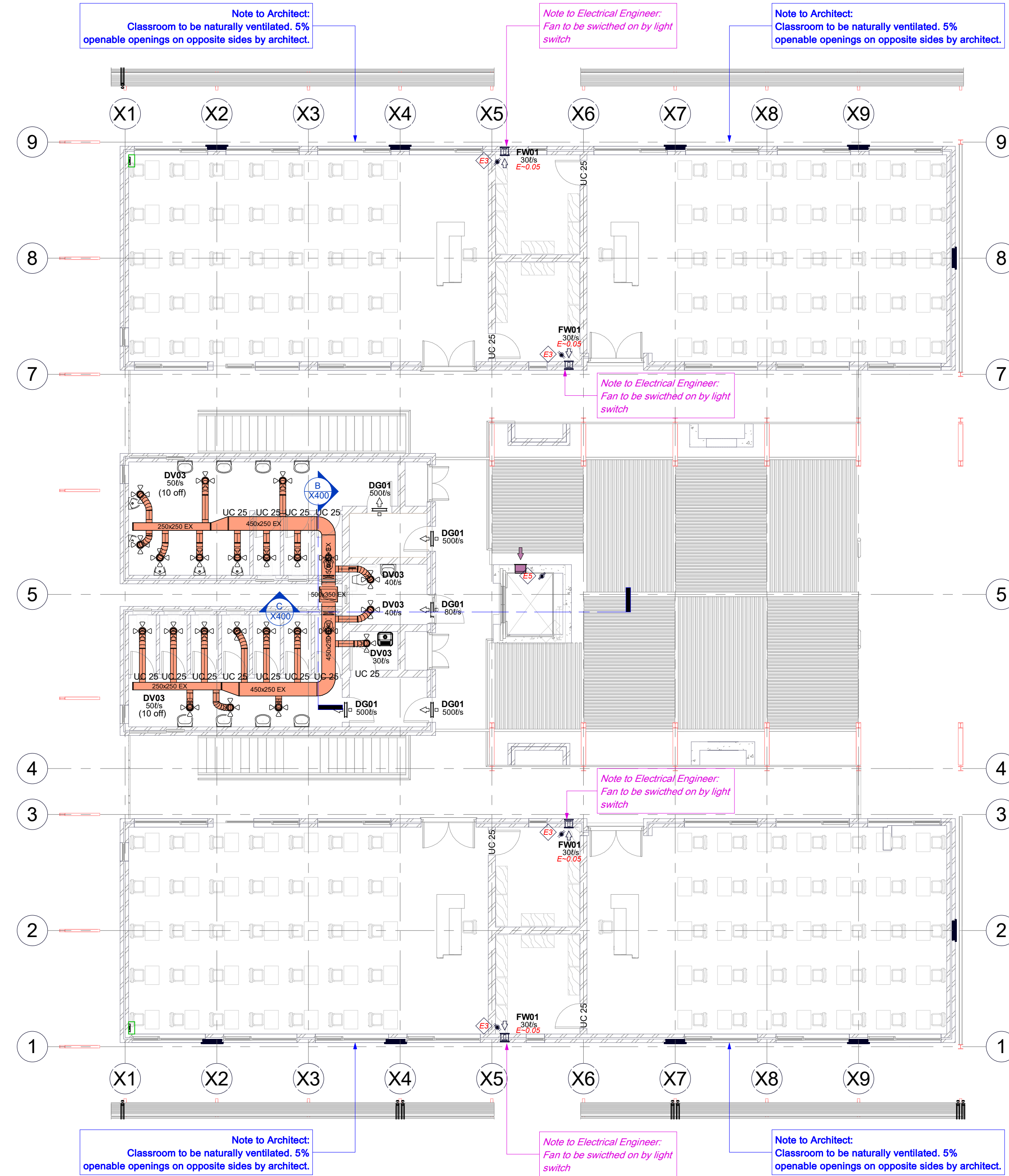
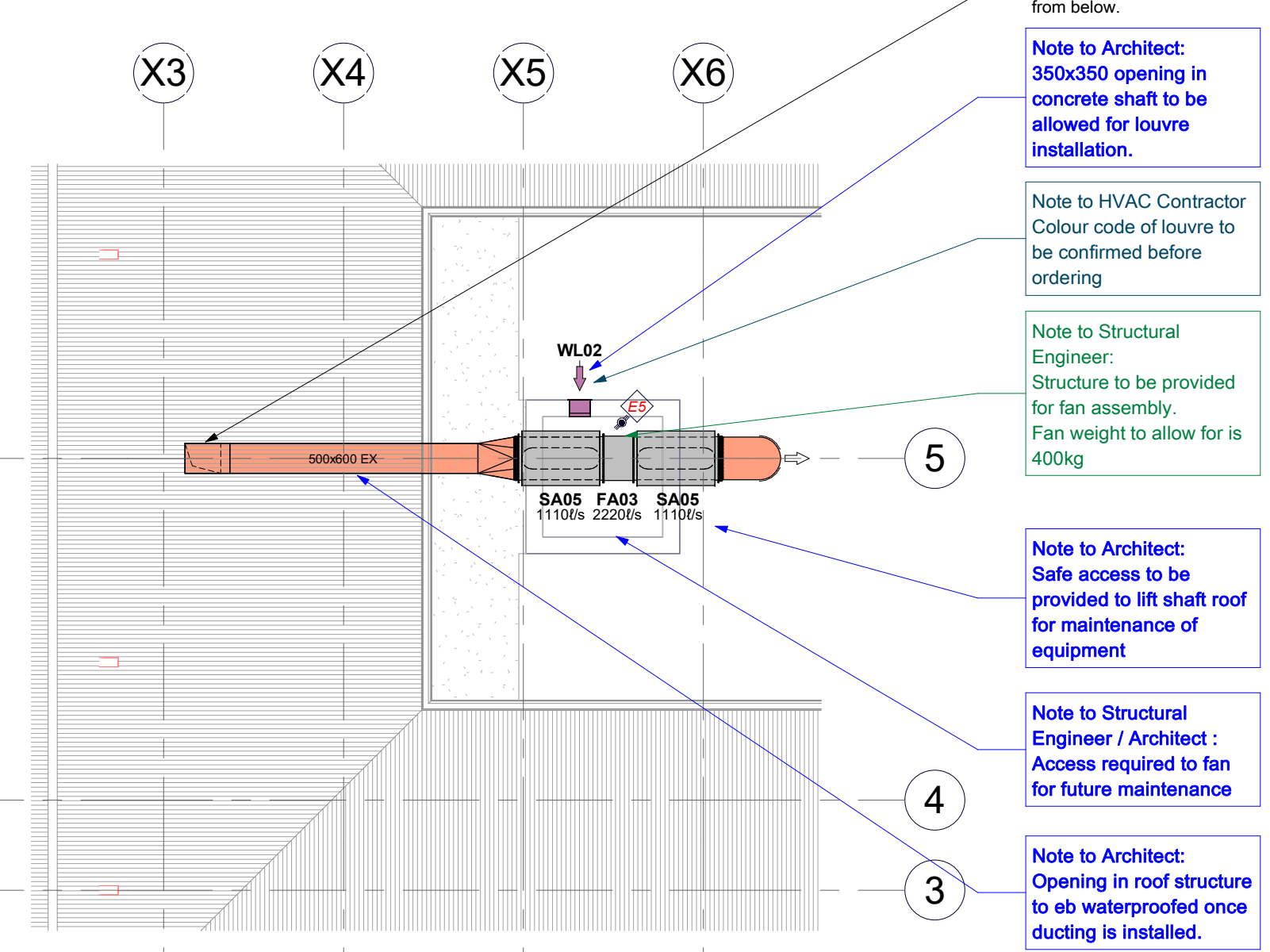


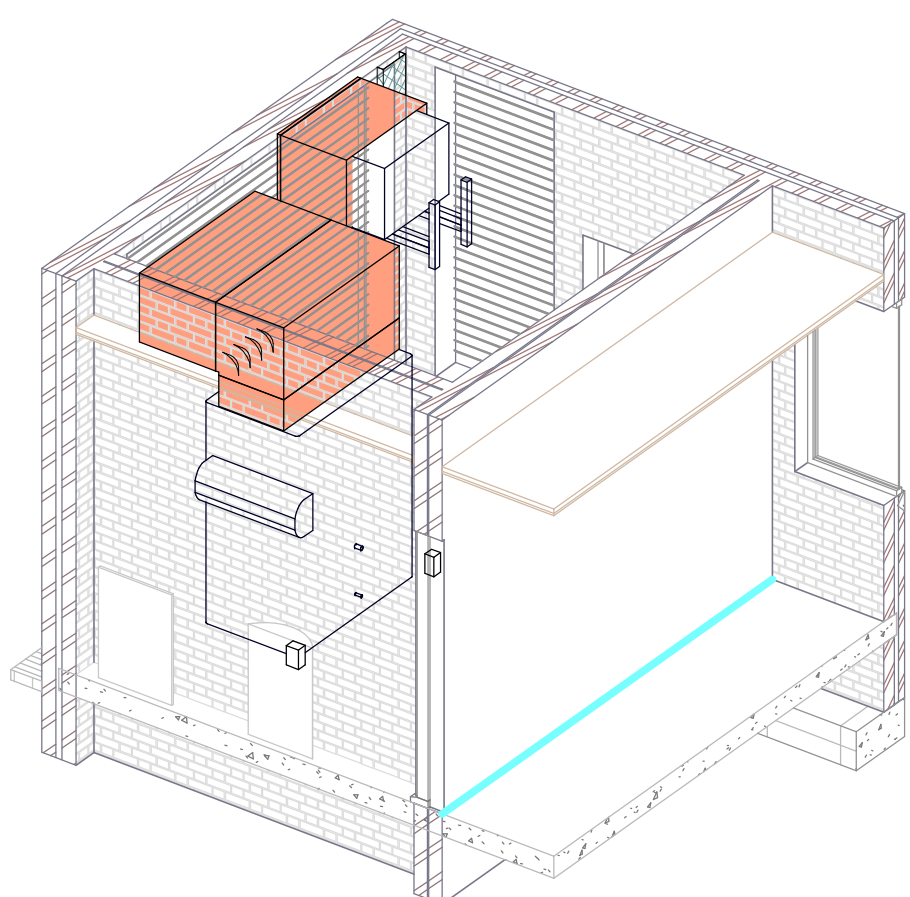
# Building X Ground Floor HVAC Layout



# Building X First Floor HVAC Layout



### Building X Roof Level HVAC Layout



Typical Plantroom 3D

[illegible]

## Standard Mechanical Notes:

This drawing shall not be used as a construction/installation drawing.






Routes and zones have been allocated to this service, locations/dimensions are indicated in these.

To prepare his construction/installation drawing, the (sub) contractor shall adhere to this co-ordination principle and shall inspect all the architect's drawings, including structural and other services design drawings pertaining to the works. The (sub) contractor shall acquaint himself/her with the general arrangement of all other services and ensure that the fitting/installation of his/her service shall not obstruct the fitting/maintenance of other services.

The (sub) contractor shall be responsible for the correct field dimensions: clearances and heights, quantities, fabrication processes and techniques of construction co-ordination of his/her work with that of all other trades, providing all devices necessary for safe and satisfactory operation.

Legend:

### Ducting

	Externally insulated supply air ducting
	Uninsulated return air ducting
	Uninsulated fresh air ducting
	Uninsulated Extract air ducting
	Internal lining
	External insulation

### Fire Legend

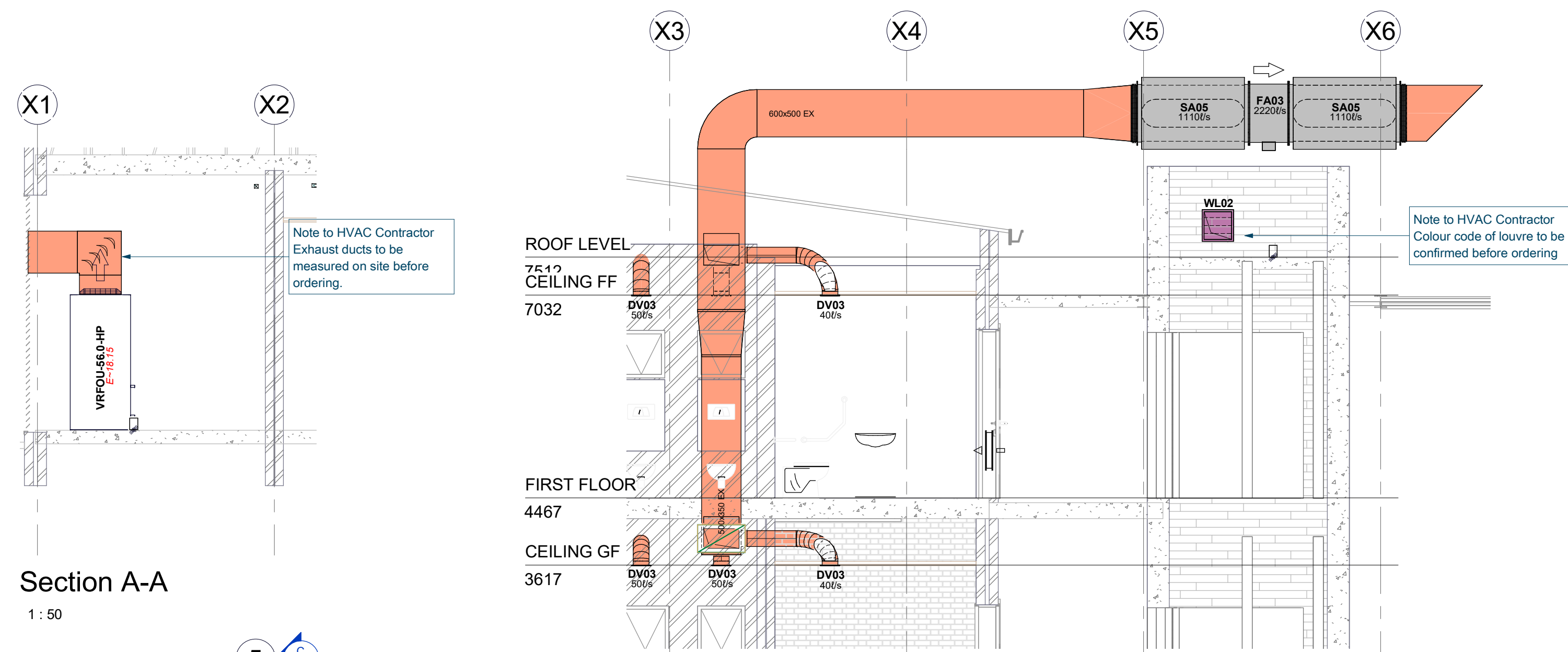
- Input/Output relay and transformer for fire damper control and interface (by HVAC sub-contractor)
- Smoke interface unit (by smoke detection contractor)

## Plumbing

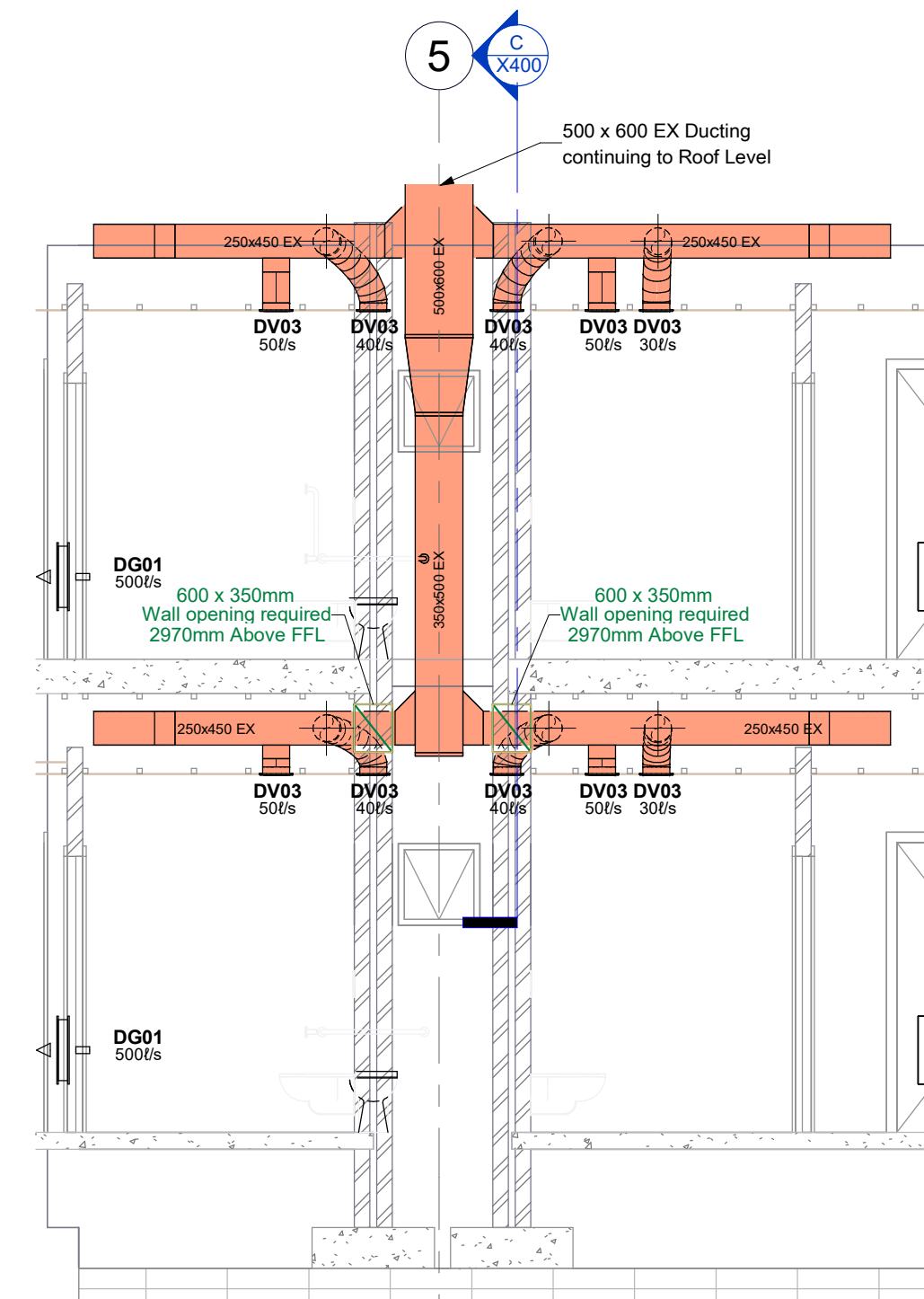
- Drain point **ABOVE CEILING** by plumber  
Refer to Unit details
- Drain point **BELOW CEILING** by plumber  
Refer to Unit details
- ⊕ Full bore drain point by plumber
- ø50mm make up water point by plumber
- Drain Point at floor Level by plumber

Electrical:

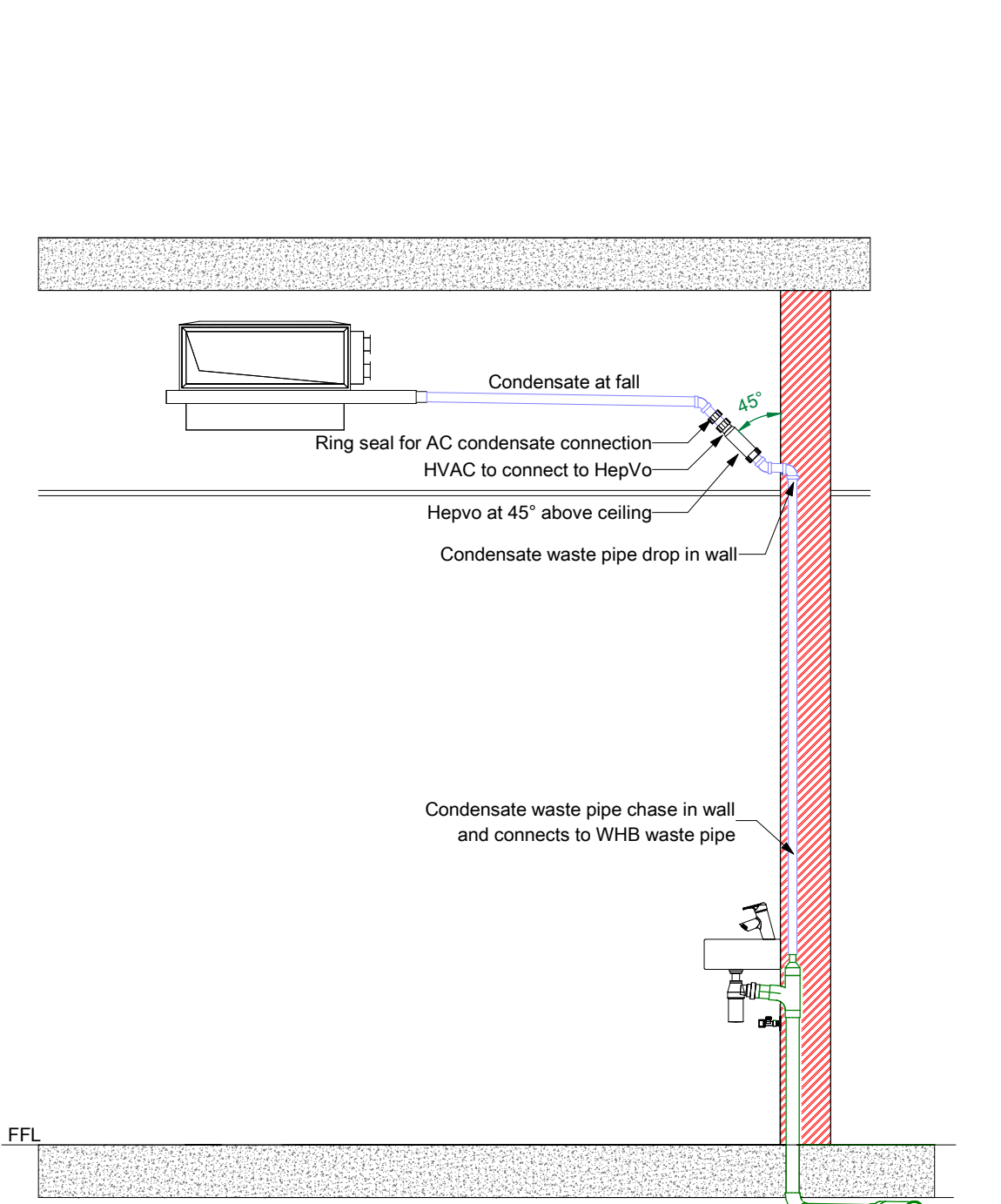
- Single phase electrical isolator by electrical sub-contractor
- Three phase electrical isolator by electrical sub-contractor
- E-# Equipment Electrical load in kW
- H-# Air Terminal heating load in kW equal to electrical load
- Ⓢ Sensor / Setpoint adjuster at 1100 AFFL Ø20mm conduit chased into wall with



Section A-A



Section B-B



### Detail - Typical Condensate to WHB Connection

Master - Sound Attenuator Schedule									
Code	Type	Physical Properties				Air Flow (l/s)	Pressure Drop (Pa)	No. Off	Notes
		Width (mm)	Height (mm)	Diameter (mm)	Depth (mm)				
SA04	Cylindrical 2D+Pod			315	630	280	20	4	
SA05	Cylindrical 2D+Pod			710	1420	1110	20	2	

Master - Fans Schedule											
Code	Type	Diameter (Ømm)	Air Flow (m³/s)	Pressure		Power		Variable Speed (Yes/No)	Smoke Rated (Yes/No)	No. Off	Notes
				Static (Pa)	Total (Pa)	Power (Watt)	Absorbed (kW)				
F403	Axial	710	2220	250	265	4000/350	0.92	1.1	No	No	Build X: Total Exhaust
T15	Titan	280	280	250	295	2311/150	0.3	0.5	No	2	Build X: Fresh Air
FW01	Wall Fan	150	30	10	35	2311/150	0.3	0.5	No	4	

Master - Filters Schedule													
Code	Type	Air Flow (m³/s)	Physical Properties			Filtration			ISO Classification	Resistance		No. Off	Notes
			Width (mm)	Height (mm)	Depth (mm)	Face Velocity (m/s)	Efficiency (%)	Arrestance (%)		Initial Clean (Pa)	Final Dirty (Pa)		
FB02	Primary	280	600	300	50	2.5	35%	92%	G4	60	200	2	

Master - Dampers Schedule														
Code	Type	Control	Blade	Physical Properties			Air Flow (l/s)	Pressure Drop (pa)	Power		Fire		No. Off	Notes
				Width (mm)	Height (mm)	Diameter (mm)			Absorbed (kW)	Power (V/1/Hz)	Input Output	Interlock		
D4/2	Balancing Damper	Manual	Butterfly			200	70	2					8	

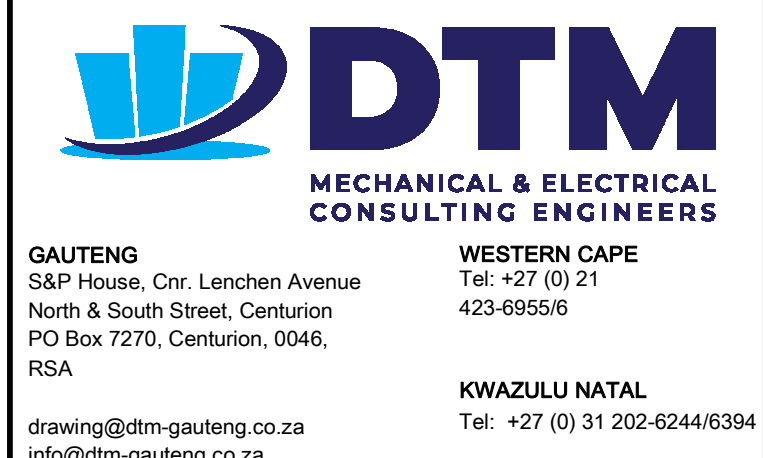
Master - Split VRF Units Schedule															
Code	Type	Capacity				Physical Properties				Power		Refrigerant		No. Off	Notes
		Cooling Total (kW)	Cooling Sensible (kW)	Heating Capacity (kW)	Air Flow (m³/min)	Width (mm)	Depth (mm)	Height (mm)	Weight (kg)	Phase (V/Hz)	Absorbed (kW)	Type	Charge		
VRFCLM-12.8	Cassette 4 Way Flow	12.8	9.6	9.6	13.4	466	950	950	335	231/150	0.8	R410A	NA	8	
VRFCLM-56.0-HP	Heat Pump Condenser	56	56	59.5	5259	1295	765	1710	381	200/350	18.15	R410A	11.8	2	

Master - Electrical Equipment Schedule										
Code	Type	Equipment Served	Power			Power Source	Location of Power	Free Signal	No. of	Notes
			Absorbed (kW)	Emergency (kW)	UPS (kW)					
E3	Single Phase Isolator	FW01	0.050	0.000	0.000	231V/150	Normal	Isolator at equipment	No	4
E4	Single Phase Isolator	FT01	0.300	0.300	0.000	231V/150	Normal	Isolator at equipment	No	2
E5	Three Phase Isolator	2-01B	0.018	0.018	0.000	400V/150	Normal	Isolator at equipment	No	1
E6A	Three Phase Isolator	VRF0U-56.0-HP	18.150	0.000	0.000	231V/150	Normal	Isolator at equipment	No	1
E6B	Three Phase Isolator	VRF0U-56.0-HP	18.150	0.000	0.000	231V/150	Normal	Isolator at equipment	No	1
E7A	Single Phase Isolator	SU0-15	1.300	1.000	0.000	231V/150	Normal	Isolator at equipment	No	1
E7B	Single Phase Isolator	SU0-4.5	1.300	1.000	0.000	231V/150	Normal	Isolator at equipment	No	1

Master - Split DX Units Schedule																
Code	Part ID	Type	Capacity			Physical Properties				Power		Refrigerant		No. Off	Notes	
			Cooling Total (kW)	Cooling Sensible (kW)	Heating Capacity (kW)	Air Flow Max (m³/s)	Air Flow (m³/s)	Depth (mm)	Height (mm)	Weight (kg)	Phase (Vap/Hz)	Absorbed (kW)	Type			Charge
SMU3.5	00	Midwall	3.5	2.6	4	133	116	820	205	265	8.2			R410A	0.95	Yes 1
SMU4.5	00	Midwall	4.5	4.5	0	133	820	205	265	8.2				R410A	0.95	Yes 1
SDU3.5	0	Condenser	3.5	0	0	617	720	265	550	30	231/150	1.30	R410A	0.9	Yes 1	
SDU4.5	0	Condenser	4.5	0	0	617	720	265	550	30	231/150	1.30	R410A	0.9	Yes 1	

Master - Thermal Schedule - Constant Volume																	
Code	Type	Physical Properties				Air Flow (m³/s)			Throat	Heating Capacity (kW)	Neck Pressure (Pa)	Noise Level (dB)	Duct Size (Round)	Duct Size (Length)	Height (mm)	Volume Control	Notes
		Length (mm)	Height (mm)	Diameter (mm)	Free Area (%)	Min (m³/s)	Max (m³/s)	Min (m³/s)									
DD01	Door Grille	450	450			0	300	0.0	0.0			0		450	450	No	10
DD03	Extract Duct Valve			250		0	25	0.0	0.0		65	31	200		450	Yes	46
WL02	Weather Louvre	350	350			0	430	0	1.0		5	40		350	350	No	4
WL03	Weather Louvre	600	600			0	430	0.5	5.0		5	40		600	300	No	2

This drawing is based on Architects drawing No:  
IDW Building X\_Rev. A.rvt 2022-08-10



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Project:

LETCOL

Drawing Title

## Building X HVAC Layout

Designed	Drawn	Checked		Passed	Date	Size
HVZ	SE	Quality	Design	PR Eng	28.10.2021	A0
		SE	HVZ	HVZ		Scale As indicated
Drawing Status : <b>Issued for Tender</b>						
Project Number	Division	Service	Drawing Number	Revision		