





9. House Types

9.1. Research

Housebuilders' standard house types

Our research is based on house types used by housebuilders. We made a record of the following aspects of those house types:

- Property type (e.g terraced, semi-detached etc.)
- No. of beds
- Footprint dimensions
- Plot size
- No. of storeys
- Garage
- No. of parking spaces
- Type of parking
- Area (GIA)

Research was mostly done via housebuilders' websites, and where possible by looking at recent housing developments in the Cornwall Area.

We have researched a broad range of house types looking at flats, townhouses, terraces, semi-detached and detached houses, ranging from 2 - 5 bedrooms, with varying gross internal floor areas.

Examples of standard house types:

Redrow Homes



image ref. www.redrow.co.uk

House name: **Evesham**

Property type: **Terraced**

No of beds: **2**

Footprint dimensions: **4.2 x 8.8m**

No. of storeys: **2**

Garage: **No**

No. of parking: **2**

Type of parking: **Street**

Area GIA: **699 sqf (65m²)**

Barratt Homes



image ref. www.barratthomes.co.uk

House name: **Tiverton**

Property type: **Terraced or semi-detached**

No of beds: **2**

Footprint dimensions: **4.5 x 9m**

No. of storeys: **2**

Garage: **No**

No. of parking: **2**

Type of parking: **Off site and driveway**

Area GIA: **736 sqf (68m²)**

Taylor Wimpey Homes



image ref. www.taylorwimpey.co.uk

House name: **The Dadford**

Property type: **Semi-detached**

No of beds: **3**

Footprint dimensions: **4.73 x 8.5m**

No. of storeys: **2**

Garage: **No**

No. of parking: **1**

Type of parking: **On street**

Area GIA: **753 sqf (70m²)**

Bovis Homes



image ref. www.bovishomes.co.uk

House name: **The Sheringham**

Property type: **Detached**

No of beds: **3**

Footprint dimensions: **9.8 x 6.3m**

No. of storeys: **2**

Garage: **Yes**

No. of parking: **3**

Type of parking: **Single detached garage and driveway**

Area GIA: **969 sqf (90m²)**

David Wilson Homes



image ref. www.dwh.co.uk

House name: **Irving**

Property type: **Detached**

No of beds: **4**

Footprint dimensions: **6.5 x 9.5m**

No. of storeys: **2**

Garage: **Yes**

No. of parking: **2**

Type of parking: **Single detached garage and driveway**

Area GIA: **1167 sqf (108m²)**

9.1. Research

Compiled information

The following tables show information about standard house types from 6 different housebuilders. We have gathered information about 2,3,4, and 5 bedroom properties, ranging from terraces to detached houses. This analysis has resulted in our standard house types.

The following housebuilders all have standard house types:

- Redrow Homes
- David Wilson Homes
- Taylor Wimpey Homes
- Barratt Homes
- Bovis Homes
- Persimmon Homes

Redrow Homes

No	House Name	Property Type	No. of Bedrooms	Footprint Dims (m)	Plot size (m)	No. of storeys	Garage	No. of Parking	Type of Parking	Area GIA (sqf)	Area GIA (sqm)
13	Evesham	Terrace	2	4.2 x 8.8	4.2 x 18.9	2	No	2	Driveway	699	65
5	Evesham3	Terrace	3	5.2 x 8.8	5.2 x 18.9	2	No	2	Driveway	805	75
54	Letchworth	Semi - Detached	3	5.9 x 8.9	9.1 x 22.5	2	Yes	2	Garage, Driveway	963	89
56	Warwick	Detached	3	6.2 x 9.2	10.2 x 20.5	2	Yes	3	Garage, Driveway	1059	98
12	Stratford	Detached	4	6.5 x 9.7	11.2 x 21.5	2	Yes	2	Garage, Driveway	1173	109
14	Worcester	Detached	3	9 x 10.3	10.8 x 27	2	Yes	3	Single Garage, Driveway	1245	116
16	Marlow	Detached	4	8.7 x 10.4	10.4 x 22	2	Yes	2	Single Garage, Driveway	1259	117
19	Oxford	Detached	4	8.8 x 9.4	10.2 x 27	2	Yes	3	Single Garage, Driveway	1300	121
29	Cambridge	Detached	4	8.2 x 9.5	12 x 21	2	Yes	3	Single Garage, Driveway	1382	128
27	Canterbury	Detached	4	9.5 x 14.6 (L-shaped)	12.9 x 25	2	Yes	4	Double Garage, Driveway	1408	131

Persimmon Homes

House Name	Property Type	No. of Bedrooms	Footprint Dims (m)	Plot size (m)	No. of storeys	Garage	No. of Parking	Type of Parking	Area GIA (sqf)	Area GIA (sqm)
The Regent	Coach House	2	6.2 x 10	-	2 (Garage and drive-through below)	Yes	1	Single Garage	570	53
The Morden	Semi-Detached	2	4.3 x 7.3	-	2	No	-	Street Parking	559	52
The Hanbury	Semi-Detached	3	5.2 x 8.6	-	2	No	-	Street Parking	761	71
The Clayton	Detached	3	8.7 x 6.2	-	2	Yes	2	Single garage, driveway	999	93
The Clayton	Semi-Detached	3	8.7 x 6.2	-	2	Yes	2	Single garage, driveway	999	93
The Leicester	Terrace	3/4	5.3 x 8.9	-	2.5	No	-	Street Parking	1130	105
The Chedworth	Detached	4	8.4 x 7.7	-	2	Yes	2	Single garage, driveway	1222	114
4 BED b	Detached	4	-	-	2	Yes	-	Integral Garage	1370	127
5 BED	Split Level	5	-	-	2	-	-	-	2300	214

Taylor Wimpey Homes

House Name	Property Type	No. of Bedrooms	Footprint Dims (m)	Plot size (m)	No. of storeys	Garage	No. of Parking	Type of Parking	Area GIA (sqf)	Area GIA (sqm)
The Canford	Terrace	2	4.35 x 8.5	-	2	No	1	In front of house	650	60
The Andrew	Semi-Detached /End Terrace	2	4.44 x 8.9	-	2	No	1	Driveway	686	64
The Dadford	Semi-Detached	3	4.73 x 8.5	-	2	No	1	Street	753	70
The Gosford	Semi-Detached	3	5.09 x 9	-	2	?	2	Detached Garage/ Driveway	866	80
The Alton	Terrace	3	4.6 x 9.5	-	2.5	No	2	In front of house	1085	101
The Lydford	Detached or Terrace	4	5.73 x 10	-	2	No	?	Street	1099	102
The Haddenham	Detached	4	8.815 x 10.165	-	2	Yes	2	Attached Garage, Driveway	1460	136
The Farrington	Detached	4	12.315 x 8.328	-	2	Yes	?	Detached Garage, Driveway	1768	164
The Wilton	Detached	5	8.75 x 8.25	-	2.5	Yes	?	Detached Garage, Driveway	1759	163

Bovis Homes

House Name	Property Type	No. of Bedrooms	Footprint Dims (m)	Plot size (m)	No. of storeys	Garage	No. of Parking	Type of Parking	Area GIA (sqf)	Area GIA (sqm)
The Arnold	Coach House	2	10.2 x 6.2	-	2	Yes	1	Attached Garage	689	64
The Beardsley	Terrace	3	4.9 x 9.1	-	2	No	-	-	753	70
The Southwold	Semi-Detached	3	5.5 x 9	-	2	Yes	2	Detached Garage, Driveway	840	78
The Sheringham	Detached	3	9.8 x 6.3	-	2	Yes	3	Single Detached Garage, Driveway	969	90
The Downing	Terrace	4	8.6 x 9	12.1 x 8.6	3	Yes	-	Single Car Port	1593	148
The Selsey	Semi-Detached	4	9.5 x 11	-	2	Yes	2	Single Attached Garage, Driveway	1658	154
The Canterbury	Detached	4	8.4 x 9.3	-	2	Yes	3	Double Detached Garage, Driveway	1313	122
5 BED	Detached	5	10.7 x 10	-	2	Yes	4	Double Detached Garage, Driveway	1593	148

Barratt Homes

No	House Name	Property Type	No. of Bedrooms	Footprint Dims (m)	Plot size	No. of storeys	Garage	No. of Parking	Type of Parking	Area GIA (sqf)	Area GIA (sqm)
21	Lincoln	Detached	4	9.2 x 9 (L-shaped)	12 x 22	2	single	2	1 garage, 1 driveway	1249	116
29	Thornbury	Detached	4	8.5 x 7.2	12 x 22	2	single	2	1 garage, 1 driveway	1207	112
37	Padstow	Semi-detached	3	4.5 x 9	7.5 x 21	3	no	2	driveway	1144	106
14	Morpeth	Semi-detached	3	5.5 x 9	5.5/7.5 x 20	2	no	2	off site, driveway	957	89
29	Barwick	Semi-detached	3	5.1 x 9	5.5/7.5 x 20	2	no	2	off site, driveway	836	78
19	Finchley	Semi-detached	3	5.1 x 8.8	5.5/7.5 x 20	2	no	2	off site, driveway	834	77
24	Tiverton	Terrace	2	4.5 x 9	4.5 x 20	2	no	2	off site, driveway	736	68
4	Alcester	Flat above garage	2	6 x 11.5		1 (garage below/ accommodation above)	single	1	garage	690	64

David Wilson Homes

No	House Name	Property Type	No of Bedrooms	Footprint Dims (m)	Plot size (m)	No. of storeys	Garage	No of Parking	Type of Parking	Area GIA (sqf)	Area GIA (sqm)
19	Emerson	Detached	5	10 x 8.5	16 x 22	3	double	4	2 garage, 2 driveway	1797	167
25	Chelworth	Detached	4	10.8 x 9.6	16 x 22	2	double	4	2 garage, 2 driveway	1703	158
14	Holden	Detached	4	8.5 x 9.5	12.5 x 22	2	single	2	1 garage, 1 driveway	1536	143
13	Cornell	Detached	4	7 x 10	11 x 22	2	single	2	1 garage, 1 driveway	1374	128
11	Irving	Detached	4	6.5 x 9.5	9.5 x 20	2	single	2	1 garage, 1 driveway	1167	108

9.1. Research

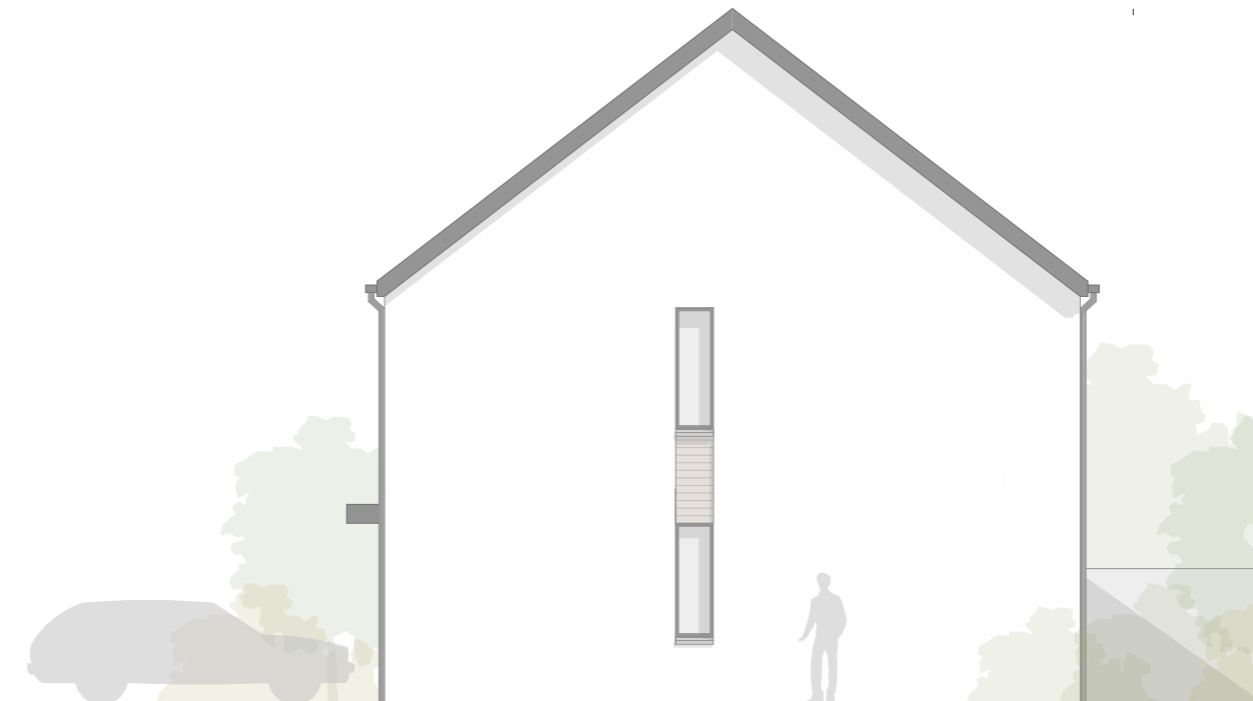
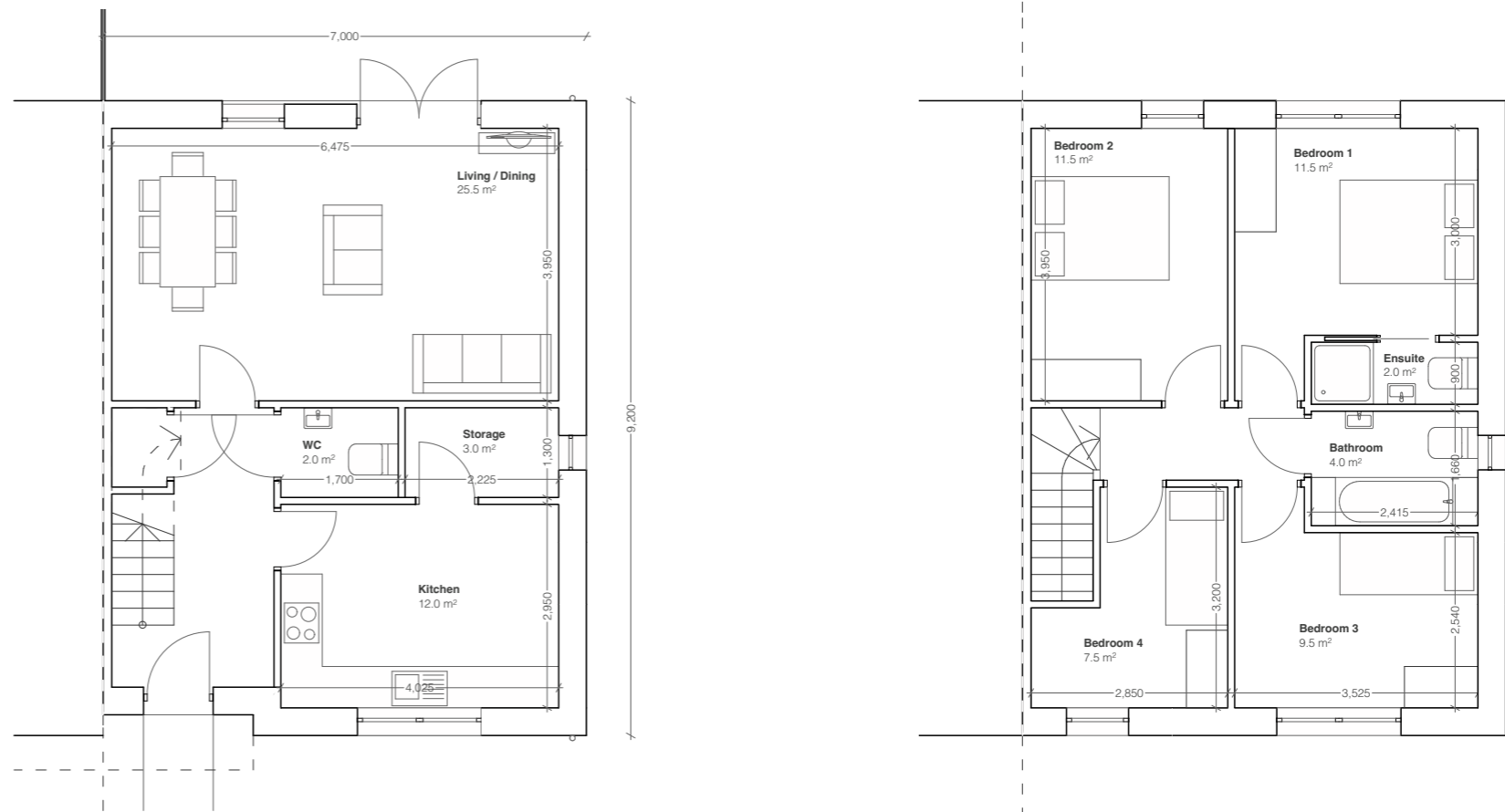
Conclusions of research

Many of the floor plans that we looked at were extremely tight. We didn't find any standard housetypes that met the Lifetime Homes requirements.

What we want to change:

We have come up with a set of 11 of our own house types. The gross internal floor areas, building footprints and plot sizes of these house types are an approximate average of the information we collected about the housebuilders' standard house types. Plot size has been outlined at this stage in accordance with the house size, but there may be variations in this depending on the gradient of the specific plot of land on the masterplan.

The rest of this section shows the floor plans and technical information of each house type.



Example of Semi-Detached House
Scale: 1:100

9.2. House Types

Standard House Types

House Type	Type	Bedrooms	Bedspaces	Footprint (m)	Floors	Parking Spaces	Area		Lifetime Home
							sqm	sqf	
2A	Terrace	2	4	5.40 x 8.70	2	1	81	871	-
2B	Semi-Detached	2	4	5.70 x 8.70	2	1	81.5	877	Yes
2B m	Semi-Detached	2	4	5.70 x 8.70	2	1	81.5	877	Yes
2C	Semi-Detached	2	4	5.70 x 8.70	2	1	81.5	877	Yes
3A	Terrace	3	4	5.60 x 8.90	2	2	85.5	920	-
3B	Semi-Detached	3	4	5.85 x 8.90	2	2	86	925	-
3C	Semi-Detached	3	5	6.00 x 9.475	2	2	93.5	1006	Yes
3D	Terraced Townhouse	3	6	5.30 x 9.60	2.5	2	110	1184	-
3E	Semi-Det. Townhouse	3	6	5.575 x 9.60	2.5	2	110	1184	-
3E m	Semi-Det. Townhouse	3	6	5.575 x 9.60	2.5	2	110	1184	-
3F	Detached	3	5	6.275 x 9.475	2	2	93.5	1006	Yes
4A	Semi-Detached	4	6	7.00 x 9.20	2	2	108	1162	-
4B	Semi-Detached	4	6	7.00 x 9.20	2	2	108	1162	-
4C	Detached	4	7	7.30 x 9.80	2	2	117	1259	-
4D	Detached	4	8	7.60 x 10.40	2	2 (G)	126.5	1361	Yes
4D m	Detached	4	8	7.60 x 10.40	2	2 (G)	126.5	1361	Yes
4E	Semi-Detached	4	8	5.675 x 9.10	3	2	128	1377	-
4E m	Semi-Detached	4	8	5.675 x 9.10	3	2	128	1377	-
4F	Detached	4	8	5.95 x 9.10	3	2	128	1377	-
4F m	Detached	4	8	5.95 x 9.10	3	2	128	1377	-
5A	Detached	5	8	9.00 x 10.50	2	2 (G)	157.5	1695	-

Split-level House Types

House Type	Type	Bedrooms	Bedspaces	Footprint (m)	Floors	Parking Spaces	Area		Lifetime Home
							sqm	sqf	
2As	Split-Level Terrace	2	4	5.40 x 8.70	3	1 (G)	92	990	-
2Bs	Split-Level Semi-Detached	2	4	5.70 x 8.70	3	1 (G)	93	1001	Yes
3As	Split-Level Terrace	3	4	5.60 x 8.90	3	1 (G) + 1	96.5	1038	-
3Bs	Split-Level Semi-Detached	3	4	5.85 x 8.90	3	1 (G) + 1	97.5	1049	-
3Cs	Split-Level Semi-Detached	3	5	6.00 x 9.475	3	1 (G) + 1	105	1130	-
4As	Split-Level Semi-Detached	4	6	7.00 x 9.20	3	1 (G) + 1	125	1345	-
4As m	Split-Level Semi-Detached	4	6	7.00 x 9.20	3	1 (G) + 1	125	1345	-
4Bs	Split-Level Semi-Detached	4	6	7.00 x 9.20	3	2	137	1474	-
4Cs	Split-Level Semi-Detached	4	6	7.00 x 9.20	3	2	137	1474	-

House Builder House Types

House Type	Type	Bedrooms	Bedspaces	Footprint (m)	Floors	Parking Spaces	Area		Lifetime Home
							sqm	sqf	
AA22	Terrace	2	3	4.35 x 9.00	2	2	68	732	-
AA22c	Semi-Detached	2	3	4.50 x 9.00	2	2	68	732	-
AA22c m	Semi-Detached	2	3	4.50 x 9.00	2	2	68	732	-
PA25	Terrace	2	4	4.35 x 8.50	2	2	64	689	-
PA25c	Semi-Detached	2	5	4.50 x 8.50	2	2	64	689	-
AA31	Terrace	3	5	5.05 x 9.50	2	2	85	910	-
AA31c	Semi-Detached	3	5	5.20 x 9.50	2	2	85	910	-
PA33	Terrace	3	5	5.09 x 9.00	2	2	80	866	-
PA33c	Semi-Detached	3	5	5.24 x 9.00	2	2	80	866	-
PB33	Terraced Townhouse	3	5	5.15 x 9.00	2.5	2	107	1149	-
PB33c	Semi-Detached Townhouse	3	5	5.30 x 9.00	2.5	1 (G) + 1	107	1149	-
PC33	Semi-Detached	3	5	5.24 x 9.00	3	2	121	1299	-
PC33 m	Semi-Detached	3	5	5.24 x 9.00	3	2	121	1299	-
PC33c	Detached	3	5	5.39 x 9.00	3	2	121	1299	-
PC33c m	Detached	3	5	5.39 x 9.00	3	2	121	1299	-
PT36	Detached	3	5	9.00 x 5.75	2	2	86	931	-
AA41	Terrace	4	6	5.73 x 10.00	2	2	102	1099	-
AA41c	Semi-Detached	4	6	5.88 x 10.00	2	2	102	1099	-
PA44	Terrace	4	7	6.08 x 10.00	2	2	109	1170	-
PA44c	Semi-Detached	4	7	6.23 x 10.00	2	1 (G) + 1	109	1170	-
PA411	Detached	4	7	9.00 x 7.50	2	1 (G) + 1	116	1248	-
PA48	Detached	4	8	8.75 x 8.4	2	1 (G) + 1	127	1369	-
PA49	Detached	4	8	8.75 x 9.50	2	2 (G)	145	1562	-
PA49 m	Detached	4	8	8.75 x 9.50	2	2 (G)	145	1562	-

Flats

Block Type	Flats per Block					Total Flats	Footprint (m)	Floors	Parking Spaces
	1A	1B	2A	2B	2C				
F01	2	0	3	0	0	5	10.50 x 14.80	2 + 1 Lower Ground	5
F01 m	2	0	3	0	0	5	10.50 x 14.80	2 + 1 Lower Ground	5
F02	0	6	3	0	0	9	15.95 x 20.30	3	9
F03	0	0	0	4	0	4	10.45 x 15.65	2	4
F04	0	0	0	6	0	6	10.45 x 15.65	3	6
F04 m	0	0	0	6	0	6	10.45 x 15.65	3	6
F05	0	0	0	0	5	5	10.10 x 16.30	2 + 1 Lower Ground	5
F06	2	0	4	0	0	6	10.50 x 14.80	2 + 2 Lower Ground	6

Flat Type	Bedrooms	Bedspaces	Parking Spaces	Area		Lifetime Home
				sqm	sqf	
1A	1	2	1	50	538	No
1B	1	2	1	50.5	543	No
2A	2	4	1	63.5	683	No
2B	2	4	1	62.5	672	No
2C	2	4	1	64	688	No

9.3. Schedule of Accommodation

Total Mix

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	

Non-Affordable Mix

Houses					
Type	Required	Provided			
2-Bed	10%	33	3.6%	12	
3-Bed	60%	200	65.8%	219	
4-Bed	25%	83	29.4%	98	
5-Bed	5%	17	1.2%	4	
					333

Detailed Mix

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
Total	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
Total	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
Total	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
Total	14	6	25	22	5						
Total							14	6	25	22	5
Total							72				



Housing Schedule
1:2500

9. HOUSE TYPES

House Number	House Type	Type	Bedrooms	Bedspaces	Footprint (m)	Floors	Parking Spaces	Area		Lifetime Home	Affordable	
								sqm	sqf		Rent	Intermediate
404	3Bs	Split-Level Semi-Detached	3	4	5.85 x 8.90	3	1 (G) + 1	97.5	1049	-	-	-
405	3Bs	Split-Level Semi-Detached	3	4	5.85 x 8.90	3	1 (G) + 1	97.5	1049	-	-	-
406	3Bs	Split-Level Semi-Detached	3	4	5.85 x 8.90	3	1 (G) + 1	97.5	1049	-	-	-
407	3Bs	Split-Level Semi-Detached	3	4	5.85 x 8.90	3	1 (G) + 1	97.5	1049	-	-	-
408	3Bs	Split-Level Semi-Detached	3	4	5.85 x 8.90	3	1 (G) + 1	97.5	1049	-	-	-
409	3Bs	Split-Level Semi-Detached	3	4	5.85 x 8.90	3	1 (G) + 1	97.5	1049	-	-	-
410	3Bs	Split-Level Semi-Detached	3	4	5.85 x 8.90	3	1 (G) + 1	97.5	1049	-	-	-
411	3Bs	Split-Level Semi-Detached	3	4	5.85 x 8.90	3	1 (G) + 1	97.5	1049	-	-	-
412	3Bs	Split-Level Semi-Detached	3	4	5.85 x 8.90	3	1 (G) + 1	97.5	1049	-	-	-
413	3Bs	Split-Level Semi-Detached	3	4	5.85 x 8.90	3	1 (G) + 1	97.5	1049	-	-	-
414	3Bs	Split-Level Semi-Detached	3	4	5.85 x 8.90	3	1 (G) + 1	97.5	1049	-	-	-
415	PA48	Detached	4	8	8.75 x 8.4	2	1 (G) + 1	127	1369	-	-	-
416	3C	Semi-Detached	3	5	6.00 x 9.475	2	2	93.5	1006	Yes	-	-
417	3C	Semi-Detached	3	5	6.00 x 9.475	2	2	93.5	1006	Yes	-	-
418	PC33	Semi-Detached	3	5	5.24 x 9.00	3	2	121	1299	-	-	Yes
419	PC33	Semi-Detached	3	5	5.24 x 9.00	3	2	121	1299	-	-	Yes
420	AA22c	Semi-Detached	2	3	4.50 x 9.00	2	2	68	732	-	-	Yes
421	AA22	Terrace	2	3	4.35 x 9.00	2	2	68	732	-	-	Yes
422	AA22	Terrace	2	3	4.35 x 9.00	2	2	68	732	-	-	Yes
423	AA22c	Semi-Detached	2	3	4.50 x 9.00	2	2	68	732	-	-	Yes
424	PB33	Terraced Townhouse	3	5	5.15 x 9.00	2.5	2	107	1149	-	-	Yes
425	PB33	Terraced Townhouse	3	5	5.15 x 9.00	2.5	2	107	1149	-	-	Yes
426	AA22c	Semi-Detached	2	3	4.50 x 9.00	2	2	68	732	-	-	Yes
427	AA22	Terrace	2	3	4.35 x 9.00	2	2	68	732	-	-	Yes
428	AA22	Terrace	2	3	4.35 x 9.00	2	2	68	732	-	-	Yes
429	AA22c	Semi-Detached	2	3	4.50 x 9.00	2	2	68	732	-	-	Yes
430	PB33	Terraced Townhouse	3	5	5.15 x 9.00	2.5	2	107	1149	-	-	-
431	PB33	Terraced Townhouse	3	5	5.15 x 9.00	2.5	2	107	1149	-	-	-
432	PA25c	Semi-Detached	2	5	4.50 x 8.50	2	2	64	689	-	-	-
433	PA25c	Semi-Detached	2	5	4.50 x 8.50	2	2	64	689	-	-	-
434	4F	Detached	4	8	5.95 x 9.10	3	2	128	1377	-	-	-
435	2B	Semi-Detached	2	4	5.70 x 8.70	2	1	81.5	877	Yes	-	Yes
436	2B	Semi-Detached	2	4	5.70 x 8.70	2	1	81.5	877	Yes	-	Yes
437	AA22c	Semi-Detached	2	3	4.50 x 9.00	2	2	68	732	-	-	Yes
438	AA22	Terrace	2	3	4.35 x 9.00	2	2	68	732	-	-	Yes
439	AA22	Terrace	2	3	4.35 x 9.00	2	2	68	732	-	-	Yes
440	AA22c	Semi-Detached	2	3	4.50 x 9.00	2	2	68	732	-	-	Yes
441	PC33c	Detached	3	5	5.39 x 9.00	3	2	121	1299	-	-	Yes

Flats

House Number	House Type	Block Type	Floor	Bedrooms	Bedspaces	Parking Spaces	Area		Lifetime Home	Affordable	
							sqm	sqf		Rent	Intermediate
442	2B	F04 m	0	2	4	1	62.5	672	-	Yes	-
443	2B	F04 m	0	2	4	1	62.5	672	-	Yes	-
444	2B	F04 m	1	2	4	1	62.5	672	-	Yes	-
445	2B	F04 m	1	2	4	1	62.5	672	-	Yes	-
446	2B	F04 m	2	2	4	1	62.5	672	-	Yes	-
447	2B	F04 m	2	2	4	1	62.5	672	-	Yes	-
448	2A	F01	-1	2	4	1	63.5	683	-	Yes	-
449	1A	F01	0	1	2	1	50	538	-	Yes	-
450	2A	F01	0	2	4	1	63.5	683	-	Yes	-
451	1A	F01	1	1	2	1	50	538	-	Yes	-
452	2A	F01	1	2	4	1	63.5	683	-	Yes	-
453	2A	F01	-1	2	4	1	63.5	683	-	Yes	-
454	1A	F01	0	1	2	1	50	538	-	Yes	-
455	2A	F01	0	2	4	1	63.5	683	-	Yes	-
456	1A	F01	1	1	2	1	50	538	-	Yes	-
457	2A	F01	1	2	4	1	63.5	683	-	Yes	-
458	2A	F01 m	-1	2	4	1	63.5	683	-	Yes	-
459	1A	F01 m	0	1	2	1	50	538	-	Yes	-
460	2A	F01 m	0	2	4	1	63.5	683	-	Yes	-
461	1A	F01 m	1	1	2	1	50	538	-	Yes	-
462	2A	F01 m	1	2	4	1	63.5	683	-	Yes	-
463	2A	F01	-1	2	4	1	63.5	683	-	Yes	-
464	1A	F01	0	1	2	1	50	538	-	Yes	-
465	2A	F01	0	2	4	1	63.5	683	-	Yes	-
466	1A	F01	1	1	2	1	50	538	-	Yes	-
467	2A	F01	1	2	4	1	63.5	683	-	Yes	-
468	2B	F03	0	2	4	1	62.5	672	-	-	Yes
469	2B	F03	0	2	4	1	62.5	672	-	-	Yes
470	2B	F03	1	2	4	1	62.5	672	-	-	Yes
471	2B	F03	1	2	4	1	62.5	672	-	-	Yes
472	2A	F06	-2	2	4	1	63.5	683	-	Yes	-
473	2A	F06	-1	2	4	1	63.5	683	-	Yes	-
474	1A	F06	0	1	2	1	50	538	-	Yes	-
475	2A	F06	0	2	4	1	63.5	683	-	Yes	-
476	1A	F06	1	1	2	1	50	538	-	Yes	-
477	2A	F06	1	2	4	1	63.5	683	-	Yes	-
478	2B	F04	0	2	4	1	62.5	672	-	-	Yes
479	2B	F04	0	2	4	1	62.5	672	-	-	Yes
480	2B	F04	1	2	4	1	62.5	672	-	-	Yes
481	2B	F04	1	2	4	1	62.5	672	-	-	Yes
482	2B	F04	2	2	4	1	62.5	672	-	-	Yes
483	2B	F04	2	2	4	1	62.5	672	-	-	Yes
484	2B	F04	0	2	4	1	62.5	672	-	Yes	-
485	2B	F04	0	2	4	1	62.5	672	-	Yes	-
486	2B	F04	1	2	4	1	62.5	672	-	Yes	-
487	2B	F04	1	2	4	1	62.5	672	-	Yes	-
488	2B	F04	2	2	4	1	62.5	672	-	Yes	-

House Number	House Type	Block Type	Floor	Bedrooms	Bedspaces	Parking Spaces	Area		Lifetime Home	Affordable	
							sqm	sqf		Rent	Intermediate
489	2B	F04	2	2	4	1	62.5	672	-	Yes	-
490	1B	F02	0	1	2	1	50.5	543	-	Yes	-
491	1B	F02	0	1	2	1	50.5	543	-	Yes	-
492	2A	F02	0	2	4	1	63.5	683	-	Yes	-
493	1B	F02	1	1	2	1	50.5	543	-	Yes	-
494	1B	F02	1	1	2	1	50.5	543	-	Yes	-
495	2A	F02	1	2	4	1	63.5	683	-	Yes	-
496	1B	F02	2	1	2	1	50.5	543	-	Yes	-
497	1B	F02	2	1	2	1	50.5	543	-	Yes	-
498	2A	F02	2	2	4	1	63.5	683	-	Yes	-
499	2A	F01	-1	2	4	1	63.5	683	-	Yes	-
500	1A	F01	0	1	2	1	50	538	-	Yes	-
501	2A	F01	0	2	4	1	63.5	683	-	Yes	-
502	1A	F01	1	1	2	1	50	538	-	Yes	-
503	2A	F01	1	2	4	1	63.5	683	-	Yes	-
504	2C	F05	-1	2	4	1	64	688	-	-	Yes
505	2C	F05	0	2	4	1	64	688	-	-	Yes
506	2C	F05	0	2	4	1	64	688	-	-	Yes
507	2C	F05	1	2	4	1	64	688	-	-	Yes
508	2C	F05	1	2	4	1	64	688	-	-	Yes
509	2A	F01	-1	2	4	1	63.5	683	-	Yes	-
510	1A	F01	0	1	2	1	50	538	-	Yes	-
511	2A	F01	0	2	4	1	63.5	683	-	Yes	-
512	1A	F01	1	1	2	1	50	538	-	Yes	-
513	2A	F01	1	2	4	1	63.5	683	-	Yes	-





10. Landscape

10.1. Landscape Design

The landscape design has been prepared in the context of a thorough and detailed understanding of the site landscape and its context and within the framework of relevant policy and design guidance. The landscape design embraces broader Green Infrastructure and sustainable development principles and seeks to maximise these multifunctional benefits wherever practicable. FPCR Environment and Design Ltd. (FPCR) have prepared the landscape design shown on the following pages.

The development's landscape and Green Infrastructure is based around delivering well designed and functional green spaces that take advantage of the existing character, planting and features of the site. The proposals include the conservation of existing trees, hedgerows and Cornish hedges. The conservation of this existing mature planting will help create a mature landscape setting for the built development and a logical well defined development parcel. The existing habitats and features will be supported by new planting including grassland, native hedgerows, native woodland, trees, orchard trees, shrubs and wetland features. This combination of conserved existing and new landscape areas will form a connected network of corridors and spaces surrounding the site. These will ensure that not only is a strong landscape framework established for the built development areas but also that there are valuable benefits for wildlife, for pedestrians and cyclists and for the sustainable drainage of the development.

All of the landscape areas (hard and soft) and features will be managed and maintained in the long term. This will be achieved through the implementation of a comprehensive landscape management and maintenance regime, to ensure the successful establishment and continued thriving of the planting and grassland proposals.



The plan has been designed into 'zones' to give each area a distinctive character and sense of place. This character has been heavily influenced by its surrounding context and features, while also being informed by its proposed function.

The landscape character areas are set out below and described in detail in the following pages:

-  Green Infrastructure
-  NAR Zone
-  Spine Road Zone
-  Green Edge Zone
-  Green Spine Zone



Key:

-  Application Site Boundary
-  Character Area: Green Infrastructure
-  Character Area: NAR Zone
-  Character Area: Loop Road Zone
-  Character Area: Green Edge Zone
-  Character Area: Green Spine Zone

Refer to 6853-L-01 General Arrangement Plan

10.2. Green Infrastructure

East West Corridors

Central Green Spine

The existing lane which runs east west through the centre of the site will be retained and enhanced to form a principle driving feature of this development. As an important part of the proposed development, new areas of open space to serve the increased number of people that will be living in the area, including a 'kickabout' area centrally located for access to all. Varieties of Norway maple and Acer platanoides have been included to provide seasonal interest with their vivid autumn colours. Silver birch (*Betula Pendula*) has also been used in the woodland edge areas as they have a naturalistic character and add interest through their bark and form. Oaks will be located along the corridor to allow for succession to the existing mature oak trees.

Northern SuDS Corridor

SuDS features at the lower, northern end of the site will act as a flood mitigation measure. In addition to the SuDS features, wetland scrapes and native planting/grassland will be created to act as biodiversity enhancements along this corridor which runs in an east west direction. Within this matrix of habitats, some areas of informal open space with new areas of children's playspace are located. The play area will be naturalistic in character, and overlooked by new homes to increase natural surveillance. A series of trim trail stations will be located on the footpath. Tree planting in this area will comprise species that are suited to the damper soils that are found in this area, including alders (*Alnus glutinosa*), aspen (*Populus tremula*) and willows (*Salix* spp.).



Materials Palette

10.2. Green Infrastructure

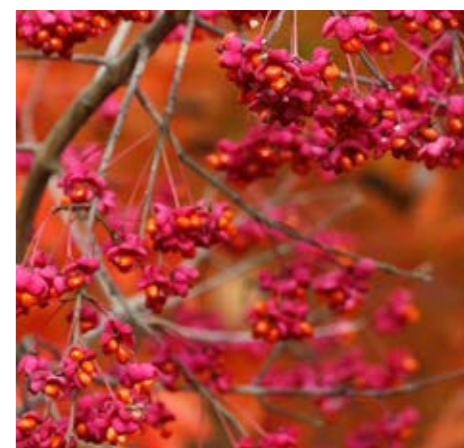
North South Corridors

Focal Entrance Space *

This zone provides an attractive 'first impression' and arrival space to the development, located immediately off the A390 Road. Large trees-Oak (Quercus Robur) and beech (Fagus Sylvatica) frame a focal entrance feature.

Woodland and Orchard Corridors

A number of green corridors will run in a north south direction through the development. These corridors act to link the areas of the site together for accessibility and biodiversity gain. These are primarily formed along existing hedgerow/tree corridors. New tree planting will form a comprehensive element with some corridors benefiting from native woodland planting, while the wider corridors will be planted with orchard tree species. Orchard species will be chosen that are locally distinctive to help reinforce a sense of place to the development. Orchards are an exciting addition to the diverse landscape framework, providing a valuable resource for ecology, education and community food growing.



Materials Palette

10.3. NAR Zone

This is the primary route through the development and the planting in this zone is more formal, providing structure that sets off the built form. Plants such as the evergreen shrub *Viburnum Tinus* and the ornamental grass *Miscanthus* have been used. The *Viburnum* provides an evergreen presence throughout the year and the flowering spikes of *Miscanthus* provide height and movement. These plants, combined with the evergreen ground cover plant, *Pachysandra* act as a foil for the flowers of the Red Hot Pokers and *Salvias* that are also included in the scheme.

Large tree species including beech (*Fagus sylvatica*) and oak (*Quercus Robur*) have been used along the MLR and because of their size and structure they provide identity and act as landmark features. Trees will be positioned as far forward as possible, while taking into consideration highways requirements.

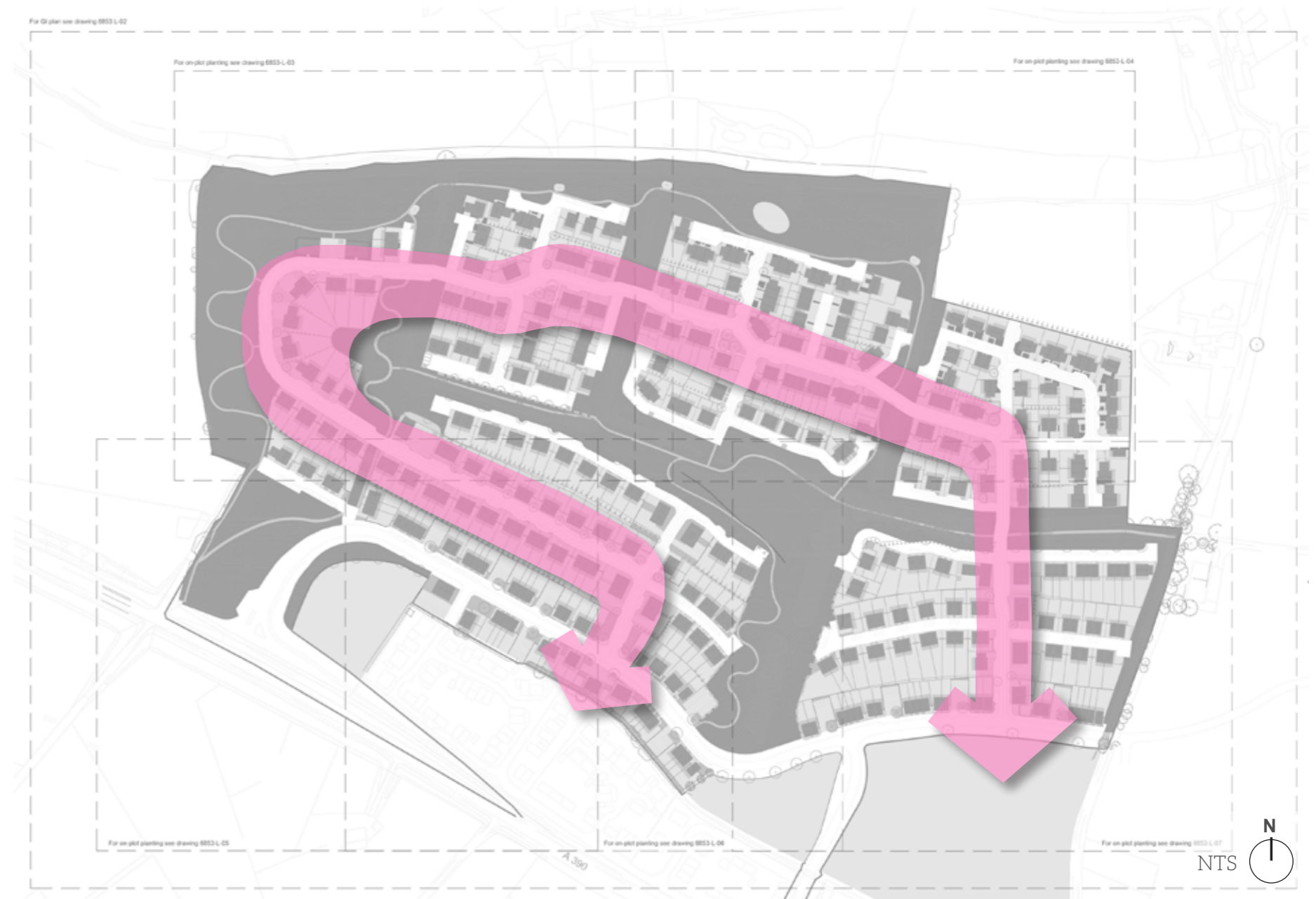


Materials Palette

10.4. Spine Road Zone

The site's secondary route that runs in a loop through the site. The planting in this area has been selected to suit the residential character of this zone with lower and more informal planting than in the NAR Zone. However, the planting still has all-year round structure that provides division and an element of privacy between the plots. The structure is provided through the upright form of Mahonia nitens and this, together with the Viburnum Tinus, provide a green foil to set-off the colour of the Geranium Himalayense that is also included in this scheme.

The street trees specified in this area have been chosen for their form and seasonal interest. Norway maples (*Acer Platanoides*), ornamental pears (*Pyrus Chanticleer*) and a compact cultivars of lime (*Tilia Cordata Streetwise*) provide colour and structure that set-off the built form. Trees have been selected for their compact canopy and rootzones that are suitable in the context of the constraints of residential streets.



Materials Palette

10.5. Green Edge Zone

This area comprises the residential roads in the northern area of the site that run down towards the wooded riverside area at the bottom of the valley. The planting here has been chosen to reflect the wilder, settlement-edge character of this part of the site. The planting is more naturalistic and informal than the planting on the main routes. The deciduous shrub, *Physocarpus*, provides seasonal interest with changes in leaf colour, flowers and fruit. The herbaceous elements of the scheme comprise *Crocsmia*, *Achilleas* and *Ajuga* and these provide colour and texture. Movement and texture is provided through the soft flower heads of the ornamental grass, *Calamagrostis Brachytricha*. These plants are suited to semi-shaded situations as many of the frontages in this part of the development have a north facing aspect. The flowers, leaves and fruit of the plants in this zone provide a range of colours including oranges, purples and dusky reds.

Trees used in this area comprise ornamental hawthorns (*Crataegus Prunifolia*) and ornamental field maples (*Acer Campestre* Arends and *Elsrijk*). These trees provide colour and structure that set-off the built form. Trees have been selected for their compact canopy and rootzones that are suitable in the context of the constraints of residential streets.



Materials Palette

10.6. Green Spine Zone

This is the residential area towards the centre of the site that fronts onto the proposed green spine. The planting has been chosen to reflect amenity character of this area. Woodland type plants: Hydrangea, Sarcococca and Harts Tongue Ferns have been specified. These plants provide a backbone to the softer, more colourful herbaceous planting that is also included the scheme, Rudbeckia and Pulmonaria. The ornamental grass, Calamagrostis Brachytricha provides a long season of interest and an element of movement with its soft, fluffy flower heads.

Trees used in this area comprise ornamental hawthorns (Crataegus Prunifolia) and ornamental field maples (Acer Campestre Arends and Elsrijk). These trees provide colour and structure that set-off the built form. Trees have been selected for their compact canopy and rootzones that are suitable in the context of the constraints of residential streets.



Materials Palette





11. Further Considerations

11.1. Design Review Panel Response

A review was held with the Design Review Panel on 5 August 2015.

The following section of this report indicates the panel's comments along with a response from the Design Team.

It was generally agreed that the input and advice provided by this process was useful and the majority of the comments have been included in the developed design proposals.

1. INTRODUCTION


- Surrounding Context**

The site is located in the east of the town of Truro, close to the River Cornwall Hospital and the site of the former Truro Prison. The site is bounded to the north by the A30, to the south by the A305, to the east by the A30, and to the west by the A305. The site is currently used as a mix of residential and commercial uses. The site is bounded to the north by the A30, to the south by the A305, to the east by the A30, and to the west by the A305. The site is currently used as a mix of residential and commercial uses.
- Site Location**

The site is located in the east of the town of Truro, close to the River Cornwall Hospital and the site of the former Truro Prison. The site is bounded to the north by the A30, to the south by the A305, to the east by the A30, and to the west by the A305. The site is currently used as a mix of residential and commercial uses.
- Outline Planning Permission**

The proposed development is outlined in the following table:

Phase	Description
Phase 1A - 1B	1. New residential development of 100 units. 2. New residential development of 100 units. 3. New residential development of 100 units. 4. New residential development of 100 units. 5. New residential development of 100 units. 6. New residential development of 100 units.
Phase 2A - 2B	1. New residential development of 100 units. 2. New residential development of 100 units. 3. New residential development of 100 units. 4. New residential development of 100 units. 5. New residential development of 100 units. 6. New residential development of 100 units.



4. MASTERPLAN

The masterplan shows the layout of the development, including the roads, footpaths, and green spaces. The masterplan is divided into three main areas: the residential development, the commercial development, and the public open space. The residential development is located in the north and east of the site, the commercial development is located in the south, and the public open space is located in the west. The masterplan also shows the location of the proposed new roads and footpaths.



3. MAIN STRATEGY

- Existing Landscape Features**

The existing landscape features include the River Cornwall, the former Truro Prison, and the surrounding residential and commercial areas. The masterplan aims to preserve and enhance these features.
- Urban and Settlement Existing Landscape Features**

The urban and settlement existing landscape features include the existing roads, footpaths, and green spaces. The masterplan aims to integrate these features into the new development.
- Vegetation Movement**

The vegetation movement strategy involves the planting of trees and shrubs to enhance the landscape and provide shade and shelter. The masterplan shows the location of the proposed vegetation.
- Pedestrian Links**

The pedestrian links strategy involves the provision of safe and accessible routes for pedestrians. The masterplan shows the location of the proposed pedestrian links.



5. DESIGN CODE DIAGRAMS


- Private and Public Space**

The private and public space diagrams show the location of the proposed private and public spaces. The private spaces are located within the residential development, and the public spaces are located in the public open space area.
- Building Heights**

The building heights diagrams show the proposed building heights for different parts of the development. The building heights are determined by the surrounding context and the proposed development.
- Access and Circulation**

The access and circulation diagrams show the proposed roads, footpaths, and public transport routes. The access and circulation are designed to be safe and accessible for all users.
- Landscape**

The landscape diagrams show the proposed landscape features, including trees, shrubs, and green spaces. The landscape is designed to be attractive and sustainable.



DRP Panels

Panel Guidance

Introduction

We are supportive of the general design principles but feel that there are some important aspects of the proposals that can be improved in the next phase of design development.

The Project in its Wider Context

We are aware of many proposals now coming forwards for this important 'corridor of growth' alongside the A390 stretching westwards from Truro towards the A30. The parcel of land to the south east should be co-ordinated as part of the broader masterplan that we earlier reviewed, and we are concerned that the thinking for the neighbouring West Langarth development (to the northwest) is apparently not fully integrated with the strategy for developing this site.

Ideally we would have liked to have been presented with more information about the ideas being worked up on all the adjacent sites as an introduction to the current proposals. We are concerned that unsustainable patterns of development may be evolving that will encourage greater car use and discourage active travel, whilst opportunities to share infrastructure costs are potentially being missed. Each site needs to be considered in the light of overall strategies for movement, landscape, provision of community facilities, etc. within the growth area.

The idea was raised during the review that it might be possible to convene a special joint session of our Panel that might examine these relationships and gain a thorough understanding of the strategic urban design of the whole corridor.

We would welcome that opportunity and would hope that the promoters of this site would be willing participants in such an exercise, if it were arranged. In the meantime, we suggest that scheme drawings for each site include up to date information about neighbouring sites and that they indicate clearly the potential links that may be possible. We certainly feel that the detail of the western end of this site needs to be regarded as only a provisional layout until the prospects for positively relating and connecting to West Langarth have been fully explored. A well designed scheme should include a good street link with frontages along the NAR and a further safe pedestrian link

along the central green route. This will entail redesign of parts of the layout and also may include redesign of the site entrance if two junctions in close proximity on the A390 are not permitted.

The detailed planning consent at West Langarth will have an impact on the layout of the Langarth site however it is important that this is considered carefully and the appropriate connections are provided. Until a more detailed understanding of the West Langarth scheme is achieved, it is not possible to provide a clear amended strategy for the Langarth application. The layout in this Reserved Matters application can be adapted (including A390 junction requirement, pedestrian links, estate roads and tree planting) if required.

In regard to the other employment sites, consideration has been given to the relationship of the proposed housing to the future Reserved Matter application sites including the consented stadium site.

Urban Design within the Layout

It was explained that detail for the 'mixed-use' parcels of land allocated within the site layout had not yet been developed. Whilst we can understand the difficulty in bringing all elements of the reserved matters applications forward at the same pace, it does mean that we have no idea whether these parts will significantly contribute to the layout and whether they will be interactive, socially relevant and useful for the future residents (becoming a 'heart' for the new community) or perhaps they might be essentially private uses and seldom visited by most of the new inhabitants. This means that we are uncertain about how people are likely to move around within the neighbourhood and whether the network of streets and paths will be a good fit for the routes and destinations that are likely to be most used.

We also asked about wider facilities (eg the nearest primary school, larger shops or health facility) that will be located off site – again these important 'attractors' if clearly identified might promote a stronger strategy for safe and active travel on foot or cycle and therefore provide for a more attractive, healthier and more sustainable place to live. The travel distances should be calculated to essential facilities and the movement structure inherent in the

current layout then re-tested and clarified. We would assume that a 400m distance to local facilities would be ideal. This may also help to predict the best uses for the mixed-use sites.

As noted above, illustrative layouts will be provided outside the 'red line' of the application. This information will ensure good frontage, aspect, access and appropriate massing for those uses.

This Reserved Matters application is a part a larger masterplan and the mixed use requirements are provided in other phases. Connectivity of these sites have been considered during the design process

The broad structure of the site has been largely determined by the sloping topography and the framework of existing field boundaries. It is logical and largely well-resolved. We commend the arrangement of urban blocks and there are only a relatively few areas of the layout where natural surveillance will need enhancing by the introduction of greater fenestration of gable ends.

Details have been developed for site specific elevations and frontages.

We also commend the establishment of a hierarchy of streets which should help to make the new neighbourhood more legible and easier to navigate as a visitor. Where this legibility is less good is in the primary connection between the NAR and the main street within the neighbourhood. This connection is not strongly enough announced within the layout and might easily be taken to be an inconsequential side street. Greater width to this street and stronger articulation of the junctions at each end should be explored. In more general terms there is a lack of small scale 'place-making' within the layout and there ought to be opportunities to better define street junctions as urban 'nodes' which would again assist with legibility, but also may provide natural locations for minor facilities such as benches, bus stops, significant tree-planting, etc. In the northern half of the layout there is an opportunity to recognise the centre of the urban blocks (the middle of the former fields) as acting in the same way. We are not convinced that the 45 degree geometry here will be successful and we think that it ought to be possible to form small urban spaces which more clearly define 'places' that could act as minor social focal points within the neighbourhood. Having established a series of 'places' then these might provide good locations for a few focal buildings, again aiding legibility and helping to form localised variants within the character of the neighbourhood. The 'cul de sac' streets that approach the badger set from either side in the centre of the plan also seem unresolved in terms of urban design. Perhaps the status of these streets needs to be reduced and some visual termination at their ends is surely desirable? Urban and landscape design need to combine here in order to

11.1. Design Review Panel Response

signal the appropriate relationship between the green space set aside for the badgers and the trafficked ends of these streets. There needs to be an elegant reconciliation of these competing ‘worlds’.

These comments have been addressed and a reinforced sense of place has been developed in key locations. By providing a range of materials, different heights and roof forms, more interest is achieved. The ‘ends’ of streets have also been improved.

The Nature of Streets

We questioned whether the sloping topography may be registered in some way across the street cross-sections. We recognise that providing level access is vital for the general conditions, when houses are to either side but perhaps there are particular circumstances along the length of the streets where the opportunity to respect and reveal the slope within the public realm could be seized? This could improve the character and make the project much more distinct.

We are pleased to see a split level house type being deployed and you have recognised the challenge of presenting an unrelenting lower ground floor of garage doors to the street. You explained that front doors would be interspersed and that a variant type might occasionally see the garage replaced by a habitable room (although we were not convinced about the effect this might have on parking provision).

When car parking spaces are provided at ground floor and to the side of properties, split level housing achieves up to 3 parking spaces per dwelling. Therefore we confirm that sufficient car parking will be provided with an average of at least two parking spaces per dwelling.

We are certainly not yet convinced that this long terrace will have a satisfactory street presence and would urge more testing of its true appearance with accurate 3-dimensional modelling. We think that the terrace might need to be broken into shorter lengths and / or its strict relationship to the street potentially relaxed?

The enclosure of the street needs to be less formal and overbearing. Addressing this may lead to the loss of some units in this part of the plan, but we are hopeful that a re-working of the western end of the layout may see those potentially replaced/reinstated?

The split level housing has been developed to provide more variety and spacing between properties along the upper section of the loop road.

More generally, we think that it would be helpful for you to construct street elevations for other key conditions within the urban layout.

The house elevations have been adapted in line with this strategy and have been enhanced to address key urban nodes within the masterplan.

In the plan arrangement, the highway tracking within the street and the line of street enclosure as formed by the fronts of buildings need not be so directly related. We commend the inclusion of street trees and the formation of avenues in the scheme but feel that the visual impact will not be as great as intended with the current locations. A closer examination of their positioning may reveal that their stems could be brought further forward – so that the mature canopies are more prominent in the final streetscape of the neighbourhood. We do encourage that tree-planting is not for initial effect, but as an asset that can properly mature to an appropriate scale. We are mindful of the conflicts often encountered with underground services and it may be necessary to agree and confirm below-ground cross sections through streets in order to ensure co-ordination.

Tree positions have been amended to address this comment and enhance the urban character with the trees in this location.

There is little evidence yet of thinking about the front curtilages of properties – the materials and detailing of these can help lift the quality and character of streets within a neighbourhood and we would urge attention to this in the next level of design coding. Providing opportunities for personalisation of the building frontages (small balconies, micro front gardens or planting strips, window boxes, hanging baskets) would add value and distinctiveness to the streetscape.

Following these comments, detailed consideration has been given to the front curtilage of the properties.

Other Landscape Dimensions of the Project

There are many good qualities about the landscape strategy – we are a little concerned about the slope on the ‘kickabout’ area, but recognise that the site presents very little opportunity for level open space of any decent size. The ‘trim trail’ and informal linear landscape along the northern edge has good potential. We hope that a public path or route can be established that links around the perimeter of the neighbourhood so that circular walks are

possible. We do not immediately see the logic for creating the landscape buffer planting at the western end of the site and this again strengthens the need for discussions with the neighbouring site.

The requirement for the landscape buffer is a requirement of the outline consent to mitigate wider landscape impact. It is likely that this will be adapted should a detailed strategy for the West Langarth site be progressed.

The sloping site may present good opportunities for neighbourhood-scale water-harvesting. Opportunities for the inclusion of allotments within the open spaces should be explored.

Water harvesting will be considered if accepted by housebuilders. Allotments will be provided on later phases as part of the outline consent for the wider masterplan.

House Types and their Detail

We did not spend a great deal of time discussing the individual house-types but given that this is a reserved matters application, we think this should be addressed either by presenting acceptable designs that will actually be built or providing more detailed design coding to support a further planning condition. We understand that the generic design concepts presented were the start of a further conversation with potential house-builders that might be partners in the project and would welcome an opportunity to review this as a further development of the scheme. The planning was certainly efficient and we recognise that further adjustment is likely to be mainly in the constructional detailing and materials. The close eaves and verge details of Cornish vernacular buildings is worthy of study and helps to ensure a fidelity to place. Similarly, there are only a few types of roof and wall material that have good resonance with historical precedents. There will naturally be a desire for variety and to avoid monotony, but we will look to the design codes to establish a clear palette of materials and some compositional ground rules so that there is not the endless and wilful variety that characterises many speculative housing developments.

Much consideration to the finer detail of the individual housing and grouping has been undertaken since the review. The composition of similar housing has been developed to avoid monotony and provide focal points at key nodes.

Again, there may well be merit in identifying ‘focal buildings’ which may be afforded specific treatments? A strategy for varying some roof pitches could also be considered - particularly as the sloping site will afford views over the rooftops.

A variety of roof pitches have been considered however we feel this can look contrived and unattractive. We consider the variety of house types and topography will provide sufficient variety.

We were disappointed that there seemed to be little ambition or clarity in terms of the sustainability of the construction and its performance in use. The site layout is relatively good in terms of solar aspect for roofs and this is a promising start, but the integration of solar panels or more sophisticated approaches had apparently not been considered?

The applicant is committed to creating a sustainable development and their proposed approach is a pragmatic and practical view outlining the longer term advantages of combining ‘enhanced passive measures’ with carbon saving technologies, which will aim to achieve a 15% improvement over 2010 Building Regulations for all dwellings. The proposed ‘Fabric First Approach’ emphasises the importance of a lean, clean, green approach to sustainable development. In particular the proposed development is to focus on the following:

Passive Solar Gains – The development will benefit from considerable passive solar gains due to its generally favourable southerly orientation, which will reduce the space heating demand of the development. Furthermore, the internal layout of the buildings will be such that wherever practicable the living/occupied areas will face south and therefore benefit from a greater amount of solar gain than the rest of the building, which will not have as high a heating demand.

Heating Controls - Appropriate heating controls will be installed which have due regard to the respective size of the buildings, with dwellings benefiting from time and temperature zone controls where appropriate. As such, it will be possible for future occupants to program the heating times of at least two space heating zones independently, in addition to having specific heating controls such as thermostatic radiator valves. Additionally, a delayed start thermostat and weather or load compensator will be specified to maximise the performance of the heating system.

Cooling - It is the intention to reduce the need for active cooling as far as possible. This will be achieved through the specification of non-mechanical measures such as enhanced thermal insulation and an air tight build. Further, deciduous trees and extensive areas of landscaped open space will be incorporated as part of the development to facilitate localised cooling. Deciduous trees provide shading in the summer and facilitate solar gains in

the winter. Openable windows will be a necessary fixture in all dwellings to encourage natural ventilation. These will help facilitate cross-ventilation, convective-ventilation and night purging.

Ventilation - Air tightness standards will conform to Approved Document Part L1A Accredited Construction Details. These details incorporate an improvement over Building Regulations requirements by reducing air leakage loss and convective bypass of insulation.

Low Energy Lighting - 100% of internal lighting throughout the development will be of the low energy type. External lighting will also be low energy and controlled through PIR sensors or daylight cut-off devices.

Thermal Bridging - Constructive Details (calculated psi-values for details with aircrete block) will be utilised as a minimum at the proposed development to maximise the performance of each house, which will follow the fabric first approach and enable in excess of the 15% improvement over Building Regulations to be achieved without the need for traditional, expensive renewable technologies.

High Efficiency Gas Boiler - Additionally the utilisation of high efficiency (>89% efficiency SEDBUK 2009) and low NOx (<40mg/kWh) gas boilers to supply all heating and hot water requirements for each dwelling will ensure that CO2 and NOx emissions are minimised.

Waste Water Heat Recovery (WWHR) - A passive heat exchange system that extracts the heat from the water that would normally flow down the drain while a shower is running and transfers this heat to the cold mains water pipe before reaching the combination boiler or hot water cylinder, and the shower mixer tap’s cold water feed. This means that the boiler doesn’t need to expend as much energy to heat the shower water to the required temperature, thus reducing energy consumption.

In regards to additional specific ‘green’ measures including solar panels we agree that the orientation will allow for this provision however this is not currently being proposed to be provided due to fabric first approach being adopted. Further detail is provided in the Energy Statement.

We find it particularly unfortunate that we did not have time to explore the design of the apartment buildings with you and these (together with their associated parking) will be another important dimension of the detailed design.

The apartment blocks have been reviewed to provide more interest.

APPENDIX – Comments on neighbourhood safety and security (Martin Mumford)

- *Note and welcome use of back to back gardens. Would hope that garden boundaries will be secure as I am seeing more and more larger developers showing rear garden boundaries as 900mm post and wire which is security wise fairly useless. I often recommend 1.5m close boarded topped with 300mm trellis as allows neighbour interaction without compromising security/privacy. This combination works well also for providing extra surveillance into parking courts or rear communal access paths-not sure if there are any of these?*
 - This will be included.
- *The parking courts I feel are acceptable I am encouraged that frontage is shown to most of these hopefully this will be delivered and be meaningful – windows from commonly habited rooms.*
 - Noted.
- *Appear there will be good frontage/overlooking to internal streets.*
 - Noted.
- *The central POS running east–west also appears fairly well overlooked as does the area on the northern edge. With the green corridors/orchards running north south appears they have tried to show some overlooking/ frontage but these may often be gable end windows? Would rather see some end of block plots turned to face these spaces if possible?*
 - Noted we will adapt where appropriate.
- *Where rear garden fences will have to abut the open spaces would like to see some appropriate defensive planting within the open space to discourage people getting too close to the fence.*
 - We agree this is a good idea and will be included.
- *Will there be any lighting for green corridors?*
 - Some low level lighting but due to ecological reasons lighting is minimised.
- *One area I have some concerns with is at the western edge where there is a curved arc of units with open space including trees shown behind. This does not appear that well overlooked from elsewhere and these rear gardens appear potentially more vulnerable. Can this be looked at?*
 - Noted. This area will be provided with an elevated dense landscape strip.
- *Landscaping should not obliterate natural surveillance of open spaces especially the play areas. Will there be any specific stuff for teenagers eg youth shelters and where would these be?*
 - Noted. We shall consider.

11.2. Cornwall Design Guide

The Cornwall Design Guide aims to promote high quality design and development in a geographically diverse area, with a strong local identity and connection to historical character and culture. During the design process, the requirements and recommendations indicated in the Cornish Design Guide have been continually referred to. The following items have been considered and included in the design proposals:

1. Connections

Creating connections that are well lit, safe and attractive, where pedestrian and cycle routes pass in front of peoples homes. New connections should integrate neighbouring developments.

2. Facilities and Services

Provision or proximity to local services such as shops, schools, workplaces, cafes and pubs. Everyday facilities should be within walking distance, easily accessed by pedestrians and cyclists.

3. Public Transport

Encourage the use of sustainable forms of transport, by providing good, high frequency public transport nearby, and supporting new or existing park and ride schemes.

4. Meeting Local Requirements

Consider type and size of home and the various forms of ownership. Aim for a housing mix that will create a broad-base community.

5. Working with the Site and its Context

Maximise the context, using existing landscape features, topography, existing buildings, micro climate, historic character and views, where appropriate.

6. Creating Well Defined Streets and Spaces

Use building elevations and building positions to define the character of the streets, as well as using a strong landscape scheme to create pleasant outdoor communal spaces.

7. Character

Use local features with a distinctive character as a starting point for design, responding in a contemporary way. Consider local landscape traditions, particularly boundary treatments.

8. Architectural Integrity

The scheme should develop from high quality architecture, materials and detailing.

9. Streets for All

The streets should be designed as social spaces, reducing vehicle speed to create safe spaces for the community that allow pedestrians and cyclists priority. Design an entrance area and door scheme that will enhance kerb appeal and contribute towards a visually interesting street.

10. Car parking

Enough parking for residents and visitors, in good proximity to homes, designed so that parking doesn't dominate the streets, and responds to the type and density of housing.

11. Public and Private Spaces

Clearly define public and private spaces using materials, railings, walls and planting. Residents should be able to overlook public spaces. Multi-functional spaces that serve a wide age-range of users should be provided, along with a maintenance plan and management for sustainable funding of shared or public spaces.





1. Multi-functional communal spaces



2. Connections, Site and Context



3. Car Parking



4. Character

11.3. Lifetime Homes

Flexible Design for Life

A proportion of housing has been designed to Lifetime Homes standard as required in the outline consent. The following principles are provided:

- Inclusivity
- Accessibility
- Adaptability
- Sustainability
- Good value

16 Design Criteria

The following design criteria is considered when designing Lifetime Homes:

1. Parking
2. Approach to dwelling from parking
3. Approach to all entrances
4. Entrances
5. Communal stairs and lifts
6. Internal doorways and hallways
7. Circulation space
8. Entrance level living space
9. Potential for entrance level bed-space
10. Entrance level WC and shower drainage
11. WC and bathroom walls
12. Stairs and potential through-floor lift in dwelling
13. Potential for fitting of hoists and bedroom/bathroom
14. Bathrooms
15. Glazing and window handle heights
16. Location of service controls

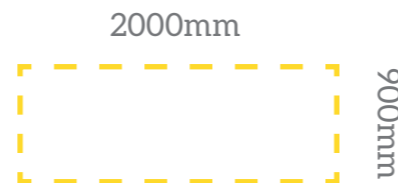
Influence on house types

We found that the criteria that had the most influence on the house types were as follows:

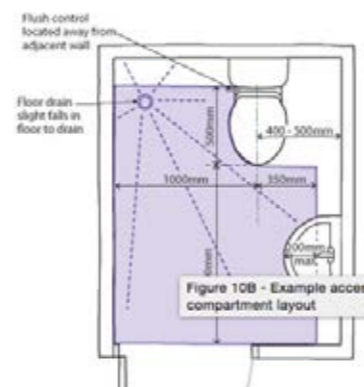
1. Sizing requirements for internal doorways and hallways

Internal dwelling doors	
Direction and width of approach	Minimum clear opening width (mm)
Straight-on (without a turn or oblique approach)	750
At right angles to a hallway / landing at least 1200mm wide	750
At right angles to a corridor / landing at least 1050mm wide	775
At right angles to a corridor / landing less than 1050mm wide (min. width 900mm)	900

2. Potential for entrance level bed-space



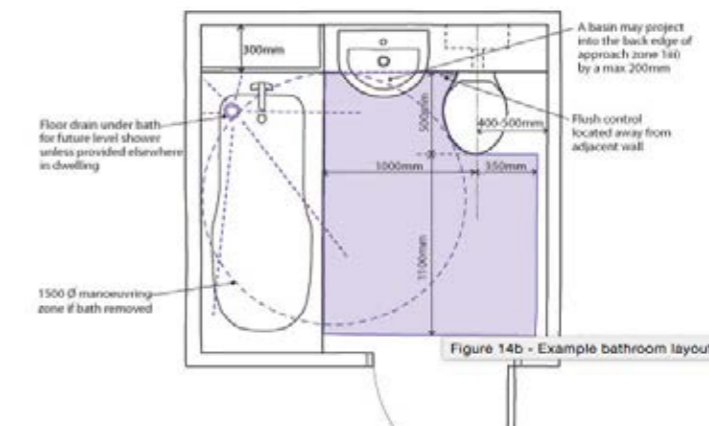
3. Need for a fully accessible WC with shower drain at entrance level



4. Potential through-floor lift in dwelling



5. Bathroom layout requirements



11.4. Secured by Design

Secured by Design (SBD) is a police initiative to guide and encourage those engaged within the specification, design and build of new homes to adopt crime prevention measures. This is the latest security standard that has been developed to address emerging criminal methods of attack on households, so that communities can be sustained long term with low crime rates. The SBD standard gives the following requirements and recommendations:

The Development

Layout and Design Security of the wider masterplan has to be considered. The design proposals have been reviewed in line with these requirements and adapted where necessary:

- Layout of roads and footpaths.
- Through roads and cul-de-sacs.
- Footpath design.
- Planting next to a footpath.
- Seating next to a footpath.
- Lighting of footpaths.
- Footpaths on phased developments.
- Communal areas.
- Dwelling boundaries.
- Layout and orientation of dwellings.
- Gable end walls.
- Rear access footpaths.
- Dwelling identification.
- Climbing aids.
- Car parking.
- Underground car parking.
- Planting.
- Street lighting.

Many of these requirements will be reviewed during the early design stages of the layout. The resultant layout provides natural security and safety.

Security of Dwelling

Detailed security of dwellings and ancillary security requirements are required and consideration has been given to the following:

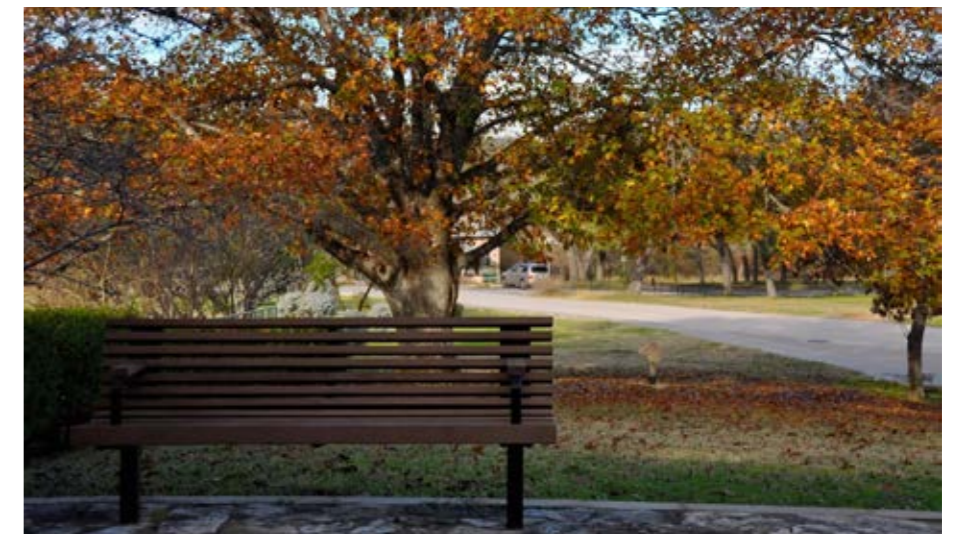
- Front Door.
- Side and back doorsets.
- Sliding patio/Bi-fold doorsets.
- Communal dwellings.
- Flat entrance doorsets served off a shared corridor or stairway.
- French windows and external glazed double doorsets.
- Garages (interconnecting doorsets).
- Windows.
- Rooflights.
- Dwelling security lighting.
- Conservatories.
- Intruder alarms.
- Utilities.
- Party wall construction and sound insulation.
- Loft hatches in communal areas.



3. Bicycle storage



2. Dwelling boundary



1. Seating next to a footpath

11.5. Building for Life

The Building For Life 12 documentation has been reviewed during the design process and many of the recommendations and good practice methods have been adopted in the design proposals. The following considerations and actions have been included:

1. Connections

Does the scheme integrate into its surroundings by reinforcing existing connections and creating new ones, while also respecting existing buildings and land uses around the development site?

2. Facilities and Services

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

3. Public Transport

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

4. Meeting Local Housing Requirements

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

5. Character

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

6. Working with the Site and its Context

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

7. Creating Well Defined Streets and Spaces

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

8. Easy to Find Your Way Around

Is the scheme designed to make it easy to find your way around?

9. Streets for All

Are streets designed in a way that encourage low vehicle speeds and allow them to function as social spaces?

10. Car Parking

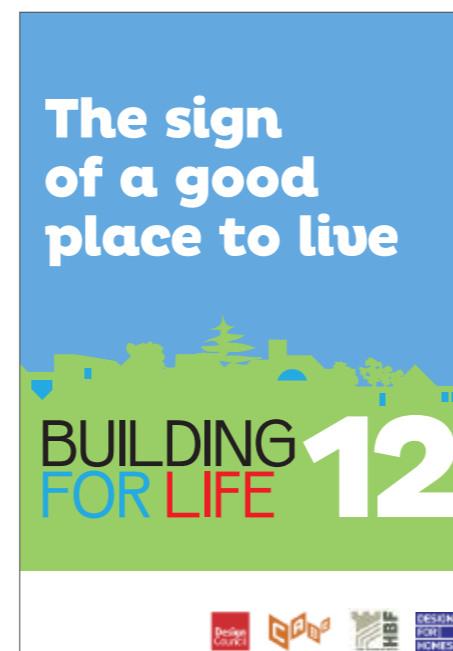
Is resident and visitor parking sufficient and well integrated so that it does not dominate the street?

11. Public and Private Spaces

Will public and private spaces be clearly defined and designed to be attractive, well managed and safe?

12. External Storage and Amenity Spaces

Is there adequate external storage space for bins and recycling as well as vehicles and cycles?



1. Local character



2. Car parking responding to use of residents



3. Architectural integrity

11.6. Energy and Sustainability

The applicant is committed to creating a sustainable development and their proposed approach is a pragmatic and practical view outlining the longer term advantages of combining 'enhanced passive measures' with carbon saving technologies, which will aim to achieve a 15% improvement over 2010 Building Regulations for all dwellings. The proposed 'Fabric First Approach' emphasises the importance of a lean, clean, green approach to sustainable development. In particular the proposed development is to focus on the following:

Passive Solar Gains - The development will benefit from considerable passive solar gains due to its generally favourable southerly orientation, which will reduce the space heating demand of the development. Furthermore, the internal layout of the buildings will be such that wherever practicable the living/occupied areas will face south and therefore benefit from a greater amount of solar gain than the rest of the building, which will not have as high a heating demand.

Heating Controls - Appropriate heating controls will be installed which have due regard to the respective size of the buildings, with dwellings benefiting from time and temperature zone controls where appropriate. As such, it will be possible for future occupants to program the heating times of at least two space heating zones independently, in addition to having specific heating controls such as thermostatic radiator valves. Additionally, a delayed start thermostat and weather or load compensator will be specified to maximise the performance of the heating system.

Cooling - It is the intention to reduce the need for active cooling as far as possible. This will be achieved through the specification of non-mechanical measures such as enhanced thermal insulation and an air tight build. Further, deciduous trees and extensive areas of landscaped open space will be incorporated as part of the development to facilitate localised cooling. Deciduous trees provide shading in the summer and facilitate solar gains in the winter. Openable windows will be a necessary fixture in all dwellings to encourage natural ventilation. These will help facilitate cross-ventilation, convective-ventilation and night purging.

Ventilation - Air tightness standards will conform to Approved Document Part L1A Accredited Construction Details. These details incorporate an improvement over Building Regulations requirements by reducing air leakage loss and convective bypass of insulation.

Low Energy Lighting - 100% of internal lighting throughout the development will be of the low energy type. External lighting will also be low energy and controlled through PIR sensors or daylight cut-off devices.

Thermal Bridging - Constructive Details (calculated psi-values for details with aircrete block) will be utilised as a minimum at the proposed development to maximise the performance of each house, which will follow the fabric first approach and enable in excess of the 15% improvement over Building Regulations to be achieved without the need for traditional, expensive renewable technologies.

High Efficiency Gas Boiler - Additionally the utilisation of high efficiency (>89% efficiency SEDBUK 2009) and low NOx (<40mg/kWh) gas boilers to supply all heating and hot water requirements for each dwelling will ensure that CO2 and NOx emissions are minimised.

Waste Water Heat Recovery (WWHR) - A passive heat exchange system that extracts the heat from the water that would normally flow down the drain while a shower is running and transfers this heat to the cold mains water pipe before reaching the combination boiler or hot water cylinder, and the shower mixer tap's cold water feed. This means that the boiler doesn't need to expend as much energy to heat the shower water to the required temperature, thus reducing energy consumption.

In regards to additional specific 'green' measures including solar panels we agree that the orientation will allow for this provision however this is not currently being proposed to be provided due to fabric first approach being adopted. Further detail is provided in the Energy Statement



© Keep Architecture Ltd.
1.3 Temple Studios
Bristol, BS1 6QA
t. 0117 325 0359
www.keeparchitecture.co.uk