Watkins Payne

# 41-67 High Street
# Yiewsley

## GLA Energy Comments
## Supplemental Information

| | |
|---|---|
| **Client Name:** | Harbourside Investments Limited and WM Morrison Supermarkets Plc |
| **Client Address:** | c/o Citygrove<br>10 Albemarle<br>London<br>W1S4HH |
| **Property:** | 43-67 High Street<br>Yiewsley<br>West Drayton<br>UB7 7QQ |
| **Project Reference:** | 5343 |
| **Issue:** | Issue 1: |
| **Date:** | March 2025 |
| **Prepared by:** | AJ / MC |
| **Checked by:** | MDC |
| **Validated by:** | MDC |

The supplemental information contained in this document is referenced and numbered in the same manner as per the GLA queries and comments.

| GLA Comment Reference | Supporting Information |
|---|---|
| | **General compliance comments** |
| 1 | No associated supporting evidence required. |
| 2 | Updated GLA spreadsheets will be submitted as part of the proposed planning condition discharge. |
| | **Be Lean** |
| 3 | Wall build-ups and U valves will be submitted as part of the proposed planning condition discharge. |
| 4 | Updated supermarket unit lean BRUKL. |
| 5 | No associated supporting evidence required. |
| | **Overheating** |
| 6 | The manufacturer's detail for the acoustic ventilator incorporating an EMV fan will be submitted as part of the proposed planning condition discharge. |
| 7 | No associated supporting evidence required. Item Closed. |
| | **Be Clean** |
| 8 | The DEN correspondence |
| 9 | No associated supporting evidence required. |
| 10 | No associated supporting evidence required. |
| 11 | Updated PV layout. |
| 12 | No associated supporting evidence required. |
| 13 | No associated supporting evidence required. |
| 14 | No associated supporting evidence required. |
| 15 | No associated supporting evidence required. |
| 16 | No associated supporting evidence required. Item Closed. |
| 17 | No associated supporting evidence required. |
| 18 | The updated carbon reduction modelling results will be submitted as part of the proposed planning condition discharge. |
| 19 | No associated supporting evidence required. Item Closed. |

| GLA Comment Reference | Supporting Information |
|---|---|
| 4 | Updated supermarket unit lean BRUKL. |

# BRUKL Output Document

HM Government

Compliance with England Building Regulations Part L 2021

**Project name**

## Supermarket Lean

As designed

**Date:** Fri Feb 21 12:54:47 2025

## Administrative information

### Building Details

**Address:** Supermarket, High St, PFC, AP 2.5, PV 48, Yiewsley,

### Certifier details

**Name:** Jeremy Holgate

**Telephone number:** 01932 781 641

**Address:** 51 Staines Road West, Sunbury-on-Thames, TW16 7AH

### Certification tool

**Calculation engine:** TAS

**Calculation engine version:** "v9.5.6"

**Interface to calculation engine:** TAS

**Interface to calculation engine version:** v9.5.6

**BRUKL compliance module version:** v6.1.e.0

**Foundation area [$m^2$]:** 1836

## The $CO_2$ emission and primary energy rates of the building must not exceed the targets

| | | |
|---|---|---|
| Target $CO_2$ emission rate (TER), $kgCO_2/m^2$.annum | 3.28 | |
| Building $CO_2$ emission rate (BER), $kgCO_2/m^2$.annum | 2.71 | |
| Target primary energy rate (TPER), $kWh_{PE}/m^2$.annum | 35.84 | |
| Building primary energy rate (BPER), $kWh_{PE}/m^2$.annum | 29.43 | |
| Do the building's emission and primary energy rates exceed the targets? | BER =< TER | BPER =< TPER |

## The performance of the building fabric and fixed building services should achieve reasonable overall standards of energy efficiency

| Fabric element | $U_{a\text{-}Limit}$ | $U_{a\text{-}Calc}$ | $U_{i\text{-}Calc}$ | First surface with maximum value |
|---|---|---|---|---|
| Walls* | 0.26 | 0.16 | 0.26 | External Wall (BMT) |
| Floors | 0.18 | 0.18 | 0.18 | Exposed Floor (to carpark) |
| Pitched roofs | 0.16 | - | - | No pitched roofs in project |
| Flat roofs | 0.18 | 0.14 | 0.14 | Roof - Supermarket Retail |
| Windows** and roof windows | 1.6 | 1.42 | 1.42 | Morr_wind 1 |
| Rooflights*** | 2.2 | - | - | No rooflights in project |
| Personnel doors^ | 1.6 | 1.53 | 2 | ware door |
| Vehicle access & similar large doors | 1.3 | 1.3 | 1.3 | vehicle door |
| High usage entrance doors | 3 | - | - | No high usage entrance doors in project |

$U_{a\text{-}Limit}$ = Limiting area-weighted average U-values [$W/(m^2K)$] $U_{i\text{-}Calc}$ = Calculated maximum individual element U-values [$W/(m^2K)$]

$U_{a\text{-}Calc}$ = Calculated area-weighted average U-values [$W/(m^2K)$]

* Automatic U-value check by the tool does not apply to curtain walls whose limiting standard is similar to that for windows.

** Display windows and similar glazing are excluded from the U-value check. *** Values for rooflights refer to the horizontal position.

^ For fire doors, limiting U-value is 1.8 $W/m^2K$

NB: Neither roof ventilators (inc. smoke vents) nor swimming pool basins are modelled or checked against the limiting standards by the tool.

| Air permeability | Limiting standard | This building |
|---|---|---|
| $m^3/(h.m^2)$ at 50 Pa | 8 | 2.5 |

## Building services

**For details on the standard values listed below, system-specific guidance, and additional regulatory requirements, refer to the Approved Documents.**

| | |
|---|---|
| **Whole building lighting automatic monitoring & targeting with alarms for out-of-range values** | YES |
| **Whole building electric power factor achieved by power factor correction** | >0.95 |

1- Oven Fresh Extract 10ACH (Preparation Oven Fresh)

| | **Heating efficiency** | **Cooling efficiency** | **Radiant efficiency** | **SFP [W/(l/s)]** | **HR efficiency** |
|---|---|---|---|---|---|
| **This system** | 0 | - | - | - | - |
| **Standard value** | N/A | N/A | N/A | N/A | N/A |
| **Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system** | | | | | YES |

2- Prep and Bake Off extract 5ACH (2 Zones)

| | **Heating efficiency** | **Cooling efficiency** | **Radiant efficiency** | **SFP [W/(l/s)]** | **HR efficiency** |
|---|---|---|---|---|---|
| **This system** | 0 | - | - | - | - |
| **Standard value** | N/A | N/A | N/A | N/A | N/A |
| **Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system** | | | | | YES |

3- Retail - MV Recirc

| | **Heating efficiency** | **Cooling efficiency** | **Radiant efficiency** | **SFP [W/(l/s)]** | **HR efficiency** |
|---|---|---|---|---|---|
| **This system** | 0 | - | - | 1.13 | - |
| **Standard value** | N/A | N/A | N/A | 1.9^ | N/A |
| **Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system** | | | | | YES |
| ^ Limiting SFP may be increased by the amounts specified in the Approved Documents if the installation includes particular components. | | | | | |

4- Office/Staff - MVHR VRF (2 Zones)

| | **Heating efficiency** | **Cooling efficiency** | **Radiant efficiency** | **SFP [W/(l/s)]** | **HR efficiency** |
|---|---|---|---|---|---|
| **This system** | 0 | 5 | - | - | 0.85 |
| **Standard value** | N/A | 5 | N/A | N/A | N/A |
| **Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system** | | | | | YES |

5- Warehouse - ASHP HeatOnly NV (Warehouse 1)

| | **Heating efficiency** | **Cooling efficiency** | **Radiant efficiency** | **SFP [W/(l/s)]** | **HR efficiency** |
|---|---|---|---|---|---|
| **This system** | 2.64 | - | - | - | - |
| **Standard value** | N/A | N/A | N/A | N/A | N/A |
| **Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system** | | | | | YES |

1- Domestic hot water ASHP

| | **Water heating efficiency** | **Storage loss factor [kWh/litre per day]** |
|---|---|---|
| **This building** | 2.86 | 0 |
| **Standard value** | 1 | N/A |

### Zone-level mechanical ventilation, exhaust, and terminal units

| **ID** | **System type in the Approved Documents** |
|---|---|
| A | Local supply or extract ventilation units |
| B | Zonal supply system where the fan is remote from the zone |
| C | Zonal extract system where the fan is remote from the zone |
| D | Zonal balanced supply and extract ventilation system |
| E | Local balanced supply and extract ventilation units |
| F | Other local ventilation units |
| G | Fan assisted terminal variable air volume units |
| H | Fan coil units |
| I | Kitchen extract with the fan remote from the zone and a grease filter |
| NB: Limiting SFP may be increased by the amounts specified in the Approved Documents if the installation includes particular components. | |

| Zone name | SFP [W/(l/s)] | | | | | | | | | HR efficiency | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ID of system type | A | B | C | D | E | F | G | H | I | | |
| Standard value | 0.3 | 1.1 | 0.5 | 2.3 | 2 | 0.5 | 0.5 | 0.4 | 1 | Zone | Standard |
| Ware office 1 | - | - | - | 1 | - | - | - | - | - | - | N/A |
| Staff Room 1 | - | - | - | 1 | - | - | - | - | - | - | N/A |
| Preparation Oven Fresh | - | - | - | - | - | - | - | - | 1 | - | N/A |
| Preparation Bake off | - | - | - | - | - | - | - | - | 1 | - | N/A |
| Preparation Fresh Prep | - | - | - | - | - | - | - | - | 1 | - | N/A |

| General lighting and display lighting | General luminaire | Display light source | |
|---|---|---|---|
| Zone name | Efficacy [lm/W] | Efficacy [lm/W] | Power density [W/m²] |
| Standard value | 95 | 80 | 0.3 |
| Staircase | 95 | 95 | - |
| Retail Sales 1 | 120 | 110 | - |
| Retail Sales 2 | 120 | 110 | - |
| Warehouse 1 | 140 | - | - |
| Plant 1 | 105 | - | - |
| Electric Supply | 105 | - | - |
| Ware office 1 | 110 | - | - |
| Lobby | 95 | 95 | - |
| Staff Room 1 | 105 | 95 | - |
| Lockers 1 | 105 | - | - |
| WCs 1 | 105 | - | - |
| Preparation Oven Fresh | 110 | - | - |
| Retail Sales 3 | 120 | 110 | - |
| Preparation Bake off | 110 | - | - |
| Preparation Fresh Prep | 110 | - | - |

## The spaces in the building should have appropriate passive control measures to limit solar gains in summer

| Zone | Solar gain limit exceeded? (%) | Internal blinds used? |
|---|---|---|
| Staircase | NO (-29%) | NO |
| Retail Sales 1 | NO (-85%) | NO |
| Retail Sales 2 | NO (-90%) | NO |
| Ware office 1 | N/A | N/A |
| Lobby | NO (-60%) | NO |
| Staff Room 1 | N/A | N/A |
| Retail Sales 3 | YES (+28%) | NO |

## Regulation 25A: Consideration of high efficiency alternative energy systems

| | |
|---|---|
| **Were alternative energy systems considered and analysed as part of the design process?** | YES |
| Is evidence of such assessment available as a separate submission? | YES |
| Are any such measures included in the proposed design? | YES |

# Technical Data Sheet (Actual vs. Notional Building)

## Building Global Parameters

| | Actual | Notional |
|---|---|---|
| Floor area [$m^2$] | 1838 | 1838 |
| External area [$m^2$] | 4614 | 4614 |
| Weather | LON | LON |
| Infiltration [$m^3/hm^2$@ 50Pa] | 3 | 3 |
| Average conductance [W/K] | 923 | 937 |
| Average U-value [$W/m^2K$] | 0.2 | 0.2 |
| Alpha value* [%] | 21.58 | 6.58 |

* Percentage of the building's average heat transfer coefficient which is due to thermal bridging

## Building Use

| % Area | Building Type |
|---|---|
| **100** | **Retail/Financial and Professional Services** |
| | Restaurants and Cafes/Drinking Establishments/Takeaways |
| | Offices and Workshop Businesses |
| | General Industrial and Special Industrial Groups |
| | Storage or Distribution |
| | Hotels |
| | Residential Institutions: Hospitals and Care Homes |
| | Residential Institutions: Residential Schools |
| | Residential Institutions: Universities and Colleges |
| | Secure Residential Institutions |
| | Residential Spaces |
| | Non-residential Institutions: Community/Day Centre |
| | Non-residential Institutions: Libraries, Museums, and Galleries |
| | Non-residential Institutions: Education |
| | Non-residential Institutions: Primary Health Care Building |
| | Non-residential Institutions: Crown and County Courts |
| | General Assembly and Leisure, Night Clubs, and Theatres |
| | Others: Passenger Terminals |
| | Others: Emergency Services |
| | Others: Miscellaneous 24hr Activities |
| | Others: Car Parks 24 hrs |
| | Others: Stand Alone Utility Block |

## Energy Consumption by End Use [$kWh/m^2$]

| | Actual | Notional |
|---|---|---|
| Heating | 1.21 | 0.07 |
| Cooling | 0.71 | 1.25 |
| Auxiliary | 5.98 | 7.97 |
| Lighting | 10.92 | 13.68 |
| Hot water | 1.09 | 1.35 |
| Equipment* | 165.51 | 165.51 |
| **TOTAL**** | **19.91** | **24.31** |

* Energy used by equipment does not count towards the total for consumption or calculating emissions.
** Total is net of any electrical energy displaced by CHP generators, if applicable.

## Energy Production by Technology [$kWh/m^2$]

| | Actual | Notional |
|---|---|---|
| Photovoltaic systems | 0 | 0 |
| Wind turbines | 0 | 0 |
| CHP generators | 0 | 0 |
| Solar thermal systems | 0 | 0 |
| *Displaced electricity* | *0* | *0* |

## Energy & $CO_2$ Emissions Summary

| | Actual | Notional |
|---|---|---|
| Heating + cooling demand [$MJ/m^2$] | 25.56 | 21.6 |
| Primary energy [$kWh_{PE}/m^2$] | 29.43 | 35.84 |
| Total emissions [$kg/m^2$] | 2.71 | 3.28 |

## HVAC Systems Performance

| System Type | | Heat dem MJ/m2 | Cool dem MJ/m2 | Heat con kWh/m2 | Cool con kWh/m2 | Aux con kWh/m2 | Heat SSEEF | Cool SSEER | Heat gen SEFF | Cool gen SEER |
|---|---|---|---|---|---|---|---|---|---|---|
| **[ST] Constant volume system (variable fresh air rate), [HS] ASHP, [HFT] Electricity, [CFT] Electricity** | | | | | | | | | | |
| | **Actual** | 0 | 0 | 0 | 0 | 57 | 0 | 0 | 0 | 0 |
| | **Notional** | 0 | 0 | 0 | 0 | 33.6 | 0 | 0 | ---- | ---- |
| **[ST] Constant volume system (variable fresh air rate), [HS] ASHP, [HFT] Electricity, [CFT] Electricity** | | | | | | | | | | |
| | **Actual** | 0 | 0 | 0 | 0 | 31.5 | 0 | 0 | 0 | 0 |
| | **Notional** | 0 | 0 | 0 | 0 | 18.3 | 0 | 0 | ---- | ---- |
| **[ST] Central heating using air distribution, [HS] ASHP, [HFT] Electricity, [CFT] Electricity** | | | | | | | | | | |
| | **Actual** | 0 | 0 | 0 | 0 | 5.1 | 0 | 0 | 0 | 0 |
| | **Notional** | 0 | 0 | 0 | 0 | 6.8 | 0 | 0 | ---- | ---- |
| **[ST] Split or multi-split system, [HS] ASHP, [HFT] Electricity, [CFT] Electricity** | | | | | | | | | | |
| | **Actual** | 0 | 449.2 | 0 | 25 | 3.6 | 0 | 5 | 0 | 5 |
| | **Notional** | 0 | 699.8 | 0 | 44.2 | 6.4 | 0 | 4.4 | ---- | ---- |
| **[ST] Split or multi-split system, [HS] ASHP, [HFT] Electricity, [CFT] Electricity** | | | | | | | | | | |
| | **Actual** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | **Notional** | 3.8 | 0 | 0.4 | 0 | 10.4 | 2.64 | 0 | ---- | ---- |

### Key to terms

Heat dem [MJ/m2] = Heating energy demand
Cool dem [MJ/m2] = Cooling energy demand
Heat con [kWh/m2] = Heating energy consumption
Cool con [kWh/m2] = Cooling energy consumption
Aux con [kWh/m2] = Auxiliary energy consumption
Heat SSEFF = Heating system seasonal efficiency (for notional building, value depends on activity glazing class)
Cool SSEER = Cooling system seasonal energy efficiency ratio
Heat gen SSEFF = Heating generator seasonal efficiency
Cool gen SSEER = Cooling generator seasonal energy efficiency ratio
ST = System type
HS = Heat source
HFT = Heating fuel type
CFT = Cooling fuel type

| GLA Comment Reference | Supporting Information |
|---|---|
| 8 | The DEN correspondence |

https://maps.london.gov.uk/heatmap/projects/5343-yiewsley-1

**Source**

E.ON

**Energy Centre name**

DGV

**Network Operator**

E.ON

**Network operator contact details**

Mike Wake districtheating@eonenergy.com

**Year of construction (if applicable)**

2017

**Current network peak demand (kW)**

--

**Other notes**

--

**Network LZC technologies**

CHP

**Heat network name**

DGV

**Network peaking plant technologies**

Gas Boilers

**LZC technology capacity (kW)**

650

**Peaking plant capacity (kW)**

4,200

**Information last updated**

Sep-23

**Network supply temperature**

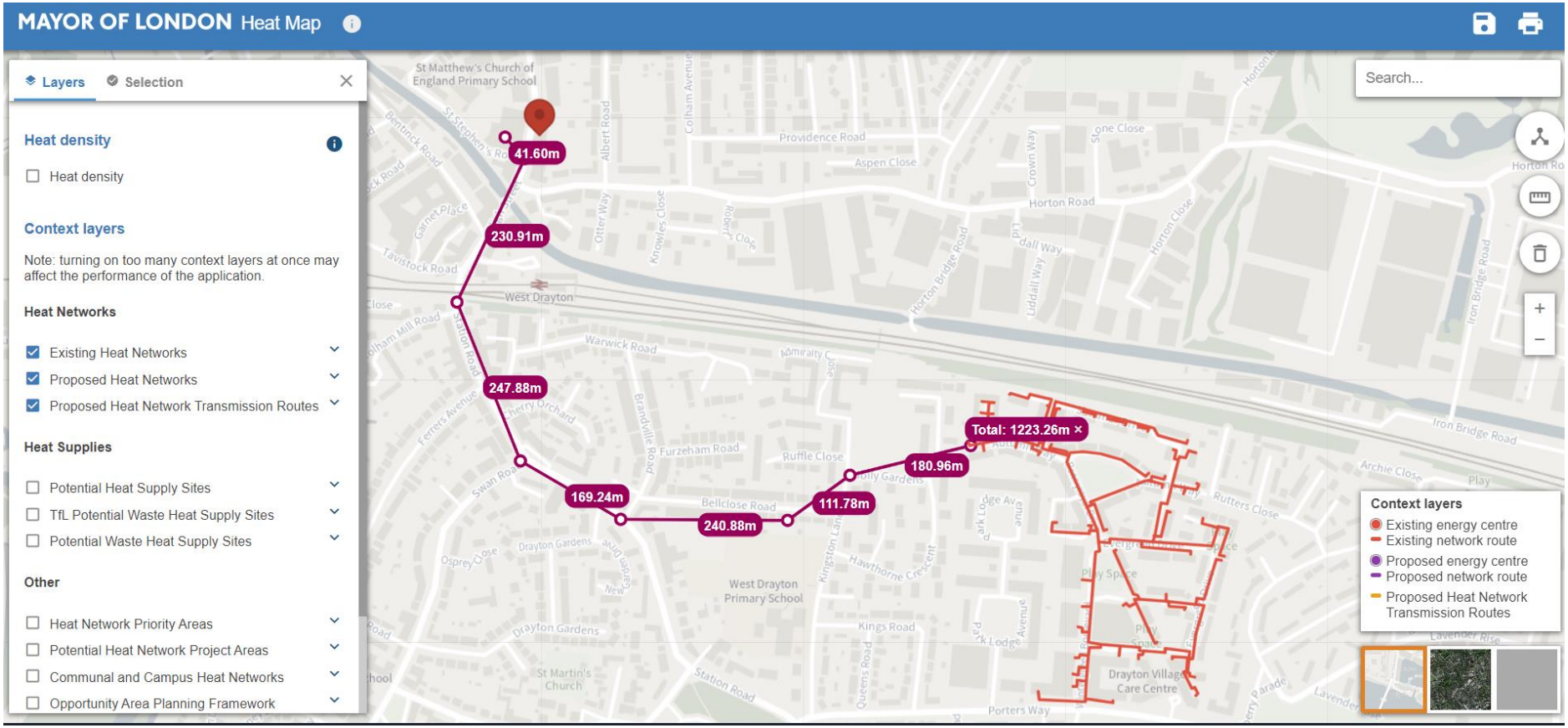
--

**Status**

Existing - Not Fully Built Out

**Name**

DGV


MAYOR OF LONDON Heat Map
Layers
Selection
Heat density
Heat density
Context layers
Note: turning on too many context layers at once may affect the performance of the application.
Heat Networks
Existing Heat Networks
Proposed Heat Networks
Proposed Heat Network Transmission Routes
Heat Supplies
Potential Heat Supply Sites
TfL Potential Waste Heat Supply Sites
Potential Waste Heat Supply Sites
Other
Heat Network Priority Areas
Potential Heat Network Project Areas
Communal and Campus Heat Networks
Opportunity Area Planning Framework
Search...
41.60m
230.91m
247.88m
169.24m
240.88m
111.78m
180.96m
Total: 1223.26m
Context layers
Existing energy centre
Existing network route
Proposed energy centre
Proposed network route
Proposed Heat Network Transmission Routes
St Matthew's Church of England Primary School
West Drayton
West Drayton Primary School
Drayton Village Care Centre
St Martin's Church
Providence Road
Aspen Close
Horton Road
Warwick Road
Furzeham Road
Bellclose Road
Kings Road
Station Road
Porters Way
Iron Bridge Road

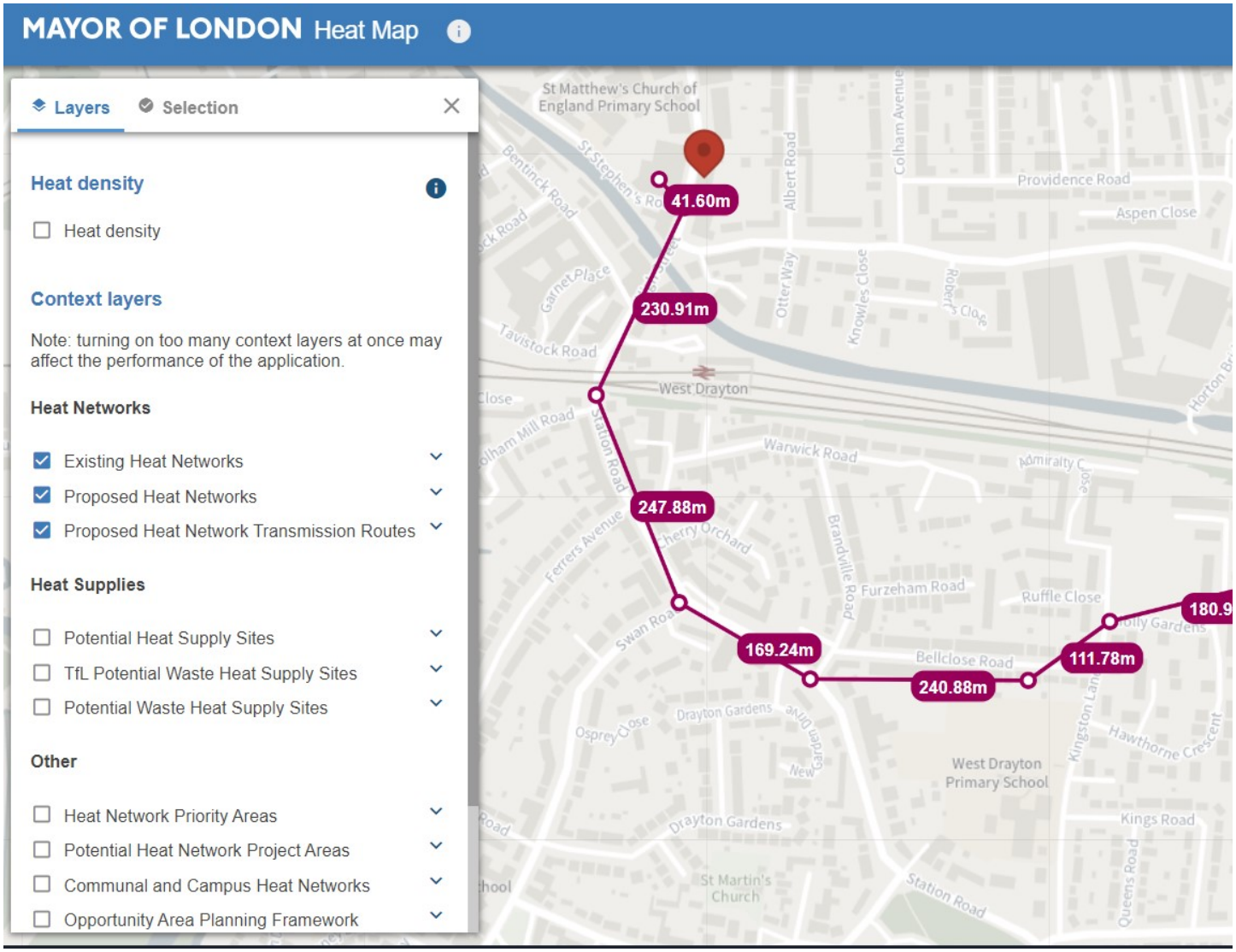
## Jeremy Holgate

**From:** Jeremy Holgate
**Sent:** 28 February 2024 18:06
**To:** districtheating@eonenergy.com
**Cc:** Mike Cousins
**Subject:** Enquiry re DHN (district heat networks)

FAO Mike Wake

We are working on behalf of a developer for the proposed development of the 43-67 High Street, Yiewsley site in the London Borough of Hillingdon. We are currently looking to fulfil our obligations under local and GLA policy which requires us to investigate and demonstrate that connection to an existing or planned district heating network has been investigated within our design.

The London Heat Map has been reviewed and we have identified that there is a decentralised energy scheme (DES) operated by EON in Drayton. I sourced your email from this site. The below image taken from the London Heat Map identifies the DGV Network on the other side of the railway line in West Drayton in excess of 1.2 km away at its nearest point.




Please can you confirm if there are any further plans for expansion of this district heating infrastructure above what is indicated on the London Heat Map? If you have any queries in regards to the above, please let me know.

Thanks

Jeremy Holgate
Senior Building Performance Engineer

Watkins Payne

t: 01932 781 641
m: 07801 206 441

w: www.watkinspayne.co.uk
e: jholgate@watkinspayne.co.uk

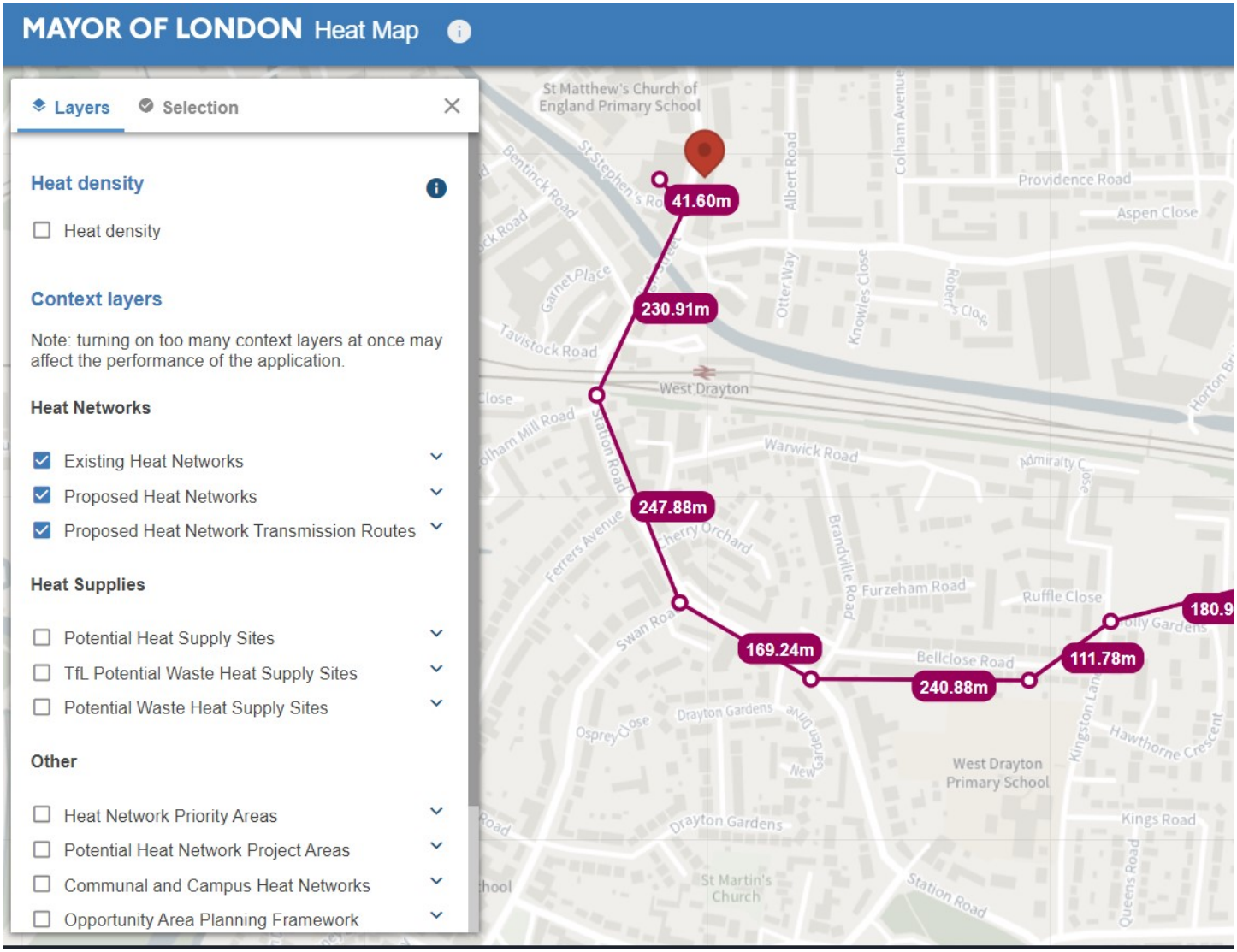
## Jeremy Holgate

**From:** Jeremy Holgate
**Sent:** 28 February 2024 17:53
**To:** planning@hillingdon.gov.uk
**Cc:** Mike Cousins
**Subject:** Hillingdon - Enquiry for planned DHN (district heat networks)

To Whom it May Concern,

We are working on behalf of Harbourside Investments Limited and WM Morrison Supermarkets Plc for the proposed development of the 43-67 High Street, Yiewsley site in the London Borough of Hillingdon. We are currently looking to fulfil our obligations under local and GLA policy which requires us to investigate and demonstrate that connection to an existing or planned district heating network has been prioritised within our design. Please could this email be forwarded to the energy officer in the planning team.

The London Heat Map has been reviewed and it is our conclusion that there is not a suitable decentralised energy scheme (DES) available within a reasonable distance from the proposed development site. The below image taken from the London Heat Map identifies the DGV Network operated by EON on the other side of the railway line in West Drayton but this is in excess of 1.2 km away at its nearest point. Therefore, the DES is not a viable option for the proposed development, however it is intended that the development will be future proofed such that it can connect to a district energy network in the future should one become available.



Please can you confirm that you are in agreement with the above analysis and that there are no further plans for additional district heating infrastructure above what is indicated on the London Heat Map. If you have any queries in regards to the above, please let me know.

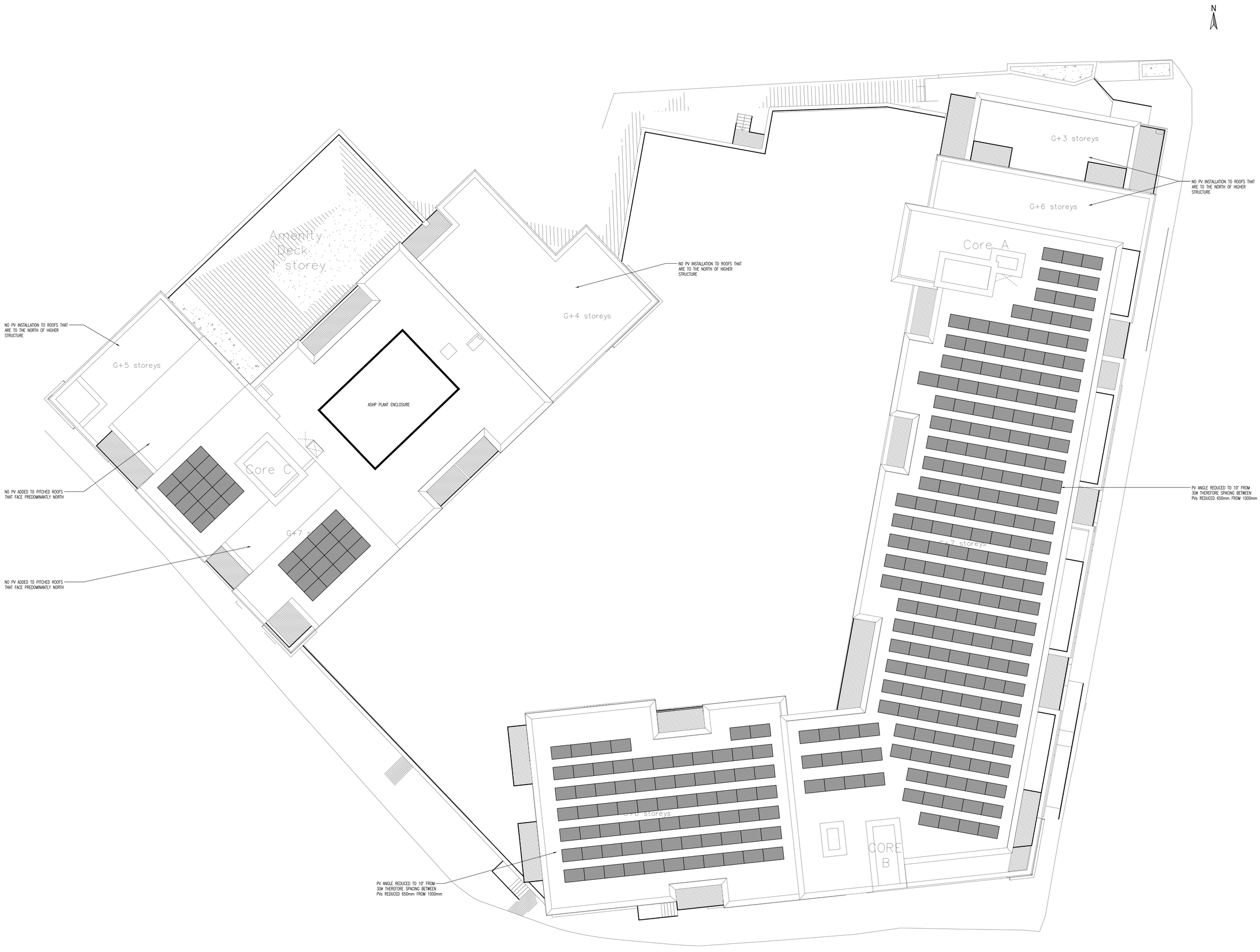
Thanks

Jeremy Holgate
Senior Building Performance Engineer

Watkins Payne

t: 01932 781 641
m: 07801 206 441
w: www.watkinspayne.co.uk
e: jholgate@watkinspayne.co.uk

| GLA Comment Reference | Supporting Information |
|---|---|
| 11 | Updated PV layout. |




NOTES:

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE SPECIFICATION AND LEGEND DRAWING.
2. DO NOT SCALE FROM THIS DRAWING.

| Ref. | Revision | Date |
|---|---|---|

**PLANNING**

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TEL: 0207 629 0322
SURREY OFFICE
51 STAINES ROAD WEST
SUNBURY-ON-THAMES
SURREY TW16 5AH
TEL: 01932 781641

Client
**HARBOURSIDE INVESTMENTS LIMITED AND WM MORRISON SUPERMARKETS PLC**

Project
**MORRISONS HIGH STREET YIEWSLEY**

Title
**ROOF PHOTOVOLTAIC LAYOUT**

| | | | |
|---|---|---|---|
| Date | MARCH 2023 | Scale at A0 | 1:100 |
| Drawn By | JH | Validated | |
| Checked | | | |

Drawing Number: **5343-E-999**
Revision: **2**