWER CONNECTION, 3#10 CU.

B. PROVIDE HANDLING UNIT 'AHU-S6'. THWN AND 1#10 CU GND, FOR 460V, 3ɸ, 13.9 FLA, 17.4 MCA, 25 MOCP AIR DISCONNECT.

C. PROVIDE POWER EXHAUST AT AIR HANDLING UNIT 'AHU-S4'. DISCONNECT WITH 15A FUSES. PROVIDE CONNECTION FOR 460V, 3ɸ, 2.8 FLA POWER EXHAUST AT AIR HANDLING UNIT 'AHU-S3'. DISCONNECT WITH 15A FUSES. PROVIDE POWER CONNECTION, 3#12 CU.

D. PROVIDE HANDLING UNIT 'AHU-S2'. THWN AND 1#12 CU GND, FOR 460V, 3ɸ, 6 MCA, 15 MOCP AIR HANDLING UNIT 'AHU-S1'. DISCONNECT WITH 15A FUSES. PROVIDE POWER CONNECTION, 3#12 CU.

E. REMOVE EXISTING 30A, 3-POLE CIRCUIT BREAKER. PROVIDE NEW 15A, 3-POLE, 18kAIC CIRCUIT BREAKER, MATCH EXISTING (SQUARE D QED). REMOVE EXISTING 40A 3-POLE CIRCUIT BREAKER. PROVIDE NEW 25A, 3-POLE, 18kAIC CIRCUIT BREAKER, MATCH EXISTING (SQUARE D QED).

F. PROVIDE NEW JUNCTION BOX FOR EXISTING PRESERVED BRANCH POWER STYLE)

G. PROVIDE new wiring for existing preserved branches.

H. VERIFY ALL EXISTING CONDITIONS AND RING OUT EXISTING CIRCUITS BASED ON LIMITED RECORD DRAWINGS AND LIMITED SITE VISITS.

I. THE DRAWINGS MAY NOT ACCURATELY REPRESENT ACTUAL BASEMENTS. BASEMENTS SHOWN ON DRAWINGS FOR INFORMATION ONLY.

J. DUCT DETECTOR WIRED FOR UNIT SHUTDOWN PER EXISTING FIRE ALARM SYSTEM (SIEMENS) CONDUCTORS AND EXISTING TEST SWITCH, AND NEW FIRE ALARM ADDRESSABLE MODULE UTILIZING PROVIDE CONNECTION TO NEW DUCT SMOKE DETECTORS, NEW REMOTE PANEL AND MODBUS CONNECTION.

K. PROVIDE NEW REMOTE PANEL FOR EXISTING DUCT DETECTORS (SIEMENS). PROVIDE new conduit.

L. PROVIDE new conduit PER EXISTING INSTRUCTIONS.

M. PROVIDE new conduit for existing preserved branches.

N. PROVIDE new conduit for existing preserved branches.

O. PROVIDE new conduit for existing preserved branches.

P. PROVIDE new conduit for existing preserved branches.

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AA9. PROVIDE new conduit for existing preserved branches.

AAA0. PROVIDE new conduit for existing preserved branches.

AAA1. PROVIDE new conduit for existing preserved branches.
### Electrical Schedule

**Panel: MH**

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<th>Amps</th>
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**Panel Schedule**

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**Total Calculated Load (Amps):** 179.2

**Total Connected Load (VA):** 40000

**Electrical Distribution System:**
- 400A CB Location: CDC CHILLER YARD
- Serviced by Load A B C

**Mechanical and Plumbing Plans:**
- Refer to the mechanical and plumbing plans for the exact location of all work shown herein.
- All work shall comply with the current regulations of the California State Fire Marshal, California Building Code, Titles 8 and 19.

**Electrical Components:**
- All equipment and components shall be anchored in accordance with the above requirements.
- Temporary, moveable or mobile equipment that is permanently located shall be anchored to meet the forces and displacements prescribed in ASCE 7-16 Section 13.6.5, 13.6.6, 13.6.7, 13.6.8; and 2019 CBC, as defined in ASCE 7-16 Section 13.6.5.
- All mechanical, electrical, and plumbing equipment shall be anchored in accordance with the above requirements.

**Aluminum Conduit:**
- Denotes existing conduit runs to remain.

**Plumbing Conduit:**
- Denotes conduit runs - stubbed, capped, and labeled.

**Electrical Symbol Legend**

- Junction Box
- Tamper-Resistant Quadruple Receptacle in Wall @ +18" U.O.N.
- Tamper-Resistant Weather-Resistant Duplex GFCI Receptacle W/ W.P. Cover
- Tamper-Resistant Duplex Receptacle in Wall @ +18", U.O.N.
- Fire Alarm Individual Addressable Module
- Electrical Panelboard per plans, surface mounted on wall
- Fusible Disconnect Switch
- Non-Fusible Disconnect Switch
- Conduit Run: Denotes 1"C - 6 #12 AWG CU THWN + 1 #12 CU GND, U.O.N.
- Conduit Run: Denotes 3/4"C - 4 #12 AWG CU THWN + 1 #12 CU GND, U.O.N.
- Conduit in Floor/U.G.: Denotes 3/4"C-2#12 AWG CU THWN, 1#12 CU GND, U.O.N.
- Conduit in Attic/Wall: Denotes 3/4"C-2#12 AWG CU THWN, 1#12 CU GND, U.O.N.