4.6 FLOOD RISK, DRAINAGE AND ENGINEERING

Geo-environmental

Additional ground investigation is ongoing to provide a detailed understanding of the topology of ground conditions underlaying the site.

No contamination has been recorded on site and no special measures are required. However it is anticipated that demolition of the existing farm structures and associated equipment may lead to localised hot spots, care will be taken when removing existing features and any subsequent localised hot spots will be either remediated on site, or removed from site to an appropriate authorised landfill.

Ground conditions of Siltstone / Mudstone provide excellent opportunities for traditional foundation solutions and it is anticipated much of the proposed residential development will be able to utilise traditional strip foundations.

Flood Risk

While the site is within Flood Zone 1 (least likely to flood) the ground conditions do raise the potential for pluvial (rainfall) flooding and seasonal perched water. The site is currently bisect by existing land drains which capture current ground water and carry it away to adjacent above ground ditch courses. Proposed drainage will intercept and divert these land drains, also incorporating additional land drains to protect the future residential development from any groundwater flooding.

Drainage

The site falls gently towards the south west corner with ground water and overland flows collected within a local open watercourse. The water course however is shallow and requires the site levels to be raised in the south west to achieve a suitable drainage design.

Given the underlying impermeable ground conditions, infiltration into the ground does not provide a viable method to discharge surface water.

The predevelopment site being greenfield typically discharges only 10% of rainfall into adjacent watercourses, with the remaining 90% permeating into the vegetated ground. By redeveloping this percentage changes to upto 90% being positively drained and only 10% permeating into landscaped areas. The rate of the proposed sites' surface water discharge is restricted to mimic the discharge of water from the pre-developed site, with all excess flows attenuated within the development through means of overland detention areas, underground balancing tanks, and oversize pipework.

By providing SuDS at the source of rainfall we are able to not only reduce the peak flow rate of water, but improve the quality of the water leaving the site. SuDS techniques used on this site are comprised of permeable paving, overland ponds, and 'Triton' attenuation tanks which incorporate 40% filter media.

Foul water will connect to an offsite public sewer located to the east, within Uttoxeter Road. The local Sewerage Undertaker is currently undergoing a capacity assessment and if it emerges that the existing sewer cannot accommodate additional flows from this development, then the Sewerage Undertaker will upgrade their assets to enable a suitable point of discharge capable of receiving the proposed flows.

Utilities

An existing overhead power cable runs across the site which will be diverted and combined with the new development electrical supply, connecting back up at the boundary to continue the supply off site.

New gas, water, and telecoms will be supplied from within Uttoxeter Road and the opposite existing residential estate, with the point of entry to the site coming in at the main junction and distributing across the site to all future dwellings.

Please refer to separate report for further details.

4.7 APPEARANCE

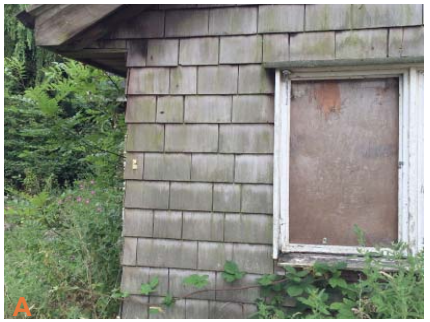
As part of the design development, a review of local building materials and detailing has been undertaken which will helped inform the submitted proposals for the site. A combination of brickwork, render and an element of cladding will provide connection to the local vernacular through a modern, well proportioned style.

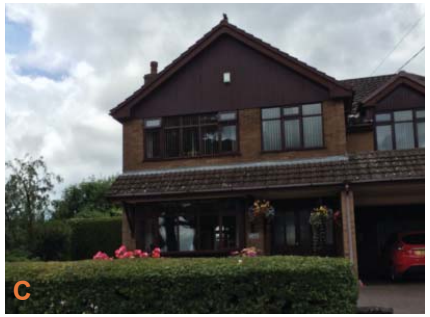
Rendered corner units have been used to assist with legibility and wayfinding around the development. Key junctions feature this difference in material palette. The houses have also been designed to enable a sufficient amount of defensible space to the front of each plot. This enables a smooth transition from the public street to the private home.

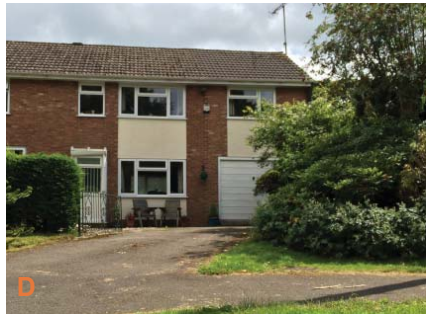
Material Palette

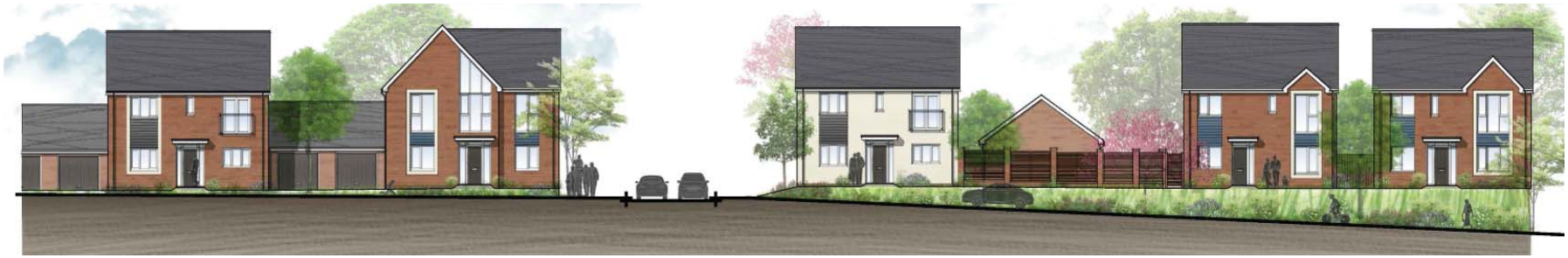
The materiality on site has taken cues from the local vernacular in order to respond to the existing architecture. Timber accents can be found in various forms. Stonehouse farm (Image A) is one of the few buildings on site and demonstrates the use of timber cladding (shingles), while a local detached house (Image C) demonstrates the use of timber cladding to accentuate gable frontages. This research proved invaluable when choosing the material palette. A number of the proposed properties will feature cladding detailing to either gable features or to break up the brick elevations. In addition to timber, render features quite prominently in the local area. As discussed earlier rendered units will be used at intersections to encourage legibility, and an example of this approach can be seen in the illustrative streetscene below. Local precedents (Images B and D) have revealed the use of render as a secondary material in order to detail an otherwise brick facade. Some of the proposed housetypes have a render window surrounds, in keeping with the use of render in existing properties in the area, which as well as enhancing the appearance of the properties also illustrates the proportions of the generous properties and the extensive use of glazing to maximise the ingress of natural sunlight.

Local Character







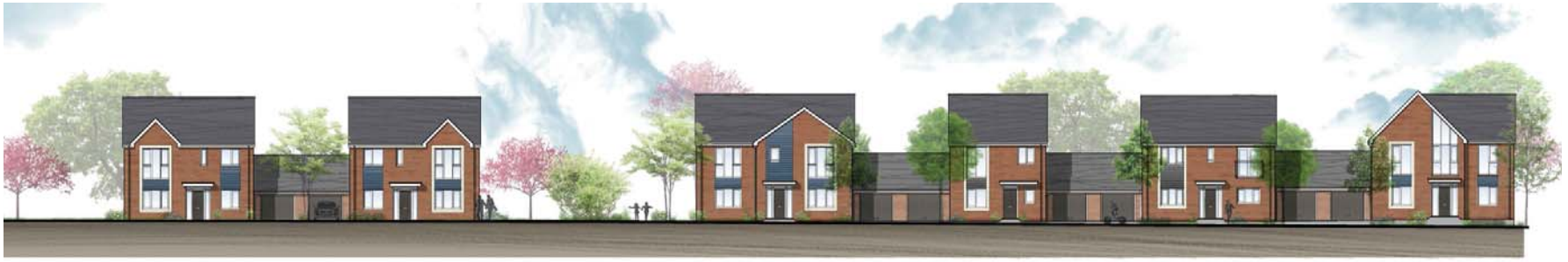


Illustrative streetscene and housetypes

St Modwen Homes Local Developments

Recent local developments such as Trentham Lakes in Stoke on Trent provide examples of this applicant's provision of high quality place making and construction of new homes. Both regionally, as well as nationally, St Modwen's has been committed to providing design excellence which is in keeping with the existing local vernacular and yet still meets the need of modern families and living.

Artistic impression of the outward looking nature of the proposal and interaction with green spaces



Illustrative streetscene and housetypes

4.8 ACCESS AND ACCESSIBILITY

Building Access

Entrances to the buildings will comply with current building regulations. The apartment building and houses will have a path providing a safe and level route from the public highway to the principal access.

Gradients for level access routes will be no steeper than 1:20 and a minimum of 900mm wide, in accordance with AD Part M paragraphs 6.11 and 6.13.

Car parking has been designed to be as close as possible to the proposed dwellings in order to ensure easy access to accommodate for occupants and visitors, included those whose mobility may be limited.

The entrance road through the site has been shown terminated with a turning head which is suitable for a refuse or emergency vehicle to safely undertake a three point turn within the site.

Cycling

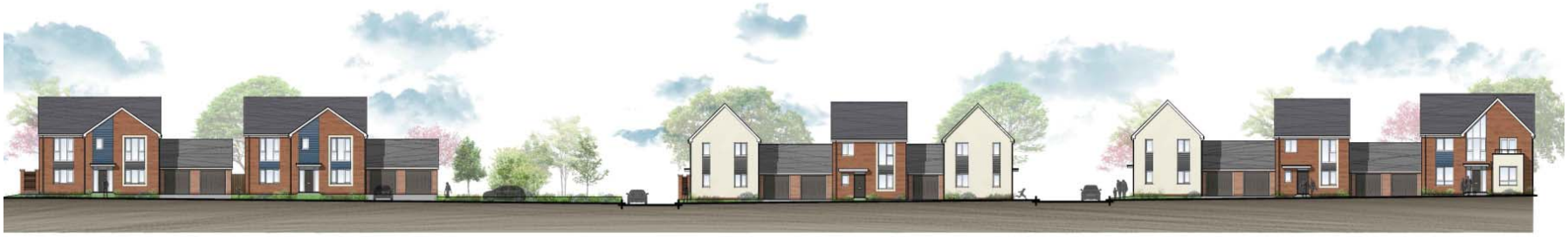
Cyclists will be able to utilise the public highway network to arrive at the site, with level access to properties within the site.

Pedestrian Access

Walking will be encouraged for short journeys. Footpaths within the site will be wide enough to accommodate wheelchairs and pedestrians. More detailed measures will be required for incorporation into the overall technical design and approved by Building Control and the Highways Authority. These include, but are not limited to the following:

- Level surface finishes
- Selection of surface finishes, including tactile paving
- Lighting
- Way finding signage / branding signage
- Raised crossing tables on carriageways.

Standard width footpaths are specified on the sides of carriageways, with drop kerbs and crossing points at convenient locations to ensure the safety of pedestrians.



4.9 SAFETY AND SECURITY

Access and Movement

- Primary routes for pedestrians, cyclists and vehicles are direct.
- Little segregation occurs between movement modes making sure that movement routes are well used by all varieties of traffic from pedestrian to motor vehicle.
- Footpaths and cycleways are well overlooked by the surrounding dwellings.

Structure

- The number of exposed building sides to the public realm will be limited to provide enclosed and more secure private realm areas only accessed by residents.
- Windows and door openings will create active surveillance and frontages to the streets, footpaths and cycle routes.
- Continuous and active frontages will reduce the opportunities for graffiti on blank facades, such as gable ends.

Surveillance

- Natural and active surveillance from surrounding properties and movement routes will overlook publicly accessible spaces.

Ownership

- Development layout and boundary treatments will clearly delineate between public, semi-public and private ownerships. This is aimed at avoiding ambiguous ownership of space.

Activity

- Public open spaces will be designed for a range of community functions thereby encouraging frequent use and community involvement.
- Public open spaces will be positioned and designed to achieve maximum active surveillance from the surrounding dwellings.
- All building entrances will be accessible and visible from the street, thereby encouraging movement between buildings and the street and bringing additional activity.

Management and Maintenance

- A good quality public realm will be provided, stimulating human activity and influencing the behaviours of users.
- Maintenance of the public realm will retain attractiveness of the street, increase safety and use and promote respect towards the environment.

4.10 SUSTAINABILITY

Key Sustainability Checkpoints

Consideration will be given to ensure the efficiency of the building envelope by maximising construction technologies with low embodied energy materials and highly rated green guide materials as well as exploring options for efficient energy services.

Some of the elements which will be addressed are as follows:

- High standards of thermal insulation and air tightness
- Energy efficient light fittings throughout, both for internal and external lighting
- A rated energy efficient white goods where provided
- High efficient boilers for water and space heating
- Water efficient devices such as low flow taps and showers

Transport

The site has excellent links to the existing public transport network, and the site is well located in relation to existing bus stops. St Modwen Homes will also aim to include suitable cycle parking provision where appropriate.

Social Inclusion

St Modwen Homes has given consideration to inclusive design and the social impacts of creating a new residential area.

Noise Strategy

Following specialist consultant review, it is felt that the current proposed site layout provides an appropriate response to noise generated from both main roads along the west and northern edges of the site. The layout sets the dwellings set back from the road and gardens are mostly screened by dwellings.

In those few instances where gardens are exposed to the road, it will be necessary to provide solid barrier fencing of minimum height 2m along the roadside boundary. For dwellings, habitable rooms overlooking the road will require appropriate acoustic rated glazing and trickle vents.

4.11 BUILDING FOR LIFE ASSESSMENT - PRELIMINARY OVERVIEW

1 Connections and scale

Does the scheme respond to the scale of its surroundings, respect existing view corridors (or create new ones), and reinforce existing connections and make new ones where feasible?

Yes. The historic field pattern is respected in terms of new routes and the previously approved primary entrance into the site has been retained. (Green)

2 Facilities and services

Does the development provide (or is it close to) community facilities, such as shops, schools, workplaces, parks, play areas, pubs or cafes?

The site is walkable to Blythe Bridge which benefits from a wide range of facilities and the proposal includes naturally enhanced public open spaces and a new equiped play area. (Green)

3 Public Transport

Does the scheme have good access to public transport to help reduce car dependency?

Yes. It is within easy walking distance Blythe Bridge, there are bus routes along Uttoxeter Road and it is around 1km from the main railway station. (Green)

4 Meeting local housing requirements

Does the development have a mix of housing types and tenures that suit local requirements?

Yes, there is a mix of property sizes from one to five bedroom homes and a proportion of affordable homes have been agreed with the Local Authority, including affordable rented and shared ownership tenures. (Green)

5 Character

Does the scheme create a place with a locally inspired or otherwise distinctive character?

A review of the local area including building materials and building juxtapositions has taken place earlier in the document and the scheme aims to reflect this in the proposed building placement/response to public realm and defensible space design. The proposed housetypes have been designed to provide a distinctive high quality aesthetic. (Green)

6 Working with the site and its context

Does the scheme take advantage of existing topography, landscape features (including water courses), wildlife habitats, existing buildings, site orientation and microclimates?

Yes. See earlier analysis and proposals that support the scheme's response to the existing green infrastructure including its ecology. (Green)

7 Creating well defined streets and spaces

Are buildings designed and positioned with landscaping to define and enhance streets and spaces and are buildings designed to turn street corners well?

Yes. The scheme uses the existing mature landscaping to define primary urban blocks and provide an established quality to the experience of moving around the site. Specific 'corner-turner' homes have been used around the site as well as increased fenestration enhancements to exposed corner gables. (Green)

8 Easy to find your way in and around

Is the scheme designed to make it easy to understand the links between where people live and how you access the building, as well as how you move through it?

Yes. The proposal uses the subtle slope and estsblished natural landmarks to assist way-finding around the site. The hierarchy of streets and places combined with changes in building materials provides visual clues to assist legibility. (Green)

9 Active Streets

Does the development engage with the street so passers- by will understand the movement between the building and the street, and is there an obvious visual link between inside and outside?

Yes. See question 8 and earlier sections. The scheme maximises surveillance around all areas and defensible spaces are clearly defined to avoid ambiguity between private and public space. (Green)

10 Cycle and car parking

Will the development be likely to support and encourage cycling by providing cycle storage which people can use with confidence? Where parking is provided, is this easy to use? Are accesses to car parking designed not to impact on those not in cars? Are entrances to car parks over-engineered, visually obtrusive or obstructive to pedestrians and cyclists?

Yes. The new pedestrian links across A521 will encourage cycle use and homes have been design to ensure adequate space for private cycle storage. Parking courts have been avoided and on-plot parking is provided across all areas, using a variety of methods including side, front, parallel, integral and garage parking. Where homes have been designed to a tight grain for acoustic purposes the resulting frontage parking has been broken up with landscaping. (Green)

11 Shared spaces

Is the purpose and use of shared space clear and it is designed to be safe and easily managed? Where semi- private or private spaces are created, are these clearly demarcated from the public realm?

Yes. A clear road hierarchy is established which is expected to control vehicle speeds and avoids ownership ambiguity. (Green)

12 Private amenity and storage

Are outdoor spaces, such as terraces and balconies, large enough for two or more people to sit? Is there opportunity for personalisation of these spaces? Is waste storage well integrated into the design of the development so residents and service vehicle access it easily whilst not having an adverse impact on amenity for residents.

Yes. All homes have been designed to ensure easy front-back external access and refuse storage facilities. The one apartment block has a purpose design bin store with easy refuse collection day access, as well as external amenity space. (Green)

05

SUMMARY

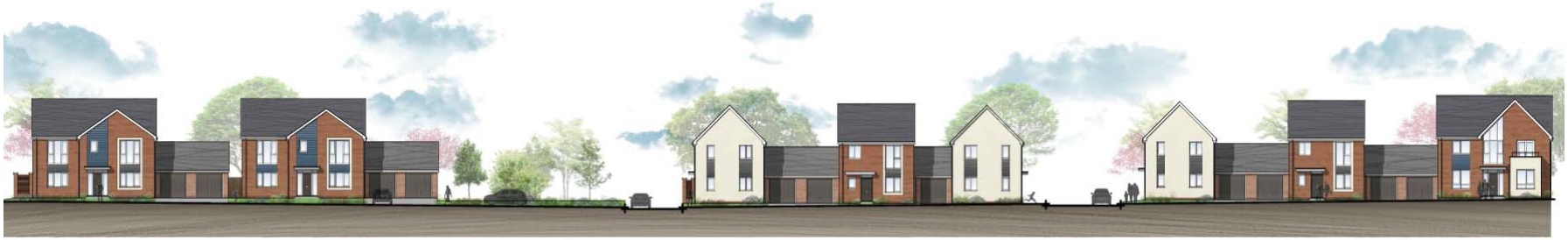
5.1 CONCLUSION

This document has been produced in support of the residential proposal to develop a site on the edge of the settlement of Blythe Bridge which benefits from good connections to existing transport and facilities infrastructure.

The proposal builds upon a large body of work in support of the approved vehicular access off the A521 and this has allowed a hierarchy of routes to be developed that responds to the existing field pattern and green infrastructure.

A thorough review of the opportunities and constraints of the site has been undertaken by specialist consultants and an explanation of how the proposed layout responds to each has been explained.

This proposed residential settlement provides a wide range of new homes and tenures which aims to produce a vibrant community as well as create a high quality place to live in Blythe Bridge.



SUMMARY 05

06

APPENDIX

6.1 PROPOSED PLANNING SUBMISSION SCHEDULE

The following comprises of a list of information that is being submitted in support of the detailed planning application.

Access is located to the north west of the Blythe Vale site, bound by the A50 to the southwest and the A521 to the north west. Access is proposed from the A521.

Technical:

Flood Risk Assessment/Drainage Strategy*

Ground Conditions Assessment*

Transport Assessment and Travel Plan*

Landscape Visual Appraisal

Tree and Hedgerow Survey, including Tree Retention Drawings*

Ecological Assessment (& any appropriate protected species surveys)*

Noise Assessment*

Archaeological Assessment*

Heritage Assessment*

Building for Life Assessment (not mandatory – but encouraged)*

Non-Technical:

Planning Statement, to include:

Affordable Housing Statement*

Design and Access Statement*

Drawings Package (detailed)

Typically to include (for approval):

i. Location Plan

ii. Application Site Boundary

iii. Layout Plan

iv. Access Drawings (access and internal road layout)

v. St Modwen House Types drawing pack (plan and elevations, by housetype)

vi. Boundary treatments

NB other drawings as appendices to technical reports e.g. existing and proposed levels, tree retention / removal, drainage strategy, utilities etc.

Application Forms and Notices

Draft S106 Heads of Terms to be submitted at the time of planning application*

*Indicates this is a local list requirement for validation, subject to agreement with SMBC.

This document has been prepared by:

Roberts Limbrick Architects
The Carriage Building
Bruton Way
Gloucester,
GL1 1 DG

Contact: Project Manager

Also at:

The Estates Office
25-26 Gold Tops
Newport,
NP20 4PG

t: 03333 405 500
e: mail@robertslimbrick.com
w: www.robertslimbrick.com

ISO 9001:2008 AJA12/ 15418
ISO 14001:2004 AJA12/ 16322
IHAS 18001:2007 AJA12/ AN1673