


Minutes of T&PC for proposed procurement of "Fume Hoods, Cupboards and Scrubbing System" - reg.

Subsequent to the PBC indendor has revised the specifications to upload in GeM. Since there is delay in receipt of revised specification with drawings shall be uploaded in portal giving three (3) week time.

 22.11.24

CoSP

 22/11/24

CoEA/FAO

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CoA

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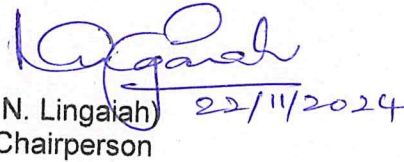
IO/PL/Chair

(Dr. Jitender Reddy)
Member

 22.11.2024
(Dr. Sreepriya Vedantam)
Member

 22.11.24
(Sri D.V. Rao)
Member

(Dr. Pratyay Basak)
Member

 22/11/2024
(Dr. N. Lingaiah)
Chairperson

Minutes of Pre-Bid Conference (PBC) held on 08-11-2024 for proposed procurement of "Supply of fume hoods, cupboards and scrubbing system"

Chairpersons / Members of the Technical Sub Committee (TSC) present during PBC including domain experts present during PBC:-

1. Dr. N.Lingaiah, Chairman
2. Dr.SreepriyaVedantam Member,
3. Dr, Jitender Reddy, member
4. Dr. Punna Nagender, representative of IO/PI
5. Shri D. V. Rao, Member

Representatives of the following firm attended the PBC:

1. M/s. Modern lab Interior, Secunderabad

The following points were discussed during the PBC:

Query raised by M/s. Modern lab Interior, Secunderabad., and response of CSIR-IICT:

- Query-1:** Type A Fume hood, can be provided with a support in the middle?
Response: No, there shouldn't be any support in the middle
- Query-2:** Type B Fume hood, can be made into two halves?
Response: Yes, this type B can be made into two of 2000mm length each, rest dimensions remain same (2000mm X 1200mm X 2400mm)
- Query-3:** PP-FRP duct size and length required
Response: PP-FRP duct size of 300mm dia length: 200running feet
- Query-4:** What is the HP of the blower for the fume hood required?
Response: Each fume hood may be provided with 2hp blower.
- Query-5:** Required the exact size of the fume hood worktop made of jet black granite
Response: The fume hood worktop is made of jet black granite as per the fume hood size mentioned in the Type-A & Type-B with 18 mm thickness.
- Query-6:** Sketch of the layout of the fume hood & workbench may be provided?
Response: Yes, the tentative sketch of the layout is enclosed.

Points clarified by CSIR-IICT Team during PBC:

The representatives of the participating firm/further informed that they do not have any issue or suggestion with respect to other points of tendered specifications and related requirements given in the tender document. Participating bidders have been informed that points raised by them during PBC will be examined by CSIR-IICT's **Technical Sub Committee (TSC)/Technical team** constituted for the purpose of procurement of said equipment and **post PBC changes** in tendered specifications and requirements to be agreed after due consideration of the same by TSC, **if any**, will be uploaded in **CPPP** as part of **revised/amended tendered specifications** along with CSIR-IICT website www.iict.res.in on or before **08-11-24**. All bidders are requested kindly to take a note of the changes, if any, in tendered specifications subsequent to **PBC** held today, i.e. **08-11-24**, before they start submitting their online bids through CPPP.

(Dr, Jitender Reddy)
Member

(Dr.Sreepriya Vedantam)
Member

(Dr. Punna Nagender)
representative of IO/PI

(Shri D. V. Rao,)
Member

(Dr N Lingalah)
Chairperson

The following changes has been made in tendered specification subsequent to PBC held on 08.11.2024

S. No.	Existing Specifications	Revised/Amended Specifications
1	Type B : Customised Walk-in Fume Hood – Quantity (1No) Size (mm) - 4000Length x 1200 Depth x 2400 Height or nearest, rest as S.No.1	Type B : Customised Walk-in Fume Hood – Quantity (2No) Size (mm) -2000Length x 1200 Depth x 2400 Height or nearest, rest as S.No.1.
2	PP-FRP Fume Hood Duct of Dia 300mm for 2400mm wide fume hood fabricated at site payable @ actuals on rate per meter basis. Should be installed as per the details provided in special conditions of contract for each FH.	PP-FRP Fume Hood Duct of Dia 300mm length: 200 running feet , it should be installed as per the details provided in special conditions of contract for each FH.
3	Fume hood work top made of jet black granite, size 60"x31" or nearest with marine 18mm or nearest ply backing with opening for drip cup/ cups as the case may be.	Fume hood work top made of jet black granite as per the fume hood size mentioned above (Type-A & Type-B) with 18 mm thickness.
4	Moulded single piece PP blower/ centrifugal fan with high efficiency and minimum noise normally direct driven with ISI-TEFC of suitable horse power motor matching hood CFM and static pressure working on 3 Ph., 415V ± 10%, 50Hz ± 5%, Insulation class F, IS: 325, 1440 RPM, reputed make. Appropriately mounted, dynamically balanced FRP impeller wheel, FRP housing with weather covers & anti vibration pads with clock-wise rotation illustrated. The fan unit should be set with supplier's standard manufacturing practice upballest to match the discharge end as per SEFA 1.2 – 1996, E6 to prevent rain water seepage. The fan unit	Moulded single piece PP blower/ centrifugal fan with high efficiency and minimum noise normally direct driven with ISI-TEFC of 2 horse power motor matching hood CFM and static pressure working on 3 Ph., 415V ± 10%, 50Hz ± 5%, Insulation class F, IS: 325, 1440 RPM, reputed make. Appropriately mounted, dynamically balanced FRP impeller wheel, FRP housing with weather covers & anti vibration pads with clock-wise rotation illustrated. The fan unit should be set with supplier's standard manufacturing practice upballest to match the discharge end as per SEFA 1.2 – 1996, E6 to

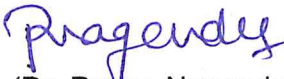
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	<p>should be flanged at both inlet and outlet that suits 300mm dia ducting. Note: As per institute's standard practice each FH should be provided with stand alone blower unit. Mani folding of multiple fume hood units to a single higher capacity is not permitted</p>	<p>prevent rain water seepage. The fan unit should be flanged at both inlet and outlet that suits 300mm dia ducting. Note: As per institute's standard practice each FH should be provided with stand alone blower unit. Mani folding of multiple fume hood units to a single higher capacity is not permitted</p>
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All the other tender terms remain unchanged. Bidders may please submit their bids accordingly.

(Dr, Jitender Reddy)
Member


(Dr. Sreepriya Vedantam)
Member


(Dr. Punna Nagender)
representative of IO/PI


(Shri D. V. Rao,)
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(Dr N Lingalah)
Chairperson

Revised Specifications after pre-bid meeting, for Fume Hood, Blower, Storage
 Cupboard & Scrubbing System

Item: 1 Fume Hood specifications / Details

Sl. No.	Particulars
1	Type A: Customised Walk-in Fume Hood –Quantity (4No) Size (mm) - 2800Length x 1200 Depth x 2400 Height or nearest. By-pass type The bypass opening is aerodynamically designed. C-Frame design for base structure with fume hood depth not less than 1000 mm. Hood face openings shall be designed with aerodynamically streamlined edges. Exhaust volume shall remain constant irrespective of sash position. Conformance to ASHRAE 110:95 & EN 14175:2003 [type tested as manufactured]. Epoxy powder coated externally in Blue or any standard acceptable colour with Internal FRP lining. The top adopter shall have flanged opening on the top of fume hood suitable for 250mm/ 300mm dia. duct as per supplier's standards. Customized dimension
2	Type B : Customised Walk-in Fume Hood – Quantity (2No) Size (mm) - 2000Length x 1200 Depth x 2400 Height or nearest, rest as S.No.1
3	PP-FRP Fume Hood Duct of Dia 300mm length: 200 running feet, it should be installed as per the details provided in special conditions of contract for each FH.
Standard Features & Facilities envisaged in each Fume Hood are as under:	
A	Ventilated chemical storage base module (with connection to the hood exhaust) combined with internal chemical-resistant material lining complete with fireproof cabinet construction with cabinets on castors for mobility with adjustable shelving, PP trays, locking & hinges of HAFELE Make, overall depth not less than 700 mm. Note: In case of 2400mm wide fume hood, solvent storage module of maximum permissible size under the hood with connection to the hood exhaust
B	Fume hood work top made of jet black granite as per the fume hood size mentioned above (Type-A & Type-B) with 18 mm thickness.
C	Appropriate size Fume hood ceiling enclosure
D	Fume Hood Structure with appropriate Internal lining phenolic resin laminate chemical-resistant, fire-retardant, glossy finish Trespa or equivalent makes.
E	Fixed Baffle, flame retardant and chemical resistant FRP or equivalent material with fine surface finish with fixed slots in the rear and baffle optimized for the best performance
F	Horizontal sliding doors with poly carbonate mm thick with counter weight movement for ease of movement.
G	Digital air flow monitor AFA 1000 or equivalent or a better monitor with in-built sensors that gives visual & audible alarm when hood face velocity falls below safe levels.
H	One no. Vapour proof Lighting Fixture with power saving 4 Feet Twin Tube Light of reputed Make

Pragathi

I	Tube Light ON-OFF Rocker Switch: Standard ISI certified
J	Push button station with 1 NO-1NC –IP55 protection. Push Buttons with Elements of reputed Make such as North West suitable to front panel (No extra projection should be visible and should be elegant)
K	Electrical Fittings on Front Facia, 3 nos. RHS & 3 nos. LHS, pre-wired at the factory with single junction box located at the top of the hood for single point connection at site. A cut out provision with suitable cover for installation of additional 3nos. of socket and plug in future Tiny Trip of North West make or similar compact - Socket & Plug with SPMCB 16Amps capacity, 240V and 50 Hz. Internal wiring of Single Phase 20 Amp. Terminated with a minimum of 2 meter length wire at Fume Hood top end on a connector for further connections
L	One no. PP/ FRP Drip Cup 100 mm dia or nearest and connection to the nearby drain line with appropriate piping as needed. A raised edge around drip cup on the front side to contain spills.
M	Utility services like Raw Water, Chilled Water Supply & Return, Compressed Air, Nitrogen, Vacuum shall consist of remote control valves as selected located within the end panels, controlled by extension rods projecting through the control panels of the hood, with color coded plastic handles. Interior fitting for gases and water shall be nylon panel flanges and angle serrated hose connectors, color-coded. Interior fittings for distilled water shall consist of a bronze tin lined, white color-coded, panel flange and angle serrated hose connector. Interior fittings for steam shall consist of a cast bronze flange and angle serrated hose connector with a chemical resistant metallic bronze finish. Water goosenecks shall be cast bronze with a chemical resistant metallic bronze finish. All plumbing fittings shall be factory installed and piped between the valve and the outlet. Inlet piping shall have a single-point connection for each valve provided and carried to a point 1" above the fume hood roof or 1" above the worktop rear corner depending on the rough-in locations shown in the drawings, All the Plumbing services connecting to the Valves & to the Header line, will be SS-304 ONLY. Services/Fittings on Front Facia (Normally LHS), pre-piped at the factory to be routed to the rear of the hood and to the bottom/ top. Sufficient piping extension to be provided so that they extend through slot provided in the hood base for further connections to respective utilities. Remote Valves on Front Facia & spout fixed on side Raw Water – brass powder coated (The spout normally located above Drip cup) and Connecting to the water service line to the header nearby with appropriate piping. Internal utility lines with SS tubing with service valves/ taps conforming to DIN 12920, 'FAR' Italy make. Vacuum – threaded black steel powder coated, Nitrogen - threaded black steel powder coated terminated at the top/ bottom of the fume hood.
N	Access for maintenance: For tube light & flow control valve thru' open able top panel, removable utility service port and movable base cabinets.
O	Supply of 2nos/ 3 nos depending upon the capacity, the suitable size PP/FRP single leaf damper, manually operated one fixed right above the flanged end of the fume hood exhaust and the other to be fixed close to the suction of the blower.
P	Moulded single piece PP blower/ centrifugal fan with high efficiency and minimum noise normally direct driven with ISI-TEFC of 2 horse power motor matching hood CFM and static pressure working on 3 Ph., 415V ± 10%, 50Hz ± 5%,

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	<p>Insulation class F, IS: 325, 1440 RPM, reputed make. Appropriately mounted, dynamically balanced FRP impeller wheel, FRP housing with weather covers & anti vibration pads with clock-wise rotation illustrated. The fan unit should be set with supplier's standard manufacturing practice upballest to match the discharge end as per SEFA 1.2 – 1996, E6 to prevent rain water seepage. The fan unit should be flanged at both inlet and outlet that suits 300mm dia ducting.</p> <p>Note: As per institute's standard practice each FH should be provided with stand alone blower unit. Mani folding of multiple fume hood units to a single higher capacity is not permitted.</p>
Special features envisaged	
	<p>Automatic Fire Extinguisher system which will extinguish fire if it touches the sensor/tube- for highest safety during both manned and unmanned hood operations.</p> <p>Automatic hood exhaust mode when fume hood is switched OFF in the nights. The exhaust will run for 5 minutes every 1 hour to exhaust accumulated fumes in cabinet.</p> <p>Automatic sash closing system, which closes the sash after 3 minutes delay- for safety and energy conservation, in the absence of an operator.</p>
Features & Facilities envisaged in each Fume Hood Duct are as under:	
A	PP-FRP ducting using 3mm thick PPGL sheets 3 layers of 2mm thick FRP lining using suitable resin including flanges and bends
B	7 point exhaust system for rapid exhaust
C	Duct velocity is to be between 8 – 10 m/s (1600 - 2000 FPM)
D	Weather capping: Discharge end shall have weather / discharge cap as per SEFA 1.2 – 1996 E6 to prevent rain water entry into the ducting and facilitates easy rain water discharge without affecting the blower.
E	Exhaust side duct is appropriately secured with MS angles clamps at a minimum of 3 locations to resist cyclonic winds.
F	Blowers outlet shall be at least 3000 mm above the roof height of the lab. buildings.
G	Whether proof metal guard and chemical resistant blower blades as well as the casing are to be provided.
H	All interior fume hood duct systems are to operate under negative pressure. This includes ducts in mechanical space.
I	The duct assembly is to be air tight. Perform an air or smoke test. Duct systems shall have zero (0) leakage within recognized tolerances. Leakage tests to be done at site.
Warranty: 5 years comprehensive for equipment such as blowers, flow meters and other utilities	
<p>Note: It may be noted that the above mentioned items form standard assemblage of each of the fume hoods.</p> <p>The supplier is expected to quote for the entire fume hood with above envisaged features and facilities as single unit bundled with fume hood price.</p> <p>Any other vital items that have been part of the fume hood assembly as per the supplier's standard manufacturing practice but do not have direct use or bearing on the fume hood performance should also be included into the fume hood price in their offers.</p> <p>Kindly refer the enclosed suggestive sketch for details of general arrangements for fume hoods and work bench configurations.</p>	

Pragade

Item: 2 Storage Cupboard specifications

Dimension (mm): 750(L)X 450(W)X 750(H)

MOC: Sheet with electrogalvanized with Epoxy based polyester powder coating having chemical resistant of 16 gauge thick.

Note: Should contain one horizontal partition with front door having locking provision.

Item: 3 Centrifugal Blower for Centralized scrubbing system specifications

Blower: A chemical resistant having FRP UV treated high density, chemical resistant body mounted on a rigid metal stand with vibration dampers for a silent and efficient performance with chemical resistant impeller as well.

Motor: A 3 phase 10hp or equivalent motor to give 1440 rpm

Make: Crompton/Siemens/Kirlosker

Standards: IS 325

Item: 4 Scrubber Tank:

Dimension (mm): 900 (Dia) X 3000H mm

MOC: 3mm THICK P.P + 2mm THICK FRP

Specifications:

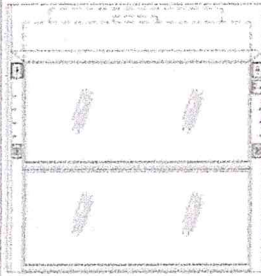
- a. Resin: High-end, industrial-grade vinyl ester resin with a 5 to 10 mm final thickness will be used to build the scrubber.
- b. Exterior coat: An industrial-grade gel finish with pigmentation and UV inhibitors will be applied to the scrubber housing's outside.
- c. Fiberglass Reinforcement: Glass fibres Reinforcement Will Be of Industrial Grade
- d. Inlet and Outlet Transitions: The material used to construct the outlet transition will match that of the scrubber vessel. The changeover will be planned to ensure a seamless changeover from duct velocity to scrubber velocity without interfering with airflow. The transition will have duct connections and a flange that matches the scrubber body.
- e. Liquid recirculation system: Based on the packing material's surface area and the scrubber's efficiency, the integral and self-contained circulation system will be built to pump the necessary scrubbing solution from the sump to the spray headers.
- f. Spray Headers: In order to ensure correct liquid loading rates across the scrubber packing, the spray header will be constructed with ball valves to enable removal without requiring the recirculation system to be turned off.
- g. Pump: The materials used to build the pump will be compatible with the solution it is pumping and resistant to acid and caustic substances. With

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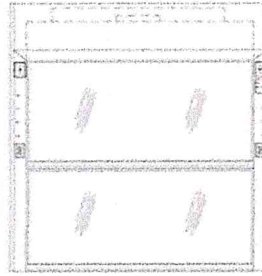
	an impeller in the middle of the range of sizes available for that specific pump, the pump will be built to run within the ideal range of the slope of the pump characteristic curve.
h. Plumbing Accessories:	A check valve will be provided at recirculation pump discharge. A ball valve will be supplied at spray header
i. Packing Material:	The packing material will consist of spherical, hollow geometric shapes intended to mix liquid and gas turbulently. Polypropylene or another material appropriate for a chemical environment will be used to make the packaging. A minimum of 48 "pack" will be used in the design and construction of the scrubber.

Ragandes

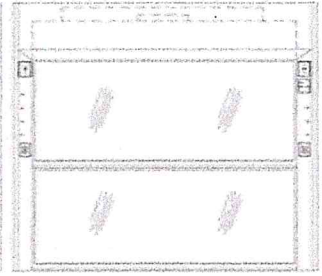
Room 1



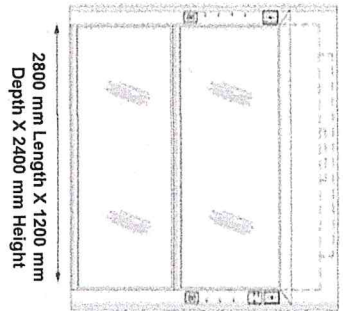
2000 mm Length X 1200 mm
Depth X 2400 mm Height



2000 mm Length X 1200 mm
Depth X 2400 mm Height



2800 mm Length X 1200 mm
Depth X 2400 mm Height

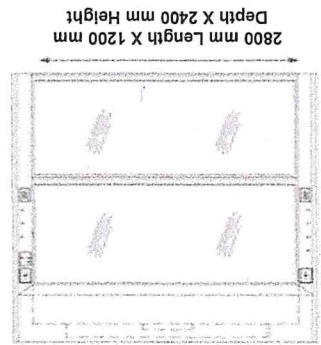


2800 mm Length X 1200 mm
Depth X 2400 mm Height



2800 mm Length X 1200 mm
Depth X 2400 mm Height

Walk-in Fume hood
arrangements with
dimensions



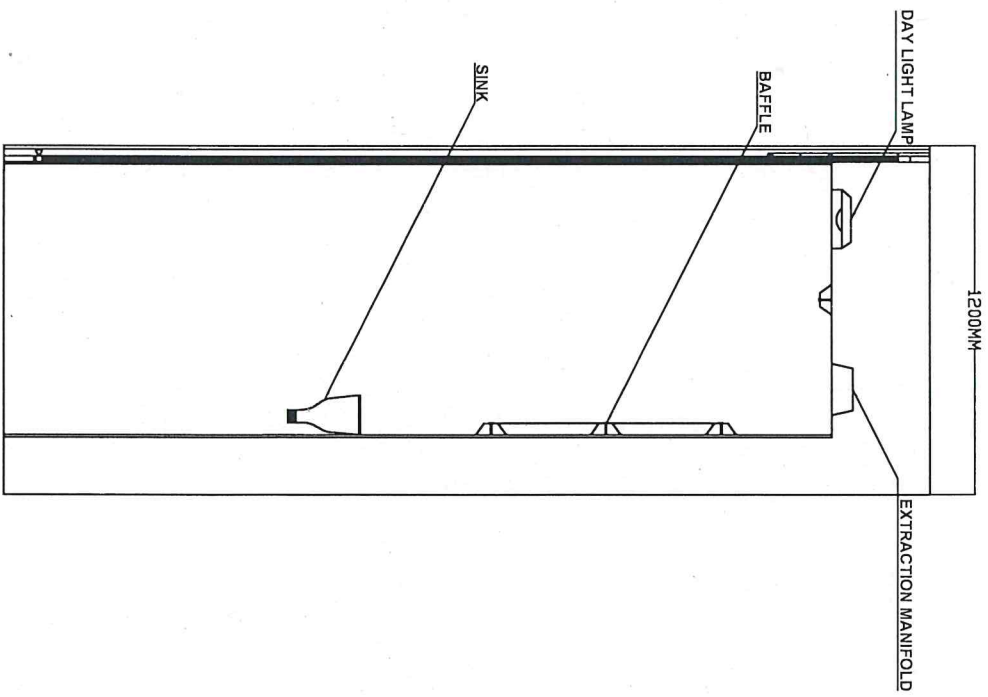
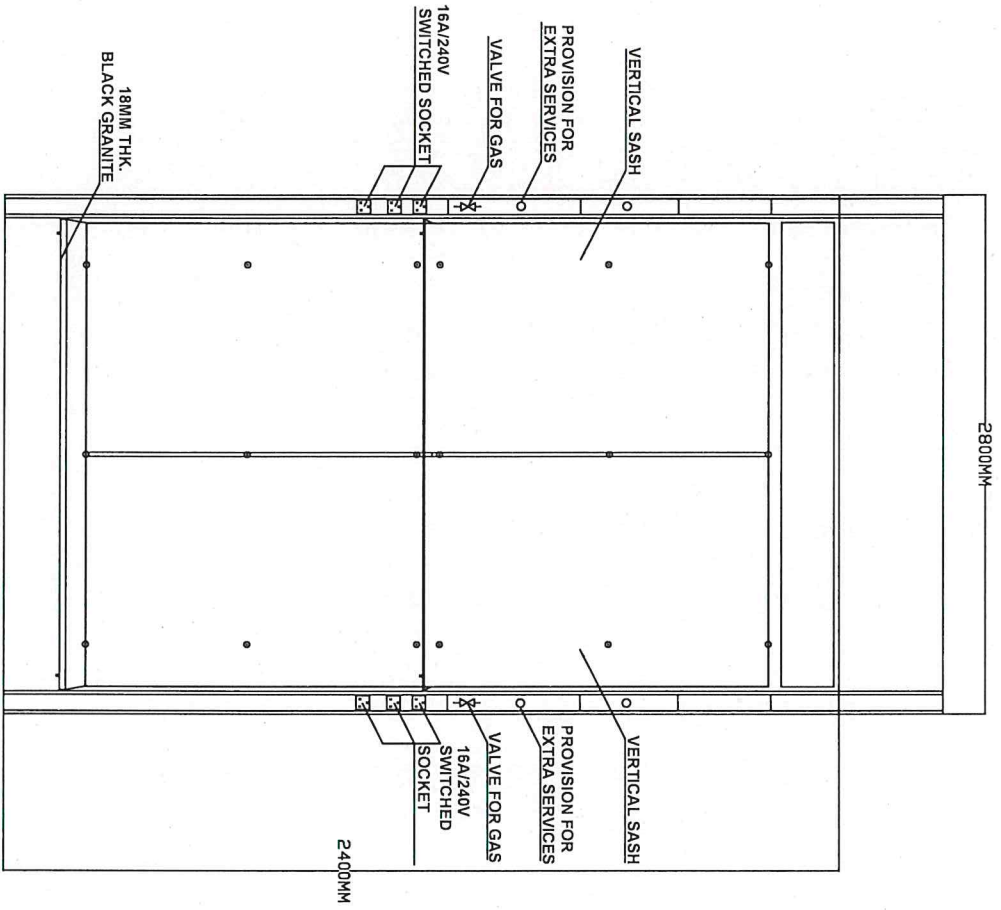
2800 mm Length X 1200 mm
Depth X 2400 mm Height

Room 2

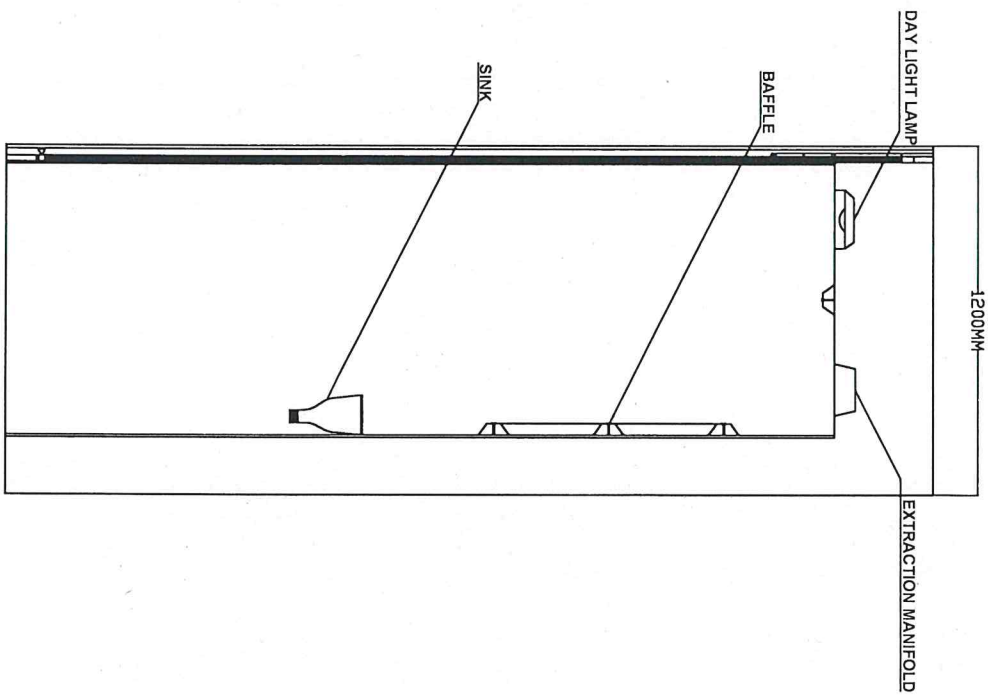
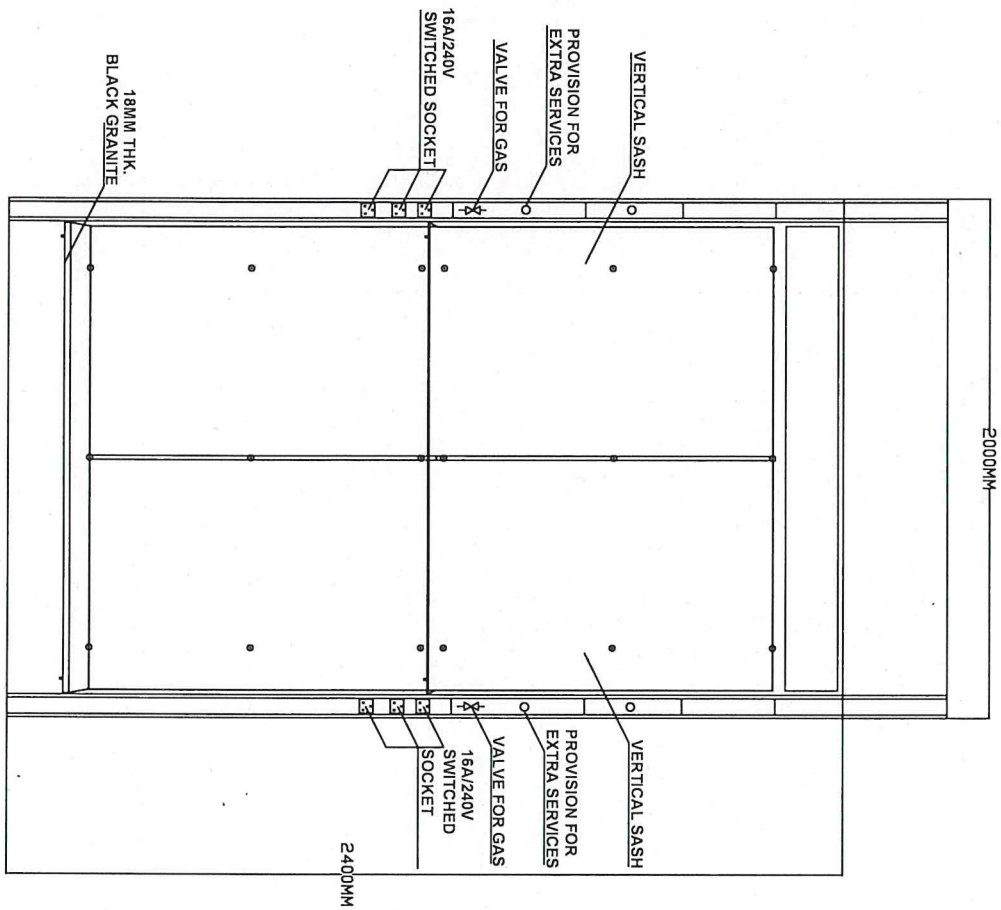
Room 3

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