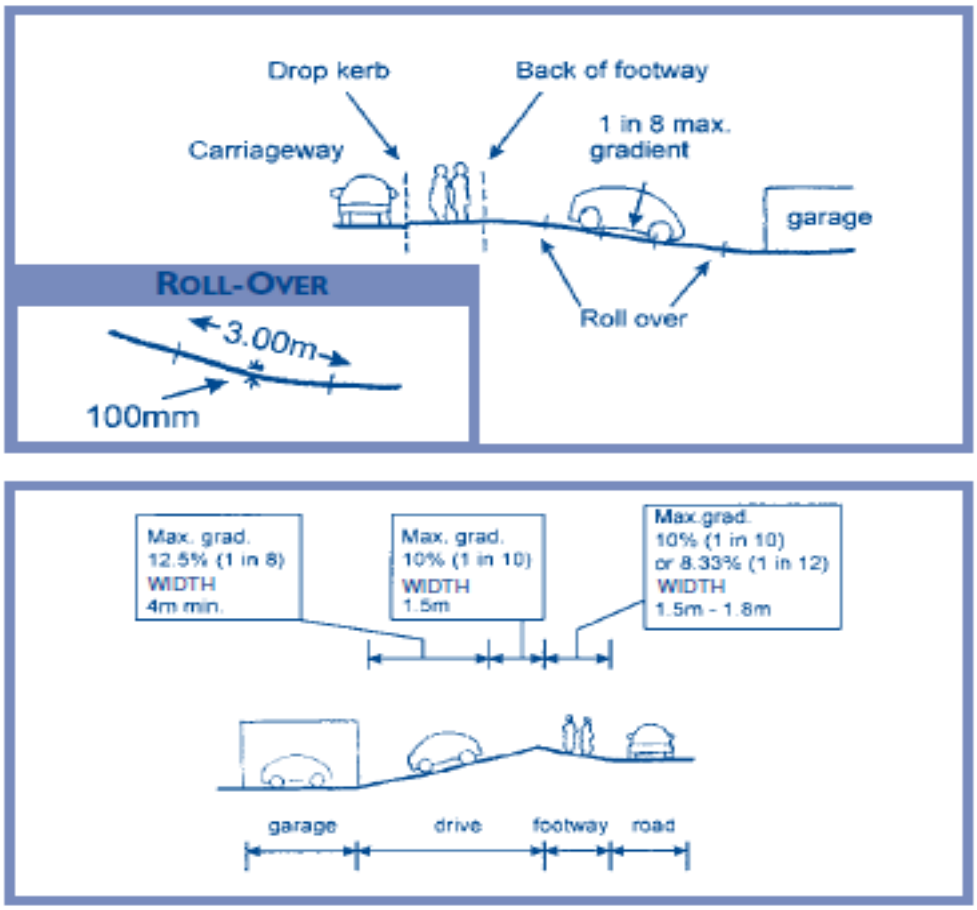
SPECIFICATION FOR THE CONSTRUCTION OF A LIGHT VEHICLE CROSSING OVER A FOOTWAY OR VERGE

Contractor Information

1. Design consideration

The dimensions of the crossing shall conform to the Vehicle crossing standard Detail drawings, which forms part of the Specification. The construction of the crossing shall extend across the full width of the existing footway and/or verge situated between the carriageway and the highway boundary.



Where the footway is situated adjacent to the carriageway the profile of the crossing shall give a uniform gradient between the back of the footway and the lowered kerb. However, where there is an area of verge between the footway and the carriageway the crossing shall be ramped over the verge width leaving the footway with uniform cross fall and longitudinal gradient. Where there is an area of verge between the footway and the highway boundary, or where there is only a verge between the carriageway and the highway boundary, the gradient of the crossing over the verge shall not exceed 1 in 10 unless otherwise agreed by the KCC Officer.

The gradient of the driveway on private land should not normally exceed 1 in 10 or in extreme cases 1 in 8, and a 'roll-over' should be incorporated at the start of the driveway to ensure that vehicles do not 'bottom' on the vehicle crossing on entry or exit.

Precast concrete edging 50mm x 150mm shall be provided as directed to retain the footway and shall be bedded on concrete 75mm thick and backed up with 75mm of concrete and haunched on the front face The longitudinal alignment of the concrete edging shall maintain the gradient of the back of the existing footway, except where otherwise directed by the KCC Officer.

Kerbs as specified shall be laid to conform to the existing alignment of the footway and the kerbs shall be sunk to project 25mm above the carriageway channel level for the full width of the crossing, and in any case for not less than four whole kerbs length (3.66m), and shall be bedded on concrete 150mm thick and backed up with 150mm of concrete to a height of 100mm, or 175mm, from the base of the kerb, whichever dimension applies, and haunched on the front face. Tapered kerbs shall be used to form a ramp on each side of the crossing.

Where there is a verge the concrete edging shall be provided along the sides of the vehicle crossing.

Where a surface water drain or roadside ditch exists within the area to be covered by the vehicle crossing the person undertaking the works shall be required to carry out such additional strengthening and piping works as may be deemed necessary by the. KCC Officer

All manhole covers, electricity, gas, telephone, cable, water boxes, or any other covers in the footway, shall be adjusted in level, as required, and shall be properly bedded so as to conform to the new surface levels and gradients.- As agreed by owner.

Any requirements from either the KCC Officer or a Statutory Undertaker for light duty covers to be replaced with medium or heavy duty type shall be met by the person undertaking the works.

Any adjustment of this Specification that may be necessary due to the peculiarities of a particular site will be made in accordance with the decisions of the KCC Officer

2. Vehicle crossing construction

Vehicle crossings can be constructed from bituminous materials only. The specification of construction should be:

Surface course 30mm Thick Surface Course:- 6mm size Ashphalt Concrete dense surface 100/150 surface course to Clause 7.6 BS4987.7 to be laid and compacted to 30mm. The surface course shall be laid on the base and rolled to a compacted thickness of 30mm. The finished surface shall be at least level with, but not exceeding 3mm above the level of, the kerbs, edgings, and any manhole covers, stopcocks, boxes, etc
Base course 70mm Thick Binder Course:- 10mm size Ashphalt Concrete close binded 100/150 binder course to Clause 6.1 BS4987.1 to be laid and compacted to 70mm.
Sub-base 150mm Thick Cat A sub base to Clause 803, 806 or 816 to be laid and compacted to 150mm.

3. Material consideration

Consideration of the vehicle crossing construction should take into account existing footway materials.

All materials shall be equal to samples submitted to and approved by the Roadwork's Manager and shall be in accordance with the appropriate British Standard, Harmonised European Standard or a European Standard where such exists, except as may be hereinafter specified.

4. Specification for VC Construction Clause

Aggregates for Bituminous Materials

Natural, recovered unbound and artificial aggregates shall be clean, hard and durable and shall comply with BS EN 13043:2002. Where recycled coarse aggregate or recycled concrete aggregate is used in bituminous materials it shall have been tested in accordance with Clause 710 of the Specification of Highway Works and the content of other materials (Class X) including wood, plastic and metal shall not exceed 1% by mass.

The use of Limestone aggregate in surface courses shall not be permitted. Shall consist of approved blast furnace slag, granite, or (for binder course and base material only) basalt or limestone, mixed with bitumen. Asphalt concrete shall accord with BS EN 13108 -1 and shall be obtained from a source approved by the Roadwork's Manager Samples of the material shall be submitted for his approval as required.

Stone for Foundations

Stone for hardcore base or sub-base to carriageway shall be hard and durable and limestone, slag or other approved material, but not a mixture, and from an approved source. It shall be consistent in quality, free from dirt and foreign matter. Slag shall comply in all respects except size and grading with BS 1047. Stones shall be generally angular or irregular in shape.

Unless agreed otherwise by written application to the, Roadwork's Manager prior to commencement of works all stone for foundations should be Type 1 granular material complying with Annex B.

Kerbs

Unless otherwise specified all kerbs shall be of precast concrete (granite aggregate) to comply with BS 7263 and shall be 125mm x 150mm bull nose kerbs type BN and 255mm x 150mm left- and right-hand taper kerbs type DL1 and DR1. Occasionally 125mm x 255mm half-batter kerbs type HB2 may be required.

Edgings

Edgings shall be of precast concrete and shall comply with BS 7263. The shape and dimensions of the edging shall match existing edging where possible; otherwise they shall be 50mm x 150mm type EF.

Cement
Cement shall comply in all respects with BS EN 197-1:2011 for Portland Cement (CEM1) or BS 4027 for Sulphate Resisting Cement. Use of other Cement Types shall only be permitted with the written permission of the Roadwork's Manager. It shall be delivered in the original sealed bags of the manufacturer and shall be stored on the site in a suitable building affording adequate protection against the weather.

Lime (for Mortar)
Lime for mortar shall be semi-hydraulic hydrated lime, complying with BS EN 459-1:2001.

Sand (for Mortar)
Sand for mortar shall be fresh water sand from an approved source and shall comply with BS 1199 and 1200.

Water
Only fresh, clean water from the water mains or other source approved by the Roadwork's Manager shall be used for mixing cement grout, mortar or concrete.

Surface Water Drainage Pipes and Fittings
Clay pipes and fittings for surface water drains shall comply with BS 65 and shall be normal pipes or fittings as described therein and shall have flexible joints complying with BS 65.

Concrete Pipes
Concrete pipes shall comply with BS 5911 with spigot and socket flexible joints.
3.14 Plastic Pipes In exceptional circumstances and where agreed with the Roadwork's Manager in advance, UPVC plastic pipework to BS 4962 may be used.

Drain Castings
All castings shall be obtained from an approved maker and be of good quality metal free from flaws of any kind, shall have sharp edges and shall comply where not otherwise specified or billed with BS 437.

Cast Iron Pipes
Cast iron spigot and socket pipes shall comply with BS 437.

Manhole and Inspection Covers
Cast grey or ductile iron manhole covers and frames shall comply with BS EN124: 1994. Where situated in the carriageway they shall be Grade D400 (Heavy duty) double triangular type or other suitable type complying with British Standard requirements as agreed with the District Manager.

Step Irons
Irons for building into inspection chambers shall be galvanised malleable cast iron, each weighing not less than 2.15kg (1.00kg in pre-cast concrete manholes). They shall comply with BS EN 13101 2002, and be from an approved maker.

Gullies
Gullies shall be pre-cast concrete complying with BS 5911, or in exceptional circumstances UPVC/plastic having a current British Board of Agreement Certificate all as may be agreed in advance by the District Manager They shall be at least 750mm deep and 375mm inside diameter, with 150mm internal diameter trapped outlet complete with Stoppard Roding eye.

Gully Covers and Frames

Gully covers and frames shall be of cast grey or ductile iron to comply with BS EN 124 : 1994 and shall be Grade D400. Where used with the approval of or as required by the District Manager, kerb inlet-type gullies shall be Grade D400. Hinged lid on kerb inlet-type gullies shall be fitted with a locking device.

Pre-cast Concrete Kerbs

Kerbs shall be hydraulically pressed pre-cast concrete complying with and to the dimensions described in BS7263 and be obtained from an approved source. Straight kerbs shall be supplied in 610/914mm lengths. Circular, tapered or dropped kerbs shall be accurately made to the specified dimensions and/or radii, in 914mm lengths or as shown on the drawings. Short kerbs of 610mm lengths shall only be used where approved by the District Manager.

Pre-cast Concrete Edging

Pre-cast concrete edging shall be hydraulically pressed, of approved section normally Type EF, 914mm in length, 50mm wide and 150mm deep (or deeper if and as required), and shall comply with BS 7263.

Concrete Channel Blocks

Precast concrete channel blocks shall be hydraulically pressed, of 250mm by 125mm section and shall comply with BS 7263. They shall be used in all cases where longitudinal gradient of carriageway is slacker than 1 in 150, and shall be laid with falls to gullies of not less than 1 in 200.

Concrete for Ancillary Purposes

Concrete for use in lying of kerbs and edgings, pipe surrounds, and for gully and manhole bases and surrounds, shall conform to the requirements of BS 8500 in accordance with specifications for Standard Mixes.

Cement Mortar

Cement mortar is to comply with Clause 2404 of the Highways Agency Specification where used for brickwork, pipe joints, rendering etc. All mortar is to be fresh as required for use. Any mortar which has commenced to set or which has been mixed for more than one hour shall be rejected.

Granular Pipe Bedding Material

Granular pipe bedding material shall comply with Clause 503 and Table 5/3 of the Highways Agency Specification and may be either graded or single sized aggregate.

Grass Seed

Grass Seed mixtures for use in highway verge areas:

Species		**Minimum %**	**Maximum %**
Perennial Ryegrass	Lolium perenne	20	50
Smooth stalked meadow grass	Poa pratensis	10	15
Chewings fescue	Festuca rubra commutata	5	15
Slender creeping red fescue	Festuca rubra litoralis	25	40
Strong creeping red fescue	Festuca rubra rubra	15	40
Hard fescue	Festuca longifolia	15	35
Agrostis capillaris	Browntop bent	2	15

Cultivars included in the seed mix shall comply with the performance parameters listed below and as defined in Series L of the current issue of 'Turfgrass Seed', published by The British Society of Plant Breeders Ltd in conjunction with the Sports Turf Research Institute.

Species	**Table**	**Parameter**	**Minimum score required**
Perennial Ryegrass	L1	Slow regrowth	7.0

Details of the proposed seed mix to be used shall be submitted to the District Manager or Highway Activities - Enforcement Team Leader.

Street Furniture

Bollards and pedestrian barriers used within the highway shall be approved by the District Manger prior to installation.

Samples and Testing

Properly representative samples of all materials proposed to be used in the works shall be submitted by the contractor/developer for the approval before the first deliveries. All deliveries shall be at least equal to the standard of the sample. The Roadwork's Manager shall have access to all the materials at all times and shall be permitted to take samples when he so desires. The contractor/developer shall make all arrangements and bear all expenses in connection with any tests of materials the Roadwork's Manager may direct.

5. Site considerations

Excavation

The excavation shall be carried out to the satisfaction of the Highway Steward/RASWA Inspector and shall be of such form and dimensions as indicated by the drawings. The formation shall be trimmed and well compacted

Removal of Kerbs, Slabs or Bricks

The existing kerbs, Slabs Bricks and edgings shall be carefully taken up and stacked for re-use or disposal as directed by the Roadwork's Inspector.

Unlawful Deposits on Highways

The developer/contractor is responsible for ensuring that all public highways are kept clear from deposits at all times. In order to comply generally with Section 149 of the Highways Act 1980, existing roads (and new roads) which are being used by traffic shall be kept clean of all dirt, dust or other materials dropped from plant vehicles or their tyres or tracks, which are being used in connection with the works.

The Contractor shall take all necessary measures to prevent damage, loss, injury or nuisance caused by:

- Mud, dirt, stones or other material used or generated whilst carrying out the works. This shall include but not be limited to ensuring that no fuel or lubricant, mud, dirt, stones or other material is spilled or deposited on the highway whether or not it is open to traffic.
- Smoke or dust generated whilst carrying out the works.

Disposal of Waste

A Duty of Care: Controlled Waste Transfer Note must be completed where any waste from the excavation has to be disposed. The Licence Holder must retain a copy of the completed form with a copy given to the person accepting the waste.

Notice

The contractor must comply with the New Road and Street Works Act (NRASWA 1991), the Kent permits Scheme and the Kent Lane rental scheme . As the Vehicle crossing team act as your Agents the team requires 5 working day notice prior to the date upon which the works are intended to start, or in the case of works taking more then 3 day then 10 days are required. The Roadwork's team shall be given full facilities for inspecting the works whilst in progress and testing the materials to be used.

Traffic Management

During the progress of the works particular care shall be taken to avoid causing hazards to pedestrians and vehicles on the highway. Materials shall be deposited or stored off the highway wherever possible. Where the works necessitate partial obstruction of the highway the requirements of the "Safety at Street Works and Road Works" code of practice be a hereto,

Statutory Undertakers

The person undertaking the works shall satisfy himself as to the position and depth of any underground services likely to be affected by the works and, if necessary, shall excavate trial holes to confirm any information supplied by Statutory undertaker before the works start. Where services or access covers are required to be altered by the Statutory Undertakers any agreement with the Statutory Undertaker before any works can start. The Contractor shall be responsible for ensuring that any services are adequately protected during construction

Damage to Highway

Any damage to the paved surfaces, verges, surface water drains or street furniture shall be made good as directed by the Roadwork's Inspector.

Clearance of Site

On completion of the works the vehicle crossing and adjoining areas shall be cleared of all surplus materials and left in a clean and tidy condition.