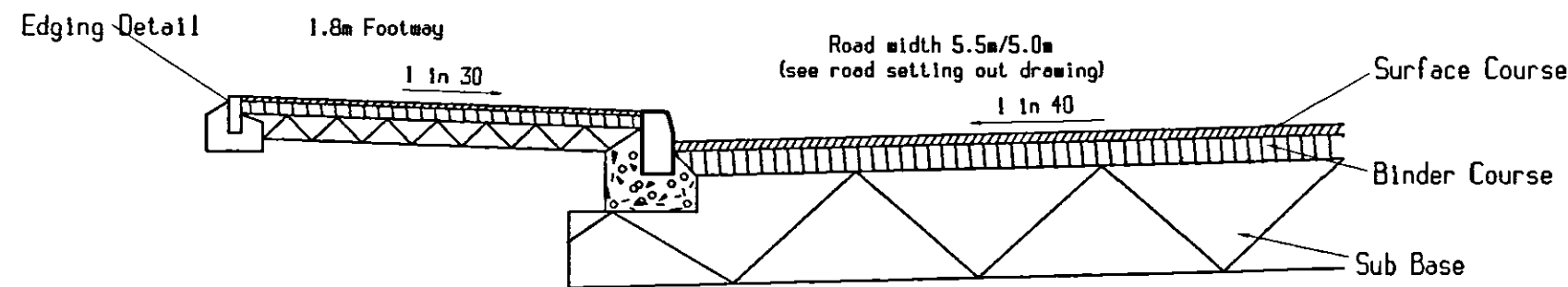


Note: Channel blocks required where gradient is less than 1/150. See detail on right.



BLACKTOP CARRIAGEWAY
Typical Cross Section

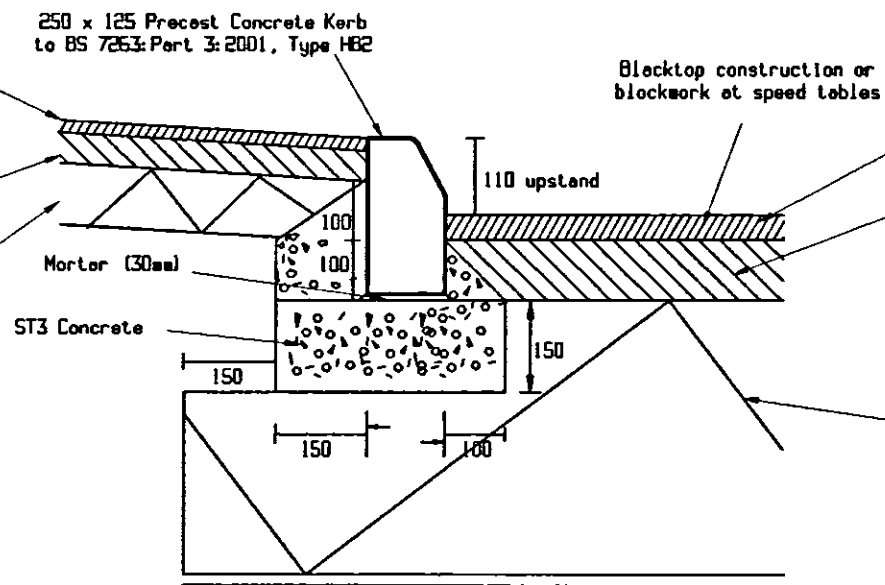
FOOTPATH CONSTRUCTION

BITUMINOUS SURFACING

SURFACE COURSE
50mm of 0/20mm size dense Surface Course to Clause 9.4 compacted to a void content within the range 25-30%.

BINDER COURSE
50mm of 0/20mm size dense Binder Course to Clause 9.1 compacted to a void content within the range 25-30%.

SUB-BASE
100mm of Type 1 sub-base to clause 1.2.



Carriageway and Kerb Detail -
up to 5.5m (construction chart 1)
(Blacktop Construction)

SURFACE COURSE
For Chart 1 the surface Course shall be 40mm of 0/10mm size dense Graded Surface Course to Clause 7.3. It must be compacted in accordance with Clause 7.2 to a void content within the range 25-30%.

BINDER COURSE
For carriages, Binder Course materials shall be 0/20mm size dense Binder Course to Clause 9.1 and shall be laid in a single layer or combination of layers not less than 50mm in thickness nor greater than 110mm in thickness. Compaction must be in accordance with Clause 7.2 to a void content within the range 25-30% and all layers must be bonded together.

SUB-BASE
Sub-base shall conform with clause 8.1 and shall be Type 1. A minimum in-situ CBR value of 20 will be required on all roads except for Development Roads intended to serve heavier traffic categories (i.e. loading in excess of 0.25 m.s.a.) Where the in-situ CBR value should be at least 30%. CBR values shall be determined by Plate Bearing Tests in accordance with clause 8.2.

For carriages and footways, not more than one in ten field dry density determination, as detailed in BS 1377 Part 5, (clause 6.2) shall be less than 90% of the maximum dry density for that particular sub-base as determined by the vibrating hammer test in BS EN 12350-3.

COR NOTE

CBR testing was carried out by Lines Labs in October 2005 with updated values of between 0.3% and 4.9%. For road construction, we will assume a value of 0.3%.

The C.B.R. Test results from a U.K.A.S. accredited laboratory & construction depths must be approved by the Highway Authority.

CONSTRUCTION CHART 1 NORMAL FLEXIBLE CONSTRUCTION (For roads up to 0.25 m.s.a.)

SUB-GRADE	SUB-BASE (mm)	SURFACING (mm)	TOTAL THICKNESS REQUIRED (mm)
Bearing Capacity (CBR)	Without geosynthetic	With geosynthetic	
Below 1.5% & soft spots	Not suitable	710mm BS 243	110
1.5%	Not suitable	440	110
2%	400	340	110
3%	310	300	110
4%	300	300	110
5%	300	300	110
6-15%	300	300	110
Above 15%	300	300	110

SEE NOTE ABOVE

- Note 1 See Clause 1.1.6 and 1.1.7
Note 2 See Clause 1.1.6 - Assumes no improvement is possible using either sub-soil drainage or soil strengthening technique. 710mm is 40mm of BS Capping Layer Granular Fill to clause 5.6 and 300mm of Type 1 sub-base. The thickness of 710mm can be reduced to 520mm if all Type 1 sub-base is used.
Note 3 For soft spots and sub-grades with a CBR of less than 1.5% the geosynthetic shall be an approved geogrid.
Note 4 Initial Binder Course layer thickness 70mm if the alternative kerbing installation method (two stage construction - kerbing to be laid at a later stage) is used. Total Binder Course thickness becomes 130mm in these circumstances. See Clause 1.1.7.
Note 5 Total thickness to be increased by 20mm above these values if the alternative kerbing installation method is used.
Note 6 See Clause 1.1.17.
Note 7 The use of a geosynthetic with a sub-grade with this bearing capacity offers no advantage or economy.

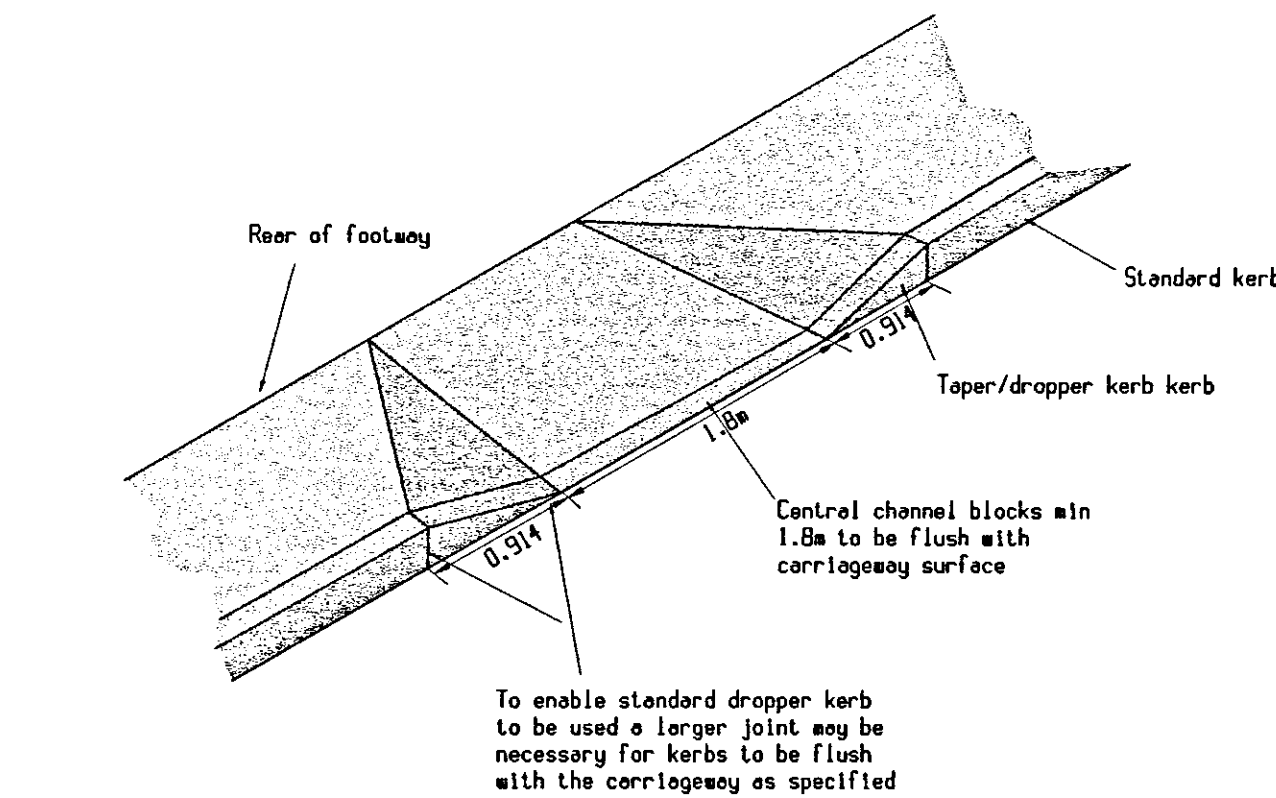
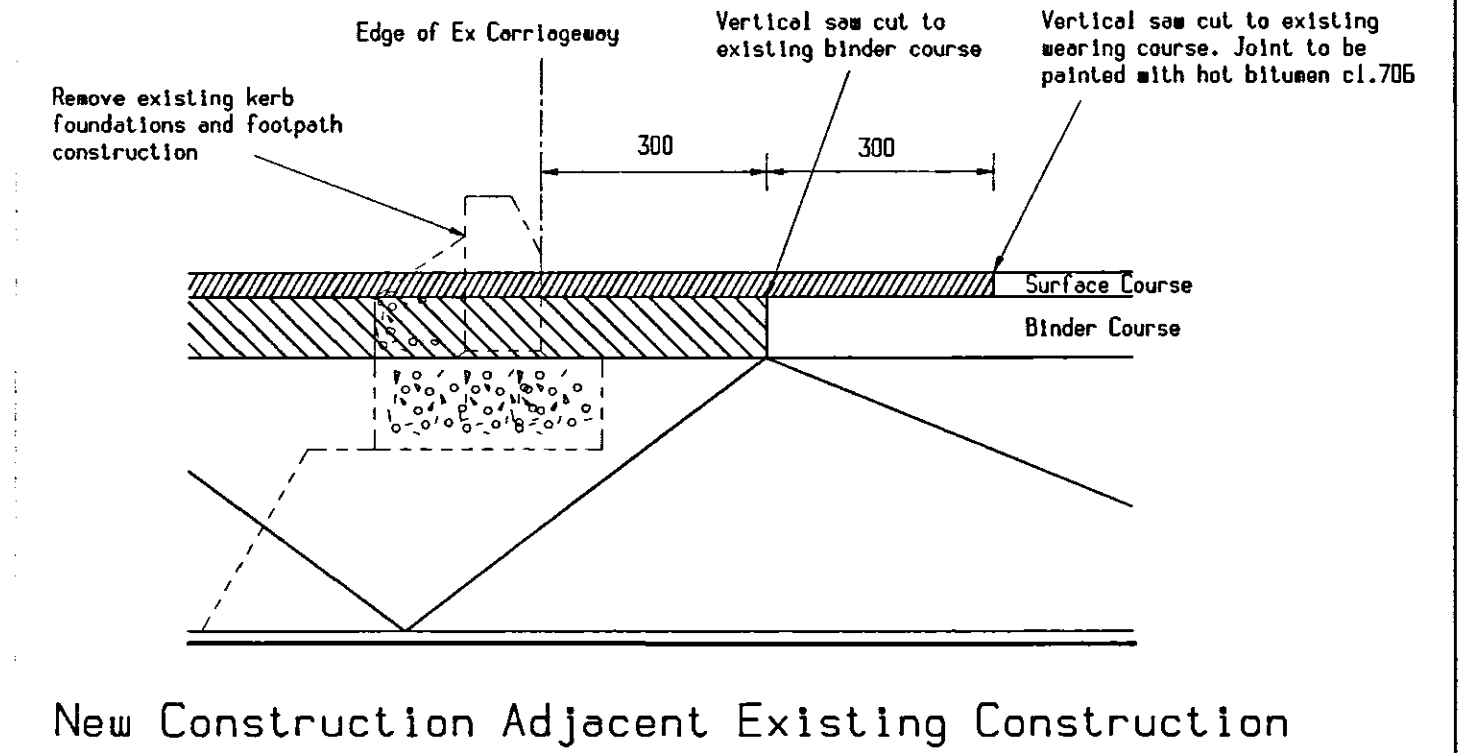
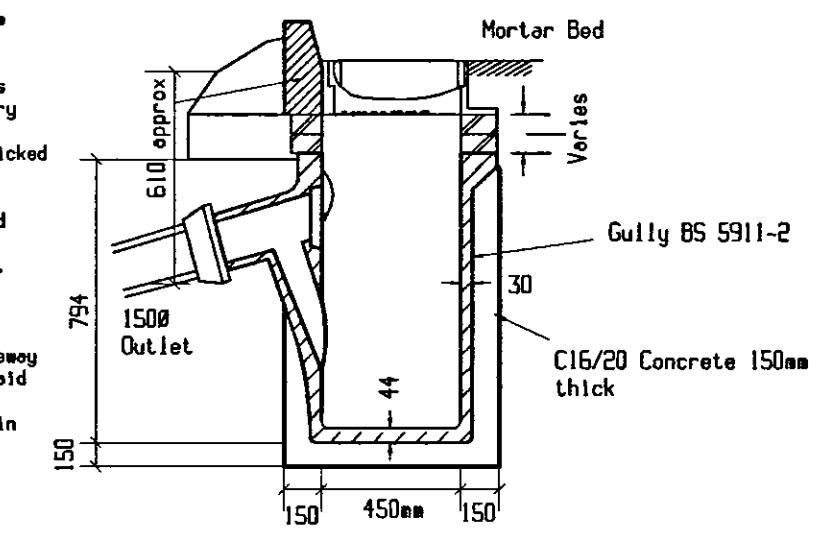
Notes:-

- 1/ Cover and frame uncoated iron to clause 5.5.4.
- 2/ Mortar bed and benching to clause 15.
- 3/ Bricks to be Class B engineering bricks to BS381 single course where necessary to obtain satisfactory fall.
- 4/ Corbelled if required. Frames to be bricked on all four sides.
- 5/ All in situ concrete to be C16/20 with sulphate resisting cement unless agreed otherwise.
- 6/ Position of outlet pipe varies in plan. In situ C16/20 concrete 150mm thick surround to outlet pipe for first one metre under verge or total length if under carriageway.
- 7/ Heavy grouting is to be trafficked or laid against within 24 hours of frame being placed in position.

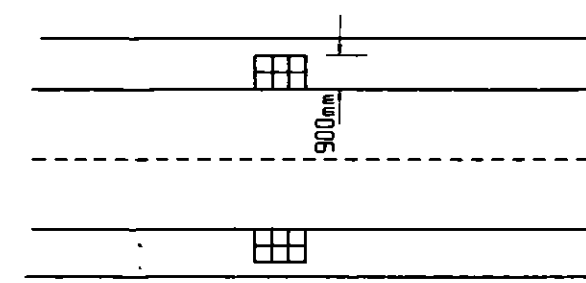
Concrete protection to specification clause 5.13.4 to outlet pipe for first 100mm under verge or total length if under carriageway.

TYPE G5 PRECAST CONCRETE TRAPPED ROAD GULLY

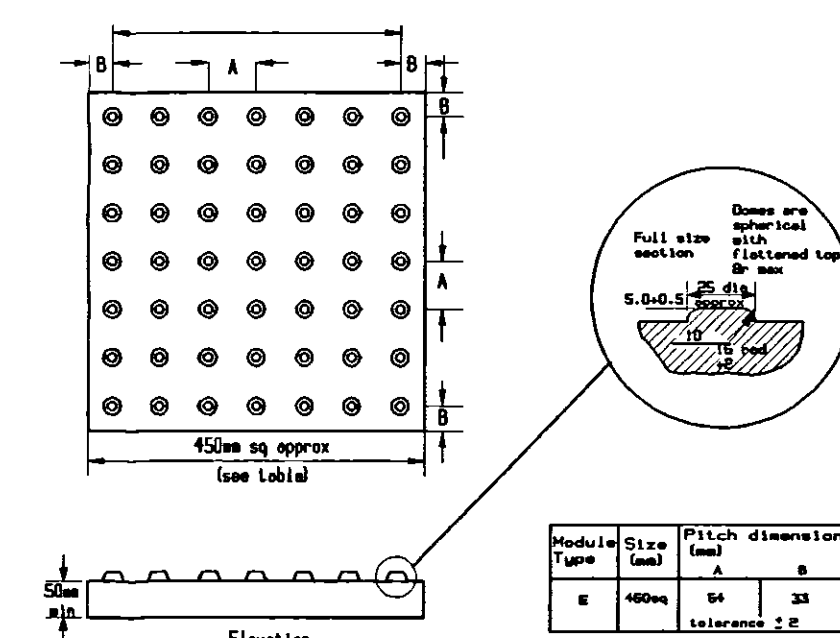
TYPICAL CHANNEL GULLY DETAILS



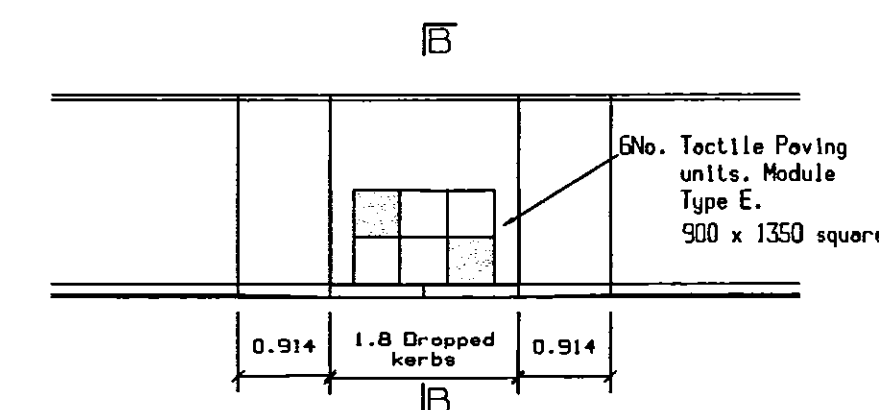
Uncontrolled Crossing At Junction



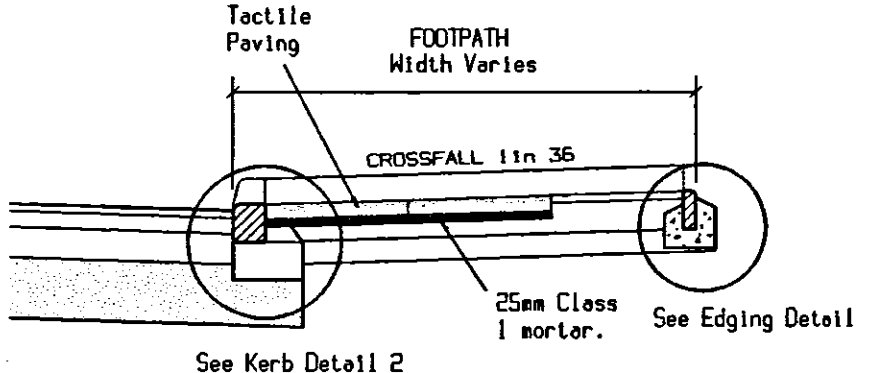
Uncontrolled Crossing Away from Junction



PRAM CROSSING DETAILS



Section B-B

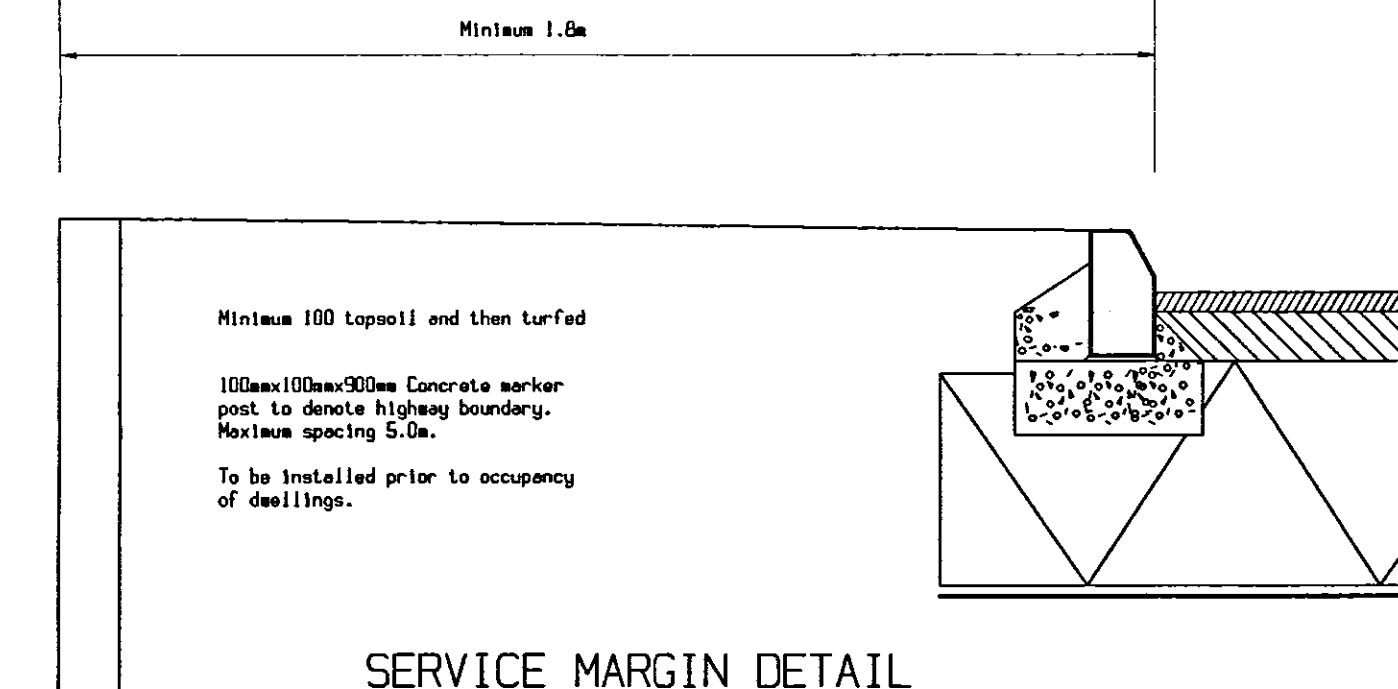


1.8 TACTILE PAVING CROSSING FOR PEDESTRIANS

Blister tactile paving crossing points shall be provided at all junctions, crossing at link footways and at kerb to kerb flat top road crossings.

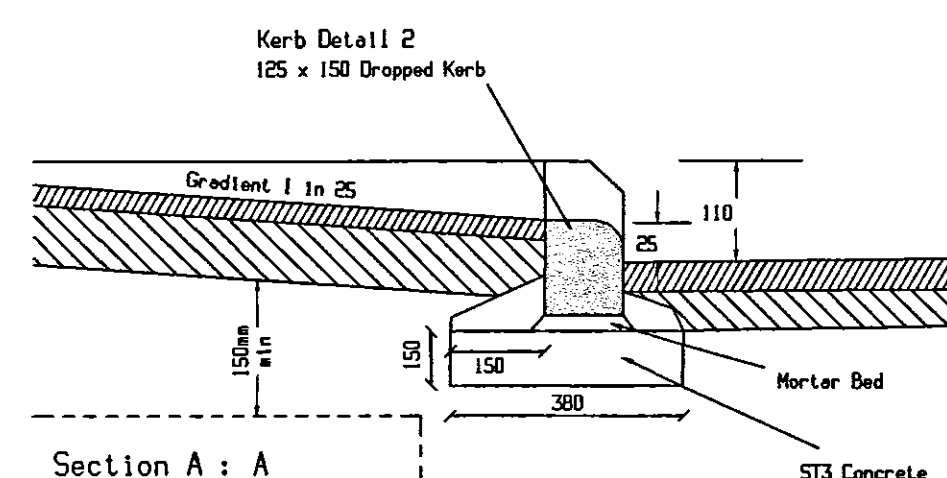
Tactile paving to be 'Dimple' blocks. 450mm x 450mm x 50mm. Surface colour to be buff.

Tactile paving shall be installed in the line of travel, along the full length of a minimum of 1.8m flush dropped kerb blocks. Flush kerbs to comprise 150mm x 150mm precast concrete channel blocks. The depth of the paving shall be 1.8m or 450mm depending on its location (see drawing to the left). The back edge of the tactile paving surface shall be at right angles to the direction of crossing. Developers shall take care not to locate service boxes (e.g. ST) where tactile paving is required.



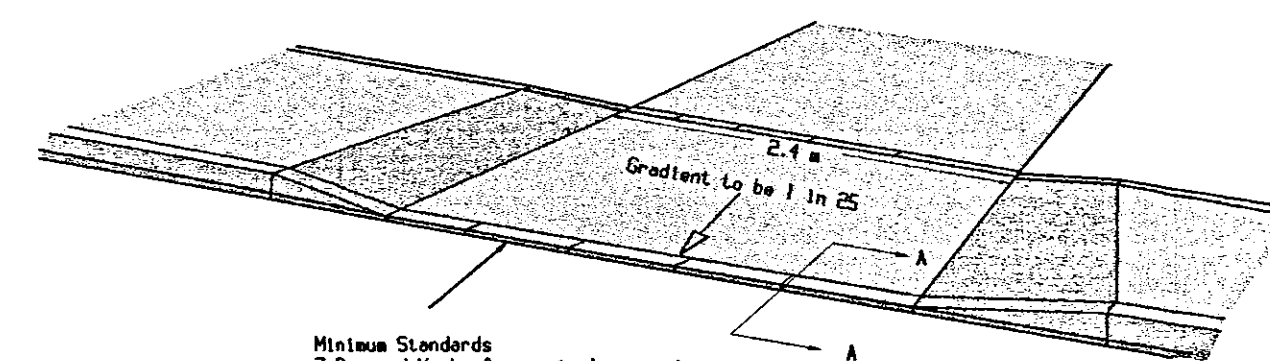
SERVICE MARGIN DETAIL

DOMESTIC VEHICLE CROSSING (REF. CLAUSE 1.6 (A))



Section A: A

See Clause 1.6



CLAUSE 1.6 VEHICLE ACCESS CROSSING

1.6.1 Light Duty Domestic Crossings

150mm of Type 1 sub-base to clause 1.2 NB Where the CBR value of the sub-grade is below 2% an approved geosynthetic layer to clause 5.7 will be required to be placed on the sub-grade. On certain sites the depth of topsoil may exceed 275mm. On such sites topsoil containing organic matter, roots etc. shall be removed and replaced with Type 1 sub-base in accordance with Clause 1.2.

100mm of 0/20mm size recipe mix Dense Macadam Binder Course to Clause 9.1 compacted to a void content within the range 25-30%. 25mm of 0/10mm size Dense Macadam Surface Course to Clause 9.4 compacted to a void content within the range 25-30%.

The joint between the access crossing and the carriageway shall be formed with 125 x 150mm precast concrete kerbs on a 150mm x 300mm base of ST3 (15N/mm²) concrete (approx. 1 cement: 2 sand: 4 aggregate by volume w/c). A 150mm x 150mm x 25mm taper kerb will be required on each side of the crossing along the carriageway edge.

The highway boundary shall be delineated across the access crossing with 50mm x 150mm square cut precast concrete edging on a 75mm x 300mm base of ST3 (15N/mm²) concrete, and where there is no footway the edges of the access crossing shall also be delineated with the same edging and base (see Drawing Ref Clause 1.6 (a)).

NOTE FOR ALL WORKS:

The Specification shall be in all respects the County Council's 'Development Road Specification and Construction 2005', published by Lincolnshire County Council.

SHDC
Planning & Development
27 JUL 2007
F: 1030/07

Rev. No.	REVISION	Date	Drawn By	Checked By
A	CBR testing under taken within REM 1 and REM 2 and results provided	27.10.05	NJB	HGC
B	Service margin detail added	22.2.06	NJB	HGC

Do not scale off the drawing. Any discrepancies, written or scaled, should be brought to the attention of the engineer immediately. This drawing to be read in conjunction with the relevant Bills of Quantities and Local Authority Specification. COM NOTE: The design has been undertaken on as far as possible to avoid risks to health and safety or to reduce and control the effects of any unavoidable risks. All relevant information identifying the unavoidable risks has been passed to the planning supervisor for inclusion in the Health & Safety plan. The Health & Safety plan will be issued by the planning supervisor with these drawings.

WORMALD, BURROWS PARTNERSHIP
Civil Engineering Consultants
12a & 14a Hitchin Street, Biggleswade, Beds SG18 8AX, U.K. Tel 01767 317244 Fax 315434

Project
Development at Wygate South, Spalding, Lincolnshire

Drawing Description
Standard Road Construction Details

Client
Allison Homes Eastern Ltd
Holland Place
Hardtree Park
Spalding
Lincs. PE11 3ZN

Client Drawing Number
A027/204/01
Drawn By
NJB
Date 19.9.05
Checked By
HGC
Date 19.9.05
Scale
N.T.S.
Engineering Drawing Number
E1081/21/B