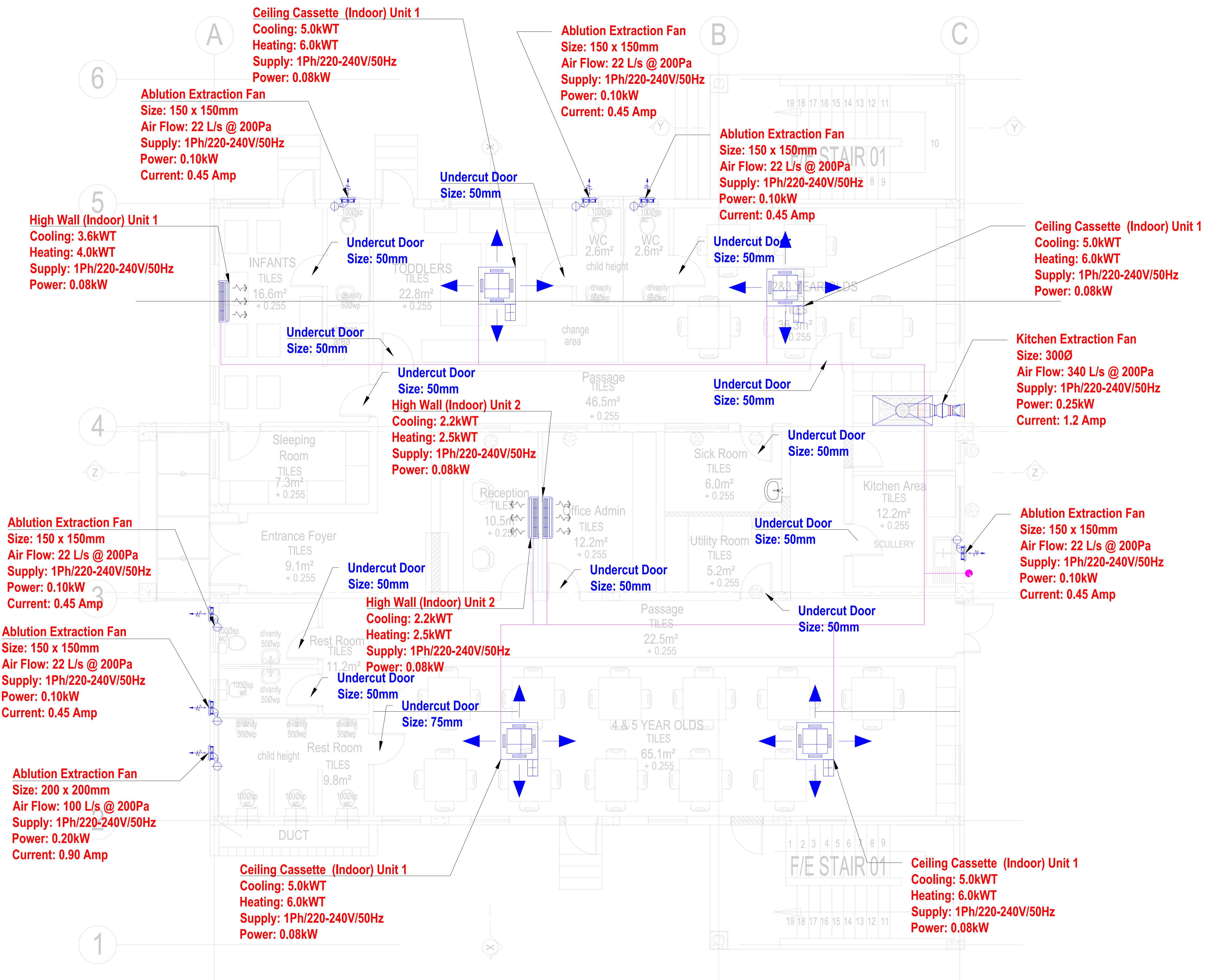


# GROUND FLOOR - HVAC



**NOTES:**  
 The Notes below are applicable to all Heating Ventilation & Air Conditioning (HVAC) system Duct Work installed by the Contractor

**Reference Standards**  
 All Ductwork Installations shall conform to SANS 1238:2005  
 All Ductwork Installations Hangers, Testing and Balancing shall conform to SANS 10173:2003  
 All Ductwork Fire Damper Installations shall conform to SANS 193

**Duct Work Material and Insulation**  
 All air supply duct work (Circular or Rectangular), shall be flanged double wall duct skin galvanized steel with insulation in between the walls. In special cases or where specified and approved in writing by the Engineer, the duct work may be galvanized steel externally insulated. Only 25mm thick Reflective Duct

All extraction air duct work (Circular or Rectangular), shall be galvanized steel without any insulation or termed un-insulated galvanized steel ducting

The use of insulated or un-insulated flexible ducting is strictly prohibited. In special cases or where specified and approved in writing by the Engineer, the flexible ducting may be used.

The use Flexible Joints shall be provided for the suction and delivery connections of fans, air handling units, between two ducts and air terminals, for expansion joints inside buildings, and at such other positions as are specified by the design engineer. The material for the flexible joints shall be limited to fire resistant/retardant material of either:  
 1. Polyester fabric with PVC coating secured to galvanized steel on both sides or  
 2. Fibreglass fabric with PU or Neoprene coating secured to galvanized steel on both sides only

The use Flexible Joints shall not exceed 100mm in material, and the fastening method shall be strictly as per Figure 2 - Fastening of flexible material to metal ductwork (for low-pressure and medium pressure rectangular ductwork) found in SANS 1238:2005.

**REVISIONS**

REVISIONS	DESCRIPTIONS	DATE
00	HVAC LAYOUT	07-JUN-23

cad file name: \_\_\_\_\_ page type: A1

**CLIENT:**

**EKURHULENI HOUSING COMPANY**  
 Hanover Building, Cnr Hendrick Potgieter & 7th Ave, Edenvale, 16009  
 Tel: 011 825 0158  
 Fax: 086 218 8529  
 Email: info@ehco.org.za

**CONSULTANT:**

**AES CONSULTING**  
 Kildrummy Office Park  
 Jamestown Building 1<sup>st</sup> Floor  
 Cnr Umhlanga Avenue & Witkoppen Paulshof, Sandton, 2191  
 Tel: 011 234 0711  
 Fax: 086 218 8529  
 Email: admin@aescconsulting.co.za

**DISCIPLINE:**  
 MECHANICAL

**PROJECT NAME:**  
 Completion of Construction works at ERF 808 Germiston Fire Station Phase II Social Housing Project.

**PROJECT ADDRESS:**  
 299 Victoria Street  
 Germiston, JHB, 1401

ISSUED FOR : CONSTRUCTION

REV:00

**DRAWING TITLE:**  
 Ground Floor: HVAC Layout

Project no.: EHCPS/2021      Designed : T.C MANGO  
 scale AS SHOWN      Drawn : T. NZVENGE  
 date 07-Oct-22      Checked : T.C MANGO  
 Pr. No. : 201521281      Signature: *T.C Mango*

Approved by : C.BHEBHE  
 Pr. No. : 0/2350/2016  
 Signature: *[Signature]*

**DRAWING NUMBER:**  
 AES/MECH/ERF808/ME-H001

**CLIENT APPROVAL:**

Approved by : \_\_\_\_\_  
 Pr. No. : \_\_\_\_\_  
 Designation : \_\_\_\_\_  
 Signature: \_\_\_\_\_

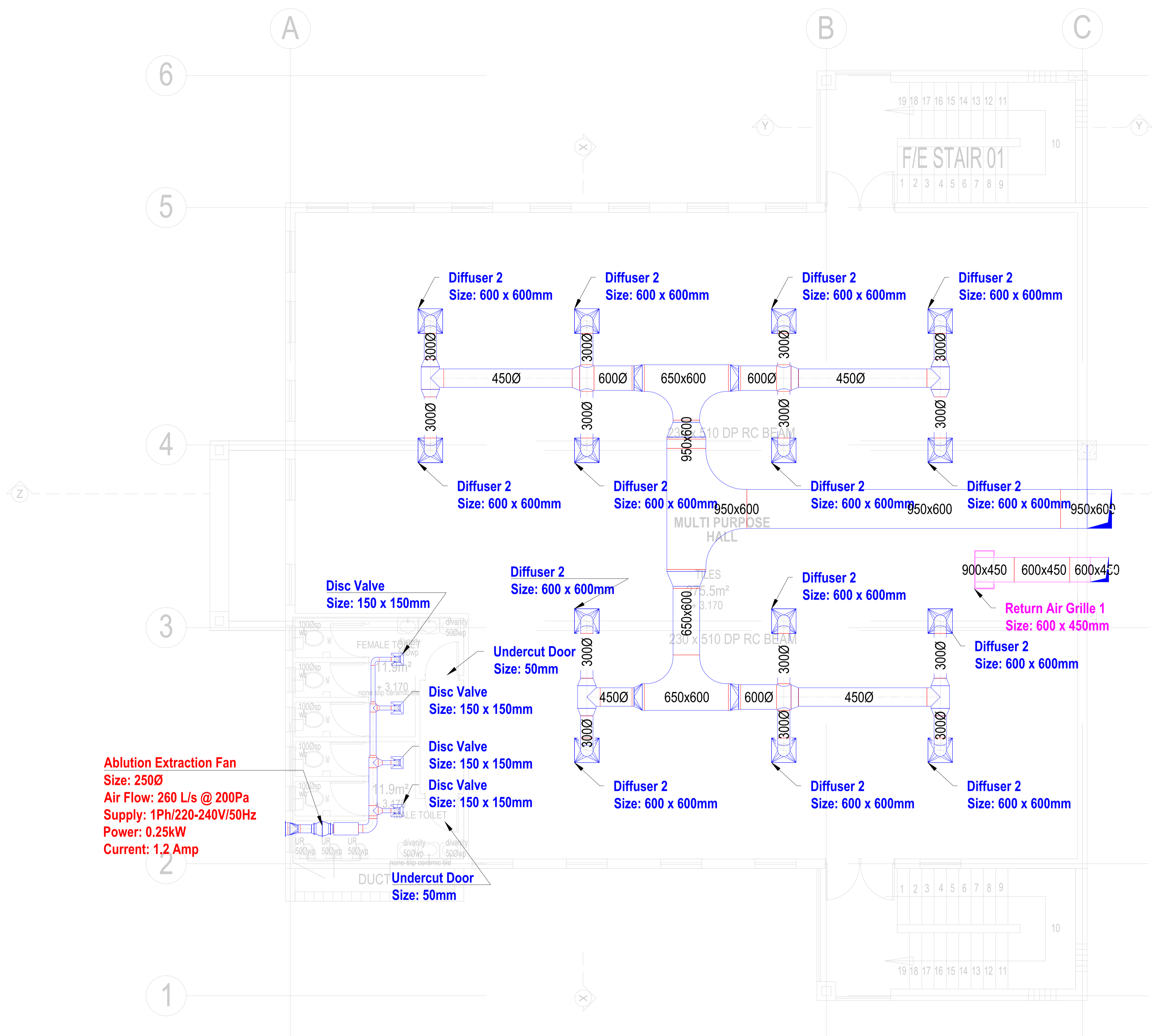
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 scale NTS

**FOR CONSTRUCTION**



# SECOND FLOOR - HVAC



**Ablution Extraction Fan**  
 Size: 250Ø  
 Air Flow: 260 L/s @ 200Pa  
 Supply: 1Ph/220-240V/50Hz  
 Power: 0.25kW  
 Current: 1,2 Amp

**NOTES:**  
 The Notes below are applicable to all Heating Ventilation & Air Conditioning (HVAC) system Duct Work installed by the Contractor

**Reference Standards**  
 All Ductwork Installations shall conform to SANS 1238:2005  
 All Ductwork Installations Hangers, Testing and Balancing shall conform to SANS 10173:2003  
 All Ductwork Fire Damper Installations shall conform to SANS 193

**Duct Work Material and Insulation**  
 All air supply duct work (Circular or Rectangular), shall be flanged double wall dual skin galvanized steel with insulation in between the walls. In special cases or where specified and approved in writing by the Engineer, the duct work may be galvanized steel externally insulated. Only 25mm thick Reflective Duct

All extraction air duct work (Circular or Rectangular), shall be galvanized steel without any insulation or termed un-insulated galvanized steel ducting

The use of insulated or un insulated flexible ducting is strictly prohibited. In special cases or where specified and approved in writing by the Engineer, the flexible ducting may be used.

The use Flexible Joints shall be provided for the suction and delivery connections of fans, air handling units, between two ducts and air terminals, for expansion joints inside buildings, and at such other positions as are specified by the design engineer. The material for the flexible joints shall be limited to fire resistant/retardant material of either:

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2. Fibreglass fabric with PU or Neoprene coating secured to galvanized steel on both sides only

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**REVISIONS**

REVISIONS	DESCRIPTIONS	DATE
00	HVAC LAYOUT	07-JUN-23

cad file name: \_\_\_\_\_ page type: A1

**CLIENT:**



**EKURHULENI HOUSING COMPANY**  
 Hanover Building, Cnr Hendrick Potgieter & 7th Ave, Edenburg, 1609  
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**CONSULTANT:**



**AES CONSULTING**  
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 Email: admin@aesconsulting.co.za

**DISCIPLINE:**  
 MECHANICAL

**PROJECT NAME:**  
 Completion of Construction works at ERF 808 Germiston Fire Station Phase II Social Housing Project.

**PROJECT ADDRESS:**  
 299 Victoria Street  
 Germiston, JHB, 1401

ISSUED FOR : CONSTRUCTION

REV:00

DRAWING TITLE:  
 Second Floor: HVAC Layout

Project no.: EHCPS/2021  
 scale AS SHOWN  
 date 07-Oct-22

Designed : T.C MANGO  
 Drawn : T. NZVENGE  
 Checked : T.C MANGO  
 Pr. No. : 201521281

Approved by : C.BHEBHE  
 Pr. No. : 0/2350/2016  
 Signature: *[Signature]*

Signature: *[Signature]*

DRAWING NUMBER:  
**AES/MECH/EHF808/ME-H003**

CLIENT APPROVAL:

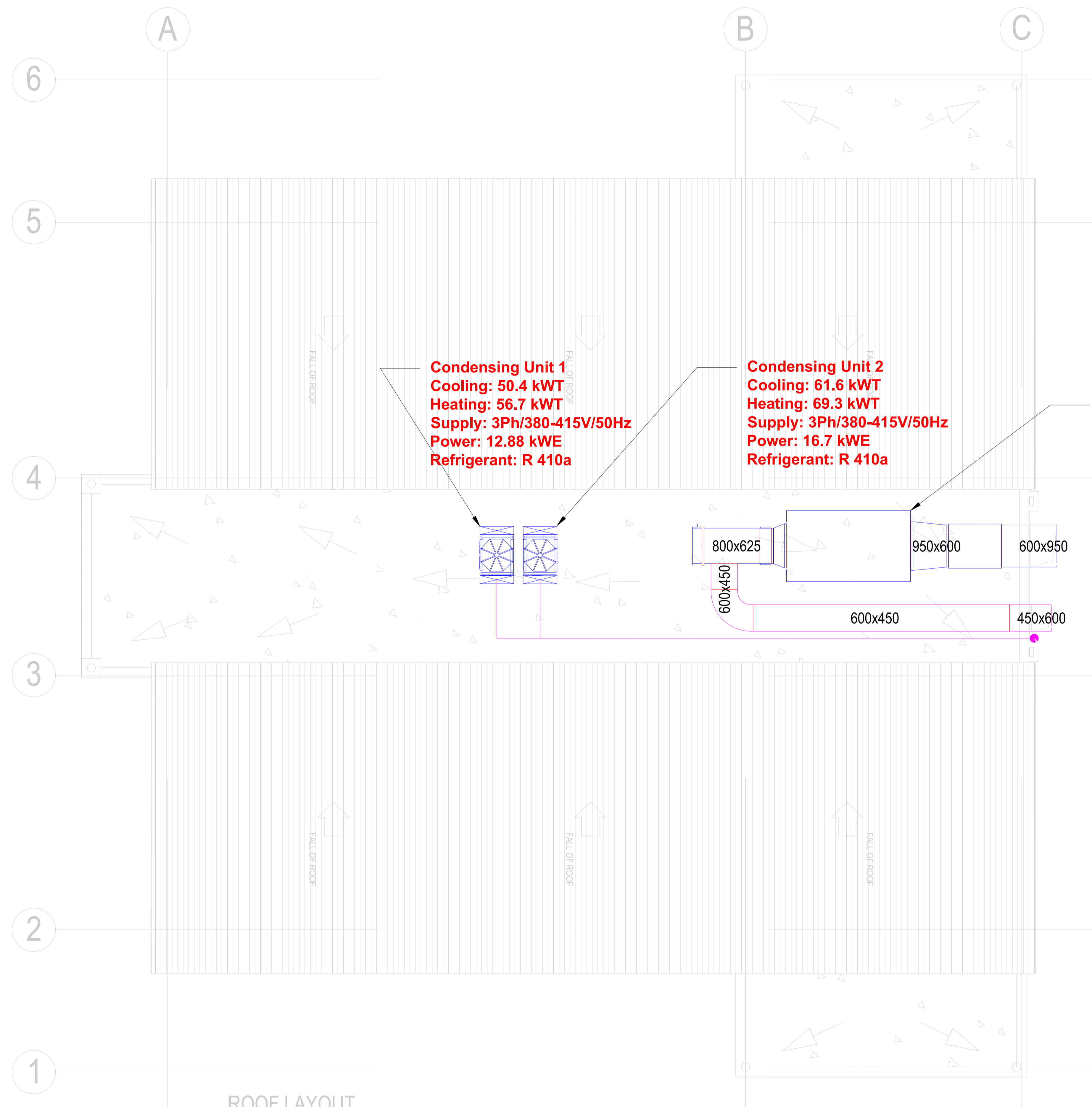
Approved by : \_\_\_\_\_  
 Pr. No. : \_\_\_\_\_  
 Designation : \_\_\_\_\_  
 Signature: \_\_\_\_\_

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 scale NTS

**FOR CONSTRUCTION**

# ROOF - HVAC



ROOF LAYOUT  
SCALE 1:100

Insert Drawing Title  
scale NTS

**FOR CONSTRUCTION**

**NOTES:**  
The Notes below are applicable to all Heating Ventilation & Air Conditioning (HVAC) system Duct Work installed by the Contractor

**Reference Standards**  
All Ductwork Installations shall conform to SANS 1238:2005  
All Ductwork Installations Hangers, Testing and Balancing shall conform to SANS 10173:2003  
All Ductwork Fire Damper Installations shall conform to SANS 193

**Duct Work Material and Insulation**  
All air supply duct work (Circular or Rectangular), shall be flanged double wall dual skin galvanized steel with insulation in between the walls. In special cases or where specified and approved in writing by the Engineer, the duct work may be galvanized steel externally insulated. Only 25mm thick Reflective Duct

All extraction air duct work (Circular or Rectangular), shall be galvanized steel without any insulation or termed un-insulated galvanized steel ducting

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**REVISIONS**

REVISIONS	DESCRIPTIONS	DATE
00	HVAC LAYOUT	07-JUN-23

cad file name \_\_\_\_\_ page type A1

**CLIENT:**



**EKURHULENI HOUSING COMPANY**  
Hanover Building, Cnr Hendrick Potgieter & 7th Ave, Edenburg, 1609  
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Email: info@ehco.org.za

**CONSULTANT:**



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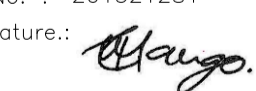
**DISCIPLINE:**  
MECHANICAL

**PROJECT NAME:**  
Completion of Construction works at ERF 808 Germiston Fire Station Phase II Social Housing Project.

**PROJECT ADDRESS:**  
299 Victoria Street  
Germiston, JHB, 1401

ISSUED FOR : CONSTRUCTION

REV:00  
DRAWING TITLE:  
Roof: HVAC Layout

Project no.: EHCPS/2021	Designed : T.C MANGO
scale AS SHOWN	Drawn : T. NZVENGE
date 07-Oct-22	Checked : T.C MANGO Pr. No. : 201521281
Approved by : C.BHEBHE Pr. No. : 0/2350/2016 Signature: 	Signature: 

DRAWING NUMBER:  
**AES/MECH/ERF808/ME-H004**

**CLIENT APPROVAL:**

Approved by : \_\_\_\_\_  
Pr. No. : \_\_\_\_\_  
Designation : \_\_\_\_\_  
Signature: \_\_\_\_\_

STAMP:

# SECTION - HVAC

**Condensing Unit 2**  
 Cooling: 61.6 kW  
 Heating: 69.3 kW  
 Supply: 3Ph/380-415V/50Hz  
 Power: 16.7 kWE  
 Refrigerant: R 410a  
 Weight: 310kg

**Condensing Unit 1**  
 Cooling: 50.4 kW  
 Heating: 56.7 kW  
 Supply: 3Ph/380-415V/50Hz  
 Power: 12.88 kWE  
 Refrigerant: R 410a  
 Weight: 310kg

**Air Handling Unit**  
 Alliance Inverter (Packaged Unit)  
 Cooling: 53 kW  
 Heating: 56 kW  
 Air Supply: 3300 L/s @ 300Pa  
 Supply: 3Ph/380-415V/50Hz  
 Power: 25.0 kWE  
 Current: 46.1 Amp  
 Weight: 850kg



**NOTES:**  
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**REVISIONS**

REVISIONS	DESCRIPTIONS	DATE
00	HVAC LAYOUT	07-JUN-23

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**CLIENT:**



**EKURHULENI HOUSING COMPANY**  
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**DISCIPLINE:**  
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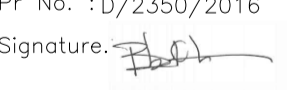

**PROJECT NAME:**  
 Completion of Construction works at ERF 808 Germiston Fire Station Phase II Social Housing Project.

**PROJECT ADDRESS:**  
 299 Victoria Street  
 Germiston, JHB, 1401

ISSUED FOR : CONSTRUCTION

REV:00

**DRAWING TITLE:**  
 Section: HVAC Layout

Project no.: EHCPS/2021	Designed : T.C MANGO
scale AS SHOWN	Drawn : T. NZVENGE
date 07-Oct-22	Checked : T.C MANGO Pr. No. : 201521281
Approved by : C.BHEBHE Pr. No. : D/2350/2016 Signature: 	Signature: 

**DRAWING NUMBER:**  
 AES/MECH/ECH/ERF808/ME-H005

**CLIENT APPROVAL:**

Approved by : \_\_\_\_\_  
 Pr. No. : \_\_\_\_\_  
 Designation : \_\_\_\_\_  
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 scale NTS

**FOR CONSTRUCTION**