Addendum #02 for RFB #911800-02

Project Name: IVH-Mechanical & Electrical Distribution System Replacement

DAS RFB #: 901800-02 DAS

DAS Project #: 9018.00

Date: 6/22/2020

Addendum #2:

- Cover Page (2 page)
- KCL Addendum #2 (6 pages)
- Drawing Revisions (8)
  - M002 SITE NOTES AND REQUIREMENTS
  - M200 ENLARGED MECHANICAL PLANS
  - M201 ENLARGED MECHANICAL PLANS
  - M701 MECHANICAL SCHEDULES
  - MD100 POWER PLANT – LOWER LEVEL DEMOLITION PLAN
  - E100 ELECTRICAL POWER - BASEMENT
  - E101 ELECTRICAL POWER - FIRST LEVEL
  - E200 ELECTRICAL ONE-LINE DIAGRAM
- 00 4116 **Revised Bid Form** (6 pages)

Clarifications/Questions:

- **Bid due date has been changed to 6/26/20 at 2:00PM**
- **Public opening will be held via conference call on 6/26/20 at 3:00PM. Call in number: 617-675-4444 PIN: 266 929 856 4214#**
- REVISE 01 1200 Contract Summary section 1.09.A.2 to read: "**Temporary Steam Boiler Allowance #01** – Trade Contractor shall provide an allowance of $70,000 in their lump sum bid to provide a temporary boiler if deemed necessary. This scope shall include, but not be limited to, as part of the contract:"
  a. Boiler procurement, rental, setup, and tear down.
  b. All temporary measures necessary to setup, run, and maintain the boiler. This excludes line voltage electrical connections which will be by Bid Package #02.
  c. Refer to mechanical sheets for additional requirements.
- Allowance 1 Temp Boiler of $80,000.00. Electrical portion states need to cover electrical connections. What the size of the temp unit? Include cost on the line item with comment for electrical connection only?
  - The capacity of the temp boiler is 10K PPH, 100 PSI, 460V/3PH/60HZ, and Natural gas. Revised bid form has been provided to clarify allowances.
- There is a spec section for Resilient Base; however, there is no resilient base indicated on the drawings.
  - Resilient base V1 called out on wall type on A1.2.
- Is this project a set-aside?

    - No, this project is not a set aside project.
- Can you please clarify if a damper is required for intake louver L-1? There is not a damper scheduled on M700, but there is on indicated in detail 4 on sheet M600.
    - Damper at L-1 is not required. Drawing M600 and detail on M400 updated to reflect this.
- Can we use McElroy Megarib 24 ga. galvalume in lieu of the Firestone Omega VR that was listed in Addendum #1 for Ceiling type C1?
    - 22-gauge AZ55 acrylic coated galvalume is acceptable.
- Please provide detail on the 3-way valve and the balancing valve requirements
    - Refer to schematic drawings and specifications for valve installation and requirements.
- Please provide Existing Cooling Tower Pier & Structural Dimensional and Loading Data.
    - Existing cooling tower weights are approximately the same as new scheduled cooling towers. Field verify cooling tower pier dimensions.
- Tunnel Structural & loading Detail?
    - All shoring required at tunnels shall be provided by the contractor, including all structural engineering required.
- In line square box no letter, what does it represent? Drawing M500 example 12” CHWS line right side of drawing.
    - Existing gauge or sensor to remain.
- Floor Loading for Chiller Placement?
    - Refer to mechanical schedules for chiller weight.
- Floor Loading for Boiler placement?
    - Refer to mechanical schedule for boiler weight.
- Do you have any thoughts on home much fencing we will need?
    - Refer to revised sheet M002. Roughly 540 LF with one drive through gate.
- Who is the water treatment supplier currently maintaining the facility?
    - QCA Water Treatment.
- Please clarify if painting is required for the exterior/interior piping?
    - Exterior painting of piping will be required per note #9 "ALL PVC PIPING INSTALLED EXTERIOR AND EXPOSED TO OUTDOOR CONDITIONS SHALL BE PAINTED WITH A WATER BASED LATEX PAINT FOR UV PROTECTION. CLEAN AND PRIME PIPING AS NECESSARY FOR PAINTING." on sheet M001. Interior painting of piping will only be required where existing piping being removed/tied into is painted.
- Boiler #4: Is the blowdown separator saved to be reinstalled? It is shown on prints Some prints as still in use.
    - Blowdown separator shown as demolished MD 100, not reused.
- Please clarify the extend of performing the system cleaner per 23-2500 Water treatment. Only new piping/components or entire system?
    - Clarify that only new piping and equipment need to have cleaning process performed.
- On sheet M600 under the controls sequence for boiler #8 the diagram shows Profinet interface module. Shall this be BacNet?
    - Revised for Modbus at boiler and deaerator, and BACnet at chiller.

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Iowa Veterans Home
Power Plant Upgrades – DAS #9118.00
Addendum #2

June 20th, 2020

This addendum is issued to modify, clarify, or amend the original Project Drawings and Specifications and is hereby made part of the Contract Documents. The Contractor shall be responsible for incorporating items in this Addendum to the Work. The following shall take precedence over anything to the contrary in the Drawings or Specifications.

CONSULTING ENGINEERS

Mechanical
Electrical
Plumbing
Lighting
Technology

Architectural Specifications:

1. None.

Architectural Drawings:

1. Drawing A1.1 Plans, Sections and Details
    a. **ADD** to note D1: Intent of stair and landing re-configuration is turn stair access from north to south side of boiler by reusing existing stair and landing. Landing to allow same access to boiler controls as existing. New support extension is required on enclosed end of platform to be structurally independent of boiler.
    Demolition: unbolt stair flanges from concrete floor. Ensure flanges are protected during removal. Remove landing from two vertical tube supports connected to boiler. Keep landing, stair and handrails in one complete assembly. Protect existing boiler and all associated mechanical and electrical piping for duration of removal.
    Re-configuration: Rotate landing and stair to south side with same dimensional distance from boiler. Weld vertical supports at top of boiler back in place. Attach stair to concrete floor with new concrete anchor bolts.
2. Drawing A1.2 – Assemblies and Schedules, Ceiling Type C1:
    a. **CLARIFY:** 22-gauge AZ55 acrylic coated galvalume will be acceptable as well as the Firestone Omega VR.

Mechanical Specifications:

1. Section 23 21 14 Hydronic Specialties:
    a. **CLARIFY** that prefabricated pump drops with shut-off valves and check valves, shut-off valves and strainers will be acceptable.
2. Section 23 21 23 Hydronic Pumps

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a. **CLARIFY** Paragraph 2.5.C: Pump bowl shall have clip on style bell strainer.
b. **REVISE** Paragraph 2.5.D: Pump impeller shall be 316 stainless steel, statically and dynamically balanced, keyed to shaft.
c. **CLARIFY** Paragraph 2.5.E: Pump shaft shall be 416 stainless steel, with ASTM A53/A53M Grade B steel pipe pump column.
d. **REIVSE** Paragraph 2.5.J: Discharge Head shall be one piece ductile iron type, 150-pound flange, 416 stainless steel headshaft with threaded coupling, cast iron stuffing box, carbon steel sub base, 316 stainless steel hardware.
e. **ADD** Paragraph 2.5.K: Provide pump with anti-vortex plate.

3. Section 23 25 00 Water Treatment
    a. **CLARIFY** supplier for chemical treatment system shall be QCA.
    b. **CLARIFY** 3.2.B and 3.2.C: Cleaning sequence shall apply to newly installed piping and systems.
4. Section 23 52 39.13 Scotch Marine Boilers
    a. **REVISE** Paragraph 1.7: Provide a full 12-month warranty for entire boiler package, including burner and controls.
    b. **REVISE** Paragraph 2.3.A – Factory fire test is not required.
    c. **CLARIFY** Paragraph 2.3.B – Service platform and ladder shall ship loose for field installation by the contractor.
    d. **REVISE** Paragraph 2.4.B: Remove requirement for five (5) year warranty on boiler jacket shell finish.
    e. **REVISE** Paragraph 2.6 Fuel Burning System – burner DOES NOT need to be low NOx and does not require Flue Gas recirculation.
    f. **REVISE** Paragraph 2.7.A Control Panel and Control System Package to include: Boiler control shall utilize MODBUS MSTP communication protocol to interface with the BAS onsite. Refer to Mechanical Control Drawings for further information.
5. Section 23 22 14 Steam and Condensate Heating Specialties
    a. **REVISE** 2.3.G..1 to include the statement: Deaerator control system package shall utilize MODBUS MSTP communication protocol to interface with the BAS onsite. Refer to Mechanical Control drawings further information.
6. Section 23 64 16 Centrifugal Water Chillers
    a. **REVISE** 2.6.B to include the following statement: Chiller controls shall be provided with BACNET MSTP communication protocols for interface with BAS system onsite. Refer to Mechanical Controls drawings for further information.
7. Section 23 65 13 Forced Draft Cooling Towers
    a. **REVISE** Paragraph 1.7: Warranty shall be 12 months for complete tower assembly, with five (5) year leak free warranty on the cold water basin.

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b. **REVISE** Paragraph 2.3.A to include: Cooling towers shall be of the crossflow type.
c. **REVISE** Paragraph 2.4.B.1: Basin material shall be either 301L stainless steel or 304 grade stainless steel.
d. **REVISE** Paragraph 2.4.B.3: All seams shall be fully welded, and factory water tested with basin fill to ensure no leakage.
e. **REVISE** Paragraph 2.4.C: Provide with standard float valve for make-up water control.
f. **REVISE** Paragraph 2.4.D.2: Material for water distribution basin shall be stainless steel.
g. **REVISE** Paragraph 2.4.D.5: Fasteners shall be stainless steel.
h. **REVISE** Paragraph 2.4.G.1.a and 2.4.G.1.b: blade and hub material shall be either aluminum or FRP.
i. **REVISE** Paragraph 2.4.G.1.c: Fan shaft shall be corrosion resistant.
j. **CLARIFY** Paragraph 2.4.G.1.d: L-10 bearing life of 100,000 hours.
k. **REVISE** Paragraph 2.4.G.2.a: Motor and gear drive shall be mounted and aligned by a factory technician in the field for motors mounted outside the airstream.
l. **REVISE** Paragraph 3.2.A: Manufacturer shall include start-up by factory trained technician with time included for a separate trip for each cooling tower.

<u>Mechanical Drawings</u>:

1. Drawing M001 Vibration Isolation Schedule:
    a. **REVISE** Note 4 – Mechanical contractor shall be responsible for all modifications to steel support stands for new equipment based on shop drawings and manufacturer requirements, including all cutting, welding and painting of supports.
2. Drawing M001 Materials Schedules and Notes
    a. Temporary Steam Boiler Notes: **ADD** the following electrical connections for the temporary steam boiler unit
        i. 100A/3P breaker in Panel H1
        ii. 20A/1P breaker in Panel L1
3. Drawing MD100 Power Plant Lower Level Demolition Plan
    a. **REVISE** notes at existing blowdown separator for Boiler 5 & 6 to: Base Bid: Demolish piping from blowdown separator, including boiler drain and blowdown, vent, drain and CW. Salvage blowdown separator for re-installation in same location. Alternate 5: Demolish all piping associated with Base Bid, demolish blowdown separator as well.
    b. **CLARIFY** that existing PVC condenser water piping in area where P-10 and P-11 are demolished is to be demolished as well, except valves at P-12 to remain.
4. Drawing M200 Enlarged Mechanical Plans
    a. **CLARIFY** no motorized damper is necessary behind louver L-1.

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b. **ADD** ¾" HPC with steam trap **T-1** at where 2" HPS turns east toward DE-1. Route ¾" HPC to DE-1 and connect to DE-1.
c. **ADD** label to piping from DE-1 to BDS-3 as 1-1/2" boiler drain.
d. **ADD** Keynote 5 at north side stair of Boiler 5.

5. Drawing M201 Enlarged Mechanical Plans
    a. **REVISE** Keynote 6: Provide new connection from cooling tower chemical treatment system into condenser water piping with one PVC pipe manifold and shut-off valve for treatment, and one inch pipe and shut-off valve for connection to blowdown valve.
    b. **ADD** Keynote 6 at 10" CWS near pump P-8.
    c. **CLARIFY** that PVC piping in mechanical room where pumps P-10 and P-11 are replaced shall be all new with all new valves, except valves at pump P-12 to remain.
    d. **CLARIFY** that all new base mounted and inline chilled and condenser water pumps shall have new shall have flexible pump connector, shut-off valve and strainer on suction inlet, and flexible pump connector, check valve and shut-off valve with memory stop on discharge outlet with new pressure gauge and tapings.
    e. **ADD** to Keynote 4: Provide new blowdown separator BDS-2 as part of Add Alternate 5.
    f. **REVISE** notes at blowdown separator to: Base Bid: Re-install salvaged blowdown separator after deaerator demolition. Alternate 5: Demolish blowdown separator and install new BDS-2.
6. Drawing M203 Enlarged Mechanical Plans
    a. **CLARIFY** that all new base mounted chilled and condenser water pumps shall have new shall have flexible pump connector, shut-off valve and strainer on suction inlet, and flexible pump connector, check valve and shut-off valve with memory stop on discharge outlet with new pressure gauge and tapings.
7. Drawing M400 Mechanical Details
    a. **REVISE** Detail 4 Boiler Flue Stack to provide minimum 96 inch height above roof, verify height with IDNR Permit requirements.
8. Drawing M401 Mechanical Details
    a. **REVISE** Detail 2/M401 Typical Fixed Exhaust Louver with no motorized damper. Motorized damper is not required.
9. Drawing M600 Mechanical Controls
    a. **REMOVE** reference to MOD-1 and integral exhaust fan damper from 4/M600 Exhaust Fan control diagram.
    b. **REVISE** 7/M600 Steam Boiler Control: Boiler controls shall have MODBUS MSTP communication protocol for interface with Siemens BAS.
10. Drawing M601 Mechanical Controls
    a. **REVISE** 2/M601 Chiller Controls: Chiller controls shall have BACNET MSTP communication protocol for interface with Siemens BAS.

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b. **REVISE** 3/M601 Deaerator Controls: Deaerator controls shall have MODBUS MSTP communication protocol for interface with Siemens BAS.

11. Drawing M701 Mechanical Schedules:
    a. **DELETE** Note 5 on Steam Boiler Schedule.
    b. **REVISE** Blowdown Separator Schedule to include BDS-2. BDS-2 is part of Add Alternate 5.

Mechanical – Approved Manufacturers:

The following shall be added to specifications as approved manufacturers. Approval of alternate manufacturers does not relieve the contractor of verifying dimensions and proper fit through doors, openings, and planned installation paths, or proper electrical connection sizes.

23 05 48 Vibration Controls for HVAC – Vibration Isolated Bases:	Vimco
23 09 13 Instrumentation Devices – Insertion Flow Meter:	Badger
23 09 13 Instrumentation Devices – Vortex Flow Meter:	Badger
23 09 13 Instrumentation Devices – Dampers:	Pottorff
23 09 13 Instrumentation Devices – Gas Meter:	Sage
23 21 14 Hydronic Specialties – Pump Connections	Victaulic
23 21 23 Hydronic Pumps:	Taco
23 34 23 HVAC Power Ventilators:	Thermotek
23 37 00 Air Inlets & Outlets – Louvers:	Pottorff American Warming
23 51 00 Breechings:	Ampco, Security
23 52 39.13 Scotch Marine Boilers	Cleaver Brooks
23 64 16 Centrifugal Water Chillers:	Smardt, York
23 65 13 Forced Draft Cooling Towers:	BAC, Evapco

Electrical Specifications:

1. 26 29 23 Variable Frequency Motor Controllers
    a. 2.1 Manufacturers: **CHANGE** basis of design for motor drives over 1000 horsepower to Square D Altivar.

Electrical Drawings:

1. Drawing E100 – ELECTRICAL POWER - BASEMENT:
    a. **ADD** scope to remove existing Panel BP2 and install new Panel BP2 in new location. Refer to attached sketch E1-1 for location. Extend (8) existing 20A/1P and (1) existing 20A/2P circuits to new panel location.
    b. Refer to Temporary Steam Boiler Notes on drawing M001 for information electrical connections for temporary steam boiler. Refer to drawing M002 for location of temporary boiler.

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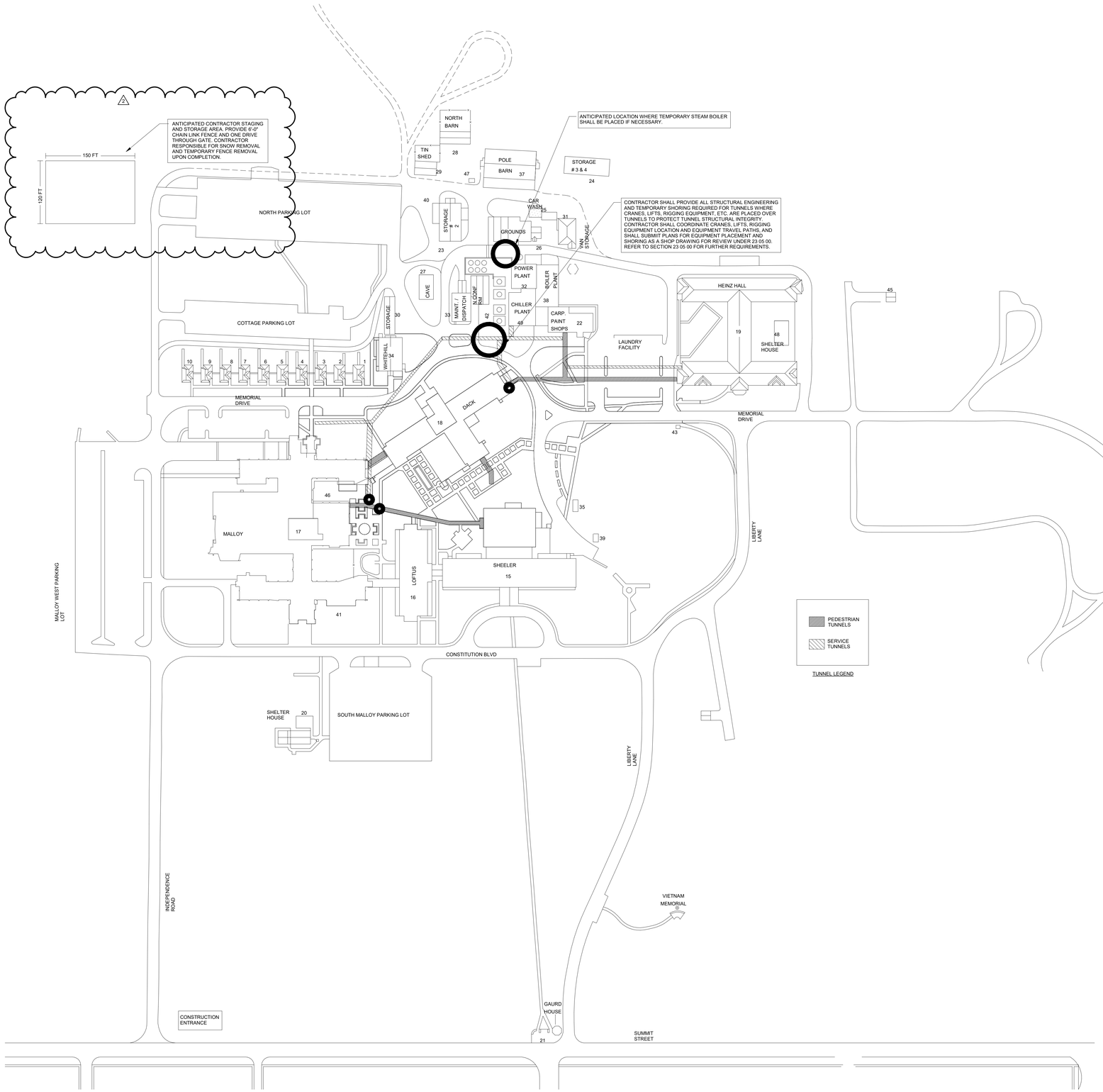
2. Drawing E101
    a. Change name of BP2 to PP.
3. Drawing E200
    a. Refer to revisions to Panel BP2 and Panel PP as indicated on attached sketch E1-3.
    b. Refer to panel schedule for panel BP2 on sketch E1-4.

<u>Electrical – Approved Manufacturers:</u>

1. The following shall be added as approved lighting manufacturers:

Fixture Types E1, E2, X1	Emergilite

End of Addendum.



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

1. Cottage # 1
2. Cottage # 2
3. Cottage # 3
4. Cottage # 4
5. Cottage # 5
6. Cottage # 6
7. Cottage # 7
8. Cottage # 8
9. Cottage # 9
10. Cottage # 10
11.
12.
13.
14.
15. Sheeler Building
16. Loftus Building
17. Malloy Building
18. Dack Care Facility
19. Heinz Hall
20. Shelter House
21. Gate House
22. Carpenter Shop
23. Grounds Storage
24. Maintenance Storage # 3 & # 4
25. Car Wash
26. Grounds Maintenance
27. Cave
28. North Barn
29. Grounds Equipment
30. Storage Garage
31. East Garage
32. Power Plant
33. North Office Complex
34. Whitehill Auditorium
35. Ball Field Concession Stand
36. Pedestrian Tunnels
37. Pole Barn
38. Boiler Plant
39. Storage Garage
40. Lean-to Maintenance Storage # 2
41. Malloy Canteen Sun Room
42. North Conference Room
43. Bus Stop Shelter
44.
45. Business Managers' Garage
46. Greenhouse
47. Grounds Storage
48. Heinz Hall Shelter House
49. Chiller Plant

GENERAL NOTES:

1. REFER TO M000 FOR SYMBOLS LEGEND AND GENERAL NOTES.
2. REFER TO M001 FOR STEAM AND CHILLED WATER PLANT PHASING AND SEQUENCING CONSTRUCTION NOTES, AND MATERIAL SCHEDULES. REFER TO SPECIFICATION SECTION 23 05 00 FOR FURTHER REQUIREMENTS.
3. CONTRACTOR SHALL FULLY REVIEW SPECIFICATION SECTION 23 05 00 FOR SEQUENCING AND PHASING REQUIREMENTS OF STEAM PLANT AND SHOP DRAWING REQUIREMENTS FOR SEQUENCING PLANS.
4. CONTRACTOR SHALL FULLY REVIEW SPECIFICAITON SECTION 23 05 00 FOR SHOP DRAWING REQUIREMENTS FOR CRANE, LIFT AND RIGGING EQIUPMENT PLACING AND SHORING REQUIREMENTS.

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9118.00 DVA IVH MECH & ELEC DISTRIBUTION SYSTEM REPLACEMENT

1301 Summit Street
Marshalltown, IA 50158

Project No: 19155
Date: 05/20/2020

CONSTRUCTION DOCUMENTS

#	Revision	Date
2	Revision 2	06/19/2020

Drawing Name:
SITE NOTES AND REQUIREMENTS

Drawing #:
M002

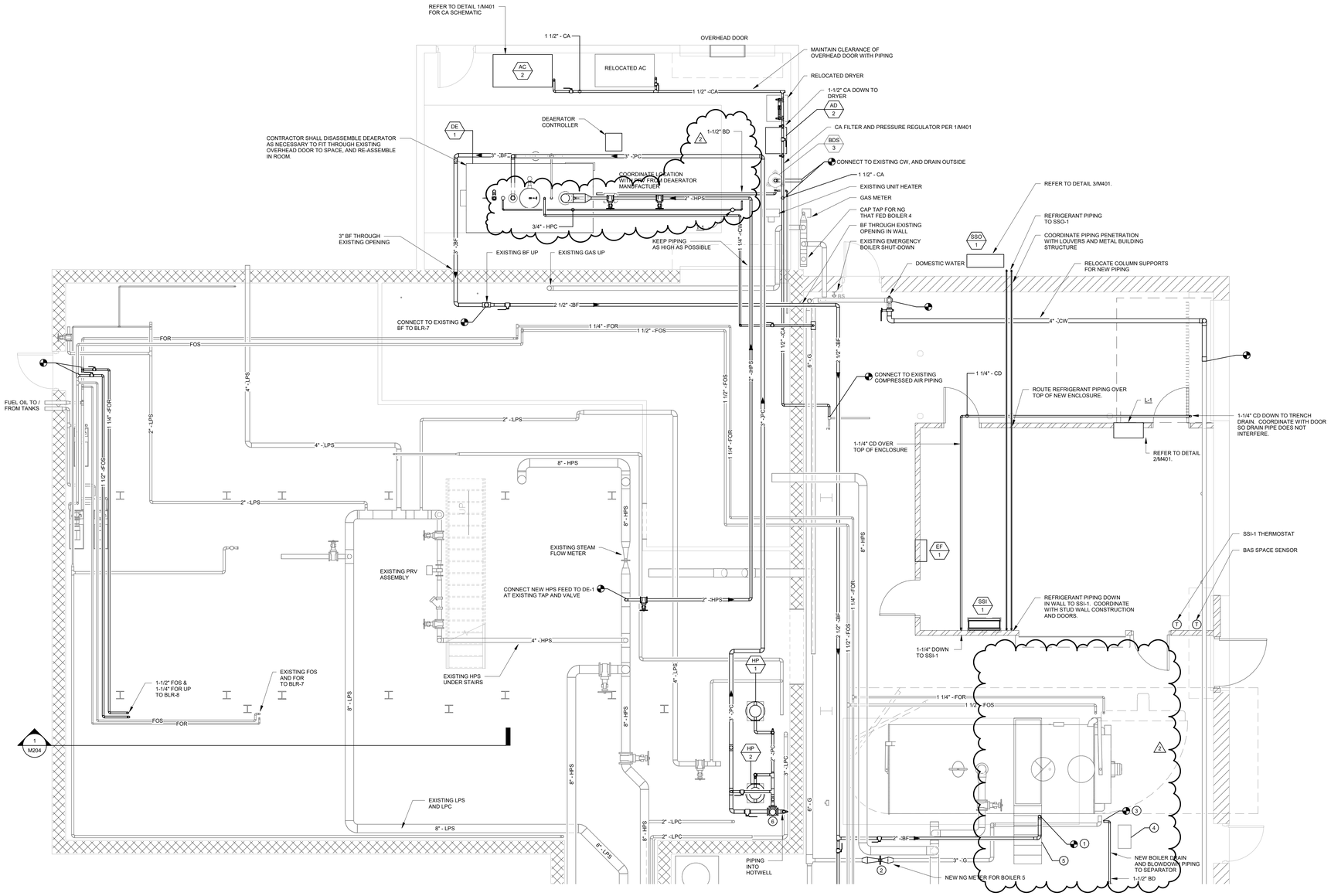
Plot Date & Time: 6/19/2020 4:42:57 PM

GENERAL NOTES:

1. REFER TO M000 FOR SYMBOLS LEGEND AND GENERAL NOTES.
2. REFER TO M001 FOR STEAM AND CHILLED WATER PLANT PHASING AND SEQUENCING CONSTRUCTION NOTES, AND MATERIAL SCHEDULES.
3. REFER TO M400 AND M401 FOR MECHANICAL DETAILS.
4. REFER TO M500 FOR CHILLED WATER SYSTEM SCHEMATIC DIAGRAM.
5. REFER TO M501 FOR STEAM SYSTEM SCHEMATIC DIAGRAM.
6. REFER TO M600 AND M601 FOR CONTROLS SEQUENCES AND DIAGRAMS.
7. REFER TO M700 & M701 FOR MECHANICAL SCHEDULES.

KEYNOTES

1. CONNECT NEW BOILER FEED WATER PIPING TO EXISITNG FEED WATER VALVE TRAIN AT BOILER. EXTEND PIPING AS NECESSARY FOR CLEARANCE AND SERVICE WITH RELOCATED STAIR.
2. NEW GAS FLOW METER WITH NEW FLANGES.
3. NEW BLOWDOWN PIPING CONNECTION WITH PIPING TO BLOWDOWN SEPARATOR.
4. RECONNECT AND INSTALL BOILER CONTROLLER AFTER DEMOLITION OF DEAERATOR. COORDINATE AND VERIFY CONNECTION BACK TO TEMPERATURE CONTROL SYSTEM WITH TEMPERATURE CONTROL CONTRACTOR.
5. RE-INSTALL BOILER STAIR AND PLATROM AFTER ROTATING TO SOUTH SIDE OF BOILER. WELD VERTICAL SUPPORTS OF PLATFORM ON TOP OF BOILER. BACK IN PLACE AND SECURE STAIR BASE WITH NEW CONCRETE ANCHORS AT SLAB.
6. NEW THREE WAY CONTROL VALVE FOR FLOW CONTROL IN PUMPED CONDENSATE PIPING.



1 ENLARGED LOWER LEVEL MECHANICAL PLAN - NORTH

SCALE: 1/4" = 1'-0"

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9118.00 DVA IVH MECH & ELEC REPLACEMENT
DISTRIBUTION SYSTEM RE

1301 Summit Street
Marshalltown, IA 50158

Project No: 19155

Date: 05/20/2020

CONSTRUCTION DOCUMENTS

#	Revision	Date
2	Revision 2	06/19/2020

Drawing Name:
ENLARGED MECHANICAL PLANS

Drawing #:
M200

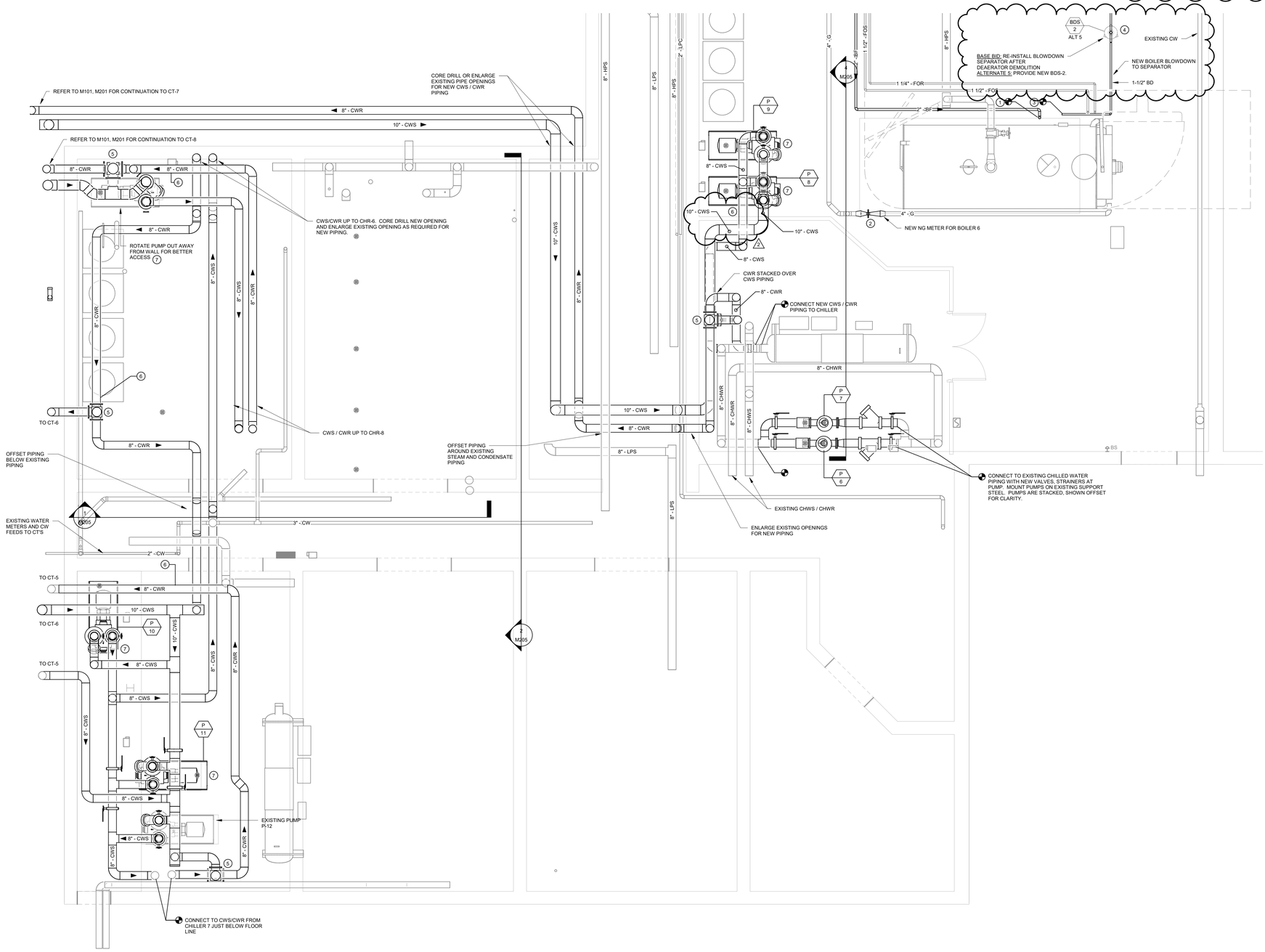
Plot Date & Time: 6/19/2020 4:43:30 PM

GENERAL NOTES:

1. REFER TO M000 FOR SYMBOLS LEGEND AND GENERAL NOTES.
2. REFER TO M001 FOR STEAM AND CHILLED WATER PLANT PHASING AND SEQUENCING CONSTRUCTION NOTES, AND MATERIAL SCHEDULES.
3. REFER TO M400 AND M401 FOR MECHANICAL DETAILS.
4. REFER TO M500 FOR CHILLED WATER SYSTEM SCHEMATIC DIAGRAM.
5. REFER TO M501 FOR STEAM SYSTEM SCHEMATIC DIAGRAM.
6. REFER TO M600 AND M601 FOR CONTROLS SEQUENCES AND DIAGRAMS.
7. REFER TO M700 & M701 FOR MECHANICAL SCHEDULES.
8. PROVIDE ALL NEW HANGERS AND SUPPORTS AS NECESSARY, INCLUDING MISCELLANEOUS SHAPES NECESSARY FOR PROPER HANGER SPACING OF PVC PIPING.

KEYNOTES

1. CONNECT NEW BOILER FEED WATER PIPING TO EXISITNG FEED WATER VALVE TRAIN AT BOILER. EXTEND PIPING AS NECESSARY FOR CLEARANCE AND SERVICE WITH RELOCATED STAIR.
2. NEW GAS FLOW METER WITH NEW FLANGES.
3. NEW BLOWDOWN PIPING CONNECTION WITH PIPING TO BLOWDOWN SEPARATOR.
4. BASE BID: RE-INSTALL SALVAGED BLOWDOWN SEPARATOR AND RECONNECT TO DRAIN BELOW GRADE, WITH NEW BLOWDOWN CONNECTIONS TO BOILER 5 & 6, VENT CONNECTION THROUGH ROOF, CW CONNECTION FOR AFTERCOOLER. ALTERNATE 5: DEMOLISH EXISTING BDS, INSTALL NEW BDS-2.
5. NEW THREE-WAY CONTROL VALVE IN CONDENSER PIPING.
6. PROVIDE NEW CONNECTION FROM COOLING TOWER CHEMICAL TREATMENT SYSTEM INTO CONDENSER WATER PIPING WITH ONE INCH PVC PIPE MANIFOLD AND SHUT-OFF VALVE.
7. EXTEND HOUSEKEEPING PAD FOR PUMP AS NECESSARY.



1 ENLARGED LOWER LEVEL MECHANICAL PLAN - SOUTH
SCALE: 1/4" = 1'-0"

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9118.00 DVA IVH MECH & ELEC DISTRIBUTION SYSTEM REPLACEMENT

1301 Summit Street
Marshalltown, IA 50158

Project No: 19155

Date: 05/20/2020

CONSTRUCTION DOCUMENTS

#	Revision	Date
2	Revision 2	06/19/2020

Drawing Name:
ENLARGED MECHANICAL PLANS

Drawing #:
M201

Plot Date & Time: 6/19/2020 4:43:03 PM

STEAM TRAP SCHEDULE

REFERENCE	T-1
MANUFACTURER	SPIRAX SARCO
MODEL	FTI 125
TYPE	F & T
SERVES	DRIP
CONNECTION SIZE (INCHES)	3/4"
STEAM PRESSSURE (PSIG)	100
CONDENSATE CAPACITY (LB / HR)	970
DIFFERENTIAL PRESSURE (PSIG)	75
NOTES	1,2

NOTES:
1. PROVIDE SHUT-OFF VALVES ON BOTH SIDES OF STEAM TRAPS.
2. PROVIDE STRAINER AHEAD OF STEAM TRAP.

AIR COMPRESSOR

REFERENCE	AC-2
MANUFACTURER	SULLAIR
TYPE	ROTARY SCREW
MODEL #	2209
WEIGHT (LBS)	1,450
FULL LOAD PRESSURE (PSIG)	125
CAPACITY AT FULL LOAD (ACFM)	127
COOLING AIRFLOW (CFM)	2,000
FAN MOTOR HP	1
COMPRESSOR MOTOR HP	30
SOUND (dBA @ 1 METER)	67
ELECTRICAL DATA	
VOLTAGE-PHASE	480-3
PACKAGE MCA	42.7
STARTER TYPE	FV
STARTER BY	MFR
DISCONNECT TYPE	NON-FUSED
DISCONNECT BY	EC
NOTES	1,2,3

NOTES:
1. PROVIDE ALL NECESSARY COMPONENTS FOR A COMPLETE FUNCTIONAL SYSTEM.
2. MOTOR SHALL BE PREMIUM EFFICIENT TEFC TYPE.
3. EC TO PROVIDE DISCONNECT FOR COMPRESSOR AND DRYER SEPARATELY.

COMPRESSED AIR DRYER

REFERENCE	AD-2
MANUFACTURER	SULLAIR
MODEL #	SRP 150
WEIGHT (LBS)	110
NOMINAL AIR FLOW (SCFM)	150
NOMINAL DEWPOINT (°F)	38
MAXIMUM AMBIENT TEMP (°F)	122
MAXIMUM INLET PRESSURE (PSIG)	203
PRESSURE DROP (PSIG)	3.3
REFRIGERANT TYPE	R-407C
COOLING AIRFLOW (CFM)	350
SOUND (dBA @ 1 METER)	<70
ELECTRICAL DATA	
VOLTAGE-PHASE	120-1
MCA	12.6
MOCP	20
DISCONNECT TYPE	NON-FUSED
DISCONNECT BY	EC
NOTES	1,2

NOTES:
1. NOMINAL CONDITIONS AT AMBIENT TEMPERATURE OF 100°F, INLET AIR AT 100 PSIG AND 100°F.
2. DISCONNECT FOR DRYER SEPARATE FROM AIR COMPRESSOR.

MOTORIZED DAMPERS

REFERENCE	MOD-2
MANUFACTURER	TAMCO
SERVES	BOILER COMBUSTION
SIZE (W X H)	48 x 30
CFM	5,075
BLADE STYLE	PARALLEL
BLADE DIRECTION	HORIZONTAL
INSULATED	YES
ACTUATOR TYPE	LOW VOLTAGE
ACTUATOR STYLE	2 POSITION
POWER FAILURE POSITION	OPEN
NOTES	1,2

NOTES:
1. DAMPERS AND ACTUATORS FURNISHED BY TCC, INSTALLED BY MC.
2. DAMPER TO BE INTERLOCKED WITH BLR-8 OPERATION.

DEAERATOR

REFERENCE	DE-1
MANUFACTURER	HURST
MODEL #	OM-50
SERVES	BOILER PLANT
TYPE	SPRAY TYPE
SHIPPING WEIGHT (LBS)	5,400
TANK	
DESIGN PRESSURE (PSIG)	50
DESIGN CAPACITY (LB / HR)	50,000
FEEDWATER FLOW (GPM)	93
TANK CAPACITY (GAL)	1,673
STEAM PRESSURE TO VALVE (PSIG)	100
STEAM OPERATING PRESSURE (PSIG)	5
STEAM FLOW (LB / HR)	2,685
TANK SIZE (IN)	66 x 96
FEEDWATER PUMPS	
MANUFACTURER	GRUNDFOS
TYPE	VERTICAL MULTI-STAGE
QUANTITY	3
FLOW TYPE	VARIABLE
PUMP FLOW RATE, EACH (GPM)	52
PRESSURE (PSIG)	170
MOTOR HP (PER PUMP)	15
ELECTRICAL DATA	
VOLTAGE - PHASE	480-3
DISCONNECT TYPE	NON-FUSED
DISCONNECT BY	MFR
STARTER TYPE	VFD
STARTER BY	MFR
NOTES	1,2,3,4,5,6

NOTES:
1. STEAM PRESSURE IS TO REGULATING / PRESSURE REDUCING VALVE.
2. FEEDWATER PUMPS SHALL HAVE SHUT-OFF VALVE AND STRAINER ON SUCTION SIDE.
3. CONTRACTOR SHALL DISASSEMBLE TANK AND STAND TO FIT THROUGH OVERHEAD DOOR.
4. FEEDWATER PUMP VFD'S BY DEAERATOR MFR AS PART OF DEAERATOR CONTROL PACKAGE.
5. REFER TO M600 FOR FURTHER CONTROL SYSTEM AND SEQUENCING REQUIREMENTS.
6. DEAERATOR SHALL SHIP IN PIECES TO FIT THROUGH OVERHEAD DOOR, OR MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DISASSEMBLY AND RE-ASSEMBLY ONSITE TO FIT THROUGH EXISTING DOOR.

STEAM BOILER

REFERENCE	BLR-8
MANUFACTURER	HURST
MODEL #	SERIES 500
TYPE	WET BACK FIRE TUBE
NUMBER OF PASSES	4
HEATING SURFACE (SQ. FT)	1,750
MAX WORKING PRESSURE (PSIG)	150
SHIPPING WEIGHT (LBS)	27,600
DIMENSIONS L x W x H (INCHES)	241 x 102 x 109
NOMINAL CAPACITY (HORSEPOWER)	350
OUTPUT (MBH)	11,716
NOMINAL STEAM OUTPUT (LB / HR)	12,075
OPERATING PRESSURE (PSIG)	100
STEAM OUTPUT AT OPERATING PRESSURE (LB / HR)	11,691
PRIMARY FUEL	NG
GAS SUPPLY PRESSURE TO BOILER (PSIG)	60
MAXIMUM GAS INPUT (CFH)	14,700
SECONDARY FUEL	# 2 FUEL OIL
MAXIMUM FUEL FLOW (GPH)	105
BURNER TURNDOWN (NG / #2)	12:1 / 8:1
THERMAL EFFICIENCY (NG)	79%
BURNER FAN (HP)	5.0
ELECTRICAL DATA	
VOLTAGE - PHASE	480-3
BURNER CONTROL VOLTAGE - PHASE	120-1
DISCONNECT TYPE	NON-FUSED
DISCONNECT BY	EC
NOTES	1,2,3,4,5

NOTES:
1. BOILER SHALL COMPLY WITH ASME CSD-1 REQUIREMENTS, AND COME FULLY TRIMMED WITH OPERATING & HIGH LIMIT PRESSURE CONTROLS, ASME SAFETY RELIEF VALVES, LOW WATER CUT-OFF, WATER COLUMN WITH GAUGES.
2. BOILER SHALL HAVE FULL O2 TRIM CONTROL, PARALLEL POSITIONING DAMPERS AND VFD DRIVEN FORCED DRAFT BURNER. BURNER FAN VFD BY MFR.
3. BOILER SHALL COME WITH ACCESS LADDER AND PLATFORM ABOVE.
4. BOILER SHALL HAVE SURFACE BLOWDOWN VALVE, SKIMMER TUBE AND CONDUCTIVITY CONTROLLER.
5. REFER TO M600 FOR CONTROL SEQUENCES AND REQUIREMENTS.

FLOW METER SCHEDULE

METER INFO	DACK	LOFTUS	MALLOY	SCHEELER	BLR-5	BLR-6	BLR-8
STEAM							
MANUFACTURER	ROSEMOUNT	ROSEMOUNT	ROSEMOUNT	ROSEMOUNT	--	--	--
METER TYPE	VORTEX	VORTEX	VORTEX	VORTEX	--	--	--
MODEL	8800	8800	8800	8800	--	--	--
MAXIMUM STEAM FLOW (LB/HR)	26,000				--	--	--
CHILLED WATER							
MANUFACTURER	DATA INDUSTRIAL	DATA INDUSTRIAL	DATA INDUSTRIAL	DATA INDUSTRIAL	--	--	--
METER TYPE	INSERTION	INSERTION	INSERTION	INSERTION	--	--	--
MODEL	SDI	SDI	SDI	SDI	--	--	--
MAXIMUM CHILLED WATER FLOW (GPM)	460	210	1,260	430	--	--	--
NATURAL GAS							
MANUFACTURER	--	--	--	--	ROSEMOUNT	ROSEMOUNT	ROSEMOUNT
METER TYPE	--	--	--	--	ORIFICE PLATE	ORIFICE PLATE	ORIFICE PLATE
MAXIMUM GAS FLOW (CFH)	--	--	--	--	21,000	21,000	15,000
PIPE SIZE (IN)	--	--	--	--	4	4	3

NOTES:
1. ALL FLOW METERS FURNISHED BY TEMPERATURE CONTROL CONTRACTOR, INSTALLED BY MECHANICAL CONTRACTOR.
2. PIPE SIZES ARE ESTIMATED AND BASED ON EXISTING DRAWINGS. TEMPERATURE CONTROL AND MECHANICAL CONTRACTOR SHALL FIELD VERIFY PIPE SIZE, MATERIAL AND LOCATION PRIOR TO ORDERING METERS.
3. NEW FLANGES SHALL BE PROVIDED ON PIPING FOR METER INSTALLATION. MECHANICAL CONTRACTOR TO FIELD VERIFY PIPE SIZE, AND COORDINATE FLANGE TYPE WITH METERS.
4. REFER TO PIPING SCHEDULES AND SPECIFICATIONS FOR FURTHER REQUIREMENTS IF SPOOL PIECES, NIPPLES OR LARGER SECTIONS OF PIPING ARE REQUIRED TO REMOVED AND REPLACED FOR INSTALLATION OF NEW METERS.

BLOWDOWN SEPARATOR

REFERENCE	BDS-2	BDS-3
MANUFACTURER	HURST	HURST
MODEL #	BDS-14 x 56	BDS-8
WEIGHT (LBS)	355	100
TANK DIAMETER (IN.)	14	8
TANK LENGTH (IN.)	54.25	26
OVERALL HEIHG (IN.)	80	42
INLET SIZE (IN.)	2 1/2	1 1/4
INLET LENGTH (IN.)	3 1/2	3
VENT & DRAIN (IN.)	6	2 1/2
NOTES	1,2,3,4,5	1,2,3,4

NOTES:
1. PROVIDE WITH OPTIONAL AFTERCOOLER AND TEMPERATURE REGULATOR WITH SELF-POWERED MODULATING CONTROL VALVE.
2. PROVIDE UNIT WITH STRAINER.
3. PROVIDE WITH UNIT MOUNTED THERMOMETER.
4. PROVIDE UNIT WITH CHECK VALVE FROM MANUFACTURER.
5. PROVIDE NEW BLOWDOWN SEPARATOR AS PART OF ADD ALTERNATE 5.

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9118.00 DVA IVH MECH & ELEC DISTRIBUTION SYSTEM REPLACEMENT

1301 Summit Street
Marshalltown, IA 50158

Project No: 19155

Date: 05/20/2020

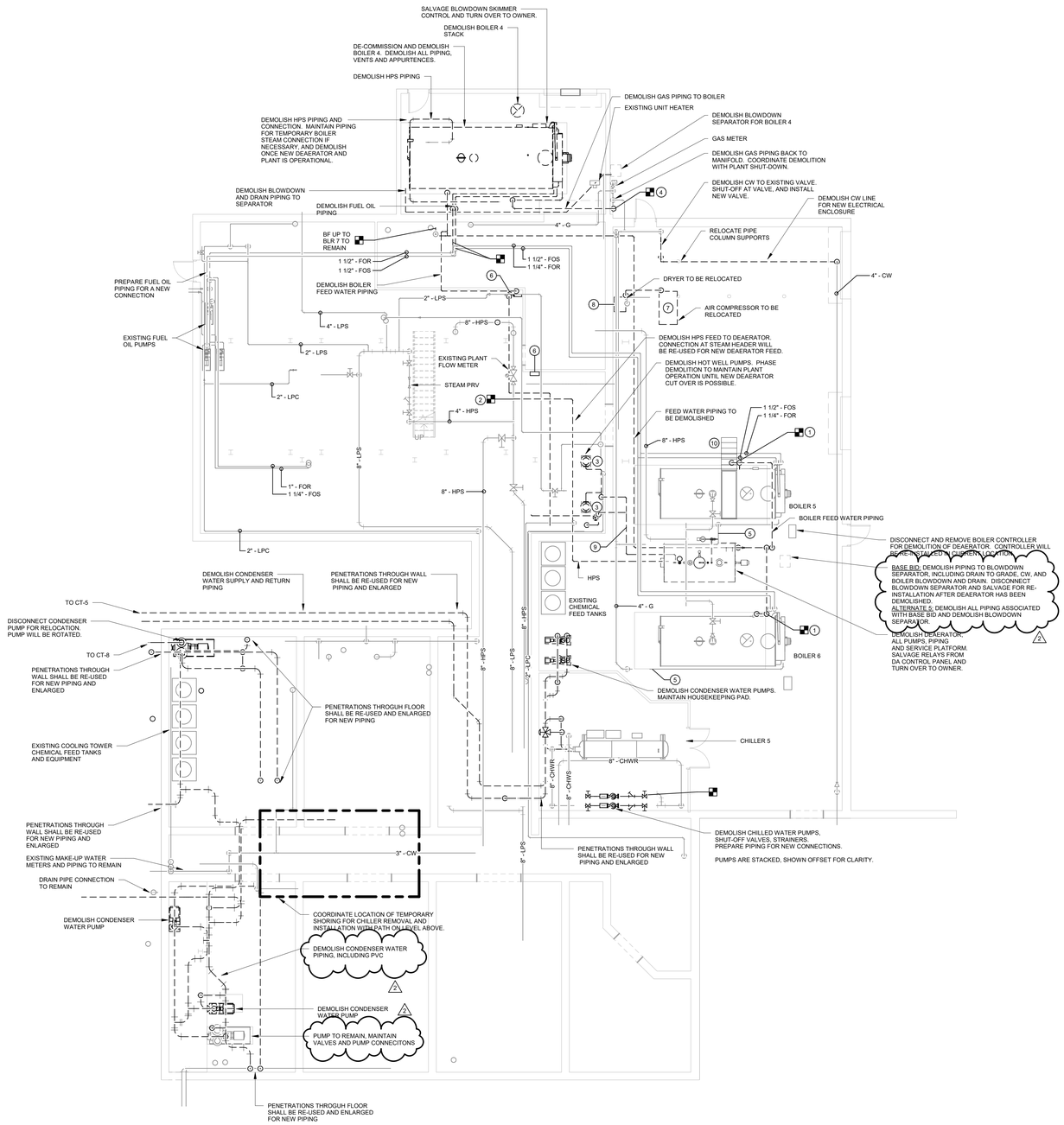
CONSTRUCTION DOCUMENTS

#	Revision	Date
2	Revision 2	06/19/2020

Drawing Name:
MECHANICAL SCHEDULES

Drawing #:
M701

Plot Date & Time 6/19/2020 4:43:07 PM



1 LOWER LEVEL DEMOLITION PLAN

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

GENERAL NOTES:

1. REFER TO M000 FOR GENERAL NOTES & SYMBOLS.
2. REFER TO M001 FOR STEAM AND CHILLED WATER PLANT PHASING AND SEQUENCING NOTES FOR DEMOLITION AND NEW CONSTRUCTION, AND SPECIFICATION SECTION 23 05 00.
3. REFER TO MD500 FOR CHILLED WATER SYSTEM DEMOLITION SCHEMATIC.
4. REFER TO MD501 FOR STEAM SYSTEM DEMOLITION SCHEMATIC.
5. PATCH WALLS, ROOFS, AND/OR FLOOR WHERE DUCTS, GRILLES, PIPES, OR EQUIPMENT ARE REMOVED. PAINT OR FINISH TO MATCH ORIGINAL CONSTRUCTION.
6. COORDINATE WITH OWNER AND OWNERS REPRESENTATIVE FOR WORK IN AREAS CONTAINING HAZARDOUS MATERIALS.
7. WHERE EQUIPMENT IS REMOVED, REMOVE ALL ASSOCIATED SUPPORTS, DUCTWORK, PIPING, AND CONTROLS.
8. WHERE CONTROLS ARE REMOVED, REMOVE ALL ASSOCIATED WIRING AND/OR PNEUMATIC TUBING. PATCH WALL OPENINGS AND PAINT OR FINISH TO MATCH ORIGINAL CONSTRUCTION. IN WALLS THAT CANNOT BE PATCHED, INSTALL STAINLESS STEEL COVER PLATE.

KEYNOTES

1 DEMOLISH BOILER FEED WATER PIPING FROM DEAERATOR TO FEED WATER VALVES. VALVES TO REMAIN, NEW FEED WATER PIPING SHALL BE CONNECTED AT VALVES. COORDINATE SEQUENCING WITH PLANT SHUT DOWN.

2 DEMOLISH HPS FEED TO DEAERATOR. PREPARE FOR NEW CONNECTION AT EXISTING TAP FOR NEW DEAERATOR FEED.

3 DEMOLISH HOT WELL PUMPS AND PUMPED CONDENSATE FEED TO DEAERATOR. PHASE PUMP AND PIPING DEMOLITION WITH PLANT SHUT DOWN AND NEED FOR TEMPORARY STEAM. PROVIDE TEMPORARY PIPE EXTENSION TO TEMPORARY BOILER.

4 COORDINATE NEED FOR TEMPORARY TAP AT GAS MANIFOLD IF TEMPORARY BOILER IS NECESSARY, AND UTILIZE TAP FOR BOILER 4.

5 PREPARE GAS PIPING FOR NEW FLOW METER INSTALLATION. PROVIDE NEW FLANGES ON GAS PIPING IF REQUIRED FOR NEW METER. COORDINATE INSTALLATION WITH GAS SHUT DOWN AND PLANT SHUT DOWN.

6 DEMOLISH FEED WATER PIPING, AND PIPING TO PUMP AND FEED WATER PRESSURE CONTROLLER.

7 DISCONNECT AND DEMOLISH COMPRESSED AIR PIPING FROM COMPRESSOR TO MAIN PIPING. COMPRESSOR SHALL BE RELOCATED. SEQUENCE PIPING REMOVAL AND AIR COMPRESSOR MOVE AFTER NEW COMPRESSOR AND PIPING IS INSTALLED TO MAINTAIN SERVICE.

8 DISCONNECT AND DEMOLISH COMPRESSED AIR PIPING FROM DRYER TO MAIN PIPING. DRYER SHALL BE RELOCATED. SEQUENCE PIPING REMOVAL AND AIR DRYER MOVE AFTER NEW DRYER AND PIPING IS INSTALLED TO MAINTAIN SERVICE.

9 DEMOLISH PUMPED CONDENSATE PIPING IN SEQUENCE NECESSARY TO MAINTAIN PLANT OPERATION.

10 BOILER PLATFORM AND STAIR TO BE ROTATED SO STAIR WILL BE ON SOUTH SIDE. CUT VERTICAL SUPPORTS OF LANDING BETWEEN LANDING AND BOILER SHELL AND REMOVE CONCRETE ANCHORS. REFER TO NOTES ON A1.1 AND M200.

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Project No: 19155

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CONSTRUCTION DOCUMENTS

#	Revision	Date
2	Revision 2	06/19/2020

Drawing Name:
POWER PLANT - LOWER LEVEL DEMOLITION PLAN

Drawing #:
MD100

Plot Date & Time: 6/19/2020 4:43:11 PM

ELECTRICAL DEMOLITION NOTES

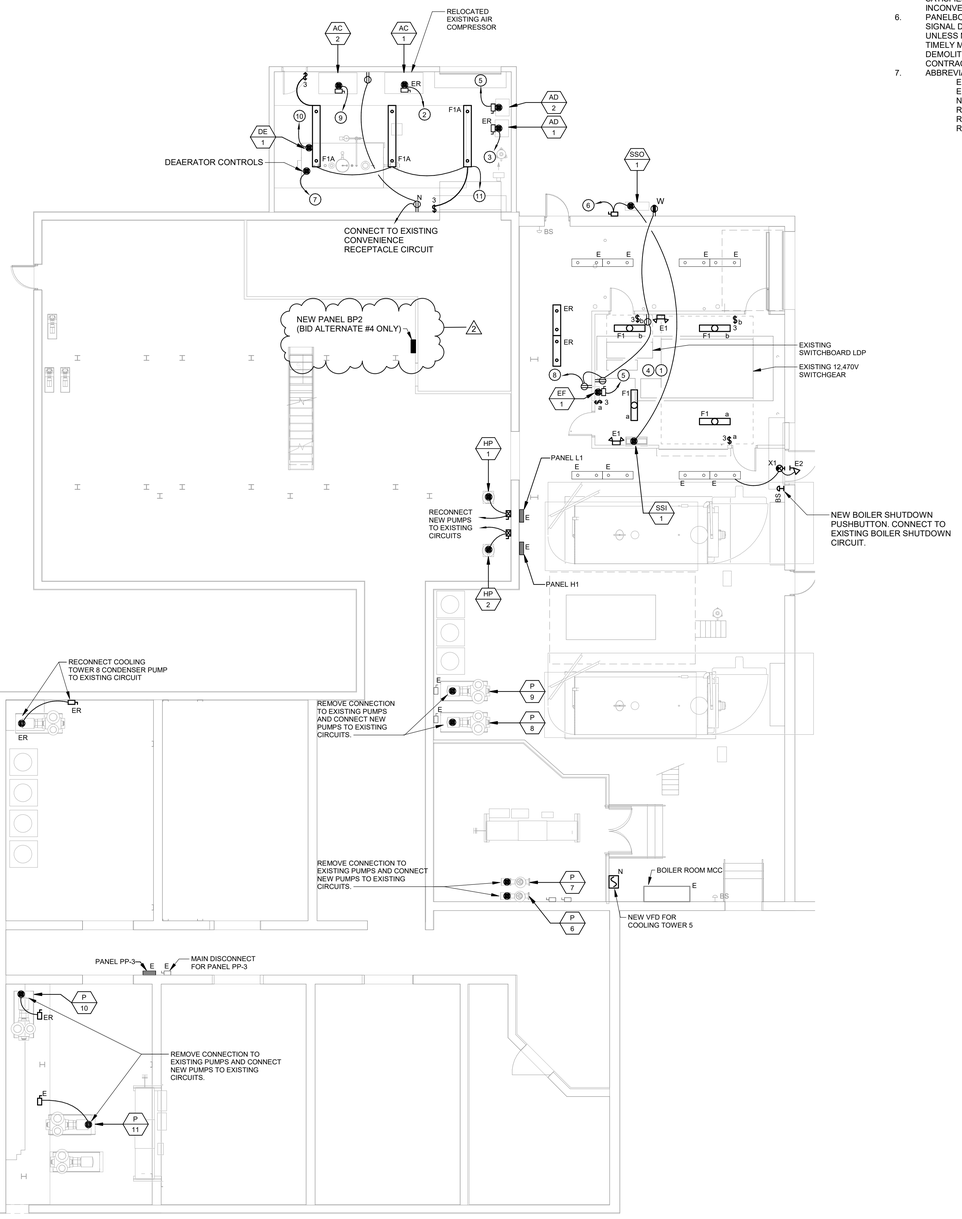
1. DEMOLITION DRAWINGS PRESENT LAYOUT OF EXISTING CONDITIONS AND MAJOR MECHANICAL/ELECTRICAL ITEMS. THEY ARE NOT TO BE CONSTRUED AS COMPLETE IN REPRESENTATION OF ACCESSORIES AND INCIDENTALS TO BE REMOVED, REPLACED, OR REWORKED. NOR SHOULD ACCESSIBILITY BE INFERRED. THE CONTRACTOR IS RESPONSIBLE TO FAMILIARIZE THEMSELVES WITH THE BUILDING AND EXISTING CONDITIONS, PRIOR TO THE SUBMITTING OF A BID FOR THIS PROJECT.
2. PROVIDE PLANT, LABOR, AND MATERIALS TO REMOVE ELECTRICAL FACILITIES AND CLEAR THE AREA TO RECEIVE THE NEW WORK TO BE PROVIDED UNDER THIS CONTRACT.
3. THIS ELECTRICAL DEMOLITION DRAWING SHOWING EXISTING CONDITIONS HAS BEEN PREPARED BASED ON FIELD OBSERVATION AND ORIGINAL DRAWINGS. ADDITIONAL COMPONENTS MAY EXIST WHICH DO NOT SHOW, AND SUCH ITEMS SHALL BE DEALT WITH IN A MANNER SIMILAR TO THOSE ITEMS WHICH DO SHOW. CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH EXISTING CONDITIONS.
4. CONDUITS, BOXES, ETC., SHALL BE REMOVED AS REQUIRED BY WALL AND CEILING DEMOLITION AND REMOVALS. WIRING SHALL BE REMOVED. ALL WIRING FOR THE REMODELED AREAS SHALL BE NEW UNLESS SPECIFICALLY NOTED OTHERWISE. ALL BRANCH CIRCUITS TO BE DISCONNECTED SHALL BE IDENTIFIED AS TO LOCATION OR ITEM SERVED BEFORE DISCONNECTING. CIRCUITS SERVING AREAS BEYOND THE IMMEDIATE DEMOLITION AREA SHALL BE MAINTAINED.
5. CONTRACTOR SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH EXISTING ELECTRICAL SYSTEM WHICH WILL BE AFFECTED BY THE DEMOLITION WORK. CONTRACTOR SHALL OBTAIN PERMISSION FROM OWNER'S REPRESENTATIVE TO SHUT OFF SERVICES OR SYSTEMS WHICH MAY AFFECT OTHER AREAS BEYOND THE LIMITS OF THE IMMEDIATE DEMOLITION AREA. SUCH PERMISSION WILL BE GRANTED ONLY AFTER OWNER'S REPRESENTATIVE IS INFORMED OF THE REASON FOR AND DURATION OF THE SHUTDOWN AND IS SATISFIED THAT THE SHUTDOWN CAN BE MADE WITH AS LITTLE INCONVENIENCE TO OTHER AREAS AS POSSIBLE.
6. PANELBOARDS, DISCONNECTS, FIXTURES, WIRING DEVICES, SIGNAL DEVICES, ETC., SHOWN ON PLANS SHALL BE REMOVED UNLESS NOTED OTHERWISE. REMOVAL SHALL BE DONE IN A TIMELY MANNER IN ACCORDANCE WITH THE GENERAL DEMOLITION WORK. COORDINATE WITH THE OWNER AND OTHER CONTRACTORS.
7. ABBREVIATIONS:
   - E - EXISTING ITEM TO REMAIN
   - ER - NEW LOCATION OF EXISTING ITEM
   - N - NEW ITEM IN EXISTING LOCATION
   - R - EXISTING ITEM TO BE REMOVED. PATCH AND/OR COVER
   - RN - REPLACE EXISTING WITH NEW.
   - RR - EXISTING ITEM TO BE REMOVED AND RELOCATED

POWER GENERAL NOTES

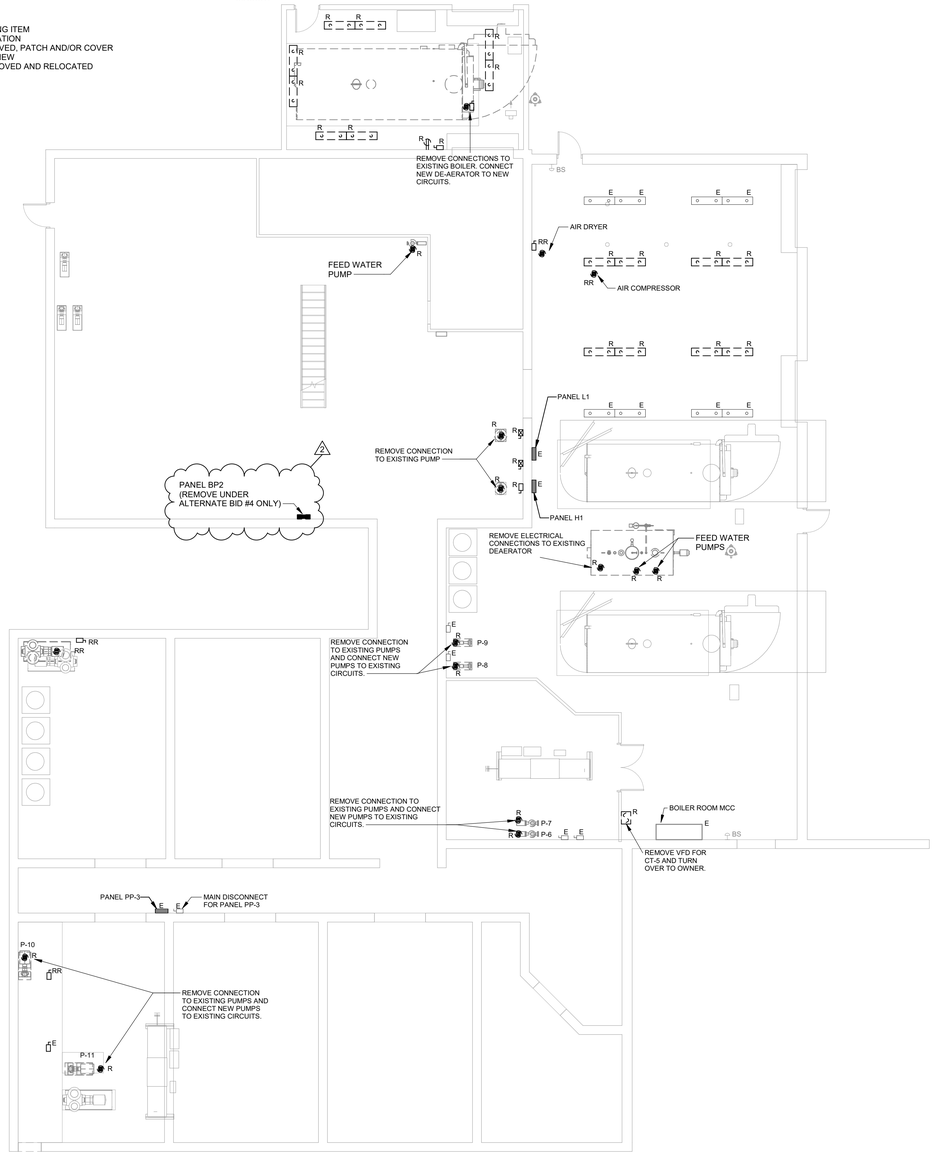
1. COORDINATE LOCATION/INSTALLATION OF MECHANICAL AND ELECTRICAL WORK WITH ALL OTHER TRADES. NO ASPECT OF A SYSTEM INSTALLATION OR ITS ROUGH-IN SHALL COMMENCE UNTIL PROPER AND TIMELY COORDINATION WITH ALL TRADES ASSOCIATED WITH THE INSTALLATION HAS TRANSPIRED. ITEMS TO BE COORDINATED SHALL INCLUDE BUT NOT BE LIMITED TO: BUILDING STRUCTURE, SHEET METAL, PIPING SYSTEMS, LIGHT FIXTURES, CONDUITS, CABLE TRAYS, ETC. REFER TO ALL GENERAL, MECHANICAL, AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
2. COORDINATE ELECTRICAL REQUIREMENTS FOR MECHANICAL UNITS WITH M.C. AND FINAL MECHANICAL SHOP DRAWINGS.

KEYNOTES (#)

1 CONNECT LIGHT FIXTURES IN NEW ELECTRICAL ROOM TO EXISTING LIGHT FIXTURE CIRCUIT.
2 RECONNECT TO EXISTING 60A/3P CIRCUIT FROM PANEL H-1.
3 RECONNECT TO EXISTING 20A/2P CIRCUIT FROM PANEL L-1.
4 COORDINATE WITH GENERAL CONTRACTOR TO PROTECT SWITCHBOARD LDP, MEDIUM VOLTAGE SWITCHGEAR AND BATTERY SYSTEM DURING CONSTRUCTION.
5 CONNECT TO NEW 20A/1P CIRCUIT BREAKER IN EXISTING PANEL L1.
6 CONNECT TO NEW 20A/2P CIRCUIT BREAKER IN EXISTING PANEL L1.
7 CONNECT TO EXISTING 20A/1P DEAERATOR CONTROLS BREAKER IN EXISTING PANEL L1.
8 CONNECT TO NEAREST EXISTING 120V CONVENIENCE RECEPTACLE CIRCUIT.
9 CONNECT TO NEW 50A/3P CIRCUIT BREAKER IN EXISTING PANEL H1.
10 CONNECT TO NEW 125A/3P CIRCUIT BREAKER IN SWITCHBOARD LDP.
11 CONNECT NEW LIGHT FIXTURES TO EXISTING LIGHTING CIRCUIT.



1 BASEMENT - ELECTRICAL - NEW
1/8" = 1'-0"



2 BASEMENT - ELECTRICAL DEMO
1/8" = 1'-0"

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IOWA VETERNS HOME POWER PLANT UPGRADES

19155

1301 Summit Street
Marshalltown, IA 50158

Project No: 19155

Date: 05/20/2020

CONSTRUCTION DOCUMENTS

#	Revision	Date
2	Addendum 2	06/19/2020

Drawing Name:
ELECTRICAL POWER - BASEMENT

Drawing #:
E100

Plot Date & Time: 6/19/2020 11:55:33 AM

ELECTRICAL DEMOLITION NOTES

1. DEMOLITION DRAWINGS PRESENT LAYOUT OF EXISTING CONDITIONS AND MAJOR MECHANICAL/ELECTRICAL ITEMS. THEY ARE NOT TO BE CONSTRUED AS COMPLETE IN REPRESENTATION OF ACCESSORIES AND INCIDENTALS TO BE REMOVED, REPLACED, OR REWORKED. NOR SHOULD ACCESSIBILITY BE INFERRED. THE CONTRACTOR IS RESPONSIBLE TO FAMILIARIZE THEMSELVES WITH THE BUILDING AND EXISTING CONDITIONS, PRIOR TO THE SUBMITTING OF A BID FOR THIS PROJECT.
2. PROVIDE PLANT, LABOR, AND MATERIALS TO REMOVE ELECTRICAL FACILITIES AND CLEAR THE AREA TO RECEIVE THE NEW WORK TO BE PROVIDED UNDER THIS CONTRACT.
3. THIS ELECTRICAL DEMOLITION DRAWING SHOWING EXISTING CONDITIONS HAS BEEN PREPARED BASED ON FIELD OBSERVATION AND ORIGINAL DRAWINGS. ADDITIONAL COMPONENTS MAY EXIST WHICH DO NOT SHOW, AND SUCH ITEMS SHALL BE DEALT WITH IN A MANNER SIMILAR TO THOSE ITEMS WHICH DO SHOW. CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH EXISTING CONDITIONS.
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   - RR - EXISTING ITEM TO BE REMOVED AND RELOCATED

POWER GENERAL NOTES

1. COORDINATE LOCATION/INSTALLATION OF MECHANICAL AND ELECTRICAL WORK WITH ALL OTHER TRADES. NO ASPECT OF A SYSTEM INSTALLATION OR ITS ROUGH-IN SHALL COMMENCE UNTIL PROPER AND TIMELY COORDINATION WITH ALL TRADES ASSOCIATED WITH THE INSTALLATION HAS TRANSPIRED. ITEMS TO BE COORDINATED SHALL INCLUDE BUT NOT BE LIMITED TO: BUILDING STRUCTURE, SHEET METAL, PIPING SYSTEMS, LIGHT FIXTURES, CONDUITS, CABLE TRAYS, ETC. REFER TO ALL GENERAL, MECHANICAL, AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
2. COORDINATE ELECTRICAL REQUIREMENTS FOR MECHANICAL UNITS WITH M.C. AND FINAL MECHANICAL SHOP DRAWINGS.

KEYNOTES (#)

1 REMOVE CONNECTION TO COOLING TOWER FAN. SALVAGE EXISTING DISCONNECT SWITCH AND PREPARE CIRCUIT TO BE RECONNECTED TO NEW COOLING TOWER.

2 RECONNECT EXISTING COOLING TOWER CIRCUIT TO NEW COOLING TOWER FAN. REINSTALL EXISTING DISCONNECT SWITCH.

3 CONNECT TO EXISTING 800A/3P CIRCUIT BREAKER IN SWITCHBOARD HDP. REFER TO ONE-LINE DIAGRAM FOR DETAILS.

4 REMOVE EXISTING VFD'S FOR PUMPS 15 AND 16 FROM EXISTING MCC. (ALTERNATE BID)

5 INSTALL NEW VFD'S FOR PUMPS 15 AND 16 IN EXISTING SIEMENS MCC. VFDS WILL BE PROVIDD BY TEMPERATURE CONTROL CONTRACTOR. (ALTERNATE BID)

6 INSTALL DISCONNECTS ON UNI-STRUT RACK SIMILAR TO ADJACENT EXISTING BOILER. LABEL DISCONNECT WITH EQUIPMENT SERVED AND SOURCE PANEL/BREAKER.

7 CONNECT TO NEW 20A/1P CIRCUIT BREAKER IN EXISTING PANEL L-1 USING #10 CONDUCTORS.

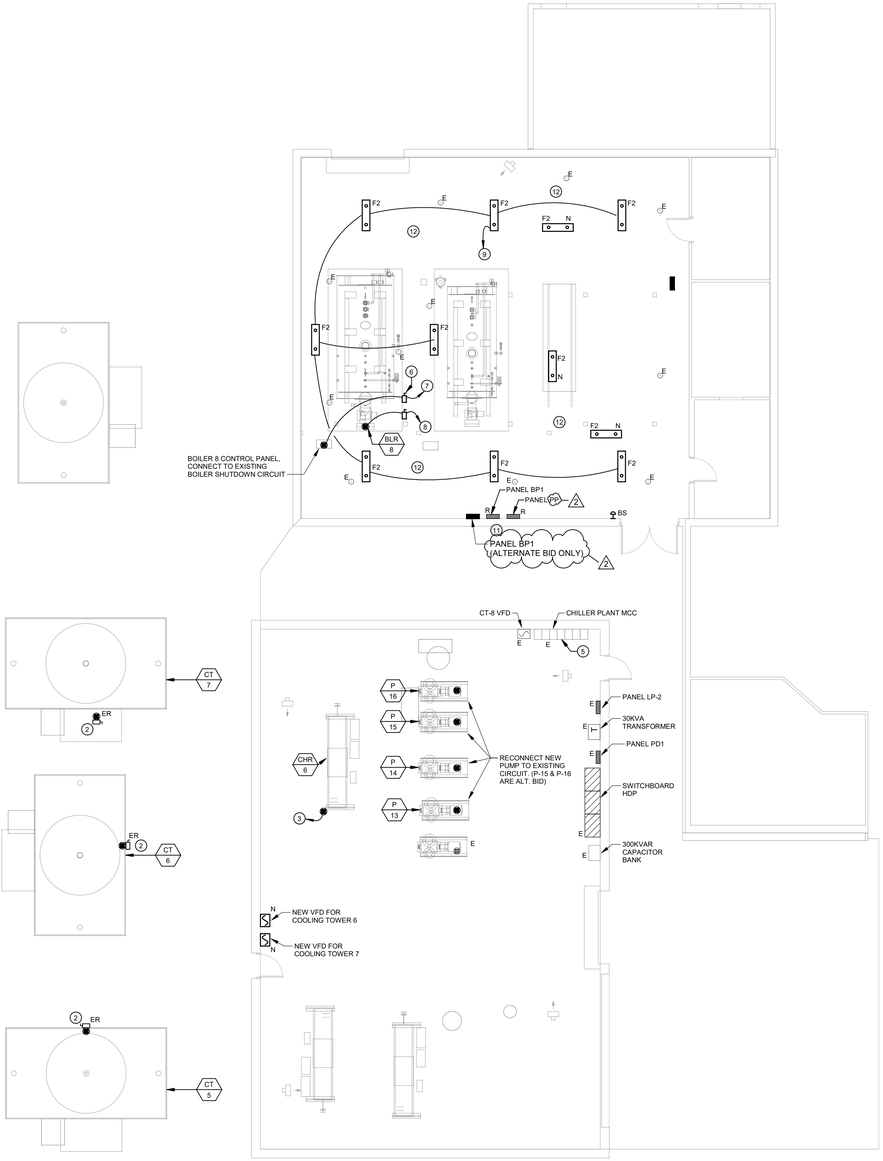
8 CONNECT TO NEW 30A/3P CIRCUIT BREAKER IN EXISTING PANEL H-1 USING #10 CONDUCTORS.

9 CONNECT TO EXISTING OVERHEAD LIGHTING CIRCUIT.

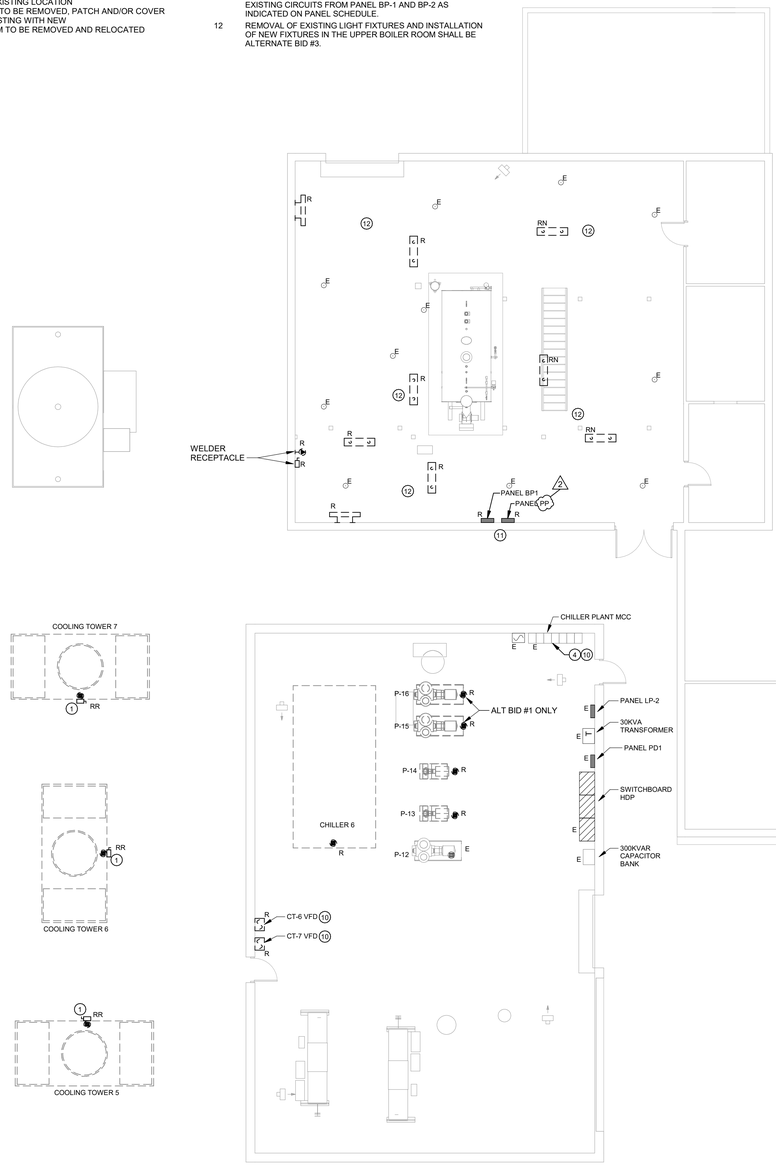
10 REMOVED VFD'S WILL BE SALVAGED BY OWNER.

11 EXISTING PANELS BP1 AND BP2 SHALL BE REPLACED WITH NEW PANEL BP UNDER ALTERNATE BID #4. EXTEND EXISTING CIRCUITS FROM PANEL BP-1 AND BP-2 AS INDICATED ON PANEL SCHEDULE.

12 REMOVAL OF EXISTING LIGHT FIXTURES AND INSTALLATION OF NEW FIXTURES IN THE UPPER BOILER ROOM SHALL BE ALTERNATE BID #3.



1 FIRST LEVEL - ELECTRICAL - NEW
1/8" = 1'-0"



2 FIRST LEVEL - ELECTRICAL DEMO
1/8" = 1'-0"

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IOWA VETERNS HOME POWER PLANT UPGRADES

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Project No:	19155
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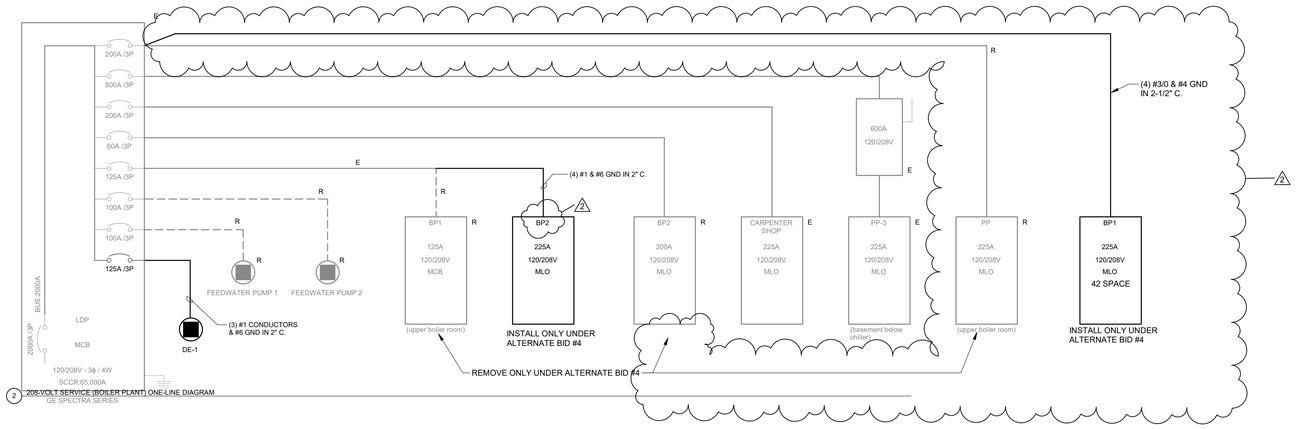
2	Addendum 2	06/19/2020

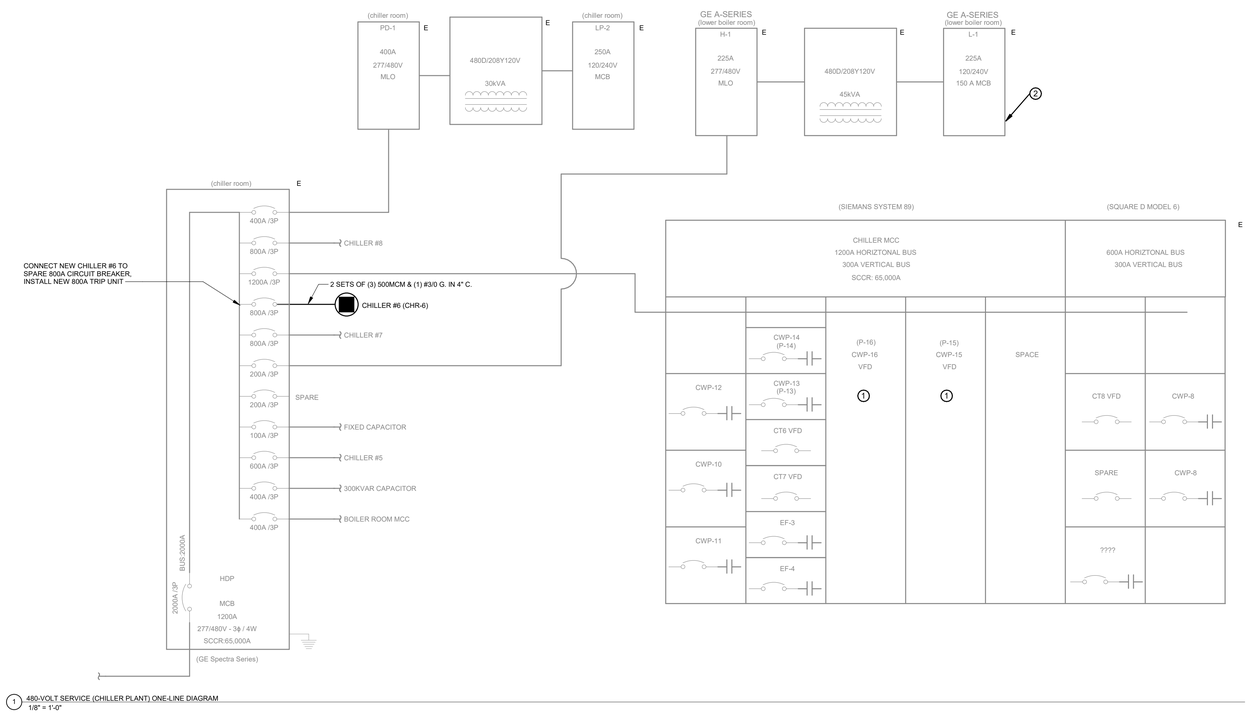
Drawing Name:
ELECTRICAL POWER - FIRST LEVEL

Drawing #:
E101

Plot Date & Time: 6/19/2020 11:55:23 AM



2 208-VOLT SERVICE (BOILER PLANT) ONE-LINE DIAGRAM
GE SPECTRA SERIES



1 480-VOLT SERVICE (CHILLER PLANT) ONE-LINE DIAGRAM
1/8" = 1'-0"

ELECTRICAL RISER DIAGRAM NOTES

1. DIAGRAM INDICATES OVERALL LAYOUT OF ELECTRICAL DISTRIBUTION SYSTEM. REFER TO FLOOR PLANS FOR EQUIPMENT LOCATIONS.
2. WIRING SHALL BE COPPER UNLESS INDICATED OTHERWISE.
3. NEUTRAL CONDUCTOR SIZE SHALL MATCH THE PHASE CONDUCTORS UNLESS OTHERWISE NOTED.

KEYNOTES

1. UNDER ALTERNATE BID #1 REMOVE EXISTING VFD FROM MCC AND INSTALL NEW VFD PROVIDED BY TEMPERATURE CONTROL CONTRACTOR.
2. REMOVE THE FOLLOWING CIRCUIT BREAKERS TO MAKE SPACE FOR NEW BREAKERS:
   (1) 100A/3P - SPARE
   (1) 60A/3P CIRCUIT - FEED PUMP 3

ELECTRICAL PANEL SPECIFICATIONS - PANEL BP (ALTERNATE #4 ONLY)

LOAD DESCRIPTION	LOAD (VA)	BRKR AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BRKR AMP	P	LOAD (VA)	LOAD DESCRIPTION
EXISTING LOAD	-	20	1	1				2	20	1	-	EXISTING LOAD
EXISTING LOAD	-	20	1	3				4	20	1	-	EXISTING LOAD
EXISTING LOAD	-	20	1	5				6	20	1	-	EXISTING LOAD
EXISTING LOAD	-	20	1	7				8	20	1	-	EXISTING LOAD
EXISTING LOAD	-	20	1	9				10	20	1	-	EXISTING LOAD
EXISTING LOAD	-	20	1	11				12	20	1	-	EXISTING LOAD
EXISTING LOAD	-	20	1	13				14	20	1	-	EXISTING LOAD
EXISTING LOAD	-	20	1	15				16	20	1	-	EXISTING LOAD
EXISTING LOAD	-	20	1	17				18	20	1	-	EXISTING LOAD
EXISTING LOAD	-	20	1	19				20	20	1	-	EXISTING LOAD
EXISTING LOAD	-	20	1	21				22	20	1	-	EXISTING LOAD
EXISTING LOAD	-	20	1	23				24	20	1	-	EXISTING LOAD
ROOF VENTS	-	20	3	25				26	20	1	-	SPARE
-	-	-		27				28	20	1	-	SPARE
-	-	-		29				30	20	1	-	SPARE
SPARE	-	20	1	31				32	20	1	-	SPARE
SPARE	-	20	1	33				34	20	1	-	SPARE
SPARE	-	20	1	35				36	20	1	-	SPARE
SPACE	-	-		37				38	20	1	-	SPACE
SPACE	-	-		39				40	-	-	-	SPACE
SPACE	-	-	-	41				42	-	-	-	SPACE

VOLTS-PHASE-WIRE	120/208V-3PHASE-4W
BUS RATING	225A
MAIN BREAKER RATING	MLO
MOUNTED	SURFACE
SCCR RATING	22,000

PANEL BP (ALTERNATE #4 ONLY)

2

ELECTRICAL PANEL SPECIFICATIONS - PANEL BP2 (ALTERNATE #4 ONLY)

LOAD DESCRIPTION	LOAD (VA)	BRKR AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BRKR AMP	P	LOAD (VA)	LOAD DESCRIPTION
EXISTING LOAD	-	20	1	1				2	20	1	-	EXISTING LOAD
EXISTING LOAD	-	20	1	3				4	20	1	-	EXISTING LOAD
EXISTING LOAD	-	20	1	5				6	20	1	-	EXISTING LOAD
EXISTING LOAD	-	20	1	7				8	20	1	-	EXISTING LOAD
EXISTING LOAD	-	20	2	9				10	20	1	-	SPARE
-	-	-	-	11				12	20	1	-	SPARE
SPARE	-	20	1	13				14	20	1	-	SPARE
SPARE	-	20	1	15				16	20	1	-	SPARE
SPARE	-	20	1	17				18	20	1	-	SPARE
SPARE	-	20	1	19				20	20	1	-	SPARE
SPARE	-	20	1	21				22	20	1	-	SPARE
SPARE	-	20	1	23				24	20	1	-	SPARE
SPARE	-	20	3	25				26	20	1	-	SPARE
-	-	-		27				28	20	1	-	SPARE
-	-	-		29				30	20	1	-	SPARE
SPARE	-	20	1	31				32	20	1	-	SPARE
SPARE	-	20	1	33				34	20	1	-	SPARE
SPARE	-	20	1	35				36	20	1	-	SPARE
SPACE	-	-		37				38	20	1	-	SPACE
SPACE	-	-		39				40	-	-	-	SPACE
SPACE	-	-	-	41				42	-	-	-	SPACE

VOLTS-PHASE-WIRE	120/208V-3PHASE-4W
BUS RATING	225A
MAIN BREAKER RATING	MLO
MOUNTED	SURFACE
SCCR RATING	22,000

PANEL BP2 (ALTERNATE #4 ONLY)

KCL ENGINEERING
300 4th Street,
West Des Moines,
Iowa 50265

info@kclengineering.com
Phone: 515.724.7938

IOWA VETERNS HOME POWER PLANT UPGRADES

19155

1301 Summit Street
Marshalltown, IA 50158

Project No: 19155

Date: 05/20/2020

CONSTRUCTION DOCUMENTS

#	Revision	Date
2	Addendum 2	06/19/2020

Drawing Name:
ELECTRICAL ONE-LINE DIAGRAM

Drawing #:
E200

Plot Date & Time: 6/19/2020 11:55:24 AM

SECTION 00 4116

REVISED BID FORM

RFB #911800-02

BID FORM for CONSTRUCTION CONTRACT
for
Iowa Veterans Home
1301 Summit St., Marshalltown, Iowa
Project 9118.00

Iowa Department of Administrative Services
GSE-Central Procurement Bureau
Hoover State Office Building, Level 3
1305 East Walnut Street
Des Moines, Iowa 50319-0105

The following documents are to be completed and submitted with your bid.

1. Bid Proposal Form (Required)
2. Non Discrimination Clause Form
3. Contractor Targeted Small Business Enterprise Pre-Bid Contract Information Form
4. Bid Security – 5% of total Bid amount (Is to be submit in separate envelope) (Required)

Authorized Representative:
The undersigned Bidder, in response to your Request for Bid for construction of the above project, having examined the Drawings, Specifications, and other Bidding Documents dated May 20th, 2020, and Addenda issued and acknowledged below as received and being familiar with all the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby proposes to furnish all labor, materials, equipment and supplies to perform all work to construct the project in strict accordance with the proposed Contract Documents, within the time and at the prices stated below. Prices are to cover all expenses incurred in performing the work required under the proposed Contract Documents, of which this bid is a part.

Bidder acknowledges receipt of the following Addenda which are a part of the Bidding Documents and for which any effect on cost of the Work is included in the bid amounts indicated:

Number _____ _____ _____ _____ _____

Dated _____ _____ _____ _____ _____

Note that the State of Iowa is exempt from State and Local sales and use taxes (including local option and school option) for this project. Taxes on construction materials shall NOT be included in the bid amounts.

Amounts shall be indicated in both words and figures. In case of discrepancy, the amount indicated in words shall govern.

BID PACKAGES:

BP 01 – Mechanical

Description: New Mechanical equipment, connections and decommissioning of existing.

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

_____

_____Dollars

($_____). **This sum shall include $70,000 for Allowance #01 and $25,0000 for Allowance #02.**

BP 02 – Electrical

Description: New Electrical equipment, connections, lighting, and decommissioning of existing.

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

_____

_____Dollars

($_____). **This sum shall include $10,000 for Allowance #01.**

BP 03 – General Construction

Description: Switch gear enclosure & misc. steel modifications.

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

_____

_____Dollars

($_____).

ALTERNATES:

ALT 01 – Pump 15 & 16 Replacement & VFDS

Bidder proposes and agrees to perform all work applicable to their bid package as described in the Construction Documents for the sum of:

_____

_____Dollars

($_____).

ALT 02 – CT-8 Basin

Bidder proposes and agrees to perform all work applicable to their bid package as described in the Construction Documents for the sum of:

_____

_____Dollars

($_____).

ALT 03 – Upper Boiler Room Lighting

Bidder proposes and agrees to perform all work applicable to their bid package as described in the Construction Documents for the sum of:

_____

_____Dollars

($_____).

ALT 04 – Electrical Panel BP1, BP2, & BPP Replacement

Bidder proposes and agrees to perform all work applicable to their bid package as described in the Construction Documents for the sum of:

_____

_____Dollars

($_____).

ALT 05 – Blowdown Separator BDS-2 Replacement

Bidder proposes and agrees to perform all work applicable to their bid package as described in the Construction Documents for the sum of:

_____

_____Dollars

($_____).

UNIT PRICE:

UNIT PRICE 01 – Valve Replacement Crew

Description: Provide cost per unit for each labor rate necessary for valve installation.

Item No.	Description	Unit	Unit Price
1	Plumber Journeyman	Hr.	
2	Plumber Apprentice	Hr.	
3	Welder (Steamfitter)	Hr.	
4	Steamfitter	Hr.	

Bidder hereby certifies that:

1. This bid is genuine and is not made in the interest of or on behalf of any undisclosed person, firm or corporation;
2. Bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid; Bidder has not solicited or induced any person, firm or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain any advantage over any other bidder or over the Owner.
3. Bidder hereby certifies that the Bidder is registered with the Iowa Labor Commissioner as a Contractor as required by Chapter 91C, Code of Iowa.
4. Bidder agrees to comply with all Federal and State Affirmative Action/Equal Employment Opportunity requirements concerning fair employment and will not discriminate between or among them by reason of race, color, religion, sex, national origin or physical handicap.
5. All construction under this Contract shall conform to the requirements of the *Iowa State Building Code*.
6. Bidder agrees that this bid shall remain valid and shall not be withdrawn for a period of thirty (30) calendar days after the date for receipt of bids.
7. Bidder agrees that if written notice of acceptance of this bid is mailed, emailed, or delivered to the undersigned within thirty (30) days after the date in which bids are due, or at any time thereafter before it is withdrawn, the undersigned will sign and return the Contract Agreement, prepared in accord with the Bidding Documents and this bid as accepted; and will also provide proof of insurance coverage and required surety bonds.
8. Bidder understands that the Owner reserves the right to reject any and all bids, and to waive irregularities or informalities and enter into a contract for the work, as the Owner deems to be in the best interest of the State.
9. Bidder understands that the Owner reserves the right to accept any, or no, Alternate Bid, if requested, and that the Alternate Bids may be considered in any order or combination, and the low Bidder shall be determined on the basis of the sum of the base bid and any Alternate(s) accepted.

Subcontractors:
The Trade Contractor must identify all Subcontractors and Suppliers within 48 hours of the published date and time for which bids must be submitted, in accordance with Iowa Code Section 8A311, as amended by House File 646 in 2011. Subcontractors and suppliers may not be changed without the approval of the Owner. Requests for changing a Subcontractor or supplier must identify the reason for the proposed change, the name of the new Subcontractor or supplier, and the change in the subcontractor or supplier price as a result of the change. Any reduction in subcontractor or supplier price as a result of the change, if the change is approved by the Owner, shall be deducted from the Trade Contract Price via a deductive Change Order. Any such changes, if approved by the Owner, which result in an increase in the Trade Contract Price shall be borne by the Trade Contractor.

Enforcement of Reciprocal Resident Bidder Preference, per Iowa Code 73A.21.

All bidders shall either check the box next to “Resident Bidder” or check the box next to “Nonresident Bidder” and by doing so and signing thereafter certifies and attests to the same. All information requested must be provided. Seek out the advice of an attorney if you have questions.

"Resident Bidder" means a person or entity authorized to transact business in of the State of Iowa and having a place of business for transacting business within the State of Iowa at which it is conducting and has conducted business for at least three years prior to the date of the first advertisement for the public improvement. Note, however, that if a nonresident bidder's state or foreign country has a more stringent definition of a resident bidder, the more stringent definition is applicable as to bidders from that state or foreign country.

Resident Bidder ☐

Name of Resident Bidder: _____

By: _____
Authorized Agent and Signatory of Resident Bidder

OR:

Nonresident Bidder ☐

Name of Nonresident Bidder: _____

Name of State or Foreign Country of Nonresident Bidder: _____

Particularly identify and describe any preference, labor preference, or any other type of preferential treatment, in effect in the nonresident bidder's state or foreign country at the time of this bid:
_____
_____
_____
_____

NOTICE: Nonresident Bidders domiciled in a state or country with a resident labor force preference shall make and keep, for a period of not less than three years, accurate records of all workers employed on the public improvement. The records shall include each worker's name, address, telephone number when available, social security number, trade classification, and the starting ending time of employment.

By: _____
Authorized Agent and Signatory of Nonresident Bidder

Bid Form shall be signed by an officer of the company with authority to bind in a contract.
Notice of acceptance of this bid, or request for additional information by the Department of Administrative Services, may be addressed to the undersigned at the address set forth below:

Legal Name of Firm: _____

Date: _____

Signature of Bidder: _____

Title: _____

Typed Name of Signatory: _____

Email: _____

Business Address:

_____
_____
_____

Telephone Number: _____ Fax Number: _____

Federal Tax Identification Number: _____

Iowa Contractor Registration Number: _____

Bidder Safety Manager Name:_____

For an out-of-state Bidder, Bidder certifies that the Resident Preference given by the State or Foreign Country of Bidder's residence, _____, is _____ %.

END OF SECTION