EXTRACTED FROM LCC - SPECIFICATION OF HIGHWAY WORKS

6. FOOTWAY AND FOOTPATH CONSTRUCTION
6.1 ORDER OF WORK ALL DRAINAGE AND SEWERAGE, STATUTORY UNDERTAKERS' MAINS AND STREET LIGHTING SERVICE CONNECTIONS WHICH RUN ALONG THE FOOTWAY SHALL BE INSTALLED AND ALL TRENCHES AND PITS SHALL BE FILLED IN ACCORDANCE WITH CLAUSES 326 TO 328. BEFORE FOOTWAY CONSTRUCTION IS COMMENCED. FOOTWAYS SHALL BE COMPLETED UP TO BINDER COURSE LEVEL, IF FLEXIBLE, OR COMPLETED IF FLAGGED BEFORE ANY HOUSE IS OCCUPIED. MANHOLE COVERS, VALVE BOXES, GULLY GRATES, HYDRANT BOXES, STOP TAP BOXES SHALL BE ADJUSTED BY THE DEVELOPER TO REQUIRED LEVELS TO THE SATISFACTION OF THE ENGINEER.
WHERE MANHOLE COVERS ARE ADJUSTED, THE AMOUNT OF BRICKWORK ABOVE THE SLAB SHALL NOT EXCEED 2 COURSES. IN FOOTWAYS AND VERGES 112MM BRICKWORK IN CEMENT MORTAR MAY BE USED.
IMPORTANT NOTE: THE UK. BRITISH STANDARDS FOR BLACKTOP SPECIFICATIONS, BS 594 AND BS 4987 HAVE BEEN REPLACED BY THE NEW EUROPEAN STANDARD SPECIFICATION BS EN 13108 FROM THE 01 JANUARY 2008. IN ADDITION, THE LAYING AND COMPACTION OF BLACKTOP WILL BE COVERED BY A NEW, AMALGAMATED BS 594987.
THE IMPLEMENTATION OF THE NEW EUROPEAN STANDARD WILL RESULT IN A NUMBER OF CHANGES TO THE WAY THE BITUMINOUS MATERIALS ARE SPECIFIED AND DESCRIBED. THE MAJOR CHANGE IS THAT EXISTING BS 4987 MATERIALS, IE. COATED MACADAM, ARE NOW CALLED ASPHALT CONCRETE.
THE WAY PENETRATION GRADES OF BITUMEN ARE EXPRESSED HAS ALSO CHANGED AND ARE LISTED BELOW:
PRIOR TO 2008 BS EN 13108
35 30/45
50 40/60
85 100/150
190 160/220
290 250/330
NOTE: RECYCLED AGGREGATES AND RECLAIMED PRODUCTS WILL BE THE PREFERRED CHOICE OVER NATURAL AGGREGATES AND PRODUCTS WHERE IT CAN BE DEMONSTRATED THAT THE RECLAIMED MATERIALS WILL PROVE NO DETRIMENT TO THE IN SERVICE PERFORMANCE OF THE HIGHWAY AND THE SURROUNDING DEVELOPMENT.
FURTHER GUIDANCE TOGETHER WITH ADVICE ON TESTING CAN BE OBTAINED FROM THE COUNTY COUNCIL'S PRINCIPAL MATERIALS ENGINEER ON 01772 538560
6.2 FORMATION
PREPARATION
THE FORMATION SHALL BE SHAPED AND ROLLED TO LEVELS AS SHOWN ON THE DRAWINGS.
ANY ORGANIC MATERIAL, ANY WET, DUSTY, LOOSE OR DETERIORATED MATERIAL SHALL BE REMOVED AND REPLACED WITH PROPERLY COMPACTED GRANULAR MATERIAL TO THE REQUIRED LEVEL. TOTAL WEEDKILLER SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
6.3 CONSTRUCTION
DEPTHS AND LAYER
TABLE1: FLEXIBLE CONSTRUCTION
THICKNESS
CONSTRUCTION LAYER MIN. THICKNESS OF LAYER (MM)
6MM SIZE DENSE SURFACE COURSE 20
20MM SIZE DENSE BINDER COURSE 60
TYPE 1 SUB-BASE 100
TOTAL CONSTRUCTION DEPTH 180

REVISED SEPTEMBER 2011
6. FOOTWAY AND FOOTPATH CONSTRUCTION (CONT'D)
6.3 CONSTRUCTION
DEPTHS AND LAYER
TABLE 2: FLAG PAVED SURFACE
THICKNESS (CONT.) PRE-CAST CONCRETE FLAGS 63
SAND LAYING COURSE 25
TYPE 1 SUB-BASE 200
TOTAL CONSTRUCTION DEPTH 288
NOTE: WHERE THE SUB-GRADE IS PARTICULARLY WEAK THE ENGINEER MAY REQUIRE THE SUB-BASE THICKNESS TO BE INCREASED OR, IF THE FOUNDATION IS IN A POORLY DRAINED FINE GRANULAR SOIL (E.G. SILT OR SILTY FINE SAND), A FABRIC FILTER SHEET TO BE LAID ON THE FOUNDATION PRIOR TO PLACING THE SUB-BASE LAYER.
6.4 SUB-BASE
MATERIAL
THE SUB-BASE SHALL BE TYPE 1 SUB-BASE AS 5.4.
6.5 LAYING SUB-BASE THE SUB-BASE SHALL BE CONSTRUCTED IN THE MANNER SPECIFIED IN CLAUSE 5.5 EXCEPT:
(A) COMPACTION SHALL BE CARRIED OUT WITH A ROLLER WEIGHING NOT LESS THAN 9.5 TONNES.
(B) THE THICKNESS OF LAYER AFTER COMPACTION SHALL BE NOT LESS THAN 100MM.
(C) THE SURFACE OF THE SUB-BASE SHALL BE WITHIN +0 -20MM OF THE SPECIFIED LEVEL.
6.6 BINDER COURSE
MATERIAL
THE BINDER COURSE SHALL CONSIST OF 20MM SIZE DENSE BINDER COURSE TO BS EN 13108 WITH 100/150 OR 160/220 PEN BITUMEN.
6.7 LAYING
BINDER COURSE
1. THE SUB-BASE SURFACE SHALL BE CLEAN AND FREE FROM STANDING WATER.
2. THE MATERIAL SHALL BE COVERED WITH TARPAULINS WHILST BEING DELIVERED AND WHILST STOCKPILED ON SITE.
3. THE MATERIAL SHALL BE COMPACTED BY ROLLING WITH A 2.5 TONNE ROLLER OR APPROVED VIBRATING ROLLER UNTIL SUBSEQUENT PASSES RESULT IN NO FURTHER ROLLER MARKS.
4. JOINTS SHALL BE TREATED IN SUCH A WAY AS TO ENSURE ADEQUATE COMPACTION AND BONDING.
5. THE FINISHED SURFACE SHALL BE WITHIN +0 OR -6MM FROM THE TRUE SURFACE LEVEL.
6.8 FLEXIBLE SURFACE
COURSE MATERIAL
FLEXIBLE SURFACE COURSE SHALL CONSIST OF THE FOLLOWING TYPES OF MATERIAL TO BE DETERMINED BY THE ENGINEER:
1. THE STANDARD RECOMMENDATION IS 6MM SIZE DENSE SURFACE COURSE TO BS EN 13108: PART 1 WITH 100/150 PEN BITUMEN HOWEVER, WHERE THOUGHT APPROPRIATE A 4MM SIZE FINE SURFACE COURSE CAN BE SUBSTITUTED.
2. WHEREVER PRACTICAL THE SURFACE AND BINDER COURSE LAYERS SHOULD BE MACHINE LAID TO IMPROVE BOTH DURABILITY AND LONG-TERM STRENGTH.
3. ANY SECTIONS OF SURFACING TO BE DESIGNATED FOR USE AS CYCLE ROUTES SHALL INCORPORATE HARDSTONE CRUSHED ROCK COARSE AGGREGATE WITH A MINIMUM PSV OF 55 IN SURFACE COURSE(S).
4. ON RURAL CYCLE ROUTES THE FINISHED SURFACE SHOULD BE SURFACE DRESSED TO INCREASE THE SKID RESISTANCE AND TO PREVENT THE FORMATION OF HOAR FROST
6.9 LAYING FLEXIBLE
SURFACE COURSE
1. THE BINDER COURSE SURFACE SHALL BE CLEAN AND FREE FROM STANDING WATER.
2. IF NECESSARY DUE TO SETTLEMENT OR TO CORRECT SURFACE PROFILE A SEPARATE REGULATING COURSE OF SURFACE COURSE MATERIAL SHALL BE LAID TO BRING THE SURFACE TO WITHIN THE REQUIRED TOLERANCES AND ROLLED.
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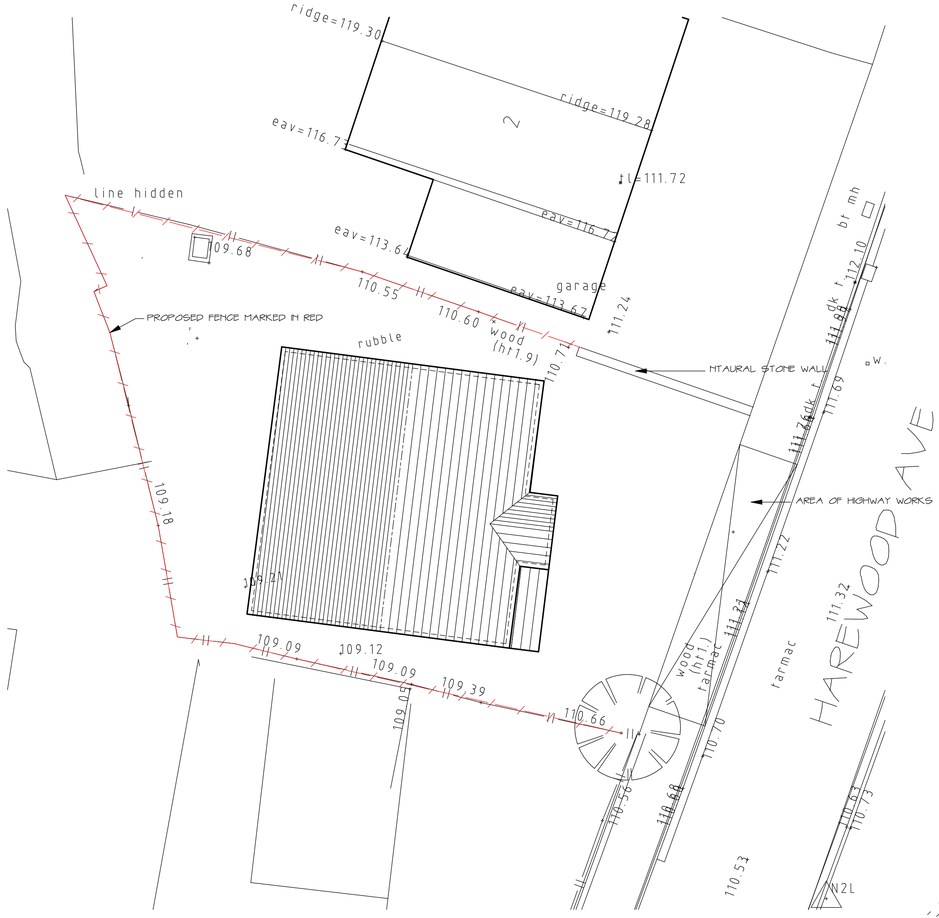
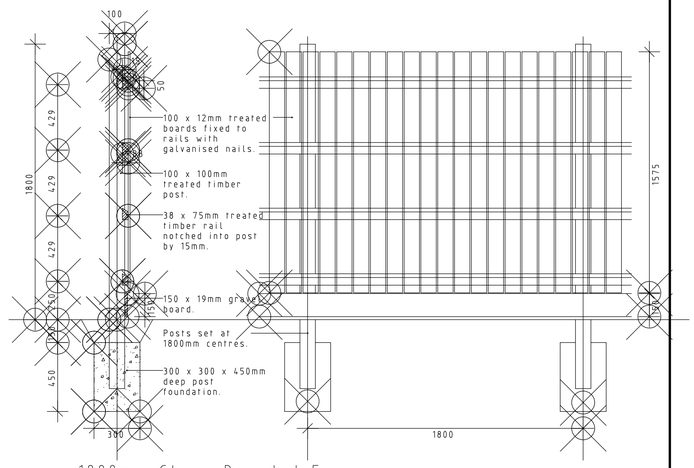
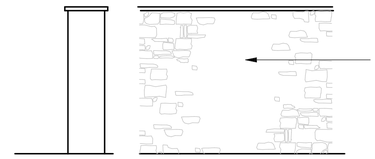
6. FOOTWAY AND FOOTPATH CONSTRUCTION (CONT'D)
6.9 LAYING FLEXIBLE
SURFACE COURSE
(CONT.)
3. IF THE BINDER COURSE IS DRY AND DUSTY OR THE BINDER HAS STRIPPED AN APPROPRIATE TACK COAT EMULSION SHALL BE APPLIED BY SPRAYING WITH A FINE MIST SPRAY AT A RATE OF 0.35 -0.55 LITRES/M2 ALL AS CLAUSE 5.9.
4. THE START AND FINISH OF THE SURFACE COURSE AND ALL CONSTRUCTION JOINTS SHALL BE PROPERLY KEYED-IN TO THE ADJACENT SURFACE.
5. THE MATERIAL SHALL BE COVERED WITH TARPAULINS DURING DELIVERY AND WHILST STOCKPILED ON SITE.
6. THE SURFACE COURSE MATERIAL SHALL BE SPREAD AND COMPACTED EVENLY TO THE REQUIRED PROFILE TO A LAYER THICKNESS OF 20MM
7. THE MATERIAL SHALL BE COMPACTED BY ROLLING WITH A 2.5 TONNE ROLLER OR APPROVED VIBRATING ROLLER UNTIL ALL ROLLER MARKS HAVE BEEN REMOVED FROM THE SURFACE.
8. THE FINISHED SURFACE SHALL BE WITHIN +0 OR -6MM OF TRUE SURFACE PROFILE. THE FINISHED SURFACE SHALL BE 3 - 6MM ABOVE ANY KERB OR CHANNEL BLOCK OR GULLY FRAME, OR EDGING IF THE SURFACE FALLS TOWARDS THE EDGING.
6.10 FLAGS AND BLOCK
PAVING
FLAGS AND BLOCK PAVING SHALL BE USED ONLY WHERE HEAVY PEDESTRIAN TRAFFIC IS EXPECTED OR WHEN JUSTIFIED IN PARTICULAR CIRCUMSTANCES AND THEIR USE SHALL BE SUBJECT TO THE PRIOR AGREEMENT OF THE ENGINEER. NO FLAGGED AREAS WILL BE PERMITTED FOR VEHICLE USE.
WHERE IMPORTED FLAGS ARE APPROVED FOR USE LANCASHIRE COUNTY COUNCIL WILL REQUIRE ADDITIONAL STOCKS TO COVER BREAKAGES. IMPORTED FLAGS CAN BE MORE SUSCEPTIBLE TO STAINING, PARTICULARLY FROM FATS AND SUGARS, SO CONTRACTORS SHOULD CONSIDER THE CHOICE OF MATERIAL CAREFULLY.
WHERE PERMITTED, THE MATERIALS SHALL BE AS FOLLOWS:
1. PRECAST CONCRETE FLAGS 63MM THICK, HYDRAULICALLY PRESSED AND COMPLYING WITH BSEN 1339.
2. SMALL ELEMENT PRECAST CONCRETE PAVING FLAGS, 70MM THICK AND 450MM X 450MM OR SMALLER.
3. BLOCK PAVERS SHALL BE 80MM NOMINAL THICKNESS EITHER CONCRETE OR CLAY RECTANGULAR BLOCKS WITH CHAMFERED EDGES AS DESCRIBED IN 5.13. WHERE OVER-RUNNING BY VEHICLES IS UNLIKELY THE BLOCK THICKNESS MAY BE REDUCED TO 65MM.
4. NATURAL STONE FLAGS AS AGREED WITH THE ENGINEER.
6.11 LAYING OF PAVED
AREAS
1. FLAGS SHALL BE LAID TO THE REQUIRED CROSSFALLS AND TO 15MM OR 30MM BOND WITH THE LONGER SIDES OF THE FLAGS AT RIGHT ANGLES TO THE KERB UNLESS OTHERWISE SPECIFIED. ON CIRCULAR WORK WHERE THE RADIUS IS 12M OR LESS ALL FLAGS SHALL BE RADIALLY CUT ON BOTH EDGES TO THE REQUIRED LINE.
2. FLAGS SHALL BE LAID IN ACCORDANCE WITH DD7533: PART 4.
3. BLOCK PAVING SHALL BE LAID IN ACCORDANCE WITH DD7533: PART 3.
6.12 LAYING COURSE 1. PRECAST CONCRETE FLAGS LARGER THAN 450MM X 450MM SHALL BE BEDDED ON A LAYING COURSE OF 3:1 SAND CEMENT MORTAR 25MM THICK.
2. SMALL ELEMENT CONCRETE PAVING FLAGS 450MM X 450MM OR SMALLER SHALL BE BEDDED ON A LAYING COURSE OF SAND 30MM THICK TO DD7533: PART 4.
3. BLOCK PAVING SHALL BE BEDDED ON A LAYING COURSE OF CATEGORY II BEDDING SAND 50MM THICK TO DD7533: PART 3.

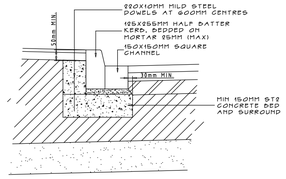




1800mm Close Boarded Fence
Typical Section & Elevation



1200MM HIGH NATURAL STONE WALL . STONE TO MATCH THE PROPOSED HOUSE MATERIALS



125X255MM HALF BATTERED KERB
SCALE 1:10

7. KERBING AND EDGING
7.1 PRECAST CONCRETE
KERBS CHANNELS
AND EDGINGS
1. PRECAST CONCRETE KERBS CHANNELS AND EDGINGS SHALL BE TO BSEN 1339 IN PRESSED CONCRETE WITH THE COARSE AGGREGATE HAVING A 10% FINES VALUE NOT LESS THAN 160KN.
2. KERBS SHALL BE 125MM X 255MM HALF BATTERED (1/2 D). WHERE A GRASS VERGE LIES DIRECTLY BEHIND THE KERB LINE, THE ENGINEER MAY REQUIRE 125MM X 255 MM 45D SPLAYED KERBS.
3. BULLNOSE KERBS AT DOMESTIC VEHICLE CROSSINGS AND PEDESTRIAN CROSSINGS SHALL BE 125MM X 150MM.
4. SPECIAL DROPPER (TAPER) KERBS SHALL BE USED TO REDUCE THE KERB FACE FOR CROSSINGS ON STRAIGHT RUNS.
5. THE CORRECT RADIUS KERB SHALL BE USED FOR ALL RADII OF 12M OR LESS.
6. PC CONCRETE CHANNELS 230MM X 75MM SHALL BE USED IN CONJUNCTION WITH KERBS ON LENGTHS WHERE IN THE OPINION OF THE ENGINEER LONGITUDINAL FALLS ARE INADEQUATE FOR SATISFACTORY NATURAL DRAINAGE. THE CHANNELS TO BE BEDDED ON MX ST1 CONCRETE 225MM THICK. FALSE FALLS SHALL BE CREATED ALONG THE CHANNEL BY REDUCING THE KERB HEIGHT TO 75MM AT SUMMITS AND INCREASING THE HEIGHT TO 125MM AT VALLEYS.
7. EDGINGS SHALL BE 50MM X 200MM PRESSED CONCRETE FLAT TOPPED SQUARE SECTION.
7.2 KERB
FOUNDATIONS
1. ALL KERBS SHALL BE SET ON A BED 275MM WIDE X 150MM DEEP OF CAST INSITU MIX ST1 CONCRETE.
2. IMMEDIATELY AFTER LAYING, KERBS SHALL BE BACKED AND/OR HAUNCHED WITH MIX ST1 CONCRETE IN ACCORDANCE WITH APPENDIX 5.
3. KERB BED AND HAUNCHING CONCRETE SHALL BE ADEQUATELY COMPACTED.
7.3 LAYING
EDGINGS
THE 50MM X 200MM PRECAST CONCRETE FOOTWAY EDGINGS TO CLAUSE 7.1.7 SHALL BE LAID ON EDGE ON A BED OF MX ST1 CONCRETE 75MM THICK, TRUE TO THE LINE AND LEVELS OF THE FOOTWAY AND SHALL BE HAUNCHED AT THE BACK WITH 100MM CONCRETE WITHIN 50MM OF THE TOP AND AT THE FRONT WITH 50MM CONCRETE TO WITHIN 75MM OF THE TOP IN ACCORDANCE WITH APPENDIX 5.
7.4 KERB AND EDGING
LINES
1. KERB AND EDGING LINES SHALL BE PROPERLY SET OUT WITH ROAD PINS AND STRING LINES TO THE LINES AND LEVELS GIVEN ON THE APPROVED DRAWINGS.
2. THE KERBS AND EDGINGS SHALL BE LAID ACCURATELY TO THESE LINES AND FINE ADJUSTMENTS MADE SO THAT A SMOOTH FLOWING ALIGNMENT IS ACHIEVED FREE FROM SUDDEN DEVIATIONS OR IMPERFECTIONS WITHIN A TOLERANCE OF +13MM TO THE SATISFACTION OF THE ENGINEER.
3. KERB UPSTAND SHALL BE BETWEEN 100MM AND 125MM ON COMPLETION AS REQUIRED BY THE ENGINEER.
4. THE SURFACE LEVEL OF KERBS AND EDGINGS SHALL NOT DEVIATE FROM THE DESIGN LEVEL BY MORE THAN +6MM, NOR SHALL THE LONGITUDINAL SURFACE REGULARITY DEVIATE BY MORE THAN 3MM IN 3M WHEN CHECKED WITH A 3M STRAIGHT EDGE.
7.5 DROPPED KERBS 1. DROPPED KERBS SHALL BE PROVIDED AT VEHICULAR CROSSINGS AND PEDESTRIAN CROSSING PLACES INCLUDING JUNCTIONS.
2. A DOMESTIC VEHICULAR CROSSING ON THE STRAIGHT OR RADIUS OVER 12M (APPENDIX 4) SHALL CONSIST OF:
(A) A TAPER/DROPPED KERB FOR 125MM X 255MM HALF (OR FULL) BATTERED KERBS.
(B) A MINIMUM OF FOUR 125MM X 150MM BULLNOSE KERBS LAID TO GIVE A 25MM FACE.
(C) A TAPER/DROPPED KERB.
3. A PEDESTRIAN CROSSING ON THE STRAIGHT OR RADIUS OVER 12M SHALL BE AS ABOVE BUT WITH TWO BULLNOSE KERBS WITH 12MM FACE.
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7. KERBING AND EDGING (CONT'D)
7.5 DROPPED KERBS
(CONT.)
4. AT AUTHORISED CROSSINGS, SUCH AS PELICANS OR SIGNALS WITH A PEDESTRIAN PHASE, TACTILE SURFACING AS DESCRIBED IN THE CODE OF PRACTICE ON MOBILITY MUST BE PROVIDED IN CONJUNCTION WITH FLUSH KERBS.
7.6 SPECIAL EDGINGS NATURAL SETTS, GRANITE CUBES, NATURAL STONE KERBS, ENGINEERING BRICK OR CONCRETE BLOCKS WILL BE CONSIDERED AS ALTERNATIVES IN CERTAIN CASES TO PRECAST CONCRETE KERBS. IN ALL CASES THE EDGINGS WILL BE EMBEDDED FOR AT LEAST 1/3 OF THEIR DEPTH MINIMUM 75MM IN MX ST1 CONCRETE.

No	AMENDMENT	DATE

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PROPOSED DWELLING
ON
LAND OFF
NO 2 HAREWOOD AVE,
SIMMONSTONE
FOR
MR & MRS M LANGLEY

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SCALE MTS DATE 8/9/16
DRG No 2014/42/7