

STREETSCAPE TOOL KIT

SOUTHAMPTON

Design Guidance for the Public Realm



Cover photo courtesy of G. P. Redman

Prepared on behalf of Southampton City Council by Balfour Beatty Living Places

January 2013

Inspiring Change

STREETSCAPE TOOL KIT 2013

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6

STANDARD DESIGN DETAILS

HIGHWAYS

Highway Standard Details - Drawing Index for First Edition

Highways

Drawing no	Revision	Title	Drawing Cross Referenced
SD/1/1001		Precast concrete kerb	
SD/1/1011		Conservation kerb	
SD/1/1021		Granite kerb	
SD/1/1031		Bus stop kerb	
SD/1/1041		Granite sett dropped kerb	
SD/1/1051		Channel	
SD/1/1061		Kerb and channel replacement (on new base)	
SD/1/1071		Kerb and channel replacement (on existing base)	
SD/1/1081		Footway edging	
SD/1/1101		Footways Type 1A, 1B, 2 & 3	
SD/1/1102		Footway Types 4 & 5	
SD/1/1103		Rectangular block paving - Common bonds	
SD/1/1104		Flag paving - Common bonds	
SD/1/1105		Footways Type 8A & 8B -Purbeck Stone Paving	
SD/1/1110		Footway Type 6, 7A & 7B - Strengthened	
SD/1/1111		Drop crossing construction	SD/1/1101
SD/1/1121		Vehicle crossing construction - Type 1 & 2	SD/1/1001, SD/1/1051 & SD/1/1101
SD/1/1131		Bituminous footway patch repairs	SD/1/1101
SD/1/1141		Concrete block reinforced grass	
SD/1/1151		Plastic block reinforced grass	
SD/1/1211		Pedestrian refuge	
SD/1/1221		Solid traffic island	
SD/1/1231		Pedestrian refuge with traffic signal pedestal	
SD/1/1251		Zebra crossing layout	
SD/1/1301		Cycleways typical cross sections	SD/1/1311, SD/1/1101
SD/1/1311		Cycleways, bollards barriers and chicane details	SD/1/1301, SD/1/3211
SD/1/1501		Carriageway reinstatement - Rigid construction	SD/1/4001, SD/1/4021
SD/1/1511		Carriageway and footway reinstatement - Flexible construction	
SD/1/1521		Carriageway patch repairs	
SD/1/1531		CARRIAGEWAY CONSTRUCTION DETAILS -Housing estate and distributor roads	
SD/1/1541		Car park construction - details	
SD/1/1551		Road hump Type 1	Appendix 11/1
SD/1/1552		Road hump Type 2	
SD/1/1553		Road hump Type 3	

P:\BBLF Standard Details updated May 2012\Highways\UC1-1001.DWG, 02/08/2012 15:20:21

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES.
- KERBS SHALL BE PRECAST CONCRETE, KERBS COMPLYING WITH BS EN 13410 WEATHERING RESISTANCE: CLASS 3, BENDING STRENGTH: CLASS 2, ABRASION RESISTANCE: CLASS 3, SLIP/SKID RESISTANCE: MIN P.P.T.V 45 TO BS 7932.
- AN APPROPRIATE PRECAST TRANSITION KERB OF 915 MINIMUM LENGTH SHALL BE PROVIDED AT EVERY CHANGE IN KERB TYPE, TIE INS TO EXISTING AND TERMINATIONS.
- MIX ST1 CONCRETE KERB BASE TO CLAUSE 2602 SHALL BE LAID ON THE SUB-BASE AND SHALL BE A MINIMUM THICKNESS OF 150. SUB-BASE SHALL BE EXCAVATED WHERE NECESSARY TO ACHIEVE SUB-BASE LEVELS. RECOMPACT DISTURBED SUB-BASE PRIOR TO CONSTRUCTION OF KERB BASE.
- THE KERB BASE AND BACKING WILL NORMALLY BE LAID IN ONE OPERATION, HOWEVER, WHERE CONCRETE BASE IS LAID IN ADVANCE OF KERBS, 200x20 DIA MILD STEEL DOWEL BARS WILL BE REQUIRED IN BACKING AT 450 CENTRES. KERBS WILL THEN BE LAID ON 0 TO 10 THICKNESS CEMENT MORTAR DESIGNATION (i) BED TO CLAUSE 2404.
- INSTALLATION OF DOWEL BARS MAY ALSO BE INSTRUCTED BY THE ENGINEER AT LOCATIONS WHERE STANDARD KERBS ARE CONSIDERED TO BE VULNERABLE TO DAMAGE CAUSED BY VEHICLE IMPACT.
- WHERE EXCAVATION INTO EXISTING CARRIAGEWAY IS REQUIRED, A TRENCH SHALL BE EXCAVATED OF SUFFICIENT DEPTH AND BREADTH TO ACCOMMODATE THE KERB BASE BED. BACKING OF THE KERB TYPE SCHEDULED MUST PROVIDING SUFFICIENT SPACE FOR THE NECESSARY USE OF MECHANICAL LIFTING APPARATUS.
- THE MINIMUM LENGTH OF ANY CUT KERB SHALL BE 450.

DESIGNED	BBLP	CHECKED	AF
DRAWN	RMC	APPROVED	GPR
DATE	July 2012	SCALE	A3
SHEET	1 of 1	NTS	
DRAWING NUMBER		SD/1/1001	

390x400 - HIGH CONTAINMENT KERB

330x290 BUS STOP KERB WITH MARKER BUMP AT CARRIAGEWAY EDGE

125x255 BULLNOSE KERB TYPE BN LAID TRANSVERSELY AT ROAD TABLE

125x150 BULLNOSE KERB TYPE BN

125x255 HALF BAITER KERB TYPE HB2

125x255 SPAYED KERB TYPE SP

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DRAWING STATUS

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DRAWING TITLE

Highways Standard Detail
Precast concrete kerb

DRAWING NUMBER

SD/1/1001

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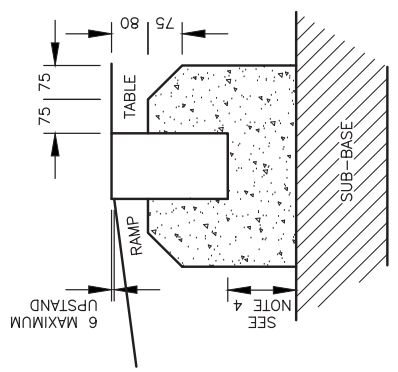
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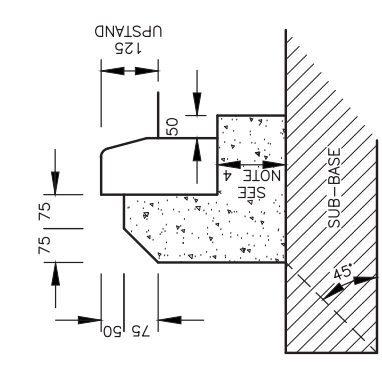
Design Group

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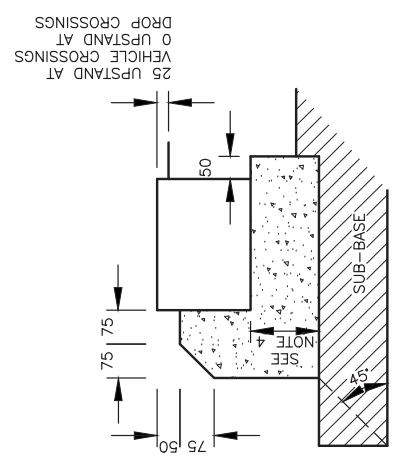
- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. ALL CONSERVATION KERB TYPES SHALL BE COLOURED SILVER GREY OR DARK GREY AS SPECIFIED BY THE ENGINEER.
 3. AN APPROPRIATE TRANSITION KERB OF 915 MINIMUM LENGTH SHALL BE PROVIDED AT EVERY CHANGE IN KERB TYPE, TIE INS TO EXISTING AND TERMINATIONS.
 4. MIX ST1 CONCRETE KERB BASE TO CLAUSE 2602 SHALL BE LAID ON THE SUB-BASE AND SHALL BE A MINIMUM THICKNESS OF 150. SUB-BASE SHALL BE EXCAVATED WHERE NECESSARY TO ACHIEVE 150 THICKNESS. RECOMPACT DISTURBED SUB-BASE PRIOR TO CONSTRUCTION OF KERB BASE.
 5. THE KERB BASE AND BACKING WILL NORMALLY BE LAID IN ONE OPERATION HOWEVER, WHERE CONCRETE BASE IS LAID IN SECTIONS, KERBS AND BACKING SHALL BE LAID IN ONE OPERATION. DOWEL BARS WILL BE REQUIRED, MILL STRENGTH, AT 450 CENTRES. KERBS WILL THEN BE LAID ON 0 TO 10 THICKNESS CEMENT MORTAR DESIGNATION (i) BED TO CLAUSE 2404.
 6. INSTALLATION OF DOWEL BARS MAY ALSO BE INSTRUCTED BY THE ENGINEER AT LOCATIONS WHERE KERBS ARE CONSIDERED TO BE VULNERABLE TO DAMAGE CAUSED BY VEHICLE IMPACT.
 7. WHERE EXCAVATION INTO EXISTING CARRIAGEWAY IS REQUIRED, A TRENCH SHALL BE EXCAVATED OF SUFFICIENT DEPTH AND WIDTH TO ACCOMMODATE THE COMPLETE BASE, BED AND BACKING OF THE KERB TYPE SCHEDULED WHILST PROVIDING SUFFICIENT SPACE FOR THE NECESSARY USE OF MECHANICAL LIFTING APPARATUS.
 8. THE MINIMUM LENGTH OF ANY CUT KERB SHALL BE 450.



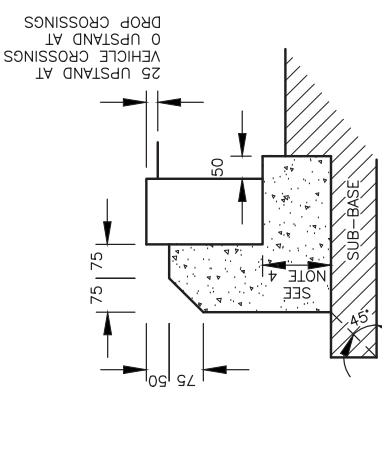
145x255 SQUARE KERB LAID TRANSVERSELY AT ROAD TABLE



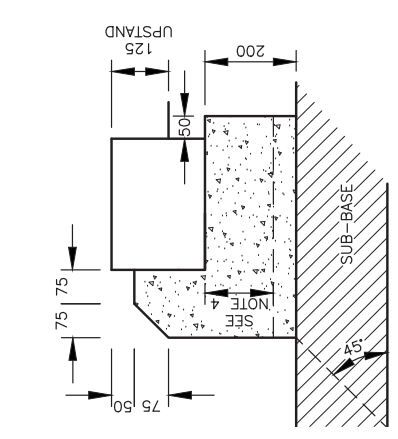
125x255 HALF BATTERED KERB



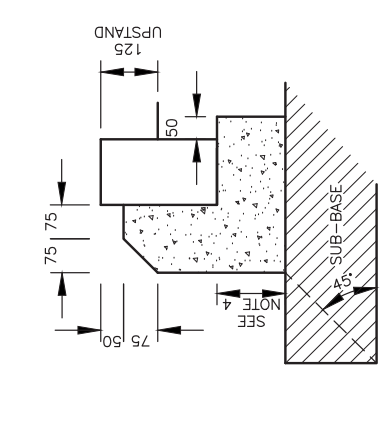
290x205 SQUARE KERB LAID AS DROPPED KERB



145x255 SQUARE KERB LAID AS DROPPED KERB



290x205 SQUARE KERB



145x255 SQUARE KERB

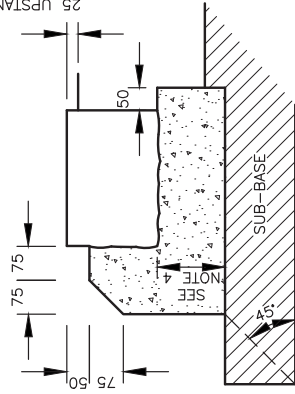
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DRAWING TITLE								DRAWING NUMBER
Highways Standard Detail								SD/1/1011
Conservation kerb								
Balfour Beatty Living Places Working in partnership City Depot & Recycling Park Southampton SO14 6JY Tel: +44 (0)2380 798010 Fax: +44 (0)2380 798022 Email: info@balfourbeatty.com Design Group								Southampton City Council City Engineer Southampton SO14 6JY
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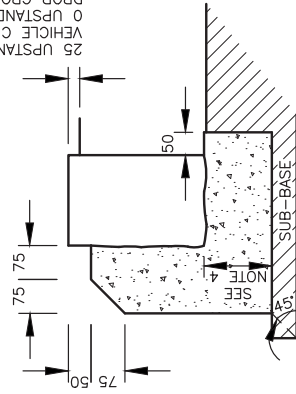
- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. ALL GRANITE KERBS SHALL BE RECLAIMED UNITS, SUPPLIED BY THE ENGINEER. DIMENSIONS OF KERB UNITS MAY VARY FROM THOSE SHOWN.
 3. AN APPROPRIATE TRANSITION KERB OF 915 MINIMUM LENGTH SHALL BE PROVIDED AT EVERY CHANGE IN KERB TYPE, TIE INS TO EXISTING AND TERMINATIONS.
 4. MIX ST1 CONCRETE KERB BASE TO CLAUSE 2602 SHALL BE LAID ON THE SUB-BASE AND SHALL BE A MINIMUM THICKNESS OF 150. SUB-BASE SHALL BE EXCAVATED WHERE NECESSARY TO ACHIEVE 150 THICKNESS. RECOMPACT DISTURBED SUB-BASE PRIOR TO CONSTRUCTION OF KERB BASE.
 5. THE KERB BASE AND BACKING WILL BE FINISHED TO THE SAME LEVEL AS THE SUB-BASE. HOWEVER, WHERE CONCRETE IS LAID IN ADVANCE OF KERBS 200x200 DIA MILD STEEL DOWEL BARS WILL BE REQUIRED IN BACKING AT 450 CENTRES. KERBS WILL THEN BE LAID ON A 10 TO 10 THICKNESS CEMENT MORTAR DESIGNATION (1) BED TO CLAUSE 2404.
 6. INSTALLATION OF DOWEL BARS MAY ALSO BE INSTRUCTED BY THE ENGINEER AT LOCATIONS WHERE KERBS ARE CONSIDERED TO BE VULNERABLE TO DAMAGE CAUSED BY VEHICLE IMPACT.
 7. WHERE EXCAVATION INTO EXISTING CARRIAGEWAY IS REQUIRED, A TRENCH SHALL BE EXCAVATED OF SUFFICIENT DEPTH AND WIDTH TO ACCOMMODATE THE COMPLETE BASE, BED AND BACKING OF THE KERB TYPE SCHEDULED WHILST PROVIDING SUFFICIENT SPACE FOR THE NECESSARY USE OF MECHANICAL LIFTING APPARATUS.
 8. THE MINIMUM LENGTH OF ANY KERB UNIT SHALL BE 450.
 9. DRESSED KERB FACES MUST BE POSITIONED AT TOP AND FRONT.

25 UPSTAND AT VEHICLE CROSSINGS
0 UPSTAND AT DROP CROSSINGS



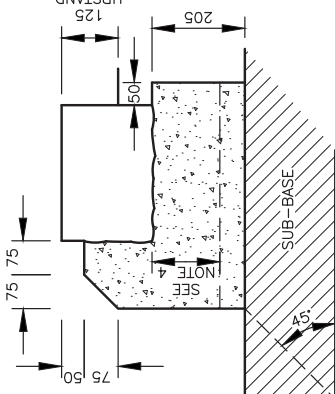
300x200 SQUARE KERB LAID AS DROPPED KERB

25 UPSTAND AT VEHICLE CROSSINGS
0 UPSTAND AT DROP CROSSINGS



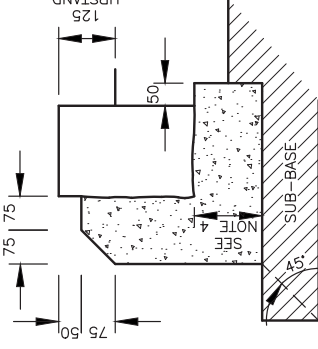
200x300 SQUARE KERB LAID AS DROPPED KERB

25 UPSTAND AT VEHICLE CROSSINGS
0 UPSTAND AT DROP CROSSINGS



300x200 SQUARE KERB

25 UPSTAND AT VEHICLE CROSSINGS
0 UPSTAND AT DROP CROSSINGS



200x300 SQUARE KERB

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DRAWING TITLE Highways Standard Detail Granite kerb				
Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY Balfour Beatty Living Places Working in partnership City Depot & Recycling Park Fire Avenue, Millbrook SOUTHAMPTON SO9 4LJ Tel: +44 (0)2380 789010 Fax: +44 (0)2380 789022 Web: www.livingplaces.com Design Group				
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NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES.
- MINIMUM WIDTH OF FOOTWAY IS 3200 AT AN ENCLOSED SHELTER OR 2400 AT A CANTILEVER SHELTER FITTED WITH ROOF AND FRONT PANEL ONLY.
- WHEN REVISING THE FOOTWAY LEVEL TO ACCOMMODATE BUS STOP KERBS, CARE MUST BE TAKEN WITH AN EXISTING SHELTER TO AVOID ADVERSELY AFFECTING ITS FUTURE OPERATION AND MAINTENANCE. SHOULD THE SHELTER REQUIRE RAISING TO PROVIDE SUFFICIENT VERTICAL CLEARANCE, CONSULTATION MUST BE UNDERTAKEN BY THE ENGINEER PRIOR TO ANY WORKS BEING UNDERTAKEN.
- BUS STOP KERBS SHALL BE INSTALLED TO A LENGTH OF 5000 BETWEEN TRANSITION KERBS AT ALL STOPS EXCEPT WHEN INSTRUCTED BY ENGINEER FOR PROVISION ON ROUTES SERVED BY DUAL-DOORED LOW FLOOR BUSES WHERE A LENGTH OF 7000 IS REQUIRED.
- WHERE EXCAVATION INTO EXISTING CARRIAGEWAY IS REQUIRED, A TRENCH SHALL BE EXCAVATED OF SUFFICIENT DEPTH AND WIDTH TO ACCOMMODATE THE COMPLETE BASE, BED AND BACKING OF THE KERB whilst providing sufficient space for the necessary use of MECHANICAL LIFTING APPARATUS.

SECTION A-A

250x75 PCC FLUTED CHANNEL AS SHOWN ON DRAWING SD/1/1051

330x290 BUS STOP KERB AS SHOWN ON DRAWING SD/1/1001

FOOTWAY CONSTRUCTION AS INSTRUCTED BY THE ENGINEER. DETAILS SHOWN ON DRAWING SD/1/1101.

TYPICAL INSTALLATION OF BUS STOP KERBS WHERE FOOTWAY BACK EDGE CANNOT BE RAISED

LONGITUDINAL FALL

CROSSFALL

1120 MAXIMUM

600

3200

1000 TRANSITION 5000 BUS STOP KERB SEE NOTE 4

1000 TRANSITION

GROOVES TO BE OPENED IN TOP OF KERB AS CONTINUATION OF FLUTED CHANNEL

DIAGRAM 1025.3 CARRIAGEWAY MARKING AS INSTRUCTED BY THE ENGINEER

TYPICAL INSTALLATION OF BUS STOP KERBS WHERE FOOTWAY BACK EDGE CAN BE RAISED

LOCATION OF BUS STOP FLAG & POLE IF SHELTER IS NOT PROVIDED. POLE INSTALLATION AS SHOWN ON DRAWING SD/1/3501 600 FROM KERB

FOOTWAY CONSTRUCTION AS INSTRUCTED BY ENGINEER. DETAILS SHOWN ON DRAWING SD/1/1101.

SHELTER WITH ILLUMINATED FLUORESCENT LIGHT PANEL

600

1150 MINIMUM

3200

1000 TRANSITION

7000 BUS STOP KERB SEE NOTE 4

1000 TRANSITION

FOOTWAY CONSTRUCTION AS INSTRUCTED BY ENGINEER. DETAILS SHOWN ON DRAWING SD/1/1101.

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Highways Standard Detail Bus Stop kerb			SD/1/1031			

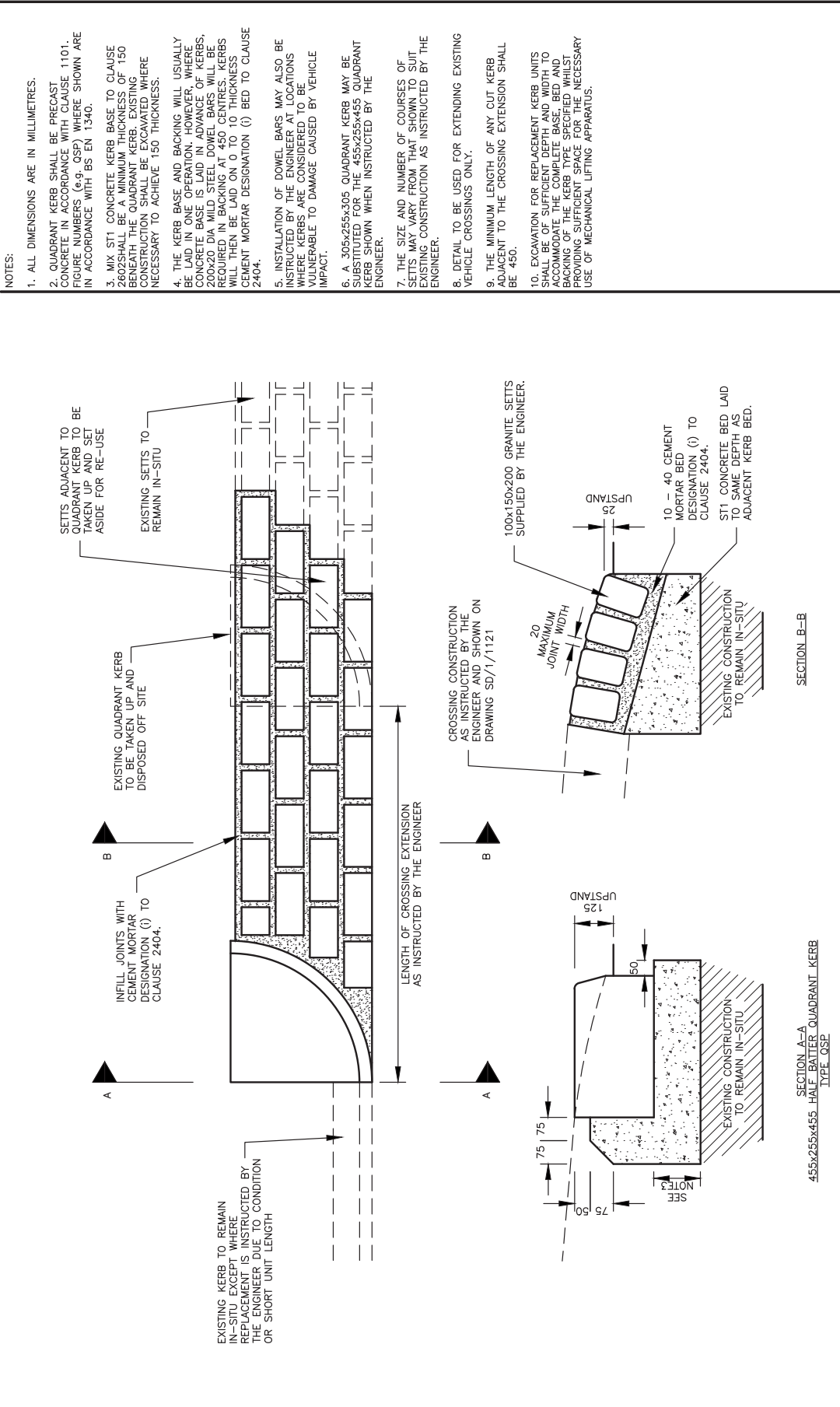
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SECTION B-B

SECTION A-A
455x255x455 HALF-BATTLED QUADRANT KERB
TYPE Q3E

- NOTES:**
- ALL DIMENSIONS ARE IN MILLIMETRES.
 - QUADRANT KERB SHALL BE PRECAST CONCRETE IN ACCORDANCE WITH CLAUSE 1101. FIGURE NUMBERS (e.g. QSP) WHERE SHOWN ARE IN ACCORDANCE WITH BS EN 1340.
 - MIX ST1 CONCRETE KERB BASE TO CLAUSE 2404 SHALL BE A MINIMUM THICKNESS OF 150 MM. THE QUADRANT KERB CONSTRUCTION SHALL BE EXCAVATED WHERE NECESSARY TO ACHIEVE 150 THICKNESS.
 - THE KERB BASE AND BACKING WILL USUALLY BE LAID IN ONE OPERATION. HOWEVER, WHERE CONCRETE BASE IS LAID IN ADVANCE OF KERBS, 200x20 DIA MILD STEEL DOWEL BARS WILL BE REQUIRED IN BACKING AT 450 CENTRES. KERBS WILL THEN BE LAID ON 0 TO 10 THICKNESS CEMENT MORTAR DESIGNATION (I) BED TO CLAUSE 2404.
 - INSTALLATION OF DOWEL BARS MAY ALSO BE INSTRUCTED BY THE ENGINEER AT LOCATIONS WHERE KERBS ARE CONSIDERED TO BE VULNERABLE TO DAMAGE CAUSED BY VEHICLE IMPACT.
 - A 305x255x305 QUADRANT KERB MAY BE SUBSTITUTED FOR THE 455x255x455 QUADRANT KERB SHOWN WHEN INSTRUCTED BY THE ENGINEER.
 - THE SIZE AND NUMBER OF COURSES OF SETTS MAY VARY FROM THAT SHOWN TO SUIT EXISTING CONSTRUCTION AS INSTRUCTED BY THE ENGINEER.
 - DETAIL TO BE USED FOR EXTENDING EXISTING VEHICLE CROSSINGS ONLY.
 - THE MINIMUM LENGTH OF ANY CUT KERB ADJACENT TO THE CROSSING EXTENSION SHALL BE 450.
 - EXCAVATION FOR REPLACEMENT KERB UNITS SHALL BE OF SUFFICIENT DEPTH AND WIDTH TO ACCOMMODATE THE COMPLETE BASE, BED AND BACKING OF THE KERB TYPE SPECIFIED. WHILE EXCAVATING, THE ENGINEER SHALL TAKE NECESSARY USE OF MECHANICAL LIFTING APPARATUS.

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Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY													
Highways Standard Detail Granite set dropped kerb													
DRAWING NUMBER SD/1/1041													

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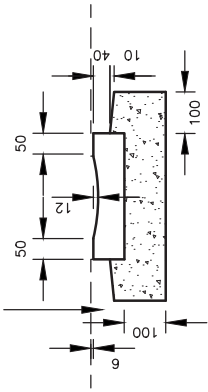
DRAWING STATUS

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NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES
2. PRECAST CONCRETE CHANNEL UNITS SHALL BE IN ACCORDANCE WITH CLAUSE 1101. FIGURE NUMBERS (e.g. CS2) WHERE SHOWN ARE IN ACCORDANCE WITH BS EN 1340.
3. MIX ST1 CONCRETE CHANNEL BASE TO CLAUSE 2602 SHALL BE LAID ON THE SUB-BASE AND SHALL BE A MINIMUM THICKNESS OF 150 BENEATH CARRIAGEWAY CHANNEL. SUB-BASE SHALL BE EXCAVATED WHERE NECESSARY TO ACHIEVE 150 THICKNESS. RECOMPACT DISTURBED SUB-BASE PRIOR TO CONSTRUCTION OF CHANNEL BASE.
4. THE BASE AND BACKING FOR PRECAST CONCRETE CHANNEL WILL USUALLY BE LAID IN ONE OPERATION. HOWEVER, WHERE CONCRETE BASE IS LAID IN ADVANCE, CHANNELS WILL THEN BE LAID ON 0 TO 10 THICKNESS CEMENT MORTAR DESIGNATION (i) BED TO CLAUSE 2404.
5. THE MINIMUM LENGTH OF ANY PRECAST CONCRETE CHANNEL UNIT SHALL BE 450.
6. WHERE EXCAVATION INTO EXISTING CARRIAGEWAY IS REQUIRED, A TRENCH SHALL BE EXCAVATED OF SUFFICIENT DEPTH AND WIDTH TO ACCOMMODATE THE COMPLETE BASE, BED AND BACKING OF THE SPECIFIED CHANNEL WHILST PROVIDING SUFFICIENT SPACE FOR THE NECESSARY USE OF MECHANICAL LIFTING APPARATUS.
7. CHANNELS TO BE USED WHEN LONGITUDINAL FALL IS FLATTER THAN 1in150.

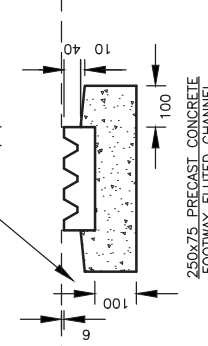
FOOTWAY CONSTRUCTION AS INSTRUCTED BY THE ENGINEER AND SHOWN ON DRAWING SD/1/1101



305x90 PRECAST CONCRETE FOOTWAY DISHED CHANNEL

USE OF 305x90 PRECAST CONCRETE DISHED CHANNEL TYPE (i) WITHIN FOOTWAYS WILL ONLY BE PERMITTED WHEN SOUND ENGINEERING JUDGEMENT DICTATES OTHERWISE. IN THE CASE OF FLUTED CHANNELS, USE TO DIFFICULTIES EXPERIENCED BY WHEELCHAIR, PRAM AND PUSHCHAIR USERS.

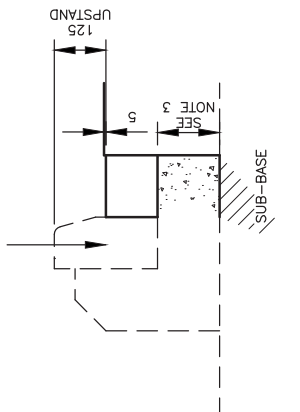
FOOTWAY CONSTRUCTION AS INSTRUCTED BY THE ENGINEER AND SHOWN ON DRAWING SD/1/1101



250x75 PRECAST CONCRETE FOOTWAY FLUTED CHANNEL

WHEN INSTRUCTED BY THE ENGINEER, ST1 CONCRETE BED AND BACKING MAY BE OMITTED WHEN FLUTED CHANNEL IS LAID WITHIN A PAVED OR BLOCKED AREA. FLUTED CHANNEL WILL BE BEDDED UPON MATERIALS SPECIFIED AS BEDDING FOR THE ADJACENT PAVING OR BLOCKS.

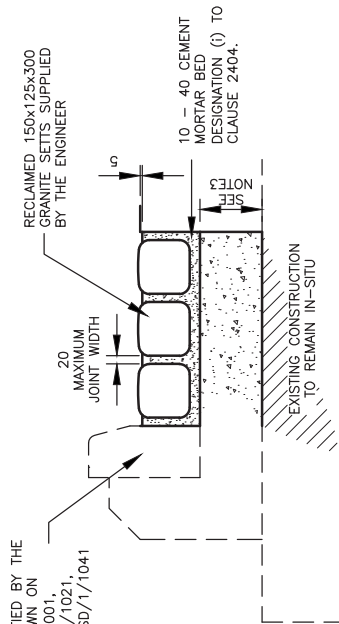
KERB TYPE SPECIFIED BY THE ENGINEER AS SHOWN ON DRAWINGS SD/1/1001, SD/1/1011, SD/1/1021, SD/1/1031 AND SD/1/1041



150x125 PRECAST CONCRETE CHANNEL TYPE CS2

COMBINED WITH TYPICAL KERB

KERB TYPE SPECIFIED BY THE ENGINEER AS SHOWN ON DRAWINGS SD/1/1001, SD/1/1011, SD/1/1021, SD/1/1031 AND SD/1/1041



150x125 PRECAST CONCRETE CHANNEL TYPE CS2

COMBINED WITH TYPICAL KERB

RECLAIMED 150x125x300 GRANITE SETTS SUPPLIED BY THE ENGINEER

10 - 40 CEMENT MORTAR BED DESIGNATION (i) TO CLAUSE 2404.

GRANITE SETT CHANNEL COMBINED WITH TYPICAL KERB

THE NUMBER OF COURSES MAY VARY TO SUIT EXISTING CONSTRUCTION AS INSTRUCTED BY THE ENGINEER. DIMENSIONS OF SUPPLIED SETTS MAY VARY FROM THOSE SHOWN.

GRANITE SETT CHANNEL TO BE USED FOR EXTENDING OR MATCHING EXISTING CONSTRUCTION ONLY.

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Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY				DRAWING NUMBER SD/1/1051
Balfour Beatty Living Places Working in partnership City Depot & Recycling Park First Avenue, Millbrook SOUTHAMPTON, SO15 0LJ Tel: +44 (0)2380 788622 Fax: +44 (0)2380 788622 Web: www.bbfivingplaces.com				
Highways Standard Detail Channel				
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KEY: KERB/CHANNEL/ CONCRETE BACKING/SURFACING TO BE REMOVED

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES
- EXISTING CARRIAGEWAY AND/OR FOOTWAY PAVEMENT CONSTRUCTION SHALL BE CUT VERTICAL TO A CLEAN LINE AND FACE. EXCAVATION WIDTH WILL VARY DEPENDANT UPON THE TYPES OF EXCAVATED AND REPLACEMENT KERBS/CHANNELS. INSTRUCTED BY THE ENGINEER, SUFFICIENT SPACE SHALL BE PROVIDED FOR THE NECESSARY USE OF MECHANICAL LIFTING APPARATUS.
- THE BREAK OUT IN FRONT OF THE KERB OR CHANNEL MAY BE OMITTED WHERE CARRIAGEWAY RESURFACING IS TO BE CARRIED OUT AT THE SAME TIME AS KERB REPLACEMENT.
- THE BREAK OUT BEHIND THE KERB MAY BE OMITTED WHERE FOOTWAY RESURFACING IS TO BE CARRIED OUT AT THE SAME TIME AS KERB REPLACEMENT.

DESIGNED: BBLP
CHECKED: AF

DRAWN: RMC
APPROVED: GPR

DATE: July 2012
SCALE: @ A3
NTS

SHEET: 1 of 1

REVISION:

TAKE UP EXISTING KERB, BED, BASE AND BACKING

TAKE UP EXISTING CHANNEL, BED AND BASE

REPLACEMENT KERB LAID ON NEW BASE

REPLACEMENT CHANNEL LAID ON NEW BASE

REVISION

1 of 1

DRAWING NUMBER: SD/1/1061

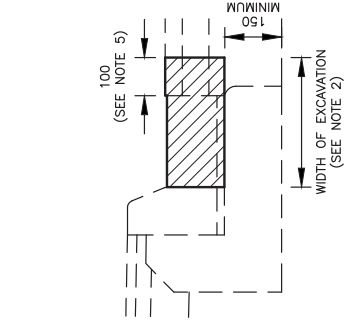
Highways Standard Detail
Kerb and channel replacement (on new base)

DO NOT SCALE FROM THIS DRAWING

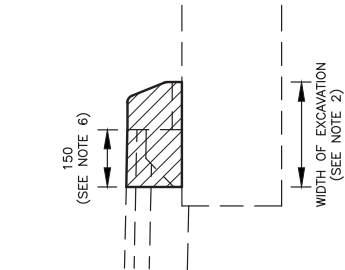
KEY:
 KERB/CHANNEL/ CONCRETE BACKING/SURFACING TO BE REMOVED

NOTES:

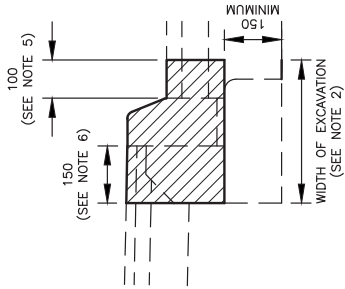
1. ALL DIMENSIONS ARE IN MILLIMETRES
2. EXISTING CARRIAGEWAY AND/OR FOOTWAY PAVEMENT CONSTRUCTION SHALL BE CUT VERTICAL TO A CLEAN LINE AND FACE. EXCAVATION WIDTH WILL VARY DEPENDANT UPON THE TYPES OF EXCAVATED AND REPLACEMENT KERBS/CHANNELS. INSTRUCTED BY THE ENGINEER. SUFFICIENT SPACE SHALL BE PROVIDED FOR THE NECESSARY USE OF MECHANICAL LIFTING APPARATUS.
3. EXISTING BED AND BASE TO BE CUT BACK TO PROVIDE FACILITY FOR MORTAR BED. KERB AND/OR CHANNEL SHALL BE LAID ON 10 TO 40 THICKNESS CEMENT MORTAR DESIGNATION (i) BED COMPLYING WITH CLAUSE 2404.
4. WHERE KERB AND/OR CHANNEL IS TO BE RAISED IN LEVEL SUCH THAT THE BED THICKNESS IS GREATER THAN 40, MIX ST1 CONCRETE SHALL BE USED AS A REGULATING MATERIAL PRIOR TO LAYING THE CEMENT MORTAR BED TO THE PRESCRIBED THICKNESS.
5. THE BREAK OUT IN FRONT OF THE KERB OR CHANNEL MAY BE OMITTED WHERE CARRIAGEWAY RESURFACING IS TO BE CARRIED OUT AT THE SAME TIME AS KERB REPLACEMENT.
6. THE BREAK OUT BEHIND THE KERB MAY BE OMITTED WHERE FOOTWAY RESURFACING IS TO BE CARRIED OUT AT THE SAME TIME AS KERB REPLACEMENT.
7. 100 BREAK OUT IN FRONT OF KERB WILL BE REQUIRED WHEN KERBS ARE BONDED TO CONCRETE CARRIAGEWAY CONSTRUCTION THAT HAS BEEN OVERLAID WITH BITUMINOUS SURFACING MATERIALS.



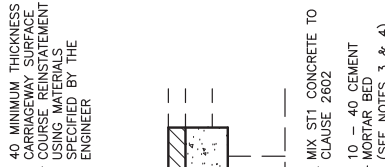
TAKE UP EXISTING CHANNEL AND BED



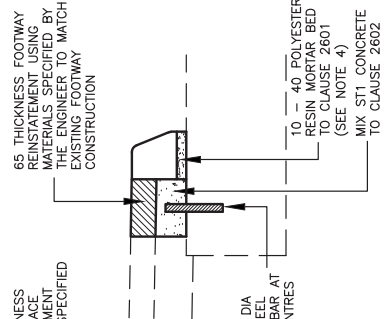
TAKE UP EXISTING KERB, BED AND BACKING WHERE BONDED ONTO CONCRETE CARRIAGEWAY CONSTRUCTION



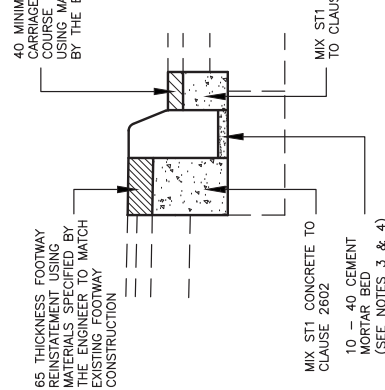
TAKE UP EXISTING KERB, BED AND BACKING



REPLACEMENT CHANNEL LAID ON EXISTING BASE



REPLACEMENT KERB BONDED ONTO CONCRETE CARRIAGEWAY CONSTRUCTION



REPLACEMENT KERB LAID ON EXISTING BASE

NOTE: KERB TO BE CUT DOWN FROM STANDARD UNITS TO PROVIDE UPSTAND INSTRUCTED BY THE ENGINEER

DESIGNED	BBLP	RMC	July 2012	DATE	1 of 1	SHEET	REVISION
CHECKED	AF	GPR	NTS	SCALE	1 of 1		
Drawing Title: Highways Standard Detail Kerb and channel replacement (on existing base)							Drawing Number: SD/1/1071
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Balfour Beatty Living Places
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 Fax: +44 (0)2380 798022
 Web: www.balfourbeatty.com
 design group

Southampton City Council
 Civic Centre
 SOUTHAMPTON SO9 4LY

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P:\BBLP Standard Details updated May 2012\Highways\1081 DWG. 02/08/2012 15:30:39

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. WHERE EXCAVATION INTO EXISTING FOOTWAY IS REQUIRED, A TRENCH SHALL BE EXCAVATED OF SUFFICIENT DEPTH AND WIDTH TO ACCOMMODATE THE COMPLETE BED AND BACKING OF THE EDGING TYPE SPECIFIED BY THE ENGINEER.
3. THE MINIMUM LENGTH OF ANY CUT EDGING UNIT SHALL NOT BE LESS THAN HALF OF ITS ORIGINAL LENGTH. TIMBER EDGINGS SHALL NOT BE LAID LESS THAN 500 LENGTH.
4. TIMBER EDGINGS TO BE USED ONLY WHEN TREE ROOTS OR SIMILAR OBSTRUCTIONS PREVENT THE INSTALLATION OF PRECAST CONCRETE UNITS.
5. SIZES OF SETTS AND BRICKS MAY VARY FROM THOSE SHOWN TO SUIT EXISTING CONSTRUCTION AS INSTRUCTED BY THE ENGINEER.
6. DETAILS OF SETT AND BRICK EDGING TO BE SHOWN ONLY WHEN MATCHING EXISTING CONSTRUCTION ONLY.
7. 20 MAXIMUM CEMENT MORTAR DESIGNATION (i) TO CLAUSE 2404 JOINT BETWEEN GRANITE SETTS.
8. 10 MAXIMUM CEMENT MORTAR DESIGNATION (i) TO CLAUSE 2404 JOINT BETWEEN BRICKS.
9. THE BASE AND BACKING FOR GRANITE SETTS, BRICKS AND PRECAST CONCRETE EDGING WILL USUALLY BE LAID IN ONE OPERATION. HOWEVER, WHERE THE EDGING IS TO BE LAID IN TWO STAGES, EDGING UNITS WILL BE LAID ON TO 20 THICKNESS CEMENT MORTAR DESIGNATION (i) BED TO CLAUSE 2404.
10. TIMBER SHALL BE OBTAINED FROM CERTIFIED SUSTAINABLE SOURCES, SUCH AS THOSE APPROVED BY THE FOREST STEWARDSHIP COUNCIL OR THE PAN EUROPEAN FOREST CERTIFICATION SCHEME.

40x100 LARCH OR DOUGLAS FIR EDGINGS PRESERVED IN COMPLIANCE WITH CLAUSE 311

FOOTWAY CONSTRUCTION AS INSTRUCTED BY THE ENGINEER. DETAILS SHOWN ON DRAWING SD/1/1101

50x50x450 DRIVEN LARCH OR DOUGLAS FIR PEGS PRESERVED IN COMPLIANCE WITH CLAUSE 311 AT MAXIMUM 1000 CENTRES EACH STAKE TO BE FIXED TO EDGING TIMBER BY 2NO 80 LONG GALVANISED NAILS

50x150 PRECAST CONCRETE FOOTWAY EDGING TYPE EE TO BS.7263-3

FOOTWAY CONSTRUCTION AS INSTRUCTED BY THE ENGINEER. DETAILS SHOWN ON DRAWING SD/1/1101

40x100 TIMBER FOOTWAY EDGING

FOOTWAY CONSTRUCTION AS INSTRUCTED BY THE ENGINEER. DETAILS SHOWN ON DRAWING SD/1/1101

75x100x200 BRICKS

FOOTWAY CONSTRUCTION AS INSTRUCTED BY THE ENGINEER. DETAILS SHOWN ON DRAWING SD/1/1101

100x150x200 GRANITE SETTS

FOOTWAY CONSTRUCTION AS INSTRUCTED BY THE ENGINEER. DETAILS SHOWN ON DRAWING SD/1/1101

MIX ST1 CONCRETE TO CLAUSE 2602

SUPPLIED BY THE ENGINEER AND LAID LONGITUDINALLY AS FOOTWAY EDGING ON PREFORMED CONCRETE BASE

DESIGNED	BBLP	CHECKED	AF	DRAWN	RMC	APPROVED	GPR	DATE	July 2012	SHEET	1 of 1	REVISION	
DRAWING NUMBER SD/1/1081													
DRAWING TITLE Highways Standard Detail Footway edging													
DO NOT SCALE FROM THIS DRAWING													

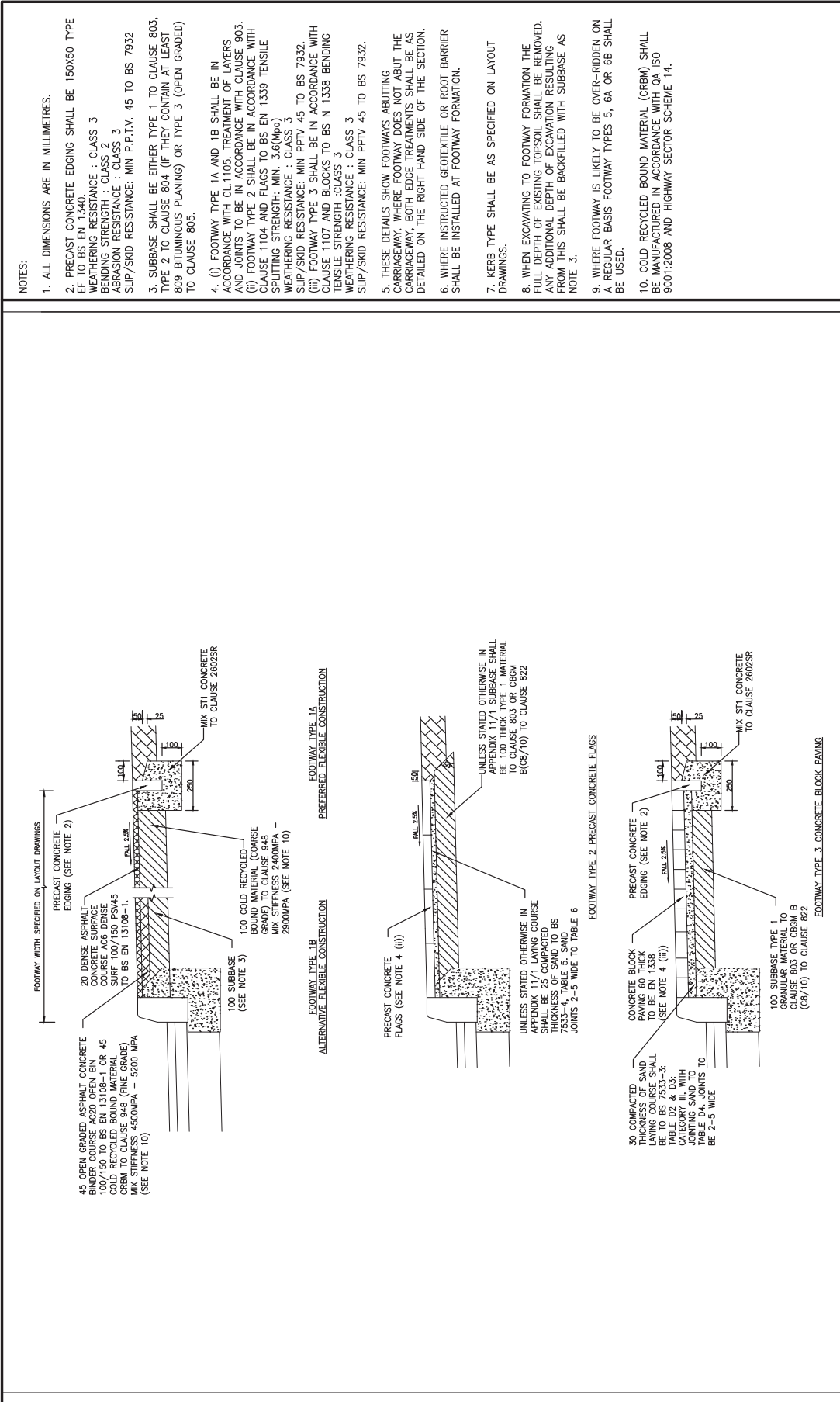
Balfour Beatty Living Places
Working in partnership

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DESIGNED	BBLP	APPROVED	AF	DRAWN	RMC	APPROVED	GPR	DATE	July 2012	SHEET	1 of 1	REVISION	
CHECKED	AF							SCALE	A3		NTS		
DRAWING NUMBER												SD/1/101	
DRAWING TITLE												FOOTWAYS TYPE 1A, 1B, 2 AND 3	
DRAWING STATUS												UNCONTROLLED COPY	
<p>Balfour Beatty Living Places Working in partnership City Depot & Recycling Park First Avenue, Millbrook SOUTHAMPTON SO16 6LJ Tel: +44 (0)2380 512880 Fax: +44 (0)2380 512883 Web: www.bbivingplaces.com</p> <p>Design Group</p>												<p>Southampton City Council City Centre SOUTHAMPTON SO14 7LY</p>	

P:\BBLP Standard Details updated May 2012\Highways\UC1-1102.dwg, 02/08/2012 15:52:31

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES.
- WHERE FOOTWAY EDGINGS ABOUT THEY SHALL BE SECURED AS SHOWN IN DETAIL 'A'.
- WHERE A GEOTEXILE IS SPECIFIED BY THE ENGINEER IT SHALL BE LAID ON THE FORMATION FOR THE FULL WIDTH OF THE FOOTWAY.
- WHERE BOTH EDGINGS ARE LAID TO THE SAME LEVEL THE FOOTWAY SHALL BE FORMED WITH A CENTRAL CAMBER FALLING 2.5% TO EITHER SIDE OR AS INSTRUCTED BY THE ENGINEER.
- FOOTWAY WIDTHS AS SPECIFIED BY THE ENGINEER.
- TIMBER SHALL BE OBTAINED FROM CERTIFIED SUSTAINABLE SOURCES SUCH AS THOSE APPROVED BY THE FOREST STEWARDSHIP COUNCIL OR THE PAN EUROPEAN FOREST CERTIFICATION SCHEME.

DESIGNED	BBLP	CHECKED	AF
DRAWN	RMC	APPROVED	GPR
DATE	July 2012	SCALE	1 of 1
SHEET	1 of 1	NTS	

DRAWING NUMBER
SD/1/1102

FOOTWAY TYPE 4_RURAL_FOOTWAY

FOOTWAY TYPE 5_RURAL_FOOTWAY

PLAN DETAIL 'A'

DRIVE ADJOINING STAKES AND NAIL TO EDGINGS WHERE EDGINGS ABOUT

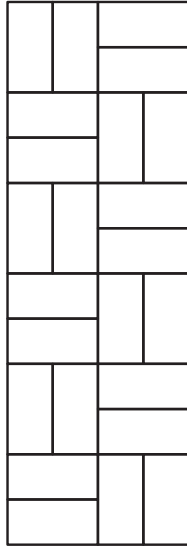
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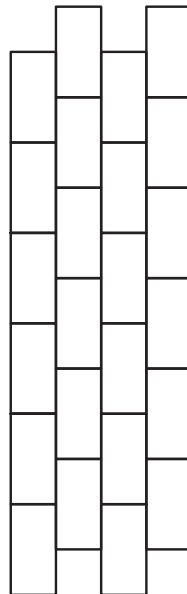
© Balfour Beatty Living Places

NOTES:

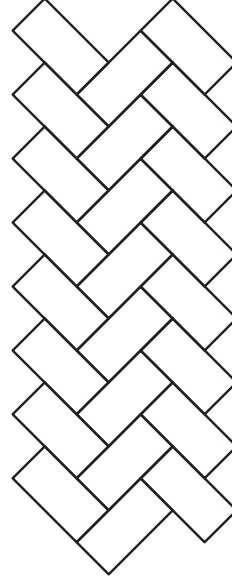
1. BASKET WEAVE BOND SHOULD NOT BE USED IN AREAS USED BY VEHICULAR TRAFFIC.
2. 90 OR 45 DEGREE HERRINGBONE PATTERN SHOULD BE USED IN AREAS USED BY VEHICULAR TRAFFIC.
3. STRETCHER BOND MAY BE USED IN LIGHTLY TRAFFICKED AREAS WHERE VEHICLES ARE UNLIKELY TO MAKE REGULAR TURNS OR FREQUENTLY BRAKE AND ACCELERATE.



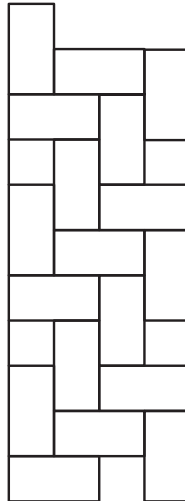
BASKET WEAVE OR PARQUET



STRETCHER BOND



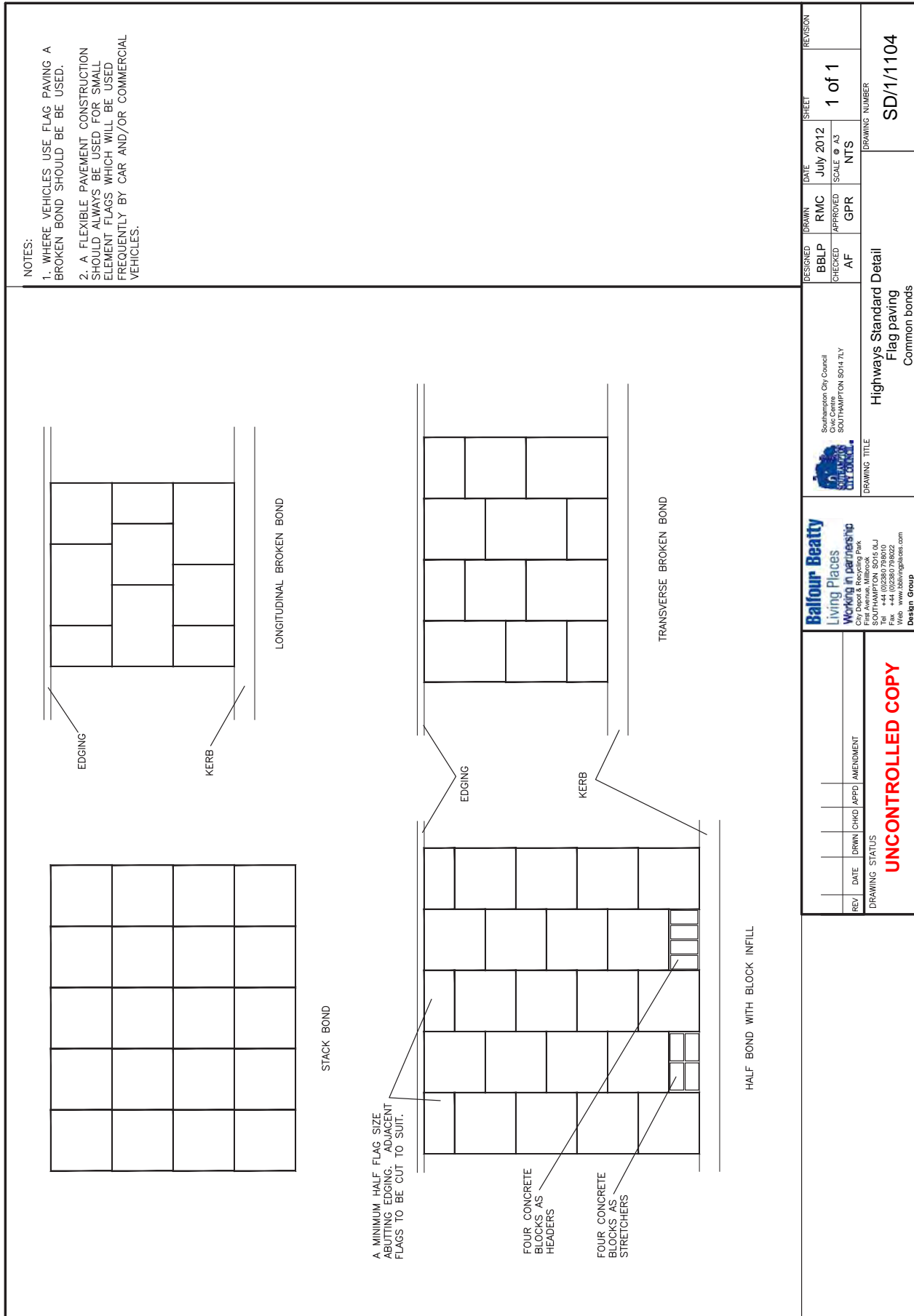
45 DEGREE HERRINGBONE



90 DEGREE HERRINGBONE

DESIGNED BBLP	DRAWN RMC	DATE July 2012	SHEET 1 of 1	REVISION	
CHECKED AF	APPROVED GPR	SCALE @ A3 NTS	DRAWING NUMBER SD/1/103		
Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY		DRAWING TITLE Highways Standard Detail Rectangular block paving - Common bonds			
Balfour Beatty Living Places Working in partnership City Depot & Recycling Park First Avenue, Millbrook SOUTHAMPTON SO16 6LJ Tel: +44 (0)2380 798000 Fax: +44 (0)2380 798022 Web: www.bbivingplaces.com Design Group		DO NOT SCALE FROM THIS DRAWING			
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DESIGNED BBLP	CHECKED AF	DRAWN RMC	DATE July 2012	SHEET 1 of 1	REVISION
SOUTHAMPTON CITY COUNCIL Civic Centre SOUTHAMPTON SO14 7LY		APPROVED GPR	SCALE @ A3 NTS	DRAWING NUMBER SD/1/1104	
<p>Balfour Beatty Living Places Working in partnership City Depot & Recycling Park First Avenue, Millbrook SOUTHAMPTON SO14 7LJ Tel: +44 (0)2380 788010 Fax: +44 (0)2380 788022 Web: www.bb.livingplaces.com Design Group</p>			<p>Highways Standard Detail Flag paving Common bonds</p>		
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REV	DATE	DRWN	CHKD	APPD	AMENDMENT
DRAWING STATUS					
DO NOT SCALE FROM THIS DRAWING					

Key

Notes

- ALL DIMENSIONS IN MILLIMETRES.
- MINIMUM SIZE OF SLABS - 200 AT FRONT OF FOOTWAY / 100 AT BACK OF FOOTWAY AND ADJACENT TO IRONWORK. PAVING JOINTS SHALL BE OFFSET BY A MINIMUM OF 50MM FROM THOSE ON ADJACENT COURSES. THE ORDER OF COURSE WIDTHS SHALL BE 450, 380, 280, 380, 280, 380, REPEATING. THE PATTERN MAY BE AMENDED TO SUIT CHANGES IN LEVEL AND OTHER FEATURES. COURSES SHALL ALIGN EACH SIDE OF THE PURBECK CHANNEL (IF USED) AND SHALL BE TRANSVERSE TO THE SETTING OUT LINE (WHICH IS GENERALLY PARALLEL TO THE KERB). THE COURSES SHALL BE AMENDED TO SUIT WHERE TRANSVERSE CHANNELS ARE REQUIRED SO THAT COURSES CONTINUE TO ALIGN.
- MINIMUM NUMBER OF TRANSVERSE CHANNELS SHALL BE MADE TO FOLD THE PAVING. CUTTING AND LAYING OF PAVING GENERALLY TO BS 7533 PART 4.
- PURBECK STONE SETTS SHALL BE 100 CUBES AND MAY BE USED TO DENOTE SIGNIFICANT VEHICULAR CROSSINGS SUBJECT TO LIGHT VEHICLE (SITE CATEGORY IV-NO COMMERCIAL VEHICLES) TRAFFIC. BASE COURSE DEPTH SHALL BE 200MM BUT OTHERWISE SETTS SHALL BE LAID AS TYPE 6A FOOTWAY. CUTTING AND LAYING OF PAVING GENERALLY TO BS 7533 PART 7.
- PURBECK STONE CHANNELS SHALL BE CUT FROM CAP (THE HARDEST) BED, 500MM LONG, 200 WIDE, 100 DEEP, WITH BLUSH HAMMERED TOP AND A SMOOTH 150 WIDE 10 DEEP DISH GROUND INTO THE TOP SURFACE. THE CHANNEL SHALL BE LAID TO A FLOWING ALIGNMENT. TRANSVERSE JOINTS IN THE CHANNEL SHALL BE 2 - 4 WIDE. LONGITUDINAL JOINTS AS ADJACENT PAVING. T PIECES SHALL BE INSTALLED WHERE TRANSVERSE CHANNELS (GENERALLY FROM DOWN-PIPES) MEET THE MAIN LONGITUDINAL CHANNEL. END CHANNELS SECTIONS WHERE THE GROUND DISH TERMINATES SHALL BE USED AS APPROPRIATE.
- JOINTS AROUND RECTANGULAR AND SQUARE IRONWORK AND THE LIKE SHALL BE OF CONSISTENT WIDTH (MAXIMUM 20) AND POINTED AS THE SURROUNDING PAVING. IRON WORK SHALL BE PROTECTED AGAINST PENETRATION BY JOINTING MORTAR. COVERS SHOULD BE ROTATED TO SUIT THE PAVING IF POSSIBLE. PAVING WITHIN RECESSED COVERS SHALL BE LAID ON EPOXY MORTAR.
- THE LAYOUT OF PAVING AT CORNERS, CURVES, TACTILE PAVING, DROPPED KERBS AND CROSSINGS SHOULD BE CONSIDERED AT DESIGN STAGE TO MINIMISE SMALL AREAS OF SLABS, DIAGONAL CUTS AND EXCESSIVE JOINTING.
- POINTING ADJACENT TO KERBS AND BUILDING LINES SHALL BE OF REGULAR WIDTH AND NO MORE THAN 20 WIDE, AND INFILLED WITH POINTING MORTAR AS PER THE ADJACENT PAVING.
- PURBECK STONE PAVING AND CHANNELS SHALL BE OBTAINED FROM DORSET QUARRIES AND COMPLY WITH THE FOLLOWING.

Minimum compressive strength	110MPa
Minimum flexural strength	12MPa
Maximum porosity	6% by volume
Density	2500-2600kg/m ³
Minimum PPV	50

The paving units shall be cut from the various suitable beds of Purbeck stone (Cap, Vye, Burton, Royal, Grub, Thornback, Feather, Freestone, Wetson, Downswein, but not Spangle) so that a random pattern of colours is obtained on the finished surface. All drilled channels to be in Cap stone. Each paving unit will have all 16 sides sawn square. The upper surface will therefore just be hammerered to produce a randomly dappled finish of indentations which should correspond with paving laid by Southampton City Council in the Old town area since 2008.
- PAVING TO BE LAID TO THE REQUIREMENTS OF BS 7533 PARTS 4, 5, 6, 7, 8 AND 12.

DESIGNED BY BBLP
CHECKED BY AF

DRAWN BY KJ
APPROVED BY GPR

DATE July 2012
SCALE @ A3
SHEET 1 of 1

REVISION

Southampton City Council
Civic Centre
SOUTHAMPTON SO9 4LY

Balfour Beatty Living Places
Working in partnership
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Web: www.bbivingplaces.com

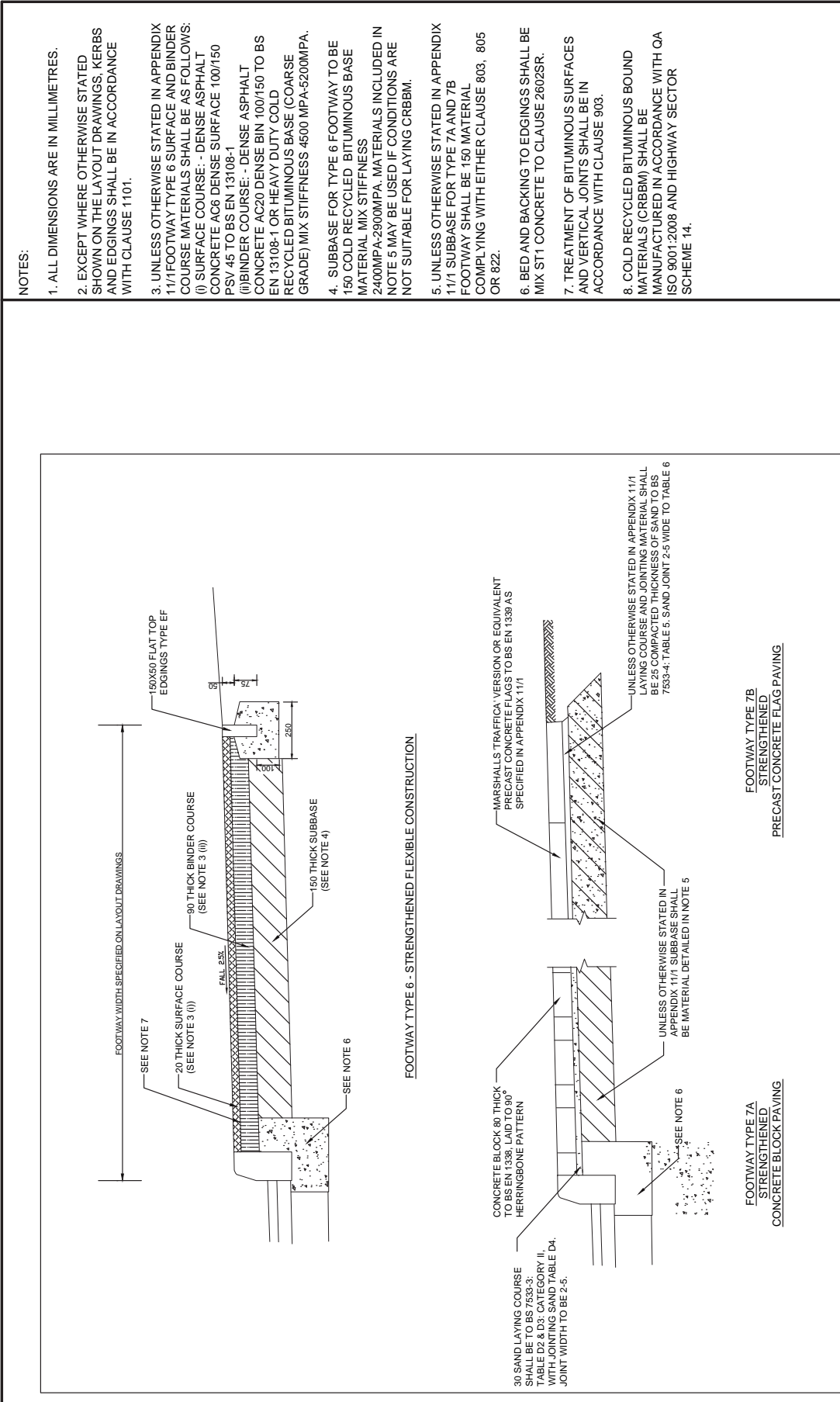
Design Group

Highways Standard Detail
Footways Type 8A And 8B
Purbeck Stone Paving

DRAWING NUMBER SD/1/1105

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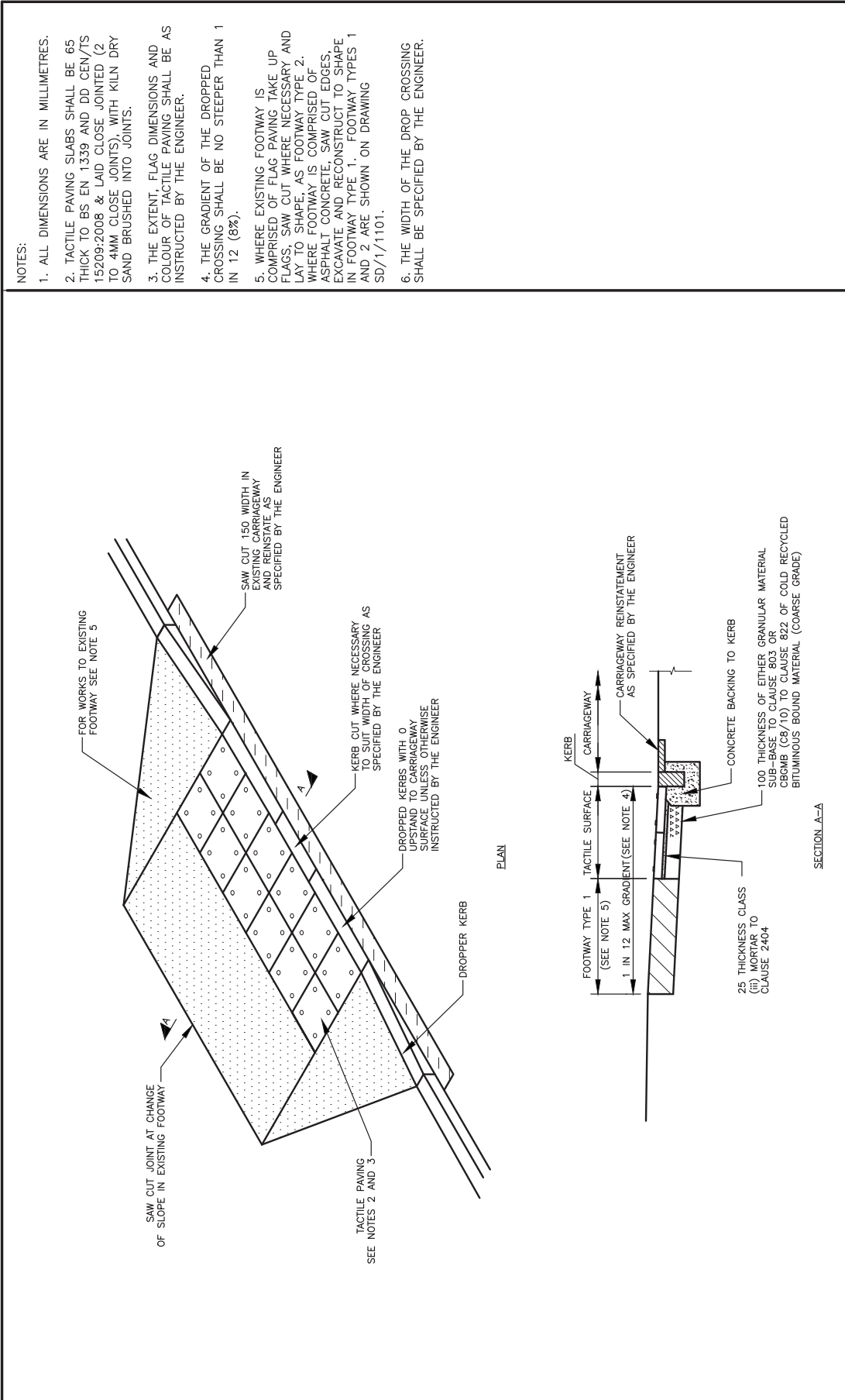
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DESIGNED	BBLP	DATE	JULY 2012	SHEET	1 of 1	REVISION	
CHECKED	AF	DRAWN	RMC	APPROVED	SCALE @ A3		
			GPR		NTS		
DRAWING TITLE						DRAWING NUMBER	
FOOTWAY TYPE 6 TYPE 7A AND 7B -STRENGTHENED						SD/1/1110	
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 Web: www.bbivingplaces.com
 Design Group

Southampton City Council
 Civic Centre
 SOUTHAMPTON SO9 4LY



- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. TACTILE PAVING SLABS SHALL BE 65 THICK TO BS EN 1339 AND DD CEN/TS 15209:2008 & LAID CLOSE JOINTED (2 TO 4MM CLOSE JOINTS), WITH KILN DRY SAND BRUSHED INTO JOINTS.
 3. THE EXTENT, FLAG DIMENSIONS AND COLOUR OF TACTILE PAVING SHALL BE AS INSTRUCTED BY THE ENGINEER.
 4. THE GRADIENT OF THE DROPPED CROSSING SHALL BE NO STEEPER THAN 1 IN 12 (8%).
 5. WHERE EXISTING FOOTWAY IS COMPRISED OF FLAG PAVING TAKE UP FLACS, SAW CUT WHERE NECESSARY AND LAY TO SHAPE, AS FOOTWAY TYPE 2. WHERE FOOTWAY IS COMPRISED OF ASPHALT CONCRETE, SAW CUT EDGES, EXCAVATE AND RECONSTRUCT TO SHAPE IN FOOTWAY TYPE 1. FOOTWAY TYPES 1 AND 2 ARE SHOWN ON DRAWING SD/1/1101.
 6. THE WIDTH OF THE DROP CROSSING SHALL BE SPECIFIED BY THE ENGINEER.

DESIGNED	BBLP	CHECKED	AF	DRAWN	RMC	APPROVED	GPR	DATE	JULY 2012	SHEET	1 OF 1	REVISION
Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY				Highways Standard Detail Drop crossing construction				SCALE @ A3 NTS		DRAWING NUMBER SD/1/1111		
<p>Balfour Beatty Living Places Working in partnership City Depot & Recycling Park First Avenue, Millbrook SOUTHAMPTON SO16 6LJ Tel: +44 (0)2380 798000 Fax: +44 (0)2380 798022 Web: www.bbivingplaces.com Design Group</p>												
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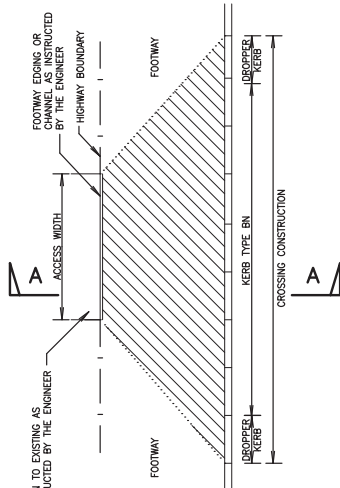
P:\BBLP Standard Details updated May 2012\Highways\VC1-1121.dwg 03/08/2012 07:46:52

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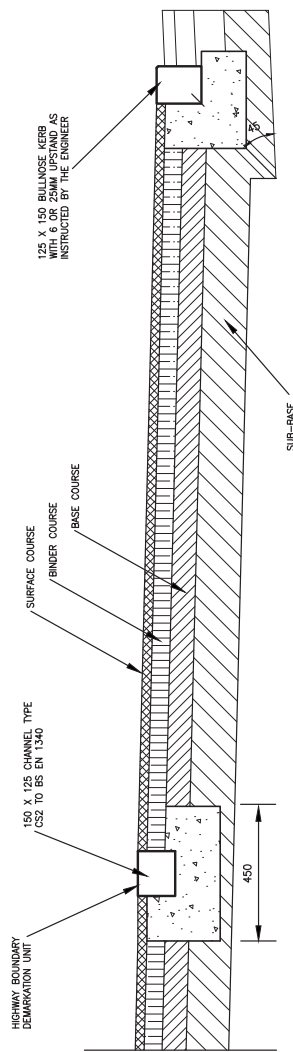
- ALL DIMENSION ARE IN MILLIMETRES.
- THIS DRAWING TO BE READ IN CONJUNCTION WITH SD/1/1001, SD/1/1051 & SD/1/1101.
- BITUMINOUS CONSTRUCTION MATERIALS AND THICKNESSES AS TABLE 1.
- SUB-BASE MATERIAL AND THICKNESS AS TABLE 1.

TABLE 1:

CONSTRUCTION TYPE	VEHICULAR CROSSING THICKNESS (mm)	SPECIFICATION	NOTES
TYPE 1	20	SURFACE COURSE AC6 DENSE SURFACING TO BS EN 13108-1, 100/150 PEN (160/220 MAY BE USED IN WINTER IF HAND LAYING)	FOR RESIDENTIAL USE
	45	BINDER COURSE AC 20 DENSE BN 100/150 (160/220 BINDER MAY BE USED IN WINTER WHEN HAND LAYING)	
	150	SUBBASE TYPE 1 UNBOUND MIXTURES TO CLAUSE 803, OR CLAUSE 306 OR COLD RECYCLED BITUMINOUS BOUND MATERIAL (COARSE GRADE)	
TYPE 2	40	SURFACE COURSE HRA 55/10F SURF 100/150 (160/220 IF HAND LAID)	FOR INDUSTRIAL USE
	60	BINDER COURSE AC20 DENSE BN 100/150 (160/220 BINDER MAY BE USED IN WINTER WHEN LAYING)	
	100	BASE AC32 BN 100/150 (160/220 BINDER MAY BE USED IN WINTER WHEN HAND LAYING)	
	200	SUBBASE TYPE 1 UNBOUND MIXTURES TO CLAUSE 803 OR TYPE 3 (OPEN GRADED UNBOUND MIXTURE TO CLAUSE 805), COLD RECYCLED BITUMINOUS BOUND MATERIAL (COARSE GRADE) MIX STIFFNESS 2400 MPA -2900MPA	COLD RECYCLED MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH QAT1509001:2008 AND HIGHWAY SECTOR SCHEME 14.



VEHICLE CROSSING TYPE 2
(HGV AND INDUSTRIAL ESTATE USE)



VEHICLE CROSSING CONSTRUCTION SECTION A-A

Southampton City Council
Civic Centre
SOUTHAMPTON SO9 4LY

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Design Group

DESIGNED: BBLP
CHECKED: AF
DRAWN: RMC
APPROVED: GPR

DATE: July 2012
SCALE: A3
SHEET: 1 of 1
NTS

DRAWING TITLE: Highways Standard Detail
Vehicle crossing construction
Type 1 and 2

DRAWING NUMBER: SD/1/1121

DO NOT SCALE FROM THIS DRAWING

REV	DATE	DRWN	CHKD	APPD	AMENDMENT

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NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES.
- MATERIALS AND LAYER THICKNESSES WILL BE AS SPECIFIED BY THE ENGINEER.
- BITUMEN EMULSION TACK COAT K1-40 TO BS 434 PART 1 TO BE SPRAYED OR PAINTED AT A RATE OF 0.5L PER SQ. M IN ACCORDANCE WITH CLAUSE 920.
- CUT BACK SHALL BE 150 UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER.
- TYPICAL FOOTWAY CONSTRUCTION ACCORDANCE WITH TYPE 1 FLEXIBLE CONSTRUCTION AS SHOWN ON DRAWING SD/1/1101

DESIGNED: BBLP
CHECKED: AF
DRAWN: RMC
APPROVED: GPR
DATE: July 2012
SCALE: A3
SHEET: 1 of 1
REVISION:

SEQUENCE OF OPERATIONS

FULL DEPTH REPAIR

- SAW CUT EDGE OF AREA OF CARRIAGEWAY TO BE EXCAVATED TO THE FULL DEPTH OF THE SURFACE COURSE LAYER (MIN. 20 DEPTH)
- EXCAVATE FOOTWAY IN STAGES CORRESPONDING TO EXISTING LAYERS. THE ENGINEER WILL INSPECT EACH LAYER BEFORE INSTRUCTING REMOVAL OF SUBSEQUENT LAYERS.
- THE ENGINEER WILL INSPECT THE FORMATION AND INSTRUCT FURTHER EXCAVATION AND REINSTATEMENT OF SOFT AREAS WHERE NECESSARY. FORMATION SHALL BE COMPLETED TO CLAUSE 616.
- PLACE AND COMPACT SUB-BASE MATERIAL.
- LAY BINDER COURSE AND SURFACE COURSE.

PATCH DETAIL

SEQUENCE OF OPERATIONS

- SAW CUT EDGE OF AREA OF CARRIAGEWAY TO BE EXCAVATED TO THE FULL DEPTH OF THE SURFACE COURSE LAYER (MIN. 25 DEPTH)
- THE ENGINEER SHALL INSPECT AND INSTRUCT FURTHER EXCAVATION WHERE NECESSARY.
- BASE OF AREA TO BE PATCHED SHALL RECEIVE ONE APPLICATION OF TACK COAT. (RATE OF SPREAD AS NOTE 3)
- LAY BINDER COURSE AND SURFACE COURSE.
- PATCH SHALL BE LAID TO SUIT EXISTING LEVELS AND FOOTWAY CROSSFALL.

Diagram 1: Full Depth Repair. Shows a cross-section of a road surface with layers: Surface Course, Binder Course, and Sub-Base. A vertical line indicates the 'AREA OF REPAIR'. A 'TACK COAT' is applied to the top surface. A 'FORMATION LEVEL' is indicated at the bottom. A note points to the vertical face: 'VERTICAL FACE SHALL BE PAINTED WITH HOT BITUMEN OR COLD APPLIED BITUMEN COMPOUND TO CLAUSE 901.22 (iii)'. Another note points to the top surface: 'SEE NOTE 4'.

Diagram 2: Patch Detail. Shows a cross-section of a road surface with layers: Surface Course and Binder Course. A 'TACK COAT' is applied to the top surface. A note points to the top surface: 'SEE NOTE 4'.

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REV	DATE	DRWN	CHKD	APPD	AMENDMENT

Highways Standard Detail
Bituminous Footway
patch repairs

DRAWING TITLE: Highways Standard Detail Bituminous Footway patch repairs

DRAWING NUMBER: SD/1/1131

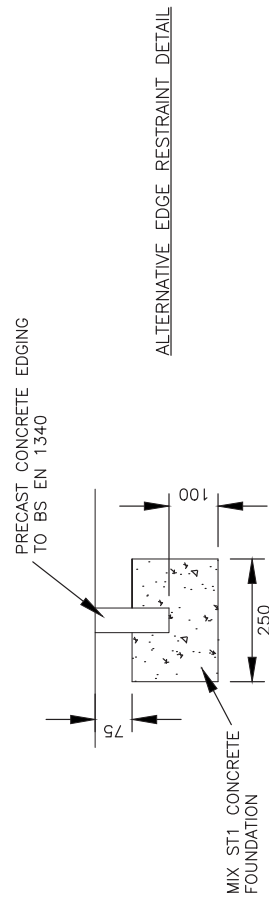
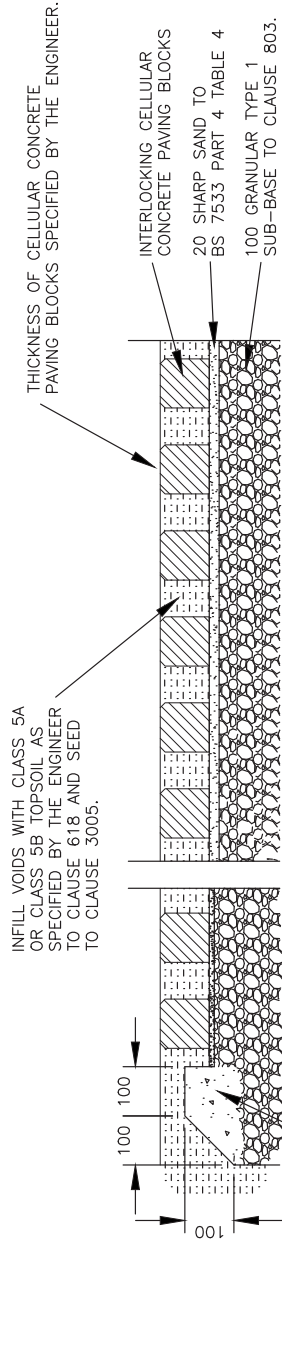
DO NOT SCALE FROM THIS DRAWING

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Pr:BLP Standard Details updated May 2012\highways\DC-1114.dwg 03/08/2012 08:21:04

- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. DIMENSIONS MAY VARY FROM THOSE SHOWN DEPENDANT UPON PRODUCT SPECIFIED AND INSTRUCTED FOR INSTALLATION BY THE ENGINEER.
 3. UNITS TO BE SET TO EXISTING CROSSELL AND PROFILE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER.
 4. EDGE RESTRAINT TO BE INSTALLED ON BLOCKS SUBJECT TO REGULAR VEHICULAR TRAFFIC, TYPE AS INSTRUCTED BY THE ENGINEER.



DESIGNED	BBLP	AF	CHECKED	RVC	GPR	DATE	JULY 2012	SHEET	1 of 1	REVISION
APPROVED						SCALE	A3			
DRAWING NUMBER										
SD/1/1141										
DRAWING TITLE										
Highways Standard Detail Concrete block reinforced grass										
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NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. DIMENSIONS MAY VARY FROM THOSE SHOWN DEPENDANT UPON PRODUCT SPECIFIED AND INSTRUCTED FOR INSTALLATION BY THE ENGINEER.
3. UNITS TO BE SET TO EXISTING CROSSFALL AND PROFILE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER.
4. TYPICAL DRAINAGE DETAILS SHOWN UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER.

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CHECKED	AF	APPROVED	GPR	SCALE	A3	NTS		
DRAWING NUMBER								SD/1/151
DRAWING TITLE								Highways Standard Detail Plastic block reinforced grass

PLASTIC CELLULAR BLOCK FOR GRAVEL SURFACES

INTERLOCKING PAVING BLOCKS
25MM THICK BEDDING LAYER OF 5-14MM AGGREGATE TO BS EN 12690
TYPE 1 SUB-BASE TO CLAUSE 803.
SUBGRADE SOIL

PAVER FILLED WITH 5-14MM AGGREGATE TO BS882 TO TOP OF PAVER CELLS.
100MM DIA PERFORATED PIPE LAID AT 1:100 GRADIENT, BED AND SURROUND IN TYPE A FILTER MATERIAL TO CLAUSE 505.

VERTICAL EDGING AS SPECIFIED BY THE ENGINEER.
TENSAR BIAXIAL GEOGRID OR SIMILAR APPROVED

PLASTIC CELLULAR BLOCK FOR GRASSED SURFACES

50MM THICK COMPACTED 60% SAND:40% TOP SOIL ROOTZONE LAYER AS SPECIFIED BY THE ENGINEER.
INTERLOCKING PAVING BLOCKS
TYPE 1 SUB-BASE TO CLAUSE 803.
SUBGRADE SOIL

PAVER FILLED WITHIN 7-10MM OF THE SURFACE WITH 60% SAND:40% TOPSOIL ROOTZONE AND SEED OR TURF TO CLAUSE 3005 AS SPECIFIED BY THE ENGINEER.
GEOTEXTILE FILTER FABRIC
100MM DIA PERFORATED PIPE LAID AT 1:100 GRADIENT, BED AND SURROUND IN TYPE A FILTER MATERIAL TO CLAUSE 505.

VERTICAL EDGING AS SPECIFIED BY THE ENGINEER.
TENSAR BIAXIAL GEOGRID OR SIMILAR APPROVED

TABLE 1

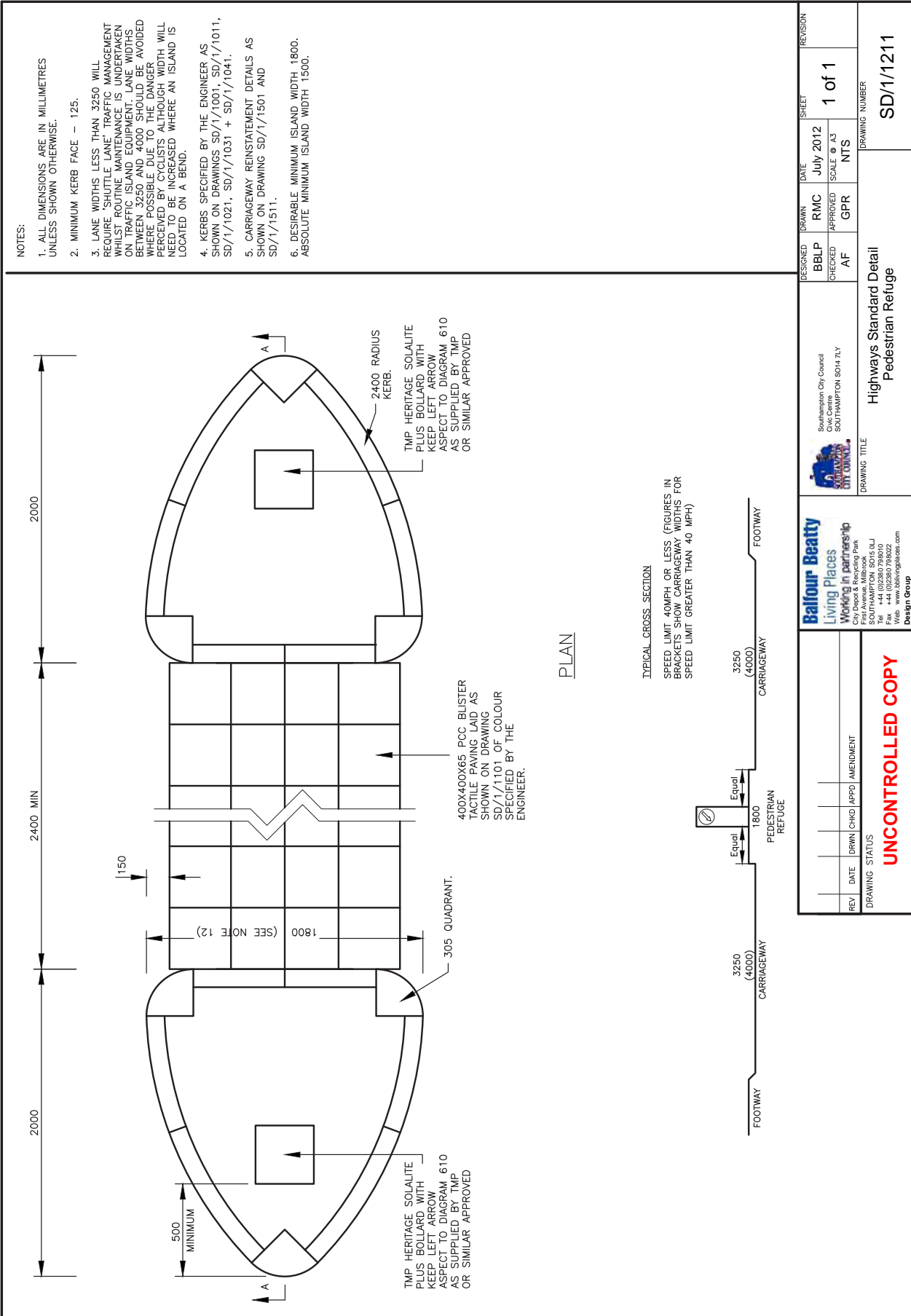
APPLICATION	CBR (%) STRENGTH OF SUBGRADE	DIMENSION 'D' - THICKNESS & WIDTH OF TYPE 1 SUB-BASE
FIRE TRUCK & OCCASIONAL HG V ACCESS	> 6	125
	4 - 6	175
	2 - 4	275
LIGHT VEHICLE ACCESS & OVERSPILL CAR PARKING	1 - 2	475
	> 6	100
	4 - 6	150
	2 - 4	225
	1 - 2	350

NOTE:
IF TENSAR BIAXIAL GEOGRID OR SIMILAR APPROVED IS OMITTED, THEN THE TOTAL SUB-BASE THICKNESS MUST BE INCREASED BY 50% OR AS INSTRUCTED BY THE ENGINEER.

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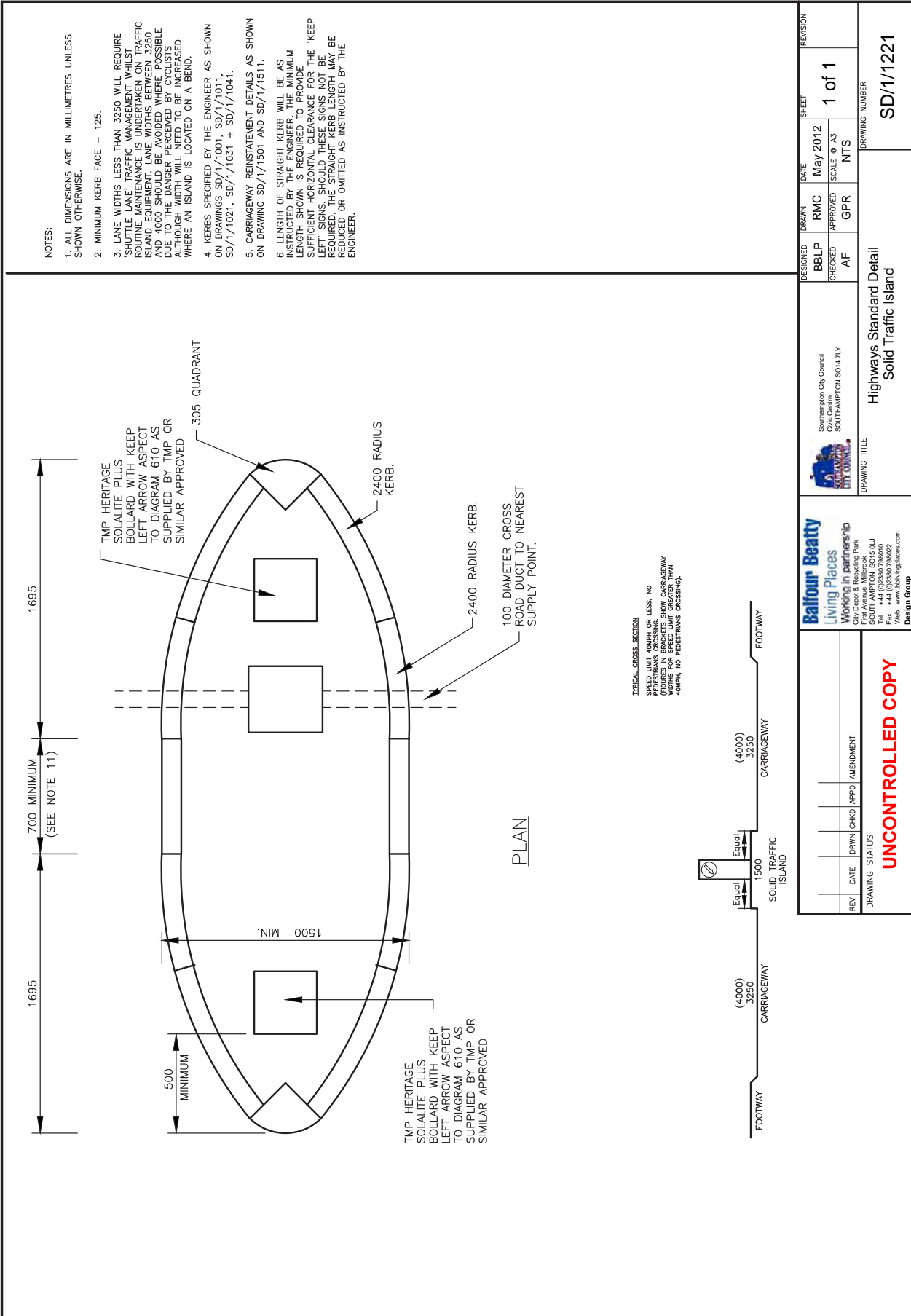
- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
 2. MINIMUM KERB FACE - 125.
 3. LANE WIDTHS LESS THAN 3250 WILL REQUIRE 'SHUTTLE LANE' TRAFFIC MANAGEMENT WHILST ROUTE MAINTENANCE IS UNDERWAY ON TRAFFIC ISLAND EQUIPMENT. LANE WIDTHS BETWEEN 3250 AND 4000 SHOULD BE AVOIDED WHERE POSSIBLE DUE TO THE DANGER PERCEIVED BY CYCLISTS ALTHOUGH WIDTH WILL NEED TO BE INCREASED WHERE AN ISLAND IS LOCATED ON A BEND.
 4. KERBS SPECIFIED BY THE ENGINEER AS SHOWN ON DRAWINGS SD/1/1001, SD/1/1011, SD/1/1021, SD/1/1031 + SD/1/1041.
 5. CARRIAGEWAY REINSTATEMENT DETAILS AS SHOWN ON DRAWING SD/1/1501 AND SD/1/1511.
 6. DESIRABLE MINIMUM ISLAND WIDTH 1800. ABSOLUTE MINIMUM ISLAND WIDTH 1500.

PLAN

TYPICAL CROSS SECTION
SPEED LIMIT 40MPH OR LESS (FIGURES IN BRACKETS SHOW CARRIAGEWAY WIDTHS FOR SPEED LIMIT GREATER THAN 40 MPH)

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<p>Southampton City Council Civic Centre SOUTHAMPTON SO4 7LY</p>		DESIGNED BBLP	DRAWN RMC	DATE July 2012	SHEET 1 of 1	REVISION
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DRAWING TITLE Highways Standard Detail Pedestrian Refuge						DRAWING NUMBER SD/1/1211
<p>UNCONTROLLED COPY</p>		<p>REV / DATE / DRWN / CHKD / APPD / AMENDMENT</p>				



- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
 2. MINIMUM KERB FACE - 125.
 3. LANE WIDTHS LESS THAN 3250 WILL REQUIRE 'SHUTTLE LANE' TRAFFIC MANAGEMENT WHILST ROUTINE MAINTENANCE IS UNDERTAKEN ON TRAFFIC ISLAND EQUIPMENT. LANE WIDTHS BETWEEN 3250 AND 4000 SHOULD BE AVOIDED WHERE POSSIBLE DUE TO THE DANGER PERCEIVED BY CYCLISTS ALTHOUGH WIDTH WILL NEED TO BE INCREASED WHERE AN ISLAND IS LOCATED ON A BEND.
 4. KERBS SPECIFIED BY THE ENGINEER AS SHOWN ON DRAWINGS SD/1/1001, SD/1/1011, SD/1/1021, SD/1/1031 + SD/1/1041.
 5. CARRIAGEWAY REINSTATEMENT DETAILS AS SHOWN ON DRAWING SD/1/1501 AND SD/1/1511.
 6. LENGTH OF STRAIGHT KERB WILL BE AS INSTRUCTED BY THE ENGINEER. THE MINIMUM LENGTH SHOWN IS REQUIRED TO PROVIDE SUFFICIENT HORIZONTAL CLEARANCE FOR THE 'KEEP LEFT' SIGNS. SHOULD THESE SIGNS NOT BE REQUIRED, THE STRAIGHT KERB LENGTH MAY BE REDUCED OR OMITTED AS INSTRUCTED BY THE ENGINEER.

DESIGNED	BBLP	DATE	May 2012	SHEET	1 of 1	REVISION	
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DRAWING NUMBER				SD/1/1221			

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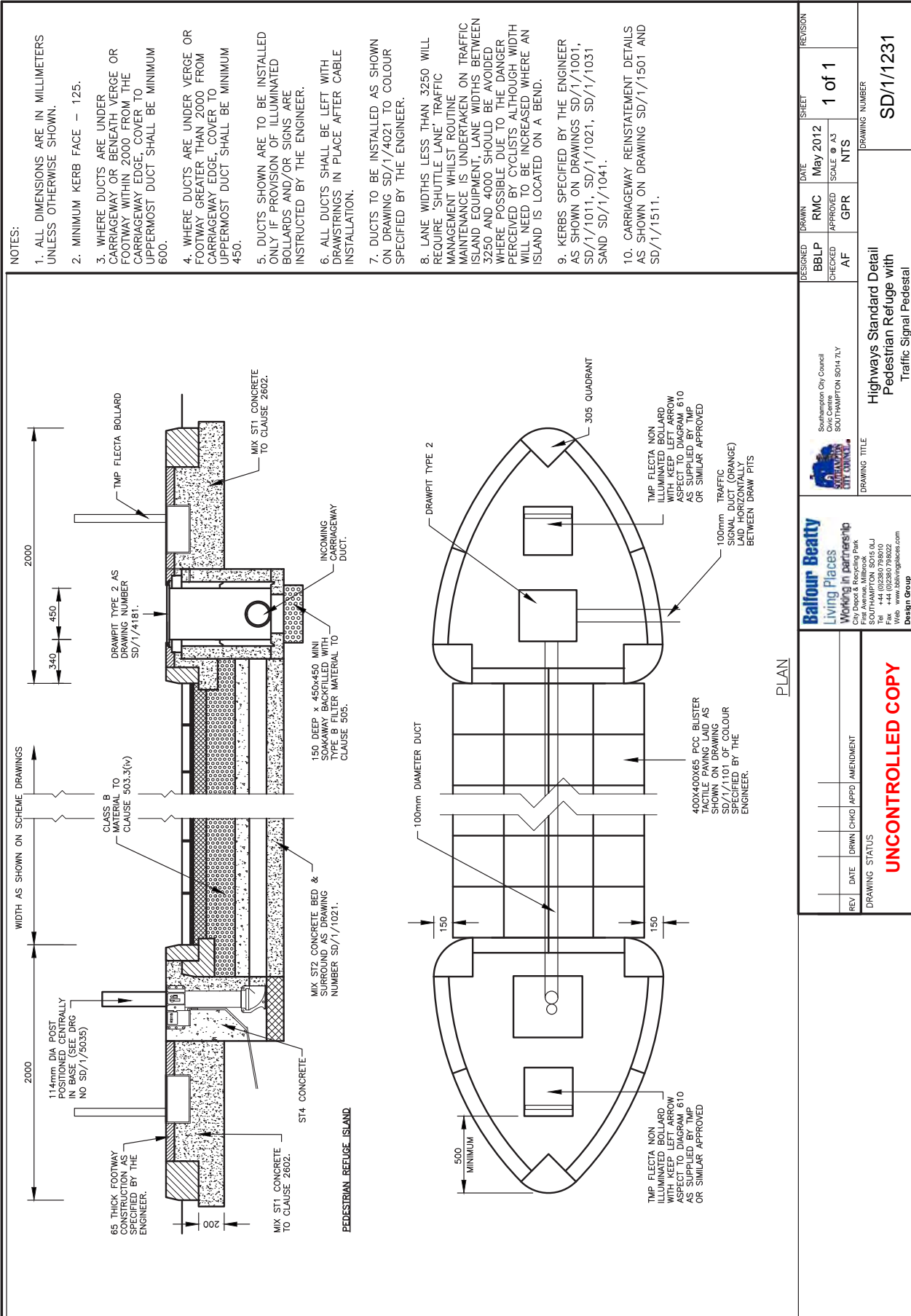
Highways Standard Detail
Solid Traffic Island

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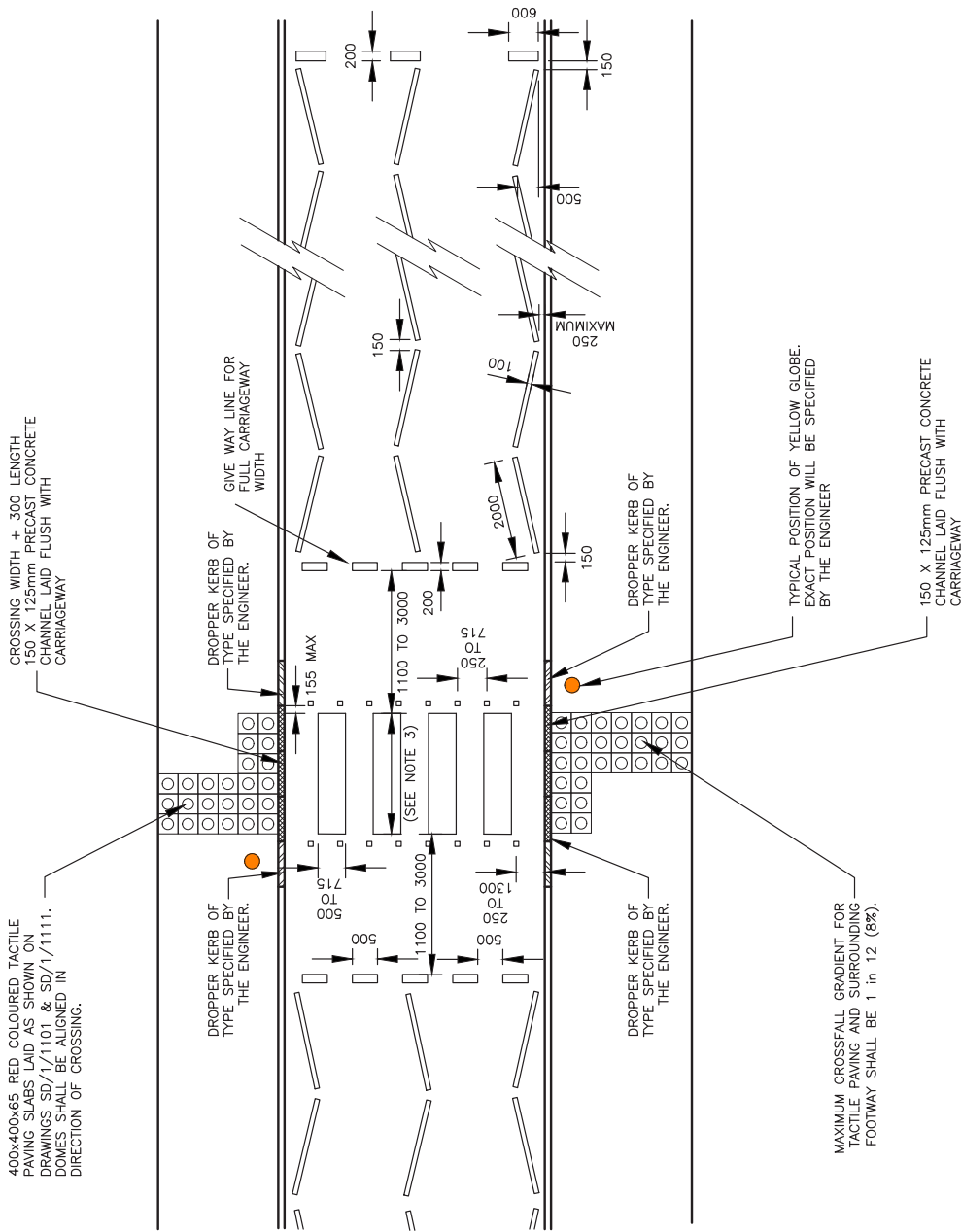
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.
2. MINIMUM KERB FACE - 125.
3. WHERE DUCTS ARE UNDER CARRIAGEWAY OR BENEATH VERGE OR FOOTWAY WITHIN 2000 FROM THE CARRIAGEWAY EDGE, COVER TO UPPERMOST DUCT SHALL BE MINIMUM 600.
4. WHERE DUCTS ARE UNDER VERGE OR FOOTWAY GREATER THAN 2000 FROM CARRIAGEWAY EDGE, COVER TO UPPERMOST DUCT SHALL BE MINIMUM 450.
5. DUCTS SHOWN ARE TO BE INSTALLED ONLY IF PROVISION OF ILLUMINATED BOLLARDS AND/OR SIGNS ARE INSTRUCTED BY THE ENGINEER.
6. ALL DUCTS SHALL BE LEFT WITH DRAWSTRINGS IN PLACE AFTER CABLE INSTALLATION.
7. DUCTS TO BE INSTALLED AS SHOWN ON DRAWING SD/1/4021 TO COLOUR SPECIFIED BY THE ENGINEER.
8. LANE WIDTHS LESS THAN 3250 WILL REQUIRE 'SHUTTLE LANE' TRAFFIC MANAGEMENT WHILST ROUTINE MAINTENANCE IS UNDERTAKEN ON TRAFFIC ISLAND. EQUIPMENT LANE WIDTHS BETWEEN 3250 AND 4000 SHOULD BE AVOIDED WHERE POSSIBLE DUE TO THE DANGER PERCEIVED BY CYCLISTS ALTHOUGH WIDTH WILL NEED TO BE INCREASED WHERE AN ISLAND IS LOCATED ON A BEND.
9. KERBS SPECIFIED BY THE ENGINEER AS SHOWN ON DRAWINGS SD/1/1001, SD/1/1011, SD/1/1021, SD/1/1031 SAND SD/1/1041.
10. CARRIAGEWAY REINSTATEMENT DETAILS AS SHOWN ON DRAWING SD/1/1501 AND SD/1/1511.

PLAN

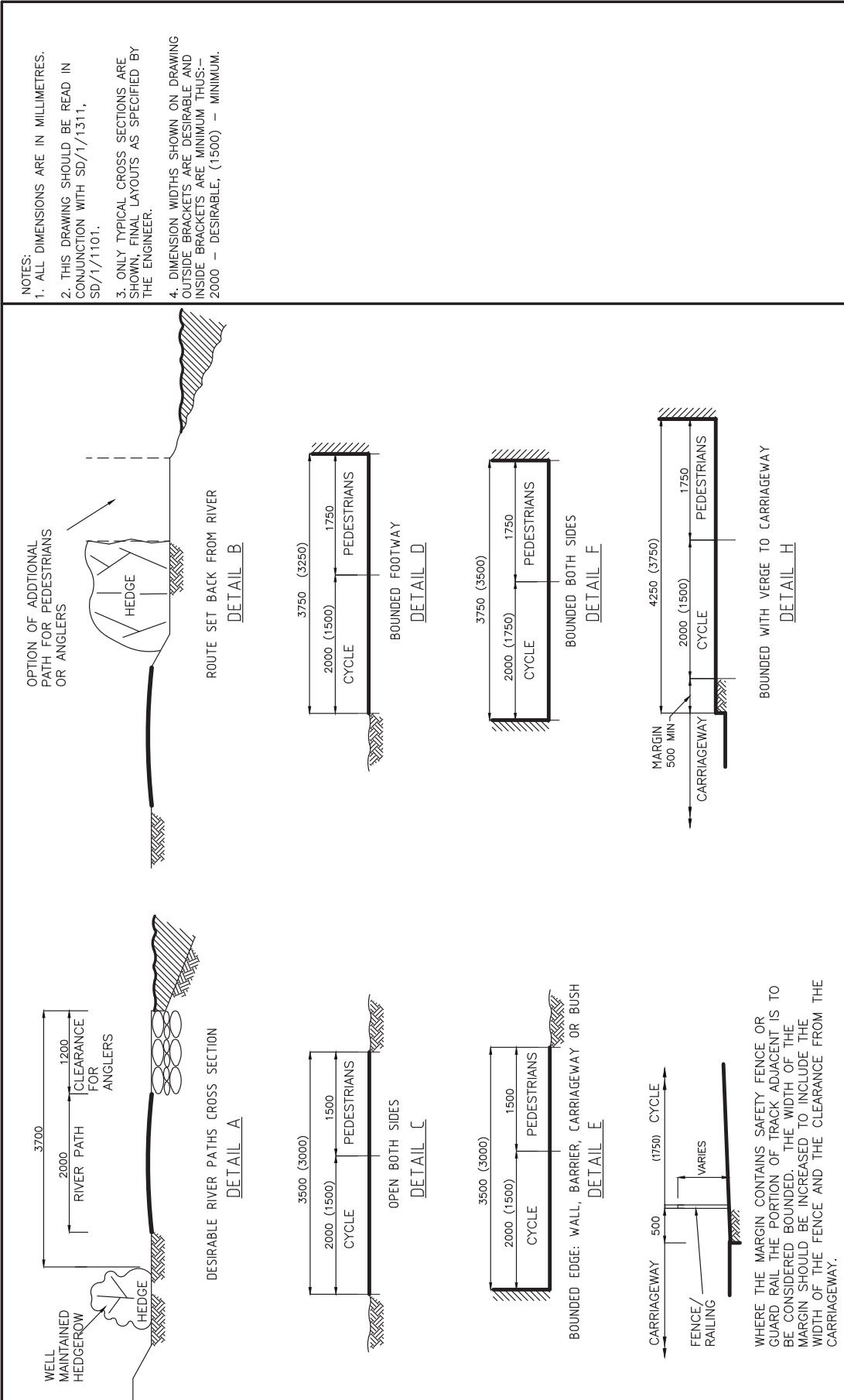
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CHECKED	AF	APPROVED	GPR	SCALE	A3	NTS
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DRAWING NUMBER			SD/1/1231			
DRAWING STATUS			UNCONTROLLED COPY			
DRAWING GROUP			Design Group			
DRAWING TITLE			Highways Standard Detail Pedestrian Refuge with Traffic Signal Pedestal			
DRAWING NUMBER			SD/1/1231			
DRAWING STATUS			UNCONTROLLED COPY			
DRAWING GROUP			Design Group			

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. THE LENGTHS OF ZIG-ZAG ROADMARKINGS SHALL BE AS SPECIFIED BY THE ENGINEER.
 3. CROSSING WIDTH AS SPECIFIED BY THE ENGINEER. (2400 MINIMUM TO 10000 MAXIMUM)
 4. STUDS TO BE 100MM SQUARE SERRATED SURFACE SPIGOTED ALUMINIUM.



DESIGNED BBLP	DRAWN RMC	DATE July 2012	SHEET 1 of 1	REVISION
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Southampton City Council Civic Centre SOUTHAMPTON SO9 4LY		Highways Standard Detail Zebra crossing layout		
Balfour Beatty Living Places Working in partnership City Depot & Recycling Park Fire Avenue, Millbrook SOUTHAMPTON SO9 4LJ Tel: +44 (0)2380 798000 Fax: +44 (0)2380 798022 Web: www.bbhighways.com Design Group		DO NOT SCALE FROM THIS DRAWING		
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			GPR	NTS		
DRAWING TITLE			DRAWING NUMBER			
Highways Standard Detail			SD/1/1301			
Cycleways typical cross sections						
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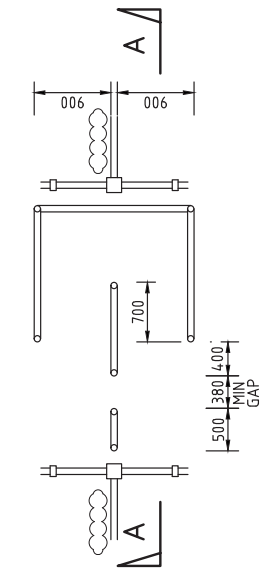
City Depot & Recycling Park
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Tel: +44 (0)2380 788010
Fax: +44 (0)2380 788022
Web: www.bbbrlivingplaces.com

Design Group

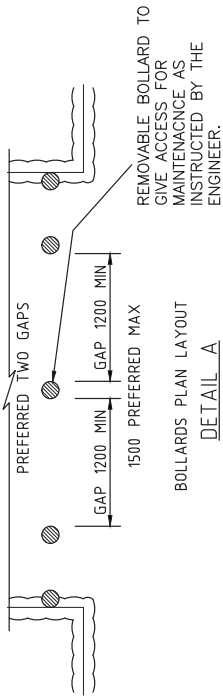
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SOUTHAMPTON SO14 7LY

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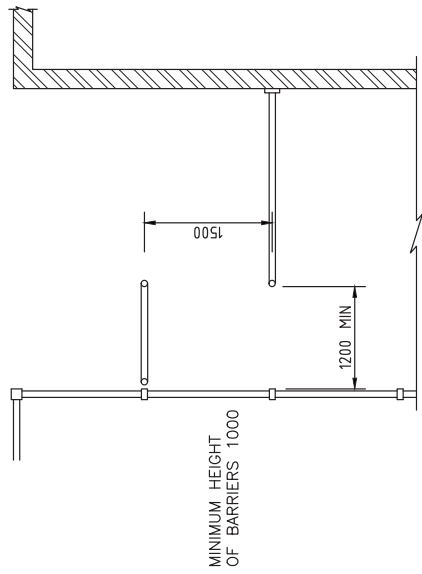
- NOTES:
1. ALL DIMENSION ARE IN MILLIMETRES.
 2. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH SD/1/1301, SD/1/3211.
 3. ONLY TYPICAL DETAILS ARE SHOWN. FINAL LAYOUT AS SPECIFIED BY THE ENGINEER.



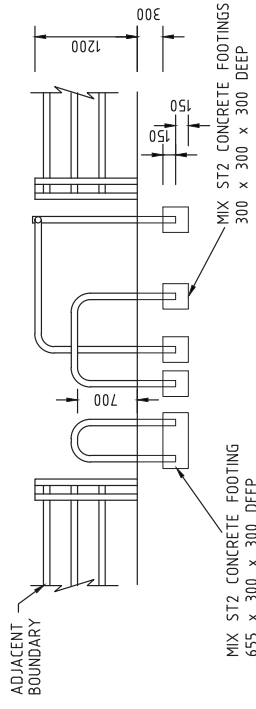
BARRIER (WITH WHEELCHAIR BYPASS) PLAN LAYOUT
DETAIL C



BOLLARDS PLAN LAYOUT
DETAIL A



CHICANE PLAN LAYOUT
DETAIL B



SECTION A-A

DESIGNED BBLP	DRAWN RMC	DATE July 2012	SHEET 1 of 1	REVISION	
CHECKED AF	APPROVED GPR	SCALE @ A3 NTS	DRAWING NUMBER SD/1/1311		
<p>SOUTHAMPTON CITY COUNCIL Civic Centre SOUTHAMPTON SO14 7LY</p>		<p>Highways Standard Detail Cycleways, bollards barriers and chicane details</p>			
<p>Balfour Beatty Living Places Working in partnership City Depot & Recycling Park Fire Avenue, Millbrook SOUTHAMPTON SO16 6LJ Tel: +44 (0)2380 798000 Fax: +44 (0)2380 798022 Web: www.bbivingplaces.com</p>		<p>DO NOT SCALE FROM THIS DRAWING</p>			
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PLAN

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES
2. TRENCH WIDTH TO SUIT COMBINATION OF PIPES. SEE DRAWINGS SD/1/4001 & 4021.
3. WHERE SURFACE OF SLAB IS RUNNING SURFACE, THE EXCAVATION SHALL BE DELINEATED BY PAVEMENT SAW. DEPTH OF CUT TO BE CONTROLLED TO ENSURE THAT REINFORCEMENT IS NOT DAMAGED—MINIMUM DEPTH 20.
4. REINFORCEMENT TO BE CUT AND REMOVED ACROSS PIPE TRENCH. CONCRETE SLAB TO BE EXPOSED TO EITHER SIDE OF TRENCH TO EXPOSE A MINIMUM LENGTH OF EXISTING REINFORCEMENT TO PROVIDE A LAP JOINT OF 400.
5. EDGES OF REINSTATEMENT TO BE CUT BACK TO FORM A NEAR VERTICAL EDGE FREE OF LOOSE MATERIAL AND CONTAMINANTS. ALL EDGES TO BE WETTED PRIOR TO PLACEMENT OF CONCRETE.
6. REPLACEMENT BARS TO BE MILD STEEL AND OF SPECIFIED DIAMETER AND WEIGHT. WESH TO BE REPLACED USING MILD STEEL BAR OF THE SAME DIAMETER.
7. ALL LONGITUDINAL AND TRANSVERSE BAY JOINTS EFFECTED BY THE WORKS TO BE RECONSTRUCTED. ALL DAMAGED SHEATHS/DOWEL BARS TO BE REPLACED AND REGREASED, COMPRESSIVE JOINT FILLER MATERIAL REPLACED AND JOINTS CAPPED WITH APPROVED SEALANT.
8. IF THE EXCAVATION ENDS WITHIN 600 OF THE BOND SLAB EDGE JOINT OR OTHER REINSTATEMENT THE RELEVANT AREA OF THE SLAB SHALL BE REMOVED AND INCLUDED WITHIN THE AREA OF REINSTATEMENT.
9. SUPPLY AND LAY 1500 GAUGE POLYTHENE WATERPROOF MEMBRANE OVER EXPOSED FORMATION.
10. SLAB TO BE RECONSTRUCTED IN C35 CONCRETE, VIBRATED, TAMPED AND FINISHED IN ACCORDANCE WITH CLAUSES 1025 AND 1026.
11. CURING IN ACCORDANCE WITH CLAUSE 1027.
12. FORM EDGE JOINT IN ACCORDANCE WITH CLAUSE 1016.

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SOUTHAMPTON SO14 7LY

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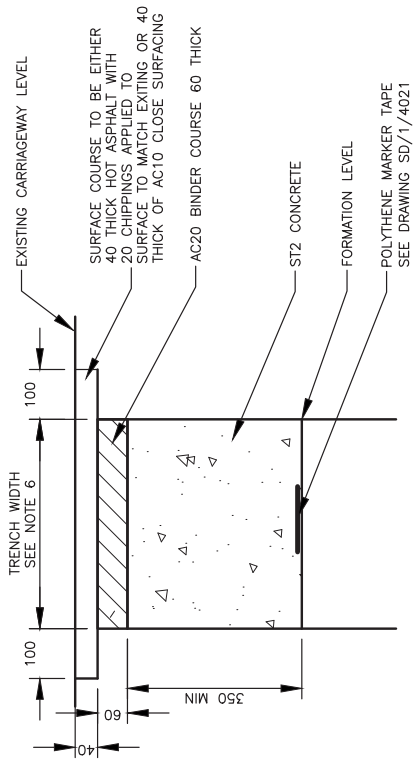
DRAWING STATUS: **UNCONTROLLED COPY**

Highways Standard Detail
Carriageway reinstatement - Rigid construction

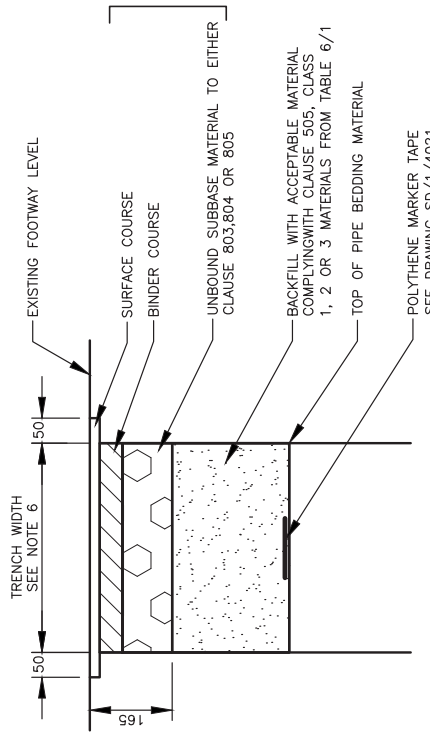
DRAWING NUMBER: **SD/1/1501**

NOTES:

1. ALL DIMENSIONS IN MILLIMETRES.
2. THE REPLACEMENT OF THE CARRIAGEWAY OR FOOTWAY STRUCTURE SHALL BE CARRIED OUT AS SOON AS PRACTICABLE AFTER BACKFILLING HAS BEEN COMPLETED.
3. WHERE A TEMPORARY CARRIAGEWAY REINSTATEMENT IS PROPOSED THE DEPTH OF THE REINSTATEMENT SHALL BE INCREASED BY 10 TO ALLOW FOR THE SAND DE-BONDING LAYER.
4. THE EDGE OF THE TRENCH SHALL BE CUT TO A UNIFORM LINE CONSISTANT WITH THE WIDTH REQUIRED FOR THE DUCTS TO BE LAID. ANY PART OF THE STRUCTURE OF THE CARRIAGEWAY OR FOOTWAY BEYOND THE WIDTH OF THE TRENCH WHICH HAS BEEN DAMAGED BY THE CONTRACTOR SHALL BE CUT OUT AND MADE GOOD.
5. VERTICAL JOINTS THROUGH THE SURFACING LAYERS SHALL BE COATED WITH HOT BITUMEN 200 PEN OR COLD APPLIED BITUMEN COMPOUND TO CLAUSE 901.22 (iii) PRIOR TO REINSTATEMENT.
6. FOR TRENCH WIDTHS, MATERIALS AND DUCT LAYOUTS REFER TO DRAWING SD/1/4021.





REINSTATEMENT IN CARRIAGEWAY



REINSTATEMENT IN FOOTWAY

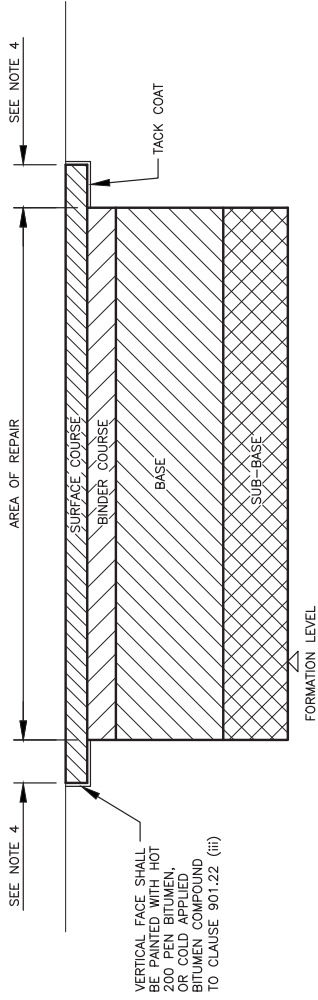
FOOTWAY CONSTRUCTION
SEE DRAWING
SD/1/1101

 <p>Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY</p>		<p>DESIGNED: BBLP CHECKED: AF</p>	<p>DRAWN: RMC APPROVED: GPR</p>	<p>DATE: July 2012 SCALE: A3 NTS</p>	<p>SHEET 1 of 1</p>	<p>REVISION</p>								
 <p>Balfour Beatty Living Places Working in partnership City Depot & Recycling Park Fire Avenue, Millbrook SOUTHAMPTON SO16 1JJ Tel: +44 (0)2380 796000 Fax: +44 (0)2380 796022 Web: www.bbivingplaces.com</p>		<p>Highways Standard Detail Carriageway and Footway Reinstatement - Flexible Construction</p>		<p>DRAWING NUMBER SD/1/1511</p>										
<p>DO NOT SCALE FROM THIS DRAWING</p>														
<p>REVISION</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>REV</th> <th>DATE</th> <th>DRWN</th> <th>CHKD</th> <th>APPD</th> <th>AMENDMENT</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>		REV	DATE	DRWN	CHKD	APPD	AMENDMENT							<p>UNCONTROLLED COPY</p>
REV	DATE	DRWN	CHKD	APPD	AMENDMENT									

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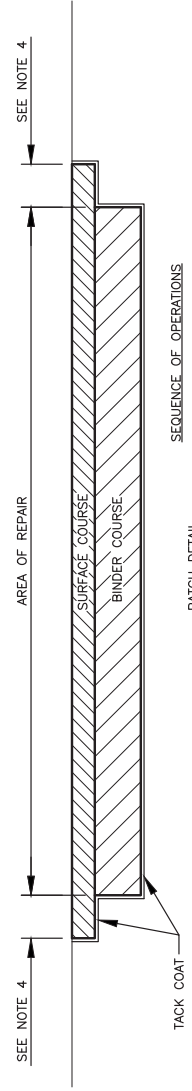
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. MATERIALS AND LAYER THICKNESSES WILL BE AS SPECIFIED BY THE ENGINEER.
3. BITUMEN EMULSION TACK COAT K1-40 TO BS 434 PART 1 TO BE SPRAYED OR PAINTED AT A RATE OF 0.5L PER SQ. M IN ACCORDANCE WITH CLAUSE 920.
4. CUT BACK SHALL BE 150 EXCEPT A ROADS AND PRINCIPAL ROADS WHERE 300 WIDTH SHALL BE SPECIFIED.
5. WHERE EXISTING CARRIAGEWAY IS REINFORCED BY A GEOGRID A PVC COATED GLASS FIBRE GRID REINFORCEMENT SHALL BE INSTALLED BENEATH THE FINAL SURFACE COURSE, SPANNING THE EDGE OF THE REPAIR BY 300MM EITHER SIDE. THE GRID SHALL HAVE A MINIMUM TENSILE STRENGTH IN BOTH DIRECTIONS OF 100KN PER SQ. M. INSTALLATION IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.



SEQUENCE OF OPERATIONS

- FULL DEPTH REPAIR**
- A. SAW CUT EDGE OF AREA OF CARRIAGEWAY TO BE EXCAVATED TO THE FULL DEPTH OF THE SURFACE COURSE LAYER (MIN. 25 DEPTH)
 - B. EXCAVATE CARRIAGEWAY IN STAGES CORRESPONDING TO EXISTING LAYERS. THE ENGINEER WILL INSPECT EACH LAYER BEFORE INSTRUCTING REMOVAL OF SUBSEQUENT LAYERS.
 - C. THE ENGINEER WILL INSPECT THE FORMATION AND INSTRUCT FURTHER EXCAVATION AND REINSTATEMENT OF SOFT AREAS WHERE NECESSARY. FORMATION SHALL BE COMPLETED TO CLAUSE 616.
 - D. PLACE AND COMPACT SUB-BASE MATERIAL.
 - E. REINSTATE BASE MATERIALS
 - F. LAY BINDER COURSE AND SURFACE COURSE.



SEQUENCE OF OPERATIONS

- PATCH DETAIL**
- A. SAW CUT EDGE OF AREA OF CARRIAGEWAY TO BE EXCAVATED TO THE FULL DEPTH OF THE SURFACE COURSE LAYER (MIN. 25 DEPTH)
 - B. THE ENGINEER WILL INSPECT AND INSTRUCT FURTHER EXCAVATION WHERE NECESSARY.
 - C. BASE OF AREA TO BE PATCHED SHALL RECEIVE ONE APPLICATION OF TACK COAT. (RATE OF SPREAD AS NOTE 3)
 - D. LAY BINDER COURSE AND SURFACE COURSE.
 - E. PATCH SHALL BE LAID TO SUIT EXISTING LEVELS AND ROAD CAMBERS.

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Southampton City Council Civic Centre SOUTHAMPTON SO4 7LY City Depot & Recycling Park Fire Avenue, Millbrook SOUTHAMPTON SO9 4LJ Tel: +44 (0)2380 798010 Fax: +44 (0)2380 798022 Web: www.bbbivingplaces.com												Drawing Number SD/1/1521	
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TYPICAL SECTION THROUGH ROAD

NOTES:

- ALL DIMENSIONS IN MILLIMETRES
- WHERE SPECIFIED BY THE ENGINEER, GEOTEXTILE TO CLAUSE 609 SHALL BE LAID IN ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS.
- SUB-BASE & CAPPING MATERIAL TO CLASS 1 OR 2. REFER TO HD25.
- IF THE 20 YEAR LIFE DESIGN TRAFFIC EXCEEDS 1.0MSA A SPECIAL DESIGN SHALL BE SUBMITTED FOR THE ENGINEER'S APPROVAL.
- THE COMBINED THICKNESS OF THE BOUND LAYERS AS SHOWN SHALL BE REGARDED AS THE MINIMUM OVERALL THICKNESS FOR THE BOUND MATERIAL.
- IN FROST SUSCEPTIBLE SUBGRADES A TOTAL CARRIAGEWAY THICKNESS OF AT LEAST 450mm MUST BE PROVIDED.

TABLE 1. PERMITTED MATERIALS – DESIGN LIFE 1MSA OR LESS

CONSTRUCTION LAYER	MATERIAL	THICKNESS	SPECIFIC REQUIREMENTS
SURFACE COURSE	AC10 CLOSE SURFACING	40	BS 13108-1 WITH 100/150 BINDER AGGREGATE TO BE CRUSHED ROCK EXCLUDING LIMESTONE, MIN PSV 55, MAX AAV 14
BINDER COURSE	AC20 DENSE BINDER	60	BS 13108-1 WITH 100/150 BINDER
BASE COURSE	AC32 DENSE BINDER	120	BS 13108-1 WITH 100/150 BINDER

TABLE 2. SUB BASE AND CAPPING LAYER THICKNESSES (FOUNDATION CLASS 1 AND 2 MATERIALS)

CBR	CAPPING LAYER	SUBBASE
15%–30%	—	150
5%–15%	—	225
2%–5%	350	150
LESS THAN 2%	600	150

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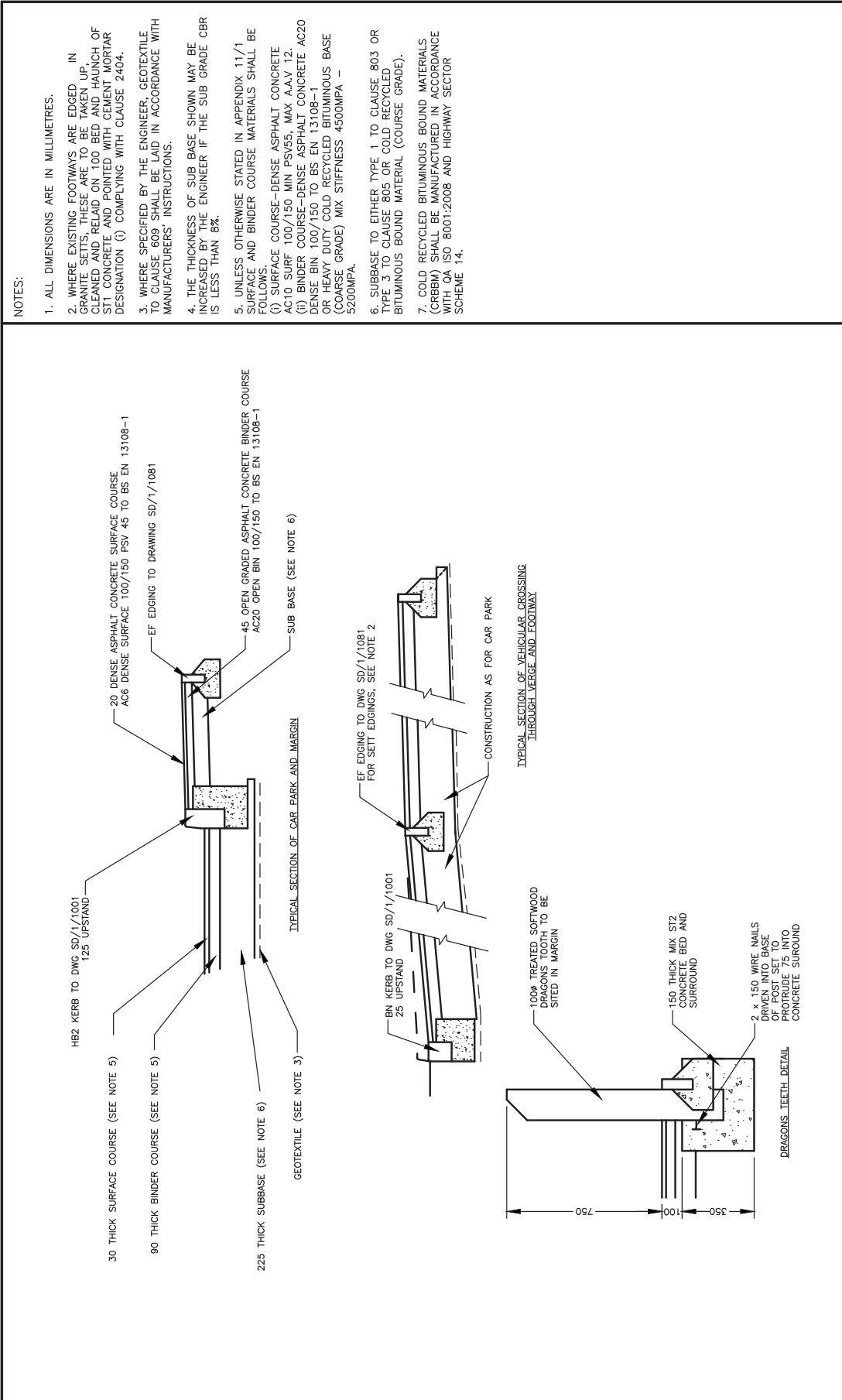
Highways Standard Detail
Carriageway Construction Details
Housing estate and distributor roads
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DRAWING NUMBER
SD/1/1531

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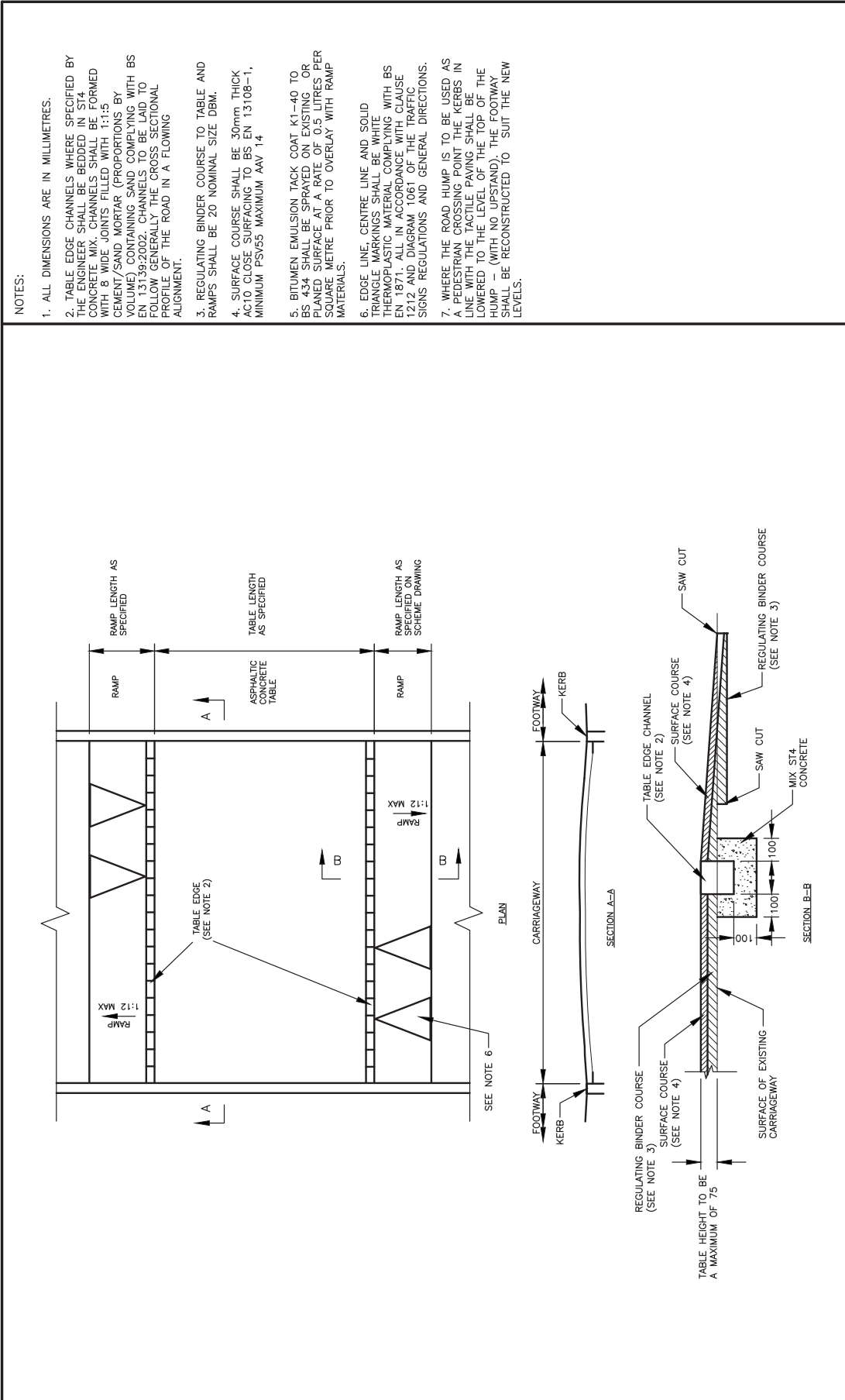
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DRAWN: RMC APPROVED: GPR
DATE: July 2012
SCALE: A3
SHEET: 1 of 1
REVISION:



DESIGNED BBLP	DRAWN RMC	DATE July 2012	SHEET 1 of 1	REVISION
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DRAWING NUMBER SD/1/1541				
DRAWING TITLE Highways Standard Detail Car Park Construction Details				
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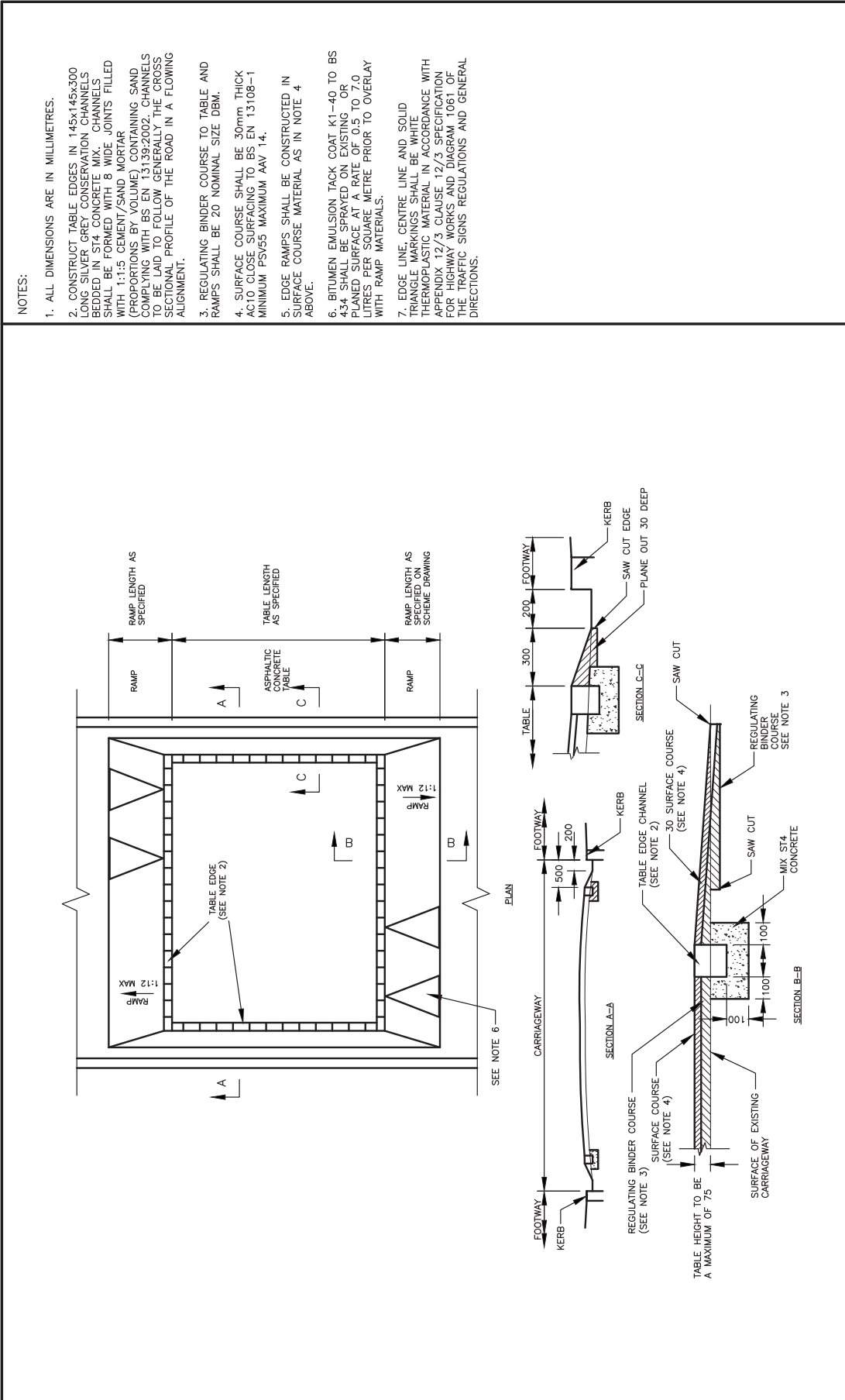


NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES.
- TABLE EDGE CHANNELS WHERE SPECIFIED BY THE ENGINEER SHALL BE BEDDED IN ST4 CONCRETE MIX. CHANNELS SHALL BE FORMED WITH 8 WIDE JOINTS FILLED WITH 1:1:5 CEMENT/SAND MORTAR (PROPORTIONS BY VOLUME) CONTAINING SAND COMPLYING WITH BS EN 13139:2002. CHANNELS TO BE LAID TO FOLLOW GENERALLY THE CROSS SECTIONAL PROFILE OF THE ROAD IN A FLOWING ALIGNMENT.
- REGULATING BINDER COURSE TO TABLE AND RAMPS SHALL BE 20 NOMINAL SIZE DBM.
- SURFACE COURSE SHALL BE 30mm THICK AC10 CLOSE SURFACING TO BS EN 13108-1, MINIMUM PS/55 MAXIMUM AAV 14
- BITUMEN EMULSION TACK COAT K1-40 TO BS 434 SHALL BE SPRAYED ON EXISTING OR PLANNED SURFACE AT A RATE OF 0.5 LITRES PER SQUARE METRE PRIOR TO OVERLAY WITH RAMP MATERIALS.
- EDGE LINE, CENTRE LINE AND SOLID TRIANGLE MARKINGS SHALL BE WHITE THERMOPLASTIC MATERIAL COMPLYING WITH BS EN 1871. ALL IN ACCORDANCE WITH CLAUSE 12.12 AND DIAGRAM 1061 OF THE TRAFFIC SIGNS REGULATIONS AND GENERAL DIRECTIONS.
- WHERE THE ROAD HUMPS IS TO BE USED AS A PEDESTRIAN CROSSING POINT THE KERBS IN LINE WITH THE TACTILE PAVING SHALL BE LOWERED TO THE LEVEL OF THE TOP OF THE HUMPS (WITH NO UPSTAND). THE FOOTWAY SHALL BE RECONSTRUCTED TO SUIT THE NEW LEVELS.

DESIGNED		BBLP	RVC	DATE	July 2012	SHEET	1 of 1	REVISION
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DRAWN		Highways Standard Detail Road Hump Type 1						
SOUTHAMPTON CITY COUNCIL		DRAWING NUMBER SD/1/1551						
Living Places		DO NOT SCALE FROM THIS DRAWING						
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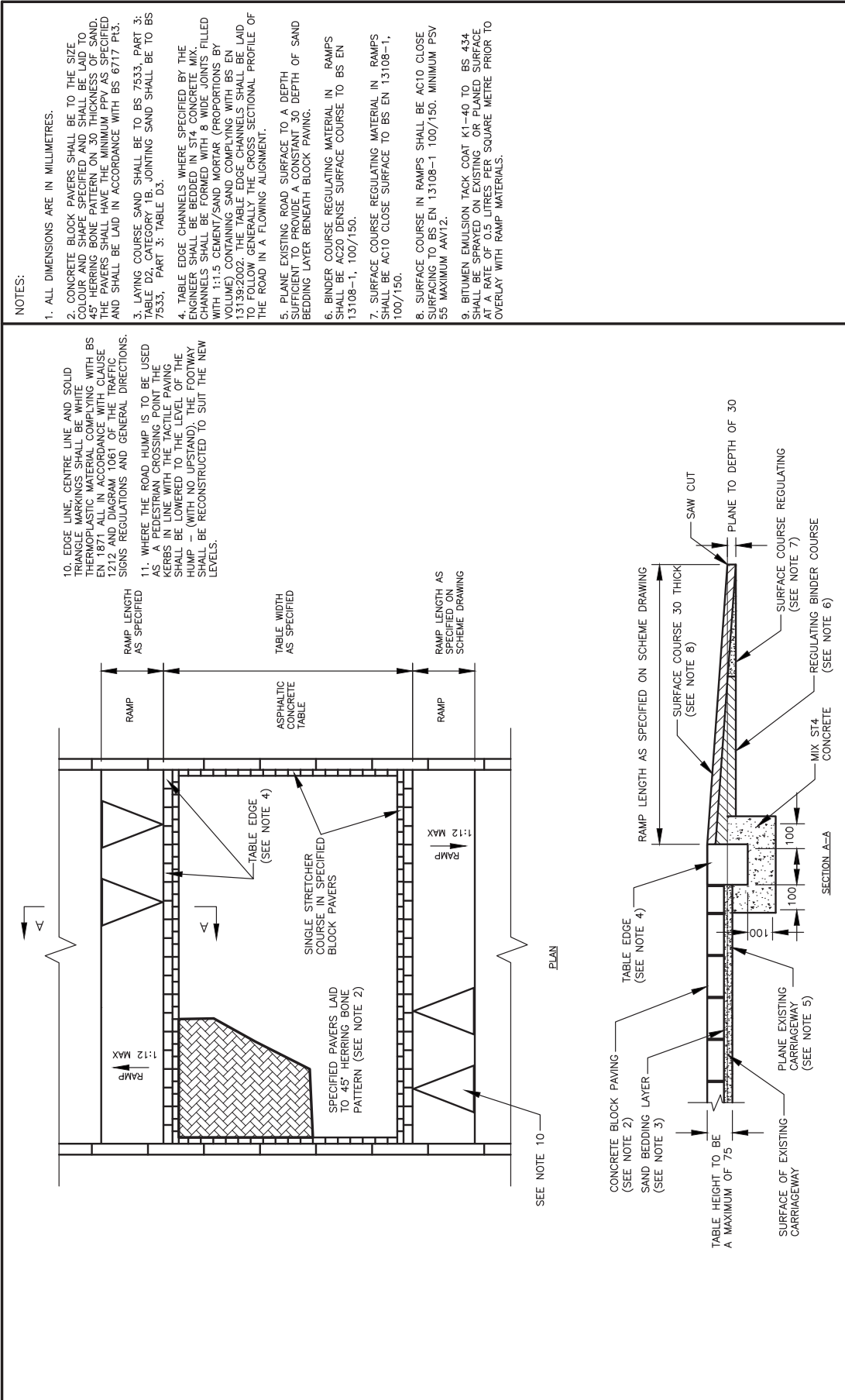
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. CONSTRUCT TABLE EDGES IN 145x145x300 LONG SILVER GREY CONSERVATION CHANNELS BEDDED IN ST4 CONCRETE MIX. CHANNELS SHALL BE FORMED WITH 8 WIDE JOINTS FILLED WITH 1:1.5 CEMENT/SAND MORTAR (PROPORTIONS BY VOLUME) CONTAINING SAND COMPLYING WITH BS EN 13139:2002. CHANNELS TO BE LAID TO FOLLOW GENERALLY THE CROSS SECTIONAL PROFILE OF THE ROAD IN A FLOWING ALIGNMENT.
3. REGULATING BINDER COURSE TO TABLE AND RAMP SHALL BE 20 NOMINAL SIZE DBM.
4. SURFACE COURSE SHALL BE 30mm THICK ACT10 CLOSE SURFACING TO BS EN 13108-1 MINIMUM PSV35 MAXIMUM AAV 14.
5. EDGE RAMP SHALL BE CONSTRUCTED IN SURFACE COURSE MATERIAL AS IN NOTE 4 ABOVE.
6. BITUMEN EMULSION TACK COAT K1-40 TO BS 434 SHALL BE SPRAYED ON EXISTING OR PLANNED SURFACE AT A RATE OF 0.5 TO 7.0 LITRES PER SQUARE METRE PRIOR TO OVERLAY WITH RAMP MATERIALS.
7. EDGE LINE, CENTRE LINE AND SOLID TRIANGLE MARKINGS SHALL BE WHITE THERMOPLASTIC MATERIAL IN ACCORDANCE WITH APPENDIX 12/3 CLAUSE 12/3 SPECIFICATION FOR HIGHWAY WORKS AND DIAGRAM 1061 OF THE TRAFFIC SIGNS REGULATIONS AND GENERAL DIRECTIONS.

Southampton City Council Civic Centre SOUTHAMPTON SO4 7LY		DESIGNED BBLP CHECKED AF	DRAWN RMC APPROVED GPR	DATE July 2012 SCALE @ A3 NTS	SHEET 1 of 1	REVISION
Drawing Title Highways Standard Detail Road Hump Type 2			Drawing Number SD/1/1552		DO NOT SCALE FROM THIS DRAWING	

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- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. CONCRETE BLOCK PAVERS SHALL BE TO THE SIZE COLOUR AND SHAPE SPECIFIED AND SHALL BE LAID TO THE PATTERN AND BONE PATTERN ON 30 THICKNESS OF SAND. THE PAVERS SHALL HAVE THE MINIMUM PPV AS SPECIFIED AND SHALL BE LAID IN ACCORDANCE WITH BS 6717 P13.
 3. LAYING COURSE SAND SHALL BE TO BS 7533, PART 3; TABLE D2, CATEGORY 1B. JOINTING SAND SHALL BE TO BS 7533, PART 3; TABLE D3.
 4. TABLE EDGE CHANNELS WHERE SPECIFIED BY THE ENGINEER SHALL BE BEDDED IN ST4 CONCRETE MIX. CHANNELS SHALL BE FORMED WITH 8 WIDE JOINTS FILLED WITH 1:1.5 CEMENT/SAND MORTAR (PROPORTIONS BY VOLUME) CONTAINING SAND COMPLYING WITH BS EN 12620:2002. THE TABLE EDGE CHANNELS SHALL BE LAID TO FOLLOW GENERALLY THE CROSS SECTIONAL PROFILE OF THE ROAD IN A FLOWING ALIGNMENT.
 5. PLANE EXISTING ROAD SURFACE TO A DEPTH SUFFICIENT TO PROVIDE A CONSTANT 30 DEPTH OF SAND BEDDING LAYER BENEATH BLOCK PAVING.
 6. BINDER COURSE REGULATING MATERIAL IN RAMPS SHALL BE AC20 DENSE SURFACE COURSE TO BS EN 13108-1, 100/150.
 7. SURFACE COURSE REGULATING MATERIAL IN RAMPS SHALL BE AC10 CLOSE SURFACE TO BS EN 13108-1, 100/150.
 8. SURFACE COURSE IN RAMPS SHALL BE AC10 CLOSE SURFACING TO BS EN 13108-1 100/150. MINIMUM PSV 55 MAXIMUM AAV12.
 9. BITUMEN EMULSION TACK COAT K1-40 TO BS 434 SHALL BE SPRAYED ON EXISTING OR PLANNED SURFACE AT A RATE OF 0.5 LITRES PER SQUARE METRE PRIOR TO OVERLAY WITH RAMP MATERIALS.

10. EDGE LINE, CENTRE LINE AND SOLID TRIANGLE MARKINGS SHALL BE WHITE PNEUMATICALLY APPLIED WITH BS EN 871 AS SPECIFIED IN CLAUSE 12.12 AND DIAGRAM 1061 OF THE TRAFFIC SIGNS REGULATIONS AND GENERAL DIRECTIONS.
11. WHERE THE ROAD HUMP IS TO BE USED AS A PEDESTRIAN CROSSING POINT THE KERBS IN LINE WITH THE TACTILE PAVING SHALL BE LOWERED TO THE LEVEL OF THE HUMP - (WITH NO UPSTAND). THE FOOTWAY SHALL BE RECONSTRUCTED TO SUIT THE NEW LEVELS.

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SCALE	AS SHOWN	AS SHOWN	APPROVED	APPROVED	APPROVED	SCALE	A3	NTS		
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Drawing Title: Highways Standard Detail Road Hump Type 3 Drawing Number: SD/1/1553										

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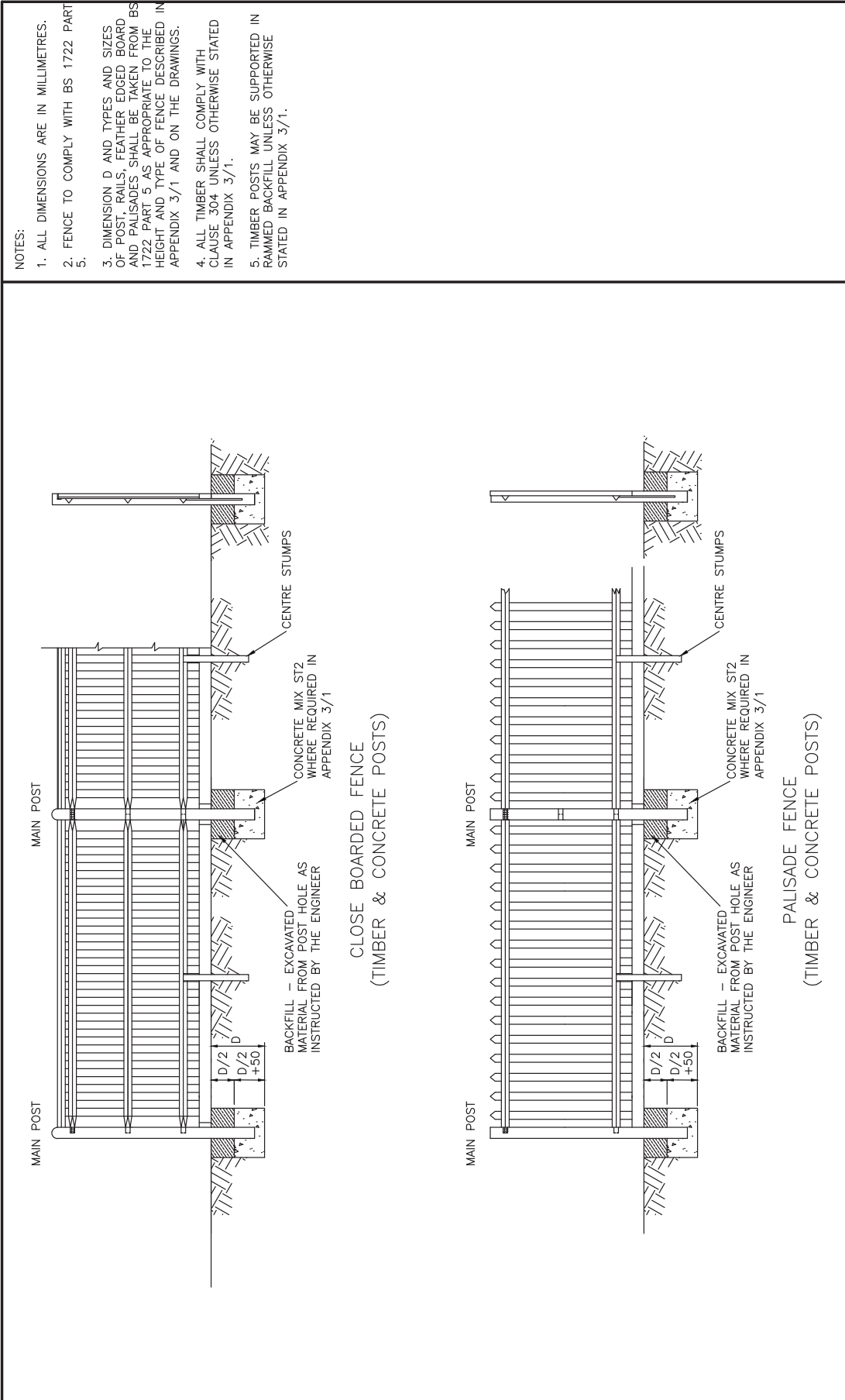
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STREET FURNITURE

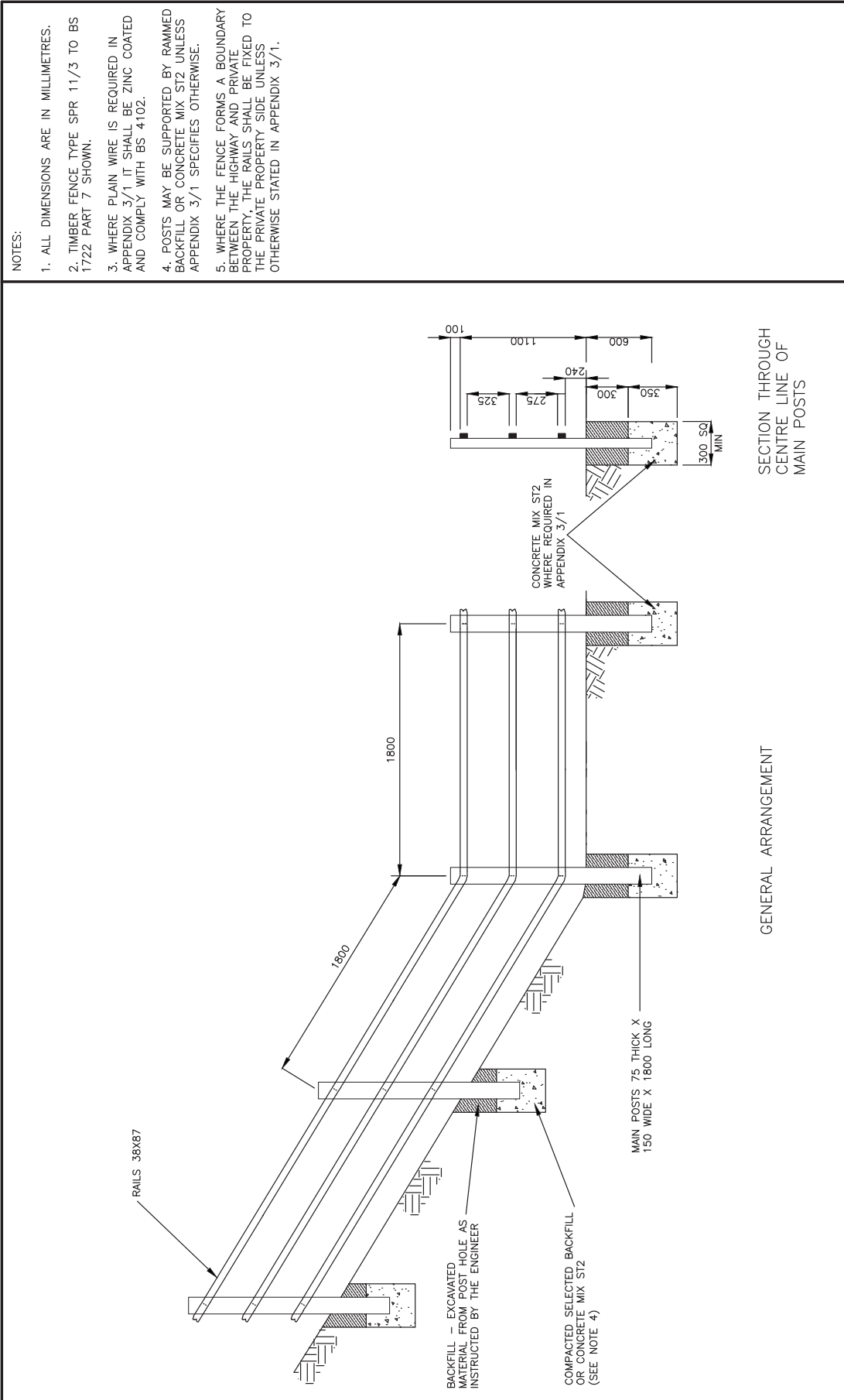
Highway Standard Details - Drawing Index for First Edition

Street Furniture

Drawing no	Revision	Title	Drawing Cross Referenced
SD/1/3001		Timber close boarded and palisade fences	
SD/1/3011		Timber post and 3 rail fences	
SD/1/3021		Cleft chestnut pale fence	Appendix 3/1
SD/1/3031		Tubular steel and birdlip fencing	
SD/1/3101		Pedestrian guard rail	SD/1/1101 & SD/1/1131
SD/1/3201		Bollards	SD/1/1101 & SD/1/1131
SD/1/3211		Socketed plastic bollard	SD/1/1101 & SD/1/1131
SD/1/3212		Anti-ramraid plastic bollard	SD/1/1101 & SD/1/1131
SD/1/3213		Concrete anchored plastic bollard	SD/1/1101 & SD/1/1131
SD/1/3214		Bell shaped bollard	SD/1/1101 & SD/1/1131
SD/1/3301		Brick bonding	
SD/1/3401		Wall / Boundary fixed metal - street nameplate	
SD/1/3411		Post fixed metal street nameplate	SD/1/1101 & SD/1/1131, SD/1/3401
SD/1/3501		Sign post details	Appendix 12/1
SD/1/3601		Cycle stands	
SD/1/3701		CCTV Column installation	
SD/1/3801		Shared cycle route stainless steel posts	
SD/1/3901		Olympus GA - Stainless steel litter bin	SD/1/1101



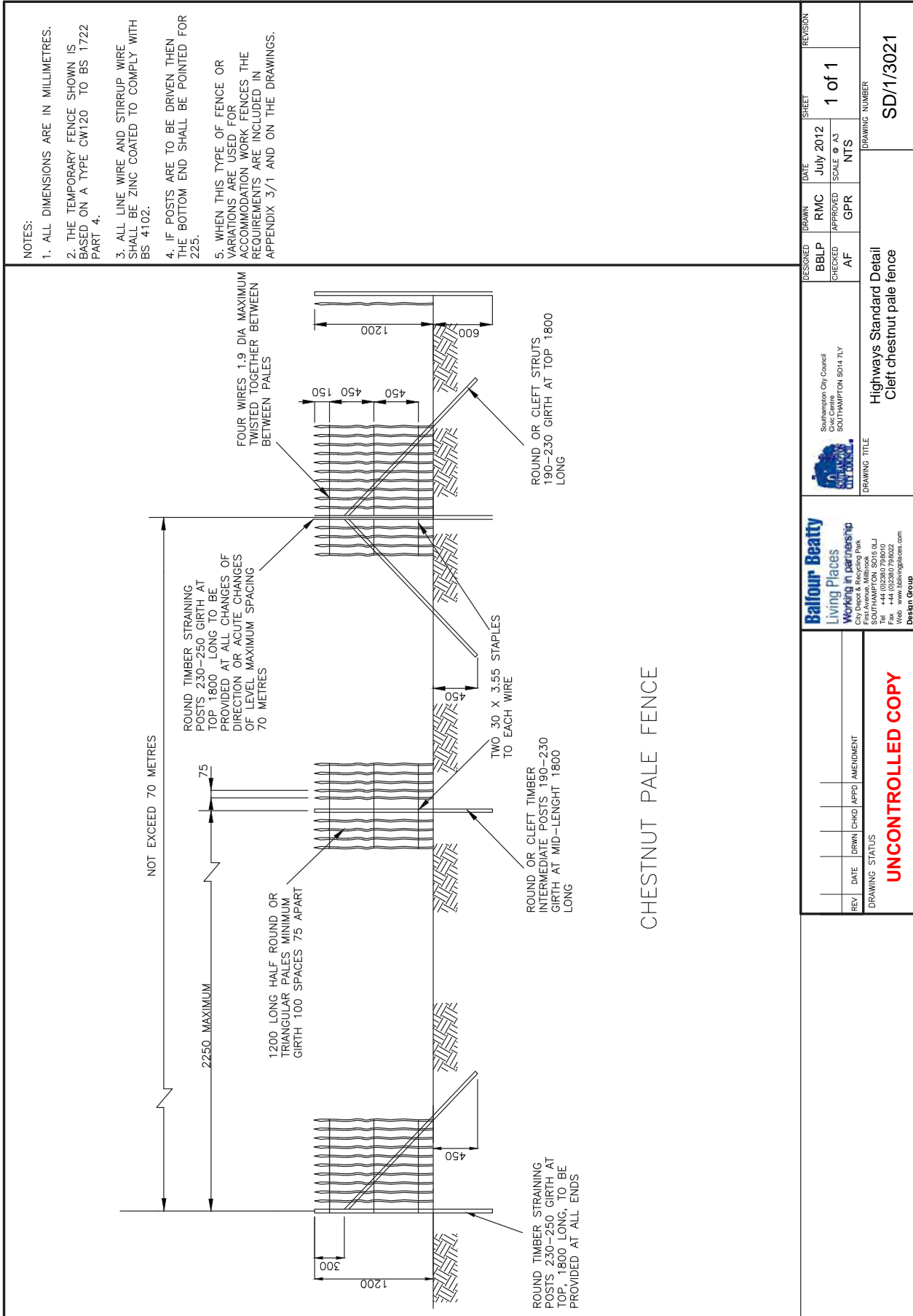
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Southampton City Council Civic Centre SOUTHAMPTON SO9 4LY				SCALE @ A3	NTS	
Balfour Beatty Living Places Working in partnership City Depot & Recycling Park First Avenue, Millbrook SOUTHAMPTON SO16 6LJ Tel: +44 (0)2380 798000 Fax: +44 (0)2380 798022 Web: www.bbivingplaces.com Design Group				DRAWING NUMBER SD/1/3001		
DRAWING TITLE Highways Standard Detail Timber close boarded and palisade fences				DO NOT SCALE FROM THIS DRAWING		
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NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. TIMBER FENCE TYPE SPR 11/3 TO BS 1722 PART 7 SHOWN.
3. WHERE PLAIN WIRE IS REQUIRED IN APPENDIX 3/1 IT SHALL BE ZINC COATED AND COMPLY WITH BS 4102.
4. POSTS MAY BE SUPPORTED BY RAMMED BACKFILL OR CONCRETE MIX ST2 UNLESS APPENDIX 3/1 SPECIFIES OTHERWISE.
5. WHERE THE FENCE FORMS A BOUNDARY BETWEEN THE HIGHWAY AND PRIVATE PROPERTY, THE RAILS SHALL BE FIXED TO THE PRIVATE PROPERTY SIDE UNLESS OTHERWISE STATED IN APPENDIX 3/1.

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DRAWING TITLE Highways Standard Detail Cleft chestnut pale fence			DRAWING NUMBER SD/1/3021	
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- TIMBER SHALL BE OBTAINED FROM CERTIFIED SUSTAINABLE SOURCES, SUCH AS THOSE APPROVED BY THE FOREST STEWARDSHIP COUNCIL OR THE PAN EUROPEAN FOREST CERTIFICATION SCHEME.
- MINIMUM DISTANCE FENCE FACE OR POST TO CARRIAGEWAY EDGE SHALL BE 450MM.
- VERGE REINSTATEMENT TO BE AS DUG MATERIAL, TOP 75 OF TOPSOIL TO BE FREE OF STONES AND LUMPS OF EARTH GREATER THAN 25. FINISHED SURFACE TO BE SEEDED OR TURFED AS DIRECTED BY THE ENGINEER.
- FENCES LESS THAN 750 HEIGHT MUST ONLY BE INSTALLED IN VERGES WHERE THERE IS NO FOOTWAY WITHIN 2 METRES OF THE CENTRE LINE OF THE FENCE.
- IF STEEL TUBE RAILING IS CUT ON SITE TO SUIT, ALL CUTS TO BE TREATED WITH TWO COATS OF GALVAFOID.

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DRAWING TITLE								Highways Standard Detail Tubular steel and birdlip fencing
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POSTS 125MM DIA. X 900MM LONG MACHINED ROUND TIMBERS OF "CRAYON" TOP DESIGN WITH SINGLE ROUT. POSTS PRESSURE TREATED.

ELEVATION OF POSTS AND KNEE RAIL

WHERE RAIL TERMINATES USE A STANDARD POST WITH A SOCKET HOLES AS SHOWN. AT A CORNER 2NO. POSTS SHALL BE USED WITH SOCKET HOLES DRILLED TO SUIT ANGLE OF RAILING.

DETAIL OF END POST AND KNEE RAIL

TIMBER ROUND POST AND TUBULAR KNEE RAIL FENCE

SIDE ELEVATION

500x100x20g GALVANISED SHEET STRAP WITH 8 NO. 75 LONG GALVANISED NAIL FIXINGS PER POST.

150x150 SAWN PRESSURE TREATED SOFTWOOD POSTS WITH NOTCHED END TO RECEIVE RAILS.

100x100 SAWN PRESSURE TREATED SOFTWOOD RAILS SCARF JOINTED AT POSTS AND FIXED WITH STRAPS AS SHOWN.

HORIZONTAL SCARF JOINT AT POST

MIX STZ CONCRETE FOOTINGS

WOODEN BIRDLIP FENCING

ELEVATION OF POSTS AND KNEE RAIL

WOODEN BIRDLIP FENCING

SIDE ELEVATION

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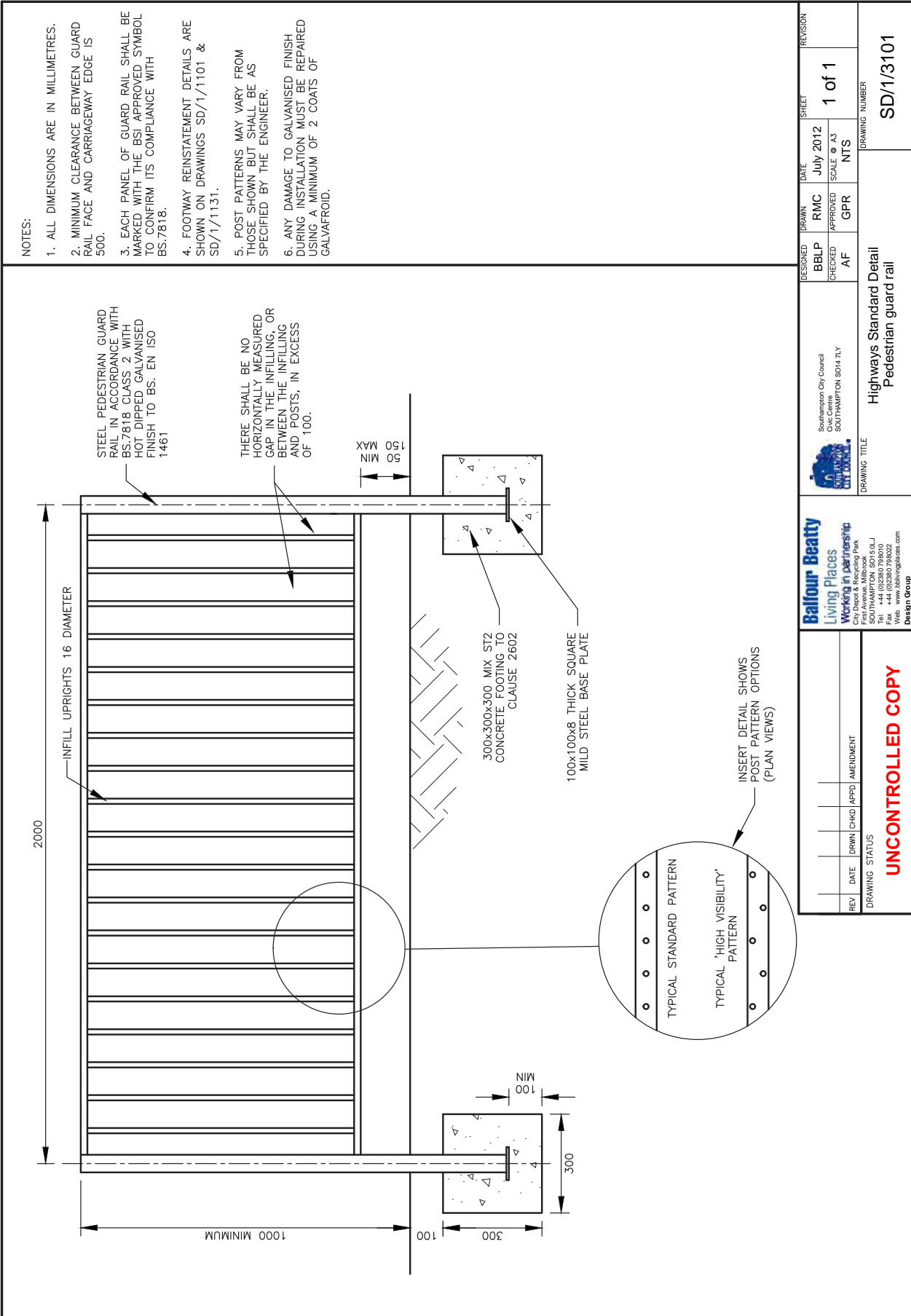
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SHEET: 1 of 1

DRAWING NUMBER: SD/1/3031

DRAWING TITLE: Highways Standard Detail
Tubular steel and birdlip fencing

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NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. MINIMUM CLEARANCE BETWEEN GUARD RAIL FACE AND CARRIAGEWAY EDGE IS 500.
3. EACH PANEL OF GUARD RAIL SHALL BE MARKED WITH THE BSI APPROVED SYMBOL TO CONFIRM ITS COMPLIANCE WITH BS.7818.
4. FOOTWAY REINSTATEMENT DETAILS ARE SHOWN ON DRAWINGS SD/1/1101 & SD/1/1131.
5. POST PATTERNS MAY VARY FROM THOSE SHOWN BUT SHALL BE AS SPECIFIED BY THE ENGINEER.
6. ANY DAMAGE TO GALVANISED FINISH DURING INSTALLATION MUST BE REPAIRED USING A MINIMUM OF 2 COATS OF GALVAFROID.

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Balfour Beatty Living Places Working in partnership City Depot & Recycling Park First Avenue, Millbrook SOUTHAMPTON SO16 6LJ Tel: +44 (0)2380 798000 Fax: +44 (0)2380 798022 Web: www.bbivingplaces.com Design Group			Highways Standard Detail Pedestrian guard rail		
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NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES.
- TIMBER SHALL BE OBTAINED FROM CERTIFIED SUSTAINABLE SOURCES, SUCH AS THOSE APPROVED BY THE FOREST STEWARDSHIP COUNCIL OR THE PAN EUROPEAN FOREST CERTIFICATION SCHEME.
- MINIMUM DISTANCE BETWEEN BOLLARD FACE AND CARRIAGEWAY EDGE SHALL BE 450.
- FOOTWAY REINSTATEMENT SHOWN ON DRAWING NUMBER SD/1/1101 & SD/1/1131
- BOLLARDS LESS THAN 750 HEIGHT MUST NOT BE INSTALLED IN FOOTWAYS.
- BOLLARDS INSTALLED IN FOOTWAYS SHALL HAVE A 100 WIDTH WHITE RETROREFLECTIVE BAND OR THE TOP 100 OF THE BOLLARD PAINTED WHITE AS SPECIFIED BY THE ENGINEER.

DRAGONS TEETH (DRIVEN POST)

DRAGONS TEETH (CONCRETE BASE)

SMALL CONCRETE BOLLARD

LARGE CONCRETE BOLLARD

STEEL BOLLARD

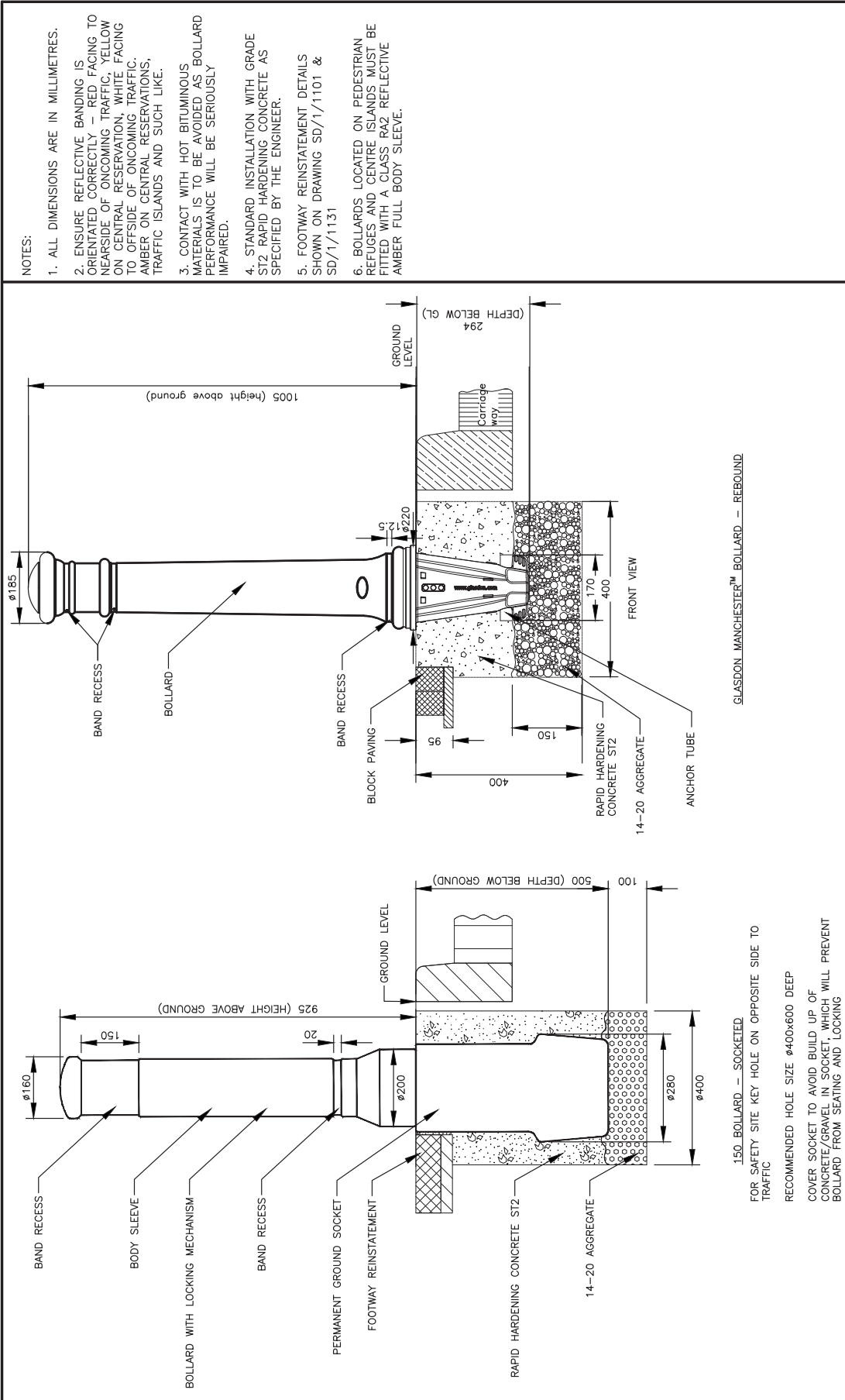
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				APPROVED		SCALE @ A3		NTS		DRAWING NUMBER	
				GPR						SD/1/3201	

Highways Standard Detail
Bollards

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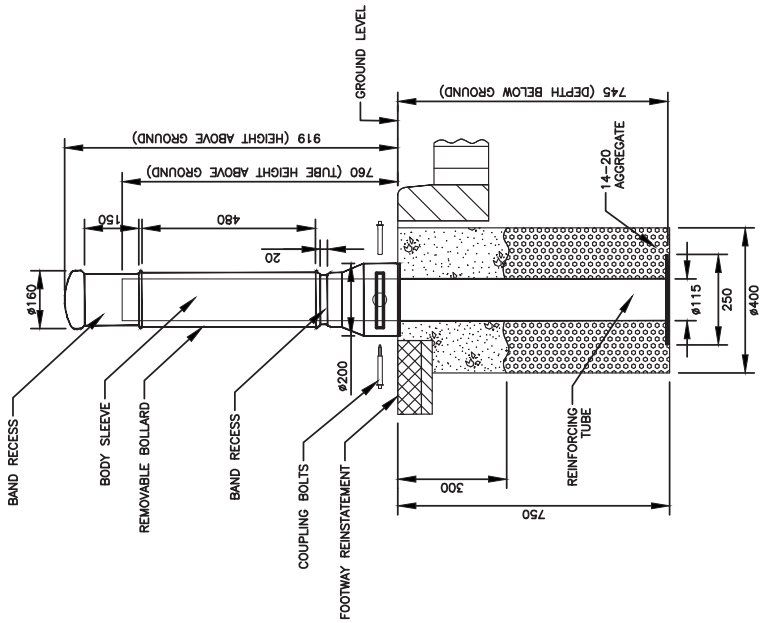
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- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. ENSURE REFLECTIVE BANDING IS ORIENTATED CORRECTLY - RED FACING TO NEAR SIDE OF ONCOMING TRAFFIC, YELLOW ON CENTRAL RESERVATION, WHITE FACING TO OFFSIDE OF ONCOMING TRAFFIC. AMBER ON CENTRAL RESERVATIONS, TRAFFIC ISLANDS AND SUCH LIKE.
 3. CONTACT WITH HOT BITUMINOUS MATERIALS IS TO BE AVOIDED AS BOLLARD PERFORMANCE WILL BE SERIOUSLY IMPAIRED.
 4. STANDARD INSTALLATION WITH GRADE ST2 RAPID HARDENING CONCRETE AS SPECIFIED BY THE ENGINEER.
 5. FOOTWAY REINSTATEMENT DETAILS SHOWN ON DRAWING SD/1/1101 & SD/1/1131
 6. BOLLARDS LOCATED ON PEDESTRIAN REFUGES AND CENTRE ISLANDS MUST BE FITTED WITH A CLASS R42 REFLECTIVE AMBER FULL BODY SLEEVE.

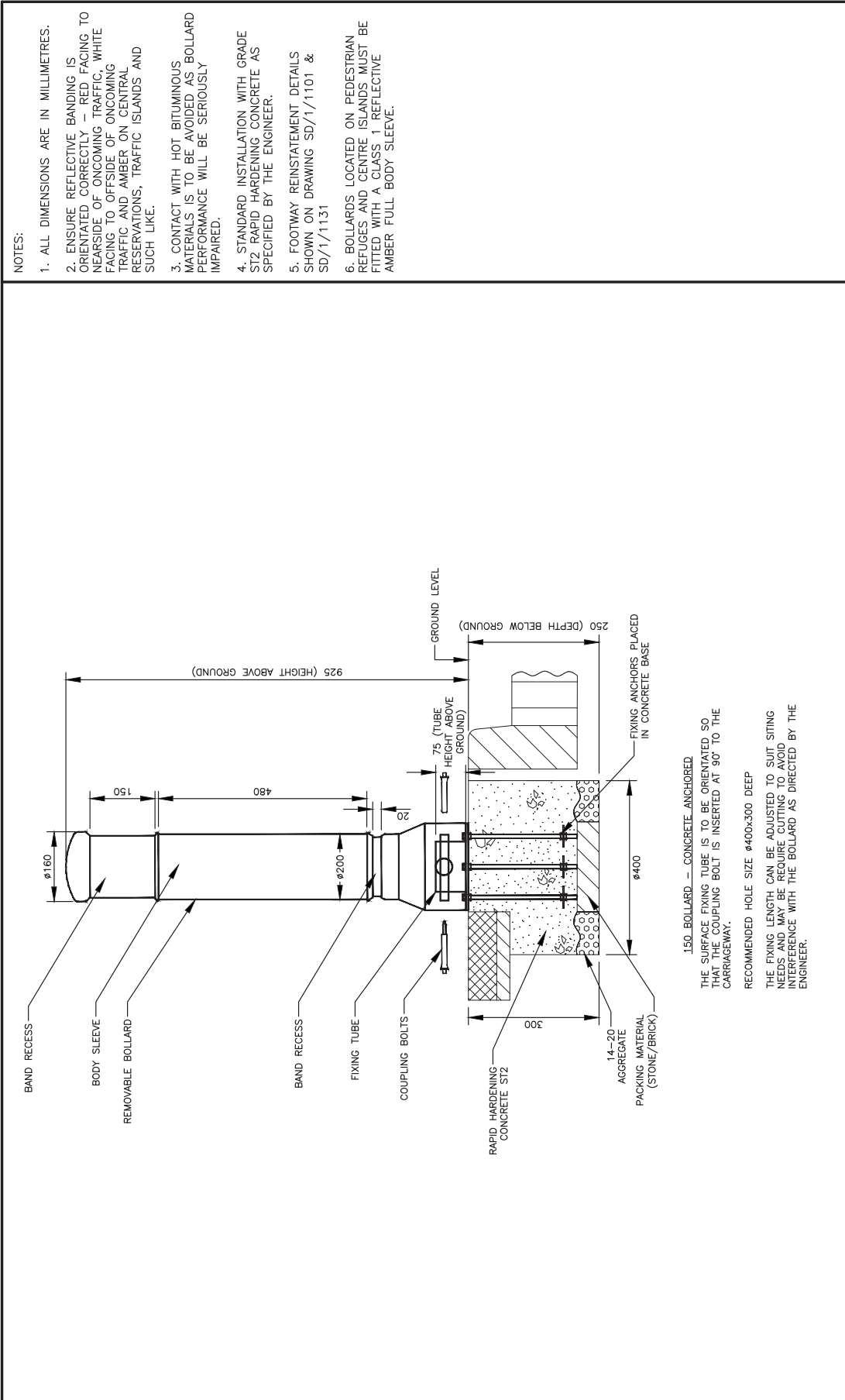
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DRAWN	RMC	APPROVED	GPR	DRAWING NUMBER	SD/1/3211
DATE	July 2012	SCALE	ϕ A3	SHEET	1 of 1
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DRAWING TITLE					
Highways Standard Detail Socketed plastic bollard					
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- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. ENSURE REFLECTIVE BANDING IS ORIENTATED CORRECTLY – RED FACING TO NEARSIDE OF ONCOMING TRAFFIC, WHITE FACING TO OFFSIDE OF ONCOMING TRAFFIC AND AMBER ON CENTRAL RESERVATIONS, TRAFFIC ISLANDS AND SUCH LIKE.
 3. CONTACT WITH HOT BITUMINOUS MATERIALS IS TO BE AVOIDED AS BOLLARD PERFORMANCE WILL BE SERIOUSLY IMPAIRED.
 4. STANDARD INSTALLATION WITH GRADE ST2 RAPID HARDENING CONCRETE AS SPECIFIED BY THE ENGINEER.
 5. FOOTWAY REINSTATEMENT DETAILS SHOWN ON DRAWING SD/1/1101 & SD/1/1131
 6. BOLLARDS LOCATED ON PEDESTRIAN REFUGES AND CENTRE ISLANDS MUST BE FITTED WITH A CLASS 1 REFLECTIVE AMBER FULL BODY SLEEVE.



150 BOLLARD – ANTI-RAM BAND
THE REINFORCING TUBE IS TO BE ORIENTATED SO THAT THE COUPLING BOLT IS INSERTED AT 90° TO THE CARRIAGEWAY.
RECOMMENDED HOLE SIZE 400x750 DEEP
THE REINFORCING TUBE SHOULD BE BEDDED ON GRAVEL A 300 MIN. DEPTH OF CONCRETE SHOULD BE USED.
THE REINFORCING TUBE SHOULD BE FILLED WITH CONCRETE (GRADE ST2) FOR ADDED STRENGTH TO WITHIN 100 OF GROUND LEVEL.

DESIGNED	BBLP	CHECKED	AF	DRAWN	RMC	APPROVED	GPR	DATE	May 2012	SHEET	1 of 1	REVISION	
SOUTHAMPTON City Council Civic Centre SOUTHAMPTON SO14 7LY				SOUTHAMPTON SO14 7LY				SCALE: A3		NTS		DRAWING NUMBER SD/1/3212	
DRAWING TITLE Highways Standard Detail Anti-ramraid plastic bollard												DO NOT SCALE FROM THIS DRAWING	
<p>Balfour Beatty Living Places Working in partnership City, Depot & Recycling Park SOUTHAMPTON SO16 0LJ First Avenue, Millbrook Tel: +44 (0)1329 796922 Fax: +44 (0)1329 796922 Web: www.bbplivingplaces.com</p>												DRAWING STATUS UNCONTROLLED COPY	
REV/	DATE	DRWN	CHKD	APPD	AMENDMENT								



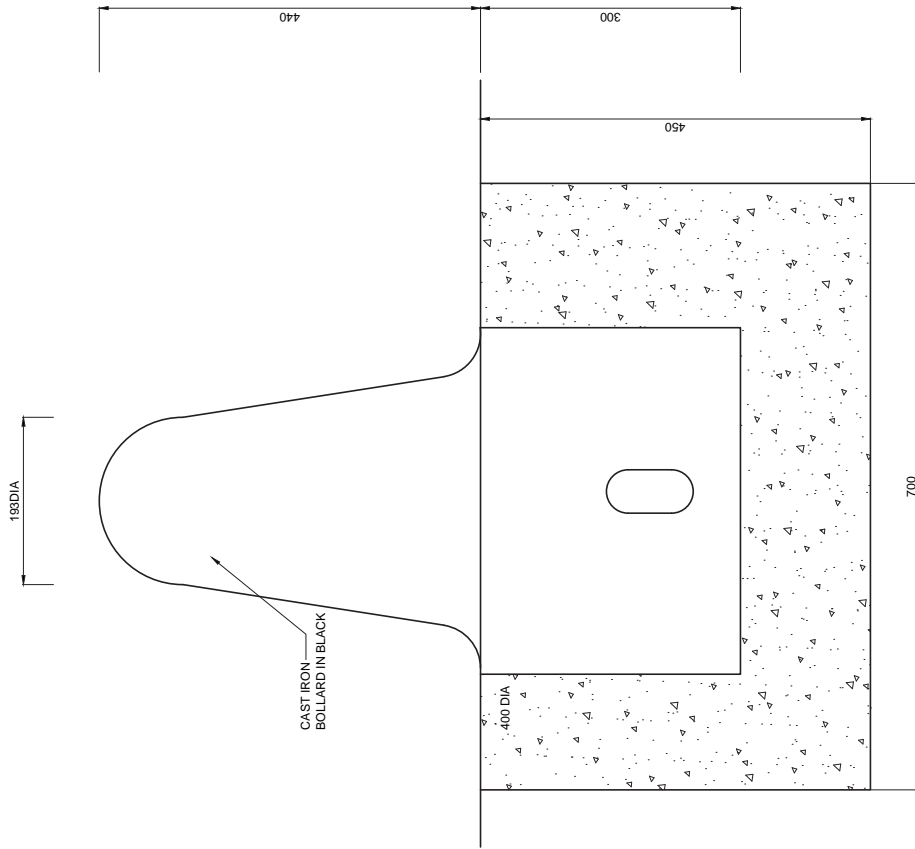
150 BOLLARD — CONCRETE ANCHORED
THE SURFACE FIXING TUBE IS TO BE ORIENTATED SO THAT THE COUPLING BOLT IS INSERTED AT 90° TO THE CARRIAGEWAY.
RECOMMENDED HOLE SIZE 400x300 DEEP
THE FIXING LENGTH CAN BE ADJUSTED TO SUIT SITING NEEDS AND MAY BE REQUIRE CUTTING TO AVOID INTERFERENCE WITH THE BOLLARD AS DIRECTED BY THE ENGINEER.

- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. ENSURE REFLECTIVE BANDING IS ORIENTATED CORRECTLY — RED FACING TO NEAR SIDE OF ONCOMING TRAFFIC, WHITE FACING TO OFFSIDE OF ONCOMING TRAFFIC AND AMBER ON CENTRAL RESERVATIONS, TRAFFIC ISLANDS AND SUCH LIKE.
 3. CONTACT WITH HOT BITUMINOUS MATERIALS IS TO BE AVOIDED AS BOLLARD PERFORMANCE WILL BE SERIOUSLY IMPAIRED.
 4. STANDARD INSTALLATION WITH GRADE ST2 RAPID HARDENING CONCRETE AS SPECIFIED BY THE ENGINEER.
 5. FOOTWAY REINSTATEMENT DETAILS SHOWN ON DRAWING SD/1/1101 & SD/1/1131
 6. BOLLARDS LOCATED ON PEDESTRIAN REFUGES AND CENTRE ISLANDS MUST BE FITTED WITH A CLASS 1 REFLECTIVE AMBER FULL BODY SLEEVE.

DESIGNED BBLP		DRAWN RMC		DATE July 2012	SHEET 1 of 1	REVISION
CHECKED DH		APPROVED GPR		SCALE A3	NTS	
Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY				DRAWING NUMBER SD/1/3213		
Drawing Title Highways Standard Detail Concrete anchored plastic bollard				DO NOT SCALE FROM THIS DRAWING		
Working in partnership City Depot & Recycling Park Five Avenue, Millbrook SOUTHAMPTON SO16 6LJ Tel: +44 (0)2380 798000 Fax: +44 (0)2380 798022 Web: www.bbivingplaces.com Design Group						
REV	DATE	DRWN	CHKD	APPD	AMENDMENT	UNCONTROLLED COPY
DRAWING STATUS						

P:\BBLP Standard Details updated July 2012\Street Furniture\UC1-2114.dwg, 28/09/2012 09:19:46

- NOTES:**
1. All dimensions are in millimetres.
 2. The weight of this bollard is 68kg. Appropriate lifting gear should be used when manoeuvring this bollard.
 3. Footway reinstatement shown on SD/1/1101 & SD/1/1131.
 4. Standard installation with Grade ST2 Rapid hardening concrete as specified by the Engineer.
 5. This bollard can be used to protect buildings or footway from vehicular contact.

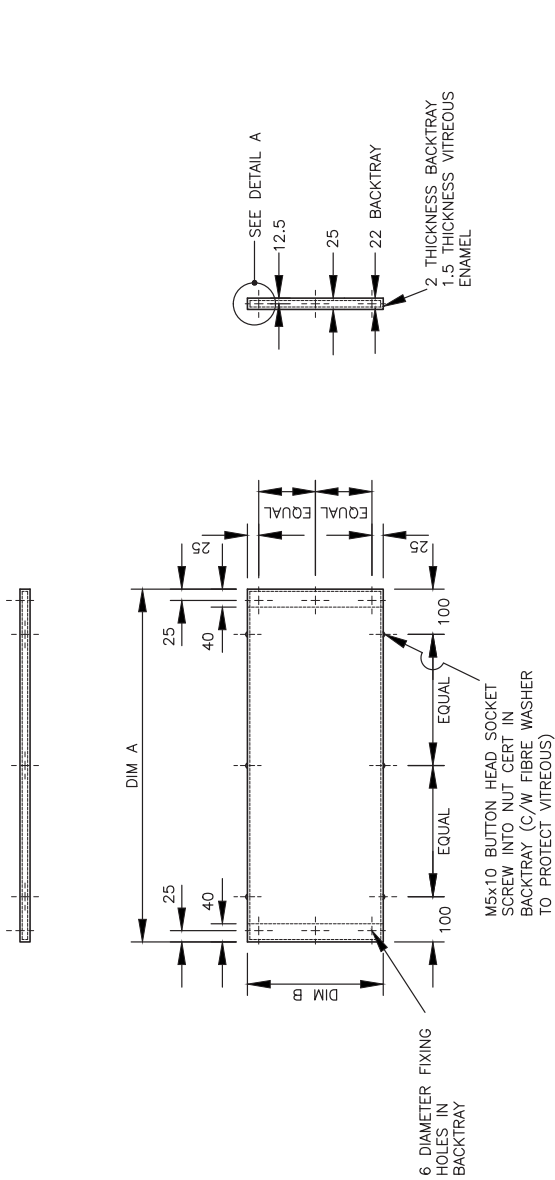


<p>Balfour Beatty Living Places Working in partnership City Depot & Recycling Park First Avenue, Millbrook SOUTHAMPTON, SO14 5LJ Tel: +44 (0)2380 512800 Fax: +44 (0)2380 512883 Web: www.bblivingplaces.com Design Group</p>		<p>Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY</p>		DESIGNED BBLP	DRAWN RMC	DATE May 12	SHEET 1 of 1	REVISION
DRAWING STATUS UNCONTROLLED COPY		CHECKED AF		APPROVED GPR		SCALE NTS	DRAWING NUMBER SD/1/3214	
DRAWING TITLE Highway Standard Detail Bell Shaped Bollard								

DO NOT SCALE FROM THIS DRAWING

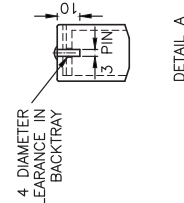
P:\BBLP Standard Details updated May 2012\Street Furniture\UC1-3401.dwg, 03/08/2012 10:17:49

- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. NAMEPLATE TO BE INSTALLED AS INSTRUCTED BY THE ENGINEER AFTER LEGAL AGREEMENT CONCLUDED WITH PROPERTY / WALL OWNER BY THE ENGINEER.
 3. NAMEPLATE REFERENCE 2 SHOWN ON THIS DRAWING. SEE TABLE 1 FOR DIMENSIONS OF OTHER NAMEPLATE REFERENCES.
 4. NAMEPLATE MATERIALS AND CONSTRUCTION AS SHOWN ON THIS DRAWING FOR ALL CITY LOCATIONS UNLESS INSTRUCTED BY THE ENGINEER.



TABLE_1

NAME PLATE REFERENCE	DIM A	DIM B
1	780	450
2	950	300
3	1050	300
4	1150	300
5	1200	300
6	1300	300
7	1400	300
8	1500	300
9	1500	450
10	1250	300
11	1650	300
12	1760	300



DESIGNED BBLP	DRAWN RMC	DATE July 2012	SHEET 1 of 1	REVISION
CHECKED AF	APPROVED GPR	SCALE A3	NTS	
Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY			DRAWING NUMBER SD/1/3401	
Balfour Beatty Living Places Working in partnership City Depot & Recycling Park Fire Avenue, Millbrook SOUTHAMPTON SO16 6LJ Tel: +44 (0)2380 789100 Fax: +44 (0)2380 789822 Web: www.bbivingplaces.com Design Group			DRAWING TITLE Highways Standard Detail Wall / Boundary fixed metal Street nameplate	
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REV	DATE	DRWN	CHKD	APPD / AMENDMENT

DO NOT SCALE FROM THIS DRAWING

FOR SIGN DETAILS
(SEE NOTE 3)

CLEARANCE (V)
(SEE NOTE 3)

NOTES:

1. ALL DIMENSIONS IN MILLIMETRES.
2. STEEL POSTS SHALL BE TUBULAR OR RECTANGULAR COMPLYING WITH BS EN 10210. ALL SHALL BE GALVANISED TO BS EN 1461 AND PAINTED IN ACCORDANCE WITH THE COLOURS DESIGNATED IN THE SIGN SCHEDULE.
3. SEE APPENDIX 12/1 AND SIGN SCHEDULES FOR INFORMATION RELATING TO:—
 - A. SIGN DETAILS AND MATERIALS
 - B. DIMENSIONS OF SIGN FACE
 - C. POST DETAILS, NUMBER AND COLOUR
 - D. VERTICAL CLEARANCE (V)
 - E. FOUNDATION TYPE.
4. POST SIZE TO BE DETERMINED BY REFERENCE TO NOMOGRAMS DETAILED IN THE NOTES FOR GUIDANCE.
5. FOUNDATIONS SHALL BE IN ACCORDANCE WITH CLAUSE 1203.
6. CONCRETE FOR SIGN FOUNDATIONS SHALL BE MIX ST2.
7. SPACING OF MULTIPLE POLES ON FOOTWAY ETC TO BE DETERMINED BY TRIAL HOLES.

FOUNDATION DETAILS (SEE NOTE 3)			
TYPE	POST DIAMETER	DEPTH D	AREA WxW
A	76.1 OD	750	450x450
B	88.9 OD	825	525x525
C	114.3 OD	1080	750x750
D	139.7 OD	1125	750x750

TOP OF FOUNDATION TO BE 75 BELOW FINISHED SURFACE.
BASE OF POST TO BE 75 ABOVE BASE OF FOUNDATION

DESIGNED BY: BBLP
CHECKED BY: AF

DRAWN BY: RMC
APPROVED BY: GPR

DATE: July 2012
SCALE: A3
SHEET: 1 of 1

DRAWING NUMBER: SD/1/3501

Southampton City Council
Civic Centre
SOUTHAMPTON SO14 7LY

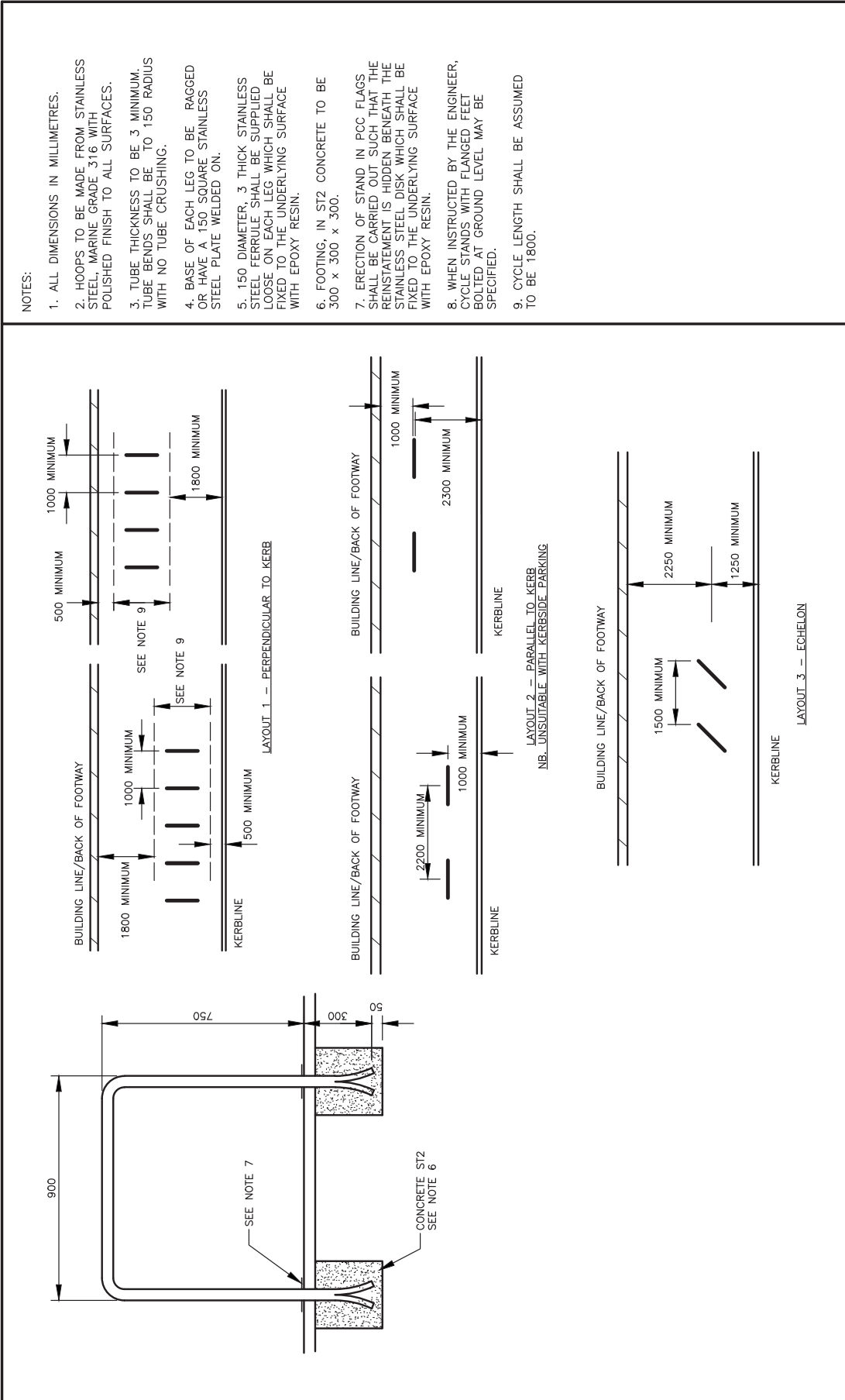
Balfour Beatty Living Places
Working in partnership
City Depot & Recycling Park
First Avenue, Millbrook
Southampton SO14 7LJ
Tel: +44 (0)2380 798010
Fax: +44 (0)2380 798022
Web: www.bbivingplaces.com
Design Group

DRAWING TITLE: Highways Standard Detail Sign post details

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DRAWING STATUS: **UNCONTROLLED COPY**

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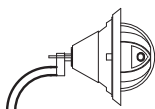
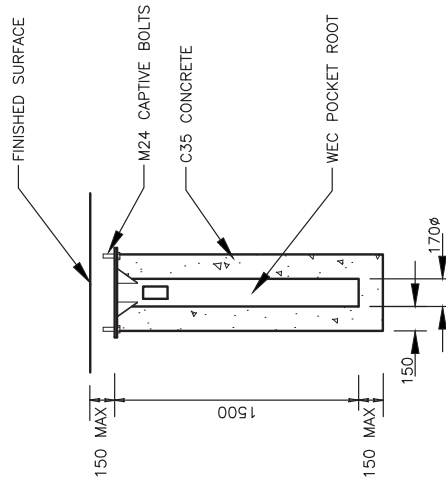
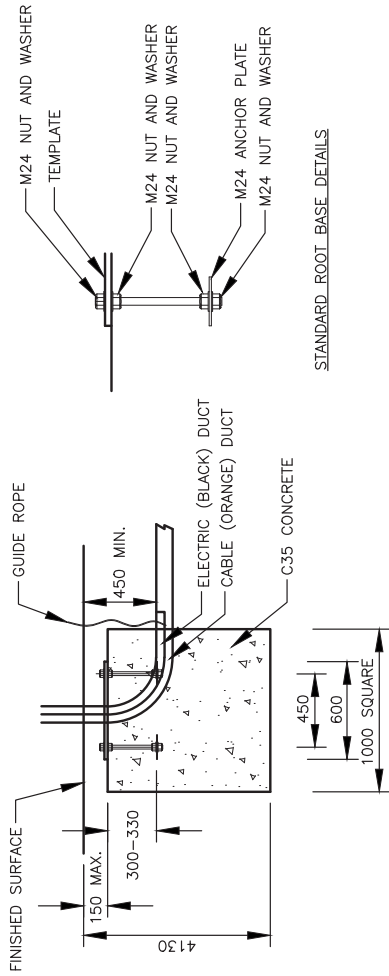


DESIGNED BBLP	DRAWN RMC	DATE July 2012	SHEET 1 of 1	REVISION
CHECKED AF	APPROVED GPR	SCALE A3	NTS	
DRAWING NUMBER SD/1/3601				
DRAWING TITLE Highways Standard Detail Cycle stands				
<p>Balfour Beatty Living Places Working in partnership City Depot & Recycling Park First Avenue, Millbrook SOUTHAMPTON, SO9 4LJ Tel: +44 (0)2380 786010 Fax: +44 (0)2380 786022 Web: www.bbivingplaces.com Design Group</p>				
SOUTHAMPTON City Council Civic Centre SOUTHAMPTON SO9 4LJ				
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P:\BBLP Standard Details updated May 2012\Street Furniture\1C1-071.dwg, 03/08/2012 10:22:08

NOTES:

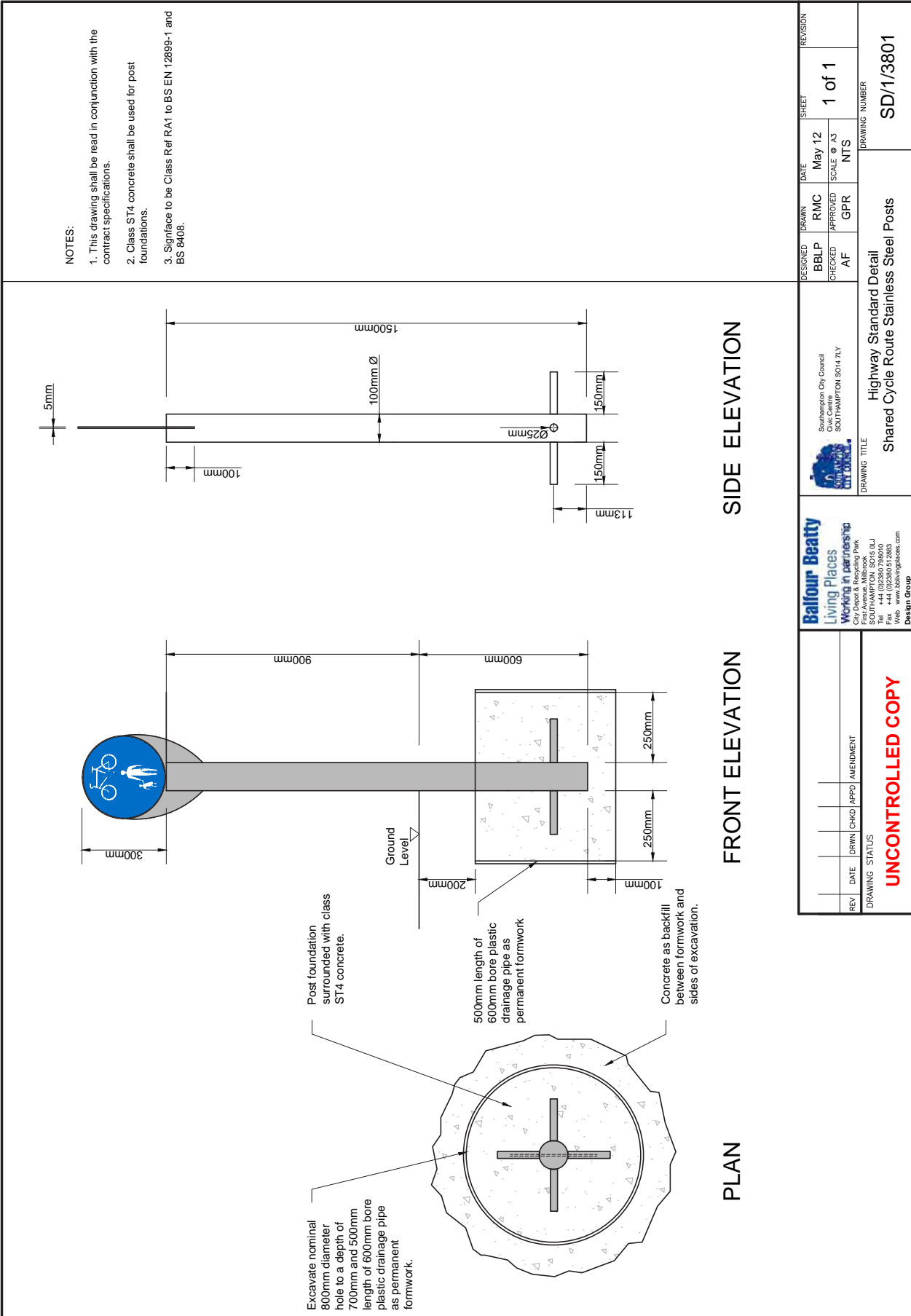
1. ALL DIMENSIONS IN MILLIMETRES.
2. REINSTATEMENT OF FOOTWAY SHALL BE IN ACCORDANCE WITH DRAWING SD/1/1101.
3. FOR INSTALLATION DETAILS REFER TO MANUFACTURER.



CCTV COLUMN

DESIGNED BBLP	CHECKED AF	DRAWN RMC	DATE JULY 2012	SHEET 1 of 1	REVISION
SOUTHAMPTON CITY COUNCIL Civic Centre SOUTHAMPTON SO14 7LY		APPROVED GPR	SCALE A3 NTS	DRAWING NUMBER SD/1/3701	
DRAWING TITLE Highways Standard Detail CCTV Column installation			DO NOT SCALE FROM THIS DRAWING		
<p>Balfour Beatty Living Places Working in partnership City Depot & Recycling Park First Avenue, Millbrook SOUTHAMPTON SO9 4LJ Tel: +44 (0)2380 798010 Fax: +44 (0)2380 798022 Web: www.bbivingplaces.com Design Group</p>					
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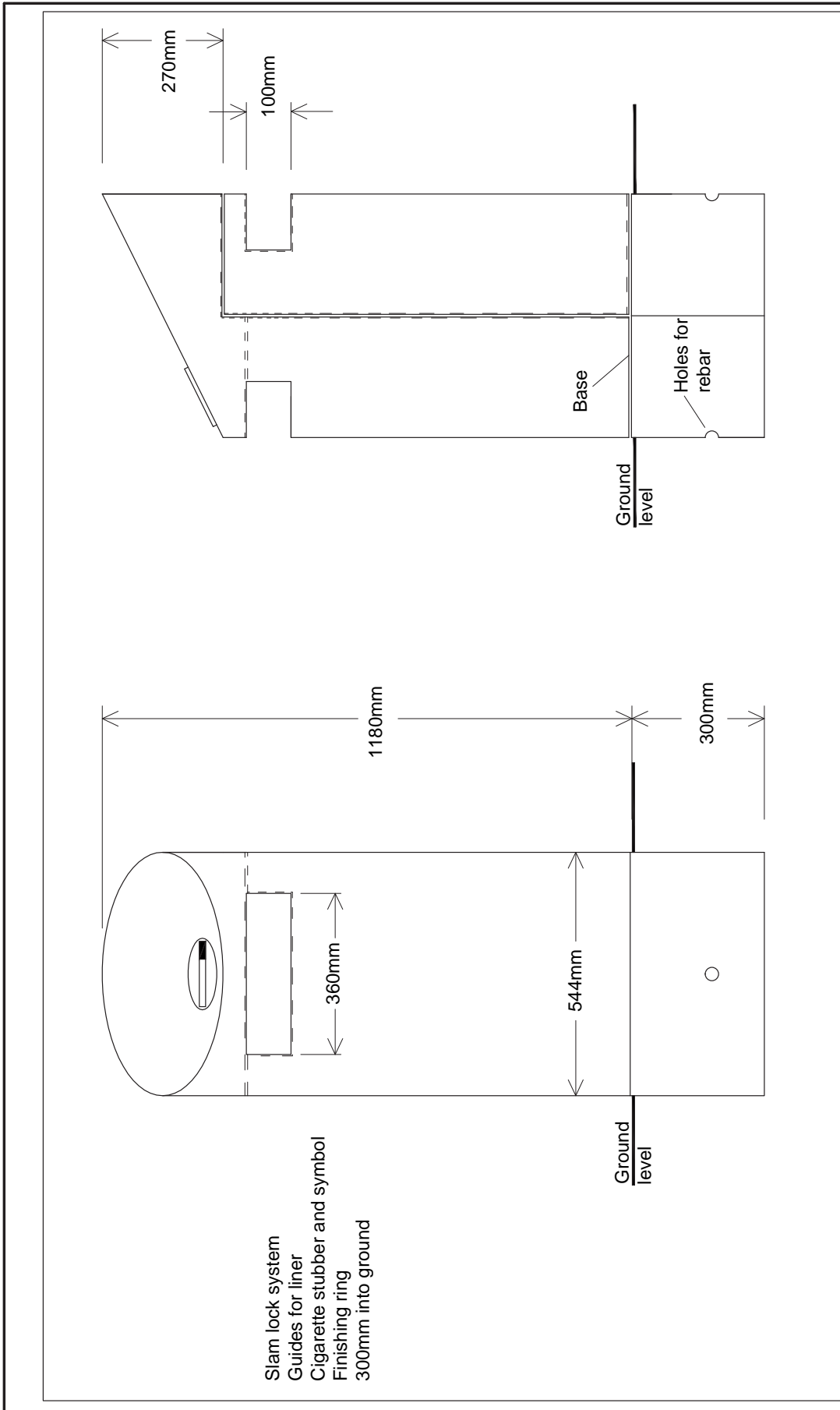
- NOTES:
1. This drawing shall be read in conjunction with the contract specifications.
 2. Class ST4 concrete shall be used for post foundations.
 3. Signface to be Class Ref RA1 to BS EN 12899-1 and BS 8408.

DESIGNED	BBLP	CHECKED	AF	DRAWN	RMC	DATE	May 12	SHEET	1 of 1	REVISION
				APPROVED	GPR	SCALE	NTS			
<p>SOUTHAMPTON CITY COUNCIL Civic Centre SOUTHAMPTON SO14 7LY</p>			<p>Balfour Beatty Living Places Working in partnership City Depot & Recycling Park First Avenue, Millbrook SOUTHAMPTON SO16 6LJ Tel: +44 (0)1703 612800 Fax: +44 (0)2380 512883 Web: www.bbivingplaces.com</p>			DRAWING NUMBER SD/1/3801				
DRAWING TITLE Highway Standard Detail Shared Cycle Route Stainless Steel Posts										
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REV	DATE	DRWN	CHKD	APPD	AMENDMENT					

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DESIGNED BBLP	CHECKED AF	DRAWN RMC	DATE May 12	SHEET 1 of 1	REVISION
SOUTHAMPTON CITY COUNCIL Civic Centre SOUTHAMPTON SO14 7LY		APPROVED GPR	SCALE A3 NTS	DRAWING NUMBER SD/1/3901	
DRAWING TITLE Highway Standard Detail Olympus GA Stainless Steel Litter Bin			DO NOT SCALE FROM THIS DRAWING		
<p>Balfour Beatty Living Places Working in partnership City Depot & Recycling Park First Avenue, Millbrook SOUTHAMPTON SO14 7LJ Tel: +44 (0)2380 512800 Fax: +44 (0)2380 512883 Web: www.bbivingplaces.com Design Group</p>					
REV	DATE	DRWN	CHKD	APPD	AMENDMENT
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DRAINAGE

Highway Standard Details - Drawing Index for First Edition

Drainage	Drawing no	Revision	Title	Drawing Cross Referenced
	SD/1/4001		Surface water drains trench and bedding	Appendix 5/1, SD/1/1101, SD/1/1131, SD/1/1501 & SD/1/1511
	SD/1/4011		Filter drains trench and bedding	Appendix 5/1
	SD/1/4021		Carriageway service ducts trench and bedding	Appendix 5/1, SD/1/1501, SD/1/1511
	SD/1/4031		Footway service details trench and bedding	Appendix 5/1, SD/1/1101, SD/1/1131
	SD/1/4101		Gully Type 1T	SD/1/1101, SD/1/1131, SD/1/1501 & SD/1/1511
	SD/1/4111		Gully Type 2	SD/1/1101, SD/1/1131, SD/1/1501 & SD/1/1511
	SD/1/4121		Gully Type 3	SD/1/1101, SD/1/1131, SD/1/1501 & SD/1/1511
	SD/1/4131		Combined catchpit / gully Type CCG - Brick	SD/1/4001, SD/1/1101, SD/1/1131, SD/1/1501 & SD/1/1511
	SD/1/4141		Combined catchpit / gully Type CCG - Precast concrete	SD/1/4001, SD/1/1101, SD/1/1131, SD/1/1501 & SD/1/1511
	SD/1/4151		Catchpit Type C1A, C1B, C2A, C2B, C1C & C2C	SD/1/4001
	SD/1/4155		Manhole Type M3A & M3B	Appendix 5/1
	SD/1/4160		Manhole type M4A & M4B	Appendix 5/1
	SD/1/4161		Precast concrete manhole Type M1A, M1B, M1C & M1D	SD/1/4001 & SD/1/4191
	SD/1/4165		Manhole Type 5	Appendix 5/1
	SD/1/4171		Precast concrete manhole Type M2A, M2B, M2C & M2D	Appendix 5/1
	SD/1/4181		Drawpit Type A & B	SD/1/1101, SD/1/1131, SD/1/1501 & SD/1/1511
	SD/1/4191		Chamber fittings, ladder hand hold & safety chain	
	SD/1/4201		Precast concrete manhole - Soakaway Type S1 & S1A	
	SD/1/4211		Soakaway Type S2, S2A, S2(G) & S2A (G)	
	SD/1/4212		Soakaway Type S3, S3A & S3B	
	SD/1/4221		Rubble Drain, Terminal Soakaway & Linear Ditch Soakaway	
	SD/1/4301		Ditches Type 1, 2 & 3	
	SD/1/4311		Headwall Type 1A & 1B	SD/1/4301
	SD/1/4321		Headwall Type 2A & 2B	SD/1/4301
	SD/1/4331		Headwall Type 3	SD/1/4301
	SD/1/4341		Headwall Type 4 - Flag Paving	SD/1/4301
	SD/1/4351		Headwall Type 5 - Concrete bagwork	SD/1/4301
	SD/1/4361		Headwall Type 6 - Concrete bagwork (incorporating sump)	SD/1/4301

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NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH APPENDIX 5/1.
- DIMENSION X IS THE EXTERNAL DIAMETER OF THE PIPE.
- THE MINIMUM OR MAXIMUM WIDTH OF THE TRENCH APPLIES ON AND BELOW A LINE 300 ABOVE THE OUTSIDE TOP OF THE PIPE. ABOVE THE 300 LINE THE TRENCH BACKFILL MATERIAL SHALL BE AS DESCRIBED IN CLAUSE 505.
- THE CONCRETE BED OR SURROUND MAY EXTEND TO THE SIDES OF THE TRENCH OR BE OF MINIMUM WIDTH CLASS 8 MATERIAL IS TO BE USED TO FILL ANY VOIDS SO FORMED.
- FOR TYPE Z TRENCH THE CONCRETE COVER MAY BE FORMED TO A RADIUS BATTER OR HORIZONTAL SURFACE. MINIMUM COVER OF CONCRETE SHALL BE 150.
- CARRIAGEWAY AND FOOTWAY REINSTATEMENT DETAILS ARE SHOWN ON DRAWINGS SD/1/1101, SD/1/1131 & SD/1/1501 & SD/1/1511.
- WHERE PIPE IS UNDER CARRIAGEWAY OR BENEATH VERGE OR FOOTWAY WITHIN 2000 FROM THE CARRIAGEWAY EDGE, COVER TO PIPE SHALL BE MINIMUM 600. IN CASES WHERE THE COVER IS LESS THAN 900, PIPE BEDDING SHALL BE TYPE Z.
- WHERE PIPE IS UNDER VERGE OR FOOTWAY GREATER THAN 2000 FROM THE CARRIAGEWAY EDGE COVER TO PIPE SHALL BE MINIMUM 450. IN CASES WHERE COVER IS LESS THAN 600, PIPE BEDDING SHALL BE TYPE Z.

DESIGNED	DRAWN	DATE	SHEET	REVISION
BBLP	RMC	July 2012	1 of 1	
CHECKED	APPROVED	SCALE @ A3	NTS	
AF	GPR			

DRAWING NUMBER
SD/1/4001

LEGEND:

- GRANULAR MATERIAL TO CLAUSE 503.3(i)
- MIX ST2 CONCRETE TO CLAUSE 2602
- MATERIAL TO CLAUSE 503.3(ii) eg. SAND
- CLASS 8 MATERIAL TO CLAUSE 503.3(i)

DETAIL OF FLEXIBLE JOINTS FOR CONCRETE BED OR SURROUND

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Balfour Beatty
Living Places
Working in partnership
City Depot & Recycling Park
SOUTHAMPTON SO14 7LJ
Tel: +44 (0)2380 795010
Fax: +44 (0)2380 795022
http://www.livingplaces.com
Design Group

Southampton City Council
 Civic Centre
 SOUTHAMPTON SO14 7LJ

Highway Standard Details
Surface water drains
trench and bedding

DO NOT SCALE FROM THIS DRAWING

P:\06819 Standard Details updated May 2012\Drawings\CLC-0011 DWG_02/06/2012 11:28:59

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH APPENDIX 5/1.
3. DIMENSION X IS THE EXTERNAL DIAMETER OF THE PIPE.
4. PIPES SHALL COMPLY WITH THE REQUIREMENTS FOR FILTER DRAIN PIPES IN TABLE 5/1.
5. PIPES ARE TO BE LAID WITH SLOTS OR PERFORATIONS DOWNWARDS UNLESS OTHERWISE DESCRIBED IN APPENDIX 5/1.
6. MINIMUM DRAIN WIDTH: Y=X+300 FOR DRAINS NOT EXCEEDING 1500 COVER BELOW FINISHED LEVEL. Y=X+450 FOR DRAINS EXCEEDING 1500 COVER BELOW FINISHED LEVEL.

TYPE 1A

TYPE 1B

TYPE 1C

MIN OVERLAP 250

LEGEND:

- TOPSOIL TO CLAUSE 618. SEEDING TO CLAUSE 3005
- TYPE B FILTER MATERIAL TO CLAUSE 505
- GRANULAR MATERIAL TO CLAUSE 503.3(i)
- GEOTEXTILE MATERIAL SHALL BE A THERMALLY BONDED NON-WOVEN MATERIAL (TERRAM 1000 OR EQUIVALENT).

DESIGNED	BBLP	APPROVED	AF	DATE	JULY 2012	SHEET	1 of 1	REVISION	
CHECKED	RMC	APPROVED	GPR	SCALE	A3	NTS		DRAWING NUMBER	SD/1/4011

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Highway Standard Details
Filter drains
trench and bedding

DO NOT SCALE FROM THIS DRAWING

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH APPENDIX 5/1.
- DIMENSION X IS THE EXTERNAL DIAMETER OF THE DUCT.
- THE MINIMUM OR MAXIMUM WIDTH OF THE TRENCH APPLIES ON OR BELOW A LINE 300 ABOVE THE OUTSIDE TOE OF THE UPPERMOST BACKFILL MATERIAL SO LONG AS THE UPPERMOST BACKFILL MATERIAL SHALL BE AS DESCRIBED IN CLAUSE 505.
- THE CONCRETE BED OR SURROUND MAY EXTEND TO THE SIDES OF THE TRENCH OR BE TO THE MINIMUM WIDTH. CLASS B MATERIAL IS TO BE USED TO FILL ANY VOID SO FORMED.
- CARRIAGEWAY REINSTATEMENT DETAILS ARE SHOWN ON DRAWINGS SD/1/1501 & SD/1/1511.
- COVER TO UPPERMOST DUCT SHALL BE MINIMUM 600.
- ALL DUCTING TO BE TWIN-WALLED UPVC TO DIAMETERS AND COLOURS SPECIFIED BY THE ENGINEER.
- DUCTS ARE TO BE LAID AT A SINGLE DEPTH UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. VERTICAL CLEARANCE BETWEEN DUCTS SHALL BE 100 MINIMUM.

ST2 CONCRETE TO CLAUSE 2602

POLYTHENE MARKER TAPE MARKED "TRAFFIC SIGNALS" OR "STREET LIGHTING" AT 1000 MINIMUM INTERVALS AS SPECIFIED BY THE ENGINEER

LEGEND:

DESIGNED	RMC	DATE	July 2012	SHEET	1 of 1	REVISION
CHECKED	AF	APPROVED	GPR	SCALE	A3	
DRAWING NUMBER			SD/1/4021			
Highway Standard Details						
Carrageway service ducts						
trench and bedding						
DO NOT SCALE FROM THIS DRAWING						

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH APPENDIX 5/1.
3. DIMENSION X IS THE EXTERNAL DIAMETER OF THE DUCT.
4. THE MINIMUM OR MAXIMUM WIDTH OF THE TRENCH APPLIES ON OR BELOW A LINE 300 ABOVE THE OUTSIDE TOP OF THE UPPERMOST DUCT. ABOVE THE 300 LINE THE TRENCH BACKFILL MATERIAL SHALL BE AS DESCRIBED IN CLAUSE 505.
5. THE CONCRETE BED OR SURROUND MAY EXTEND TO THE SIDES OF THE TRENCH OR BE TO THE MINIMUM WIDTH. CLASS 8 MATERIAL IS TO BE USED TO FILL ANY VOID SO FORMED.
6. FOOTWAY REINSTATEMENT DETAILS ARE SHOWN ON DRAWINGS SD/1/1101 & SD/1/1131.
7. WHERE DUCTS ARE BENEATH VERGE OR FOOTWAY WITHIN 2000 FROM THE CARRIAGEWAY EDGE, COVER TO UPPERMOST DUCT SHALL BE MINIMUM 600.
8. WHERE DUCTS ARE UNDER VERGE OR FOOTWAY GREATER THAN 2000 FROM THE CARRIAGEWAY EDGE COVER TO UPPERMOST DUCT SHALL BE MINIMUM 450.
9. ALL DUCTING TO BE TWIN-WALLED UPVC TO DIAMETERS AND COLOURS SPECIFIED BY THE ENGINEER.
10. DUCTS ARE TO BE LAID AT A SINGLE DEPTH UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. VERTICAL CLEARANCE BETWEEN DUCTS SHALL BE 100 MINIMUM.

DESIGNED	BBLP	CHECKED	AF
DRAWN	RMC	APPROVED	GPR
DATE	July 2012	SCALE	A3
SHEET	1 of 1	NTS	
DRAWING NUMBER		SD/1/4031	

SINGLE DUCT
STANDARD INSTALLATION

X+600 MAX
X+300 MIN

TWIN DUCT
STANDARD INSTALLATION

2X+700 MAX
2X+400 MIN

TRIPLE DUCT
STANDARD INSTALLATION

3X+800 MAX
3X+500 MIN

SINGLE DUCT
RESTRICTED WIDTH INSTALLATION

X+600 MAX
X+300 MIN

TWIN DUCT
RESTRICTED WIDTH INSTALLATION

2X+700 MAX
2X+400 MIN

TRIPLE DUCT
RESTRICTED WIDTH INSTALLATION

3X+800 MAX
3X+500 MIN

LEGEND:

- LIGHTLY COMPACTED SAND TO CLAUSE 503.3 (ii)
- POLYTHENE MARKER TAPE MARKED 'TRAFFIC SIGNALS' OR 'STREET LIGHTING' AT 1000 MINIMUM INTERVALS AS SPECIFIED BY THE ENGINEER

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Working in partnership

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Southampton City Council
Civic Centre
SOUTHAMPTON SO14 7LY

Highway Standard Details
Footway service details
trench and bedding

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES.
- THE DETAIL SHOWN IS FOR A PRECAST CONCRETE GULLY. THE POT MAY ALSO BE CONSTRUCTED USING CLAYWARE OR BE CAST IN-SITU USING PLASTIC OR RE-USABLE FORMER AND MIX S14 CONCRETE OF MINIMUM THICKNESS 150 BED AND BACKFILL. FINISH SHALL BE CLASS F2 TO CLAUSE 1706.
- WHERE THE OUTLET PIPE IS UNDER THE CARRIAGEWAY OR UNDER THE VERGE OR FOOTWAY WITHIN 2000 OF THE CARRIAGEWAY EDGE, IT SHALL BE GIVEN A MINIMUM 600 COVER AND TYPE Z BED AND SURROUND SHOWN ON DRAWING SD/1/4001. WHERE THE OUTLET PIPE IS OVER 2000 FROM THE CARRIAGEWAY EDGE, IT SHALL HAVE A MINIMUM COVER OF 450.
- WHERE SURFACING MATERIAL IS BLOCK PAVING, THE FRAME SHALL BE PHYSICALLY ANCHORED TO THE BRICKWORK IN ACCORDANCE WITH THE FRAME MANUFACTURER'S INSTRUCTIONS.
- GRATINGS SHALL BE EITHER LEFT HAND OR RIGHT HAND HINGED AS VIEWED WHEN FACING THE KERB. THE HINGED END SHALL BE NEAREST ON-COMING TRAFFIC. THE GRATING SHALL BE CAPTIVE WITHIN THE FRAME.
- CARRIAGEWAY AND FOOTWAY REINSTATEMENT DETAILS ARE SHOWN ON DRAWINGS SD/1/1101, SD/1/1131 SD/1/1501 & SD/1/1511.
- ALL PIPES CONNECTING TO THE CHAMBER SHALL HAVE AN ARTICULATED SECTION AS CLAUSE 507.17. THE ARTICULATED SECTION SHALL NOT BE RESTRICTED BY CONCRETE. DIMENSION 'X', THE FIRST PIPE, SHALL HAVE A FLEXIBLE JOINT WITHIN 600 OF THE INSIDE FACE OF THE CHAMBER. DIMENSION 'Y' SHALL CONNECT TO A SHORT ROCKER PIPE. THE ROCKER PIPE SHALL HAVE A MINIMUM LENGTH EQUAL TO THE RESPECTIVE NOMINAL PIPE DIAMETER AND A MAXIMUM LENGTH OF 750 FOR PIPES UP TO 450 DIAMETER. FOR PIPES 450 TO 750 DIAMETER, MAXIMUM LENGTH SHALL BE 1000. FOR PIPES EXCEEDING 750 DIAMETER, MAXIMUM LENGTH SHALL BE 2x NOMINAL PIPE DIAMETER.
- ALL CEMENT USED IN INSITU CONCRETE SHALL BE CII (A OR B)-S OR CII A OR B TO BS 8500-2 TABLE 1 AND ANNEXE A.

GRATING AND FRAME TO BS EN 124 CLASS D400. THE FRAME SHALL BE BEDDED ON MINIMUM 15 THICKNESS POLYESTER RESIN MORTAR AND SHALL BE SET TO CROSSFALL AND PROFILE OF CARRIAGEWAY 0 TO 6 BELOW CHANNEL LEVEL.

WHERE KERBLINE CROSSES THE BRICKWORK TO THE GULLY, SAW CUT KERB SO THAT THE BOTTOM EDGE CORRESPONDS TO THE BOTTOM EDGE OF THE GRATING FRAME. BED KERB ON 10 TO 40 THICKNESS POLYESTER RESIN MORTAR TO CLAUSE 2601 AND BACK WITH A MINIMUM 150 THICKNESS MIX S11 CONCRETE.

CONSTRUCT A MINIMUM OF 2 AND A MAXIMUM OF 5 COURSES OF 225 RADIAL BRICKWORK IN CLASS B SOLID ENGINEERING BRICKS TO BS EN 771-1 AND CLAUSE 2406. BOLSTER CUT WEDGES WHERE NECESSARY AND INFILL WITH CEMENT MORTAR. ALL BRICKWORK MORTAR SHALL BE DESIGNATION (i) COMPLYING WITH CLAUSE 2404.

IF THE GULLY IS TO BE TRAFFICKED WITHIN 48 HOURS OF BRICKWORK CONSTRUCTION, POLYESTER RESIN MORTAR TO CLAUSE 2601 SHALL BE USED IN-LIEU.

MINIMUM 150 THICKNESS OF MIX S14 CONCRETE BED AND BACKFILL

150 DIAMETER OUTLET PIPE

450

750

SECTION

SEE NOTE C

KERBFACE

TUBE SHALL PASS THROUGH BEDDING MORTAR

HYDRAULIC RELIEF TUBE DETAIL

(FOR USE WHEN SURFACING MATERIAL IS BLOCK PAVING)

KERBFACE

DRAINAGE CONNECTION AS INSTRUCTED BY THE ENGINEER

HYDRAULIC RELIEF TUBE TO PROVIDE DRAINAGE FOR SAND LAYING COURSE WHERE SURFACING MATERIAL IS OF BLOCK PAVING.

THE HYDRAULIC RELIEF TUBE SHALL BE FORMED FROM 125 DIAMETER COPPER PIPE WITH HALF VERTICAL SAW CUTS AT 100 CENTRES. EACH PIPE SHALL BE 1000 IN LENGTH, STOP ENDED AND SURROUNDED WITH 180 MICRON GEOTEXTILE MATERIAL.

PLAN

(GRATING OMITTED FOR CLARITY)

DESIGNED: BBLP
CHECKED: AF

DRAWN: RMC
APPROVED: GPR

DATE: July 2012
SCALE: A3

SHEET: 1 of 1

REVISION

DRAWING NUMBER: SD/1/4101

DRAWING TITLE: Highway Standard Details Gully Type 1T BBLP

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REVISIONS: DATE, DRAWN, CHKD, APPD, AMENDMENT

DRAWING STATUS: UNCONTROLLED COPY

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CITY CENTRE
CITY SQUARE

GRATING AND FRAME TO BS EN 124 CLASS D400. THE FRAME SHALL BE BEDDED ON MINIMUM 15 THICKNESS POLYESTER RESIN MORTAR AND SHALL BE SET TO CROSSFALL AND PROFILE OF CARRIAGEWAY 0 TO 6 BELOW CHANNEL LEVEL.

WHERE KERBLINE CROSSES THE BRICKWORK TO THE GULLY, SAW CUT KERB SO THAT THE BOTTOM EDGE CORRESPONDS TO THE BOTTOM EDGE OF THE GRATING FRAME. BED KERB ON 10 TO 40 THICKNESS POLYESTER RESIN MORTAR TO CLAUSE 2601 AND BACK WITH A MINIMUM 150 THICKNESS ST1 CONCRETE.

225 BRICKWORK IN CLASS B SOLID ENGINEERING BRICKS TO BS EN 771-1 AND CLAUSE 2406. ALL BRICKWORK LAID ON CLASS (i) CEMENT MORTAR TO CLAUSE 2404 IN ENGLISH BOND. IF THE GULLY IS TO BE TRAFFICKED WITHIN 48 HOURS OF BRICKWORK CONSTRUCTION, POLYESTER RESIN MORTAR TO CLAUSE 2601 SHALL BE USED IN-LIEU.

75 MINIMUM THICKNESS ST2 CONCRETE TO CLAUSE 2602 BACKFILL

150 DIAMETER OUTLET PIPE

150 MINIMUM THICKNESS ST4 CONCRETE TO CLAUSE 2602 BED

450

300

MINIMUM

NOTE 2

SEE

SECTION

PLAN

1012

900

KERBFACE

DRAINAGE CONNECTION AS INSTRUCTED BY THE ENGINEER

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES.
- WHERE THE OUTLET PIPE IS UNDER THE CARRIAGEWAY, OR UNDER THE VERGE OR FOOTWAY WITHIN 2000 OF THE CARRIAGEWAY EDGE, IT SHALL BE GIVEN A MINIMUM 600 COVER AND TYPE Z BED AND SURROUND SHOWN ON DRAWING SD/1/4001. WHERE THE OUTLET PIPE IS OVER 2000 FROM THE CARRIAGEWAY EDGE, IT SHALL HAVE A MINIMUM COVER OF 450.
- WHERE SUBPACING MATERIAL IS BLOCK PAVING, THE FRAME SHALL BE PHYSICALLY ANCHORED TO THE BRICKWORK IN ACCORDANCE WITH THE FRAME MANUFACTURER'S INSTRUCTIONS.
- GRATINGS SHALL BE EITHER LEFT HAND OR RIGHT HAND HINGED AS VIEWED WHEN FACING THE KERB. THE HINGED END SHALL BE NEAREST ON-COMING TRAFFIC. THE GRATING SHALL BE CAPTIVE WITHIN THE FRAME.
- CARRIAGEWAY AND FOOTWAY REINSTATEMENT DETAILS ARE SHOWN ON DRAWINGS SD/1/1101,SD/1/1131 & SD/1/1501 & SD/1/1511.
- ALL PIPES CONNECTING TO THE CHAMBER SHALL HAVE AN ARTICULATED SECTION AS CLAUSE 507.17. THE ARTICULATED SECTION SHALL NOT BE RESTRICTED BY CONCRETE. DIMENSION 'X', THE FIRST PIPE, SHALL HAVE A FLEXIBLE JOINT WITHIN 600 OF THE INSIDE FACE OF THE CHAMBER AND SHALL CONNECT TO A SHORT ROCKER PIPE. DIMENSION 'Y', THE ROCKER PIPE, SHALL HAVE A MINIMUM LENGTH EQUAL TO THE RESPECTIVE NOMINAL PIPE DIAMETER AND A MAXIMUM LENGTH OF 750 FOR PIPES UP TO 450 DIAMETER. FOOTING SHALL BE 100 FOR PIPES EXCEEDING 750 DIAMETER. MAXIMUM LENGTH SHALL BE 2x NOMINAL PIPE DIAMETER.
- ALL CEMENT USED IN INSITU CONCRETE SHALL BE CII (A OR B) -S OR CII A OR B TO BS 8500-2 TABLE 1 AND ANNEXE A.

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DESIGNED BBLP	DRAWN RMC	DATE July 2012	SHEET 1 of 1	REVISION
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DRAWING TITLE Highway Standard Details Gully Type 2			DRAWING NUMBER SD/1/4111	
<p>Balfour Beatty Living Places Working in partnership</p> <p>City Depot & Recycling Park 1000 Parkway, Southampton SO14 4JL SOUTHAMPTON Tel: +44 (0)2380 789000 Fax: +44 (0)2380 789022 Web: www.bbivingplaces.com</p> <p>Design Group</p>				
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WHERE KERBLINE CROSSES THE BRICKWORK TO THE GULLY, SAW CUT KERB SO THAT THE BOTTOM EDGE CORRESPONDS TO THE BOTTOM EDGE OF THE GRATING FRAME. BED KERB ON 10 TO 40 THICKNESS POLYESTER RESIN MORTAR TO CLAUSE 2601 AND BACK WITH A MINIMUM 150 THICKNESS ST1 CONCRETE.

75 MINIMUM THICKNESS ST2 CONCRETE TO CLAUSE 2602 BACKFILL

225 BRICKWORK IN CLASS B SOLID ENGINEERING BRICKS TO BS EN 771-1 AND CLAUSE 2406. ALL BRICKWORK LAID ON CLASS (i) CEMENT MORTAR TO CLAUSE 2404 IN ENGLISH BOND.

IF GULLY IS TO BE TRAFFICKED WITHIN 48 HOURS OF BRICKWORK CONSTRUCTION, POLYESTER RESIN MORTAR TO CLAUSE 2601 SHALL BE USED IN-LIEU.

GRATING AND FRAME TO BS EN 124 CLASS D400. THE FRAME SHALL BE BEDDED ON MINIMUM 15 THICKNESS POLYESTER RESIN MORTAR AND SHALL BE SET TO CROSSFALL AND PROFILE OF CARRIAGEWAY 0 TO 6 BELOW CHANNEL LEVEL

GULLY CHUTE CONNECTOR WITH 150 DIAMETER OUTLET

MIX ST4 CONCRETE TO CLAUSE 2602 BASE AND SURROUND TO CHUTE CONNECTOR

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES.
- WHERE THE OUTLET PIPE IS UNDER THE CARRIAGEWAY, OR UNDER THE VERGE OR FOOTWAY WITHIN 2000 OF THE CARRIAGEWAY EDGE, IT SHALL BE GIVEN A MINIMUM 600 COVER AND TYPE Z BED AND SURROUND SHOWN ON DRAWING SD/1/4001. WHERE THE OUTLET PIPE IS OVER 2000 FROM THE CARRIAGEWAY EDGE, IT SHALL HAVE A MINIMUM COVER OF 450.
- WHERE SURFACING MATERIAL IS BLOCK PAVING, THE FRAME SHALL BE PHYSICALLY ANCHORED TO THE BRICKWORK IN ACCORDANCE WITH THE FRAME MANUFACTURER'S INSTRUCTIONS.
- GRATINGS SHALL BE EITHER LEFT HAND OR RIGHT HAND HINGED AS VIEWED FROM THE FACING SIDE. THE HINGED SIDE SHALL BE NEAREST THE ON-COMING TRAFFIC. THE GRATING SHALL BE CAPTIVE WITHIN THE FRAME.
- CARRIAGEWAY AND FOOTWAY REINSTATEMENT DETAILS ARE SHOWN ON DRAWINGS SD/1/1101, SD/1/1131, SD/1/1501 & SD/1/1511.
- ALL PIPES CONNECTING TO THE CHAMBER SHALL HAVE AN ARTICULATED SECTION AS CLAUSE 507.17. THE ARTICULATED SECTION SHALL NOT BE RESTRICTED BY CONCRETE. DIMENSION 'X', THE FIRST PIPE, SHALL HAVE A FLEXIBLE JOINT WITHIN 600 OF THE INSIDE FACE OF THE CHAMBER AND SHALL CONNECT TO A SHORT ROCKER PIPE. DIMENSION 'Y', THE ROCKER PIPE, SHALL HAVE A MINIMUM LENGTH EQUAL TO THE RESPECTIVE NOMINAL PIPE DIAMETER AND A MAXIMUM LENGTH OF 750 FOR PIPES UP TO 450 DIAMETER. FOR PIPES 450 TO 750 DIAMETER, MAXIMUM LENGTH SHALL BE 1000. FOR PIPES EXCEEDING 750 DIAMETER, MAXIMUM LENGTH SHALL BE 2x NOMINAL PIPE DIAMETER.
- ALL CEMENT USED IN INSTU CONCRETE SHALL BE CII (A OR B)-S OR CII A OR B TO BS 8500-2 TABLE 1 ANNEXE A.

SECTION

PLAN

DRAINAGE CONNECTION AS INSTRUCTED BY THE ENGINEER

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DESIGNED BBLP	DRAWN RMC	DATE July 2012	SHEET 1 of 1	REVISION	
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DRAWING TITLE Highway Standard Details Gully Type 3				DRAWING NUMBER SD/1/4121	
Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY City Depot & Recycling Park Fire Avenue, Millbrook SOUTHAMPTON SO9 6LJ Tel: +44 (0)2380 788010 Fax: +44 (0)2380 788022 Web: www.bbivingplaces.com Design Group					
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TYPICAL SECTION

GRATING AND FRAME TO BS EN 124 CLASS D400 SHALL HAVE A 600x600 CLEAR OPENING. THE FRAME SHALL BE BEDDED ON MINIMUM 15 THICKNESS POLYESTER RESIN MORTAR AND SHALL BE SET TO CROSSFALL AND PROFILE OF CARRIAGEWAY, VERGE OR FOOTWAY 0 TO 6 BELOW FINISHED LEVEL.

75 MINIMUM THICKNESS ST2 CONCRETE TO CLAUSE 2602 BACKFILL

150 MINIMUM THICKNESS ST4 CONCRETE TO CLAUSE 2602 BASE

PLAN

225 600 225

225 600 225

50

225 BRICKWORK IN CLASS B SOLID ENGINEERING BRICKS TO BS EN 771-1 AND CLAUSE 2406. ALL BRICKWORK LAID ON CLASS (i) CEMENT MORTAR TO CLAUSE 2404 IN ENGLISH BOND.

IF GULLY IS TO BE TRAFFICKED WITHIN 48 HOURS OF BRICKWORK CONSTRUCTION, POLYESTER RESIN MORTAR TO CLAUSE 2601 SHALL BE USED IN-LIEU.

BRICK ARCH RINGS REQUIRED OVER PIPES.

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. WHERE THE OUTLET AND INLET PIPES ARE UNDER THE CARRIAGEWAY OR UNDER THE VERGE OR FOOTWAY WITHIN 2000 OF THE CARRIAGEWAY EDGE, THEY SHALL BE GIVEN A MINIMUM 600 COVER AND TYPE Z BED AND SURROUND SHOWN ON DRAWING SD/1/4001. WHERE THE OUTLET AND INLET PIPES ARE OVER 2000 FROM THE CARRIAGEWAY EDGE, THEY SHALL HAVE A MINIMUM COVER OF 450.
 3. WHERE SURFACING MATERIAL IS BLOCK PAVING, THE FRAME SHALL BE PHYSICALLY ANCHORED TO THE BRICKWORK IN ACCORDANCE WITH THE FRAME MANUFACTURER'S INSTRUCTIONS.
 4. GRATINGS USED WITHIN THE CARRIAGEWAY OR IN CYCLEWAYS SHALL BE EITHER LEFT OR RIGHT HINGED AS VIEWED WHEN FACING THE KERB. THE HINGED END SHALL BE NEAREST TO THE COMING TRAFFIC. ALL GRATINGS SHALL BE CAPTIVE WITHIN THE FRAME.
 5. CARRIAGEWAY AND FOOTWAY REINSTATEMENT DETAILS ARE SHOWN ON DRAWINGS SD/1/1101, SD/1/1131 SD/1/1501 & SD/1/1511.
 6. ALL PIPES CONNECTING TO THE CHAMBER SHALL HAVE AN ARTICULATED SECTION AS CLAUSE 507.17. THE ARTICULATED SECTION SHALL NOT BE RESTRICTED BY CONCRETE. DIMENSION 'X', THE FIRST PIPE, SHALL HAVE A FLEXIBLE JOINT WITHIN 600 OF THE INSIDE FACE OF THE CHAMBER AND SHALL CONNECT TO A SHORT ROCKER PIPE. DIMENSION 'Y', THE ROCKER PIPE, SHALL HAVE A MINIMUM PIPE LENGTH EQUAL TO THE RESPECTIVE NOMINAL PIPE DIAMETER AND A MAXIMUM LENGTH OF 750 FOR PIPES UP TO 450 DIAMETER. FOR PIPES 450 TO 750 DIAMETER, MAXIMUM LENGTH SHALL BE 1000. FOR PIPES EXCEEDING 750 DIAMETER, MAXIMUM LENGTH SHALL BE 2x NOMINAL PIPE DIAMETER.
 7. ALL CEMENT USED IN INSTU CONCRETE SHALL BE C1 (A OR B)-S OR CIII A OR B TO BS 8500-2 TABLE 1 AND ANNEXE A.

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NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES.
- WHERE THE OUTLET AND INLET PIPES ARE UNDER THE CARRIAGEWAY OR UNDER THE VERGE OR FOOTWAY WITHIN 2000 OF THE CARRIAGEWAY EDGE, THEY SHALL BE GIVEN A MINIMUM 600 COVER AND TYPE Z BED AND SURROUND SHOWN ON DRAWING SD/1/4001, WHERE THE OUTLET AND INLET PIPES ARE OVER 2000 FROM THE CARRIAGEWAY EDGE, THEY SHALL HAVE A MINIMUM COVER OF 450.
- WHERE SURFACING MATERIAL IS BLOCK PAVING, THE FRAME SHALL BE PHYSICALLY ANCHORED TO THE BRICKWORK IN ACCORDANCE WITH THE FRAME MANUFACTURER'S INSTRUCTIONS.
- GRATINGS USED WITHIN THE CARRIAGEWAY OR IN CYCLEWAYS SHALL BE EITHER LEFT OR RIGHT HINGED AS VIEWED WHEN FACING THE KERB. THE HINGED END SHALL BE NEAREST THE ON-COMING TRAFFIC. ALL GRATINGS SHALL BE CAPTIVE WITHIN THE FRAME.
- CARRIAGEWAY AND FOOTWAY REINSTATEMENT DETAILS ARE SHOWN ON DRAWINGS SD/1/1101, SD/1/1131, SD/1/1501 & SD/1/1511.
- ALL PIPES CONNECTING TO THE CHAMBER SHALL HAVE AN APPROVED SECTION AS SHOWN IN 507. THE ARTICULATE PIPE SHALL NOT BE RESTRICTED BY CONCRETE DIMENSION 'X'. THE FIRST PIPE SHALL HAVE A FLEXIBLE JOINT WITHIN 600 OF THE INSIDE FACE OF THE CHAMBER AND SHALL CONNECT TO A SHORT ROCKER PIPE DIMENSION 'Y'. THE ROCKER PIPE SHALL HAVE A MINIMUM LENGTH EQUAL TO THE RESPECTIVE NOMINAL PIPE DIAMETER AND A MAXIMUM LENGTH OF 750 FOR PIPES UP TO 450 DIAMETER. FOR PIPES 450 TO 750 DIAMETER, THE MAXIMUM LENGTH SHALL BE 1000. FOR PIPES EXCEEDING 750 DIAMETER, MAXIMUM LENGTH SHALL BE 2x NOMINAL PIPE DIAMETER.
- ALL CEMENT USED IN INSITU CONCRETE SHALL BE CII (A OR B) OR CIII A OR B TO BS 8500-2 TABLE 1 AND ANNEXE A.

GRATING AND FRAME TO BS EN 124 CLASS D400 SHALL HAVE A 600x600 CLEAR OPENING. THE FRAME SHALL BE BEDDED ON MINIMUM 15 THICKNESS POLYESTER RESIN MORTAR AND SHALL BE SET TO CROSSFALL AND PROFILE OF CARRIAGEWAY, VERGE OR FOOTWAY 0 TO 6 BELOW FINISHED LEVEL.

125 PRECAST CONCRETE SLAB TO BS.5911-3 BEDDED ON MINIMUM 10 THICKNESS CLASS (i) CEMENT MORTAR TO CLAUSE 2404.

75 MINIMUM THICKNESS ST2 CONCRETE TO CLAUSE 2602 BACKFILL

900 INTERNAL DIAMETER CHAMBER RING TO BS.5911-200

150 MINIMUM THICKNESS ST4 CONCRETE TO CLAUSE 2602 BASE

TYPICAL SECTION

PLAN

(GRATING AND CONCRETE BACKFILL OMITTED FOR CLARITY)

TABLE 1

TYPE	LARGEST PIPE DIAMETER	CHAMBER DIA
CCG1	150	900
CCG2	150 TO 225	1050
CCG3	300	1200
CCG4	375 TO 450	1500

DESIGNED	BBLP	DRAWN	RMC	DATE	July 2012	SHEET	1 of 1	REVISION	
CHECKED	AF	APPROVED	GPR	SCALE	A3	NTS			
DRAWING TITLE						DRAWING NUMBER			
Highway Standard Details Combined catchpit/gully Type CCG - Precast concrete						SD/1/4141			

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DRAWING TITLE
Highway Standard Details
Combined catchpit/gully
Type CCG - Precast concrete

DRAWING NUMBER
SD/1/4141

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COVER AND FRAME TO BS EN 124 CLASS D400 SHALL HAVE A 675x675 CLEAR OPENING. THE FRAME SHALL BE BEDDED ON MINIMUM 15 THICKNESS POLYESTER RESIN MORTAR AND SHALL BE SET TO CROSSFALL AND PROFILE OF CARRIAGEWAY, VERGE OR FOOTWAY AT FINISHED LEVEL.

REINSTATE ABOVE COVER SLAB AS FOLLOWS:
 (i) CARRIAGEWAY AS SHOWN ON DRAWING SD/1/1501 & SD/1/1511,
 (ii) FOOTWAY USING SUB-BASE MATERIAL TO CLAUSE 803 TO FORMATION LEVEL THEN AS SHOWN ON DRAWINGS SD/1/1101 & SD/1/1131,
 (iii) VERGES USING COMPACTED GENERAL FILL MATERIAL TO UNDERSIDE OF TOPSOIL.

2 COURSES OF 225 BRICKWORK IN CLASS B SOLID ENGINEERING BRICKS TO BS EN 771-1 AND CLAUSE 2406. ALL BRICKWORK LAID ON CLASS (i) CEMENT MORTAR TO CLAUSE 2404 IN ENGLISH BOND. IF CHAMBER IS TO BE TRAFFICKED WITHIN 48 HOURS OF BRICKWORK CONSTRUCTION, POLYESTER RESIN MORTAR TO CLAUSE 2601 SHALL BE USED IN-LEU.

PRECAST CONCRETE SLAB TO BS 5911-3 BEDDED ON MINIMUM 10 THICKNESS CLASS (i) MORTAR TO CLAUSE 2404.

150 MINIMUM THICKNESS ST4 CONCRETE TO CLAUSE 2602 BACKFILL TO TOP OF COVER SLAB.

50 MINIMUM 150 MAXIMUM

3000 MAXIMUM DEPTH

SEE TABLE FOR CHAMBER DIAMETER

500 MAX.

300 MIN 400 MAX

1500 MAX

ARTICULATED PIPE SEE NOTE 6

ARTICULATED PIPE SEE NOTE 6

REINSTATE OVERCUT AND MAKE UP FILLET IN CLASS (i) MORTAR

150 MINIMUM THICKNESS ST4 SEE NOTE 7

65 NOMINAL BORE WEEP PIPE 600 LENGTH ON UPSTREAM SIDE TO BE BUILT INTO CATCHPIT TO DRAIN LOWER PORTION OF GRANULAR TRENCH BACKFILL AND SHALL BE PLACED ABOVE ANY CONCRETE TRENCH BEDDING.

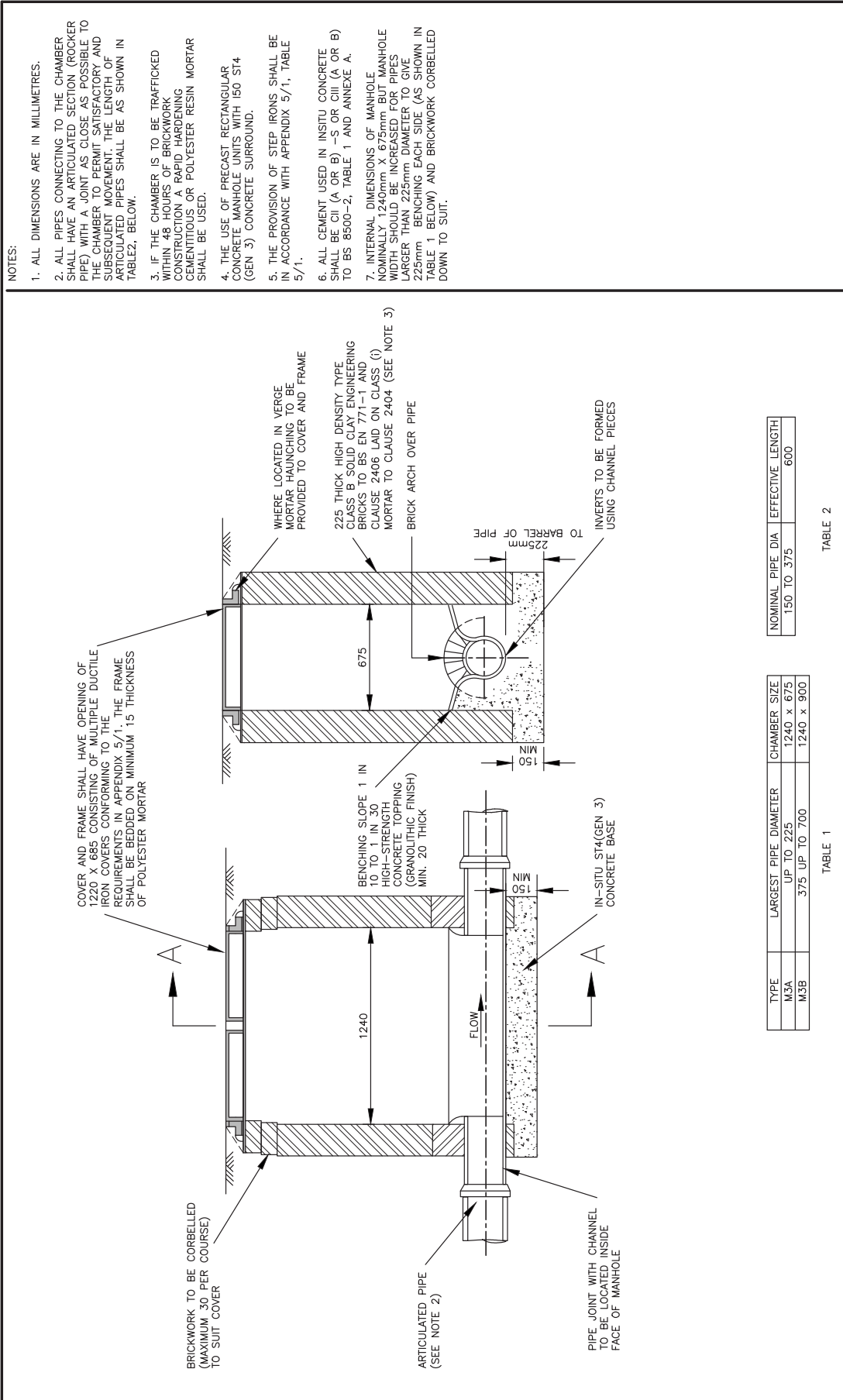
NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES.
- WHERE THE OUTLET AND INLET PIPES ARE UNDER THE CARRIAGEWAY OR UNDER THE VERGE OR FOOTWAY WITHIN 2000 OF THE CARRIAGEWAY EDGE, THEY SHALL BE GIVEN A MINIMUM 800 COVER AND TYPE Z BED AND SURROUND SHOWN ON DRAWING SD/1/4001. WHERE THE OUTLET AND INLET PIPES ARE OVER 2000 FROM THE CARRIAGEWAY EDGE, THEY SHALL HAVE A MINIMUM COVER OF 450.
- WHERE SURFACING IS BLOCK PAVING, THE FRAME SHALL BE PHYSICALLY ANCHORED TO THE BRICKWORK IN ACCORDANCE WITH THE FRAME MANUFACTURER'S INSTRUCTIONS.
- ALL COVERS SHALL BE CAPTIVE WITHIN THE FRAME.
- CHAMBER RINGS AND COVER SLAB TO BS 5911-3 AND BSEN 1917. STEP IRONS ARE NOT TO BE PROVIDED IN CATCHPITS.
- ALL PIPES CONNECTING TO THE CHAMBER SHALL HAVE AN ARTICULATED SECTION (ROCKER PIPE) AS CLAUSE 507.17. THE ARTICULATED PIPE SHALL NOT BE RESTRICTED BY CONCRETE.
- ALL CEMENT USED IN INSITU SHALL BE CI (A OR B) OR CII A OR B TO BS 8500-2 TABLE 1 AND ANNEXE A.
- UNLESS LEVELS DICTATE OTHERWISE A MINIMUM 75mm DIFFERENCE SHALL BE PROVIDED BETWEEN INLET AND OUTLET PIPES.
- CATCHPIT TYPE C1 AS SHOWN. CATCHPIT TYPE C2 AS SHOWN BUT BACKFILL TO EXCAVATION IN ACCORDANCE WITH CLAUSE 507.7

TYPE	LARGEST PIPE DIAMETER	CHAMBER DIA
C1A & C2A	0-300	1200
C1B & C2B	375 - 400	1500
C1C & C2C	500-900	1800

DESIGNED	BBLP	DRAWN	RMC	DATE	JULY 2012	SHEET	1 of 1	REVISION
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Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY								DRAWING NUMBER
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Highway Standard Details Catchpit								
Type C1A, C1B, C2A, C2B, C1C & C2C								
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- NOTES:**
- ALL DIMENSIONS ARE IN MILLIMETRES.
 - ALL PIPES CONNECTING TO THE CHAMBER SHALL HAVE AN ARTICULATED SECTION (ROCKER PIPE) WITH A JOINT AS CLOSE AS POSSIBLE TO THE CHAMBER TO PERMIT SATISFACTORY AND SUBSEQUENT MOVEMENT. THE LENGTH OF ARTICULATED PIPES SHALL BE AS SHOWN IN TABLE 2, BELOW.
 - IF THE CHAMBER IS TO BE TRAFFICKED WITHIN 48 HOURS OF BRICKWORK CONSTRUCTION A RAPID HARDENING CEMENTITIOUS OR POLYESTER RESIN MORTAR SHALL BE USED.
 - THE USE OF PRECAST RECTANGULAR CONCRETE MANHOLE UNITS WITH 150 ST4 (GEN 3) CONCRETE SURROUND.
 - THE PROVISION OF STEP IRONS SHALL BE IN ACCORDANCE WITH APPENDIX 5/1, TABLE 5/1.
 - ALL CEMENT USED IN INSTITU CONCRETE SHALL BE CII (A OR B) - S OR CII (A OR B) TO BS 8500-2, TABLE 1 AND ANNEXE A.
 - INTERNAL DIMENSIONS OF MANHOLE NOMINALLY 1240mm X 675mm BUT MANHOLE WIDTH SHOULD BE INCREASED FOR PIPES LARGER THAN 225mm DIAMETER TO GIVE 225mm BENCHING EACH SIDE (AS SHOWN IN TABLE 1 BELOW) AND BRICKWORK CORBELLED DOWN TO SUIT.

DESIGNED	BBLP	CHECKED	AF	DRAWN	RMC	DATE	JULY 2012	SHEET	1 OF 1	REVISION	
APPROVED		APPROVED		APPROVED		SCALE	AS SHOWN	NTS			
Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY										DRAWING NUMBER	SD/1/4155
Balfour Beatty Living Places Working in partnership City Depot & Recycling Park Fire Avenue, Millbrook SOUTHAMPTON SO9 6LJ Tel: +44 (0)2380 788010 Fax: +44 (0)2380 788022 Web: www.bbivingplaces.com Design Group										Highway Standard Details Manhole Type M3A & M3B (Brick depth exceeding 1.0m but not 1.5m) DO NOT SCALE FROM THIS DRAWING	
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P:\068_P Standard Details updated July 2012\068\01\01-1160.dwg, 28/09/2012 08:30:18

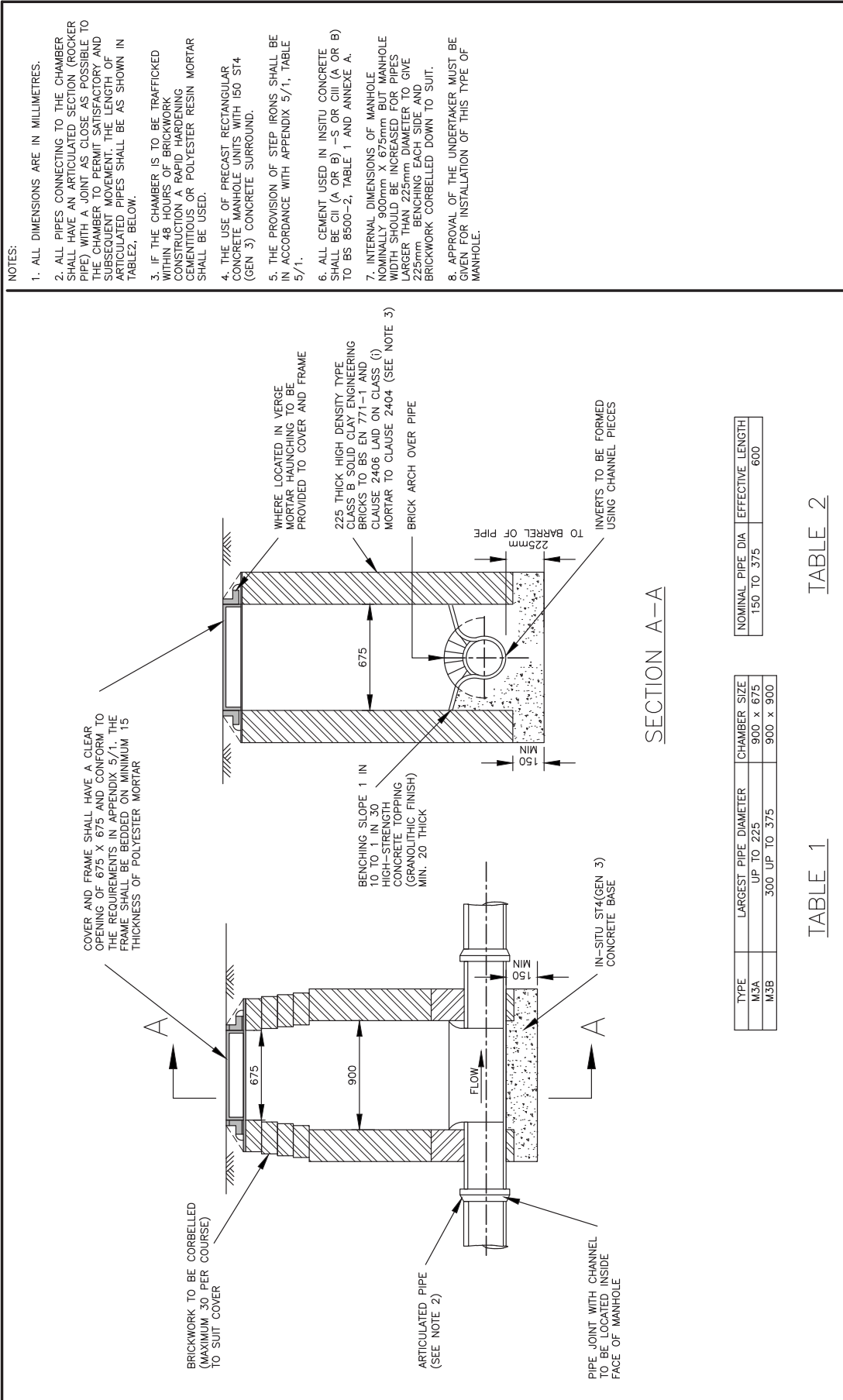


TABLE 2

NOMINAL PIPE DIA	EFFECTIVE LENGTH
150 TO 375	600

TABLE 1

TYPE	LARGEST PIPE DIAMETER	CHAMBER SIZE
M3A	UP TO 225	900 x 675
M3B	300 UP TO 375	900 x 900

- NOTES:
- ALL DIMENSIONS ARE IN MILLIMETRES.
 - ALL PIPES CONNECTING TO THE CHAMBER SHALL HAVE AN ARTICULATED SECTION (ROCKER PIPE) WITH A JOINT AS CLOSE AS POSSIBLE TO THE CHAMBER TO PERMIT SATISFACTORY AND SUBSEQUENT MOVEMENT. THE LENGTH OF ARTICULATED PIPES SHALL BE AS SHOWN IN TABLE 2, BELOW.
 - IF THE CHAMBER IS TO BE TRAFFICKED WITHIN 48 HOURS OF BRICKWORK CONSTRUCTION A RAPID HARDENING CEMENTITIOUS OR POLYESTER RESIN MORTAR SHALL BE USED.
 - THE USE OF PRECAST RECTANGULAR CONCRETE MANHOLE UNITS WITH ISO ST4 (GEN 3) CONCRETE SURROUND.
 - THE PROVISION OF STEP IRONS SHALL BE IN ACCORDANCE WITH APPENDIX 5/1, TABLE 5/1.
 - ALL CEMENT USED IN INSTITU CONCRETE SHALL BE CII (A OR B) - S OR CII (A OR B) TO BS 8500-2, TABLE 1 AND ANNEXE A.
 - INTERNAL DIMENSIONS OF MANHOLE NOMINALLY 900mm X 675mm BUT MANHOLE WIDTH SHOULD BE INCREASED FOR PIPES LARGER THAN 225mm DIAMETER TO GIVE 225mm BENCHING EACH SIDE AND BRICKWORK CORBELLED DOWN TO SUIT.
 - APPROVAL OF THE UNDERTAKER MUST BE GIVEN FOR INSTALLATION OF THIS TYPE OF MANHOLE.

DESIGNED BBLP	DRAWN RMC	DATE July 2012	SHEET 1 of 1	REVISION
CHECKED AF	APPROVED GPR	SCALE @ A3	NTS	
Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY				DRAWING NUMBER SD/1/4160
Balfour Beatty Living Places Working in partnership City Depot & Recycling Park First Avenue, Millbrook SOUTHAMPTON SO16 1LJ Tel: +44 (0)2380 789010 Fax: +44 (0)2380 789022 Web: www.bbivingplaces.com				
Highway Standard Details Manhole Type M4A & M4B (Brick, depth less than 1.0m)				
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REINSTATE ABOVE COVER SLAB AS FOLLOWS:

(i) CARRIAGEWAY AS SHOWN ON DRAWING SD/1/1501 & SD/1/1511.

(ii) FOOTWAY USING SUB-BASE MATERIAL TO CLAUSE 803 TO FORMATION LEVEL THEN AS SHOWN ON DRAWINGS SD/1/1101 & SD/1/1131.

(iii) VERGES USING COMPACTED GENERAL FILL MATERIAL TO UNDERSIDE OF TOPSOIL.

COVER AND FRAME TO BS EN 124 CLASS D400 SHALL HAVE A 600x600 CLEAR OPENING. THE FRAME SHALL BE BEDDED IN MINIMUM 100mm THICKNESS POLYESTER RESIN MORTAR AND SHALL BE SET TO CROSSFALL AND PROFILE OF CARRIAGEWAY. VERGE OR FOOTWAY AT FINISHED LEVEL.

2 TO 4 COURSES OF 225 BRICKWORK IN CLASS B SOLID ENGINEERING BRICKS TO BS EN 771-1 AND CLAUSE 2406. ALL BRICKWORK LAD ON CLASS (i) CEMENT MORTAR TO CHAMBER SURROUND SHOWN ON DRAWING SD/1/4001. WHERE THE OUTLET AND INLET PIPES ARE OVER 2000 FROM THE CARRIAGEWAY EDGE, THEY SHALL HAVE A MINIMUM COVER OF 450.

2 TO 4 COURSES OF 225 BRICKWORK IN CLASS B SOLID ENGINEERING BRICKS TO BS EN 771-1 AND CLAUSE 2406. ALL BRICKWORK LAD ON CLASS (i) CEMENT MORTAR TO CHAMBER SURROUND SHOWN ON DRAWING SD/1/4001. WHERE THE OUTLET AND INLET PIPES ARE OVER 2000 FROM THE CARRIAGEWAY EDGE, THEY SHALL HAVE A MINIMUM COVER OF 450.

1. ALL DIMENSIONS ARE IN MILLIMETRES.

2. WHERE THE OUTLET AND INLET PIPES ARE UNDER THE CARRIAGEWAY, OR UNDER THE VERGE OR FOOTWAY WITHIN 2000 OF THE CARRIAGEWAY EDGE, THEY SHALL BE GIVEN A MINIMUM 600 COVER AND TYPE Z BED AND SURROUND SHOWN ON DRAWING SD/1/4001. WHERE THE OUTLET AND INLET PIPES ARE OVER 2000 FROM THE CARRIAGEWAY EDGE, THEY SHALL HAVE A MINIMUM COVER OF 450.

3. WHERE SURFACING IS BLOCK PAVING, THE FRAME SHALL BE PHYSICALLY ANCHORED TO THE BRICKWORK IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

4. ALL COVERS SHALL BE CAPTIVE WITHIN THE FRAME.

5. CHAMBER RINGS AND COVER SLAB TO BS 5911-3. STEP IRONS TO BS EN 13101 SET AT 300 CENTRES AND STAGGERED AT 300 CENTRES.

6. ALL PIPES CONNECTING TO THE CHAMBER SHALL HAVE AN ARTICULATED SECTION AS CLAUSE 507.17. THE ARTICULATED PIPE SHALL NOT BE RESTRICTED BY CONCRETE. DIMENSION 'X', THE FIRST PIPE, SHALL HAVE A MINIMUM 100mm CLEARANCE FROM THE INSIDE FACE OF THE CHAMBER AND SHALL CONNECT TO A SHORT ROCKER PIPE. DIMENSION 'Y', THE ROCKER PIPE, SHALL HAVE A MINIMUM LENGTH EQUAL TO THE RESPECTIVE NOMINAL PIPE DIAMETER AND A MAXIMUM LENGTH OF 750 FOR PIPES UP TO 450 DIAMETER. FOR PIPES 450 TO 750 DIAMETER, MAXIMUM LENGTH SHALL BE 1000. FOR PIPES EXCEEDING 750 DIAMETER, MAXIMUM LENGTH SHALL BE 2x NOMINAL PIPE DIAMETER.

7. A SAFETY CHAIN SHALL BE FIXED AT THE OUTLET END OF THE CHAMBER FOR PIPES OF 450 DIAMETER OR GREATER. DETAILS OF CHAIN AND FIXINGS ARE SHOWN ON DRAWING SD/1/4191.

8. TOE HOLDS SHALL BE PROVIDED FOR PIPE DIAMETERS OF 500 OR GREATER AS SHOWN. TOE HOLDS TO BE SET AT 300 CENTRES AND STAGGERED AT 300 CENTRES.

9. ALL CEMENT USED IN INSITU CONCRETE SHALL BE CII (A OR B) IN -S OR CII A OR B TO BS 8500-2 TABLE 1 AND ANNEXE A.

3000 MAXIMUM DEPTH

300

150

50 MINIMUM THICKNESS 150 MAXIMUM

SEE TABLE FOR CHAMBER DIAMETER

PRECAST HEAVY DUTY REINFORCED CONCRETE SLAB TO BS:5911-3.

150 MINIMUM THICKNESS ST4 CONCRETE TO CLAUSE 2602 BACKFILL TO TOP OF COVER SLAB

BENCHING SLOPE 1 IN 12 GRANULITHIC CONCRETE BENCHING TO BS 8204-2

PRECAST CONCRETE TO BE CHAMBER AND BEDDED ON CLASS (i) CEMENT MORTAR TO CLAUSE 2404.

225 MINIMUM THICKNESS ST4 CONCRETE TO CLAUSE 2602

CHAMBER DIAMETER = CHAMBER DIAMETER + 300.

TOE HOLD (SEE NOTE 8)

TYPE	LARGEST PIPE DIAMETER	CHAMBER DIA
M/A	UP TO 300	1200
M/B	375 UP TO 700	1500
M/C	750 UP TO 900	1800

MIN WIDTH OF BENCHING AREA TO BE 500mm

675

675

SAFETY CHAIN

ST4 CONCRETE TO CLAUSE 2602.

SECTION A-A

TOE HOLD DETAIL

50

100

150

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DESIGNED: BBLP
DRAWN: RMC
CHECKED: AF

DATE: July 2012
APPROVED: GPR
SCALE: @ A3
NTS

SHEET: 1 of 1

REVISION:

DRAWING NUMBER: SD/1/4161

Highway Standard Details
Precast concrete manhole
Type M1A, M1B, M1C & M1D (Depth no exceeding 3.0m)
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Southampton City Council
SOUTHAMPTON SO14 7LY

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Design Group

REVISION STATUS

REV	DATE	DRAWN	CHKD	APPD	AMENDMENT

REINSTATE ABOVE COVER SLAB AS FOLLOWS:

- (i) IN CARRIAGEWAYS - IN MATERIALS SPECIFIED IN APPENDIX 7/1
- (ii) IN FOOTWAYS AND OTHER PAVED AREAS - TO FORMATION LEVEL IN SUBBASE TO CLAUSE 803
- (iii) IN GRASSSED AREAS - TO UNDERSIDE OF TOPSOIL IN COMPACTED GENERAL FILL MATERIAL

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. CHAMBER RINGS, COVER SLAB AND MANHOLE STEPS ALL TO BS 5911-3 BS EN 1917 AND BS EN 13101. WHERE SPECIFIED MANHOLE STEPS ARE TO BE FITTED AT THE FACTORY.
3. ALL PIPES CONNECTING TO THE CHAMBER SHALL HAVE AN ARTICULATED SECTION (ROCKER PIPE) WITH A JOINT AS CLOSE AS POSSIBLE TO THE CHAMBER TO PERMIT SATISFACTORY AND SUBSEQUENT MOVEMENT. THE LENGTH OF ARTICULATED PIPES SHALL BE AS SHOWN IN TABLEZ, BELOW.
4. IF THE CHAMBER IS TO BE TRAFFICKED WITHIN 48 HOURS OF BRICKWORKING CONSTRUCTION, A RAPID HARDENING CEMENTITIOUS OR POLYESTER RESIN MORTAR SHALL BE USED.
5. THE PROVISION OF STEP IRONS SHALL BE IN ACCORDANCE WITH APPENDIX 5/1, TABLE 5/1.
6. THE LIFTING EYES IN PRECAST CONCRETE RINGS ARE TO BE POINTED WITH CLASS (i) MORTAR TO CLAUSE 2404.
7. ALL CEMENT USED IN INSITU CONCRETE SHALL BE CII (A OR B) -S OR CII (A OR B) TO BS 8500-2, TABLE 1 AND ANNEXE A.
8. APPROVAL OF THE UNDERTAKER MUST BE GIVEN FOR INSTALLATION OF THIS TYPE OF MANHOLE.

SECTION A-A

TABLE 1

TYPE	LARGEST PIPE DIAMETER	CHAMBER SIZE
M5	UP TO 375	1200

SECTION A-A

TABLE 2

NOMINAL PIPE DIA	EFFECTIVE LENGTH
150 TO 375	600

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CHECKED BY AF
DRAWN BY RMC
APPROVED BY GPR

DATE July 2012
SCALE @ A3
NTS

SHEET 1 of 1

REVISION

DRAWING TITLE
Highway Standard Details
Manhole Type M5
(Precast concrete, depth exceeding 1.0m but not 1.5m)

DRAWING NUMBER
SD/1/4165

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Civic Centre
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TYPICAL SECTION DRAWNIT TYPE A WITH DUCT MARKER OR BOLLARD BASE

TYPICAL SECTION DRAWNIT TYPE B WITH DUCTILE IRON COVER

SECTION A-A DRAWNIT TYPE A WITH DUCT MARKER OR BOLLARD BASE

SECTION B-B DRAWNIT TYPE B WITH DUCTILE IRON COVER

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. DUCTS TO BE INSTALLED TO DIAMETER AND COLOUR SPECIFIED BY THE ENGINEER AND AS SHOWN ON DRAWING SD/1/4021.
3. ALL COVERS SHALL BE CAPTIVE WITHIN THE FRAME.
4. CARRIAGEWAY AND FOOTWAY DETAILS ARE SHOWN ON DRAWINGS SD/1/1101, SD/1/1131, SD/1/1501 & SD/1/1511.
5. ALL CEMENT USE IN INSTU CONCRETE SHALL BE CII (A OR B) -S OR CIII A OR B TO BS 8500-2, TABLE 1 AND ANNEX A.

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DESIGNED	BBLP	DRAWN	RVC	DATE	July 2012	SHEET	1 of 1	REVISION	
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DRAWING TITLE						DRAWING NUMBER			
Highways Standard Details Drawnait Type A & B						SD/1/4181			

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NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES.
- ALL FITTINGS TO BE FABRICATED FROM STEEL TO BS EN 10087-1999 GRADE A3C AND ARE TO BE PROTECTED BY HOT DIP GALVANISING TO BS EN ISO 1461.
- THREADED COMPONENTS TO BE GALVANISED.
- ALL WELDS TO BE 6 FILLET WELDS.
- LADDER MAY BE FABRICATED IN ONE LENGTH OR IN MULTIPLE LENGTHS AND JOINTED AS SHOWN.
- CHAIN HOOK AND EYE TO BE SUPPLIED WITH 100 LONG x 10 THICK CLOSED LINK CHAIN.
- LADDERS TO COMPLY WITH BS.4211.
- BOLTS AND NUTS TO COMPLY WITH BS.4190 OR BS.4933. WASHERS TO COMPLY WITH BS.4320.

DESIGNED	BBLP	DRAWN	RMC	DATE	July 2012	SHEET	1 of 1	REVISION
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DRAWING NUMBER							SD/1/4191	

DETAIL OF SAFETY CHAIN HOOK & EYE

ELEVATION

PLAN

SOFFIT OF PIPE
BENCHING
HOOK
EYE
END OF PIPE
FLOW

LADDER

62x20 STRINGERS
16 DIA NUT AND BOLT WITH 40 DIA WASHERS
62x20 FISHPLATE
HOLE FOR 16 DIA x 150 LONG RAG BOLT
HOLE FOR 16 DIA x 150 LONG RAG BOLT
CHAMBER DEPTH
HOLE FOR 16 DIA BOLT

DETAIL OF ADJUSTABLE LADDER STAY

ALTERNATIVE ADJUSTABLE STAY FINISH USING RAG BOLT
CHAMBER RING
16 DIA BOLTS WITH 100x100x20 AND 40 DIA WASHERS
16 DIA NUT AND BOLTS WITH 34 DIA x3 THICK WASHERS
HOLE FOR 16 DIA BOLT

DETAIL OF LADDER STAY

SLOTTED HOLES FOR 16 DIA STAINLESS STEEL BOLTS
CHAMBER RING
CHAMBER RING RADIUS

DETAIL OF FIXING RUNGS TO STRINGERS

CONTINUOUS FILLER WELD ALL ROUND
STRINGER
RUNG
R25

DETAIL OF HANDHOLD

450
R25
39 DIAMETER x 3 THICKNESS WASHER TACK WELDED INTO POSITION
THREADED 20 ISO
100x100x20 PLATE WASHER AS FOR STAY
20 ISO NUT

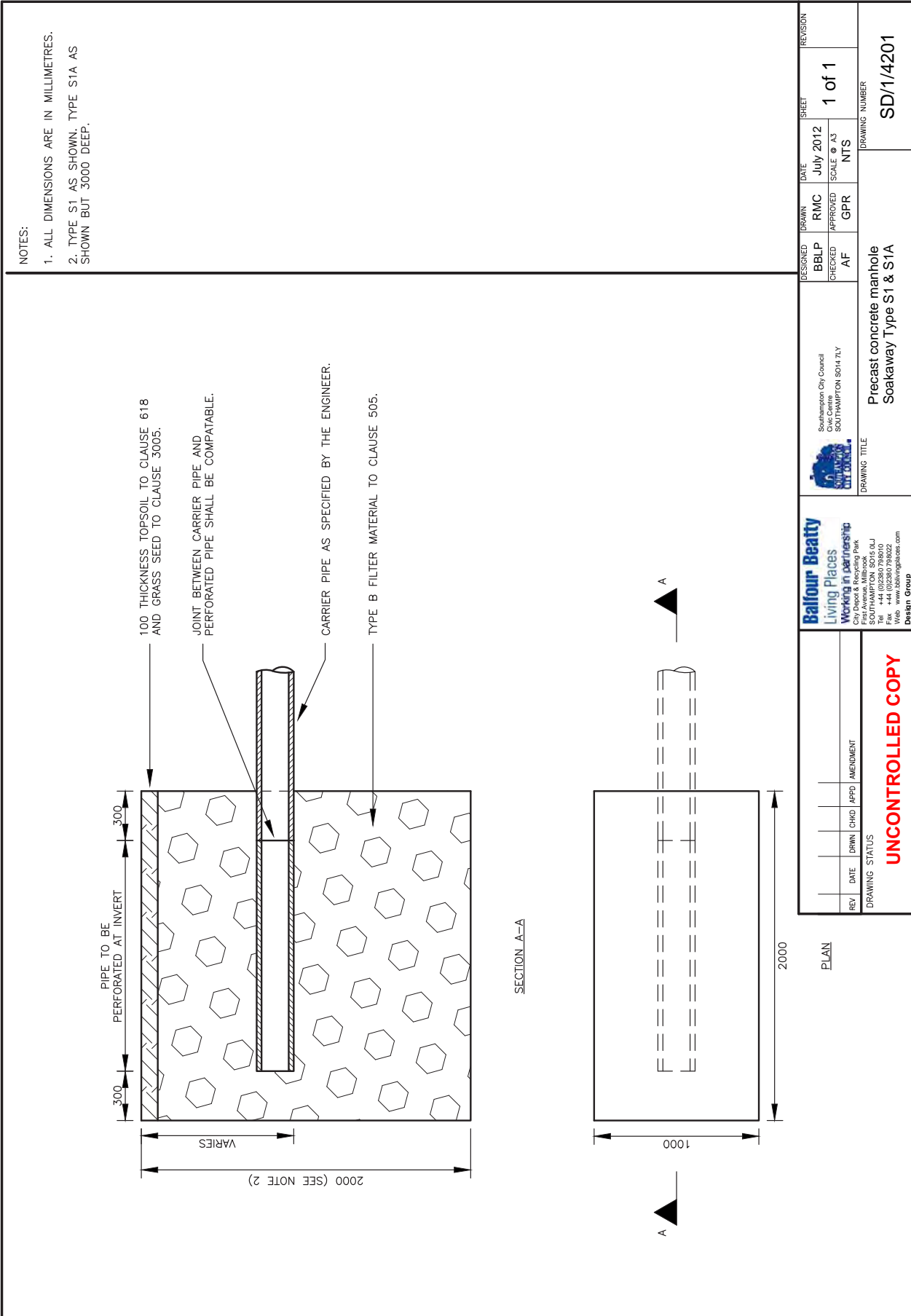
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Civic Centre
SOUTHAMPTON SO9 4LY

Highways Standard Details
Chamber fittings, ladder
hand hold & safety chain

DRAWING TITLE

P:\6819 Standard Details updated May 2012\draing\CL1-4201 DWG_02/09/2012 11:54:29



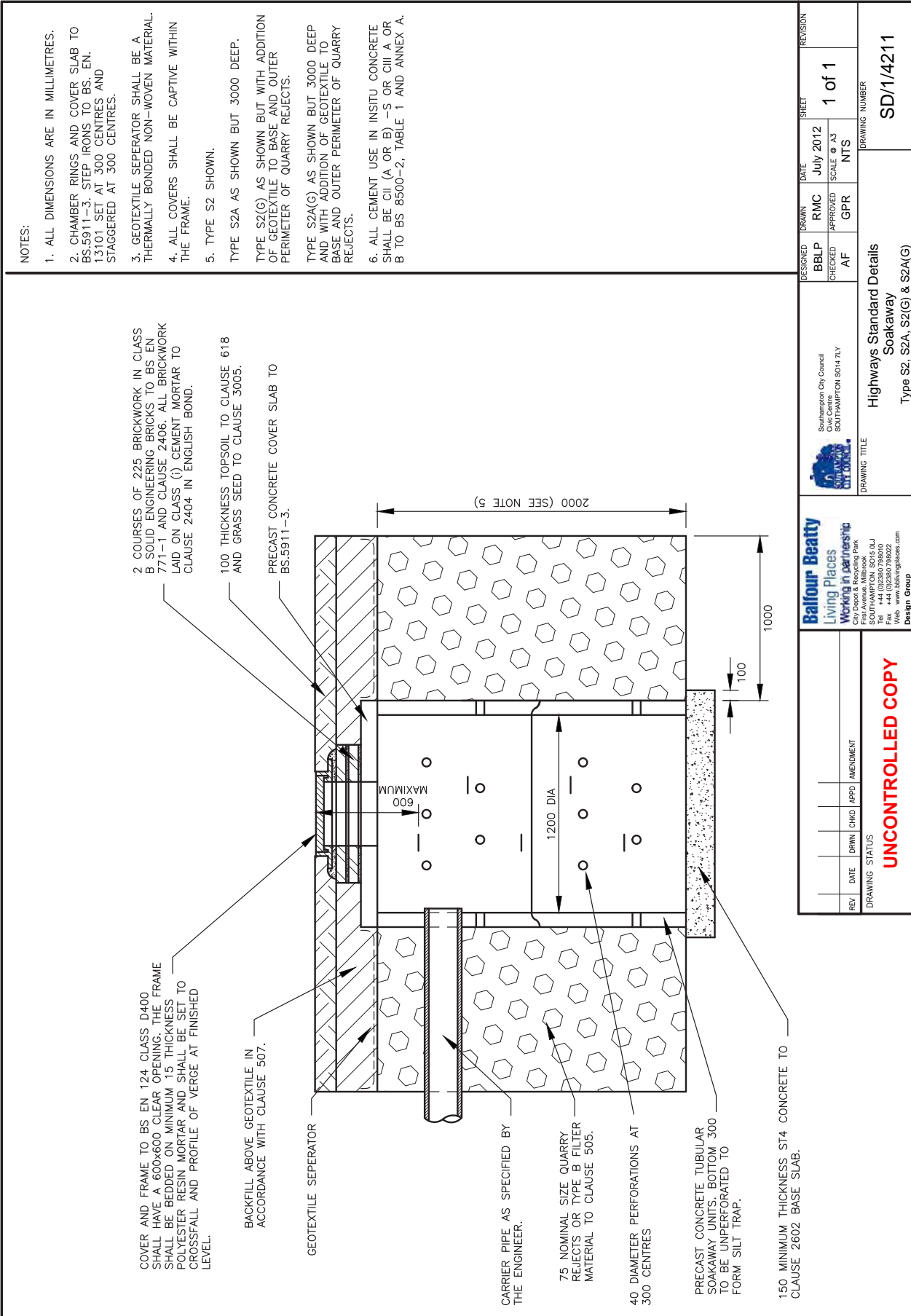
NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. TYPE S1 AS SHOWN. TYPE S1A AS SHOWN BUT 3000 DEEP.

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DRAWING NUMBER SD/1/4201			DRAWING NUMBER SD/1/4201		
Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY			DRAWING TITLE Precast concrete manhole Soakaway Type S1 & S1A		
Balfour Beatty Living Places Working in partnership City Depot & Recycling Park First Avenue, Millbrook SOUTHAMPTON SO16 6LJ Tel: +44 (0)2380 798000 Fax: +44 (0)2380 798022 Web: www.bbivingplaces.com Design Group			UNCONTROLLED COPY		
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- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. CHAMBER RINGS AND COVER SLAB TO BS.5911-3. STEP IRONS TO BS. EN. 13101 SET AT 300 CENTRES AND STAGGERED AT 300 CENTRES.
 3. GEOTEXTILE SEPARATOR SHALL BE A THERMALLY BONDED NON-WOVEN MATERIAL.
 4. ALL COVERS SHALL BE CAPTIVE WITHIN THE FRAME.
 5. TYPE S2 SHOWN.
 - TYPE S2A AS SHOWN BUT 3000 DEEP.
 - TYPE S2(G) AS SHOWN BUT WITH ADDITION OF GEOTEXTILE TO BASE AND OUTER PERIMETER OF QUARRY REJECTS.
 - TYPE S2A(G) AS SHOWN BUT 3000 DEEP AND WITH ADDITION OF GEOTEXTILE TO BASE AND OUTER PERIMETER OF QUARRY REJECTS.
 6. ALL CEMENT USE IN INSITU CONCRETE SHALL BE CII (A OR B) -S OR CIII A OR B TO BS 8500-2, TABLE 1 AND ANNEX A.

- 2 COURSES OF 225 BRICKWORK IN CLASS B SOLID ENGINEERING BRICKS TO BS EN 771-1 AND CLAUSE 2406. ALL BRICKWORK LAID ON CLASS (i) CEMENT MORTAR TO CLAUSE 2404 IN ENGLISH BOND.
- 100 THICKNESS TOPSOIL TO CLAUSE 618 AND GRASS SEED TO CLAUSE 3005.
- PRECAST CONCRETE COVER SLAB TO BS.5911-3.

COVER AND FRAME TO BS EN 124 CLASS D400 SHALL HAVE A 600x600 CLEAR OPENING. THE FRAME SHALL BE BEDDED ON MINIMUM 15 THICKNESS POLYESTER RESIN MORTAR AND SHALL BE SET TO CROSSFALL AND PROFILE OF VERGE AT FINISHED LEVEL.

BACKFILL ABOVE GEOTEXTILE IN ACCORDANCE WITH CLAUSE 507.

GEOTEXTILE SEPARATOR

CARRIER PIPE AS SPECIFIED BY THE ENGINEER.

75 NOMINAL SIZE QUARRY REJECTS OR TYPE B FILTER MATERIAL TO CLAUSE 505.

40 DIAMETER PERFORATIONS AT 300 CENTRES

PRECAST CONCRETE TUBULAR SOAKAWAY UNITS. BOTTOM 300 TO BE UNPERFORATED TO FORM SILT TRAP.

150 MINIMUM THICKNESS ST4 CONCRETE TO CLAUSE 2602 BASE SLAB.

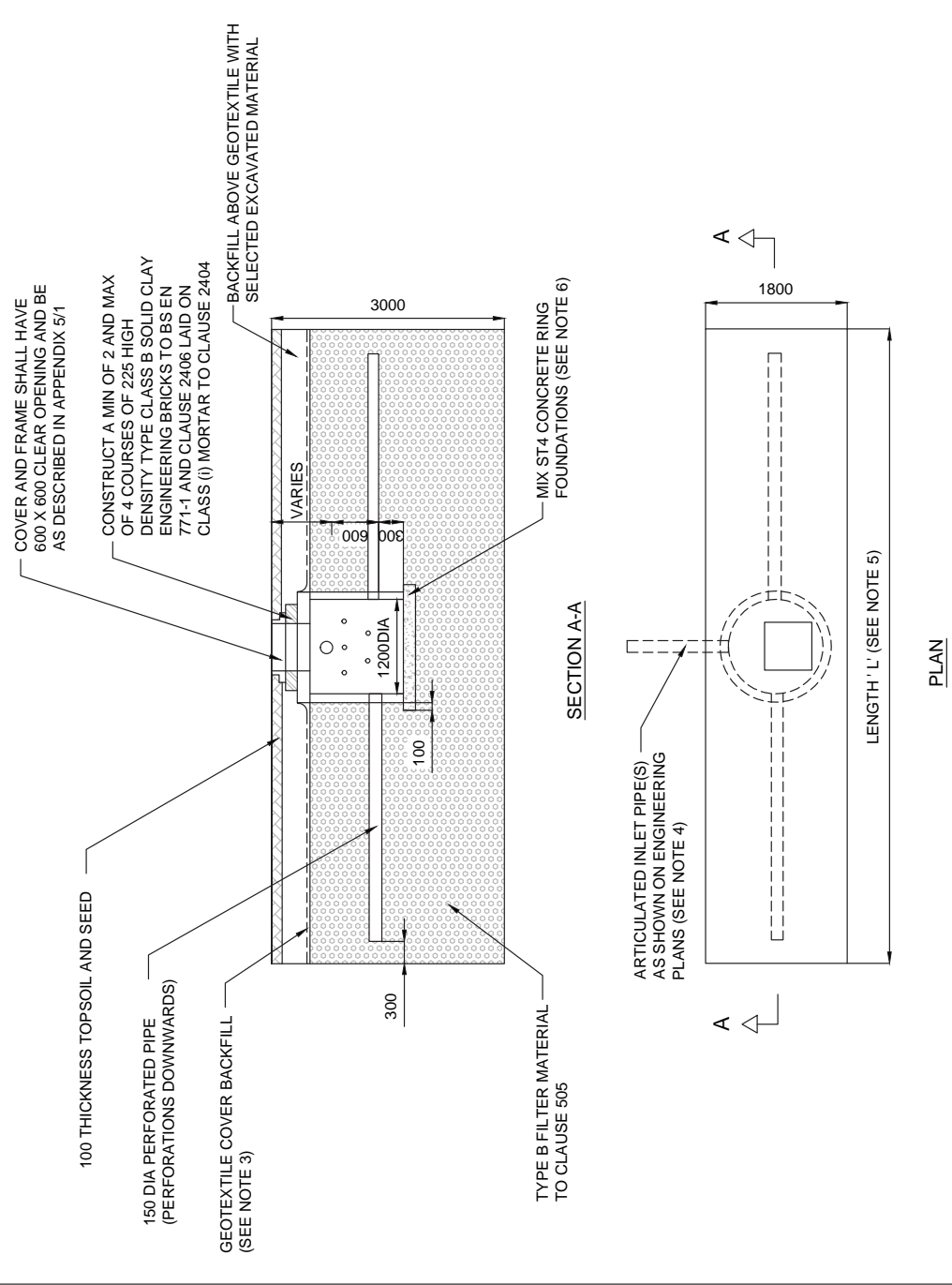
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Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY													
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NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. CHAMBER RINGS, COVER SLAB PERFORMANCES ALL TO BS 5911-3 AND BS EN 1917. MANHOLE STEPS ARE NOT TO BE PROVIDED IN SOAKAWAYS.
3. GEOTEXTILE COVER TO BACKFILL SHALL BE THERMALLY BONDED NON-WOVEN (TERRAM 1000 OR EQUIVALENT)
4. ALL INLET PIPES CONNECTING TO THE CHAMBER SHALL HAVE AN ARTICULATED SECTION (ROCKER PIPE) ALL AS CLAUSE 507.17. THE ARTICULATED PIPE SHALL NOT BE RESTRICTED BY THE FILTER MATERIAL.
5. TYPE 3 'L' = 8000
TYPE 3A 'L' = 16000
TYPE 3B 'L' = 24000
6. ALL CEMENT USED INSITU CONCRETE SHALL BE CII (A OR B) -S OR CIII (A OR B TO BS 8500-2 TABLE 1 AND ANNEXE A.



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Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY			DRAWING NUMBER SD/1/4212		
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BBLP Standard Details updated July 2012 (Drawing/CI-4221 DWG, 28/09/2012 08:22:29)

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. THIS DETAIL IS TO BE USED TO INTERCEPT SURFACE WATER RUN-OFF FROM FIELDS AND THE LIKE AND SHALL NOT BE USED TO DISCHARGE HIGHWAY DRAINAGE.

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													DRAWING NUMBER	SD/1/4221	

RUBBLE DRAIN

STANDARD DEPTH IS EITHER 1200 OR 1500 AS SPECIFIED BY THE ENGINEER. DESIGNATIONS ARE AS FOLLOWS:
RD/1200 = 1200 DEEP RUBBLE DRAIN
RD/1500 = 1500 DEEP RUBBLE DRAIN

LEGEND:

TYPE B FILTER MATERIAL TO CLAUSE 505.

TERMINAL SOAKAWAY

STANDARD DEPTH IS 2000 AND ARE SPECIFIED ON ENGINEERING PLANS BY LENGTH AS FOLLOWS:
TS/L5000 = TERMINAL SOAKAWAY 5000 LONG

LINEAR DITCH SOAKAWAY

STANDARD DEPTH IS 2000 AND ARE SPECIFIED ON ENGINEERING PLANS BY LENGTH AS FOLLOWS:
LDS/L6000 = LINEAR DITCH SOAKAWAY 6000 LONG

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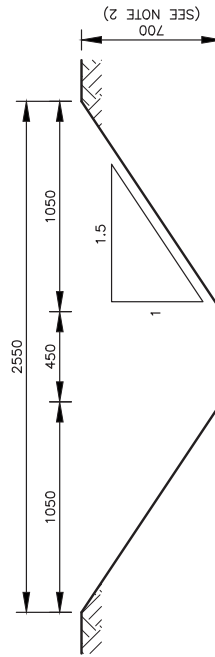
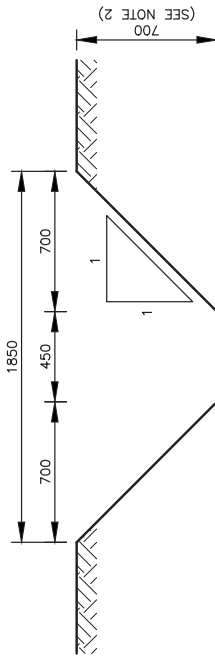
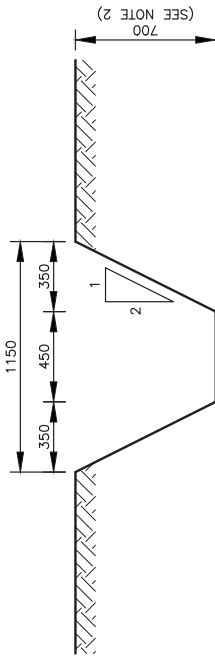
City of Southampton
City Depot & Recycling Park
SOUTHAMPTON SO14 7LY
Tel: +44 (0)2380 758010
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DRAWING TITLE: **Highways Standard Details**
Rubble Drain,
Terminal Soakaway and Linear Ditch Soakaway
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P:\868.P Standard Details updated May 2012\Drawings\1-4301 DWG_02/09/2012 12:09:07

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. THE DEPTH SHALL BE 700 EXCEPT WHERE OTHERWISE INSTRUCTED BY THE ENGINEER.
3. OVERALL WIDTH OF THE DITCH IS SHOWN ON ENGINEERING PLANS BY PECKED LINES. THE DITCH PROFILE IS SHOWN BY TYPE NUMBER, EG. DITCH TYPE 2.



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Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY		DRAWING TITLE Highways Standard Details Ditches Type 1, 2 & 3		
Balfour Beatty Living Places Working in partnership City Depot & Recycling Park Fire Avenue, Millbrook SOUTHAMPTON SO14 5LJ Tel: +44 (0)2380 788010 Fax: +44 (0)2380 788022 Web: www.bbivingplaces.com Design Group		DRAWING STATUS UNCONTROLLED COPY		

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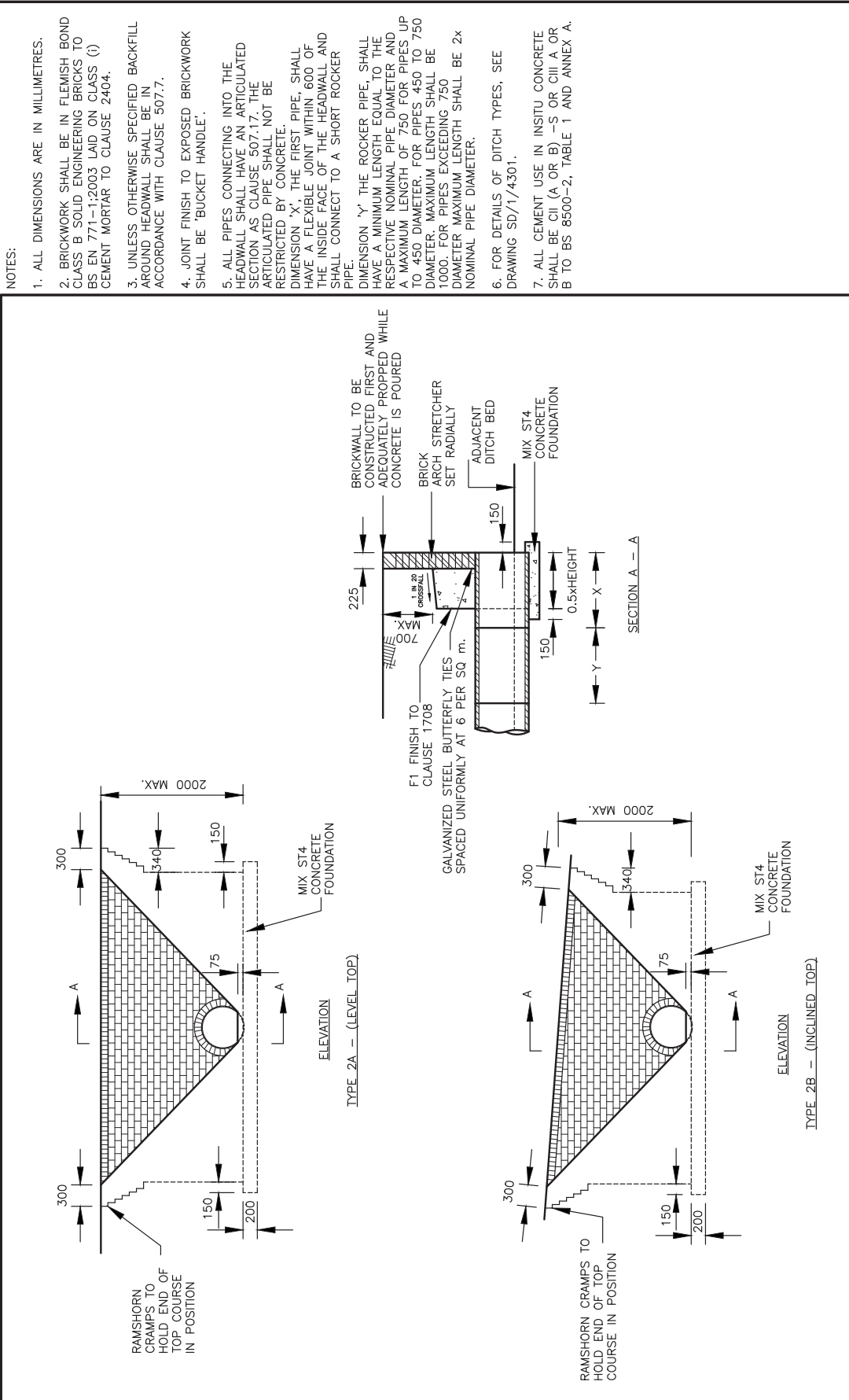
NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES.
- BRICKWORK SHALL BE IN FLEMISH BOND CLASS B SOLID ENGINEERING BRICKS TO BS EN 771-2003 LAD ON CLASS (I) CEMENT MORTAR TO CLAUSE 2404.
- UNLESS OTHERWISE SPECIFIED BACKFILL AROUND HEADWALL SHALL BE IN ACCORDANCE WITH CLAUSE 507.7.
- JOINT FINISH TO EXPOSED BRICKWORK SHALL BE 'BUCKET HANDLE'.
- ALL PIPES CONNECTING INTO THE HEADWALL SHALL HAVE AN ARTICULATED SECTION AS CLAUSE 507.17. THE ARTICULATED PIPE SHALL NOT BE RESTRICTED BY CONCRETE.
- DIMENSION 'X', THE FIRST PIPE, SHALL HAVE A FLEXIBLE JOINT WITHIN 600 OF THE INSIDE FACE OF THE HEADWALL AND SHALL CONNECT TO A SHORT ROCKER PIPE.
- DIMENSION 'Y', THE ROCKER PIPE, SHALL HAVE A MINIMUM LENGTH EQUAL TO THE RESPECTIVE NOMINAL PIPE DIAMETER AND A MAXIMUM LENGTH OF 750 FOR PIPES UP TO 450 DIAMETER. FOR PIPES 450 TO 750 DIAMETER MAXIMUM LENGTH SHALL BE 1000. FOR PIPES EXCEEDING 750 DIAMETER MAXIMUM LENGTH SHALL BE 2x NOMINAL PIPE DIAMETER.
- FOR DETAILS OF DITCH TYPES, SEE DRAWING SD/1/4301.
- ALL CEMENT USE IN INSITU CONCRETE SHALL BE CII (A OR B) -S OR CIII A OR B TO BS 8500-2, TABLE 1 AND ANNEX A.

DESIGNED	RMC	DATE	July 2012	SHEET	1 of 1	REVISION
CHECKED	AF	APPROVED	GPR	SCALE	A3	NTS
DRAWING NUMBER			SD/1/4311			

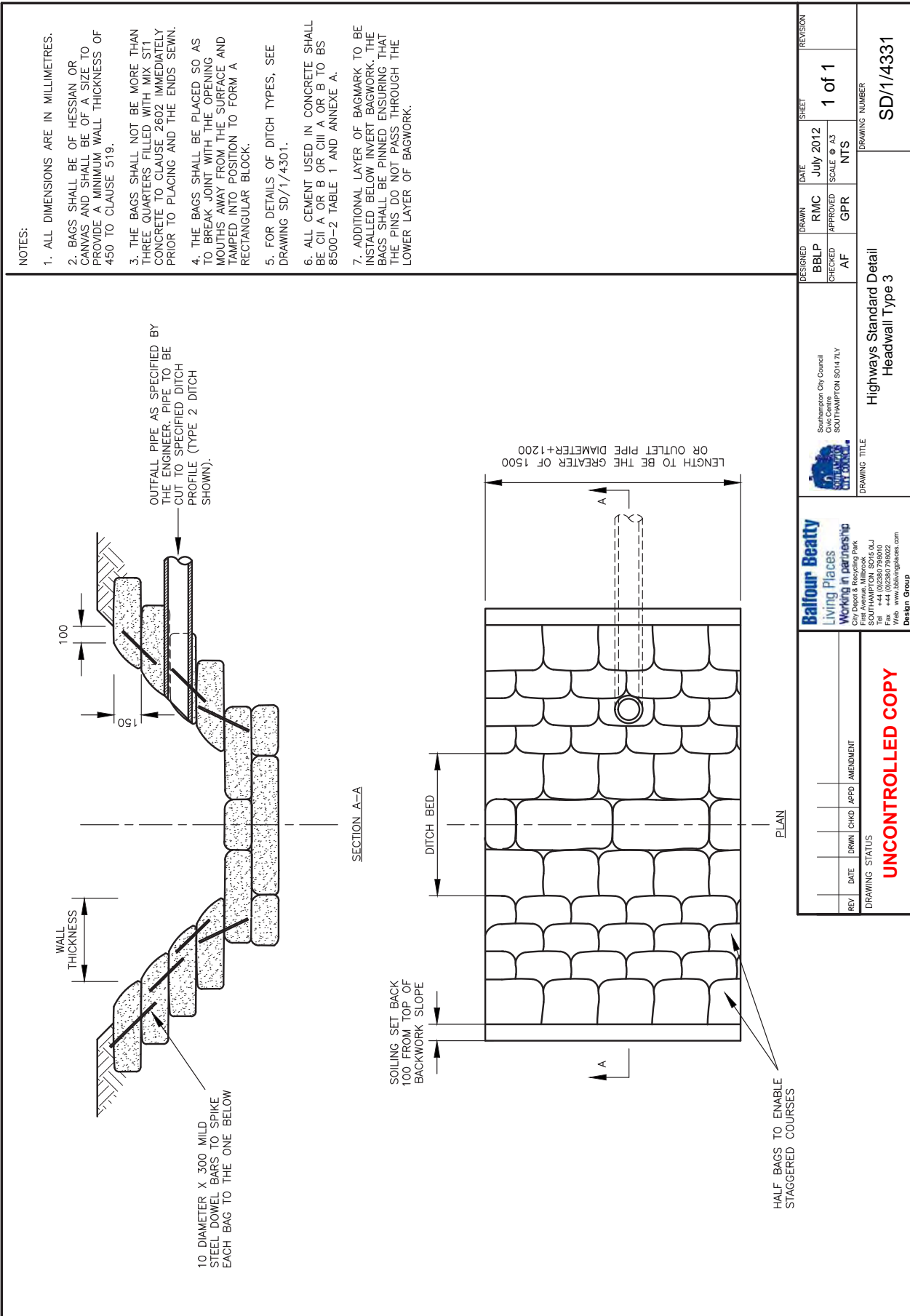
Highways Standard Detail
Headwall Type 1A & 1B

DO NOT SCALE FROM THIS DRAWING



DESIGNED BBLP	DRAWN RMC	DATE July 2012	SHEET 1 of 1	REVISION
CHECKED AF	APPROVED GPR	SCALE @ A3	NTS	
DRAWING NUMBER SD/1/4321				
DRAWING TITLE Highways Standard Detail Headwall Type 2A & 2B				
<p>Balfour Beatty Living Places Working in partnership City Dept & Recycling Park Fire Avenue, Millbrook SOUTHAMPTON SO16 6LJ Tel: +44 (0)2380 798000 Fax: +44 (0)2380 798022 Web: www.bbivingplaces.com</p> <p>Design Group</p>				
<p>Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY</p>				
<p>DO NOT SCALE FROM THIS DRAWING</p>				

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- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. BAGS SHALL BE OF HESSIAN OR CANVAS AND SHALL BE OF A SIZE TO PROVIDE A MINIMUM WALL THICKNESS OF 450 TO CLAUSE 519.
 3. THE BAGS SHALL NOT BE MORE THAN THREE QUARTERS FILLED WITH MIX ST1 CONCRETE TO CLAUSE 2602 IMMEDIATELY PRIOR TO PLACING AND THE ENDS SEWN.
 4. THE BAGS SHALL BE PLACED SO AS TO BREAK JOINT WITH THE OPENING MOUTHS AWAY FROM THE SURFACE AND TAMPED INTO POSITION TO FORM A RECTANGULAR BLOCK.
 5. FOR DETAILS OF DITCH TYPES, SEE DRAWING SD/1/4301.
 6. ALL CEMENT USED IN CONCRETE SHALL BE CII A OR B OR CIII A OR B TO BS 8500-2 TABLE 1 AND ANNEXE A.
 7. ADDITIONAL LAYER OF BAGWORK TO BE INSTALLED BELOW INVERT BAGWORK. THE BAGS SHALL BE PINNED ENSURING THAT THE PINS DO NOT PASS THROUGH THE LOWER LAYER OF BAGWORK.

DESIGNED	BBLP	CHECKED	AF	DRAWN	RMC	DATE	JULY 2012	SHEET	1 OF 1	REVISION
				APPROVED	GPR	SCALE	AS			
Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY										
Highways Standard Detail Headwall Type 3										
DRAWING NUMBER SD/1/4331										

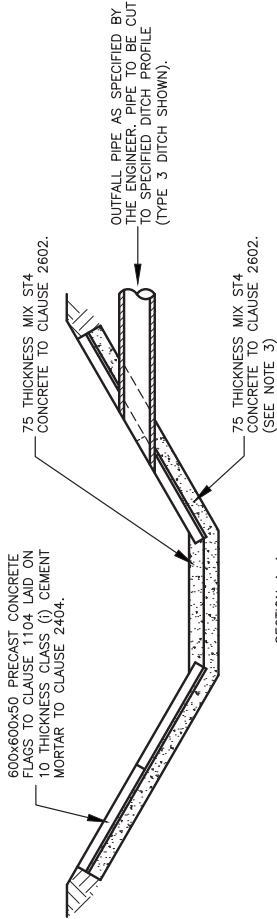
Balfour Beatty
Living Places
Working in partnership
City Depot & Recycling Park
Five Avenue, Millbrook
SOUTHAMPTON SO16 6LJ
Tel: +44 (0)2380 798010
Fax: +44 (0)2380 798022
Web: www.bbivingplaces.com
Design Group

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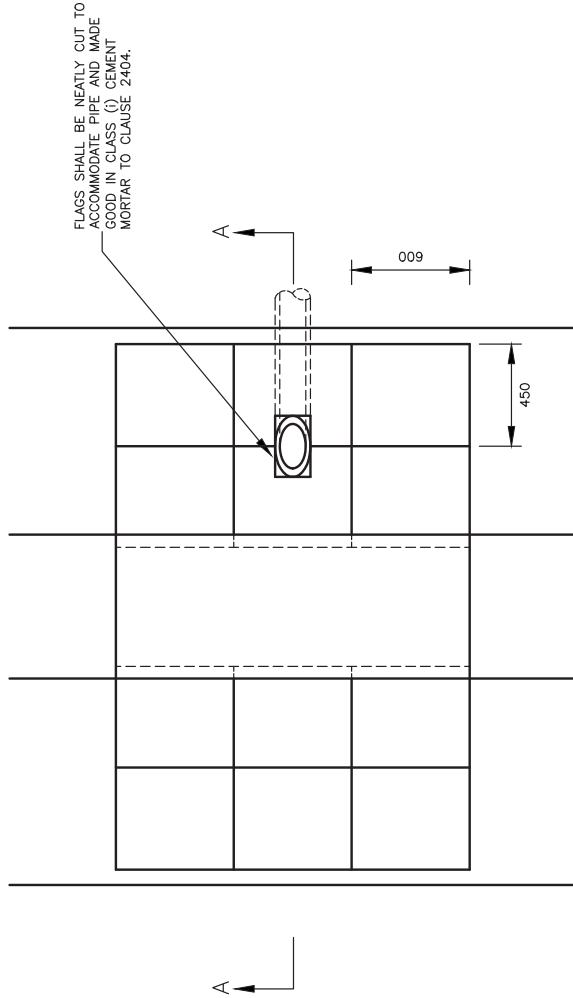
DO NOT SCALE FROM THIS DRAWING

P:\8581_P Standard Details updated May 2012\Drawings\CT-14341 DWG_02/09/2012 12:14:41

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. FOR DETAILS OF DITCH TYPES, SEE DRAWING SD/1/4301.
 3. ALL CEMENT USED IN INSITU CONCRETE SHALL BE CII (A OR B) OR CIII A OR B TO BS 8500-2 TABLE 1 ANNEXE A.



SECTION A-A



PLAN

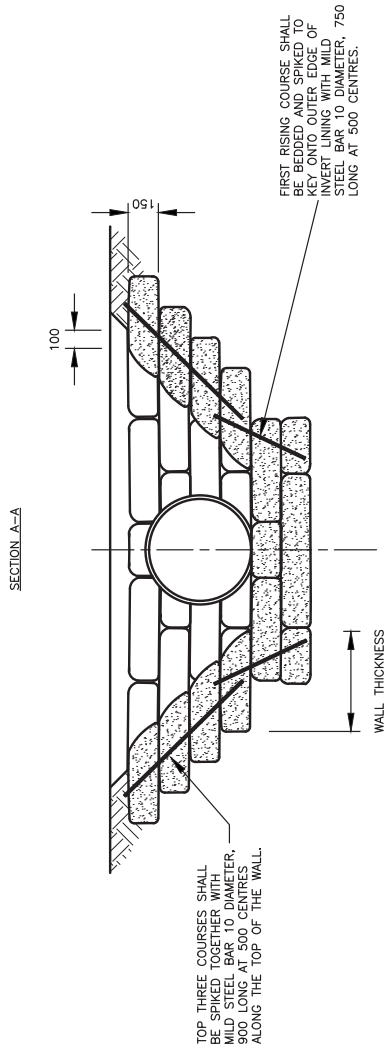
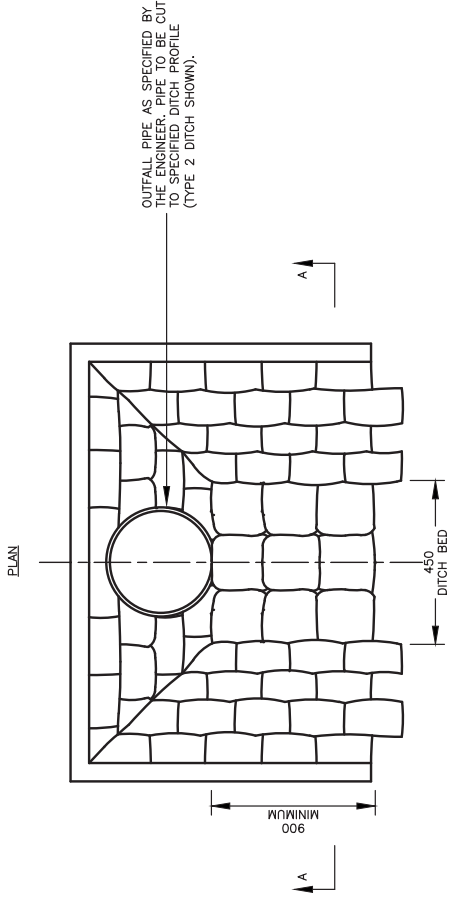
FLAGS SHALL BE NEATLY CUT TO ACCOMMODATE PIPE AND MADE GOOD IN CLASS (I) CEMENT MORTAR TO CLAUSE 2404.

DESIGNED BBLP		DRAWN RMC		DATE JULY 2012		SHEET 1 of 1		REVISION	
CHECKED AF		APPROVED GPR		SCALE @ A3 NTS		DRAWING NUMBER SD/1/4341			
Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY				Highways Standard Detail Flag Paving Headwall Type 4					
Balfour Beatty Living Places Working in partnership City Depot & Recycling Park Five Avenue, Millbrook SOUTHAMPTON SO16 6LJ Tel: +44 (0)2380 798000 Fax: +44 (0)2380 798022 Web: www.bbivingplaces.com Design Group				UNCONTROLLED COPY					

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Pr:08LP Standard Details updated July 2012 (hmg/uc1-1351 DWG, 28/09/2012 08:24:22)

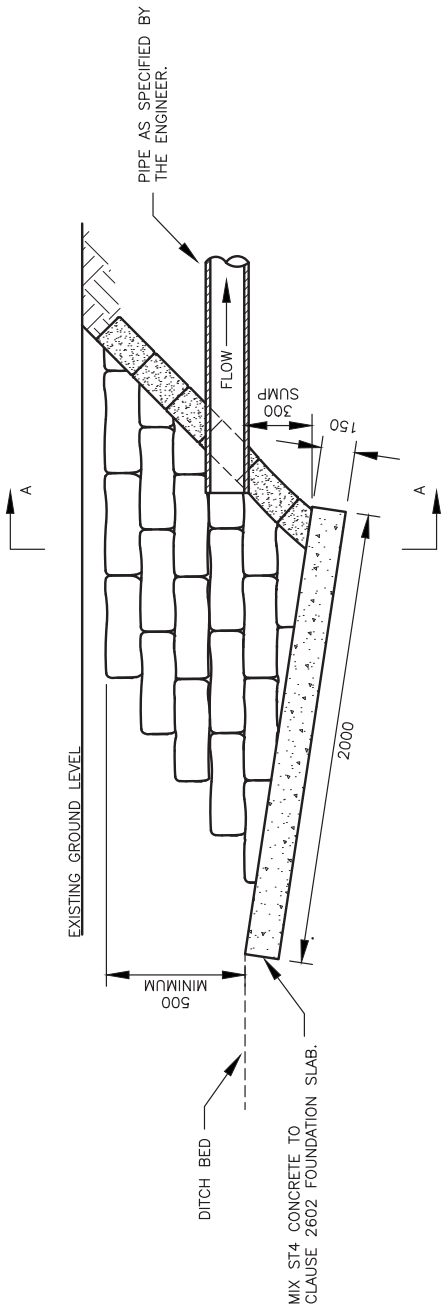
- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. BAGS SHALL BE OF HESSIAN OR CANVAS AND SHALL BE OF A SIZE TO PROVIDE A MINIMUM WALL THICKNESS OF 450.
 3. THE BAGS SHALL NOT BE MORE THAN THREE QUARTERS FILLED WITH MIX STD CONCRETE TO CLAUSE 2602 IMMEDIATELY PRIOR TO PLACING AND THE ENDS SEWN.
 4. THE BAGS SHALL BE PLACED SO AS TO BREAK JOINT WITH THE MOUTHS AWAY FROM THE SURFACE AND TAMPED INTO POSITION TO FORM A RECTANGULAR BLOCK.
 5. FOR DETAILS OF DITCH TYPES, SEE DRAWING SD/1/4301.
 6. ALL CEMENT USED SHALL BE CII (A OR B) - S OR CII A OR B TO BS8500-2, TABLE 1 AND ANNEXE A.



DESIGNED BBLP	DRAWN RMC	DATE May 2012	SHEET 1 of 1	REVISION
CHECKED AF	APPROVED GPR	SCALE @ A3 NTS	DRAWING NUMBER SD/1/4351	
Southampton City Council Civic Centre SOUTHAMPTON SO4 7LY		Highways Standard Detail Headwall Type 5 CONCRETE BAGWORK		
Balfour Beatty Living Places Working in partnership City Depot & Recycling Park Fire Avenue, Millbrook SOUTHAMPTON SO9 6LJ Tel: +44 (0)2380 798000 Fax: +44 (0)2380 798022 Web: www.bbivingplaces.com Design Group		DO NOT SCALE FROM THIS DRAWING		
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1:1681.P Standard Details updated May 2012 (drawing/C1-1361 DWG, 02/09/2012 12:16:56)

LONGITUDINAL PROFILE



TOP THREE COURSES SHALL BE SPIKED TOGETHER WITH MILD STEEL BAR 10 DIAMETER AT 500 CENTRES ALONG THE TOP OF THE WALL

BAGWALLING TO DITCH PROFILE SPECIFIED BY THE ENGINEER. (TYPE 2 SHOWN)

SECTION A-A

- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. BAGS SHALL BE OF HESSIAN OR CANVAS AND SHALL BE OF A SIZE TO PROVIDE THE MINIMUM WALL THICKNESS SHOWN.
 3. THE BAGS SHALL NOT BE MORE THAN THREE QUARTERS FILLED WITH MIX ST1 CONCRETE TO CLAUSE 2602 IMMEDIATELY PRIOR TO PLACING AND THE ENDS SEWN.
 4. THE BAGS SHALL BE PLACED SO AS TO BREAK JOINT WITH THE MOUTHS AWAY FROM THE SURFACE AND TAMPED INTO POSITION TO FORM A RECTANGULAR BLOCK.
 5. FOR DETAILS OF DITCH TYPES, SEE DRAWING SD/1/4301.
 6. ALL CEMENT USE IN INSITU CONCRETE SHALL BE CII (A OR B) -S OR CII A OR B TO BS 8500-2, TABLE 1 AND ANNEX A.

DESIGNED BBLP	DRAWN RMC	DATE JULY 2012	SHEET 1 of 1	REVISION	
CHECKED AF	APPROVED GPR	SCALE A3 NTS	DRAWING NUMBER SD/1/4361		
Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY		Highways Standard Detail Headwall Type 6 Concrete bagwork (incorporating sump) DO NOT SCALE FROM THIS DRAWING			
Balfour Beatty Living Places Working in partnership City Depot & Recycling Park Five Avenue, Millbrook SOUTHAMPTON SO16 6CJ Tel: +44 (0)2380 798000 Fax: +44 (0)2380 798022 Web: www.bbivingplaces.com Design Group		UNCONTROLLED COPY			
REV/	DATE	DRWN	CHKD	APPD	AMENDMENT

TRAFFIC SYSTEM

Highway Standard Details - Drawing Index for First Edition

Traffic Systems

Drawing no	Revision	Title	Drawing Cross Referenced
SD/1/5005		Traffic Systems - Drawpit Type 1	SD/1/1101, SD/1/1131
SD/1/5006		Traffic signal - alternative drawpit Type 1	
SD/1/5010		Drawpit Type 2	SD/1/1101, SD/1/1131
SD/1/5015		Drawpit Type 2A brick alternative	SD/1/1101, SD/1/1131
SD/1/5020		Traffic signal controller chamber Types A & B	SD/1/4021
SD/1/5025		Traffic signal pole connection	
SD/1/5027		Traffic controller pole connection	
SD/1/5030		Details of connection of vehicle detector loop to drawpit	
SD/1/5035		Demountable traffic signal pole	
SD/1/5040		Pelican, Puffin & Toucan crossing layout	
SD/1/5045		Power supply pillar	
SD/1/5050		Staggered Pelican, Puffin & Toucan crossing details	
SD/1/5060		High mast arm foundation detail	SD/1/1131

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES.
- DUCTS SHALL BE ORANGE TWIN WALL UPVC AND LABELLED 'TRAFFIC SIGNALS' AT MAXIMUM 1 METRE INTERVALS AND INSTALLED AS SHOWN ON DRAWING SD/1/4021.
- INSPECTION COVERS SHALL BE CAPTIVE WITHIN THE FRAME AND MARKED WITH ONE OF THE FOLLOWING:
'TRAFFIC SIGNALS'
'TRAFFIC LIGHTS'
'SIGNALS'
'SCC SIGNALS'
LETTER HEIGHT 40 TO 100.
- DUCTS AT DEPTH SHALL BE BROUGHT UP TO THE DRAWPIT USING A SINGLE EASY BEND OF 1 METRE RADIUS.
- DEPTH OF DRAWPIT SHALL BE DICTATED BY DEPTH OF THE SHALLOWEST DUCT ENTERING THE DRAWPIT. (WHERE DUCT IS UNDER CARRIAGEWAY OR BENEATH VERGE OR FOOTWAY WITHIN 2000 OF THE CARRIAGEWAY EDGE, COVER TO DUCT SHALL BE MINIMUM 600. WHERE DUCT IS UNDER VERGE OR FOOTWAY GREATER THAN 2000 FROM THE CARRIAGEWAY EDGE, COVER TO DUCT SHALL BE MINIMUM 450).
- FOOTWAY REINSTATEMENT DETAILS ARE SHOWN ON DRAWINGS SD/1/1101 & SD/1/1131.

DESIGNED BBLP
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DATE July 2012
SCALE @ A3
NTS

SHEET 1 of 1

REVISION

DRAWING NUMBER
SD/1/5005

495x390 DUCTILE IRON ACCESS COVER AND FRAME TO BS EN 124 CLASS C250. THE FRAME SHALL BE BEDDED ON MINIMUM 10 THICKNESS POLYESTER RESIN MORTAR TO CLAUSE 2601 AND SHALL BE SET TO CROSSFALL AND PROFILE OF VERGE OR FOOTWAY AT FINISHED LEVEL

PRECAST CONCRETE UNITS TO BS:5911

SECTION B-B

INSITU BASE SLAB MIX S14 CONCRETE 150 THICK TO CLAUSE 2602

MIX ST2 CONCRETE TO CLAUSE 2602

75 CLEAR DRAIN HOLE

450 MINIMUM

SECTION A-A

COVER AND FRAME OMITTED FOR CLARITY

PLAN

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REVISIONS: DATE, DRAWN, CHKD, APPD, AMENDMENT

Balfour Beatty Living Places
Working in partnership
City Depot & Recycling Park
SOUTHAMPTON SO9 4LJ
Tel: +44 (0)2380 786010
Fax: +44 (0)2380 786022
Web: www.bbivingplaces.com

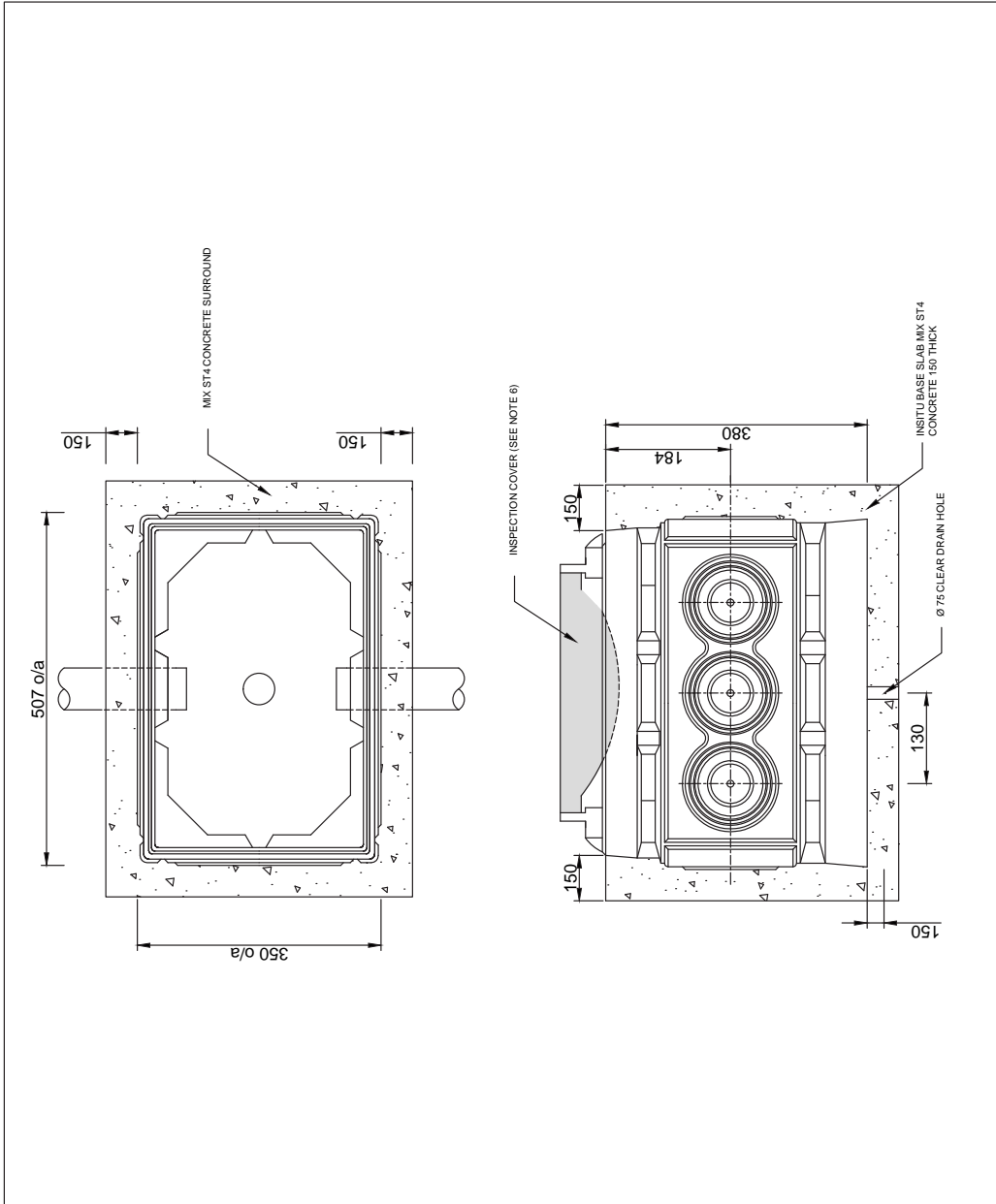
Design Group

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P:\BBLP Standard Details updated May 2012\Traffic Systems\UK1-5006.dwg, 03/08/2012 10:28:18

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. DUCTS SHALL BE ORANGE, HAVE AN INTERNALLY SMOOTH BORE AND LABELLED 'TRAFFIC SIGNALS' AT MAXIMUM 1 METRE INTERVALS AND INSTALLED WITH DRAWCORDS.
3. INSPECTION COVERS SHALL BE MARKED WITH ONE OF THE FOLLOWING:
 - 'TRAFFIC SIGNALS'
 - 'TRAFFIC LIGHTS'
 - 'SIGNALS'
 - 'S.C.C SIGNALS'
 - 'U.T.C'
 LETTER HEIGHT 40 TO 100. RECESSED AND INFILLED COVERS SHALL NOT BE USED.
4. DUCTS AT DEPTH SHALL BE BROUGHT UP TO THE DRAWPIT USING A SINGLE EASY BEND OF MINIMUM 1 METRE RADIUS.
5. INSPECTION COVER (495X390) SHALL BE BOTH TO BS EN 124 AND CERTIFIED BY A UKAS APPROVED THIRD PARTY ACCREDITATION BODY (EG. B.S.I) CLASS D400 COVERS AND FRAMES SHALL BE USED WHERE VEHICLES MAY OVERRUN THE COVER. IF PROTECTED BY A SAFETY BARRIER, GUARD RAILING OR KERBS MIN. CLASS C250 COVERS AND FRAMES SHALL BE USED.
6. COVERS SHALL NOT INCLUDE SCREWS, FIXINGS OR SCREW HOLES.
7. PARTICULAR CARE SHALL BE TAKEN TO AVOID MOVEMENT OR DISTORTION OF THE PLASTIC UNIT BY USING TEMPORARY INTERNAL BRACING DURING THE PLACING AND CONNECTION OF CONCRETE SURROUND.
8. CHAMBER AVAILABLE FROM IDS SYSTEM MC2 CHAMBER (300X450X300) OPTIONAL RAISING SECTION MC2/R AVAILABLE FROM BURDENS LTD., PEGHAM INDUSTRIAL PARK, LAVYS LANE, FAREHAM, PO15 6SQ TEL: 01329 840250

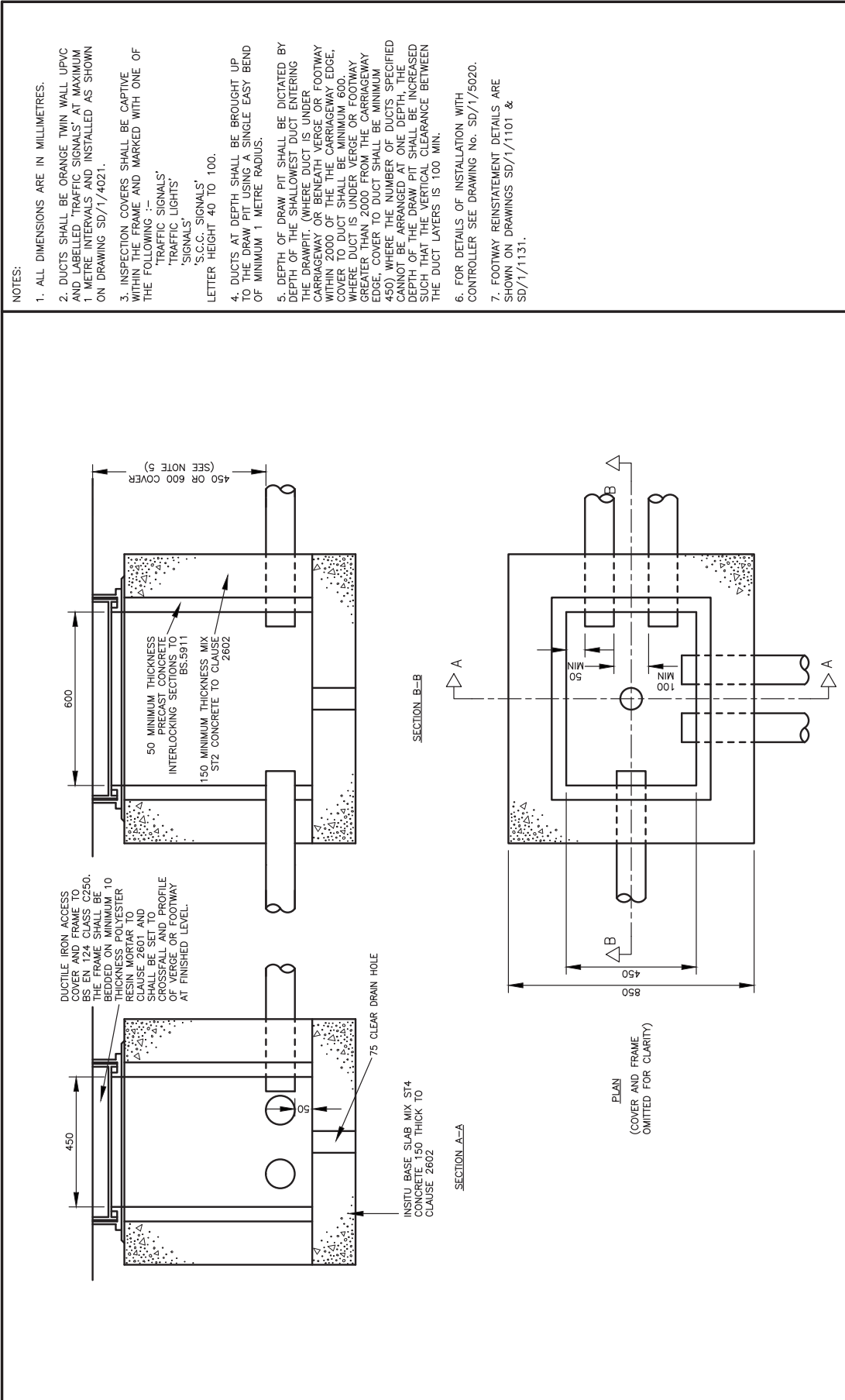


DESIGNED BBLP	DRAWN RMC	DATE May 2012	SHEET 1 of 1	REVISION	
CHECKED MD	APPROVED GPR	SCALE @ A3	NTS		
Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY			DRAWING NUMBER SD/1/5006		
Balfour Beatty Living Places Working in partnership City Depot & Recycling Park Fire Avenue, Millbrook SOUTHAMPTON SO16 5LJ Tel: +44 (0)2380 512800 Fax: +44 (0)2380 512883 Web: www.bblivingplaces.com Design Group			DRAWING TITLE TRAFFIC SIGNAL ALTERNATIVE DRAWPIT TYPE 1		
REV	DATE	DRWN	CHKD	APPD	AMENDMENT
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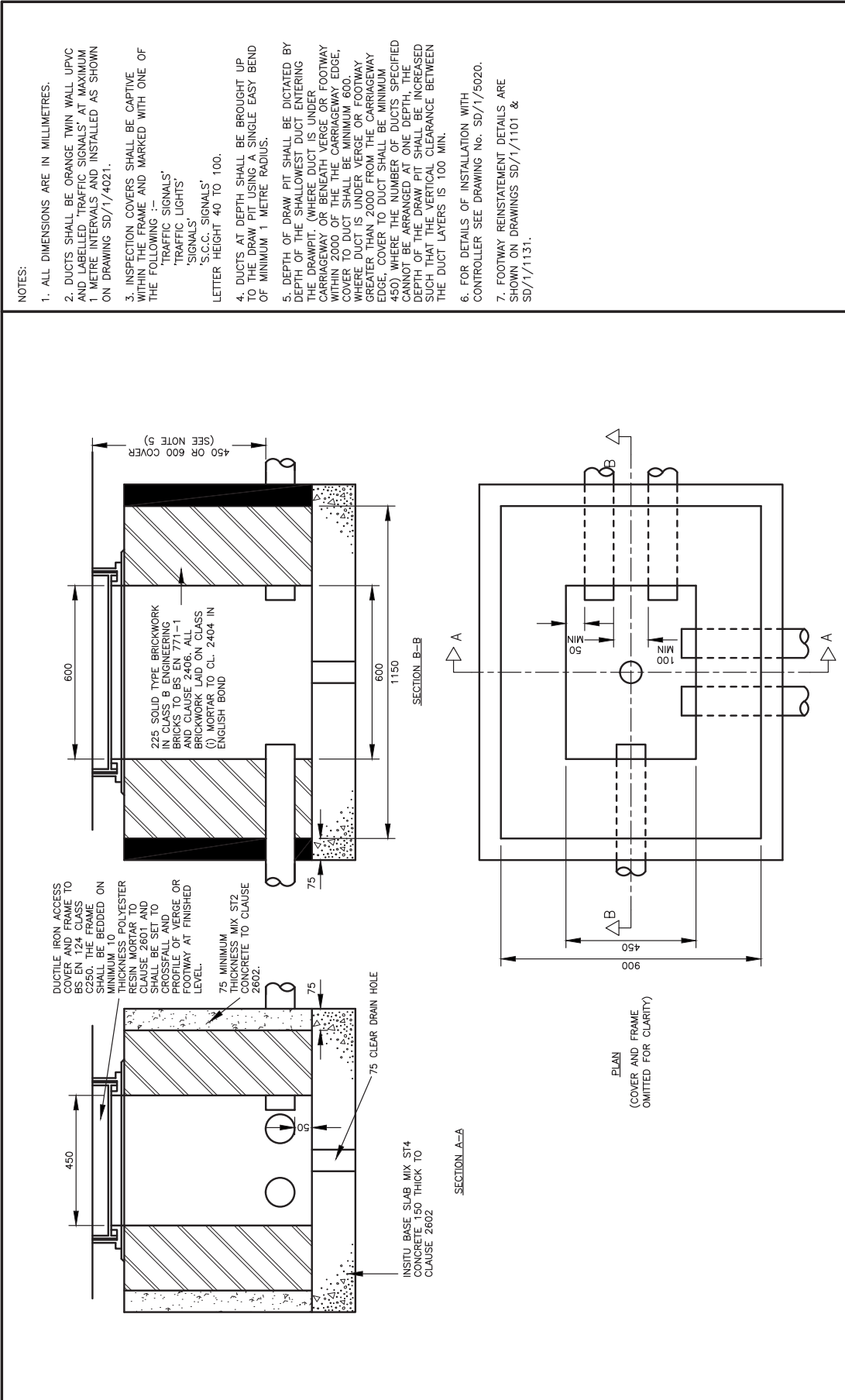
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P:\0861.P Standard Details updated May 2012\Traffic Systems\UC1-5010.dwg, 03/08/2012 10:27:39



- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. DUCTS SHALL BE ORANGE TWIN WALL UPVC AND LABELLED 'TRAFFIC SIGNALS' AT MAXIMUM 1 METRE INTERVALS AND INSTALLED AS SHOWN ON DRAWING SD/1/4021.
 3. INSPECTION COVERS SHALL BE CAPTIVE WITHIN THE FRAME AND MARKED WITH ONE OF THE FOLLOWING :-
'TRAFFIC SIGNALS'
'TRAFFIC LIGHTS'
'SIGNALS'
'S.C.C. SIGNALS'
LETTER HEIGHT 40 TO 100.
 4. DUCTS AT DEPTH SHALL BE BROUGHT UP TO THE DRAW PIT USING A SINGLE EASY BEND OF MINIMUM 1 METRE RADIUS.
 5. DEPTH OF DRAW PIT SHALL BE DICTATED BY DEPTH OF THE SHALLOWEST DUCT ENTERING THE DRAWPIT. (WHERE DUCT IS UNDER CARRIAGEWAY OR BENEATH VERGE OR FOOTWAY WITHIN 2000 OF THE CARRIAGEWAY EDGE, COVER TO DUCT SHALL BE MINIMUM 600. WHERE DUCT IS UNDER VERGE OR FOOTWAY GREATER THAN 2000 FROM THE CARRIAGEWAY EDGE, COVER TO DUCT SHALL BE MINIMUM 450) WHERE THE NUMBER OF DUCTS SPECIFIED CANNOT BE ARRANGED AT ONE DEPTH, THE DEPTH OF THE DRAW PIT SHALL BE INCREASED SUCH THAT THE VERTICAL CLEARANCE BETWEEN THE DUCT LAYERS IS 100 MIN.
 6. FOR DETAILS OF INSTALLATION WITH CONTROLLER SEE DRAWING No. SD/1/5020.
 7. FOOTWAY REINSTATEMENT DETAILS ARE SHOWN ON DRAWINGS SD/1/1101 & SD/1/1131.

DESIGNED	BBP	DATE	JULY 2012	SHEET	1 of 1	REVISION	
CHECKED	AF	DRAWN	RMC	APPROVED	SCALE @ A3		
DRAWING STATUS	UNCONTROLLED COPY						
REV	DATE	DRWN	CHKD	APPD	AMENDMENT		
DRAWING TITLE							DRAWING NUMBER
Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY 							SD/1/5010
Highways Standard Detail Traffic Systems Drawpit Type 2							
Balfour Beatty Living Places Working in partnership City Depot & Recycling Park First Avenue, Millbrook SOUTHAMPTON SO16 6LJ Tel: +44 (0)2380 798000 Fax: +44 (0)2380 798022 Web: www.bbivingplaces.com Design Group							
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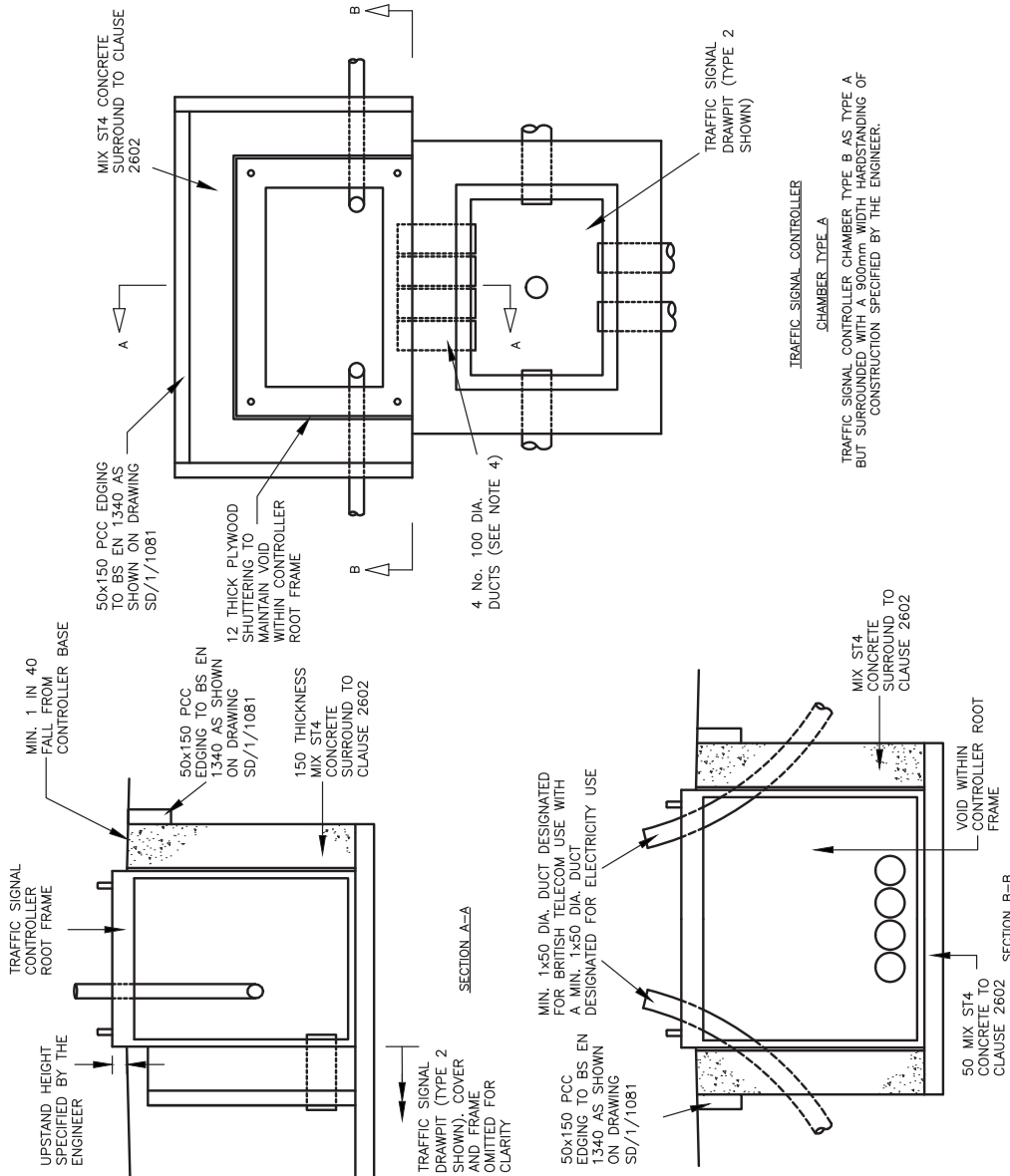
- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. DUCTS SHALL BE ORANGE TWIN WALL UPVC AND LABELLED 'TRAFFIC SIGNALS' AT MAXIMUM 1 METRE INTERVALS AND INSTALLED AS SHOWN ON DRAWING SD/1/4021.
 3. INSPECTION COVERS SHALL BE CAPTIVE WITHIN THE FRAME AND MARKED WITH ONE OF THE FOLLOWING :-
'TRAFFIC SIGNALS'
'TRAFFIC LIGHTS'
'SIGNALS'
'S.C.C. SIGNALS'
LETTER HEIGHT 40 TO 100.
 4. DUCTS AT DEPTH SHALL BE BROUGHT UP TO THE DRAW PIT USING A SINGLE EASY BEND OF MINIMUM 1 METRE RADIUS.
 5. DEPTH OF DRAW PIT SHALL BE DICTATED BY THE DRAWING. WHERE DUCT IS UNDER FOOTWAY WITHIN 2000 OF THE CARRIAGEWAY EDGE, COVER TO DUCT SHALL BE MINIMUM 600, WHERE DUCT IS UNDER VERGE OR FOOTWAY GREATER THAN 2000 FROM THE CARRIAGEWAY EDGE, COVER TO DUCT SHALL BE MINIMUM 450. WHERE THE NUMBER OF DUCTS SPECIFIED CANNOT BE ARRANGED AT ONE DEPTH, THE DEPTH OF THE DRAW PIT SHALL BE INCREASED SUCH THAT THE VERTICAL CLEARANCE BETWEEN THE DUCT LAYERS IS 100 MIN.
 6. FOR DETAILS OF INSTALLATION WITH CONTROLLER SEE DRAWING No. SD/1/5020.
 7. FOOTWAY REINSTATEMENT DETAILS ARE SHOWN ON DRAWINGS SD/1/1101 & SD/1/1131.

DESIGNED	BBLP	BY	RMC	DATE	July 2012	SHEET	1 of 1	REVISION	
CHECKED	AF	APPROVED	GPR	SCALE	A3	NTS			
DRAWING TITLE		Highways Standard Detail Traffic Systems Drawpit Type 2A Brick alternative		DRAWING NUMBER		SD/1/5015			
DRAWING STATUS		UNCONTROLLED COPY		SOUTHAMPTON CITY COUNCIL Civic Centre SOUTHAMPTON SO14 7LY		Balfour Beatty Living Places Working in partnership City Depot & Recycling Park First Avenue, Millbrook SOUTHAMPTON SO9 6LJ Tel: +44 (0)2380 786000 Fax: +44 (0)2380 786022 Web: www.bbbrivingplaces.com Design Group			

P:\08619 Standard Details updated May 2012\Traffic Systems\UK1520.dwg, 03/08/2012 10:33:55

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. THE NUMBER OF DUCTS INTO THE CONTROLLER WILL BE AS SPECIFIED BY THE ENGINEER.
3. DEPTH OF EXCAVATION FOR CONTROLLER CASE ROOT SHALL BE AS SPECIFIED BY THE ENGINEER.
4. 4 No. DUCTS LINKING THE DRAW PIT AND CONTROLLER ROOT SHALL BE DEDICATED FOR TRAFFIC USE ONLY.
5. DUCT DESIGNATED FOR ELECTRICITY USE SHALL NOT PASS THROUGH THE DRAWPIT.
6. DUCTS TO BE INSTALLED AS SHOWN ON DRAWING SD/1/4021.

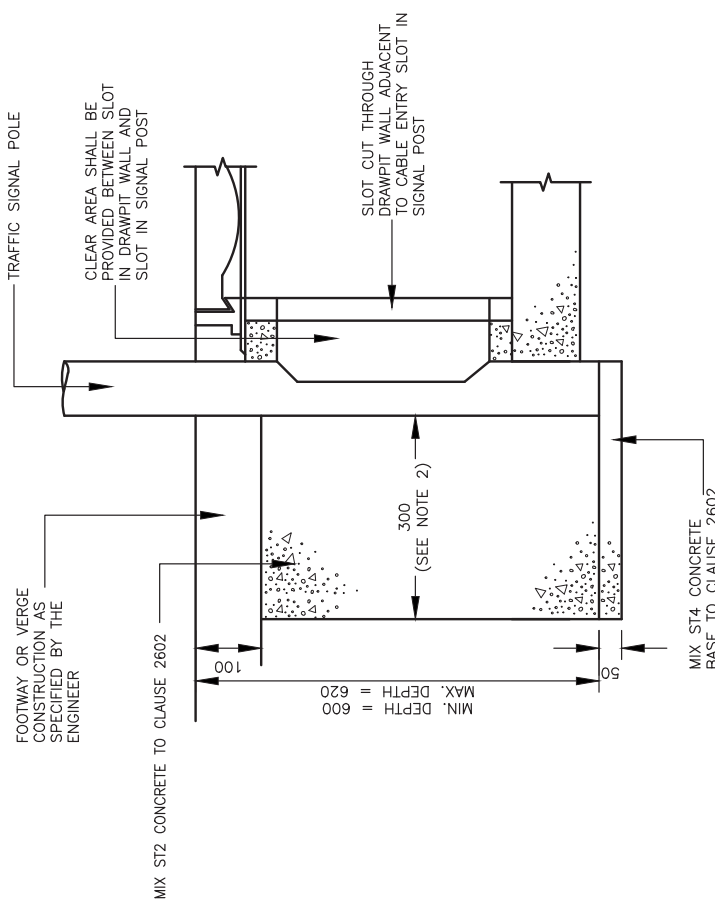


DESIGNED	BBLP	DATE	July 2012	SHEET	1 of 1	REVISION	
CHECKED	AF	APPROVED	GPR	SCALE	1:1		
DRAWN	RMC	DATE	July 2012	DRAWING NUMBER	SD/1/5020		
Highways Standard Detail Traffic Systems Traffic Signal Controller Chamber Types A & B DO NOT SCALE FROM THIS DRAWING							
Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY		Balfour Beatty Living Places Working in partnership City Depot & Recycling Park Fire Avenue, Millbrook SOUTHAMPTON SO16 6LJ Tel: +44 (0)2380 798000 Fax: +44 (0)2380 798022 Web: www.bbivingplaces.com		DRAWING TITLE Highways Standard Detail Traffic Systems Traffic Signal Controller Chamber Types A & B DO NOT SCALE FROM THIS DRAWING			
REV	DATE	DRWN	CHKD	APPD	AMENDMENT	UNCONTROLLED COPY	

P:\BBLP Standard Details updated May 2012\Traffic Systems\UK1-5025.dwg, 03/08/2012 10:34:37

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. WHERE A TALL (6m HEIGHT) TRAFFIC SIGNAL POLE IS SPECIFIED BY THE ENGINEER, THE EXTENT OF THE CONCRETE SURROUND SHALL BE INCREASED TO 450.

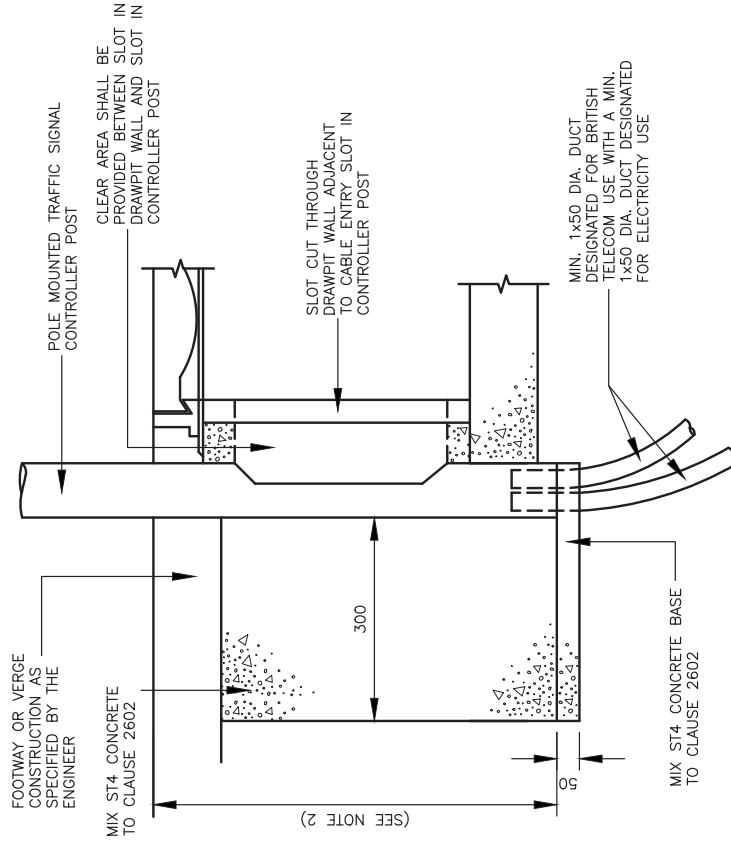


DESIGNED	BBLP	AF	CHECKED	RMC	GPR	DATE	JULY 2012	SHEET	1 of 1	REVISION
DRAWN			APPROVED			SCALE	A3	NTS		DRAWING NUMBER
SD/1/5025										

<p>Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY</p>		<p>Balfour Beatty Living Places Working in partnership City Depot & Recycling Park Five Avenue, Millbrook SOUTHAMPTON SO14 5LJ Tel: +44 (0)2380 786000 Fax: +44 (0)2380 786022 Web: www.bbivingplaces.com Design Group</p>	
<p>DRAWING TITLE</p> <p>Highways Standard Detail Traffic Systems Traffic Signal Pole Connection</p>			
<p>DO NOT SCALE FROM THIS DRAWING</p>			

REV/	DATE	DRWN	CHKD	APPD	AMENDMENT
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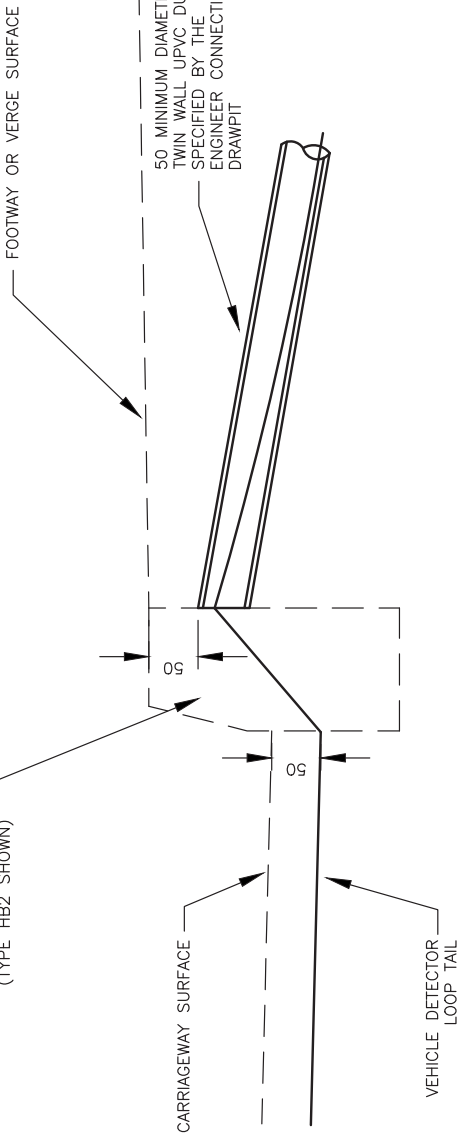
NOTES:
 1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. POST DEPTH IS DEPENDANT ON TYPE OF CONTROLLER SPECIFIED BY THE ENGINEER.



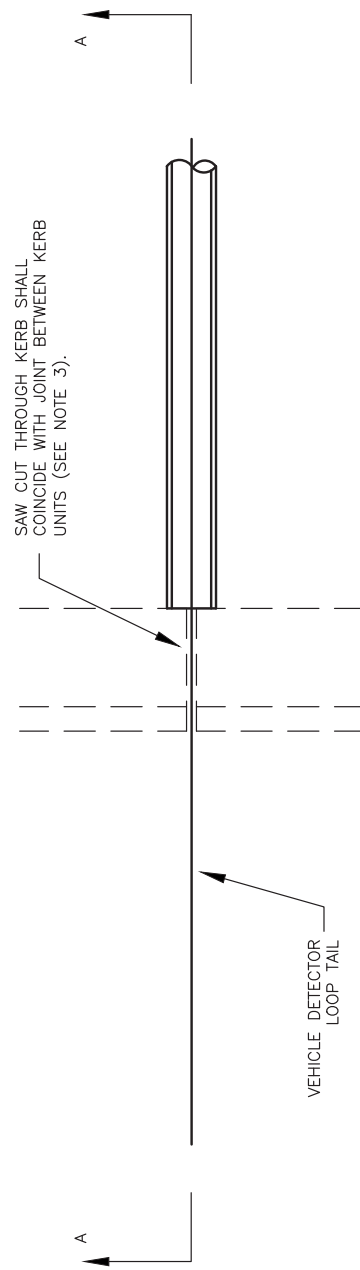
DESIGNED	BBLP	RMC	July 2012	1 of 1	REVISION
CHECKED	AF	GPR	SCALE: A3 NTS		
DRAWING TITLE			DRAWING NUMBER		
Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY			SD/1/5027		
Balfour Beatty Living Places Working in partnership City Depot & Recycling Park First Avenue, Millbrook SOUTHAMPTON SO16 6LJ Tel: +44 (0)2380 798010 Fax: +44 (0)2380 798022 Web: www.bbivingplaces.com Design Group			Highways Standard Detail Traffic Systems Traffic Controller Pole Connection DO NOT SCALE FROM THIS DRAWING		
REV	DATE	DRWN	CHKD	APPD	AMENDMENT
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P:\BBLP_Signage\Details updated 14/07/12\Traffic Systems\TLC1-5030.dwg, 03/08/2012 10:27:06

- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. WHERE DUCTS ARE INSTALLED IN ADVANCE OF THE VEHICLE DETECTOR LOOPS, THEIR POSITIONS SHALL BE MARKED BY AN APPROPRIATE METHOD AGREED WITH THE ENGINEER PRIOR TO CONSTRUCTION.
 3. WHERE COMBINED KERB AND DRAINAGE UNITS ARE INSTALLED, PASSAGE OF VEHICLE DETECTOR LOOP TAIL TO DRAWPIT SHALL BE VIA SPECIAL PRECAST UNITS DESIGNED FOR SUCH A PURPOSE.



SECTION A-A



PLAN

<p>SOUTHAMPTON CITY COUNCIL Civic Centre SOUTHAMPTON SO14 7LY</p>		DESIGNED BBLP	DRAWN RMC	DATE July 2012	SHEET 1 of 1	REVISION
<p>Balfour Beatty Living Places Working in partnership City Depot & Recycling Park First Avenue, Millbrook Southampton SO14 7LJ Tel: +44 (0)2380 798010 Fax: +44 (0)2380 798022 Web: www.bblivingplaces.com</p>		CHECKED AF	APPROVED GPR	SCALE @ A3 NTS	DRAWING NUMBER SD/1/5030	
DRAWING TITLE Traffic Systems Details of connection of vehicle detector loop to drawpit						
DRAWING STATUS UNCONTROLLED COPY						

P:\BFP Standard Details\July 2012\Traffic Systems\CL1-5035.dwg 28/09/2012 09:54:13

- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
 2. CONCRETE BASE TO BE LOCATED WITHIN FOOTWAY CONSTRUCTION OF SPECIFICATION THAT AVOIDS POTENTIAL SLIDING UPON IMPACT.
 3. MINIMUM 200 CLEARANCE SHALL BE PROVIDED FROM THE RS115 UNIT TO SURROUNDING FOOTWAY CONSTRUCTION.
 4. ENSURE DRAINAGE TUBE IS NOT PINCHED OR OBSTRUCTED.
 5. THE STAINLESS STEEL SLEEVE SHALL BE LUBRICATED PRIOR TO PLACING THE STUB POLE INTO THE SOCKET. FASTEN THE TWO STAINLESS STEEL BOLTS AGAINST THE STUB POLE USING THE STUB POLE TO ENSURE THE POST IS INSTALLED IN A VERTICAL POSITION.
 6. THE SOCKET SHALL BE LEFT WITH THE PEDESTRIAN PLUG AND STAINLESS SLEEVE IN POSITION PRIOR TO SIGNAL INSTALLATION WORK BY OTHERS.
 7. ROADS WITH A SPEED LIMIT OF 50mph OR GREATER SHALL BE CONSIDERED AS HIGH SPEED. FOR SIGNAL POLES ON SUCH ROADS OR WHERE SIGNAL POLES ARE LOCATED IN VERGES, AND WHERE SPECIFIED ON THE TRAFFIC SIGNAL DRAWING, THE CONCRETE FOUNDATION FOR A 4m TALL SIGNAL POLE SHALL BE 1200 x 1200 AND THE DUCKFOOT BEND ON A HIGH SPEED INSTALLATION OR IN A VERGE, THE CONCRETE FOUNDATION SHALL BE 1100 BY 1100 AND THE DUCKFOOT BEND AT 900 DEEP.
 8. FOR ROADS WITH A SPEED LIMIT OF 50mph OR GREATER, ALL APPLICABLE TRAFFIC SIGNAL POLES SHOULD BE CONSIDERED INDIVIDUALLY AS TO THEIR SUITABILITY TO BE MADE PASSIVELY SAFE AND THE DECISIONS SHALL BE OUTLINED IN THE TRAFFIC SIGNAL HAZARD ASSESSMENT TA 89/05(USE OF PASSIVELY SAFE SIGNPOSTS, LIGHTING COLUMNS AND TRAFFIC SIGNAL POLES TO BS EN 12767).
 9. IN ORDER TO HIGHLIGHT THEIR PRESENCE TO VISUALLY IMPAIRED PEDESTRIANS (SEE DFT INCLUSIVE MOBILITY PARA 3.9) TRAFFIC SIGNAL POLES, EXCEPT THOSE ON WHICH PUSH BUTTONS ARE MOUNTED, WHICH ARE TO BE INSTALLED IN FOOTWAY AREAS OR WITHIN 0.5m OF A FOOTWAY OR CYCLEWAY, SHALL HAVE A 150 DEEP SELF ADHESIVE BAND APPLIED AT BETWEEN 1.5m AND 1.6m TO THE BOTTOM EDGE ABOVE GROUND LEVEL. THE BAND SHALL BE A RETROREFLECTIVE MATERIAL TO BSEN 12899-1 2007 CLASS RA1 OR RA2. THE ENDS OF THE TAPE SHALL BE SECURED TO RESIST REMOVAL.

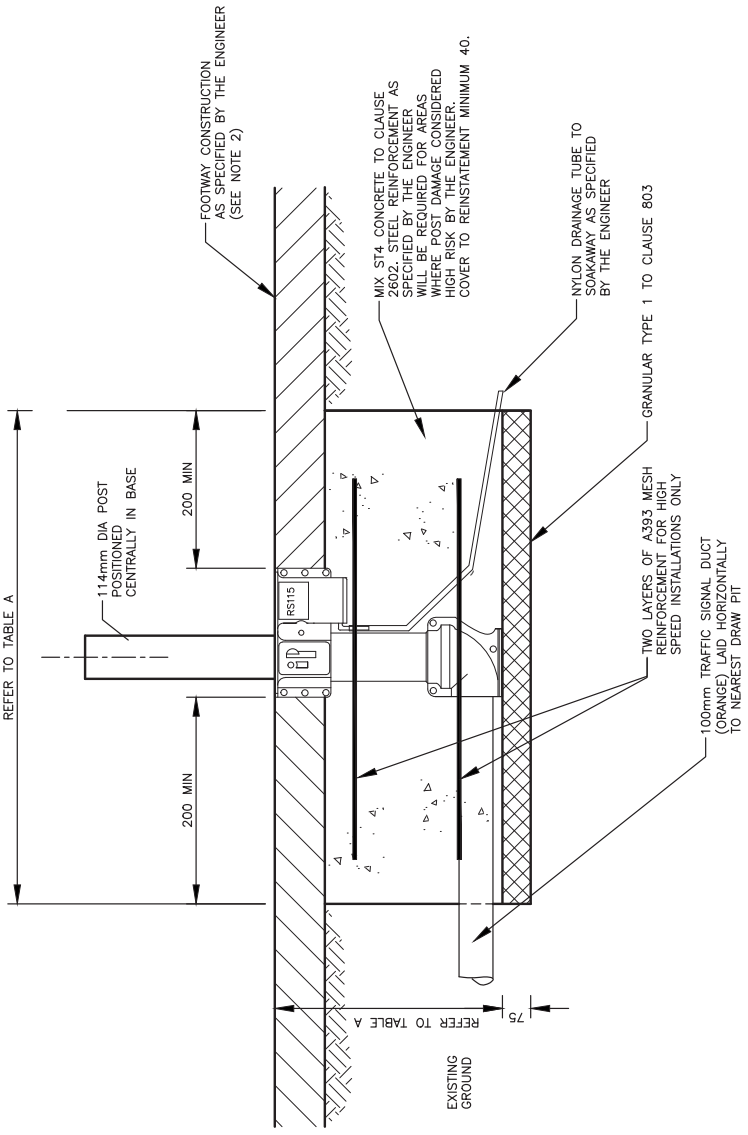


TABLE A

POLE LENGTH	FOOTWAY/ISLAND INSTALLATION		HIGH SPEED/VERGE INSTALLATION	
	LENGTH	WIDTH	LENGTH	WIDTH
≤4m	1200	1200	1600	1600
4-4m	1000	1000	1400	1400
≤4m	850	850	1300	1300
4m	750	750	1200	1200
6m	680	680	1100	1100

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Southamton City Council Civic Centre SOUTHAMPTON SO4 7LY								DRAWING NUMBER	
Highways Standard Detail Traffic Systems Demountable traffic signal pole								SD/1/5035	
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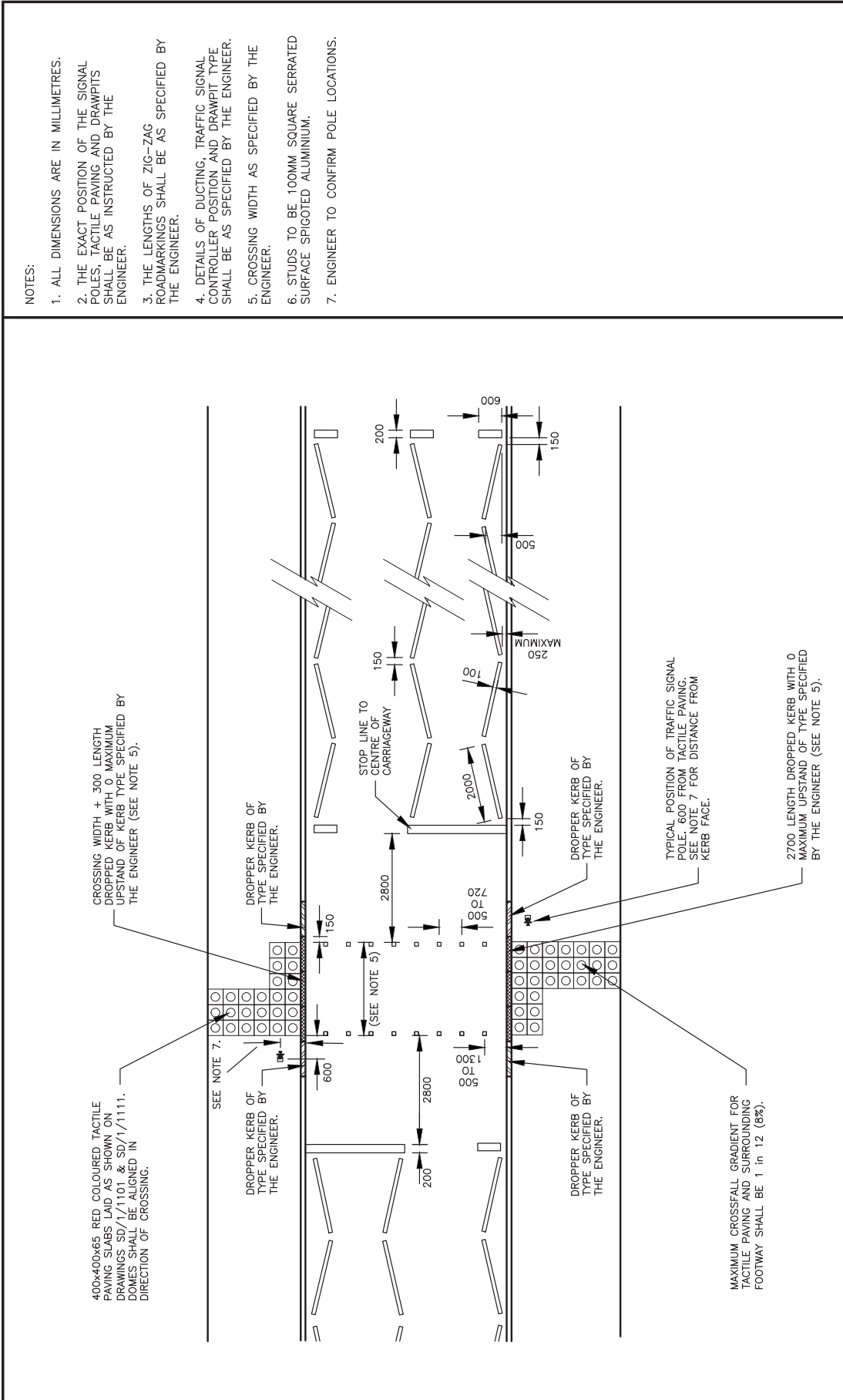
City Depot & Recycling Park
Fire Avenue, Millbrook
SOUTHAMPTON SO16 6LJ
Tel: +44 (0)2380 786010
Fax: +44 (0)2380 786022
Web: www.bbivingplaces.com

Design Group

REV	DATE	DRWN	CHKD	APPD	AMENDMENT

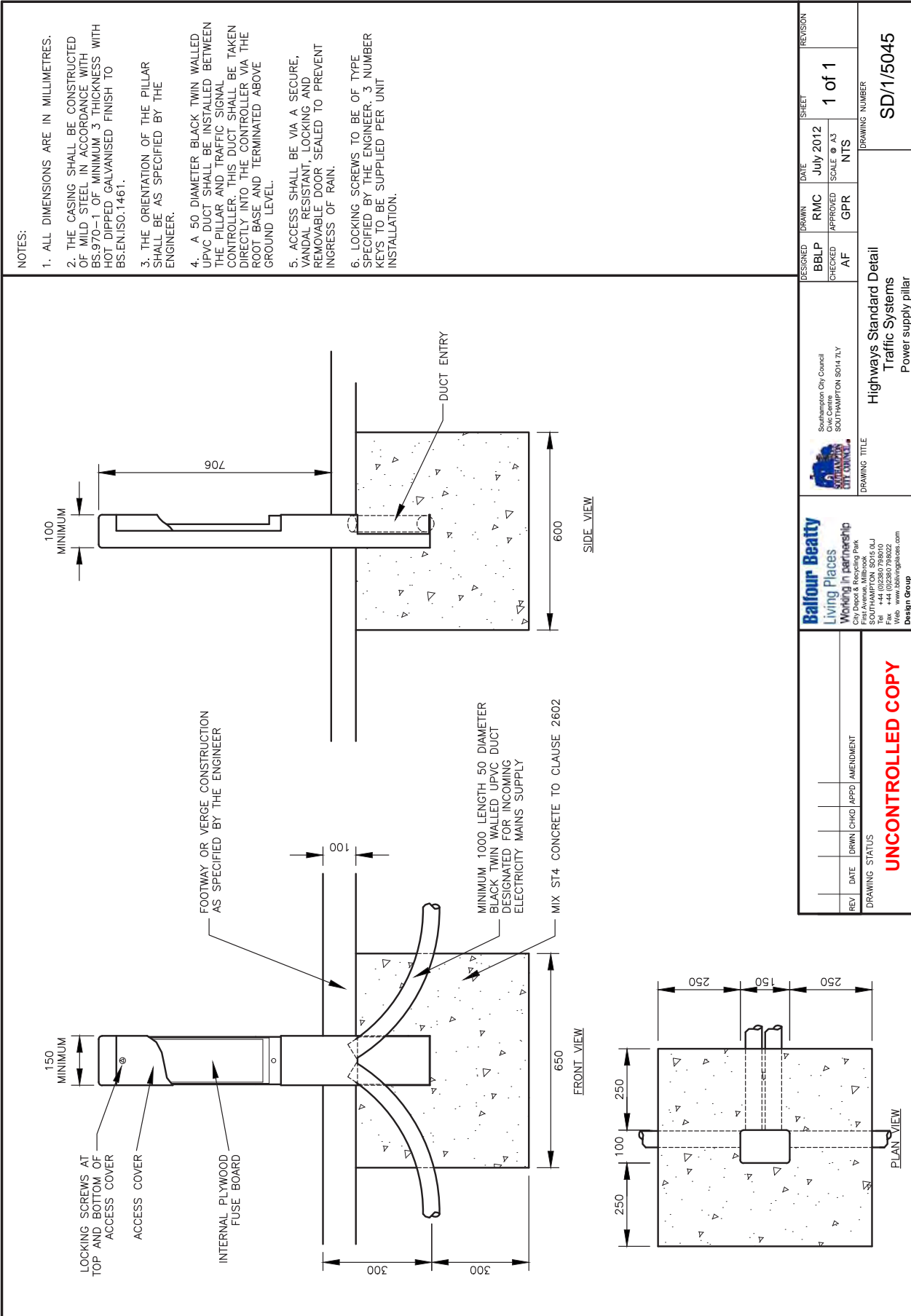
DRAWING STATUS

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Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY								SCALE @ A3	NTS	DRAWING NUMBER		
DRAWING TITLE								Highways Standard Detail			SD/1/5040	
DRAWING STATUS								Pelican, Puffin & Toucan Crossing Layout			DO NOT SCALE FROM THIS DRAWING	
UNCONTROLLED COPY								Balfour Beatty Living Places Working in partnership City Centre, 1st Floor First Avenue, Millbrook SOUTHAMPTON, SO16 6LJ Tel: +44 (0)2380 788000 Fax: +44 (0)2380 788002 Web: www.bb.com Design Group				

P:\08619 Standard Details updated May 2012\Traffic Systems\UC1-5045.dwg, 03/09/2012 10:41:45



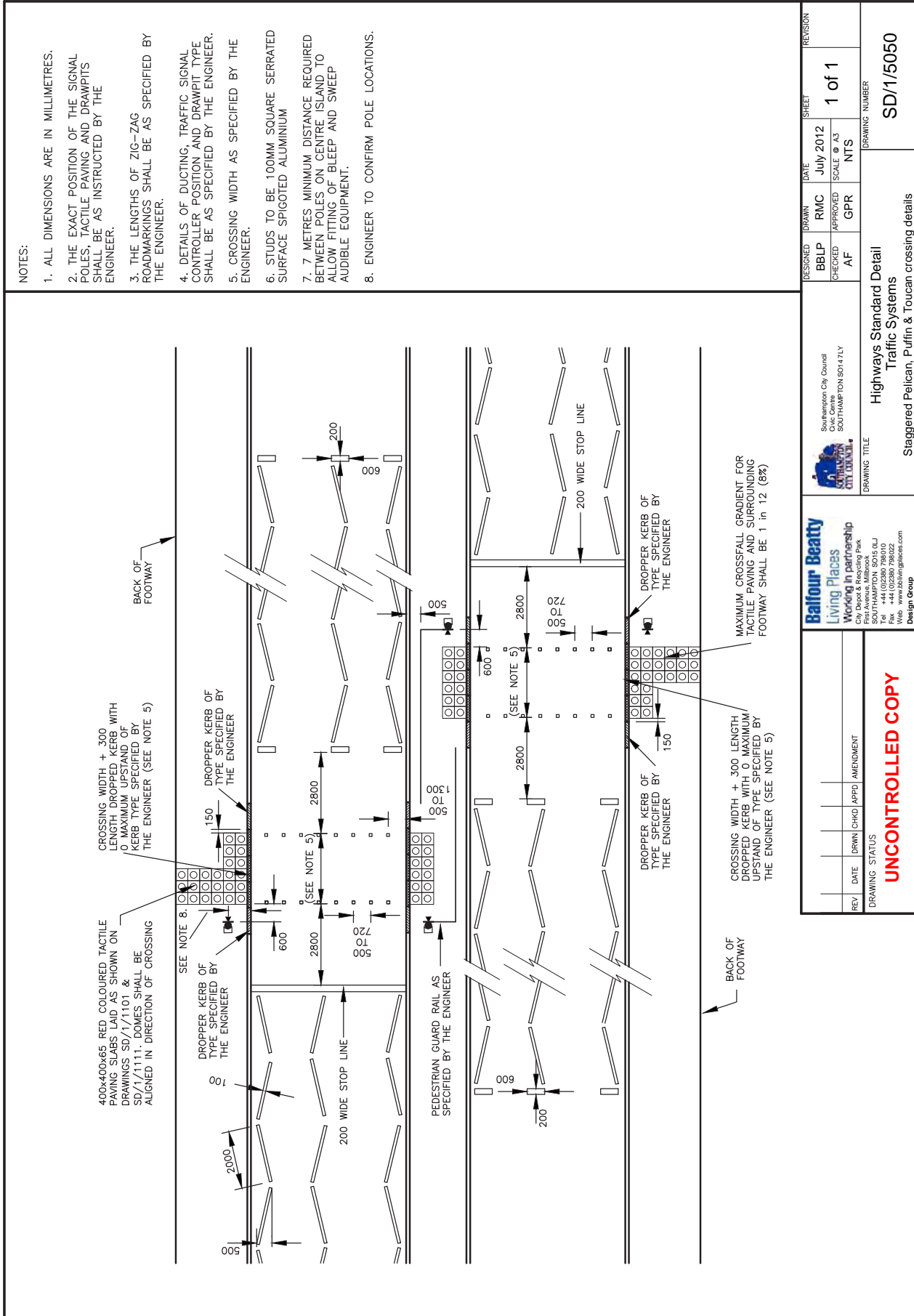
- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. THE CASING SHALL BE CONSTRUCTED OF MILD STEEL IN ACCORDANCE WITH BS.970 OF MINIMUM 3 THICKNESS WITH HOT DIPPED GALVANISED FINISH TO BS.EN.101461.
 3. THE ORIENTATION OF THE PILLAR SHALL BE AS SPECIFIED BY THE ENGINEER.
 4. A 50 DIAMETER BLACK TWIN WALLED UPVC DUCT SHALL BE INSTALLED BETWEEN THE PILLAR AND TRAFFIC SIGNAL CONTROLLER. THIS DUCT SHALL BE TAKEN DIRECTLY INTO THE CONTROLLER VIA THE ROOT BASE AND TERMINATED ABOVE GROUND LEVEL.
 5. ACCESS SHALL BE VIA A SECURE, VANDAL RESISTANT, LOCKING AND REMOVABLE DOOR SEALED TO PREVENT INGRESS OF RAIN.
 6. LOCKING SCREWS TO BE OF TYPE SPECIFIED BY THE ENGINEER. 3 NUMBER KEYS TO BE SUPPLIED PER UNIT INSTALLATION.

DESIGNED	BBLP	CHECKED	AF	DRAWN	RMC	APPROVED	GPR	DATE	JULY 2012	SHEET	1 of 1	REVISION	
DRAWING NUMBER SD/1/5045													
DRAWING TITLE Highways Standard Detail Traffic Systems Power supply pillar													
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 Design Group

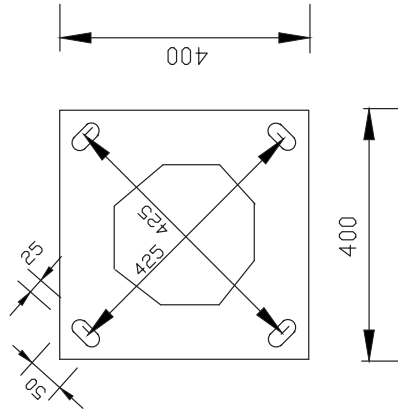
Southampton City Council
 Civic Centre
 SOUTHAMPTON SO9 4LJ

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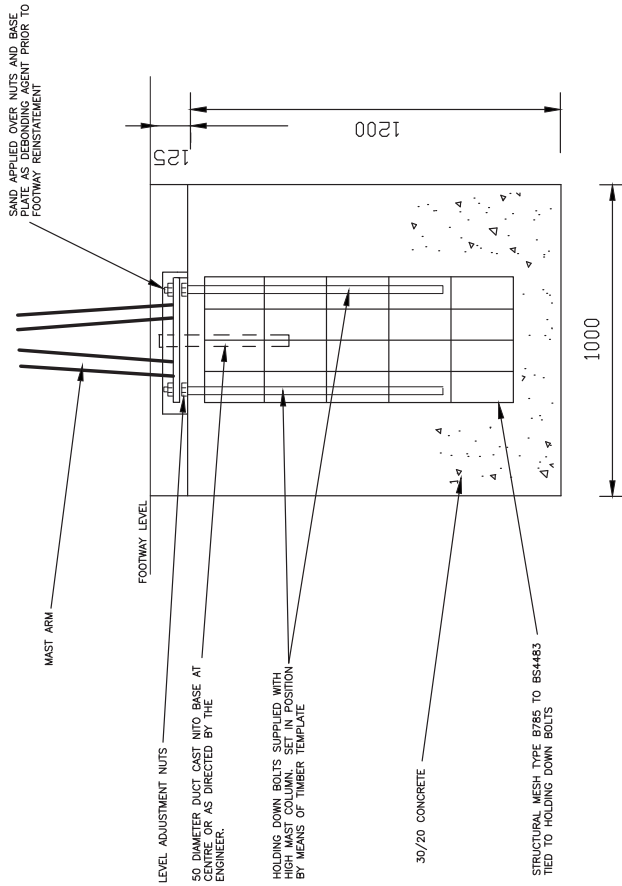


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CHECKED AF	APPROVED GPR	SCALE A3 NTS	DRAWING NUMBER SD/1/5050		
Southampton City Council Civic Centre SOUTHAMPTON, SO14 7LY		Highways Standard Detail Traffic Systems Staggered Pelican, Puffin & Toucan crossing details DO NOT SCALE FROM THIS DRAWING			
Balfour Beatty Living Places Working in partnership City Depot & Recycling Park 829 Avenue, Millbrook SO15 2JL Tel: +44 (0)2380 798010 Fax: +44 (0)2380 798022 Web: www.bbimvillage.co.uk Design Group		DRAWING TITLE Highways Standard Detail Traffic Systems Staggered Pelican, Puffin & Toucan crossing details DO NOT SCALE FROM THIS DRAWING			
REV	DATE	DRWN	CHKD	APPD	AMENDMENT
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- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH TRAFFIC SIGNAL DRAWINGS AND SD/1/1131.
 3. FINAL SIZE, DEPTH AND LOCATION OF FOUNDATION BASE TO BE AS INSTRUCTED BY THE ENGINEER.



BOLT TIMBER TEMPLATE DETAIL



TYPICAL BASE FOUNDATION DETAIL

DESIGNED BBLP	DRAWN RMC	DATE July 2012	SHEET 1 of 1	REVISION	
CHECKED AF	APPROVED GPR	SCALE @ A3 NTS	DRAWING NUMBER SD/1/5060		
Southampton City Council Civic Centre SOUTHAMPTON SO14 7LY		Highways Standard Detail Traffic Systems High mast arm foundation detail			
Balfour Beatty Living Places Working in partnership City Depot & Recycling Park First Avenue, Millbrook SOUTHAMPTON SO16 6LJ Tel: +44 (0)2380 798000 Fax: +44 (0)2380 798022 Web: www.bbivingplaces.com Design Group		DO NOT SCALE FROM THIS DRAWING			
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