5. Outline Planning Guidelines

5.1. Overall Masterplan

The Consented Masterplan

The consented masterplan was developed with the following aspects as indicated in Tetlow King's Langarth Masterplan Design Code April 2013 Revision K:

A Distinctive Place

Creating an environment that has it's own sense of identity whilst retaining positive characteristics of the local environment. Making a place that people can understand and negotiate with ease.

Permeability

Creating sustainable connections within the development and to the wider area.

Sustainable Transport

Encouraging walking and cycling and making public transport widely available. Designed to reduce resource consumption and promote the use of environmentally friendly materials.

Landscape Enhancement

Safeguarding and enhancing the existing landscape framework and mitigating the impact upon existing wildlife. Sustainable drainage designed to blend with the existing landscape features.

The Vision

Tetlow King's Vision from the outline application is as follows: The design proposals must embrace the vision for the development. Inox Group's vision for the Langarth is:

'To create a high quality, well connected urban extension, which adopts a Green Infrastructure led approach and embraces sustainability at all levels, providing an exceptional place for people to live, work and play'.

The vision will be achieved by meeting the following aims:

- The creation of a sustainable environment for living with a mix of residential accommodation to reinforce a diverse and vibrant community.
- A sustainable development which responds to best practice and the criteria of the Code for Sustainable Homes and current Building Regulations to minimise energy use, sustainably manage water, responsibly source materials and manage waste and ecology.
- A place with a varied character that responds to the local vernacular and built context in a modern way to provide a distinctive sense of place.
- Use of the strong existing landscape framework including trees, Cornish Hedges and the stream corridor to form the basis for a Green Infrastructure led masterplan that shapes the morphology of the scheme and results in a scheme that responds to and integrates with the landscape context.
- A development which preserves and enhances biodiversity by retaining natural features on the site, reinforcing them by creating opportunities for new habitat areas.

The outline consent was prepared in line with Cornwall Council's 'Land North of the A390 Truro/Threemilestone – Development Brief'. This adopted Cornwall Council Development Brief for Truro and Threemilestone sets out the proposed principles for expansion of the settlement to the north of the A390, and includes the Langarth site. The development proposals are consistent with the broad principles established within this brief and the vision and character aspects noted above.

The Consented Programme

The consented programme for Phases 1 and 2 can be summarised as follows:

Phase 1A + 1B:

1. New roundabout at the west end of the site from the A390 and Core Road put in as far as the Recreation Space.
2. Residential (circa 420 units).
3. Mixed-use alongside Tresawls Road.
4. Safe Play Areas alongside the Green Lane.
5. Temporary turning heads required to residential parcels in advance of creation of a highway loop road.
6. SUDS drainage along north boundary.

Phase 2A + 2B:

1. Residential (circa 270 units).
2. Mixed-use land parcels opposite recreation area.
3. Completion of highway loop allows removal of temporary turning heads from Phase 1.
4. Outdoor sports pitches/play.

Consented Parameters Plan
Not to scale

5.2. The Proposals of the Outline Consent

The following extracts are from the 'Summaries of Key Requirements' (Tetlow King's Langarth Design Code April 2013). These are followed by a statement indicating how the Reserved Matters Application addresses these requirements.

Topography Strategy

- Design proposals to work with the existing topography, as far as possible, without resorting to significant ground remodelling and formation of large development plateaus.
- Utilise split level buildings to take up extreme level changes.
- Utilise a series of low retaining structures and banks within gardens in preference to a single high and visually dominating retaining wall.
- Avoid unusable steeply sloping gardens by use of terracing or split level buildings. Ensure gardens have usable space at gradients of around 1:10 or better.

The general approach of the Reserved Matters Application adheres to this strategy including split level housing and retaining structures, however, due to the shallow rock location, there are areas where more fill than cut is provided.

Green Infrastructure Approach

- Retain existing trees and hedges where possible and incorporate them into the layout.
- Retain the existing copse and hedgerow that follow the east to west line of the existing watercourse.
- Retain the existing boundary and field boundary hedgerows, where indicated, augmenting them with new planting.
- Provide new strategic planting running across the contours.
- Provide landscape breaks across the hillside and provide landscape breaks between development plots.
- Salt tolerant plant species to be agreed with the Local Authority Landscape Officer
- Provide Management and Adoption Strategy and plan for each phase of development as part of an integrated site wide strategy.

Activity Trails/Play Trails and natural green space can be free in form and follow natural features but an area suitable for level sports pitches require additional land forming. For this reason, as well as being placed to be in a suitable proximity to neighbourhoods, the Play Areas have been located on less sloping sections of land to reduce land remodelling and retain key existing landscape features.

The approach of the Reserved Matters Application adheres to this strategy and in places enhances these design strategies such as improving the loop road location away from the Green Lane.

Landscape Strategy

A variety of formal and informal open space and play opportunities are proposed as follows:

- Provide a range of play and recreation opportunities across the development including, neighbourhood 5-a-side pitches, junior and youth equipped play areas in the broad locations, identified on the Parameters Plans.
- Provide an Activity Trail/Play Trail integrated with the green spaces.
- Provide opportunities for 'doorstep play'.
- Integrate opportunities for food growing areas within gardens and the Green Infrastructure.
- Utilise SUDS as multi-functional elements to incorporate drainage, planting and play opportunities.
- Demonstrate a lighting strategy for each phase of development that will minimise urban light pollution and disturbance of nocturnal wildlife by using low levels of lighting throughout.

Amenity

- Provide high standards of private amenity space in terms of size and quality commensurate with the type, size, orientation and setting of all new dwellings.
- Provide sunlight study for each phase of development to show how the design creates a high quality environment.

Management

- Provide Landscape Management and Adoption Strategy for each phase of development as part of an integrated site-wide strategy.

The Reserved Matters Application addresses many of these requirements that relate to this specific phase (Phase 1 and 2) and in places enhances these design strategies.

Movement Strategy

- The Core Road should be in broad alignment indicated on the Parameters Plans.
- Provide a shared foot/cycleway link to Threemilestone incorporated within the existing landscape buffers to the western edge of the Park & Ride.
- Provide a legible hierarchy of streets as set out under the Street Typologies.
- Retain the existing Green Lane (running east to west across the site) as a green spine for recreational pedestrian and cycle use.
- Provide a pedestrian/cycle route running east west along the Core Road.
- Provide bus access and bus stops generally within 400m of residences.
- Facilitates expansion of Park & Ride as set out under Section 106.

Management

- Provides a highway adoption plan for each phase of development as part of an integrated site wide strategy.

The majority of these requirements are supported however following design development, the road hierarchies have been adapted. This has occurred due to the detailed understanding of the topography, geology, plot depths for housing, re positioning of commercial uses to the more appropriate parts of the masterplan and the associated realignment of the NAR to ensure the layout is more efficient. It was also noted at the Design Review Panel on 5 August 2015 that the Street Typologies in the consent could be adapted to be more in keeping with road types that exist in Cornwall that are located on edges of hills. This is explained in further sections of this document.

A continuous cycle way along the 'Green Lane' has not been included as a separate designated cycle route runs east to west, adjacent to the NAR. Cycling will be possible in many areas of the 'Green Lane' however.

Parking Strategy

- Provide a variety of parking solutions across the development to help reinforce distinctive character areas.
- Provide electric car and bicycle charging points to each neighbourhood.
- Establish a community car club and provide on-site spaces within each neighbourhood.

The parking strategy ensures a variety of parking including 'on-plot', shared courtyard and on street parking is provided. Electric car charging points and community car clubs will also be provided.

Building Scale Strategy

- Building scale to comply with the ranges set out in the parameters tables and as indicated on the scale Parameters Plans.
- Utilise scale to reinforce distinct character areas within the scheme.

The Reserved Matters Application adheres to these requirements.

- Key Buildings and Spaces Strategy.
- Provide the Green Lane as a spine route running east west across the site for recreational pedestrian and cycle use.
- Ensure there is built frontage to overlook Green Lane (rather than inactive back gardens).
- Mixed use development to face onto the Stadium Square with predominantly non-residential mixed use to ground floor.
- Provide continuous built frontage to Stadium Square to provide good level of enclosure.
- Provide built frontage to overlook and provide active frontage to all spaces.
- Create distinctive character areas throughout the Langarth development to reinforce legibility and a sense of place.
- Reserved Matters Applications to demonstrate a coherent design approach to the key frontages highlighted which create a distinct and cohesive identity to the street or space.

Where applicable (ie not relating to Stadium Square as this is a later phase), The Reserved Matters Application adheres to these requirements. Building frontages (and not back gardens) front on to the green spaces in nearly all scenarios. Building hierarchies and nodal locations typically meet with the consented layout.

5.3. The Requirements of the Outline Consent

Continuity and Co-ordination Strategy

- How the proposals fit into the context of the wider development and respond positively to reinforce a cohesive character area.
- How the selection of the materials palette compliments the character of the street or space in terms of texture, colour and hue.
- How the style of buildings relate to achieve a unified vision for the street or space.
- How the landscaping and detailing of the public realm will provide a cohesive character to the street or space.
- How the proposals relate in terms of built form including; scale, density, continuity of frontage, set back from the street, frontage boundary treatment and parking to the adjacent development parcels in a street or space.
- That the proposals are presented (where possible) in context of built phases or proposed development so the above matters can be properly assessed as part of the Reserved Matters Application.

Building for Life

- Building for Life 12 does not adopt the same scoring system as its previous version. A well designed scheme will perform well against all 12 of the new questions and the performance will be determined using a traffic light system of green, amber and red. A scheme will achieve 'Diamond' status if 12 'green lights' are obtained. It is encouraged that BfL12 is used as a tool throughout the development process.

As part of this code these items are addressed and good design strategies are adopted. The majority of this scope will be addressed in the Design and Access Statement that forms part of the Reserved Matters Application.

Sustainability and Phasing Strategy

- All residential dwellings will be designed to achieve a minimum of Level 3 of the Code for Sustainable Homes.
- All commercial buildings will meet a BREEAM 'very good' standard.
- Reserved Matters Applications will need to provide a Pre-Assessment Report setting out the targeted credits to be achieved.
- Development phasing is to be as the Phasing Parameters Plan and as described in detail in the Section 106.
- A separate Sustainability Statement has been prepared by Thrive. Phasing will form part of the Reserved Matters Application.

Indicative Aerial View

Indicative Section

5.4.1. Upper Langarth

Upper Langarth is a residential neighbourhood situated to the north of the main distributor road.

Built Form Summary

- Land Use: Residential.
- Density: Medium Density 45-60 dph. Typically 17,000- 21, 500 ft2 per acres.
- Scale: 2, 21/2 and 3 storeys.
- Materials: Traditional vernacular materials, rubble stone, render, slate and brick detailing.
- Built Form: Traditional built forms, with contemporary detailing of elements such as windows, door canopies.
- Highways: Boulevard treatment to Core Road. Shared surfaces street and private drives facing the Green Lane.
- Parking: Predominantly on-plot or on-street with some courtyard parking.

Landscape Summary:

- Soft Landscape: Urban tree planting to define core route and provide structure; further tree planting within hard surfaces. Planting beds within courtyards, shared open spaces and food growing areas.
- Hard Landscape: Modern and urban in character but using local materials such as stone.

Upper Langarth is a residential neighbourhood situated on the north side of the Core Road close to the site entrance. The neighbourhood faces the Employment gateway and has aspects onto the Core Road, the Green Lane to the south and the Woodland Buffer to the east and requires a distinct treatment to each edge.

The topography falls away steeply with a 20m change in level from the top down to the frontage onto the Green Lane that runs east west across the length of the site at the base of the slope.

The east and west halves are separated by retained hedgerow and root protection zone.

Character and Use

The accommodation will be mixed residential of approximately 320 units, with a fairly uniform density of 50 to 57 dph. The land parcels are arranged so that in most cases streets and buildings follow the contours. However, in some locations the lanes cross the contours with stepped streets creating a varied and interesting streetscape.

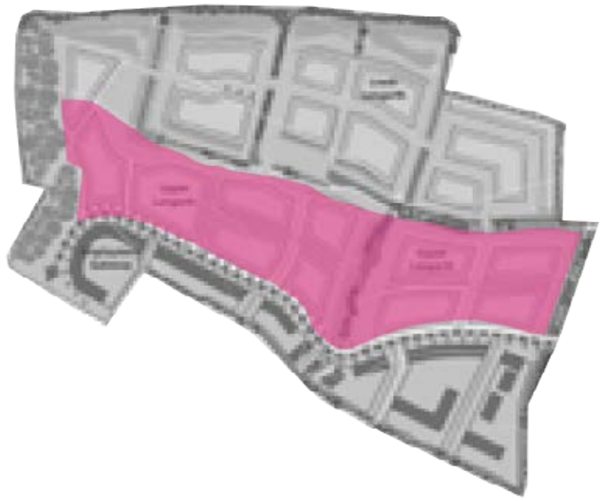
The character will have a traditional massing, domestic scale and form using contemporary details.

As it forms the gateway into the site and faces the Employment Gateway, the buildings on the upper south facing the main local route will have a more formal street character.

The building on the lower northern edge facing the Green Lane will have a more loosed fit and informal character, with the opportunity to use the orientation of the plot to influence the urban character of the streetscape. Building heights will be mainly 2 and 2 1/2 storey with some 3 storey.

A restricted materials palette of slate, rubble stone and render is to be used to reinforce a cohesive architectural style of buildings.

These medium density areas will have a proportion of flats and FOG's with the flats taking the form of larger 2 1/2 to 3 storey buildings on the main frontage with rear wings enclosing parking and set backs.



Upper Langarth Diagram - Langarth Design Code

5.4.2. Lower Langarth

Lower Langarth has to its northern aspect to the Kenwyn stream corridor and beyond open countryside.

Built Form Summary

Land Use; Residential- family housing, primary school.

Density: 35-47 dph. Typically 14,000-16,500 ft^2 per acre, predominantly detached and semi- detached housing.

Scale: Predominantly 2 storey with occasional 2 storey key buildings.

Materials: Traditional vernacular materials; rubble stone, render, slate and brick detailing.

Built Form: Traditional forms, steeply pitched double pitched roofs, use of outshots and wings to main range of dwelling to create additive forms.

Highways: Highly traffic calmed informal lanes with predominant use of shared surfaces and private drives.

Parking: Predominantly on-plot or on-street with little or no courtyard parking.

Landscape Summary

Soft Landscape: Extensive, structure by existing hedgerow framework and multifunctional buffers, Many private gardens, Cornish hedges, trees and food growing areas.

Hard Landscape: Informal using permeable surfaces and limited street furniture. Interventions within multifunctional buffers and provision of larger sport and play areas.

Lower Langarth is the residential neighbourhood that is located on the lower part of the site that slopes down to the Kenwyn Valley and the sites northern boundary.

The neighbourhood has views out over the Kenywn River Valley to the north and is split into two by West Langarth Farm. The southern edge will face up the slope onto the Green Lane.

The topography falls away with a 20m change in level from the south down to the north end although the gradients steepness varies along the boundary's length. The east and west halves of Lower Langarth are separated by the retained land of West Langarth.

Character and Use

Lower Langarth will comprise a mix of medium-low density residential types configured around the retained hedgerows and ecological areas. The northern edge that overlooks the Kenwyn River Valley will be well set back from the stream by minimum of 40m and up to 60m.

The residential accommodation will be a mix of approximately 400 units, with a mixed density of 37 dph along the country side edge and 47 dph facing the Green Lane. The land parcels are arranged so that in most cases streets and buildings follow the contours. Howver in some locations the lanes cross the contour with stepped streets creating a varied and interesting streetscape.

This character area will have a traditional massing, domestic scale and form, with houses 2 to 2.5 storeys in height with gardens. The proposal is for the lower density areas along the stream to be of a contemporary appearance with detailed and bespoke designs to take advantage of the outward views and aspect.

In some cases the units may be cut into the slope with the units sitting on a rubble stone base. Inner lanes will have a mews character with FOG's and mews cottages interposed with garages and car ports.

A restricted materials palette of slate, rubble stone, timber or coloured Eternit boarding and render is to be used to reinforce a cohesive local architectural style of buildings but using contemporary details and appearance.

Lower Langarth Diagram- Langarth Design Code

5.4.3. Green Lane

At the spine of the proposal is Green Lane, an east to west running pathway that uses the line of the retained existing track and hedgerows to create a cycle way/ footway.

Landscape Summary:

- Existing alignment and hedges retained and managed to allow access during day time.
- Existing track surface can be improved through adding a compacted footpath gravel layer, but no digging or hard surfacing should occur.
- Unit route for passive recreation with alternative lit routes provided through adjacent developments.
- Substantial buffer zones to either side incorporating multifunctional open space uses such as passive and some active recreation opportunities, food growing areas and habitat functions.
- Enhancement and long-term retention through appropriate management and supplementary tree and shrub planting as appropriate.
- Hedge breaks minimised and crossing points for local roads with pedestrian priority.
- Green Lane is an important landscape feature that greatly contributes to the site and local area character and will be a remnant of an older landscape within the developed area adding a sense of place and time depth to the proposals.

Description:

An existing farm track, aligned east west and, in places, enclosed by Cornish hedges supporting a tall, dense shrub and tree canopy.

Functions:

Protected to preserve its landscape and character and importance as a wildlife corridor. Remaining free from cars, the Green Lane will also function as an informal pedestrian and cycle route. Where intersections occur, pedestrians and cyclists using the Green Lane will ideally be give priority over road users.

Breaks:

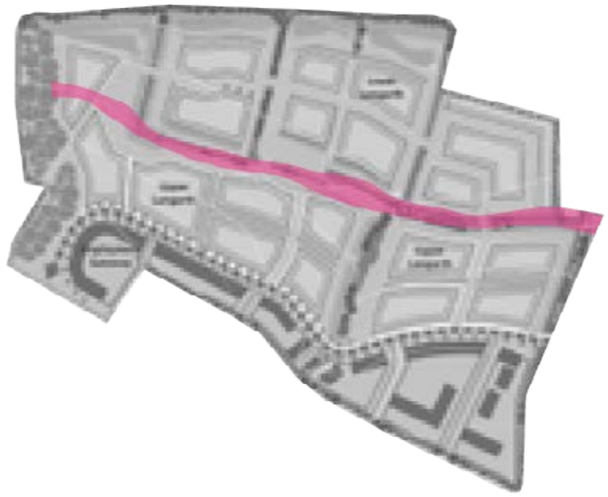
Breaks to the Cornish hedges and Green Lane will be kept to a minimum. Where breaks are required they will be perpendicular to the lane, of minimal width and located to avoid wildlife sensitive areas that minimises loss of trees.

Lighting:

The intention is for the Green Lane to remain unlit to protect its value as a wildlife corridor and preserve its landscape character. If lighting is required at any point along the lane this will be designed to minimise light spill and any impact on nocturnal species.

Protection:

The Green Lane and buffers will be protected by appropriate fencing prior to the start of construction to prevent soil compaction and to protect root zones of existing vegetation. Soil exposed as a result of the construction process will be temporarily seeded, where practicable, to reduce risk to erosion.



Green Lane Diagram - Langarth Design Code

5.4.4. Woodland Buffer

The Woodland Buffer is a new native woodland copse that will be provided to the western edge of the scheme to provide a significant visual buffer between the edge of the development and open countryside beyond.

Landscape Summary:

- New native woodland to enhance local landscape character and provide a defined end to the developed area.
- Planted with native trees grouped by species, interspersed with occasional native shrub planting.
- The edge of the Woodland Buffer to consist of a 5-10m zone of woodland edge planting, with a higher proportion of native shrub and species rich grassland.
- There will be no defined paths within the Woodland Buffer. Initially to allow vegetation to establish, however, informal use will not be discouraged. Defined paths may be cut into the woodland after it has established (after approximately 20 years), preferably based on informal path alignment that may have been established by residents by then.
- The objective is to establish a diverse, well structured woodland of high habitat and landscape value.

Description:

A broad band of trees will be planted to form woodland along the retained Cornish Hedge at the western edge of the development. Aligned north south, this woodland, when mature, will connect the verge of the A390 to the Langarth stream.

Function:

Designed to buffer the western edge of the development, the woodland will help limit visual impacts on the landscape to the west and contribute to the setting of the development. As it matures, it will provide habitat suitable for a range of wildlife and enhance connectivity through the site.

Size:

Minimum 50m wide continuous buffer connecting northern and souther boundaries of site.

Vegetation:

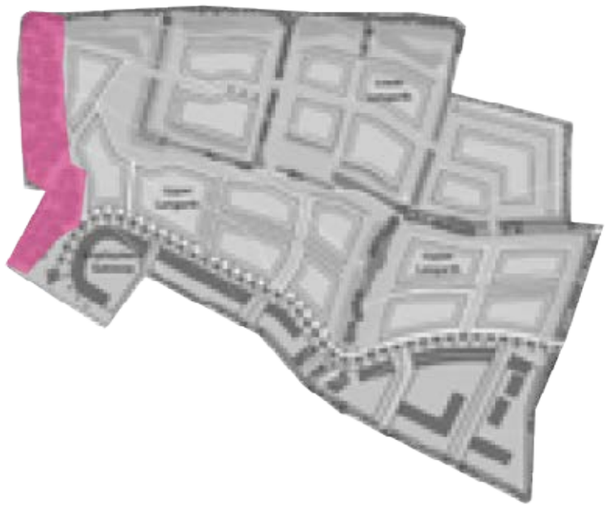
Planted using locally native tree species, established in single-species groups, interspersed with native shrub planting. At maturity, a sinuous edge (5-10m wide) to the Woodland Buffer will show transitions from tree canopy species through shrub vegetation to more open, species-rich grassland.

Paths:

Paths may be cut into the woodland after establishment. As far as practicable, the use of hard surfacing will be avoided.

Protection:

The area to be planted will be protected by appropriate fencing prior to the start of construction to prevent soil compaction and protect root zones of existing vegetation. Soil exposed as a result of the construction process will be temporarily seeded, where practicable, to reduce the risk of erosion.

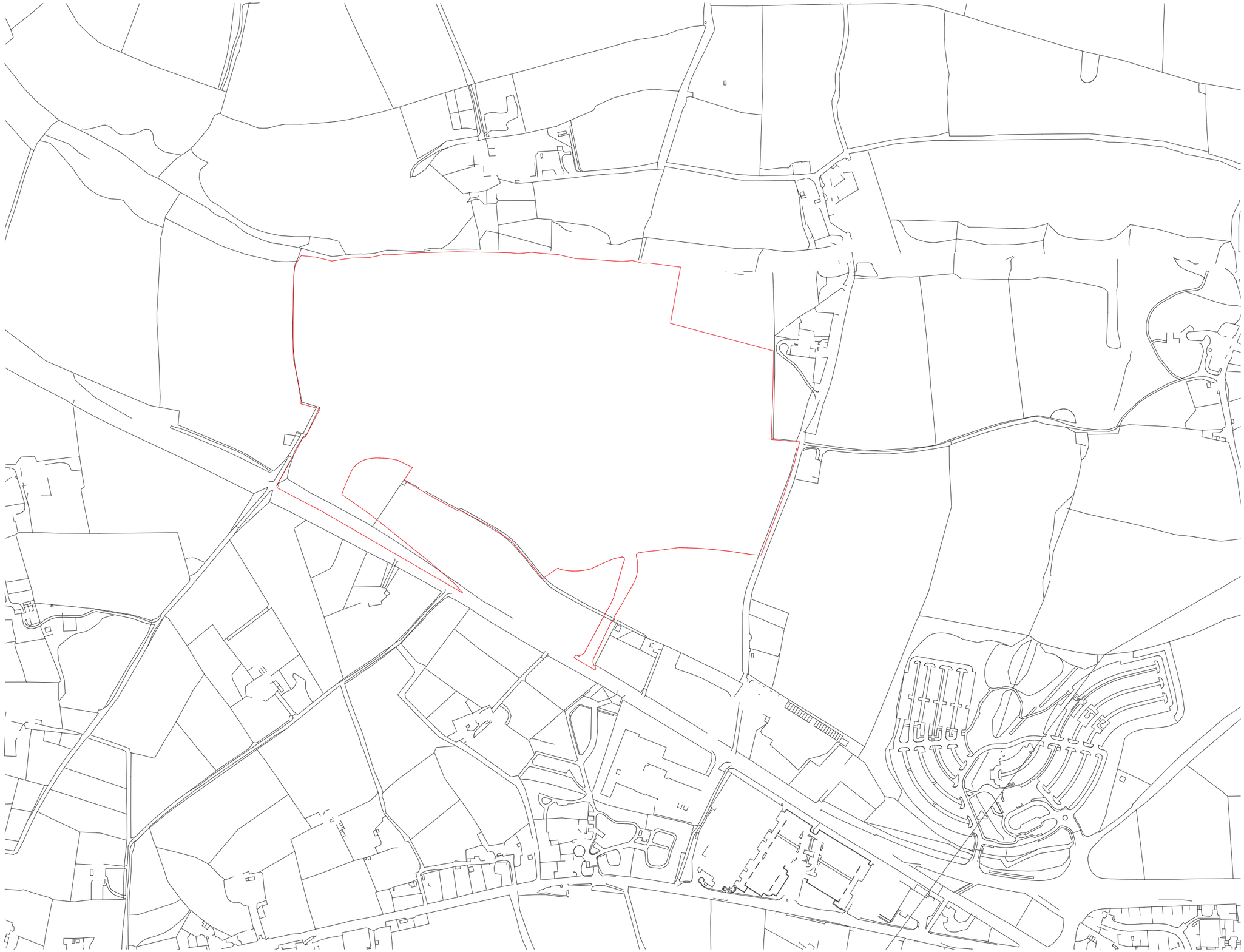


Woodland Buffer Diagram- Langarth Design Code

6. Masterplan

6.1. Introduction

The following section explains how the consented wider masterplan along with the detailed constraints and brief requirements have been balanced to prepare a comprehensive, logical and attractive proposal for the site.



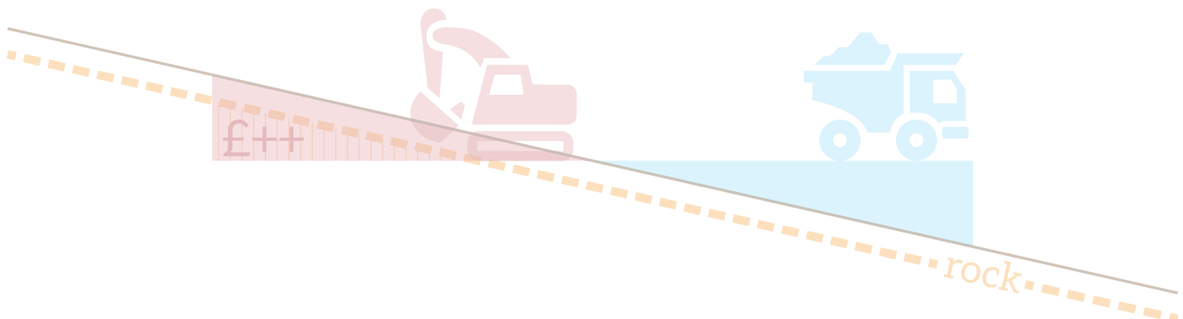
OS Map showing Site Boundary

1:5000 @ A3

6.2. Strategy

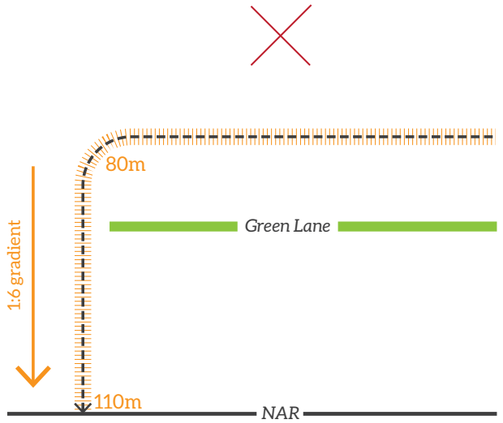
Topography, Geology and Rock Below Ground Level

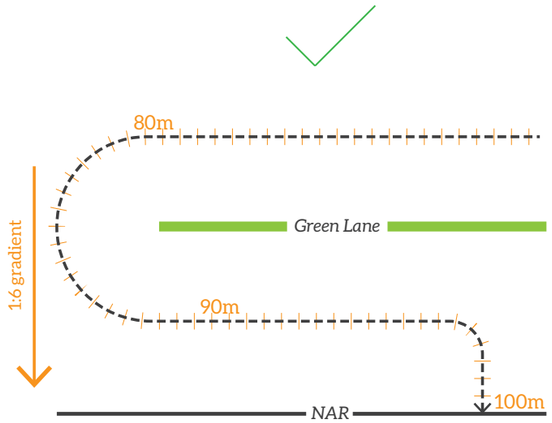
Not only is the site steep in areas with much of the 'developable' land at gradients greater than 1:8, but the underlying level of rock is close to the existing surface. If a balance of cut and fill is adopted as indicated in the outline consent and the site needs to be levelled (to provide suitable housing plots, roads gradients, usable gardens, access, drainage and other underground utilities), extensive rock excavation would be required. If this is undertaken in large areas of the site, viability of the development is severely affected and therefore an alternative solution of providing additional fill is preferable. The details of this strategy will be included as part of the Reserved Matters Application.



Road Gradients

As many of the gradients across the site are greater than the maximum 1:10 road gradient that is acceptable for highways access, the adopted roads can only be located in certain positions to ensure a suitable access is achieved between the north and south of the site. To achieve access, the main connection between the NAR and northern lower housing level has to occur to the east of the area indicated in the outline consent.

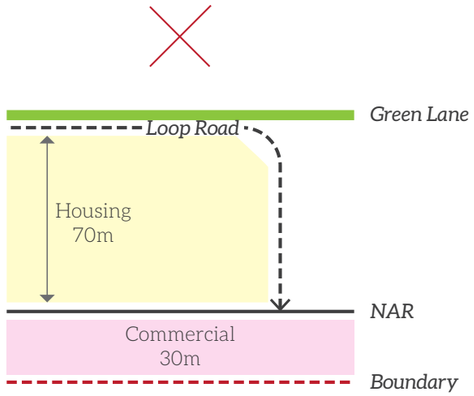




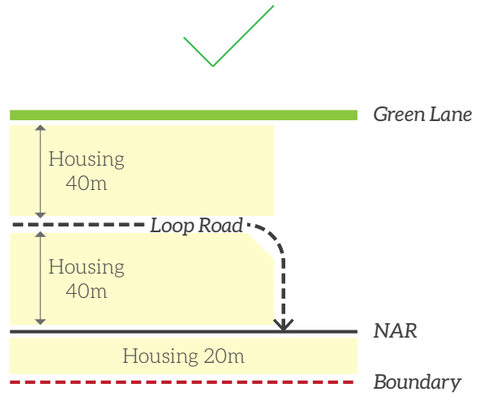
Road Layout and Plot Sizes

Furthermore as part of the outline consent a loop road is indicated. This is a good design approach and should be retained. This requirement also limits options for this road position.

By balancing the NAR and loop road position with desired house builder, 40 - 50m double plot depths (as discussed later), parking and level access, a logical site plan has been produced. This has become the first of three primary design factors that informs the layout.



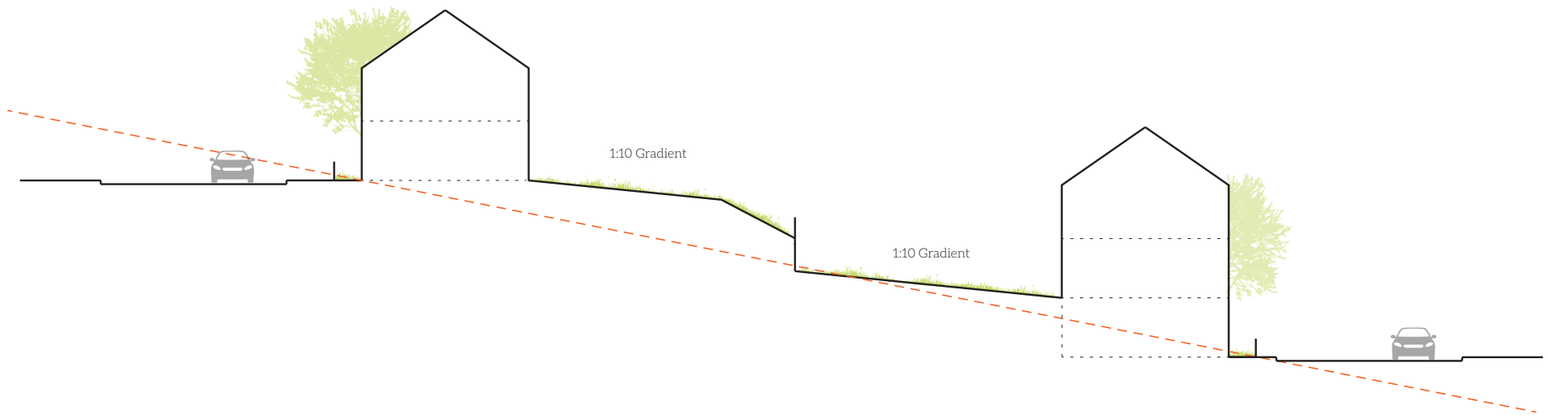
a. Commercial not appropriate as plot needs to be deeper to be viable.
b. Loop road up against the Green Lane is not ideal as lighting of the road will be a negative impact on the ecology.
c. 70m depth for housing is not ideal. Large parking courts are not appropriate due to the topography.



a. Move commercial use elswhere.
b. Move loop road away from the Green Lane, and have development on both sides.
c. Reduce housing plot depths to 40m.

Adaptation to Topography

Houses are split level when gardens are required at first floor level. At ground floor, garages or 'studio office' space are provided. Gardens are at a maximum of 1:10. To accommodate the significant changes in level in some locations, retaining structures are provided at garden backs.



6.3. Ecology

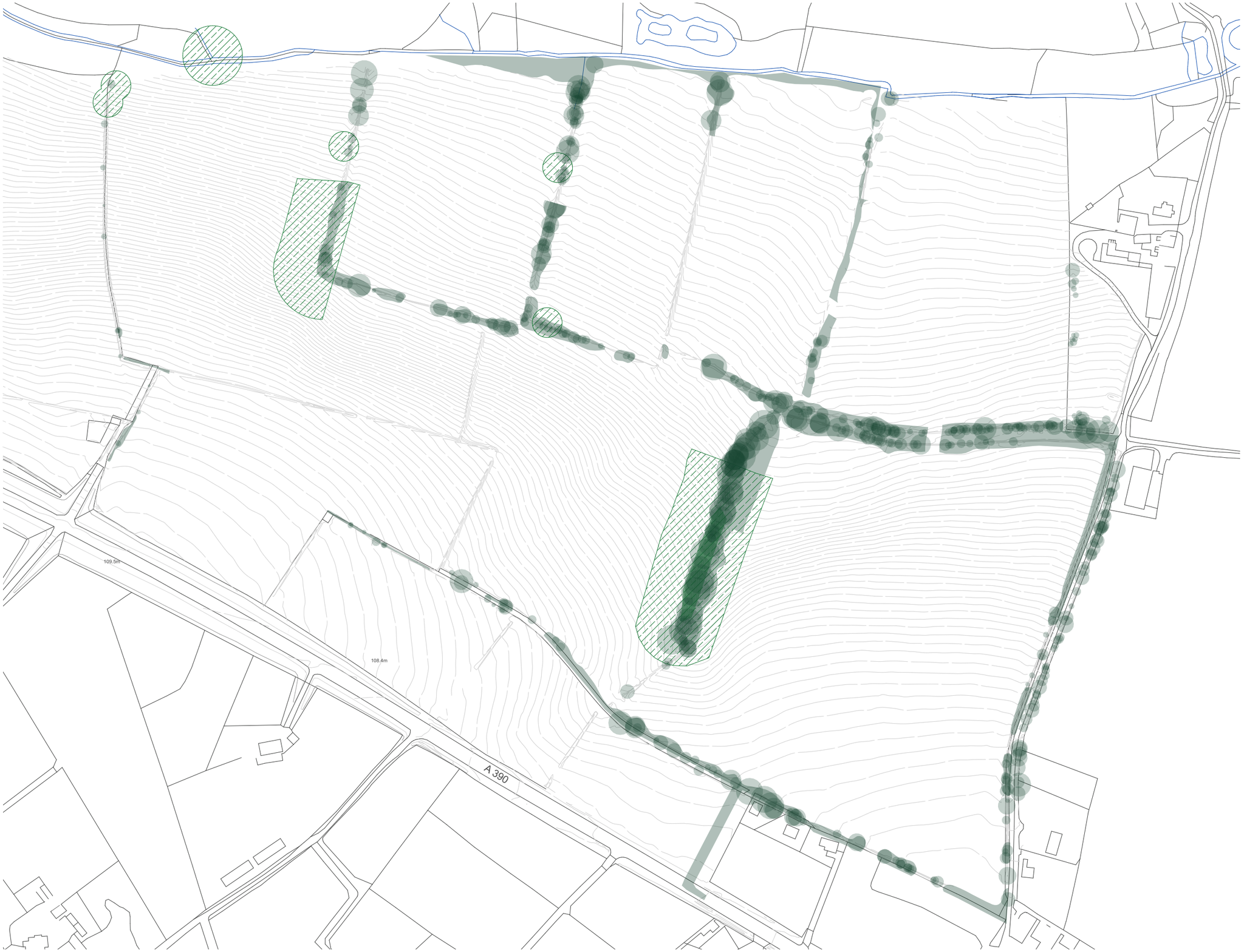
Ecology: Badgers and Bats

Detailed ecological surveys have been undertaken by AM Ecology and this information has informed the layout in detail. The main ecological aspect that has affected the scheme has been the existing badger sets on the site. The scope of development has been dictated by this requirement.

Not only does this constraint affect the layout in plan, but due to the need to provide retaining structures, 'cut and fill' modelling and associated structural banking, the area for housing is reduced. AM Ecology and Shear (civil engineering) have worked closely together to produce coordinated information that respects the existing badgers sets.

The existing bat corridors have also been respected. Due to the repositioning of the loop road away from the Green lane, this ecological aspect has been enhanced from the layout indicated in the outline consent.

These ecological factors have been the second primary driver for the layout within the Mini Design Code.



Key:

Ecological Mitigation Areas

Hedgerow Buffers

Ecological Constraints Diagram

1:2500 @ A3

6.4. Housing Requirements

Requirements from House-builders, Housing Mix and Plot Depths

The third driving factor has been the commercial demand of housing in this location. A number of aspects need to be considered:

1. No private flats as they have no commercial value in this location.
2. Optimum house sizes that achieve maximum value.
3. Appropriate parking.
4. Appropriate garden sizes and an understanding of what customers currently desire.
5. Housing mix - providing starter (smaller) homes to executive (larger) housing.
6. Suitable phasing - the delivery of a range of properties at an acceptable time-scale.
7. Understanding house builder technologies and quality of workmanship.
8. Build and material costs.
9. Robustness of materials.
10. Appearance and attractiveness of properties.
11. Market competition and what is also being constructed, marketed and sold in the area - this is an important aspect to consider.

A good understanding of these factors is critical to ensure that a realistic and appropriate development is prepared. The indicated layout has been continually amended and enhanced to meet with a number of house-builders requirements and is considered to be commercially acceptable.

Other constraints that have been considered include:

1. Hydrology and infiltration.
2. Affordable housing requirements.
3. Project cost and viability.
4. Archaeology.

Infiltration is good on the site and a suitable drainage strategy has been prepared by Shear that has informed the detailed layout. This information will form part of the Reserved Matters Application.

The final section of this report indicates the factors that have informed the affordable housing.

During the design process, a number of cost exercises have been undertaken to ensure a viable scheme is being produced. This has related principally to road design, earthworks, retaining structure and drainage, utilities and landscaping.

No archaeological factors have impacted on the layout.

Semi-Detached Split Level House
1:100 @ A3

Semi-Detached House
1:100 @ A3

6.5. Strategy

Existing Landscape Features

A number of design strategies have been developed since the outline consent that enhance the proposals. These include:

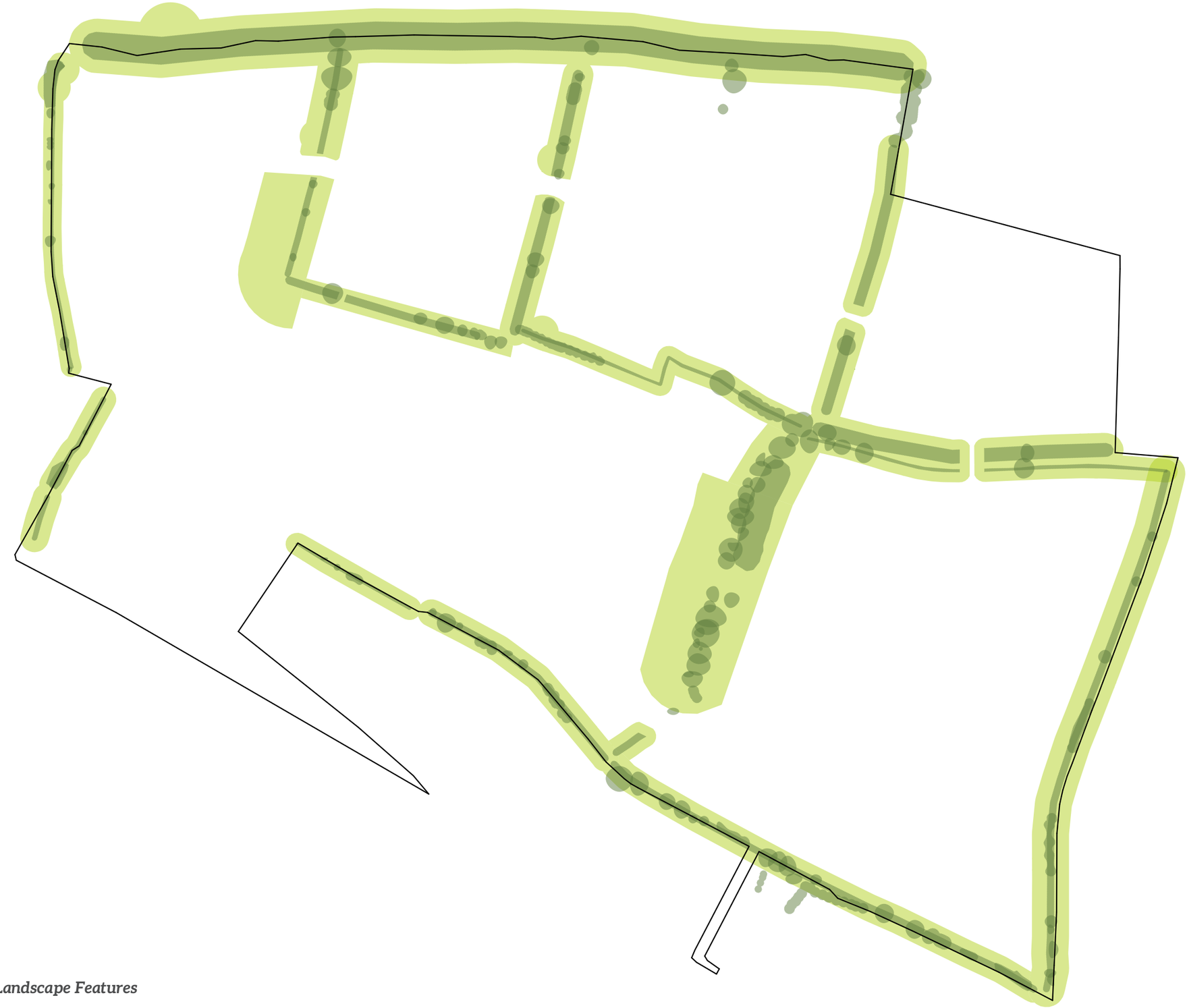
- A more detailed understanding of the existing landscape and ecological features.
- A reinforced landscape strategy.
- A vehicular movement strategy that relates better to the Green Lane.
- Improved pedestrian routes and frontages.
- More efficient and suitable layouts for housing and parking.
- Improved NAR layout including tree planting and parking.

One of the main strategies is to retain as much of the existing ecology and landscape on the site as possible. The footprint of the existing trees and hedges will dictate the basic form of the housing parcels.

By respecting the existing ecology of the site, a sufficient amount of buffer space will be left where required around the hedges and trees.

This strategy will ensure the development retains the unique character of the area.

The following diagrams indicate the strategy.



Landscape Features

1:2500 @ A3

Utilise and Reinforce Existing Landscape Features

The existing landscape on the site forms the main green infrastructure, creating large ecological buffers around the site as well as making up the proposed Green Lane.

The proposed Green Lane is a principle driving feature of this development and will provide a number of different public spaces.

Landscape Strategy

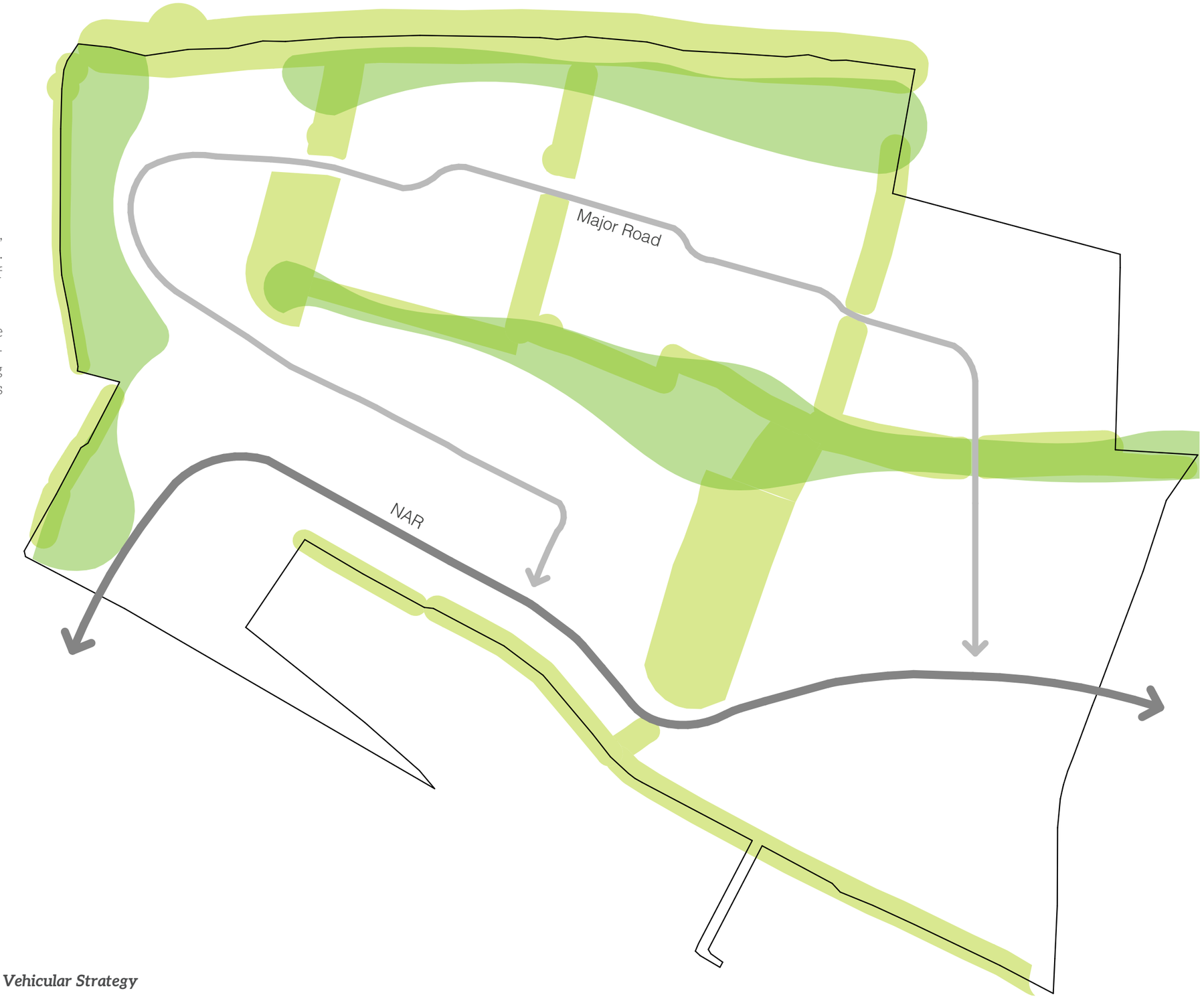
1:2500 @ A3

6.5. Strategy

Vehicular Movement

The main transport strategy is a new loop road, with two entry points onto the consented NAR. The loop road is designed to minimise removal of existing hedgerows.

The road is positioned to ensure good frontages are provided and house-plots are suitable for House-builders. Typically 40m depths are ideal. Housing is generally (tracking) along the contours. This improves accessibility.

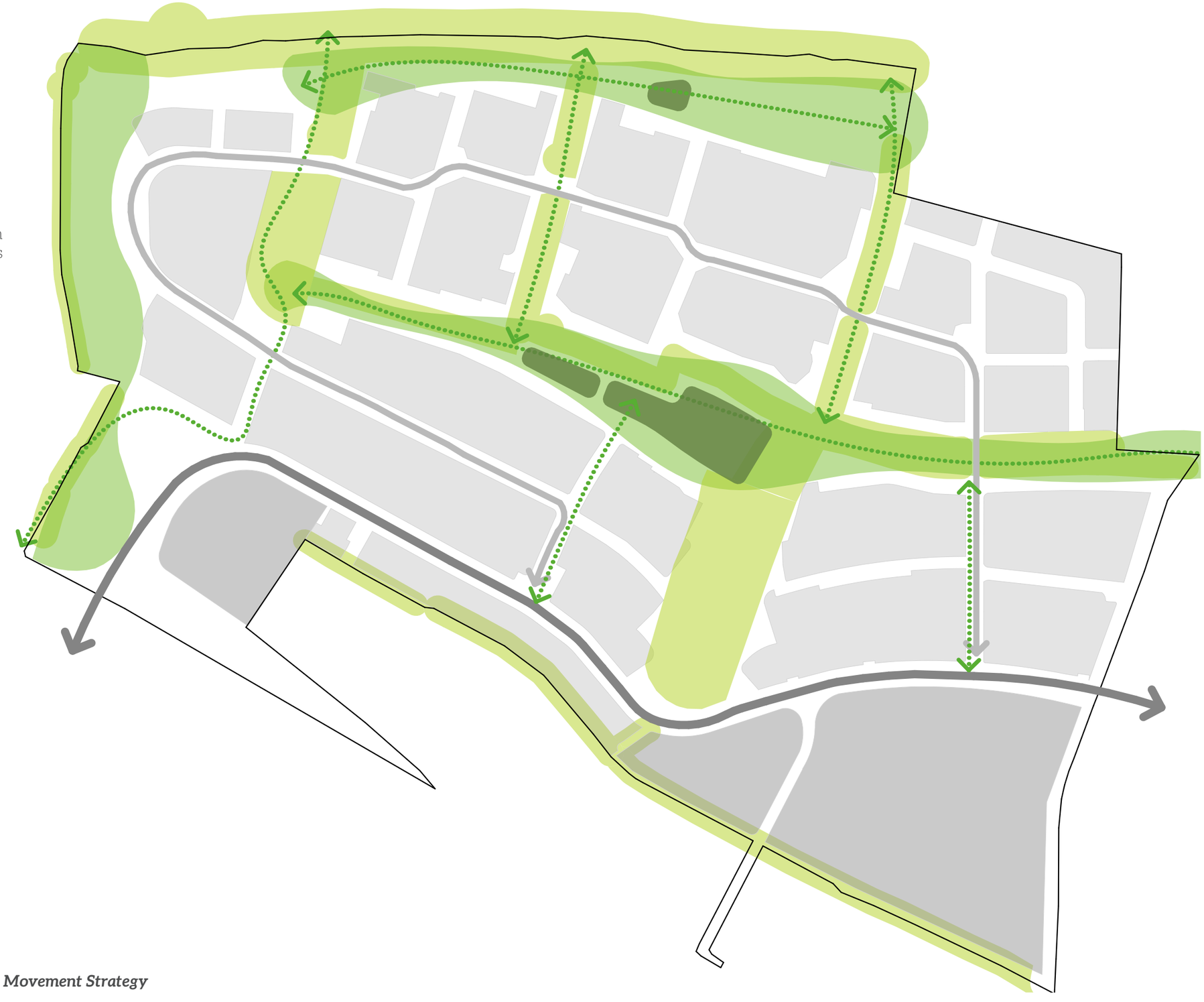


Vehicular Strategy

1:2500 @ A3

Pedestrian Links

The proposal is well connected with a good selection of pedestrian routes that not only follow contours east to west, but also north to south.



Movement Strategy

1:2500 @ A3

6.6. The Masterplan

The masterplan balances three principle factors:

1. The outline planning consent

The outline consent has a strong design approach that should be adopted and enhanced where possible. This includes the approach of green infrastructure, plot layout and densities.

2. The detailed constraints to the site

The constraints include topography, ecology and the shallow depth of rock on the site.

3. Opportunities

Housing and other uses that are commercially appropriate to the constraints, yet reinforce opportunities for the site.

Key:

- Ecological Mitigation Areas
- Hedgerow Buffers
- Activity Trail/ Footpath
- Public Right of Way
- Possible Tree Planting for Bat Corridor
- Shared Surface Mews Road
- Bus Stop
- Green Lane Crossing
- Frontage
- Boundary

NET AREAS
Phase 1: 8.30 hectares, 20.50 acres
Phase 2: 5.17 hectares, 12.78 acres
TOTAL: 13.47 hectares, 33.28 acres

HOUSING UNITS
Total Units: 513
Total Affordable Units: 180
Total Split Level: 79

MIX

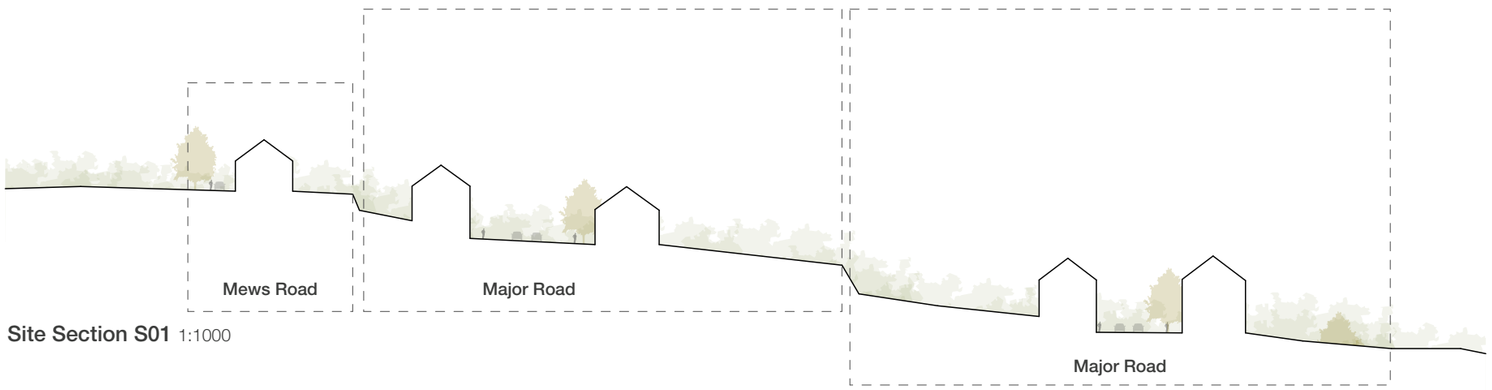
Houses
2-Bed: 70
3-Bed: 259
4-Bed: 108
5-Bed: 4

Flats
1-Bed: 20
2-Bed: 52

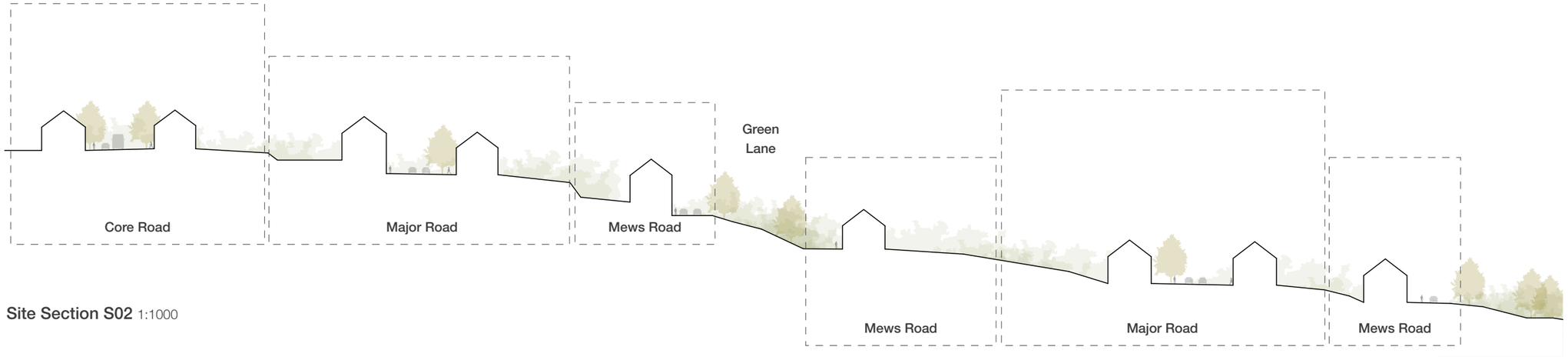
Masterplan
1:2500 @ A3

N

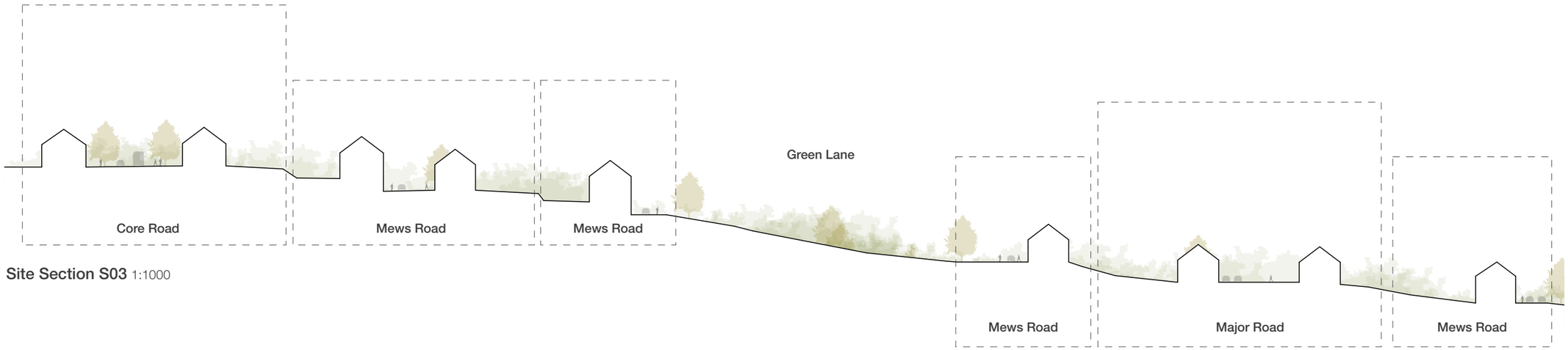
6.7. Site Sections



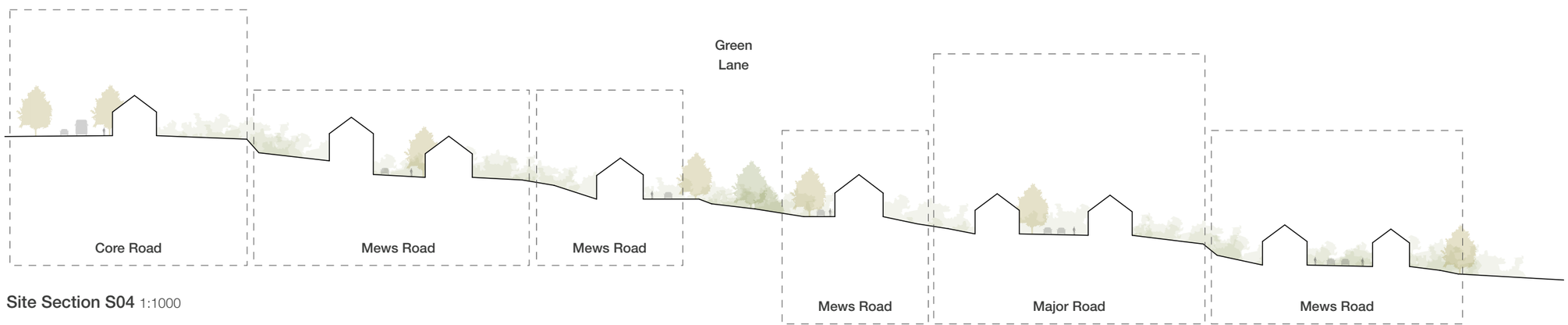
Site Section S01 1:1000



Site Section S02 1:1000



Site Section S03 1:1000



Site Section S04 1:1000

6.8. Phasing

The phasing strategy has been adapted from the initial outline consent.

To ensure the successful delivery of new homes, house builders need to release a range of house types at the same time. Due to the topography of the site more split level houses are provided to the west where initially Phase 1A was proposed. As split level housing has a narrower market, it is proposed that the development proceeds as follows:

1. NAR with housing as required.

2. The 'loop road' to the east provides immediate access from the NAR to the lower and flatter parts of the site. Housing here is typically more traditional (2 storey semi-detached and detached for example). The provision of the smaller (terrace) housing along the NAR with the larger houses to the flatter areas to the north will provide a good mix for release by the house builder.

3. The further expansion of the loop road will then provide good construction access for the later phases and help avoid construction traffic passing through the areas that have been completed.

4. The more challenging areas of the site where the more costly split level housing is provided can then be produced once the initial phases have been built out and sold.

Key:

- Phase 1
- Phase 2

Phasing Plan

1:2500 @ A3

6.9. Road Framework

The following movement strategy has been adopted for the proposals:

- The roads of the development have been influenced by the outline consent. By developing the scheme the different roads have been adapted and enhanced to reflect the site constraints and detailed requirements for housing. the design strategy adheres to the consented Parameters Plans. Provision of a legible hierarchy of streets are set out under the street typologies elsewhere in this document.

- Provision of a shared foot/cycleway link to Threemilestone is incorporated

- The existing landscape character has been enhanced with the introduction of the Green Lane (running east west across the site). This acts as a 'green spine' for recreational pedestrian and cycle use.

- Provision of bus access and bus stops generally within 400m of residences.

- Facilities expansion of Park & ride as set out under the Section 106.

- The proposals are designed to ensure a legible and well connected layout that meets with future phases.

The loop road is ideal for access, phasing, construction and legibility for the initial phases of the masterplan.

As noted in this report, the loop road has been repositioned to improve the character of the Green Lane and improve plot efficiency. The general layout of access and circulation indicated in the outline consent document has been adopted.

Street Typologies

Within the consented masterplan, there are a number of different street typologies. This gives the overall layout different distinctive characteristics in different areas.

The Northern Access Road has been designed to be the most generously wide road with landscaping either side and no private driveways. The loop road has a "street" feel with good frontages and a variety of car parking types. The minor roads are typically narrow or have frontages onto the public open space. The characteristics of these roads are appropriate to the topography and unique landscape in this location.

Road Network Diagram - Langarth Design Code

Key:

- Site Boundary
- Core Road
- Major Access Road (Indicative location)
- Minor Access Road (Indicative location)
- Shared Surface
- Pedestrian/ Cycleway
- Green Lane
- Desirable Pedestrian/Cycleway
- Existing Footpaths Outside site
- Bus Stop with Shelter


Mixed Use
109.5m
108.4m
A 390
Mixed Use

6.10. Housing Mix

Housing Mix

Housing mix is appropriate to the needs of housing in this location. There are a variety of house types and house sizes.

Housing is typically all 2 storeys, however some housing is provided in 3 floors. These 3 storey properties are town houses, split-level housing and 2 storey housing with accommodation in roof voids. These different types will give a good variety to the street form.

The proposals are designed so that a good house mix is delivered in phases.

The materials of the different mix will also vary depending on location, frontage and key views.

Total Mix

Type	Required	Provided
Houses		
2-Bed	91	70
3-Bed	238	259
4-Bed	93	108
5-Bed	17	4
Flats		
1-Bed	18	20
2-Bed	54	52

Total	513

Standard House Types

Type	Total Number
2A	3
2B	18
2B m	0
2C	2
3A	1
3B	6
3C	18
3D	1
3E	8
3E m	2
3F	0
4A	7
4B	7
4C	7
4D	2
4D m	0
4E	0
4E m	0
4F	3
4F m	1
5A	4
	90

Split-Level House Types

Type	Total Number
2As	0
2Bs	0
3As	2
3Bs	40
3Cs	14
4As	0
4As m	2
4Bs	10
4Cs	11
	79

House Builder House Types

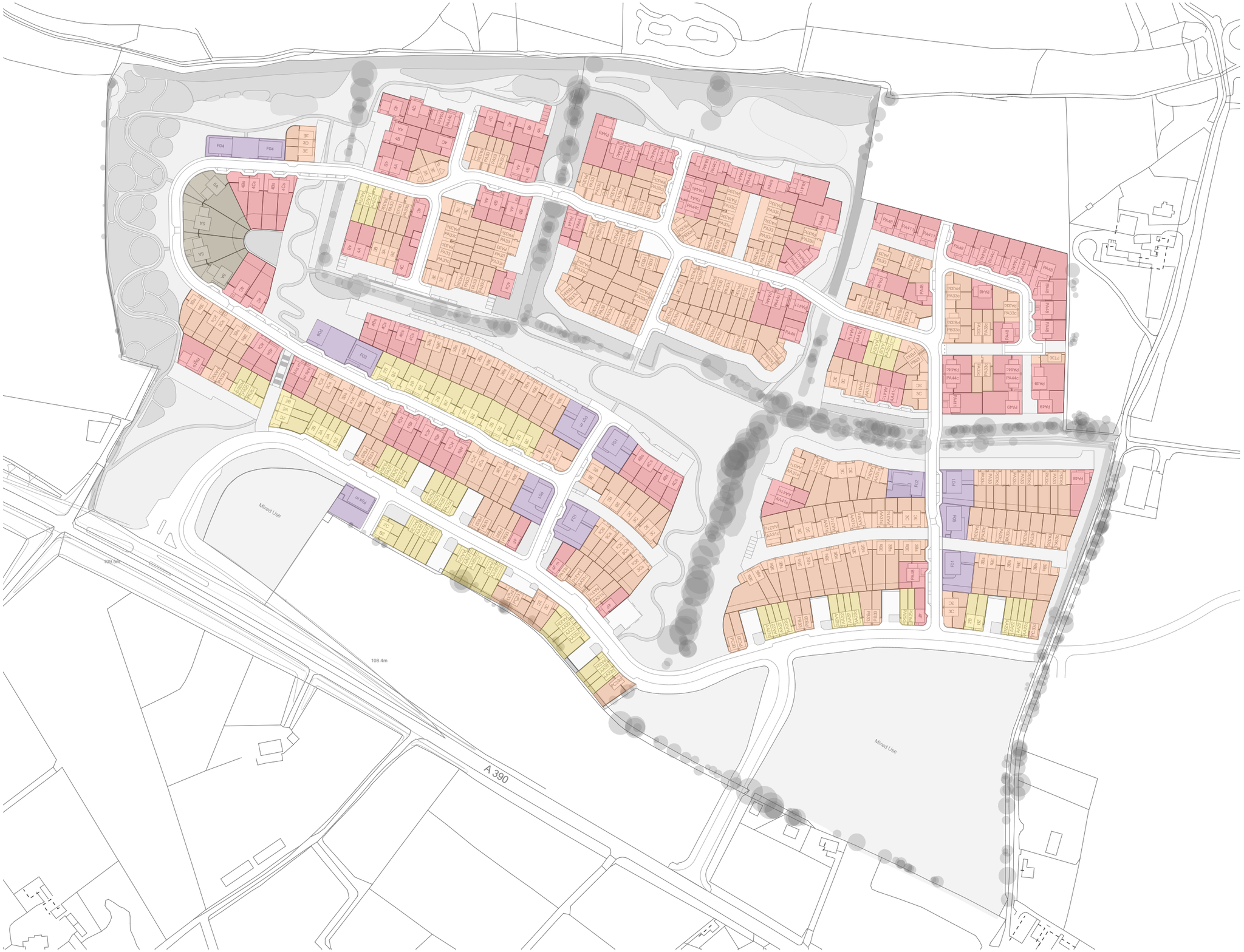
Type	Total Number
AA22	14
AA22c	20
AA22c m	0
PA25	5
PA25c	8
AA31	0
AA31c	20
PA33	26
PA33c	89
PB33	14
PB33c	10
PC33	2
PC33 m	2
PC33c	2
PC33c m	0
PT36	2
AA41	0
AA41c	6
PA44	3
PA44c	24
PA411	5
PA48	13
PA49	6
PA49 m	1
	272

Flat Blocks

Type	Flat Types per Block					Number of Blocks	Total Flat Types				
	1A	1B	2A	2B	2C		1A	1B	2A	2B	2C
F01	2	0	3	0	0	5	10	0	15	0	0
F01 m	2	0	3	0	0	1	2	0	3	0	0
F02	0	6	3	0	0	1	0	6	3	0	0
F03	0	0	0	4	0	1	0	0	0	4	0
F04	0	0	0	6	0	2	0	0	0	12	0
F04 m	0	0	0	6	0	1	0	0	0	6	0
F05	0	0	0	0	5	1	0	0	0	0	5
F06	2	0	4	0	0	1	2	0	4	0	0
							14	6	25	22	5
							72				

Key:

- Site Boundary
- Flats (1 and 2 bedrooms)
- 2 Bedroom House
- 3 Bedroom House
- 4 Bedroom House
- 5 Bedroom House



Housing Mix Diagram

1:2500 @ A3

6.11. Building Form

The building form is driven by the building use. This is generally in the form of family housing.

The form of the housing is terrace (up to 5 units in one terrace), semi-detached and detached. Some detached housing is provided with garages. Generally the scale of the housing is similar with floor areas between 800 sf and 1500 sf.

There are some apartments typically in blocks of 4 -9 units. The form of these buildings are larger than the housing, but will be of a similar scale and language.

Pitched roofs are provided for all the housing and apartments. All housing has rectilinear floor plans. Variety of form is achieved by the topography, building height, windows in roof form, road alignment, housing arrangement on the site and landscaping.

Some properties will have parapet gables to provide variety to the architectural detail.

No other building uses are proposed for this Reserved Matters Application, however key frontages of the adjoining mixed use sites will be illustrated in the application masterplan.

Key:

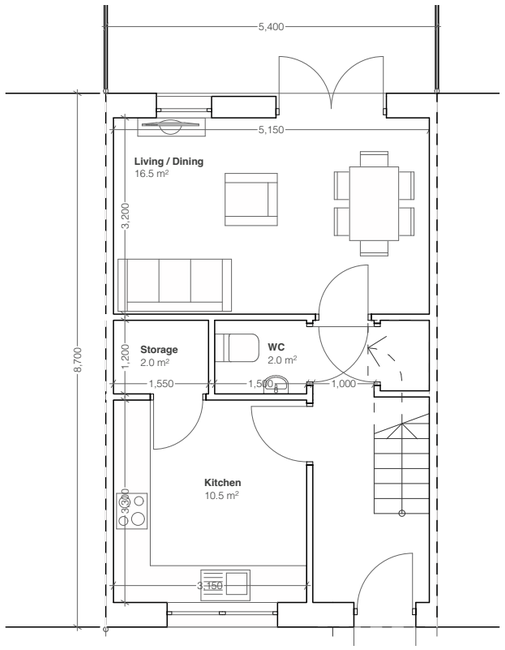
- Site Boundary
- Terraced
- Semi- Detached
- Detached
- Split Level Semi-Detached
- Flats

Building Form Diagram

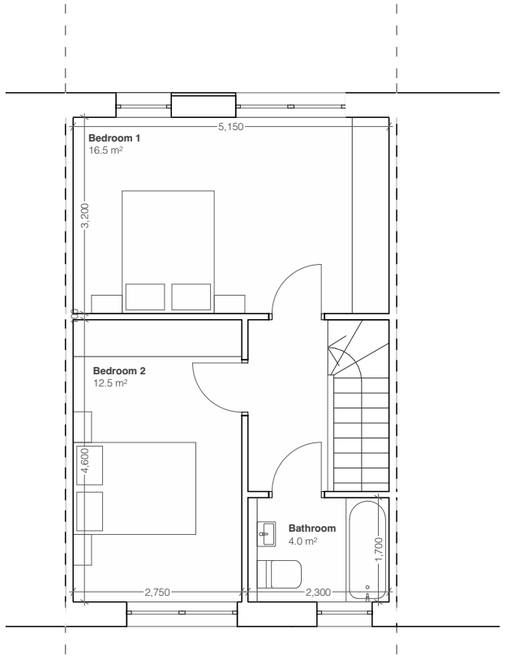
1:2500 @ A3

6.11.1. Building Form Examples

Terraced House 1:100 @ A3

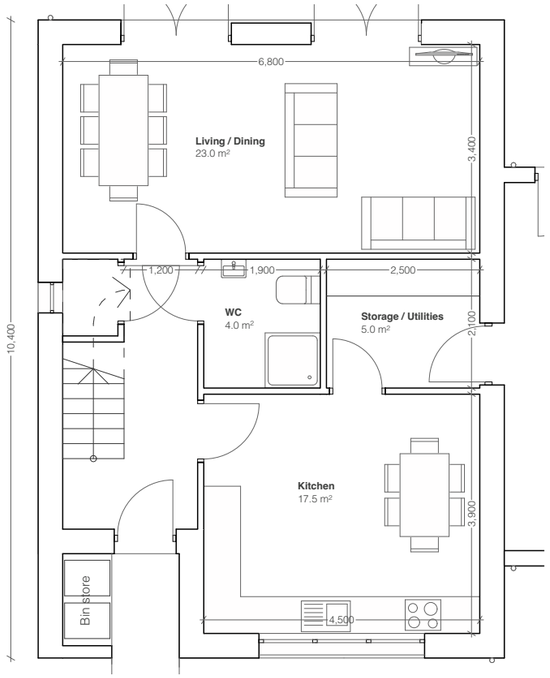


Ground Floor Plan
1:100 @ A3

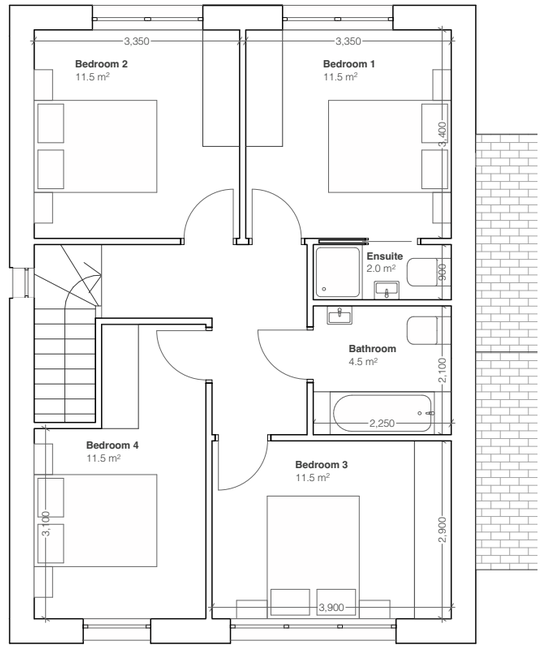


First Floor Plan
1:100 @ A3

Detached House 1:100 @ A3

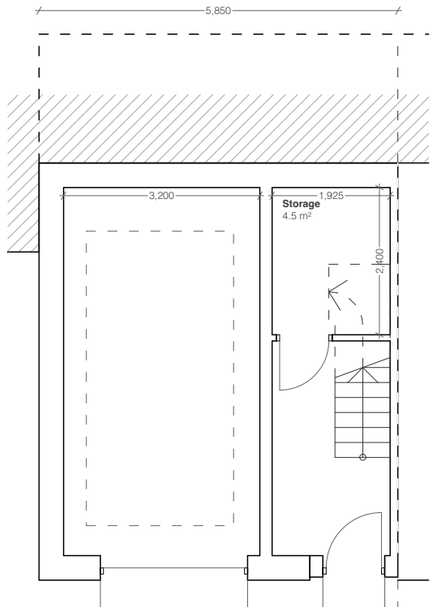


Ground Floor Plan
1:100 @ A3

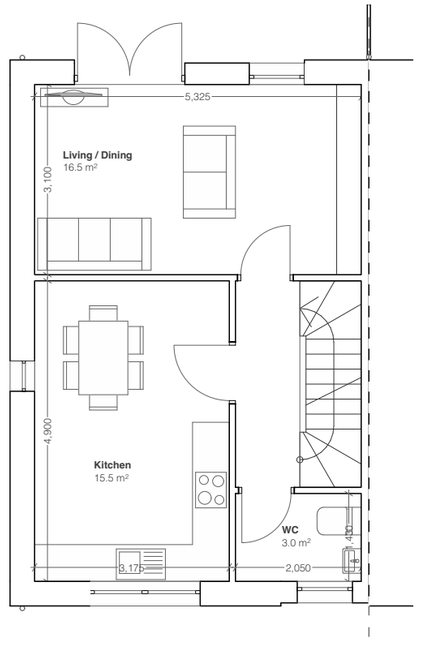


First Floor Plan
1:100 @ A3

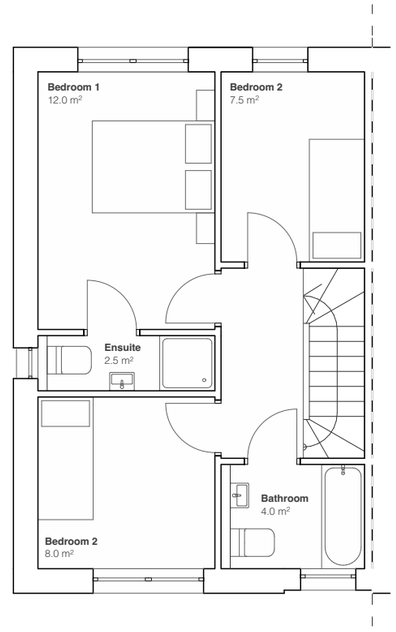
Semi-Detached Split Level House 1:100 @ A3



Lower Ground Floor Plan
1:100 @ A3

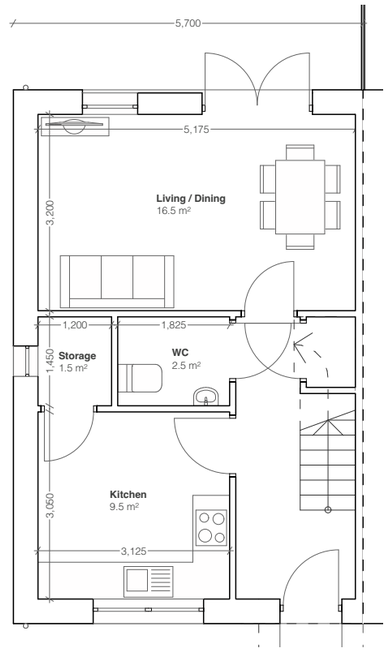


Ground Floor Plan
1:100 @ A3

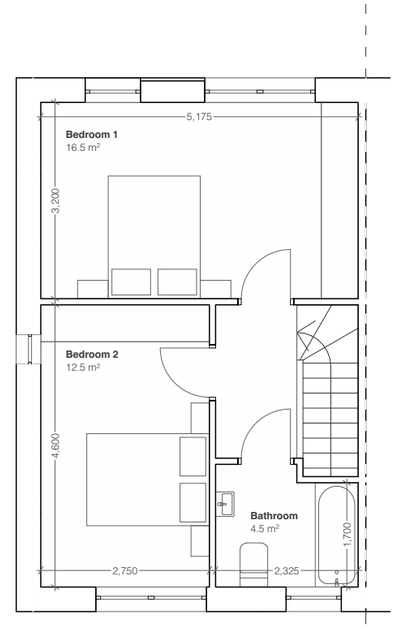


First Floor Plan
1:100 @ A3

Semi-Detached House 1:100 @ A3



Ground Floor Plan
1:100 @ A3



First Floor Plan
1:100 @ A3

6.12. Building Heights

From the Design Code:

- Building scale to comply with the ranges set out in the parameters tables and as indicated on the scale Parameters plans.

- Utilise scale to reinforce distinct character areas within the scheme.

The scale of each part of the development relates to the land use and the aspiration to create distinct Character Areas within the scheme, the Storey Heights Parameters Plan sets out a strategy for storey heights across the development and is a mandatory requirement for Reserved Matters submissions.

Setting a maximum and minimum range of scales allows for a variety of building designs to be accommodated at Reserved Matters stage which is essential to suit the differing character areas and land uses.

The development will utilise materials consistent with the Cornish Vernacular and aid the creation of a distinctive place that compliments and enhances local identity.

Building Heights Diagram - Langarth Design Code

Key:

- Site Boundary
- Up to 2 Storey
- Up to 2 $^{1}/_{2}$ Storey
- Up to 3 Storey
- Up to 4 Storey

Building Heights Diagram

1:2500 @ A3

6.13. Car Parking

A number of parking strategies are provided for the site. Typically 2 parking spaces are provided per house.

The terrace housing along the NAR are provided with small courtyards that are accessed from the NAR. These courtyards will ensure vehicular movements will be safe (vehicles exiting in forward gear only) in these locations and will be provided with bin stores, provide area for the mature street trees and be provided with natural surveillance from the street and adjoining properties.

Terrace housing is typically provided with one courtyard allocated space per vehicle. Addition spaces will be provided along the NAR as parallel parking.

Semi-detached housing (that is not on NAR) will typically be on plot 'side' parking. This strategy has been adopted as better frontage is achieved (as opposed to parking in front of properties), but also because greater plot depths are required with parking in front of properties which results in more cut and fill and associated cost. Side parking for semi-detached housing will sometimes be 'end to end' (i.e. 2 spaces on a single width drive).

Larger detached houses (typically to the flatter northern part of the site) are provided with garages and driveways to the sides and fronts of properties. In some circumstances these properties will be able to have 4 spaces on a plot with additional on street parking close to the property.

Split level houses have a variety of parking. Some have under-croft garages (adjacent to house entrances). Some split level houses have residential accommodation at ground level and side parking similarly to the semi-detached housing. Some on street parallel parking is provided in these locations also. Based on these different factors some split level houses will have an under-croft garage, 'end to end' side parking and on street parking.

Apartments (all affordable housing) are provided with off street parking 'courtyards' with allocated parking at one space per dwelling (both 1 and 2 bed apartments).

The general parking strategy has been developed to ensure that enough parking is provided and landscaping is designed to make sure that 'fly parking' is avoided.

Parking Strategy

Car Parking Diagram - Langarth Design Code

Key :

Site Boundary

Consented

Allocated Residential Parking On-Plot

Mixed Use

Proposed

On-Street Parking

Off-Street Parking

On-Street and Driveway

Driveway

Garage

Split Level Hybrid (Integrated Garage + Driveway or On-Street)

Visitors Parking Spaces

Car Parking Diagram

1:2500 @ A3

6.14. Frontages and Spaces

During the detailed design process, a strategy of balancing the topographical constraints with good urban design principles and the need for public open space to have good frontages was adopted. This process has been successfully resolved in the meetings with Cornwall Council.

Buildings front onto public open space and roads in nearly all locations. Nearly all private gardens back onto other gardens. This is preferable from a security, operational, urban design and efficiency viewpoint.

The main public open spaces in Phase 1&2 are along the Green Lane and provided with good access, connectivity and frontages.

Private gardens are typically all greater than 50m^2 and are arranged to avoid overlooking between properties. Some side access to gardens are provided on larger properties.

All housing is generally provided with an area of 'defensible space' at building frontages of a minimum of 1.5m. This strategy is good design practice and allows houses to be externally 'personalised' whilst also providing a suitable sense of separation between the public realm and private housing.

Key Spaces and Frontages

- Provide the Green Lane as a spine route running east west across the site for recreational pedestrian and cycle use.
- Ensure there is built frontage to overlook Green Lane (rather than inactive back gardens).
- Mixed use development to face onto the Stadium Square with predominantly non-residential mixed use to ground floor
- Provide continuous built frontage to Stadium Square to provide good level of enclosure.
- Provide built frontage to overlook and provide active frontage to all spaces.
- Create distinctive character areas throughout the Langarth Development to reinforce legibility and a sense of place.
- Reserved Matters Applications to demonstrate a coherent design approach to the key frontages highlighted which create a distinct and cohesive identity to the street or space.

Building Frontages Diagram - Langarth Design Code

Key

- 2. Green lane
- 3. The Woodland Buffer
- 4. Greens and Play Area
- 5. Langarth Stream
- Site Boundary
- Key Buildings
- Key Frontages
- Key Spaces
- Green Lane
- Play and Kick-about Areas
- Public Green Space - Activity
- Open Green Space - Ecological Buffers
- Housing - Private
- Active Frontages

Public and Private Space Diagram

1:2500 @ A3

6.15. Landscape

Play Areas

A variety of formal and informal open space and play opportunities are proposed as highlighted previously. Reserved Matters applications are to set out a comprehensive play strategy for each phase of development within the context of an integrated site wide strategy and must:

- Provide a range of play and recreation opportunities across the development including, neighbourhood 5-a-side pitches, junior and youth equipped play areas in the broad locations identified on the Parameters Plans.
- Provide an Activity Trail/Play Trail integrated with the green spaces.
- Provide opportunities for 'doorstep play'.

Water

- Utilise SUDS as multi-functional elements to incorporate drainage, planting and play opportunities.

Ecology

- Integrate opportunities for food growing areas within gardens and the Green Infrastructure.
- Demonstrate at Reserved Matters stage a lighting strategy for each phase of development that will minimise urban light pollution and disturbance of nocturnal wildlife by using low levels of lighting throughout.

Green Infrastructure:

The green infrastructure approach to the development as indicated on the accompanying Integrated Open Space and Green Infrastructure Strategy will:

- Retain existing trees and hedges where possible and incorporate them into the layout.
- Retain the existing copse and hedgerow that follow the east to west line of the existing watercourse.
- Retain the existing boundary of field boundary hedgerows, where indicated, augmenting them with new planting.
- Provide new strategic planting running across the contours.
- Provide landscape breaks across the hillside and provide landscape breaks between development plots.

Green Infrastructure - Langarth Design Code

Key:

- Site Boundary
- Pedestrian/Cycleway Along Core Road Providing Links to Open Space
- Green Lane - Providing Route Linking to Open Space
- Dark Green - Existing Trees and Hedgerows
- Light green - Proposed Trees
- Mid Green - Natural Green Space
- Lightest Green- Open Space
- Proposed Main SUDS Features
- Activity Trail/Play Trail
- Public Footpath
- 1. Parks, Gardens and Recreation Grounds
- 2. Natural Greenspace
- 3. Outdoor Sport
- 4. Equipped Play- Junior
- 5. Equipped Play- Youth
- 6. Food Growing Area. Allotments
- 7. Informal Open Space

Landscape Diagram

1:2500 @ A3

6.16. Affordable Units

Affordable Housing

As part of the design process a number of meetings have been held with Aster, Nash Consultancy and Cornwall Council. They have accepted the proposals in regard to following:

- Mix.
- Floor areas.
- Number of units.
- Location and grouping of units.
- Provision of apartments.
- Parking.
- Outdoor space.
- Phasing.
- Split level units as shared ownership only.

The housing layout coordinates well with the private housing and the housing is suitably positioned. There is no significant difference between the visual appearance of the private and affordable homes.

All flatted accommodation is affordable.

Affordable Units

Bedrooms	Type	%	Required	Rent		Intermediate		Provided total
				Required	Provided	Required	Provided	
1	Flat	10%	**18**	18	20	0	0	20
2	Flat	30%	**54**	38	37	16	15	52
2	House	32.38%	**58**	19	19	39	39	58
3	House	21.33%	**38**	18	18	20	22	40
4	House	5.33%	**10**	8	9	1	1	10
tbc	Wheelchair Adapted	0.95%	2	-	-	-	-	-
			180					180

Lifetime Homes

Total Lifetime Homes

Beds	Number
2-Bed	20
3-Bed	18
4-Bed	2
	40

Affordable Lifetime Homes

Type	% Required	Required	Provided
Flat	-	-	0
House	14.5%	26	26

Key:

	Rented	Intermediate
Flats (2 bedroom)		
2 Bedroom House		
3 Bedroom House		
4 Bedroom House		
Lifetime Homes		

Affordable Units Diagram

1:2500 @ A3

Affordable Units Rented, Diagram

1:2500 @ A3

Affordable Units Intermediate, Diagram

1:2500 @ A3

6.17. Perimeter Treatment

Perimeter Treatment

Along the boundaries the landscape will be designed and managed predominantly for wildlife interest. Visual screening and softening of the development. This will help assimilate the proposals into the wider landscape.

Existing trees

The existing woodland located along the northern edge of the development will be retained and buffered with new native tree planting, wetland scrapes and species rich grassland.

New Planted Trees

A comprehensive area of woodland planting will be located along the western edge of the development to accord with the Outline Application. This will be in the form native species.

Existing Hedgerows / Hedgerow Trees

The existing hedge to the southern and eastern edge of the development will be retained where possible, with the adjacent development taking into account any root protection areas and shading by the vegetation.

Back Gardens

Back gardens will be located in borders where back gardens belonging to other developments are found, therefore having backs of houses to backs of houses.

Highways

This boundary can be found where the NAR intersects the A390.

Key:

- Existing Trees
- New Planted Trees
- Existing Hedge
- New Cornish Hedge
- Back Gardens
- Highways

Perimeter Treatment Diagram
1:2500 @ A3