



Blackfriars, Design Proposals

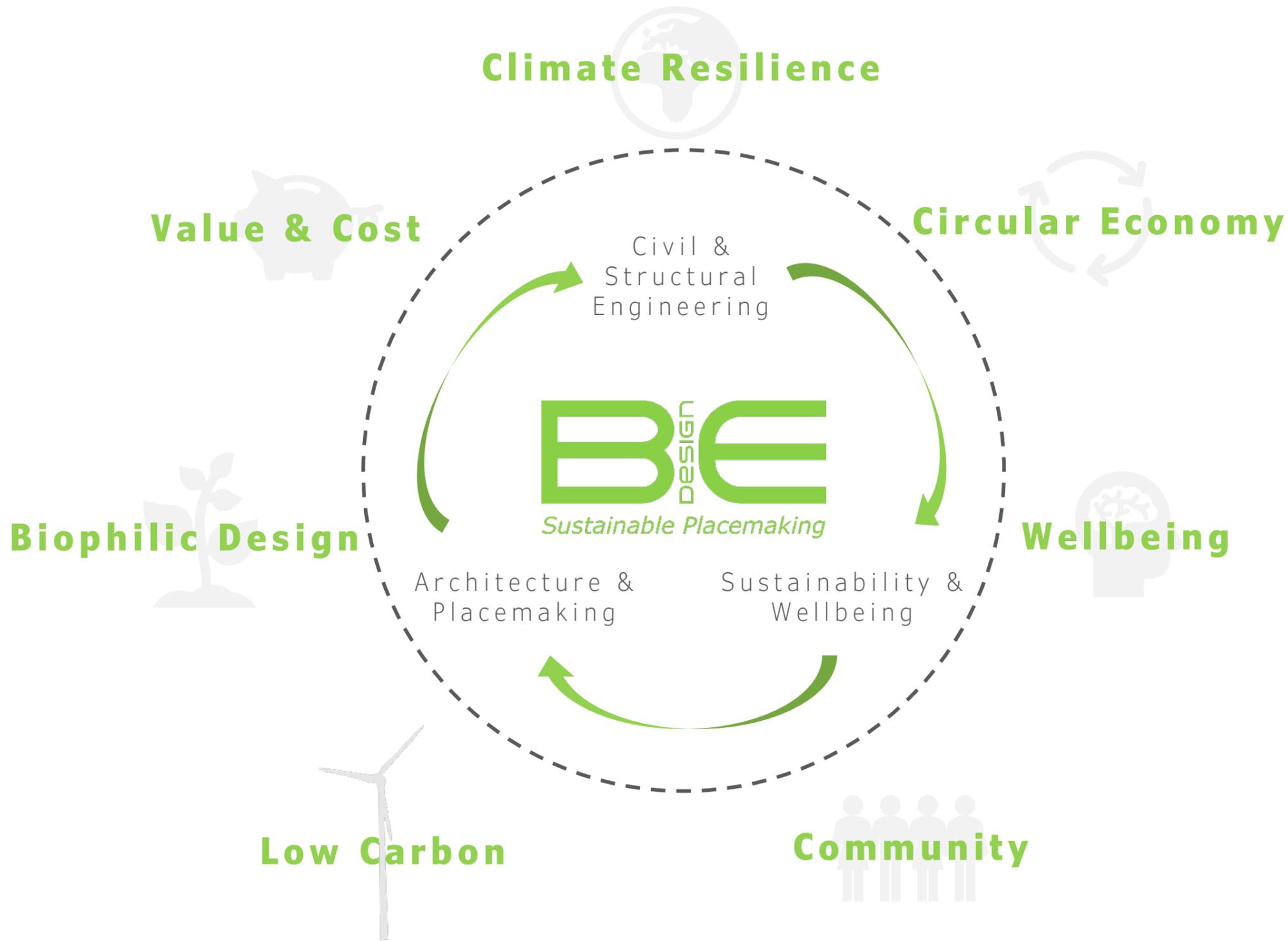
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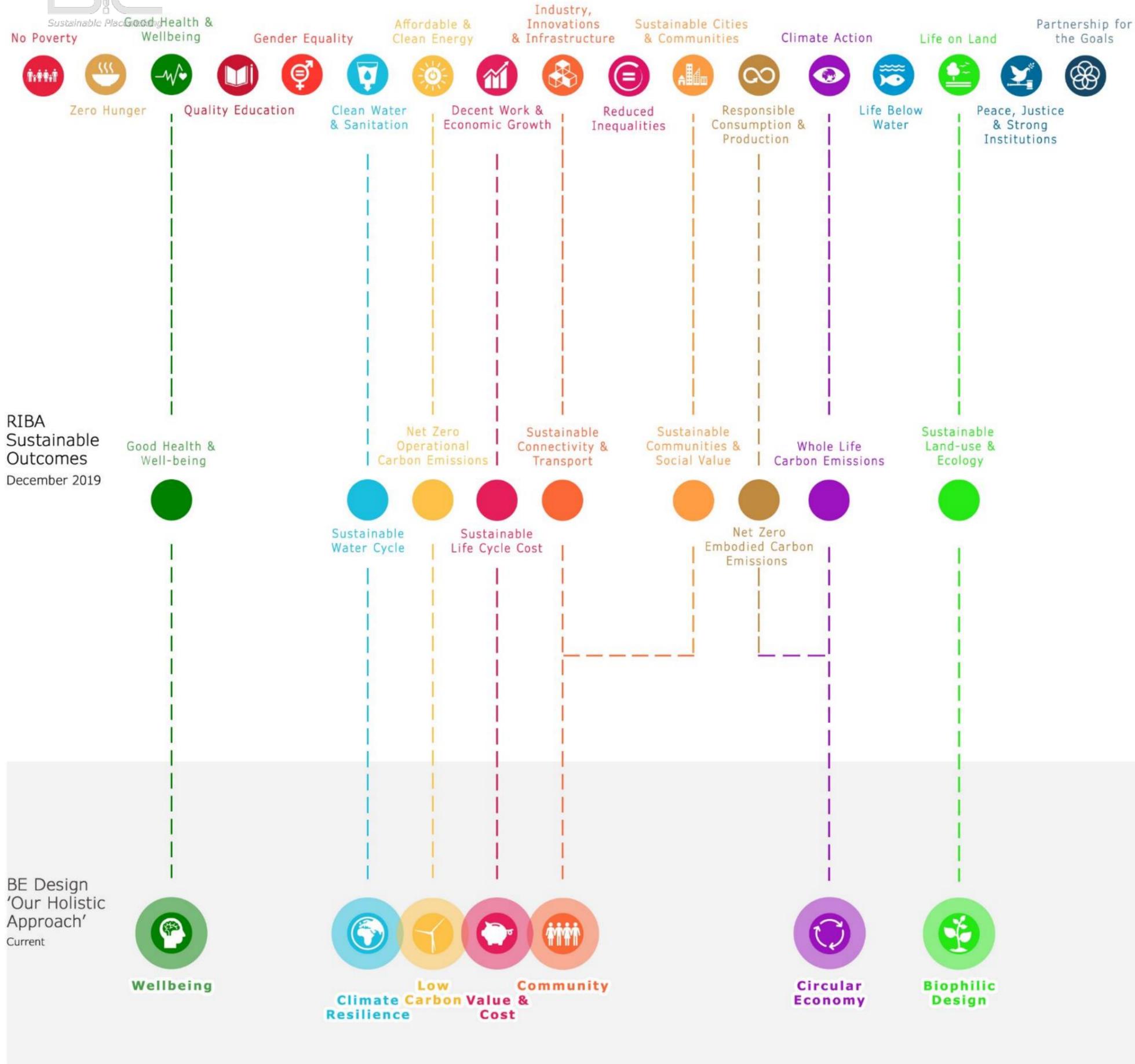
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Our Holistic Approach

The BE Design Holistic Approach embeds these seven core principles on all our projects in a pragmatic and deliverable way.

'Designing responsibly for the future'



Our Holistic Approach

In December, RIBA identified eight sustainable outcomes from the 17 UN Sustainable Development Goals that all buildings contribute to (RIBA Sustainable Outcomes Guide, Dec 2019). These sustainable outcomes are compared to our own BE Design Holistic Approach 7 core principles.

The Vision

Rother District Council has declared a 'Climate Emergency' and is working towards developing a 'Carbon Neutral' vision for 2030.

Our vision for Blackfriars is to develop a highly sustainable contemporary housing development that is future-proofed for the transition to Zero Carbon, whilst respects local heritage and landscape.

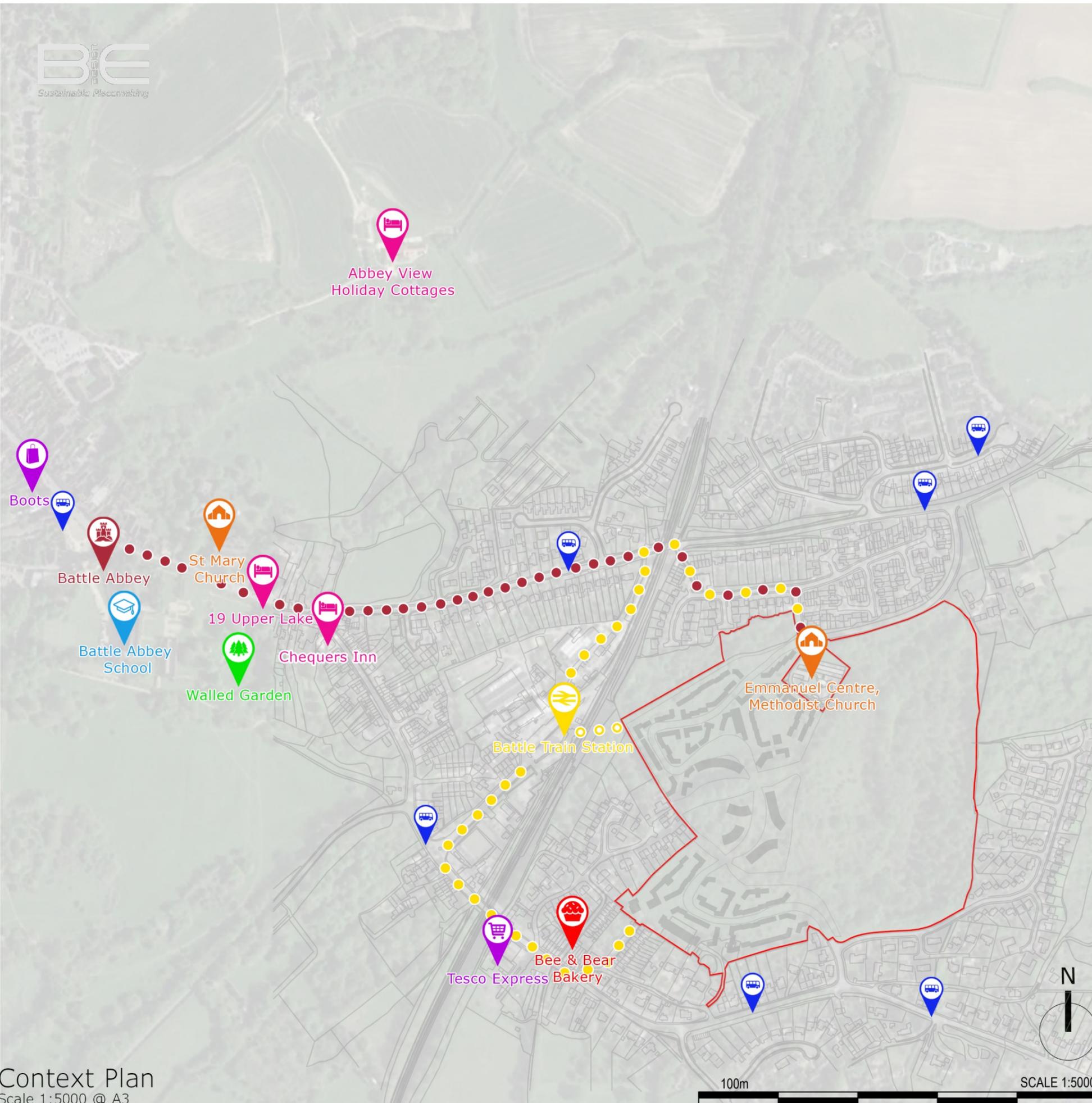
All new homes will be designed to significantly reduce energy consumption and carbon emissions, whilst minimising energy costs for residents.

- **Home Quality Mark** Certification being taken forward across the site
- **Passivhaus Principles** Being applied to four gateway plots in Plot 01
- **Earth-sheltered** (High thermal mass) design being applied to three homes in Plot 01
 - **Fabric First Approach** for all remaining homes
 - Target site-wide **31% co2 reduction** over current Part L
- Measures to **Future-proof for Zero Carbon** (e.g. south facing roof pitches, electrification of vehicles and heat)

Sustainability Objectives



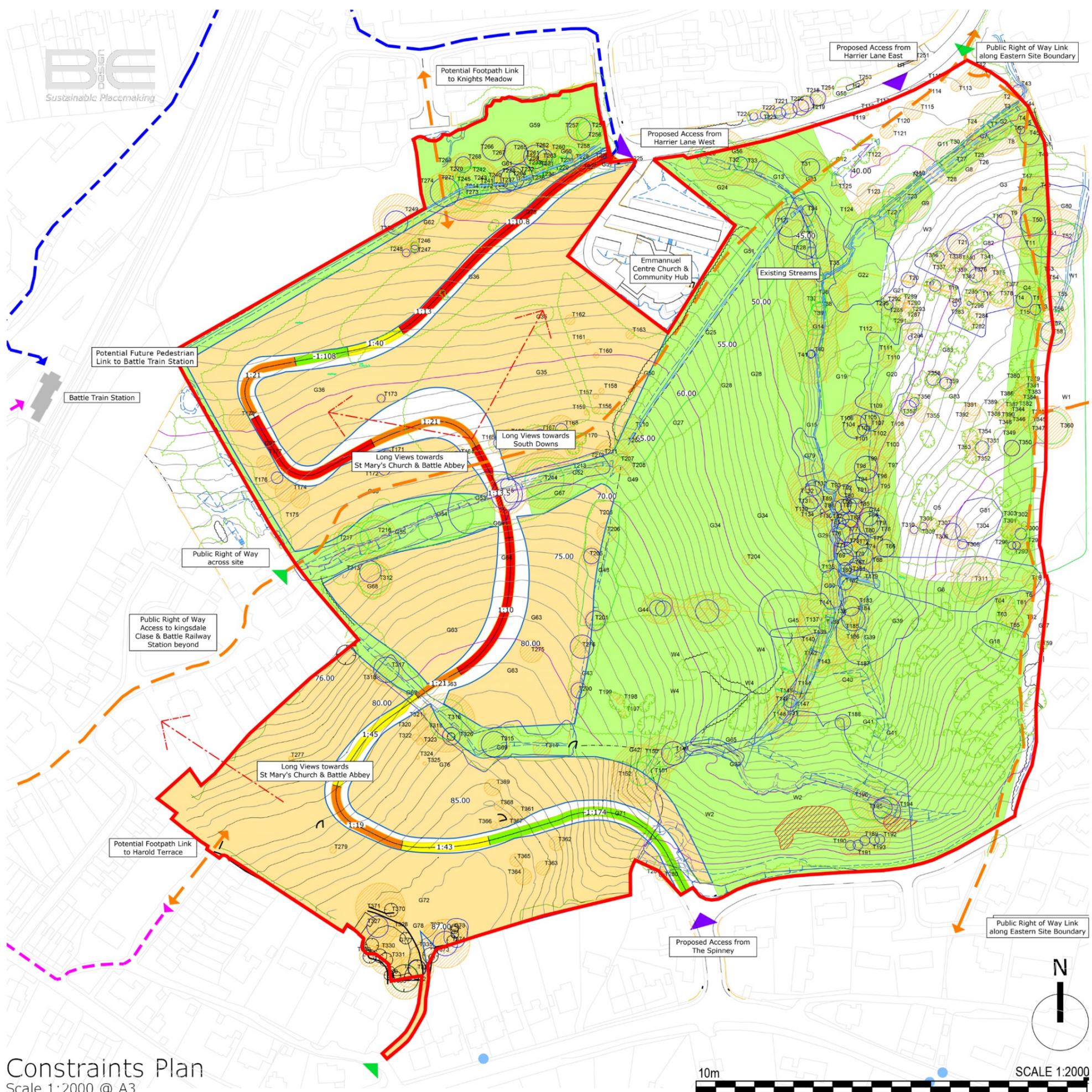
Context Plan



Key:

- Transport
- Building of Faith
- Food
- Historical Building
- Leisure
- Retail
- Education
- Bus Stop
- Green Areas

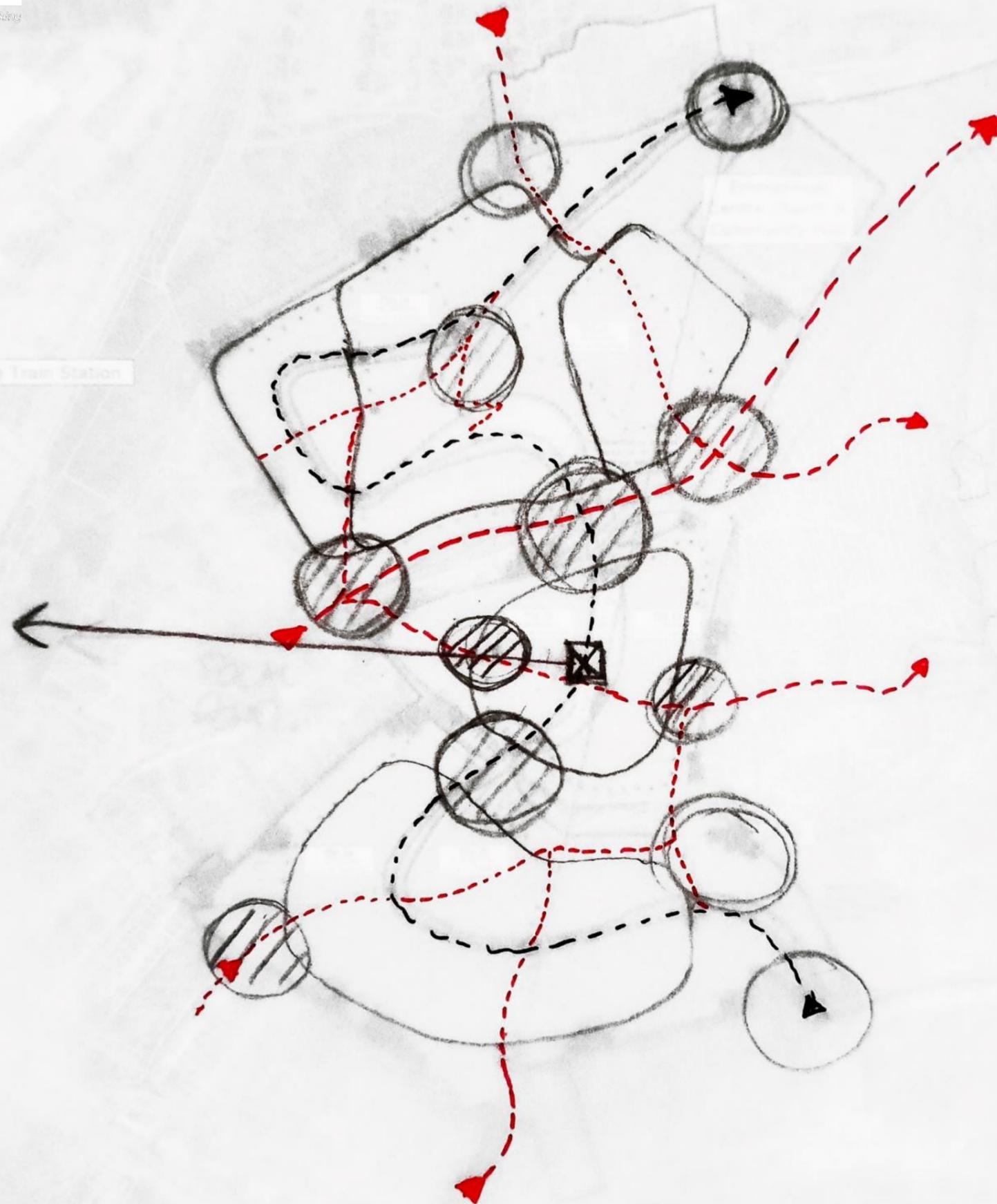
- Battle Train Station Links – 6 mins from the North and 12 mins from the South.
- Potential Future Pedestrian Link to Battle Train Station



Site Constraints

- Key:**
- Site Boundary
 - ▲ Vehicular Access
 - ▲ Pedestrian Access
 - Public Right of Ways
 - Public Footpath, Link to Railway, South
 - Public Footpath, Link to Railway, North
 - ▼ Site Views
 - - - Existing Streams & Ponds
 - Existing Mature Trees to be Retained
As drg 23817A/02 Rev B
 - Existing Bus Stops
 - Battle Train Station
 - Developable Areas
 - Highway Gradient: 1:10 - 1:15
Gradients as GTA Civils
drg 7500_302_13.08.19
 - Highway Gradient: 1:15 - 1:40
 - Highway Gradient: 1:40 - 1:100
 - Highway Gradient: +1:100
 - ▨ Root Protection Areas of Existing Trees
As survey drg 7053_TCP

Note:
Topographical Survey Information as Gryphon Surveys drg G5367-1.1, May 2016



Permeability & Connections

Key Considerations (Ref: High Weald Housing Design Guide, Nov 2019):

DG1 *Responding to Site & Landscape Context*

Siting Development in the Landscape – Plot 2 should be arranged to allow views through/out to Battle Abbey and vice versa;

DG2 *Connecting Beyond the Site*

Connected Streets, Lanes & Routeways – Connecting secondary streets & lanes to limit dead ends, which will allow for interconnecting routeways;

Designing for Active Lifestyles – Opportunities for direct routes across the development and to tie in with existing public rights of ways;

Permeability – linking, connecting routeways to provide permeability across the site and individual plots;

Wayfinding & Views – Long sightlines will be provided;

Inspiration to be taken directly from existing Twittens within Battle.



DG3 *Layout & Structuring the Site*

Street Layout – Street placements reacting to available topography where feasible. Straight street arrangements will be maximised;

Street Hierarchies.



Urban Blocks

Key Considerations (Ref: High Weald Housing Design Guide, Nov 2019):

DG4 *Using Buildings to Define Streets & Spaces*

Relating Building to the Street- Built form to clearly define the proposed street pattern. Cohesive and consistent building lines to be formed. Publicly accessible open space to be fully overlooked;

Street Definition – Discernible building lines should be established;

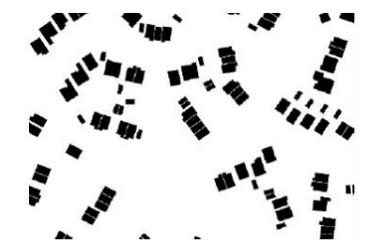
‘Left Over Space’ – Plot arrangements, building footprint to minimise uncharacteristic left-over public space;

DG5 *The Right Built Form*

Scale, Form & Massing of Buildings – Typically 2 storey units, consistent building lines, varying roof orientation and eaves heights to be explored. Using the arrangement of units to support the proposed street pattern.



Built form clearly defines street pattern



Scattered and disconnected, lacks spatial definition





Plot 1
See drg: BLACK-BED-P1-ZZ-DR-A-0106

Plot 2
See drg: BLACK-BED-P2-ZZ-DR-A-0107

Plot 3
See drg: BLACK-BED-P3-ZZ-DR-A-0108

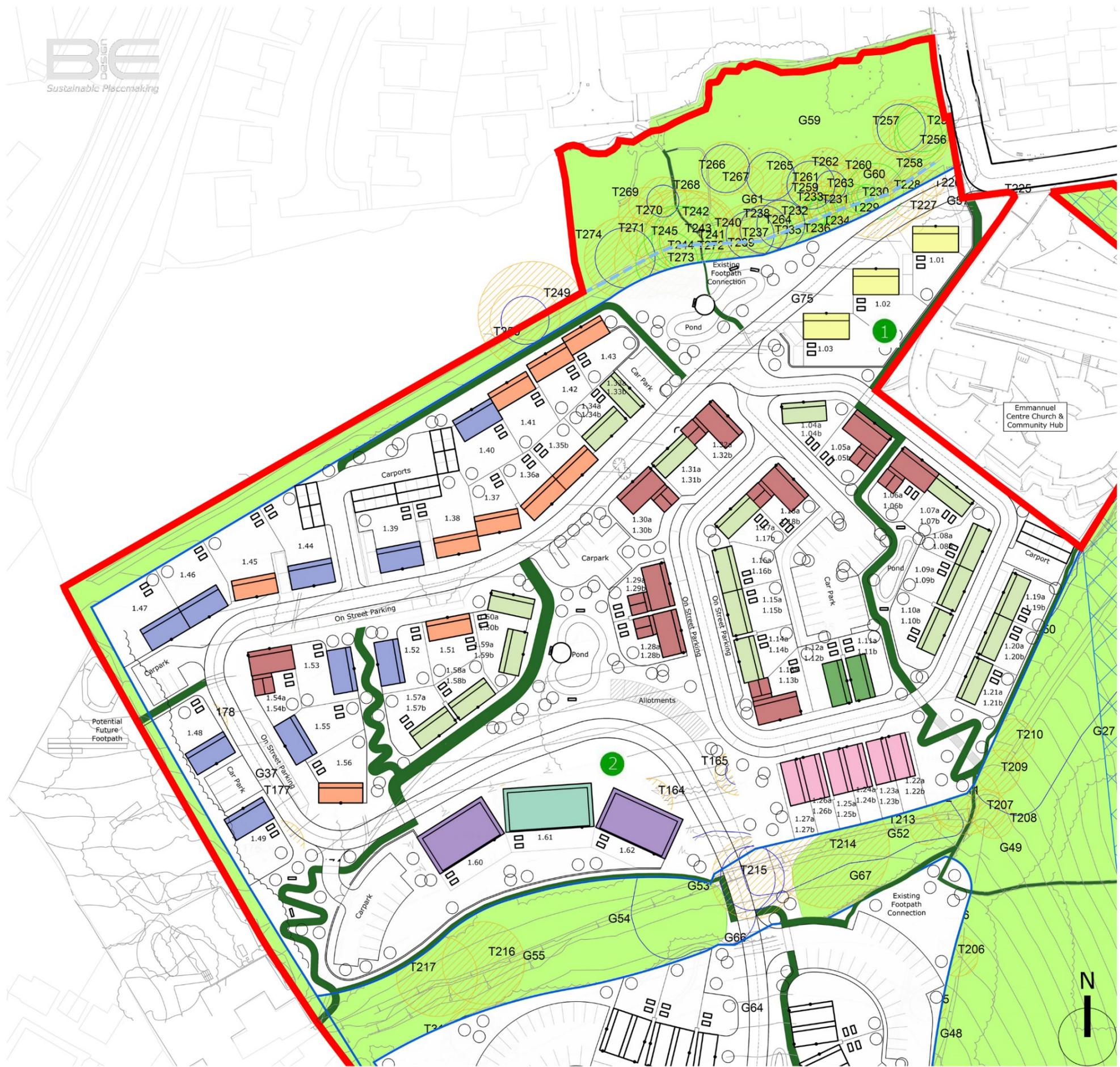
The Vision

Key Characteristics & Features

- Av Site Density – 55 dwelling/hectare;
- Built form defining street pattern;
- Dwellings include – Narrow terrace, semi-detached and apartments;
- Passive house and earth-sheltered thermal mass dwellings have been incorporated;
- Permeability;
- Green space / Community Connectivity, including pedestrian links to Battle Station – 6 mins from North and 12 mins from the South;
- Alternative access through the site will be provided by means of Twittens which will heighten the character of the development;
- Public realm and promenades provided;
- Rood orientation and pitch optimised for photovoltaic panels;
- Character of place to link between all 3 Plots;
- Affordable Housing requirement – min 77 dwellings including 5 dwellings to meet M4(3) 'Wheelchair user dwellings'

Precedents





Plot 1

Key Characteristics & Features

- Site Area – 1.64
- Site Density – 55dph
- Targeted No. of Dwellings – 92
- 1 Passive House Plot – Acting as a gateway and showcase the development;
- 2 Earth-Sheltered thermal mass properties utilising earth embankment of road;
- Clear defined built form;
- Modular footprints;
- Green Permeability & Connectivity;
- House type mix – narrow terrace & semi-detached, apartments.

■ Twittens

Precedents



Proposed Plot 1 Layout
Scale 1:1000 @ A3

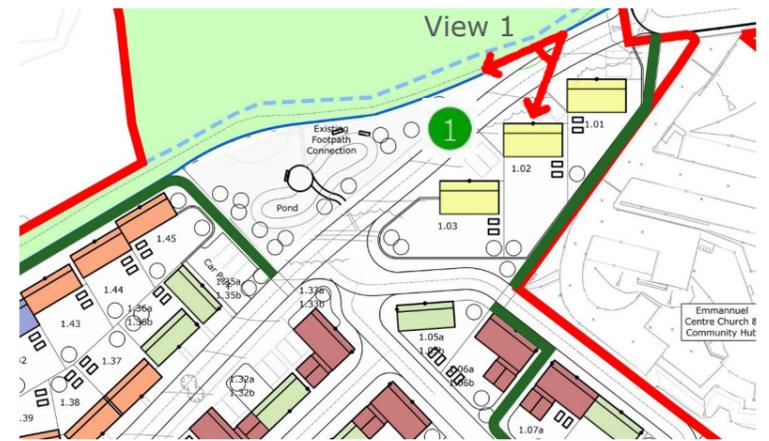


SCALE 1:1000



View 1

Plot 01:1 – Passivhaus



Space for Technologies:

- MVHR: Internal cupboard space for MVHR unit and adequate floor-ceiling heights for ducting.
- Air Source Heat Pumps (ASHPs): Since Passivhaus design results in very low space heating demand, only a small ASHP unit is likely to be required.

Natural Ventilation:

All habitable rooms should have openable window(s):

- Dual aspect homes allow for cross ventilation – the most effective form of natural ventilation, particularly when windows are on opposite sides. This should always be the preference. Single aspect homes are the least effective at ventilating and are at risk of overheating.
- Always provide multiple openings, maximum free area and different sizes, to allow the occupant to control their environment.

Design the roofs for Solar PV:

- Prioritise asymmetric south-facing roof pitches for maximum PV energy generation. Keep roof parapets as low as possible or keep PV away from parapets. Place roof plant to the north to avoid overshadowing.

Highly insulated building fabric:

- External walls approx. total thickness: of 550- 600mm
- Pitched roof: 390- 450mm
- Triple glazing

Wider/shorter windows :

- Improve daylight distribution in rooms
- Moderate overheating risk and are typically easier to shade
- Increase openable area for ventilation
- Provide increased privacy to bedrooms.

Built form:

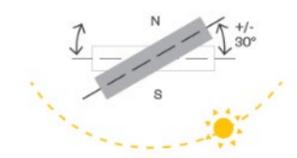
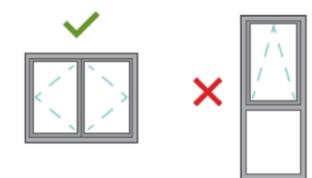
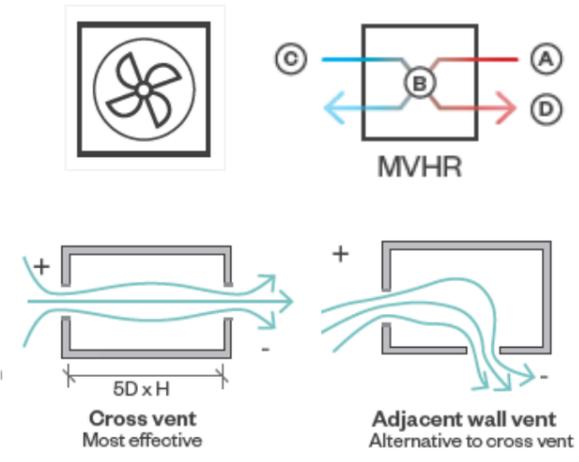
- Keep the built form simple and minimise surface area for heat loss – e.g. minimise stepped roofs, roof terraces, and inset balconies.

Orientation:

- Rotate and stagger houses so they face due south. They should not be any more than ± 30 degrees from south maximum (see next page).

Glazing Proportion:

- South: 20-30%
- East: 10-20%
- West: 10-20%
- North: 10-15%



Deck elevation		Balcony elevation	
North: 10-15%		South: 20-30%	
East: 10-20%			
West: 10-20%			

Plot 01:1 – Passivhaus

About:

Passivhaus is a rigorous design and construction approach according to principles developed by the Passivhaus Institute in Germany.

Benefits:

In a Passivhaus, the heat losses of the building are reduced so much that it hardly needs any heating at all.

Passivhaus buildings provide a high level of occupant comfort while using very little energy for heating and cooling.

Robust energy efficiency approach.

Challenges:

To achieve Passivhaus, meticulous attention to detail is required including an on-site air tightness champion.

Requires highly skilled on-site labour.

The requirements are very stringent and challenging to always achieve where there are other site constraints that prevent the right orientation and form.

It can therefore be challenging for larger sites such as Battle.





View 2

Plot 01:2 – Earth-Sheltered Houses





Natural Ventilation:

Passive stack ventilation through openable skylights.

Technologies:

- ASHPs: If the homes are orientated correctly, space heating demand will be minimal and only electric panel heaters or small ASHPs may be required.

Mechanical Ventilation:

- MVHR: Internal cupboard space is required for MVHR unit and adequate floor-ceiling heights required for ducting.

Renewable energy:

- Use any available south-facing façade for solar PV

Orientation:

- Ensure fully glazed conservatory is south facing. Overheating is prevented as winter sun at lower sun angles can reach back rooms but summer sun cannot.

Glazing Proportion:

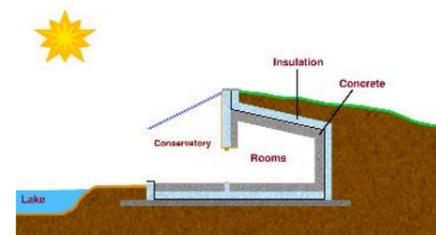
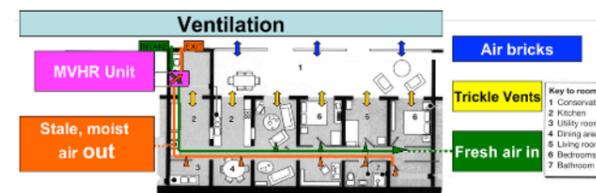
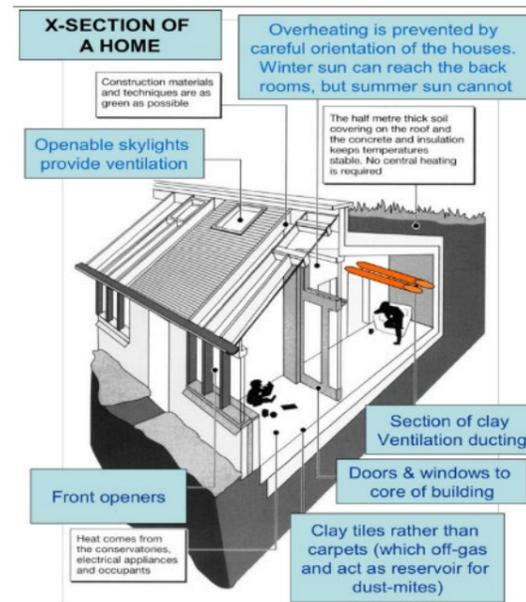
- South: fully glazed conservatory
- East: 10-20%
- West: 10-20%
- North: 0% (earth sheltered)

Solar Shading:

- Conservatory: internal blinds

Built form:

- Earth sheltered on north façade.
- High thermal mass.



Plot 01:2 – Earth-Sheltered Houses





Plot 2

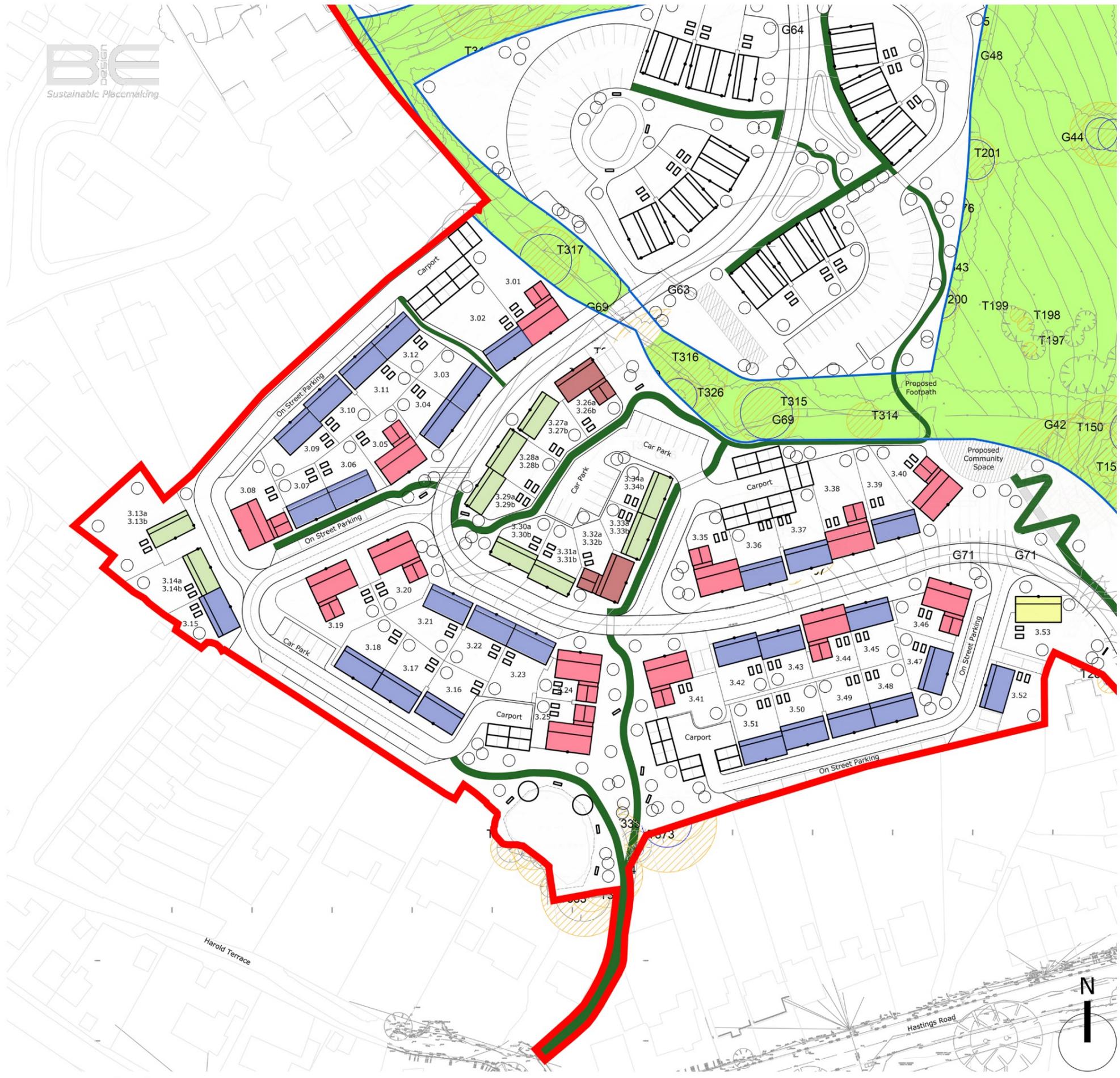
Key Characteristics & Features

- Site Area – 0.65
- Site Density – 60dph
- Targeted No. of Dwellings – 40
- Orientation to maximise views out to Battle Abbey;
- Gateway Site;
- Modular footprints;
- Public realm and green promenade;
- House type mix – Apartments.
- Twittens

Proposed Plot 2 Layout
Scale 1:1000 @ A3

Precedents





Proposed Plot 3 Layout
Scale 1:1000 @ A3



Plot 3

Key Characteristics & Features

- Site Area – 1.48
- Site Density – 45dph
- Targeted No. of Dwellings – 68
- Modular footprints:
- Green Permeability & Connectivity;
- House type mix – narrow terrace & semi-detached, apartments;
- Twittens



Precedents





Materiality

Key Considerations (Ref: High Weald Housing Design Guide, Nov 2019):

DG7 Building Appearance and Local Details

Reinterpreting the local vernacular – Taking direct inspiration from the context of Battle with a contemporary interpretation and modern method of construction which will help provide flexibility and accessibility.

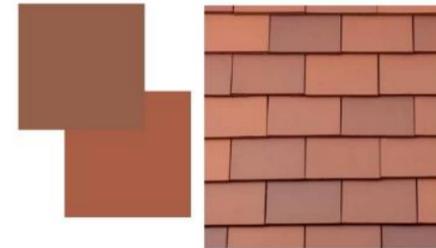
Built Details – traditional characteristics to include with the contemporary development include (but not limited):

- Steep roof pitches;
- Porches;
- Metal flues can be included as a contemporary alternative to traditional chimneys, burning wood and thus using local materials which will support local industry;

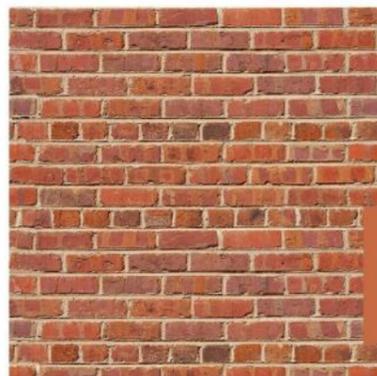
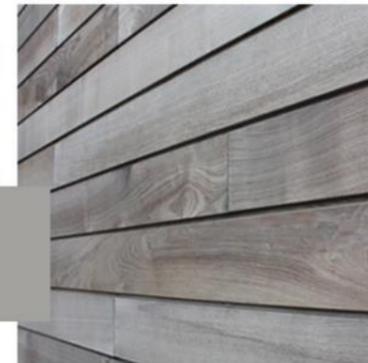




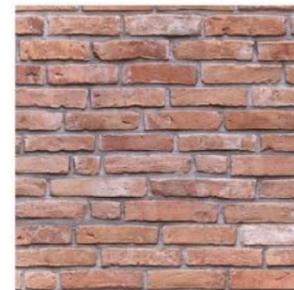
Tile Hanging & Clay Roofs



Cladding & Timber



Brick



Materiality

Key Considerations (Ref: High Weald Housing Design Guide, Nov 2019):

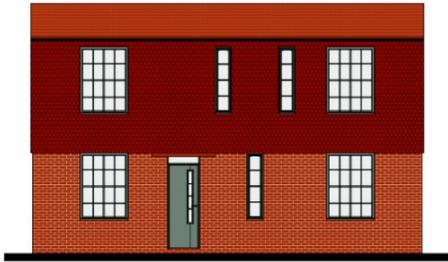
DG7 Materials

Clay tile roofs and tile hanging – hues of burnt orange, rust and russet will be explored. Bluer-purple hues will be avoided.

Bricks – Full height brick elevations will be avoided as they are not common across High Weald. The development will source bricks that have a hue that is common within the area of Battle.

Timber – As Modern Methods of Construction will be explored Timber will be prominent throughout the development, resulting in efficient use of natural material that will naturally absorb carbon. Timber weatherboarding cladding, upper floors and full height elevations will be a key characteristic of the development.

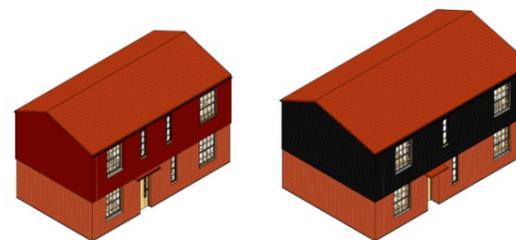
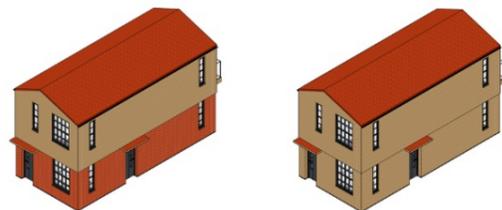
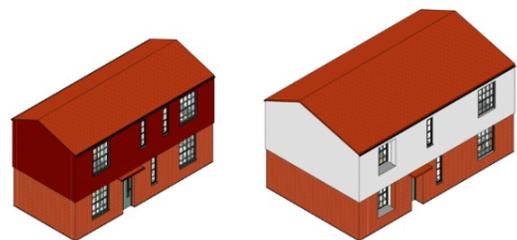
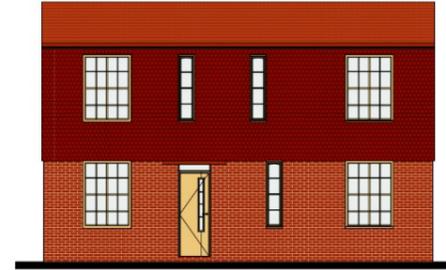
Plot 1



Plot 2



Plot 3



Materiality

Key Considerations (Ref: High Weald Housing Design Guide, Nov 2019):

DG7 Colour and Developed Palette

Plot 1 Variations:

- GF Red Brick / FF Hung Tiles
- GF White Horizontal Timber Cladding / FF Hung Tiles
- GF Red Brick / FF White Horizontal Timber Cladding

Plot 2 Variations:

- GF Red Brick / FF Natural Horizontal Timber Cladding
- GF Natural Horizontal Timber Cladding / FF Natural Horizontal Timber Cladding

Plot 3 Variations:

- GF Red Brick / FF Hung Tiles
- GF Black Horizontal Timber Cladding / FF Hung Tiles
- GF Red Brick / FF Black Horizontal Timber Cladding



3D Illustrative View 1

Plot 3

Semi-Detached, Detached and Maisonettes

Public Realm

Open areas to promote community gatherings / connectivity.

Plot 2

2 Storey Maisonettes

Plot 1

Earth-Sheltered Houses

Green Space / Community Connectivity

Central community space to be created together with pond and allotment space to promote biodiversity, ecology and social wellbeing. Insect hotels and bee hives to be provided.

Plot 1

Each dwelling will be provided with vegetable boxes and cycle storage.

Plot 1

Passive Houses Properties



3D Illustrative View 2

Plot 1

Passive Houses Properties

Plot 1

Earth-Sheltered Houses

Green Space / Community Connectivity

Central community space to be created together with pond and allotment space to promote biodiversity, ecology and social wellbeing.

Insect hotels and bee hives to be provided.

Plot 2

2 Storey Maisonettes

Public Realm

Open areas to promote community gatherings / connectivity.

Green Space / Community Connectivity

Central community space to be created together with pond and allotment space to promote biodiversity, ecology and social wellbeing.

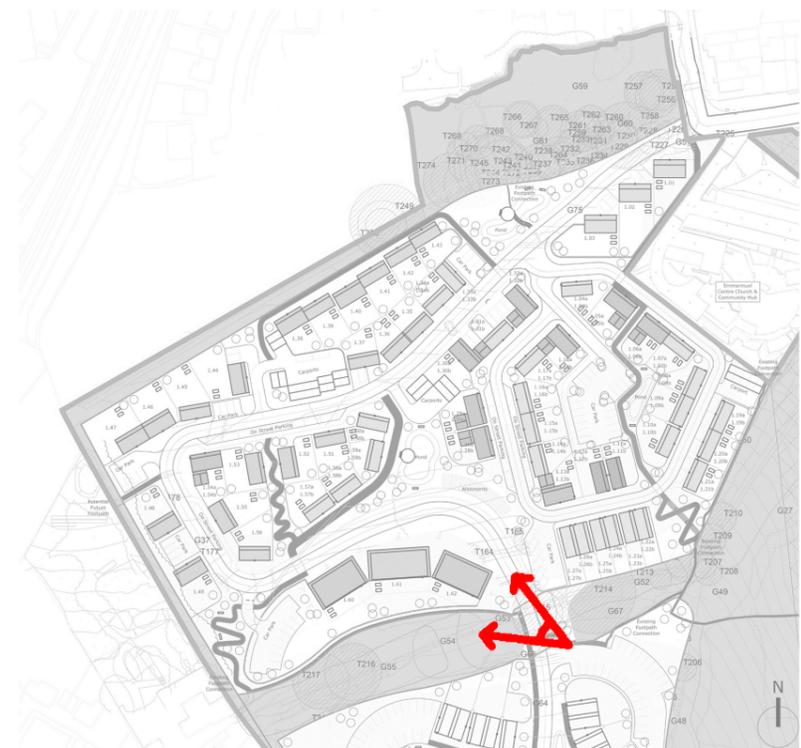
Insect hotels and bee hives to be provided.

Plot 3

Semi-Detached, Detached and Maisonettes



Plot 1 - 3D Illustrative





Plot 2 - 3D Illustrative





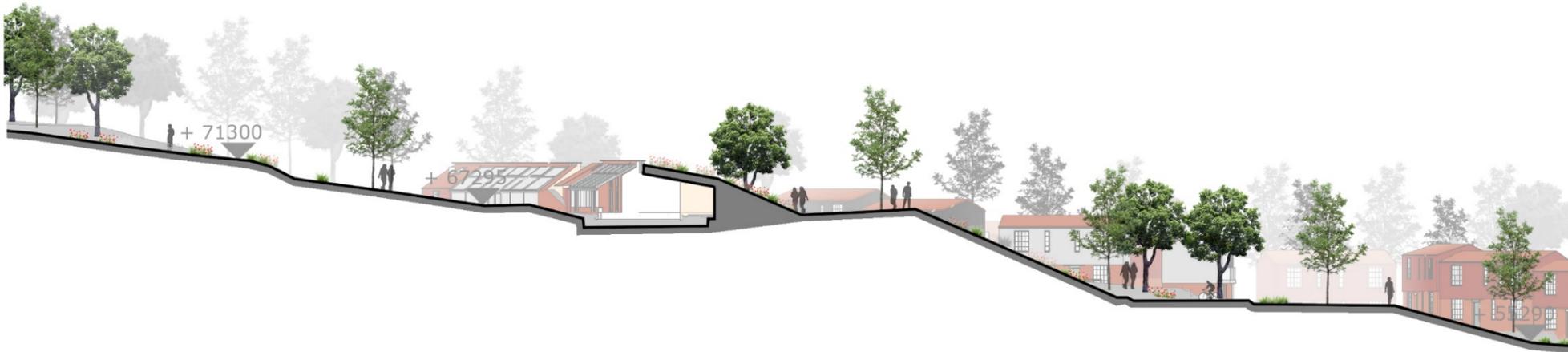
Plot 3 - 3D Illustrative





Site Section A - Plot 1, North West Corner

Scale 1:500 @ A3



Site Section B - Plot 1, Earth Sheltered Properties

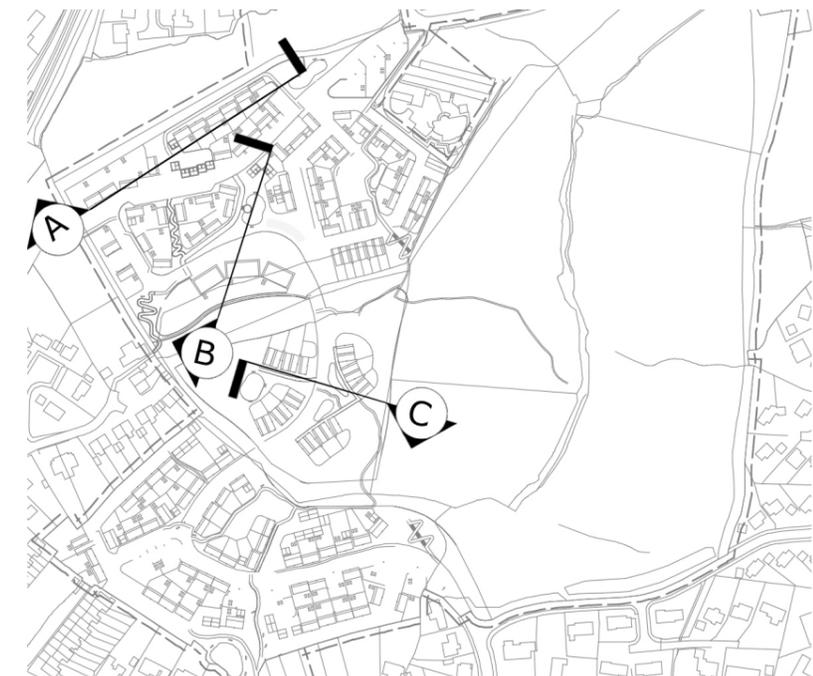
Scale 1:500 @ A3



Site Section C - Plot 2, 2 Storey Maisonettes

Scale 1:500 @ A3

Site Sections





Site Section D - Plot 1, Street Scene within Eastern Parcel
Scale 1:500 @ A3



Site Section E - Plot 1, North East Section Incorporating Immediate Context
Scale 1:500 @ A3



Site Section F - Plot 1, North West Corner
Scale 1:500 @ A3



Site Section G - Plot 2, Central Housing
Scale 1:500 @ A3

Site Sections

