



Planning condition 12

LBH responses

| | |
|-------------|------------|
| Client | Colt |
| Project | LON4 |
| Date Issued | 11/12/2024 |



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1. Comments received from LBH

It appears the applicant has largely resubmitted the same information with an extended fire consultant report re green walls. The green walls on Tudor works particularly can make a positive contribution to the locality if designed well. The eastern wall can be seen all the way from Southall station and the southern green wall faces Minet Park/Hayes football ground. Condition 12 and 27 will have a big impact on the perception of the data centre.

DESIGN GREEN WALL SOUTH / FIRE SAFETY

- The rich variety of plant species on to the southern green wall is welcomed.
- The chosen mobilane panel on the South Façade doesn't allow for root growth as pockets aren't interconnected.
- The chosen mobilane panel on the South Façade and associated elements such as the cassettes, pixels and cover are made of Expanded Polypropylene, which is combustible.

Proposing combustible material on the external façades of tall buildings is problematic, no matter if few or many people occupy the building. We understand that there is a slight difference between residential and industrial uses however this building is occupied day and night and combustible materials unnecessarily compromise fire safety. The design team should consider lesson's learned from Grenfell's tragedy and Building Control officers input must be sought. Measures should be taken to adequately remove, reduce, or prevent the participation of combustible components within the Living Wall system. The wall should be predominantly non-combustible apart from organic matter especially if it is that tall.

Irrigation / Drainage pipework should be discrete, non-combustible and vertically run within the shadow of vertical fins and horizontally behind the planter. Please confirm colour/materiality of pipework.

DESIGN GREEN WALL EAST

The eastern suspended planters seems to comprise monocultural ivy planting only, which is not a resilient approach to planting. The attached images shows that the building will be visible from afar and the expectation would be to for 30% of the planting to be of a different typology which shows seasonal change. Please consider planting like Thicket Creeper (*Parthenocissus inserta vitacea* non self-clinging) or any other plant which provides seasonal colour change.

Irrigation / Drainage pipework should be discrete, non-combustible and vertically run within the shadow of vertical fins and horizontally behind the planter. Please confirm colour/materiality of pipework.

CONCLUSION

Based on the comments above we conclude that the southern green wall system is of substandard due to its combustible materiality and due to the fact that it prevents flexible root growth. Considering siting and sizing of the southern green wall this is of great concern.

HC are aware that NWA/Savills have submitted a green walling system on a tall building of similar height nearby which comprises non-combustible green walling elements, which allows for better root growth. HC wants to see a coherent design quality approach towards green walls, particularly as we have failing green wall precedents in Hillingdon.

Reference document: Green and Living Walls as External Cladding A Joint Guide to Managing Risk, 2024

2. studio NWA response

DESIGN GREEN WALL SOUTH / FIRE SAFETY

In reference to other tall buildings NWA/Savills are involved in – we understand this is referred to Union Park.

The Hedera system that we are proposing to use is designed as fire retardant polypropylene. See extract from Hedera fire testing report for the green wall used on LON4 (report is not in public domain, carried out by Efectis – R000817).

| | |
|--------------------|---|
| Classification no. | 2021-Efectis-R000817 |
| Sponsor | Mobilane Building Green P.O. Box 2 3956 ZR LEERSUM THE NETHERLANDS |
| Product name | MobiPanel FR With plants |
| Prepared by | Efectis Nederland BV |
| Notified body no. | 1234 |
| Author(s) | B.R. Knotnerus B.Sc. A.J. Lock |
| Project number | ENL-21-000384 |
| Date of issue | July 2021 |
| Number of pages | 6 |

Product specifications:

- Overall dimensions:
 - Cassette w x h x d: 400 x 400 x 170 mm;
 - Pixel w x h x d: 200 x 200 x 170 mm;
 - Profile w x d: 100 x 18 mm; variable length;
- Materials:
 - Cassette and pixel: EPP FR front side (expanded polypropylene with fire retardant) with polypropylene FR back-side.
 - Irrigation fabric: 20% polyamide / 80% polyester;
 - Cover: EPP FR;
 - Omega profiles: Magnelis steel;
 - Not lignifying organic vegetation;
- Weights:
 - Empty cassette 0.90 kg;
 - Empty pixel 0.24 kg.

The maximum installed weight (including cassettes, soil, plants and profiles) is 40 kg/m².

The material of the cassette system used in Union Park are made of Fire-retardant polypropylene, same product as the Hedera screen we are suggesting. Therefore, both projects have systems that contain fire combustible materials; however, they have been tested to comply with the required standards. Please see below extract from Viritopia ANS fire testing report for Union Park (report is not in public domain, carried out by Warrington Fire WF 508156).

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|--|--|-------------------------------|---------|-------------------|-------------|--------------|-------------------|---------------------|-----------------------------|---------------------------------|-----------------------|-----------|-------|--------|-------|-------------------------|-------------------------|----------------|-------------------|-------------|--------------|-------------------------------|----------------------|---------|------------------|---------|------------|-------------|------------------------|----|--|-----|-----------------------------|--------|-----|-------------------------|--------------------|---|--|--|
| Title: | AD-HOC CLASSIFICATION OF REACTION TO FIRE PERFORMANCE UTILISING THE PRINCIPALS OF EN 13501-1: 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Product Name: | "ANSLWS001" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| "ANS Living Wall System" - Fully Planted And Watered | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Report No: | WF 508156 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Issue No: | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Prepared for: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ANS Group Global Ltd Aldingbourne Nurseries Church Road Aldingbourne Chichester PO20 3TU | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Date: | 29 th September 2021 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tr> <td rowspan="7">Compost</td><td>Product reference</td><td>"ANSMED001"</td></tr> <tr> <td>Generic type</td><td>Organic substrate</td></tr> <tr> <td>Composition details</td><td>Coir Peat Green waste</td></tr> <tr> <td>Name of manufacturer / supplier</td><td>Sinclair Horticulture</td></tr> <tr> <td>Thickness</td><td>100mm</td></tr> <tr> <td>Weight</td><td>5.5kg</td></tr> <tr> <td>Flame retardant details</td><td>See Note 1 below</td></tr> <tr> <td rowspan="7">Plastic module</td><td>Product reference</td><td>"ANSMOD001"</td></tr> <tr> <td>Generic type</td><td>Polypropylene modular planter</td></tr> <tr> <td>Name of manufacturer</td><td>Dolphin</td></tr> <tr> <td>Colour reference</td><td>"Black"</td></tr> <tr> <td>Dimensions</td><td>250x500x105</td></tr> <tr> <td>Number of compartments</td><td>12</td></tr> <tr> <td>Thickness of plastic used to form the module</td><td>3mm</td></tr> <tr> <td rowspan="2">Mounting and fixing details</td><td>Weight</td><td>2kg</td></tr> <tr> <td>Flame retardant details</td><td>"Nilene E V0 LSZH"</td></tr> <tr> <td colspan="3">The modules were fixed to a steel frame (supplied by the sponsor)</td></tr> </table> | | | Compost | Product reference | "ANSMED001" | Generic type | Organic substrate | Composition details | Coir Peat Green waste | Name of manufacturer / supplier | Sinclair Horticulture | Thickness | 100mm | Weight | 5.5kg | Flame retardant details | See Note 1 below | Plastic module | Product reference | "ANSMOD001" | Generic type | Polypropylene modular planter | Name of manufacturer | Dolphin | Colour reference | "Black" | Dimensions | 250x500x105 | Number of compartments | 12 | Thickness of plastic used to form the module | 3mm | Mounting and fixing details | Weight | 2kg | Flame retardant details | "Nilene E V0 LSZH" | The modules were fixed to a steel frame (supplied by the sponsor) | | |
| Compost | Product reference | "ANSMED001" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Generic type | Organic substrate | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Composition details | Coir Peat Green waste | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Name of manufacturer / supplier | Sinclair Horticulture | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Thickness | 100mm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Weight | 5.5kg | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Flame retardant details | See Note 1 below | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Plastic module | Product reference | "ANSMOD001" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Generic type | Polypropylene modular planter | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Name of manufacturer | Dolphin | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Colour reference | "Black" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Dimensions | 250x500x105 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Number of compartments | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Thickness of plastic used to form the module | 3mm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mounting and fixing details | Weight | 2kg | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Flame retardant details | "Nilene E V0 LSZH" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| The modules were fixed to a steel frame (supplied by the sponsor) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

In addition to the SALUS fire report which states that all the applicable building regulations have been adhered to, please refer to appendix for a confirmation letter from Building Control on the acceptance of the system for use on this building.

14.10.3 Green Wall Classifications

The proposed systems for the East and South elevations are as follows:

South elevation – MobiPanel FR test document reference number **2021-Efectis-R000817** defines the reaction to fire classification with the procedures described in BS EN 13501-1:2018 is given a classification of **B-s2, d0**.

East elevation – MobiLane Wallplanter, test document reference number JN/JN/Y 2832-5E-RA-001 defines the reaction to fire classification with the procedures described in BS EN 13501-1:2018, is given a classification of **B-s1, d0**.

The wall planters on the East elevation have been tested to smaller areas due to the size of the test equipment. These are considered acceptable for the following reasons:

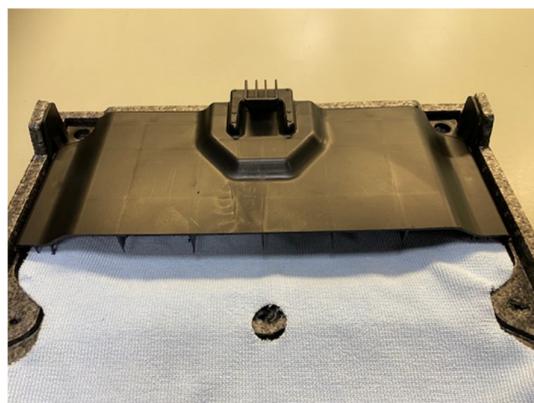
- Each singular panels have their own water supply.
- Each panel are to be watered using an automatic irrigation system keeping them moist.
- All panels are to be spaced apart.
- These panels are placed on the outside of the external wall with a minimum of 90 – 120minutes fire protection on both sides.
- The building is to have suppression system installed throughout.
- Lightning protection is to be provided to the building to avoid lightning strikes on the building.
- The panels are minimum 12m from ground level and therefore have no other ignition sources.

BS9999:2017 figure 47 (e) any building with a boundary more than 1.0m from the boundary allows for C-s3,d2 below 18m and B-s3,d2 above 18m.

With regards to the root growth, we have been advised by the supplier that the cassettes allow the roots to grow and expand through the cassette as it is porous, towards the back panel which has additional space for root growth. The maintenance strategy has been designed to avoid any plant failure, together with the irrigation system we do not expect the green wall to have any failure risks.

Please note that this is Colt's flagship data centre in the area, and the company is deeply committed to delivering a design that meets the highest standards of quality. The system has been chosen for its ability to improve the aesthetics of the building, ensuring a positive and lasting impact on the area and thus Colt are cognisant of the need to monitor, maintain and replace planting as necessary to achieve the uniformed and healthy appearance.

Please see images below for the cassette back panel.



DESIGN GREEN WALL EAST

The green wall system has only been tested with Ivy planting system. We have been advised by the supplier that any other planting types would not thrive in the system due to the height and the maintenance required. Seasonal changing plants are not suitable for this type of green wall system and thus the system must be retained as per current design.

3. Appendix – Building control letter

Victoria Moreno

From: Brett Peate <Brett.Peate@socotec.co.uk>
Sent: 10 December 2024 11:41
To: Victoria Moreno
Cc: Jonathon Stockdale
Subject: RE: LON4 - Living wall to South elevation

Good morning Victoria,

Thank you for your email, I can confirm that the information provided for the living wall appears to demonstrate and fall inline with that of BS9999 and the fire engineers report for a building not containing sleeping accommodation.

I hope this helps

Kind regards

Brett Peate [C.Build](#) E MCABE, IEng
Area Manager (Horsham Branch)
T: 01403 733 700 / M: 07738105130
(Registered Building Inspector Class 3G (England))

www.socotecbuildingcontrol.co.uk



Please be advised that from 6th April 2024 Building Control became a Regulated Profession, requiring Building Control Professionals to be Registered Building Inspectors working within their appropriate competence classification. A significant number of our surveyors are experiencing delays to the registration process whilst awaiting assessment results, updates to the online register, or progression through the scheme stages.

Please note this will unavoidably impact service delivery whilst we ensure the overseeing of restricted functions by appropriately class-registered surveyors. However, please be assured we will do our utmost to ensure the least possible impact to your projects.

This is an unprecedented time for our profession, and your patience and understanding are hugely appreciated.



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