

Design and Access Statement

Llanrwst Rd Affordable Housing

Information

Client

Adra / Beech Developments (NW) Ltd

Scheme Name

Llanrwst Road Affordable Housing

Scheme Address

Llanrwst Road, Gyffin, Conwy, LL32 8HZ

Design Team

Architects	Beech Developments
WG Site Analysis	Saer Architects
Structural and Civil Engineers	Caulmert
Landscape Architects	Richards, Moorehead & Laing Ltd
Archaeology and Heritage	Archaeology Wales
Planning Consultant	Grimster Planning
DOCO	David Williams
	DOCO Ref No: 25701468



Requirements

Architectural Supporting Documents

BD0157-PL-01 - Site Plan	1:500
BD0157-RL-02 /04 - Site Sections	1:500
BD/HO/2P1B/TA - 2P1B Flat - Type A	1:100
BD/HO/2P1B/TB - 2P1B Flat - Type B	1:100
BD/HO/4P2B/TC - 4P2B House - Type C	1:100
BD/HO/4P2B/TD - 4P2B House - Type D	1:100
BD/HO/3P2B/TE - 3P2B Flat - Type E	1:100
BD/HO/3P2B/TF - 3P2B Bungalow - Type F	1:100
BD/HO/5P3B/TG - 5P3B House - Type G	1:100
BD/HO/5P3B/TH - 5P3B House - Type H	1:100
BD/HO/5P3B/TJ - 5P3B House - Type J	1:100
BD/HO/6P4B/TK - 6P4B House - Type K	1:100
BD/HO/8P5B/TL - 8P5B House - Type L	1:100

Project Design Brief (by Client)

Housing Need and Housing Mix

- The demand for good quality 1, 2, 3 4, 5 bed family accommodation is very high in the immediate area.
- Demand for mixed type of homes, focus to be on apartments and houses.
- The Local Authority have been consulted in respect of the mix of proposed affordable housing and have indicated support.
- The need for specialist / adapted accommodation has been identified in the village following discussions with Adra and the Council’s Specialist Housing Group

Properties

- All properties will be designed to WDQR standards and will meet Adra’s design specification to incorporate necessary design features in respect of accessibility.
- Properties aesthetic will complement and imitate the surroundings.
- They should respect & enhance local character.
- A small area of amenity space is included within the development.
- Specification of properties to conform to Adra Affordable Housing Specification.

Community

- The development should form a natural expansion to the existing housing in the area.
- Advice has been sought from other statutory authorities.
- Estate should become a pleasant place to live and pedestrian friendly.
- Estate management should be easy and relatively low maintenance to reduce service charges to the residents.
- Good links to the existing community and transport route.

Environmental

- Opportunities to enhance ecological features are recommended.
- Natural boundaries including hedges and trees to be retained, which could also create natural barriers.

Cost

- Properties should be capable of running efficiently with low energy cost for the end customers.
- Scheme should provide value for money.

Innovation

- Innovative design and elements should be encouraged (positive effect on cost, timescale and experience to the end user)



Area Analysis

Site Location - The site is located in Gyffin, a small village located to the south of the historic town of Conwy. The site lies along Llanrwst Road (B5106), a key route linking Conwy with surrounding villages throughout the Conwy Valley.

Surrounding Land and Building Use - The area immediately surrounding the site is predominantly residential. Local amenities includes small shops, a primary school and a surgery. Additional facilities such as a high school, library, restaurants, cafes and shops are available within walking distance in Conwy. A cinema, large supermarket and petrol station are located in Llandudno Junction. Agricultural grazing land is located to the east, south and west.

Road Hierarchy & Access - The site fronts directly onto Llanrwst Road (B5106), which serves as a primary route linking Conwy with Llanrwst and the wider Conwy Valley. A network of smaller local streets provides safe pedestrian and vehicular connections into the surrounding community. Connections to the A55 Expressway are a short distance to the north.

Public Transport Public - Bus stops nearby offer regular services (20min) to key towns nearby including No.5 Betws-y-Coed / Llandudno, No.14 Llysfaen, No.19 Cwm Penmachno, No.75 Llanfairfechan No27 Colwyn Bay & Old Colwyn. Conwy train station provides frequent services along to Holyhead and Chester. National Cycle route No.5 runs through Conwy along the North Wales Coast while there are a number of public footpath around the local countryside.

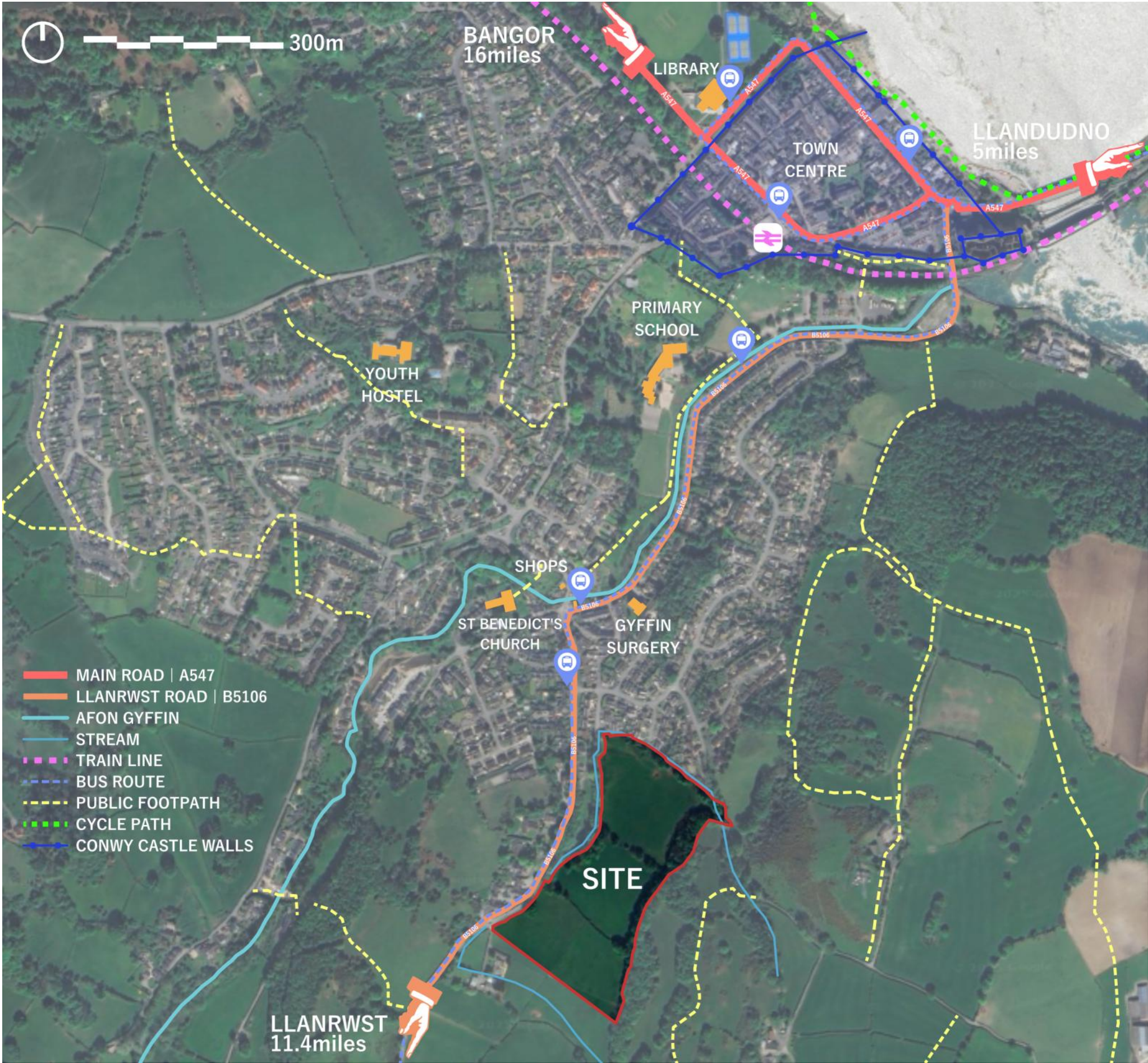


Image 1 - Surrounding context analysis

Site Analysis

Topography - The site slopes steeply down from south east to north west, falling from 82.19 to 22.41. This creates a significant change in level across the site with the northern field steeper than the southern.

Green & Blue Infrastructure - An established hedge and tree line run along the eastern and western boundary which fronts the B5106 which provides screening to the site. There are also less dense tree lines running along the northern boundary and between the field boundaries within the site. A stream runs along the northern and western boundary of the site which meets and runs into a culvert crossing the road in the northern corner. Historically this culvert hasn't been maintained which has led to it being partly blocked. A Flood Consequence Assessment has been developed where the 1 in 100 and a 1000 year flood has been modelled (as shown) where areas of the site on the western and northern boundary sit within these zones.

Ecology - The proposed development site consists of semi-improved neutral grassland with a moderately diverse species composition within the northern fields. The southern fields are closely grazed by sheep and horses and appear to be less floristically diverse. There are several mature trees within and bordering the site, where some have potential to support bat roosts, foraging and commuting habitat for bats. A sensitive lighting proposal will need to take this into account.



Image 1 - Localised site analysis

Site Analysis

Utilities and Infrastructure - No utilities cross the site but there are good points of connections for the development. A substation will be required on site to serve the additional electrical needs.

Ground Conditions - Below the topsoil lies Glacial Till residual soil and highly weathered bedrock which should be capable of excavation with a conventional hydraulic plant. Soakaways should work with ground conditions if they are kept away from the clayey material more common towards Llanrwst Road. It is anticipated that the majority of the soils will be suitable for use within any cut and fill works with traditional strip foundations possible for the dwellings.

Planning - An early pre-planning application was issued to Conwy Council as the Client wanted to open early discussions with the Planning department due to the site being located in a Special Landscape Area (SLA). In order to conserve the attributes of the Special SLA development proposals will have to show particular regard to the character of each locality in order to minimise their impact. Development will only be permitted if it is shown to be capable of being satisfactorily integrated into the landscape.

Policy NTE/4 states “the design and materials used in the construction of that which is permitted should have regard to the local vernacular, and the siting and form of development should be such as to integrate with the landscape in a manner that is consistent with development which already exists.”

The formulation of an integrated approach to blue and green infrastructure is seen as a key consideration for the site that should be adopted during the concept stages of the project. This will give a framework within which the proposed development and more detailed design considerations can evolve and flourish.

The sketch layout provides the key principles of development which was supported by Conwy Council at Pre-planning stage;

A-Retention and protection of existing woodland

B-Integrated blue and green infrastructure along the western perimeter of the site providing SUDS, biodiversity, with informal public realm, paths and cycle route

C-Creation of east/west bands of green/blue infrastructure for surface water drainage, woodland strips for biodiversity enhancement, visual screening and shelter from north/south valley winds

D-Woodland belt along northern boundary to enhance existing woodland and visual screening from adjacent properties with opportunities for provision of additional public rights of way to connect to the wider footpath network

E-Hedgerow planting along upper slopes for interconnecting habitat

F-Wildflower meadows on upper slopes to preserve existing views from north and the Conwy Castle Walls and to provide enhancement

G-Three distinct areas or development zones ranging from high, medium, low density as an interpretation of dispersal and progression

H-Site access to have appearance as rural lane, consider discrete car parking solutions with hedgerows/walls along front curtilage of properties

I-Site access to span east-west green blue infrastructure on open span bridges to ensure connectivity and free flowing surface water

J-Turning facility for public transport at or close to entrance



Image 1 - Localised site analysis

Site Analysis

History & archaeology - Gyffin is a small historic village located immediately south of Conwy, with origins that can be traced back to the medieval period. There are 11 listed buildings in Gyffin, five are associated with the Church of St Benedict, approximately 200m to the north-west of the proposed development site. Conwy is also a World Heritage Site of 'Castles and Town Walls, with two Scheduled Monuments, Listed Buildings and one Registered Historic Park and Garden near by as shown in the plan.

Initial assessment has shown that the settings of the Listed Buildings and the Registered Historic Park and Garden will not be impacted by the proposed development.

The biggest impact will be to the WHS, with intervisibility between the western section of Conwy Town Wall and the development site.

The limited number of locations inland where the WHS can be experienced, along with its altered setting does not detract from the significance of the WHS. However, it does mean that the proposed development, although partially visible from the western section of the town walls, will have only a minor impact on the WHS setting.

It is suggested that with appropriate mitigation, the planting of suitable tree stock and screening vegetation along the northern boundary of the site and the sympathetic finishing of the dwellings, this impact could be lowered to negligible.

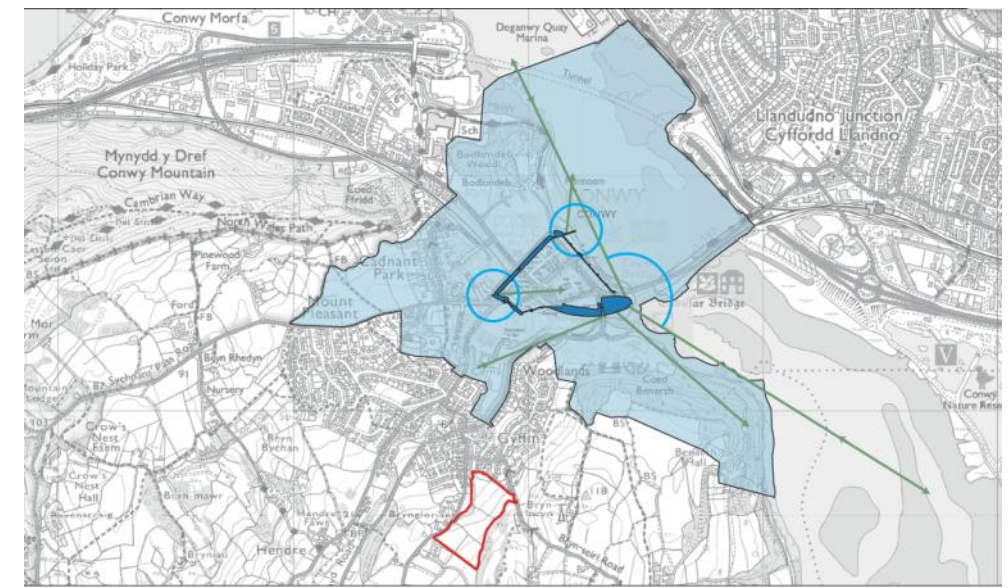
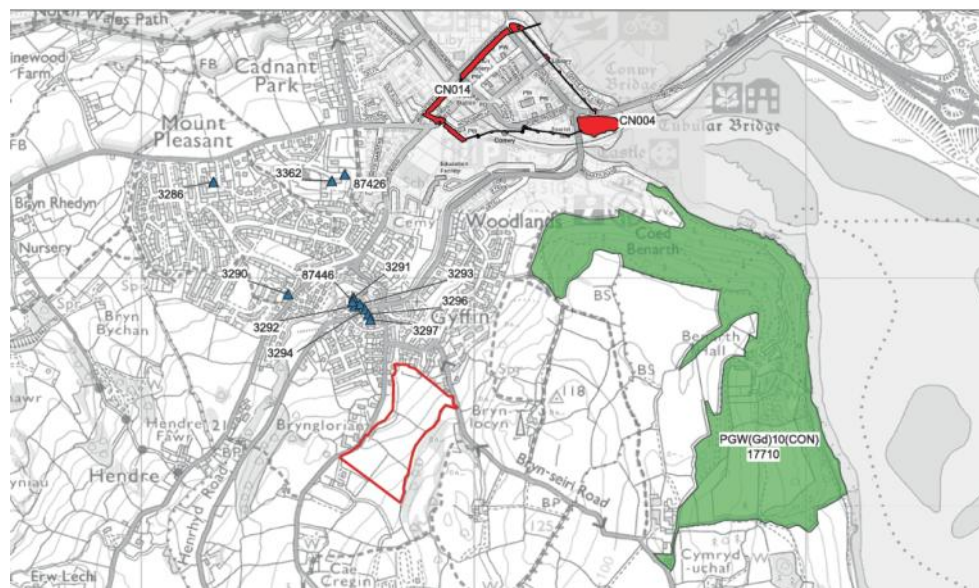


Image 1 - Image showing the site boundary and the development area within, as seen from the western section of Town Walls

Image 2 - Listed building, monuments and historic Park

Image 3 - World Heritage Site and essential Setting

Site Analysis

Landscape Impact - The proposed development site lies on the outskirts of Gyffin, Conwy, approximately 1 kilometre south of Conwy town centre and castle, a UNESCO World Heritage site. The site lies within LANDMAP area CNWVS067 Conwy Valley sides and Hills where the development will need satisfactorily integrated into the landscape and will be reviewed from the key areas noted on the plan in yellow .

Urban form - Buildings are structured around Llanrwst Road, the main route through the village, with buildings lined along the roadside and extending back in several directions. The development pattern seems to follow the contour lines to simplify construction and reflects the gradual growth from the older buildings along Llanrwst Road.

Building scale, height & density - The built form is modest in scale, with dwellings typically one or two storeys in height. Detached and semi-detached houses predominate, though there are occasional terraces, bungalows and flats. Density is moderate as most dwellings incorporate private garden spaces, though the size and layout of these vary considerably across the village.

Building character & building traditions - There is significant variation in the buildings around Gyffin, with no single consistent style or standard building type. Materials include stone, render and brick, slate and roof tiles of varying colours, reflecting a mix of older traditional construction alongside more modern development.

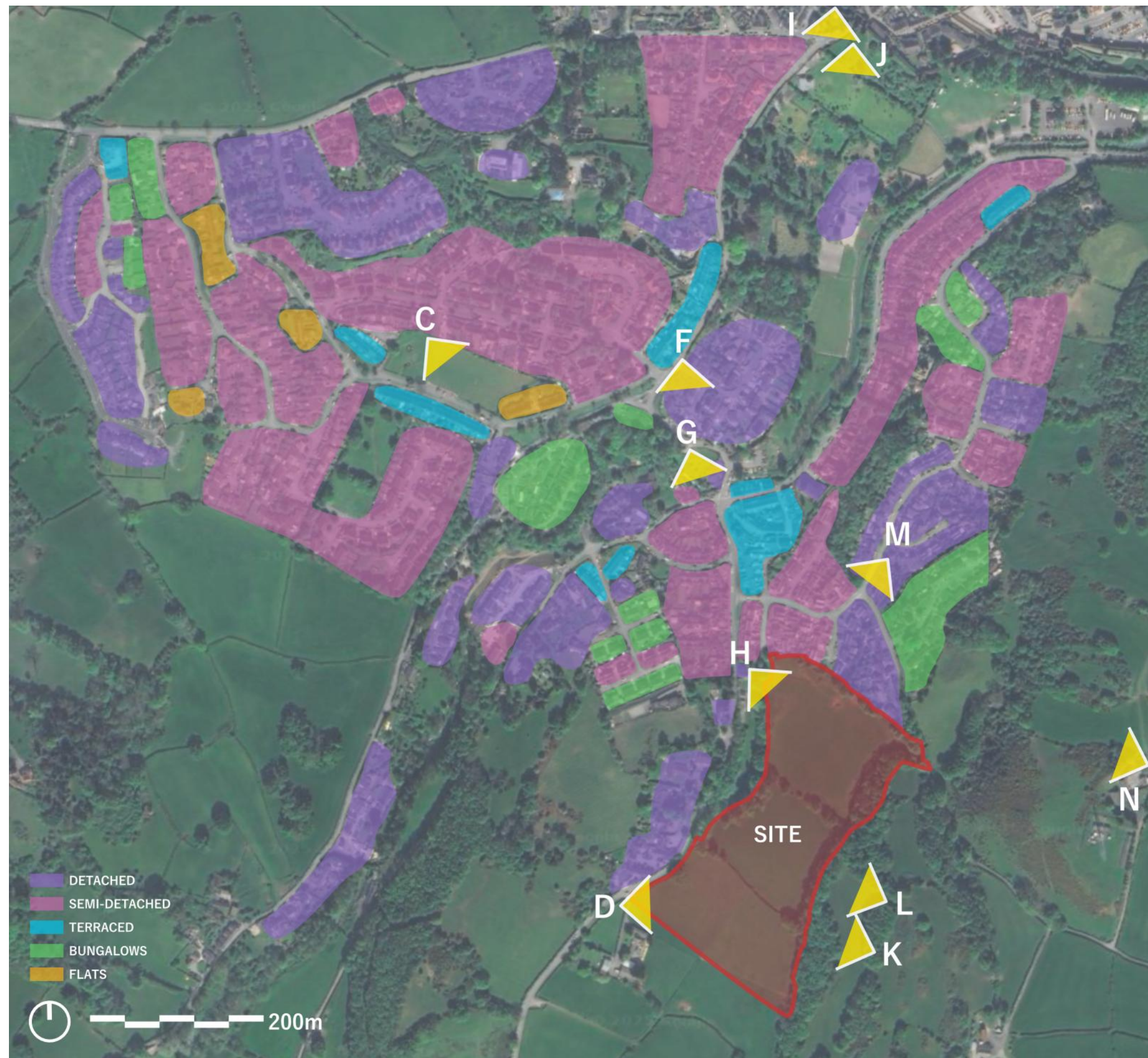


Image 1 - Context analysis

Site Analysis

Materials - There are three clear Architectural forms that abut the site. Firstly the historic, traditional stone properties to the south western corner of the site with prominent gables or dormer roofs. Further west are a traditional render buildings with a mixture of arts and craft and properties constructed between 1930-50s.

On the northern boundary sits a development of red and buff brick dormer bungalows from the 1960-70s.

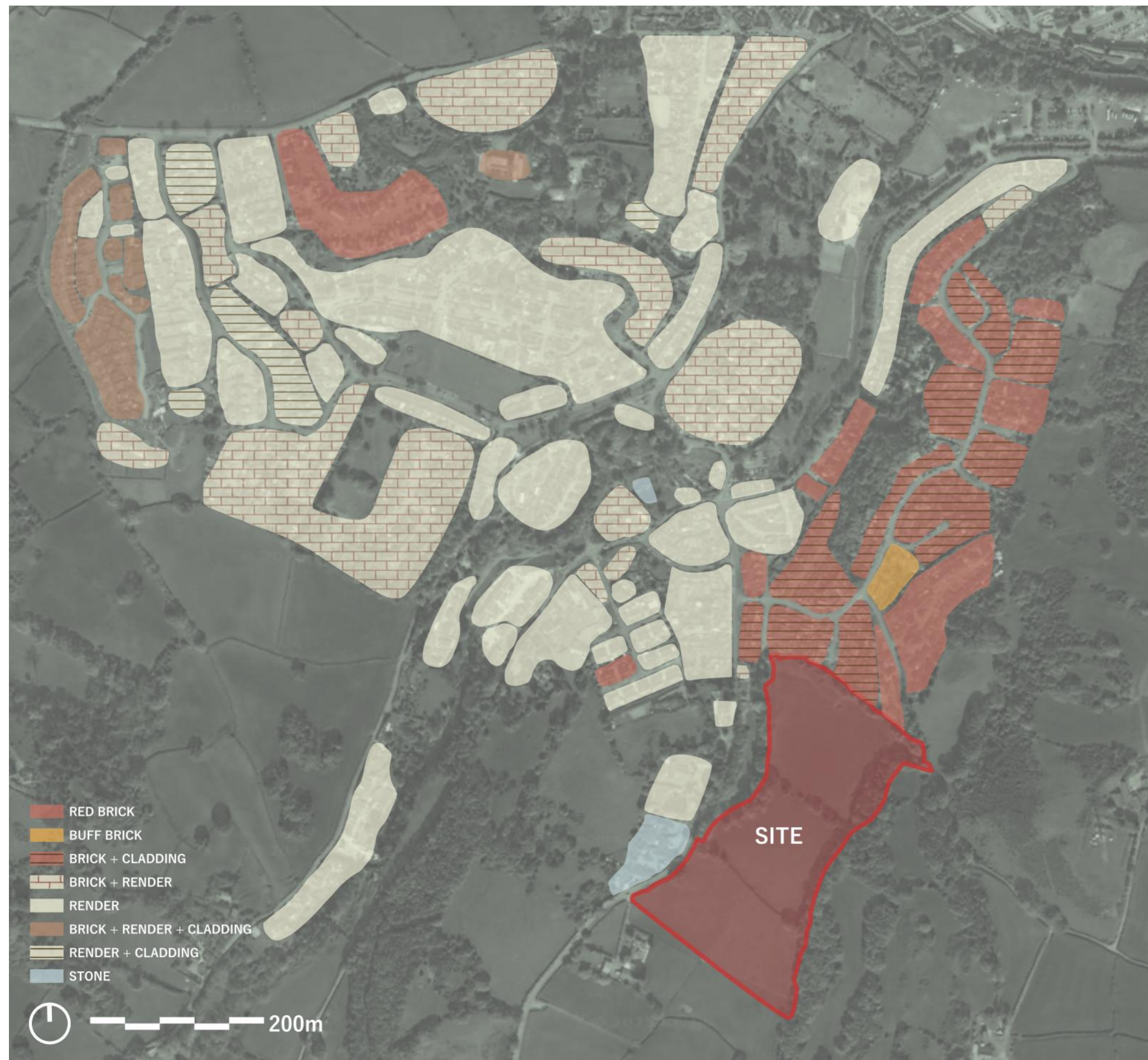


Image 1 - Materials analysis

Site Analysis

Roof materials - Most of the roof finishes used in Gyffin and on the buildings surrounding the site are a combination of slate and brown tile, with slate being slightly more common. A small number of buildings on the opposite side of the village feature red roof tiles, although these are less common. The only exception in the youth hostel building which has a flat roof.



Image 1 - Roof materials analysis



Immediate Context



1



3



5



2



4



6

Image 1 - Llanrwst Road
Image 2 - Llanrwst Road

Image 3 - Llanrwst Road
Image 4 - 9 Llanrwst Road

Image 5 - 1 Allt y Coed
Image 6 - 2 Parc Benarth



Context



1



3



5



2



4



6

Image 1 - Llanrwst Road terrace
Image 2 - Gyffin Surgery
Image 3 - St Benedict's Church
Image 4 - 23 Maes y Llan
Image 5 - 26 Bryn Awel
Image 6 - Lon Caer Seion



Context

Stepped roofline

Mixture of materials

Prominent white dormer features near the site

Mixture of roofscapes



Site Images



1



3



2



4



Site Images



5



7



6



8



Site Images



9



11



10



12



Site Images



13



15



14



16



Site Images



17



18



SWOT

Strengths

- 1. Great views out of the site towards Conwy and the Carneddau Mountain range
- 2. Good local amenities and public transport nearby in Conwy
- 3. Strong green infrastructure

Weaknesses

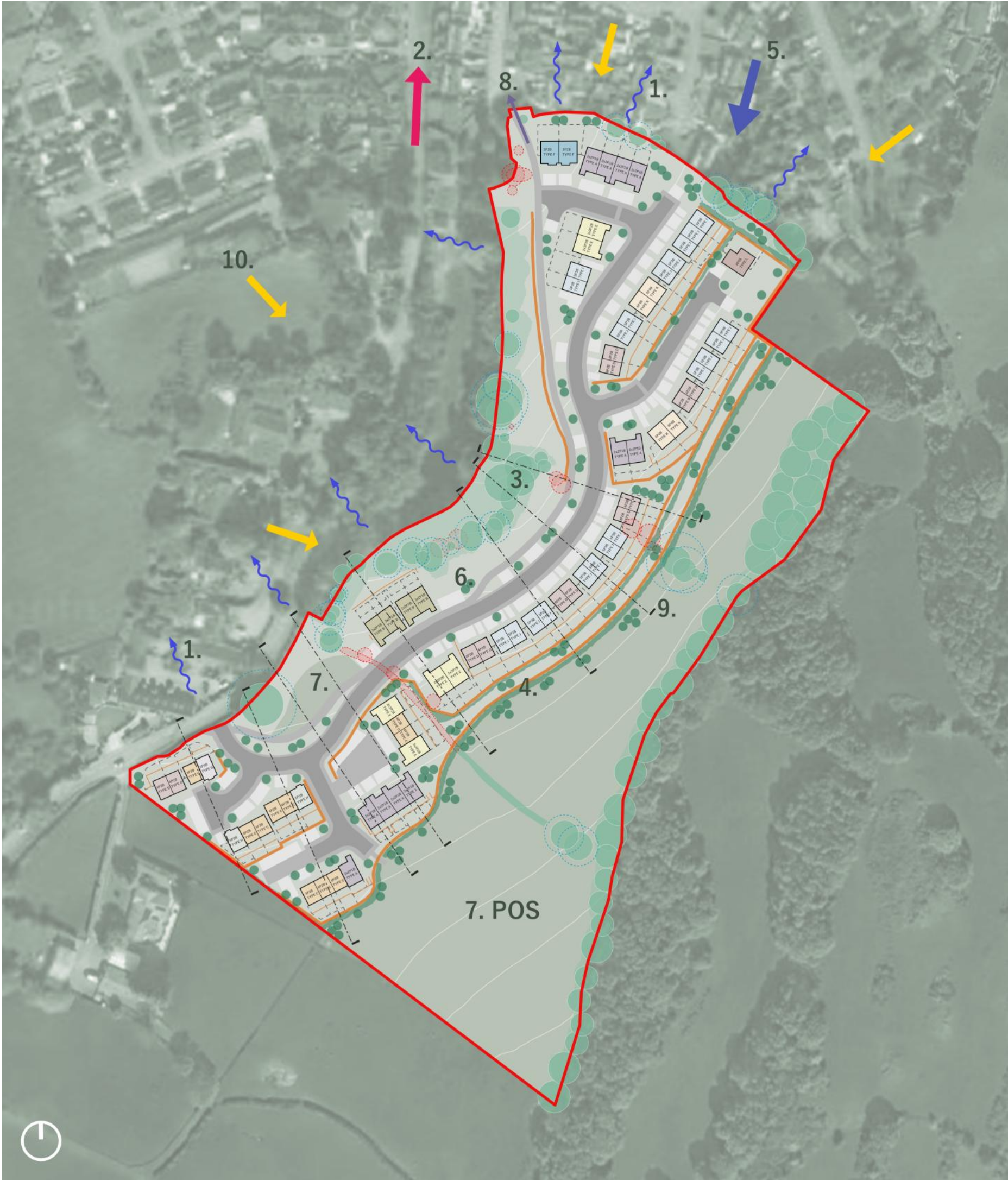
- 4. Steeply sloping site which will require areas of retaining walls and tiered gardens
- 5. Visible from the Castle walls and surrounding areas

Opportunities

- 6. Enhancement of the green infrastructure and ecology which will soften the views towards the site
- 7. Possibilities for formal and informal Public Open Spaces
- 8. New connections to Gyffin and Conwy
- 9. Detailed cut and fill exercise providing minimal cart on/off site of materials and to help sit the properties into the landscape.

Threats

- 10. Visibility of the site from the surrounding areas. Beech are working closely with Conwy Planning department to develop a proposal that is in keeping and low impact.



Site Plan

Design proposal

The proposed layout delivers a residential scheme that balances density with quality of place and site constraints. Due to the site gradient the road layout leads in from Llanrwst Road in the western corner where site levels gently slope, and works with the natural contours of the site to create a flowing natural streetscape up north to the steeper section of the site. The streetscape fronts Llanrwst Road and provides stepped building patterns, maximising natural surveillance and integration with surrounding development.

Parking courts are provided to the south west corner of the site where density can be increased while off street parking's located along the spine road which splits into two cul de sac's further north.

A public footpath leads from the northern corner and connects the site to Gyffin. This footpath meanders up through the site along the green boundary, past the formal Playing Area and up to the flowing wildflower meadow that sits at the higher level above the properties.

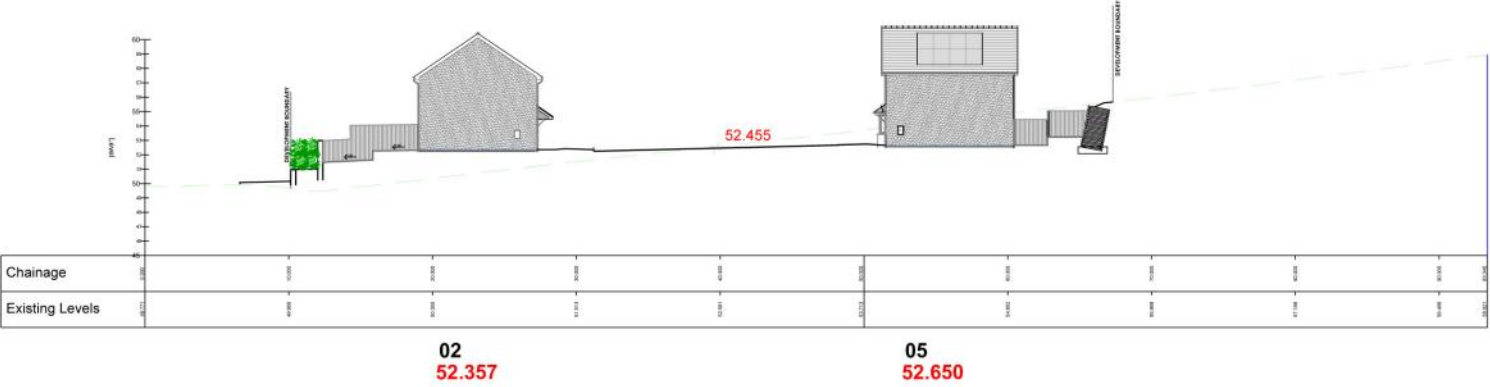
The site has been developed to balance the amount of groundworks in the form of cut and fill. Tiered gardens and retaining structures will also assist with the change in level. Improved planting features will assist in softening the development and retaining structures within the landscape from the Castle walls and Llanrwst Road.



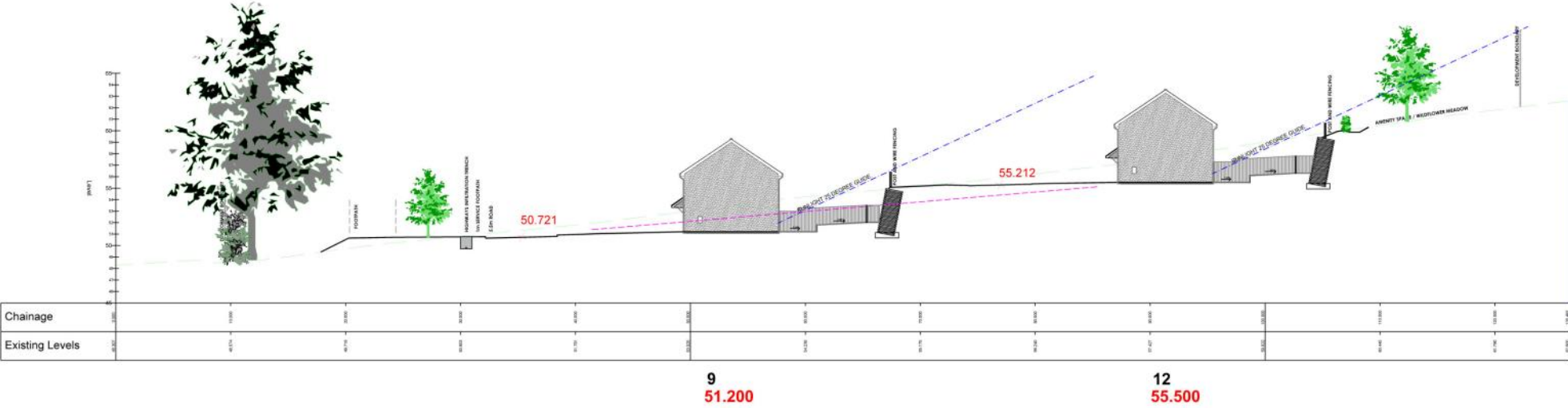
Site Sections

These site sections demonstrate how the proposal has been developed with a close review of the existing site levels and how on site cut/fill will assist in limiting any cart on/off of material. Site retaining structures and tiered gardens also assist in working with the existing levels. The further the road proceeds into the site from the entrance, the levels become steeper with larger retaining structures.

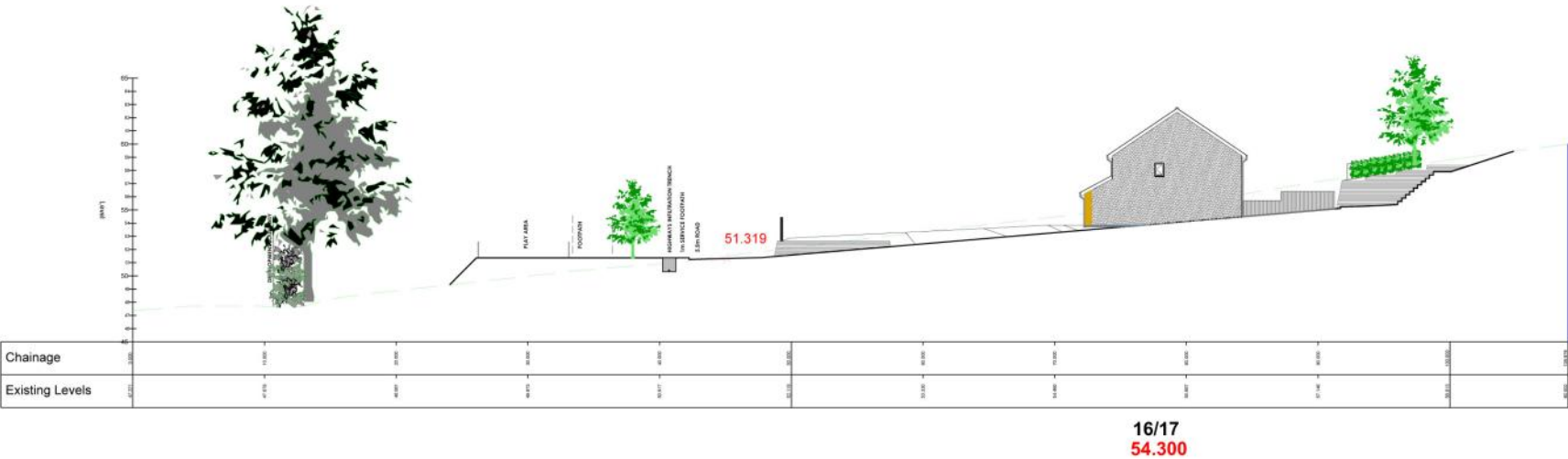
Working with the site levels has led to a proposal that sits within the landscape and limits its impact on the surrounding area.



SECTION 1



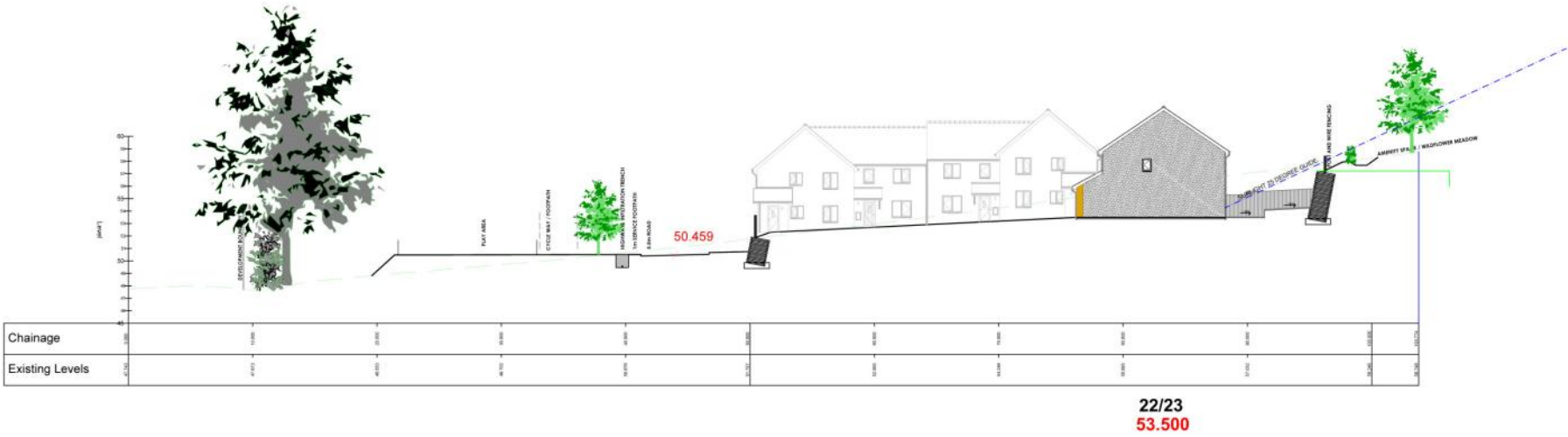
SECTION 2



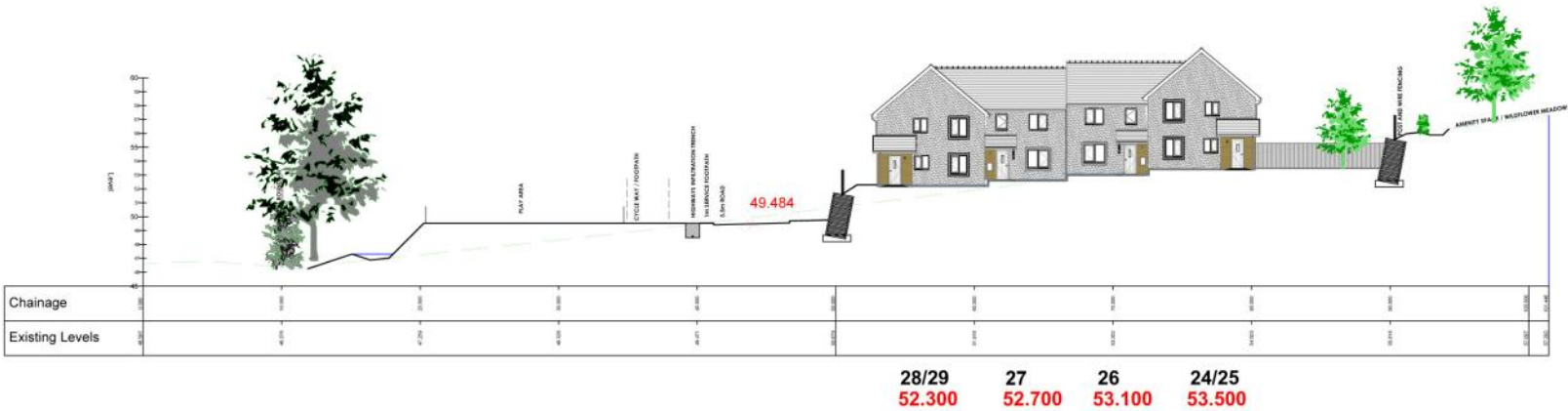
SECTION 3



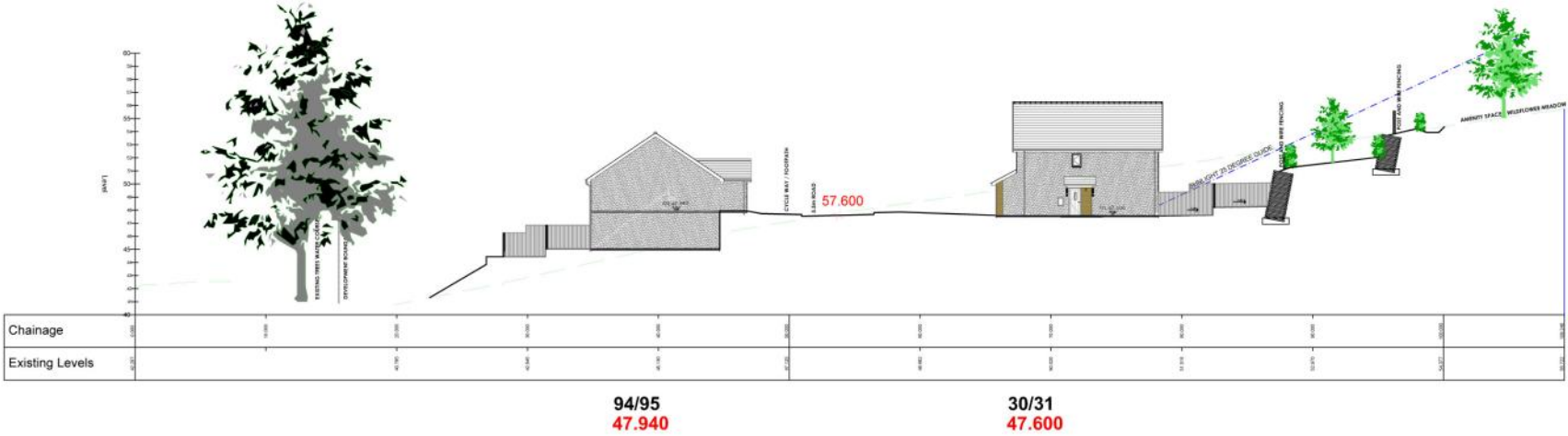
Site Sections



SECTION 4



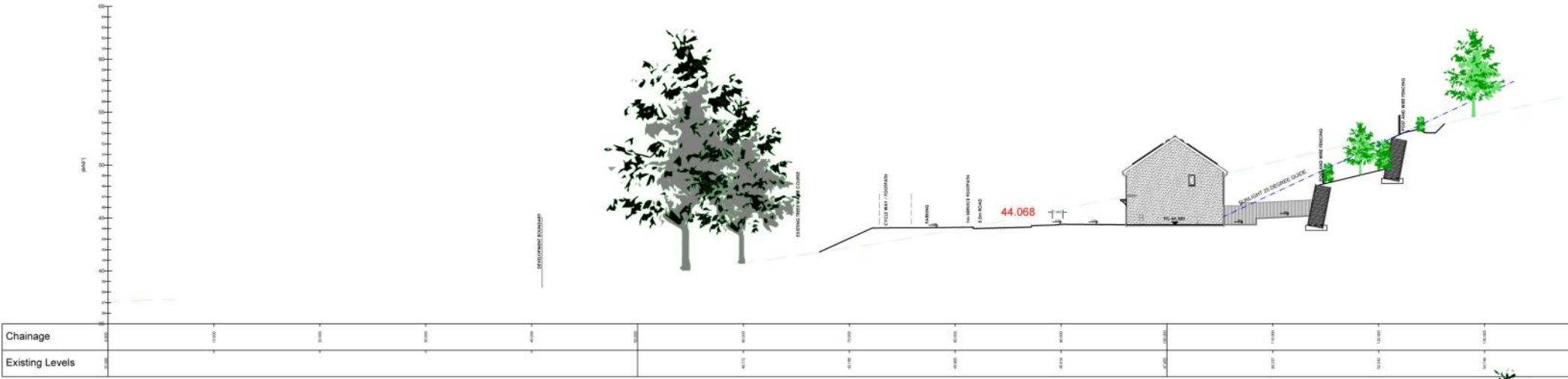
SECTION 5



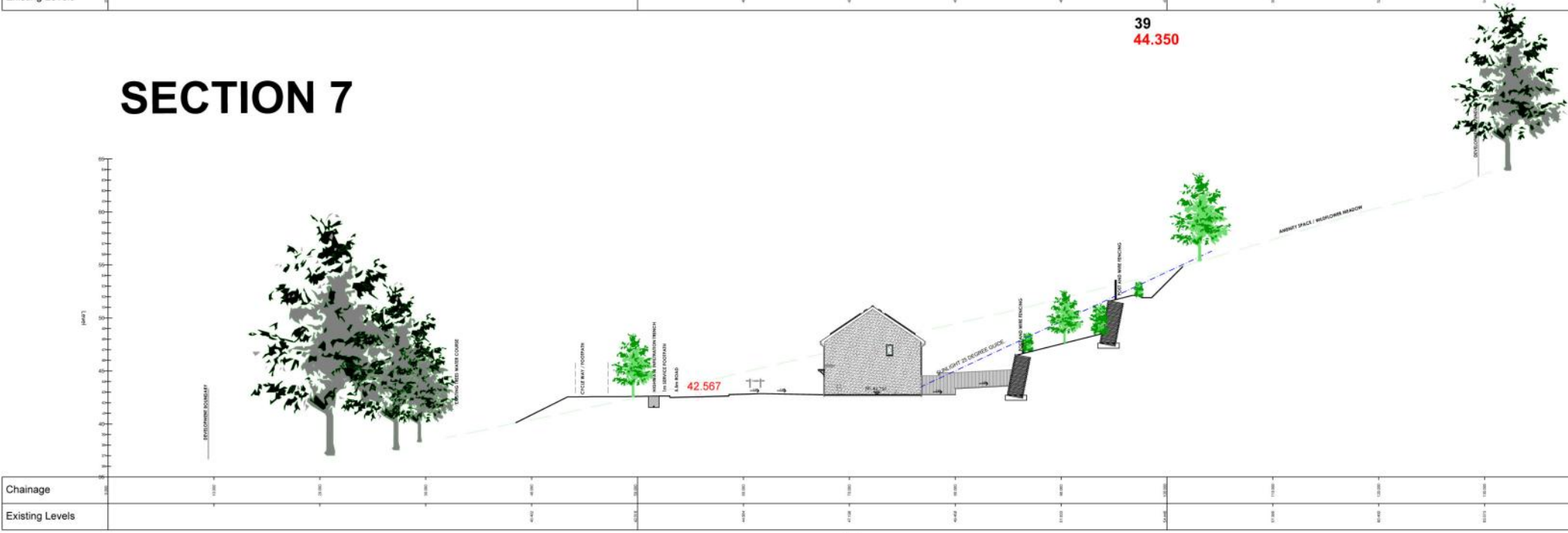
SECTION 6



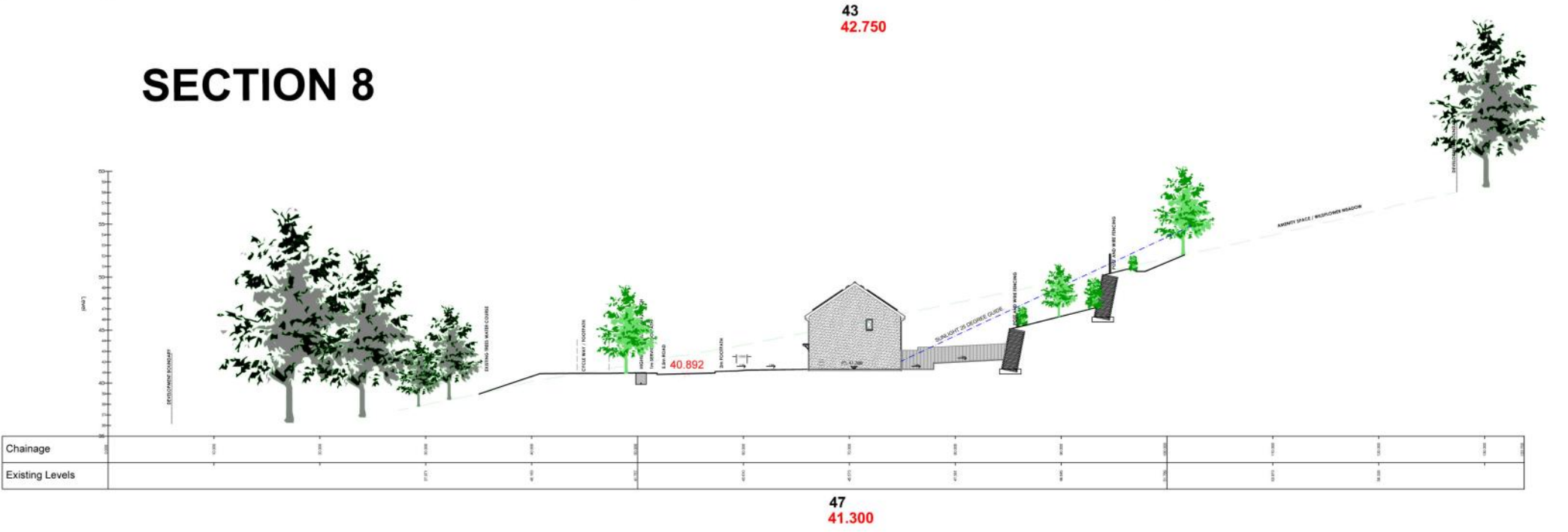
Site Sections



SECTION 7



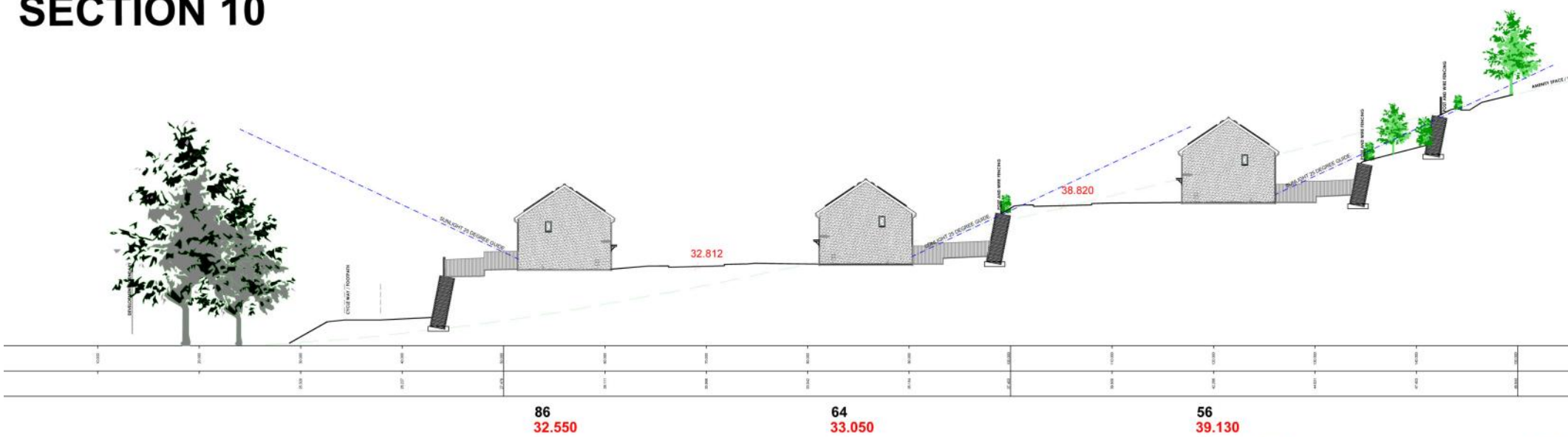
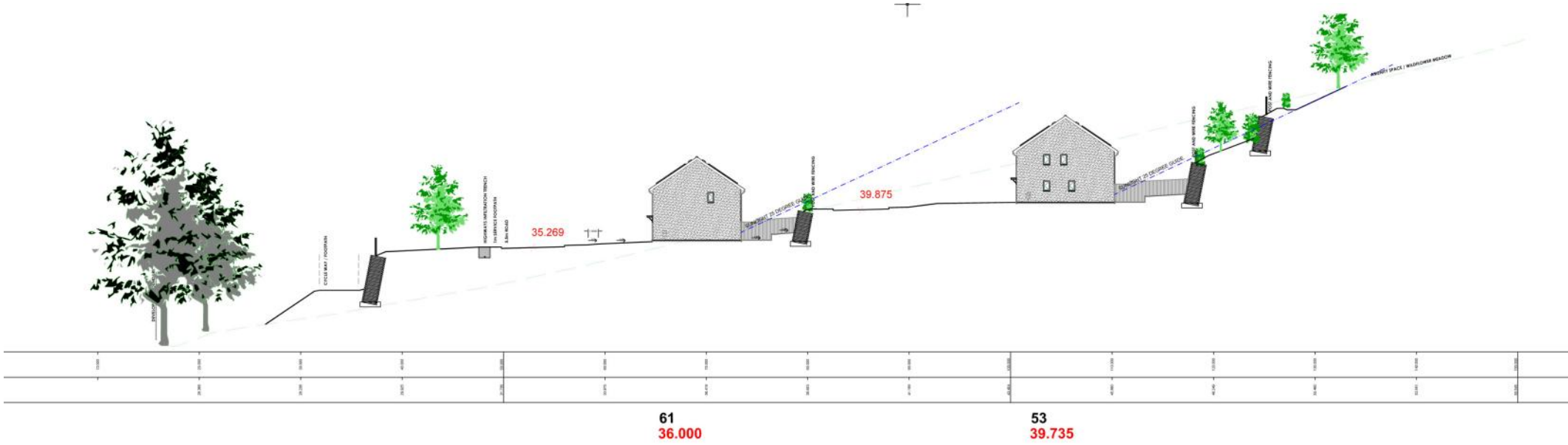
SECTION 8



SECTION 9



Site Sections



Proposal



Render - Primary material to be used as part of the scheme, tying into the prominent use of render in the surrounding existing context.



Stone cladding - Elements of stone cladding to be used on the southern site to tie in with the historic buildings along Llanrwst Road



Brick - Elements of brick cladding to be used on the northern site to tie in with the historic buildings along Llanrwst Road



Cladding - Elements of cladding are found of surrounding buildings to provide a feature



Roofing Tile - Tile roofing in keeping with local material palette of grey slate and brown/red tile.



Stone gable end + vertical windows



Rendered gable end + horizontal windows



Stone dormers + grey slate roof



Brick and cladded dormer + long horizontal windows



Brick and render + brown tile roof



Render and cladding + small gable feature



Brick and render + angled roof



Render and cladding arts and craft style

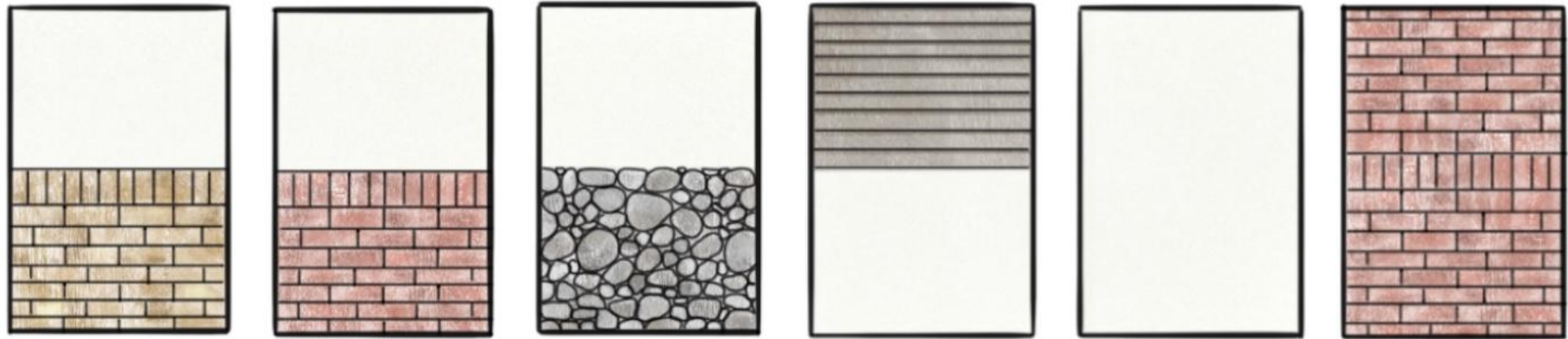
Proposal

From the site analysis we believe developing a horizontal design language assists in siting the development within the landscape to replicate that of the dormer bungalows and surrounding properties that are visible from Conwy and the castle walls.

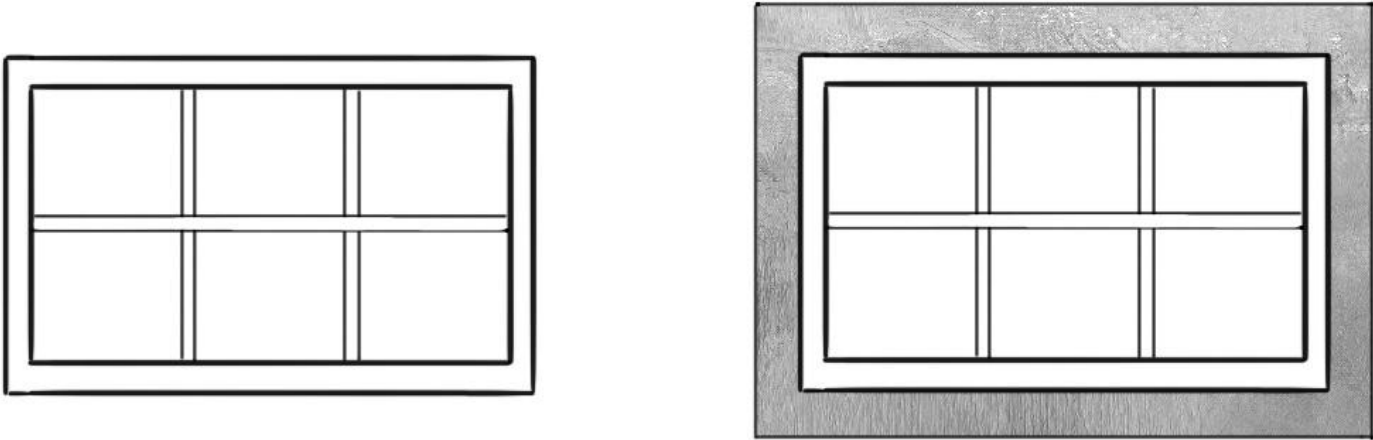
By creating a flexible design style for the site it provides opportunities for the house types to correspond to the varying material pallet around the site. Surrounding the northern corner of the site are a number of brick properties with the south/west corner being surrounded with stone properties. Render will provide the fixed pallet of material for most properties but plinths of varying brick colours, stone and small sections or cladding will create variety across the development.

Due to the site levels, plots will be stepped which will further assist breaking up the roofscapes and creating an interesting feature across the site.

To provide further detail and features some properties will replicate the gable features of the surrounding properties either as a prominent full storey gable or smaller pediments. Horizontal windows further strengthen the design language with some feature windows being provided with banding to break up the elevations.



Buff brick and render Red brick and render Stone and render Cladding and render Render Brick



Linear horizontal windows



Gable feature Gable / Pediment Banding feature around windows

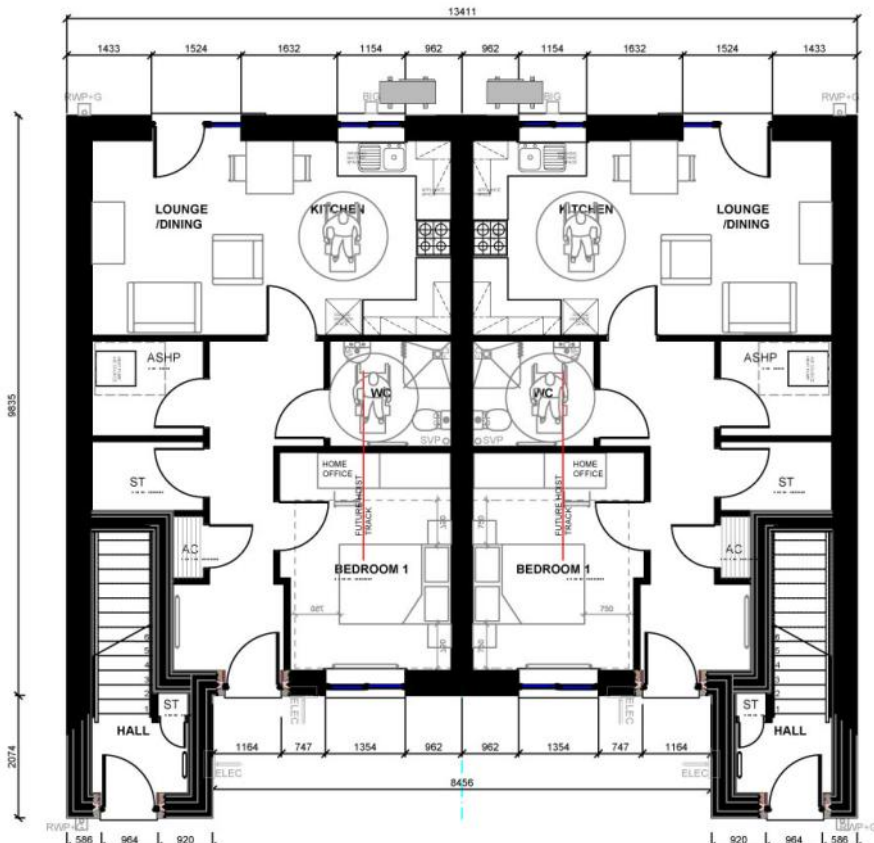


House Types

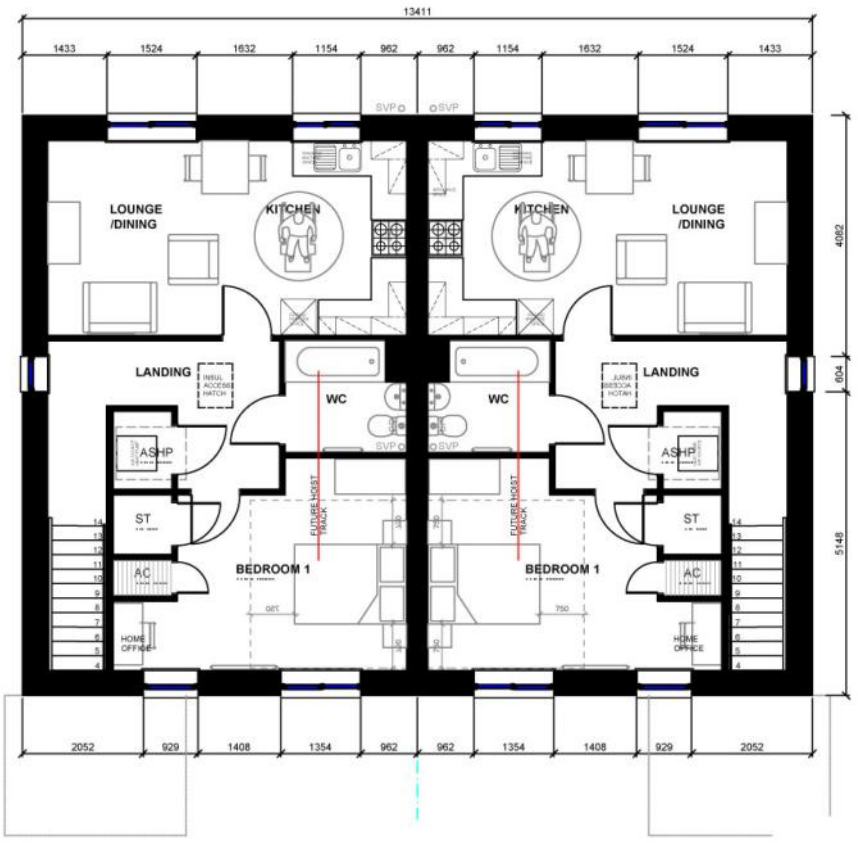
Beech Developments have proposed a wide range of properties as part of the dwelling mix to provide flexibility and diversity for local people. All units comply with WDQR and Life Time Homes provisions. A breakdown of the units, GIFA and storage provisions are listed below:

- 2P1B Flat - Type A / B - 30no. (GIA 51/54m²—Storage 1.5m²)
- 4P2B House - Type C - 10no. (GIA 83.5m²—Storage 2.5m²)
- 4P2B House - Type D - 12no. (GIA 83m²—Storage 2.5m²)
- 3P2B Flat - Type E - 12no. (GIA 66.4/65m²—Storage 2m²)
- 3P2B Bungalow - Type F - 2no. (GIA 59m²—Storage 2m²)
- 5P3B House - Type G - 1no. (GIA 93m²—Storage 2.5m²)
- 5P3B House - Type H - 2no. (GIA 93m²—Storage 2.5m²)
- 5P3B House - Type J - 21no. (GIA 93m²—Storage 2.5m²)
- 6P4B House - Type K - 4no. (GIA 114m²—Storage 3m²)
- 8P5B House - Type L - 1no. (GIA 131m²—Storage 3m²)

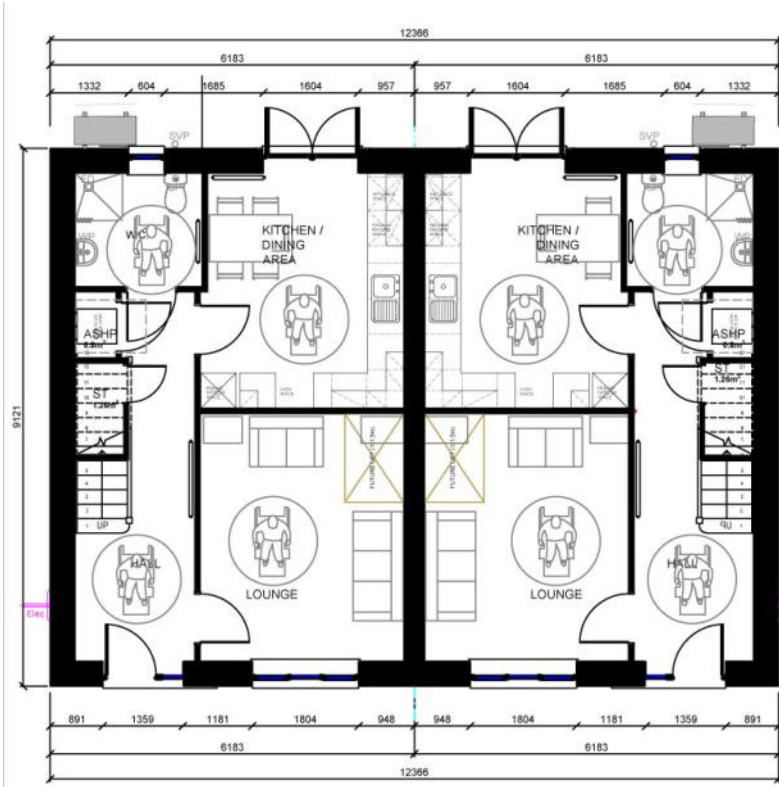
Example of a few house types are shown adjacent.



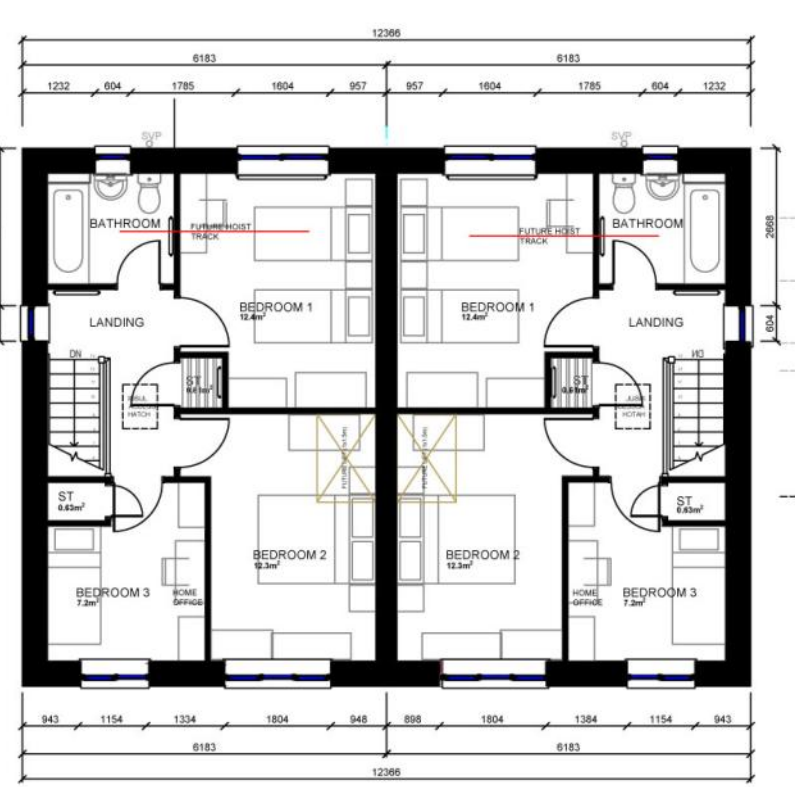
GROUND FLOOR PLAN
2P1B FLAT



FIRST FLOOR PLAN



GROUND FLOOR PLAN



FIRST FLOOR PLAN

5P3B HOUSE



Compliance

WDQR Compliance

The homes have been designed to meet WDRQ 2021 and LifeTime Homes requirements

Energy rating - All dwellings will be developed to achieving EPC A (SAP92 or greater) as a fabric first approach with ASHP with Photovoltaic panels.

Overheating analysis - Client will undertake an assessment of overheating risk based on the CIBSE TM59 methodology for Apartments/Flats and Houses which do not have two or more parallel aspects to facilitate cross-ventilation.

Secure by Design - The site has been developed to achieve Gold standard. Application reference number’s provided on the first page.

Flood risk analysis - A small part of the undevelopable site is within the flood zone.

Modern Methods of Construction / Embodied Carbon - The scheme has been developed to use the Nudura Insulated Concrete Forms as Beech believe this provides improved speed of construction, reduces waste and improves efficiency while also providing high build quality and performance. It’s a highly durable construction form that Beech have utilised for several years.

3.2 CONTENT DECLARATION

Material	Contribution (%)
Expanded polystyrene (EPS)	43.9%
Recycled polypropylene	53.4%
Steel wire	2.7%
Colorant	0.05%

Table 2: 6” standard form ICF composition

The product composition for the products is provided in **Table 2**. The ICF system does not meet the criteria for PBT (Persistent, Bio-accumulative and Toxic) or vPvB (very Persistent and very Bio-accumulative) in accordance with Annex XIII of Regulation (EC) No. 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Furthermore, the ICF system is an article, and it is exempted from REACH registration.

Nudura have provided the above information in relation to their recycled content while Beech have also run the system through One Click LCA to assess the full Life Cycle. It’s end of life benefits include;

Climate change (GWP): End-of-life recycling/reuse provides large credits (– 12.4 kg CO₂ eq.), cutting lifecycle emissions almost in half.

Resource depletion (ADP minerals & metals): Recycling metals significantly reduces reliance on virgin material extraction.

Acidification & eutrophication: Strong negative contributions in D suggest that avoided pollutant emissions from virgin production are greater than the disposal-phase burdens.

Ozone depletion (ODP): Module D gives a moderate credit (– 1.2E-07 kg CFC-11 eq.), indicating recovery/avoided emissions of refrigerants or insulation gases.

Air quality (POCP – ozone formation): A notable avoided burden (– 3.85E-02 kg NMVOC eq.), reducing smog formation potential.

Schedule 9. Carbon Calculations					
CATEGORY	DESCRIPTION	QUANT.	UNIT	RATE	SUBTOTAL
Aggregates					
	Limestone Aggregate	0.0000	t	0.0058	0.00
	Sandstone Aggregate	0.0000	t	0.0520	0.00
	Sand	76.9996	t	0.0150	1.15
Concrete					
	Cem I	0.0000	t	0.1300	0.00
	Cem II B-V	1060.5668	t	0.0970	102.87
	Cem III	0.0000	t	0.0790	0.00
	Easflow	412.2429	t	0.1600	65.96
Steel					
	Reinforcement steel bar	51.1675	t	0.4600	23.54
	Structural steel	0.0000	t	2.1000	0.00
Insulation					
	EPS Insulating concrete form	6.7360	t	6.3000	42.44
	EPS High density Closure board	4.2420	t	6.4000	27.15
	XPS Insulation Panel	4.5784	t	5.5000	25.18
Timber					
	C24 Timber	3.8100	t	0.1700	0.65
	Shuttering Ply	0.1905	t	0.5400	0.10
Ancillaries					
	Pallet Wrap LDPE	0.1078	t	2.2000	0.24
	Aluminium Cannisters	0.0252	t	25.0000	0.63
Haulage					
	Operational fuel allowance	2908	Litres	0.00268	7.79
	Plant Operations; Boom pump	630	Litres	0.00268	1.69
	Intemational Haulage; Germany to UK	3	Nr	0.67833	2.03
	Intemational Haulage; Canada to UK	1	Nr	1.04000	1.04
	Local Haulage; Aggregates	1	Nr	0.48240	0.48
TOTAL					302.95
EMBODED CARBON RATING					
<div><div>< 440</div><div>< 540</div><div>< 640</div><div>< 740</div><div>< 840</div><div>< 940</div><div>> 940</div></div> <div><div>A – RATED</div></div> <div>124.78 Kg.co²/m²</div>					



Compliance

Placemaking Principles

People and Community - The needs, aspirations, health and well-being of all people have been considered at the outset. Proposals are shaped to help to meet these needs as well as creating, integrating, protecting and/or enhancing a sense of community and to promote equality. This is within the natural play space to the west with new connections to Gyffin/Conwy The footpath will continue into the site to provide improved connectivity. Enhanced green provisions soften the development and enhances the landscape for the residents.

Location - Places grow and develop in a way that uses land efficiently, supports and enhances existing places and is well connected. The location of housing, employment and leisure and other facilities are planned to help reduce the need to travel. The proposal is within close proximity of the local amenities of Gyffin and Conwy.

Movement - Walking, cycling and public transport are prioritised to provide a choice of transport modes and avoid dependence on private vehicles. Well designed and safe active travel routes connect to the wider active travel network and public transport stations and stops are positively integrated. Bus stops nearby offer regular services (20min) to key towns nearby including No.5 Betws-y-Coed / Llandudno, No.14 Llysfaen, No.19 Cwm Penmachno, No.75 Llanfairfechan. Conwy train

station, provides frequent services along to Holyhead and Chester. National Cycle route No.5 runs through Conwy along the North Wales Coast while there are a number of public footpath around the local countryside.

Mix of Uses - Places have a range of purposes which provide opportunities for community development, local business growth and access to jobs, services and facilities via walking, cycling or public transport. Development density and a mix of uses and tenures helps to support a diverse community and vibrant public realm.

Public Realm - Streets and public spaces are well defined, welcoming, safe and inclusive, with a distinct identity. They are designed to be robust and adaptable, with landscape, green infrastructure and sustainable drainage well integrated. They are well connected to existing places and promote opportunities for social interaction and a range of activities for all people. Again, public realm is enhanced by the natural play space.

Identity - The positive, distinctive qualities of existing places are valued and respected. The unique features and opportunities of a location including heritage, culture, language, built and natural physical attributes are identified and responded to.

