1. This note has been prepared by Scotch Partners LLP (SP) in response to comments made by the London Borough of Camden (LBC) regarding the *Noise Impact Assessment* for 3-6 Spring Place, dated May 2018.

2. For ease of reference, comments have been taken from the London Borough of Camden's email, dated 05 February 2019, and Scotch's responses have been provided below.

3. **LBC Comment:** *In terms of "Plant Noise" reference should be made to Table C of Appendix 3 of the Local Plan 2017.*

4. **SP Response:** We have assessed external plant noise against the planning condition which Camden placed upon the original development rather than the design criteria in the updated *Local Plan 2017* as this came into force after the original planning submission. Reference was made to this in Point 1.3 of the *Noise Impact Assessment*.

   We discuss Camden's revised design criteria in response to a comment later in this document (points 9-10).

5. **LBC Comment:** *Although these items are to be installed at first and fifth floor roof levels, it's not clear from the NIA which items of plant will be installed where.*

6. **SP Response:** Table 3-2 and Figure 3-2 on pages 8 and 9 of the *Noise Impact Assessment* set out the plant details and their location. Point 3.3.2 of the *Noise Impact Assessment* also makes reference to the drawings by Cundalls which were included as part of the planning submission for the exact positioning of plant items. We have appended these drawings (Appendix B) to this document for reference.

7. **LBC Comment:** *Separating distances between NSRs and first and fifth floor plant areas are not stated.*

8. **SP Response:** The following distances between plant items and NSRs have been assumed:

| Location | Plant item | No. | Distance to noise sensitive receivers (m) | |
|---|---|---|---|---|
| | | | 110-114 Grafton Road | 7 Spring Place |
| Fifth floor plant area | Condensers | 16 | 30 | 45 |
| | Air handling unit | 1 | 30 | 45 |
| Rooftop | Extract fan | 1 | 30 | 40 |
| Event space rooftop | Heat recovery unit 1 | 1 | 10 | 4 |
| | Heat recovery unit 2 | 1 | 12 | 4 |
| First floor rooftop | Air handling unit 1 | 1 | 5 | 5 |
| | Air handling unit 2 | 1 | 5 | 4 |
| | Air handling unit 3 | 1 | 5 | 20 |
| | Condenser | 1 | 8 | 20 |
| Bin store | Condensers | 4 | 25 | 20 |

*Table 1 Assumed distances between plant items and noise sensitive receivers*

9. LBC Comment: *In terms of plant at fifth floor roof level, the NIA suggests compliance with a rating level equal to the lowest background level at the façade of the NSRs above, which is not consistent with the Councils "Design Criterion" (Appendix 3 Local Plan 2017).*

10. SP Response: As previously discussed, the report refers to compliance with the planning condition originally placed upon the development rather than Camden's revised design criteria and actually suggests that the plant will achieve a rating level some 5dB below the lowest background levels rather than equal to the background.

The quoted noise limits (Table 3-1 of the *Noise Impact Assessment*) have been established from the lowest measured background noise levels presented Scotch Partners' original *Noise Impact Assessment, September 2016*. For reference, these were 42dB $L_{A90,10min}$ during the day (07:00-23:00) and 41dB $L_{A90,10min}$ (23:00-07:00) during the night.

When assessed against the Noise Thresholds of the *Local Plan 2017 (Appendix 3),* a rating level 5dB below the lowest background noise level would fall within the LOAEL and SOAEL design criteria. This is defined as being *"where noise is observed to have an adverse effect level, but which may be considered acceptable when assessed in the context of other merits of the development."*

BS 4142: 2014 *Methods for rating and assessing industrial and commercial sound* advises that "*the lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context."*

Designing to a rating level 10dB below the prevailing background noise level, to achieve Camden's green LOAEL design criteria, is not considered practical given the proximity of the plant areas to the nearest noise sensitive receivers. As a design team, we have reviewed all potential plant locations and configurations and we believe the proposals represent the best practicable solutions given the site constraints.

Considering the context of the site, with existing noise levels currently influenced by industrial noise from the existing car workshop and the London Overground Railway line, we expect achieving a rating level some 5dB below the background to give a strong indication that the plant will have a low impact upon the nearest noise-sensitive receivers. We believe this satisfies the objective of Policy A4 of the Local Plan 2017 to avoid "*unacceptable noise and vibration impacts".*

11. LBC Comment: *Details of the plant operating on each floor/plant area has not been specified in the NIA.*

12. SP Response: These have been provided in Table 3-2 on page 8. Plant selections have not been made at this early stage of the design and we have stipulated noise limits which are to be achieved.

13. LBC Comment: *Separating distances between each plant area and NSRs has not been provided.*

14. SP Response: These have now been provided in response to the previous point above (see Table 1).

15. LBC Comment: *Details of all the corrections/calculations made has not be provided.*

16. SP Response: These have now been provided in Appendix A.

17. LBC Comment: *Calculations showing the above points should be included to demonstrate the predicted level of plant noise from 1st & 5th floor levels impacting NSRs, with and without mitigation.*

18. SP Response: Calculations predicting the level of plant noise at each NSR have been appended to this document. It is unclear what purpose demonstrating the predicted level of plant noise without mitigation serves.

    It is not possible to determine the impact without mitigation as plant selections have not yet been made, but noise levels can be expected to be higher and are unlikely to comply with Camden's planning requirements.

## Appendix A - Calculations

| Plant location | Plant details | Noise limit | Attenuation owing to geometric divergence ($A_{div}$) | Attenuation owing to screening ($A_{bar}$) | Predicted noise level at NSR[2] |
|---|---|---|---|---|---|
| Fifth floor plant enclosure | 1 No. Condenser | 64dB | -30dB | -15dB | 19dB |
| | 1 No. Condenser | 65dB | -30dB | -15dB | 30dB |
| | 1 No. Condenser | 66dB | -30dB | -15dB | 31dB |
| | 3 No. Condensers | 67dB | -30dB | -15dB | 32dB |
| | 10 No. Condenser | 55dB | -30dB | -15dB | 20dB |
| | 1 No. Air handling unit | 70dB | -30dB | -15dB | 35dB |
| Fifth floor rooftop | 1 No. Extract fan | 60dB | -30dB | N/A | 30dB |
| Event space rooftop | 1 No. Heat recovery unit | 40dB | -20dB | N/A | 20dB |
| | 1 No. Heat recovery unit | 40dB | -22dB | N/A | 18dB |
| First floor plant room | 1 No. Air handling unit | 42dB | -14dB | N/A | 28dB |
| | 1 No. Air handling unit | 42dB | -14dB | N/A | 28dB |
| First floor plant deck | 1 No. Condenser | 45dB | -18dB | N/A | 27dB |
| | 1 No Air handling unit | 42dB | -14dB | N/A | 28dB |
| Bin store | 2 No. Condensers | 50dB | -28dB | -12dB | 13dB |
| | 2 No. Condensers | 55dB | -28dB | -12dB | 18dB |
| Total | - | - | - | - | **37dB** |

*[1]All values are A-weighted sound pressure levels in dB (ref: 2x10$^{-5}$Pa) at a distance of 1 metre and inclusive of rating level corrections*
*[2]All values are A-weighted sound pressure levels in dB (ref: 2x10$^{-5}$Pa)*
*Table 2 Calculation of noise levels to 110-114 Grafton Road*

| Plant location | Plant details | Specific sound level[1] | Attenuation owing to geometric divergence ($A_{div}$) | Attenuation owing to screening ($A_{bar}$) | Predicted noise level at NSR[2] |
|---|---|---|---|---|---|
| Fifth floor plant enclosure | 1 No. Condenser | 64dB | -33dB | -15dB | 16dB |
| | 1 No. Condenser | 65dB | -33dB | -15dB | 17dB |
| | 1 No. Condenser | 66dB | -33dB | -15dB | 18dB |
| | 3 No. Condensers | 67dB | -33dB | -15dB | 24dB |
| | 10 No. Condenser | 55dB | -33dB | -15dB | 17dB |
| | 1 No. Air handling unit | 70dB | -33dB | -15dB | 22dB |
| Fifth floor rooftop | 1 No. Extract fan | 60dB | -32dB | N/A | 28dB |
| Event space rooftop | 1 No. Heat recovery unit | 40dB | -12dB | N/A | 28dB |
| | 1 No. Heat recovery unit | 40dB | -12dB | N/A | 28dB |
| First floor plant room | 1 No. Air handling unit | 42dB | -14dB | N/A | 28dB |
| | 1 No. Air handling unit | 42dB | -12dB | N/A | 30dB |
| First floor plant deck | 1 No. Condenser | 45dB | -26dB | N/A | 19dB |
| | 1 No. Air handling unit | 42dB | -26dB | N/A | 16dB |
| Bin store | 2 No. Condenser | 50dB | -26dB | -12dB | 15dB |
| | 2 No. Condenser | 55dB | -26dB | -12dB | 20dB |
| **Total** | - | - | - | - | **36dB** |

*[1]All values are A-weighted sound pressure levels in dB (ref: $2x10^{-5}$Pa) at a distance of 1 metre and inclusive of rating level corrections*

*[2]All values are A-weighted sound pressure levels in dB (ref: $2x10^{-5}$Pa)*

*Table 3 Calculation of noise levels at 7 Spring Place*

Appendix B – Drawings

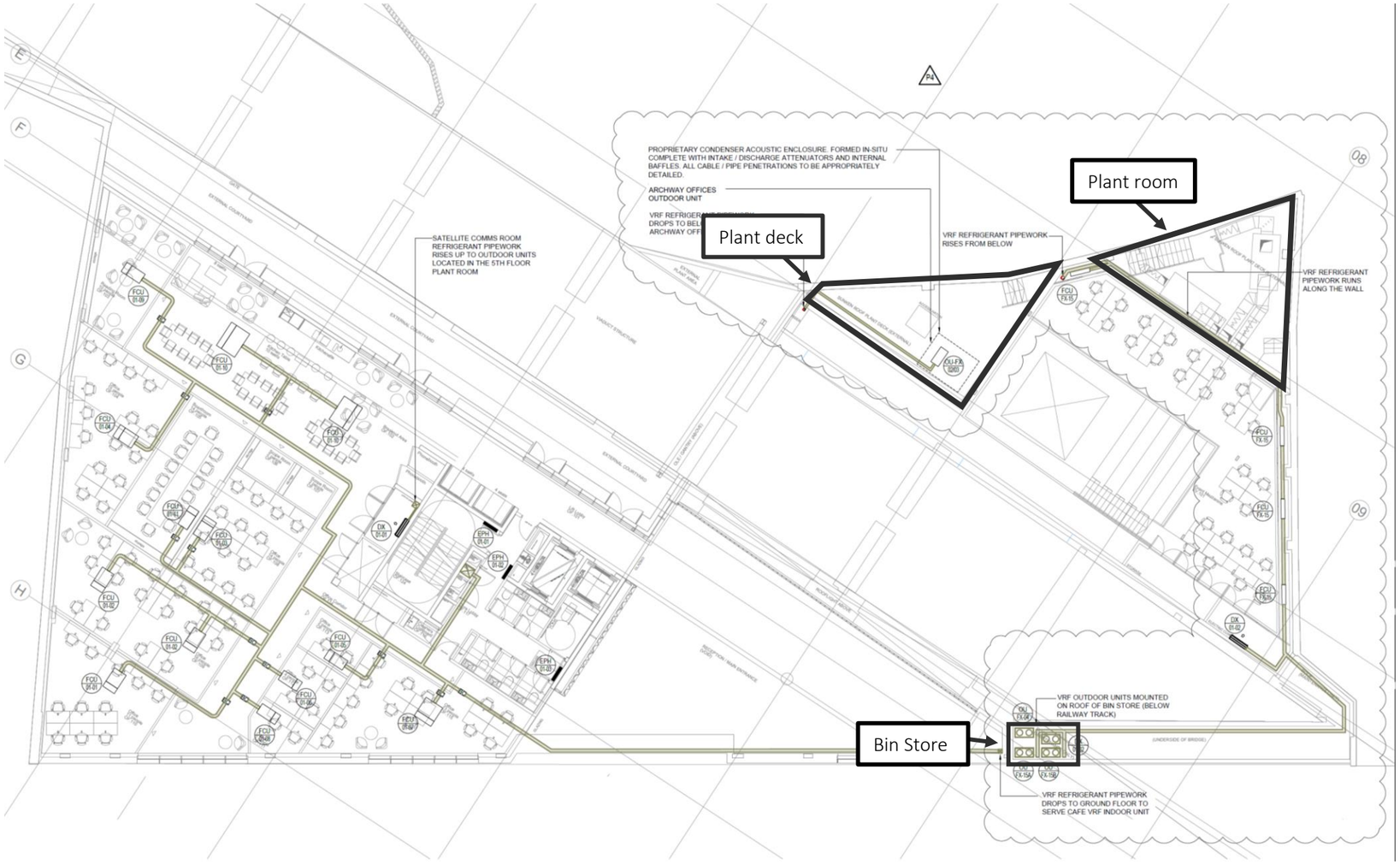


*Figure 1 First floor external plant layout, heating and cooling*

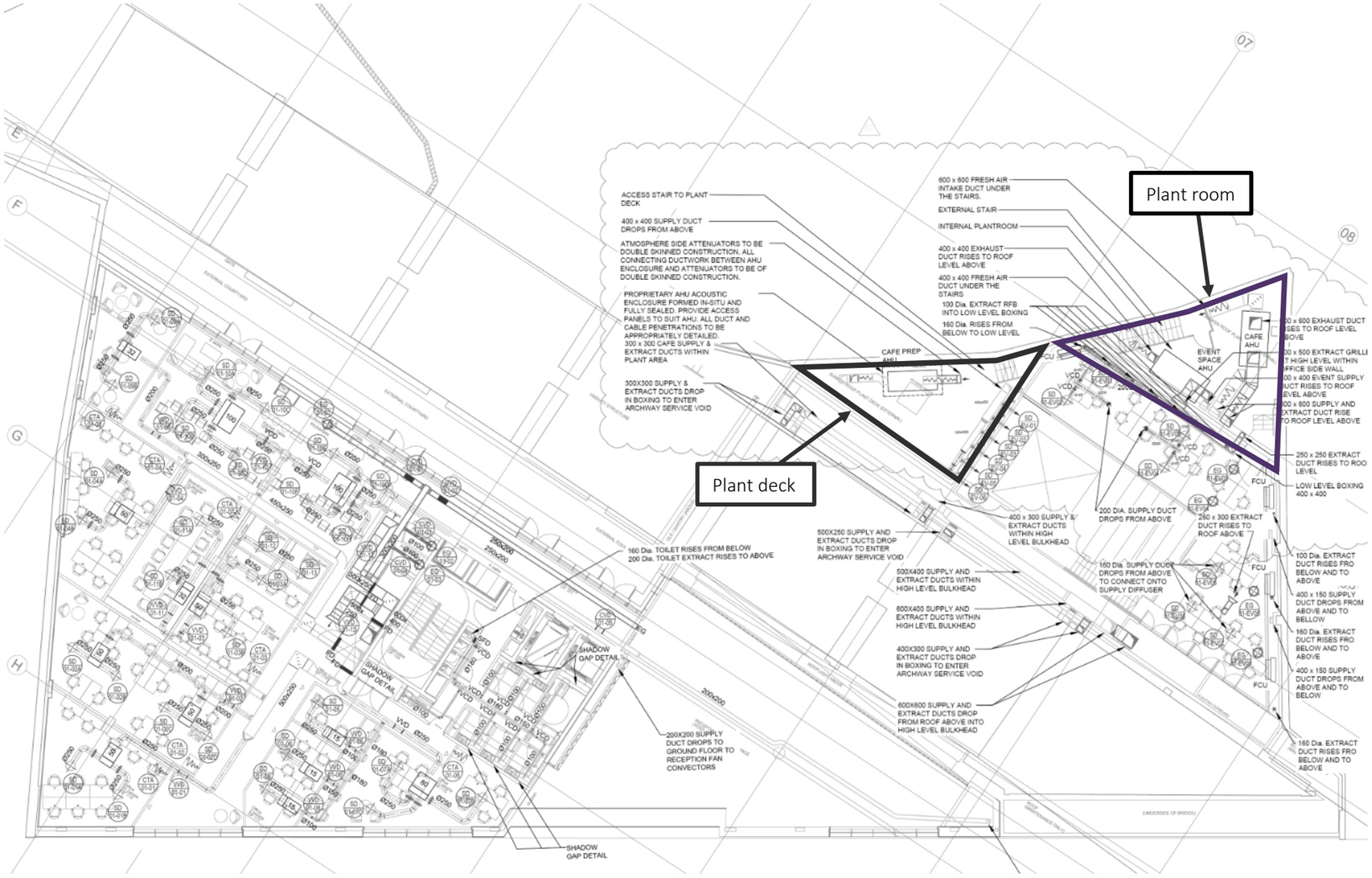


*Figure 2 First floor external plant layout, ventilation*

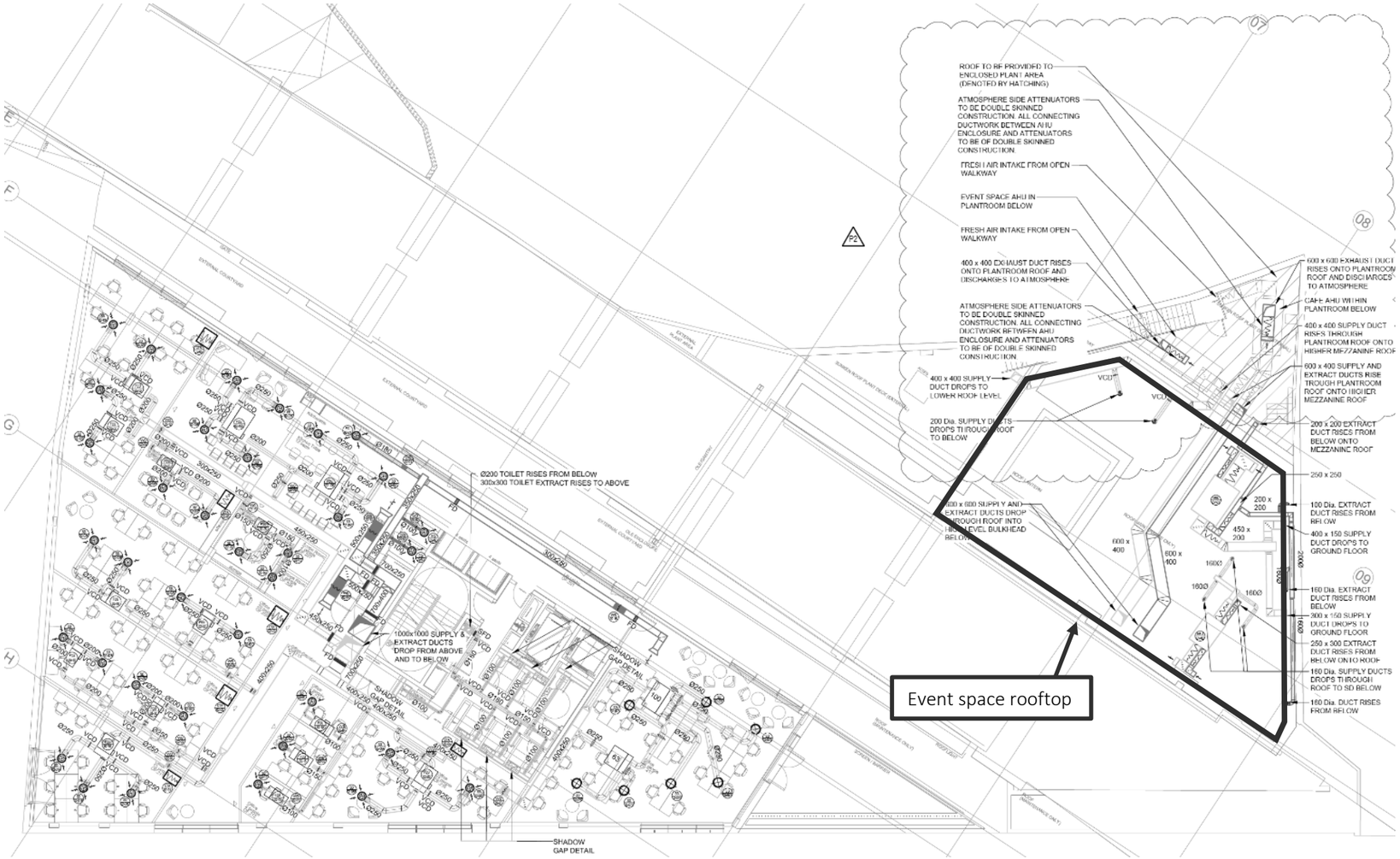


*Figure 3 Second floor external plant layout, ventilation*


*Figure 4 Fifth floor external plant layout, heating, cooling and ventilation*