

Comments provided by Hawkins / Brown and Buro Happold 4/9/23		Our ref: HGY/2023/1043 Contact: Samuel Uff Date: 18/08/2023
Town and Country Act 1990 (As amended)		
Location:	Civic Centre High Road Wood Green London N22 8ZW	
Proposal:	Redevelopment of the existing rear car park for the erection of a three storey building (plus roof enclosure) comprising of Class E floorspace; 2 x two storey links; creation of central courtyard; parking and landscaping; and refurbishment and external alterations of the existing Civic Centre and offices, including alterations to entrance facade and fenestration; and associated works	

Carbon Management Response 18/08/2023

In preparing this consultation response, we have reviewed:

- Energy Statement prepared by Buro Happold (dated 8 March 2023, Rev P02)
- Thermal Comfort Report prepared by Buro Happold (dated 8 March 2023, Rev P01)
- Sustainability Report and BREEAM prepared by Buro Happold (dated 9 March 2023)
- Relevant supporting documents.

1. Summary

Carbon Management cannot currently fully support this application. The development does not currently meet:

- London Plan Policy SI2 and Local Plan Policy SP4: The development does not currently meet the zero-carbon policy requirement as the shortfall in emissions is not proposed to be offset. The development achieves a reduction of 52% carbon dioxide emissions (new build) and 80% of emissions (refurbished building) on site.
 - No carbon offset contribution is proposed for the development. Furthermore, an offset contribution cannot be calculated as the shortfall in emissions has not been reported in line with the requirements set out in the GLA Energy Assessment Guidance for the Civic Centre and whole building.

The carbon offset calculation has been completed and potential offset payment identified to meet the NZC policy SP4. Please refer to the completed spreadsheet and updated energy statement rev P03.

- The energy strategy is also not supported by sufficient information to fully support the principles.

Please refer to the completed spreadsheet and updated energy statement rev P03.

- Lastly, the retrofit strategy for the civic centre is not justified sufficiently with evidence that this is the best approach on energy reduction, fabric performance and moisture management.

Additional information has now been produced to clarify an alternative approach to the insulation of the brickwork walls which would allow an entirely externally insulated solution. Refer to Hawkins\Brown document: 'Additional Architectural Information following LBH Carbon Management Response 18/8/23' Section 1.1

An additional meeting was held with the Conservation Officer on the 31 August 2024 to review this additional information and discuss the impact of dismantling the brickwork to re-build the brickwork with an insulated cavity. This option (or an external insulated render) would significantly alter the external appearance of the building and run counter to conservation guidelines such as BS 7913:2013 - which requires the retention of existing significant fabric where possible to avoid 'harm' to the heritage asset.

The Conservation Officer has now confirmed this approach would cause substantial harm and would not be acceptable.

It is true the hybrid solution is not the 'best' approach when considering only energy in use (although it does achieve a substantial improvement on the existing condition)- but balances the best approach for energy reduction and fabric performance with the best approach for conservation. (Moisture management can and should be addressed in all solutions - see note below.)

- **Local Plan Policy DM21: The development does not demonstrate how adequate considerations for sustainable design, layout and construction techniques have been incorporated to ensure the existing building fabric is retrofitted responsibly to deliver the improved fabric performance for occupants and mitigate adverse impacts.**

The proposals adopt design principles to improve fabric performance, minimize cold bridging and avoid condensation. Thermal and condensation risk analysis has been undertaken through key details. Refer to Hawkins\Brown document: 'Additional Architectural Information following LBH Carbon Management Response 18/8/23' Section 1.3 in which we provide evidence of the process the design team has undertaken to reduce thermal bridging and mitigate the risk of condensation.

Further analysis will be required during future design stages to demonstrate the principles are being adopted throughout the building. If officers remain concerned, we suggest a condition requiring future submission of detailed design and analysis to ensure moisture control is considered throughout the design process. Further detail is provided below.

- **London Plan Policies SI2 and SI3, and Local Plan Policy DM22: Although the development proposes the ability to connect to a future Decentralised Energy Network in Wood Green when this becomes available, no evidence has been provided to support this.**

We have discussed the district heating connection with the Haringey Project Delivery team on many occasions. The timeline for connectivity was about 10 years. We have not had any direct discussion with the Haringey District Heating team. We also suggested future 'space provision' is included at stage 2 and 3. Its not on the H/B layouts but there is plenty of space in the basement to add in now.

Space in the plantrooms and builderswork allowing connection to a future district energy network and will be specifically identified on the stage 4 drawings as the design is developed.

- **London Plan Policy SI4 and Local Plan DM21: the dynamic thermal modelling does not meet the policy requirements by demonstrably following the cooling hierarchy, reducing overheating risk or reducing the impact on the urban heat island. It does not follow the GLA Energy Assessment Guidance.**

The comfort report has been updated and all results reported in accordance with the GLA Cooling hierarchy.

Although some principles of this development are supported and will deliver carbon savings, further information needs to be provided to address the concerns outlined above and in this response, particularly in relation to the Energy Strategy and Overheating Strategy. This should be addressed prior to the determination of the application or may be partially addressed through planning conditions.

2. Energy Strategy

Policy SP4 of the Local Plan Strategic Policies, requires all new development to be zero carbon (i.e. a 100% improvement beyond Part L (2021)). The London Plan (2021) further confirms this in Policy SI2.

The predicted reduction in CO₂ emissions for the new build development shows an improvement of approximately 52% in carbon emissions with SAP10.2 carbon factors, from the Baseline development model for the new build only (which is Part L 2021 compliant). This represents an annual saving of approximately 12.8 tonnes of CO₂ from a baseline of 24.8 tCO₂/year.

Calculations have not been provided for the existing building, this is not policy compliant. Therefore, site-wide carbon reductions cannot be provided.

London Plan Policy SI2 requires major development proposals to calculate and minimise unregulated carbon emissions, not covered by Building Regulations. The calculated unregulated emissions are 11 tCO₂ for the new build.

The development is proposing to retrofit the existing Civic Centre building, which is supported in principle by Haringey Policy DM21 to sustainably retrofit existing buildings.

<i>Site-wide (SAP10.2 emission factors)</i>			
	Total regulated emissions (Tonnes CO ₂ / year)	CO ₂ savings (Tonnes CO ₂ / year)	Percentage savings (%)
Part L 2021 baseline			
Be Lean			
Be Clean			
Be Green			
Cumulative savings			
Carbon shortfall to offset (tCO₂)			

<i>New build only (SAP10.2 emission factors)</i>			
	Total regulated emissions (Tonnes CO ₂ / year)	CO ₂ savings (Tonnes CO ₂ / year)	Percentage savings (%)
Part L 2021 baseline	24.8		
Be Lean	21.6	3.2	13%
Be Clean	21.6	0	0%
Be Green	12.0	9.6	39%
Cumulative savings		12.8	52%
Carbon shortfall to offset (tCO₂)	12		

Actions:

- The applicant should report their baseline CO₂ emissions and savings in tCO₂/year, not kgCO₂/m². It should also include clear tables, as set out by the GLA, for the site-wide carbon reductions, and the reductions for the new build and refurbishment parts of the development separately. It is not enough to include the GLA carbon emission reporting spreadsheet, it should also be in the main report and the spreadsheet does not clearly differentiate between the new build/refurb.

The tables from the calculator have been included in the report in tCO₂/year separately for both new build and refurbishment. The GLA carbon emissions spreadsheet now reports the site wide emissions.

- It is not clear whether the GLA carbon emission reporting spreadsheet is only for the new build element. It appears that it does not include the results for the refurbished building, which reports a reduction of 80%.

The GLA spreadsheet now includes both existing and new build elements representing the whole site.

- The blank table above needs to be filled in to report the carbon reductions of the Civic Centre building and the site-wide performance.

This is included in the report.

- What is the calculated Primary Energy Factor?

The proposed building is all electric and therefore the primary energy factor will follow the grid electricity primary energy factor.

Energy Use Intensity / Space Heating Demand

Applications are required to report on the total Energy Use Intensity and Space Heating Demand, in line with the GLA Energy Assessment Guidance (June 2022). The Energy Strategy should follow the reporting template set out in Table 5 of the guidance, including what methodology has been used. EUI is a measure of the total energy consumed annually, but should exclude on-site renewable energy generation and energy use from electric vehicle charging.

The applicant has not clearly stated the EUI and space heating demand within the Energy Strategy, as required. This information was obtained from the GLA Carbon Emission Reporting Spreadsheet.

Building type	EUI (kWh/m ² /year)	Space Heating Demand (kWh/m ² /year)	Methodology used
Office (new build)	105.9	10.2	CIBSE TM54 (bespoke inputs)
Office (refurb)	157.6	35.3	CIBSE TM54 (bespoke inputs)

Actions:

- The calculated Energy Use Intensity does not perform well against the GLA benchmark of 55 kWh/m²/year. Please justify this departure. What is taking it beyond the benchmark? The targets of 90 kWh/m²/year (new build) and 225 kWh/m²/year are far higher than the GLA targets; what are these based on?

The targets have been based on a 10% improvement over the current existing building energy consumption of 250kWh/m². The new annex target has been adjusted to take account of the high occupancy density and associated equipment usage reflecting high utilisation of the building. The GLA benchmark of 55kWh/m² is representative of small less intensively used offices.

Energy - Baseline

For major refurbishments, the GLA Energy Assessment Guidance requires an estimate of the carbon savings using an estimated baseline performance of the existing building assuming the notional specification for existing buildings, based on approved document L2. Where existing elements are more efficient than the notional specification, the actual energy performance of the building element should be used with supporting evidence.

Baseline Actions:

- For the Civic Centre, the applicant has used u-values that are worse than the notional baseline *and* no evidence has been provided to support this. This means the carbon savings will be higher than the savings from the 'consistent baseline' that the GLA seeks, without evidence. This is not supported.
- With the new Part L 2021 calculations it is important to be clear about the heating strategy and ventilation systems assumed under the Baseline and Be Lean scenarios (including the gross efficiency figures). Only emissions associated with the different energy demands have been provided. For non-residential applications the baseline should align with the proposed heating system, i.e. if proposing an air source heat pump, this should be specified with the efficiency values set out in Part L 2021 for that system under Be Lean. Currently this cannot be supported due to a lack of information. Outline the source of these assumptions.

Energy – Lean

The applicant has proposed a saving of 3.2 tCO₂ in carbon emissions (13%) through improved energy efficiency standards in key elements of the new build, based on SAP2012 carbon factors. This does not meet the minimum 15% reduction set in London Plan Policy SI2. Be Lean savings have not been reported for the Civic Centre building.

Policy DM21 also requires existing buildings to be retrofitted sustainably, and should demonstrate adequate consideration for sustainable design, layout and construction techniques. The proposed design does not adequately demonstrate how the existing fabric of the building would be retrofitted

sustainably with the right design and construction technique by proposing a hybrid internal and externally insulated retrofit solution, with partial replacement of existing materials. It also does not demonstrate how the building's thermal bridging risks have been modelled, mitigated and can be monitored to resolve once the building is in use; which also does not demonstrate adequate consideration for sustainable design and construction techniques.

Refer to Hawkins\Brown document: 'Additional Architectural Information following LBH Carbon Management Response 18/8/23' Section 1

The following u-values, g-values and air tightness are proposed:

	New Annexe	Existing Civic Centre	
		Renovation of thermal element	Retained thermal element
Exposed and ground floor u-value	0.10 W/m²K	0.18 W/m²K	0.35 W/m²K
External wall u-value	0.15 W/m²K	0.55 W/m²K cavity insulated; 0.30 W/m²K external/internal insulated	0.70 W/m²K cavity and external/internal insulated
Roof u-value	0.11 W/m²K	0.22 W/m²K	0.70 W/m²K
Door u-value	1.30 W/m²K	1.30 W/m²K	
Window u-value	1.21 W/m²K	1.30 W/m²K	
G-value	0.29	0.40	
Air permeability rate	2.5 m³/hm² @ 50Pa		
Ventilation strategy	Mechanical ventilation with heat recovery (MVHR 90% efficiency; Air Handling Unit with 1.5 W/l/s Specific Fan Power); Natural ventilation options in office areas.	Mechanical ventilation with heat recovery (MVHR 90% efficiency; Air Handling Unit with 1.6 W/l/s Specific Fan Power); Natural ventilation options in office areas.	
Waste Water Heat recovery	Not clear	Not clear	
Thermal bridging	Y = 0.04		
Low energy lighting	Max 4.5 W/sqm; 150-500 Lux area illuminance; 80-179 luminaire efficacy with manual and time clock controls, daylight dimming, presence detections		
Heating system (efficiency / emitter)	Air source heat pump (SCOP 2.8 or 2.1 at Be Lean stage)	Air source heat pump (SCOP 3.5 at Be Lean stage)	
Cooling demand	598,284 MJ/year		
Cooling efficiency	Fan Coil Unit efficiency 0.18 W/l/s (SEER 3.30 TBC)	Fan Coil Unit efficiency 0.20 W/l/s (SEER 4.65)	
Thermal mass	Not reported	Not reported	
Notes	Glazing ratio of 40% in the new annexe.	Renovation: new external cladding; internal dry-lining; stripping down and rebuilding; replacing waterproof membrane Retained: material changes of use; included in new thermal line; proposed consequential improvements Glazing and roof proposed to be upgraded.	

Be Lean Actions:

- The g-value on p.13 of the ES is different from the g-value on the GLA reporting spreadsheet. Please clarify and rectify.

The g values for the civic centre and new annex are 0.4 and 0.29

- Even though Part L does not require insulation for areas that are not externally accessible; what would the impacts be if this is not insulated? Can adjacent areas be insulated to create a thermal line between the basement and ground floor, or would the advantage of plant heat losses be lost? Can this heat loss from the plant be captured and used within the Civic's heating system?

The basement will have a lower heat through the uninsulated walls and floors as a result of being in contact with the ground and would be considered as being within the thermal envelope of the building and no benefit to insulate the basement ceiling which can be problematic around HVAC plant fixings. The only spaces that would be considered outside of the thermal envelope are those with permanent openings to the outside which would benefit from thermal insulation to the surfaces adjacent heated spaces.

- Please clarify; two different efficiencies are reported for the ventilation with heat recovery, 80% and 90%.

80% efficiency.

- Please clarify; the SCOPs for the heat pumps have been reported as different figures too.

The report section 3.4.4 details the SCOPs

- The cooling demand under Part L results increases for the new annexe from 0.66 kgCO₂/sqm/year (baseline) to 0.70 (be lean) and 0.78 (be green). This cannot be supported.

The cooling energy in kWh/m² for the new Annexe in the BRUKL documents representing the stage 3+ design are 5.54 for the baseline (Notional), 5.19 for Lean, and 5.19 for Green representing a reduction from the baseline.

- The domestic hot water demand under Part L results increases for the new annexe from 0.66 kgCO₂/sqm/year (baseline) to 0.89 (be lean) and 0.76 (be green). This cannot be supported.

The DHW energy in kWh/m² for the new Annexe in the BRUKL documents representing the stage 3+ design are 5.04 for the baseline (Notional), 5.79 for Lean, and 4.82 for Green. The increase from the baseline for the Lean assessment is due to the baseline (notional building) DHW distribution efficiency being based on a % whilst the Lean, Clean, and Green are based on a calculation of the actual losses. The Green shows a reduction as the DHW efficiency in the Clean, and Green models are based on the proposal whilst the Lean is based on the notional building efficiency.

- Set out how the scheme's thermal bridging will be reduced.

Typical details and bay studies have been submitted as part of the planning application and issued as contract documents demonstrating the overall strategy to thermal bridging. Thermal and condensation risk analysis has been undertaken through key details at Stage 3 - Refer to Hawkins\Brown document: 'Additional Architectural Information following LBH Carbon Management Response 18/8/23' Section 1. The complete detailed design is to be developed by the contractor at Stage 4 and it is a requirement of the tender the contractor provides evidence the design achieves the performance requirements and demonstrates thermal bridging is mitigated.

- What is the construction of the building and what is the assumed thermal mass?

The model building fabric construction has been based on the architectural proposals with an exposed soffit in the new annexe North Wing and suspended ceilings in the rest of the Civic Centre. The thermal mass of all elements has therefore been accounted for.

- Please confirm how many air changes per hour the natural ventilation could achieve.

Natural ventilation usually achieved around 5 air changes per hour. It does vary depending on wind speed and direction

- Why has the façade external lighting been excluded from calculations? This is part of the landscape design and strategy to contribute to safety.

External lighting is not part of the regulated energy consumption of the building so not part of this element of the calculation. It is however included in the be seen prediction for the building

- Does the development include waste water heat recovery?

No

Retrofit Actions:

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- At pre-application stage the applicant was already requested verbally (October 2022) and in writing (November 2022), and multiple times thereafter, to prepare a best-case retrofit scenario (including overheating) “with all the measures that would be undertaken (please give an indication on energy reduction potential). This should be the starting point to start considering what allowances will need to be made to consider LB status and work back from there to find suitable compromises. Thermal bridging impacts needs to be assessed as part of this.” This was not undertaken and therefore the current hybrid insulation proposal is not sufficiently backed up with proper evidence and justification against a more ideal scenario of delivering a fully externally insulated option. And with the lack of thermal bridging analysis, this may impact the fabric of the listed building and will not make the building resilient for the future. No mitigation has been submitted for the hybrid option.
- [Refer to Hawkins\Brown document: 'Additional Architectural Information following LBH Carbon Management Response 18/8/23' Section 1.3](#)
- Submit sufficient evidence that the retrofit strategy has been responsibly informed by building surveys to inform the existing performance, and moisture movements, as well as thermal bridging modelling that has informed the insulation strategy. [Refer to Hawkins\Brown document: 'Additional Architectural Information following LBH Carbon Management Response 18/8/23' Section 1.3](#)
- Please also demonstrate that this is the most cost and space efficient option.
- Demonstrate how the internal insulation option will not negatively impact on the existing fabric (in its construction and operation due to moisture buildups) and that suitable monitoring for these risks are in place.
- [Refer to Hawkins\Brown document: 'Additional Architectural Information following LBH Carbon Management Response 18/8/23' Section 1.3](#)
- The case studies provided to illustrate precedent have not been backed up with any information to demonstrate this kind of strategy has been implemented successfully in a similar construction.
- [Refer to Hawkins\Brown document: 'Additional Architectural Information following LBH Carbon Management Response 18/8/23' Section 1.4](#)

Energy – Clean

London Plan Policy SI3 calls for major development in Heat Network Priority Areas to have a communal low-temperature heating system, with the heat source selected from a hierarchy of options (with connecting to a local existing or planned heat network at the top). Policy DM22 of the Development Management Document supports proposals that contribute to the provision and use of Decentralised Energy Network (DEN) infrastructure. It requires developments incorporating site-wide communal energy systems to examine opportunities to extend these systems beyond the site boundary to supply energy to neighbouring existing and planned future developments. It requires developments to prioritise connection to existing or planned future DENs.

The development is close to the planned future DEN area in Wood Green, so the development is expected to secure connection once this becomes available, subject to demonstration of technical feasibility and financial viability. The applicant is proposing to connect in the future but has not included any Be Clean carbon reductions.

Some evidence should be provided that the plant room is adequately sized for a substation.

The applicant will need to demonstrate that they will provide the following details prior to the commencement of construction:

- Buried pipe (dry and filled with nitrogen) to our specification from the GF plant room to a manhole at the boundary of their site and evidence of any obstructions in highway adjacent to connection point;
- A good quality network within the building – 60/40 F&R, <50W/dwelling losses from the network – ideally to an agreed standard;

- c) A clear plan for quality assurance of the network post-design approval through to operation, based on CP1;

Be Clean Actions:

- Please demonstrate the spatial arrangements are suitable for a future DEN connection. Please submit a site plan showing the connection point at the edge of the site, location of a pipe between the connection point and plant room, and plant room layout and schematics.

We have discussed the district heating connection with the Haringey Project Delivery team on many occasions. The timeline for connectivity was about 10 years. We have not had any direct discussion with the Haringey District Heating team. We also suggested future 'space provision' is included at stage 2 and 3. Its not on the H/B layouts but there is plenty of space in the basement to add in now.

Energy – Green

As part of the Be Green carbon reductions, all new developments must achieve a minimum reduction of 20% from on-site renewable energy generation to comply with Policy SP4.

The application has reviewed the installation of various renewable technologies. The report concludes that air source heat pumps (ASHPs) and solar photovoltaic (PV) panels are the most viable options to deliver the Be Green requirement. A total of 9.6 tCO₂ (39%) reduction of emissions are proposed under Be Green measures.

The total solar array peak output would be 141.7 kWp, which is estimated to produce around 122,367 kWh/year of renewable electricity per year. This translates into 9.2 kWh/sqm for the Civic Centre and 13.7 kWh/sqm for the annexe. The array of 368 panels would be mounted on a total assumed roof area of 691 sqm on roofs of the Civic Centre, and its link block, the new annexe link block and new annexe building on the roof and as a canopy above the plant area. The panels are assumed at a 12° title, with a 20.7% efficiency, 385 Wp per panel, and facing south and west. It is assumed that all the electricity generated is used on site.

The central ASHP system (min. SCOP of 3.5) will provide space heating to the buildings, anticipated to be delivered through radiators, door curtains, underfloor heating, the air handling and fan coil units. A water-source heat pump (WSHP) will boost temperatures to 70C to serve the existing Civic Centre and will provide domestic hot water to the ground floor showers in the new annexe. The combined SCOP for the Civic Centre of the ASHP and WSHP is 2.5. The hot water storage capacity is calculated at 900L, with a storage loss factor of 3.7 kWh/l/day and secondary pipework losses of 8 W/m.

Expected energy consumption for the whole building:

- ASHP heating: 5.3 kWh/sqm
- ASHP/WSHP heating: 16.9 kWh/sqm
- WSHP hot water: 1.1 kWh/sqm
- Point of use hot water: 3.9 kWh/sqm
- ASHP cooling: 5.2 kWh/sqm

Electric hot water will instantaneously be provided for handwash basins.

Be Green Actions:

- The information in the report is contradictory for the proposed solar PV area; it appears in areas that the area is unconfirmed (with the repeated image used as the Civic Centre arrays as 'to be confirmed'), but tables setting out the proposed capacity.

The stage 3+ PV areas have been used and detailed in the updated report

- The table showing the output of the PV array per building would be more helpful in the context of the energy requirements, and showing the development's net zero carbon balance.

This has been included in the report

- Please clarify if the carbon reduction for the solar PV has been completely allocated to the new build or existing building in the Part L calculations?

The PV arrays are expected to be connected to their nearest main distribution board. They will be assigned to either the existing building or new building in accordance with the most cost effective electrical design.

This has been made clear in the breakdowns

- It is difficult to locate whether there is a section plan to show the solar PV in relation to its surroundings. Please submit one showing the height of the plant equipment and its surround, and any trees or upstands and their overshadowing impact.

Rather than provide a section, we provide additional information on the location of PVs and the rationale behind this positioning in section 2 of the Hawkins\Brown document: 'Additional Architectural Information following LBH Carbon Management Response 18/8/23'

Commented [DK4]: Hawkins Brown

- Why is lighting demand being reduced under Be Green?

The lighting demand are the same for the Lean, Clean, and Green BRUKLs in the stage 3+ update

A living roof should be installed under the solar PV, or if this is not feasible, the roof should be light coloured to reduce solar heat gains and the improve efficiency of the solar panels.

PVs are not co-located with living roofs due to the increase in height and heritage considerations. The potential for the use of a light coloured roof covering can be explored at Stage 4

Commented [DK5]: Hawkins Brown

- It is not clear how the remaining domestic hot water usage will be met (apart from the handwash basins), is this through the WSHP?

Showers domestic hot water is generated by the water source heat pump that is fed with Low Temperature Hot Water from the Air Source Heat Pump in the new building. All other Domestic Hot Water (wash hand basins etc are generated using electric point of use water heaters

- Where will the 900l hot water be stored?

The hot water is stored in the domestic hot water cylinder for the showers and is located at ground floor level

- Is any waste heat from the equipment rooms or other areas being recovered into the space heating system?

No

Energy – Be Seen

London Plan Policy SI2 requests all developments to 'be seen', to monitor, verify and report on energy performance. The GLA requires all major development proposals to report on their modelled and measured operational energy performance. This will improve transparency on energy usage on sites, reduce the performance gap between modelled and measured energy use, and provide the applicant, building managers and occupants clarity on the performance of the building, equipment and renewable energy technologies.

It is expected that the whole building will use 1,166-1,490 MWh of energy per year, translating into an estimated cost of £293k to £375k (based on a unit price of 25.13p/kWh).

The applicant should install metering equipment on site. A public display of energy usage and generation should also be provided in the main entrance area to raise awareness of visitors, staff members and elected members.

- What are the unregulated emissions and proposed demand-side response to reducing energy: smart grids, smart meters, battery storage?

- Demonstrate that the planning stage energy performance data has been submitted to the GLA webform for this development: (<https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/london-plan-guidance/be-seen-energy-monitoring-guidance/be-seen-planning-stage-webform>)

3. Carbon Offset Contribution

The carbon shortfall will inform the carbon offsetting contribution. This shortfall should be calculated on the basis of the new build and refurbished building. Currently only a shortfall of 12 tCO₂/year is reported in the spreadsheet (not the main body report). This is not sufficient.

The remaining carbon emissions for the entire development will need to be offset at £95/tCO₂ over 30 years, plus a 10% management fee.

4. Overheating

London Plan Policy SI4 requires developments to minimise adverse impacts on the urban heat island, reduce the potential for overheating and reduce reliance on air conditioning systems. Through careful design, layout, orientation, materials and incorporation of green infrastructure, designs must reduce overheating in line with the Cooling Hierarchy.

The applicant has modelled the thermal comfort of the new build and civic centre building in accordance with BREEAM credit Hea04 thermal modelling and design for future thermal comfort requirements. The applicant has used the London Weather Station (although this does not confirm it is using the CIBSE TM49 files), for 2020s (DSY1, DSY2, DSY3), 2050s (DSY1), 2080s (DSY1).

According to the report, all modelled spaces pass the TM52 overheating criteria. However, the development has not shown how passive measures have been integrated to reduce overheating risk prior to specifying active cooling. This is also clearly set out in the GLA Energy Assessment Guidance.

No future mitigation measures have been proposed.

The applicant has not modelled the buildings in accordance with the Energy Assessment Guidance, nor followed Haringey's planning application submission requirements for dynamic thermal modelling.

The submitted overheating strategy is not considered acceptable.

Overheating Actions:

The comfort assessment was completed in accordance with the GLA Cooling Hierarchy and the updated report demonstrates this utilising the CIBSE TM49 weather files

The report does not provide any details for the following, this should be addressed with urgency.

- Confirm this model uses the CIBSE TM49 files for the Central London Weather file.
- Confirm that the model used to inform the results incorporate the latest design – the report says the plans used are from January 2023.

The cooling demand output is based on the stage 3+ design information

- Set out the weather file used / internal gains and occupancy profiles / thermal mass assumption / thermal elements performance (u-values, g-value) / heat losses from pipework and any relevant heat interface units for the heating systems.

This has been set out in the report

- Demonstrate the Cooling Hierarchy has been followed, currently this has not been demonstrated and therefore this development is not compliant with Policy SI4.

This has now been demonstrated in the report

- The applicant must demonstrate that the risk of overheating has been reduced as far as practical and that all passive measures have been explored, including reduced glazing and increased external shading. The applicant should also outline a strategy for residents to cope in extreme weather events, e.g. use of fans.

Limited glazing and external shading have been incorporated into the design of the Annexe. The active cooling system was shown to maintain comfort in extreme weather.

The existing building glazing and shading features are being maintained for heritage purposes.

- Specify the shading strategy, including: technical specification and images of the proposed shading feature (e.g. overhangs, Brise Soleil, external shutters), elevations and sections showing where these measures are proposed. Internal blinds cannot be used to pass the weather files, but can form part of the delivered strategy to reduce overheating risk for occupants (as long as it does not compromise any ventilation requirements).

The building shading features incorporated into the architectural design have been represented in the thermal model, see the report section 4.1.

Internal blinds have not been used to achieve compliance with the cooling hierarchy.

- Specify the ventilation strategy, including: floorplans showing the ventilation strategy per zone (predominantly natural, predominantly mechanical, stack ventilation, mechanical only) and specify the efficiency and air changes, window opening areas for the relevant openable windows as shown on elevation(s).
- Confirm that any potential noise or air pollution sources from the road or adjacent school can be temporarily mitigated through the overheating strategy.

Mechanical ventilation will maintain ventilation rates on the front elevation adjacent to the busy road should noise and pollution necessitate the closure of windows.

- Include images indicating which zones were modelled and floorplans showing the modelled internal layout of the zones.

All occupied zones have been modelled with the perimeter 6m zone of each elevation reported separately to the internal zones, see appendix B.

- Undertake further modelling:
 - o Model the 2020s DSY 2 and 3 and DSY1 for the 20280s. Ensure the design has incorporated as many mitigation measures to pass these more extreme and future weather files as far as feasible. Any remaining overheating risk should inform the future retrofit plan.
 - o Any potential further modelling depending on which zones have been modelled.

All the above weather data sets have been utilised and overheating results reported

- Specify the active cooling demand, only after having followed the cooling hierarchy (space cooling, not energy used) on an area-weighted average in MJ/m² and MY/year. Please also confirm the efficiency of the equipment, whether the air is sourced from the coolest point, and whether it has been powered by any renewable sources. Part of the Energy Strategy appears to indicate that the cooling demand is actually higher than the notional building.

The stage 3+ analysis indicated a 30% reduction in cooling demand compared to the baseline and notional buildings

- Set out a retrofit plan for future and more extreme weather files, demonstrating how these measures can be installed, how they would reduce the overheating risk, what their lifecycle replacement will be, and who will be responsible for overheating risk.

The active cooling system maintains comfort for the extreme weather files used in the assessment

- Demonstrate how these future mitigation measures will improve the overheating results.

No future mitigation measures necessary

- Confirm who will own the overheating risk when the building is occupied.

5. Sustainability

Policy DM21 of the Development Management Document requires developments to demonstrate sustainable design, layout and construction techniques. The sustainability section in the report sets out the proposed measures to improve the sustainability of the scheme, including transport,

materials and waste, water consumption, flood risk and drainage, biodiversity, energy and CO2 emissions. There is no commentary on climate resilience.

Sustainability Action:

- There is a lot of information about the targets this scheme aimed for, but very little to demonstrate how this scheme is performing against those. Please report against these and clarify.

This has been reviewed and the report updated accordingly.

Non-Domestic BREEAM Requirement

Policy SP4 requires all new non-residential developments to achieve a BREEAM rating 'Very Good' (or equivalent), although developments should aim to achieve 'Excellent' where achievable.

The applicant has prepared a Bespoke BREEAM Pre-Assessment Report to combine the New Construction and Refurbishment & Fit-Out methodologies.

Based on this report, a score of 89.97% is expected to be achieved, equivalent to the '**Outstanding**' rating. A potential score of 93.56% could be achieved (also equivalent to Outstanding). This is supported in principle, and exceeds the policy target to aim for an Excellent rating, and will be secured via planning condition.

The potential credits include Wst 01 (project waste management), Wst 02 (recycled aggregates), Pol 02 (NOx emissions) and the innovation credit for sustainable lighting.

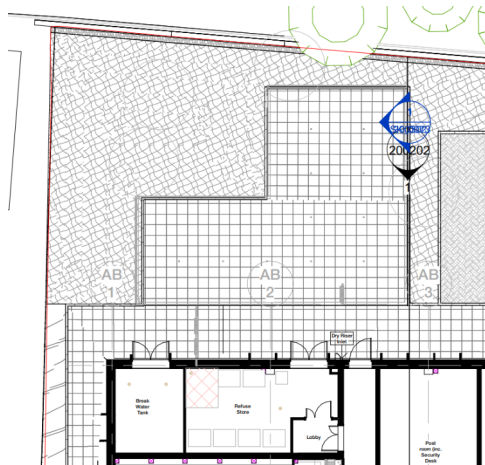
Cycle facilities

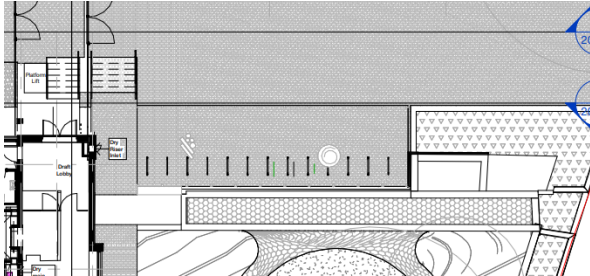
Cycling Action:

- The submitted cycle parking plans are not sufficient in detail to demonstrate they will be secure, and sheltered, guarantee easy access to lock a bike safely (whilst locking), and will encourage staff to cycle. It is not clear what the layout of cycle parking is, and whether the Sheffield stands will be located in a secure space.

Commented [DK6]: Hawkins Brown

The proposed GF plan:





Refer to Landscape designer information for more details on cycle rack layouts - Cycle parking layout is subject to detailed design by specialist.
 Secure long-stay cycle shelters will be lockable - key/code/fob/card access is to be confirmed.
 Internal automated lighting within shelters - external lighting within the landscape.
 CCTV coverage throughout the landscape.
 Aluminium panels with concealed fixings internally to stop unscrewing from the exterior.
 Short-stay sheffield stands are required for visitors and located outside at the front entrance of the building with CCTV, security desk nearby and passive surveillance.

Urban Greening / Biodiversity

All development sites must incorporate urban greening within their fundamental design and submit an Urban Greening Factor Statement, in line with London Plan Policy G5. London Plan Policy G6 and Local Plan Policy DM21 require proposals to manage impacts on biodiversity and aim to secure a biodiversity net gain. Additional greening should be provided through high-quality, durable measures that contribute to London's biodiversity and mitigate the urban heat island impact. This should include tree planting, shrubs, hedges, living roofs, and urban food growing. Specifically, living roofs and walls are encouraged in the London Plan. Amongst other benefits, these will increase biodiversity and reduce surface water runoff.

The development achieves an Urban Greening Factor of more than 0.30, although the exact score cannot be located in the submission. This complies with the interim minimum target of 0.3 for predominantly non-residential developments in London Plan Policy G5.

The Biodiversity Net Gain calculation shows a net gain of 10.13% in ecological value and 100% increase in hedgerow units, which just meets the 10% requirement as set out in the Environment Act 2021.

The expansion of the woodland garden and raingardens is supported. Further planting, greening and biodiversity measures are strongly recommended in the courtyard too.

Living roofs

All development sites must incorporate urban greening within their fundamental design, in line with London Plan Policy G5.

The development is proposing living roofs in the development, but only on the bin store, generator and substation. Further space is available on the new build link block, underneath the solar PV. This should be further developed at planning condition stage.

All landscaping proposals and living roofs should stimulate a variety of planting species. Mat-based, sedum systems are discouraged as they retain less rainfall and deliver limited biodiversity advantages. The growing medium for extensive roofs must be 120-150mm deep, and at least 250mm deep for intensive roofs (these are often roof-level amenity spaces) to ensure most plant

species can establish and thrive and can withstand periods of drought. Living walls should be rooted in the ground with sufficient substrate depth.

Living Roof Action:

- Living roofs are supported in principle, subject to detailed design and maximising the opportunities for the living roof areas (especially where they can be co-located with solar PV to reduce the operating temperature of the solar PV array and increase the habitat types). Details for living roofs will need to be submitted as part of a planning condition.

Commented [DK7]: Greengage

Living roofs have been maximised on proposed buildings. During Stage 3+ the layout of this has changed slightly. Overall the current area of green roof is a betterment of the ecology report submitted as part of the planning application.

Living roofs are not proposed on the existing building due to increased build up and heritage constraints.

Living roofs are not currently proposed below PVs due to the increase in height as well as heritage considerations.

Hard and soft landscaping has been carefully considered to allow maximum usability while maximising soft landscaping and UGF.

Details for living roofs can be submitted as part of a planning condition.

Climate Change Adaptation

The development should have a climate change adaptation strategy in place for residents and visitors to help the area become more resilient against the impacts of climate change. This should include adaptation to increased risk of flooding and wind-based impacts from more frequent and severe storm events, longer periods of drought (in relation to the soft landscaping and limiting occupant water use), more intense and longer heatwaves. The development should allocate a publicly accessible 'cool space', following the [GLA's criteria for cool spaces](#) and to form part of the wider [cool spaces map](#).

Climate Adaptation Action:

- Identify in what ways the development will increase the resilience of residents and businesses and adapt their public realm to the impacts of climate change.

The site is to be developed to maximise public access– the secure line for the scheme is at the boundary of the building allowing public access to the entire perimeter of the site. All mature and healthy trees retained on site with 28 new proposed and public amenity space is provided in these sheltered areas.

The landscape design and planting plan are developed with climate change mitigation in mind – including drought resistant planting and SUDS drainage principles.

Commented [DK8]: Hawkins Brown

Whole Life-Cycle Carbon Assessments

Policy SI2 requires developments referable to the Mayor of London to submit a Whole Life-Cycle Carbon Assessment and demonstrate actions undertaken to reduce life-cycle emissions.

As part of the pre-application advice discussions, WLC calculations were done. These have not been reported in the submission.

Circular Economy

Policy SI7 requires applications referable to the Mayor of London to submit a Circular Economy Statement demonstrating how it promotes a circular economy within the design and aim to be net zero waste. Haringey Policy SP6 requires developments to seek to minimise waste creation and increase recycling rates, address waste as a resource and requires major applications to submit Site Waste Management Plans.

This application is not required to submit a full statement. Very high-level ambitions are set out in the Sustainability Statement.

6. Planning Obligations Heads of Terms

- Be Seen commitment to uploading energy data
- Energy Plan
- Sustainability Review
- Estimated carbon offset contribution (and associated obligations) of £XXXX (indicative), plus a 10% management fee; carbon offset contribution to be re-calculated at £2,850 per tCO2 at the Energy Plan and Sustainability stages.
- Future DEN connection (and associated obligations)

7. Planning Conditions

To be secured (with detailed wording TBC):

- Energy strategy
- Retrofit strategy
- Future DEN connection
- Overheating
- BREEAM Certificate for 'Outstanding'
- Living roofs
- Whole-Life Carbon calculations
- Circular Economy strategy
- Biodiversity

Carbon Management Response 01/09/2023

In preparing this consultation response, we have reviewed:

- BRUKL Output Documents for existing Civic Centre and Annexe Building (Baseline, Be Lean, Be Green)
- GLA Carbon Emission Reporting Spreadsheet
- Other documents will be assessed with the remaining pack of information required.

Summary

The applicant has submitted some further information in response to the comments above. The information submitted regarding the refurbishment Civic Centre (condensation analysis) will form part of the next response which will include responses to the rest of the Energy and Overheating Strategies that have been requested above.

The applicant submitted BRUKL reports and the carbon emission reporting spreadsheet to clarify the carbon savings on site.

Energy Strategy – Overall (Interim update)

The BRUKL reports do not have an address or certifier details on them, so it is not clear whether these results actually reflect the proposals and are done by a certified person. The BRUKL reports also state that the refurbished Civic Centre does not comply with Building Regulations Part L 2021. **It should be noted that as the Civic Centre is an existing building it does not have to comply with the BRUKL calculations which only apply to new buildings. The refurbishment does comply with the requirements for existing buildings**

The applicant has only provided the GLA Carbon Emission Reporting Spreadsheet, it is expected that the updated Energy Strategy which is still to be issued, will include the necessary amendments and additional information. This should include separate tables for the site-wide, refurbished building and new build carbon reductions. The amended tables below have had to be extrapolated from the GLA spreadsheet.

Site-wide (SAP10.2 emission factors)

	Total regulated emissions (Tonnes CO ₂ / year)	CO ₂ savings (Tonnes CO ₂ / year)	Percentage savings (%)
Part L 2021 baseline	65.4		
Be Lean	55.4	10	15%
Be Clean	50.7	4.7	7%
Be Green	34.5	16.2	25%
Cumulative savings		34.5	47%
Carbon shortfall to offset (tCO₂)	34.5		
Carbon offset contribution (to be confirmed)	£95 x 30 years x 34.5 tCO ₂ /year = £98,325 (indicative) + 10% monitoring fee of £9,832 Total contribution of £108,157		

<i>Refurbished Civic Centre (SAP10.2 emission factors)</i>			
	Total regulated emissions (Tonnes CO ₂ / year)	CO ₂ savings (Tonnes CO ₂ / year)	Percentage savings (%)
NOT Part L 2021 baseline	43.1		
Be Lean	35.2	7.8	18%
Be Clean	31.8	3.4 (or -3.4 as spreadsheet unclear)	7%
Be Green	25.5	6.3	15%
Cumulative savings		17.6	40.8%
Carbon shortfall to offset (tCO₂)	25.5		

<i>New build only (SAP10.2 emission factors)</i>			
	Total regulated emissions (Tonnes CO ₂ / year)	CO ₂ savings (Tonnes CO ₂ / year)	Percentage savings (%)
Part L 2021 baseline	24.8		
Be Lean	21.6	3.2	13%
Be Clean	21.6	0	0%
Be Green	12.0	9.6	39%
Cumulative savings		12.8	52%
Carbon shortfall to offset (tCO₂)	12		

Actions:

- Please explain:
 - o What baseline has been used for the refurbished building?

The baseline has been set up in accordance with the GLA Guidelines

- o Why the baseline for new build has changed from 24.8 to 22.3?

There has been design updates from when the planning documents were submitted and the RIBA stage 3+ design that have been incorporated

- o Why we are seeing savings under Be Clean in the refurbished building?

Because the heating system efficiency in the Be Lean model has to match the notional building while the Be Clean systems efficiency match the proposed efficiency as set out in the GLA guidance

- o Why the overall carbon savings have reduced from 80% to 41% in the refurbished building?

Because the baseline fabric U-values have been set to the values stated in the GLA Guidance.

Originally the existing building fabric U-values were used

- o What the BRUKL stage 3+ is?

Stage 3+ is the RIBA design stage that the project is currently in. BRUKL stands for Building Regulations United Kingdom Part L

- Demonstrate that the calculations have been done in line with the certified methodology under Building Regulations?

The calculations have been checked by a registered assessor David Kingstone LCEA 018172. The BRUKL documents are being updated with the building and certifier details.

- Why is waste eat from the equipment stores not being recovered? This is not in line with Policy SI3.

TBC

- In the meeting it was discussed that the EUI is justified by the additional use this building will see. Please demonstrate this with a comparative occupancy profile between a 'usual' office building and the one proposed, and what uses are proposed after hours.

The EUI for the existing building has been based on RIBA 2030 Climate Change Target and the New Annexe has been based on the UKGBC Net Zero Carbon operational energy 2025 – 2030 target.

Conditions and Heads of Terms

Conditions

To be secured (with detailed wording TBC – subject to outstanding information to be received):

- Revised Energy strategy
- Retrofit Strategy
- Sustainability Review
- Be Seen Energy Monitoring
- Future DEN connection
- Revised Overheating Strategy
- BREEAM Certificate for 'Outstanding'
- Sustainability Targets
- Living roofs and roof albedo
- Whole-Life carbon calculations
- Circular Economy Strategy
- Climate change adaptation and resilience

Legal Heads of Terms

- Carbon offset contribution (and associated obligations) of **£98,325** (indicative), plus a 10% management fee; carbon offset contribution to be re-calculated at £2,850 per tCO₂ at the Energy Plan prior to implementation (with a 50% payment of the contribution) and at the Sustainability Review stage prior to occupation (with a payment for the outstanding amount).

Conclusion

The application still cannot be fully supported due to the level of information still outstanding.

The actions above are in addition to most actions that are still outstanding from the comments issued on 18th August 2023. The applicant should submit a revised Energy Strategy and Overheating Strategy, in addition to a clear document setting out what the changes are and why.