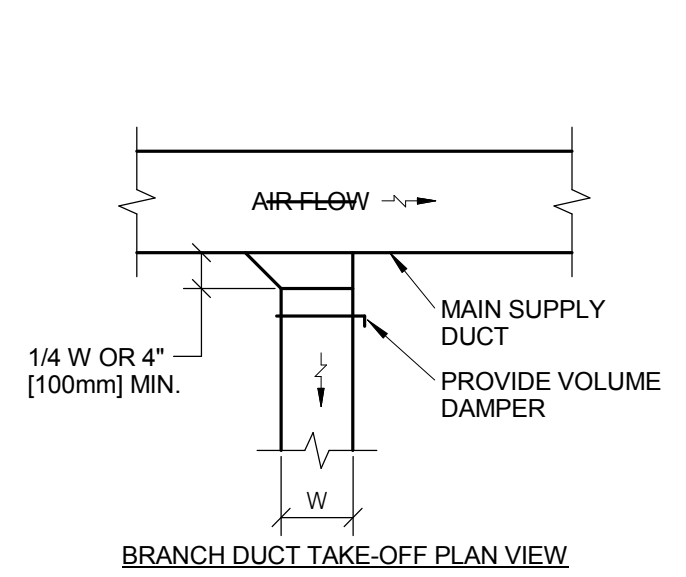
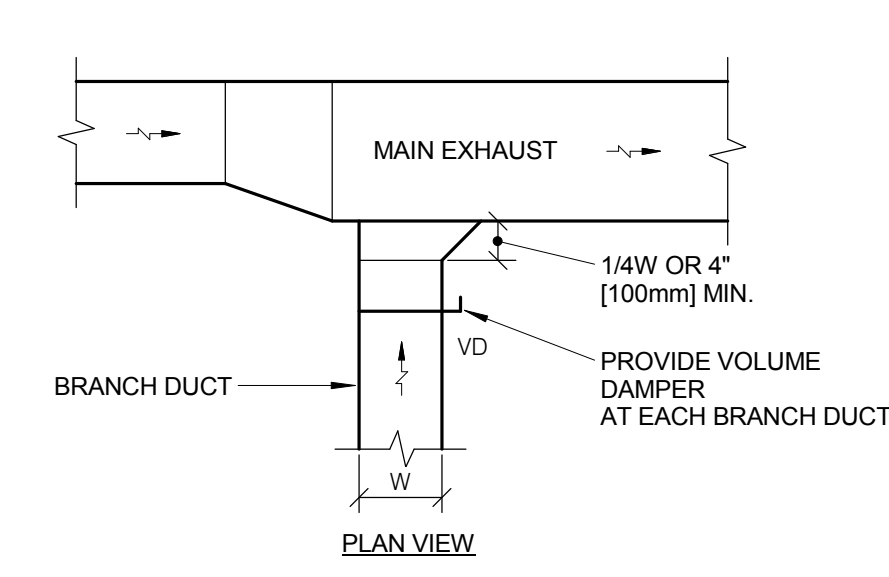


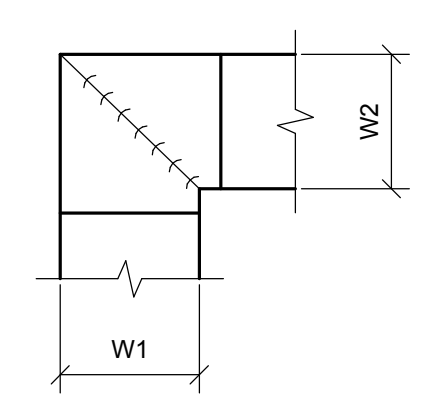
**1 CONCRETE EQUIPMENT BASES**  
NO SCALE



**2 SUPPLY DUCTWORK TAKE-OFFS**  
NO SCALE

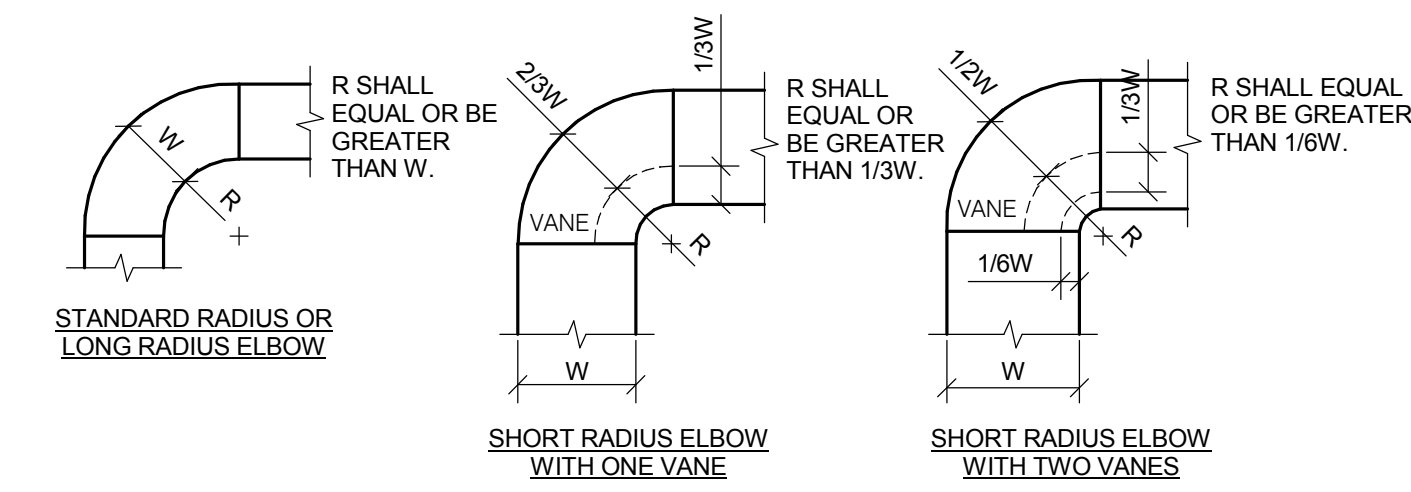


**3 EXHAUST OR RETURN BRANCH DUCTWORK**  
NO SCALE



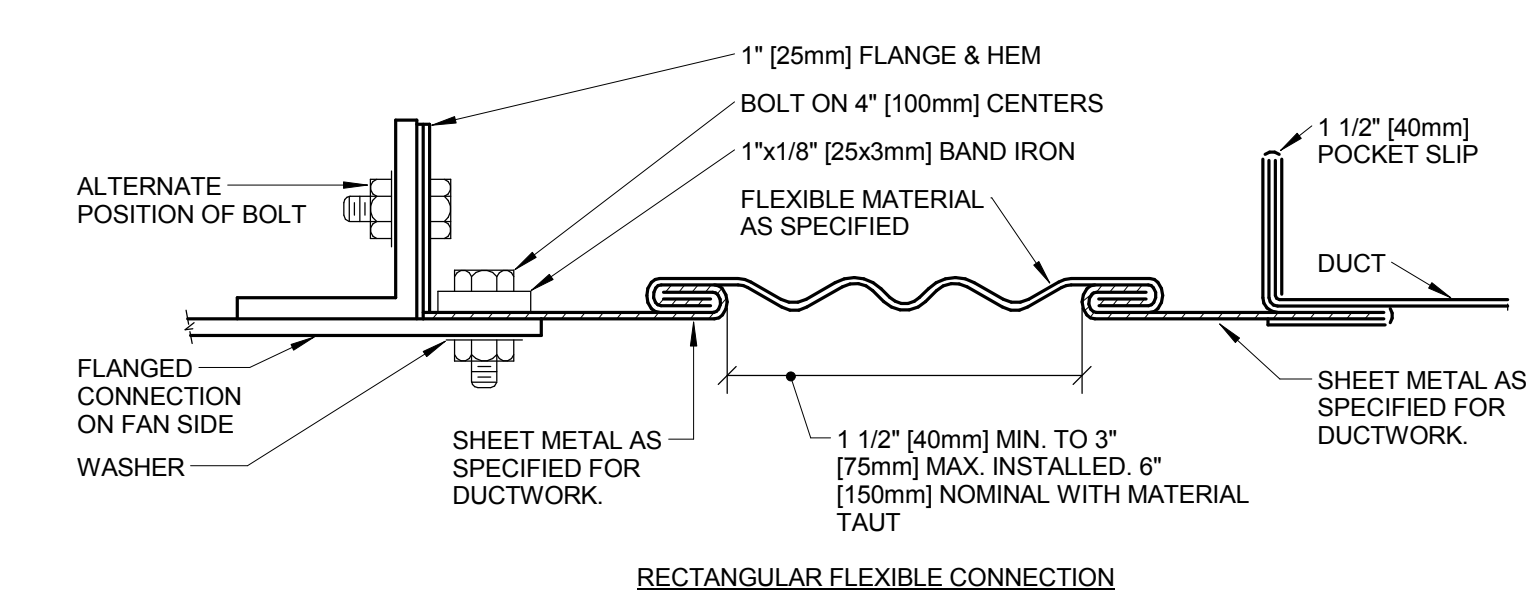
- NOTE:**
1. ALL VANE ELBOWS SHALL BE CONSTRUCTED AND INSTALLED AS DETAILED BY SMACNA.
  2. WHEN W1 DOES NOT EQUAL W2, VANE SHALL BE SINGLE THICKNESS VANE TYPE REGARDLESS OF W DIMENSION.
  3. ALL SINGLE THICKNESS VANES SHALL HAVE A 2" [50mm] RADIUS, 1 1/2" [40mm] MAXIMUM SPACE BETWEEN VANES AND A 3/4" [20mm] TRAILING EDGE.
  4. WHEN W EQUALS W2 AND W1 IS GREATER THAN 20" [500mm] VANES SHALL BE DOUBLE VANE TYPE.

**4 DUCTWORK SQUARE VANE ELBOWS**  
NO SCALE

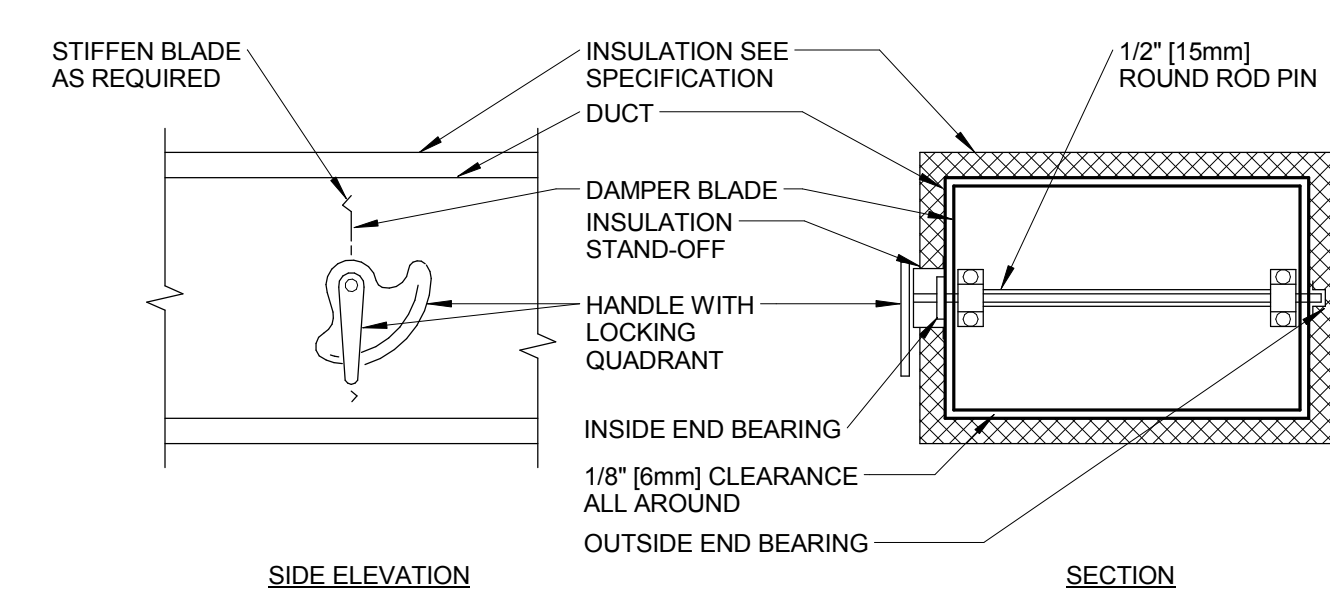


- NOTE:**
1. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.
  2. ALL STANDARD RADIUS ELBOWS CAN BE SUBSTITUTED WITH SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.

**5 DUCTWORK RADIUS ELBOWS**  
NO SCALE

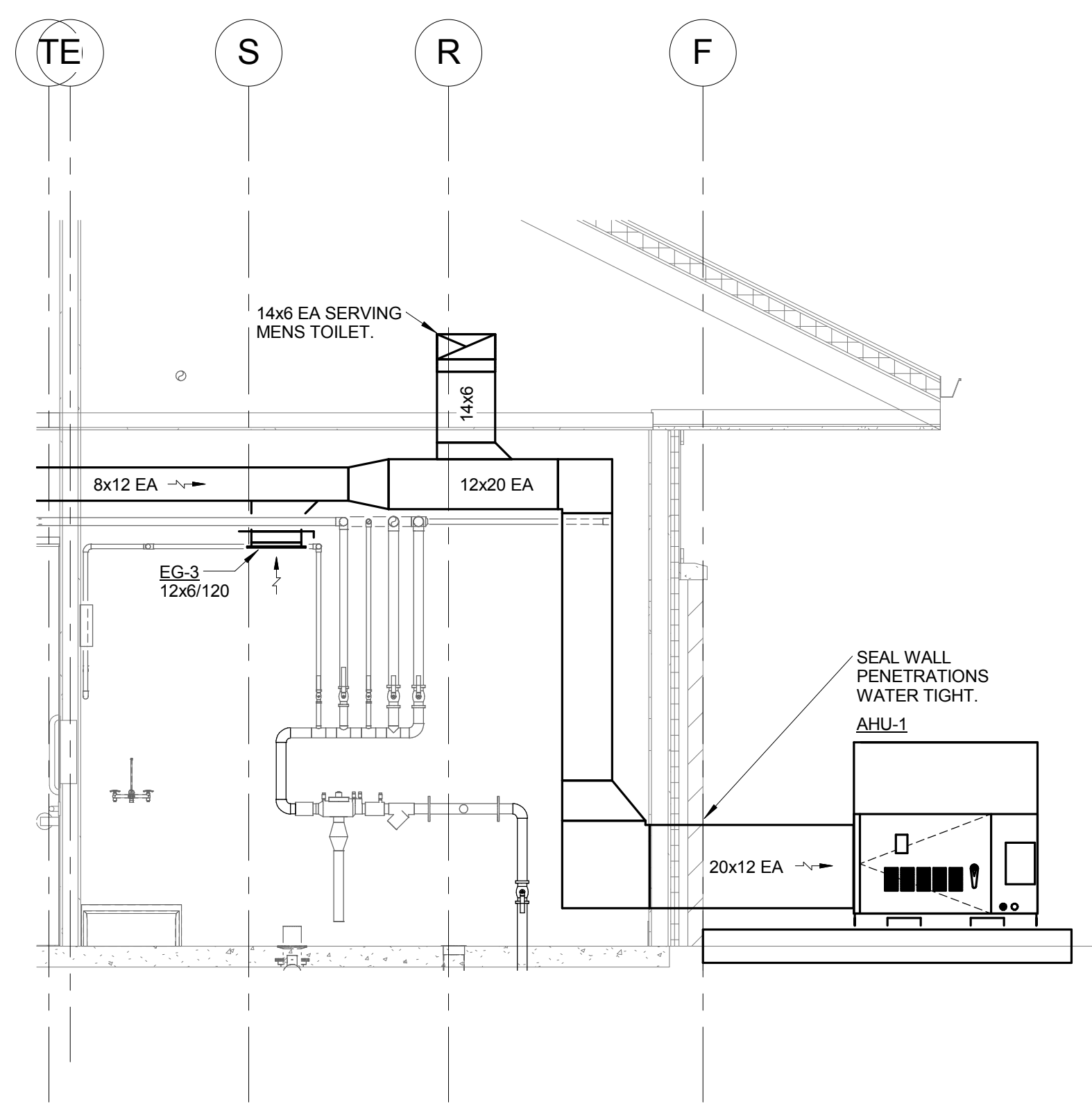


**6 FLEXIBLE DUCT CONNECTIONS**  
NO SCALE

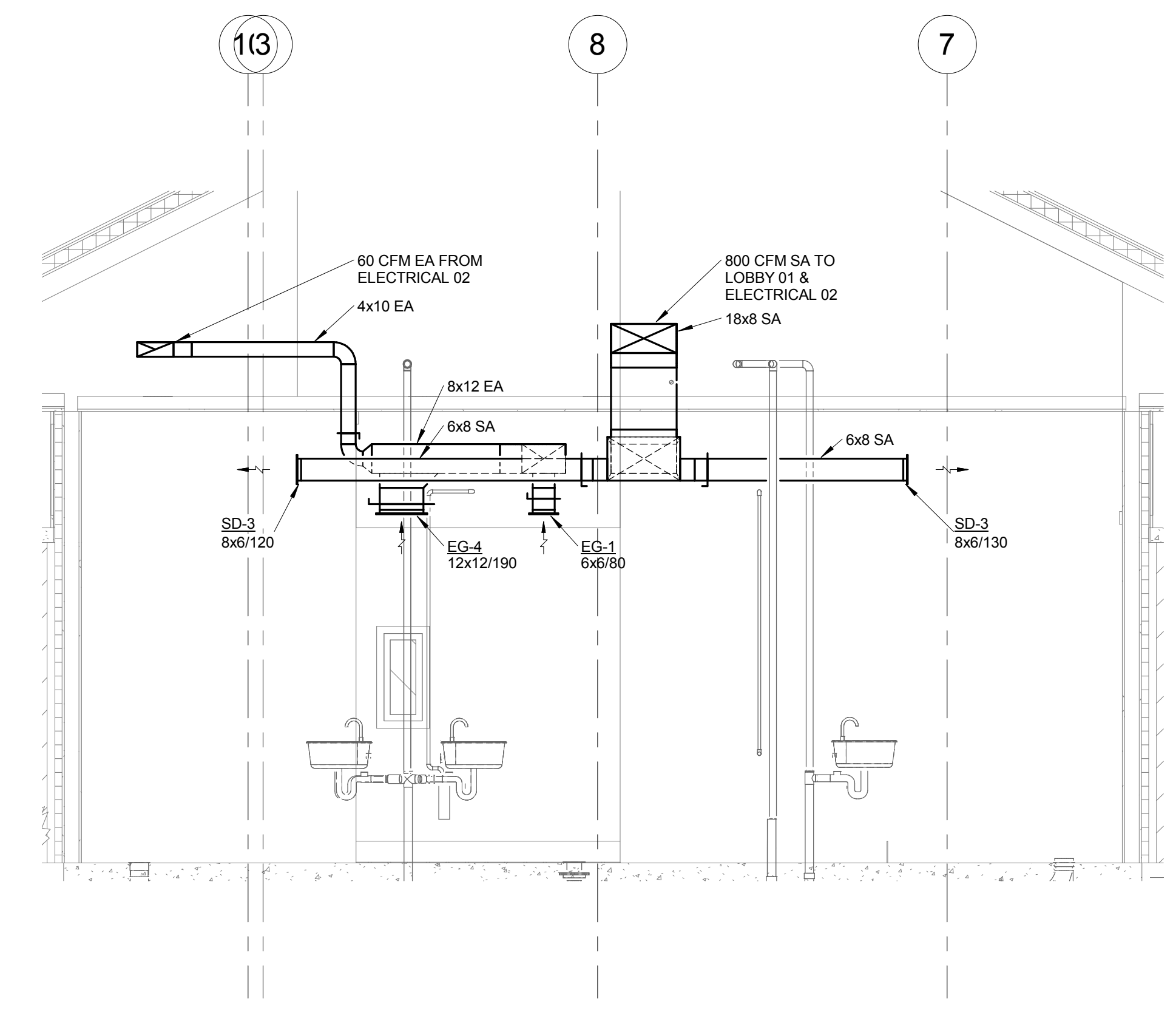


- NOTE:**
1. DELETE INSULATION STAND-OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
  2. DETAIL SHOWS SINGLE BLADE DAMPER. DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI-BLADE DAMPERS & ROUND DAMPERS.

**7 VOLUME DAMPER DETAIL**  
NO SCALE



**8 AIR HANDLER SECTION FACING EAST**  
3/8" = 1'-0"



**9 DUCTWORK SECTION FACING EAST**  
3/8" = 1'-0"

**CONSULTANTS:**

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SIGNATURE: [Signature]  
DATE: 08-06-15  
LICENSE #: 062.062024

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**HVAC DETAILS**  
Approved: Project Director

Project Title  
**FT. SAM HOUSTON NATIONAL CEMETERY RESTROOMS**  
Location  
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Date  
08/06/2015  
Checked  
WADROS  
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JOHMAS

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Dwg. 39 of 49

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