Liverpool Street Station

Planning Submission Ref: 25/00494/FULEIA

Embodied Carbon Assessment

on behalf of

The LISSCA Campaign: Save Liverpool Street Station

23 August 2025

Contents:

1. Executive Summary

1.1. The objective of this report is to examine and comment on the carbon emission impacts of the planning submission: 25/00494/FULEIA, and in particular the Over Station Development (OSD)and the substantial resulting demolition.

1.2. The submission fails to meet a significant number of UK, GLA and City of London carbon emission related environmental policies for new office development and **should be rejected** on this basis. (See 8.1, 8.2, 8.3, and 8.4 etc below).

1.3. The assessment methodology used to produce the assessment is flawed as it is based on the now redundant 1st Edition (2017) with only partial use of its replacement the 2nd Edition (2023). (see para 3 below)

1.4. This flawed assessment therefore gives potentially misleading conclusions which are likely to be lower than if the 2nd edition was exclusively used. (See paras 3, and 4.4 below).

1.5. The submission schemes OSD has an inefficient layout with a sub-optimum wall to floor ratio (see paras 5.5 and 8.3 paras; '4' and '7')

1.6. The OSD facade design has only a 30 year life which is inefficient in terms of embodied carbon, life cycle and resources. (see 8.3; para '3')

1.7. The submission fails to meet current sustainability and energy efficiency standards, let alone those likely to be in place on completion in 2036. (see 8.3 para; '4' etc)

1.8. The submission for the OSD therefore fails to meet office development of the highest quality requirements as defined in Strategic Policy S4 (see p18/19 below)

1.9. The OSD performs poorly against UK (2050) and City of London (2040) Net Zero targets and will therefore potentially be obsolete on completion. (see 4.2; p7, 5.6, 8.1, 8.2, 8.4 para; '1.4' below)

1.10. The submission demolishes useable fabric without examining retrofitting options for 50 Liverpool Street in any detail. (8.4 para '1.4', Policy OF1 p19 below, Strategic Policy S8 para '1', p20 etc. below)

1.11. As these failures do not meet the City's stated requirements for *'exemplary'* design (City Plan 2040 – para 1.4, p10, Strategic Policy S4 p18/19 below), the submission **should be rejected** on these bases.

2. Author Credentials:

This report is by Targeting Zero llp. The report author, Simon Sturgis AADip RIBA, has the following credentials with respect to carbon assessment in relation to this project:

- Lead Author of the RICS Professional Standard 1st Edition – 2017
- Lead Author of the RICS Professional Standard 2nd Edition – 2023
- Co-Author of GLA London Plan Whole Life Carbon Policy SI2 – 2022
- Special Advisor to Environmental Audit Select Committee 2021/2022 on whole life carbon.
- Advisor on EU Carbon Emissions in Construction Standard EN15978
- Advisor to MHCLG and other Govt Departments
- Practical experience on many live projects re Carbon Reduction.
- Advisor to UKGBC, LETI, RIBA, RICS on Carbon reduction.

3. Flawed Carbon Assessment Methodology

The Submission Document '*GLA Stage 2-3 Whole Life Carbon Assessment'*, states in relation to the use of the RICS Whole Life Carbon Assessment Methodology, the following:

- Para 3.2.5: RICS Professional Statement (PS) (1st and 2nd Editions): *"This study was primarily undertaken in accordance with the **1st edition** of RICS PS to ensure robustness and consistency with comparisons to the GLA benchmarks"*

- Para 3.7.10: *"Material end of life scenarios are applied in accordance with the RICS PS **2nd Edition** business-as-usual approach".*

- **Comment:** The RICSPS 2nd Edition has been available since September 2023 and therefore should be used in its entirety as it replaces the 1st Edition which is now out of date. This 'pick and mix' approach to these Standards would appear to be designed to produce the lowest carbon emissions figures for this proposal.

- **Comment:** The RICSPS 2nd Edition has a more thorough approach to capturing all building related carbon emissions, and for that reason assessments using the 2nd Edition tend to be circa 10% higher than assessments using the 1st Edition. Correct use of the 2nd Edition would therefore have increased the assessment figures by approximately this percentage.

- **Comment:** The RICSPS 2nd Edition requires assessments to include a contingency percentage to take account of the inadequacies of material and quantities data at RIBA Stages 2-3, in the expectation that reported figures will increase between Stages 2-3 and Practical Completion. Although some contingency appears to have been added to primary structure, this is a somewhat random % and is not based fully on the current RICSPS approach. This lack of contingency therefore in effect reduces the reported figures giving a potentially optimistic impression for this project stage. The total contingency applied to a project varies depending on project stage and quality of data but could be in the region of 15% for this project. There can be some overlap between this figure and the +/-10% mentioned above, but it is not possible to judge this without a detailed review of the assessment data. Therefore, it is not unreasonable to assume that in total the underestimate could be in the region of 15%-25%.

- **Comment:** The justification that a 1st Edition approach was used to "*to ensure robustness and consistency with comparisons to the GLA benchmarks"* is not a solid justification for avoiding using the latest methodology. The GLA figures are 'benchmarks', not targets or limits, and are therefore for guidance only. A possible conclusion is that adherence to the 1st Edition was to avoid the uplifts described in the above comments.

- **Conclusion:** Therefore, the figures produced in the assessment are likely to appear artificially low as they do not align with current standards or best practice. **All carbon assessment figures should therefore be considered invalid, and the submission should be rejected on this basis.**

4. Comparisons against Benchmarks

4.1. The submission documents include comparisons with GLA benchmarks. However, there is no mention or comparison with the latest UK Standard, The Net Zero Carbon Building Standard (NZCBS), published in pilot version in September 2024,

nor, for example, the LETI benchmarks, also an industry benchmark. The submission states that a post completion WLC assessment will be done (Sustainability Statement para 7.6.27, p19) so an NZCBS assessment could be undertaken and will very likely be standard practice by 2036, at practical completion. This submission for the OSD would **FAIL** against NZCBS Limits. This Report includes this comparison See 4.3 below.

4.2. This Report shows the diagrams used in the submission, but with three additions:

- An indication of what the submission figures would look if they were adjusted as per Para 3 above.
- A comparison with LETI benchmarks.
- A comparison with NZCBS, for offices completed in 2036.

4.3. Comparison with GLA, NZCBS and LETI, benchmarks and targets/limits.

- The diagram below shows the Submission Diagram comparing the Option G, adopted scheme Upfront Carbon A1-A5 carbon assessment against the Standard GLA Office Benchmark, and also the Aspirational Benchmark.
- The Orange column shows 'Option G' with an indicative (and possibly conservative) corrected 15% uplift reflecting what the assessment is likely to look like had RICSPS 2nd Edition been correctly used for the assessment.
- The two Green columns show respectively the NZCBS 'shell and core limit' and the 'whole building limit' for offices completed in 2036. (It is the shell and core limit that will apply).
- The Blue column shows the LETI 2025 Design Target.
- The **black arrows** show the shortfall between the orange column, and the respective benchmarks, limits and targets.

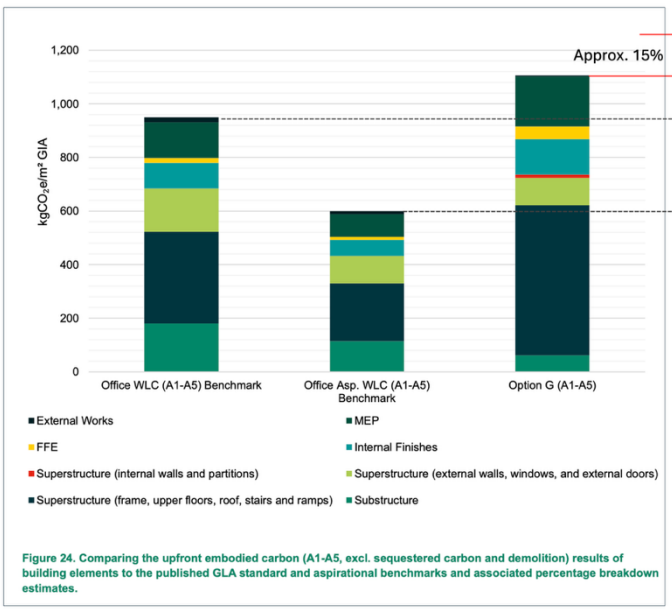
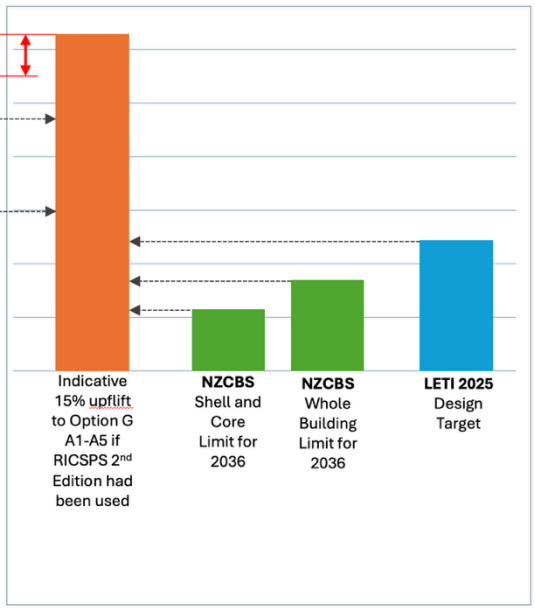


Figure 24. Comparing the upfront embodied carbon (A1-A5, excl. sequestered carbon and demolition) results of building elements to the published GLA standard and aspirational benchmarks and associated percentage breakdown estimates.



Submission Diagram – Carbon Optioneering Part 1 – Para 4. Conclusion, p17

Targeting Zero Diagram – Comparing Submission **revised** Upfront Emissions (A1-A5) to Standard Benchmarks

- **Conclusion:** This combined diagram shows the likely uplift from using RICSPS 2nd Edition rather than the now redundant 1st Edition. It shows how much this building will miss the GLA *'Office WLC (A1-A5) Benchmark'* (by approx. 33%), and the *'Office Asp. WLC (A1-A5) Benchmark'* (over double).

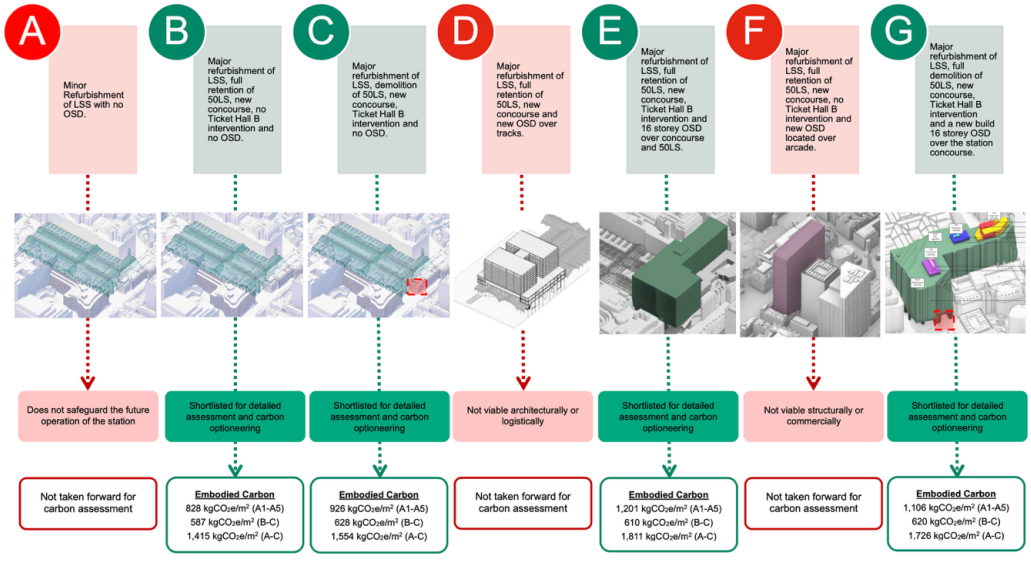
- **Conclusion:** This combined diagram also shows that the orange, corrected, Option G column is nowhere near meeting industry best practice limits/targets illustrated by the green and blue columns. It is important to note that the NZCBS (Green) limits are designed to meet the government's required trajectory to net zero.

- **Conclusion:** In essence this proposal shows minimal ambition or intention to meet current best practice in terms of low carbon construction, or the UK's trajectory to Net Zero. Due for completion in 2036, only 14 years short of 2050, this building is has the potential to be commercially redundant on completion. Occupier and investor awareness of ESG issues is increasing, and therefore buildings such as this which have not evolved meaningfully past 20th Century Office design are highly likely to be downgraded in value. (See also paras 5.4 and 5.5 below).

5. Optioneering: Structure and Facade:

5.1. Strategic options were considered as described in 5.2 below. However, only a single, high carbon, structural option was considered (see 5.3, last paragraph below) and only a single, short life, cladding option was considered (see 5.4 and 5.5). Therefore the 'Optioneering' process did not look at options for these significant elements of construction.

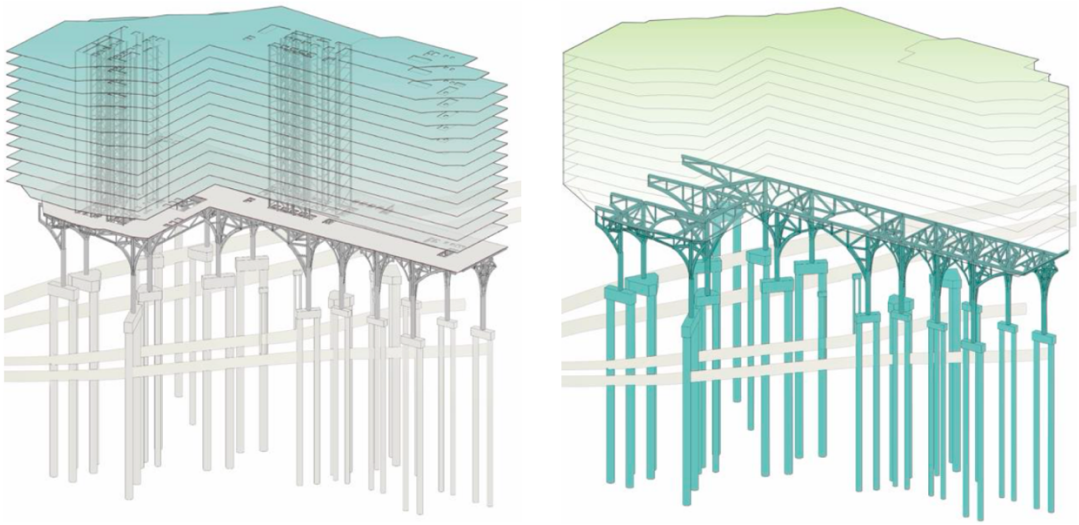
5.2. The 'Carbon Optioneering Report P02' shows that initially 7 Options A-G were considered. See diagram below from 'Carbon Optioneering Part 1 p6:



This rejects Options A, D, F in favour of a more detailed examination of Options B, C, E, G. Based on the applicant's assumptions on viability, and the need to pay for the station improvements, this in effect leaves only options E and G in contention. Options B and C appear to be retained really only to give a degree of validity to the optioneering as the clear requirement was to build a new office building in the location shown. This is a very restricted range of options, excluding other structural possibilities, see 5.3 below.

5.3. **Structural Efficiency:**

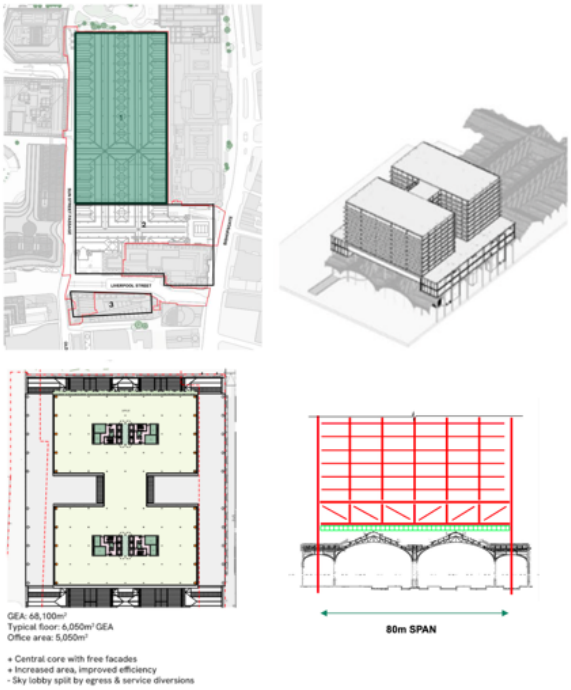
- In the Submission Document '*GLA Stage 2-3 Whole Life Carbon Assessment'* para 1.6.3. there is the statement *"The upfront (A1-A5) carbon emissions of the transfer structure alone accounts for around 25% of 1,110 kgCO2e/m2. Without the transfer structure, the OSD may perform more favourably with the GLA's A1-A5 benchmark"*. This observation raises the question as to why a more imaginative solution wasn't examined that does not require a large transfer structure, which would have removed the need for this type of high carbon design approach, and potentially help reduce construction costs. The *'Carbon Optioneering Report P02'* Option G p13 Figures 18 and 19, show the massive high carbon transfer structure that is required below.



Figures 18 and 19. 3D model showing proposed transfer and stability structure over station concourse and OSD cores.

- The structural solutions for both Options and E and G are essentially the same and involve a significant transfer structure over the station concourse to be achieved. It has already been stated in the submission that this design approach was exceptionally high carbon adding some *'25%'* to the assessment figures (see

above para). The obvious solution to this problem is already evidenced on site with Exchange House which spans the tracks of Liverpool Street Station with a parabolic (tension) structure. This is potentially a much lower carbon approach which would very likely have avoided the *'25%'* additional carbon cost necessitated by the transfer structure. This would have brought the rejected Option D, described in the above diagram (5.2 above) as *'Not viable architecturally or logistically'* back into contention, as Exchange House has historically managed to solve both the architectural and logistical issues from building over the railway tracks at this station.



Figures 30, 31 and 32. Extract from acme options development report (refer to Appendix D)
Figure 33. AECOM mark up of indicative superstructure scheme principle for heritage train shed track bridging.

Rejected Option D, "Carbon Optioneering Part 1 P02", p27, showing high carbon transfer structure.

- Cross Laminated Timber (CLT) as a low carbon structural solution: CLT structural floors would seem to be a potential solution for this project solving two major issues, structural mass and carbon emissions. A basic structural problem with the submission is the weight bearing down on the transfer structure which would have been mitigated using CLT. In addition, CLT structural slabs would have not only have had a reduced carbon emissions impact from construction but could also have had a significant sequestration benefit. The reason given for this omission is *'Insurance'* concerns. However, Landsec's Timber Square Building in

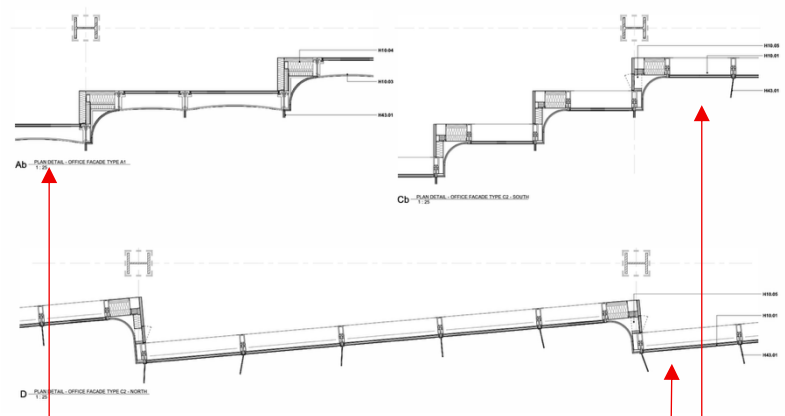
SE1, and Bywater Properties' Paradise Building in Vauxhall are two examples of London office buildings that use significant amounts of primary structural timber, i.e. CLT, and this therefore suggests that this lighter, more carbon efficient approach is possible with the right advice.

5.4. **Facade Design and Material Efficiency:**

- The cladding for this building is a fully glazed unitised cladding system, no other design approach was considered in the Carbon Optioneering Report P02.

Plate 4-15: OSD Façade Articulation Detail

Illustration of the fully glazed facade from the 'Environmental Statement' para 4.8.6. p4-14.



Plan details of the all glass facade from 'Office Facade Detail dwg No: A-20-401 showing:

- Single skin construction
- Double skin with cavity construction

- This fully glazed facade has, according to the *'GLA WLC Template'* included with the submission, a life expectancy of *'30 years'*. This means that as designed, it will need continual replacement roughly every 30 years with the resulting ongoing embodied carbon costs (greater in the double skin areas). 40 Liverpool Street was completed in 1884 and has had the same facade over the 140 years since then (plus maintenance, repair etc). Over a similar 140 year period the proposed scheme would therefore have to have its facade replaced a total of nearly 5 times (5th time at 150 years), with the associated resource use, carbon emissions, waste and local disruption.

5.5. **Facade and Energy Efficiency:** The submitted *'Energy Statement'* examines the facade in some detail, and makes the following statement:

- *"The Proposed Development achieves carbon savings of 12.5% from the "Be Lean" stage of the energy hierarchy and overall carbon savings of 13.2%. Although this falls below the targets of 15% and 35% for "Be Lean" and overall on-site savings respectively the proposed energy strategy has been optimised to maximise the reduction in operational regulated energy consumption and associated carbon emissions in line with the GLA energy hierarchy."*

- This statement, astonishingly, shows that the submission for the OSD fully accepts that this building is substandard. The extract below from the '*Energy Statement'*, para 11.8.4, illustrates not only this failure but also the suggestion of an offset payment of £1,060,782 in mitigation. This offset payment was, it is assumed, considered a cheaper route to achieving a 'zero carbon' solution than designing a building that actually performs in accordance with best practice and current policies and targets (e.g. GLA 'Be Lean'). This shows that this is not an *'exemplary'* building (see 8.4 below).

11.8.4. The predicted shortfall in savings relative to the 'zero carbon' 100% regulated emission saving target is 372.2tCO₂/year, which is a cumulative total over 30 years of 11,166 tCO₂ that is expected to be addressed through offsetting. This results in an estimated carbon offset payment of approximately £1,060,782 subject to agreement with CoL. This is summarised in Figure 22 and Table 57.

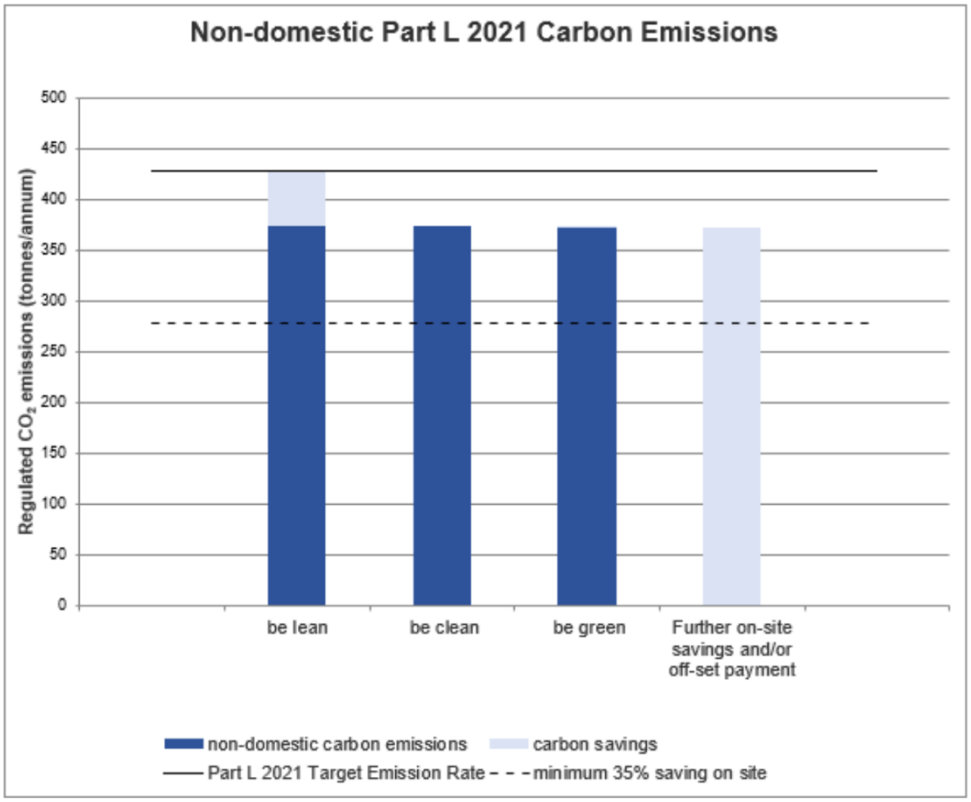


Figure 22: Proposed energy strategy: Energy Hierarchy CO_2 baseline, emissions and savings – non-domestic buildings

- The typical floor plan shown below (Submission *'Energy Statement – Section 5: Energy Demand Reduction, para 5.1.3'*) shows that the fully glazed facade is also inefficient in terms of wall to floor ratio. Apart from the inherently sub-optimum shape, the continual stepping of the facade adds to the overall surface area of the building, increasing material, i.e. embodied carbon costs, and is also consequently unhelpful to heat loss/gain. A more efficiently designed facade from both material and shape perspectives would contribute to greater facade longevity and improved operational performance. This floor plan cannot therefore be said to be *'exemplary'* (see para 8.4 below, ref City Plan 2040 para 1.4)

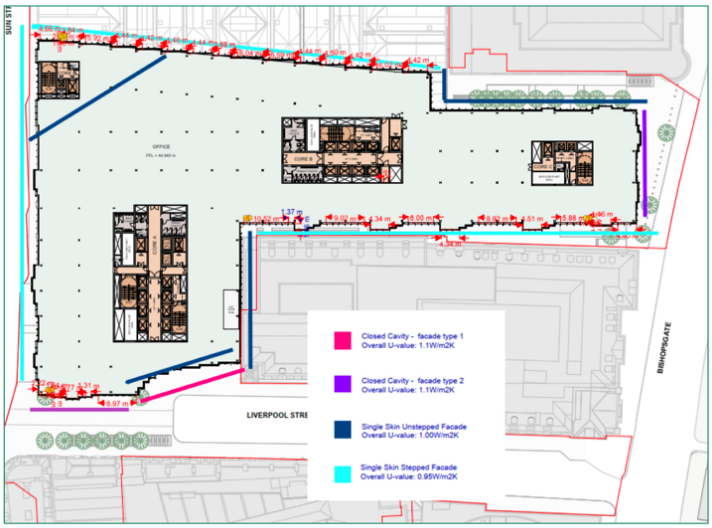


Figure 12: Plan view of 7th floor showing façade types

Key issues:
- Inefficient floorplate
- Poor wall to floor ratio
- Inefficient stepped facade
- Short life, fully glazed facade

Typical floor plan: from 'Energy Statement – Section 5: Energy Demand Reduction, para 5.1.3'

5.6. **Comment:** This facade solution is not *"An optimised façade responding to the external environment, with external shading"* (LSSt Sustainability Statement March 2025 para 1.3.2.2) as claimed, and is as explained above, not a sustainable design approach in both embodied carbon and energy use terms. This is particularly concerning in the face of a climate crisis and the government's legally binding target of achieving Net Zero by 2050, and improved energy efficiency. The City's stated objective is to achieve Net Zero by 2040. The first facade replacement would be in about 2066, i.e. 16 years after 2050, and 26 years after 2040. It is very likely that given the current direction of continually tightening environmental legislation, and parallel ESG concerns by occupiers, that double glazed, all glass facades will no longer be possible for regulatory or commercial reasons. Will the structural solution be able to support a different, possibly heavier, long life facade solution when the building is vacated and refurbished in 2066, 2096 etc? **This building is therefore likely to be obsolete on completion.**

6. Circular Economy:

The key commitments of the Applicant with respect to demolition of existing fabric are:

- *"To target diversion of a minimum of **95%** of non-hazardous demolition waste from landfill for reuse, recycling, or recovery (excluding energy recovery in line with the London Plan definitions);*

- *To target diversion of a minimum of **95%** of inert excavation waste generated from the Proposed Development from landfill for beneficial use;*

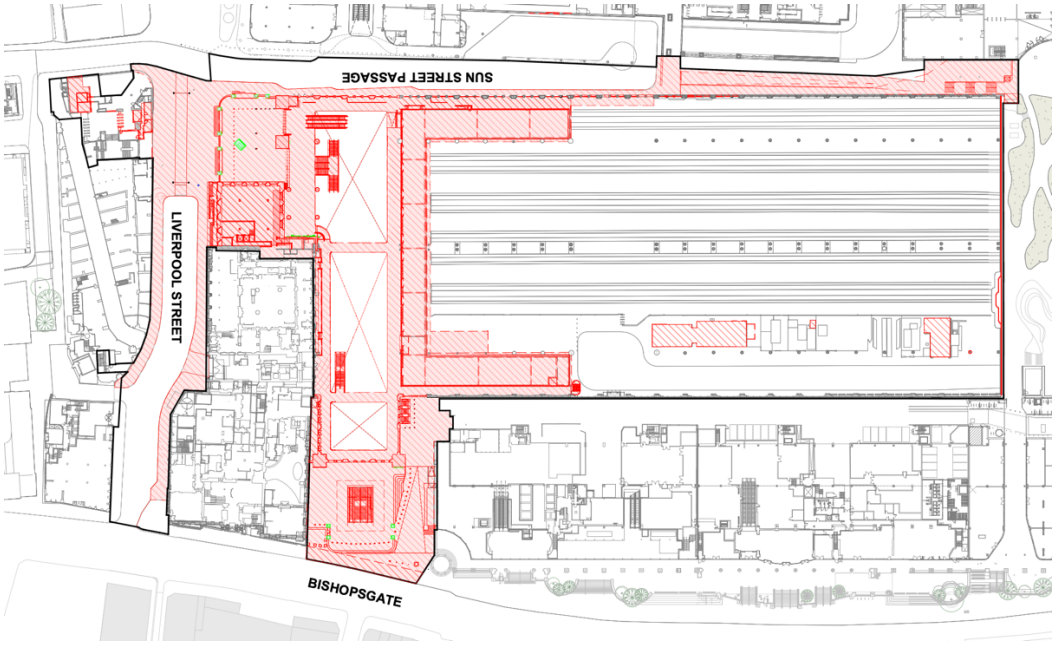
- *To target diversion of a minimum of **95%** of construction waste generated by the Proposed Development from landfill for reuse, recycling, or recovery (excluding energy recovery in line with the London Plan definitions)."*

- These are all standard industry commitments that are offered by most contractors and do not represent any additionally sustainable approach. The inclusion of '*recycling'* means that the waste can be used at the lowest level, e.g. as ballast under new roads, and not at a higher level as in *'reuse'* where the component has a new life matching its original use. It would have been helpful for example to have had the *'95%'* broken down into more specific commitments.

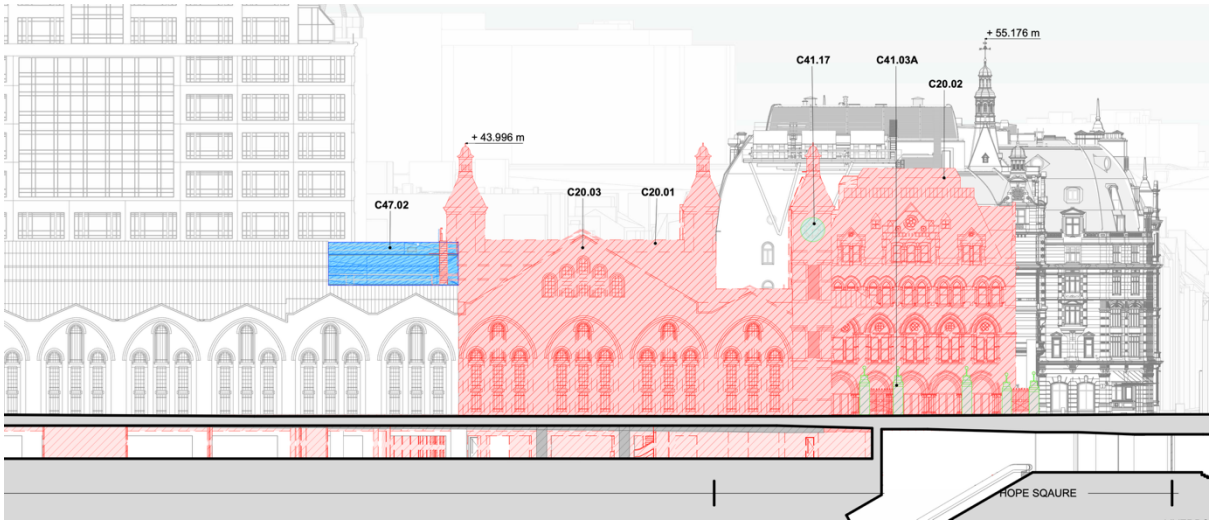
7. Demolition:

7.1. This report is not concerned with the heritage issues around the extensive demolitions proposed but is concerned about the demolition and disposal of usable fabric from the perspective of a waste of resources.

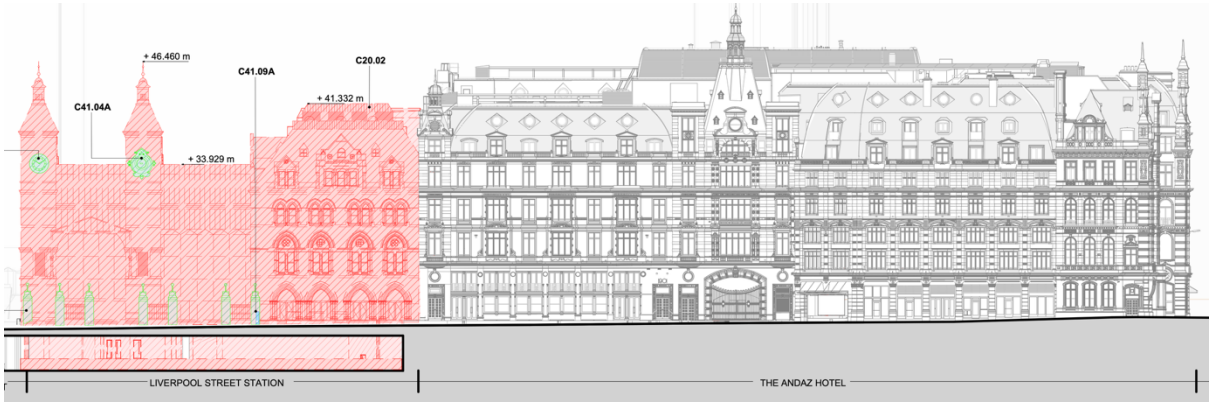
7.2. The proposed demolitions are extensive and predominantly involves fabric that has not reached the end of its useful life. Fabric and buildings subject to demolition are therefore entirely capable of retention and reuse. The concerns with respect to demolition are specifically associated with the buildings that face onto Liverpool Street and Bishopsgate.



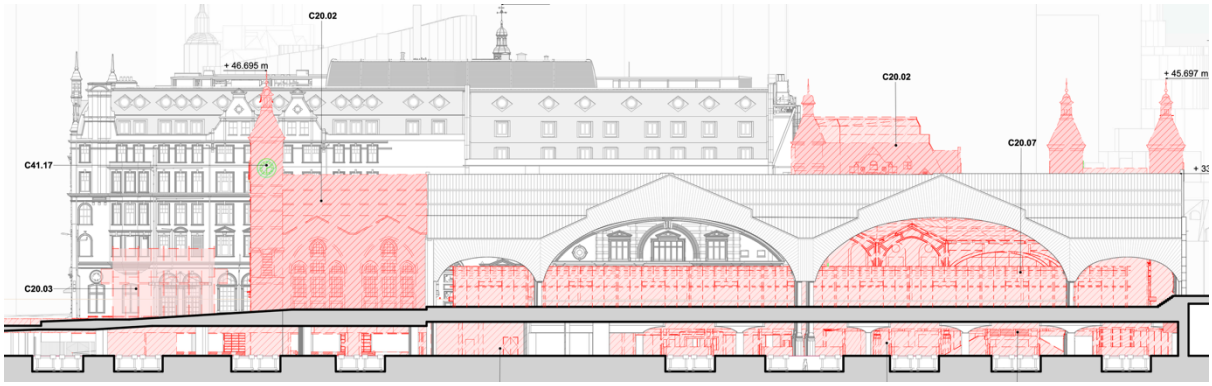
Demolition Site Plan – Extract from Dwg: A-04-200



Demolition West Elevation – Extract from Dwg: A-06-403



Demolition South Elevation – Extract from Dwg: A-06-402



Demolition North Elevation – Extract from Dwg: A-06-400

Demolition East Elevation – Extract from Dwg: A-06-401

- The above are extracts from the submission documents and illustrate the significant amount of demolition of entirely useable structure and fabric to achieve this submission. The proposed scale of demolition represents a huge and unnecessary waste of resources. The issue of concern from a carbon and resources perspective is not the reorganisation of the station concourse areas, (assuming optimum resource and carbon efficiency is undertaken) but the demolition of useable assets that have not reached their end of their useful life and once retrofitted are capable of continued beneficial use.

8. Policy Failures:

There are many relevant National and Local Environmental and Sustainability Policies that are relevant to this submission. The following are a list of those policies that this submission fails to meet.

8.1. **UK Trajectory to Net Zero:** At a UK National level the government has legislated for the economy to achieve net zero by 2050. The City of London has brought this forward to 2040. There is detailed policy at all levels to ensure that these commitments should be met. To achieve this means that office design today is not 'business as usual', and indeed that significant changes are required to office design in 2025 to meet these commitments and policies. This submission (OSD) is not noticeably different to buildings designed in the last decades of the 20th Century, showing no significant evidence of meeting current policies as is illustrated below. The overall whole life carbon figure for the submission is 2,200kgCO2e/m2 GIA, this is approximately what you would expect of an equivalent office building built in circa 1990. **The submission should therefore be rejected.**

8.2. **National Planning Policy Framework (NPPF):**

- Para 161: *"**The planning system should support the transition to net zero by 2050** and take full account of all climate impacts including overheating, water scarcity, storm and flood risks and coastal change. It should help to: shape places in ways that contribute to **radical reductions in greenhouse gas emissions**, minimise vulnerability and improve resilience; **encourage the reuse of existing resources, including the conversion of existing buildings**; and support renewable and low carbon energy and associated infrastructure".*
    - This submission does not meet the requirements of those areas highlighted in bold above. (See paras 4.3, 5.4, 5.5, 5.6 above)

- Para 164: *"b) help to reduce greenhouse gas emissions,……".* And Para 8 c) *"an environmental objective……..including moving to a low carbon economy"*
    - This submission does not meet these requirements, as it fails to meet GLA, LETI and NZCBS benchmarks and limits for greenhouse gas emissions, it cannot therefore be said to be '*moving to a low carbon economy*'. (See 4.3 above)

8.3. **GLA London Plan Policy SI2 Minimising greenhouse gas emissions.** The submission **FAILS** to meet a number of GLA whole life carbon principles:

- **Table 2.1 WLC Principles:**
  - *"**1. Reuse and Retrofit:** Retaining existing built structures for reuse and retrofit, in part or as a whole, should be prioritised before considering substantial demolition, as this is typically the lowest-carbon option"*.
    - Existing reusable fabric (e.g. 50 Liverpool Street) is demolished rather than retrofitted. (see paras 5.2, 7.2 last paragraph above)

  - *"**3. Material selection:** Appropriate low-carbon material choices are key to carbon reduction. Ensuring that materials are selected with consideration of the planned life expectancy of the building reduces waste, the need for replacements, and the in-use costs".*
    - The material choices are standard for office construction for several decades and are not specifically low carbon. CLT was rejected (see para 5.3; last paragraph, above)

  - *"**4. Minimise operational energy use:** A 'fabric first' approach should be prioritised to minimise the heating and cooling requirement of a building and the associated systems."*
    - The submission performs poorly and fails to meet appropriate standards. The submission **FAILS** to achieve the 15% carbon savings from the 'Be Lean' stage of the energy hierarchy (achieving just 12.5%) and **FAILS** to achieve the 35% for overall onsite savings (achieving just 13.2%) (Sustainability Statement para 5.3.11). (See para 5.5)

  - *"**6. Disassembly and reuse:** Designing for future disassembly ensures that products do not become future waste, and that they maintain their environmental and economic value".*
    - There is no significant evidence that this has been given priority.

  - *"**7. Building shape and form:** Compact efficient shapes help minimise both operational and embodied carbon emissions from repair and replacement for a given floor area. This leads to a more efficient building overall, resulting in lower construction and in-use costs".*

- The submission starts with a high wall to floor ratio due to its basic shape and then adds to the problem by introducing a highly stepped facade. (see 5.5 last paragraph)

- *"**16. Circular economy:** The circular economy principle focuses on a more efficient use of materials which in turn leads to financial efficiency. Optimising recycled content, reuse and retrofit of existing buildings; and designing new buildings for easy disassembly, reuse and retrofit, and recycling as equivalent components for future reuse are essential".*
  - There is very little evidence that this submission has been designed for future circularity.

8.4. **City of London's 'City Plan 2040' – Draft April 2024.**

- **Strategic Priorities:**
  - **Para 1.2: Economic objective:** "*Ensuring new and refurbished office space meets the environmental, social and governance (ESG) priorities of occupiers and their workforces"*

  - **Para 1.4: Environmental Objective:** *"Ensuring that the City is environmentally sustainable and transitions to a net zero carbon City by 2040, taking a 'retrofit first' approach to development"*

  - **Para 1.4: Environmental Objective:** *"Ensuring exemplary design of development"*

  - This submission **fails** to meet any of these Strategic Priorities, as it:
    - **Fails** to meet current environmental standards and best practice. (See paras 4, 5 and 6 above)

    - **Fails** to meet the UK trajectory to net zero by 2050, and therefore also the City's trajectory to net zero by 2040. (See para 5.6 above)

    - **Fails** to exhibit "*exemplary design"* as it does not meet the above criteria and could well be commercially redundant by 2036. (See paras 4, 5 and 6 above)

- **Strategic Policy S4: Offices**, states:
  - Para 5.1.0. "*The City of London is a world leading international financial and professional services centre and has a nationally important role in the economy"*
    - i.e. There is a higher than average standard expectation for office space in the City of London.

  - Para 5.1.3 states: *"Recent years have also seen strong demand for 'best in class' or Grade A+ floorspace. Many businesses are placing greater value on high quality sustainable and well-being credentials,".*
    - i.e. Sustainability and commercial value are directly linked.

  - *"The City Corporation will facilitate significant growth in* ***office development of the highest quality*** *to meet projected economic and employment growth"*
    - This submission is not an example of office space *'of the highest quality'* as it exhibits poor floor configuration, poor environmental performance and **fails** to meet basic sustainability standards" (See 4, 5 and 6 above).

  - *"Ensuring that* ***new floorspace is designed to be flexible to allow the transformation and adaptation of space to support new uses****, different layouts and configurations……."*
    - Circular Economy Statement P01, para 4.3.1 Table 2 p16, under *'Adaptability'* states: *"It is not anticipated that either the station or office development will undergo any significant change in use during their lifetime".* This is therefore in direct conflict with Strategic Policy S4 and Sustainable Design Policy DE1, 7b.

    - It is also worth noting that the configuration and core arrangement of proposed floorplans do not lend themselves easily or efficiently to future hotel or residential use.

  - **This submission therefore fails to meet the requirements of Strategic Policy S4 and should be rejected.**

- **Policy OF1: Office Development,** states:
  - *"Office Development should*
    - *a. Prioritise the retrofitting of existing buildings*
    - *b. Be of an outstanding design and an exemplar of sustainability"*

  - The submission:
    - **Fails** to meet the first of these policies as the submission proposal demolishes 50 Liverpool Street, which could be retrofitted.

    - **Fails** to meet the second of these as the submission is not well above average in terms of sustainability, as it does not meet the basic policy requirements.

- **Strategic Policy S8: Design,** states:
  - *"Sustainable design*
    - *"1. Takes a 'retrofit first' approach, prioritising the retention and retrofit of existing buildings, informed by an appraisal of the development options;"*

    - *"2. Seeks opportunities to refurbish existing buildings, improving their environmental performance;"*

    - *"3. Minimises whole life-cycle carbon and contributes towards a net zero carbon City";*

    - *"4. Delivers world class sustainable buildings that are adaptable and informed by circular economy principles and that treat materials as a resource;"*

  - The submission:
    - **Fails** to meet items 1 and 2 as there is no detailed 'optioneering' for retrofitting 50 Liverpool Street.

    - **Fails** to meet item 3 as the whole life-cycle carbon emissions are above existing benchmarks (see 4.3 above)

- **Fails** to meet item 4 as the submission states: "*"It is not anticipated that either the station or office development will undergo any significant change in use during their lifetime".*

  - **This submission therefore fails to meet the requirements of Strategic Policy S8 and should be rejected.**

- **Policy DE1: Sustainable Office Design**, states:
  - *"1. Development proposals should follow a retrofit first approach, thoroughly exploring the potential for retaining and retrofitting existing buildings as the starting point for appraising site options".*

  - *"3. Development proposals should minimise whole life-cycle carbon emissions".*

  - *"4. Where new buildings are the most sustainable and suitable approach, they should deliver exemplar low carbon development and the highest environmental sustainability quality, driving forward best practice beyond standard approaches and contributing to wider sustainability improvements in the area".*

  - *"5. Innovative design, materials, construction, and technologies should be used to deliver highest standards of environmental sustainability."*

  - The submission:
    - **Fails** to meet policy item 1 above as detailed options for retrofitting 50 Liverpool Street have not been submitted.

    - **Fails** to meet policy item 3 above as whole life carbon emissions have not been minimised. (See 4, 5 and 6 above)

    - **Fails** to meet policy item 4 above as the submission is not *"exemplar",* is not *"best practice"* and is not *"beyond standard approaches".* (see 4.3, 5.4, 5.5)

- **Fails** to meet policy item 5 above as the materials proposed have been standard usage in commercial office design since the 1980's, i.e. are not *"innovative",* and do not "*deliver highest standards of environmental sustainability"*, as the submission, by its own admission, fails to meet both operational and embodied performance standards. (see 4.3, 5.4, 5.5)

- **This submission therefore fails to meet the requirements of Policy DE1 and should be rejected.**

- **NABERS rating:** Policy DE1 requires in item 8. that:
  - *"Proposals for major development, b. Commit to achieving a minimum NABERS UK rating of 5 stars."* The submission intentionally does not make this required commitment and states in the LLS Sustainability Statement March 2025:
  - Para 1.3.2.2, p1: *"**aspires** to achieve a NABERS rating of 5 star".*
  - Para 5.1.2, p13: *"The OSD **aims** to achieve NABERS 5*"*
  - **There is therefore no commitment to meet Policy DE1 with respect to NABERS.**

  - This contrasts with a firm commitment to achieve BREEAM 'Outstanding' for the OSD (LLS Sustainability Statement March 2025, para 13.2.1). Why a firm commitment for BREEAM and not for NABERS?

8.5. **As shown above, the submission for the OSD fails in a significant number of policy areas and should therefore be rejected.** (See Executive Summary, Item 1 page 3 for a summary of the key issues.)