



## ADDENDUM NUMBER ONE

January 8, 2021

### RFQ #21-912-11

### HVAC REPLACEMENT AT THE GUSTE II HOUSING COMMUNITY

THIS ADDENDUM IS BEING ISSUED TO INCORPORATE THE FOLLOWING IN THE REFERENCED REQUEST FOR QUOTES.

#### ITEM #1 SCOPE OF SERVICES

DELETE: remove the following from "SCOPE OF WORK – 1. BASE BID":

- b. Install thirteen (13) condensing units as follows:
  - i. Ten (10) 2-ton units
  - ii. Five (05) 2.5-ton units

INSERT: insert the following to "SCOPE OF WORK – 1. BASE BID":

- b. Install fifteen (15) condensing units as follows:
  - i. Ten (10) 2-ton units
  - ii. Five (05) 2.5-ton units

#### ITEM #2 WRITTEN QUESTIONS RECEIVED

**Q1: At the walk through it was stated that the bid documents had addresses attached to clearly identify the units that were to be changed out. Are these specific items available for clarity?**

A1: Refer to Item #3 below.

**Q2: The details of this project does not give a SEER Rating to replace. Will the condensers be 16 SEERS?**

A2: As noted in the "Condensing Unit Schedule" Note #2, all condensing units shall be a minimum of 14 SEER.

**Q3: Will the sight glasses be removed and replaced in this project?**

A3: Due to demolition and removal of the existing condensing units and refrigerant piping, all sight glasses and filter dryers shall be new.

#### ITEM #3 DRAWINGS AND SPECIFICATIONS

INSERT: add "Drawings" and "Specifications" to the front end documents, as attached.

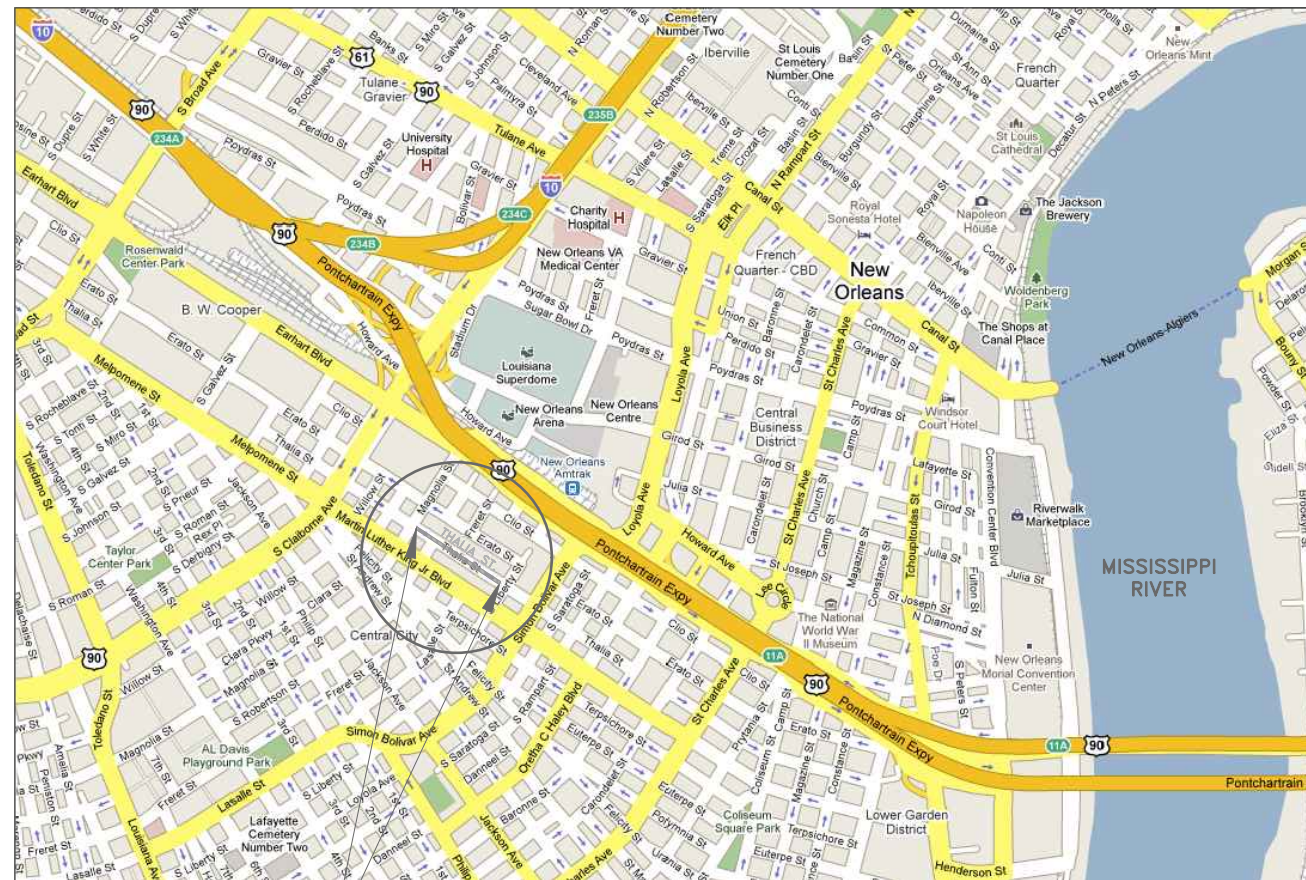
**Quotes must be received by the Housing Authority of New Orleans (HANO) in the Office of Procurement and Contracts by 2:00 p.m., local time on Wednesday, January 13, 2021. All terms and conditions shall remain as stated in the original Request for Quotes. All addenda must be acknowledged.**

**END OF ADDENDUM NUMBER ONE**

# GUSTE 2 CONDENSER UNIT REPLACEMENTS 2401 THRU 2519 THALIA ST. NEW ORLEANS LOUISIANA

## ABBREVIATIONS

|          |                            |
|----------|----------------------------|
| CLR.     | CLEAR                      |
| CMU      | CONCRETE MASONRY UNIT      |
| CONC.    | CONCRETE                   |
| DIM. PT. | DIMENSION POINT            |
| EO       | EDGE OF                    |
| E.F.     | EXHAUST FAN                |
| (E)      | EXISTING                   |
| EX.      | EXISTING                   |
| EXT.     | EXTERIOR                   |
| F.O.     | FACE OF                    |
| FDN      | FOUNDATION                 |
| GSM      | GALVANIZED SHEET METAL     |
| HDG      | HOT DIPPED GALVANIZED      |
| MFG.     | MANUFACTURER               |
| MTL.     | METAL                      |
| (N)      | NEW                        |
| N.I.C.   | NOT IN CONTRACT            |
| O.C.     | ON CENTER                  |
| O/       | OVER                       |
| PT       | PRESSURE TREATED           |
| RA.      | RETURN AIR                 |
| RAG      | RETURN AIR GRILLE          |
| S.A.M.   | SELF ADHERING MEMBRANE     |
| SIM      | SIMILAR                    |
| STL      | STEEL                      |
| STRL     | STRUCTURAL                 |
| T.B.D.   | TO BE DETERMINED           |
| (TBR&R)  | TO BE REMOVED AND REPLACED |
| T&B      | TOP AND BOTTOM             |
| T.O.     | TOP OF                     |
| (TYP)    | TYPICAL                    |
| U        | UNDERCUT                   |
| (UIP)    | USE IN PLACE               |



GUSTE 2 BUILDINGS  
PROJECT LOCATION

LOCATION MAP

ARCHITECT/ENGINEER:

**ECM Consultants, Inc.**

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1301 CLEARVIEW PARKWAY, SUITE 200  
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Email: mail @ ecmconsultants.com

OWNER:

**HANO**

HOUSING AUTHORITY OF NEW ORLEANS  
4100 TOURO STREET  
NEW ORLEANS, LOUISIANA 70122  
PHONE: (504) 670-3300  
FAX: (504) 286-8788

## SHEET INDEX

|      |                    |
|------|--------------------|
| G0.0 | TITLESHEET         |
| G0.1 | GENERAL NOTES      |
| M0.1 | MECHANICAL NOTES   |
| M1.1 | ENLARGED SITE PLAN |

**ECM PROJECT NO. 19425.03**

NOVEMBER 17, 2020

THESE PLANS AND SPECIFICATIONS HAVE BEEN PREPARED BY ME, OR UNDER MY CLOSE PERSONAL SUPERVISION, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, THEY COMPLY WITH ALL CITY AND STATE REQUIREMENTS. I WILL OBSERVE THE WORK.

BY: \_\_\_\_\_

REGISTRATION No: \_\_\_\_\_

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GUSTE 2 BUILDING  
A/C CONDENSING UNIT REPLACEMENT  
NEW ORLEANS  
LOUISIANA  
TITLESHEET

|           |                  |
|-----------|------------------|
| DRAWN     | M.L.M.           |
| CHECKED   | N.G.W.           |
| DATE      | DECEMBER 7, 2020 |
| SCALE     | AS SHOWN         |
| JOB NO.   | 19425.03         |
| SHEET NO. | G0.0             |

**GENERAL NOTES:**

1. THE SCOPE OF WORK APPLIES ONLY TO THE GUSTE II SITE. THE CONTRACTOR SHALL ASSUME THAT ALL THE RESIDENTIAL UNITS ON SITE ARE OCCUPIED. CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO MITIGATE ANY INCONVENIENCE TO THE RESIDENTS.
2. IT IS ACKNOWLEDGED THAT THE HVAC SYSTEMS WILL NEED TO BE SHUT DOWN IN ORDER TO PERFORM THE WORK. A SEVENTY-TWO (72) HOUR NOTICE MUST BE GIVEN TO THE PROPERTY MANAGER PRIOR TO SHUTTING DOWN THE HVAC SYSTEM(S) AT ANY GIVEN ADDRESS. ALL REASONABLE EFFORTS SHALL BE MADE TO ENSURE THAT THE DOWN TIME IS KEPT TO A MINIMUM. DO NOT SHUT DOWN A GIVEN HVAC SYSTEM IF THE NEW CONDENSING UNIT INSTALLATION CANNOT BE COMPLETED AND SERVICE RESTORED PRIOR TO THE END OF THE WORK DAY. PROPERTY MANAGEMENT CONTACT INFORMATION WILL BE PROVIDED AT THE PRECONSTRUCTION CONFERENCE.  
NOTE: SHOULD THE COMPLETION OF THE INSTALLATION BE DELAYED, CONTRACTOR SHALL NOTIFY PROPERTY MANAGEMENT AND HANO IMMEDIATELY. CONTRACTOR SHALL WORK THE TIME NECESSARY TO ENSURE THAT THE SYSTEM IS FUNCTIONING PROPERLY BEFORE LEAVING THE WORK AREA.
3. CONTRACTOR SHALL ATTEND A PRECONSTRUCTION CONFERENCE AND SHALL HAVE IN ATTENDANCE A REPRESENTATIVE THAT HAS FULL AUTHORITY TO SPEAK FOR AND ACT ON THE BEHALF OF THE CONTRACTOR.
4. SCHEDULE. CONTRACTOR SHALL PROVIDE A SCHEDULE FOR THE WORK AT THE PRECONSTRUCTION CONFERENCE. THE SCHEDULE SHALL INCLUDE THE FOLLOWING AS A MINIMUM:
  - a) CONTRACT COMMENCEMENT DATE (AS DEFINED BY THE NOTICE TO PROCEED)
  - b) CONTRACT COMPLETION DATE (AS DEFINED BY THE NOTICE TO PROCEED)
  - c) SUBMITTALS AND PROCUREMENT OF MATERIALS AND EQUIPMENT
  - d) DURATION OF WORK BY BUILDING ADDRESS. THIS SHALL INCLUDE THE 72-HOUR NOTIFICATION TO THE PROPERTY MANAGER, AS WELL AS PUNCH BY THE CONTRACTOR AND THE A/E
  - e) FINAL ACCEPTANCE BY HANO
  - f) OTHER TASKS AS MAY BE REQUIRED BY HANO.
5. THE ALLOWABLE WORK HOURS ARE AS FOLLOWS:
  - a. WEEK DAYS: 8:00 AM TO 5:00 PM\*
  - b. WEEKENDS & HOLIDAYS: NO WORK IS ALLOWED\*

\*WORK MAY OCCUR BEYOND THE STATED HOURS UNDER SPECIAL CIRCUMSTANCES WITH THE PRIOR APPROVAL OF HANO.
6. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DEVELOPING AND MAINTAINING ALL SAFETY MEASURES AND PROGRAMS ASSOCIATED WITH THE WORK AND HANO ASSUMES NONE OF THIS RESPONSIBILITY. FOR THE PURPOSE OF THIS RFQ, CONTRACTOR SHALL ENSURE THAT ALL SAFETY MEASURES REGARDING THE COVID-19 PANDEMIC ARE INITIATED AND MAINTAINED AS REQUIRED BY THE GOVERNING AGENCIES HAVING JURISDICTION AT THE TIME THE QUOTES ARE SUBMITTED. REGARDLESS OF WHAT MAY BE REQUIRED BY THESE AGENCIES, ONLY TWO WORKERS SHALL BE ALLOWED IN THE RESIDENTIAL UNITS AT ONE TIME. ADDITIONALLY, APPROPRIATE FACE MASKS SHALL BE WORN AT ALL TIMES WHILE INSIDE THE UNITS. FAILURE TO PROPERLY MAINTAIN SUCH SAFETY MEASURES MAY RESULT IN PAYMENT BEING WITHHELD UNTIL THE SAFETY DEFICIENCIES ARE CORRECTED.
7. ALTHOUGH WORK INSIDE THE RESIDENTIAL UNIT SHOULD BE MINIMAL, THE CONTRACTOR SHALL ENSURE THAT THE APPROPRIATE MEASURES ARE TAKEN TO PROTECT THE BUILDING INTERIOR COMPONENTS AND CONTENTS.
8. THE ENTIRETY OF THE GUSTE DEVELOPMENT SITE IS OCCUPIED. CONTRACTOR PARKING SHALL BE LIMITED TO LEGAL STREET PARKING. CONTRACTOR AND/OR WORKER VEHICLES THAT BLOCK DRIVES WILL BE SUBJECT TO BEING TOWED AT THE EXPENSE OF THE CONTRACTOR VIA A DEDUCTIVE CHANGE ORDER IF REQUIRED. SHOULD THIS OCCUR, A TEN-PERCENT (10%) ADMINISTRATIVE COST WILL BE ADDED TO THE DEDUCTIVE CHANGE ORDER AMOUNT.
9. ALL MATERIALS SHALL BE NEW AND SHALL BE IN ACCORDANCE WITH THE DOCUMENTS.
10. NO WORK SHALL BEGIN AT ANY GIVEN ADDRESS UNTIL ALL MATERIALS ARE AVAILABLE AND READY FOR INSTALLATION. MATERIALS AND EQUIPMENT SHALL BE STORED AT THE CONTRACTOR'S FACILITIES UNTIL THEY ARE READY FOR INSTALLATION.
11. CONTRACTOR SHALL PROTECT EXISTING EXTERIOR BUILDING COMPONENTS AND LANDSCAPING ELEMENTS. ANY AND ALL DAMAGES RESULTING FROM CONTRACTOR ACTIVITIES SHALL BE REPAIRED AT THE CONTRACTOR'S COST AND TO THE SATISFACTION OF HANO. SHOULD THE CONTRACTOR FAIL TO PROPERLY PERFORM SUCH REMEDIAL WORK, HANO WILL COMPLETE THIS WORK AND BACK CHARGE THE COST TO CONTRACTOR PLUS A TEN-PERCENT (10%) ADMINISTRATIVE COST.
12. DEMOLISHED MATERIALS SHALL BE REMOVED FROM THE WORK AREA THE SAME DAY THAT THEY ARE REMOVED. DEMOLISHED MATERIALS SHALL NOT BE STORED ON SITE EXCEPT IN APPROVED DUMPSTERS.

13. HANO HAS NO INTEREST IN SALVAGING THE OLD CONDENSING UNITS. CONDENSING UNITS SHALL BE PROPERLY PURGED OF REFRIGERANT AND DISPOSED OF IN A LEGAL MANNER AS REQUIRED BY THE AGENCIES HAVING JURISDICTION.  
NOTE: SHOULD ALTERNATE NO. 01 BE ACCEPTED, THE CONDENSING UNITS COVERED BY THE ALTERNATE ARE TO BE TURNED OVER TO PROPERTY MANAGEMENT AS PROVIDED FOR BY THE CONTRACT DOCUMENTS.
14. CONTRACTOR SHALL COORDINATE THE LOCATION OF DUMPSTER(S) WITH PROPERTY MANAGEMENT AND HANO. CONTRACTOR SHALL PROCURE AND PAY FOR ALL PERMITS AND/OR FEES FOR DUMPSTER USE THAT MAY BE REQUIRED BY THE AGENCIES HAVING JURISDICTION. CONTRACTOR SHALL POLICE ITS DUMPSTERS. PROPERTY MANAGEMENT NOR HANO ACCEPTS ANY RESPONSIBILITY FOR THE MISUSE OF THESE DUMPSTERS BY ANYONE.
15. CONTRACTOR SHALL PROPERLY DEMARCATATE AND PROTECT ALL WORK AREAS AS NECESSARY TO PROTECT THE PUBLIC AND RESIDENTS. THE WORK AREAS SHALL BE PROPERLY PROTECTED AT THE END OF THE WORK DAY AND ESPECIALLY BEFORE WEEKENDS AND HOLIDAYS.
16. CONTRACTOR SHALL LEAVE THE WORK AREA IN A CLEAN CONDITION, FREE FROM TRASH AND DEBRIS, AT THE END OF EACH WORKDAY. CONTRACTOR SHALL PERFORM A THOROUGH CLEANING AT THE COMPLETION OF THE WORK IN A GIVEN WORK AREA.
17. CONTRACTOR SHALL PROVIDE A FULL-TIME, ON-SITE SUPERINTENDENT WITH A MINIMUM OF FIVE (5) YEARS IN THE TYPE OF WORK REQUIRED BY THIS CONTRACT. THE SUPERINTENDENT SHALL HAVE FULL AUTHORITY TO SPEAK FOR AND ACT ON THE BEHALF OF THE CONTRACTOR. CONTRACTOR SHALL PROVIDE THE SUPERINTENDENT WITH A MOBILE PHONE AND THE PHONE NUMBER SHALL BE DISTRIBUTED TO THE OWNER, ARCHITECT AND MECHANICAL ENGINEER. IF A SINGLE CREW IS UTILIZED, THE SUPERINTENDENT MAY BE A WORKING SUPERINTENDENT. IF MULTIPLE CREWS ARE USED, THE SUPERINTENDENT SHALL BE A NON-WORKING SUPERINTENDENT.
18. PHOTOGRAPHIC DOCUMENTATION. PRIOR TO STARTING ANY WORK ON ANY GIVEN EXISTING CONDENSING UNIT, THE CONTRACTOR SHALL PHOTOGRAPH THE EXISTING EQUIPMENT AND CONDITIONS. FAILURE TO PROPERLY DOCUMENT EXISTING CONDITIONS AND/OR DAMAGES WILL RESULT IN THE CONTRACTOR BEING HELD RESPONSIBLE FOR SUCH CONDITIONS AND/OR DAMAGES. PHOTOGRAPHIC DOCUMENTATION SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 01323 OF THE PROJECT MANUAL.
19. CONTRACTOR SHALL SUBMIT DAILY REPORTS FOR EVERY WORK DAY FOR THE DURATION OF THE WORK. (IF NO WORK IS PERFORMED, THIS SHALL BE NOTED ON THE REPORT, ALONG WITH A STATED REASON AS TO WHY WORK WAS NOT PERFORMED.) CONTRACTOR MAY USE ITS STANDARD REPORTING FORM PROVIDING THAT THE FOLLOWING INFORMATION IS INCLUDED AT A MINIMUM:
  - a. DATE
  - b. WEATHER CONDITIONS AND IMPACT ON THE WORK (IF THERE IS NO IMPACT, THIS IS TO BE STATED.)
  - c. SIZE OF CREW(S)
  - d. WORK PERFORMED
  - e. ISSUES/ACTION REQUIRED
  - f. SIGNATURE OF SUPERINTENDENT

CONTRACTOR SHALL BRING AN EXAMPLE OF ITS DAILY REPORTS TO THE PRECONSTRUCTION CONFERENCE FOR REVIEW AND APPROVAL BY HANO. DAILY REPORTS SHALL BE SUBMITTED TO HANO ON A WEEKLY BASIS NO LATER THAN THE FOLLOWING MONDAY, OR THE NEXT BUSINESS DAY IN THE CASE OF HOLIDAYS. FAILURE TO PROVIDE DAILY REPORTS IN A TIMELY FASHION WILL RESULT IN GENERAL CONDITIONS MONIES BEING WITHHELD UNTIL THE REPORTS ARE CURRENT.
20. PROJECT CLOSEOUT. CONTRACTOR SHALL PROVIDE HANO WITH THREE (3) PRINTED COPIES OF ALL WARRANTIES, OWNER MANUALS, PRODUCT DATA, ETC. EACH COPY SHALL BE PROVIDED IN A "SLANT-D" THREE-RING BINDER. BINDERS SHALL BE LABELED AS FOLLOWS:
 

REPLACEMENT OF HVAC CONDENSING UNITS  
GUSTE II HOMES  
DATE (OF FINAL ACCEPTANCE)

ADDITIONALLY, THREE (3) ELECTRONIC COPIES OF ALL CLOSEOUT DOCUMENTS SHALL BE PROVIDED ON THREE (3) SEPARATE FLASH DRIVES.
21. ALL WARRANTIES SHALL BE FOR ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE ENTIRE PROJECT. CONTRACTOR SHALL FILE ALL WARRANTY CARDS ON THE BEHALF OF HANO.
22. THE CONTRACTOR SHALL PROVIDE ITS STANDARD MAINTENANCE SERVICE DURING THE ONE-YEAR WARRANTY PERIOD AND SHALL INCLUDE THE COST OF THIS SERVICE AS PART OF THE CONTRACT AMOUNT.
23. UPON COMPLETION OF THE INSTALLATION OF THE NEW CONDENSING UNITS AT THE FIRST ADDRESS, THE CONTRACTOR SHALL PROVIDE A DEMONSTRATION AND TRAINING SESSION AS TO THE PROPER USE AND MAINTENANCE OF THE NEW EQUIPMENT TO PROPERTY MANAGEMENT AND HANO.

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GUSTE 2 BUILDING  
A/C CONDENSING UNIT REPLACEMENT  
NEW ORLEANS, LOUISIANA

GENERAL NOTES

|                  |
|------------------|
| DRAWN            |
| H.R.G.           |
| CHECKED          |
| N.G.W.           |
| DATE             |
| DECEMBER 7, 2020 |
| SCALE            |
| AS SHOWN         |
| JOB NO.          |
| 19425.03         |
| SHEET NO.        |
| GO.1             |
| 2 OF 4 SHEETS    |

**MECHANICAL NOTES:**

1. WORK REQUIRED UNDER THIS SECTION CONSISTS OF ALL MECHANICAL WORK AND RELATED ITEMS NECESSARY TO COMPLETE THE WORK INDICATED ON THE DRAWINGS AND/OR DESCRIBED IN THE SPECIFICATIONS.
2. FURNISH ALL LABOR, EQUIPMENT, TOOLS, TRANSPORTATION, ETC., AND FURNISH AND INSTALL ALL MATERIALS AND EQUIPMENT NECESSARY FOR MECHANICAL WORK HEREINAFTER DESCRIBED ALL IN ACCORDANCE WITH THE SPECIFICATIONS AND ACCOMPANYING DRAWINGS.
3. SPECIFICATIONS AND ACCOMPANYING DRAWINGS INTENDED TO SHOW AND DESCRIBE COMPLETE MECHANICAL INSTALLATION, FULLY ERECTED, PROPERLY INSTALLED IN WORKMANLIKE MANNER AND LEFT IN PROPER OPERATING CONDITION, WITH CONTRACTOR FURNISHING AND INSTALLING EVERYTHING NECESSARY TO COMPLETE THE JOB.
4. FURNISH ALL LABOR, EQUIPMENT, TOOLS, MATERIALS, ACCESSORIES, ETC., FOR ALL ROUGHINS AND FINAL CONNECTIONS, COMPLETE, FOR ALL EQUIPMENT INDICATED ON THE DRAWINGS, OR EQUIPMENT FURNISHED BY OTHERS.
5. CHECK MECHANICAL SPECIFICATIONS AND DRAWINGS WITH REMAINDER OF SET, AND BRING TO ENGINEER'S ATTENTION ANY CONFLICTS OR VARIATIONS AS SOON AS NOTED.
6. ADEQUATELY PROTECT AGAINST INJURY ALL INSTALLED AND EXISTING MATERIAL, EQUIPMENT, MOTORS, FIXTURES, PIPING, INSULATION, ETC.
7. REPLACE LOST OR DAMAGED ITEMS PRIOR TO ACCEPTANCE OF WORK.
8. ADEQUATE AND COMPETENT SUPERVISION SHALL BE PROVIDED BY THIS SECTION TO ASSURE THAT WORK IS DONE IN ACCORDANCE WITH GOOD STANDARD PRACTICE AND WORKMANSHIP AND WITH INTENT OF DRAWINGS AND SPECIFICATIONS.
9. ALL CONTRACTORS SUBMITTING BIDS FOR THE WORK UNDER THIS CONTRACT SHALL BE SPECIALISTS IN THEIR FIELD AND SHALL HAVE THE PERSONAL EXPERIENCE, TRAINING AND SKILLED TO CONSTRUCT A PROPERLY OPERATING MECHANICAL SYSTEM AS DESCRIBED BY THE CONTRACT DRAWINGS.
10. ALL WORK PERFORMED SHALL BE IN ACCORDANCE WITH BEST STANDARDS OF PRACTICE BY WORKMEN SKILLED AND QUALIFIED IN TYPE OF WORK TO BE DONE. SCHEDULE AND PERFORM MECHANICAL WORK TO AVOID DELAYS TO PROJECT.
11. ALL WORK SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL EXISTING LOCAL, PARISH, NATIONAL AND STATE CODES AND ORDINANCES HAVING JURISDICTION.
12. LOCAL CODES SHALL TAKE PRECEDENCE OVER STATE CODES WHICH SHALL TAKE PRECEDENCE OVER NATIONAL CODES AND INDUSTRY STANDARDS.
13. IF ANY CONFLICTS ARE FOUND BETWEEN SPECIFICATIONS AND DRAWINGS AND ABOVE AUTHORITIES, NOTIFY ENGINEER AS SOON AS CONFLICTS ARE DISCOVERED AND ABOVE CODES AND REQUIREMENTS WILL GOVERN.
14. SECURE ALL PERMITS AND INSPECTIONS AND PAY ALL FEES AND ASSESSMENTS NECESSARY FOR COMPLETION AND ACCEPTANCE OF WORK. NOTIFY PROPER AUTHORITIES IN AMPLE TIME WHEN ANY WORK IS READY TO BE INSPECTED OR TESTED.
15. VISIT AND EXAMINE JOB SITE AND CHECK WITH UTILITY AUTHORITIES CONCERNED IN ORDER TO BECOME FAMILIAR WITH ALL EXISTING CONDITIONS PERTINENT TO WORK TO BE PERFORMED. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR FAILURE TO BE SO INFORMED.
16. BIDDERS MUST REVIEW DRAWINGS AND SPECIFICATIONS OF OTHER DISCIPLINES INCLUDING PLANS, DETAILS, DIAGRAMS, NOTES, ETC., IN ORDER TO UNDERSTAND STRUCTURAL CONDITIONS, CONSTRUCTION REQUIREMENTS, CLEARANCES, CAPACITIES AND METHODS OF INSTALLATION AND ERECTION. STRUCTURAL AND OTHER CONDITIONS MAY REQUIRE CERTAIN MODIFICATIONS AND ADJUSTMENTS FROM CONDITIONS SHOWN. SUCH DEVIATIONS ARE PERMISSIBLE, HOWEVER, SPECIFIED SIZES, CAPACITIES AND REQUIREMENTS AFFECTING SATISFACTORY PERFORMANCE AND OPERATION OF INSTALLATION SHALL REMAIN UNCHANGED.
17. DUE TO SMALL SCALE OF DRAWINGS, IT IS NOT POSSIBLE TO SHOW ALL FITTINGS OR OFFSETS OR TO SHOW ALL ACCESSORIES. TAKE ADVANTAGE OF AVAILABLE SPACE AND STACK PIPING AND ACCESSORIES VERTICALLY AS REQUIRED FOR FIT AND ACCESS.
18. CONTRACTOR IS RESPONSIBLE FOR ACCURACY OF CLEARANCES AND FOR COORDINATION WITH OTHER TRADES. NO EQUIPMENT, DUCTWORK, PIPING, ETC. SHALL BE FABRICATED OR INSTALLED WITHOUT FULL COORDINATION. MAKE ALLOWANCE IN BID FOR JOB CONDITIONS AND INTERFERENCES WHICH WILL REQUIRE OFFSETS IN DUCTWORK, PIPING, ETC.
19. CONTRACTOR SHALL REMOVE AND RELOCATE, WITHOUT ADDITIONAL COMPENSATION, ANY ITEM THAT IS INSTALLED WITHOUT REQUIRED COORDINATION AND IS FOUND TO BE IN CONFLICT WITH OTHER TRADES. IF FIELD MEASUREMENTS SHOW THAT EQUIPMENT CANNOT FIT IN THE ALLOTTED SPACE, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO ORDERING OR INSTALLING THE EQUIPMENT.
20. IN EVENT OF CONFLICT, ANY ITEM EXPOSED TO VIEW IN FINISHED WORK SHALL TAKE PRECEDENCE OVER ITEMS, WHICH ARE CONCEALED.
21. WHENEVER IT BECOMES NECESSARY TO SHIFT EQUIPMENT OR PIPES, SUCH CHANGES SHALL BE REFERRED TO ENGINEER FOR APPROVAL.
22. SUBMIT EQUIPMENT PRODUCT DATA SHEETS PRIOR TO RELEASING EQUIPMENT FOR MANUFACTURE OR SHIPMENT. PRODUCT DATA SHEETS SHALL BE MANUFACTURER'S PRINTED LITERATURE SPECIFICALLY MARKED TO INDICATE SIZE AND MODEL NUMBERS OF EQUIPMENT BEING FURNISHED. ALL ACCESSORIES REQUIRED BY THE CONTRACT DOCUMENTS SHALL BE CLEARLY MARKED.

23. SYSTEM CAPACITIES FOR AIR CONDITIONING SYSTEMS, FANS, ETC. SHALL BE CLEARLY AND COMPLETELY INDICATED ON A SYSTEM SUMMARY SHEET PREPARED SPECIFICALLY FOR THAT SYSTEM, FAN, ETC. THE SUMMARY SHEET SHALL INDICATE EQUIPMENT NUMBER DESIGNATIONS, MANUFACTURER'S MODEL NUMBERS, CAPACITIES, ELECTRICAL CHARACTERISTICS, ETC. GENERAL DATA SHEETS SHALL NOT BE ACCEPTABLE FOR INDICATING SYSTEM PERFORMANCE.
24. ALL DATA SUBMITTED SHALL BE CHECKED AGAINST SPECIFICATIONS AND DRAWINGS. FOR EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS, NO APPROVAL SHALL BE FINAL OR DELIVERIES AUTHORIZED UNTIL ELECTRICAL CHARACTERISTICS AND PROVISIONS FOR WIRING ARE COORDINATED AND CLEARED WITH ELECTRICAL SECTION BY LETTER THROUGH CONTRACTOR OR ARCHITECT.
25. REVIEW OF PRODUCT SUBMITTALS DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS FOR SYSTEM CAPACITIES OR FOR FITTING THE EQUIPMENT IN THE ALLOTTED SPACE. REVIEW IS FOR GENERAL COMPLIANCE WITH THE CONTRACT DOCUMENTS.
26. ALL EQUIPMENT SHALL BE PURCHASED FROM AUTHORIZED FACTORY REPRESENTATIVE WITH ESTABLISHED OFFICE IN NEW ORLEANS AREA, IF MANUFACTURER HAS SUCH AN OFFICE.
27. SUBSTITUTIONS MUST BE REQUESTED IN CONFORMANCE WITH REQUIREMENTS STATED IN THE SUPPLEMENTARY GENERAL CONDITIONS.
28. INSTALL ALL PIPING SO THAT IT MAY EXPAND AND CONTRACT FREELY WITHOUT DAMAGE TO EQUIPMENT, OTHER WORK OR INJURY TO PIPING SYSTEM. SUPPORT PIPING INDEPENDENTLY OF ALL EQUIPMENT.
29. ALL POWER WIRING AND ALL DISCONNECT SWITCHES FURNISHED AND INSTALLED UNDER DIVISION 16, ELECTRICAL. ALL OTHER ELECTRICAL WORK IN CONNECTION WITH AIR CONDITIONING, HEATING AND VENTILATING EQUIPMENT DONE UNDER MECHANICAL SECTION. SUCH DEVICES AS THERMOSTATS, FIRESTATS, DUCT MOUNTED SMOKE DETECTORS, PILOT LIGHTS, CONTROL PANELS, MOTOR STARTERS, CRANKCASE HEATER, ETC., FURNISHED UNDER MECHANICAL SECTION AND WIRED IN STRICT ACCORDANCE WITH AN APPROVED WIRING DIAGRAM.
30. PRIOR TO THE FINAL RELEASE FOR MANUFACTURE OR SHIPMENT OF ANY EQUIPMENT, IT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO VERIFY THE AVAILABLE ELECTRICAL SERVICE FOR EACH PIECE OF EQUIPMENT WITH THE ELECTRICAL CONTRACTOR AND TO PROVIDE EQUIPMENT THAT SUITS THE AVAILABLE SERVICE.
31. ANY EQUIPMENT DELIVERED TO THE SITE WITH INCORRECT VOLTAGE OR PHASE SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
32. AFTER FINAL TESTING, CLEAN ALL FIXTURES, PIPES AND EXPOSED WORK. THOROUGHLY CLEAN AND POLISH PLATED AND OTHER FINISHED PRODUCTS.
33. PIPING TO BE FREE OF ALL OBSTRUCTIONS. REMOVE ALL DEBRIS, SURPLUS AND WASTE MATERIALS COMPLETELY FROM THE JOB SITE.
34. PROPERLY OIL, GREASE AND LUBRICATE ALL MOTORS, PUMPS, COMPRESSORS, ETC., BEFORE STARTING AND UNTIL FINAL ACCEPTANCE OF WORK.
35. FURNISH TO OWNER THREE COMPLETE SETS OF PARTS CATALOGS AND OPERATING INSTRUCTIONS BOUND IN LARGE 3-RING BINDERS FOR USE OF MAINTENANCE DEPARTMENT. INCLUDE INFORMATION FOR ALL EQUIPMENT SUBMITTED TO THE OWNER.
36. MANUFACTURER WARRANTIES FOR ALL MECHANICAL EQUIPMENT FURNISHED ON THE PROJECT SHALL RUN FOR A PERIOD OF ONE YEAR FROM DATE OF "SUBSTANTIAL COMPLETION".
37. CONTRACTOR SHALL ARRANGE WITH THE MANUFACTURER TO ASSURE THE EQUIPMENT WARRANTY CONFORMS TO THE ABOVE STIPULATIONS AND PAY ANY REQUIRED PREMIUMS, EXTENDED WARRANTIES, ETC.
38. A COMPETENT AND EXPERIENCED SERVICE AND INSTALLATION MECHANIC SHALL BE EMPLOYED BY THE CONTRACTOR TO START AND ADJUST ALL EQUIPMENT. THE OWNER RESERVES THE RIGHT TO REQUIRE THE TEST OF ANY ITEM OF EQUIPMENT OR MACHINERY. SUCH TESTS SHALL BE CONDUCTED BY THE CONTRACTOR IN THE PRESENCE OF THE ARCHITECT OR HIS AUTHORIZED REPRESENTATIVE.
39. AS CONSTRUCTION PROGRESSES, TEST PIPING AND EQUIPMENT TO PRESSURE HEREINAFTER SPECIFIED. WHERE PRESSURES ARE NOT MENTIONED, TEST TO ONE AND ONE HALF TIMES SERVICE CONDITIONS BEFORE CONCEALING OR INSULATING.
40. FURNISH ALL NECESSARY GAUGES, INSTRUMENTS, TEST PLUGS AND TEMPORARY CONNECTIONS. TEST ALL EQUIPMENT UNDER SERVICE CONDITIONS AND MAKE ALL NECESSARY ADJUSTMENTS TO CONTROLS, VALVES, ETC., TO OBTAIN BEST OPERATION. MAKE INITIAL TESTS WITH BUILDING UNOCCUPIED AND FINAL TESTS UNDER ACTUAL HEATING AND COOLING CONDITIONS.
41. GUARANTEE ALL MECHANICAL INSTALLATIONS AGAINST ALL DEFECTS IN EQUIPMENT, MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF "SUBSTANTIAL COMPLETION". DURING GUARANTEE PERIOD, CORRECT ANY DEFECTS IN NEW EQUIPMENT, MATERIALS OR WORKMANSHIP, WITHOUT COST TO OWNER FOR EITHER PARTS OR LABOR.
42. CONTRACTOR'S GUARANTEE INCLUDES PERFORMANCE CAPACITIES AND RATINGS AS SPECIFIED.
43. CONTRACTOR SHALL BE FURNISHED A COMPLETE SET OF BLUE LINE PRINTS WHICH SHALL BE MARKED UP BY CONTRACTOR AS WORK PROGRESSES TO REFLECT ALL ITEMS OF INSTALLATION WHICH DIFFER SIGNIFICANTLY FROM WORK SHOWN ON CONTRACT DRAWINGS. AS BUILT DRAWINGS SHALL BE NEATLY DONE, NOT SKETCHY OR FREE HAND. FINAL PAYMENT WILL BE WITHHELD UNTIL DRAWINGS ARE FURNISHED.

44. EQUIPMENT INSTALLED COMPLETE WITH REFRIGERANT PIPING OF SIZES AS RECOMMENDED BY MANUFACTURER, OR AS SHOWN ON THE DRAWINGS. PIPING SHALL BE TYPE "ACR" COPPER TUBING WITH WROUGHT COPPER SOLDER JOINT FITTINGS USING SILVER SOLDER. INSTALL PIPING COMPLETE WITH FILTER-DRIER, SIGHT GLASS AND EXPANSION VALVE.
45. PROVIDE 3/4" THICK FOAMED PLASTIC SLIP-ON TYPE INSULATION ON ALL REFRIGERANT SUCTION LINES. ALL FITTINGS, VALVES AND SURFACES SUBJECT TO SWEATING SHALL BE INSULATED.
46. THE CONTRACTOR, UNLESS OTHERWISE SPECIFIED, SHALL PROVIDE ALL FOUNDATIONS, SUPPORTS, ETC. NECESSARY FOR PROPERLY SUPPORTING HIS WORK AND EQUIPMENT FURNISHED BY HIM AND SHALL FURNISH AND INSTALL ALL ISOLATION MATERIALS TO PREVENT TRANSMISSION OF VIBRATION TO THE BUILDING STRUCTURE.
47. REFRIGERATION EQUIPMENT SHALL BE ADJUSTED TO PROVIDE THE TEMPERATURES AND CAPACITIES SPECIFIED. CUT-IN AND CUT-OUT POINTS OF ALL AUTOMATIC, PRESSURE, SAFETY AND LIMITS CONTROLS SHALL BE OBSERVED AND ADJUSTED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
48. ALL PIPING, COILS, HEATERS, ETC., INSTALLED FOR HEATING, COOLING, AND OTHER OPERATIONS OF THE BUILDING SHALL BE THOROUGHLY FLUSHED OF ALL DEBRIS AND FOREIGN OBJECTS BEFORE ANY SYSTEM IS PLACED IN OPERATION. AFTER FLUSHING, ALL STRAINERS, TRAPS AND DIRT LEGS SHALL BE CHECKED AND CLEANED. THIS OPERATION MUST BE ACCEPTABLE TO AND APPROVED BY THE ARCHITECT.
49. STANDARDS OF MATERIAL AND WORKMANSHIP AS REQUIRED BY NATIONAL ELECTRICAL CODE, SHALL APPLY TO ALL ELECTRICAL WORK REQUIRED AS PART OF THIS SECTION. IN ADDITION, ALL SPLICES IN LOW VOLTAGE CONTROL WIRING SHALL BE MADE AT TERMINAL BLOCKS FURNISHED FOR THE PURPOSE; ANY SPLICES NOT MADE AT TERMINAL BLOCKS SHALL BE SOLDERED.
50. POWER WIRING WILL BE PROVIDED UNDER ELECTRICAL SECTION, BUT ALL CONTROL WIRING AND CONDUIT AND CONTROL DISCONNECTS FURNISHED AND INSTALLED BY THIS CONTRACTOR.

**ADD ALTERNATE #1:**

1. CONTRACTOR SHALL REMOVE AND REPLACE THE EXISTING CONDENSING UNIT FOR UNIT 2403 & UNIT 2521 PER "SPECIFIC NOTE ALT #1". REFER TO SPECS, NOTES & SCHEDULE FOR INFORMATION ON EQUIPMENT & INSTALLATION REQUIREMENTS.
2. CONTRACTOR SHALL TAKE CARE IN REMOVING & TEMPORARILY STORING CONDENSING UNITS AS NOTED ON THE PLANS IN ORDER TO TURN OVER TO GHRMC AT THE END OF PROJECT. REMOVED EQUIPMENT SHALL BE DELIVERED TO AN AREA ON-SITE AS DESIGNATED BY GHRMC.

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**ARCHITECT/ENGINEER:**

**ECM Consultants, Inc.**

ENGINEERS - ARCHITECTS - CONSTRUCTION MANAGERS

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EMAIL: mail@ecmconsultants.com

**OWNER:**

HOUSING AUTHORITY  
OF NEW ORLEANS

2051 SENATE ST. BUILDING B, RM. 202  
NEW ORLEANS, LOUISIANA 70122

GUSTE 2 BUILDING  
A/C CONDENSING UNIT REPLACEMENT  
NEW ORLEANS, LOUISIANA

MECHANICAL NOTES

|                  |
|------------------|
| DRAWN            |
| H.R.G.           |
| CHECKED          |
| N.G.W.           |
| DATE             |
| DECEMBER 7, 2020 |
| SCALE            |
| AS SHOWN         |
| JOB NO.          |
| 19425.03         |
| SHEET NO.        |
| M1.0             |
| 1 OF 2 SHEETS    |

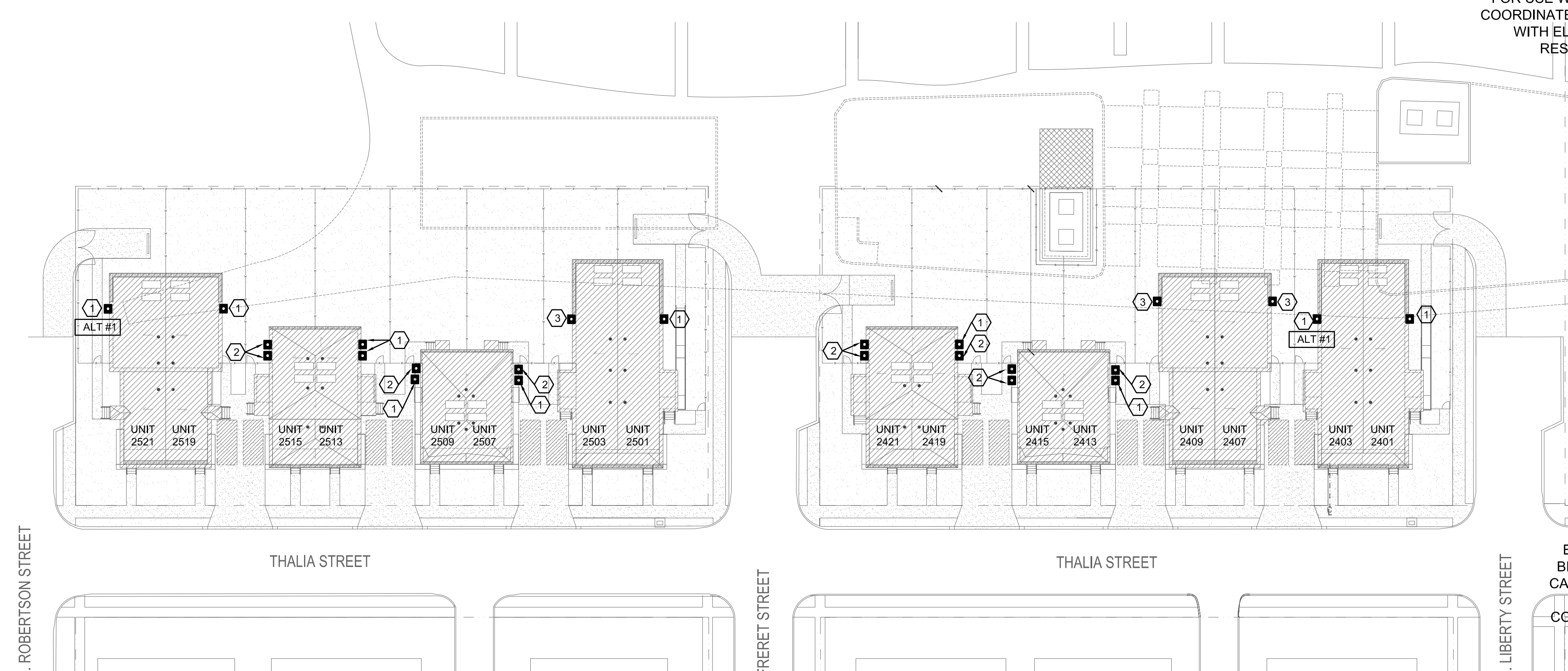
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**ECM Consultants, Inc.**  
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OWNER:  
 GUSTE 2 BUILDING  
 A/C CONDENSING UNIT REPLACEMENT  
 NEW ORLEANS  
 LOUISIANA  
 ENLARGED SITE PLAN

DRAWN  
 H.R.G.  
 CHECKED  
 N.G.W.  
 DATE  
 DECEMBER 7, 2020  
 SCALE  
 AS SHOWN  
 JOB NO.  
 19425.03  
 SHEET NO.  
 M1.1  
 2 OF 2 SHEETS



EXISTING DISCONNECT SWITCH SHALL REMAIN FOR USE WITH NEW UNIT. CONTRACTOR SHALL COORDINATE ALL POWER & WIRING OF NEW UNIT WITH ELECTRICAL SUB. MECHANICAL SUB IS RESPONSIBLE FOR TYING INTO EXISTING CONTROLS SYSTEM.

CONTRACTOR SHALL POSITION UNIT ON STAND SO THAT REFRIGERANT CONNECTIONS ARE EASILY ACCESSIBLE FOR MAINTENANCE. FIELD VERIFY.

EXISTING WROUGHT IRON CAGE SHALL BE REUSED. CONTRACTOR SHALL TAKE CARE IN REMOVING CAGE IF NECESSARY FOR REMOVAL AND INSTALLATION OF CONDENSING UNIT. CONTRACTOR SHALL REPAIR AND PAINT CAGE AND REPAIR CONCRETE BASE IF DAMAGED.

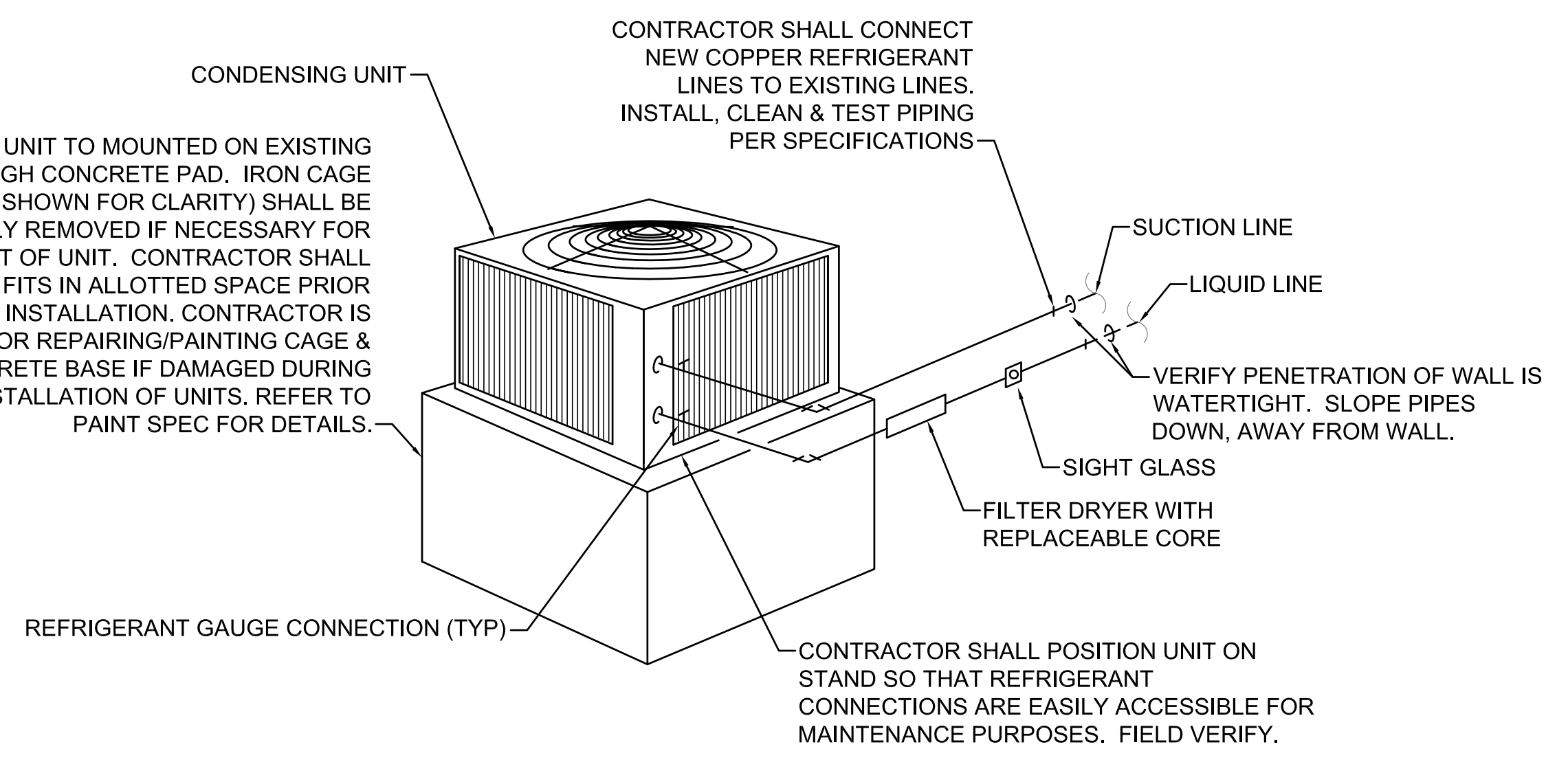
REFER TO MECHANICAL NOTES & SPECIFICATIONS FOR DETAILS ON PIPING & INSULATION REQUIREMENTS.

**TYPICAL EXISTING CONDENSING UNITS**  
 NOT TO SCALE

**1 ENLARGED SITE PLAN**  
 M1.1 GUSTE II BUILDING  
 SCALE: 1/32"=1'-0"  
 PLAN NORTH

**SPECIFIC NOTES**

- 1 EXISTING CONDENSING UNIT TO REMAIN. NO WORK ON THIS SYSTEM IS REQUIRED.
- 2 EXISTING CONDENSING UNIT TO BE REMOVED AND REPLACED WITH A 2-TON CONDENSING UNIT. SEE SPECIFICATIONS & SCHEDULE FOR DETAILS ON SYSTEM AND INSTALLATION REQUIREMENTS. CONTRACTOR SHALL TEMPORARILY REMOVE THE WROUGHT IRON CAGE AS REQUIRED FOR REMOVAL OF THE EXISTING CONDENSING UNIT AND INSTALLATION OF THE NEW UNIT.
- 3 EXISTING CONDENSING UNIT TO BE REMOVED AND REPLACED WITH A 2.5-TON CONDENSING UNIT. SEE SPECIFICATIONS & SCHEDULE FOR DETAILS ON SYSTEM AND INSTALLATION REQUIREMENTS. CONTRACTOR SHALL TEMPORARILY REMOVE THE WROUGHT IRON CAGE AS REQUIRED FOR REMOVAL OF THE EXISTING CONDENSING UNIT AND INSTALLATION OF THE NEW UNIT.
- ALT #1 EXISTING CONDENSING UNIT TO BE REMOVED AND REPLACED WITH A 2.5-TON CONDENSING UNIT. SEE SPECIFICATIONS & SCHEDULE FOR DETAILS ON SYSTEM AND INSTALLATION REQUIREMENTS. CONTRACTOR SHALL TEMPORARILY REMOVE THE WROUGHT IRON CAGE AS REQUIRED FOR REMOVAL OF THE EXISTING CONDENSING UNIT AND INSTALLATION OF THE NEW UNIT.



**REFRIGERANT PIPING DIAGRAM**  
 NOT TO SCALE

**CONDENSING UNIT SCHEDULE**

| UNIT TONNAGE | NO REQD | COMPRESSOR DATA |        |           |              | CONDENSER DATA |              |          |          |              | GOODMAN MODEL NO. (OR APPROVED EQUAL) | UNIT MCA MCA/MOCP | WEIGHT LBS. | REMARKS    |
|--------------|---------|-----------------|--------|-----------|--------------|----------------|--------------|----------|----------|--------------|---------------------------------------|-------------------|-------------|------------|
|              |         | RLA             | REFRIG | TOTAL MBH | VOLTS /PH/Hz | AMB TEMP °F    | COND TEMP °F | NO. FANS | MOTOR HP | VOLTS /PH/Hz |                                       |                   |             |            |
| 2            | 10      | 7.7             | R-410  | 24        | 230/1/60     | 95             | 120          | 1        | 1/8      | 230/1/60     | GSX140241                             | 10.3/15           | 126         | 1, 2, 3, 4 |
| 2.5          | 5       | 12.8            | R-410  | 30        | 230/1/60     | 95             | 120          | 1        | 1/6      | 230/1/60     | GSX140301                             | 17/25             | 162         | 1, 2, 3, 4 |

- 1. REFRIGERANT PIPING SHALL BE SIZED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- 2. ALL CONDENSING UNIT SHALL BE A MINIMUM OF 14 SEER.
- 3. UNIT SHALL HAVE A SINGLE POINT ELECTRICAL CONNECTION.
- 4. CONTRACTOR SHALL VERIFY THAT THE PHYSICAL SIZE OF THE CONDENSING UNIT FITS WITHIN THE EXISTING IRON CAGE ENCLOSURE.

***PROJECT MANUAL***  
***FOR***  
***CONDENSER UNIT REPLACEMENTS***

***AT***  
***GUSTE II DEVELOPMENT***  
***2201 thru 2519 THALIA STREET***  
***NEW ORLEANS, LOUISIANA***

***HANO***  
***Housing Authority of New Orleans***  
***4100 Touro Street***  
***New Orleans, Louisiana 70122***

***Evette Hester - Executive Director***

***IFB # XX-XXX-XX-XX***  
***ECM Project No. 19425.03***



***Prepared by:***

***ECM Consultants, Inc.***

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***ECM Project No. 19425.03***  
***December 7, 2020***

**SET NO. \_\_\_\_\_**

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## **SECTION 01010 – SUMMARY OF WORK**

### **PART 1 – GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the contract, including General and Supplementary Conditions and Divisions 1 Specifications Section, apply to the work of this Section.

#### **1.2 SCOPE OF WORK**

##### **THE BASE BID**

- A. Remove and replace existing condenser units as indicated in the documentation.

##### **ALTERNATE No. 1**

- A. Contractor shall remove and replace condenser units where indicated to be part of Alternate No. 1.
- B. Contractor shall remove all condenser units indicated to be removed under Alternate No. 1 in such a manner to store and then turn over to the Owner at the end of the project. Condensing units shall be delivered on the Guste Development site as designated by GHRMC.

#### **1.3 GENERAL**

- A. The Contractor shall furnish all labor, materials, equipment tools, service, and incidentals to complete all work required by these specifications and as shown on the drawings and as directed by the engineer/architect.
- B. The Contractor shall perform the work and make ready for use of the building. If any damages to existing equipment or the building are made during construction, contractor will rectify at his own cost.
- C. Furnish and install all materials, equipment, and labor which is reasonably and properly inferable and necessary for the proper completion of the work, whether specially indicated in the Contract documents or not.
- D. Protect all existing building components and contents from damage. It is intended that any existing building components and contents in place shall be repaired to original condition if damaged by work of this Contract.
- E. Contractor shall verify all field and project conditions prior to preparing his bid. Any conditions not described in these drawings and specifications shall be brought to the attention of the A/E five (5) days prior to bid date. Failure to do so shall render the contractor responsible for correction of this condition should he be awarded the contract.
- F. The word “provide” as used in these specifications and on the drawings will be termed to mean “furnish and install”.
- G. Visit and examine the project site with all authorities concerned in order to become familiar with all existing conditions pertinent to the work to be

performed thereon. No additional compensation will be allowed for failure to be so informed. Pay all costs and fees for utility connections as applicable.

- H. All work shall be performed in a neat and workmanlike manner and in accordance with all codes, standards, and requirements of the industry.
- I. Check all specifications and all drawings and bring to the attention of the A/E any conflicts or variations as shown or noted.
- J. Specifications and accompanying drawings apply to all material and / or labor for construction of work specified herein and shown on drawings.
- K. The Contractor shall pay for all taxes, license, and permits required for execution of the work. Note: This is a sales tax-exempt project. Refer to the Front-End documents in Bid Package.
- L. For any points which are not clear, or from items and/or details which the Contractor believes are in need of clarification, provide request of clarifications in writing to HANO's Procurement Department. Refer to Front-End Documents in Bid Package.
- M. In case of discrepancies and/or ambiguities in the drawings and/or in the specifications, submit requests for clarifications in writing to HANO's Procurement Department. Refer to the Front-End Documents in the Bid Package. Failure to do so on the part of the successful bidder shall be construed as explicit agreement on his part to abide by the A/E's decision in such matters.

#### **1.4 WORK SEQUENCE**

- A. Contractor is responsible for work sequence.

#### **1.5 CONTRACTOR USE OF PREMISES**

- A. Confine operations at site to areas permitted by law, ordinances, permits, Contract documents, and the Owner.
- B. Do not unreasonably encumber the site with materials or equipment. Assume full responsibility for protection and safekeeping of products stored on premises. Move stored products which interfere with operation of Owner.
- C. Do not load structures with weight that will endanger structure.
- D. Use of site – Limit use of site for work and storage. Coordinate parking areas, materials delivery, and storage areas at site with Architect, HANO and Property Manager of GHRMC.
- E. In no case shall the work interfere with existing streets, drives, walks, passageways, pedestrian traffic, and the like. Comply with provisions of the contract and regulatory of the contract and regulatory ordinances.
- F. Contractor shall at all times conduct his operations to ensure the least inconvenience to the residents and the general public.

## **1.6 CONSTRUCTION AREAS**

- A. Contractor shall limit his use of the construction areas for work and for storage to allow for work by other contractors, Owner's use, and public use as applicable.
- B. Assume full responsibility for the protection and safekeeping of products under this contract stored on site.
- C. Move any stored products under Contractor's control which interfere with operations of the Owner or separate contractor.
- D. Obtain and pay for the use of additional storage or work areas needed for operation.
- E. It is assumed there will be no need for street closures on this project. Should the need arise, the Contractor shall submit for and obtain the permits required for any street closures.

**END OF SECTION**

## **SECTION 01030 – ALTERNATES**

### **PART 1 – GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. This Section specifies administrative and procedural requirements for Alternates.
- B. DEFINITION
  - 1. An alternate is an amount proposed by Bidders and stated on the Bid Form for certain construction activities defined in the Bidding Requirements that may be added to or deducted from the base bid amount if the Owner decides to accept a corresponding change in either the amount of construction to be completed, or in the products, materials, equipment, systems, or installation methods described in Contract Documents. Cost of the Alternate shall be all inclusive and shall include overhead, profit and general conditions.
  - 2. Alternate No. 1: Contractor shall remove and replace the existing condensing units for residential units 2403 & 2521 Thalia Street in accordance with Specific Note “Alt #1” on Sheet M1.1 of the drawings. The existing condensing units shall be delivered to GHRMC.
- C. COORDINATION
  - 1. Coordinate related work and modify or adjust adjacent work as necessary to ensure that work affected by each accepted alternate is complete and fully integrated into the project.
- D. Specifications Sections referenced in the schedule contain requirements for materials and methods necessary to achieve the work described under each alternate.
- E. Include as part of each alternate miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not mentioned as part of the alternate.

END OF SECTION

## SECTION 01200 – PROJECT MEETINGS

### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of contract, including General and Supplementary Conditions and Division-1 Specification Sections apply to work of this Section.

### 1.2 GENERAL

- A. This section covers project meetings required for the project.

### 1.3 DESCRIPTION

- A. A/E shall schedule and administer pre-construction meetings, periodic progress meetings, and specially called meetings throughout the progress of the work.
  - 1. Prepare agenda for meetings.
  - 2. Distribute written notice of each meeting four days in advance of meeting date.
  - 3. Make physical arrangements for meetings.
  - 4. Preside at meetings.
  - 5. Record the minutes; include all significant proceedings and decisions.
  - 6. Reproduce and distribute copies of minutes within three working days after each meeting.
- B. Representatives of contractors, subcontractors, and suppliers attending the meetings shall be qualified and authorized to act on behalf of the entity each represents.

### 1.4 PRE-CONSTRUCTION MEETING

- A. Schedule pre-construction meeting prior to beginning on-site construction.
- B. Location – Project site or other location as designed by A/E or Owner.
- C. Attendance
  - 1. Owner’s representative.
  - 2. A/E.
  - 3. Resident project representative, if applicable.
  - 4. Contractor’s project manager and superintendent.
  - 5. Review submittal schedules; expedite as required.
  - 6. Discuss Permit, Notice to Proceed, Bond and Insurance.
  - 7. Maintenance of quality standards.
  - 8. Review proposed changes for effect on construction schedule, completion date.
  - 9. Other business.

## **1.5 PROGRESS MEETINGS**

- A. Owner shall schedule periodic progress meetings to be conducted on site.
- B. Progress meeting attendance shall be similar with Section 1.4 .C above.
- C. Progress meetings will be held as directed by the Owner.

**END OF SECTION**

## **SECTION 01300 - SUBMITTALS**

### **PART 1 – GENERAL**

#### **1.1 GENERAL:**

- A. This specification Section is intended to augment the provisions of Division 0 documents. The specific requirements of those documents shall supersede in the event of direct conflict with any provision of this specification Section as stated herein.

#### **1.2 DESCRIPTION OF WORK:**

- A. This Section specifies administrative and procedural requirements for submittals required for performance of the Work, including:
  - 1. Submittal Schedule
  - 2. Shop Drawings
  - 3. Product Data
  - 4. Samples
  - 5. Warranties
- B. Administrative Submittals:
  - 1. Refer to Division-1 and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:
    - a. Permits
    - b. Schedule of Values & Applications for Payment
    - c. Performance and payment bonds
    - d. Insurance Certificates

#### **1.3 SUBMITTAL PROCEDURES:**

- A. Submittal Preparation:
  - 1. Place a permanent label, title block, or submittal data sheet (sample at end of this Section) attached to each individual submittal for identification.
  - 2. Include the following information on the label for processing and recording action taken:
    - a. Project name
    - b. Date
    - c. Name and address of Architect
    - d. Name and address of General Contractor
    - e. Name and address of Owner
    - f. Name, phone number and address of subcontractor
    - g. Name, phone number and address of supplier
    - h. Name and phone number of manufacturer and his representative
    - i. Number and title of appropriate Specification Section and Article/ Paragraph, as appropriate
    - j. Drawing number and detail references, as appropriate
    - k. General Contractor's review stamp

l. Area for Architect's review comments

**1.4 SUBMITTAL SCHEDULE:**

- A. The General Contractor shall prepare and submit to the Architect within five (5) days of the Preconstruction Conference a schedule of Shop Drawings and Submittals as required in the Contract Documents. Schedule shall fix dates for submission, and the lead time for each submittal as related to requirements for return receipt for submittal to expedite delivery of material to maintain Progress Schedule. It is to be understood that this Schedule will be subject to change from time to time in accordance with the progress of the work.
- B. Coordinate submittal schedule with the list of subcontracts, schedule of values and the list of products as well as the General Contractor's construction schedule.
- C. Submittal log shall be updated by the General Contractor weekly until all submittals are approved by the Architect and related Consultants.

**1.5 STAFF NAMES:**

- A. Within five (5) days of the Preconstruction Conference, submit a list of the General Contractor's principal staff assignments, including the Project Manager, Superintendent and other personnel in attendance at the site; identify individuals, their duties and responsibilities; list their addresses and telephone numbers (including emergency telephone numbers).

**1.6 LIST OF SUBCONTRACTORS:**

- A. The list of subcontractors required shall be submitted to the Architect no later than five (5) days from the Preconstruction Conference. This list shall include the names of manufacturers, material suppliers, and installers proposed for each of the products, equipment, and materials to be incorporated into this project.
- B. The General Contractor shall furnish upon request adequate data on any named entity on the list in order to permit the Architect and Owner to conduct a proper evaluation. Failure to object to a manufacturer shall not constitute a waiver of any of the requirements of the Contract Documents, and all products furnished by the listed manufacturer must conform to such requirements.

**1.7 SHOP DRAWINGS:**

A. General:

- 1. Each submittal shall be complete with a "Submittal Data" sheet completely filled out with all requested information including the General Contractor's stamp. A sample "Submittal Data" sheet is included at the end of this section.
- 2. All submittals shall be dated and shall contain the project name; description or names of equipment; materials or equipment which are to be installed, reference to the Section of Specifications where it is specified and Drawing number where shown.

B. Shop Drawings:

- 1. Submit legible, reproducible prints of each drawing. Each drawing shall have a clear space for stamps. When phrase "by others" appears on Shop Drawings, General Contractor shall indicate on drawing who is to furnish material or operations so marked before submittal. When Shop Drawings are checked "resubmit", or words of like meaning, General Contractor shall correct and submit new reproducible prints for approval to the Architect. After completion of checking of each submission of Shop Drawings, the Architect will return prints to General Contractor. For use of all trades, the General Contractor shall provide such numbers of prints as are required for field distribution.



2. General Contractor shall review and approve submittals prior to submission to Architect. Failure to do so may result in return of submittal to General Contractor without Architect's review.
3. By approving and submitting Shop Drawings, Product Data, Samples and similar submittals, General Contractor represents that he has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such submittals with the requirements of the Work and the Contract Documents.
4. The responsibility for coordinating the Shop Drawings including technical data, capability (warranted and implied), sizing, color, texture, etc. shall be the sole responsibility of the General Contractor. The coordination between subcontractor and/ or material supplier shall be the responsibility of the General Contractor. The Project Coordinator shall be responsible to supervise this activity.
5. The Architect will review each of the General Contractor's submittals one initial time and, should resubmittal be required, one additional time to verify that the reasons for resubmittal have been addressed by the General Contractor and corrections made. Should additional resubmittals be required, the General Contractor shall reimburse the Owner for all costs incurred including the cost of the Architect's services made necessary to review such additional resubmittals.

C. Sheet Size:

1. Submit Shop Drawings on sheets 30" x 42" or 24" x 36" in A/E's review.
2. HANO copy of approved shop drawings shall be on 11"x17" and in PDF on flash drive(s). Flash drive(s) shall be labeled: GUSTE II HVAC - SHOP DRAWINGS.

**1.8 SAMPLES:**

- A. Unless otherwise specifically directed by the Architect, all Samples shall be of the precise article proposed to be furnished.
- B. Where variation in color, pattern, texture or other characteristics are inherent in the material or product represented, submit multiple units (not less than 3), that show approximate limits of the variations.
- C. Refer to Specifications for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation and similar construction characteristics.
- D. Submit all Samples in the quantity which is required to be returned plus one which will be retained by the Architect.

**1.9 DELIVERABLES OF SUBMITTALS:**

- A. Submit to HANO one (1) hard copy and one (1) electronic copy in PDF on flash drive(s) of all "Approved" submittals. Flash drive(s) shall be labeled: GUSTE II HVAC-SHOP DRAWINGS.

**PART 2 – PRODUCTS**

Not applicable

**PART 3 – EXECUTION**

Not applicable

SEE SAMPLE SUBMITTAL DATA SHEET NEXT PAGE

**END OF SECTION**

**SUBMITTAL DATA**

SUBMITTAL DATE:

NAME OF PROJECT:

OWNER:

ARCHITECT:

CONTRACTOR:

SUBCONTRACTOR:

SUPPLIER/ MANUFACTURER:

SPECIFICATION DIVISION NO.:

SPECIFICATION PARAGRAPH NO.:

DRAWING REFERENCE: CONTRACTOR'S

APPROVAL STAMP:

## **SECTION 01323 - PHOTOGRAPHIC DOCUMENTATION**

### **PART 1 – GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the contract, including General and Supplementary Conditions and Divisions 1 Specifications Section, apply to the work of this Section.

#### **1.2 SUMMARY**

- A. Section includes administration and procedural requirements for the following:
  1. Preconstruction photographs.
  2. Periodic construction photographs.
  3. Final completion construction photographs.

#### **1.3 INFORMATIONAL SUBMITTALS**

- A. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each photograph. Include same information as corresponding photographic documentation.
- B. Digital Photographs: Submit files within three days of taking photographs
  1. Digital Camera: Minimum sensor resolution of 20 megapixels.
  2. Format: Minimum 5472 by 3648 pixels, in unaltered original files with same aspect ratio as the sensor, uncropped, date and time stamped, in folder named by date of photograph, accompanied by key plan file.
  3. Identification: Provide the following information with each image description in the metadata tag;
    - a. Date photograph was taken
    - b. Name of Project
    - c. Name of Contractor.
    - d. Description of vantage point, indicating location and direction.
    - e. Unique sequential identifier keyed to accompanying key plan.
    - f. Sample: 2020.11.15-GII HVAC-ABC-1234

### **PART 2 – PRODUCTS**

#### **2.1 PHOTOGRAPHIC MEDIA**

- A. Digital Images: Provide images in JPG format, produced by a digital camera with minimum sensor size of 20 megapixels, and at an image resolution of not less than 5472 by 3648 pixels.

## **PART 3 – EXECUTION**

### **3.1 CONSTRUCTION PHOTOGRAPHS**

- A. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
  - 1. Maintain key plan with each set of construction photographs that identifies each photographic location.
- B. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing or modifications using image-editing software.
  - 1. Date and Time: Include date and time in file name for each image.
- C. Preconstruction Photographs: Before starting construction, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points.
  - 1. Take photographs as required to accurately show and identify all existing conditions near and adjacent to the proposed Work.
- D. Contractor's Daily Reports: Provide photographs, a minimum of four (4) photographs per report. Photographs shall meet all the requirements of this section
- E. Periodic Construction Photographs: Take photographs at a minimum bi-weekly coinciding with payment procedure. Vantage point shall match to show status of construction and progress since the last photographs were taken. A minimum of four (4) photographs shall be included on Contractor's daily reports.
- F. Final Construction Photographs: Take color photographs after date of Final Completion for submission as part of project record documents.

### **3.2 PROJECT CLOSEOUT**

- A. All photographs and video recordings shall be provided to HANO on three (3) separate flash drives as provided for in Section 01700 / Project Closeout..

**END OF SECTION**

## SECTION 01370 – SCHEDULE OF VALUES

### **PART 1 - GENERAL**

#### **1.1 SUBMITTAL**

- A. No later than five (5) days after the Preconstruction conference, the Contractor shall submit to A/E a Schedule of Values for review by A/E and HANO, allocating a dollar value for activities as provided below.

#### **1.2 FORM AND CONTENT OF SCHEDULE OF VALUES**

- A. The dollar value for the activity shall be the cost of the work including labor, materials, and equipment.
- B. The Schedule of Values shall be broken out as follows:
  - a. General Conditions (not to exceed 6% of direct costs)
  - b. Overhead (not to exceed 2% of direct costs)
  - c. Fee (not to exceed 6% of direct costs)
  - d. Bond
  - e. Condensing unit removal/replacement by residential address
- C. The sum of all activity costs shall equal the total contract amount.
- D. Each activity cost for the Schedule of Values shall be coded with a cost code corresponding to the trade, subcontractor, or supplier performing the work so that subtotals for each division of the work can be prepared.
- E. The Schedule of Values shall, in the best judgment of the Contractor, represent a fair, reasonable, and equitable dollar (cost) allocation for activities on the construction schedule.
- F. The Schedule of Values, unless objected to by the A/E or Owner, shall be used as a basis for the Contractors' pay request.
- G. The Schedule of Values will not change. Should a change order be issued, it will be added to the Schedule of Values as a separate line item.

**END OF SECTION**

## **SECTION 01700**

### **PROJECT CLOSEOUT**

#### **PART 1 – GENERAL**

##### **1.1 DESCRIPTION OF WORK:**

###### **A. Work Included in This Section:**

1. This Section specifies administrative and procedural requirements for project closeout, including, but not limited to, the following:
  - a. Inspection procedures
  - b. Project record document submittal
  - c. Operating and maintenance manual submittal
  - d. Submittal of warranties
2. Closeout requirements for specific construction activities are included in the appropriate Sections.

##### **1.2 RELATED WORK:**

- A. Division 0 – General Conditions of the Contract
- B. Division 0 – HUD General Conditions (Form 5370) and Supplemental Conditions
- C. Division 0 – Supplemental Conditions
- D. Section 01300 – Submittals
- E. Section 01323 – Photographic Documentation

##### **1.3 SUBSTANTIAL COMPLETION:**

###### **A. General:**

- 1
  1. The Work will only be considered suitable for Substantial Completion when all work indicated in the bid documents is complete. The project shall be complete in its entirety. For the purposes of this Work, Substantial Completion is defined as when the entirety of the Work has been completed such that the new condensing units may be used for their intended purpose.
  2. Upon completion of the Work, the Contractor shall request a walk-thru by the A/E to inspect the Work. Prior to this walk-thru, the Contractor shall submit to the A/E their punch list of items remaining to be completed. After the walk-thru by the A/E, the A/E will issue their punch list of items remaining to be completed by the Contractor as indicated below.
  3. A final Certificate of Substantial Completion shall be issued upon completion of the entire Work including all Punch List items. The Contractor shall file the final Certificate of Substantial Completion with the Recorder of Mortgages for Orleans Parish.
  4. All warranties and maintenance contracts shall commence on the Date of Final Acceptance.

B. Forms:

1. All forms to be used shall be American Institute of Architect (AIA) forms, unless noted otherwise.

C. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request.

1. The General Contractor considers the Work, on an address-by-address basis is substantially complete, the General Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the General Contractor to complete all Work in accordance with the Bidding and Contract Documents.
2. Advise Owner of pending insurance change-over requirements and submit consent of surety, as applicable.
3. Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities; include occupancy permits, operating certificates and similar releases.
4. Deliver tools, spare parts, extra stock, and similar items.
5. Complete start-up testing of systems, and instruction of the Owner's operating and maintenance personnel. Discontinue or change over and remove temporary facilities from the site, along with construction tools, mock-ups, and similar elements.
6. Remove temporary facilities, construction equipment and temporary services. Restore disturbed items to original condition or better.
7. Complete final cleanup requirements, including touch-up painting. Touch-up and otherwise repair and restore marred exposed finishes.
8. Submit an acceptable copy of the HVAC Test and Balance Reports (if applicable).
9. Submit all Final Inspections Certificates along with a Use and Occupancy Certificate, if applicable.

D. Inspection Procedures: Due to portions of the Work being performed within occupied residential units, inspections for partial substantial completion will be performed at the completion of Work in each unit address.

1. On receipt of a request for inspection for Substantial Completion, the Architect will either proceed with inspection or advise the General Contractor of unfilled requirements. The Architect will prepare the Certificate of Partial Substantial Completion following inspection or advise the General Contractor of construction that must be completed or corrected before the certificate will be issued.
2. The Architect will repeat inspection when requested in writing by the General Contractor and assured that the Work has been substantially completed and all items that were incomplete have been corrected.
3. Results of the completed inspection will form the basis of requirements for final acceptance.

E. Re-inspection Procedure:

1. In the event that more than the two inspections by the Architect described above are made necessary by the failure of the General Contractor to complete the Work, or to complete or correct items identified on the list of such items, the General Contractor shall reimburse the Owner for all costs incurred including the cost of the Architect's services made necessary thereby.
2. Upon completion of re-inspection, the Architect will prepare a Certificate of Substantial Completion and a final Certificate of Substantial Completion at the end of the Work, or advise the General Contractor of Work that is incomplete or of obligations that have not

been fulfilled but are required for Substantial Completion.

#### **1.4 FINAL ACCEPTANCE:**

- A. At the completion of the Project prior to receiving final payment, the General Contractor shall furnish the Owner, through the Architect, properly signed and notarized waivers of lien from all subcontractors employed and material suppliers furnishing materials for the Project and a clear Lien & Privilege Certificate from the Orleans Parish Recorder of Mortgages. Such waivers shall be submitted before final payment will be certified by the Architect to the Owner (AIA G706A). Also, at the completion of the contract, the General Contractor shall provide documentation for the signature of the Owner and General Contractor signifying the completion of the contractual obligation and the cancellation of the contract. This documentation shall be filed by the Contractor with the Recorder of Mortgages and proof of contract cancellation provided to the Owner. Upon completion of these items, final payment shall be due to the General Contractor.
  
- B. Preliminary Procedures:
  - 1. Before requesting final inspection for final payment, complete the following (list exceptions in the request):
    - a. Submit a copy of the Architect's final inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance (by initialing each individual item), and the list has been endorsed and dated by the Architect
    - b. Submit record drawings, maintenance manuals, final project photographs, and similar final record information
    - c. Submit Consent of Surety to Final Payment (AIA G707)
    - d. Submit evidence of final, continuing insurance coverage complying with insurance requirements
    - e. Guarantees, Warranties and Bonds
    - f. Spare parts and Maintenance Materials
    - g. Certificate of Insurance for Products and Completed Operations
    - h. Certificate of Occupancy, if required
    - i. All remnants required by the Contract Documents
    - j. Executed one-year maintenance agreement
    - k. Submit "Lien & Privilege Certificate" from Orleans Parish.
    - l. Any other items as required by the Architect and/ or Owner

#### **1.5 RECORD DOCUMENT SUBMITTALS:**

- A. General:
  - 1. The General Contractor shall record on the Record Drawings maintained at the site all changes and selections made during construction and shall locate by dimensions showing actual field measurements of all major items which will be concealed in the completed work. These items shall include location of piping repaired or replaced and items above hard ceilings such as repairs of ducts, piping, etc.
  - 2. Dimensions are to be taken from face of building lines to centerline of piping or conduit.
  - 3. Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for the Architect's reference during normal working hours.



4. All Record Documents shall be provided to Owner in PDF on three (3) separate flash drives of sufficient capacity to include all the documents on one flash drive.

B. Record Drawings:

1. Provide one (1) print copy of record drawings.
2. The Product Data submittals shall be part of the record drawing submittal.
3. Record drawings shall be provided in the form of reproducible drawing sheets (reproducible bond) and reflect changes in the work and locations of concealed items for all trades including plumbing, mechanical, electrical and general construction. Bond prints of the original contract documents may be purchased from the Architect at the Architect's standard printing rate.
4. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown.
5. Mark whichever drawing is most capable of showing conditions fully and accurately; where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
6. Mark new information that is important to the Owner, but was not shown on Contract Drawings or Shop Drawings.
7. Note related Change Order numbers where applicable.

C. Record Specifications:

1. Maintain three (3) printed copies of the Project Manual, including addenda, and three (3) printed copies of other written construction documents such as Change Orders and modifications issued in printed form during construction. Mark these documents to show variations in actual Work performed in comparison with the text of the Specifications and modifications.
2. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation. Note related record drawing information and Product Data.
3. Upon completion of the Work, submit record Specifications to the Architect for the Owner's records.

D. Shop Drawings and Product Data Submittals:

1. Provide one (1) print copy of reviewed shop drawings and product data (include all review comments from Architect and Consultants).
2. Deliver General Contractor's approved copy of all shop drawings submitted during the course of the project.

E. Miscellaneous Record Submittals:

1. Refer to other Specification Sections for requirements of miscellaneous record-keeping and submittals in connection with actual performance of the Work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to the Architect for the Owner's records.

F. Electronic Record Documents:

1. Provide three (3) copies of electronic version on three (3) flash or thumb drives of sufficient capacity including record drawings, record specifications, shop drawings,

product data, miscellaneous record submittals, maintenance manuals, instructions, and warranties.

## 1.6 MAINTENANCE MANUAL AND INSTRUCTIONS:

- A. General Contractor shall, prior to completion of Contract, deliver to the Architect three (3) copies of a manual, assembled, indexed, and bound; presenting for the Owner's guidance, full details for care and maintenance of mechanical, electrical, and other equipment included in Contract. Manuals shall include parts lists for each item of equipment furnished under the Contract.
- B. General Contractor shall, for this manual, obtain from Subcontractors, literature of manufacturers relating to equipment, including motors; also furnish cuts, wiring diagrams, instruction sheets, and other information pertaining to same that will be useful to Owner in overall operation and maintenance. Include also, the name, address, and phone number of the nearest sales and service organization for each item.
- C. General:
  - 1. Organize each manual into separate Sections for each piece of related equipment.
  - 2. Index all data as per the Table of Contents.
  - 3. As a minimum each manual shall contain a title page, a table of contents, copies of Product Data, supplemented by drawings and written text, and copies of each warranty, bond and service Contract issued.
- D. Binders:
  - 1. Identify each binder on the front and spine, with the typed or printed title "GUSTE II CONDENSING UNITS OPERATION AND MAINTENANCE MANUAL", Project title or name, and subject matter covered. Indicate the volume number for multiple volume sets of manuals.
  - 2. The binders shall be hard-cover, three-ring notebook, embossed with the name of the project, spring-lock metal label holders, and piano hinge edges, (2" capacity) 11" x 8-1/2" with heavy duty rings. Provide the number of binders required to properly contain all information required.
- E. Drawings:
  - 1. Where drawings or diagrams are required as part of the manual, provide reinforced punched binder tabs on the drawings and bind in with the text.
  - 2. Where oversize drawings are necessary, fold the drawings to the same size as the text pages and use as a fold-out.
  - 3. If drawings are too large to be used practically as a fold-out, place the drawing, neatly folded, in the front or rear pocket of the binder. Insert a typewritten page indicating the drawing title, description of contents and drawing location at the appropriate location in the manual.
- F. Protective Plastic Jackets:
  - 1. Provide protective transparent plastic jackets designed to enclose diagnostic software for computerized electronic equipment if required.
- G. Text Material:
  - 1. Where written material is required as part of the manual use the manufacturer's standard printed material, or if it is not available, specially prepared data, neatly typewritten, on 8-1/2" by 11", 20 pound white bond paper.

2. Such data called for under separate Sections of the Specifications, shall be included in the manual described in this Section.

H. Title Page:

1. Provide a title page in a transparent plastic envelope as the first sheet of each manual. Provide the following information:
  - a. Subject matter covered by the manual
  - b. Name and address of the Project
  - c. Date of submittal
  - d. Name, address, and telephone number of the Contractor
  - e. Name and address of the Architect
  - f. Cross reference to related systems in other operating and maintenance manuals

I. Table of Contents:

1. After the Title Page, include a typewritten table of contents for each volume, arranged systematically according to the Project Manual format. Include a list of each product included, identified by product name or other appropriate identifying symbol and indexed to the content of the volume.
2. Where more than one volume is required to accommodate data for a particular system, provide a comprehensive table of contents for all volumes in each volume of the set.

J. General Information:

1. Provide a general information Section immediately following the Table of Contents, listing each product included in the manual, identified by product name. Under each product, list the name, address, and telephone number of the Subcontractor or installer, and the maintenance contractor. Clearly delineate the extent of responsibility of each of these entities. In addition, list a local source for replacement parts and equipment.

K. Product Data:

1. Where manufacturer's standard printed data is included in the manuals, include only sheets that are pertinent to the part or product installed. Mark each sheet to identify each part or product included in the installation. Where more than one item in a tabular format is included, identify each item, using appropriate references from the Contract Documents. Identify data that is applicable to the installation and delete references to information that is not applicable.

L. Written Text:

1. Where manufacturer's standard printed data is not available, and information is necessary for proper operation and maintenance of equipment or systems, or it is necessary to provide additional information to supplement data included in the manual, prepare written text to provide necessary information. Organize the text in a consistent format under separate headings for different procedures. Where necessary, provide a logical sequence of instruction for each operating or maintenance procedure.

M. Warranties, Bonds and Service Contracts:

1. Provide a copy of each warranty, bond or service contract in the appropriate manual for the information of the Owner's operating personnel. Provide written data outlining procedures to be followed in the event of product failure. List circumstances and conditions that would affect validity of the warranty or bond.

**1.7 INSTRUCTIONS:**

- A. The Owner's delegated representative shall be given personal instructions by trained personnel, in the care, use, maintenance, and operation procedures for each item. This shall be done in accordance with, and in addition to, the above required manual.

B. Operating and Maintenance Instructions:

1. Arrange for each installer of equipment that requires regular maintenance to meet with the Owner's personnel to provide instruction in proper operation and maintenance. If installers are not experienced in procedures, provide instruction by manufacturer's representatives. Include a detailed review of the following items:

- a. Maintenance manuals
- b. Record documents
- c. Spare parts and materials
- d. Tools
- e. Identification systems
- f. Control sequences

2. As part of instruction for operating equipment, demonstrate the following procedures:

- a. Start-up
- b. Shutdown
- c. Emergency operations
- d. Noise and vibration adjustments
- e. Safety procedures
- f. Economy and efficiency adjustments
- g. Effective energy utilization

C. Maintenance Procedures:

1. Provide information detailing essential maintenance procedures, including the following:

- a. Routine operations
- b. Trouble-shooting guide
- c. Disassembly, repair and reassembly
- d. Alignment, adjusting and checking

D. Operating Procedures:

1. Provide information on equipment and system operating procedures, including the following:

- a. Start-up procedures
- b. Equipment or system break-in
- c. Routine and normal operating instructions
- d. Regulation and control procedures

- e. Instructions on stopping
  - f. Shut-down and emergency instructions
  - g. Summer and winter operating instructions
  - h. Required sequences for electric or electronic systems
  - i. Special operating instructions
- E. Servicing Schedule:
- 1. Provide a schedule of routine servicing and lubrication requirements, including a list of repaired lubricants for equipment with moving parts.
- F. Controls:
- 1. Provide a description of the sequence of operation and as-installed control diagrams by the control manufacturer for systems requiring controls.
- G. Coordination Drawings:
- 1. Provide each Contractor's Coordination Drawings.
  - 2. Provide as-installed color-coded piping diagrams, where required for identification.
- H. Valve Tags:
- 1. Provide charts of valve tag numbers, with the location and function of each valve.

## **PART 2 – PRODUCTS**

Not Applicable

## **PART 3 – EXECUTION**

Not Applicable

**END OF SECTION**

## SECTION 09910 - PAINTING

### **PART 1 - GENERAL**

#### **1.01 RELATED DOCUMENTS**

- A. Drawings and general provision of the Contract, including General and Supplementary Conditions of the Specification Sections, apply to this Section.

#### **1.02 SCOPE OF WORK**

- A. Without restricting the volume or generality of the above, the work to be performed under this Section shall include, but is not limited to the following:
  - 1. All labor, materials, tools, scaffolds and other equipment necessary to properly complete work according to Plans and Specifications.
- B. Painting shall be as required and as needed to any damage to existing metal cages or new replacement cages at condenser units.

#### **1.03 SUBMITTALS**

- A. Submit complete product data sheets of paint manufacturer for each paint product with a schedule showing compatible components of coating systems, indicating the appropriate surface(s) for the various coating systems. Product data sheet shall indicate solids by volume and weight, mill thickness, compatible prime or finish coats, ASTM and other standards, etc.
- B. Submit complete manufacturer's color catalog for color selections.
- C. Provide manufacturer's technical information including label analysis and instructions for handling, storage and applications of each material proposed for use.

#### **1.04 PRODUCT HANDLING**

- A. Delivery: Approved paints shall be delivered in labeled, sealed containers.
- B. Storage:
  - 1. Store all materials used on job in a single safe place.
  - 2. Take all necessary precautions to prevent fire, explosions and other damage.
  - 3. All rags and paint or solvents must be stored in closed metal containers at all times.

4. Remove oily rags, waste, etc. from the building every day.
5. Comply with all health, fire and safety regulations.

#### 1.05 JOB CONDITIONS

##### A. Environmental Requirements:

1. Comply with manufacturer's recommendations as to conditions under which coatings can be applied.
2. Ambient temperature shall not be less than 50 degrees F in the area of coating work for 24 hours prior to, during and after applications.
3. Do not apply coating in areas where dust is being generated. Surfaces shall be free of foreign matter.
4. Lighting shall be adequate as required for proper installation, provided by applicator as necessary to supplement temporary lighting.
5. Do not paint in excessive humidity. Do not paint wet or humid surfaces.
6. Do not paint surfaces, which indicate moisture content above 12%.
7. Cover or otherwise protect floors, walls and other surfaces not being painted.

#### 1.06 EXTRA MATERIALS

- A. Deliver extra materials to Owner. Furnish extra materials that match products installed as described below. Provide unopened, labeled containers with protective coverings for storage and identified with labels clearly describing contents.
- B. Paint, Primers, Accessories, etc.: Provide minimum of one (1) gallon of each type and color used for this project. Containers shall be clearly marked with color name, number and type of paint.
- C. At project closeout, provide the color mixture name and code to the Owner for accurate future color matching.

### **PART 2 – PRODUCTS**

#### 2.01 MATERIALS

- A. All materials required for painting shall be the brand name and quality specified and shall be delivered to the building in original containers with labels intact and seals unbroken.

- B. All materials are to be used as specified by the manufacturer's label directions. Use materials best suited and especially prepared for surfaces to be covered.
- C. All unspecified materials such as shellac, turpentine or linseed oil shall be of the "best grade" or "first line" made by reputable, recognized manufacturers and shall bear the labels and be approved by the Architect.
- D. The products and formulations herein specified are those as manufactured by Sherwin Williams Company or approved equal meeting the substitution requirements indicated in the specifications.

## **PART 3 - EXECUTION**

### **3.01 PREPARATION OF SURFACES**

- A. Metal: All surfaces shall be absolutely clean and dry: free from wax, oil, grease or dried soap films, rust and scale. Metal surfaces which were not specified for sandblasting shall be thoroughly cleaned with sandpaper or steel wool and thinner. All galvanized iron surfaces shall be properly treated with a special chemical according to the manufacturer's directions. All steel or iron shall be primed with one coat of rust inhibitive primer, unless it had been primed by other. All metal shall be brush painted.
- B. Wood and Plywood: Any unsound surface shall be properly secured and/or repaired by others before painting. All surfaces shall be sanded and dusted to remove all dirt, loose paint scales, foreign matter, etc. Countersink all protruding nails 1/8" below the surface. Fill with putty. Apply putty to open cracks in joints in millwork members.
- C. Gaps and Cracks: All gaps, cracks within and along perimeter of surfaces to be coated shall be filled and sealed.
- D. Cleaning: All surfaces to be coated shall be thoroughly cleaned, removing dust, grease, grime, loose paint and other particles.
- E. Protect the floors or surrounding surfaces with drop cloths or building paper. Paint shall be mixed in suitable containers and all necessary precautions shall be taken to prevent fire.

### **3.02 PAINTING**

- A. All work shall be done by skilled mechanics in a workmanlike manner. All paints, stains, varnishes and other finishes must evenly be spread and flowed on with proper film thickness and shall be free from runs, sags, or other defects. All coats shall be thoroughly dry before applying succeeding coats.



- B. Unless otherwise specified, exterior paints shall dry for 48 hours and interior paints 24 hours between coats.
- C. Paint shall be cut in neatly around edges.
- D. Exterior painting shall not be done in rainy or frosty weather. All surfaces shall be thoroughly dry. Interior painting or finishing shall not be permitted until the building is thoroughly dried by artificially conditioned air.
- E. All adjacent work and materials inside or outside the building shall be protected with suitable covers during the progress of work. Damage caused by this Contractor shall be corrected at the expense of this Contractor.
- F. Upon completion of work, the Painting Contractor shall remove from the building all surplus materials, scaffolds and debris created by him and clean off all misplaced paint and varnish so as to leave his part of the work in a clean and finished condition.
- G. All work shall be subject to approval by the Architect, and any work not complying with these Specifications shall be satisfactorily corrected.
- H. Do not apply paint in spaces where dust is being generated which would speck the finish, or in spaces not lit adequately.
- I. Articles affixed to interior of buildings, such as hardware, fixtures, etc. shall be removed before painting, when necessary for first class work, and replaced thereafter.
- J. Before proceeding, Painting Subcontractor shall examine all surfaces to be painted or finished and notify the Contractor in writing of any unsuitability. The commencing of work or the absence of the notification in writing shall be construed as acceptance of the surfaces by the Painting Subcontractor. It shall be the responsibility of the Painting Subcontractor then to correct any defect appearing in the painting work thereafter.

### 3.03 COLORS, FINISHES AND SAMPLES

- A. Colors shall be selected and samples of color and finish shall be approved by the Architect before proceeding with the work.
- B. All undercoats shall be tinted with the color of the finish coat unless otherwise specified.

## **PART 4 – SCHEDULES**

#### 4.01 TYPE AND NUMBER OF COATS

A. In this schedule the name of manufacturers is abbreviated as follows:  
S-W = Sherwin-Williams Company

B. **Galvanized Metal**

1st Coat: S-W Pro-Cryl-Primer  
2nd Coat: S-W DTM Semi-gloss Latex  
3rd Coat: S-W DTM Semi-gloss Latex

C. Miscellaneous Other Surfaces

Prepare surfaces in accordance with paint manufacturer's instructions and use best quality coating system offered by paint manufacturer to match finish (sheen, color, etc.) of the various adjacent surfaces.

**END OF SECTION**

**REFRIGERANT PIPING AND SPECIALTIES****PART 1 GENERAL**

## 1.01 WORK INCLUDED

- A. Provide complete operational refrigerant piping system between air handling units and air cooled condensing units including the following:
1. Refrigerant pipe and fittings
  2. Moisture indicators (sight glass)
  3. Filter-driers
  4. Solenoid valves
  5. Expansion valves
  6. Refrigerant charging valves
  7. Flexible connections.

## 1.02 RELATED WORK

- A. Documents affecting work of this specification section include the other sections of the contract documents, all specification sections in Division 1 and the following sections:
1. Section 15695, Air Cooled Condensing Units.

## 1.03 REFERENCES

- A. ANSI B 16.22, 2013, Wrought Copper and Copper Alloy Solder-Joint Pressure Fittings
- B. ANSI B 16.26, 2013, Cast Copper Alloy Fittings for Flared Copper Tubes
- C. ANSI B 31.5, 2016, Refrigeration Piping and Heat Transfer Components
- D. ARI 710 I-P, 2009, Performance Rating of Liquid Line Dryers
- E. ARI 750 I-P, 2016, Performance Rating of Thermostatic Refrigerant Expansion Valves
- F. ANSI/AHRI 760, 2014, Performance Rating of Solenoid Valves for use with Volatile Refrigerants
- G. ASHRAE 15, 2016, Safety Standard for Refrigeration Systems
- H. ASTM B 88-16, Standard Specification for Seamless Copper Water Tube
- I. AWS A 5.8, 2012, Specification for Filler Metals for Brazing and Braze Welding

## 1.04 SUBMITTALS

- A. Submit the following:

1. Product specifications, capacities, pressure drops
2. Dimensional drawings
3. Parts list and recommended spare parts list with prices for refrigerant equipment and valves
4. Installation, operation and maintenance manuals for refrigerant equipment and valves
5. Inspection test procedure.

#### 1.05 DELIVERY, STORAGE AND HANDLING

- A. Store copper tubing for use in refrigeration systems with ends sealed to prevent the entry of dirt and other foreign matter.

### **PART 2 PRODUCTS**

#### 2.01 MATERIALS

- A. Provide refrigerant piping of Type L or Type K hard drawn copper tubing or soft annealed tubing as required for application (bending, flaring, solder joints) conforming to ANSI B 31.5 and ASTM B 88.
- B. Provide copper tubing soft annealed where bending is required and hard drawn where no bending is required. Provide soft annealed copper tubing only in sizes smaller than or equal to 1-3/8 inches diameter. Provide brazed joints except that joints on lines 7/8 inch and smaller may be flared.
- C. Provide fittings of wrought copper conforming to ANSI B 16.22, flared tube fittings conforming to ANSI B 16.26.
- D. Make joints that conform to AWS A 5.8, BCup silver braze.
- E. Moisture Indicators (sight glass)
  1. Provide UL listed double port type moisture indicators with copper or brass body and flared or solder ends.
  2. Provide removable seal caps on each port for inspection of refrigerant condition.
  3. Provide full size moisture indicators in main liquid line leaving condenser.
    - a. Install in liquid line leaving receiver if receiver is used.
  4. Provide moisture indicators with color contrast scheme on sensitized moisture element which changes colors in proportion to the amount of moisture contained within the refrigerant as follows: Blue - indicates "Safe" conditions, Light Violet - indicates "Caution" conditions, Pink - indicates "Danger" conditions or high levels of moisture present.
- G. Filter-Driers

1. Provide ARI 710, UL listed, angle type filter-driers with brass shell and using combined straining and drying material.
2. Provide replaceable desiccant material of activated alumina and molecular sieves, resistant to acid corrosion, moisture incurred disintegrate and fluid erosion.
3. Provide three-valve bypass assembly.

#### H. Solenoid Valves

1. Provide ARI 760 copper or brass body solenoid valves with flared or threaded ends.
2. Provide replaceable UL listed coil assembly.
3. Provide a manually operated stem to permit operation in case of coil failure.
4. Provide solenoid valves in liquid line of systems operating with single pump-out or pump-down compressor control, in liquid line of single or multiple evaporator systems and in oil bleeder lines from flooded evaporators to stop flow of oil and refrigerant into the suction line when system shuts down.
  - a. Provide valves to operate on voltage required by unit manufacturer's instructions.

#### I. Expansion Valves

1. Provide ARI 750 angle type or straight through design expansion valves suitable for the refrigerant utilized in the system.
2. Provide brass body, internal or external equalizer and adjustable superheat setting, complete with capillary tube and remote sensing bulb.
3. Size expansion valves to meet system capacity requirements at full load in accordance with system equipment manufacturer. Size valves on the basis of evaporator temperature, system pressure and pressure drop across valves to suit system capacity requirements. Avoid oversizing of valves. Select valves which operate to give desired flow control at partial loading.
4. Evaluate refrigerant pressure drop through system to determine the available pressure drop across each valve.
5. Select valves for maximum load at design operating pressure and minimum 10 degrees Fahrenheit of superheat.
6. Provide external equalizers on expansion valves used on air conditioning coils with a pressure drop of two psi or greater.

#### J. Charging Valves

1. Provide general purpose type charging valves with brass body, flared or solder ends and removable valve core.
2. Provide valve inlet with quick coupling connection for ease of charging.

3. Provide refrigerant charging connections in liquid line at condensing unit downstream of receiver.

**K. Flexible Connectors**

1. Provide close pitch corrugated bronze hose for flexible connectors with single layer of exterior braiding.
2. Provide at least nine inches long, with bronze fittings.
3. Utilize only at or near compressors where it is not physically possible to absorb vibration within piping configuration.

**PART 3 EXECUTION**

**3.01 PREPARATION**

- A. Ream pipe and tube ends. Remove burrs.
- B. Remove scale and dirt, inside and outside, before assembly.
- C. Remove solder or foreign material from pipe and fitting materials.

**3.02 INSTALLATION**

- A. Install all work in accordance with ASHRAE 15.
- B. Refrigerant Piping:
  1. Cut pipe accurately to measurements established in the field and work into place without springing or forcing.
  2. Install piping with sufficient flexibility to adequately provide for expansion and contraction due to temperature fluctuation inherent in its operation.
  3. Do not conceal joints of pipes that pass through building structure, but locate where they may be readily inspected when pipe passes through building structure.
  4. Run all pipe to be insulated as shown and as required with sufficient clearance to permit application of insulation.
  5. Run all piping essentially as shown and detailed on the plans. Do not interfere with other piping, conduit or equipment.
  6. Run piping plumb and straight and parallel to walls and ceilings, except where specifically indicated otherwise.
  7. Do not trap except where indicated.
  8. Provide sleeves of suitable size for all lines passing through building structure.
  9. Braze refrigerant piping with silver solder complying with AWS A 5.8.
  10. Keep inside of tubing and fittings free of flux.

11. Clean the parts to be jointed with emery cloth and keep hot until the solder has penetrated the full depth of the fitting and the extra flux has been expelled.
  12. Cool joints in air and remove flame marks and traces of flux.
  13. During the brazing operation, prevent an oxide film from forming on the inside of the tubing by slowly flowing dry nitrogen to expel the air.
  14. Install piping in accordance with ANSI B 31.5.
- C. Returning Oil from Refrigerant System:
1. Install a double riser when velocity is insufficient to entrain oil on return.
  2. On the larger riser provide a trap, of minimum volume, obtained by use of 90 degree and 45 degree ells.
  3. Arrange the small riser with inlet close to bottom of horizontal line and connect to top of upper horizontal line.
  4. Do not install valves in risers.
- D. Provide filter-driers and sight glass moisture indicators, in refrigerant piping for remote installations when not furnished by the manufacturer as part of the equipment.
- E. Install driers in liquid line with service valves and valved bypass line which are the same size as liquid line in which the drier is installed.
1. Size of driers shall be determined by the piping and installation of the unit on location.
  2. Install driers of 50 cubic inches and larger vertically with the cover for removing cartridge at the bottom.
- F. Install the moisture indicator in the liquid line downstream of the drier.
1. Make indicator connections the same size as the liquid line in which it is installed.
- G. Install solenoid valves in horizontal lines with stem vertical and with flow in direction indicated on the valve.
1. Remove the internal parts of the solenoid valve when brazing the valve.
- H. Locate expansion valve sensing bulbs immediately after the evaporator outlet on suction line.
- I. Provide escutcheon plates where pipes penetrate walls and floors and make flush to the wall and floor.
- J. Insulate refrigerant lines after system leak testing is completed.
1. Provide foamed plastic slip-on type insulation of thickness recommended by the manufacturer on all refrigerant suction lines.
  2. All fittings, valves and surfaces subject to sweating shall be insulated.

3. Insulation shall be tightly butted and all joints sealed with waterproof vapor barrier adhesive.

3.03 EXECUTION QUALITY CONTROL

- A. Purge and test refrigerant piping prior to application of insulation. Isolate or remove all equipment, control gages and accessories that might be damaged during testing.
  1. Pressure test systems with dry carbon dioxide or nitrogen with a trace amount of refrigerant.
  2. Conduct test in accordance with ASHRAE 15.
  3. At conclusion of pressure test, conduct vacuum test of 0.20 inches, mercury gage for a period of one hour without pumping.
  4. Correct leaks found by remaking the joints. Retest system.
  5. As soon as possible after testing, charge the system with refrigerant. Refer to Section 15695.
  6. After charging and prior to capacity testing, check joints with halide torch or equally sensitive leak detector.

-END OF SECTION-



**AIR COOLED CONDENSING UNIT****PART 1 GENERAL**

## 1.01 WORK INCLUDED

- A. Provide and install an air cooled condensing unit, including:
  - 1. Internal piping and accessories
  - 2. Controls
- B. Provide unit complete with all specified or required operating and safety controls, accessories and relays, requiring only the connection of field electrical power, refrigerant piping and specialties and control interlock wiring to be fully operational.
- C. Green Spec Requirements: The condensing unit will meet or exceed energy code efficiency standards.

## 1.02 RELATED WORK

- A. Documents affecting work of this section include sections in Division 1 and the following sections:
  - 1. Section 15650, Refrigerant Piping and Specialties

## 1.03 REFERENCES

When more recent editions of codes, specifications, and standards are available, obtain Government approval prior to using the latest edition.

- A. ANSI/AHRI 210/240, 2008, Performance Rating of Unitary Air-Conditioning & Air Source Heat Pump Equipment
- B. AHRI 270, 2015, Sound Performance Rating of Outdoor Unitary Equipment
- C. UL 1995, 2015, Heating and Cooling Equipment

## 1.04 SUBMITTALS

- A. Submit the following:
  - 1. Specifications, capacities, utility requirements
  - 2. Dimensional drawings, anchor bolt layout
  - 3. Wiring diagrams
  - 4. Parts list and recommended spare parts list with prices
  - 5. Installation, operation, maintenance manuals, handling and lifting instructions
  - 6. Inspection test procedure
  - 7. Manufacturer's data which indicates that equipment is UL 1995 listed

8. Manufacturer's data which indicates that the cooling capacity is rated in accordance with ARI 210 and sound rated per ARI 270
9. Warranty data

## **PART 2 PRODUCTS**

### 2.01 EQUIPMENT

#### A. General

1. Provide self-contained, packaged, factory assembled and pre-wired unit suitable for outdoor use consisting of cabinet, compressors, condensing coil and fans, integral sub-cooling coil, controls, liquid receiver and screens.
2. Provide corrosion resistant materials for parts in contact with refrigerant. Furnish galvanized steel casings with baked enamel finish and removable access doors or panels with quick fasteners.
3. Provide unit assembled and tested at the factory and designed for use with Refrigerant R-410A.
4. Provide capacities, minimum energy efficiency ratings, operating conditions and physical data as scheduled on the drawings.

#### B. Air Cooled Condensing Unit

1. Provide unit compressors of serviceable hermetic design with external spring isolators and an automatically reversible oil pump. Provide compressors which unload in response to suction pressure down to 33 percent of full capacity in three steps for part load operation. Provide compressors with across the line start.
2. Provide condenser coil of nonferrous construction with aluminum plate fins mechanically bonded to seamless copper tubes, and circuited for subcooling.
3. Provide unit furnished with direct-driven, propeller-type fans arranged for vertical discharge. Provide condenser fan motors which have inherent protection and of the permanently lubricated type, resiliently mounted. Provide each fan with a safety guard. Provide controls included for cycling fans for intermediate operation.
4. Provide casing which makes unit fully weatherproof for outdoor installation. Provide casing of galvanized steel, zinc phosphatized and furnished with baked enamel. Provide openings for power and refrigerant connections. Provide unit with removable panel for servicing. Provide only one liquid line, one suction line and one power supply connection required.
5. Provide controls factory wired and located in a separate enclosure. Provide safety devices consisting of high and low pressure switches and compressor overload devices. Unit wiring which incorporates a positive acting timer to prevent short cycling of compressor if power is interrupted. Provide timer which prevents compressor from restarting for approximately five minutes after shutoff. Provide transformers for 230 volt and 115 volt circuits.

**PART 3 EXECUTION**

3.01 INSTALLATION

- A. Install unit per manufacturer's instructions and complete structural, mechanical and electrical connections per manufacturer's installation instructions.

3.02 EXECUTION QUALITY CONTROL

A. Start-up and Testing

1. Perform initial start-up of equipment per manufacturer's instructions.
2. Provide initial charge of refrigerant and oil for each refrigeration system.
  - a. Replace losses of oil or refrigerant prior to end of correction period.
3. Charge system with refrigerant and test entire system for leaks after completion of installation.
  - a. Repair leaks and test equipment performance.
  - b. Make all necessary adjustments to equipment, accessories and appurtenances. Correct any deficiencies discovered, which prevent equipment from operating as required to perform the functions required by the system design, and that prevent the equipment, accessories and appurtenances from performing as described in the manufacturer's cataloged literature.

3.03 ADJUSTING AND CLEANING

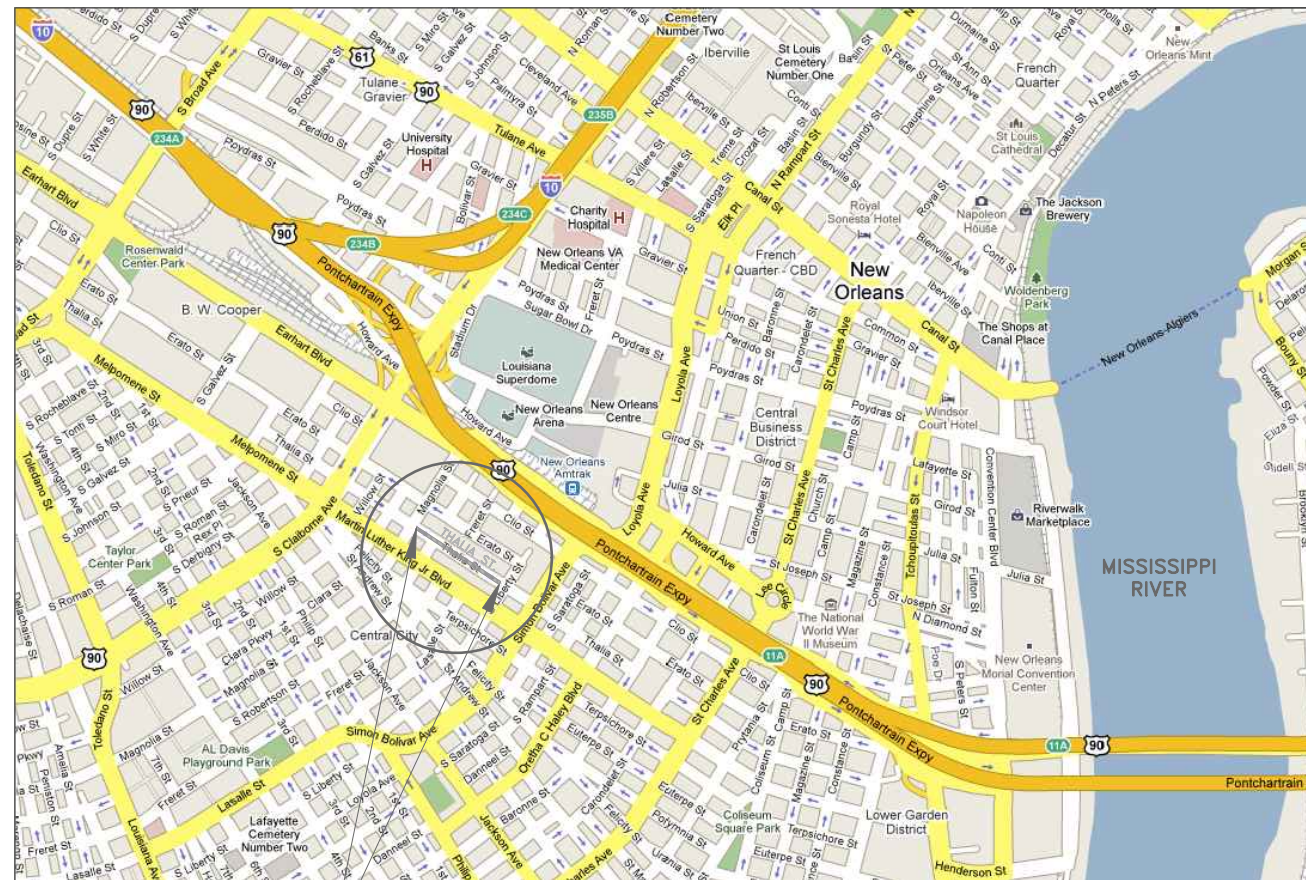
- A. Remove all dirt, grease and other foreign materials from units. Repair scratches to match factory finish.

END OF SECTION

# GUSTE 2 CONDENSER UNIT REPLACEMENTS 2401 THRU 2519 THALIA ST. NEW ORLEANS LOUISIANA

## ABBREVIATIONS

|          |                            |
|----------|----------------------------|
| CLR.     | CLEAR                      |
| CMU      | CONCRETE MASONRY UNIT      |
| CONC.    | CONCRETE                   |
| DIM. PT. | DIMENSION POINT            |
| EO       | EDGE OF                    |
| E.F.     | EXHAUST FAN                |
| (E)      | EXISTING                   |
| EX.      | EXISTING                   |
| EXT.     | EXTERIOR                   |
| F.O.     | FACE OF                    |
| FDN      | FOUNDATION                 |
| GSM      | GALVANIZED SHEET METAL     |
| HDG      | HOT DIPPED GALVANIZED      |
| MFG.     | MANUFACTURER               |
| MTL.     | METAL                      |
| (N)      | NEW                        |
| N.I.C.   | NOT IN CONTRACT            |
| O.C.     | ON CENTER                  |
| O/       | OVER                       |
| PT       | PRESSURE TREATED           |
| RA.      | RETURN AIR                 |
| RAG      | RETURN AIR GRILLE          |
| S.A.M.   | SELF ADHERING MEMBRANE     |
| SIM      | SIMILAR                    |
| STL      | STEEL                      |
| STRL     | STRUCTURAL                 |
| T.B.D.   | TO BE DETERMINED           |
| (TBR&R)  | TO BE REMOVED AND REPLACED |
| T&B      | TOP AND BOTTOM             |
| T.O.     | TOP OF                     |
| (TYP)    | TYPICAL                    |
| U        | UNDERCUT                   |
| (UIP)    | USE IN PLACE               |



GUSTE 2 BUILDINGS  
PROJECT LOCATION

LOCATION MAP

## SHEET INDEX

|      |                    |
|------|--------------------|
| G0.0 | TITLESHEET         |
| G0.1 | GENERAL NOTES      |
| M0.1 | MECHANICAL NOTES   |
| M1.1 | ENLARGED SITE PLAN |

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**HANO**

HOUSING AUTHORITY OF NEW ORLEANS

4100 TOURO STREET

NEW ORLEANS, LOUISIANA 70122

PHONE: (504) 670-3300

FAX: (504) 286-8788

**ECM PROJECT NO. 19425.03**

NOVEMBER 17, 2020

THESE PLANS AND SPECIFICATIONS HAVE BEEN PREPARED BY ME, OR UNDER MY CLOSE PERSONAL SUPERVISION, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, THEY COMPLY WITH ALL CITY AND STATE REQUIREMENTS. I WILL OBSERVE THE WORK.

BY: \_\_\_\_\_

REGISTRATION No: \_\_\_\_\_

REVISIONS BY:

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NEW ORLEANS, LOUISIANA 70122

GUSTE 2 BUILDING  
A/C CONDENSING UNIT REPLACEMENT  
NEW ORLEANS  
LOUISIANA

TITLESHEET

DRAWN  
M.L.M.  
CHECKED  
N.G.W.  
DATE  
DECEMBER 7, 2020  
SCALE  
AS SHOWN  
JOB NO.  
19425.03  
SHEET NO.

G0.0

**GENERAL NOTES:**

1. THE SCOPE OF WORK APPLIES ONLY TO THE GUSTE II SITE. THE CONTRACTOR SHALL ASSUME THAT ALL THE RESIDENTIAL UNITS ON SITE ARE OCCUPIED. CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO MITIGATE ANY INCONVENIENCE TO THE RESIDENTS.
2. IT IS ACKNOWLEDGED THAT THE HVAC SYSTEMS WILL NEED TO BE SHUT DOWN IN ORDER TO PERFORM THE WORK. A SEVENTY-TWO (72) HOUR NOTICE MUST BE GIVEN TO THE PROPERTY MANAGER PRIOR TO SHUTTING DOWN THE HVAC SYSTEM(S) AT ANY GIVEN ADDRESS. ALL REASONABLE EFFORTS SHALL BE MADE TO ENSURE THAT THE DOWN TIME IS KEPT TO A MINIMUM. DO NOT SHUT DOWN A GIVEN HVAC SYSTEM IF THE NEW CONDENSING UNIT INSTALLATION CANNOT BE COMPLETED AND SERVICE RESTORED PRIOR TO THE END OF THE WORK DAY. PROPERTY MANAGEMENT CONTACT INFORMATION WILL BE PROVIDED AT THE PRECONSTRUCTION CONFERENCE.  
NOTE: SHOULD THE COMPLETION OF THE INSTALLATION BE DELAYED, CONTRACTOR SHALL NOTIFY PROPERTY MANAGEMENT AND HANO IMMEDIATELY. CONTRACTOR SHALL WORK THE TIME NECESSARY TO ENSURE THAT THE SYSTEM IS FUNCTIONING PROPERLY BEFORE LEAVING THE WORK AREA.
3. CONTRACTOR SHALL ATTEND A PRECONSTRUCTION CONFERENCE AND SHALL HAVE IN ATTENDANCE A REPRESENTATIVE THAT HAS FULL AUTHORITY TO SPEAK FOR AND ACT ON THE BEHALF OF THE CONTRACTOR.
4. SCHEDULE. CONTRACTOR SHALL PROVIDE A SCHEDULE FOR THE WORK AT THE PRECONSTRUCTION CONFERENCE. THE SCHEDULE SHALL INCLUDE THE FOLLOWING AS A MINIMUM:
  - a) CONTRACT COMMENCEMENT DATE (AS DEFINED BY THE NOTICE TO PROCEED)
  - b) CONTRACT COMPLETION DATE (AS DEFINED BY THE NOTICE TO PROCEED)
  - c) SUBMITTALS AND PROCUREMENT OF MATERIALS AND EQUIPMENT
  - d) DURATION OF WORK BY BUILDING ADDRESS. THIS SHALL INCLUDE THE 72-HOUR NOTIFICATION TO THE PROPERTY MANAGER, AS WELL AS PUNCH BY THE CONTRACTOR AND THE A/E
  - e) FINAL ACCEPTANCE BY HANO
  - f) OTHER TASKS AS MAY BE REQUIRED BY HANO.
5. THE ALLOWABLE WORK HOURS ARE AS FOLLOWS:
  - a. WEEK DAYS: 8:00 AM TO 5:00 PM\*
  - b. WEEKENDS & HOLIDAYS: NO WORK IS ALLOWED\*

\*WORK MAY OCCUR BEYOND THE STATED HOURS UNDER SPECIAL CIRCUMSTANCES WITH THE PRIOR APPROVAL OF HANO.
6. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DEVELOPING AND MAINTAINING ALL SAFETY MEASURES AND PROGRAMS ASSOCIATED WITH THE WORK AND HANO ASSUMES NONE OF THIS RESPONSIBILITY. FOR THE PURPOSE OF THIS RFQ, CONTRACTOR SHALL ENSURE THAT ALL SAFETY MEASURES REGARDING THE COVID-19 PANDEMIC ARE INITIATED AND MAINTAINED AS REQUIRED BY THE GOVERNING AGENCIES HAVING JURISDICTION AT THE TIME THE QUOTES ARE SUBMITTED. REGARDLESS OF WHAT MAY BE REQUIRED BY THESE AGENCIES, ONLY TWO WORKERS SHALL BE ALLOWED IN THE RESIDENTIAL UNITS AT ONE TIME. ADDITIONALLY, APPROPRIATE FACE MASKS SHALL BE WORN AT ALL TIMES WHILE INSIDE THE UNITS. FAILURE TO PROPERLY MAINTAIN SUCH SAFETY MEASURES MAY RESULT IN PAYMENT BEING WITHHELD UNTIL THE SAFETY DEFICIENCIES ARE CORRECTED.
7. ALTHOUGH WORK INSIDE THE RESIDENTIAL UNIT SHOULD BE MINIMAL, THE CONTRACTOR SHALL ENSURE THAT THE APPROPRIATE MEASURES ARE TAKEN TO PROTECT THE BUILDING INTERIOR COMPONENTS AND CONTENTS.
8. THE ENTIRETY OF THE GUSTE DEVELOPMENT SITE IS OCCUPIED. CONTRACTOR PARKING SHALL BE LIMITED TO LEGAL STREET PARKING. CONTRACTOR AND/OR WORKER VEHICLES THAT BLOCK DRIVES WILL BE SUBJECT TO BEING TOWED AT THE EXPENSE OF THE CONTRACTOR VIA A DEDUCTIVE CHANGE ORDER IF REQUIRED. SHOULD THIS OCCUR, A TEN-PERCENT (10%) ADMINISTRATIVE COST WILL BE ADDED TO THE DEDUCTIVE CHANGE ORDER AMOUNT.
9. ALL MATERIALS SHALL BE NEW AND SHALL BE IN ACCORDANCE WITH THE DOCUMENTS.
10. NO WORK SHALL BEGIN AT ANY GIVEN ADDRESS UNTIL ALL MATERIALS ARE AVAILABLE AND READY FOR INSTALLATION. MATERIALS AND EQUIPMENT SHALL BE STORED AT THE CONTRACTOR'S FACILITIES UNTIL THEY ARE READY FOR INSTALLATION.
11. CONTRACTOR SHALL PROTECT EXISTING EXTERIOR BUILDING COMPONENTS AND LANDSCAPING ELEMENTS. ANY AND ALL DAMAGES RESULTING FROM CONTRACTOR ACTIVITIES SHALL BE REPAIRED AT THE CONTRACTOR'S COST AND TO THE SATISFACTION OF HANO. SHOULD THE CONTRACTOR FAIL TO PROPERLY PERFORM SUCH REMEDIAL WORK, HANO WILL COMPLETE THIS WORK AND BACK CHARGE THE COST TO CONTRACTOR PLUS A TEN-PERCENT (10%) ADMINISTRATIVE COST.
12. DEMOLISHED MATERIALS SHALL BE REMOVED FROM THE WORK AREA THE SAME DAY THAT THEY ARE REMOVED. DEMOLISHED MATERIALS SHALL NOT BE STORED ON SITE EXCEPT IN APPROVED DUMPSTERS.

13. HANO HAS NO INTEREST IN SALVAGING THE OLD CONDENSING UNITS. CONDENSING UNITS SHALL BE PROPERLY PURGED OF REFRIGERANT AND DISPOSED OF IN A LEGAL MANNER AS REQUIRED BY THE AGENCIES HAVING JURISDICTION.  
NOTE: SHOULD ALTERNATE NO. 01 BE ACCEPTED, THE CONDENSING UNITS COVERED BY THE ALTERNATE ARE TO BE TURNED OVER TO PROPERTY MANAGEMENT AS PROVIDED FOR BY THE CONTRACT DOCUMENTS.
14. CONTRACTOR SHALL COORDINATE THE LOCATION OF DUMPSTER(S) WITH PROPERTY MANAGEMENT AND HANO. CONTRACTOR SHALL PROCURE AND PAY FOR ALL PERMITS AND/OR FEES FOR DUMPSTER USE THAT MAY BE REQUIRED BY THE AGENCIES HAVING JURISDICTION. CONTRACTOR SHALL POLICE ITS DUMPSTERS. PROPERTY MANAGEMENT NOR HANO ACCEPTS ANY RESPONSIBILITY FOR THE MISUSE OF THESE DUMPSTERS BY ANYONE.
15. CONTRACTOR SHALL PROPERLY DEMARCATATE AND PROTECT ALL WORK AREAS AS NECESSARY TO PROTECT THE PUBLIC AND RESIDENTS. THE WORK AREAS SHALL BE PROPERLY PROTECTED AT THE END OF THE WORK DAY AND ESPECIALLY BEFORE WEEKENDS AND HOLIDAYS.
16. CONTRACTOR SHALL LEAVE THE WORK AREA IN A CLEAN CONDITION, FREE FROM TRASH AND DEBRIS, AT THE END OF EACH WORKDAY. CONTRACTOR SHALL PERFORM A THOROUGH CLEANING AT THE COMPLETION OF THE WORK IN A GIVEN WORK AREA.
17. CONTRACTOR SHALL PROVIDE A FULL-TIME, ON-SITE SUPERINTENDENT WITH A MINIMUM OF FIVE (5) YEARS IN THE TYPE OF WORK REQUIRED BY THIS CONTRACT. THE SUPERINTENDENT SHALL HAVE FULL AUTHORITY TO SPEAK FOR AND ACT ON THE BEHALF OF THE CONTRACTOR. CONTRACTOR SHALL PROVIDE THE SUPERINTENDENT WITH A MOBILE PHONE AND THE PHONE NUMBER SHALL BE DISTRIBUTED TO THE OWNER, ARCHITECT AND MECHANICAL ENGINEER. IF A SINGLE CREW IS UTILIZED, THE SUPERINTENDENT MAY BE A WORKING SUPERINTENDENT. IF MULTIPLE CREWS ARE USED, THE SUPERINTENDENT SHALL BE A NON-WORKING SUPERINTENDENT.
18. PHOTOGRAPHIC DOCUMENTATION. PRIOR TO STARTING ANY WORK ON ANY GIVEN EXISTING CONDENSING UNIT, THE CONTRACTOR SHALL PHOTOGRAPH THE EXISTING EQUIPMENT AND CONDITIONS. FAILURE TO PROPERLY DOCUMENT EXISTING CONDITIONS AND/OR DAMAGES WILL RESULT IN THE CONTRACTOR BEING HELD RESPONSIBLE FOR SUCH CONDITIONS AND/OR DAMAGES. PHOTOGRAPHIC DOCUMENTATION SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 01323 OF THE PROJECT MANUAL.
19. CONTRACTOR SHALL SUBMIT DAILY REPORTS FOR EVERY WORK DAY FOR THE DURATION OF THE WORK. (IF NO WORK IS PERFORMED, THIS SHALL BE NOTED ON THE REPORT, ALONG WITH A STATED REASON AS TO WHY WORK WAS NOT PERFORMED.) CONTRACTOR MAY USE ITS STANDARD REPORTING FORM PROVIDING THAT THE FOLLOWING INFORMATION IS INCLUDED AT A MINIMUM:
  - a. DATE
  - b. WEATHER CONDITIONS AND IMPACT ON THE WORK (IF THERE IS NO IMPACT, THIS IS TO BE STATED.)
  - c. SIZE OF CREW(S)
  - d. WORK PERFORMED
  - e. ISSUES/ACTION REQUIRED
  - f. SIGNATURE OF SUPERINTENDENT

CONTRACTOR SHALL BRING AN EXAMPLE OF ITS DAILY REPORTS TO THE PRECONSTRUCTION CONFERENCE FOR REVIEW AND APPROVAL BY HANO. DAILY REPORTS SHALL BE SUBMITTED TO HANO ON A WEEKLY BASIS NO LATER THAN THE FOLLOWING MONDAY, OR THE NEXT BUSINESS DAY IN THE CASE OF HOLIDAYS. FAILURE TO PROVIDE DAILY REPORTS IN A TIMELY FASHION WILL RESULT IN GENERAL CONDITIONS MONIES BEING WITHHELD UNTIL THE REPORTS ARE CURRENT.
20. PROJECT CLOSEOUT. CONTRACTOR SHALL PROVIDE HANO WITH THREE (3) PRINTED COPIES OF ALL WARRANTIES, OWNER MANUALS, PRODUCT DATA, ETC. EACH COPY SHALL BE PROVIDED IN A "SLANT-D" THREE-RING BINDER. BINDERS SHALL BE LABELED AS FOLLOWS:
 

REPLACEMENT OF HVAC CONDENSING UNITS  
GUSTE II HOMES  
DATE (OF FINAL ACCEPTANCE)

ADDITIONALLY, THREE (3) ELECTRONIC COPIES OF ALL CLOSEOUT DOCUMENTS SHALL BE PROVIDED ON THREE (3) SEPARATE FLASH DRIVES.
21. ALL WARRANTIES SHALL BE FOR ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE ENTIRE PROJECT. CONTRACTOR SHALL FILE ALL WARRANTY CARDS ON THE BEHALF OF HANO.
22. THE CONTRACTOR SHALL PROVIDE ITS STANDARD MAINTENANCE SERVICE DURING THE ONE-YEAR WARRANTY PERIOD AND SHALL INCLUDE THE COST OF THIS SERVICE AS PART OF THE CONTRACT AMOUNT.
23. UPON COMPLETION OF THE INSTALLATION OF THE NEW CONDENSING UNITS AT THE FIRST ADDRESS, THE CONTRACTOR SHALL PROVIDE A DEMONSTRATION AND TRAINING SESSION AS TO THE PROPER USE AND MAINTENANCE OF THE NEW EQUIPMENT TO PROPERTY MANAGEMENT AND HANO.

| REVISIONS | BY |
|-----------|----|
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|           |    |
|           |    |
|           |    |

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OWNER:

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NEW ORLEANS, LOUISIANA 70122

GUSTE 2 BUILDING  
A/C CONDENSING UNIT REPLACEMENT  
NEW ORLEANS, LOUISIANA

GENERAL NOTES

|                  |
|------------------|
| DRAWN            |
| H.R.G.           |
| CHECKED          |
| N.G.W.           |
| DATE             |
| DECEMBER 7, 2020 |
| SCALE            |
| AS SHOWN         |
| JOB NO.          |
| 19425.03         |
| SHEET NO.        |
| GO.1             |
| 2 OF 4 SHEETS    |

**MECHANICAL NOTES:**

1. WORK REQUIRED UNDER THIS SECTION CONSISTS OF ALL MECHANICAL WORK AND RELATED ITEMS NECESSARY TO COMPLETE THE WORK INDICATED ON THE DRAWINGS AND/OR DESCRIBED IN THE SPECIFICATIONS.
2. FURNISH ALL LABOR, EQUIPMENT, TOOLS, TRANSPORTATION, ETC., AND FURNISH AND INSTALL ALL MATERIALS AND EQUIPMENT NECESSARY FOR MECHANICAL WORK HEREINAFTER DESCRIBED ALL IN ACCORDANCE WITH THE SPECIFICATIONS AND ACCOMPANYING DRAWINGS.
3. SPECIFICATIONS AND ACCOMPANYING DRAWINGS INTENDED TO SHOW AND DESCRIBE COMPLETE MECHANICAL INSTALLATION, FULLY ERECTED, PROPERLY INSTALLED IN WORKMANLIKE MANNER AND LEFT IN PROPER OPERATING CONDITION, WITH CONTRACTOR FURNISHING AND INSTALLING EVERYTHING NECESSARY TO COMPLETE THE JOB.
4. FURNISH ALL LABOR, EQUIPMENT, TOOLS, MATERIALS, ACCESSORIES, ETC., FOR ALL ROUGHINS AND FINAL CONNECTIONS, COMPLETE, FOR ALL EQUIPMENT INDICATED ON THE DRAWINGS, OR EQUIPMENT FURNISHED BY OTHERS.
5. CHECK MECHANICAL SPECIFICATIONS AND DRAWINGS WITH REMAINDER OF SET, AND BRING TO ENGINEER'S ATTENTION ANY CONFLICTS OR VARIATIONS AS SOON AS NOTED.
6. ADEQUATELY PROTECT AGAINST INJURY ALL INSTALLED AND EXISTING MATERIAL, EQUIPMENT, MOTORS, FIXTURES, PIPING, INSULATION, ETC.
7. REPLACE LOST OR DAMAGED ITEMS PRIOR TO ACCEPTANCE OF WORK.
8. ADEQUATE AND COMPETENT SUPERVISION SHALL BE PROVIDED BY THIS SECTION TO ASSURE THAT WORK IS DONE IN ACCORDANCE WITH GOOD STANDARD PRACTICE AND WORKMANSHIP AND WITH INTENT OF DRAWINGS AND SPECIFICATIONS.
9. ALL CONTRACTORS SUBMITTING BIDS FOR THE WORK UNDER THIS CONTRACT SHALL BE SPECIALISTS IN THEIR FIELD AND SHALL HAVE THE PERSONAL EXPERIENCE, TRAINING AND SKILLED TO CONSTRUCT A PROPERLY OPERATING MECHANICAL SYSTEM AS DESCRIBED BY THE CONTRACT DRAWINGS.
10. ALL WORK PERFORMED SHALL BE IN ACCORDANCE WITH BEST STANDARDS OF PRACTICE BY WORKMEN SKILLED AND QUALIFIED IN TYPE OF WORK TO BE DONE. SCHEDULE AND PERFORM MECHANICAL WORK TO AVOID DELAYS TO PROJECT.
11. ALL WORK SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL EXISTING LOCAL, PARISH, NATIONAL AND STATE CODES AND ORDINANCES HAVING JURISDICTION.
12. LOCAL CODES SHALL TAKE PRECEDENCE OVER STATE CODES WHICH SHALL TAKE PRECEDENCE OVER NATIONAL CODES AND INDUSTRY STANDARDS.
13. IF ANY CONFLICTS ARE FOUND BETWEEN SPECIFICATIONS AND DRAWINGS AND ABOVE AUTHORITIES, NOTIFY ENGINEER AS SOON AS CONFLICTS ARE DISCOVERED AND ABOVE CODES AND REQUIREMENTS WILL GOVERN.
14. SECURE ALL PERMITS AND INSPECTIONS AND PAY ALL FEES AND ASSESSMENTS NECESSARY FOR COMPLETION AND ACCEPTANCE OF WORK. NOTIFY PROPER AUTHORITIES IN AMPLE TIME WHEN ANY WORK IS READY TO BE INSPECTED OR TESTED.
15. VISIT AND EXAMINE JOB SITE AND CHECK WITH UTILITY AUTHORITIES CONCERNED IN ORDER TO BECOME FAMILIAR WITH ALL EXISTING CONDITIONS PERTINENT TO WORK TO BE PERFORMED. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR FAILURE TO BE SO INFORMED.
16. BIDDERS MUST REVIEW DRAWINGS AND SPECIFICATIONS OF OTHER DISCIPLINES INCLUDING PLANS, DETAILS, DIAGRAMS, NOTES, ETC., IN ORDER TO UNDERSTAND STRUCTURAL CONDITIONS, CONSTRUCTION REQUIREMENTS, CLEARANCES, CAPACITIES AND METHODS OF INSTALLATION AND ERECTION. STRUCTURAL AND OTHER CONDITIONS MAY REQUIRE CERTAIN MODIFICATIONS AND ADJUSTMENTS FROM CONDITIONS SHOWN. SUCH DEVIATIONS ARE PERMISSIBLE, HOWEVER, SPECIFIED SIZES, CAPACITIES AND REQUIREMENTS AFFECTING SATISFACTORY PERFORMANCE AND OPERATION OF INSTALLATION SHALL REMAIN UNCHANGED.
17. DUE TO SMALL SCALE OF DRAWINGS, IT IS NOT POSSIBLE TO SHOW ALL FITTINGS OR OFFSETS OR TO SHOW ALL ACCESSORIES. TAKE ADVANTAGE OF AVAILABLE SPACE AND STACK PIPING AND ACCESSORIES VERTICALLY AS REQUIRED FOR FIT AND ACCESS.
18. CONTRACTOR IS RESPONSIBLE FOR ACCURACY OF CLEARANCES AND FOR COORDINATION WITH OTHER TRADES. NO EQUIPMENT, DUCTWORK, PIPING, ETC. SHALL BE FABRICATED OR INSTALLED WITHOUT FULL COORDINATION. MAKE ALLOWANCE IN BID FOR JOB CONDITIONS AND INTERFERENCES WHICH WILL REQUIRE OFFSETS IN DUCTWORK, PIPING, ETC.
19. CONTRACTOR SHALL REMOVE AND RELOCATE, WITHOUT ADDITIONAL COMPENSATION, ANY ITEM THAT IS INSTALLED WITHOUT REQUIRED COORDINATION AND IS FOUND TO BE IN CONFLICT WITH OTHER TRADES. IF FIELD MEASUREMENTS SHOW THAT EQUIPMENT CANNOT FIT IN THE ALLOTTED SPACE, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO ORDERING OR INSTALLING THE EQUIPMENT.
20. IN EVENT OF CONFLICT, ANY ITEM EXPOSED TO VIEW IN FINISHED WORK SHALL TAKE PRECEDENCE OVER ITEMS, WHICH ARE CONCEALED.
21. WHENEVER IT BECOMES NECESSARY TO SHIFT EQUIPMENT OR PIPES, SUCH CHANGES SHALL BE REFERRED TO ENGINEER FOR APPROVAL.
22. SUBMIT EQUIPMENT PRODUCT DATA SHEETS PRIOR TO RELEASING EQUIPMENT FOR MANUFACTURE OR SHIPMENT. PRODUCT DATA SHEETS SHALL BE MANUFACTURER'S PRINTED LITERATURE SPECIFICALLY MARKED TO INDICATE SIZE AND MODEL NUMBERS OF EQUIPMENT BEING FURNISHED. ALL ACCESSORIES REQUIRED BY THE CONTRACT DOCUMENTS SHALL BE CLEARLY MARKED.

23. SYSTEM CAPACITIES FOR AIR CONDITIONING SYSTEMS, FANS, ETC. SHALL BE CLEARLY AND COMPLETELY INDICATED ON A SYSTEM SUMMARY SHEET PREPARED SPECIFICALLY FOR THAT SYSTEM, FAN, ETC. THE SUMMARY SHEET SHALL INDICATE EQUIPMENT NUMBER DESIGNATIONS, MANUFACTURER'S MODEL NUMBERS, CAPACITIES, ELECTRICAL CHARACTERISTICS, ETC. GENERAL DATA SHEETS SHALL NOT BE ACCEPTABLE FOR INDICATING SYSTEM PERFORMANCE.
24. ALL DATA SUBMITTED SHALL BE CHECKED AGAINST SPECIFICATIONS AND DRAWINGS. FOR EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS, NO APPROVAL SHALL BE FINAL OR DELIVERIES AUTHORIZED UNTIL ELECTRICAL CHARACTERISTICS AND PROVISIONS FOR WIRING ARE COORDINATED AND CLEARED WITH ELECTRICAL SECTION BY LETTER THROUGH CONTRACTOR OR ARCHITECT.
25. REVIEW OF PRODUCT SUBMITTALS DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS FOR SYSTEM CAPACITIES OR FOR FITTING THE EQUIPMENT IN THE ALLOTTED SPACE. REVIEW IS FOR GENERAL COMPLIANCE WITH THE CONTRACT DOCUMENTS.
26. ALL EQUIPMENT SHALL BE PURCHASED FROM AUTHORIZED FACTORY REPRESENTATIVE WITH ESTABLISHED OFFICE IN NEW ORLEANS AREA, IF MANUFACTURER HAS SUCH AN OFFICE.
27. SUBSTITUTIONS MUST BE REQUESTED IN CONFORMANCE WITH REQUIREMENTS STATED IN THE SUPPLEMENTARY GENERAL CONDITIONS.
28. INSTALL ALL PIPING SO THAT IT MAY EXPAND AND CONTRACT FREELY WITHOUT DAMAGE TO EQUIPMENT, OTHER WORK OR INJURY TO PIPING SYSTEM. SUPPORT PIPING INDEPENDENTLY OF ALL EQUIPMENT.
29. ALL POWER WIRING AND ALL DISCONNECT SWITCHES FURNISHED AND INSTALLED UNDER DIVISION 16, ELECTRICAL. ALL OTHER ELECTRICAL WORK IN CONNECTION WITH AIR CONDITIONING, HEATING AND VENTILATING EQUIPMENT DONE UNDER MECHANICAL SECTION. SUCH DEVICES AS THERMOSTATS, FIRESTATS, DUCT MOUNTED SMOKE DETECTORS, PILOT LIGHTS, CONTROL PANELS, MOTOR STARTERS, CRANKCASE HEATER, ETC., FURNISHED UNDER MECHANICAL SECTION AND WIRED IN STRICT ACCORDANCE WITH AN APPROVED WIRING DIAGRAM.
30. PRIOR TO THE FINAL RELEASE FOR MANUFACTURE OR SHIPMENT OF ANY EQUIPMENT, IT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO VERIFY THE AVAILABLE ELECTRICAL SERVICE FOR EACH PIECE OF EQUIPMENT WITH THE ELECTRICAL CONTRACTOR AND TO PROVIDE EQUIPMENT THAT SUITS THE AVAILABLE SERVICE.
31. ANY EQUIPMENT DELIVERED TO THE SITE WITH INCORRECT VOLTAGE OR PHASE SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
32. AFTER FINAL TESTING, CLEAN ALL FIXTURES, PIPES AND EXPOSED WORK. THOROUGHLY CLEAN AND POLISH PLATED AND OTHER FINISHED PRODUCTS.
33. PIPING TO BE FREE OF ALL OBSTRUCTIONS. REMOVE ALL DEBRIS, SURPLUS AND WASTE MATERIALS COMPLETELY FROM THE JOB SITE.
34. PROPERLY OIL, GREASE AND LUBRICATE ALL MOTORS, PUMPS, COMPRESSORS, ETC., BEFORE STARTING AND UNTIL FINAL ACCEPTANCE OF WORK.
35. FURNISH TO OWNER THREE COMPLETE SETS OF PARTS CATALOGS AND OPERATING INSTRUCTIONS BOUND IN LARGE 3-RING BINDERS FOR USE OF MAINTENANCE DEPARTMENT. INCLUDE INFORMATION FOR ALL EQUIPMENT SUBMITTED TO THE OWNER.
36. MANUFACTURER WARRANTIES FOR ALL MECHANICAL EQUIPMENT FURNISHED ON THE PROJECT SHALL RUN FOR A PERIOD OF ONE YEAR FROM DATE OF "SUBSTANTIAL COMPLETION".
37. CONTRACTOR SHALL ARRANGE WITH THE MANUFACTURER TO ASSURE THE EQUIPMENT WARRANTY CONFORMS TO THE ABOVE STIPULATIONS AND PAY ANY REQUIRED PREMIUMS, EXTENDED WARRANTIES, ETC.
38. A COMPETENT AND EXPERIENCED SERVICE AND INSTALLATION MECHANIC SHALL BE EMPLOYED BY THE CONTRACTOR TO START AND ADJUST ALL EQUIPMENT. THE OWNER RESERVES THE RIGHT TO REQUIRE THE TEST OF ANY ITEM OF EQUIPMENT OR MACHINERY. SUCH TESTS SHALL BE CONDUCTED BY THE CONTRACTOR IN THE PRESENCE OF THE ARCHITECT OR HIS AUTHORIZED REPRESENTATIVE.
39. AS CONSTRUCTION PROGRESSES, TEST PIPING AND EQUIPMENT TO PRESSURE HEREINAFTER SPECIFIED. WHERE PRESSURES ARE NOT MENTIONED, TEST TO ONE AND ONE HALF TIMES SERVICE CONDITIONS BEFORE CONCEALING OR INSULATING.
40. FURNISH ALL NECESSARY GAUGES, INSTRUMENTS, TEST PLUGS AND TEMPORARY CONNECTIONS. TEST ALL EQUIPMENT UNDER SERVICE CONDITIONS AND MAKE ALL NECESSARY ADJUSTMENTS TO CONTROLS, VALVES, ETC., TO OBTAIN BEST OPERATION. MAKE INITIAL TESTS WITH BUILDING UNOCCUPIED AND FINAL TESTS UNDER ACTUAL HEATING AND COOLING CONDITIONS.
41. GUARANTEE ALL MECHANICAL INSTALLATIONS AGAINST ALL DEFECTS IN EQUIPMENT, MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF "SUBSTANTIAL COMPLETION". DURING GUARANTEE PERIOD, CORRECT ANY DEFECTS IN NEW EQUIPMENT, MATERIALS OR WORKMANSHIP, WITHOUT COST TO OWNER FOR EITHER PARTS OR LABOR.
42. CONTRACTOR'S GUARANTEE INCLUDES PERFORMANCE CAPACITIES AND RATINGS AS SPECIFIED.
43. CONTRACTOR SHALL BE FURNISHED A COMPLETE SET OF BLUE LINE PRINTS WHICH SHALL BE MARKED UP BY CONTRACTOR AS WORK PROGRESSES TO REFLECT ALL ITEMS OF INSTALLATION WHICH DIFFER SIGNIFICANTLY FROM WORK SHOWN ON CONTRACT DRAWINGS. AS BUILT DRAWINGS SHALL BE NEATLY DONE, NOT SKETCHY OR FREE HAND. FINAL PAYMENT WILL BE WITHHELD UNTIL DRAWINGS ARE FURNISHED.

44. EQUIPMENT INSTALLED COMPLETE WITH REFRIGERANT PIPING OF SIZES AS RECOMMENDED BY MANUFACTURER, OR AS SHOWN ON THE DRAWINGS. PIPING SHALL BE TYPE "ACR" COPPER TUBING WITH WROUGHT COPPER SOLDER JOINT FITTINGS USING SILVER SOLDER. INSTALL PIPING COMPLETE WITH FILTER-DRIER, SIGHT GLASS AND EXPANSION VALVE.
45. PROVIDE 3/4" THICK FOAMED PLASTIC SLIP-ON TYPE INSULATION ON ALL REFRIGERANT SUCTION LINES. ALL FITTINGS, VALVES AND SURFACES SUBJECT TO SWEATING SHALL BE INSULATED.
46. THE CONTRACTOR, UNLESS OTHERWISE SPECIFIED, SHALL PROVIDE ALL FOUNDATIONS, SUPPORTS, ETC. NECESSARY FOR PROPERLY SUPPORTING HIS WORK AND EQUIPMENT FURNISHED BY HIM AND SHALL FURNISH AND INSTALL ALL ISOLATION MATERIALS TO PREVENT TRANSMISSION OF VIBRATION TO THE BUILDING STRUCTURE.
47. REFRIGERATION EQUIPMENT SHALL BE ADJUSTED TO PROVIDE THE TEMPERATURES AND CAPACITIES SPECIFIED. CUT-IN AND CUT-OUT POINTS OF ALL AUTOMATIC, PRESSURE, SAFETY AND LIMITS CONTROLS SHALL BE OBSERVED AND ADJUSTED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
48. ALL PIPING, COILS, HEATERS, ETC., INSTALLED FOR HEATING, COOLING, AND OTHER OPERATIONS OF THE BUILDING SHALL BE THOROUGHLY FLUSHED OF ALL DEBRIS AND FOREIGN OBJECTS BEFORE ANY SYSTEM IS PLACED IN OPERATION. AFTER FLUSHING, ALL STRAINERS, TRAPS AND DIRT LEGS SHALL BE CHECKED AND CLEANED. THIS OPERATION MUST BE ACCEPTABLE TO AND APPROVED BY THE ARCHITECT.
49. STANDARDS OF MATERIAL AND WORKMANSHIP AS REQUIRED BY NATIONAL ELECTRICAL CODE, SHALL APPLY TO ALL ELECTRICAL WORK REQUIRED AS PART OF THIS SECTION. IN ADDITION, ALL SPLICES IN LOW VOLTAGE CONTROL WIRING SHALL BE MADE AT TERMINAL BLOCKS FURNISHED FOR THE PURPOSE; ANY SPLICES NOT MADE AT TERMINAL BLOCKS SHALL BE SOLDERED.
50. POWER WIRING WILL BE PROVIDED UNDER ELECTRICAL SECTION, BUT ALL CONTROL WIRING AND CONDUIT AND CONTROL DISCONNECTS FURNISHED AND INSTALLED BY THIS CONTRACTOR.

**ADD ALTERNATE #1:**

1. CONTRACTOR SHALL REMOVE AND REPLACE THE EXISTING CONDENSING UNIT FOR UNIT 2403 & UNIT 2521 PER "SPECIFIC NOTE ALT #1". REFER TO SPECS, NOTES & SCHEDULE FOR INFORMATION ON EQUIPMENT & INSTALLATION REQUIREMENTS.
2. CONTRACTOR SHALL TAKE CARE IN REMOVING & TEMPORARILY STORING CONDENSING UNITS AS NOTED ON THE PLANS IN ORDER TO TURN OVER TO GHRMC AT THE END OF PROJECT. REMOVED EQUIPMENT SHALL BE DELIVERED TO AN AREA ON-SITE AS DESIGNATED BY GHRMC.

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NEW ORLEANS, LOUISIANA 70122

GUSTE 2 BUILDING  
A/C CONDENSING UNIT REPLACEMENT  
NEW ORLEANS, LOUISIANA

MECHANICAL NOTES

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|------------------|
| DRAWN            |
| H.R.G.           |
| CHECKED          |
| N.G.W.           |
| DATE             |
| DECEMBER 7, 2020 |
| SCALE            |
| AS SHOWN         |
| JOB NO.          |
| 19425.03         |
| SHEET NO.        |
| M1.0             |
| 1 OF 2 SHEETS    |

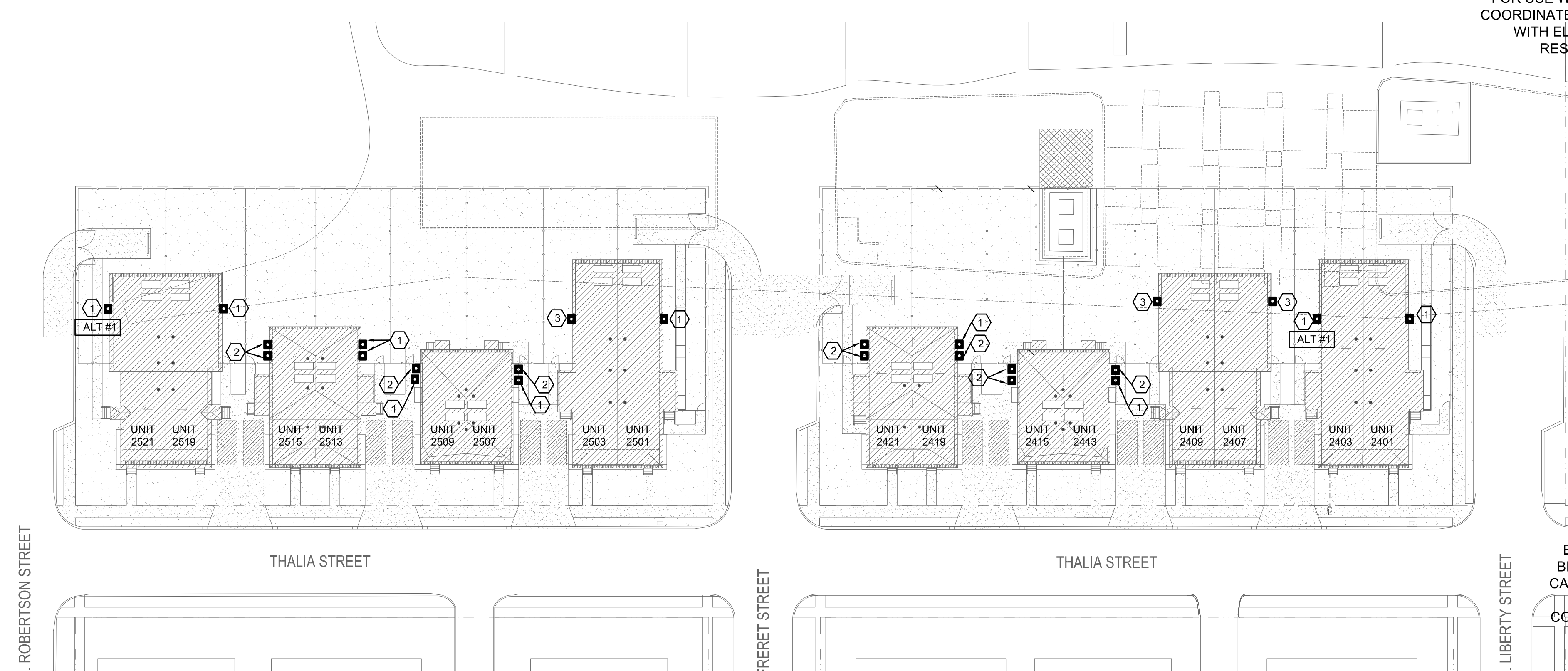
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OWNER:  
 GUSTE 2 BUILDING  
 A/C CONDENSING UNIT REPLACEMENT  
 NEW ORLEANS  
 LOUISIANA  
 ENLARGED SITE PLAN

DRAWN  
 H.R.G.  
 CHECKED  
 N.G.W.  
 DATE  
 DECEMBER 7, 2020  
 SCALE  
 AS SHOWN  
 JOB NO.  
 19425.03  
 SHEET NO.  
 M1.1  
 2 OF 2 SHEETS



**1 ENLARGED SITE PLAN**  
 M1.1 GUSTE II BUILDING  
 SCALE: 1/32"=1'-0"  
 PLAN NORTH

**SPECIFIC NOTES**

- 1 EXISTING CONDENSING UNIT TO REMAIN. NO WORK ON THIS SYSTEM IS REQUIRED.
- 2 EXISTING CONDENSING UNIT TO BE REMOVED AND REPLACED WITH A 2-TON CONDENSING UNIT. SEE SPECIFICATIONS & SCHEDULE FOR DETAILS ON SYSTEM AND INSTALLATION REQUIREMENTS. CONTRACTOR SHALL TEMPORARILY REMOVE THE WROUGHT IRON CAGE AS REQUIRED FOR REMOVAL OF THE EXISTING CONDENSING UNIT AND INSTALLATION OF THE NEW UNIT.
- 3 EXISTING CONDENSING UNIT TO BE REMOVED AND REPLACED WITH A 2.5-TON CONDENSING UNIT. SEE SPECIFICATIONS & SCHEDULE FOR DETAILS ON SYSTEM AND INSTALLATION REQUIREMENTS. CONTRACTOR SHALL TEMPORARILY REMOVE THE WROUGHT IRON CAGE AS REQUIRED FOR REMOVAL OF THE EXISTING CONDENSING UNIT AND INSTALLATION OF THE NEW UNIT.
- ALT #1 EXISTING CONDENSING UNIT TO BE REMOVED AND REPLACED WITH A 2.5-TON CONDENSING UNIT. SEE SPECIFICATIONS & SCHEDULE FOR DETAILS ON SYSTEM AND INSTALLATION REQUIREMENTS. CONTRACTOR SHALL TEMPORARILY REMOVE THE WROUGHT IRON CAGE AS REQUIRED FOR REMOVAL OF THE EXISTING CONDENSING UNIT AND INSTALLATION OF THE NEW UNIT.

| CONDENSING UNIT SCHEDULE |         |                 |        |           |              |                |              |          |          |              |                                       |                   |             |            |
|--------------------------|---------|-----------------|--------|-----------|--------------|----------------|--------------|----------|----------|--------------|---------------------------------------|-------------------|-------------|------------|
| UNIT TONNAGE             | NO REQD | COMPRESSOR DATA |        |           |              | CONDENSER DATA |              |          |          |              | GOODMAN MODEL NO. (OR APPROVED EQUAL) | UNIT MCA MCA/MOCP | WEIGHT LBS. | REMARKS    |
|                          |         | RLA             | REFRIG | TOTAL MBH | VOLTS /PH/Hz | AMB TEMP °F    | COND TEMP °F | NO. FANS | MOTOR HP | VOLTS /PH/Hz |                                       |                   |             |            |
| 2                        | 10      | 7.7             | R-410  | 24        | 230/1/60     | 95             | 120          | 1        | 1/8      | 230/1/60     | GSX140241                             | 10.3/15           | 126         | 1, 2, 3, 4 |
| 2.5                      | 5       | 12.8            | R-410  | 30        | 230/1/60     | 95             | 120          | 1        | 1/6      | 230/1/60     | GSX140301                             | 17/25             | 162         | 1, 2, 3, 4 |

- 1. REFRIGERANT PIPING SHALL BE SIZED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- 2. ALL CONDENSING UNIT SHALL BE A MINIMUM OF 14 SEER.
- 3. UNIT SHALL HAVE A SINGLE POINT ELECTRICAL CONNECTION.
- 4. CONTRACTOR SHALL VERIFY THAT THE PHYSICAL SIZE OF THE CONDENSING UNIT FITS WITHIN THE EXISTING IRON CAGE ENCLOSURE.

EXISTING DISCONNECT SWITCH SHALL REMAIN FOR USE WITH NEW UNIT. CONTRACTOR SHALL COORDINATE ALL POWER & WIRING OF NEW UNIT WITH ELECTRICAL SUB. MECHANICAL SUB IS RESPONSIBLE FOR TYING INTO EXISTING CONTROLS SYSTEM.

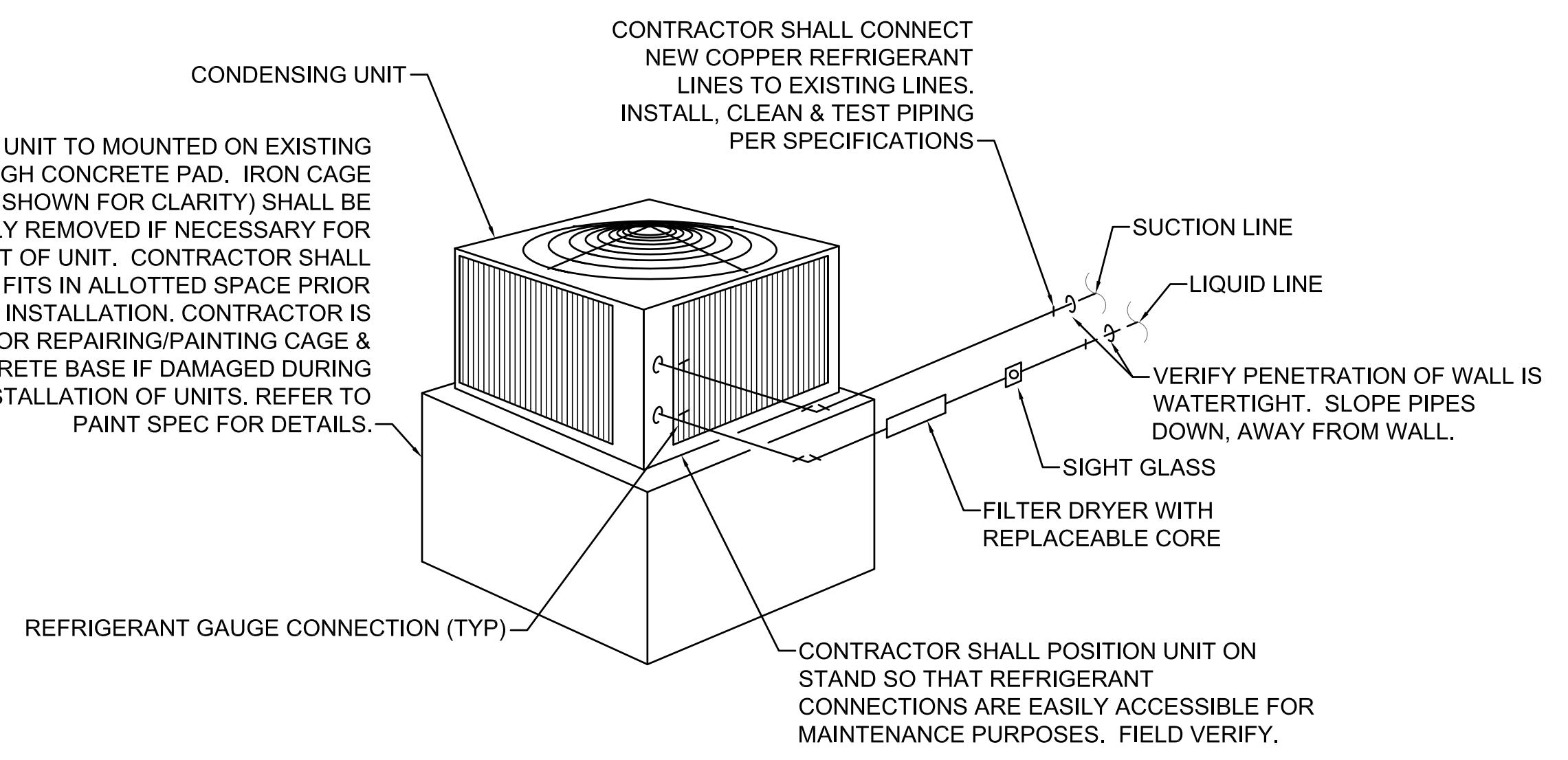
CONTRACTOR SHALL POSITION UNIT ON STAND SO THAT REFRIGERANT CONNECTIONS ARE EASILY ACCESSIBLE FOR MAINTENANCE. FIELD VERIFY.



EXISTING WROUGHT IRON CAGE SHALL BE REUSED. CONTRACTOR SHALL TAKE CARE IN REMOVING CAGE IF NECESSARY FOR REMOVAL AND INSTALLATION OF CONDENSING UNIT. CONTRACTOR SHALL REPAIR AND PAINT CAGE AND REPAIR CONCRETE BASE IF DAMAGED.

REFER TO MECHANICAL NOTES & SPECIFICATIONS FOR DETAILS ON PIPING & INSULATION REQUIREMENTS.

**TYPICAL EXISTING CONDENSING UNITS**  
 NOT TO SCALE



**REFRIGERANT PIPING DIAGRAM**  
 NOT TO SCALE

***PROJECT MANUAL***  
***FOR***  
***CONDENSER UNIT REPLACEMENTS***

***AT***  
***GUSTE II DEVELOPMENT***  
***2201 thru 2519 THALIA STREET***  
***NEW ORLEANS, LOUISIANA***

***HANO***  
***Housing Authority of New Orleans***  
***4100 Touro Street***  
***New Orleans, Louisiana 70122***

***Evette Hester - Executive Director***

***IFB # XX-XXX-XX-XX***  
***ECM Project No. 19425.03***



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***ECM Project No. 19425.03***  
***December 7, 2020***

**SET NO. \_\_\_\_\_**



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## **SECTION 01010 – SUMMARY OF WORK**

### **PART 1 – GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the contract, including General and Supplementary Conditions and Divisions 1 Specifications Section, apply to the work of this Section.

#### **1.2 SCOPE OF WORK**

##### **THE BASE BID**

- A. Remove and replace existing condenser units as indicated in the documentation.

##### **ALTERNATE No. 1**

- A. Contractor shall remove and replace condenser units where indicated to be part of Alternate No. 1.
- B. Contractor shall remove all condenser units indicated to be removed under Alternate No. 1 in such a manner to store and then turn over to the Owner at the end of the project. Condensing units shall be delivered on the Guste Development site as designated by GHRMC.

#### **1.3 GENERAL**

- A. The Contractor shall furnish all labor, materials, equipment tools, service, and incidentals to complete all work required by these specifications and as shown on the drawings and as directed by the engineer/architect.
- B. The Contractor shall perform the work and make ready for use of the building. If any damages to existing equipment or the building are made during construction, contractor will rectify at his own cost.
- C. Furnish and install all materials, equipment, and labor which is reasonably and properly inferable and necessary for the proper completion of the work, whether specially indicated in the Contract documents or not.
- D. Protect all existing building components and contents from damage. It is intended that any existing building components and contents in place shall be repaired to original condition if damaged by work of this Contract.
- E. Contractor shall verify all field and project conditions prior to preparing his bid. Any conditions not described in these drawings and specifications shall be brought to the attention of the A/E five (5) days prior to bid date. Failure to do so shall render the contractor responsible for correction of this condition should he be awarded the contract.
- F. The word “provide” as used in these specifications and on the drawings will be termed to mean “furnish and install”.
- G. Visit and examine the project site with all authorities concerned in order to become familiar with all existing conditions pertinent to the work to be

performed thereon. No additional compensation will be allowed for failure to be so informed. Pay all costs and fees for utility connections as applicable.

- H. All work shall be performed in a neat and workmanlike manner and in accordance with all codes, standards, and requirements of the industry.
- I. Check all specifications and all drawings and bring to the attention of the A/E any conflicts or variations as shown or noted.
- J. Specifications and accompanying drawings apply to all material and / or labor for construction of work specified herein and shown on drawings.
- K. The Contractor shall pay for all taxes, license, and permits required for execution of the work. Note: This is a sales tax-exempt project. Refer to the Front-End documents in Bid Package.
- L. For any points which are not clear, or from items and/or details which the Contractor believes are in need of clarification, provide request of clarifications in writing to HANO's Procurement Department. Refer to Front-End Documents in Bid Package.
- M. In case of discrepancies and/or ambiguities in the drawings and/or in the specifications, submit requests for clarifications in writing to HANO's Procurement Department. Refer to the Front-End Documents in the Bid Package. Failure to do so on the part of the successful bidder shall be construed as explicit agreement on his part to abide by the A/E's decision in such matters.

#### **1.4 WORK SEQUENCE**

- A. Contractor is responsible for work sequence.

#### **1.5 CONTRACTOR USE OF PREMISES**

- A. Confine operations at site to areas permitted by law, ordinances, permits, Contract documents, and the Owner.
- B. Do not unreasonably encumber the site with materials or equipment. Assume full responsibility for protection and safekeeping of products stored on premises. Move stored products which interfere with operation of Owner.
- C. Do not load structures with weight that will endanger structure.
- D. Use of site – Limit use of site for work and storage. Coordinate parking areas, materials delivery, and storage areas at site with Architect, HANO and Property Manager of GHRMC.
- E. In no case shall the work interfere with existing streets, drives, walks, passageways, pedestrian traffic, and the like. Comply with provisions of the contract and regulatory of the contract and regulatory ordinances.
- F. Contractor shall at all times conduct his operations to ensure the least inconvenience to the residents and the general public.

## **1.6 CONSTRUCTION AREAS**

- A. Contractor shall limit his use of the construction areas for work and for storage to allow for work by other contractors, Owner's use, and public use as applicable.
- B. Assume full responsibility for the protection and safekeeping of products under this contract stored on site.
- C. Move any stored products under Contractor's control which interfere with operations of the Owner or separate contractor.
- D. Obtain and pay for the use of additional storage or work areas needed for operation.
- E. It is assumed there will be no need for street closures on this project. Should the need arise, the Contractor shall submit for and obtain the permits required for any street closures.

**END OF SECTION**

## SECTION 01030 – ALTERNATES

### **PART 1 – GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. This Section specifies administrative and procedural requirements for Alternates.
- B. DEFINITION
  - 1. An alternate is an amount proposed by Bidders and stated on the Bid Form for certain construction activities defined in the Bidding Requirements that may be added to or deducted from the base bid amount if the Owner decides to accept a corresponding change in either the amount of construction to be completed, or in the products, materials, equipment, systems, or installation methods described in Contract Documents. Cost of the Alternate shall be all inclusive and shall include overhead, profit and general conditions.
  - 2. Alternate No. 1: Contractor shall remove and replace the existing condensing units for residential units 2403 & 2521 Thalia Street in accordance with Specific Note “Alt #1” on Sheet M1.1 of the drawings. The existing condensing units shall be delivered to GHRMC.
- C. COORDINATION
  - 1. Coordinate related work and modify or adjust adjacent work as necessary to ensure that work affected by each accepted alternate is complete and fully integrated into the project.
- D. Specifications Sections referenced in the schedule contain requirements for materials and methods necessary to achieve the work described under each alternate.
- E. Include as part of each alternate miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not mentioned as part of the alternate.

END OF SECTION

## SECTION 01200 – PROJECT MEETINGS

### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of contract, including General and Supplementary Conditions and Division-1 Specification Sections apply to work of this Section.

### 1.2 GENERAL

- A. This section covers project meetings required for the project.

### 1.3 DESCRIPTION

- A. A/E shall schedule and administer pre-construction meetings, periodic progress meetings, and specially called meetings throughout the progress of the work.
  - 1. Prepare agenda for meetings.
  - 2. Distribute written notice of each meeting four days in advance of meeting date.
  - 3. Make physical arrangements for meetings.
  - 4. Preside at meetings.
  - 5. Record the minutes; include all significant proceedings and decisions.
  - 6. Reproduce and distribute copies of minutes within three working days after each meeting.
- B. Representatives of contractors, subcontractors, and suppliers attending the meetings shall be qualified and authorized to act on behalf of the entity each represents.

### 1.4 PRE-CONSTRUCTION MEETING

- A. Schedule pre-construction meeting prior to beginning on-site construction.
- B. Location – Project site or other location as designed by A/E or Owner.
- C. Attendance
  - 1. Owner’s representative.
  - 2. A/E.
  - 3. Resident project representative, if applicable.
  - 4. Contractor’s project manager and superintendent.
  - 5. Review submittal schedules; expedite as required.
  - 6. Discuss Permit, Notice to Proceed, Bond and Insurance.
  - 7. Maintenance of quality standards.
  - 8. Review proposed changes for effect on construction schedule, completion date.
  - 9. Other business.

## **1.5 PROGRESS MEETINGS**

- A. Owner shall schedule periodic progress meetings to be conducted on site.
- B. Progress meeting attendance shall be similar with Section 1.4 .C above.
- C. Progress meetings will be held as directed by the Owner.

**END OF SECTION**

## **SECTION 01300 - SUBMITTALS**

### **PART 1 – GENERAL**

#### **1.1 GENERAL:**

- A. This specification Section is intended to augment the provisions of Division 0 documents. The specific requirements of those documents shall supersede in the event of direct conflict with any provision of this specification Section as stated herein.

#### **1.2 DESCRIPTION OF WORK:**

- A. This Section specifies administrative and procedural requirements for submittals required for performance of the Work, including:
  - 1. Submittal Schedule
  - 2. Shop Drawings
  - 3. Product Data
  - 4. Samples
  - 5. Warranties
- B. Administrative Submittals:
  - 1. Refer to Division-1 and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:
    - a. Permits
    - b. Schedule of Values & Applications for Payment
    - c. Performance and payment bonds
    - d. Insurance Certificates

#### **1.3 SUBMITTAL PROCEDURES:**

- A. Submittal Preparation:
  - 1. Place a permanent label, title block, or submittal data sheet (sample at end of this Section) attached to each individual submittal for identification.
  - 2. Include the following information on the label for processing and recording action taken:
    - a. Project name
    - b. Date
    - c. Name and address of Architect
    - d. Name and address of General Contractor
    - e. Name and address of Owner
    - f. Name, phone number and address of subcontractor
    - g. Name, phone number and address of supplier
    - h. Name and phone number of manufacturer and his representative
    - i. Number and title of appropriate Specification Section and Article/ Paragraph, as appropriate
    - j. Drawing number and detail references, as appropriate
    - k. General Contractor's review stamp



l. Area for Architect's review comments

**1.4 SUBMITTAL SCHEDULE:**

- A. The General Contractor shall prepare and submit to the Architect within five (5) days of the Preconstruction Conference a schedule of Shop Drawings and Submittals as required in the Contract Documents. Schedule shall fix dates for submission, and the lead time for each submittal as related to requirements for return receipt for submittal to expedite delivery of material to maintain Progress Schedule. It is to be understood that this Schedule will be subject to change from time to time in accordance with the progress of the work.
- B. Coordinate submittal schedule with the list of subcontracts, schedule of values and the list of products as well as the General Contractor's construction schedule.
- C. Submittal log shall be updated by the General Contractor weekly until all submittals are approved by the Architect and related Consultants.

**1.5 STAFF NAMES:**

- A. Within five (5) days of the Preconstruction Conference, submit a list of the General Contractor's principal staff assignments, including the Project Manager, Superintendent and other personnel in attendance at the site; identify individuals, their duties and responsibilities; list their addresses and telephone numbers (including emergency telephone numbers).

**1.6 LIST OF SUBCONTRACTORS:**

- A. The list of subcontractors required shall be submitted to the Architect no later than five (5) days from the Preconstruction Conference. This list shall include the names of manufacturers, material suppliers, and installers proposed for each of the products, equipment, and materials to be incorporated into this project.
- B. The General Contractor shall furnish upon request adequate data on any named entity on the list in order to permit the Architect and Owner to conduct a proper evaluation. Failure to object to a manufacturer shall not constitute a waiver of any of the requirements of the Contract Documents, and all products furnished by the listed manufacturer must conform to such requirements.

**1.7 SHOP DRAWINGS:**

A. General:

- 1. Each submittal shall be complete with a "Submittal Data" sheet completely filled out with all requested information including the General Contractor's stamp. A sample "Submittal Data" sheet is included at the end of this section.
- 2. All submittals shall be dated and shall contain the project name; description or names of equipment; materials or equipment which are to be installed, reference to the Section of Specifications where it is specified and Drawing number where shown.

B. Shop Drawings:

- 1. Submit legible, reproducible prints of each drawing. Each drawing shall have a clear space for stamps. When phrase "by others" appears on Shop Drawings, General Contractor shall indicate on drawing who is to furnish material or operations so marked before submittal. When Shop Drawings are checked "resubmit", or words of like meaning, General Contractor shall correct and submit new reproducible prints for approval to the Architect. After completion of checking of each submission of Shop Drawings, the Architect will return prints to General Contractor. For use of all trades, the General Contractor shall provide such numbers of prints as are required for field distribution.

2. General Contractor shall review and approve submittals prior to submission to Architect. Failure to do so may result in return of submittal to General Contractor without Architect's review.
3. By approving and submitting Shop Drawings, Product Data, Samples and similar submittals, General Contractor represents that he has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such submittals with the requirements of the Work and the Contract Documents.
4. The responsibility for coordinating the Shop Drawings including technical data, capability (warranted and implied), sizing, color, texture, etc. shall be the sole responsibility of the General Contractor. The coordination between subcontractor and/ or material supplier shall be the responsibility of the General Contractor. The Project Coordinator shall be responsible to supervise this activity.
5. The Architect will review each of the General Contractor's submittals one initial time and, should resubmittal be required, one additional time to verify that the reasons for resubmittal have been addressed by the General Contractor and corrections made. Should additional resubmittals be required, the General Contractor shall reimburse the Owner for all costs incurred including the cost of the Architect's services made necessary to review such additional resubmittals.

C. Sheet Size:

1. Submit Shop Drawings on sheets 30" x 42" or 24" x 36" in A/E's review.
2. HANO copy of approved shop drawings shall be on 11"x17" and in PDF on flash drive(s). Flash drive(s) shall be labeled: GUSTE II HVAC - SHOP DRAWINGS.

**1.8 SAMPLES:**

- A. Unless otherwise specifically directed by the Architect, all Samples shall be of the precise article proposed to be furnished.
- B. Where variation in color, pattern, texture or other characteristics are inherent in the material or product represented, submit multiple units (not less than 3), that show approximate limits of the variations.
- C. Refer to Specifications for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation and similar construction characteristics.
- D. Submit all Samples in the quantity which is required to be returned plus one which will be retained by the Architect.

**1.9 DELIVERABLES OF SUBMITTALS:**

- A. Submit to HANO one (1) hard copy and one (1) electronic copy in PDF on flash drive(s) of all "Approved" submittals. Flash drive(s) shall be labeled: GUSTE II HVAC-SHOP DRAWINGS.

**PART 2 – PRODUCTS**

Not applicable

**PART 3 – EXECUTION**

Not applicable

SEE SAMPLE SUBMITTAL DATA SHEET NEXT PAGE

**END OF SECTION**

**SUBMITTAL DATA**

SUBMITTAL DATE:

NAME OF PROJECT:

OWNER:

ARCHITECT:

CONTRACTOR:

SUBCONTRACTOR:

SUPPLIER/ MANUFACTURER:

SPECIFICATION DIVISION NO.:

SPECIFICATION PARAGRAPH NO.:

DRAWING REFERENCE: CONTRACTOR'S

APPROVAL STAMP:

## **SECTION 01323 - PHOTOGRAPHIC DOCUMENTATION**

### **PART 1 – GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the contract, including General and Supplementary Conditions and Divisions 1 Specifications Section, apply to the work of this Section.

#### **1.2 SUMMARY**

- A. Section includes administration and procedural requirements for the following:
  - 1. Preconstruction photographs.
  - 2. Periodic construction photographs.
  - 3. Final completion construction photographs.

#### **1.3 INFORMATIONAL SUBMITTALS**

- A. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each photograph. Include same information as corresponding photographic documentation.
- B. Digital Photographs: Submit files within three days of taking photographs
  - 1. Digital Camera: Minimum sensor resolution of 20 megapixels.
  - 2. Format: Minimum 5472 by 3648 pixels, in unaltered original files with same aspect ratio as the sensor, uncropped, date and time stamped, in folder named by date of photograph, accompanied by key plan file.
  - 3. Identification: Provide the following information with each image description in the metadata tag;
    - a. Date photograph was taken
    - b. Name of Project
    - c. Name of Contractor.
    - d. Description of vantage point, indicating location and direction.
    - e. Unique sequential identifier keyed to accompanying key plan.
    - f. Sample: 2020.11.15-GII HVAC-ABC-1234

### **PART 2 – PRODUCTS**

#### **2.1 PHOTOGRAPHIC MEDIA**

- A. Digital Images: Provide images in JPG format, produced by a digital camera with minimum sensor size of 20 megapixels, and at an image resolution of not less than 5472 by 3648 pixels.

## **PART 3 – EXECUTION**

### **3.1 CONSTRUCTION PHOTOGRAPHS**

- A. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
  - 1. Maintain key plan with each set of construction photographs that identifies each photographic location.
- B. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing or modifications using image-editing software.
  - 1. Date and Time: Include date and time in file name for each image.
- C. Preconstruction Photographs: Before starting construction, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points.
  - 1. Take photographs as required to accurately show and identify all existing conditions near and adjacent to the proposed Work.
- D. Contractor's Daily Reports: Provide photographs, a minimum of four (4) photographs per report. Photographs shall meet all the requirements of this section
- E. Periodic Construction Photographs: Take photographs at a minimum bi-weekly coinciding with payment procedure. Vantage point shall match to show status of construction and progress since the last photographs were taken. A minimum of four (4) photographs shall be included on Contractor's daily reports.
- F. Final Construction Photographs: Take color photographs after date of Final Completion for submission as part of project record documents.

### **3.2 PROJECT CLOSEOUT**

- A. All photographs and video recordings shall be provided to HANO on three (3) separate flash drives as provided for in Section 01700 / Project Closeout..

**END OF SECTION**

## SECTION 01370 – SCHEDULE OF VALUES

### **PART 1 - GENERAL**

#### **1.1 SUBMITTAL**

- A. No later than five (5) days after the Preconstruction conference, the Contractor shall submit to A/E a Schedule of Values for review by A/E and HANO, allocating a dollar value for activities as provided below.

#### **1.2 FORM AND CONTENT OF SCHEDULE OF VALUES**

- A. The dollar value for the activity shall be the cost of the work including labor, materials, and equipment.
- B. The Schedule of Values shall be broken out as follows:
  - a. General Conditions (not to exceed 6% of direct costs)
  - b. Overhead (not to exceed 2% of direct costs)
  - c. Fee (not to exceed 6% of direct costs)
  - d. Bond
  - e. Condensing unit removal/replacement by residential address
- C. The sum of all activity costs shall equal the total contract amount.
- D. Each activity cost for the Schedule of Values shall be coded with a cost code corresponding to the trade, subcontractor, or supplier performing the work so that subtotals for each division of the work can be prepared.
- E. The Schedule of Values shall, in the best judgment of the Contractor, represent a fair, reasonable, and equitable dollar (cost) allocation for activities on the construction schedule.
- F. The Schedule of Values, unless objected to by the A/E or Owner, shall be used as a basis for the Contractors' pay request.
- G. The Schedule of Values will not change. Should a change order be issued, it will be added to the Schedule of Values as a separate line item.

**END OF SECTION**

## **SECTION 01700**

### **PROJECT CLOSEOUT**

#### **PART 1 – GENERAL**

##### **1.1 DESCRIPTION OF WORK:**

###### **A. Work Included in This Section:**

1. This Section specifies administrative and procedural requirements for project closeout, including, but not limited to, the following:
  - a. Inspection procedures
  - b. Project record document submittal
  - c. Operating and maintenance manual submittal
  - d. Submittal of warranties
2. Closeout requirements for specific construction activities are included in the appropriate Sections.

##### **1.2 RELATED WORK:**

- A. Division 0 – General Conditions of the Contract
- B. Division 0 – HUD General Conditions (Form 5370) and Supplemental Conditions
- C. Division 0 – Supplemental Conditions
- D. Section 01300 – Submittals
- E. Section 01323 – Photographic Documentation

##### **1.3 SUBSTANTIAL COMPLETION:**

###### **A. General:**

- 1
  1. The Work will only be considered suitable for Substantial Completion when all work indicated in the bid documents is complete. The project shall be complete in its entirety. For the purposes of this Work, Substantial Completion is defined as when the entirety of the Work has been completed such that the new condensing units may be used for their intended purpose.
  2. Upon completion of the Work, the Contractor shall request a walk-thru by the A/E to inspect the Work. Prior to this walk-thru, the Contractor shall submit to the A/E their punch list of items remaining to be completed. After the walk-thru by the A/E, the A/E will issue their punch list of items remaining to be completed by the Contractor as indicated below.
  3. A final Certificate of Substantial Completion shall be issued upon completion of the entire Work including all Punch List items. The Contractor shall file the final Certificate of Substantial Completion with the Recorder of Mortgages for Orleans Parish.
  4. All warranties and maintenance contracts shall commence on the Date of Final Acceptance.

B. Forms:

1. All forms to be used shall be American Institute of Architect (AIA) forms, unless noted otherwise.

C. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request.

1. The General Contractor considers the Work, on an address-by-address basis is substantially complete, the General Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the General Contractor to complete all Work in accordance with the Bidding and Contract Documents.
2. Advise Owner of pending insurance change-over requirements and submit consent of surety, as applicable.
3. Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities; include occupancy permits, operating certificates and similar releases.
4. Deliver tools, spare parts, extra stock, and similar items.
5. Complete start-up testing of systems, and instruction of the Owner's operating and maintenance personnel. Discontinue or change over and remove temporary facilities from the site, along with construction tools, mock-ups, and similar elements.
6. Remove temporary facilities, construction equipment and temporary services. Restore disturbed items to original condition or better.
7. Complete final cleanup requirements, including touch-up painting. Touch-up and otherwise repair and restore marred exposed finishes.
8. Submit an acceptable copy of the HVAC Test and Balance Reports (if applicable).
9. Submit all Final Inspections Certificates along with a Use and Occupancy Certificate, if applicable.

D. Inspection Procedures: Due to portions of the Work being performed within occupied residential units, inspections for partial substantial completion will be performed at the completion of Work in each unit address.

1. On receipt of a request for inspection for Substantial Completion, the Architect will either proceed with inspection or advise the General Contractor of unfilled requirements. The Architect will prepare the Certificate of Partial Substantial Completion following inspection or advise the General Contractor of construction that must be completed or corrected before the certificate will be issued.
2. The Architect will repeat inspection when requested in writing by the General Contractor and assured that the Work has been substantially completed and all items that were incomplete have been corrected.
3. Results of the completed inspection will form the basis of requirements for final acceptance.

E. Re-inspection Procedure:

1. In the event that more than the two inspections by the Architect described above are made necessary by the failure of the General Contractor to complete the Work, or to complete or correct items identified on the list of such items, the General Contractor shall reimburse the Owner for all costs incurred including the cost of the Architect's services made necessary thereby.
2. Upon completion of re-inspection, the Architect will prepare a Certificate of Substantial Completion and a final Certificate of Substantial Completion at the end of the Work, or advise the General Contractor of Work that is incomplete or of obligations that have not



been fulfilled but are required for Substantial Completion.

#### **1.4 FINAL ACCEPTANCE:**

- A. At the completion of the Project prior to receiving final payment, the General Contractor shall furnish the Owner, through the Architect, properly signed and notarized waivers of lien from all subcontractors employed and material suppliers furnishing materials for the Project and a clear Lien & Privilege Certificate from the Orleans Parish Recorder of Mortgages. Such waivers shall be submitted before final payment will be certified by the Architect to the Owner (AIA G706A). Also, at the completion of the contract, the General Contractor shall provide documentation for the signature of the Owner and General Contractor signifying the completion of the contractual obligation and the cancellation of the contract. This documentation shall be filed by the Contractor with the Recorder of Mortgages and proof of contract cancellation provided to the Owner. Upon completion of these items, final payment shall be due to the General Contractor.
  
- B. Preliminary Procedures:
  - 1. Before requesting final inspection for final payment, complete the following (list exceptions in the request):
    - a. Submit a copy of the Architect's final inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance (by initialing each individual item), and the list has been endorsed and dated by the Architect
    - b. Submit record drawings, maintenance manuals, final project photographs, and similar final record information
    - c. Submit Consent of Surety to Final Payment (AIA G707)
    - d. Submit evidence of final, continuing insurance coverage complying with insurance requirements
    - e. Guarantees, Warranties and Bonds
    - f. Spare parts and Maintenance Materials
    - g. Certificate of Insurance for Products and Completed Operations
    - h. Certificate of Occupancy, if required
    - i. All remnants required by the Contract Documents
    - j. Executed one-year maintenance agreement
    - k. Submit "Lien & Privilege Certificate" from Orleans Parish.
    - l. Any other items as required by the Architect and/ or Owner

#### **1.5 RECORD DOCUMENT SUBMITTALS:**

- A. General:
  - 1. The General Contractor shall record on the Record Drawings maintained at the site all changes and selections made during construction and shall locate by dimensions showing actual field measurements of all major items which will be concealed in the completed work. These items shall include location of piping repaired or replaced and items above hard ceilings such as repairs of ducts, piping, etc.
  - 2. Dimensions are to be taken from face of building lines to centerline of piping or conduit.
  - 3. Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for the Architect's reference during normal working hours.

4. All Record Documents shall be provided to Owner in PDF on three (3) separate flash drives of sufficient capacity to include all the documents on one flash drive.

B. Record Drawings:

1. Provide one (1) print copy of record drawings.
2. The Product Data submittals shall be part of the record drawing submittal.
3. Record drawings shall be provided in the form of reproducible drawing sheets (reproducible bond) and reflect changes in the work and locations of concealed items for all trades including plumbing, mechanical, electrical and general construction. Bond prints of the original contract documents may be purchased from the Architect at the Architect's standard printing rate.
4. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown.
5. Mark whichever drawing is most capable of showing conditions fully and accurately; where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
6. Mark new information that is important to the Owner, but was not shown on Contract Drawings or Shop Drawings.
7. Note related Change Order numbers where applicable.

C. Record Specifications:

1. Maintain three (3) printed copies of the Project Manual, including addenda, and three (3) printed copies of other written construction documents such as Change Orders and modifications issued in printed form during construction. Mark these documents to show variations in actual Work performed in comparison with the text of the Specifications and modifications.
2. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation. Note related record drawing information and Product Data.
3. Upon completion of the Work, submit record Specifications to the Architect for the Owner's records.

D. Shop Drawings and Product Data Submittals:

1. Provide one (1) print copy of reviewed shop drawings and product data (include all review comments from Architect and Consultants).
2. Deliver General Contractor's approved copy of all shop drawings submitted during the course of the project.

E. Miscellaneous Record Submittals:

1. Refer to other Specification Sections for requirements of miscellaneous record-keeping and submittals in connection with actual performance of the Work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to the Architect for the Owner's records.

F. Electronic Record Documents:

1. Provide three (3) copies of electronic version on three (3) flash or thumb drives of sufficient capacity including record drawings, record specifications, shop drawings,

product data, miscellaneous record submittals, maintenance manuals, instructions, and warranties.

## **1.6 MAINTENANCE MANUAL AND INSTRUCTIONS:**

- A. General Contractor shall, prior to completion of Contract, deliver to the Architect three (3) copies of a manual, assembled, indexed, and bound; presenting for the Owner's guidance, full details for care and maintenance of mechanical, electrical, and other equipment included in Contract. Manuals shall include parts lists for each item of equipment furnished under the Contract.
- B. General Contractor shall, for this manual, obtain from Subcontractors, literature of manufacturers relating to equipment, including motors; also furnish cuts, wiring diagrams, instruction sheets, and other information pertaining to same that will be useful to Owner in overall operation and maintenance. Include also, the name, address, and phone number of the nearest sales and service organization for each item.
- C. General:
  - 1. Organize each manual into separate Sections for each piece of related equipment.
  - 2. Index all data as per the Table of Contents.
  - 3. As a minimum each manual shall contain a title page, a table of contents, copies of Product Data, supplemented by drawings and written text, and copies of each warranty, bond and service Contract issued.
- D. Binders:
  - 1. Identify each binder on the front and spine, with the typed or printed title "GUSTE II CONDENSING UNITS OPERATION AND MAINTENANCE MANUAL", Project title or name, and subject matter covered. Indicate the volume number for multiple volume sets of manuals.
  - 2. The binders shall be hard-cover, three-ring notebook, embossed with the name of the project, spring-lock metal label holders, and piano hinge edges, (2" capacity) 11" x 8-1/2" with heavy duty rings. Provide the number of binders required to properly contain all information required.
- E. Drawings:
  - 1. Where drawings or diagrams are required as part of the manual, provide reinforced punched binder tabs on the drawings and bind in with the text.
  - 2. Where oversize drawings are necessary, fold the drawings to the same size as the text pages and use as a fold-out.
  - 3. If drawings are too large to be used practically as a fold-out, place the drawing, neatly folded, in the front or rear pocket of the binder. Insert a typewritten page indicating the drawing title, description of contents and drawing location at the appropriate location in the manual.
- F. Protective Plastic Jackets:
  - 1. Provide protective transparent plastic jackets designed to enclose diagnostic software for computerized electronic equipment if required.
- G. Text Material:
  - 1. Where written material is required as part of the manual use the manufacturer's standard printed material, or if it is not available, specially prepared data, neatly typewritten, on 8-1/2" by 11", 20 pound white bond paper.

2. Such data called for under separate Sections of the Specifications, shall be included in the manual described in this Section.

H. Title Page:

1. Provide a title page in a transparent plastic envelope as the first sheet of each manual. Provide the following information:
  - a. Subject matter covered by the manual
  - b. Name and address of the Project
  - c. Date of submittal
  - d. Name, address, and telephone number of the Contractor
  - e. Name and address of the Architect
  - f. Cross reference to related systems in other operating and maintenance manuals

I. Table of Contents:

1. After the Title Page, include a typewritten table of contents for each volume, arranged systematically according to the Project Manual format. Include a list of each product included, identified by product name or other appropriate identifying symbol and indexed to the content of the volume.
2. Where more than one volume is required to accommodate data for a particular system, provide a comprehensive table of contents for all volumes in each volume of the set.

J. General Information:

1. Provide a general information Section immediately following the Table of Contents, listing each product included in the manual, identified by product name. Under each product, list the name, address, and telephone number of the Subcontractor or installer, and the maintenance contractor. Clearly delineate the extent of responsibility of each of these entities. In addition, list a local source for replacement parts and equipment.

K. Product Data:

1. Where manufacturer's standard printed data is included in the manuals, include only sheets that are pertinent to the part or product installed. Mark each sheet to identify each part or product included in the installation. Where more than one item in a tabular format is included, identify each item, using appropriate references from the Contract Documents. Identify data that is applicable to the installation and delete references to information that is not applicable.

L. Written Text:

1. Where manufacturer's standard printed data is not available, and information is necessary for proper operation and maintenance of equipment or systems, or it is necessary to provide additional information to supplement data included in the manual, prepare written text to provide necessary information. Organize the text in a consistent format under separate headings for different procedures. Where necessary, provide a logical sequence of instruction for each operating or maintenance procedure.

M. Warranties, Bonds and Service Contracts:

1. Provide a copy of each warranty, bond or service contract in the appropriate manual for the information of the Owner's operating personnel. Provide written data outlining procedures to be followed in the event of product failure. List circumstances and conditions that would affect validity of the warranty or bond.

**1.7 INSTRUCTIONS:**

- A. The Owner's delegated representative shall be given personal instructions by trained personnel, in the care, use, maintenance, and operation procedures for each item. This shall be done in accordance with, and in addition to, the above required manual.

B. Operating and Maintenance Instructions:

1. Arrange for each installer of equipment that requires regular maintenance to meet with the Owner's personnel to provide instruction in proper operation and maintenance. If installers are not experienced in procedures, provide instruction by manufacturer's representatives. Include a detailed review of the following items:

- a. Maintenance manuals
- b. Record documents
- c. Spare parts and materials
- d. Tools
- e. Identification systems
- f. Control sequences

2. As part of instruction for operating equipment, demonstrate the following procedures:

- a. Start-up
- b. Shutdown
- c. Emergency operations
- d. Noise and vibration adjustments
- e. Safety procedures
- f. Economy and efficiency adjustments
- g. Effective energy utilization

C. Maintenance Procedures:

1. Provide information detailing essential maintenance procedures, including the following:

- a. Routine operations
- b. Trouble-shooting guide
- c. Disassembly, repair and reassembly
- d. Alignment, adjusting and checking

D. Operating Procedures:

1. Provide information on equipment and system operating procedures, including the following:

- a. Start-up procedures
- b. Equipment or system break-in
- c. Routine and normal operating instructions
- d. Regulation and control procedures

- e. Instructions on stopping
  - f. Shut-down and emergency instructions
  - g. Summer and winter operating instructions
  - h. Required sequences for electric or electronic systems
  - i. Special operating instructions
- E. Servicing Schedule:
- 1. Provide a schedule of routine servicing and lubrication requirements, including a list of repaired lubricants for equipment with moving parts.
- F. Controls:
- 1. Provide a description of the sequence of operation and as-installed control diagrams by the control manufacturer for systems requiring controls.
- G. Coordination Drawings:
- 1. Provide each Contractor's Coordination Drawings.
  - 2. Provide as-installed color-coded piping diagrams, where required for identification.
- H. Valve Tags:
- 1. Provide charts of valve tag numbers, with the location and function of each valve.

## **PART 2 – PRODUCTS**

Not Applicable

## **PART 3 – EXECUTION**

Not Applicable

**END OF SECTION**

## SECTION 09910 - PAINTING

### **PART 1 - GENERAL**

#### **1.01 RELATED DOCUMENTS**

- A. Drawings and general provision of the Contract, including General and Supplementary Conditions of the Specification Sections, apply to this Section.

#### **1.02 SCOPE OF WORK**

- A. Without restricting the volume or generality of the above, the work to be performed under this Section shall include, but is not limited to the following:
  - 1. All labor, materials, tools, scaffolds and other equipment necessary to properly complete work according to Plans and Specifications.
- B. Painting shall be as required and as needed to any damage to existing metal cages or new replacement cages at condenser units.

#### **1.03 SUBMITTALS**

- A. Submit complete product data sheets of paint manufacturer for each paint product with a schedule showing compatible components of coating systems, indicating the appropriate surface(s) for the various coating systems. Product data sheet shall indicate solids by volume and weight, mill thickness, compatible prime or finish coats, ASTM and other standards, etc.
- B. Submit complete manufacturer's color catalog for color selections.
- C. Provide manufacturer's technical information including label analysis and instructions for handling, storage and applications of each material proposed for use.

#### **1.04 PRODUCT HANDLING**

- A. Delivery: Approved paints shall be delivered in labeled, sealed containers.
- B. Storage:
  - 1. Store all materials used on job in a single safe place.
  - 2. Take all necessary precautions to prevent fire, explosions and other damage.
  - 3. All rags and paint or solvents must be stored in closed metal containers at all times.

4. Remove oily rags, waste, etc. from the building every day.
5. Comply with all health, fire and safety regulations.

#### 1.05 JOB CONDITIONS

##### A. Environmental Requirements:

1. Comply with manufacturer's recommendations as to conditions under which coatings can be applied.
2. Ambient temperature shall not be less than 50 degrees F in the area of coating work for 24 hours prior to, during and after applications.
3. Do not apply coating in areas where dust is being generated. Surfaces shall be free of foreign matter.
4. Lighting shall be adequate as required for proper installation, provided by applicator as necessary to supplement temporary lighting.
5. Do not paint in excessive humidity. Do not paint wet or humid surfaces.
6. Do not paint surfaces, which indicate moisture content above 12%.
7. Cover or otherwise protect floors, walls and other surfaces not being painted.

#### 1.06 EXTRA MATERIALS

- A. Deliver extra materials to Owner. Furnish extra materials that match products installed as described below. Provide unopened, labeled containers with protective coverings for storage and identified with labels clearly describing contents.
- B. Paint, Primers, Accessories, etc.: Provide minimum of one (1) gallon of each type and color used for this project. Containers shall be clearly marked with color name, number and type of paint.
- C. At project closeout, provide the color mixture name and code to the Owner for accurate future color matching.

### **PART 2 – PRODUCTS**

#### 2.01 MATERIALS

- A. All materials required for painting shall be the brand name and quality specified and shall be delivered to the building in original containers with labels intact and seals unbroken.



- B. All materials are to be used as specified by the manufacturer's label directions. Use materials best suited and especially prepared for surfaces to be covered.
- C. All unspecified materials such as shellac, turpentine or linseed oil shall be of the "best grade" or "first line" made by reputable, recognized manufacturers and shall bear the labels and be approved by the Architect.
- D. The products and formulations herein specified are those as manufactured by Sherwin Williams Company or approved equal meeting the substitution requirements indicated in the specifications.

## **PART 3 - EXECUTION**

### **3.01 PREPARATION OF SURFACES**

- A. Metal: All surfaces shall be absolutely clean and dry: free from wax, oil, grease or dried soap films, rust and scale. Metal surfaces which were not specified for sandblasting shall be thoroughly cleaned with sandpaper or steel wool and thinner. All galvanized iron surfaces shall be properly treated with a special chemical according to the manufacturer's directions. All steel or iron shall be primed with one coat of rust inhibitive primer, unless it had been primed by other. All metal shall be brush painted.
- B. Wood and Plywood: Any unsound surface shall be properly secured and/or repaired by others before painting. All surfaces shall be sanded and dusted to remove all dirt, loose paint scales, foreign matter, etc. Countersink all protruding nails 1/8" below the surface. Fill with putty. Apply putty to open cracks in joints in millwork members.
- C. Gaps and Cracks: All gaps, cracks within and along perimeter of surfaces to be coated shall be filled and sealed.
- D. Cleaning: All surfaces to be coated shall be thoroughly cleaned, removing dust, grease, grime, loose paint and other particles.
- E. Protect the floors or surrounding surfaces with drop cloths or building paper. Paint shall be mixed in suitable containers and all necessary precautions shall be taken to prevent fire.

### **3.02 PAINTING**

- A. All work shall be done by skilled mechanics in a workmanlike manner. All paints, stains, varnishes and other finishes must evenly be spread and flowed on with proper film thickness and shall be free from runs, sags, or other defects. All coats shall be thoroughly dry before applying succeeding coats.

- B. Unless otherwise specified, exterior paints shall dry for 48 hours and interior paints 24 hours between coats.
- C. Paint shall be cut in neatly around edges.
- D. Exterior painting shall not be done in rainy or frosty weather. All surfaces shall be thoroughly dry. Interior painting or finishing shall not be permitted until the building is thoroughly dried by artificially conditioned air.
- E. All adjacent work and materials inside or outside the building shall be protected with suitable covers during the progress of work. Damage caused by this Contractor shall be corrected at the expense of this Contractor.
- F. Upon completion of work, the Painting Contractor shall remove from the building all surplus materials, scaffolds and debris created by him and clean off all misplaced paint and varnish so as to leave his part of the work in a clean and finished condition.
- G. All work shall be subject to approval by the Architect, and any work not complying with these Specifications shall be satisfactorily corrected.
- H. Do not apply paint in spaces where dust is being generated which would speck the finish, or in spaces not lit adequately.
- I. Articles affixed to interior of buildings, such as hardware, fixtures, etc. shall be removed before painting, when necessary for first class work, and replaced thereafter.
- J. Before proceeding, Painting Subcontractor shall examine all surfaces to be painted or finished and notify the Contractor in writing of any unsuitability. The commencing of work or the absence of the notification in writing shall be construed as acceptance of the surfaces by the Painting Subcontractor. It shall be the responsibility of the Painting Subcontractor then to correct any defect appearing in the painting work thereafter.

### 3.03 COLORS, FINISHES AND SAMPLES

- A. Colors shall be selected and samples of color and finish shall be approved by the Architect before proceeding with the work.
- B. All undercoats shall be tinted with the color of the finish coat unless otherwise specified.

## **PART 4 – SCHEDULES**

#### 4.01 TYPE AND NUMBER OF COATS

A. In this schedule the name of manufacturers is abbreviated as follows:  
S-W = Sherwin-Williams Company

B. **Galvanized Metal**

1st Coat: S-W Pro-Cryl-Primer  
2nd Coat: S-W DTM Semi-gloss Latex  
3rd Coat: S-W DTM Semi-gloss Latex

C. Miscellaneous Other Surfaces

Prepare surfaces in accordance with paint manufacturer's instructions and use best quality coating system offered by paint manufacturer to match finish (sheen, color, etc.) of the various adjacent surfaces.

**END OF SECTION**

**REFRIGERANT PIPING AND SPECIALTIES****PART 1 GENERAL**

## 1.01 WORK INCLUDED

- A. Provide complete operational refrigerant piping system between air handling units and air cooled condensing units including the following:
1. Refrigerant pipe and fittings
  2. Moisture indicators (sight glass)
  3. Filter-driers
  4. Solenoid valves
  5. Expansion valves
  6. Refrigerant charging valves
  7. Flexible connections.

## 1.02 RELATED WORK

- A. Documents affecting work of this specification section include the other sections of the contract documents, all specification sections in Division 1 and the following sections:
1. Section 15695, Air Cooled Condensing Units.

## 1.03 REFERENCES

- A. ANSI B 16.22, 2013, Wrought Copper and Copper Alloy Solder-Joint Pressure Fittings
- B. ANSI B 16.26, 2013, Cast Copper Alloy Fittings for Flared Copper Tubes
- C. ANSI B 31.5, 2016, Refrigeration Piping and Heat Transfer Components
- D. ARI 710 I-P, 2009, Performance Rating of Liquid Line Dryers
- E. ARI 750 I-P, 2016, Performance Rating of Thermostatic Refrigerant Expansion Valves
- F. ANSI/AHRI 760, 2014, Performance Rating of Solenoid Valves for use with Volatile Refrigerants
- G. ASHRAE 15, 2016, Safety Standard for Refrigeration Systems
- H. ASTM B 88-16, Standard Specification for Seamless Copper Water Tube
- I. AWS A 5.8, 2012, Specification for Filler Metals for Brazing and Braze Welding

## 1.04 SUBMITTALS

- A. Submit the following:

1. Product specifications, capacities, pressure drops
2. Dimensional drawings
3. Parts list and recommended spare parts list with prices for refrigerant equipment and valves
4. Installation, operation and maintenance manuals for refrigerant equipment and valves
5. Inspection test procedure.

#### 1.05 DELIVERY, STORAGE AND HANDLING

- A. Store copper tubing for use in refrigeration systems with ends sealed to prevent the entry of dirt and other foreign matter.

### **PART 2 PRODUCTS**

#### 2.01 MATERIALS

- A. Provide refrigerant piping of Type L or Type K hard drawn copper tubing or soft annealed tubing as required for application (bending, flaring, solder joints) conforming to ANSI B 31.5 and ASTM B 88.
- B. Provide copper tubing soft annealed where bending is required and hard drawn where no bending is required. Provide soft annealed copper tubing only in sizes smaller than or equal to 1-3/8 inches diameter. Provide brazed joints except that joints on lines 7/8 inch and smaller may be flared.
- C. Provide fittings of wrought copper conforming to ANSI B 16.22, flared tube fittings conforming to ANSI B 16.26.
- D. Make joints that conform to AWS A 5.8, BCup silver braze.
- E. Moisture Indicators (sight glass)
  1. Provide UL listed double port type moisture indicators with copper or brass body and flared or solder ends.
  2. Provide removable seal caps on each port for inspection of refrigerant condition.
  3. Provide full size moisture indicators in main liquid line leaving condenser.
    - a. Install in liquid line leaving receiver if receiver is used.
  4. Provide moisture indicators with color contrast scheme on sensitized moisture element which changes colors in proportion to the amount of moisture contained within the refrigerant as follows: Blue - indicates "Safe" conditions, Light Violet - indicates "Caution" conditions, Pink - indicates "Danger" conditions or high levels of moisture present.
- G. Filter-Driers

1. Provide ARI 710, UL listed, angle type filter-driers with brass shell and using combined straining and drying material.
2. Provide replaceable desiccant material of activated alumina and molecular sieves, resistant to acid corrosion, moisture incurred disintegrate and fluid erosion.
3. Provide three-valve bypass assembly.

#### H. Solenoid Valves

1. Provide ARI 760 copper or brass body solenoid valves with flared or threaded ends.
2. Provide replaceable UL listed coil assembly.
3. Provide a manually operated stem to permit operation in case of coil failure.
4. Provide solenoid valves in liquid line of systems operating with single pump-out or pump-down compressor control, in liquid line of single or multiple evaporator systems and in oil bleeder lines from flooded evaporators to stop flow of oil and refrigerant into the suction line when system shuts down.
  - a. Provide valves to operate on voltage required by unit manufacturer's instructions.

#### I. Expansion Valves

1. Provide ARI 750 angle type or straight through design expansion valves suitable for the refrigerant utilized in the system.
2. Provide brass body, internal or external equalizer and adjustable superheat setting, complete with capillary tube and remote sensing bulb.
3. Size expansion valves to meet system capacity requirements at full load in accordance with system equipment manufacturer. Size valves on the basis of evaporator temperature, system pressure and pressure drop across valves to suit system capacity requirements. Avoid oversizing of valves. Select valves which operate to give desired flow control at partial loading.
4. Evaluate refrigerant pressure drop through system to determine the available pressure drop across each valve.
5. Select valves for maximum load at design operating pressure and minimum 10 degrees Fahrenheit of superheat.
6. Provide external equalizers on expansion valves used on air conditioning coils with a pressure drop of two psi or greater.

#### J. Charging Valves

1. Provide general purpose type charging valves with brass body, flared or solder ends and removable valve core.
2. Provide valve inlet with quick coupling connection for ease of charging.

3. Provide refrigerant charging connections in liquid line at condensing unit downstream of receiver.

**K. Flexible Connectors**

1. Provide close pitch corrugated bronze hose for flexible connectors with single layer of exterior braiding.
2. Provide at least nine inches long, with bronze fittings.
3. Utilize only at or near compressors where it is not physically possible to absorb vibration within piping configuration.

**PART 3 EXECUTION**

**3.01 PREPARATION**

- A. Ream pipe and tube ends. Remove burrs.
- B. Remove scale and dirt, inside and outside, before assembly.
- C. Remove solder or foreign material from pipe and fitting materials.

**3.02 INSTALLATION**

- A. Install all work in accordance with ASHRAE 15.
- B. Refrigerant Piping:
  1. Cut pipe accurately to measurements established in the field and work into place without springing or forcing.
  2. Install piping with sufficient flexibility to adequately provide for expansion and contraction due to temperature fluctuation inherent in its operation.
  3. Do not conceal joints of pipes that pass through building structure, but locate where they may be readily inspected when pipe passes through building structure.
  4. Run all pipe to be insulated as shown and as required with sufficient clearance to permit application of insulation.
  5. Run all piping essentially as shown and detailed on the plans. Do not interfere with other piping, conduit or equipment.
  6. Run piping plumb and straight and parallel to walls and ceilings, except where specifically indicated otherwise.
  7. Do not trap except where indicated.
  8. Provide sleeves of suitable size for all lines passing through building structure.
  9. Braze refrigerant piping with silver solder complying with AWS A 5.8.
  10. Keep inside of tubing and fittings free of flux.

11. Clean the parts to be jointed with emery cloth and keep hot until the solder has penetrated the full depth of the fitting and the extra flux has been expelled.
  12. Cool joints in air and remove flame marks and traces of flux.
  13. During the brazing operation, prevent an oxide film from forming on the inside of the tubing by slowly flowing dry nitrogen to expel the air.
  14. Install piping in accordance with ANSI B 31.5.
- C. Returning Oil from Refrigerant System:
1. Install a double riser when velocity is insufficient to entrain oil on return.
  2. On the larger riser provide a trap, of minimum volume, obtained by use of 90 degree and 45 degree ells.
  3. Arrange the small riser with inlet close to bottom of horizontal line and connect to top of upper horizontal line.
  4. Do not install valves in risers.
- D. Provide filter-driers and sight glass moisture indicators, in refrigerant piping for remote installations when not furnished by the manufacturer as part of the equipment.
- E. Install driers in liquid line with service valves and valved bypass line which are the same size as liquid line in which the drier is installed.
1. Size of driers shall be determined by the piping and installation of the unit on location.
  2. Install driers of 50 cubic inches and larger vertically with the cover for removing cartridge at the bottom.
- F. Install the moisture indicator in the liquid line downstream of the drier.
1. Make indicator connections the same size as the liquid line in which it is installed.
- G. Install solenoid valves in horizontal lines with stem vertical and with flow in direction indicated on the valve.
1. Remove the internal parts of the solenoid valve when brazing the valve.
- H. Locate expansion valve sensing bulbs immediately after the evaporator outlet on suction line.
- I. Provide escutcheon plates where pipes penetrate walls and floors and make flush to the wall and floor.
- J. Insulate refrigerant lines after system leak testing is completed.
1. Provide foamed plastic slip-on type insulation of thickness recommended by the manufacturer on all refrigerant suction lines.
  2. All fittings, valves and surfaces subject to sweating shall be insulated.



3. Insulation shall be tightly butted and all joints sealed with waterproof vapor barrier adhesive.

3.03 EXECUTION QUALITY CONTROL

- A. Purge and test refrigerant piping prior to application of insulation. Isolate or remove all equipment, control gages and accessories that might be damaged during testing.
  1. Pressure test systems with dry carbon dioxide or nitrogen with a trace amount of refrigerant.
  2. Conduct test in accordance with ASHRAE 15.
  3. At conclusion of pressure test, conduct vacuum test of 0.20 inches, mercury gage for a period of one hour without pumping.
  4. Correct leaks found by remaking the joints. Retest system.
  5. As soon as possible after testing, charge the system with refrigerant. Refer to Section 15695.
  6. After charging and prior to capacity testing, check joints with halide torch or equally sensitive leak detector.

-END OF SECTION-

**AIR COOLED CONDENSING UNIT****PART 1 GENERAL**

## 1.01 WORK INCLUDED

- A. Provide and install an air cooled condensing unit, including:
  - 1. Internal piping and accessories
  - 2. Controls
- B. Provide unit complete with all specified or required operating and safety controls, accessories and relays, requiring only the connection of field electrical power, refrigerant piping and specialties and control interlock wiring to be fully operational.
- C. Green Spec Requirements: The condensing unit will meet or exceed energy code efficiency standards.

## 1.02 RELATED WORK

- A. Documents affecting work of this section include sections in Division 1 and the following sections:
  - 1. Section 15650, Refrigerant Piping and Specialties

## 1.03 REFERENCES

When more recent editions of codes, specifications, and standards are available, obtain Government approval prior to using the latest edition.

- A. ANSI/AHRI 210/240, 2008, Performance Rating of Unitary Air-Conditioning & Air Source Heat Pump Equipment
- B. AHRI 270, 2015, Sound Performance Rating of Outdoor Unitary Equipment
- C. UL 1995, 2015, Heating and Cooling Equipment

## 1.04 SUBMITTALS

- A. Submit the following:
  - 1. Specifications, capacities, utility requirements
  - 2. Dimensional drawings, anchor bolt layout
  - 3. Wiring diagrams
  - 4. Parts list and recommended spare parts list with prices
  - 5. Installation, operation, maintenance manuals, handling and lifting instructions
  - 6. Inspection test procedure
  - 7. Manufacturer's data which indicates that equipment is UL 1995 listed

8. Manufacturer's data which indicates that the cooling capacity is rated in accordance with ARI 210 and sound rated per ARI 270
9. Warranty data

## **PART 2 PRODUCTS**

### 2.01 EQUIPMENT

#### A. General

1. Provide self-contained, packaged, factory assembled and pre-wired unit suitable for outdoor use consisting of cabinet, compressors, condensing coil and fans, integral sub-cooling coil, controls, liquid receiver and screens.
2. Provide corrosion resistant materials for parts in contact with refrigerant. Furnish galvanized steel casings with baked enamel finish and removable access doors or panels with quick fasteners.
3. Provide unit assembled and tested at the factory and designed for use with Refrigerant R-410A.
4. Provide capacities, minimum energy efficiency ratings, operating conditions and physical data as scheduled on the drawings.

#### B. Air Cooled Condensing Unit

1. Provide unit compressors of serviceable hermetic design with external spring isolators and an automatically reversible oil pump. Provide compressors which unload in response to suction pressure down to 33 percent of full capacity in three steps for part load operation. Provide compressors with across the line start.
2. Provide condenser coil of nonferrous construction with aluminum plate fins mechanically bonded to seamless copper tubes, and circuited for subcooling.
3. Provide unit furnished with direct-driven, propeller-type fans arranged for vertical discharge. Provide condenser fan motors which have inherent protection and of the permanently lubricated type, resiliently mounted. Provide each fan with a safety guard. Provide controls included for cycling fans for intermediate operation.
4. Provide casing which makes unit fully weatherproof for outdoor installation. Provide casing of galvanized steel, zinc phosphatized and furnished with baked enamel. Provide openings for power and refrigerant connections. Provide unit with removable panel for servicing. Provide only one liquid line, one suction line and one power supply connection required.
5. Provide controls factory wired and located in a separate enclosure. Provide safety devices consisting of high and low pressure switches and compressor overload devices. Unit wiring which incorporates a positive acting timer to prevent short cycling of compressor if power is interrupted. Provide timer which prevents compressor from restarting for approximately five minutes after shutoff. Provide transformers for 230 volt and 115 volt circuits.

**PART 3 EXECUTION**

3.01 INSTALLATION

- A. Install unit per manufacturer's instructions and complete structural, mechanical and electrical connections per manufacturer's installation instructions.

3.02 EXECUTION QUALITY CONTROL

A. Start-up and Testing

1. Perform initial start-up of equipment per manufacturer's instructions.
2. Provide initial charge of refrigerant and oil for each refrigeration system.
  - a. Replace losses of oil or refrigerant prior to end of correction period.
3. Charge system with refrigerant and test entire system for leaks after completion of installation.
  - a. Repair leaks and test equipment performance.
  - b. Make all necessary adjustments to equipment, accessories and appurtenances. Correct any deficiencies discovered, which prevent equipment from operating as required to perform the functions required by the system design, and that prevent the equipment, accessories and appurtenances from performing as described in the manufacturer's cataloged literature.

3.03 ADJUSTING AND CLEANING

- A. Remove all dirt, grease and other foreign materials from units. Repair scratches to match factory finish.

END OF SECTION