- DESIGN GUIDANCE: LAYOUT -

Chapter 5 begins the Design Guide's look at how the various aspects of development form (the various components of the design process, which are identified in Chapter 2) can be applied to the particular character and qualities of the conservation area, to produce locally distinctive development.

The layout provides the basic plan on which all other aspects of development form and the uses of a development depend.

DESIGN GUIDANCE: LAYOUT

Principles of good practice

1. Site analysis is a fundamental part of the design process, as it drives the design concept for the site and assists in the achievement of successful development. Rigorous site analysis will be essential for larger development sites, but even small one-off infill development, or domestic projects such as an extension, can benefit from the basics of site analysis. Site analysis should form part of a supporting Design and Access statement for any planning application.

2. As part of the site analysis process, and in addition to a basic site survey plan, a constraints plan should be drawn up. Identify trees (noting any particularly important ones); historic structures, including listed buildings, and any known or suspected archaeological interest; culverts, sewers and services; watercourses and any required buffers which must stay free of development; if access to the site is established, mark visibility splays. A separate tree survey may be necessary, if the site is heavily vegetated. It may also be necessary to produce a separate plan, identifying assets and opportunities, such as key views (both into and out of the site) and landmarks.

3. Look at old maps and plans – they can be used for inspiration or 'flavour', if not for direct reinstatement.

4. Flexibility throughout the design process: Key routes and linkages, as well as highway access/junctions should be set down early, based on appraisal of the existing site and it assets; the detail of road and building layout should emerge later, as successive stages of the design process are investigated: roads and spaces should respond to buildings and uses; buildings should not simply be placed into a pre-determined layout.

LAYOUT

5.1 What are the components that come together to determine the 'layout' of a development?

Urban structure
The essential diagram of a place, showing:

- The relationship between new development and nature, land form and existing buildings
- The framework of routes and spaces that connect locally and more widely, and the way developments, routes, open spaces and precincts relate to one another

Urban grain
The nature and extent of the subdivision of the area into smaller development parcels showing:

- The pattern and scale of streets, blocks and plots
- The rhythm of building frontages along the street as a reflection of the plot subdivision

Density and mix
The amount of development and the range of uses this influences, to include:

- The intensity of activity relative to a place's accessibility
- The place's vitality relative to the proximity and range of uses
- The development's viability

IHCA PDG1	**Settlement patterns and urban grain** Development will be expected to reflect and respect existing settlement patterns. The choice of site, and the orientation, scale, density and proportions of the proposed development on that site, must be sympathetic to the historic form of the area and must not result in a loss of the legibility of historic settlement patterns.

IHCA PDG2	**Large developments and tall or bulky buildings** The full impact of large developments or individual bulky/tall buildings on long range views and the setting of existing historic buildings will be a consideration when assessing proposals for development. Particular attention will be given to the effect that such proposals would have on the transition between built form and rural land, especially on the fringes of existing historic mill sites and small settlement groups. Development which would cause harm to this aspect of the IHCA character will not normally be permitted.

IHCA PDG3	**Tall or bulky buildings and landmark historic structures** The full impact of large developments or individual bulky/tall structures on the hierarchy of buildings within a particular group will be a consideration when assessing proposals for development. Development which has an overbearing effect on a group or inhibits the dominant/landmark qualities of its principal historic building(s) will not normally be permitted.

IHCA PDG4	**Infilling of key roadside gaps sites and breaks in development** The development of vacant plots or open spaces along the main roads of the conservation area will be permitted only where a) key views would be preserved or enhanced, and b) the development would not result in the infilling of significant breaks in built form or the merging of visually and/or historically distinct settlements / groups of buildings.

IHCA PGD5	**Landscape character** Development proposals should seek to conserve the special features and diversity of the different landscape types found throughout the IHCA, particularly as set out in the Character Parts analysis in the IHCA Character Appraisal.

[Above] Design guidance in the IHCA Management Proposals SPD. Other policy and design guidelines (PDGs) may also be relevant: see Chapter 3 of the SPD.

IHCA PDG6	**Trees and significant green areas** Development will usually be permitted only where proposals do not entail the loss of existing trees and/or areas of vegetation that make a significant positive contribution to the character and appearance of the conservation area. Proposals for departures will only be acceptable in exceptional circumstances, where the impact of losing the existing trees or areas of vegetation can be genuinely mitigated or compensated by planned re-planting in a manner which would enhance the character or appearance of the conservation area.

IHCA PDG18	**Canals and canalside development: infilling of key canalside gap sites and breaks in development** The development of vacant plots or open spaces along the canals will be permitted only where a) key views would be preserved or enhanced, and b) the development would not result in the infilling of significant breaks in built form or the merging of visually and/or historically distinct settlements / groups of buildings, and c) it would not result in uncharacteristic heavy enclosure on both banks of the canal Proposals for departures will only be acceptable in exceptional circumstances, where there is an important strategic reason for deviation. Such proposals will be expected to perform well against all other relevant policy and design guidelines contained in the IHCA Management Proposals SPD.

IHCA PDG35	**Car parking, vehicular and pedestrian access** When considering development proposals, the impact of any associated new vehicular/pedestrian access points, alterations to means of access, or provision of car parking, will be a significant consideration. New development will not normally be permitted where parking or access arrangements would be achieved at the expense of historic fabric, characteristic enclosure and urban grain or the appearance of the conservation area.

| IHCA PDG36	**Enclosure and urban grain** In parts of the IHCA which are recognised as having suffered from erosion of enclosure and loss of historic character, new development should aim to enhance the degraded built environment and reinstate historically typical urban grain. Proposals which improve enclosure, where historically appropriate to the conservation area, and which enhance the context of any surviving historic buildings (within or adjacent to the site) will be favoured.

5.2   Site analysis is a fundamental part of the design process, as it drives the design concept for the site and assists in the achievement of successful development.

5.3   This chapter will be most relevant to larger development sites, although even small one-off infill development, or domestic projects such as an extension, can benefit from the basics of site analysis.

5.4   On larger and sensitive sites, plans, sketches and explanatory information should be used to demonstrate the influence of townscape and public realm considerations upon the proposal. A full site analysis should illustrate the constraints of the site and its opportunities (existing assets, such as historic buildings, good views or well-established trees; as well as discordant features of the site, which offer opportunities to enhance the urban grain of the area and knit the development into its surroundings).

5.5   Consideration should be given to:

- Legibility, permeability, views and vistas
- Layout, form, scale and character of both the existing site and its surroundings
- The social, economic, and functional roles of the site
- Relationship to existing infrastructure, such as transport and pedestrian or cycle links; plus services including shops and other community facilities
- Public open space
- Significant landscape, environmental and ecological features
- The historic environment, including archaeology and surviving structures on site and nearby

5.6   The Council's Residential Design Guide (SPG) and the Built Environment chapter of the Stroud District Local Plan provide further information on required site analysis.

URBAN STRUCTURE AND URBAN GRAIN IN THE CONSERVATION AREA

5.7   There are essentially two facets to successfully rooting new development into an historic environment, as far as urban structure and urban grain are concerned:

- Integration: ensuring that new development preserves the established character and appearance of the conservation area by echoing or mimicking the existing urban grain, and maintaining or improving the existing urban structure, where both these aspects are already well-defined and already function appropriately

- Enhancement: improving a degraded urban grain and 'repairing' it in a locally distinctive way. This could potentially be achieved by reasserting previous historic characteristics of the site that have been eroded over time; or by adopting a 'model' of urban grain from elsewhere, which would be appropriate both for the site and for the type of development proposed

Landscape and townscape context: recognising a distinctive urban grain

5.8   The terms 'urban structure' and 'urban grain' do not only apply to the conservation area's urban parts, just as 'urban design' does not only pertain to towns and large villages. Rural areas and the countryside have an urban structure and an urban grain too. How a place will look and feel is determined by its underlying structure and form.

5.9   Urban grain is one of the most important contributing factors in making one Character Part different from another in the conservation area (see the IHCA conservation area Character Appraisal volumes 1 and 2). Understanding how the urban grain of an area works is an essential building block in determining an appropriate overall character for a new development, and then shaping a layout.
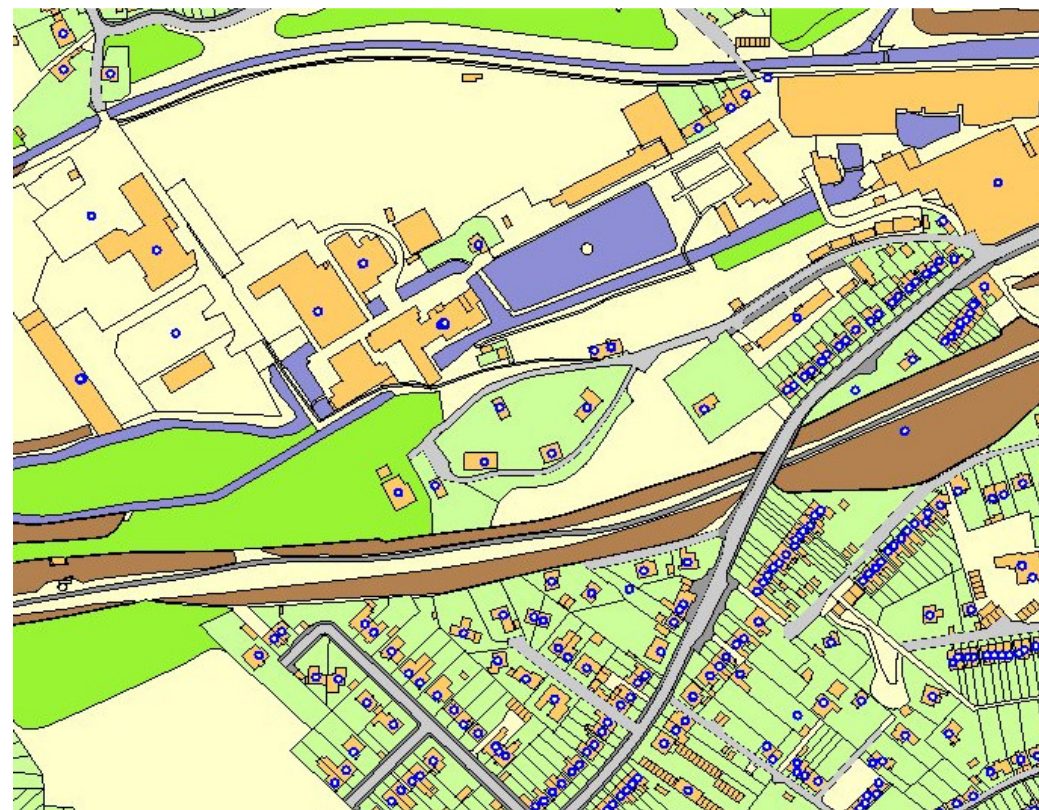
[above] Industrial valley floor; and valleyside residential areas

Very typical urban Stroud valleys pattern of settlement. The valley floor is predominantly occupied by industry, sandwiched between the parallel linear infrastructure of the canal, the river, the railway and the road. The main road and the railway sit at a slightly elevated level. Mills sit at intervals along the watercourse, separated by large areas of open space, which was historically floodmeadow (sometime used as tenter closes, for laying out cloth to dry). Industrial areas characterised by large building footprints, often aligned in a grid-like pattern and oriented along (or at 90° to) the watercourse. Complex spaces, defined and enclosed by built form, rather than being formal 'roads' with pavements etc. Industry sits on towpath side of the canal, balanced by open undeveloped space on the off-side. Hard, continuous enclosure along road and canal edges of the industrial site, with built form sitting right up against the towpath or the pavement.
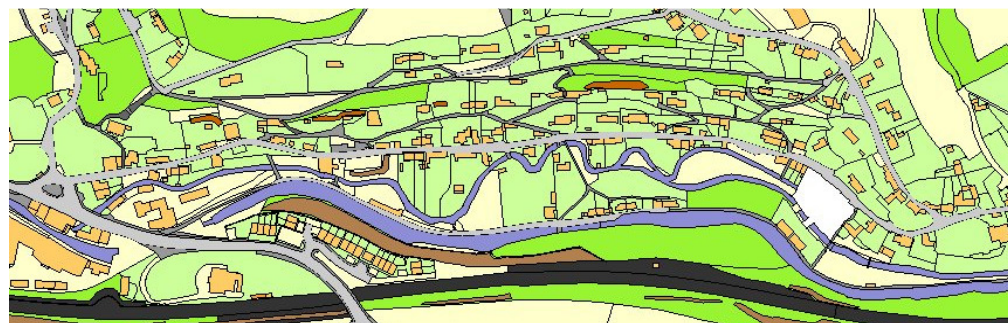Contrast between the industrial valley floor and the housing areas: compact, dense grain, with relatively little publicly visible open space (although houses have fairly generous private gardens, enclosed to the rear. Terraces form a continuous building line, strongly aligned to the roads. Long narrow plots with narrow, deep buildings. C19 and early C20 suburb expansion, related to construction of C19 road. Rows of houses, dating predominantly from the mid- to late-19th century, populate the valley slopes on land which was opened up for development by the building of the main road. Building orientation influenced by sloping topography: the majority of buildings are aligned north or north-west, looking down into the valley. This area characterised by streets with pavements, rather than lanes and roads.

[left] Rural settlement on the Severn Vale – village

Buildings sit within generally large plots. Plots are often long and narrow. Buildings are distributed in several ways: they may sit quite centrally within their plot with gated private driveways (particularly the case for the larger buildings, such as church and school, or the higher status houses, as well as more modern houses – some of which are not particularly characteristic of the settlement), or may be strongly aligned to the canal or road, in rows, forming a frontage with continuous enclosure. There is one principal route through the settlement, with a spur coming off it, leading to a 'dead end' at the riverside. Narrow tracks, sometimes long and winding, provide access to properties that are set back from the road – these include farm groups.

There is a considerable amount of open and/or green space within the heart of the settlement (including paddocks and orchards) which, together with the watercourses, tends to fragment the settlement into dispersed clusters.

The conservation area has a huge diversity when it comes to urban grain. Urban grain is a big contributor to the differences between the IHCA Character Parts

[left] Rural settlement on the Severn Vale - hamlet

A very sparsely populated area, with tight clusters grouped around key, high status buildings: manor house, farmhouse, church. The principal domestic buildings (relatively large houses) sit within generous plots, set well back from the road and accessed via narrow single-track private drives. Ancillary buildings (farm buildings, stables etc) sit nearby, but with distinct separation from the domestic curtilage of the houses. They tend to hug the plot boundaries, forming strong, hard edges – they tend to be inward-facing, grouped around a yard or addressing a track/drive and turning their backs on the surrounding fields.

The modestly scaled cottages (south east corner) are grouped in a row at right angles to the road, continuing the prevailing trend for long, narrow building forms. They sit within long, narrow plots, with small front gardens.

One principal route through the settlement – a narrow lane without pavements. The dark grey that appears along the border of the road in places here represents informal (mostly grassy) verges, rather than a formal footway with kerbs. Hence there is a strong rural character.

[above and left] Valleyside settlement

The steep topography here is evident: everything follows the contours of the valley, which runs east-west. The valley floor and lower slopes are dominated by the linear forms of the canal, railway line and road, and the sinuous river, all following the east-west axis. Roads zig-zag close to the contours, with footpath links taking more direct lines up and downhill. Settlement has occurred predominantly on the north slope of the valley (above the river) and buildings have a strongly pronounced southern aspect. On the steep slope, plots are generally wide and shallow, and buildings similarly wide and shallow. Longer plots occur towards the base of the valley on rather flatter ground.

Settlement centres on the road, which runs through the centre of this plan; buildings hug the roadside, particularly on its southern (lower) side, where they sit directly on the road edge with garden plots extending to the rear, sloping down to the river. The road has therefore developed the characteristics of a street, with a high degree of enclosure along it, formed by the building line and boundary walls, including retaining walls. This street is narrow, with no formal footway/pavement. Few properties, except those of very high status, have private driveways. Some properties are accessible only by foot.

The canal is minimally populated, but those buildings that do exist tend to sit hard on the back of the towpath (on the north side of the canal), with a continuous building line. Short bursts of enclosure therefore contrast with longer stretches of open or undeveloped canalside land. The south side of the canal is undeveloped, except towards the east, where canalside buildings are predominantly industrial and there is a marked change in the character of the urban grain.

Establishing the basic capacity of the site: integrating an appropriate layout, density and mix

5.10 A site's capacity is about the amount of development on a given piece of land, and the range of uses it contains. Density influences the intensity of development and, in combination with the mix of uses, can affect a place's vitality and viability.

5.11 It may be obvious to say, but the capacity of a site is not as straight forward as how big it is, how much can physically be fitted on. The true, viable capacity has to take account of practicalities which will determine appropriate uses and densities: proximity to services; volume of traffic that can be accommodated on existing roads; levels of noise either existing around the site or likely to be generated by the site; whether parts of the site are prone to flooding and therefore cannot be built upon.

5.12 It also has to sit within the landscape and townscape context and that, too, places constraints on density, building heights, etc: in terms of character, does the site demand high density or low?; is there a need for open space (either to compensate for lack of private gardens, or in order to preserve key views and vistas?); is there a need for strong enclosure along certain site edges, for the sake of continuity with the street scene?

5.13 This depends on context. As we have seen, between them the conservation area's Character Parts contain an enormous variety of townscapes and landscapes, each with a distinctive urban grain. In a village setting in the Vale, density may be quite low, with wide-plan buildings taking up a larger share of a given site frontage than might be squeezed in if the site were located in a Victorian suburb, where frontages tend to be narrower and plots long and thin.

[above] Establishing an appropriate density and mix of uses will depend upon the location and context of the site. The conservation area's Character Parts have a huge variety in terms of urban grain and townscape and landscape character, each of which requires a bespoke and site-specific response.

High density, blocky groupings of buildings, which sit within a grid-like layout and carpet over large expanses, may fit well in a traditionally industrial valley floor context. But this would be entirely alien in a village setting in the Vale, where density may be quite low and wide plan buildings tend to sit within relatively generous individual plots.
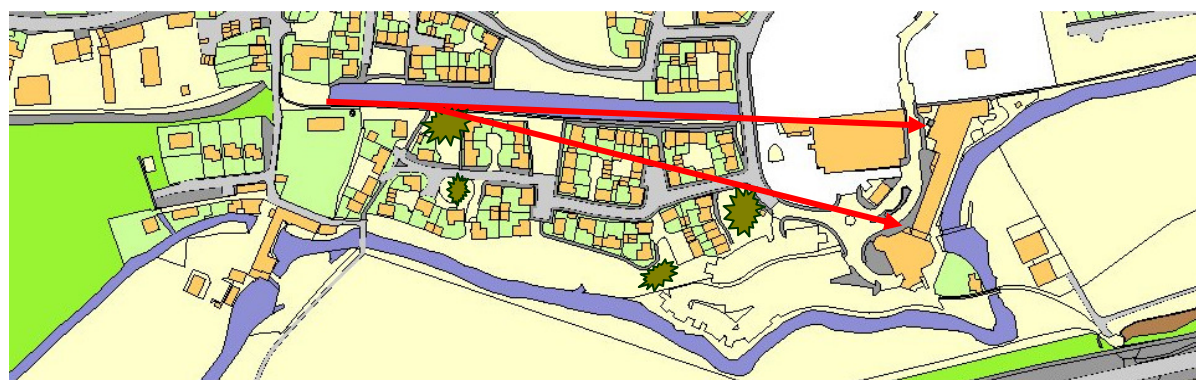
[above] The capacity, density and mix of a site will also depend on townscape and landscape constraints such as key views and vistas.

Here, an extremely important view of the Grade II* listed mill has been dramatically encroached upon, hemming in the previously expansive views from the canal towpath and blocking the visual connection of both the canal channel and the mill with the landscape setting. Together with adjacent housing developments, an impression of linear settlement along the canal has been created, which is alien to the conservation area. The effect is to erode the historic separation and distinction between different settlement groups and mill complexes in the conservation area – one of the conservation area's key issues and pressures, which has led to the formulation of **Policy and Design Priority 1**.

Setting this view as a key constraint early on in the design process could have protected it better. **But** if a keep-clear zone *had* been established (i.e. preserving this vista, to some extent, by setting the building line back further from the canal), that would certainly have had a knock-on effect on the density and layout (and therefore the character) of the rest of the developable site: squeezing the amount of open space elsewhere, and possibly the size of buildings and their plots. Establishing a good layout, which will preserve or enhance fundamental aspects of the conservation area's character or appearance, is a question of carefully balancing a wide range of site constraints and demands.

Edges: the transition between built form and neighbouring open space

5.14 The distinctive pattern of settlement that dominates much of the IHCA's linear area consists of clusters of built form interspersed with open green space. This rhythmic pattern has arisen because of the way that historic mill sites sat at intervals along the river and streams, and small hamlets grew up at key crossing points over these watercourses.

5.15 These were essentially self-contained clusters, which were often historically quite isolated (particularly before the valley-bottom main roads and the canals began to link them into a 'string' in the late 18th and early 19th centuries). Between them lay stretches of agricultural land and flood meadows – some of which were used as 'tenter closes': areas where cloth could be laid out on tenter racks to stretch and dry.

5.16 Consequently, it tends to be the case that clusters of built form are 'inward-facing' rather than facing outwards towards the surrounding landscape (or urban area). This is particularly evident if you look at mill groups and farm groups. Buildings are often orientated around a central yard or complex of yards at the heart of the group. Built form often sits hard on the boundary of the site, making a strong edge and a fairly abrupt transition between the site and surrounding open space. This is often reinforced by the straight, sharp, clear lines of hedgerows or walls, which continue the lines of surrounding field boundaries.

5.17 This distinctive pattern or grain can be at odds with the more typical approach of 'fading out' built form towards the edges of new development sites, where they abut open landscape. This often results in a more sinuous, fragmented and low-density edge (see for example the southern edge of the site shown on the preceding page).
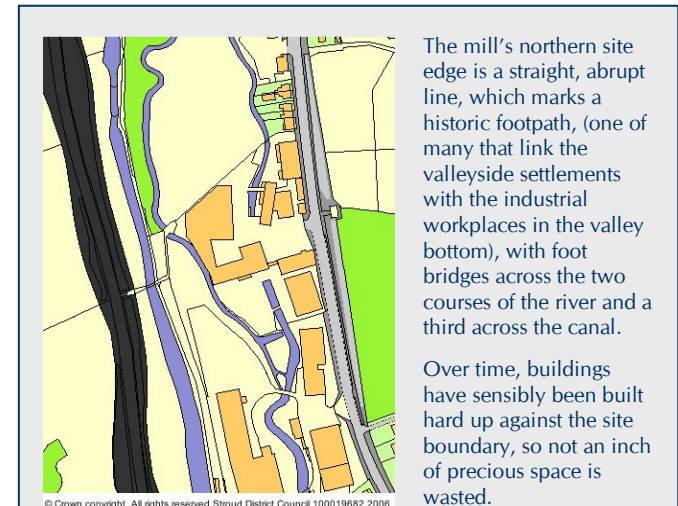

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[above] Griffin and Dyers Mills, Thrupp, sandwiched between the sinuous river Frome and the linear London Road.
[below] Straight lines at Walk Farm, Wheatenhurst

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The mill's northern site edge is a straight, abrupt line, which marks a historic footpath, (one of many that link the valleyside settlements with the industrial workplaces in the valley bottom), with foot bridges across the two courses of the river and a third across the canal.

Over time, buildings have sensibly been built hard up against the site boundary, so not an inch of precious space is wasted.

Similarly, buildings cling to the road edge and the river edge. Everything turns to face inward, towards the hub of activity.

The neighbouring road-fronting houses also back onto the green open space. Here, their long narrow plots, extending back from the road, are typical of roadside development. Their rear garden boundaries are defined by the sinuous tree-lined river; if this did not exist, their boundaries would probably consist of a simple straight line – what would be the purpose of a curvy one?

In rural areas, clear straight lines tend to be used to carve up large open spaces into smaller plots – whether these are field subdivisions, cottage garden plots or farm groups. Here, the farmyard buildings sit around the perimeter, abutting the open fields around them.

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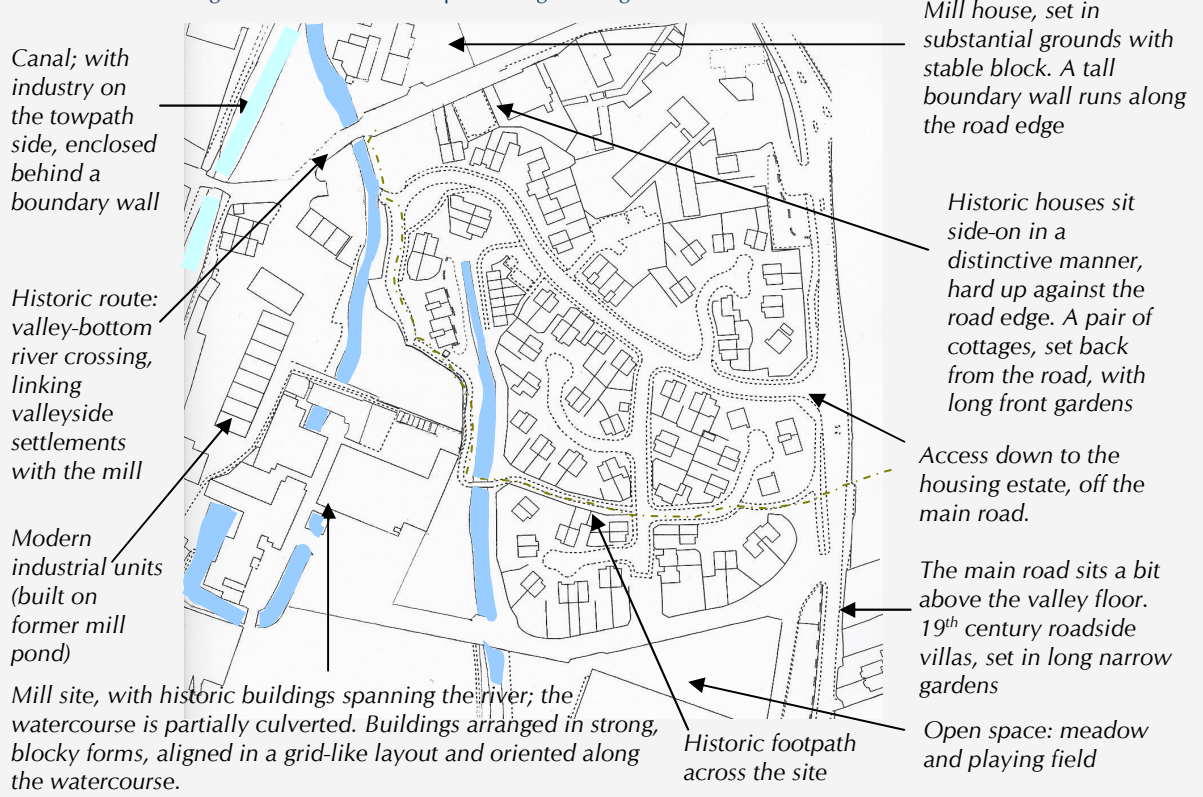
A fictional scenario...

A standard housing estate layout, bordering meadows and playing field to the south and surrounded by predominantly industrial land, which is peppered by a small number of individual historic houses and cottages, some in quite extensive grounds.

Here, the layout of curving no-through roads, branching off a longer, curving no-through road, is markedly at odds with the urban grain of the surrounding area. It is a completely inward-looking site, with houses turning their backs on every site edge, and therefore having no dialogue at all with the outside world.

As a valley-bottom site, an alternative layout could have drawn influences from the industrial environment, with strong, blocky forms and much more linear spaces, enclosed by the building line, rather than being buffered by front gardens. This may have resulted in higher density, although it would be desirable to counterbalance the hard enclosure (and potentially lower provision of gardens) with some communal space – either a series of structured yards or more informal and naturalistic green space.

Another alternative, given the urban location of the site, could have been to use the precedent of late 19th and turn of the 20th century urban and suburban expansion: a linear, grid-like grain, formed by classic streets with orderly rows of houses (including terraces) on linear plots with front gardens and back gardens.

Or what about a mix of the two? A site does not necessarily have to be developed to one single model, particularly where there is a mix of uses. Sometimes it will naturally be appropriate to split it into distinct character areas, although each should be well-defined and have a logic to it and its relationship with neighbouring areas.

Mill house, set in substantial grounds with stable block. A tall boundary wall runs along the road edge

Canal; with industry on the towpath side, enclosed behind a boundary wall

Historic houses sit side-on in a distinctive manner, hard up against the road edge. A pair of cottages, set back from the road, with long front gardens

Historic route: valley-bottom river crossing, linking valleyside settlements with the mill

Access down to the housing estate, off the main road.

Modern industrial units (built on former mill pond)

The main road sits a bit above the valley floor. 19th century roadside villas, set in long narrow gardens

Mill site, with historic buildings spanning the river; the watercourse is partially culverted. Buildings arranged in strong, blocky forms, aligned in a grid-like layout and oriented along the watercourse.

Historic footpath across the site

Open space: meadow and playing field

Enhancing urban structure and urban grain

5.18   There are areas in the conservation area where the urban grain is somehow indistinct, or uncharacteristic of the conservation area's historic environment.

5.19   Often, this is due to the impact of past highway alterations, which may have necessitated the loss of buildings to allow road widening; or new roads may have been introduced which sliced through previously undeveloped land, and hence there are no historic buildings that address the highway. Bypasses are classic examples of this (At Wallbridge, for example, the Dr Newton's Way bypass displays both impacts...).

5.20   Extensive, possibly piecemeal, demolitions have also occurred on some historic mill sites in the past, to the point where they are now dominated by large, isolated buildings, surrounded by goods yards or car parking.

5.21   Such situations offer opportunities to enhance the conservation area, to reinforce locally distinctive patterns of built form and spaces, and to create a much more pronounced 'sense of place'.

5.22   While it may not always be desirable to try and reproduce buildings that have been lost, it can be helpful to look at historic maps, which show how the area looked before its "urban grain" was disrupted or lost.

5.23   Old maps can sometimes help us to identify just what it is that the area is now lacking. Road positions may have changed, but perhaps an old map will suggest that the area could benefit from much denser development. Or perhaps will suggest built form that is clustered close to the road infrastructure, to create enclosure and a more comforting sense of scale – thereby minimising the alienating effect of road dominance.

5.24   Or perhaps an old map might show that a major landmark building once existed on the site; it may suggest a way forward for designing how a new building sits on the site and relates to open space around it, to boundary features or to watercourses, etc.
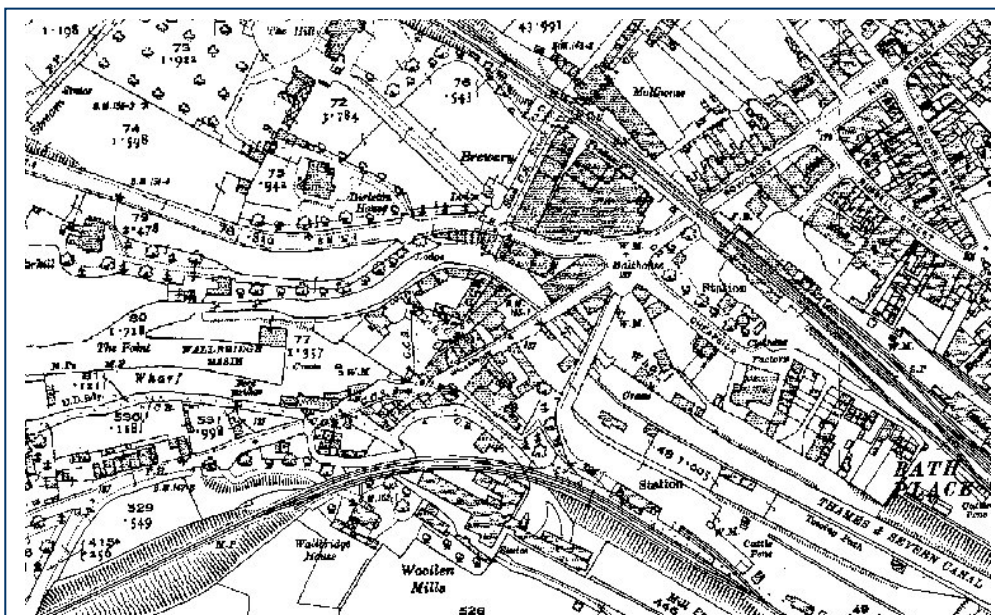
Wallbridge and Cheapside in 1921 **[above]** and today **[below]**. The distinctive five-pointed 'star', where routes converge at Wallbridge, is still clear. But the urban structure has changed, buildings have been demolished, and the tight-knit urban grain has begun to be eroded – partly due to successive highways alterations. Modern redevelopment has tended to consist of much larger individual buildings, more sparsely distributed than was historically the case.

Building in context: appraising layout

1   The site
- How does the proposed building relate to the site?
- Is there a positive and imaginative response to any problems and constraints?
- Have the physical aspects of the site been considered, such as any changes in level within or beyond it?
- Are access arrangements convenient and existing routes respected?
- Can the amount of accommodation required be fitted on the site in an elegant way?

2   Wider setting
- How does the proposal relate to its wider setting?
- Are the street pattern and grain of the surroundings respected?
- Are there changes in height between the existing and new development and if so how are they managed?
- Will the result enhance or damage the quality of the townscape?

3   Density
- How is the density of the proposal related to that of existing and neighbouring uses?
- If there are differences, are they acceptable?

9   Vistas and views
- In the wider setting, has the impact of the building in views and vistas been considered? Does it make a positive or negative impact?
- Does it form an harmonious group or composition with existing buildings or features in the landscape?

Further information

Stroud District Residential Design Guide SPG
[Stroud District Council, November 2000] www.stroud.gov.uk

Stroud District Landscape Assessment SPG
[Stroud District Council, November 2000] www.stroud.gov.uk

Cotswolds AONB Landscape Character Assessment
http://www.cotswoldsaonb.com/landscape_character_assessment_index.htm

Quick check: how does the scheme match up to national policy guidance on design and layout?

PPG 15: Planning and the Historic Environment

Para 2.14
"The design of new buildings intended to stand alongside historic buildings needs very careful consideration. In general, it is better that old buildings are not set apart, but are woven into the fabric of the living and working community."

Para 2.11
[Local authorities]…"should expect developers to assess the likely impact of their proposals on the special interest of the site or structure in question, and to provide such written information or drawings as may be required to understand the significance of a site or structure before an application is determined."

PPS 1: Delivering sustainable development

Para 13, key principle (iv)
"Planning policies should promote high quality inclusive design in the layout of new developments and individual buildings, in terms of function and impact, not just for the short term but over the lifetime of the development. Design which fails to take the opportunities available for improving the character and quality of an area should not be accepted"

PPS 3: Housing

Para 37
"New development should be of high quality inclusive design and layout… and be informed by its wider context, having regard not just to neighbouring buildings but to the townscape and landscape of the wider locality… The key test should be whether a development positively improves the character of an area and the way it functions."