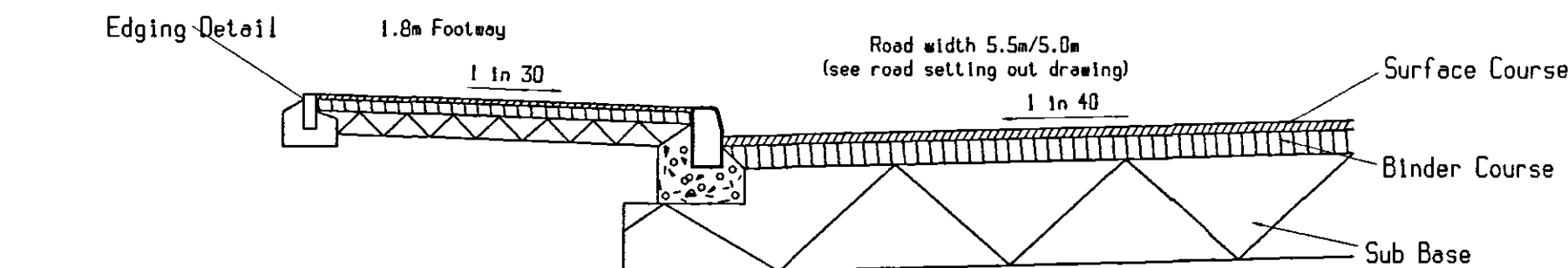


Note: Channel blocks required where gradient is less than 1/150, see detail on right.



BLACKTOP CARRIAGEWAY
Typical Cross Section

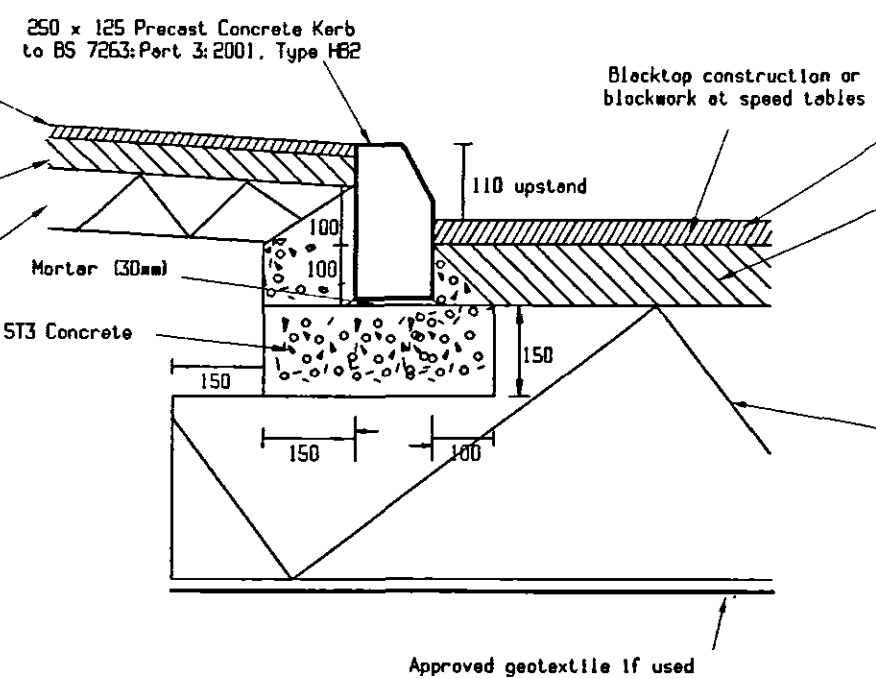
ROADWAY CONSTRUCTION

BITUMINOUS SURFACING

SURFACE COURSE
25mm of 0/10mm size dense Surface Course to Clause 9.4 compacted to a void content within the range 25-103. The Surface Course must be bonded to the Binder Course.

BINDER COURSE
50mm of 0/20mm size dense Binder Course to Clause 9.1 compacted to a void content within the range 25-103.

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



SURFACE COURSE
For Class 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 25-103.

BINDER COURSE
For carriageways, 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 100mm in thickness. Compaction must be in accordance with Clause 7.2 to a void content within the range 25-103 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.s.) 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 carriageways and footways, not more than one in ten field dry density determination, as detailed in BS 1377 Part 3, Clause 2.2 shall be less than 90% of the nominal dry density for that particular sub-base as determined by the vibrating hammer test in BS EN 13363-3.

CBR NOTE

CBR testing was carried out by Lines Labs in October 2005 with updated values of between 0.4% and 4.5%. For road construction, we will assume a value of less than 1.5%. 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.s.)

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	710 ^{Note 1,2,3}	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

Note 1 See Clause 1.1.5 and 1.1.7

Note 2 See Clause 1.1.5 - Assumes no improvement is possible using either sub-soil drainage or soil strengthening technique. 710mm is 40mm of G5 Lapping Layer Granular Fill to clause 6.8 and 300mm of Type 1 sub-base. The thickness of 710mm can be reduced to 600mm 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.

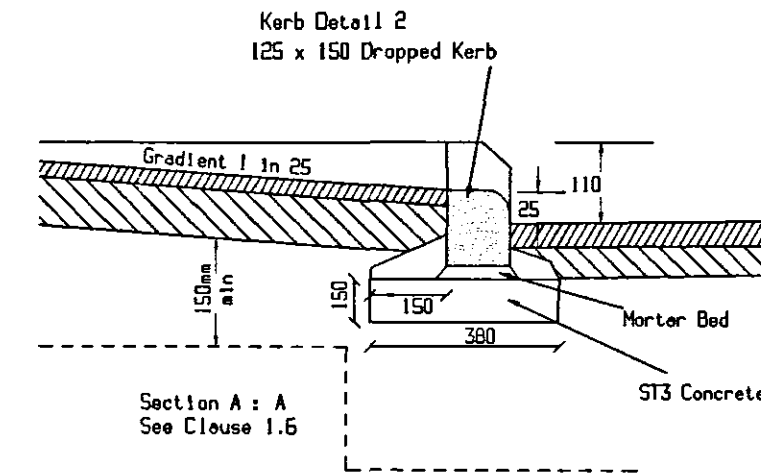
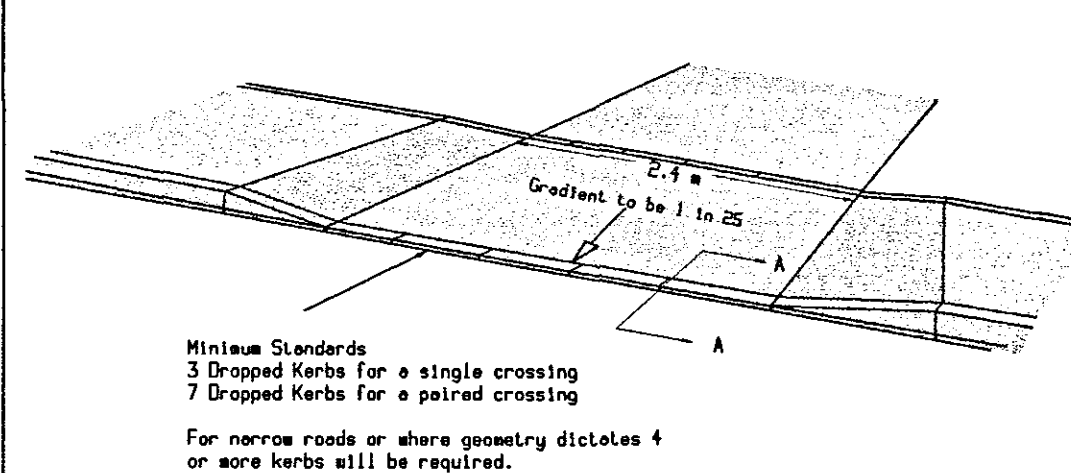
Note 4 May be laid in one layer.

Note 5 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 1.1.17.

Note 6 Total thickness to be increased by 20mm above these values if the alternative kerbing installation method is used.

Note 7 The use of a geosynthetic with a sub-grade with this bearing capacity offers no advantage or economy.

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



CLAUSE 1.6 VEHICLE ACCESS CROSSING

(A) Light Duty Chemical crossings.

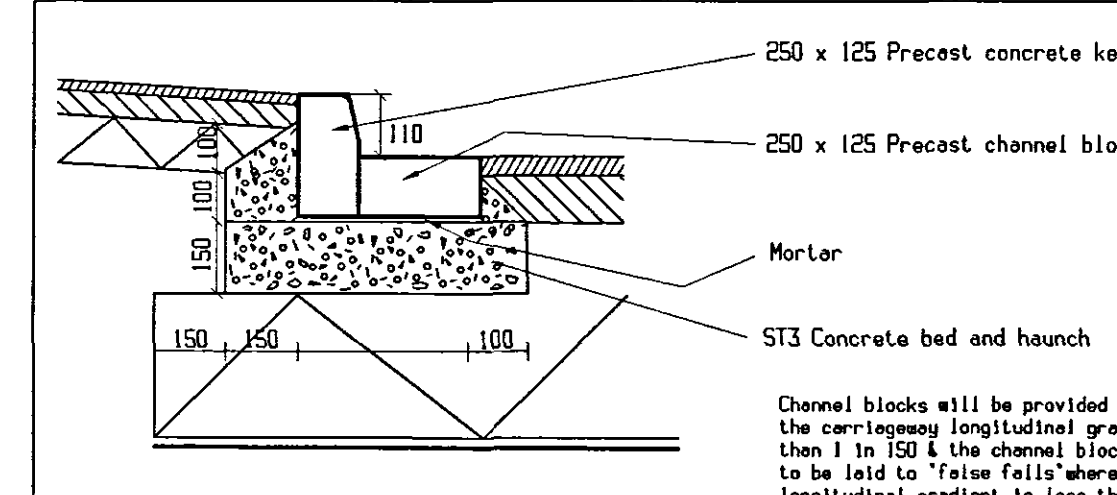
150mm of Type 1 sub-base to clause 1.2. 80 Where the CBR value of the sub-grade is below 2% shall be required to be placed on the sub-grade. On certain sites the depth of topsoil may exceed 20mm. On such sites topsoil containing organic matter, roots etc. shall be removed and replaced with Type 1 sub-base in accordance with Clause 1.2.

100mm of 0/20mm size dense Binder Course to Clause 9.1 compacted to a void content within the range 25-103. 25mm of 0/6mm size Dense Mastic Surface Course to Clause 9.4 compacted to a void content within the range 25-103.

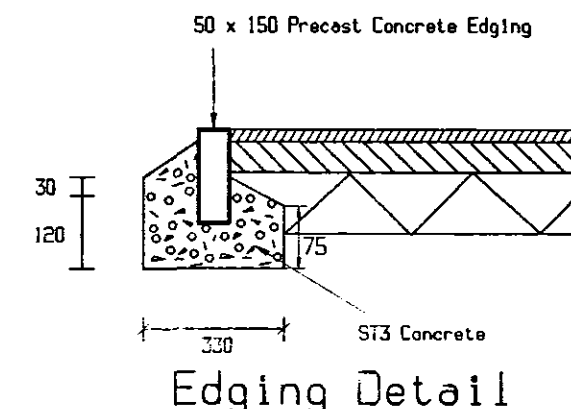
The joint between the access crossing and the carriageway shall be formed with 125 x 150mm precast concrete kerbs on a 150mm x 300mm base of ST3 (130N/m²) concrete. Where there is no footway the edges of the access crossing shall also be delineated with the same edging and base (see Drawing Ref Clause 1.6 (a)).

The highway boundary shall be delineated across the access crossing with 50mm x 150mm square cut precast concrete edging on a 75mm x 330mm base of ST3 (130N/m²) concrete. 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)).

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



Channel Block Detail
(required where gradient < 1 in 150)



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.

1.9 SMALL BLOCK PAVES

Concrete blocks and clay pavers shall comply with Clause 10.2 and 10.3. They shall be laid in accordance with the requirements of BS 6858-3.

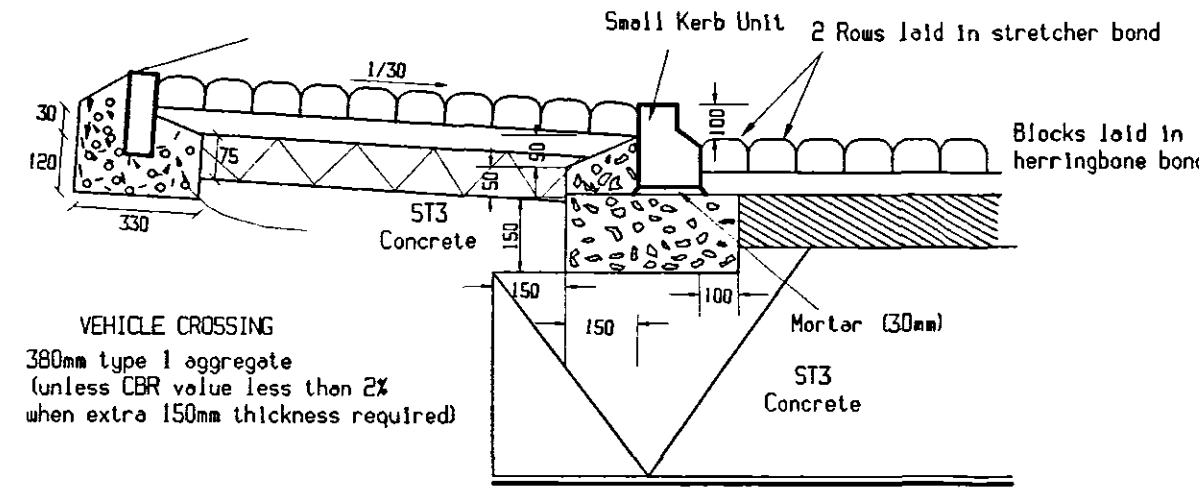
Herringbone bond pattern is required for all block paved areas. Only rectangular shaped blocks shall be permitted.

The layout of blocks/pavers and details at edges, manholes, gullies and other openings shall be recommended by the supplier and agreed with the Highway Authority in advance of laying.

The developer may traffic the carriageway after the placement of the bituminous binder course across the full width of the carriageway provided that the thickness of the binder course is in accordance with the relevant Construction Chart.

When the block paver construction is to be completed prior to building being commenced then the thickness of the binder course layer quoted in Construction Chart 3 for roads up to 0.25 m.s.s. may be reduced to 50mm. The sub-base shall be correspondingly increased by 30mm in such cases.

Bedding and jointing sand used in conjunction with small block pavers shall be in accordance with Clause 10.4.



Carriageway and Kerb Detail -
up to 5m (construction chart 3)
(Block Road Construction)

CBR NOTE

CBR testing was carried out by Lines Labs in October 2005 with updated values of between 0.4% and 4.5%. For road construction, we will assume a value of less than 1.5%. 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 3 BLOCK PAYER CONSTRUCTION (For roads up to 0.25 m.s.s.)

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	710 ^{Note 1,2,3}	110
1.5%	Not suitable	440	110
2%	400	340	110
3%	310	300	110
4%	270	270	110
5%	270	270	110
6-15%	270	270	110
Above 15%	270	270	110

Note 1 See Clause 1.1.5 & 1.1.7

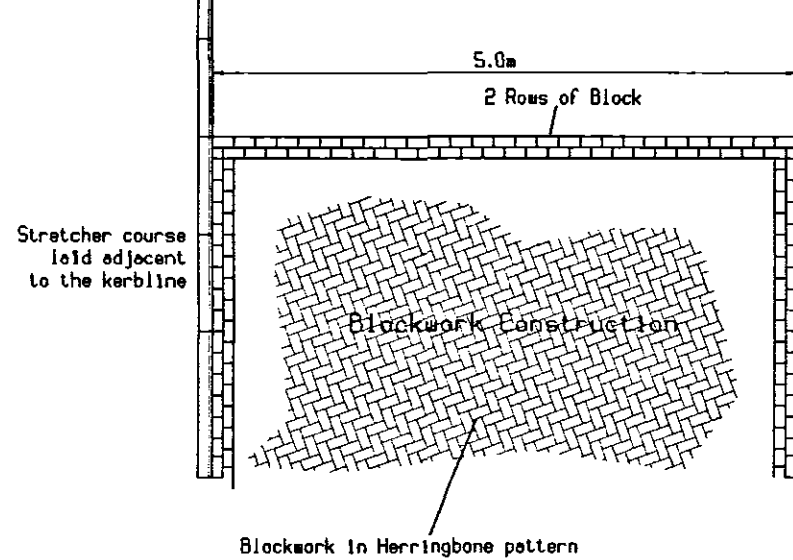
Note 2 See Clause 1.1.5 - Assumes no improvement is possible using either sub-soil drainage or soil strengthening technique. 710mm can be reduced to 600mm if all Type 1 sub-base is used.

Note 3 For soft spots and sub-grades with a CBR of less than 1.5% the geosynthetic shall be an approved geogrid.

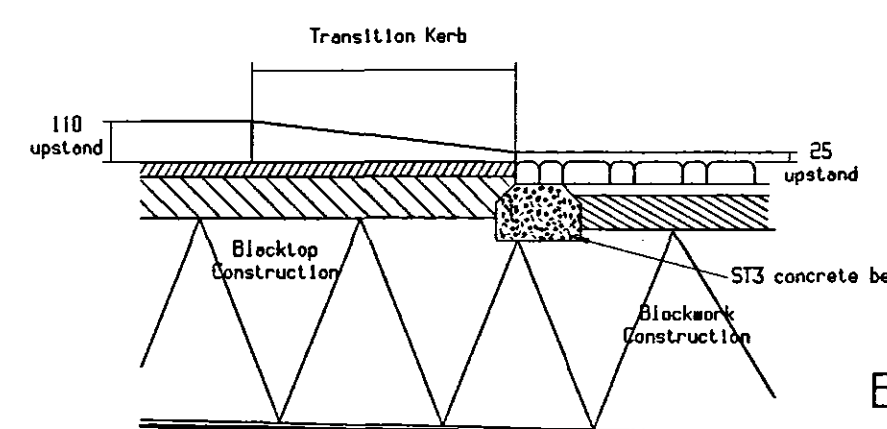
Note 4 See Clause 1.1.5

Note 5 The use of a geosynthetic with a sub-grade with this bearing capacity offers no advantage or economy.

Blacktop Construction



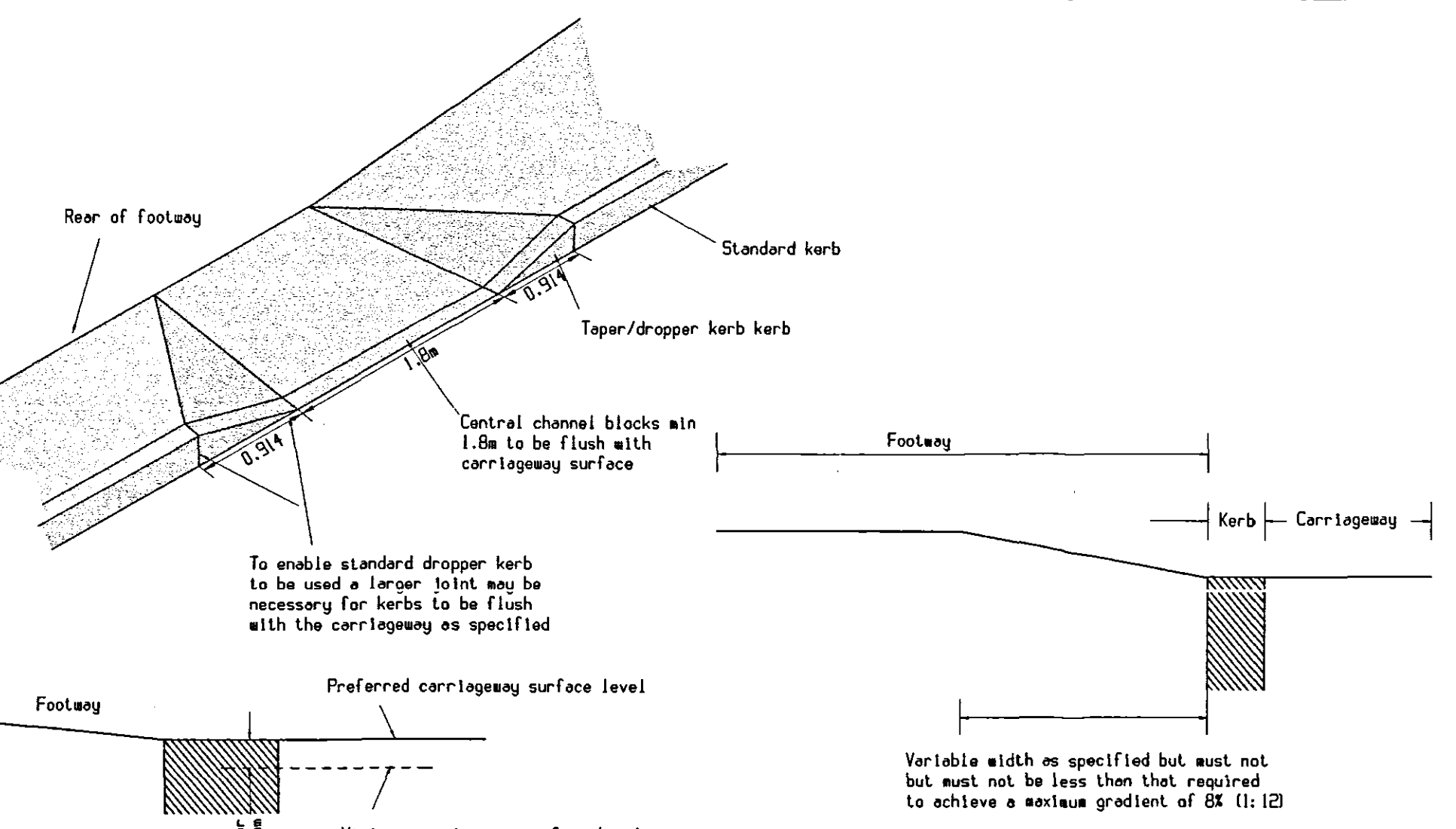
Flush Blockwork Square



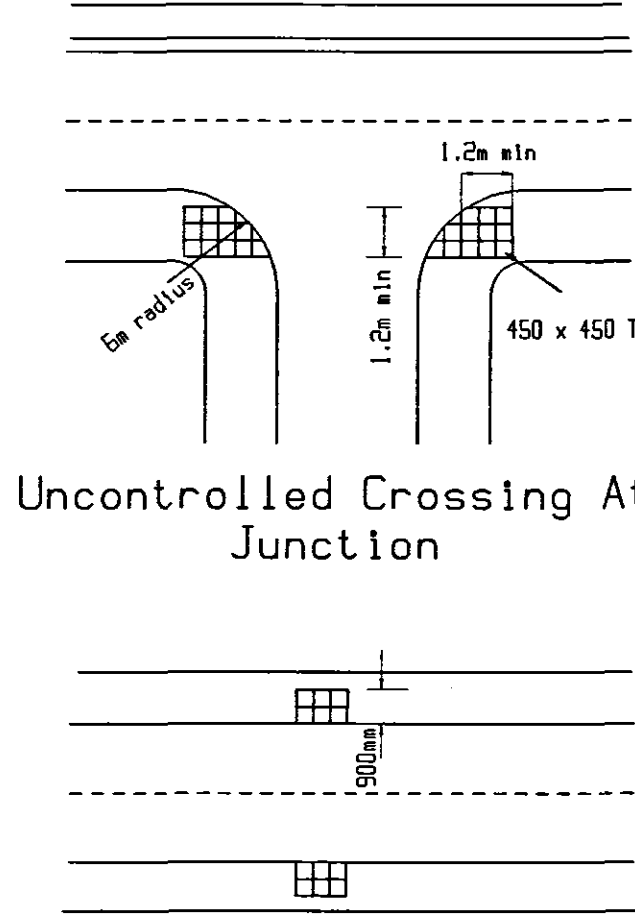
Blockwork - Detail Around Ironworks

Cross Section of
Blacktop to Blockwork
Flush Alignment

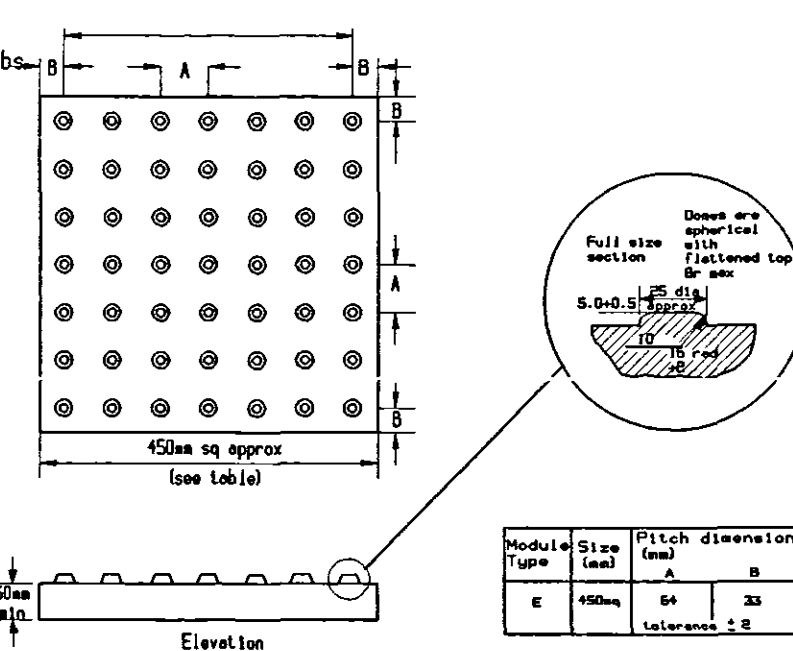
SHDC
Planning & Development
27 JUL 2007
Ref: 1030107



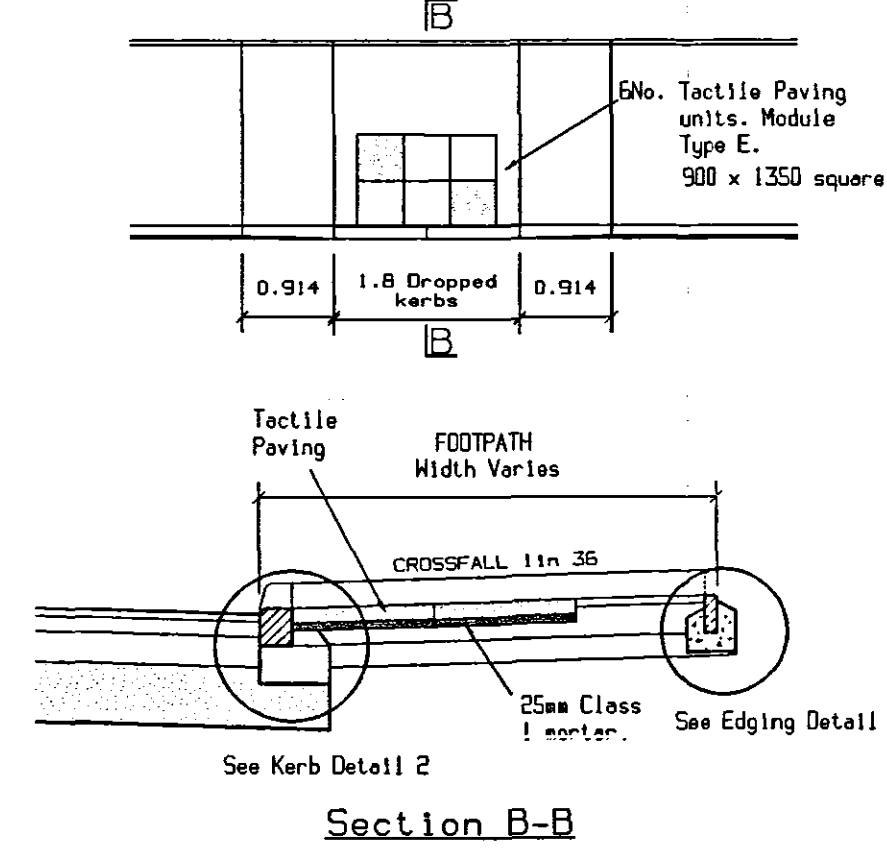
DROPPED KERB DETAIL PRIOR TO
INSTALLATION OF BLISTER SURFACE



Uncontrolled Crossing
Away from Junction



PRAM CROSSING DETAILS



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 will 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. BT) where tactile paving is required.

Written dimensions to be taken. 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 Bill of Materials and Local Authority Specification. CDH NOTES: The design has been undertaken 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
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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 RM2

Client
Allison Homes Eastern Ltd
Holland Place
Woodhouse Park
Spalding
Lincolnshire
PE11 3ZN

Client Drawing Number
A027/204/02/C

Drawn By
NJB
Date 14.12.05

Scale
N.T.S.

Engineering Drawing Number
E1081/27/C