

BITUMINOUS SURFACING FOOTPATH AND CYCLEWAY CONSTRUCTION

SURFACE COURSE

25mm of 6mm nominal size Dense 100/150 Surface Course (AC6 close surf) to Clause 9.4 compacted to a void content within the range of 2%-10%. The Surface Course must be bonded to the Binder Course.

BINDER COURSE

100mm of 20mm nominal size Dense 100/150 Binder Course (AC20 Dense bin rec) to Clause 9.1 compacted to a void ratio content within range 2%-10%

SUB BASE

100mm of Type 1 sub-base to Clause 1.2

TYPICAL BITUMINOUS ROAD CROSS SECTION

BITUMINOUS SURFACING FOOTPATH AND CYCLEWAY CONSTRUCTION

SURFACE COURSE

25mm of 6mm nominal size Dense 100/150 Surface Course (AC6 close surf) to Clause 9.4 compacted to a void content within the range of 2%-10%. The Surface Course must be bonded to the Binder Course.

BINDER COURSE

100mm of 20mm nominal size Dense 100/150 Binder Course (AC20 Dense bin rec) to Clause 9.1 compacted to a void ratio content within range 2%-10%

SUB BASE

100mm of Type 1 sub-base to Clause 1.2

TYPICAL BITUMINOUS ROAD CROSS SECTION

BITUMINOUS SURFACING CHART 1 - ROADS 3-11

SURFACE COURSE

40mm of AC10 close surf - See Notes

BINDER COURSE

130mm of AC20 dense bin - See Notes

SUB BASE

300mm TYPE 1 granular material laid on Tensar Triax TX-6 geogrid

CAPPING

410mm 6F5 granular material laid on a Tensar Triax TX-7 geogrid and suitable geotextile membrane

BITUMINOUS SURFACING CHART 4 - ROADS 1&2

SURFACE COURSE

40mm of AC10 close surf - See Notes

BINDER COURSE

180mm of AC20 dense bin - See Notes

SUB BASE

300mm TYPE 1 granular material laid on Tensar Triax TX-6 geogrid

CAPPING

410mm 6F5 granular material laid on a Tensar Triax TX-7 geogrid and suitable geotextile membrane

TRAFFICKING OF BINDER COURSE

Trafficking of the exposed binder course materials prior to the application of the final surface course should be in accordance with Clause 1.1.14. The Binder Course shall be thoroughly cleaned and a tack coat to Clause 9.2 applied prior to the laying of the Surface Course. It may be necessary to use high pressure washing equipment if heavy contamination has occurred.

Prolonged exposure to trafficking may result in the binder course becoming so adversely affected that its replacement will be necessary prior to laying the Surface Course.

KERBING

Kerbs shall be installed prior to the full depth of the carriageway Binder Course being placed, unless the alternative method of two-stage construction is employed following agreement, in advance, with the Highway Authority. Refer to Clause 1.1.16

BITUMINOUS SURFACING ROAD CONSTRUCTION

SURFACE COURSE FOR CHARTS 1 AND 4

For Chart 1 the Surface Course shall be 40mm of 10mm nominal size Close Graded Surface Course (AC10 close surf 100/150) to Clause 7.3. It must be compacted in accordance with Clause 7.2 to a void content within the range of 2%-10%. The Surface Course must be bonded to the Binder Course.

For Chart 4 the Surface Course shall be 40mm of Hot Rolled Asphalt (HRA 30/14F surf 40/60 des) to Clause 9.6 to a void content within the range of 2%-6%. The Surface Course must be bonded to the Binder Course.

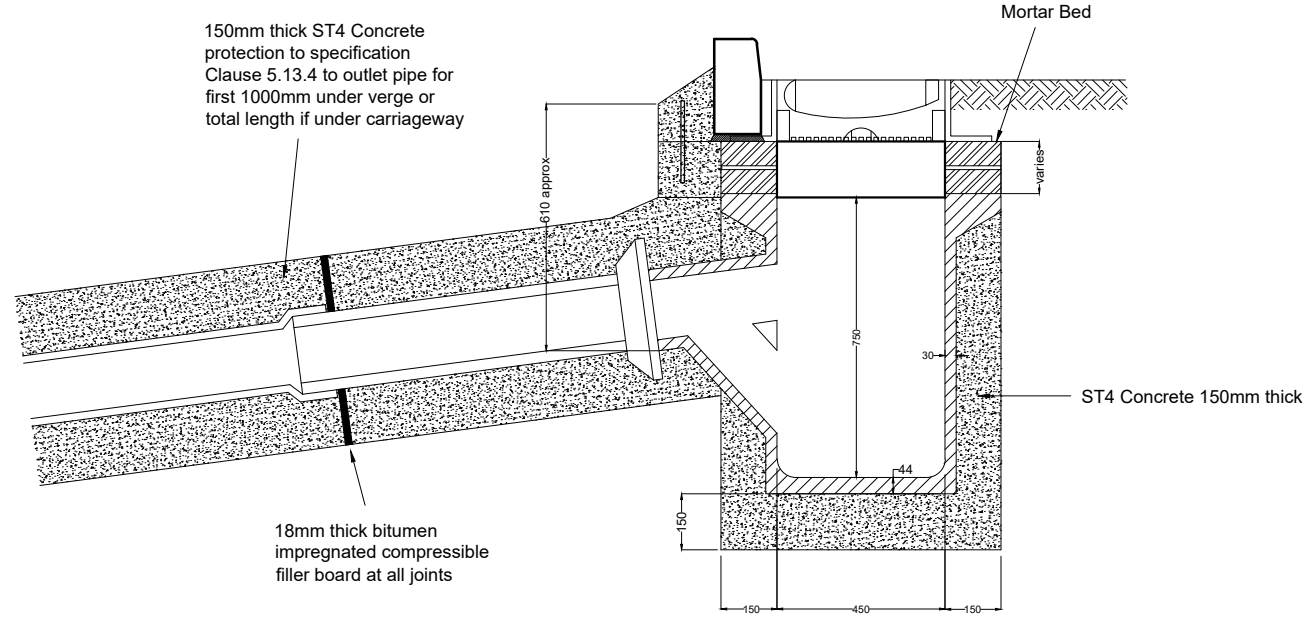
BINDER COURSE

For carriageways, Binder Course materials shall be 20mm nominal size recipe mix Dense Binder Course (AC20 Dense bin 40/60 rec) 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 of 2%-8% 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 msa) 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 9, (Clause 2.2) 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 13286-3



TYPE G5 TRAPPED ROAD GULLY

Notes:-

1. Cover and frame uncoated iron to Clause 5.11.1
2. Mortar bed and benching to Clause 5.11.8
3. Standard precast sealing rings to comply to BS 5911-4:2010
4. All in situ concrete to be ST4 with sulphate resisting cement unless agreed otherwise
5. Position of outlet pipe varies in plan
6. In situ ST4 concrete 150mm thick surround to outlet pipe for first one metre under verge or total length in under carriageway
7. Where grating is to be trafficked or laid against within 24 hours of frame being placed in position, then a suitable Ultra rapid hardening mortar and concrete (Monoset 241 or similar) shall be used to bed cover and frame

NOTES

1. The specification in all respects shall be in accordance with the current Development Road and Sustainable Drainage Specification and Construction publication in force in the county at the time of construction"
2. "The minimum longitudinal fall for highways, without channel blocks **shall** be 1 in 150 and with channel blocks 1 in 250

See Clause 10.1 of the Development Road and Sustainable Drainage Specification and Construction. In addition, ensure that the first section of any side road falls away from the road to which it is connecting. If general topography requires it to rise, this change of direction should take place after the first set of gullies. This is to ensure a 'false channel' with associated drainage problems is not created in the bellmouth of junctions.

3. "General deterioration of the existing highway/footway/verges created through construction of the new Section 38 Development will be reinstated to the Development Road and Sustainable Drainage Specification and Construction at the developers own cost and the agreement of the inspecting Highway and Flood Authority Officer."
4. "No private surface water shall discharge onto the adoptable highway."
5. "No private structural features shall overhang the adoptable highway."
6. "No private retaining walls exceeding 1.37 metres shall be within 3.66 metres of the highway boundary."
7. Any made ground beneath the line of the proposed highway should be removed and replaced with suitably engineered fill. please note the slightly elevated levels of contamination within the made ground on site

VEHICLE ACCESS CROSSINGS

LIGHT DUTY (DOMESTIC) CROSSINGS, TO CLAUSE 1.6:

150mm of Type 1 sub-base to Clause 1.2, (NB where the CBR value of the subgrade is below 1.5% an approved geosynthetic layer to Clause 6.7 will be required to be placed on the sub-grade). On certain sites the depth of topsoil may exceed 275mm. On such sales topsoil containing organic matter, roots, etc. shall be removed and replaced with Type 1 sub-base in accordance with Clause 1.2

100mm of 20mm size recipe mix Dense Asphaltic Concrete Binder Course to Clause 9.1 compacted to a void content within the range 2%-10%.

25mm of 6mm size Dense Asphaltic Concrete Surface Course to Clause 9.4 compacted to a void content within the range 2%-10%.

The joint between the access crossing and the carriageway shall be formed with 125mm x 150mm precast concrete kerbs on a base of ST4 (15N/mm<sup>2</sup>) concrete (approx. 1 cement:2 sand:4 aggregate by volume mix). A 125mm x 150mm x 225mm 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 base of ST4 (15N/mm<sup>2</sup>) 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)).

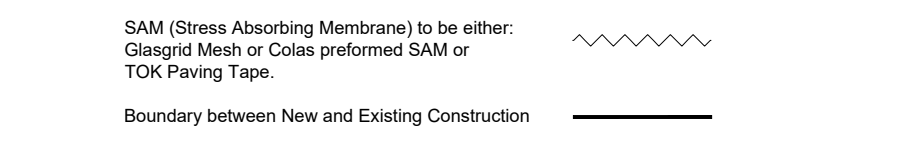
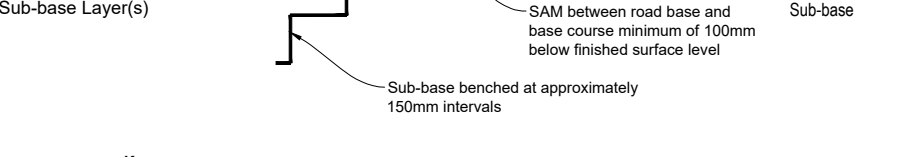
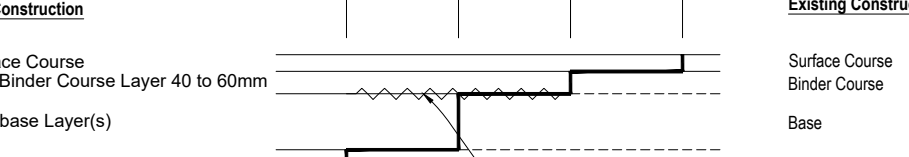
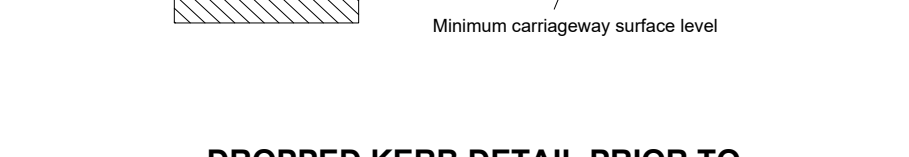
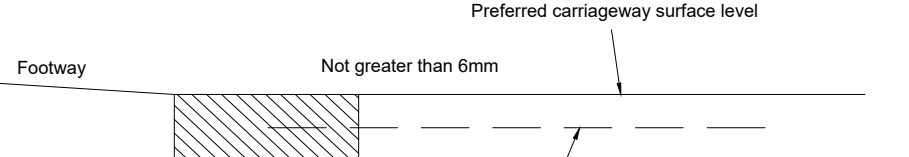
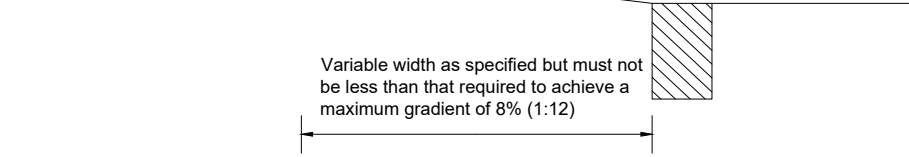
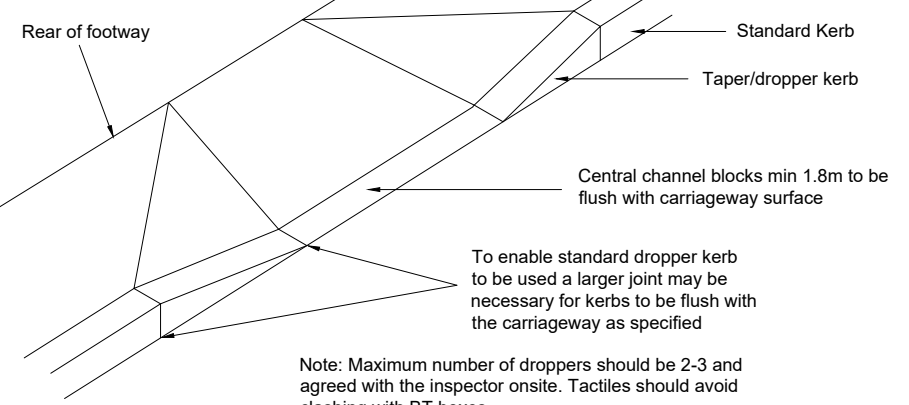
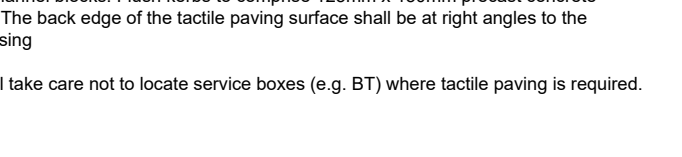
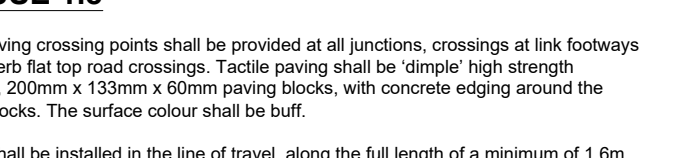
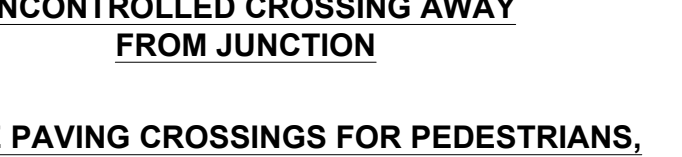
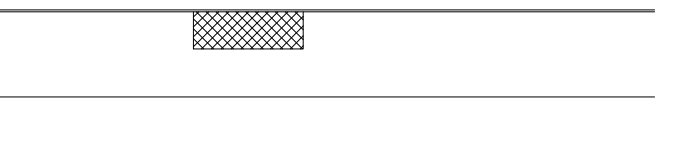
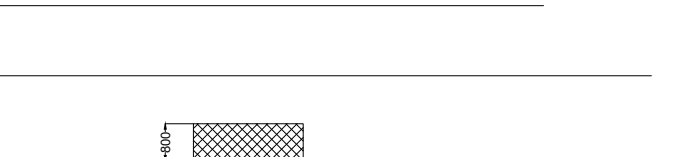
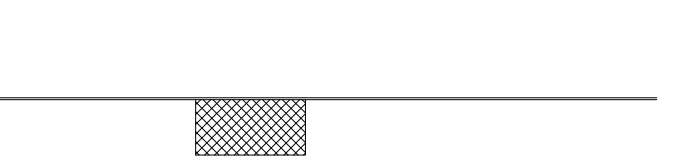
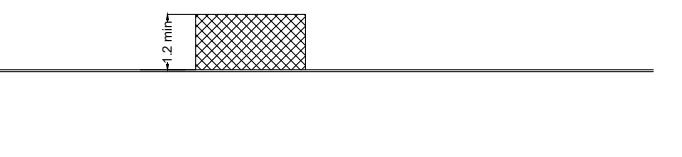
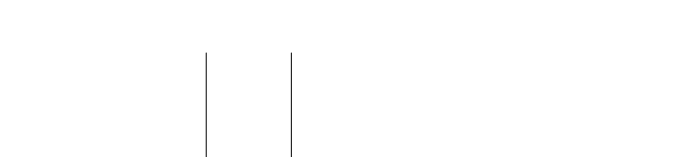
HEAVY DUTY VEHICLE ACCESS CROSSINGS, TO CLAUSE 1.6:

The construction and thickness shall be the same as the adjacent carriageway with the proviso that in all cases the surface course shall be hot rolled asphalt to Clause 1.4. Radi kerbing shall be used each side of the crossing, dropped at the point of intersection with adjacent footways and tactile paving shall be provided each side when required (see Drawing Ref Clause 1.6 (a)). Channel blocks, not dropped kerbs shall be used at the front of these crossings if channel blocks are installed along the adjacent carriageway and/or the adjacent carriageway is not surfaced with hot rolled asphalt. Channel blocks shall be installed at the rear of such crossings unless alternative restraint is available.

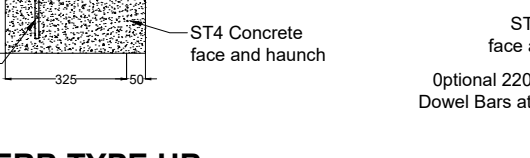
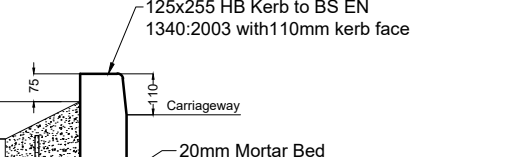
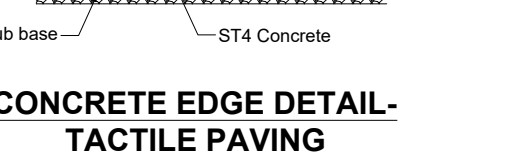
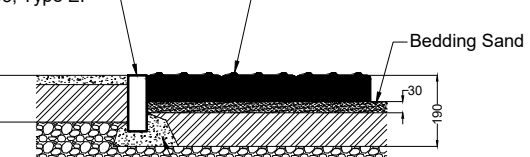
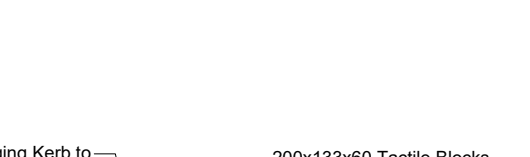
SMALL BLOCK PAVERS, CLAUSE 1.6:

Small unit paver construction will be permitted for access crossings only when the adjoining footway is of that construction type. The materials utilised and thickness employed in the crossings shall be the same as the adjoining carriageway.

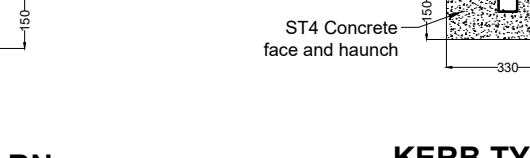
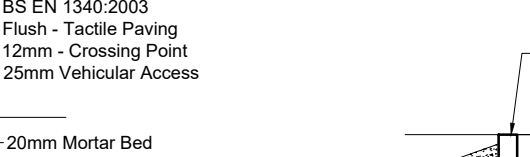
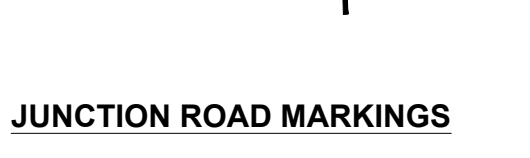
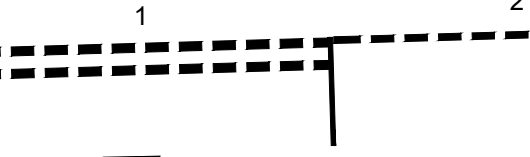
TYPICAL UNCONTROLLED CROSSING POINT AT JUNCTION



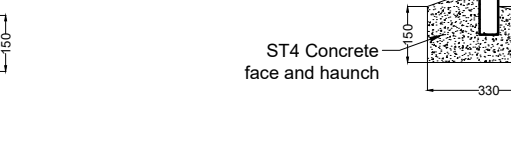
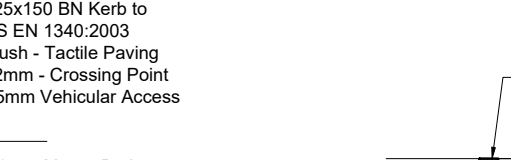
TRANSITION DETAIL BETWEEN STANDARD AND BLOCKWORK CONSTRUCTION



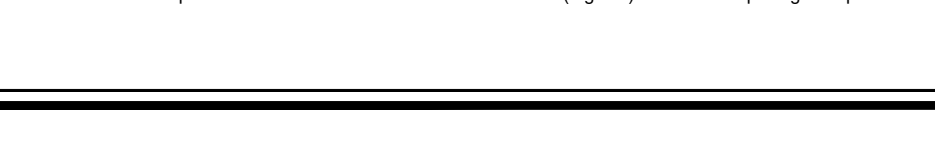
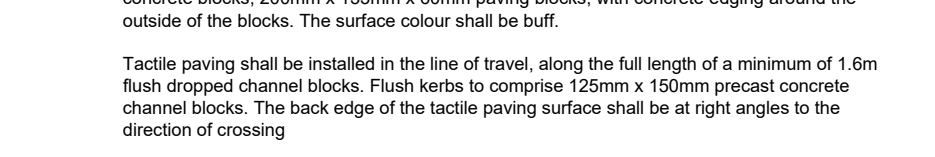
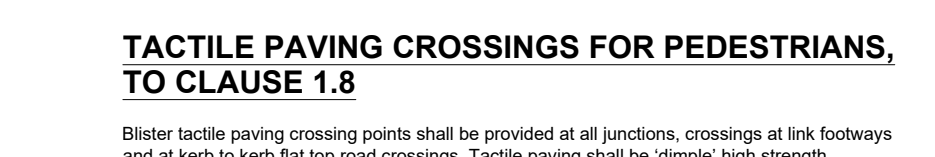
VEHICULAR CROSSING DETAILS



JUNCTION ROAD MARKINGS



UNCONTROLLED CROSSING AWAY FROM JUNCTION



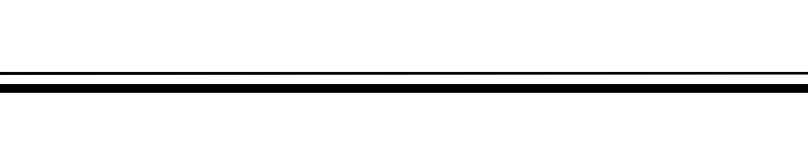
TACTILE PAVING CROSSINGS FOR PEDESTRIANS, TO CLAUSE 1.8

Blister tactile paving crossing points shall be provided at all junctions, crossings at link footways and at kerb to kerb flat top road crossings. Tactile paving shall be 'dimple' high strength concrete blocks, 200mm x 133mm x 60mm paving blocks, with concrete edging around the outside of the blocks. The surface colour shall be buff.

Tactile paving shall be installed in the line of travel, along the full length of a minimum of 1.6m flush dropped channel blocks. Flush kerbs to comprise 125mm x 150mm precast concrete channel blocks. 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.

STEPPED CONSTRUCTION DETAIL (DIAGRAMMATIC) NEW CONSTRUCTION ADJACENT TO EXISTING



Wormald Burrows Civil Engineering Consultants

12a - 18a Hitchin Street, Biggleswade, SG18 8AX  
Tel: (01767) 317244

Web: www.wormburp.com  
Email: engineer@wormburp.com

Project:

Damgate, Holbeach

Drawing Description:

Highway Construction Details

Client:



Seagate Homes  
Pudding Lane  
Pinchbeck, Spalding  
Lincolnshire  
PE11 3JT

Drawing Number:

E4237/780

Client Reference:

Scale:

NTS @ A1  
NTS @ A3

Designed By:

AG

Date:

08.03.24

Drawn By:

JMW

Date:

28.09.20

Checked By:

AG

Date:

08.03.24

©This drawing is Copyright, Wormald Burrows Partnership Limited 2018.



Certified by Afnor UK