

## NOTES:

- FOR GENERAL NOTES REFER TO DRAWING
- DRAWINGS ARE NOT TO BE SCALED. ALL LEVELS AND DIMENSIONS TO BE VERIFIED ON SITE PRIOR TO COMMENCEMENT OF WORKS. ANY DISCREPANCIES TO BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS, SCHEDULES AND SPECIFICATIONS RELATED TO THIS PROJECT.
- ALL BUILDING WORK AND MATERIALS ARE TO COMPLY WITH LOCAL AUTHORITY'S REQUIREMENTS AND ARE TO BE IN ACCORDANCE WITH SANS 10400 NATIONAL BUILDING REGULATIONS

| NO | DATE | DESCRIPTION | DRN BY |
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CONSULTING ENGINEER SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
PROFESSIONAL REG.:

CLIENT SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

CLIENT NAME:



CONSULTANTS DETAILS:



HVAC CONTRACTORS DETAILS:



SERVICE:

MECHANICAL HVAC

PROJECT NAME:

SITA DATA & SWITCHING CENTRE

SHEET TITLE:  
GROUND FLOOR HVAC  
INSTALLATION OVERALL

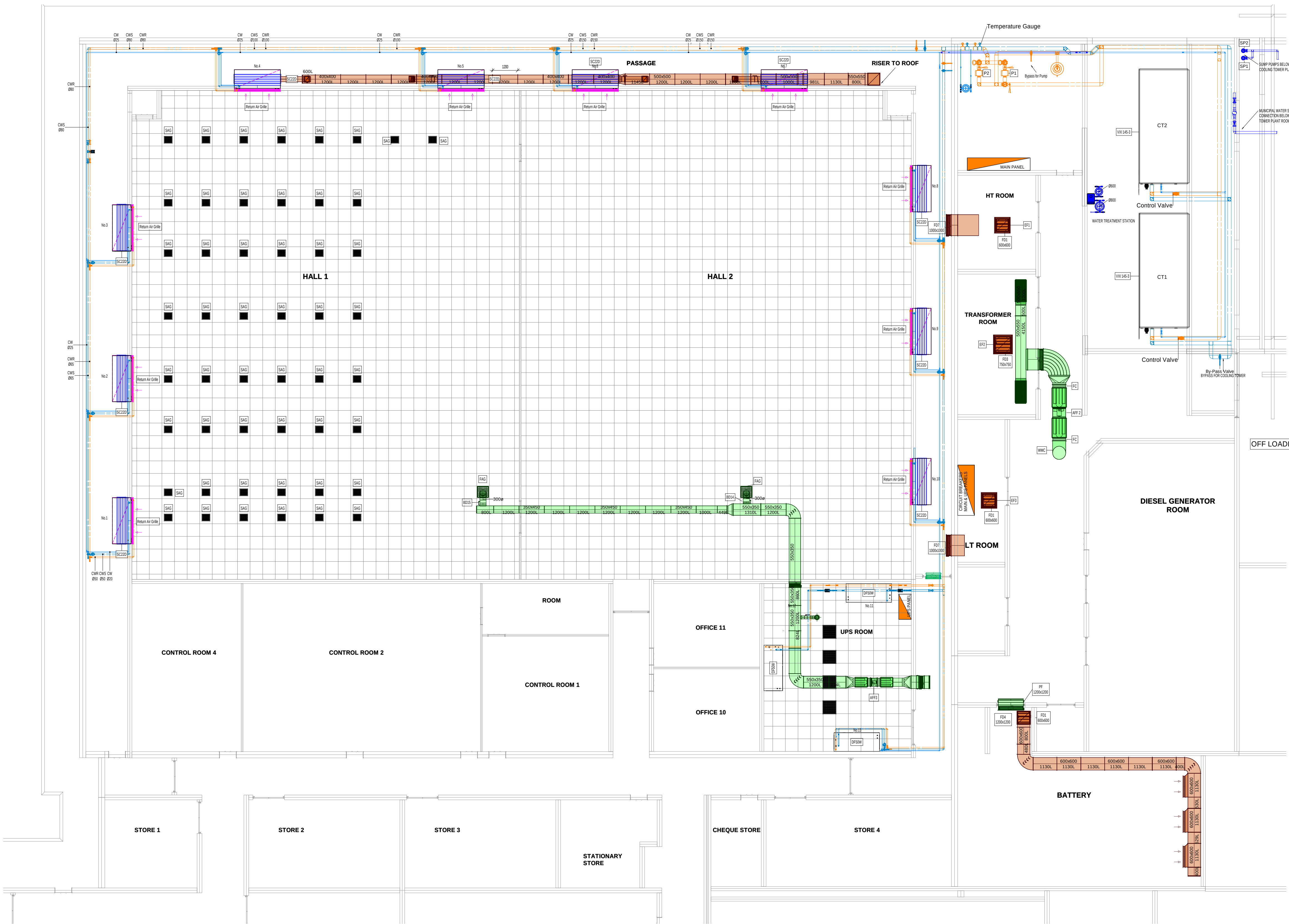
DATE: 2021-04-05 ACTION REF NO: 0096

PAPER SIZE: A1 DESIGNED BY: ROYAL HASKONING DHV

SCALE: 1 : 100 DRAWN BY: P. M. CHAMBERS

CHECKED BY: M. NUGENT

DRAWING NUMBER: 0096-MA-107 REV:



| Description             | Units | Requirement                  | Proposed Option              |
|-------------------------|-------|------------------------------|------------------------------|
| Type                    |       | Closed circuit cooling tower | Closed circuit cooling tower |
| Make                    |       | Baltimore Aircell Company    | Baltimore Aircell Company    |
| Model number            |       | VWS 145-3                    | VWS 145-3                    |
| No off                  | No    | 2                            | 2                            |
| Total cooling capacity  | kW    | 860                          | 860                          |
| Water (in / out) (cool) | °C    | 36 / 29                      | 36 / 29                      |
| Water flow (cool)       | l/s   | 25.4                         | 25.4                         |
| Fan external static     | Pa    | 18                           | 18                           |
| Pressure (static)       | Pa    | 18                           | 18                           |
| Water (in / out) (heat) | °C    | 45 / 40                      | 45 / 40                      |
| Water flow (heat)       | l/s   | 15 / 10                      | 15 / 10                      |
| Spray pump orator size  | mm    | 1/2" / 1/2" / 1/2"           | 1/2" / 1/2" / 1/2"           |
| Make-up water flow      | l/s   | 0.84                         | 0.84                         |
| Maximum available       | l/s   | 1.5                          | 1.5                          |
| Dimensions (mm)         | mm    | 1500 x 1500 x 1500           | 1500 x 1500 x 1500           |
| Maximum total operating | l/s   | 1.5                          | 1.5                          |
| for air                 | l/s   | 1.5                          | 1.5                          |

| Qty | Item              | Type     | Description                         | Manufacturer | Area Served   |
|-----|-------------------|----------|-------------------------------------|--------------|---------------|
| 1   | DV                | 150 Dia  | Ceiling Mounted Disc Valve (supply) | TROX         |               |
| 3   | EAG1              | 1000x550 | Single Deflection Return Air Grille | TROX         |               |
| 2   | FAG               | 500x500  | Egg Crate Grille                    | TROX         |               |
| 10  | Return Air Grille | 2200x890 | Single Deflection Return Air Grille | TROX         | Floor Grilles |
| 50  | SAG               | 350x300  | Single Deflection Supply Air Grille | TROX         | Floor Grilles |
| 2   | SAG3              | 1000x500 | Single Deflection Supply Air Grille | TROX         | Floor Grilles |
| 4   | SG1               | 600x600  | Single Deflection Supply Air Grille | TROX         | Floor Grilles |
| 1   | WL                | 600x600  | Weather Louvre                      | TROX         | Ground Floor  |

| Description     | Units   | Requirement                 | Proposed Option        |
|-----------------|---------|-----------------------------|------------------------|
| Type            |         | Vertical inline centrifugal | Grundfos               |
| Make            |         | Grundfos                    | Grundfos               |
| Model number    |         | TP 100-370/4 A-F-B-BAG      | TP 100-370/4 A-F-B-BAG |
| No off          | No      | 2                           | 2                      |
| Water flow rate | l/s     | 25.4                        | 30.15 (max)            |
| Head            | m       | 31.0                        | 32.2 (max)             |
| Power input     | kW/V/Hz | 15 / 400 / 3 / 50           | 18.5 / 406 / 3 / 50    |

| Description     | Units   | Requirement           | Proposed Option       |
|-----------------|---------|-----------------------|-----------------------|
| Type            |         | Submersible           | Submersible           |
| Make            |         | Grundfos              | Grundfos              |
| Model number    |         | Unilift AP12-50 11 A1 | Unilift AP12-50 11 A1 |
| No off          | No      | 2                     | 2                     |
| Water flow rate | l/s     | 5.3                   | 6                     |
| Head            | m       | 5                     | 8                     |
| Power input     | kW/V/Hz | 1.1 / 400 / 3 / 50    | 1.7 / 230 / 1 / 50    |

## 00-GROUND FLOOR (HVAC) OVERALL

1 : 100

## CRAC

| Description                 | Units       | Requirement                     | Proposed Option                 |
|-----------------------------|-------------|---------------------------------|---------------------------------|
| Type                        |             | Water cooled DX down blow units | Water cooled DX down blow units |
| Unit No                     |             | AC1                             | AC1                             |
| Make                        |             | TBA                             | AIAC- Airdale                   |
| Model number                |             | TBA                             | SC22D074-2W20-0                 |
| No off                      | No          | 10                              | 10                              |
| Total cooling capacity      | kW          | 74.2                            | 75.7                            |
| Sensible cooling capacity   | kW          | 65.5                            | 66.5                            |
| Cooling on coil temperature | °C DB/°C WB | 22.1 / 14.9                     | 22.1 / 12.1 air off             |
| Compressor type             |             | TBA                             | Scroll                          |
| Condenser water (in / out)  | °C          | 29 / 36                         | 29 / 36                         |
| Heat rejection              | kW          | 94.5                            | 94.5                            |
| Condenser HX type           |             | TBA                             | Plate                           |
| Air flow                    | l/s         | 4950                            | 5560                            |
| External static pressure    | Pa          | 50                              | 50                              |
| Heating Capacity            | kW          | 4                               | 4 (15 max (0-100% modulating))  |
| Heating on coil temperature | °C DB       | 20                              | 20 Noted                        |
| Humidifier                  | Kg/h        | 10                              | 15.0 Max (modulating)           |

| Description                 | Units       | Requirement                     | Proposed Option                 |
|-----------------------------|-------------|---------------------------------|---------------------------------|
| Type                        |             | Water cooled DX down blow units | Water cooled DX down blow units |
| Unit No                     |             | AC2                             | AC2                             |
| Make                        |             | TBA                             | AIAC- Airdale                   |
| Model number                |             | TBA                             | DF50WX2-EZRE                    |
| No off                      | No          | 3                               | 3                               |
| Total cooling capacity      | kW          | 37.2                            | 44.3                            |
| Sensible cooling capacity   | kW          | 36.6                            | 37.8                            |
| Cooling on coil temperature | °C DB/°C WB | 21.8 / 14                       | 21.8 / 14.9 air off             |
| Compressor type             |             | TBA                             | Scroll                          |
| Condenser water (in / out)  | °C          | 29 / 36                         | 29 / 36                         |
| Heat rejection              | kW          | 51.1                            | 60.4                            |
| Condenser HX type           |             | TBA                             | Plate                           |
| Air flow                    | l/s         | 2740                            | 4200                            |
| External static pressure    | Pa          | 50                              | 50                              |
| Total Power input           | kW/V/Hz     | TBA                             | 18.76 kw                        |

AS BUILT DRAWING