

5.0 THE BUILT FORM

5.17 Materials Distribution: The Village

Walls

- Terracotta multi stock facing brick
- Render and rough cast render
- Flint with red quoins and opening surround details
- Red brick with blue header bonding pattern (Flemish bond) and red quoins and features

Roof

- Red concrete, interlocking plain tiles
- Brown concrete, interlocking plain tiles
- Grey concrete, interlocking plain tiles

Windows

- UPVC casement style without secondary glazing bars
- Occasional mock sash style on some key buildings

Wall materials palette:



Terracotta multi stock brick



Flint and red brick



Patterned brickwork with blue headers

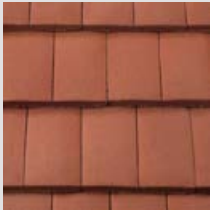


Render



Rough cast render

Roof materials palette:



Red plain tile



Brown plain tile



Grey tile

KEY

 Render

 Terracotta multi stock facing brick

 Reddy brown multi stock facing brick

 Flint with brick dressing

 Blue bonded pattern brickwork with brick dressing

 Plain tile hanging

 Dark boarding

 Orangey brown plain tile

 Reddy brown (earthy tone) plain tile

 Grey Tile

Extract of layout showing The Village character area materials disitribution

Typical Village character area street scene illustrating materials disitribution

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ARUN DISTRICT COUNCIL A/256/21/RES

5.0 THE BUILT FORM

5.18 Materials Distribution: Parkland

Walls

- Terracotta multi stock facing brick
- Reddy Brown multi stock facing brick
- Orangey brown plain tile hanging to upper floor level
- Flint with red quoins and opening surround details

Roof

- Red concrete, interlocking plain tiles
- Brown concrete, interlocking plain tiles
- Grey concrete, interlocking plain tiles

Windows

- UPVC, casement style with secondary glazing bars
- Occasional mock sash style on some key buildings

Wall materials palette:



Terracotta multi stock brick



Flint and red brick



Red/brown stock brick



Orangey brown tile hanging

Roof materials palette:



Red plain tile



Brown plain tile



Grey tile

- KEY**
-  Render
 -  Terracotta multi stock facing brick
 -  Reddy brown multi stock facing brick
 -  Flint with brick dressing
 -  Blue bonded pattern brickwork with brick dressing
 -  Plain tile hanging
 -  Dark boarding
 -  Orangey brown plain tile
 -  Reddy brown (earthy tone) plain tile
 -  Grey Tile



Extract of layout showing Parkland character area materials disitribution



Typical Parkland character area street scene illustrating materials disitribution

5.0 THE BUILT FORM

5.19 Materials Distribution: Woodland Edge

Walls

- Reddy Brown multi stock facing brick
- Orangey brown plain tile hanging to upper floor level
- Dark coloured boarding

Roof

- Red concrete, interlocking plain tiles
- Brown concrete, interlocking plain tiles
- Reddy concrete, interlocking brown plain tile (earthy tone)

Windows

- UPVC casement style with secondary glazing bars

Wall materials palette:



Red/brown stock brick



Orangey brown tile hanging



Dark coloured boarding

Roof materials palette:



Red plain tile



Brown plain tile



Reddy brown plain tile (earthy tone)

KEY

-  Render
-  Terracotta multi stock facing brick
-  Reddy brown multi stock facing brick
-  Flint with brick dressing
-  Blue bonded pattern brickwork with brick dressing
-  Plain tile hanging
-  Dark boarding
-  Orangey brown plain tile
-  Reddy brown (earthy tone) plain tile
-  Grey Tile

Extract of layout showing the Woodland Edge character area materials disitribution

Typical Woodland Edge character area street scene illustrating materials disitribution

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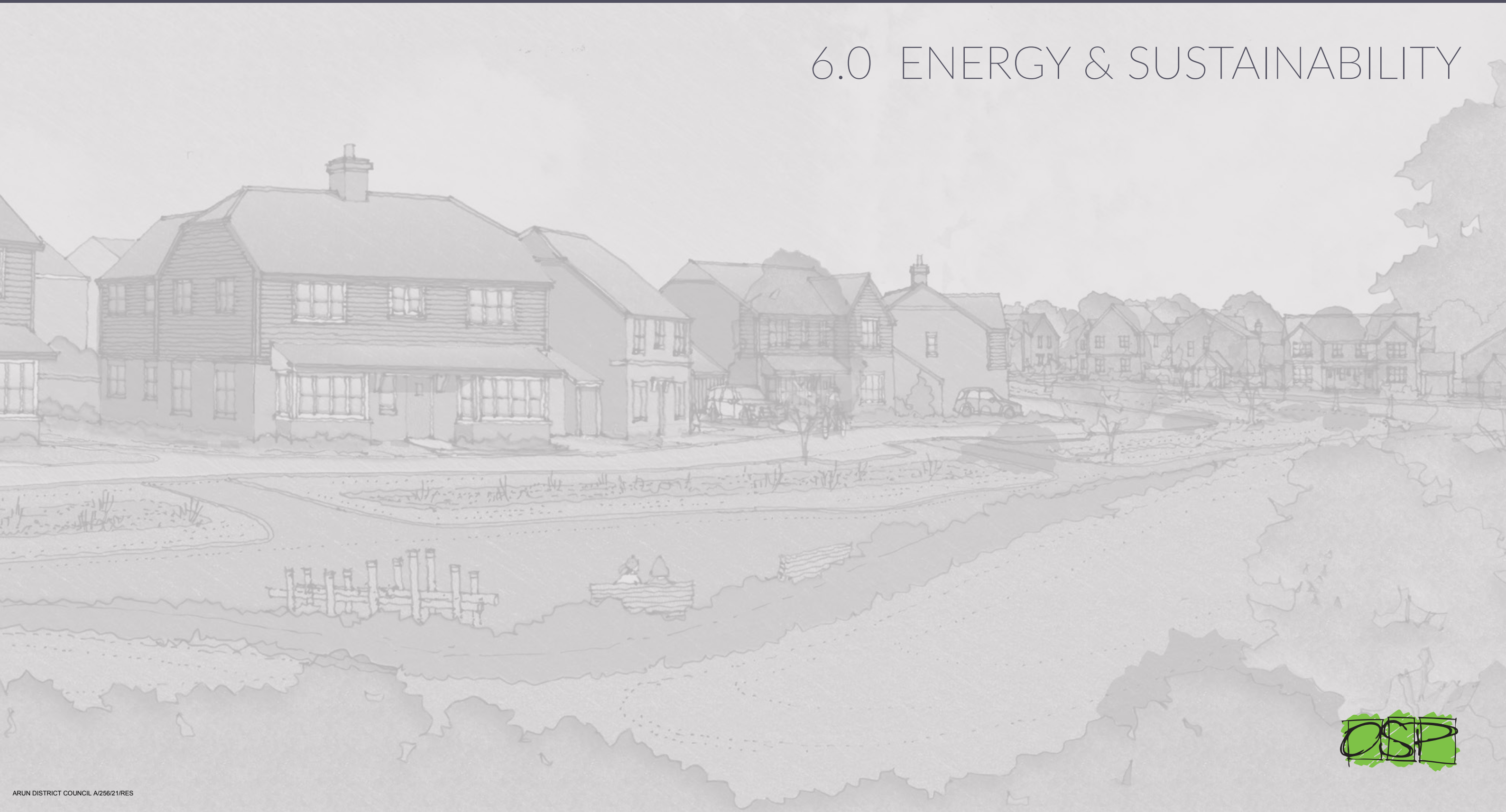
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6.0 ENERGY & SUSTAINABILITY



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6.1 Sustainable Design

An Energy and Sustainability Statement and been produced by AES to address Condition 22 of the outline planning permission (ref: A/30/18/OUT) as well as relevant national and local policies relating to sustainable development.

This statement provides an indicative fabric specification and a strategy which would enable the dwellings to meet future Building Regulations requirements, however as elements of the regulatory standards are still under consultation it is primarily the carbon reduction objective that is being expressed, with the precise strategy to achieve this being subject to change as this progresses.

Additional sustainable construction considerations are additionally addressed, including overheating risk and climate resilience, sustainable and responsible materials use, water consumption and electric vehicle (EV) charging.

Energy Reduction Strategy – Fabric First

As one of the key areas of ongoing impact of any development, the energy demand of the dwellings to be constructed is a key consideration in the overall sustainability strategy.

The proposed construction specification and sustainable design principles to be applied to the development will ensure that each dwelling meets the CO2 reductions mandated by Part L1A of the Building Regulations through fabric measures alone.

It is proposed that the energy demand reduction strategy for the development incorporates further improvements beyond a Part L compliant specification and initially concentrates finance and efforts on reducing energy demand as the first stage of the Energy Hierarchy



The energy hierarchy

BE LEAN: Reduce energy demand

The design of a development - from the masterplan to individual building design - will assist in reducing energy demand in a variety of ways, with a focus on minimising heating, cooling and lighting loads. Key considerations include:

- Building orientation – maximise passive solar gain and daylight
- Building placement – control overshading and wind sheltering
- Landscaping – control daylight, glare and mitigate heat island effects
- Building design – minimise energy demand through fabric specification

BE CLEAN: Supply energy efficiently

The design and specification of building services to utilise energy efficiently is the next stage of the hierarchy, taking into account:

- High efficiency heating and cooling systems
- Ventilation systems (with heat recovery where applicable)
- Low energy lighting
- High efficiency appliances and ancillary equipment

BE GREEN: use low carbon/renewable energy

Low carbon and renewable energy systems form the final stage of the energy hierarchy and can be used to directly supply energy to buildings, or offset energy carbon emissions arising from unavoidable demand. This may be in the form of:

- Low carbon fuel sources – e.g. biomass
- Heat pump technologies
- Building scale renewable energy systems
- Small-scale heat networks
- Development-scale heat networks

As this hierarchy demonstrates, designing out energy use is weighted more highly than the generation of low-carbon or renewable energy to offset unnecessary demand. Applied to the development, this approach is referred to as ‘fabric first’ and concentrates finance and efforts on improving U-values, reducing thermal bridging, improving airtightness, and installing energy efficient ventilation and heating services.

This approach has been widely supported by industry and government for some time, particularly in the residential sector, with the Zero Carbon Hub1 and the Energy Savings Trust2 having both stressed the importance of prioritising energy demand as a key factor in delivering resilient, low energy buildings.

The sustainable nature of the proposals will be ensured through the implementation of the following:

Materials:

The impacts of construction materials range from the depletion of natural resources to the greenhouse gas emissions and water use associated with their manufacture and installation. Within the development choices will be made in order to reduce the consumption of primary resources and using materials with fewer negative impacts on the environment, including but not limited to the following;

- Use fewer resources and less energy through designing buildings more efficiently
- Specify and select materials and products that strike a responsible balance between social, economic and environmental factors
- Incorporate recycled content, use resource-efficient products and give due consideration to end-of-life uses
- Influence, specify and source increasing amounts of materials which can be reused and consider future deconstruction and recovery
- All insulating materials will have a Global Warming Potential (GWP) of < 5 in manufacture and installation.
- All materials used in construction will be responsibly sourced, with certification obtained wherever possible. Materials with a low environmental impact as per the BRE Green Guide will be preferred.



6.0 ENERGY & SUSTAINABILITY

Waste:

Sending waste to landfill has various environmental impacts, such as the release of local pollution, ecological degradation and methane emissions, in addition to exacerbating resource depletion. Waste in housing comes from two main streams; construction waste and domestic waste during occupation.

Household Waste

In this respect regard has been given to the policy advice contained in the NPPF together with the Council's current guidance to ensure that the new dwellings are provided with adequate storage facilities for both waste and recyclable materials.

Arun District Council currently operates domestic waste collection services through which households are able to recycle materials including paper and cardboard, plastic bottles and food containers, tins, glasses and metal foils, together with garden waste.

Construction Waste

The construction process will be managed to effectively and appropriately monitor and manage construction site waste. Target benchmarks for resource efficiency will be set in accordance with best practice – e.g. m3 of waste per 100m2 / tonnes waste per m2.

Wherever possible materials will be diverted from landfill through re-use on site, reclamation for re-use, returned to the supplier where a 'take-back' scheme is in place or recovered and recycled using an approved waste management contractor.



Electric Vehicle Charging Points:

There is a government ambition for all new cars to be effectively zero emission by 2035. The 'Road to Zero' strategy set out a £1.5b package of support for the transition. A number of initiatives are already in place including grants, as well as road tax and vehicle excise duty exemptions.

It is recognised that there is a need to ensure that the development is adaptable to accommodate a future shift in personal transportation to electric vehicles, to promote sustainable transport and to minimise air pollution. As Electric Vehicle (EV) ownership increases, developers have an increasing responsibility to provide EV charging points for occupants.

The development will ensure adequate provision of electric vehicle charging points is made.

Further technical details of the charger along with locations will be provided at the appropriate time as preparation for the development progresses.

Water Conservation:

In line with current Building Regulations, water use will be managed effectively throughout the development through the incorporation of appropriate efficiency measures.

Water efficiency measures including the use of efficient dual flush WCs, low flow showers and taps and appropriately sized baths will be encouraged with the aim to limit the use of water during the operation of the development to limit water use.

The development could achieve a result less than the required 125 litres/occupier/day calculated in accordance with Building Regulations 17.K methodology.

Calculations within the report illustrate in a total water consumption of 105.9 Litres/Person/Day for the intended specification, well below the maximum of 125 Litres/Person/Day required by Building Regulations.

Renewable Energy Technologies:

A range of potentially appropriate technologies have been assessed for feasibility in delivering a further reduction in energy demand of 2,29%, concluding that solar PV constitutes both the preferred and viable technology for this site. A system capacity of circa 90,421 kWh/annum is proposed, to offset 46929 kgCO2/year

The overall savings from the combination of fabric efficiency measures and renewable energy lead to site wide energy demand reductions of 10.00% over 2013 Building Regulations standards, therefore meeting the requirements of Condition 22 and Policy ECC SP2.

Housing Mix:

- The proposed scheme of 525 homes includes a wide range of dwelling typologies and tenures, including flats and houses (ranging from 1 bed to 4 bedrooms) to accommodate a broad mix of residents of all ages.
- Affordable Housing in accordance with the Outline Planning Consent will be seamlessly integrated into the design of the scheme to ensure that it is tenure blind.
- Dwellings will be designed to allow for easy adaptation to accommodate future needs such as home working.
- All units are designed to be compliant with Nationally Described Space Standards.

Landscape and Ecology:

- The proposals include the retention and enhancement of quality existing trees within open spaces.
- The development will be carefully designed to ensure the layout creates attractive areas of open space for new residents to enjoy.
- The proposals will aim to generate an overall biodiversity gain.
- The creation of new ecological habitats will be encouraged through the provision of bat & bird boxes across the site.

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7.0 CONCLUSION



7.0 CONCLUSION

7.1 Summary

This Reserved Matters planning application has been designed to achieve the aim of a landscape led new place on the eastern edge of Angmering village. It has been informed by the principles set out in the outline planning approval and the subsequent production of the Design Code and revised parameter plans following pre-application discussions with officers.

Key features of the scheme include:

- A landscape led design approach
- 525 new dwellings to meet local demand
- 159 mixed tenure affordable homes to meet local need
- A range of dwelling sizes including 1 & 2 bedroom apartments and 2,3 & 4 bedroom houses and bungalows.
- Buildings which are designed to reflect the local architectural character and built environment within Angmering
- Buildings of up to 2.5 storeys in height designed and located to comply with the development parameter plans
- Strong green infrastructure framework incorporating approximately 9.35 hectares of landscaped open spaces including children’s play areas for all ages.
- Net gains for the natural environment, incorporating a sustainable drainage system.
- Retained trees and hedgerows within green corridors and along central avenue.
- Green buffer to Grooms Copse Ancient Woodland.
- Tree lined avenues through central spine of site and around northern secondary avenue.
- Access from Water Lane with bus and emergency access only from Dappers Lane.
- A road layout designed to meet County standards and accommodate buses in the future.
- Parking to meet Arun District Council standards.
- A network of features as part of a Sustainable Drainage System (SuDS)

Compliance with Design Code:

The proposed scheme has been designed to be in accordance with the revised parameter plans and guided by the Design Code with regard to built form, identity, access and movement, landscape and ecology, use and sustainability.







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