



Design and Access Statement Appendix A

Design Analysis of alternative siting of dwelling

New Passivhaus dwelling at Tower Street, Barnsley which is accessible and adaptable to the requirements of M4 Category 2

- 1. **PLANNING RESPONSE TO APPLICATION REF: 2024/0112**
 - 1.1 Comments from Planning Officer email dated 13.03.24 3
 - 1.2 Comments from Planning Officer email dated 5.04.24 3
 - 1.3 Architects' design response 3
- 2. **EVALUATION - ORIENTATION OF LONG ELEVATION PARALLEL TO TOWER STREET** 7
- 3. **EVALUATION - ORIENTATION OF LONG ELEVATION PARALLEL TO TOWER STREET AND REDUCED LEVELS** 7
- 4. **Conclusion** 8



1. **PLANNING RESPONSE TO APPLICATION REF: 2024/0112**

1.1 Comments from Planning Officer email dated 13.03.24

This application proposes 1 dwelling rather than 2 and has a very modern appearance when compared to the previous permission and the dwelling granted at the opposite site. All of the neighbouring properties (including the approved dormer bungalow opposite) are finished in stone; have a traditional architecture and follow a prevailing build line.

On this basis, I am not convinced that the style of dwelling hereby proposed is acceptable. The dwelling would appear alien within the street scene and would harmfully disrupt the character of the street. The use of steel cladding is not appropriate and fails to reflect nor reinforce the local characteristics and building traditions, as required by Local Plan Policy D1. The orientation of the dwelling, ie perpendicular to the highway, is also at odds with the prevailing character, adding to its incongruous appearance. The scale of the dwelling should be reduced so it is more akin to the dormer dwelling approved at the opposite site. The recent pre-application advice letter clearly states 'it is recommended that amendments are made to provide a more traditional design, scale and materials in location..'. Please can you discuss these alterations with your client and provide amended plan to reflect this.

1.2 Comments from Planning Officer email dated 5.04.24

In response to the points raised below, whilst I recognise the applicant's desire to construct a more contemporary and eco-friendly style dwelling, I am not convinced that this is appropriate at the application site. I still consider that the frontage needs to have a more traditional appearance. Although the door is positioned to face Tower Street, this elevation lacks interest and appears fairly blank consisting of just 1 narrow window. This fails to reinforce the local characteristics or appearance of the street

scene. I would strongly advise that the orientation of the dwelling is revisited so the dwelling follows the established street pattern.

1.3 Architects' design response

We have revisited the design of the street elevation, and we believe that the drawing shown above clearly demonstrates how comfortably the proposed dwelling sits within the streetscape. We also demonstrate with the addition of another window to this elevation and an adjustment to the proportions that we have followed the blueprint of the terrace house windows, with stone lintols and cill details as well as proportion. The elevation is further reinforced with a stone boundary wall base, reflecting the stone walls of the townhouse development.

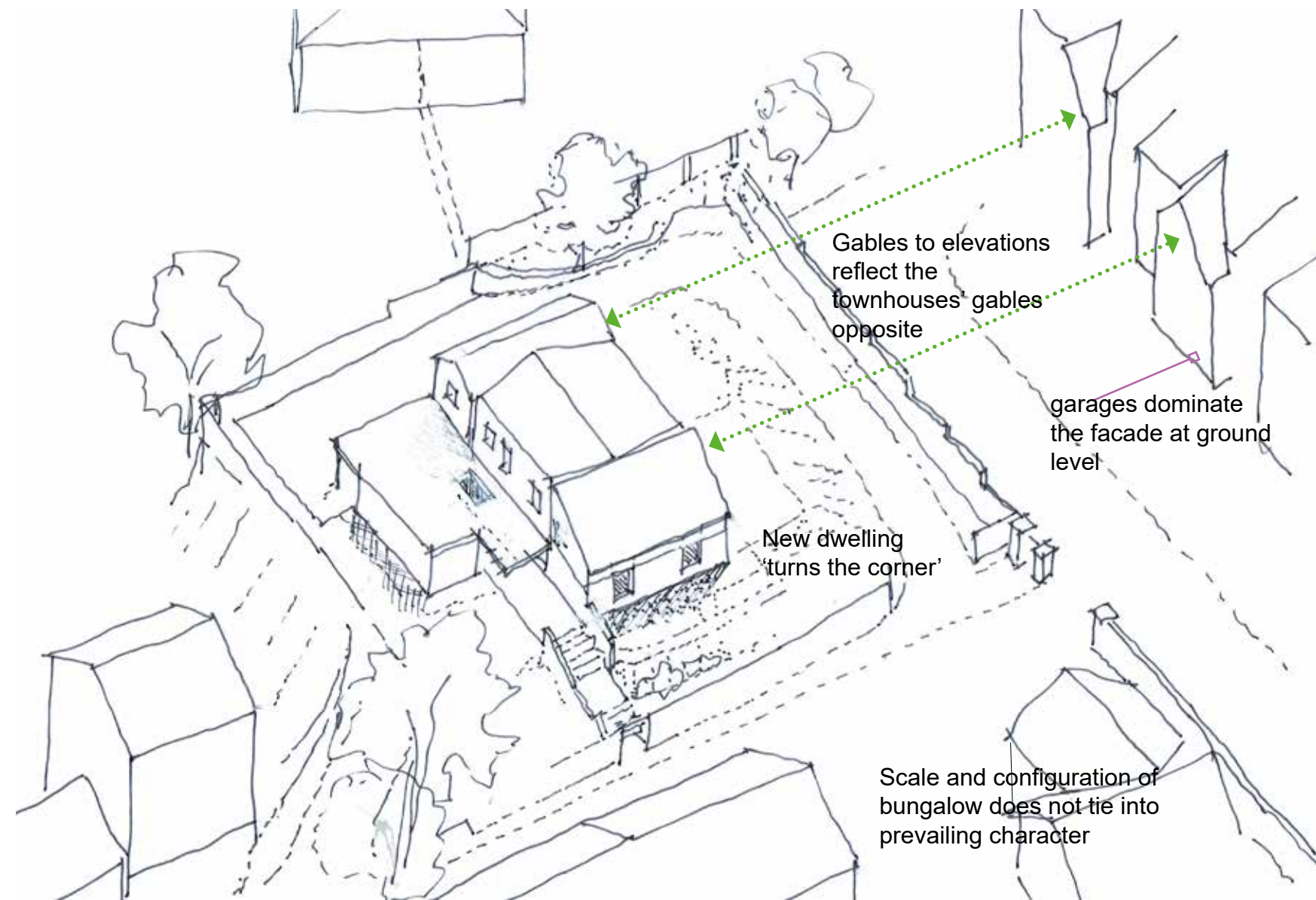
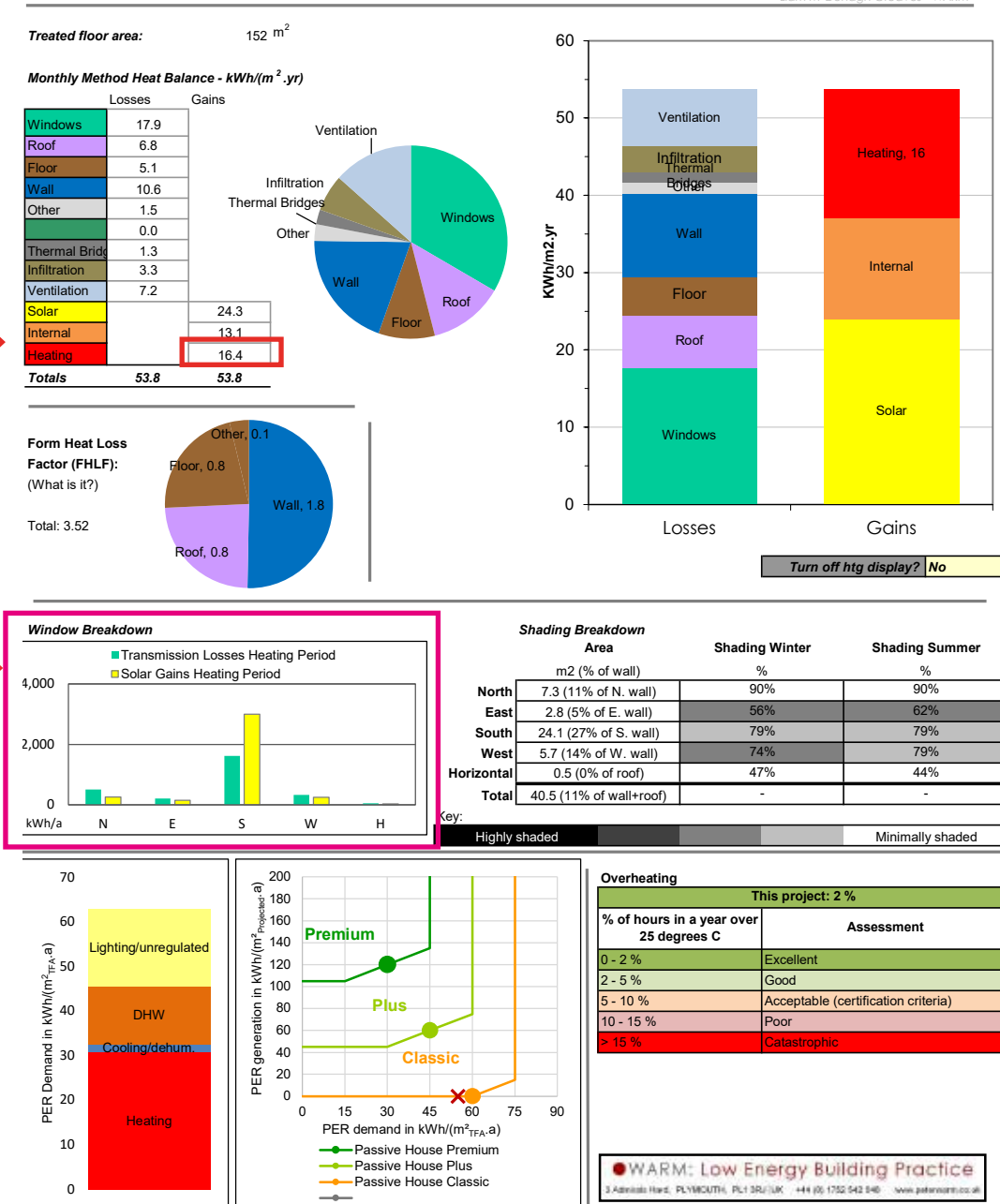
The negative reference to 'modern appearance' does not seem correct due to the fact that the street elevation of the proposed dwelling is far more in keeping with the traditional terrace houses than any of the more recent additions to the street.

The materials used are natural stone (rather than artificial stone used on the townhouses), a slate roof and more detail has been added around the windows with dressed stone lintols, cills and jambs. We have also previously submitted a study and contextual photos showing how this reflects the openings in the immediate surroundings.

The use of another facing material, a standing seam steel cladding, is confined to the side elevations and is not visible from oblique angles along the street. We feel that the change in material at first floor in small areas gives an articulation to the facade and creates a more interesting design. We do not think this material detracts from the traditional elements along the street.

Cover - Elevation to Tower Street

WARM PHPP Results Sheet - Main Results



Your have asked us to consider the orientation of the dwelling, in reference to the prevailing character of the area. This document sets out to study this option and it is our opinion that the design we have submitted is, not only, in harmony with the prevailing character but also helps to restore the urban grain, which has been lost by the recent additions. Also, the dwelling creates a transitional scale between the 3 storey townhouses and the smaller, more modest terraces. The scale of the bungalow appears to be the most incongruous in the street. The entrance is set back, not facing the street and the scale does not contribute positively to the end of the street.

The South Yorkshire Residential Design Guide p116 specifically states that garages should not dominate the streetscape, as seen on the townhouses.

As stated in our emails, one reason for the building orientation is to maximise beneficial solar gains during the heating season and is part of the Passivhaus Strategy

We have carried out full calculations using the Passivhaus Planning Package, the results

are shown above (as designed). The results (indicated above) equate to an annual energy demand of **16kWh/m2/a**. The solar gains that are utilised in passive design on the south facing windows are shown on the graph highlighted.

We have also carried out calculations to demonstrate the effects of turning the dwelling by 90 degrees to a sub optimal orientation (east west facing).

The current orientation of the dwelling currently matches the townhouses (as shown in the above sketch)that are sited perpendicular to Tower street and is a scenario seen at every 90 degree road junction, such as that of the other end of Tower Street with Park Road. The Sheffield Residential Design guide also states 'both sides of a corner should include windows and/or entrances for reasons of both security and visual character'.

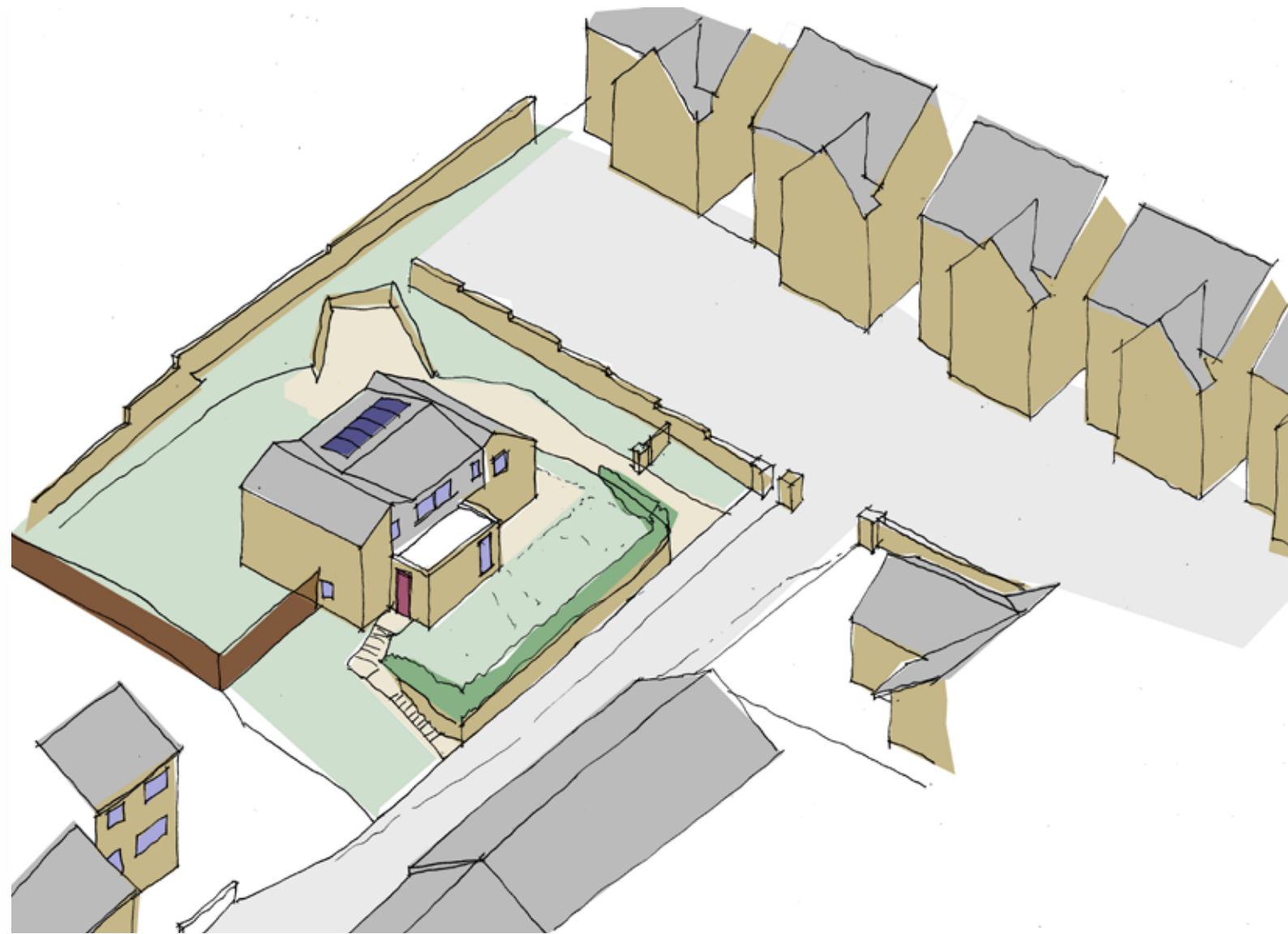


FIGURE GROUND DIAGRAM Location Plan

We attach a Figure Ground plan of the proposals (see above) and the surroundings. We believe this demonstrates how the current orientation fits in with the overall form and layout of the surroundings and is necessary to meet the Passivhaus standard we wish to achieve.

It should be noted that the frontage width to dwelling depth ratio of a typical terrace house along the street is similar to our proposals.

We would again like to highlight the importance of Paragraph 139 of the NPPF and believe that, as the scheme promotes high levels of sustainability, it need only accord with the requirements of 139(b). Again it is our view that the scheme accords with both 139 (a) and (b).

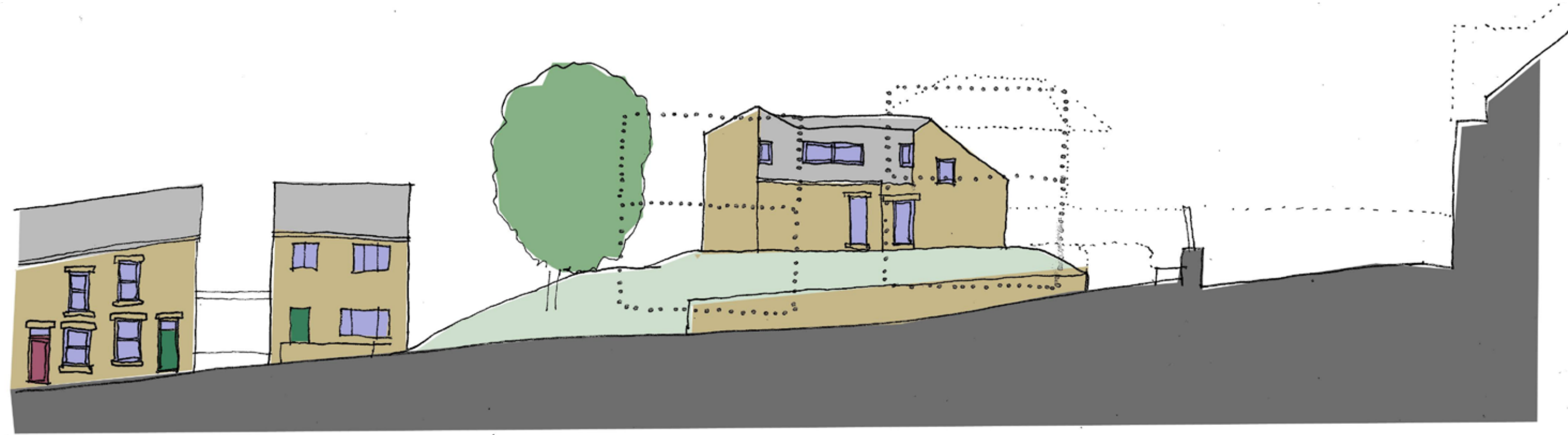


2. ORIENTATION OF THE DWELLING PARALLEL TO TOWER STREET

As requested, the above sketch shows the dwelling orientation in line with comments from the planning officer, parallel to Tower Street.

We have evaluated the performance of the dwelling when the main living spaces are facing east rather than south. The Passivhaus Planning Package accurately measures the shading from surrounding properties on each window and quantifies the energy demand for the annual amount of heating that is required.

We have also looked at the same orientation but with reduced levels, similar to the previous approved scheme. The results are as follows:-



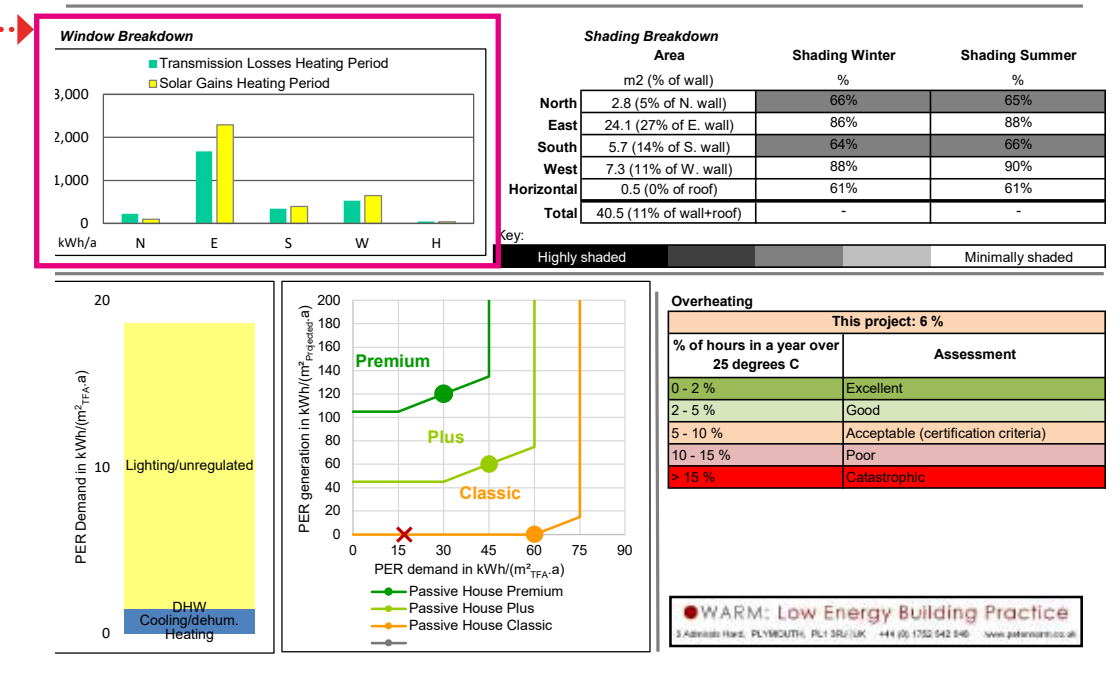
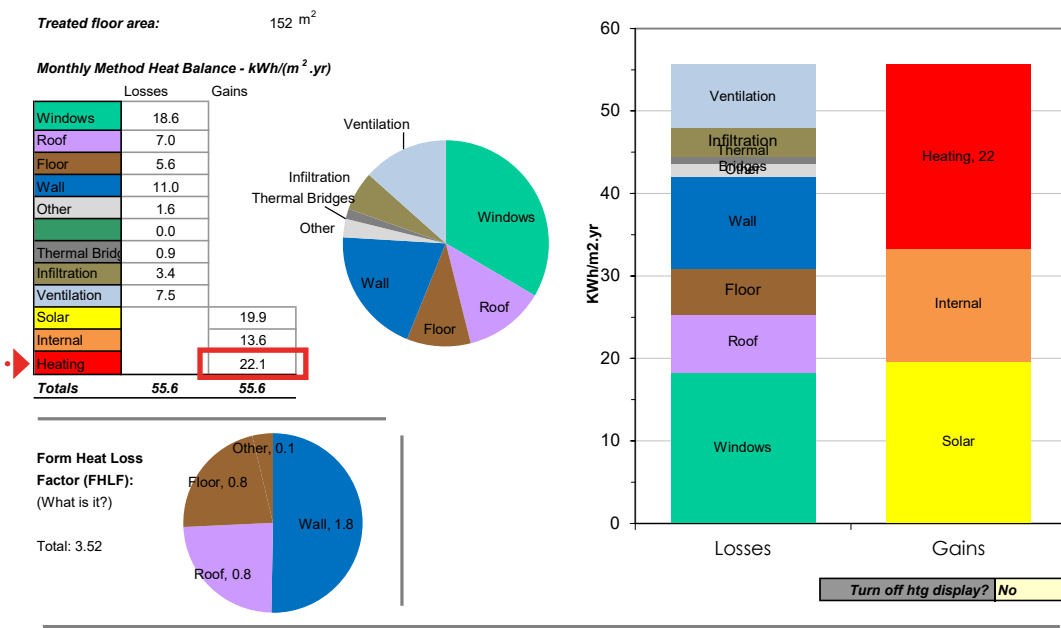
3. EVALUATION - ORIENTATION OF LONG ELEVATION PARALLEL TO TOWER STREET

The results of the PHPP calculation show that the annual energy demand increases to 22.1kWh/m2/annum. This is an increase of **37.5%** per year.

This is due to less windows facing south and the solar gain to the east facing windows being only marginally greater than the transmission losses.

The dwelling has an overall increase in scale when the long axis is facing Tower Street. The first floor windows are non habitable windows therefore do not pose an overlooking issue. At ground floor the entrance and window are at the same level as the previous approval's first floor window. The overall ridge height remains lower (and equal) to the previous approval (as shown dotted).

WARM PHPP Results Sheet - Main Results



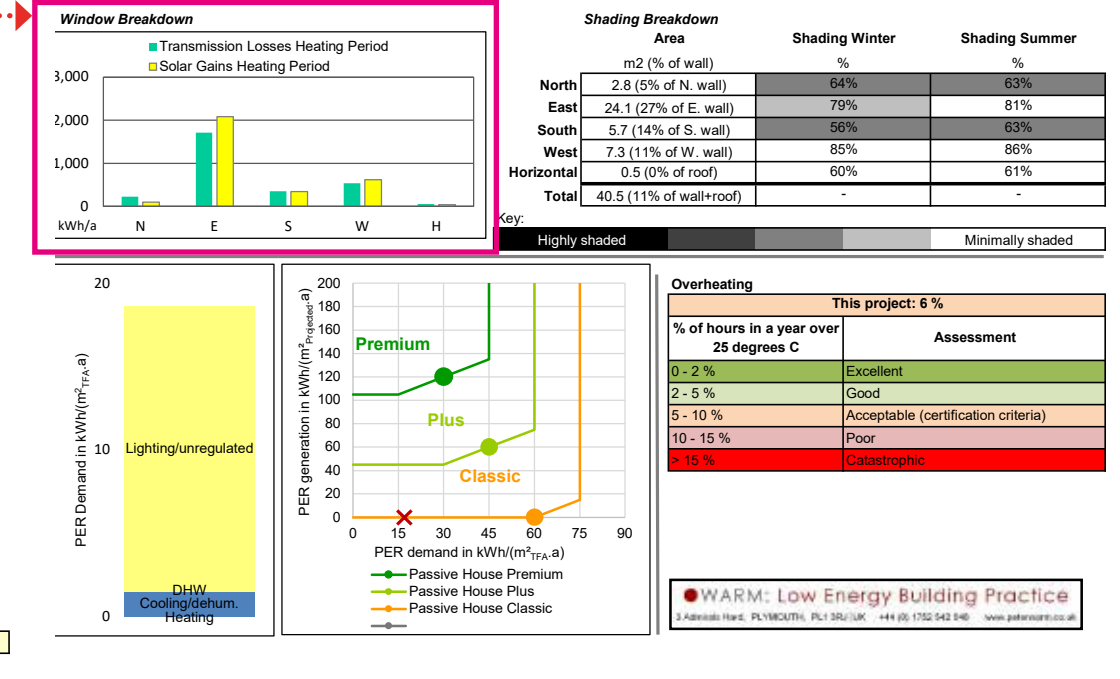
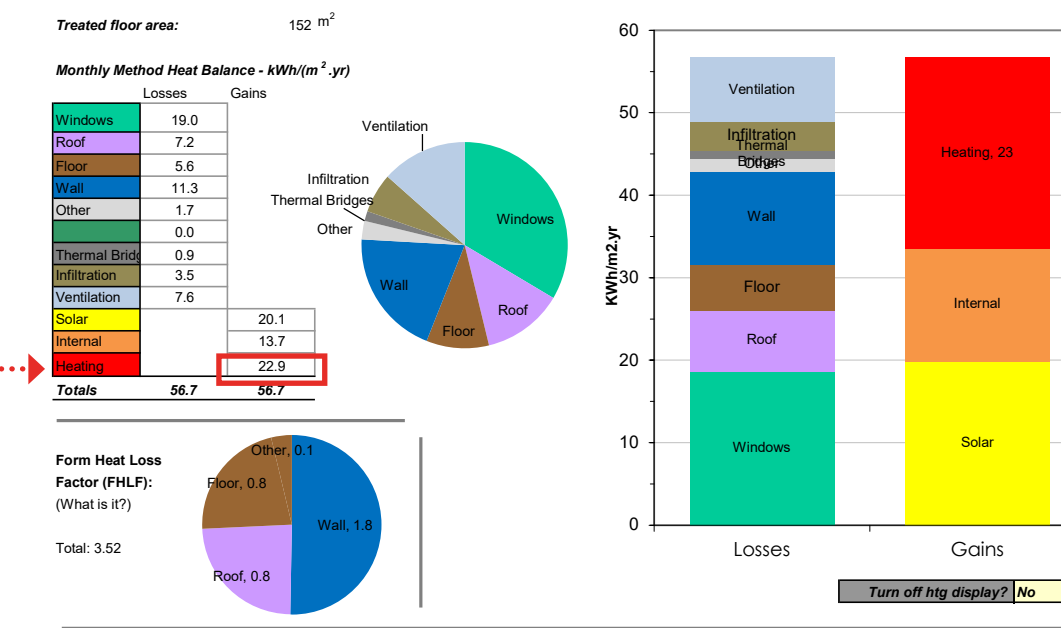
4. EVALUATION - ORIENTATION OF LONG ELEVATION PARALLEL TO TOWER STREET AND REDUCED LEVELS

The results of the PHPP calculation show that the annual energy demand increases to 23 kWh/m2/annum. This is an increase of **43.75%** per year.

For this case the solar gains are reduced even further due increased shading on the windows to the east. Overshadowing is caused by the rear garden boundary at higher levels.

Reducing the level of the dwelling also results in an additional 630m³ of soil to be removed from site. For environmental reasons as well as disruption on the site, we do not consider this option to be satisfactory.

WARM PHPP Results Sheet - Main Results



5. Conclusion

We have taken into account the comments made by the planning officer and have made revisions to the street elevation to reinforce the design in keeping with the traditional character of the street.

The choice of slate roofing and natural stone walling materials to the street elevation, reflects the local character of slate roofs local stone. A new stone wall and native hedgerows defines the boundary at the back of pavement and a low stone wall follows the profile of the steps up to the entrance of the property making a positive contribution to the urban street scene and providing a high quality public face for the dwelling.

The house has been orientated to take account of the solar aspect, which is an inherent part of Passivhaus design. The alternative orientation is of a much lesser thermal performance (annual heating demand increases by 37.5%) and, in our opinion, does not improve the relationship to the surrounding properties.

We have analysed the alternative orientation of the dwelling, in line with the planning officer's comments and we feel that the loss in performance of the dwelling, falling short of achieving the Passivhaus standard cannot justify the change, when in fact the existing townhouses set a precedent to turn the corner in accordance with the currently proposed orientation of the dwelling and the existing ratio of terrace house width to depth also reinforces our choice of orientation of the dwelling.

The decision to work with the existing site levels (the original allotment ground levels) is for environmental reasons, reducing the amount of material to be removed from site, and reducing the risk of deeper excavations in a mining area and the Mining Investigations recommendations to retain the depth of cover over the coal seams.

Passivhaus standard is a benchmark for new housing (adopted in Scotland for all new dwellings) and reduces carbon in line with government targets. The dwelling is orientated to benefit from solar gain from the south, another reason for maintaining the site levels. The ground floor level aligns with the first floor of the town houses to the south and is in keeping with the scale of the surrounding development.

In conclusion, we have studied the local character to inform our design and the landscape setting of the dwelling, including the scale of the dwelling in keeping with the street without compromising the innovative design required for Passivhaus standard. Passivhaus is a quality assurance standard that will deliver energy savings in use for the lifetime of the dwelling.

We believe these proposals do accord with relevant national and local plan policies and by virtue of being in accord with these policies, do represent sustainable development.

Underlying the whole NPPF is the presumption in favour of sustainable development. As these proposals do represent sustainable development, we respectfully request that planning approval be granted.