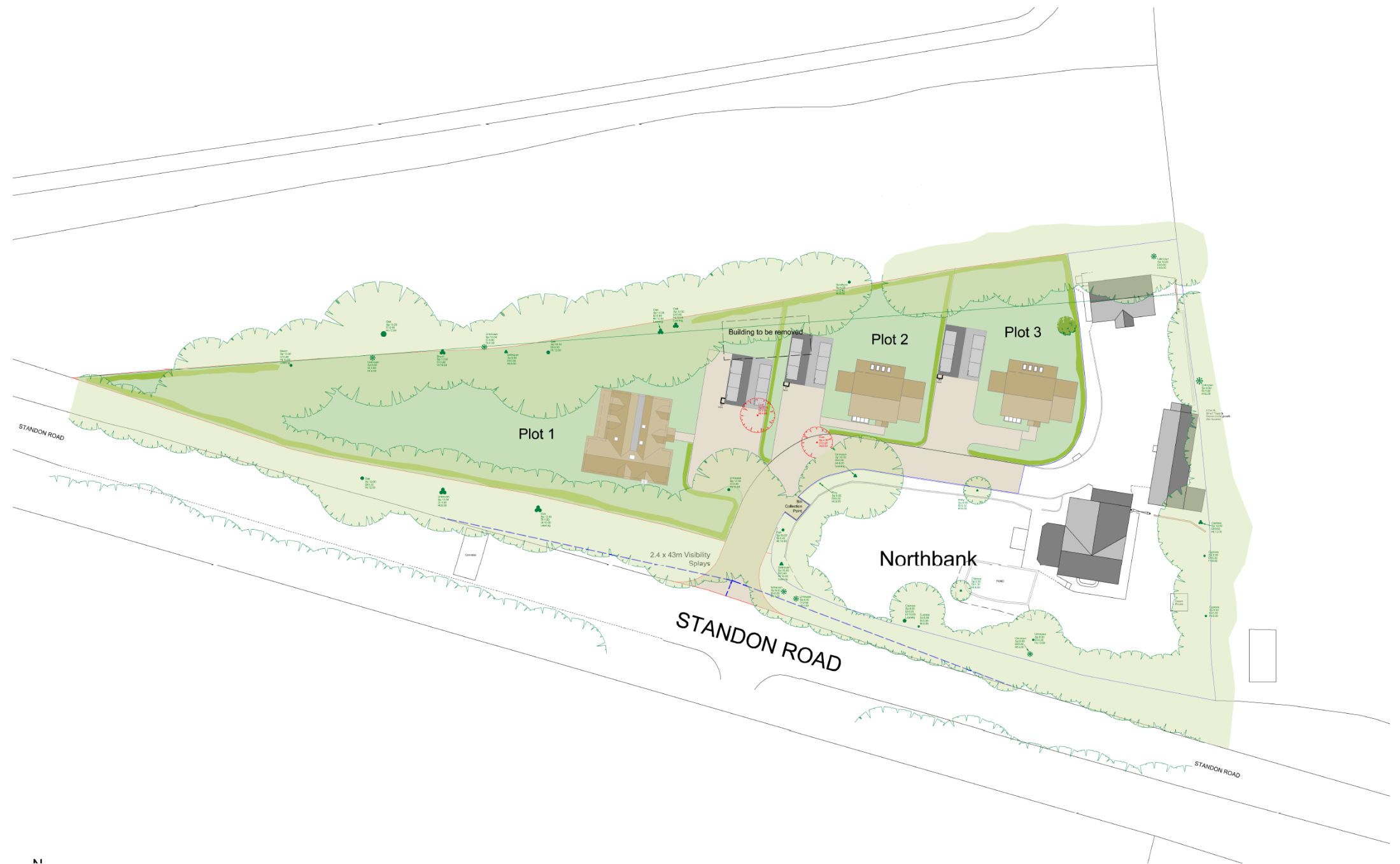


Demolition of existing outbuildings, and erection of 3 dwellings at North Banks, Little Hadham, SG11 2DE

Energy Strategy Statement



SUMMARY

East Herts District Plan 2018, Policy CC2 Climate Change Mitigation states:

I. All new developments should demonstrate how carbon dioxide emissions will be minimised across the development site, taking account of all levels of the energy hierarchy. Achieving standards above and beyond the requirements of Building Regulations is encouraged.

II. Carbon reduction should be met on-site unless it can be demonstrated that this is not feasible or viable. In such cases effective offsetting measures to reduce on-site carbon emissions will be accepted as allowable solutions.

III. The energy embodied in construction materials should be reduced through re-use and recycling, where possible, of existing materials and the use of sustainable materials and local sourcing.

The National Planning Policy Framework (NPPF)

Achieving sustainable development

7. The purpose of the planning system is to contribute to the achievement of sustainable development. At a very high level, the objective of sustainable development can be summarised as meeting the needs of the present without compromising the ability of future generations to meet their own needs. At a similarly high level, members of the United Nations – including the United Kingdom – have agreed to pursue the 17 Global Goals for Sustainable Development in the period to 2030. These address social progress, economic well-being and environmental protection.

Planning for climate change

153. Plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures. Policies should support appropriate measures to ensure the future resilience of communities and infrastructure to climate change impacts, such as providing space for physical protection measures, or making provision for the possible future relocation of vulnerable development and infrastructure.

This development has taken sustainability measures into account such as maximising natural features of the site, improving fabric efficiency and implementing renewable technologies as outlined in this report.

ENERGY HIERARCHY

The development has been designed with the energy hierarchy in mind, reducing energy demand wherever possible with a predominantly 'fabric first' approach as well as incorporating passive design solutions such as orientation and layout. This is then supported by on site renewable technologies to further reduce potential emissions.

The benefits of this approach are:

- Energy bill savings for the end user
- Increased thermal comfort
- Reduce energy use / waste
- Minimal ongoing maintenance



Figure 2: Energy Hierarchy

3.11 The energy hierarchy, as set out in the District Plan (Figure 22.1), is a sequence of steps that minimise energy consumption in a building: via passive design and orientation; fabric performance and energy efficiency. Once the demand for energy has been reduced to a minimum in a building the next step is to supply energy efficiently via renewable and low carbon energy and connection to decentralised heat and energy networks.

CONSTRUCTION & FABRIC EFFICIENCY

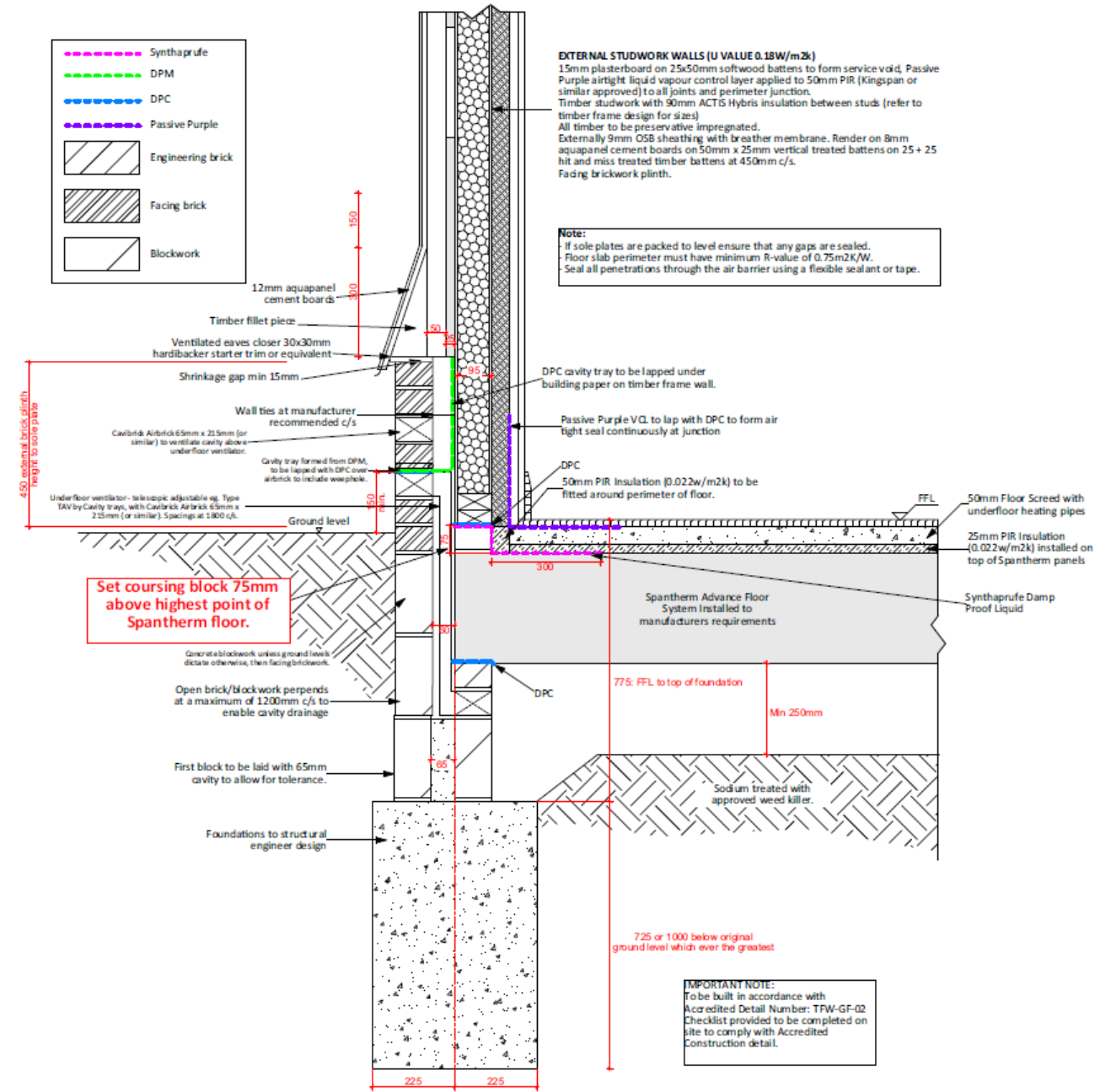
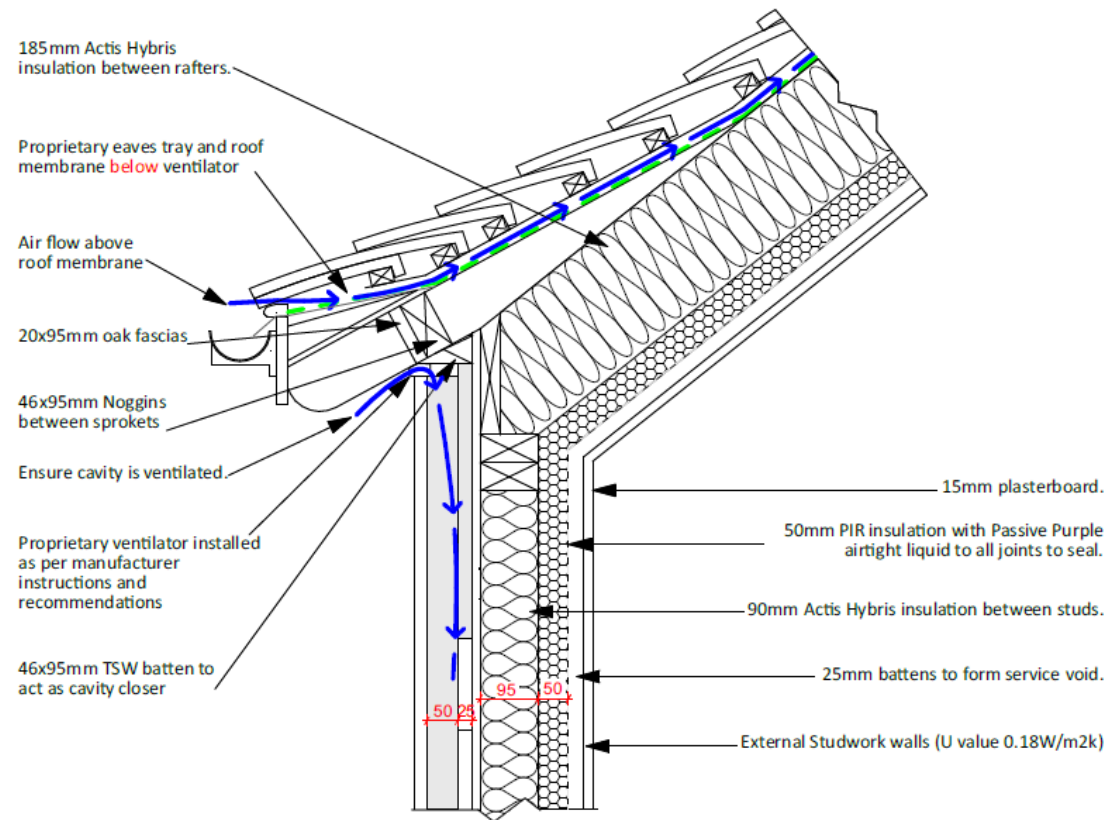
Pelham Structures originated as a Timber Frame manufacturer specialising in offsite construction, which helps increase build quality and reduces the construction period. This still forms a core part of the business and all of our homes have a timber frame, manufactured in Butts Green, Clavering, at their core. This enables us to start and deliver units on site quickly.

Pelham Structures is committed to providing a 'fabric first' strategy to housing, improving airtightness and energy efficiency and improving U-values / thermal bridging. Our typical wall and roof construction build ups are shown in the attached details.

In addition, passive design solutions have been considered on the site, such as orientation and amount of glazing as well as the use of low carbon energy sources.

Our standard construction elements achieve the following U-values:

- Walls 0.18 W/m²k
- Floor 0.13 W/m²k
- Pitched roof 0.13 W/m²k



RENEWABLE TECHNOLOGY & M&E

Renewable technologies will be utilised on site to reduce emissions wherever possible. These include:

PHOTOVOLTAICS

390 watt all-black in roof PV panels will be installed to each dwelling as shown on the adjacent plan.

| Plot | Array | kW |
|------|-------|------|
| 1 | 2 x 3 | 2.34 |
| 2 | 2 x 3 | 2.34 |
| 3 | 2 x 3 | 2.34 |

LED LIGHTING / NATURAL DAYLIGHTING

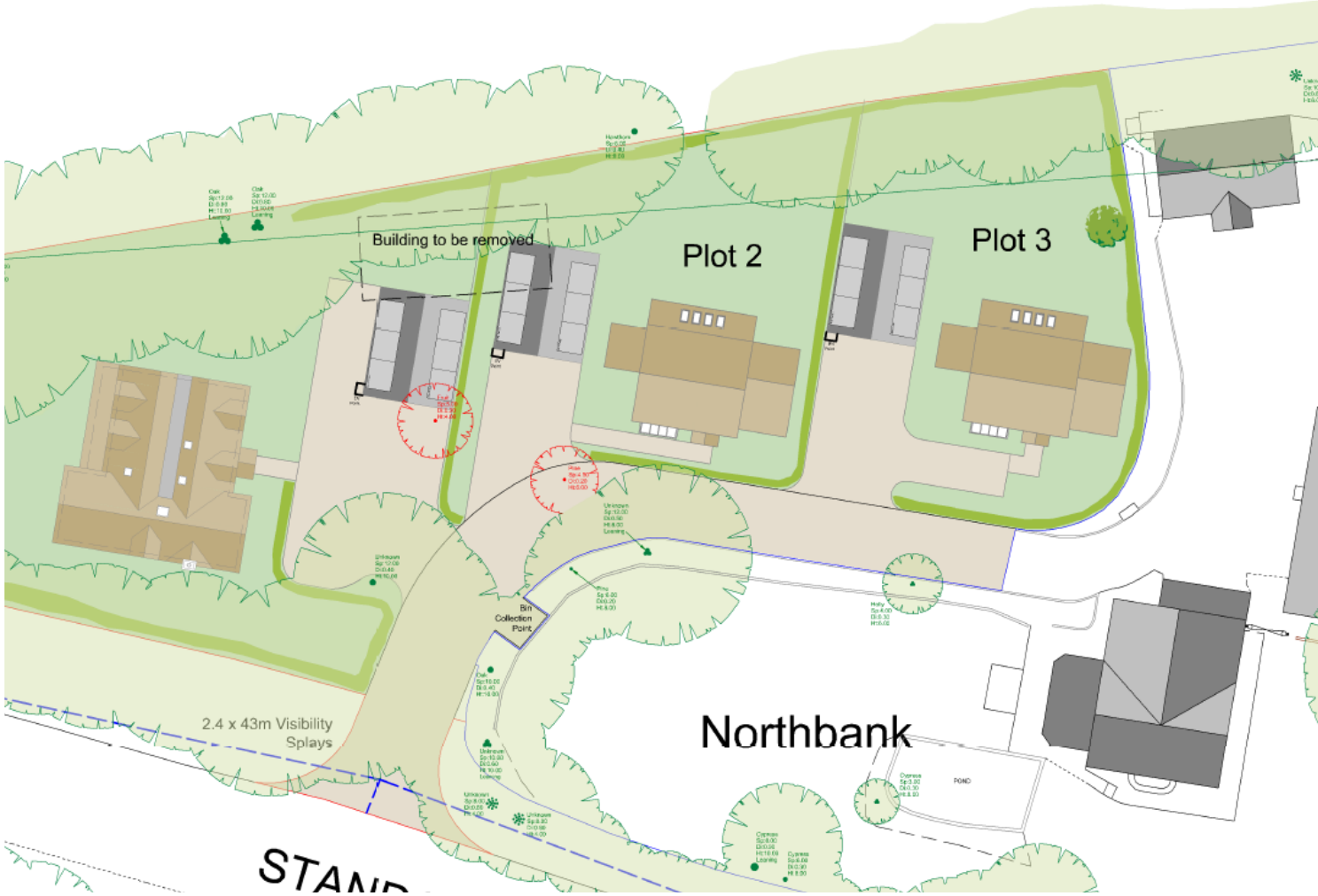
All new lighting will be LED with a minimum luminous efficacy of 75 lumens per circuit-watt as per approved document L1. All rooms will have ample natural lighting to reduce dependency on electricity.

WATER USAGE

All new sanitaryware will be 6/4 dual flush WCs, flow reducing taps, 6-9litre per min showers to reduce the water usage where possible.

EV CHARGER

The dwelling will have a fixed electric vehicle charger installed to promote and facilitate the use of electric vehicles.



WASTE MANAGEMENT

Any contaminants will be dealt with in accordance with all approved standards.

To minimise the risk of pollution and contamination during construction, the following control measures will be implemented:

- All site workers to wear Personal Protective Equipment (PPE)
- No smoking on site
- No eating to be allowed on site other than in a designated canteen
- The use of water to dampen down roads etc to minimise the mobilisation of dust as and when the weather and type of work dictates
- Areas where contamination may occur, such as vehicle maintenance areas, storage areas and refuelling areas, will be protected by an impervious base and bunds as necessary. The base and bund wall must be impermeable to the material stored and of adequate capacity
- Construction plant will undergo regular maintenance
- Pollution control packs will be positioned within vulnerable areas to allow immediate reaction to any pollution incident
- A toolbox briefing about the importance of the water supply, water bodies and use of pollution control packs will be disseminated to all site staff
- All fuel and chemical storage will be kept away from all watercourses (a minimum of twenty metres)
- All works involving localised mixing, breaking up of concrete and cleaning of cement mixers is to be conducted in specially designated areas. Cement silos will also be used to control waste as well as quality.
- In the event of a water quality incident an incident form will be completed to inform the designated Environment Manager, who will notify the Environment Agency as necessary.
- Adequate sheeting of vehicles carrying waste materials;
- Measures will be taken to ensure that mud and debris is not swept into gullies; and,
- A water bowser will remain available for dust control.

Every effort will be made to reduce wastage of materials on site. Wastage is minimised through the use of pre-fabricated elements such as the timber frame and the precast concrete insulated slabs. Waste materials will also be recycled or reused wherever possible.



Figure 11: Waste Hierarchy