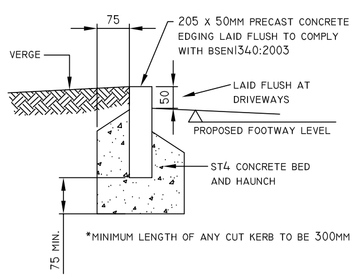


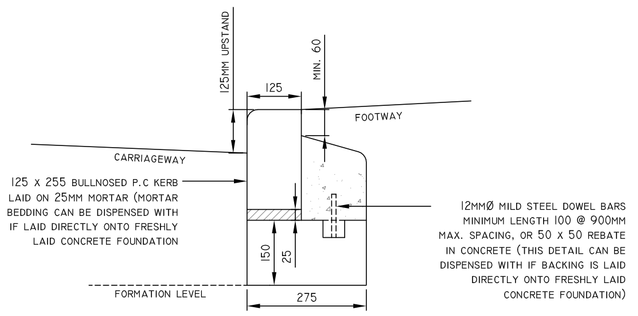
NOTES:

1. CLAUSE NUMBER QUOTED REFER TO THE DTp SPECIFICATION FOR HIGHWAY WORKS AND AMENDED AS APPROPRIATE
2. SURFACE COURSE ASPHALT CONCRETE TO CLAUSE 909.914
3. A) SURFACE COURSE ROLLED ASPHALT TO CLAUSE 910.911
 B) CHIPPINGS TO BE 10MM WHITE, SPREAD AT 1.0KG/M (WHERE SPECIFIED)
5. BINDER COURSE ASPHALT CONCRETE TO COMPLY WITH CLAUSE 906.929
6. SUB BASE TYPE 1 GRANULAR MATERIAL TO COMPLY WITH CLAUSE 803
7. SUB GRADE PROTECTION TO BE IN ACCORDANCE WITH CLAUSE 613
8. IN THE CASE OF FOOTWAY ADJACENT TO BUILDING FRONTAGES, ATTENTION SHOULD BE PAID TO THE BUILDINGS DAMP PROOF COURSE (DPC) LEVEL. NEW FOOTWAY SHOULD BE SET AT LEAST 150MM BELOW THE DPC

TYPICAL SECTION THROUGH HIGHWAY SHOWING PROPOSED CONSTRUCTION
1:20 @ A1
1:40 @ A3

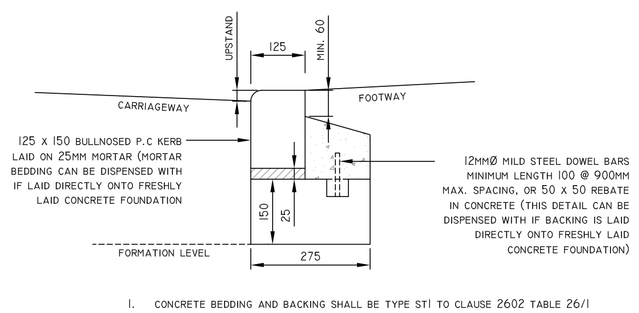


TYPICAL EDGING KERB DETAIL (E1)
1:10 @ A1
1:20 @ A3



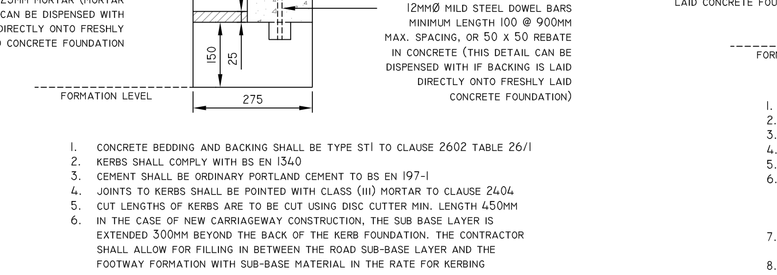
1. CONCRETE BEDDING AND BACKING SHALL BE TYPE ST1 TO CLAUSE 2602 TABLE 26/1
2. KERBS SHALL COMPLY WITH BS EN 1340
3. CEMENT SHALL BE ORDINARY PORTLAND CEMENT TO BS EN 197-1
4. JOINTS TO KERBS SHALL BE POINTED WITH CLASS (III) MORTAR TO CLAUSE 2404
5. CUT LENGTHS OF KERBS ARE TO BE CUT USING DISC CUTTER MIN. LENGTH 450MM
6. IN THE CASE OF NEW CARRIAGEWAY CONSTRUCTION, THE SUB BASE LAYER IS EXTENDED 300MM BEYOND THE BACK OF THE KERB FOUNDATION. THE CONTRACTOR SHALL ALLOW FOR FILLING IN BETWEEN THE ROAD SUB-BASE LAYER AND THE FOOTWAY FORMATION WITH SUB-BASE MATERIAL IN THE RATE FOR KERBING

BULL NOSED KERB CONSTRUCTION DETAIL
(K1)
1:10 @ A1
1:20 @ A3



1. CONCRETE BEDDING AND BACKING SHALL BE TYPE ST1 TO CLAUSE 2602 TABLE 26/1
2. KERBS SHALL COMPLY WITH BS EN 1340
3. CEMENT SHALL BE ORDINARY PORTLAND CEMENT TO BS EN 197-1
4. JOINTS TO KERBS SHALL BE POINTED WITH CLASS (III) MORTAR TO CLAUSE 2404
5. CUT LENGTHS OF KERBS ARE TO BE CUT USING DISC CUTTER MIN. LENGTH 450MM
6. IN THE CASE OF NEW CARRIAGEWAY CONSTRUCTION, THE SUB BASE LAYER IS EXTENDED 100MM BEYOND THE BACK OF THE KERB FOUNDATION. THE CONTRACTOR SHALL ALLOW FOR FILLING IN BETWEEN THE ROAD SUB-BASE LAYER AND THE FOOTWAY FORMATION WITH SUB-BASE MATERIAL IN THE RATE FOR KERBING
7. FOUNDATION DETAIL FOR TAPER KERBS WILL BE AS PER FOUNDATION FOR 125MM X 150MM AND 125MM x 255MM KERBS
8. KERB UPSTAND TO BE
 (A) 0 - 6MM PEDESTRIAN CYCLEWAY CROSSINGS
 (B) 25MM VEHICULAR CROSSINGS

DROPPED KERB CONSTRUCTION DETAIL
(DK)
1:10 @ A1
1:20 @ A3



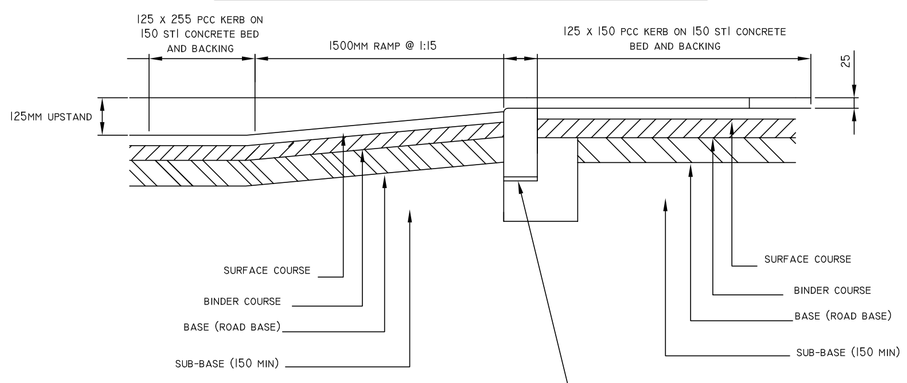
ROAD GULLY DETAIL
1:20 @ A1
1:40 @ A3

HIGHWAY GULLY NOTES

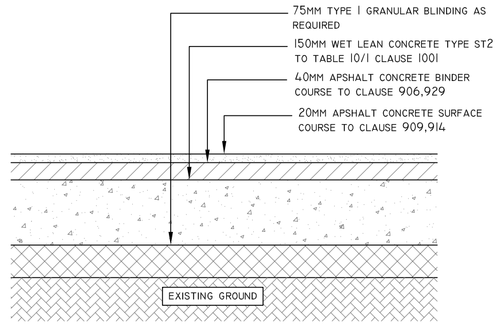
1. CONSTRUCTION AND MATERIALS TO COMPLY WITH THE RELEVANT CLAUSE IN THE SPECIFICATION FOR HIGHWAYS WORKS AND RELEVANT BRITISH STANDARDS UNLESS OTHERWISE STATED AND BE KITEMARKED
2. GULLY CONNECTIONS WITHIN CARRIAGEWAY AND 400MM OF THE CARRIAGEWAY FINISHED ROAD LEVEL AND OTHER AREAS OF VEHICULAR LOADING TO HAVE TYPE Z CONCRETE BED AND SURROUND
3. MINIMUM DEPTH FROM THE TOP OF THE GULLY TO THE GULLY OUTLET IS TO BE 450MM WHEN THE CONNECTING PIPE IS UNDER A CARRIAGEWAY OR HARD SHOULDER
4. FOR FOOTPATHS AND PEDESTRIAN AREAS PEDESTRIAN FRIENDLY GULLY GRATINGS ARE TO BE USED
5. ALL GULLY GRATING AND FRAME TO BE MADE OF NON-MALLEABLE SPHEROIDAL GRAPHITE CAST IRON (DUCTILE IRON) GRADE 500/7 IN ACCORDANCE WITH EN1563:2011 WITH GRATING BEING NON REMOVABLE AFTER INSTALLATION. GULLY GRATING AND FRAME TO BE B.S.E.N 124 CLASS D400 WITH MIN. WATERWAY AREA OF 900CM². COVER AND FRAME TO HAVE PRODUCT CONFORMITY CERTIFICATES TO BS EN 124 ISSUED BY UKAS ACCREDITED CERTIFICATION BODY (E.G BSI KITE MARKED) - THE BODY MUST HAVE BOTH EN 45011 AND EN 45012 WITHIN ITS SCOPE. GULLY TO BE BEDDED WITH CLASS M1 CEMENT MORTAR.
6. ALL HIGHWAY IRONWORK MUST COMPLY AND BE INSTALLED IN ACCORDANCE WITH BS 7903-1997 AND HA104/02
7. GULLY TOPS TO BE A MINMUM OF 150MM DEEP. GULLY GRATES TO HAVE MINIMUM CLEAR OPENING OF 450MM X 450MM.
8. MISALIGNMENT OF THE GULLY POTS FROM THE KERBLINE BY MORE THAN 50MM IS NOT ACCEPTABLE
9. THE GULLY FRAME MUST BE UP TIGHT AGAINST THE KERB FACE TO PREVENT WATER OVERRUN
10. FRAMES ARE TO BE SUPPORTED ON PRECAST CONCRETED GULLY SPACERS OR CLASS B SOLID ENGINEERING BRICK
11. SURROUND CONCRETE TO BE GRADE ST4 TO BS 8500 EN209-6

CONTRACTOR TO BE PROVIDED WITH HALTON BOROUGH COUNCIL SPECIFICATION FOR CARRIAGWAY ACCESS COVERS AND GRATINGS. ALL COVERS AND GRATING TO COMPLY WITH HALTON COUNCIL SPEC.

THE TOP OF THE KERBLINE IS TO REMAIN CONSTANT AT ALL TIMES. NO DROP KERBS SHALL BE USED TO REDUCE THE KERB FACE FROM 125 TO 25 OVER THE LENGTH OF THE RAMP

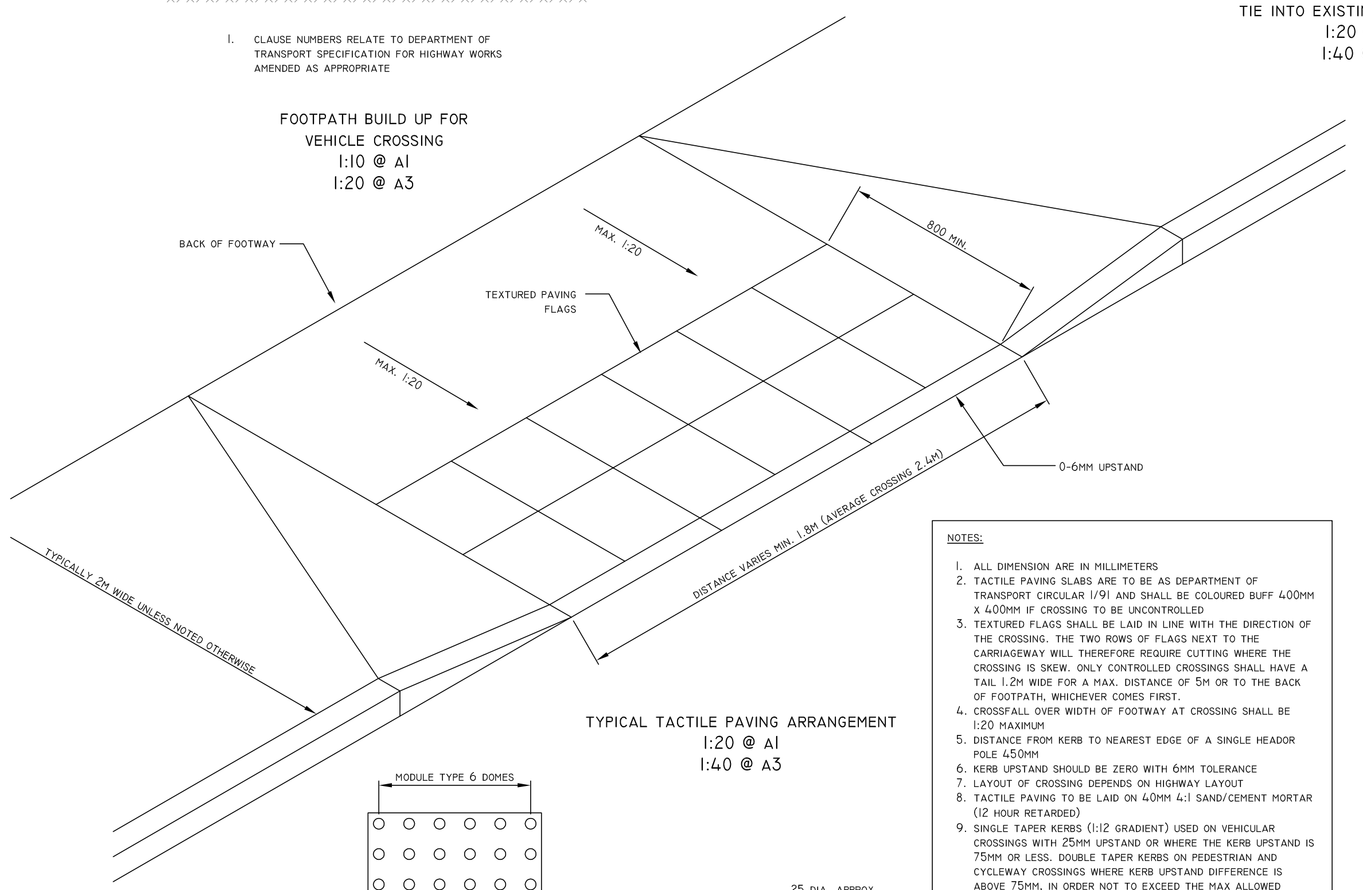


TYPICAL RAISED TABLE DETAIL
1:20 @ A1
1:40 @ A3



1. CLAUSE NUMBERS RELATE TO DEPARTMENT OF TRANSPORT SPECIFICATION FOR HIGHWAY WORKS AMENDED AS APPROPRIATE

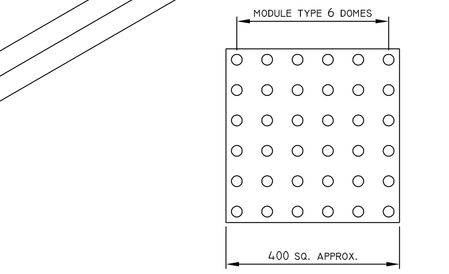
FOOTPATH BUILD UP FOR VEHICLE CROSSING
1:10 @ A1
1:20 @ A3



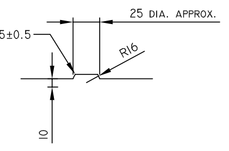
TYPICAL TACTILE PAVING ARRANGEMENT
1:20 @ A1
1:40 @ A3

NOTES:

1. ALL DIMENSION ARE IN MILLIMETERS
2. TACTILE PAVING SLABS ARE TO BE AS DEPARTMENT OF TRANSPORT CIRCULAR 1/91 AND SHALL BE COLOURED BUFF 400MM X 400MM IF CROSSING TO BE UNCONTROLLED
3. TEXTURED FLAGS SHALL BE LAID IN LINE WITH THE DIRECTION OF THE CROSSING. THE TWO ROWS OF FLAGS NEXT TO THE CARRIAGEWAY WILL THEREFORE REQUIRE CUTTING WHERE THE CROSSING IS SKEW. ONLY CONTROLLED CROSSINGS SHALL HAVE A TAIL 1.2M WIDE FOR A MAX. DISTANCE OF 5M OR TO THE BACK OF FOOTPATH, WHICHEVER COMES FIRST.
4. CROSSFALL OVER WIDTH OF FOOTWAY AT CROSSING SHALL BE 1:20 MAXIMUM
5. DISTANCE FROM KERB TO NEAREST EDGE OF A SINGLE HEADOR POLE 450MM
6. KERB UPSTAND SHOULD BE ZERO WITH 6MM TOLERANCE
7. LAYOUT OF CROSSING DEPENDS ON HIGHWAY LAYOUT
8. TACTILE PAVING TO BE LAID ON 40MM 4:1 SAND/CEMENT MORTAR (12 HOUR RETARDED)
9. SINGLE TAPER KERBS (1:12 GRADIENT) USED ON VEHICULAR CROSSINGS WITH 25MM UPSTAND OR WHERE THE KERB UPSTAND IS 75MM OR LESS. DOUBLE TAPER KERBS ON PEDESTRIAN AND CYCLEWAY CROSSINGS WHERE KERB UPSTAND DIFFERENCE IS ABOVE 75MM, IN ORDER NOT TO EXCEED THE MAX ALLOWED GRADIENT ON FLARED SIDES
10. A MINIMUM GRADIENT OF 1:40 MUST BE MAINTAINED FOR DRAINAGE PURPOSES, STEEPER CROSSFALLS OR WHENEVER SITE CONDITIONS DO NOT ALLOW MAXIMUM GRADIENTS ...ETC TO BE ACHIEVED. THE ENGINEER IS TO BE INFORMED FOR INDIVIDUAL ASSESSMENT
11. UPSTANDS TO BE :
PEDESTRIAN CROSSINGS - 0MM (6MM MAX.)
VEHICULAR CROSSINGS - 25MM

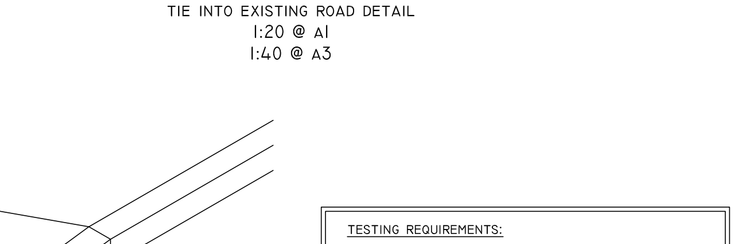


PLAN OF PAVING SLAB



DETAILS OF BLISTER

TIE INTO EXISTING ROAD DETAIL
1:20 @ A1
1:40 @ A3



NOTES ON KERBING & EDGING:

- ALL PRECAST CONCRETE KERBS SHALL BE TO DOT SPEC. CLAUSE 1101 & BS7263, IN PRESSED CONCRETE WITH HARDSTONE AGGREGATE.
- SPECIAL TAPER KERBS SHALL BE USED FOR RADII OF 12.0M OR LESS.
- EDGING KERBS SHALL BE 50 X 205MM TYPE EF FLAT TOPPED TO BS7263.
- THE KERB RACE SHALL NOT BE LESS THAN 325MM WIDE X 150MM DEEP CAST IN SITU, COMPACTED WITH A VIBRATING POKER OR TAMPED LEVEL WITH A ROUGH FACE
- KERBS SHALL NOT BE LAID ON LESS THAN 10MM AND NOT GREATER THAN 40MM OF BEDDING MORTAR TO DOT SPEC. CLAUSE 2601.
- IMMEDIATELY AFTER LAYING, KERBS SHALL BE BACKED AND/OR HAUNCHED WITH MIX ST1 CONCRETE.

ALL JOINTS BETWEEN KERBS SHALL BE UNPOINTED AND NOT GREATER THAN 2MM WIDE

NOTE: CONTRACTOR IS TO MAKE AN ALLOWANCE FOR PERFORMING LOCAL CBR TESTS TO CONFIRM THIS. SHOULD THE CBR VALUE DIFFER FROM THAT ASSUMED, BELL MUNRO CONSULTING IS TO BE INFORMED AND DETAILS UPDATED ACCORDINGLY.

FURTHER NOTES

SUB GRADE TO BE INSPECTED AND APPROVED BY HIGHWAY AUTHORITY INSPECTOR PRIOR TO LAYING OF GSB.

CONTRACTOR SHALL ALLOW TO BLAST CLEAN OFF ANY ROAD MARKINGS (USING HIGH PRESSURE WATER SYSTEM OR SIMILAR APPROVED) THAT ARE NOT REQUIRED FOLLOWING THE COMPLETION OF THE WORKS.

THE DEVELOPER OR HIS AGENT SHALL LIASE WITH MANCHESTER CITY COUNCIL AND AGREE A METHOD OF TRAFFIC MANAGEMENT PRIOR TO THE COMMENCEMENT OF WORKS ON SITE.

TESTING REQUIREMENTS:

1. IT IS A REQUIREMENT OF MANCHESTER CITY COUNCIL THAT CBR TESTS ARE CARRIED OUT ON THE EXCAVATED FORMATION AS DIRECTED BY THE ENGINEER TO PROVE THE PROPOSED HIGHWAY DESIGN. THESE TESTS ARE TO BE CARRIED OUT BY AN APPROVED UKAS INDEPENDENT TESTING LABORATORY.
2. THE FORMATION WILL BE REDUCED READY FOR TESTING AND NOT ALTERED BY THE ADVANCE PREPARATION OF SUB-BASE MATERIAL. MEMBRANE PROTECTION IN ADVERSE WEATHER AND OR PUMPING MAY BE REQUIRED.
3. THE ENGINEER WILL REQUIRE 48 HOURS NOTICE TO ATTENT THE SITE TO INSPECT THE REDUCED FORMATION. THE SECTION 38 ENGINEER WILL POSITION AND SUPERVISE THE CBR TESTING.
4. THE CONSTRUCTION OF THE CAPPING/SUB-BASE MATERIAL SHALL NOT BE COMMENCED UNTIL THE CBR TESTING HAS BEEN COMPLETED AND THE TEST RESULTS ACHIEVED. THE LOWEST TEST RESULT OBTAINED WILL BE USED FOR DESIGN FOR THE WHOLE SITE.
5. AFTER THE RESULTS HAVE BEEN SUBMITTED THE SECTION 38 ENGINEER WILL GIVE WRITTEN APPROVAL AND NOTICE AS TO THE REQUIRED MAKE UP OF THE CONSTRUCTION SUB-BASE/CAPPING LAYER, BEFORE ANY FURTHER WORKS ARE PROGRESSED.
6. PLATE BEARING TESTS ARE TO BE UNDERTAKEN ON THE TOP OF SUB-BASE IN LOCATIONS ARE AGREED WITH THE MANCHESTER CITY COUNCIL S38 ENGINEER. RESULTS TO BE SUBMITTED AND APPROVAL GIVEN BY THE MANCHESTER CITY COUNCIL S38 ENGINEER BEFORE ANY FURTHER WORKS ARE PROGRESSED.
7. BASE AND BINDER COURSE MATERIALS ARE TO BE TESTED (BY PRESCRIBED NON-DESTRUCTIVE MEANS) TO VERIFY 93% MINIMUM COMPACTION TO BE ACHIEVED. RESULTS TO BE SUBMITTED AND APPROVAL GIVEN BY THE MANCHESTER CITY COUNCIL S38 ENGINEER BEFORE FURTHER WORKS ARE PROGRESSED.

NOTES:

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3. THIS DRAWING MUST BE READ IN CONJUNCTION WITH THE RELEVANT BMC SPECIFICATIONS TOGETHER WITH THE APPROPRIATE ARCHITECTS AND SERVICES CONSULTANTS DRAWINGS AND SPECIFICATIONS.
4. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH BMC LTD DRAWINGS J4284/HW01 AND ALL OTHER HIGHWAY DRAWINGS INCLUDING TECHNICAL DRAWINGS FOR MANCHESTER CITY COUNCIL.
5. ALL ROAD WORKS TO BE CARRIED OUT TO THE SATISFACTION OF THE LOCAL AUTHORITY BUILDING CONTROL.
6. MANHOLE COVER SLAB MUST NOT BE WITHIN THE DEPTH OF THE FLEXIBLE ROAD CONSTRUCTION.
7. ANY DRAIN TRENCH SUBJECTED TO TRAFFIC, ROAD SUB-BASE SHOULD TO MIN 200MM CONCRETE.
8. THE EXACT LOCATION OF THE PEDESTRIAN CROSSINGS ARE TO BE AGREED WITH THE S38 INSPECTOR ON-SITE.
9. CONTRACTOR TO CHECK THE EXISTING AND PROPOSED LEVELS AND REPORT ANY IRREGULARITY TO THE DESIGNER.
10. ALL OPENING NOTICES ETC. AS REQUIRED UNDER HIGHWAYS ACTS ETC. ARE TO BE OBTAINED PRIOR TO COMMENCEMENT OF WORKS. ALL WORKS ARE TO BE INSPECTED BY THE L.A., WARRANTY PROVIDER AND/ OR THE NETWORK OPERATOR AS APPLICABLE.
11. THE HIGHWAYS AUTHORITY WILL REQUIRE ADEQUATE NOTICE PRIOR TO THE COMMENCEMENT OF ANY HIGHWAYS WORKS AND, FURTHER, WILL NEED NOTIFICATION PRIOR TO UNDERTAKING ANY SPECIFIC STATES OF WORKS.
12. ALL PRECAST CONCRETE KERBS AND QUADRANTS SHALL BE TO DOT SPEC. CLAUSE 1101 & BS7263, IN PRESSED CONCRETE WITH HARDSTONE AGGREGATE.
13. MINIMUM LENGTH OF KERB TO BE 450MM
14. HANDLING AND LAYING OF KERBS AND CHANNELS - THE CONTRACTOR SHALL AVOID THE MANUAL HANDLING OF PRECAST CONCRETE KERBS AND CHANNELS BY USING PURPOSE-MADE MECHANICAL LIFTING EQUIPMENT FOR THEIR HANDLING, LIFTING AND LAYING
15. ACO CHANNELS OR SIMILAR APPROVED SHOULD BE INSTALLED OFF THE ADOPTED HIGHWAY TO PREVENT WATER FROM PRIVATE DRIVEWAYS AND PARKING AREAS DISCHARGING INTO THE PUBLIC HIGHWAY (REFER TO DRAINAGE DRAWINGS).

PRELIMINARY SUBJECT TO M.C.C COMMENTS

REV	COMMENTS	DATE	BY
C	RAISED TABLE DETAIL ADDED	07/08/18	KF
B	UPDATED TO SUIT HIGHWAYS COMMENTS	25/06/18	SB
A	MINOR AMENDMENTS	01/12/17	KF

BMC

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CLIENT: ABRAHAM HALPERN

PROJECT: LAND OFF CRESCENT ROAD, CRUMPSALL

TITLE: HIGHWAY DETAILS

DRAWN BY:	CHECKED BY:	SCALE:	DATE:
KF	SJB	AS SHOWN	11/17

DRAWING NUMBER: J4284/HW05

REVISION: C