

# ADDENDUM REPORT

Planning Committee



**Item Number: 6.5**

**Site: 17-19 Mayflower Street**

**Planning Application Number: I6/00554/FUL**

**Applicant: Burrington Estates (Aspire Student Living) Ltd**

**Pages: 37 - 74**

**Purpose: This report provides an update on the Sun and Daylighting issue discussed at paragraph 67 on page 54, and confirms the Conclusions & Recommendation on page 57.**

Pegasus Planning confirmed on 02 December that they remain unconvinced of the applicant's sun and daylight analysis, and confirmed that the owners of the Money Centre maintain their objection to the proposal on this basis. In light of this fact, a fuller explanation of the issue is set out below.

1. In addition to the applicant's shadow analysis (discussed in paragraph 64 of the main report) which shows where the building would cast a shadow at each of the equinoxes, Pegasus's 02 December objection includes an equivalent analysis focused upon the south western façade of The Money Centre ('the objector'). Although this analysis is dated 1<sup>st</sup> September and it would therefore present a slightly shorter shadow than that expected on the 21<sup>st</sup> (autumn equinox), officers consider it to be a useful comparator. It also appears consistent with the applicant's shadow study. It shows that this façade of the building receives direct sunlight from sometime between 10 and 11am. By noon the shadow from the scheme would begin to cast its shadow over this elevation, and this would be in full shadow by around 3pm. Shortly before 4pm windows to the northern end of this elevation would again receive sunlight and around one quarter to one third of the windows on the façade would be in receipt of direct sunlight by the time the sun disappears.
2. Whilst this type of analysis is useful, it demonstrates how much direct sunlight a building will receive, as distinct from daylight, which is generally light received from the sky as a whole, and can include reflected light. Although, it does not form part of our adopted planning policy, nationally accepted guidance is

provided by the Building Research Establishment (BRE)'s 'Site Layout Planning for Daylight and Sunlight', 2011 (BR209). The guidance contains separate methodologies for calculating the impacts of new development on both daylight and sunlight on existing buildings, as well as a separate methodology to calculate the impact on adjoining development land.

3. Both the applicant and the objector have submitted reports containing calculations which quantify the daylighting and sunlighting impacts on the building, as well as likely impacts on the site's development potential. The reports of the parties reach significantly different conclusions. The applicant's report has been updated following receipt of the objector's report, but reaches the same conclusions. It essentially asserts that the significantly different results received can be explained by whether a 'fast', or a 'detailed' analysis is undertaken and supports this view by demonstrating that the objector's results can be replicated by running a 'fast' analysis, although the more detailed analysis demonstrates significantly more favourable results.
4. The analyses required are highly technical, and rely on computer software programmes that are not available to council officers. Whilst there are less technical and policy issues to also consider, officers did not wish to make a recommendation to members of the committee without first having an informed understanding of what the impacts were likely to be. Officers therefore commissioned the BRE, as authors of BR209 to advise on which results are most likely to be correct. Since the BRE were commissioned and reported, the applicant has submitted a further report carried out by a different consultant using different software. In summary, whilst the impacts are found to be worse than those of the initial report, this report also concludes that the relevant guidance and standards are met. Whilst the headline results from this report are included below, the BRE have not commented on this report and officers therefore focus on the applicant's initial report. The results of each report are set out below by topic area, followed by discussion of the policy issues.

#### Daylighting Impacts on the existing Money Centre Building

5. BR209 explains that 'the amount of skylight falling on a vertical wall or window can be quantified as the Vertical Sky Component (VSC). This is the ratio of the direct sky illuminance falling on a vertical wall at a reference point (usually the centre of a window), to the simultaneous horizontal illuminance under an unobstructed sky... the ratio is usually expressed as a percentage. The maximum value is almost 40% for a completely unobstructed vertical wall.'
6. The guidance states that '...the diffuse daylighting of an existing building may be adversely affected. This will be the case if either:

- a. The VSC measured at the centre of an existing main window is less than 27%, and less than 0.8 times its former value
- b. The area of the working plane in a room which can receive direct skylight is reduced to less than 0.8 times its former value'

7. The objector's report concludes:

- a. That there will be a perceptible impact on the skylight of all 77 windows on this facade
- b. The VSC of the worst affected window (the lowest central window) will be reduced from 39.00% to 8.95%

8. The applicant's report concludes:

- a. All windows analysed achieve a VSC of greater than 27% or more than 0.8 of former value.

9. The BRE advise:

- a. The applicant's assessment presents two sets of results using "fast" and "detailed". The results using the "detailed" method do not give feasible values. It would appear the proposed development was not appropriately taken into account in the calculations.
- b. The results of the "fast" method in the applicant's assessment broadly agree with those presented in the objector's assessment. The results suggest that all windows to the façade of the Money Centre building facing the proposed development would be well below the BRE guidelines. The loss of daylight would be considered significant depending on the use of the Money Centre building.
- c. The Money Centre building also has glazing on its other three sides. These would not be impacted by the proposed development. Areas within the Money Centre near to the proposed development which are also lit by other, unaffected, windows would therefore be less impacted. Areas in the middle of the building on the side near to the proposed development would likely have a noticeable loss of daylight.

10. The applicant's latest report concludes:

- a. 134 of the 154 windows assessed [67 of the 77 paired windows] achieve a VSC of greater than 27%.
- b. All windows achieve a VSC of at least 25%.

11. In light of the above findings by the BRE, officers accept that the proposed building would have a perceptible impact on all windows on this façade of the Money Centre building. Looking at the results in closer detail it is apparent that around two thirds of the windows (53 of 77) achieve results of between 5 and 15%, meaning that (where applied to a new development) '...it is very difficult to provide adequate daylight unless very large windows are used' (BR209, 2.1.21). Around one third of the windows (24 of 77) achieve results of between 15 and

27% meaning that (where applied to a new development) ‘...special measures (larger windows, changes to room layout) are usually needed to provide adequate daylight’ (BR209, 2.1.21). None of the windows fall into the category (below 5%) where ‘it is often impossible to achieve reasonable daylight, even if the whole window wall is glazed’.

12. Members are advised here to note that the BR209 guidance is primarily used to consider the daylighting impacts on residential dwellings. For example, it states ‘the guidelines here are intended for use in adjoining dwellings where daylight is required, including living rooms, kitchens and bathrooms... The guidelines may also be applied to any existing non-domestic building where the occupants have a reasonable expectation of daylight; this would normally include schools, hospitals, hotels and hospitals, small workshops and some offices’ (2.2.1). Elsewhere it suggests that ‘In mixed use development commercial uses may occupy the less well daylit areas, allowing residential parts to have better access to light’ (2.1.13). Informally, the BRE also advised that ‘most Local Planning Authorities don’t consider daylight impact on offices’.
13. A review of the city’s adopted planning policy confirms that we have no stated position on whether daylighting to commercial buildings should be considered. The Development Guidelines SPD contains guidance about loss of daylight or sunlight. However, this falls within the ‘Householder extensions and alterations’ section of the document. Policy CS34 (Planning Application Considerations) states that ‘Planning permission will be granted if all relevant considerations are properly addressed. These include whether the development...protects the amenity of the area, including residential amenity in terms of satisfactory daylight, sunlight, outlook, privacy and soft landscaping.’ National Planning Policy Guidance on the form of buildings advises that ‘how taller buildings meet the ground and how they affect local wind and sunlight patterns should be carefully considered’.
14. Officers agree that this issue requires detailed consideration, but amenity is not the key impact in this commercial situation. According to BR209 (2.2.7) the results mean that: ‘...occupants of the existing building will notice the reduction in the amount of skylight. The area lit by the window is likely to appear more gloomy, and electric lighting will be needed more of the time.’ Officers are of the view that the economic and carbon impacts of the need for additional electric lighting are the key consideration in this case, with the associated impacts on the attractiveness of the office space to commercial tenants.
15. A review of the Money Centre floorplan reveals that the office has a very large floorplate of more than 30mx30m. This footprint is such that artificial lighting of the areas to be middle will be required, and anecdotal evidence confirms that whilst the areas closest to the windows are better lit, the building is artificially lit for much of the time. The floorplans also show that the core of the building

where the stairs etc are located occupy a large part of the centre of the building. This effectively limits the amount of floorspace within the building that will be adversely affected.

16. Officers are therefore of the view that whilst there will be an adverse impact on daylighting which will be noticeable (potentially significantly) to its occupiers, the office use and the current arrangement of the floorplate means that artificial lighting will already be widely used, and therefore the economic and carbon impacts will be limited.

### Adjoining Development Land

17. BRE209 states that 'from a daylighting standpoint it is possible to reduce the quality of adjoining development land by building too close to the boundary'. It goes on to explain the methodology for assessment as follows: 'In broad general terms, a development site next to a proposed new building will retain the potential for good diffuse daylighting provided that on each common boundary...all points 1.6m above the boundary line are within 4m (measured along the boundary) of a point which has a VSC (looking towards the new building(s)) of 17% or more. This approach reflects the fact that the width of an obstruction is significant, as well as its height.

18. The objector's report concludes:

- a. That that the new development would have an impact on the potential for any future development at The Money Centre site to achieve good diffuse daylighting (7 of the 9 points along the shared boundary have a VSC of less than 17%)

19. The applicant's report concludes:

- a. That all calculation points comfortably achieve a VSC of greater than 17%. Therefore, the impact from the proposed development is minimal and sufficient daylight is still reaching the boundary line.

20. The BRE advise:

- a. Given the scale of the proposed development, the results in the objector's assessment seem much more feasible.
- b. It would appear that, as in the "detailed" loss of light calculations, the results presented in the applicant's assessment are not properly taking into consideration the proposed development.

21. Given the BRE advice received, officers accept that the proposal could compromise the availability of daylighting to the Money Centre site, and could therefore constrain its future redevelopment potential. However, planning and design officers have been considering the likely form of a future development on

the site as part of the ongoing pre-application enquiry which proposes redevelopment as 'a circa 20 storey landmark mixed used scheme comprising an apart-hotel (approx. 120 bedrooms) and student residential accommodation (approx. 425 bedrooms).'

22. A critical factor in the likely layout of a scheme for the site is the size and shape of the site. Unlike a commercial scheme which can have a large footprint like the existing Money Centre building, a residential scheme is likely to be only 12-13 metres deep (sufficient for a six metre deep apartment either side of an access corridor). As the site is not large enough to accommodate a perimeter block with a central courtyard/lightwell, and Cobourg St is the principal street, a new building is likely to be sited towards the north eastern side, possibly with returns to either end turning the corners into Mayflower St and facing the Methodist Centre car park. Design officers would also encourage the tallest part of a building to be in this location to mark the entryway to the city centre at that point. In this development scenario, the area most affected by overshadowing would be retained as a lightwell/courtyard, thereby lessening the daylight impacts of the proposal.
23. Whilst the results of the objector's are acknowledged, on the basis described above, officers do not consider that the loss of daylight will prevent a successful redevelopment of the Money Centre. Members should also note that the applicant has already taken measures in the design of their scheme to preserve the redevelopment potential of The Money Centre; their application scheme was amended to include oriel windows before the objector raised any concerns on this basis. Officers felt that the introduction of new windows in such close proximity to the Money Centre could constrain its redevelopment potential for privacy reasons, so requested this change. However officers do not consider the daylighting issue to be such a significant constraint on redevelopment of the site that refusal of the current application on this basis is warranted.

#### Sunlighting Impacts on the Money Centre Building

24. BR209 explains that 'Sunlight is also valued in non-domestic buildings. However, the requirement for sunlight will vary according to the type of non-domestic building...' Elsewhere it refers to 'non-domestic buildings which have a particular requirement for sunlight'
25. It's tests (intended to apply to a living room of an existing dwelling) are that the sunlighting of the dwelling will be adversely affected if the centre of the window:
- Receives less than 25% of the annual probable sunlight hours (APSH), or less than 5% of annual probably sunlight hours between 21 September and 21 March (WPSH) and
  - Received less than 0.8 times its former sunlight hours during either period and

- c. Has a reduction in sunlight received over the whole year greater than 4% of annual probably sunlight hours

26. The objector's report concludes:

- a. That there will be a perceptible impact on the sunlight levels of 69 of 77 windows
- b. That the worst affected window will have its APSH reduced from 1018h50m to 213h09m
- c. That the worst affected window will have its WPSH reduced from 363h28m to 122h17m.

27. The applicant's report does not calculate impacts on sunlight hours to windows. However, it does include the findings that 'the area currently positioned over the money centre meets the BRE criteria [for gardens and open spaces] of receiving more than 2 hours of direct sunlight on 21st of March with an average of 4-5 hours of sunlight and a 50% -85% sunlight during daylight hours.' It goes on to report that at least 50% of money centre area receives more than 2 hours of direct sunlight on the 21st of December.

28. The BRE was not asked to comment on the sunlight hours calculations.

29. The applicant's latest report concludes:

- a. Each window passed both criteria under the APSH assessment.
- b. at least 50% of money centre area receives more than 2 hours of direct sunlight on the 21st of December.

30. Officers are of the view that the office use in the Money Centre does not have a specific requirement for sunlight to its windows, so do not consider it necessary to quantify this impact. The overshadowing analysis discussed earlier in this note is considered adequate. Anecdotal (albeit unsubstantiated) evidence also suggests that the building suffers from overheating from exposure to direct sunlight, and has film applied to its windows to reduce overheating. In carbon terms, the cooling of commercial buildings in summer typically results in a large energy demand, so if this is the case energy use within the building may actually reduce. When comparing the relative energy demands of cooling and lighting, officers also note that the efficiency of lighting can be improved much more easily and cost effectively than windows. As a result, officers do not consider the reduction in sunlight to the existing building to be problematic.

31. In addition to those considerations set out above, members are reminded of the vision for the inclusion of taller buildings in the City Centre, which was first promoted by Mackay in the 2004 Vision for Plymouth. Mackay described its potential as a "Mini Manhattan", with tall buildings giving definition to the City Centre and creating a widely visible skyline with a cluster of towers, whilst

increasing the activity and economy of the street. In populating the City Centre with a cluster of such towers there will inevitably be some impacts on adjacent buildings, including changes to direct and indirect light levels. However, the Mackay Vision looked to positive examples of other cities where the wider benefits of well-designed tall buildings outweighed these impacts - – “if these are related together they contribute to the scale of the enclosure provided they are linked to the corridor street nearer the ground. They need not to be oppressive since they can create another kind of beauty, as in New York or Sydney; they give a welcome metropolitan scale to the city.”

32. Mackay’s vision for tall buildings was then embedded in adopted planning documents, including the Core Strategy (2007), and amplified in the Design Supplementary Planning Document (SPD) (2009) and the various City Centre and Waterfront Area Action Plans (2007 – 2010).

33. The Sustainable Design SPD outlines some of the benefits of tall buildings to be:

- a. They can act as urban markers to widely announce the presence of important public buildings, spaces or facilities.
- b. They can act as landmarks which make the city easier to navigate.
- c. They are a means of maximising development density
- d. In a cluster, they can define important parts of the city.
- e. Well-designed tall buildings can assist in improving the image of the city by creating a distinctive skyline.
- f. Prestige tall buildings can attract national and international companies.”

34. Before concluding, officers ask members to bear in mind that the guidance provided by the BRE under which these assessments have been made is not enshrined into either Plymouth’s, or indeed national planning policy guidance. In its introduction, BR209 sets out that ‘The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design. In special circumstances the developer or planning authority may wish to use different target values. For example, in a historic city centre, or in an area with modern high rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings.’

35. In conclusion, officers consider that the principle of a tall building on the site is supported by adopted planning policy. Whilst the impacts on the existing Money Centre building set out by the objector are acknowledged, officers consider the expectation of good daylight to an office building to be a desirable, rather than an essential, and note that the absence of any policy protection reflects this. Officers have set out the significant regeneration benefits of the proposed



redevelopment in the main report, and consider that these benefits significantly outweigh the concerns in this case, particularly in light of the adopted policy aspirations to intensify the City Centre. Whilst the impacts on the site's redevelopment potential would be more of a concern than impacts on the existing use, planning and design officers are sufficiently confident that a successful redevelopment of the site could still be achieved, and on this basis confirm to members that the officer recommendation remains as set out in the main report.