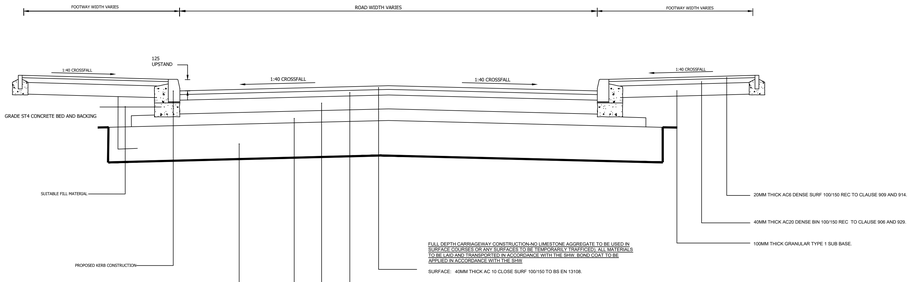
TYPICAL CARRIAGEWAY CONSTRUCTION DETAIL



FULL DEPTH CARRIAGEWAY CONSTRUCTION-NO LIMESTONE AGGREGATE TO BE USED IN CONCRETE OR ANY SURFACES TO BE TRADITIONALLY FINISHED. ALL MATERIALS TO BE LAID AND TRANSPORTED IN ACCORDANCE WITH THE ERR. BOND COAT TO BE APPLIED IN ACCORDANCE WITH THE SHW

SURFACE: 40MM THICK AC 10 CLOSE SURF 100/150 TO BS EN 13108.

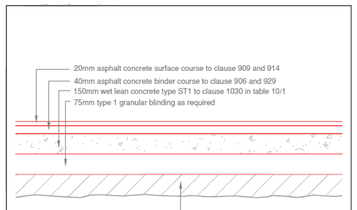
BINDER: 60MM THICK AC 20 DENSE BIN 100/150 PEN REC TO BS EN 13108.

BASE: 150MM THICK AC32 BASE 40/60 PEN REC TO BS EN 13108.

SUB BASE: SUB-BASE SUBJECT TO CBR RESULTS, DEPTH SHOULD BE IN ACCORDANCE WITH BS 7533-2-2001, TABLE 4, CATEGORY 1. SUB-BASE SHOULD BE COMPACTED TO THE SPECIFICATION FOR HIGHWAY WORKS CLAUSES 701, 801, & 803.

CAPPING: PLEASE REFER TO ON-SITE CBR RESULTS AND DMRB GUIDANCE. CAPPING LAID AND COMPACTED TO THE SPECIFICATION OF HIGHWAY WORKS CLAUSE 613. CBR TO BE ESTABLISHED ON SITE PRIOR TO STARTING WORKS. CONTRACTOR TO REFER RESULTS TO A REPRESENTATIVE OF THE LOCAL AUTHORITY AND THE DESIGNER. SEE HD 25/94 CHAPTER 5 PART 2 AND HD 26/01 VOLUME 7 SECTION 2 PART 3 CHAPTER 3 FOR FURTHER GUIDANCE ON SUBBASE CAPPING AND REINFORCEMENT. APPROPRIATE TERRAM GEOTEXTILE MEMBRANE TO BE LAID BENEATH CAPPING LAYER TO MANUFACTURERS PROPRIETARY REQUIREMENTS.

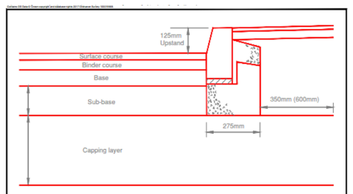
- SUB BASE & CAPPING ARE SUBJECT TO CBR TESTING. FOR LAYER THICKNESS REQUIREMENTS, REFER TO THE CBR SUB BASE & CAPPING LAYER THICKNESS TABLE BELOW. THE CBR REQUIREMENTS FOR EACH LAYER ARE:
  - i) UPON THE CARRIAGEWAY FORMATION THE MINIMUM ACCEPTABLE CBR IS 2.5%. SHOULD THE CBR BE LESS THAN 2.5%, GROUND REMEDIATION WILL BE REQUIRED. THIS SHOULD BE DISCUSSED AND AGREED WITH THE MCC HIGHWAYS ENGINEER.
  - ii) ON 6F2/5 CAPPING LAYER TO MCHW CL.613 (IF USED), THE MINIMUM ACCEPTABLE CBR IS 30%.
  - iii) ON TYPE 1 SUB BASE LAYER TO MCHW CL.803, THE MINIMUM ACCEPTABLE CBR IS 30%.
  - iv) THE SUB BASE AND CAPPING LAYERS MUST NOT BE LAID IN LIFTS EXCEEDING 150MM THICK.
- NUCLEAR DENSITY TESTING OR AN EQUIVALENT IS REQUIRED ON TOP OF THE ROAD BASE AND BOTH2 BINDER LAYERS TO ENSURE ADEQUATE COMPACTION AND MUST YIELD A RESULT OF AT LEAST 450% OR 4*% VOIDS.
- THE MIN THICKNESS OF CARRIAGEWAY CONSTRUCTION SHALL BE NO LESS THAN 450MM FOR PURPOSES OF FROST PROTECTION.



NOTES

1. For kerb detail see standard detail K2, K4 and F5
2. Clause members relate to department of transport specification for highway works amended as appropriate

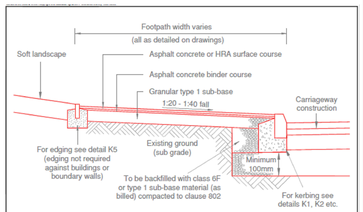
MANCHESTER CITY COUNCIL	PROJECT TITLE: Standard Details Footway	DRAWING TITLE: Flexible Footway Construction (Domestic Vehicular Crossing)
Highways Services PART OF NEIGHBOURHOODS SERVICES PO Box 532 Town Hall Manchester M60 2LA	No. 1 Dia. 24 Ref. 020 / Size A4 / Scale N.T.S / Date Aug 13 / Drawn BT / Checked / Approved	DRAWING NUMBER: STANDARD DETAIL F2 / REV: B



NOTES

1. For layer thicknesses see appendix 7/1
2. Bituminous materials should be laid and compacted in accordance with clause 903.
3. Where possible, warm mix asphalts and/or reclaimed asphalts in accordance with clauses 902 & 903 should be used. Use of recycled aggregates should also be maximised.
4. Ex Situ cold recycled bitumen bound material should be utilised as a binder or base layer where appropriate or as specified in Appendix 7/1.
5. Sub base can be a layer of Type 1 granular to Clause 803 or concrete Grade ST1 to Table 10/1 Clause 1001 or as specified in appendix 7/1
6. Bituminous materials shall be laid in accordance BS EN 13925-1
7. Capping layer shall be Class 6F material to Clause 613. If required, thickness shall be agreed with the engineer dependent on CBR value of the subgrade - a minimum of 300mm shall be used.

MANCHESTER CITY COUNCIL	PROJECT TITLE: Standard Details Carriageway	DRAWING TITLE: Flexible Carriageway Construction
Highways Services PART OF NEIGHBOURHOODS SERVICES PO Box 532 Town Hall Manchester M60 2LA	No. 1 Dia. 24 Ref. 020 / Size A4 / Scale N.T.S / Date Aug 13 / Drawn BT / Checked / Approved	DRAWING NUMBER: STANDARD DETAIL C3 / REV: D



NOTES

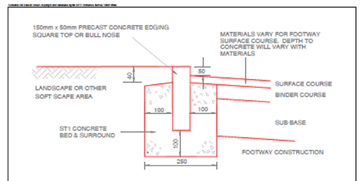
1. Clause numbers quoted refer to the specification for highway works amended as appropriate
2. For thickness of materials see contract drawings and / or bill of quantities
3. Surface course asphalt concrete to clause 909 and 914
4. a. Surface course rolled asphalt to clause 910 and 911
   b. Chippings to be 10mm white, spread at 1.0 kg/m (where specified)
5. Binder course asphalt concrete to comply with clause 906 and 929
6. Sub-base type 1 granular material to comply with clause 803
7. Sub-grade protection to be in accordance with clause 613 and 616
8. In case of footways adjacent to building frontages, attention should be paid to the building's damp proof course (DPC) level. New footways should be set at least 150mm below the DPC, where footways are being reconstructed the level of the back of footway should ideally be no higher than the original. If an increase in the level is proposed consideration shall be given to the impossible impact on the building's DPC, alternative or additional DPC treatments may need to be agreed with the building owner

MANCHESTER CITY COUNCIL	PROJECT TITLE: Standard Details Footway	DRAWING TITLE: Flexible Footway Construction
Highways Services PART OF NEIGHBOURHOODS SERVICES PO Box 532 Town Hall Manchester M60 2LA	No. 1 Dia. 24 Ref. 020 / Size A4 / Scale N.T.S / Date Aug 13 / Drawn BT / Checked / Approved	DRAWING NUMBER: STANDARD DETAIL F1 / REV: C

NOTES

NOTES:

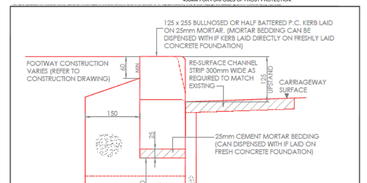
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
2. PERMANENT REINSTATEMENT TO BE MEASURED SEPERATELY.
3. GRADE ST4 CONCRETE AS BACKFILL TO TRENCHES TO BE SEMI-DRY MIX COMPACTED. BY MEANS OF A VIBRATING PLATE COMPACTOR/TRENCH RAMMER IN LAYERS NOT GREATER THAN 200mm.
4. SELECTED BACKFILL TO BE COMPACTED BY MEANS OF A VIBRATING PLATE COMPACTOR/TRENCH RAMMER IN LAYERS NOT GREATER THAN 200mm.
5. THE EDGE OF ALL TRENCHES TO BE SAW CUT, MINIMUM DEPTH OF 40mm.
6. ALL DUCTS TO BE 100mmØ, AND ARE TO BE COMPLETE WITH 6mmØ POLYPROPELENE DRAWROPE SECURED AT BOTH ENDS.
7. THE DUCTING SHALL BE H.D.P.E (5mm WALL THICKNESS) AND SHALL BE CLEARLY MARKED/STREET LIGHTING/TRAFFIC SIGNALS) AS APPROPRIATE, OR FLEXIBLE WITH A RIBBED M.D.P.E.OUTER PROFILE AND A SMOOTH L.D.P.E. INNER BORE.
8. THE DUCTING SHALL CONFORM TO A DENSITY OF 0.9/cm3 DIN53479 WITH A BREAKINGPOINT OF 23-30N/mm2 DIN53455. THE DUCTING SHALL BE COMPATIBLE WITH THE APPROVED ACCESS CHAMBERS PRE-TREPANED KNOCKOUT. WHERE THE DUCTS NEED TO BE JOINED A MANUFACTURER APPROVED CONNECTOR MUST BE USED AND APPROVED BY THE OVERSEEING ORGANISATION.



NOTES:

1. CLAUSES QUOTED REFER TO THE DEPARTMENT OF TRANSPORT SPECIFICATION FOR HIGHWAY WORKS, AMENDED AS APPROPRIATE
2. ALL DIMENSIONS IN MILLIMETRES
3. TOP OF EDGING LAID FLUSH WITH FOOTPATH WHERE USED ON A VEHICULAR CROSSING OR AS DETAILED ON THE DRAWING AND/OR IN THE S OF Q.
4. CONCRETE BED AND BACKING TO CLAUSE 2602 TABLE 26/1
5. FOR FOOTWAY DETAILS SEE STANDARD DETAIL F1 OR F6 AND APPENDIX 11/1.
6. WHERE CUTTING IS REQUIRED, THIS SHALL BE DONE USING A DISC CUTTER (ALL HEALTH AND SAFETY REGULATIONS TO BE APPLIED)
7. MINIMUM LENGTH OF CUT EDGING UNITS SHALL BE 450mm.

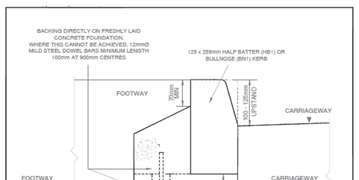
MANCHESTER CITY COUNCIL	PROJECT TITLE: Standard Details Kerbing	DRAWING TITLE: Footway Edging Detail
Highways Services PART OF NEIGHBOURHOODS SERVICES PO Box 532 Town Hall Manchester M60 2LA	No. 1 Dia. 24 Ref. 020 / Size A4 / Scale N.T.S / Date Mar 15 / Drawn MPC / Checked PM / Approved DM	DRAWING NUMBER: STANDARD DETAIL K5 / REV: B



NOTES:

1. CONCRETE BEDDING AND BACKING SHALL BE ST1 CONCRETE CLAUSE 2602 TABLE 26/1.
2. KERBS SHALL COMPLYWITH 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 KERB ARE TO BE CUT USING A DISC CUTTER MIN. LENGTH 450mm.
6. IN THE CASE OF NEW CARRIAGEWAY CONSTRUCTION THE SUB-BASE LAYER IS EXTENDED 300mm BEYOND THE BACK OF KERB FOUNDATION THE CONTRACTOR SHALL ALLOW FOR FILLING IN BETWEEN THE ROAD SUB-BASE AND THE FOOTWAY FORMATION WITH SUB BASE MATERIAL IN THE RATE FOR KERBING
7. RECONSTRUCTION OF EXISTING CARRIAGEWAY CHANNEL, INCLUDED WITHIN THE KERBING WORKS.
8. KERBS LAID IN EXISTING CARRIAGEWAY FORMATION - RATE TO INCLUDE INFILL OF OVERBREAK IN FRONT OF KERB WITH CONCRETE TYPE ST1 TO BINDER COURSE FINISH LEVEL.

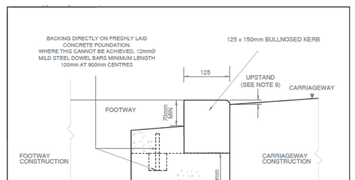
MANCHESTER CITY COUNCIL	PROJECT TITLE: Standard Details Kerbing	DRAWING TITLE: Transition Kerb 125 x 255/150
Highways Services PART OF NEIGHBOURHOODS SERVICES PO Box 532 Town Hall Manchester M60 2LA	No. 1 Dia. 24 Ref. 020 / Size A4 / Scale NTS / Date Aug 13 / Drawn BT / Checked / Approved	DRAWING NUMBER: STANDARD DETAIL K25 / REV: B



NOTES:

1. CONCRETE BEDDING AND BACKING SHALL BE TYPE ST1 TO CLAUSE 2602 TABLE 26 / 1
2. KERBS SHALL COMPLY WITH BS EN 1340: 2003
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 KERB ARE TO BE CUT USING A DISC CUTTER MIN. LENGTH 450mm
6. IN THE CASE OF NEW CARRIAGEWAY CONSTRUCTION THE SUB-BASE LAYER IS EXTENDED 300mm BEYOND THE BACK OF KERB FOUNDATION THE CONTRACTOR SHALL ALLOW FOR FILLING IN BETWEEN THE ROAD SUB-BASE AND THE FOOTWAY FORMATION WITH SUB BASE MATERIAL IN THE RATE FOR KERBING
7. RECONSTRUCTION OF EXISTING CARRIAGEWAY CHANNEL MEASURED SEPERATELY
8. KERBS LAID IN EXISTING CARRIAGEWAY FORMATION - INFILL OF OVERBREAK IN FRONT OF KERB WITH CONCRETE TYPE ST2 TO BINDER COURSE FINISH LEVEL AND RESURFACE CHANNEL STRIP 300mm WIDE AS REQUIRED

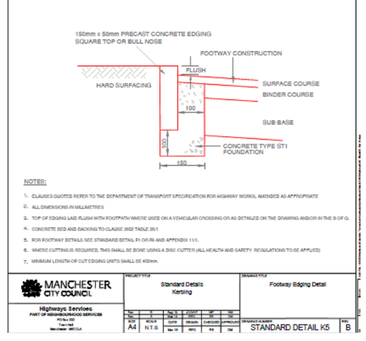
MANCHESTER CITY COUNCIL	PROJECT TITLE: Standard Details Kerbing	DRAWING TITLE: New Kerb with 125mm Upstand
Highways Services PART OF NEIGHBOURHOODS SERVICES PO Box 532 Town Hall Manchester M60 2LA	No. 1 Dia. 24 Ref. 020 / Size A4 / Scale N.T.S / Date Aug 13 / Drawn BT / Checked / Approved	DRAWING NUMBER: STANDARD DETAIL K1 / REV: B



NOTES:

1. CONCRETE BEDDING AND BACKING SHALL BE TYPE ST1 TO CLAUSE 2602 TABLE 26 / 1
2. KERBS SHALL COMPLY WITH BS EN 1340: 2003
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 KERB ARE TO BE CUT USING A DISC CUTTER MIN. LENGTH 450mm
6. IN THE CASE OF NEW CARRIAGEWAY CONSTRUCTION THE SUB-BASE LAYER IS EXTENDED 300mm BEYOND THE BACK OF KERB FOUNDATION THE CONTRACTOR SHALL ALLOW FOR FILLING IN BETWEEN THE ROAD SUB-BASE AND THE FOOTWAY FORMATION WITH SUB BASE MATERIAL IN THE RATE FOR KERBING
7. RECONSTRUCTION OF EXISTING CARRIAGEWAY CHANNEL MEASURED SEPERATELY
8. KERBS LAID IN EXISTING CARRIAGEWAY FORMATION - INFILL OF OVERBREAK IN FRONT OF KERB WITH CONCRETE TYPE ST2 TO BINDER COURSE FINISH LEVEL AND RESURFACE CHANNEL STRIP 300mm WIDE AS REQUIRED
9. KERB UPSTAND TO BE (i) MAX. 6mm FOR PEDESTRIAN CYCLEWAY CROSSING AND (ii) 25mm MAX. FOR VEHICULAR CORSSINGS

MANCHESTER CITY COUNCIL	PROJECT TITLE: Standard Details Kerbing	DRAWING TITLE: Drop Kerb
Highways Services PART OF NEIGHBOURHOODS SERVICES PO Box 532 Town Hall Manchester M60 2LA	No. 1 Dia. 24 Ref. 020 / Size A4 / Scale N.T.S / Date Aug 13 / Drawn BT / Checked / Approved	DRAWING NUMBER: STANDARD DETAIL K2 / REV: B



MANCHESTER CITY COUNCIL	PROJECT TITLE: Standard Details Drainage	DRAWING TITLE: Manhole and Backdrop Details (To be read in conjunction with D2-D5)
Highway Services PART OF NEIGHBOURHOODS SERVICES PO Box 532 Town Hall Manchester M60 2LA	No. 1 Dia. 24 Ref. 020 / Size A4 / Scale NTS / Date Aug 13 / Drawn BT / Checked / Approved	DRAWING NUMBER: STANDARD DETAIL D1 / REV: B

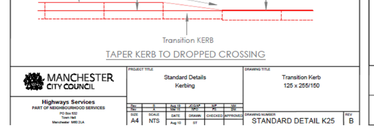
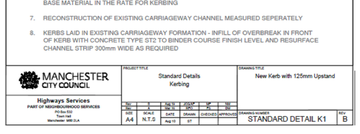


TABLE 'A'

MINIMUM CHAMBER SIZES		
GREATEST SEWER DIA (mm)	CHAMBER DIA (mm)	'X'
225-375	1200	1050
450-525	1350	1200
600-675	1500	1200
750-825	1650	1650

1. MORTAR TO BRICKWORK TO BE CLASS II TO CLASS 2404
2. CONNECTIONS ARE TO BE CONSTRUCTED AT SOFFIT LEVEL EXCEPT WHERE STATED ON THE DRAWINGS.
3. BACKFILL TO BE CLASS 6F MATERIAL TO CLAUSE 613 EXCEPT WHERE LACK OF WORKING PREVENTS ADEQUATE COMPACTION, THEN BACKFILL TO CLASS ST1 CONCRETE.
4. FOUNDATIONS SHALL BE 225mm THICK WHERE DEPTH TO INVERT IS LESS THAN 3.0m ELSEWHERE 3.0m.
5. CONSTRUCTION JOINTS IN CONCRETE SURROUND MUST NOT BE WITHIN 150mm OF THE CHAMBER/SHAFT JOINTS.
6. SULPHATE RESISTING CEMENT TO BE USED IN ALL CONCRETE.
7. SAFETY CHAINS TO BE PROVIDED ON ALL OUTGOING PIPES OF 600mm DIAMETER OR GREATER.
8. MANHOLES TO BE MADE WATERTIGHT.
9. HEADROOM TO BE 2.0m WHEREVER POSSIBLE BUT MAY BE INCREASED TO ENABLE A RODDING EYE TO BE BROUGHT INTO THE MANHOLE CHAMBER.
10. CHAMBER SIZES MAY BE INCREASED TO ACCOMMODATE LINE DEVIATIONS OR CONNECTIONS WITH THE APPROVAL OF THE ENGINEER.
11. 75mm BINDER LAYER (STANDARD MIX ST1) TO BE PLACED PRIOR TO CASTING OF MANHOLE SLAB.
12. ALL CONCRETE SHALL COMPLY WITH CLAUSE 2602 TABLE 26/1.
13. WHERE CHAMBER RINGS HAVE A REBATE EDGE FOR JOINTS THIS MUST BE REMOVED OVER PIPES.
14. RECESS STEP IRONS TO BE PROVIDED WHERE LEVEL OF BENCHING TO INVERT EXCEEDS 450mm, AND A STAINLESS STEEL LADDER 3m AND ABOVE.
15. CUT ENDS OF PIPE TO BE TREATED WITH EPOXY RESIN/MORTAR.
16. FOR MANHOLES OVER 5m DEEP TO BENCHING A STAINLESS STEEL LADDER SHALL BE USED IN LIEU.

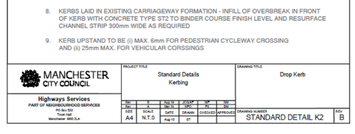
MANCHESTER CITY COUNCIL	PROJECT TITLE: Standard Details Drainage	DRAWING TITLE: Manhole and Backdrop Details Section A-A (To be read in conjunction with D1,D2,D3,D5)
Highway Services PART OF NEIGHBOURHOODS SERVICES PO Box 532 Town Hall Manchester M60 2LA	No. 1 Dia. 24 Ref. 020 / Size A4 / Scale NTS / Date Aug 13 / Drawn BT / Checked / Approved	DRAWING NUMBER: STANDARD DETAIL D4 / REV: B



NOTES:

1. CLAUSE NUMBERS REFER TO THE DEPT. OF TRANSPORT SPECIFICATION FOR HIGHWAY WORKS (SHW) AMENDED AS APPROPRIATE.
2. ALL DIMENSIONS IN MILLIMETRES.
3. ALL TRENCHES FOR PIPEWORK SHALL HAVE A MAX-MIN WIDTH W 300mm ABOVE THE CROWN AS DETAILED IN THE TABLE UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
4. MAIN TRENCH BACKFILL MATERIAL SHALL BE GRANULAR MATERIAL CLASS 6F TO CLAUSE 613.
5. LAYING AND COMPACTION OF THE MATERIAL TO BE IN ACCORDANCE WITH CLAUSE 505.

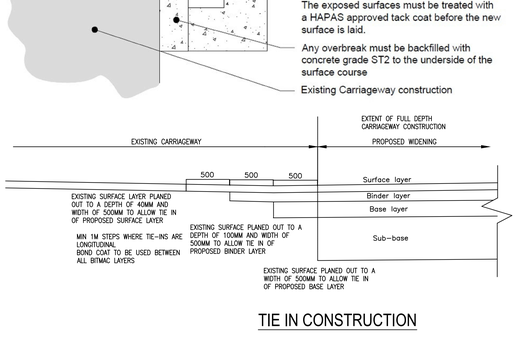
MANCHESTER CITY COUNCIL	PROJECT TITLE: Standard Details Drainage	DRAWING TITLE: Class S Bedding General Bed and Surround
Highway Services PART OF NEIGHBOURHOODS SERVICES PO Box 532 Town Hall Manchester M60 2LA	No. 1 Dia. 24 Ref. 020 / Size A4 / Scale NTS / Date Aug 13 / Drawn BT / Checked / Approved	DRAWING NUMBER: STANDARD DETAIL D6 / REV: B



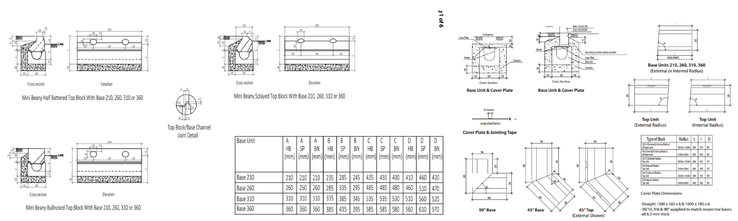
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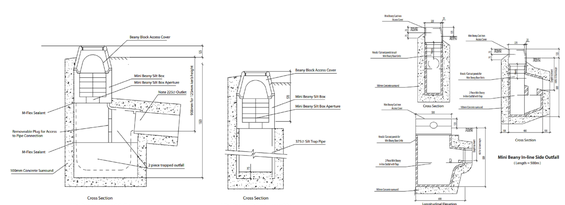
1. Gully: all to clause 508
   a. Standard gully pot of 95 litres capacity (450mm Ø)
   b. Small gully pot to be 50 litres capacity (375mm Ø)
2. Maximum trench width for 150mm gully lead IS 600mm
3. Clause numbers refer to dept. of transport specification for highway works amended as appropriate
4. Number of bends may vary due to site differences
5. Concrete to comply with clause 2602 table 26/1
6. Concrete surround to pipes shall always finish at a joint
7. Gully gratings - standard detail D47

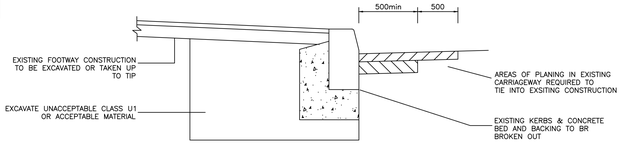
MANCHESTER CITY COUNCIL	PROJECT TITLE: Standard Details Drainage	DRAWING TITLE: Gully Detail Standard and Small
Highway Services PART OF NEIGHBOURHOODS SERVICES PO Box 532 Town Hall Manchester M60 2LA	No. 1 Dia. 24 Ref. 020 / Size A4 / Scale 1:20 / Date Aug 13 / Drawn BT / Checked / Approved	DRAWING NUMBER: STANDARD DETAIL D12 / REV: B



TIE IN CONSTRUCTION







PREPARATORY WORKS FOR WIDENING
CARRIAGEWAY NARROW WIDENING

REV	DETAILS	DRAWN	CHECKED	DATE

CLIENT: KEEPMOAT

PROJECT: CRABTREE LANE, OPENSHAW (MANCHESTER CITY COUNCIL)

DRAWING TITLE: S278 STANDARD DETAILS

SCALES: NTS @ A0

DRAWN:	CHECKED:	DATE:
LB	MC	JUL 25

Eddisons
340 Deansgate
Manchester
M3 4LY
Email: info@prcfitts.co.uk
Tel: 0161 837 7380
Web: www.eddisons.com/services/transport-planning

DRAWING NUMBER: 4915-D005 | REVISION: -

Eddisons

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