Section 1: Project Information

Energy Code: **2009 IECC**
Project Title: Sames Bastrop Ford
Project Type: Alteration

<table>
<thead>
<tr>
<th>Construction Site:</th>
<th>Owner/Agent:</th>
<th>Designer/Contractor:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1115 TX-71</td>
<td>Sames Bastrop Ford</td>
<td></td>
</tr>
<tr>
<td>Bastrop, TX 78602</td>
<td></td>
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</tbody>
</table>

Section 2: General Information

Building Location (for weather data): Bastrop, Texas
Climate Zone: 2a

Section 3: Mechanical Systems List

<table>
<thead>
<tr>
<th>Quantity</th>
<th>System Type &amp; Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AHU-1 (Single Zone) :</td>
</tr>
<tr>
<td></td>
<td>Heating: 1 each - Other, Electric, Capacity = 153540 kBtu/h</td>
</tr>
<tr>
<td></td>
<td>No minimum efficiency requirement applies</td>
</tr>
<tr>
<td></td>
<td>Cooling: 1 each - Split System, Capacity = 143900 kBtu/h, Air-Cooled Condenser, No Economizer, Economizer exception: None</td>
</tr>
<tr>
<td></td>
<td>Proposed Efficiency = 11.00 EER, Required Efficiency = 9.70 EER</td>
</tr>
<tr>
<td></td>
<td>Fan System: None</td>
</tr>
</tbody>
</table>

| 1        | AHU-2 (Single Zone) :     |
|          | Heating: 1 each - Other, Electric, Capacity = 85300 kBtu/h |
|          | No minimum efficiency requirement applies |
|          | Cooling: 1 each - Split System, Capacity = 88000 kBtu/h, Air-Cooled Condenser, No Economizer, Economizer exception: None |
|          | Proposed Efficiency = 11.20 EER, Required Efficiency = 9.70 EER |
|          | Fan System: None |

| 1        | AHU-3 (Single Zone) :     |
|          | Heating: 1 each - Other, Electric, Capacity = 85300 kBtu/h |
|          | No minimum efficiency requirement applies |
|          | Cooling: 1 each - Split System, Capacity = 86600 kBtu/h, Air-Cooled Condenser, No Economizer, Economizer exception: None |
|          | Proposed Efficiency = 11.20 EER, Required Efficiency = 9.70 EER |
|          | Fan System: None |

| 1        | AHU-4 (Single Zone) :     |
|          | Heating: 1 each - Other, Electric, Capacity = 40944 kBtu/h |
|          | No minimum efficiency requirement applies |
|          | Cooling: 1 each - Split System, Capacity = 45230 kBtu/h, Air-Cooled Condenser, No Economizer, Economizer exception: None |
|          | Proposed Efficiency = 11.00 EER, Required Efficiency = 9.70 EER |
|          | Fan System: None |

| 1        | WH-1: Electric Storage Water Heater, Capacity: 50 gallons |
|          | Proposed Efficiency: 0.98 EF, Required Efficiency: 0.86 EF |

Section 4: Requirements Checklist

Requirements Specific To: AHU-1:
1. Equipment minimum efficiency: Split System: 9.70 EER (9.4 IPLV)
2. Discharge dampers prohibited with fan motors > 25 hp
3. Hot gas bypass prohibited unless system has multiple steps of unloading or continuous capacity modulation
4. Hot gas bypass limited to 25% of total cooling capacity

Requirements Specific To: AHU-2:
1. Equipment minimum efficiency: Split System: 9.70 EER (9.4 IPLV)
2. Discharge dampers prohibited with fan motors > 25 hp
3. Hot gas bypass prohibited unless system has multiple steps of unloading or continuous capacity modulation
4. Hot gas bypass limited to 25% of total cooling capacity

Requirements Specific To: AHU-3:
1. Equipment minimum efficiency: Split System: 9.70 EER (9.4 IPLV)
2. Discharge dampers prohibited with fan motors > 25 hp
3. Hot gas bypass prohibited unless system has multiple steps of unloading or continuous capacity modulation
4. Hot gas bypass limited to 25% of total cooling capacity

Requirements Specific To: AHU-4:
1. Equipment minimum efficiency: Split System: 9.70 EER (9.4 IPLV)
2. Discharge dampers prohibited with fan motors > 25 hp
3. Hot gas bypass prohibited unless system has multiple steps of unloading or continuous capacity modulation
4. Hot gas bypass limited to 25% of total cooling capacity

Requirements Specific To: WH-1:
1. Water heating equipment meets minimum efficiency requirements: Electric Water Heater efficiency: 0.86 EF (267 SL, Btu/h (if > 12 kW))
2. First 8 ft of outlet piping is insulated
3. Hot water storage temperature controls that allow setpoint of 90°F for non-dwelling units and 110°F for dwelling units.
4. Heat traps provided on inlet and outlet of storage tanks

Generic Requirements: Must be met by all systems to which the requirement is applicable:
1. Plant equipment and system capacity no greater than needed to meet loads
   Exception(s):
   - Standby equipment automatically off when primary system is operating
   - Multiple units controlled to sequence operation as a function of load
2. Minimum one temperature control device per system
3. Minimum one humidity control device per installed humidification/dehumidification system
4. Load calculations per ASHRAE/ACCA Standard 183.
5. Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup
   Exception(s):
   - Continuously operating zones
6. Outside-air source for ventilation; system capable of reducing OSA to required minimum
7. R-5 supply and return air duct insulation in unconditioned spaces
   R-8 supply and return air duct insulation outside the building
   R-8 insulation between ducts and the building exterior when ducts are part of a building assembly
   Exception(s):
   - Ducts located within equipment
   - Ducts with interior and exterior temperature difference not exceeding 15°F.
8. Mechanical fasteners and sealants used to connect ducts and air distribution equipment
9. Ducts sealed - longitudinal seams on rigid ducts; transverse seams on all ducts; UL 181A or 181B tapes and mastics
10. Hot water pipe insulation: 1.5 in. for pipes <=1.5 in. and 2 in. for pipes >1.5 in.
    - Chilled water/refrigerant/brine pipe insulation: 1.5 in. for pipes <=1.5 in. and 1.5 in. for pipes >1.5 in.
    - Steam pipe insulation: 1.5 in. for pipes <=1.5 in. and 3 in. for pipes >1.5 in.
   Exception(s):
   - Piping within HVAC equipment.
   - Fluid temperatures between 55 and 105°F.
   - Fluid not heated or cooled with renewable energy.
   - Piping within room fan-coil (with AHRI440 rating) and unit ventilators (with AHRI840 rating).
   - Runouts <4 ft in length.
11. Operation and maintenance manual provided to building owner
12. Thermostatic controls have 5°F deadband
   Exception(s):
   - Thermostats requiring manual changeover between heating and cooling
   - Special occupancy or special applications where wide temperature ranges are not acceptable and are approved by the authority
     having jurisdiction.

13. Balancing devices provided in accordance with IMC 603.17
14. Demand control ventilation (DCV) present for high design occupancy areas (>40 person/1000 ft² in spaces >500 ft²) and served by
    systems with any one of 1) an air-side economizer, 2) automatic modulating control of the outdoor air damper, or 3) a design outdoor
    airflow greater than 3000 cfm.
   Exception(s):
   - Systems with heat recovery.
   - Multiple-zone systems without DDC of individual zones communicating with a central control panel.
   - Systems with a design outdoor airflow less than 1200 cfm.
   - Spaces where the supply airflow rate minus any makeup or outgoing transfer air requirement is less than 1200 cfm.

15. Motorized, automatic shutoff dampers required on exhaust and outdoor air supply openings
   Exception(s):
   - Gravity dampers acceptable in buildings <3 stories

16. Automatic controls for freeze protection systems present
17. Exhaust air heat recovery included for systems 5,000 cfm or greater with more than 70% outside air fraction or specifically exempted
   Exception(s):
   - Hazardous exhaust systems, commercial kitchen and clothes dryer exhaust systems that the International Mechanical Code
     prohibits the use of energy recovery systems.
   - Systems serving spaces that are heated and not cooled to less than 60°F.
   - Where more than 60 percent of the outdoor heating energy is provided from site-recovered or site solar energy.
   - Heating systems in climates with less than 3600 HDD.
   - Cooling systems in climates with a 1 percent cooling design wet-bulb temperature less than 64°F.
   - Systems requiring dehumidification that employ energy recovery in series with the cooling coil.
   - Laboratory fume hood exhaust systems that have either a variable air volume system capable of reducing exhaust and makeup air
     volume to 50 percent or less of design values or, a separate make up air supply meeting the following makeup air requirements:
     a) at least 75 percent of exhaust flow rate, b) heated to no more than 2°F below room setpoint temperature, c) cooled to no lower
     than 3°F above room setpoint temperature, d) no humidification added, e) no simultaneous heating and cooling.

Section 5: Compliance Statement

Compliance Statement: The proposed mechanical alteration project represented in this document is consistent with the building plans,
specifications and other calculations submitted with this permit application. The proposed mechanical alteration project has been designed
to meet the 2009 IECC, Chapter 8, requirements in COMcheck Version 4.0.2.7 and to comply with the mandatory requirements in the
Requirements Checklist.

H. Escalante, Jr., P.E., - Principal
Name - Title
Signature
Date
02/16/2016

Section 6: Post Construction Compliance Statement NOT APPLICABLE

- HVAC record drawings of the actual installation, system capacities, calibration information, and performance data for each equipment
  provided to the owner.
- HVAC O&M documents for all mechanical equipment and system provided to the owner by the mechanical contractor.
- Written HVAC balancing and operations report provided to the owner.

The above post construction requirements have been completed.

Principal Mechanical Designer-Name
Signature
Date

H. Escalante, Jr., P.E., - Principal 02/16/2016