

APPROACH PRINCIPLES COLLABORATION DEVELOPMENT



# the Kent design guide

making it happen - highways  
(construction works)

# Overview

This part of making it happen includes advice, guidance and information about highway construction works for residential and industrial developments.



construction works

## Introduction

You should read this section in conjunction with the highway pavement and specification section and the advice given in the main guide.

## Offices and Parking Areas, etc.

On larger sites you may be required to provide an office together with toilet facilities for our inspection staff. You must also provide adequate parking facilities within the development site to prevent obstruction of the public highway by vehicles used by site employees and visitors.

## Temporary Access to the Site

You must not provide any other access to the site, other than that shown on the approved drawings, without the Divisional Manager's previous written permission.

## Notice Boards and Signing

You must not erect any notice board within visibility splays or affix them to existing mature trees. Consent to erect notice boards may be required from the local District Planning Authority and you are advised to check whether this is necessary.

If your residential development involves the construction of 30 bedrooms or more, we may decide that there is a demonstrable need to provide local direction signs to the site. You must speak to us concerning the provision of local direction signs on the highway.

## Cleaning of Vehicles Leaving the Site and Site Maintenance

You must ensure that the site is maintained in a clean and tidy condition and that the highways used by the public are kept free from mud and filth.

All vehicles leaving the site must do so in a forward direction with clean wheels, so that mud or debris is not carried beyond the site and deposited on the existing highway. You must provide any materials and labour to ensure compliance with this requirement.

Where snow has fallen or ice has formed on highways used by the public within the site, it is your responsibility to treat them in such a manner as to make them safe.

## Surface Water and Soil from Adjoining Roads, Private Accesses and Non-Highway Areas.

It is an offence under Sections 151 and 163 of the Highways Act 1980 to allow soil and water, respectively, to flow onto the highway from private property.

You must make suitable arrangements to deal with all surface water from adjoining roads, from private accesses or non-highway areas, by the appropriate siting of gullies or channels, which need to drain into sewers or private surface water drains.

Where it is necessary to relocate gullies or provide additional gullies in an existing adopted road - for example, where a new junction is proposed - these works must be agreed with us.

You must not allow soil or gravel from adjoining private accesses or non-highway areas to be carried onto the highway and must take all appropriate measures to prevent this happening.

Driveways must not be finished in loose gravel and should include binders to prevent materials being carried onto the highway.



## Public Safety

From the time when the works first begin to final completion, all excavations, obstructions and hazards of any kind within the site, must be suitably protected at all times and lit at night.

## Clearance of Site

It is an offence under Section 148 of the Highways Act 1980 to deposit material or rubbish on the highway.

You must make suitable arrangements to prevent all materials and rubbish, from adjoining roads, private accesses or non-highway areas, being deposited on the highway.

On completion of the works, and before the roads and footways are open to the public, you must clear away all surplus materials and leave the site in a clean and tidy condition.

Road gullies, soakaways, drains and any sewers within the highway must be cleared of any accumulated silt and debris. Such cleansing must be repeated at the end of the maintenance period before the Final Certificate is issued.

You are also responsible for the removal and clearance of any abandoned vehicles on the site prior to adoption.

## Obstruction of the Highway

You must not allow any buildings, doors, windows, gates, gutters or pipes to encroach upon the highway, in accordance with Section 137 of the Highways Act 1980.

All security or gate arrangements must allow for parking and administration formalities to be conducted, without disturbing other highway users.

You must provide adequate room for vehicles to park on private curtilages without obstructing the highway.



All landscaping and vegetation areas, whether situated in the highway or on private land, must not obstruct or interfere with the movement of pedestrians or vehicles and be in such a condition that constitutes a danger to members of the public.

You must maintain all landscaping and vegetation areas so that they do not obstruct visibility areas.

Adequate headroom must be provided in accordance with the requirements described in the highway structures section.

### Public Highways

You will be held responsible for any damage caused to existing public highways by construction traffic proceeding to or from your site. For the purposes of Section 59 of the Highways Act 1980, construction traffic will be classed as 'extra-ordinary traffic' on public highways.

**You must make arrangements with us to take photographs showing the condition of the existing public highways adjacent to the site, and agree a schedule of defects where necessary, prior to works commencing on site.**

### Materials within the Highway

You must not store materials on the highway, at any stage of construction, where the integrity of the highway may be affected or over highway surface water drainage systems.

You must not obstruct any of the roads or footways required for access to occupied dwellings

### Use of Explosives

You, your contractor and anyone employed on your behalf must not, under any circumstances, use explosives on the site.

### Noise and Smoke Nuisance

**You are required to conform with the requirements set out in Clause 109 of the Specification, and without in any way limiting the liabilities or obligations imposed upon you elsewhere, the following must apply to the site, the offices, the workshops, the maintenance compounds and the batching plants contiguous with the site:**

- The Control of Pollution Act 1974, with particular reference to the Control of Noise on Construction Sites (Part III, Section 60 and 61), the Control of Noise (Code of Practice for Construction Sites) Order 2002 (Statutory Instrument 2002 No 461) and B.S. 5228 Code of Practice for Noise Control on Construction and Demolition Sites;

- Appendix 1/9 of the Standard Kent Contract - Control of Noise and Vibration;
- All vehicles and mechanical plant used for the purpose of the development must be fitted with effective exhaust silencers and maintained in good and effective order so that extraneous noise from mechanical vibration, creaking, squeaking etc. is reduced to a minimum;
- All compressors must be "sound reduced" models fitted with properly lined and sealed acoustic covers which must be kept closed whenever the machines are in use. All ancillary pneumatic percussive tools must be fitted with mufflers or silencers of the type recommended by the manufacturer; and
- Machines in intermittent use must be shut down when not in use or throttled down to a minimum as necessary.

You must supply such information requested by us or the local District Planning Authority Environmental Health Officer in relation to noise levels emitted by constructional plant installed on the site, or which it is intended to install on the site. You must afford all reasonable facilities to enable such site investigations to be carried out where necessary.

Special consideration must be given where the site is near a school or hospital and all equipment used on such a site must be to our approval.

When burning on site, a waste transfer licence is required and consideration must be given to the Clear Air Acts and their regulations and the Environmental Protection Act 1990. Waste must not be burnt within 100m of residential properties.

### Public Liability Insurance

Any contractor or other individual working under, on, above or adjacent to the highway, must indemnify us against all losses and claims for injuries or damage to any person or property, that may arise out of or in consequence of the works in question.

All persons wishing to undertake such work must demonstrate to us that adequate Public Liability Insurance (£5m minimum level of cover) is in force.

## Openings and Reinstatements

Our permission is required before you carry out or erect any work either under, on, or over an adopted highway.

For all adopted highways our requirements for road openings and reinstatement of trenches will apply, and we must be consulted regarding such requirements.

You are responsible for reinstating all openings in the proposed highway, until such time as the estate roads are adopted. It is your responsibility, as the developer of a prospectively maintainable highway, to notify various Undertakers about carrying out the permanent reinstatement of the street.

Reinstatements must be carried out in accordance with the New Roads and Street Works Act 1991 "Specification for the Reinstatement of Openings in Highways".

All road markings which are removed or obscured as a result of road openings, must be replenished immediately on completion of the reinstatement. We must be consulted over such requirements and you will be required to pay all costs associated with this work.



## Protection of Existing and Provision of New Services

You must:

- take all measures reasonably required by an Undertaker for the full protection of their mains, pipes, cables and other apparatus during the progress of the works. You must afford facilities to properly accredited agents of such Undertakers for access to their apparatus situated in, on or over the site as may be necessary for laying, inspecting, repairing, maintaining, removing, renewing, or for any other purposes;
- make necessary arrangements with all Undertakers and others concerned, for the co-ordination of your work and all work that needs to be done by them, or their contractors, concurrently within the development; and
- make necessary arrangements with the Undertakers and others concerned for the phasing of all necessary disconnection and diversions of private services affected by the development.

Disconnected mains and apparatus must only be removed with the prior approval of the relevant Undertaker concerned.

You are responsible for all costs relating to damage or disturbance to Undertaker's plant, occasioned by your negligence or that of your contractor.

You must insure the whole of the works so that no liability falls upon us and are fully responsible for the Undertaker's work in adoptable areas.

### Inspection and Setting Out

You must allow our representative freedom of access to the works. The representative's presence or absence in no way absolves you from any responsibility of ensuring that the works are carried out in accordance with the Specification and drawings.

You must employ a competent agent or foreman to have overall charge of the work. The foreman or agent must ensure that directions given from time to time by us, are interpreted properly and that appropriate action is taken.

You must set out, mark and maintain, until it is no longer required, all reference information necessary for the setting out and checking of the works.

Where setting out markers are likely to be disturbed during the progress of the works, you must transfer such markers to an adjacent point.

Before construction works proceed, we may want to check the setting out of the works. You must provide such assistance as we may require, such as a chainman, instruments, etc.

Where you require an inspection, for approval of any part of the works, we must be given at least 24 hours notice of such requirements, excluding weekends.

You must make us aware of all Saturday and Sunday working, that requires our inspection of the work.

All work carried out and/or covered up without our approval will be considered suspect and you may be required to open up the works, take cores or dig trial holes at your own expense, to determine the quality of the work to our satisfaction.

### **Traffic Safety, Management, and Temporary Diversions of Traffic**

You are responsible for all traffic safety, management and associated work as described in Clauses 117 and 118 of the Specification and in this section. Furthermore, you will be charged the total costs incurred for any temporary traffic diversion order.

You must take particular care with the siting of all hoardings, huts, plant, equipment, materials and stacks or heaps within the site, in order that no danger or obstruction is caused.

Your site agent or Traffic Management Officer is responsible for liaison with us, and where specified, with the Police and local residents, in connection with all traffic management systems required as a result of the works.

You must supply us and the Police with the name and telephone number of your representative responsible for traffic management, whom must be available at all times in case of an emergency.

You must make any necessary arrangements for the installation and removal of any temporary traffic system, involving restrictions or diversions, under the direction of the Police.

You must not alter the layout of any temporary traffic system without approval or direction from either the Police or ourselves.

### **Traffic Signs, Road Markings and Traffic Signal Equipment.**

All traffic signs (including bollards, retroreflecting road studs and road markings), whether permanent or temporary, must be of the size, shape, colour and type prescribed in The Traffic Signs Regulations and General Directions 2002 (Statutory Instrument 2002 No. 3113) (TSRGD), the Zebra, Pelican and Puffin Pedestrian Crossings Regulations and General Directions 1997 (Statutory Instrument 1997 No. 2400) and any later amendments.

Other relevant requirements are included in the above regulations and general directions, the Traffic Signs Manual and our document, entitled 'Signing on Kent's Roads'.

You must provide signs to diagram 7014 of (TSRGD), using the appropriate permitted variant, on all approaches to a permanent alteration to the original road layout as soon as it is brought into use, and maintain these signs for three months before removing them at the end of that time.

The signing of footpaths and cycleways must be in accordance with our requirements. Signs must be located a minimum of 0.5 m from the edge of the road, but still within the adopted highway.

Most illuminated signs are fed by an electricity company supply. However, certain signs must be fed by our private supply, for example, a bollard on a traffic island in the middle of the road.



*Traffic signs, road markings and traffic signal equipment should not dominate the townscape. Some solutions are available, particularly in conservation sensitive areas, which allow reduced markings and signs.*

All highway signs larger than 4m in size and shape will be regarded as highway structures and will require technical approval in accordance with the requirements set out in the highway structures section.

Your layout plans must show the location of all signs and bollards that need illumination, in order that we can identify the requirements for the electrical supply.

**You are responsible for:**

- arranging for the electricity company to provide the electricity supply to the illuminated signs, or arranging for our private supply; and
- providing test certificates in accordance with BS 7671.

**You must:**

- provide road studs in accordance with the Traffic Signs Manual Chapter 5;
- show the locations and positions of road studs on your drawings; and
- use stainless steel non-reflective road studs at pedestrian, cyclist and equestrian crossings to form marks as shown in diagrams 1055.1 and 1055.2 of the (TSRGD).

You will be expected to provide road markings and traffic signs on the internal roads of the development and on the surrounding road network where necessary.

Occasionally, this may involve erecting signs some distance from the development, for example, for routeing HGVs to industrial and commercial or larger residential developments.

All road markings, lining and signing must be in accordance with the Traffic Signs Manual Chapter 5. Where necessary road markings, lining and street signs at existing junctions must be laid out in accordance with our requirements.

**For priority junctions within the development, junction lining and signing is:**

- not normally necessary other than at junctions with distributor roads;
- not normally required for office developments (class B1); but
- required in all other industrial and commercial developments, provided in accordance with (TSRGD).

We will consider other types of development on a site-by-site basis.

**In addition to markings at junctions as described above, carriageway centre-line markings are:**

- not normally required other than at junctions with distributor roads;
- not normally required for office developments (Class B1); but
- required in all other industrial and commercial developments, provided in accordance with (TSRGD).

We will consider other types of development on a site-by-site basis.

Road markings, lining and signing, in accordance with (TSRGD), must also be provided on all road humps/tables, at entry ramps to side roads and for all other traffic calming features.

Where parking bays are not clearly defined, road markings will be required to segregate them from the road.

You must be aware of the needs for illumination and must establish at an early stage in the detailed design process which signs will require illumination to make sure that appropriate electrical supplies are installed during construction work.

All road markings must be laid in reflectorised thermoplastic materials or where appropriate, block paving in accordance with the relevant British Standards and Department of Transport directives.

Where it is necessary, for the safety of road users, to provide traffic signs or illuminated bollards, these must be reflective and provided and installed to our requirements.

They must also accord with the relevant British Standards and Department for Transport directives.

**Traffic Signal Equipment.**

Where traffic signal equipment is proposed for your scheme, we will design it based on detailed road-layout drawings supplied by you.

We normally specify all permanent traffic controlled equipment forming part of the highway works, and procure its installation. You will be required to pay the costs, to us, of supplying and installing the necessary equipment.

You will also be required to pay us a commuted sum towards the future maintenance of all traffic-signal equipment where appropriate.



**You are responsible for:**

- arranging for the electricity company to provide the electricity supply to traffic signal controllers;
- arranging for data transmission connections to traffic signal controllers;
- providing test certificates in accordance with BS 7671; and
- paying for all aspects of the works.

## Pedestrian Crossings

The design of all pedestrian crossings must be in accordance with our Pedestrian Crossing Design Guide. This document is included in the reference section on our website.

The establishment, alteration or removal of pedestrian crossings requires an advertisement under S.23 of the Road Traffic Regulation Act 1984. You will be required to pay all costs associated with any advertising required.

## Winter Maintenance

You are responsible for the removal of snow and ice on the site during the winter period and must ensure that all carriageways, cycleways, footways and footpaths are safe for the public to use.



## Pedestrian Guardrails and Barriers.

Pedestrian guardrails and barriers must be provided where it is considered essential to protect pedestrians from inadvertently moving into the road and to protect them from traffic using the road.

Pedestrian guardrails and barriers are also required where pedestrians need to be directed to the appropriate crossing point.

You must take care to ensure that all guardrails and barriers do not obstruct visibility splays. High visibility pedestrian guardrail will normally be required in all circumstances.



Where a footpath joins a road you will normally be expected to provide staggered barriers which:

- prevent pedestrians running straight out into the road; and
- reduce the likelihood of misuse by cyclists.

You must consult with us regarding the necessary requirements. If we consider the need for a staggered barrier, you will be required to provide an agreed length of pedestrian guardrail that runs parallel to the edge of the road. The guardrail must be sited at least 450mm from the edge of the road .

In such instances it may be necessary to widen the footway to maintain the standard footway width past the guardrail.

## Handrails, Steps and Ramps

You must provide handrails on both sides of all steps, footways, footpaths and ramps whenever the gradient exceeds 5% (1/20).

Handrails must be circular sections 45mm - 50mm in diameter. There should be a gap of 45mm between the rail and any wall.

All handrails must be set 900mm above any ramp and 850mm above the nose of a step. The end of the handrail should extend at least 300mm horizontally beyond the top and bottom of the steps or ramp. There should be a positive end to the handrail or alternatively it can return into a wall.



Where steps are required, there should be no more than 12 before a resting area is provided. The resting area must be a minimum of 1.2 x 1.2 m in area, and stretch across the full width of the stairway.

A step riser height of 150mm can be managed by most people, as can a tread depth of 300mm.

The minimum width of steps between handrails should be 1.2 m. An alternative ramped route should be provided if steps are included along a footpath.

Where ramps are provided, the longitudinal gradient must not be steeper than 5% (1/20) for long distances. Steeper gradients up to 8% (1/12) may be acceptable over shorter distances.

Steep slopes at the rear or sides of ramps should have a 600mm wide berm and a 100mm edging upstand as a safeguard for wheelchair users. The upstand will also provide a guide for cane users.

All free standing handrails should be complemented by a tapping rail or similar device, the lower edge of which should not be more than 300mm above the walking surface.

Where a demarcation ramp is used as an entry treatment to a shared surface environment, the ramp shall not be steeper than 6.7% (1/15).

If setts are used, they must be 100mm x 100mm x 100mm. The upstand at the commencement of the ramp must not be higher than 6mm.

### Fencing

We will not adopt any fencing erected on the highway boundary unless:

- it is provided as a safety feature at the top of any structure retaining the highway;
- it provides protection against a hazard existing on the adjacent land; or
- it is a noise barrier.

In all cases structural approval may be necessary and you are advised to check with us over such requirements.

Where fencing is not going to be adopted by us, it will be necessary to establish who is responsible for maintaining the fencing in the early stages of the scheme proposals.



## Street Furniture.

The local District Planning Authority is responsible for agreeing all road and footpath names with you.

It is your responsibility to erect the street name plates which have been chosen.

Street name plates for 'private drives' and 'private roads' should clearly state that the status is 'private' and not maintained at public expense.

You must provide and install road and footpath name plates before any dwelling is occupied.

Street name plates are normally required on both sides of the minor road at road junctions. It may be appropriate to provide one opposite the exit from the connecting road.

If the main road is a cul-de-sac, only the side of the minor road facing the on-coming traffic, will require a street name plate.

Street name plates can be fixed to walls or buildings, where permission from the owner has been obtained, but must be sited so that they can be clearly seen.

All free standing street name plates must be set so that the top of the plate is not less than 600mm nor more than 1m above the footway. They must be sited in such a way that does not obstruct visibility splays.

All street name plates must be made of reflective material and incorporate no-through signs where appropriate.

If a new development incorporates or uses historic street furniture (eg milestones, stone mounting blocks, cast-iron fingerposts, legacy road signs, etc), every effort should be made to retain existing features in their original context.

Where possible, and subject to audit, historic street furniture must be left in-situ.

In the event that such features have to be moved, a suitable site nearby must be agreed in consultation with the local community (Parish or Town Council, local amenity or history group etc).

Where available the Parish Plan or Village Design Statement objectives must be taken into account.

Some historic street furniture may be listed and will thus require specific planning permission before any alterations are made. If in doubt, you must contact English Heritage before any alterations are made.

It is important to establish, at an early stage (and certainly before a planning application is submitted), what street furniture is proposed within areas intended for adoption, and who will be responsible for the long term maintenance.

You must include all street furniture in your design proposals and make arrangements for the long-term adoption of such features.

Discussions with the local District Planning Authority or the Parish Council must be held to see if the authority is willing to maintain some of the street furniture in the future.

You must hold discussions with the post office over the need to provide postboxes, especially on larger developments. Wherever possible, consideration must be given to building post boxes into garden walls and other features rather than providing free standing boxes.

You must bear in mind that some people especially the elderly need frequent rest areas. You should provide benches and other street furniture as required.

All such street furniture must be carefully located so as not to obstruct the passage of pedestrians generally, or present a hazard to the visually impaired. You must consider colour coding furniture to assist those with impairments.

You may need to pay us a commuted sum for future maintenance of such features, and should discuss such requirements with the Divisional Manager.



*Development in context often involves creating new public realm connecting with historic streets and spaces. Street furniture can play an important part in marking the character of the new development whilst remaining sympathetic to the historic context.*