

3.0 DESIGN PRINCIPLES

3.1 BUILT FORM AND OPEN SPACE FRAMEWORK

The hierarchy of streets links easily and naturally with the existing street structure. The subtleties of the scheme come from a detailed response to the topography of the site. We illustrate this by the annotated figure ground on the plan below [figure 30].

Harbour View Road, realigned as ‘The Ridgeway’ to closely follow the ridge, forms the backbone of the scheme (A). Rather than a continuous street, this consists of a series of distinct places. Six terraces of three storey houses framed at each end with four storey L-shaped apartment houses create courts through which the road passes.

The L-shaped towers define squares from which secondary streets (B) slope down on each side of the ridge, providing what will be amazing framed views of the bay to the north and the town and countryside to the south. The first of these secondary streets to the south drops to the lower contour to serve a terrace of houses along the edge of the site, Chichester Road (C), that follows the rising contour to reconnect with The Ridgeway at its western end. An apartment building (X), 3/4 stories high, is placed on the bend to terminate the view. At the end of the ridge, is a crescent of houses (D) framed at each end by taller apartment buildings (E). This provides a generous termination to the scheme that responds both to the views to the north and the sunny orientation. The inner face of the crescent looks over a communal garden and parking court. The pair of apartment buildings work together to terminate the view along The Ridgeway.

The simple logic of this approach is constrained by the need to comply with the limit of 1 in 15 gradient required by the competition brief (1 in 12 gradient for adopted roads and paths). At the point marked F, where a through street would be too steep, we create a mews loop.

At the eastern end, the form and alignment of the buildings reinforce the natural bowl of this portion of the site.

This natural bowl has two portions: the lower bowl between the site and Terra Nova Way, and the upper part rising up to Paget Road as it climbs to become Harbour View Road. A crescent of terraced houses (G) sits at the lip at the bottom of the upper bowl, overlooking a level circular green we have called Woodlands Place, from which the footpath descends. These houses have at their rear a mews or back lane (H), St Joseph’s Mews, reminiscent of the back lanes in the neighbouring streets. Garages with independent flats above forms a curved terrace. A final crescent of houses (J), concentric with Woodlands Place, has its front doors opening onto the green space and its parking at the back of the house accessed from the mews. On plan, the crescents respond in form to the curved frontages to the Arcot Triangle opposite, but at the same time, by virtue of the rising contours here, there will be views from

Harbour View Road over the roofs of houses in the bowl.

Also concentric with these crescents is a low 3/4 storey apartment building (Y) close to the final bend in Paget Road. This is split level to nestle snugly into the sloping land here but, by virtue of its pivotal position, closes the view on the ascent up Paget Road from the bay, and obliquely the view from Arcot Street as one comes over the crest of the hill from the south.

A series of detached and semi-detached villas – inspired by the ‘Captain’s houses’ of Victorian Penarth – are the final elements of the scheme. These are used to create open terraces and crescents that allow glimpsed views between them at the same time as creating in the oblique view a street-defining façade (K, L). On realigned Royal Close, the curve of houses follows the boundary to the site at the crest of the wooded slope. A terrace of a narrow variant of these villas marks the edge of the allotment garden (L), both forming a clear built edge to the rim of the bowl, and allowing the green space of Plassey Square and the allotments at the heart of the scheme to flow through.

This structure of main and subsidiary streets provides a very comfortable residential environment that exploits views, with the benefits of a hierarchy of different places, and has good visual and physical permeability.

It also sits hand in glove with the open space and landscape framework.

Throughout, the facades are composed to make a simple order, reinforced by a restricted palette of materials: this is described more fully under section 3.9 below.

3.2 DENSITY

Taking the site area as the conveyance boundary as a whole, the density of the scheme is:

- 6.98ha
- 54 dwellings per hectare
- 235 habitable rooms per hectare



Figure 30 Figure/ground plan

3.3 MASSING, ENCLOSURE AND ARTICULATION

The scheme is predominantly low-rise with a traditional urban character. The height of the buildings forming the streets is deliberately varied to create accents in the townscape. From afar, a new, varied skyline will take the place of the current bleak monolithic blocks.

Building heights are summarised on Drawing P06, reproduced here as figure 31, left. Two colours on one plan indicates a split level section used where the slope demands it.

There are two main parts to the massing strategy.

First, The Ridgeway is the backbone of the western section and here the objective is to create a real urban character to accentuate the contrast between the enclosure of the courts with the release given at the squares when the views are revealed. This is achieved by combining additional height with a smaller spacing (16.4m) between the buildings. By contrast, the side streets are wider (21.2m) and bounded by two storey houses, except at the ends facing the bay where a taller three storey house with a roof terrace marks these prominent positions, their rounded forms projecting above the trees somewhat in the spirit of Castle Coch up the valley.

This fits in with the second part of the strategy, which is to increase the height of the buildings at the edge of the scheme facing the bay. These are all a storey higher (three storeys) to give them greater prominence.

3.4 ACCESSIBILITY AND EASE OF MOVEMENT

This design statement describes the principles of the access and movement system. The details are described in the Transport Assessment and Landscape Statements.

The first principle is to create a clear hierarchy of streets and paths that link in an obvious and natural way with the surrounding area. Figure 32 shows how the network of streets and paths within the scheme knits comfortably with the surroundings.

The second is to use shared surfaces as far as possible, and to allow parking either on the street or within the curtilage of the properties - generally at the front. This principle was proposed in the 2004 competition scheme; since then further research has been published that supports this approach. English Partnerships' publication 'Car Parking - What works where' is particularly helpful. The key is to use measures that reduce vehicle speed so that the street itself becomes a place, or series of places, through which one passes, rather than a sterile corridor on a route between places. The side streets off The Ridgeway follow 'home zone' principles in the treatment of the street surfaces and good planting to create a street environment in which cars do not dominate.

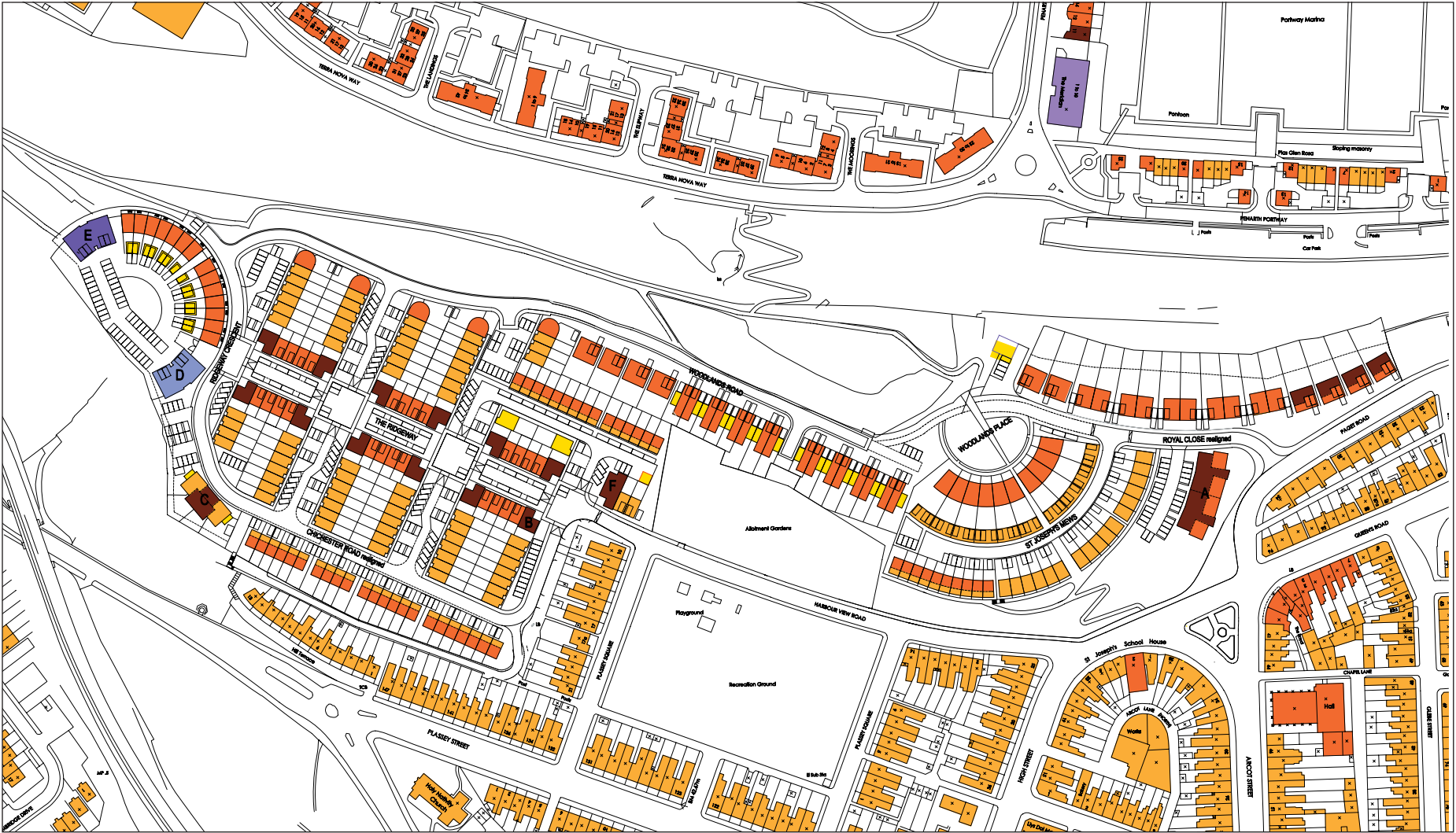


Figure 31 Building heights

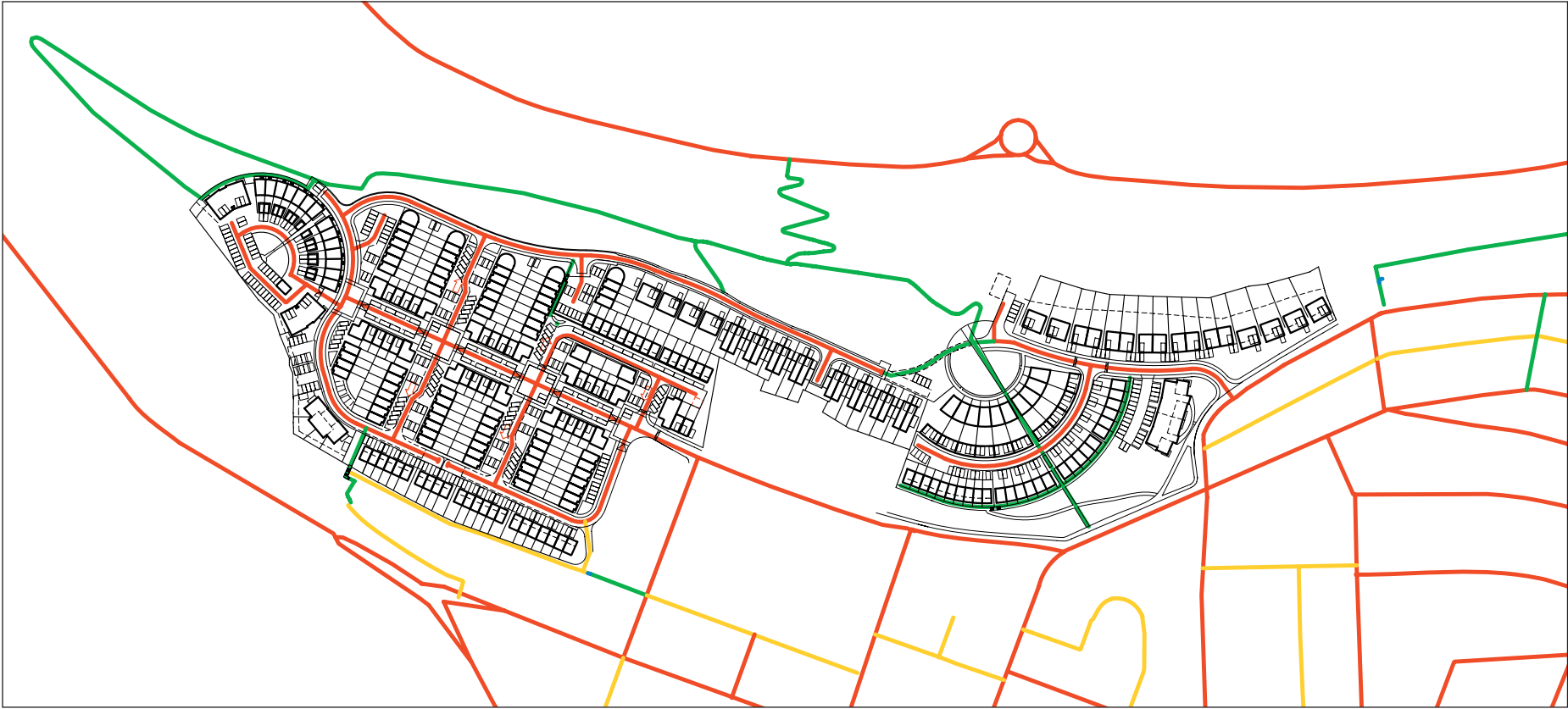


Figure 32 Movement diagram

Parking

Drawing P08, reproduced here as figure 33 is a plan of the surface parking. 579 spaces have been provided, overall a ratio of 153%. A balance has been struck between the sustainable objectives of reducing car usage with a realistic view that parking provision must not be so low as to drive new residents to park on neighbouring streets.

The arguments for this approach are:

- the street width is generally governed by the 21m rule designed to reduce overlooking, which makes streets wide enough to park in.
- Limiting parking courts to remove what has become, for all its shortcomings, a normal activity from the street.
- Limiting parking courts which occupy land at the back of houses which could more usefully be amenity land, whether private or shared gardens. As such, they can be a focus for vandalism because they are not as well supervised as the street
- On-street parking gives residents a short travel distance to their front doors.
- With good landscape design, including shared surfaces, on-street parking can produce attractive public places at the front of houses.

On-street parking spaces will be allocated and on land that is not adopted. They are located so that they are overlooked by the properties they serve.

Cycles

The scheme will encourage cycling by its clear network of streets and back lanes and proximity to the town centre. There is therefore a robust, permeable structure with simple clear routes at gentle gradients for vehicles and pedestrians through the scheme.

Pedestrians

The permeable character of the plan promotes good pedestrian connections for the area with its surroundings. A new dingle links the Arcot Triangle with Terra Nova Way below the site, encouraging those climbing up the hill by its focus on the landmark of the belfry of the former church (figure 34), and linking to more gentle gradients crossing the direct route.

3.5 RESIDENTIAL MIX AND DISPOSITION

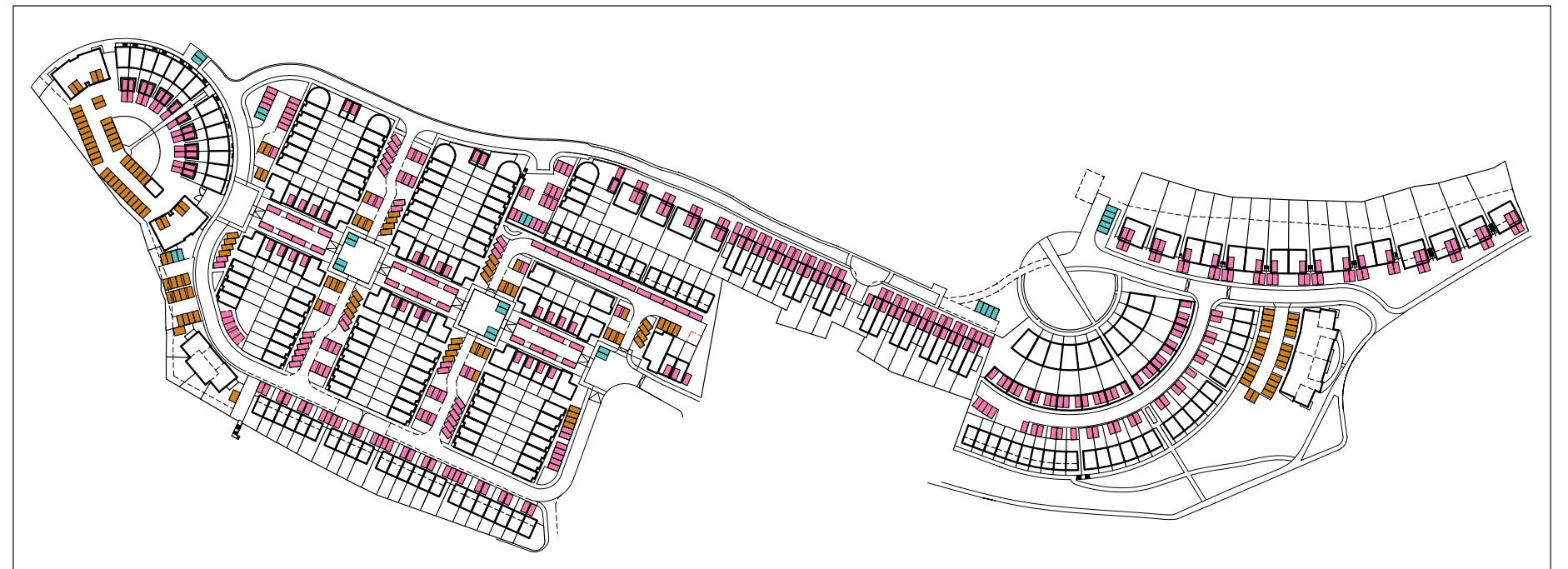


Figure 33 Parking plan



Figure 34 The new dingle will align with the former church belfry

The two schedules below list the house and flat types proposed and is a key to the detailed plans of each type in the accompanying application drawings.

Drawing P03, reproduced here as figure 35, shows the proposed disposition of the house types.

It will be seen that the scheme has a wide range of different unit types and sizes, with overall a ratio of 142 flats to 235 houses. This mix has been based on a careful analysis of the local residential market, coupled with a belief that these site should be developed for people who want to live there. Drawing P05, reproduced here as figure 36 shows how different sized dwellings are distributed across the site. The aim has been to create a balanced spread of sizes and types.

Type		area					total			
Ref	Description	bedrooms for sale	affordable	no of floors	parking provision*	m2	no. of units	no. of car spaces	m2	Drg. no
HS01	Mews house, level, convex taper	2	√	2	i/g	66.1	10	10	661	P41_1
HS02	Terrace house, level, convex taper	2	√	2	S	75.6	17	17	1285.2	P42_1, 2
HS03	Terrace house on slope with view	3	√	2	S	77.4	15	23	1161	P43_1
HS04	Terrace house on slope with view	3	√	2	S	83.8	17	26	1424.6	P44_1
HS05	Terrace house, split level	3	√	3	S	90.2	22	27	1984.4	P45_1,2
HS06	Terrace house, level, without taper	4	√	3	i/g	111.9	26	52	2909.4	P46_1
HS07	Crescent terrace house, level, convex taper	4	√	3	i/g	130.8	14	28	1831.2	P47_1,2
HS08	Terrace end house with curved end	4	√	3	d/g	177	5	11	885	P48_1,2
HS09	Semi detached house, narrow frontage	4	√	3	i/g	162.7	16	62	2603.2	P49_1,2
HS10	Semi detached house,wide frontage,split leve	4	√	3	i/g	169.1	10	30	1691	P50_1,2
HS11	Crescent house, narrow frontage	5	√	3	d/g	175.8	10	20	1758	P51_1,2
HS12	Detached house, split level (1 floor)	5	√	4	i/g	251	4	16	1004	P52_1,2,3
HS13	Detached house, split level (1/2 floor)	5	√	3+	d/g	235.6	4	16	942.4	P53_1,2
HS14	Detached house	5	√	3	i/g	249.9	2	8	499.8	P54_1,2
HA01	Bungalow	2	√	1	S	60.6	2	2	121.2	P55_1
HA02	Terrace house on slope with view	2	√	2	S	77.4	24	24	1857.6	P56_1
HA03	Terrace house on slope with view	3	√	2	S	83.8	11	11	921.8	P57_1
HA04	Terrace house, split level	3	√	3	S	86.3	13	13	1121.9	P58_1,2
HA05	Terrace house, split level, convex taper	3	√	3	S	89.4	6	6	536.4	P59_1
HA06	Terrace house, split level	4	√	3	S	102.9	7	8	720.3	P60_1
							235	410	25,919	

* S = parking space, i/g = internal garage, d/g=detached garage

Schedule of house types

3.6 AFFORDABLE HOUSING

The affordable housing - 20% of the total - is evenly peppered-potted across the scheme, with groups of ten houses typically, and one complete apartment block to assist management. This is illustrated on drawing P04, reproduced here as figure 37. The two bungalows required are located in the loop street to the north of The Ridgeway.

Type		brief area					area			total		
Location	Ref	bedrooms	affordable	for sale	No of floors		m2	m2	total no. 1 b. flats	total no. 2 b. flats	total no. 3 b. flats	no. of car spaces.
Apartment building A (Arcot Tri)	A1	1	√			46	45.8	8				366.4
	A2	1	√	3, 4		46	54.7	6				328.2
	A3	2	√			60	60.0		6			360.0
	A4	2	√			60	65.7		6			394.2
	TOTAL								26			
Apartment buildings B x14no.(Ridgeway)	B1	1	√	4		46	46.8	12				561.6
	B2	2	√			60	52.9		36			1,904.4
	TOTAL								48			
Apartment building C (Affordable)	C1	1	√	3, 4		48	45.5	8				364.0
	C2	2	√			58	64.1		4			256.4
	TOTAL								12			
Apartment building D (Ridgeway Crescent)	D1	1	√			46	40.4	8				323.2
	D2	1	√	6		46	50.8	2				101.6
	D3	2	√			60	60.0		8			480.0
	D4	3	√			80	93.7			2		187.4
	TOTAL								20			
Apartment building E (Ridgeway Crescent)	E1	1	√			46	40.4	12				484.8
	E2	1	√	8		46	50.8	2				101.6
	E3	2	√			60	60.0		12			720.0
	E4	3	√			80	93.7			2		187.4
	TOTAL								28			
Apartment buildings F (Ridgeway)	F1	1	√			46	47.2	1				47.2
	F2	1	√	4		46	44.1	1				44.1
	F3	1	√			60	52.8		3			158.4
	F4	1	√			60	52.9		3			158.7
	TOTAL								8			
TOTAL:									60	78	4	142
TOTAL No. of flats:									7,529.6			
									142			

Schedule of apartment types

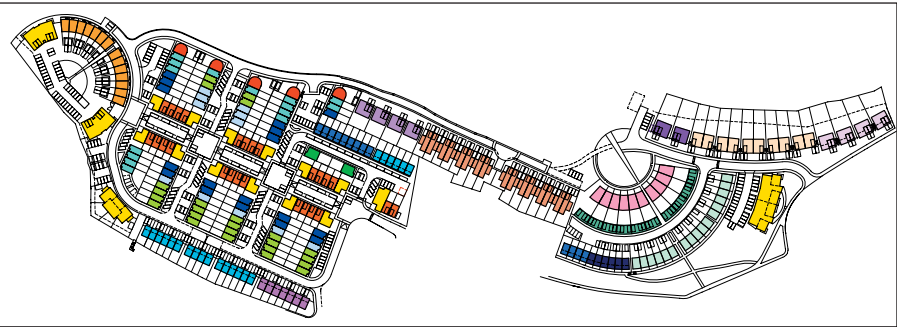


Figure 35 House types

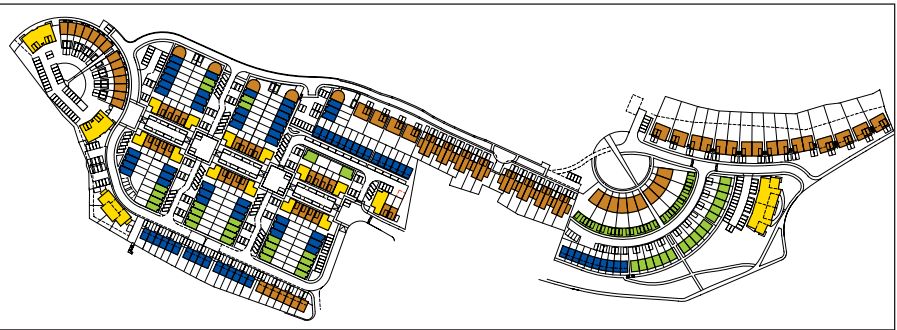


Figure 36 House sizes

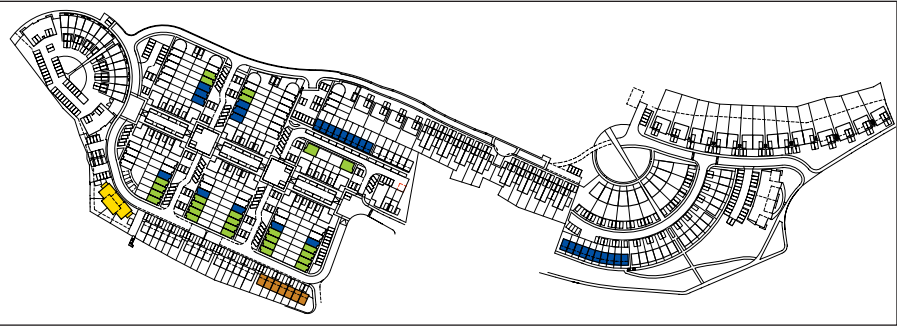


Figure 37 Affordable Housing

Key to figures 36 and 37:

3 bed

2 bed

apartments

3.7 THE HOUSE TYPES: THE BASIC UNITS OF THE STREETS

We have used a range of special house types to make the most of the site.

Although drawing P03 shows a wide range of types, they fall into a smaller number of families, namely:

- Terraced houses, both straight and crescent
- Detached and semidetached houses
- Apartment houses

Terraced houses

Overall, the strategy for the design for the terraced houses is that the overall street elevation of the terrace is more important than the design of the individual houses: these are deliberately kept quite simple.

As explained below, each type has some distinguishing features that enhance the particular house and mark it as 'home' to the residents.

The terraced houses on The Ridgeway (type HS06) (figure 38) are combined with the apartment houses to make a composition fronting parking courts (figure 39). Large windows at first floor levels compensate for the garage doors at street level.

A single large window with a framed surround to the first floor living rooms is similarly used on the Ridgeway Crescent terraced houses (type HS07) (figures 40 and 41) to express this to the surroundings as the 'piano nobile') and to give a larger scale to the houses in this very prominent position. The ground floors of these houses, which compared with The Ridgeway itself are at the margin of the development, are animated with dining room patio doors.

The terraced houses on the side streets off The Ridgeway (types HA02, HS03, HS04 and) (figures 42, 43) have a projecting bay set off against a coloured recess with a porch canopy that reinforces the sense of the individual house.

To the north, these streets are terminated with houses that are semi-circular on plan that make deliberate composed ends to these terraces, and take advantage of the views over the bay. Whilst, as already noted, these curved forms resonate with the towers of Castle Coch, their roof

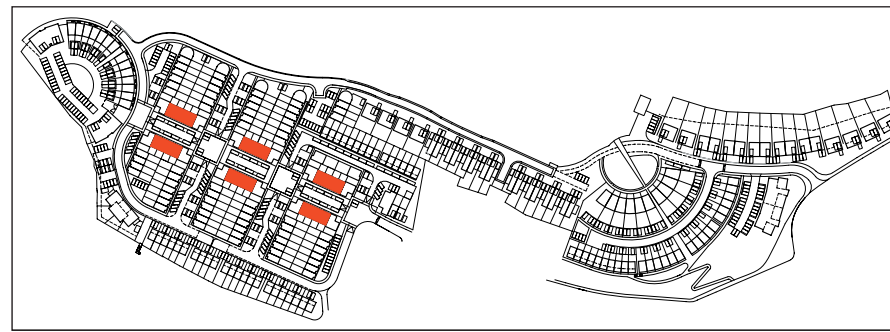


Figure 38



Figure 39

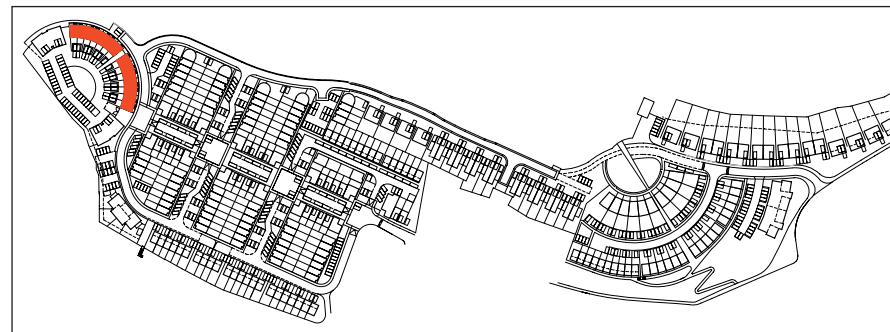


Figure 40

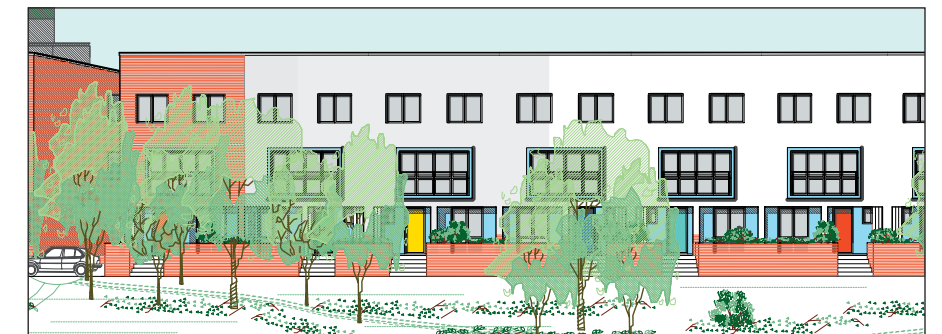


Figure 41

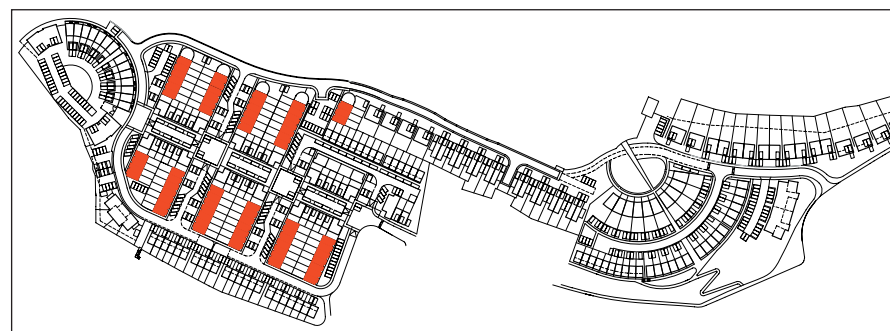


Figure 42



Figure 43

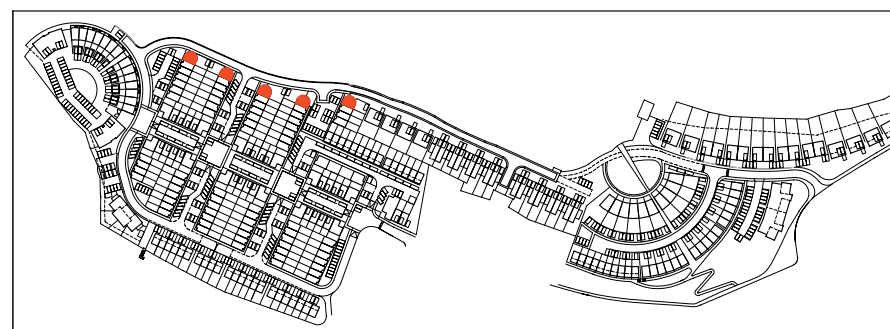
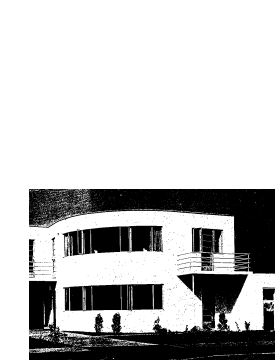


Figure 44



Figures 45, 46



terraces, rendered walls and horizontal windows also have the language of the modern movement (figures 44-46).

The crescent houses (type HS11) (figures 47 and 48) overlooking Woodlands Place again have a prominent location seen from afar. The device used to increase their scale is a single large living room window that rises to combine with a large dormer window for the top floor master bedroom.

The crescent of houses facing the Arcot Street Triangle rely on the sweep of the curve, individual porch canopies and special ends to transform what are essentially very simple houses. (type HS02) The same approach is used for house types HS04, HA05, and HA06 (figure 49).

Detached and semi-detached houses

The key principle for these types, (figures 50 and 51), taking the cue from the Penarth 'Captains Houses', is to present gables to the streets which, taken together, form a varied and lively skyline and express the individual houses. What differs from the Victorian precedent is the use of parapet gables rather than overhanging verges and bargeboards. This has been done both to give a larger scale to the houses and to create a distinct urban quarter, rather than copying the decorative barge boards of the Victorians as pastiche.

We have already described how the form of the narrow villas at the base

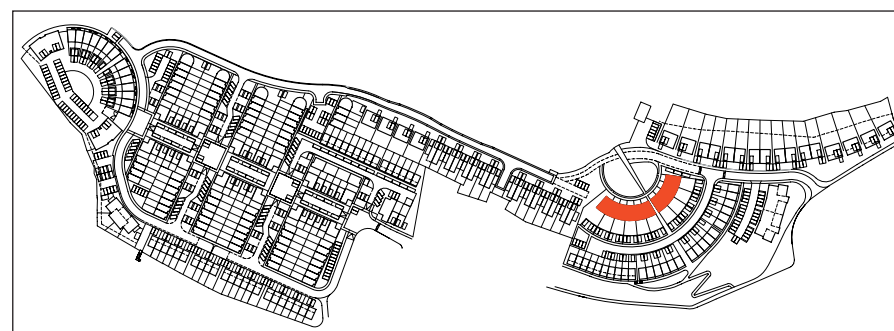


Figure 47



Figure 48 Woodlands Crescent

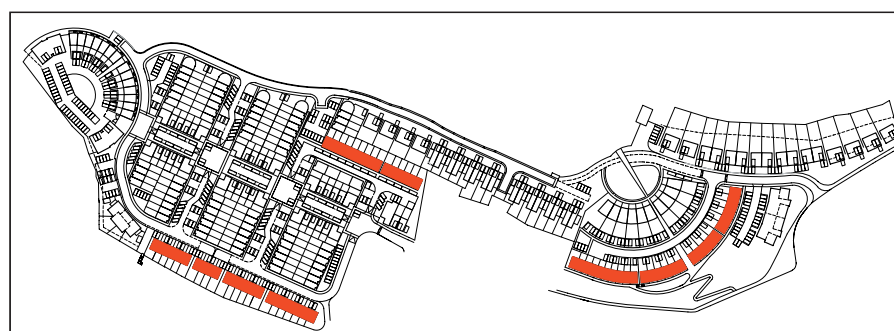


Figure 49

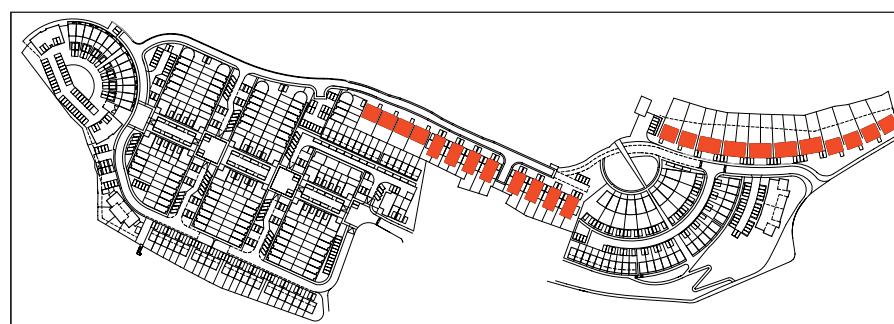
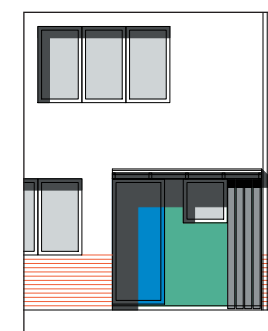


Figure 50

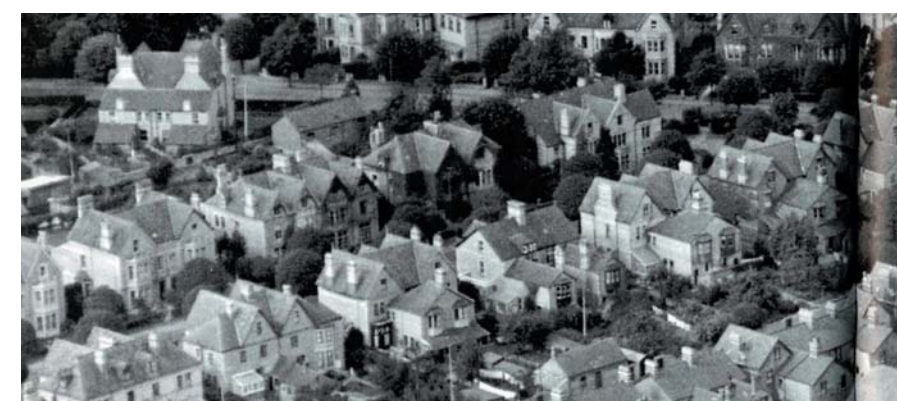


Figure 51 Gabled individualism in the centre of Penarth

of the allotments has been developed to visually allow the green space to flow through.

3.8 DESCRIPTION OF THE APARTMENT BUILDINGS

Four storey corner apartment buildings

Traditionally, terraced houses have dealt with corners by simply slicing off the end and starting again along the side street. Apartment building type B (figure 52) is an L-shaped building that properly terminates the terrace. Paired across the street, the form creates a gateway at each end of The Ridgeway. The group of four together makes each intersection of the streets into a proper urban place overlooked and used by residents.

The treatment of these buildings is simple and unadorned, using coloured render, with plenty of glazing in the cut-out of the plan.

Apartment buildings

Whilst using the same palette of materials - brick for bases, white and coloured render - the treatment of the apartment buildings is more contemporary in character. Penarth has examples of modern buildings sitting comfortably within its streetscape, such as the former Post Office in the centre of the town (figures 53).

The form of type A (figure 35) is ground-hugging and horizontal. The form of types D and E which are more prominent at the end of The Ridgeway is by contrast more vertical in emphasis, ending with the flourish of fly away roofs. These buildings will be very visible from across

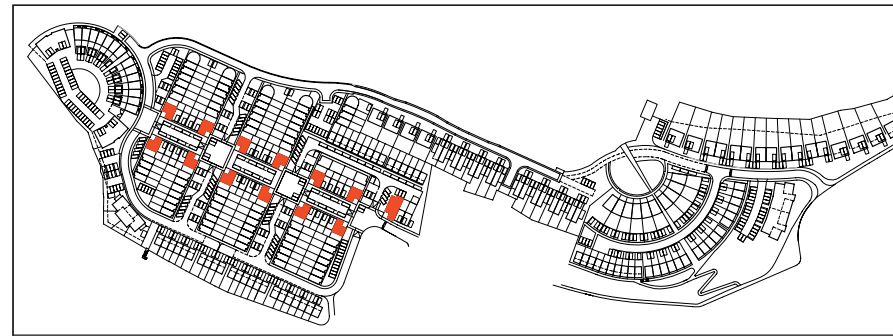


Figure 52



Figure 53 Former Post Office

the bay and need a more demonstrative treatment.

3.9 ARCHITECTURAL LANGUAGE – DIVERSITY AND CONSISTENCY

Each of the drawings showing sections through the scheme illustrates how the street elevations are composed as a whole.

In addition, an overall order is achieved by employing a limited palette of materials, inspired by the local character, as described below. The result is a new distinctive quarter to Penarth.

Palette of materials

To achieve the feel of a distinct urban quarter, rather than an ‘anywhere’ character, a restricted palette of materials is proposed, taking cues from Penarth but not trying to copy the wide range of materials used in the town.

External walls

The predominant material proposed is high performance render on external insulation. As a construction material this provides a very high standard of thermal insulation and air tightness to meet and exceed current standards. Clearly, painted walls are no strangers in Penarth and can be seen for example in the nearby Paget Road, Glebe Street and Coronation Terrace – see figures 53-55. The colour strategy is explained below.

To make bases and special ends, and for all the backs of the houses, a warm red brick is proposed, similar to the Plassey Square houses. Again, red brick is found in a number of nearby streets, such as Queens Road.

Roofs

For the Apartment Building A facing Arcot Street Triangle, flat roofs with a south facing open terraces are proposed for the benefit of the residents to enjoy sun and views.

The houses have either tiled roofs or, on the Ridgeway Crescent terrace, low pitched standing seam roof.

Windows of the apartment buildings and the houses, have white frames in all cases.



Figures 53-55
Local examples of render and paint



Figures 56-58
local examples of red brick

Colour strategy

Render naturally lends itself to being painted in any variety of colours and the purpose of the colour strategy is to help give a sense of place, help way-finding and reinforce the identity of the individual streets and external spaces. Overall this is shown on drawing P10, reproduced as figure 59.

The first principle is that the base colour throughout is white, with a fairly limited range of colours used to highlight and articulate the wall planes. Brickwork is always red and used to provide a unifying base to all the buildings and punctuation at specific locations.

To accentuate the impact of the buildings where they rise above the skyline (figure 60) warm, assertive colours are proposed for the taller apartment houses that mark the four corners of the squares. The idea is that these will have a pleasing contrast with the greenery of the woodland skirt. As shown on figure 61, it is the four cut-outs of these L-shaped apartment houses that together actually enclose the 'squares' of the Ridgeway. The walls facing the street are part of the terrace defining the street, and the apartment houses at each end of the terrace is painted the same colour in order to frame the terrace. The same colour is then used for the recessed portions on that terrace. Together, the pair of terraces opposite each other creates the court between the squares.

The houses in the side streets have their own colour, applied only in the recessed portions of the facades. In contrast to the warm colour on the Ridgeway, recessive blues in the northern streets and greens in the south are used here.

The colours of the narrow villas along Woodlands Road follow the same rationale as the apartment houses, and are also painted a combination

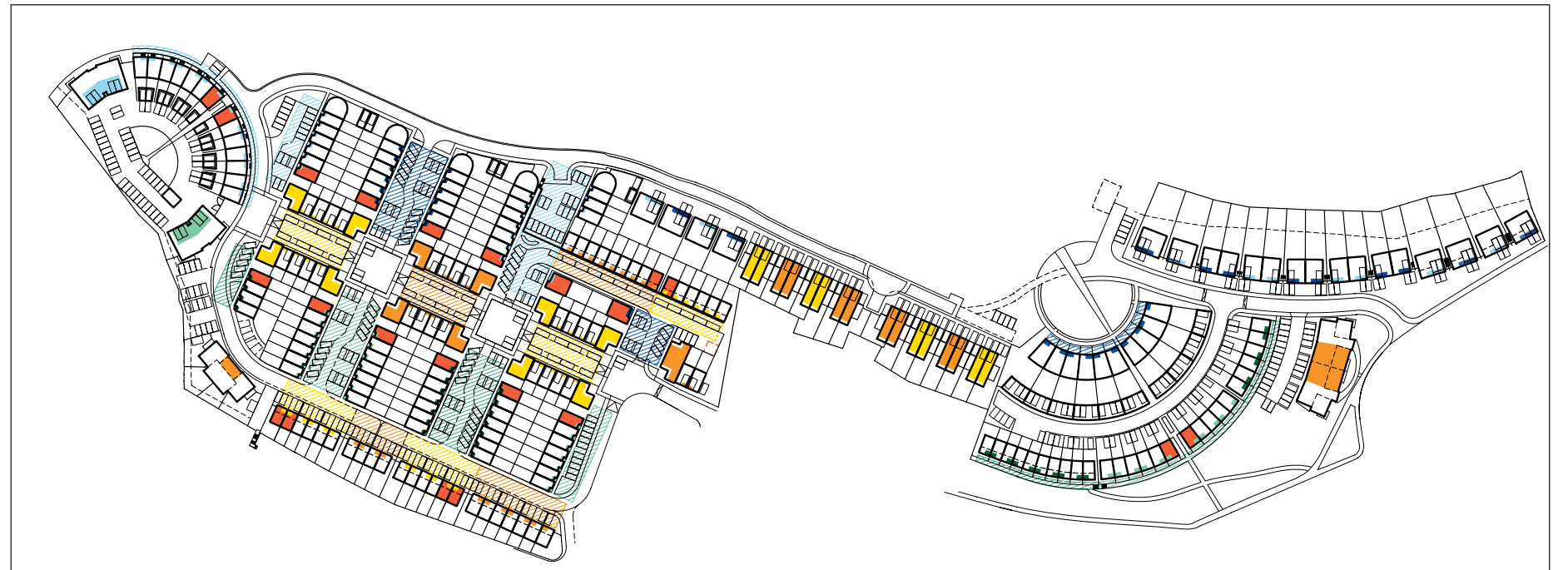


Figure 59 Colour strategy

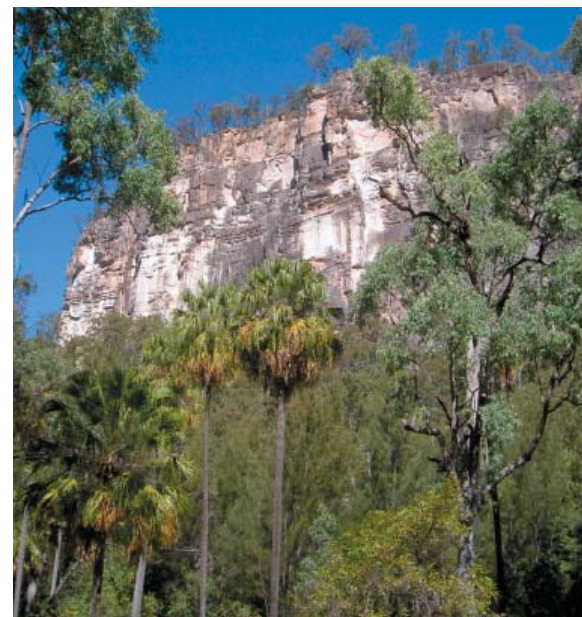


Figure 60 Warm colours rising above the trees

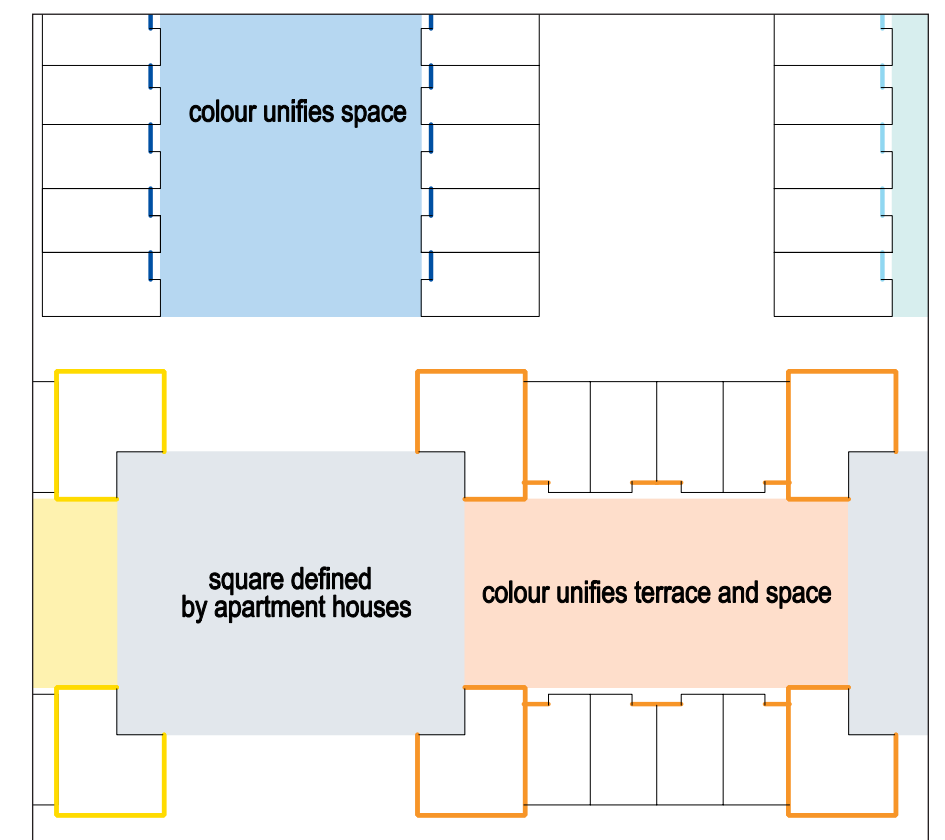


Figure 61 Colour helping to unify spaces

