1. SCOPE OF WORK
A. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED. ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH THE INTERNATIONAL MECHANICAL CODE 2018, ALL LOCAL CODES AND ALL OTHER REGULATION GOVERNING WORK OF THIS NATURE.
B. THE CONTRACTOR SHALL, BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND DETERMINE THE CONDITIONS THAT MAY AFFECT THE WORK. NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS.
C. ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY THE ENGINEER OR ARCHITECT.

2. PERMITS
A. THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS AND PAY ALL FEES.

3. SHOP DRAWINGS
A. SUBMIT MATERIAL LIST AND SHOP DRAWINGS FOR MAJOR EQUIPMENT TO THE ARCHITECT/ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL SUBMIT FIVE SETS OF SHOP DRAWINGS AND THEY SHALL BE CLEARLY LABELED.

4. FLEXIBLE TYPE DUCT
A. SHALL BE OF TWO ELEMENT SPIRAL CONSTRUCTION COMPOSED OF A CORROSION RESISTANT METAL SUPPORTING SPIRAL AND COATED FABRIC WITH A MINERAL BASE. FLEXIBLE DUCT CONNECTORS SHALL BE LISTED BY UL. CLASS A, AND SHALL HAVE A FLAME SPREAD RATING NOT EXCEEDING 25 AND A SMOKE DEVELOPED RATING NOT EXCEEDING 50.
B. USE OF FLEXIBLE DUCTWORK SHALL BE LIMITED TO NO MORE THAN 10 LINEAR FEET PER RUN.
C. CONTRACTOR SHALL BE CAREFUL SO AS NOT TO KINK OR COLLAPSE FLEXIBLE DUCT.

5. REFRACTORINE PIPING
A. CONTRACTOR SHALL PROVIDE AND INSTALL REFRACTORINE PIPING IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND IN SUCH A WAY AS TO BE IN CONSPICUOUS AND FREE FROM ANY POSSIBLE CONDENSATION INSULATE REFRACTORINE LINES WITH ARMOR-FLX TYPE INSULATION.
B. SHALL BE AC RENEW TEMPER COPPER TUBING WITH COPPER BRAZED TYPE FITTINGS SUITABLE FOR A MAXIMUM WORKING PRESSURE OF 625PSIG. PURGE PIPING WITH DRY NITROGEN WHILE BRAZING CONNECTIONS.
C. REFRACTORINE PIPING SHALL BE PRESSURE TESTED IN ACCORDANCE WITH STANDARD PRACTICE AND THE INTERNATIONAL MECHANICAL CODE. THE OWNER SHALL WITH THE INITIATION AND CONCLUSION OF ALL PRESSURE TESTS.

6. DUCTWORK
A. THE DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "SMAK" APPLICABLE MANUALS. ALL DUCTWORK SHALL BE THE LOW VELOCITY, ROUND SPIRAL WRAPPED TYPE, UNLESS SPECIFIED OTHERWISE.
B. CONTRACTOR SHALL PROVIDE AND INSTALL APPROVED DRY DAMPERS AND ACCESS PANELS IN ANY AND ALL DUCTWORK WHICH PENETRATES A HORIZONTAL OR VERTICAL FIRE PARTITION, OR AS OTHERWISE SHOWN ON DRAWINGS.
C. ALL BRANCH DUCTS TO HAVE VOLUME DAMPERS.

D. SMOOTH TURN RADIUS DUCTWORK OR TURNING VANES SHALL BE USED THROUGHOUT WHERE FLOW EXCEEDS 150 CFM.
E. ALL DUCT JOINTS TO BE SEALED IN ACCORDANCE WITH "SMAK" APPLICABLE MANUALS AND GOOD PRACTICE.
F. ALL DUCT DIMENSIONS SHOWN ARE NET INSIDE VALUES. DIMENSIONS MAY BE CHANGED SO LONG AS THE NET FREE FACE AREA IS MAINTAINED.
G. ALL EXPOSED SUPPLY AIR DUCTWORK INDICATED AS ROUND SHALL BE ROUND SPIRAL AND INSULATED WITH 1" FIBERGLASS LINER WITH FACTORY APPLIED ACRYLIC COATING LOCATED ON THE INTERIOR OF THE DUCT.
H. ALL CONCEALED SUPPLY OR OUTSIDE AIR DUCTWORK, REGARDLESS OF SHAPE, SHALL BE INSULATED WITH 1" FOIL FACED FIBERGLASS WRAP LOCATED ON THE EXTERIOR OF THE DUCT.
I. RETURN AND EXHAUST DUCTWORK MAY BE UN-INSULATED.

6. GENERAL NOTES
A. MECHANICAL NOTES
B. REVISIONS
C. MECHANICAL NOTES
D. THE MECHANICAL PLANS ARE INTENDED TO BE DIAGRAMATIC AND ARE BASED ON MANUFACTURER'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY DETAIL OF EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL THE DETAILS OF THE EQUIPMENT. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO ENSURE THAT THE EQUIPMENT WILL FIT IN THE AVAILABLE SPACE.

15. GUARANTEE
A. MATERIALS AND EQUIPMENT INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE.

B. CONSTRUCTION DOCUMENTS SHALL BE UPDATED TO DESCRIB A RECORD OF THE COMPLETED WORK. SUCH UPDATES SHALL INCLUDE MECHANICAL, ELECTRICAL, AND CONTROL DRAWINGS RED-LINED OR REDRAWN. IF SPECIFIED THAT SHOW ALL CHANGES TO SIZE, TYPE AND LOCATIONS OF COMPONENTS, EQUIPMENT AND ASSEMBLIES.

C. OPERATING AND MAINTENANCE MANUAL SHALL BE PROVIDED FOR EACH COMPONENT, DEVICE, PIECE OF EQUIPMENT AND SYSTEM. THE O&M MANUAL SHALL INCLUDE ALL OF THE FOLLOWING:
   a. SUBMIT DATA INDICATING ALL SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT.
   b. MANUFACTURER'S OPERATIONS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT, DEVICE, AND SYSTEM REQUIRING MAINTENANCE.
   c. NAME AND ADDRESSES OF AT LEAST ONE SERVICE AGENCY.
   d. TEMPERATURE CONTROL SYSTEM SPECIFICATIONS AND MAINTENANCE, AND CALIBRATION INFORMATION, WIRING DIAGRAMS, SCHEMATICS AND CONTROL SEQUENCE DESCRIPTIONS.
   e. A NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE INCLUDING RECOMMENDED SETPOINTS.
   f. TRAINING OF THE MAINTENANCE STAFF FOR EQUIPMENT INCLUDED IN THE MANUALS SHALL INCLUDE AS A MINIMUM:
      a. REVIEW OF OPERATION AND MAINTENANCE MANUALS AND PERMANENT CERTIFICATE.
      b. HANDS-ON DEMONSTRATION OF ALL NORMAL MAINTENANCE PROCEDURES. NORMAL OPERATING MODES AND ALL EMERGENCY SHUTDOWN AND START-UP PROCEDURES.
      c. TRAINING COMPLETION REPORT.
MECHANICAL GENERAL NOTES

1. SCOPE OF WORK
   A. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.
   B. ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH THE INTERNATIONAL MECHANICAL CODE 2015. ALL LOCAL CODES AND ALL OTHER REGULATION GOVERNING WORK OF THIS NATURE.
   C. THE CONTRACTOR SHALL, BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND DETERMINE ITS LOCATION AND CONDITIONS THAT MAY AFFECT THE WORK NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS.
   D. ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY THE ENGINEER OR ARCHITECT.

2. PERMITS
   A. THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS AND PAY ANY AND ALL FEES.

3. SHOP DRAWINGS
   A. SUBMIT MATERIAL LIST AND SHOP DRAWINGS FOR MAJOR EQUIPMENT TO THE ARCHITECT/ENGINEER FOR APPROVAL.

4. FLEXIBLE TYPE DUCT
   A. SHALL BE OF TWO ELEMENT SPIRAL CONSTRUCTION COMPOSED OF A CORROSION RESISTANT METAL SUPPORTING SPIRAL AND COATED FABRIC WITH A MINERAL BASE. FLEXIBLE DUCT CONNECTORS SHALL BE LISTED BY UL, CLASS 1 DUCTS, AND SHALL HAVE A FLAME SPREAD RATING NOT EXCEEDING 25 AND A SMOKE DEVELOPMENT RATING NOT EXCEEDING 250.
   B. USE OF FLEXIBLE DUCTWORK SHALL BE LIMITED TO NO MORE THAN 10 LINEAR FEET PER RUN.
   C. CONTRACTOR SHALL BE CAREFUL NOT TO KINK OR COLLAPSE FLEXIBLE DUCT.

5. REFRIGERANT Piping
   A. CONTRACTOR SHALL PROVIDE AND INSTALL REFRIGERANT PIPING IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND IN SUCH A WAY AS TO BE IN CONSIDERATION AND FREE FROM ANY POSSIBLE CONDENSATION. INSULATE REFRIGERANT LINES WITH ARMOR-FLEX TYPE INSULATION.
   B. SHALL BE ACR DRAWN TEMPER COPPER TUBING, WITH COPPER BRAZED TYPE FITTINGS SUITABLE FOR A MAXIMUM WORKING PRESSURE OF 625 PSI, ACR PURGE PIPING WITH DRY NITROGEN WHILE BRAZING CONNECTIONS.
   C. REFRIGERANT PIPING SHALL BE PRESSURE TESTED IN ACCORDANCE WITH STANDARD PRACTICE AND THE INTERNATIONAL MECHANICAL CODE. THE OWNER SHALL WITNESS THE INITIATION AND CONCLUSION OF ALL PRESSURE TESTS.

6. DUCTWORK
   A. THE DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "IMC" APPLICABLE MANUALS. ALL DUCTWORK SHALL BE THE LOW VELOCITY, ROUND SPIRAL WRAPPED TYPE UNLESS SPECIFIED OTHERWISE.
   B. CONTRACTOR SHALL PROVIDE AND INSTALL APPROVED FIRE DAMPERS AND ACCESS PANELS IN ANY AND ALL DUCTWORK WHICH PENETRATES A HORIZONTAL OR VERTICAL FIRE PARTITION, OR AS OTHERWISE SHOWN ON DRAWINGS.
   C. ALL BRANCH DUCTS TO HAVE VOLUME DAMPERS.

D. SMOOTH TURN RADUS DUCTWORK OR TURNING VANES SHALL BE USED THROUGHOUT WHERE FLOW EXCEEDS 150 CFM.
E. ALL DUCT JOINTS TO BE SEALED IN ACCORDANCE WITH "IMC" STANDARDS AND ACCEPTED GOOD PRACTICE.
F. ALL DUCT DIMENSIONS ARE NOT AN EXACT DIMENSION. DIMENSIONS MAY BE CHANGED SO LONG AS THE NET FREE FACE AREA IS MAINTAINED.
G. ALL EXPOSED SUPPLY AIR DUCTWORK INDICATED AS ROUND SHALL BE ROUND SPAN AND INSULATED WITH 1/2" FIBERGLASS LINER WITH FACTORY APPLIED ACRYLIC COATING LOCATED ON THE INTERIOR OF THE DUCT.
H. ALL CONCEALED SUPPLY OR OUTSIDE AIR DUCTWORK, REGARDLESS OF SHAPE, SHALL BE INSULATED WITH 1/2" FOIL FACED FIBERGLASS WRAP LOCATED ON THE EXTERIOR OF THE DUCT.
I. RETURN AND EXHAUST DUCTWORK MUST BE UN-INSULATED.

7. DRAINAGE PIPE (CONDENSATE)
   A. SHALL BE TYPE "N" COPPER PIPE WITH SOLDERED JOINTS. PITCH HORIZONTAL LINES 1/4" IN 1'-0". CONDENSATE DRAINS AND SHALL BE ROUTED TO FLOOR SINK OR INDIRECT WASTE DRAIN.

9. HVAC CONTROLS
   A. CONTRACTOR TO SUPPLY AND INSTALL ALL CONTROL WIRING AND THERMOSTATS AS REQUIRED.

10. ELECTRICAL
    A. CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR FOR LOCATION OF WIRING FOR EACH HVAC UNIT.

11. PIPE SUPPORTS
     A. ALL PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. THE USE OF WIRE OR METAL STRAP TO SUPPORT PIPES WILL NOT BE PERMITTED. SPACING OF PIPE SUPPORTS SHALL NOT EXCEED 3 FEET FOR ALL PIPING. PLASTIC PIPING TO BE SUPPORTED EVERY 4 FEET.

12. TESTING AND BALANCING
    A. NOT USED

13. GAS PIPING
    A. NOT USED

14. MISCELLANEOUS
    A. ALL EXTERIOR OPENINGS TO BE PROPERLY CAULKED AND SEALED WITH A SEALANT OF HIGH QUALITY AND LONG LIFE, TO PREVENT INFILTRATION OF OUTSIDE AIR INTO CONDITIONED SPACE.
   B. COORDINATE INSTALLATION OF ALL ROOF FLASHING AT ROOF PENETRATION.
   C. DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS, AND DIMENSIONS AT THE JOB SITE.
Connect new fixtures to existing plumbing this area
Reuse existing plumbing to greatest extent possible

Reconnect kitchen sink to existing plumbing
Reuse existing plumbing to greatest extent possible

Provide code compliant water, waste & vent piping for new fixtures this area

1/4" = 1'-0"

**Plumbing Fixture Schedule**

<table>
<thead>
<tr>
<th>MARK</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>SH</td>
<td>MISENO READYSET 60&quot; x 32&quot; x 78&quot; FIVE PANEL ALCOVE SHOWER WALL KIT MODEL: MSW786032-WT</td>
</tr>
<tr>
<td>LAV</td>
<td>PROFLO 19&quot; OVAL VITREOUS CHINA DROP-IN VANITY SINK w/ OVERFLOW AND 3 FAUCET HOLES AT 4&quot; CENTERS w/ DELTA LAHARA CENTERSET BATHROOM FAUCET w/ POP-UP DRAIN ASSEMBLY MODEL: 2538-SSMPU-DST</td>
</tr>
<tr>
<td>WC</td>
<td>AMERICAN STANDARD CADET PRO ELONGATED TWO-PIECE TOILET w/ EVERCLEAN SURFACE, POWERWASH RIM AND CHAIR HEIGHT BOWL - 10&quot; ROUGH IN...</td>
</tr>
<tr>
<td>WH</td>
<td>RHEEM PERFORMANCE 50 GAL. 4500/4500-WATT ELEMENTS ELECTRIC TANK WATER HEATER</td>
</tr>
<tr>
<td>KS</td>
<td>ELKAY KITCHEN SINK - DOUBLE BOWL STAINLESS STEEL (33&quot; L x 19.5&quot; W x 9.5&quot; D)</td>
</tr>
<tr>
<td></td>
<td>ASSUMES ELECTRIC TANK WATER HEATER</td>
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GENERAL NOTES

1. GENERAL NOTES

2. LEGEND AND ABBREVIATIONS

3. ELECTRICAL DEMOLITION PLAN

4. ELECTRICAL CONSTRUCTION PLAN

5. ELECTRICAL DEMOLITION PLAN NOTES

6. ELECTRICAL CONSTRUCTION PLAN NOTES

7. SCALE: 20'-0" = 1'-0"

8. GENERAL NOTES

INFORMATION CONTAINED IN THESE DRAWINGS WAS OBTAINED THROUGH HISTORICAL DRAWINGS AND AN ON-SITE REVIEW BY THE ENGINEER. 100% ACCURACY IS NOT REVIEW AND APPROVAL PRIOR TO PRODUCT AND EQUIPMENT PURCHASES.

PRODUCT AND EQUIPMENT SUBMITTALS ARE TO BE MADE TO THE ARCHITECT/ENGINEER FOR ELECTRICAL CONTRACTOR IS TO MAKE SITE VISITS AS NEEDED TO BECOME FAMILIAR WITH ELECTRICAL PLANS ARE GENERAL IN NATURE. ADJUST INSTALLATIONS DURING ROUTE CONDUIT PARALLEL AND PERPENDICULAR TO BUILDING STRUCTURE.

ELECTRICAL SYSTEMS ARE TO BE INSTALLED COMPLETE AND FULLY OPERATIONAL WHETHER NON METALLIC SHEATHED CABLE IS PERMITTED WHERE LEGAL BY CODE AND ALLOWED BY THE LABORATORY (NRTL) WHERE REQUIRED BY THE NEC. THE NRTL SHALL BE APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION.

ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS, LAWS, ORDINANCES, ETC. ALL WORK IS TO BE DONE IN A NEAT AND WORKMANLIKE MANNER. THE WORK PRIOR TO SUBMITTING FORMAL PRICING.

CAST IN CONCRETE WALLS MUST BE MAXIMUM 10'0" IN HEIGHT. EXISTING TO REMAIN, SPECIAL USE RECEPTACLE

SMOKE/CO COMBO ALARMS ARE TO BE INSTALLED SUCH THAT ACTIVATION OF ANY ONE ALARM IS TO ACTIVATE ALL ALARMS.

COORDINATE WORK WITH OTHER TRADES.

EXISTING TO REMAIN.

ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS, LAWS, ORDINANCES, ETC. ALL WORK IS TO BE DONE IN A NEAT AND WORKMANLIKE MANNER. THE WORK PRIOR TO SUBMITTING FORMAL PRICING.

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