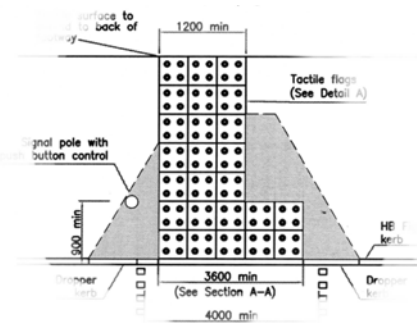


STANDARD DETAIL DRAWINGS

ISSUE: JANUARY 2016



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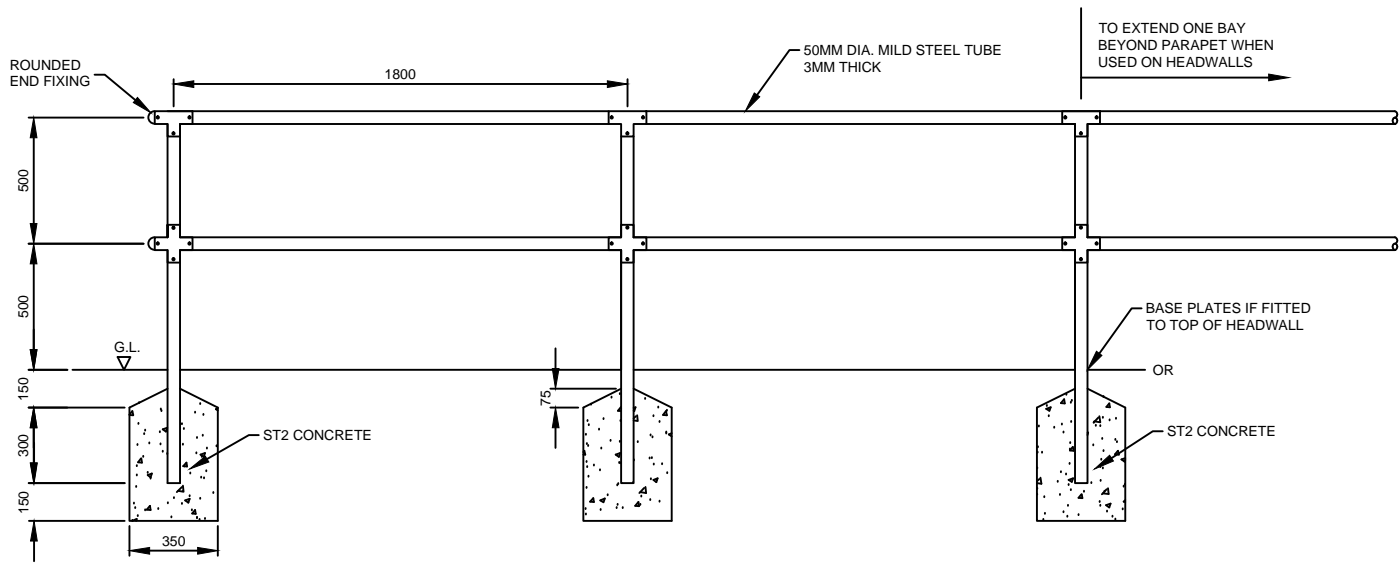
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<u>DRAWING NO.</u>	<u>DRAWING TITLE</u>	<u>ISSUE</u>	<u>DRAWING NO.</u>	<u>DRAWING TITLE</u>	<u>ISSUE</u>
<u>FENCING</u>			SD/900/3	CARRIAGEWAY HAUNCHING	JAN 2016
SD/300/1	MODULAR STEEL TUBULAR GUARDRAILING	JAN 2016	<u>KERBS, FOOTWAYS AND PAVED AREAS</u>		
SD/300/2	ASCOT TIMBER FENCE	JAN 2016	SD/1100/1	PRECAST CONCRETE KERBS (BN, HB2, SP)	JAN 2016
SD/300/3	CYCLE STAND	JAN 2016	SD/1100/2	PRECAST CONCRETE QUADRANT, SAFETY KERBS	JAN 2016
SD/300/4	BOLLARDS	JAN 2016		CHANNEL AND EDGING(QHB2,CS,EF)	
<u>ROAD RESTRAINT SYSTEMS (PEDESTRIAN)</u>			SD/1100/3	CONSERVATION KERBS	JAN 2016
SD/400/1	PEDESTRIAN RESTRAINT SYSTEM	JAN 2016	SD/1100/4	GRANITE SETT AND GRANITE KERB	JAN 2016
<u>DRAINAGE AND SERVICE DUCTS</u>			SD/1100/5	FOOTWAYS AND VEHICULAR CROSSEOVERS	JAN 2016
SD/500/1	PIPES UNDER PAVED AREAS	JAN 2016	SD/1100/6	CYCLEWAYS AND SHARED FACILITIES (FOOTWAY CONSTRUCTION)	JAN 2016
SD/500/2	PIPES AND FILTER DRAINS UNDER VERGES	JAN 2016	SD/1100/7	CYCLEWAYS AND SHARED FACILITIES (TACTILE BLISTER PAVING)	JAN 2016
SD/500/3	SERVICE DUCTS	JAN 2016	SD/1100/8	CONCRETE PAVERS AND FLAGS FOR SIGNAL CONTROLLED	JAN 2016
SD/500/4	SERVICE DUCTS - CONCRETE BED	JAN 2016		CROSSING POINTS	
SD/500/5	ROAD GULLY DETAILS	JAN 2016	SD/1100/9	TRAFFIC ISLANDS	JAN 2016
SD/500/6	FOOTWAY GULLY - CAST INSITU DETAILS	JAN 2016	SD/1100/10	ROUNDBOUT CENTRAL ISLAND - HARD LANDSCAPING	JAN 2016
SD/500/7	CATCHPIT TYPE 1 PRECAST CONCRETE CONSTRUCTION (DEPTH 1.2M-3M)	JAN 2016	SD/1100/11	LAYBY CONCRETE CONSTRUCTION	JAN 2016
SD/500/8	CATCHPIT TYPE 2 PRECAST CONCRETE CONSTRUCTION (DEPTH 3M - 5M)	JAN 2016	SD/1100/12	STEPS (REMOTE FROM THE CARRIAGEWAY)	JAN 2016
SD/500/9	CATCHPIT TYPE 3 BRICKWORK CONSTRUCTION (DEPTH UP TO 1.2M)	JAN 2016	SD/1100/13	ROAD HUMP - FLEXIBLE CONSTRUCTION	JAN 2016
SD/500/10	SOAKAWAY - PRECAST CONCRETE CONSTRUCTION	JAN 2016	SD/1100/14	ROAD HUMP - BLOCK PAVING CONSTRUCTION	JAN 2016
SD/500/11	LINED DITCHES AND OUTFALLS	JAN 2016	SD/1100/15	GATEWAY TO SHARED ACCESS	JAN 2016
SD/500/12	HEADWALL TYPE 1 UPSTREAM OF PIPE BRICKWORK CONSTRUCTION	JAN 2016	SD/1100/16	SPEED CONTROL FEATURE	JAN 2016
SD/500/13	HEADWALL TYPE 2 DOWNSTREAM OF PIPE BRICKWORK - CONSTRUCTION	JAN 2016	SD/1100/17	SPEED CUSHION DETAIL	JAN 2016
SD/500/14	HEADWALL TYPE 3 - CONCRETE BAGWORK WALL	JAN 2016	SD/1100/18	BUS BOARDER TYPE 1	JAN 2016
SD/500/15	HEADWALL TYPE 4 BRICKWORK CONSTRUCTION - OUTFALL DETAIL	JAN 2016	SD/1100/19	BUS BOARDER TYPE 2	JAN 2016
SD/500/16	HEADWALL TYPE H1	JAN 2016	SD/1100/20	VEHICULAR ACCESS CONSTRUCTION DETAILS	JAN 2016
SD/500/17	JOINTING CHAMBERS FOR TRAFFIC SIGNAL AND STREET LIGHTING CABLES	JAN 2016	SD/1100/21	VEHICLE ACCESS GEOMETRY	JAN 2016
<u>PAVEMENT CONSTRUCTION</u>			SD/1100/22	PERMEABLE CONCRETE BLOCK PAVING	JAN 2016
SD/700/1	REINSTATEMENT OF EXISTING PAVEMENTS - TYPE PR1, PR2, PR3 & PR4	JAN 2016	SD/1100/23	GRASS CONCRETE ECOLOGICAL PAVING	JAN 2016
<u>CARRIAGEWAY CONSTRUCTION</u>			SD/1100/24	GRASS PLASTIC ECOLOGICAL PAVING	JAN 2016
SD/900/1	PAVEMENT CONSTRUCTION THICKNESS - MINOR ACCESS ROADS, ACCESSWAYS, MEWS COURTS AND HOUSING SQUARES	JAN 2016	<u>TRAFFIC SIGNS</u>		
SD/900/2	PAVEMENT CONSTRUCTION THICKNESS - MAJOR ACCESS ROADS AND INTERMEDIATE ROADS (<250 CV/L/D)	JAN 2016	SD/1200/1	TRAFFIC SIGN AND FOUNDATION DETAIL	JAN 2016
			SD/1200/2	TRAFFIC SIGN POST AND FOUNDATION SIZE	JAN 2016
			SD/1200/3	TRAFFIC SIGNAL POST FOUNDATION DETAIL	JAN 2016
			SD/1200/4	STANDARD ELECTRICAL STREET CABINET FOUNDATION DETAIL	JAN 2016
			SD/1200/5	TRAFFIC SIGNAL CONTROLLER CABINET FOUNDATION DETAIL	JAN 2016
			SD/1200/6	ILLUMINATED BOLLARD FOUNDATION DETAIL	JAN 2016
			SD/1200/7	NON ILLUMINATED BOLLARD FOUNDATION DETAIL	JAN 2016
			SD/1200/8	SPEED CAMERA ROAD MARKINGS LAYOUT	JAN 2016
			SD/1200/9	SPEED LIMIT ENTRY POINT ROAD MARKINGS	JAN 2016
			<u>STREET LIGHTING , CCTV MAST</u>		
			SD/1300/1	STREET LIGHTING & TRAFFIC SIGNALS	JAN 2016
			SD/1300/2	LIGHTING COLUMN & FEEDER PILLAR FOUNDATION DETAIL	JAN 2016
				CCTV MAST FOUNDATION	JAN 2016

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<u>ELECTRICAL WORK FOR STREET LIGHTING AND TRAFFIC SIGNS</u>					
SD/1400/1	TERMINATION TYPE 1	JAN 2016			
SD/1400/2	TERMINATION TYPE 2	JAN 2016			
SD/1400/3	TERMINATION TYPE 3	JAN 2016			
SD/1400/4	TERMINATION TYPE 4	JAN 2016			
SD/1400/5	TERMINATION TYPE 5	JAN 2016			
SD/1400/6	TERMINATION TYPE 6	JAN 2016			
SD/1400/7	TERMINATION TYPE 7	JAN 2016			
SD/1400/8	TERMINATION TYPE 8	JAN 2016			
SD/1400/9	TERMINATION TYPE 9	JAN 2016			
SD/1400/10	TERMINATION TYPE 10	JAN 2016			
SD/1400/11	TERMINATION TYPE 11	JAN 2016			
SD/1400/12	TERMINATION TYPE 12	JAN 2016			
SD/1400/13	TERMINATION TYPE 13	JAN 2016			
SD/1400/14	TERMINATION TYPE 14	JAN 2016			
SD/1400/15	TERMINATION TYPE 15	JAN 2016			
SD/1400/16	TERMINATION TYPE 16	JAN 2016			
SD/1400/17	TERMINATION TYPE 17	JAN 2016			
SD/1400/18	TERMINATION TYPE 18	JAN 2016			
SD/1400/19	TERMINATION TYPE 19	JAN 2016			
SD/1400/20	TERMINATION TYPE 20	JAN 2016			
SD/1400/21	TERMINATION KEY	JAN 2016			
SD/1400/22	TERMINATION LABELS	JAN 2016			
SD/1400/23	TERMINATION SCHEMATIC DIAGRAMS	JAN 2016			
SD/1400/24	2 WAY FEEDER PILLAR	JAN 2016			
SD/1400/25	4 WAY FEEDER PILLAR	JAN 2016			
SD/1400/26	6 WAY FEEDER PILLAR	JAN 2016			
SD/1400/27	8 WAY FEEDER PILLAR	JAN 2016			
SD/1400/28	12 WAY FEEDER PILLAR	JAN 2016			
SD/1400/29	3 PHASE FEEDER PILLAR	JAN 2016			
SD/1400/30	FEEDER PILLAR TERMINATION KEY	JAN 2016			
SD/1400/31	EARTH ELECTRODE	JAN 2016			
SD/1400/32	CABLE JOINTS	JAN 2016			
SD/1400/33	ACCESS CHAMBER	JAN 2016			
SD/1400/34	CHAMBER COVER	JAN 2016			
SD/1400/35	SOURCE DESTINATION LABELING	JAN 2016			
<u>WOODEN FOOTBRIDGES</u>					
SD/2500/1	STANDARD FOOTBRIDGE UP TO 3.5	JAN 2016			
SD/2500/2	FOUNDATION DRAWINGS	JAN 2016			
SD/2500/3	STANDARD FOOTBRIDGE UP TO 9.5m	JAN 2016			



NOTES

1. ALL DIMENSIONS IN MILLIMETRES.
2. STEEL TUBING SHALL COMPLY WITH BS EN 10255:2004 OR SIMILAR APPROVED BY THE OVERSEEING ORGANISATION.
3. FITTINGS SHALL BE PURPOSE MADE OF MALLEABLE STEEL OR ALUMINIUM WITH CASE HARDENED SCREW FITTING TIGHTENED WITH A HEXAGONAL KEY.
4. RAILINGS SHALL BE GALVANISED TO BS EN ISO 1461: 2009 OR PAINTED WHITE AS INSTRUCTED BY THE OVERSEEING ORGANISATION. CLAUSE 411 SHW STATES THAT GUARDRAILS AND ALL COMPONENTS ARE TO BE GALVANISED. SHW 5000 (MAINTENANCE) DISCUSSES PAINTING.
5. ONLY FLUSH FITTINGS SHALL BE USED.
6. FITTING DETAILS SHALL BE SUBMITTED TO THE OVERSEEING ORGANISATION FOR APPROVAL.
7. CONCRETE FOR POST FOOTINGS SHALL COMPLY WITH CLAUSE 2602 SHW.
8. POST FOOTINGS SHALL BE SQUARE.



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STANDARD DRAWINGS

Drawing title

MODULAR STEEL TUBULAR GUARDRAILING

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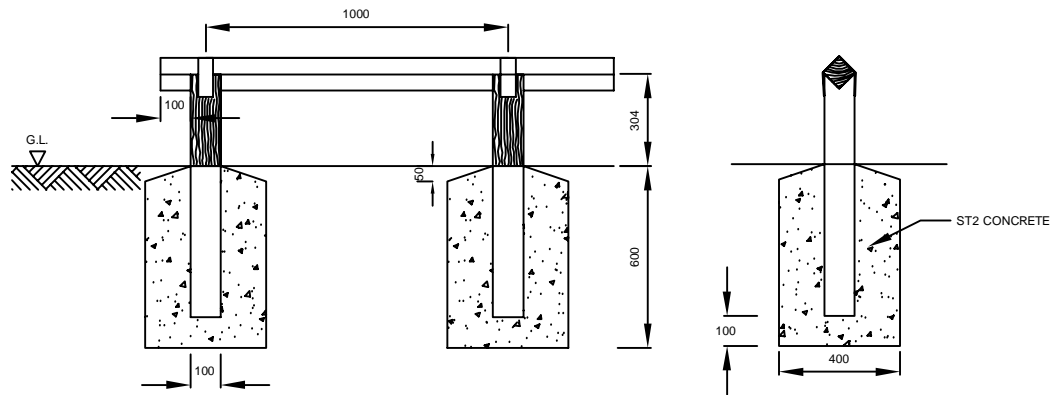
TBC

Scale

NOT TO SCALE

Drawing No.

SD/300/1



NOTES

1. ALL DIMENSIONS IN MILLIMETRES.
2. ALL TIMBER SHALL BE AIR SEASONED, FREE OF DEFECTS INCLUDING DRYING DEFECTS, INSECTS/FUNGUS ATTACK AND WARDING/TWISTING.
3. TIMBER FENCING QUALITY AND DURABILITY SHALL COMPLY WITH CLAUSE 304 SHW.
4. TIMBER FINISH SHALL BE : NATURAL TIMBER FINISH, CLASS 1 OR CLASS 2 TO COMPLY WITH CLAUSE 304,1 SHW.
5. CONCRETE FOR POST FOOTINGS SHALL COMPLY WITH CLAUSE 2602 SHW.
6. HEIGHT OF RAIL SHALL RUN PARALLEL WITH HARD SURFACE LEVELS, SUDDEN DEVIATIONS IN HEIGHT MUST BE AVOIDED.
7. MAJOR CHANGES OF DIRECTION : BUTT ANGLED SECTIONS OF RAIL.
8. MINOR CHANGES OF DIRECTION : ACCOMMODATE AT POST UNDER STRAPS.
9. FENCE OFFSET FROM KERB EDGING SHALL BE 200MM AVERAGE + 25MM.
10. FIXINGS SHALL COMPRISE MILD STEEL GALVANISED STRAP MIN. WIDTH 50MM FIXED WITH 2 NO. (BRIGHT ZINC PLATED) SCREWS.
11. TIMBER POST 100MM SQ, NOTCH CUT TO FIT RAIL, POSTS AT 1M CENTRES.
12. POST FOOTINGS SHALL BE SQUARE.



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STANDARD DRAWINGS

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ASCOT TIMBER FENCE

Drawn

AB

Date

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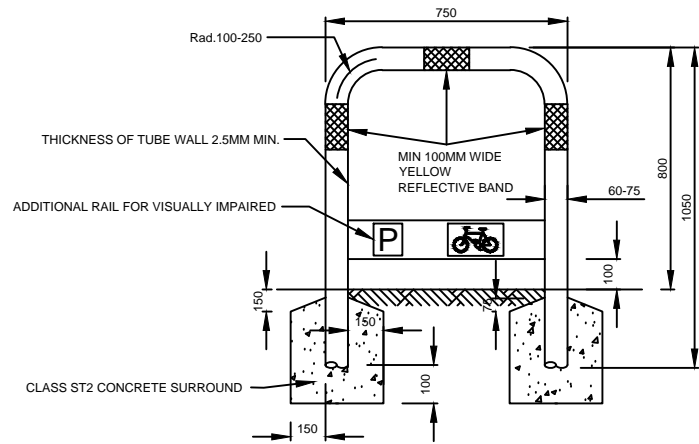
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Scale

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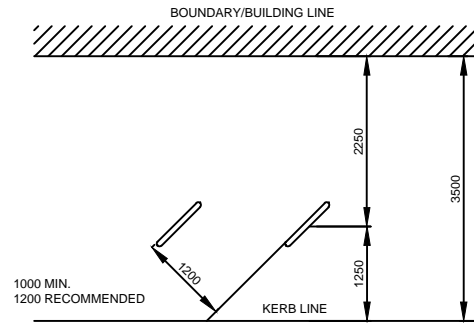
Drawing No.

SD/300/2



CYCLE STAND

1:25



LAYOUT A- ECHELON (45°)

1:50

NOTES

1. ALL DIMENSIONS IN MILLIMETRES.
2. THE STANDS SHALL BE FERROCAST RED ROUTE CYCLE STANDS COLOUR BLACK OBTAINED FROM MARSHALLS LTD. TEL. 0870 600 2425, OR SIMILAR APPROVED.
3. CYCLE STANDS SHALL BE COMPLETE WITH 3NR YELLOW REFLECTIVE BANDS AND "P" AND CYCLE SIGNS FIXED TO RAIL.
4. ALTERNATIVE SETTING OUT CONFIGURATIONS FOR CYCLE STANDS SHALL BE APPROVED BY THE OVERSEEING ORGANISATION.
5. CONCRETE FOR POST SURROUND SHALL COMPLY WITH CLAUSE 2602 SHW.
6. POST FOOTINGS SHALL BE SQUARE.



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CYCLE STAND

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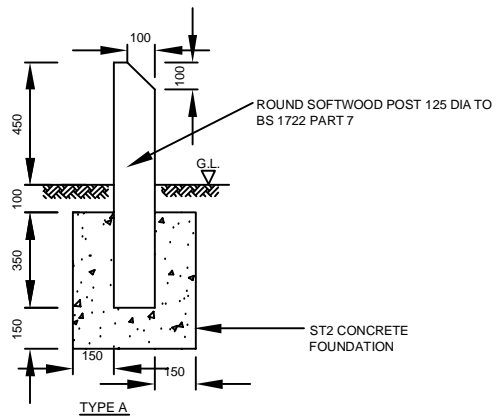
SD/300/3

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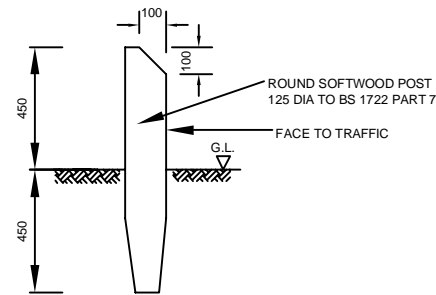
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Scale

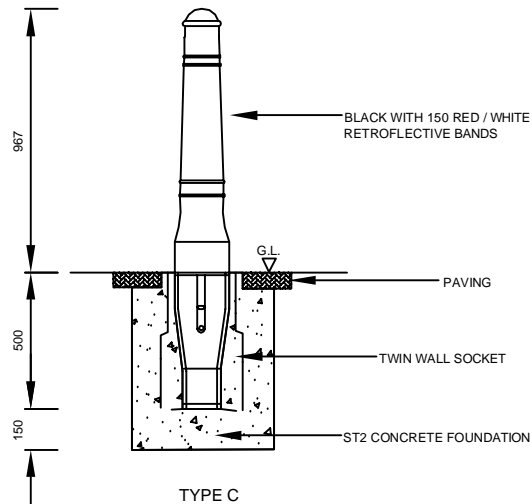
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TYPE A

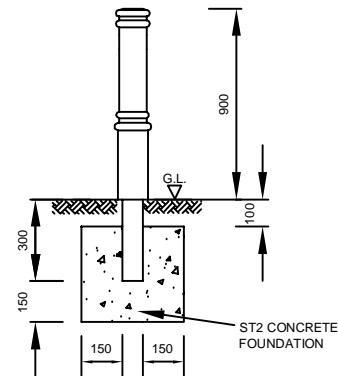


TYPE B



TYPE C

(N.B DESIGN TYPE VARIES)



TYPE D

NOTES

1. ALL DIMENSIONS IN MILLIMETRES.
2. CONCRETE FOR POST FOUNDATION SHALL COMPLY WITH CLAUSE 2602 SHW.
3. BOLLARD TYPE A AND B SHALL BE NATURAL ROUND SOFTWOOD DRAGONS TEETH STYLE 450 HEIGHT AND 125 MAX DIAMETER. BOLLARD TYPE B SHALL BE A DRIVEN POST.
4. TIMBER BOLLARDS SHALL BE PRESSURE TREATED TO CLAUSE 311 SHW USING ORGANIC SOLVENT AND A 30 YEAR GUARANTEE. DETAILS SHALL BE SUPPLIED TO THE OVERSEEING ORGANISATION FOR APPROVAL.
5. BOLLARD TYPE C POLYURATHANE (DURAPOL). THE BOLLARD SHALL BE GLASDON, VICTORY STYLE 967MM HIGH AND 200MM MAX DIAMETER OR SIMILAR APPROVED.
6. BOLLARD TYPE D POLYURETHANE. THE BOLLARD SHALL BE FERROCAST, MORPETH STYLE 900MM HIGH AND 110MM MAX DIAMETER OR SIMILAR APPROVED.
7. ALL METAL BOLLARDS SHALL BE SUPPLIED GALVANISED COATED WITH 2 PROTECTIVE COATINGS OF BLACK GLOSS PAINT TO CLAUSE 1911 SHW. ALTERNATIVE PAINT SYSTEMS SHALL BE APPROVED BY THE OVERSEEING ORGANISATION.
8. OTHER TYPES OF BOLLARDS SHALL NOT GENERALLY BE APPROVED BY THE OVERSEEING ORGANISATION. CONCRETE BOLLARDS ARE NOT ACCEPTABLE.
9. ANY 'POLETEC' OR SIMILAR SOCKET BASE OPTIONS SPECIFIED BY THE MANUFACTURER SHALL BE APPROVED BY THE OVERSEEING ORGANISATION BEFORE ORDERING.
10. BOLLARDS SHALL HAVE APPROPRIATE REFLECTIVE BANDING ATTACHED AS SPECIFIED BY THE OVERSEEING ORGANISATION THE DETAILS SHALL BE CONFIRMED BEFORE ORDERING.
11. FOUNDATIONS ARE SQUARE IN PLAN.



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STANDARD DRAWINGS

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BOLLARDS

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Scale

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Drawing No.

SD/300/4

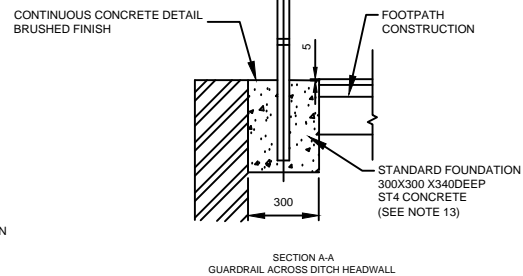
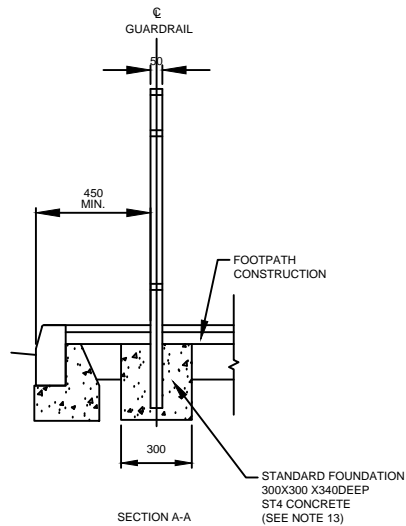
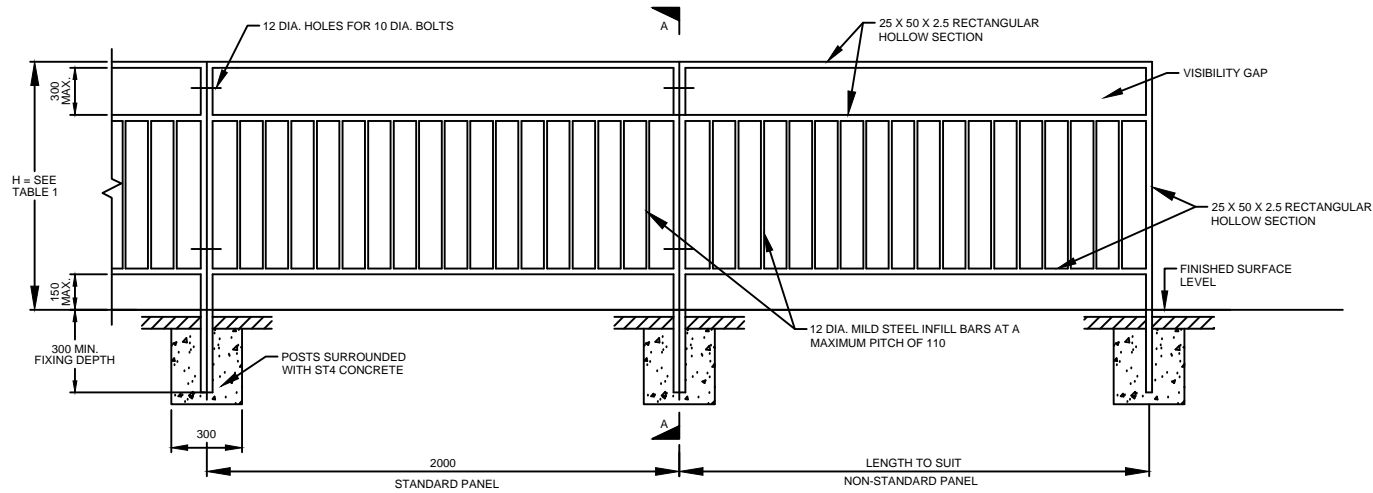


TABLE 1 MINIMUM HEIGHT OF PEDESTRIAN RESTRAINT (GUARDRAIL) (SEE NOTES 4&5)

USE	HEIGHT 'H' mm
PEDESTRIAN	1000
CYCLIST	1000
EQUESTRIAN	1800
BRIDGES	SEE NOTE 5

NOTES

1. ALL DIMENSIONS IN MILLIMETRES.
2. GUARDRAIL DESIGN AND INSTALLATION SHALL COMPLY WITH BS 7818:1995 AND CLAUSE 411 SHW.
3. TYPE, STYLE AND CLASS OF BARRIER SHALL MATCH THE LOCATION AND USE. CLASS 2 IS NORMAL DUTY AND THE MINIMUM STANDARD USED.
4. GUIDANCE FOR USING ENHANCED VISIBILITY INFILL PANELS IS IN BS 7818:1995 (ANNEX B).
5. MINIMUM HEIGHT OF BARRIER IN TABLE 1 (REF BS 7818:1995) SHALL MATCH THE DESIGN USE.
6. USE OF PEDESTRIAN RESTRAINT SYSTEMS ON BRIDGES SHALL BE APPROVED BY THE OVERSEEING ORGANISATION.
7. ALL GUARDRAILS SHALL HAVE A HOT DIP GALVANISED FINISH TO BS EN 150 1461:2009.
8. ALL BOLTS, NUTS AND WASHERS SHALL BE STAINLESS STEEL.
9. THE GUARDRAIL SHALL BE ERECTED ACCORDING TO THE MANUFACTURERS INSTRUCTIONS.
10. THE GUARDRAIL SHALL BE FABRICATED TO SUIT THE LAYOUT AND LEVELS AND BE ERECTED TRUE TO LINE AND LEVEL THROUGHOUT ITS LENGTH.
11. FOR ALL CHANGES OF DIRECTION OF GUARDRAILS AND FOR RADII LESS THAN 30M THE INTERMEDIATE PANELS SHALL BE SPECIALLY FABRICATED.
12. PANELS SHALL BE TILTED TO ACCOMMODATE GRADIENTS UP TO 1 IN 6. FOR STEEPER GRADIENTS THE PANELS SHALL BE STEPPED.
13. FOUNDATION SHALL BE 500X500X 600 DEEP FOR H >1500 , BS 7818:1995 (TABLE B).
14. WHERE BRICKWORK OR BLOCKWORK THICKNESS IS IN EXCESS OF 225 THE PANELS SHALL BE INCORPORATED INTO THE CONSTRUCTION OR GROUTED INTO SUITABLY PREPARED HOLES. DETAILS SHALL BE SUBMITTED FOR APPROVAL TO THE OVERSEEING ORGANISATION.
15. FOUNDATIONS SHALL BE SQUARE IN PLAN.



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STANDARD DRAWINGS

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PEDESTRIAN RESTRAINT SYSTEM

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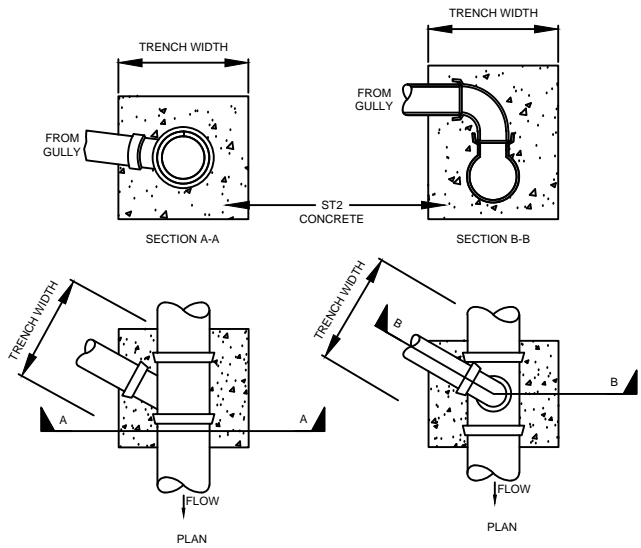
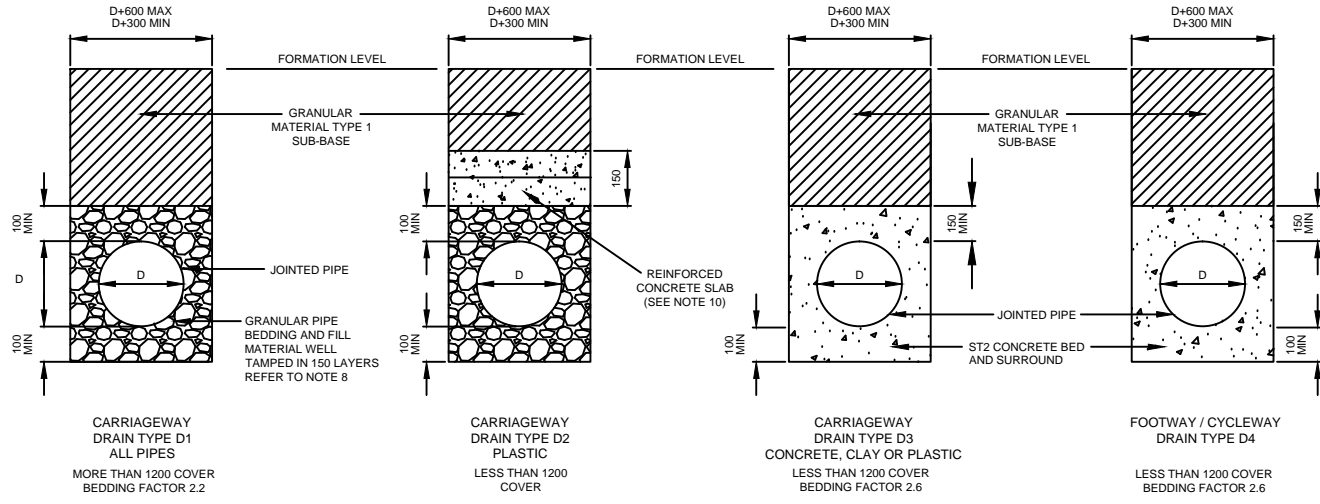
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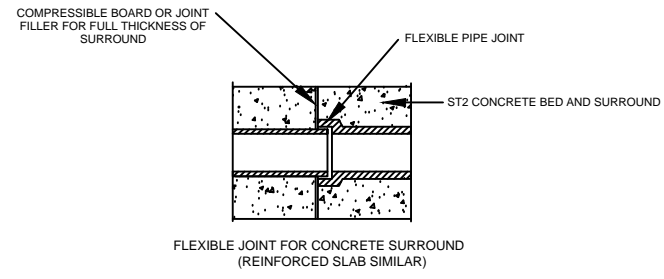
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Drawing No.

SD/400/1



GULLY CONNECTION DETAIL (SEE NOT 12)



- NOTES**
- ALL DIMENSIONS ARE IN MILLIMETRES
 - WATER AUTHORITIES GUIDE SEWERS FOR ADOPTION LATEST EDITION SHALL APPLY EXCEPT WHERE MODIFIED BY THIS DRAWING.
 - PIPES FOR DRAINAGE SHALL COMPLY WITH CLAUSE 501 SHW (TABLE 5/1).
 - PIPES FOR DRAINAGE SHALL BE EITHER VITRIFIED CLAY PIPES OR CONCRETE PIPES AS SPECIFIED BY THE OVERSEEING ORGANISATION.
 - PVCU/THERMOPLASTIC PIPES SHALL ONLY BE USED WITH THE APPROVAL OF THE OVERSEEING ORGANISATION AND SHALL BE BBA CERTIFICATE APPROVED STRUCTURED WALL PIPES TO BS EN 1401 ; STIFFENED TO CLASS 8KN/M2 AND RESISTANT TO JETTING PRESSURE OF 4000 PSI TO WIS 4:35-01.
 - COMPRESSIBLE BOARD/JOINT FILLER SHALL BE 25MM THICK WITH 1.5MM TOLERANCE ACCORDING TO CLAUSE 1015-1 SHW.
 - DRAWING SHALL BE READ IN CONJUNCTION WITH SPECIFICATION.
- PIPE BEDDING, COVER AND SURROUND**
- PIPE BEDDING LAYING AND SURROUND TO COMPLY WITH CLAUSE 503 SHW. FILTER DRAINS TO CLAUSE 505 SHW.
 - MINIMUM COVER WITHOUT CONCRETE PROTECTION SHALL BE 1200 CONCRETE PROTECTION AND SHALL TERMINATE AT A SUITABLE PIPE JOINT.
 - DETERMINATION OF PIPE AND BEDDING COMBINATIONS SHALL BE IN ACCORDANCE WITH HA 40/01 DMRB (4.2.5) WITH THE APPROVAL OF THE OVERSEEING ORGANISATION.
 - FLEXIBLE JOINTS SHALL BE PROVIDED IN PIPE INFILL USING CONCRETE BED AND SURROUND OR REINFORCED COVER SLAB.
 - CONCRETE ST2 PIPE SURROUND SHALL COMPLY CLAUSE 503.3 (III) SHW.
 - RC 25/30 CONCRETE SLAB WITH A193 REINFORCEMENT FABRIC (OR ALTERNATIVE APPROVED) SHALL BE USED AS AN ALTERNATIVE TRENCH INFILL ONLY WITH APPROVAL OF THE OVERSEEING ORGANISATION.
- ALL PIPES**
- CARRIER DRAINS SHALL NOT NORMALLY BE PERMITTED IN FOOTWAYS OR CYCLEWAYS.
 - WHEN THE MAXIMUM TRENCH WIDTH IS EXCEEDED IT SHALL BE NECESSARY TO INCREASE THE STRENGTH OF THE PIPE.
 - PIPE MATERIALS SHALL NOT CHANGE BETWEEN CHAMBERS.
 - MINIMUM PIPE DIAMETER SHALL BE 225 FOR CARRIER DRAINS.
 - SADDLE CONNECTIONS SHALL ONLY BE USED WITH THE APPROVAL OF THE OVERSEEING ORGANISATION.
 - EXISTING CARRIAGEWAY SHALL BE REINSTATED IN ACCORDANCE WITH STANDARD DETAIL DRAWING SD700/1 OR WITH HAUC SPECIFICATION FOR REINSTATEMENT OF OPENINGS IN HIGHWAYS.
 - ALL CONCRETE SHALL HAVE SRPC UNLESS OTHERWISE DIRECTED BY THE OVERSEEING ORGANISATION.



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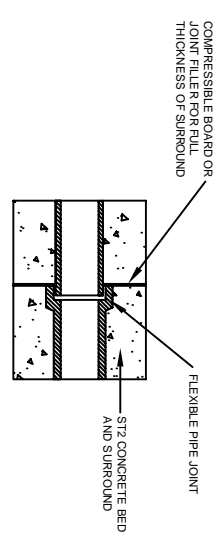
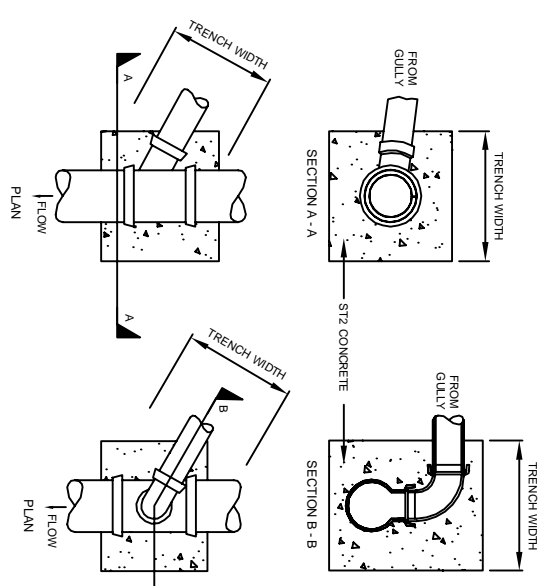
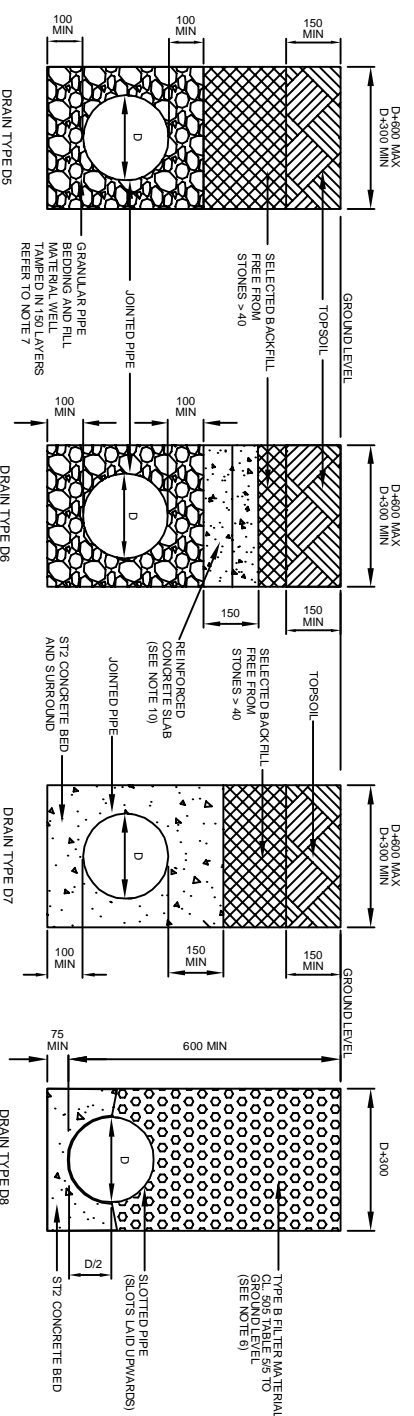
Project

STANDARD DRAWINGS

Drawing title

PIPES UNDER PAVED AREAS

Drawn	AB	Date	TBC
Checked	TBC	Scale	NOT TO SCALE
Drawing No.	SD/500/1		



FLEXIBLE JOINT FOR CONCRETE SURROUND
(REINFORCED SLAB SIMILAR)

SAFE SUPPORTING STRENGTH OF PIPE WHERE

$W_s = W_L F_m$

F_s

WHERE

$W =$ CRUSHING STRENGTH - SEE BRITISH STANDARDS

$F_m =$ BEDDING FACTOR

$F_s =$ FACTOR OF SAFETY = 1.25

1. ALL DIMENSIONS ARE IN MILLIMETRES
2. WATER AUTHORITIES GUIDE SEWERS FOR ADOPTION LATEST EDITION SHALL APPLY EXCEPT WHERE MODIFIED BY THIS DRAWING.
3. PIPES FOR DRAINAGE SHALL COMPLY WITH CLAUSE 501 SHW (TABLE 5/1)
4. PIPES FOR DRAINAGE SHALL BE EITHER VITRIFIED CLAY PIPES OR CONCRETE PIPES AS SPECIFIED BY THE OVERSEERING ORGANISATION
5. APPROVAL OF THE OVERSEERING ORGANISATION AND SHALL BE BBA CERTIFICATE APPROVED STRUCTURED WALL PIPES TO BS EN 4401. TOLERANCE APPROVED STRUCTURED WALL PIPES TO BS EN 4401. TOLERANCE APPROVED STRUCTURED WALL PIPES TO BS EN 4401. TOLERANCE APPROVED STRUCTURED WALL PIPES TO BS EN 4401. TOLERANCE APPROVED STRUCTURED WALL PIPES TO BS EN 4401.
6. COMPRESSIBLE BOARD JOINT FILLER SHALL BE 25MM THICK WITH 1.5MM TOLERANCE ACCORDING TO CL. 1015-1 SHW.
7. PIPE BEDDING COVER AND SURROUND TO COMPLY WITH CLAUSE 503 SHW. FILTER DRAINS TO CLAUSE 505 SHW.
8. MINIMUM COVER WITHOUT CONCRETE PROTECTION SHALL BE 1200 CONCRETE PROTECTION AND SHALL TERMINATE AT A SUITABLE PIPE JOINT.
9. DETERMINATION OF PIPE AND BEDDING COMBINATIONS SHALL BE IN ACCORDANCE WITH TABLE 4/1 (DIMS) (4.2.5) WITH THE APPROVAL OF THE OVERSEERING ORGANISATION.
10. CONCRETE S12 PIPE SURROUND SHALL COMPLY WITH CLAUSE 503.3 (III) SHW. RC 25/30 CONCRETE SLAB WITH A193 REINFORCEMENT FABRIC (OR ALTERNATIVE APPROVED) SHALL BE USED AS AN ALTERNATIVE TRENCH INPILL ONLY WITH APPROVAL OF THE OVERSEERING ORGANISATION.
11. ALL PIPES
12. CARRIER DRAINS SHALL NOT NORMALLY BE PERMITTED IN FOOTWAYS OR CYC LWAYS
13. WHEN THE MAXIMUM TRENCH WIDTH IS EXCEEDED IT SHALL BE NECESSARY TO INCREASE THE STRENGTH OF THE PIPE
14. PIPE MATERIALS SHALL NOT CHANGE BETWEEN CHAMBERS.
15. MINIMUM PIPE DIAMETER SHALL BE 225 FOR CARRIER DRAINS.
16. SADDLE CONNECTIONS SHALL ONLY BE USED WITH THE APPROVAL OF THE OVERSEERING ORGANISATION AND BE REINSTATED IN ACCORDANCE WITH STANDARD DETAIL DRAWING SD700/1 OR WITH H.M.C SPECIFICATION FOR REINS TATEMENT OF OPENINGS IN HIGHWAYS.
17. ALL CONCRETE SHALL HAVE SPCC UNLESS OTHERWISE DIRECTED BY THE OVERSEERING ORGANISATION.

STANDARD DRAWINGS

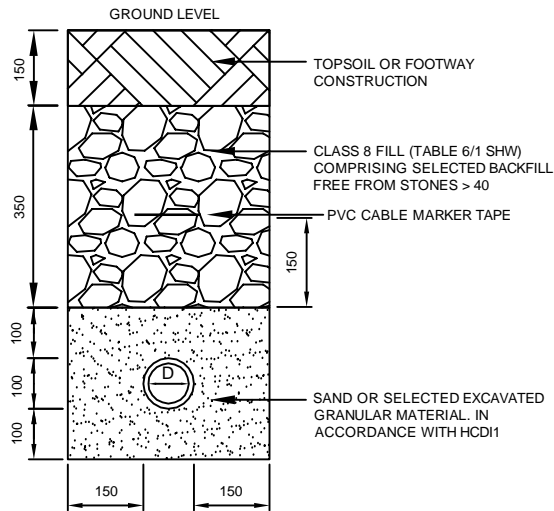
PIPES AND FILTER DRAINS UNDER VERGES



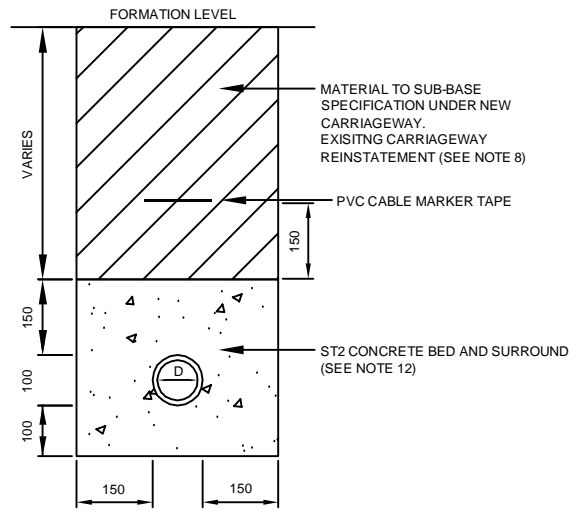
Highways and Transport
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Drawing title

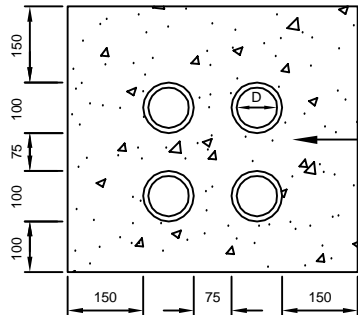
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VERGE OR FOOTWAY
MORE THAN 600 COVER

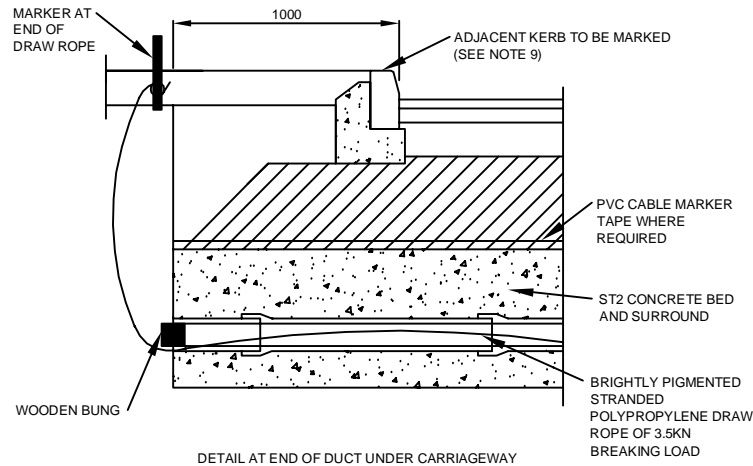


CARRIAGEWAY
(AND VERGE OR FOOTWAY WHERE DEPTH
OF COVER LESS THAN 600)



TYPICAL LAYOUT FOR 4-WAY DUCTS
6- WAY LAYOUT SIMILAR

ST2 CONCRETE (CARRIAGEWAY) OR
SAND OR SELECTED EXCAVATED
GRANULAR MATERIAL PIPE BEDDING
(VERGE) AND TRENCH FILL MATERIAL
WELL TAMPED IN 150mm LAYERS
(SEE NOTE 12)



DETAIL AT END OF DUCT UNDER CARRIAGEWAY

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES
2. SERVICE DUCTS SHALL COMPLY WITH CLAUSE 501 SHW (TABLE 5/1)
3. SERVICE DUCTS SHALL BE EITHER VITRIFIED CLAY OR GLASS REINFORCED PLASTIC OR THERMOPLASTIC PVCU AS SPECIFIED BY THE OVERSEEING ORGANISATION.
4. THERMOPLASTIC PVCU DUCTS SHALL COMPLY WITH BS 4660: 2000 OR BS EN 50086 AND A BRITISH BOARD OF AGREEMENT CERTIFICATION IN ACCORDANCE WITH ELECTRICITY BOARD COUNCIL ESI 12-24 SDR 41 MIN, OR OTHER, TO THE APPROVAL OF THE OVERSEEING ORGANISATION. SINGLE WALL DUCT SHALL NOT BE USED.
5. THE POSITION OF DUCT ROUTES AND THE NUMBER OF DUCTS IN EACH TRENCH SHALL BE SHOWN ON THE 'AS BUILT' DRAWINGS.
6. DUCTS UNDER EMBANKMENTS SHALL EXTEND 1000 BEYOND THE TOE OF EMBANKMENT.
7. INTERNAL DIAMETER OF ALL SERVICE DUCTS SHALL BE 100 UNLESS OTHERWISE STATED.
8. EXISTING CARRIAGEWAY SHALL BE REINSTATED IN ACCORDANCE WITH HAUC SPECIFICATION FOR REINSTATEMENT OF OPENINGS IN HIGHWAYS.
9. THE LINE OF ALL DUCT ROAD CROSSINGS MUST BE MARKED WITH A MARKER POST OR PVC MARKER TAPE.
10. ORANGE DUCTS SHALL BE USED FOR STREET LIGHTING AND TRAFFIC SIGNAL CABLES.
11. PVC CABLE MARKER TAPE SHALL BE USED WITH STREET LIGHTING AND TRAFFIC SIGNAL CABLE DUCTS.
12. CONCRETE PROTECTION SHALL BE USED FOR DUCTS UNDER THE CARRIAGEWAY AND WHERE DEPTH OF COVER IS LESS THAN 600. ST2 CONCRETE TO CLAUSE 2602 SHW.
13. ALL CONCRETE SHALL HAVE SRPC UNLESS OTHERWISE DIRECTED BY THE OVERSEEING ORGANISATION.
14. FLEXIBLE JOINTS SHALL BE PROVIDED IN REINFORCED CONCRETE SURROUND. REFER TO SD/500/1 AND SD/500/2 FOR DETAIL.
15. ALTERNATIVE DUCT DETAILS FROM THE MCHW VOLUME 3 SHALL ONLY BE USED WITH THE APPROVAL OF THE OVERSEEING ORGANISATION.
16. PROPRIETARY FITTINGS SHALL BE USED FOR CONNECTING DUCTS TO TRAFFIC SIGNAL POLES.

SERVICE DUCTS (COLOURS USED):

- GAS = YELLOW.
- WATER = BLUE.
- ELECTRICITY = BLACK.
- TELECOM = WHITE.
- COMMS = GREY, GREEN.
- HIGHWAY STREET LIGHTING = ORANGE.
- TRAFFIC SIGNAL = ORANGE.



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SERVICE DUCTS

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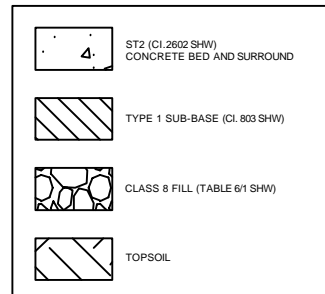
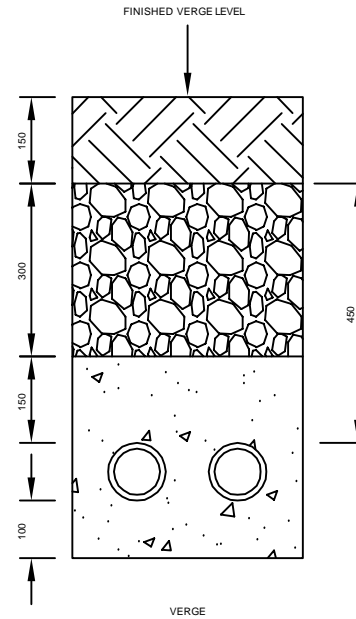
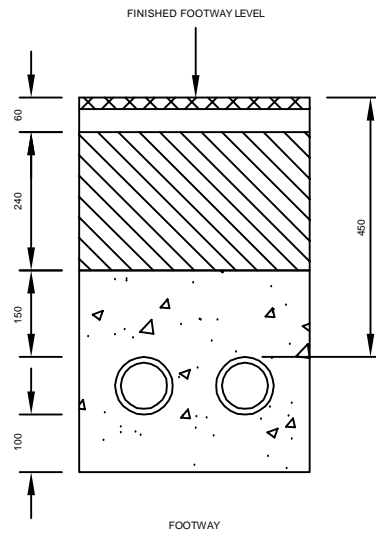
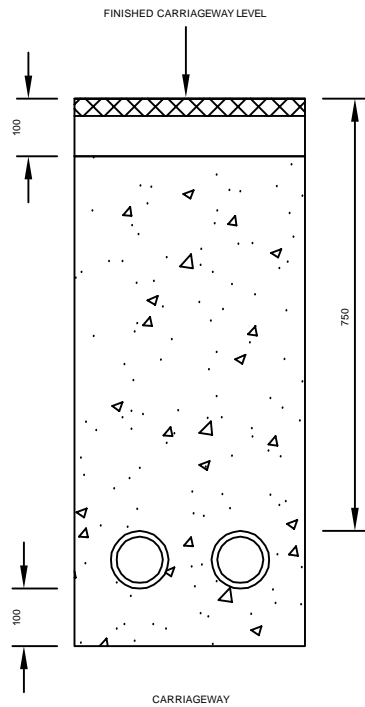
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Scale

NOT TO SCALE

Drawing No.

SD/500/3



NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES
2. SERVICE DUCTS SHALL COMPLY WITH CLAUSE 501 SHW (TABLE 5/1)
3. SERVICE DUCTS SHALL BE EITHER VITRIFIED CLAY OR GLASS REINFORCED PLASTIC OR THERMOPLASTIC PVCU AS SPECIFIED BY THE OVERSEEING ORGANISATION.
4. THERMOPLASTIC PVCU DUCTS SHALL COMPLY WITH BS 4660: 2000 OR BS EN 50086 AND A BRITISH BOARD OF AGREEMENT CERTIFICATION IN ACCORDANCE WITH ELECTRICITY BOARD COUNCIL ESI 12-24 SDR 41 MIN. OR OTHER, TO THE APPROVAL OF THE OVERSEEING ORGANISATION. SINGLE WALL DUCT SHALL NOT BE USED.
5. THE POSITION OF DUCT ROUTES AND THE NUMBER OF DUCTS IN EACH TRENCH SHALL BE SHOWN ON THE 'AS BUILT' DRAWINGS.
6. DUCTS UNDER EMBANKMENTS SHALL EXTEND 1000 BEYOND THE TOE OF EMBANKMENT.
7. INTERNAL DIAMETER OF ALL SERVICE DUCTS SHALL BE 100 UNLESS OTHERWISE STATED.
8. EXISTING CARRIAGEWAY SHALL BE REINSTATED IN ACCORDANCE WITH HAUC SPECIFICATION FOR REINSTATEMENT OF OPENINGS IN HIGHWAYS.
9. THE LINE OF ALL DUCT ROAD CROSSINGS MUST BE MARKED WITH A MARKER POST OR PVC MARKER TAPE.
10. ORANGE DUCTS SHALL BE USED FOR STREET LIGHTING AND TRAFFIC SIGNAL CABLES.
11. PVC CABLE MARKER TAPE SHALL BE USED WITH STREET LIGHTING AND TRAFFIC SIGNAL CABLE DUCTS.
12. CONCRETE PROTECTION SHALL BE USED FOR DUCTS UNDER THE CARRIAGEWAY AND WHERE DEPTH OF COVER IS LESS THAN 600. ST2 CONCRETE TO CLAUSE 2602 SHW.
13. ALL CONCRETE BELOW GROUND SHALL HAVE SRPC UNLESS OTHERWISE DIRECTED BY THE OVERSEEING ORGANISATION.
14. FLEXIBLE JOINTS SHALL BE PROVIDED IN REINFORCED CONCRETE SURROUND.
15. ALTERNATIVE DUCT DETAILS FROM THE MCHW VOLUME 3 SHALL ONLY BE USED WITH THE APPROVAL OF THE OVERSEEING ORGANISATION.
16. PROPRIETARY FITTINGS SHALL BE USED FOR CONNECTING DUCTS TO TRAFFIC SIGNAL POLES.



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SERVICE DUCTS - CONCRETE BED

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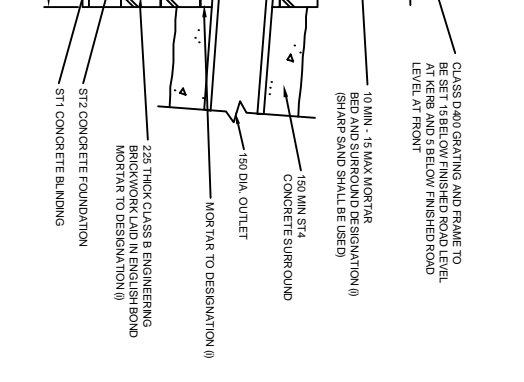
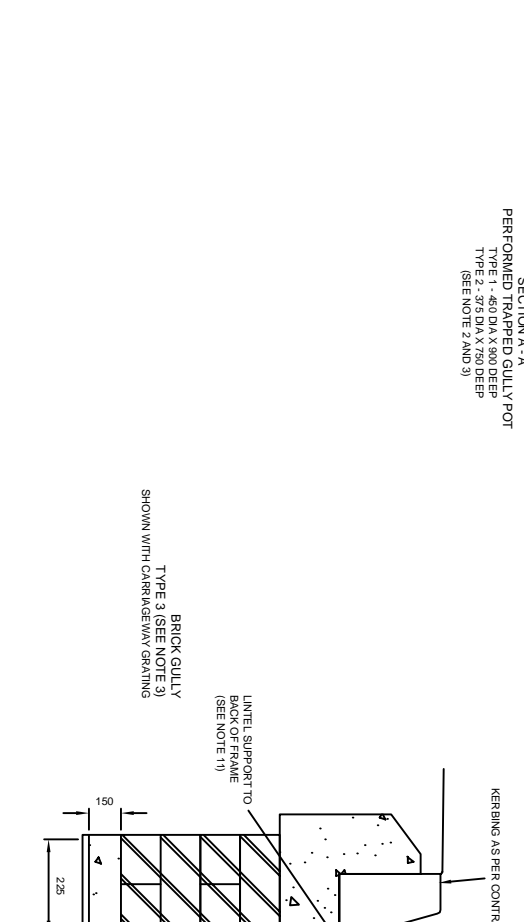
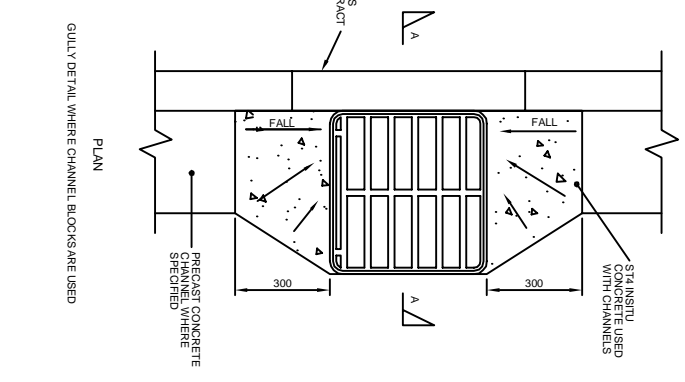
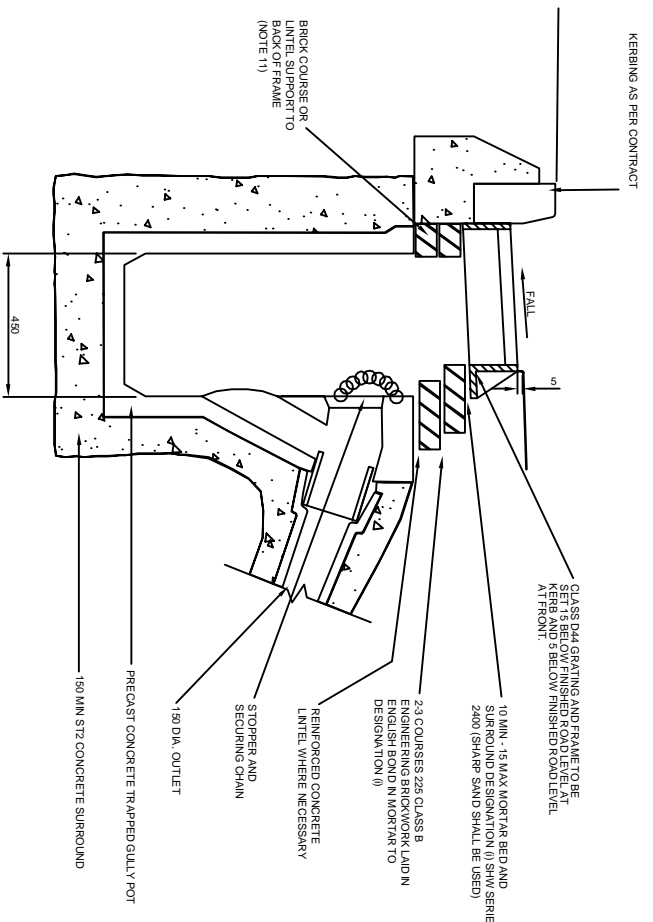
TBC

Scale

NOT TO SCALE

Drawing No.

SD/500/4



- NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT WHERE STATED OTHERWISE.
 2. GULLY AND INSTALLATION TO CLAUSE 508 SHW SHALL APPLY EXCEPT WHERE MODIFIED ON THIS DRAWING.
 3. GULLY POTS SHALL BE CONCRETE TO BS 9911:4:2004.
 4. GULLY POT SHALL BE CONCRETE TO BS 9911:4:2004.
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 16. GULLY POT SHALL BE CONCRETE TO BS 9911:4:2004.
 17. GULLY POT SHALL BE CONCRETE TO BS 9911:4:2004.
 18. GULLY POT SHALL BE CONCRETE TO BS 9911:4:2004.

STANDARD DRAWINGS

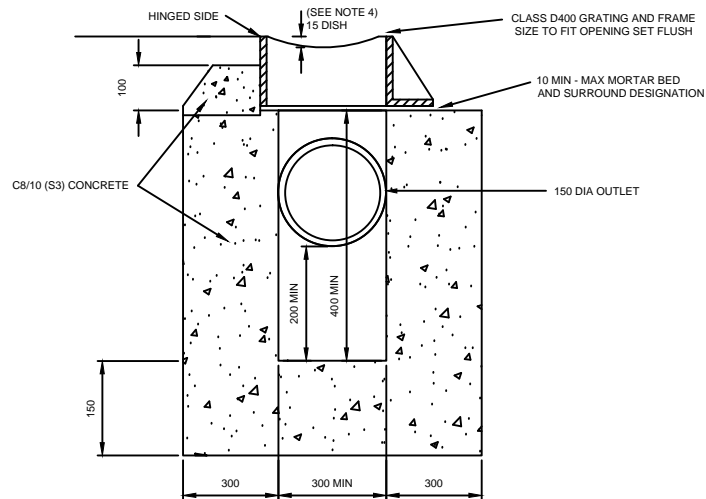
ROAD GULLY DETAILS



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CAST INSITU CONCRETE GULLY
TYPE 4 - (SEE NOTE 3)
SHOWN WITH FOOTWAY GRATING

NOTES

- ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT WHERE STATED OTHERWISE.
- GULLY AND INSTALLATION TO CLAUSE 508 SHW SHALL APPLY EXCEPT WHERE MODIFIED ON THIS DRAWING.
- GULLY POTS SHALL BE CONCRETE TO BS 5911-6:2004:
450 DIA. X 900 DEEP IN CARRIAGEWAYS
375 DIA. X 750 DEEP IN FOOTWAYS
PVC-U INSITU GULLY, BRICK GULLY (TYPE 3) AND INSITU (TYPE 4) SHALL NOT BE USED WITHOUT APPROVAL OF THE OVERSEEING ORGANISATION.
- GRATING AND FRAMES SHALL BE:
CLASS D400, 100 DEEP IN NORMAL TRAFFICKED AREAS.
CLASS D400, 150 DEEP FOR VULNERABLE HGV OVERRUN OR FOR BLOCK PAVING AREAS.
CLASS C250, 100 DEEP IN NORMAL FOOTWAY.
- DOUBLE TRIANGULAR GRATINGS MINIMUM WATERWAY AREA 1200CM2 SHALL BE USED FOR CLASS A OR B ROADS.
- HINGED CAPTIVE GRATINGS MINIMUM WATERWAY AREA 950CM2 SHALL BE USED FOR ALL OTHER ROADS OR WHERE SPECIFIED BY THE OVERSEEING ORGANISATION.
- END HINGED GRATINGS SHALL BE SET WITH HINGE TOWARDS APPROACHING TRAFFIC.
- SLOTS IN GRATINGS SHALL NOT BE PARALLEL WITH THE DIRECTION OF THE TRAFFIC.
- BRICKWORK CLASS B SHALL COMPLY WITH CLAUSE 507 SHW (INCLUDING CL. 507.3, CL. 507.18 & CL. 2406.3).
- A MAXIMUM OF 25MM OVERHANG SHALL BE PERMITTED ON EACH COURSE OF BRICK CORBELLING.
- REINFORCED CONCRETE GULLY COVER SLABS TO BS 5911 PART 230 OR REINFORCED CONCRETE LINTELS SHALL BE USED WHERE BRICK CORBELLING GIVES INSUFFICIENT SUPPORT TO FRAME.
- CONNECTIONS TO CARRIER DRAINS SHALL USE 'Y' JUNCTIONS.
- EACH GULLY SHALL HAVE A SEPARATE CONNECTION TO THE CARRIER DRAIN OR CHAMBER.
- FINISH TO INTERNAL CONCRETE SHALL BE F1 ON FORMED SURFACES AND U2 ON UNFORMED SURFACES.
- RAPID HARDENING CEMENTITIOUS MORTAR SYSTEMS SHALL BE USED IN MAKING UP AND BEDDING IRONWORK IN CARRIAGEWAYS TO BE OPENED TO TRAFFIC WITHIN 2 DAYS.
- CONCRETE FOUNDATION AND SURROUND TO GULLY POT SHALL COMPLY WITH CLAUSE 2602 SHW.
- ALL CONCRETE SHALL HAVE SRPC UNLESS OTHERWISE DIRECTED BY THE OVERSEEING ORGANISATION.
- KERB OFFLETS AND WEIR SHALL ONLY BE USED WITH AGREEMENT BY THE OVERSEEING ORGANISATION.

ADDITIONAL NOTES FOR INSTALLING PVC-U GULLY POT
- INSITU CONCRETE

- 450 DIA. X 900 DEEP IN CARRIAGEWAYS
- 375 DIA. X 750 DEEP IN FOOTWAYS
- PVC-U THERMOPLASTIC GULLY POTS (TYPE BBA APPROVED) OF THE ABOVE DIMENSIONS SHALL ONLY BE USED IN CIRCUMSTANCES WITH THE APPROVAL OF THE OVERSEEING ORGANISATION.
- THE INSTALLATION OF THE GULLY POT SHALL BE COMPLY WITH THE BBA APPROVAL CERTIFICATE REQUIREMENTS.
- THE TYPICAL DETAIL OF THIS TYPE OF GULLY INSTALLATION SHALL INCORPORATE SUITABLE PROVISIONS TO PREVENT THE POT FLOATING AND DISTORTING, (EG GULLY POTS TO BE FILLED WITH WATER) WHEN PLACING AND COMPACTING THE CONCRETE SURROUND.
- A CONCRETE BASE SLAB FOR THE GULLY POT SHALL USE EITHER: 65 DEEP PAVING SLAB SET ONTO 100 DEEP ST2 CONCRETE (CL. 2602 SHW) OR C8/10 CONCRETE TO BS8500-1.
- PVC-U THERMOPLASTIC GULLY POTS SHALL HAVE 100 DEEP CONCRETE BED AND 200 DEEP SURROUND USING C8/10 (S3 SLUMP) CONCRETE WITH SRPC AND COMPACTED USING A VIBRATING POKER.



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STANDARD DRAWINGS

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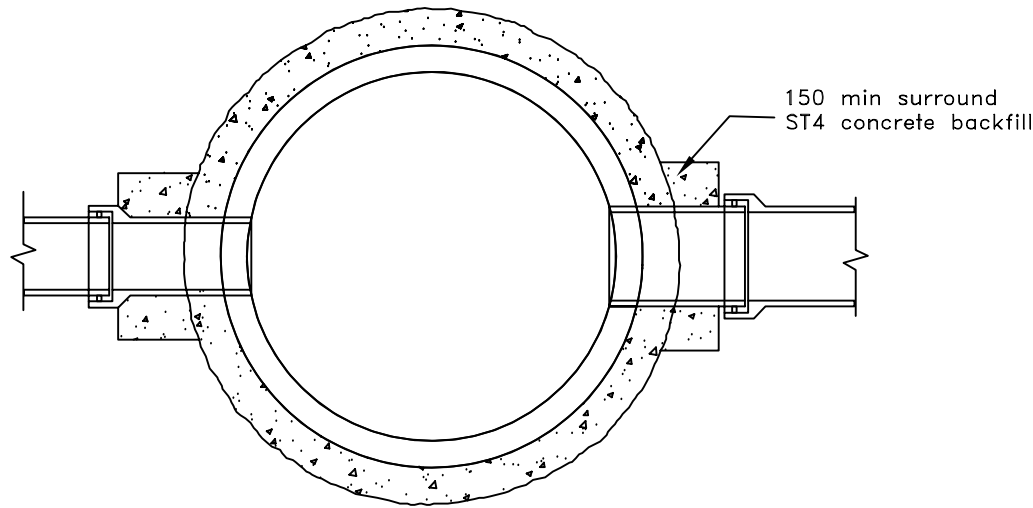
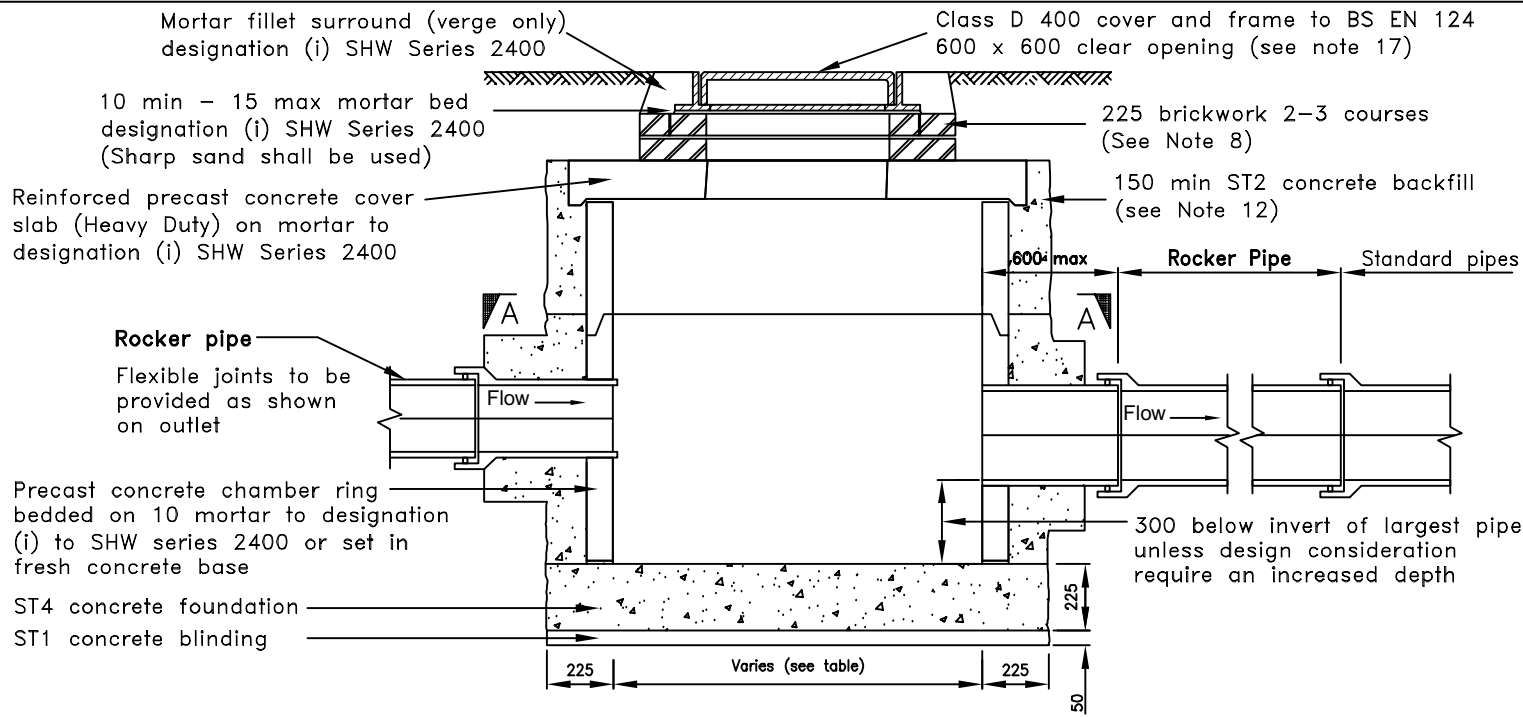
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Drawing title

FOOTWAY GULLY CAST INSITU DETAILS (additional Notes for PVC-u Gully Pots)

Drawing No.

SD/500/6




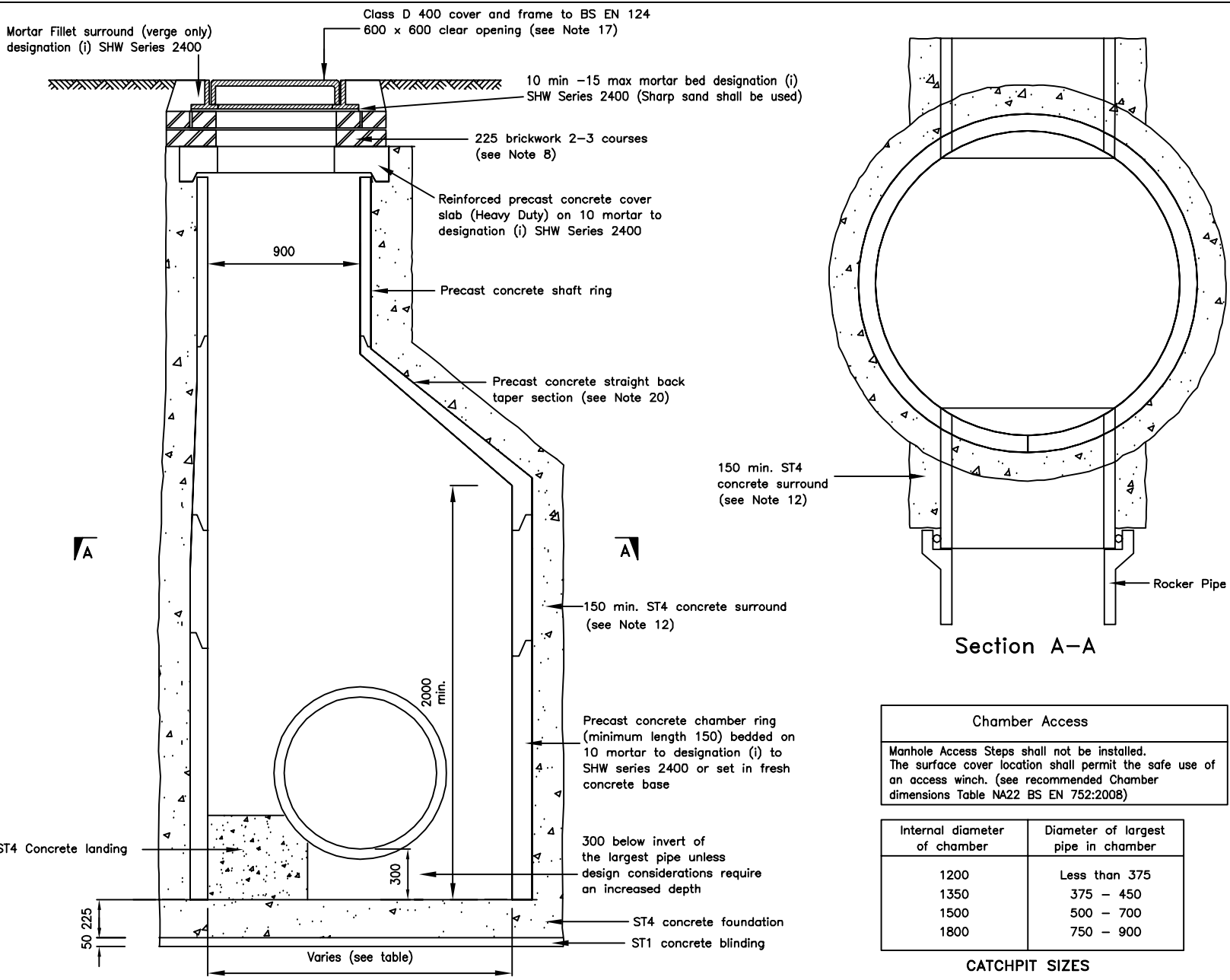
Internal diameter of chamber	Diameter of largest pipe in chamber
1200	Less than 375
1350	375 - 450
1500	500 - 700
1800	750 - 900

CATCHPIT SIZES

Section A-A

- Notes**
- All dimensions are in millimetres.
 - Water Authorities Association guide Sewers for Adoption applies except where modified by this drawing.
 - Installation of Catchpit, Inspection Chamber and Soakaways shall comply with Clause 507 SHW.
 - Cover and frame shall be Class D400 Badge marked, HD and Kitemarked with a protective coating, Clause 507.9 SHW.
 - Catchpits shall be positioned so that no part of the structure is under the line of kerbs.
 - The access cover to catchpits shall be positioned with consideration for safety.
 - Precast concrete chambers shall comply with BS 5911-3 & BS EN 1917:2002.
 - Brickwork Class B shall comply with Clause 507 SHW (including Cl. 507.3, Cl. 507.18 & Cl. 2406.3)
 - Mortar to designation (i) SHW Series 2400 or a proprietary sealant shall be used in all joints between precast concrete units.
 - Finish to internal concrete shall be F1 on formed surfaces and U2 on unformed surfaces. In accordance with clause 1708.4 SHW.
 - All voids beneath the catchpit structure shall be backfilled with ST1 concrete.
 - Precast Concrete Chambers shall be backfilled using General Fill (Table 6/1 SHW) or ST2 concrete, Clause 507.7 SHW. ST4 concrete surround 150 min. shall be used at access shafts.
 - All concrete below ground shall have SRPC unless otherwise directed by the Overseeing Organisation.
 - Ends of pipes shall be neatly built into the chamber and finished flush with mortar to designation (i) SHW Series 2400.
 - The nearest pipe joint to chamber shall not be restricted by concrete backfill.
 - Safety chains or grills shall be provided where pipe diameter exceeds 600.
 - Surface level/cover tolerance shall be +6 -15 in paved areas, -15 min. -50 max. in verges.
 - Pipe level difference permitted inside chamber, the outlet may be 50 mm lower than inlet.
 - The articulated length of pipe (Rocker Pipe) to Clause 507.17 SHW shall be selected for pipe diameter either smaller or larger than 450 diameter.
 - Precast concrete heavy duty cover slabs can be used in place of straight back taper chamber section.

	Highways and Transport Council Offices Market Street Newbury RG14 5LD	Project <h2 style="margin: 0;">STANDARD DRAWINGS</h2>	Drawn AB	Date TBC
		Drawing title <h3 style="margin: 0;">CATCHPIT TYPE 1 - PRECAST CONCRETE CONSTRUCTION (Permitted Range of Depths - Cover to sump 1.2m-3.0m)</h3>	Checked TBC	Scale NOT TO SCALE
			Drawing No. <h2 style="margin: 0;">SD/500/7</h2>	



- NOTES**
- All dimensions are in millimetres.
 - Water Authorities Association guide Sewers for Adoption applies except where modified by this drawing.
 - Installation of Catchpit, Inspection Chamber and Soakaways shall comply with Clause 507 SHW.
 - Cover and frame shall be Class D400 Badge marked, HD and Kitemarked with a protective coating, Clause 507.9 SHW.
 - Catchpits shall be positioned so that no part of the structure is under the line of kerbs.
 - The access cover to catchpits shall be positioned with consideration for safety.
 - Precast concrete chambers shall comply with BS 5911-3 & BS EN 1917:2002.
 - Brickwork Class B shall comply with Clause 507 SHW (including Cl. 507.3, Cl. 507.18 & Cl. 2406.3)
 - Mortar to designation (i) SHW Series 2400 or a proprietary sealant shall be used in all joints between precast concrete units.
 - Finish to internal concrete shall be F1 on formed surfaces and U2 on unformed surfaces. In accordance with clause 1708.4 SHW.
 - All voids beneath the catchpit structure shall be backfilled with ST1 concrete.
 - Precast Concrete Chambers shall be backfilled using General Fill (Table 6/1 SHW) or ST2 concrete, Clause 507.7 SHW. ST4 concrete surround 150 min. shall be used at access shafts.
 - All concrete below ground shall have SRPC unless otherwise directed by the Overseeing Organisation.
 - Ends of pipes shall be neatly built into the chamber and finished flush with mortar to designation (i) SHW Series 2400.
 - The nearest pipe joint to chamber shall not be restricted by concrete backfill.
 - Safety chains or grills shall be provided where pipe diameter exceeds 600.
 - Surface level/cover tolerance shall be +6 -15 in paved areas, -15 min. -50 max. in verges.
 - Pipe level difference permitted inside chamber, the outlet may be 50 mm lower than inlet.
 - The articulated length of pipe (Rocker Pipe) to Clause 507.17 SHW shall be selected for pipe diameter either smaller or larger than 450 diameter.
 - Precast concrete heavy duty cover slabs can be used in place of straight back taper chamber section.

Chamber Access

Manhole Access Steps shall not be installed. The surface cover location shall permit the safe use of an access winch. (see recommended Chamber dimensions Table NA22 BS EN 752:2008)

Internal diameter of chamber	Diameter of largest pipe in chamber
1200	Less than 375
1350	375 - 450
1500	500 - 700
1800	750 - 900

CATCHPIT SIZES



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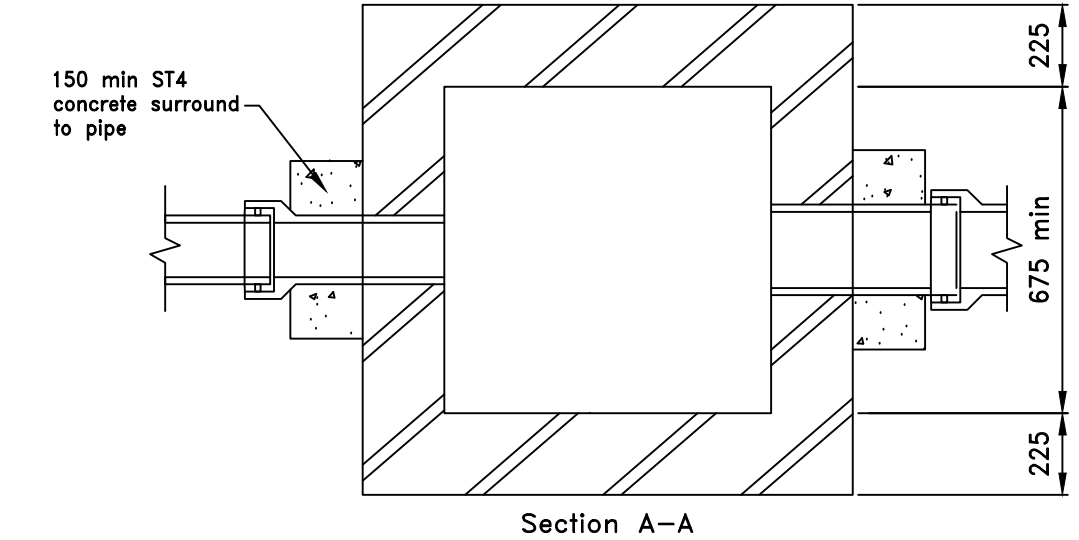
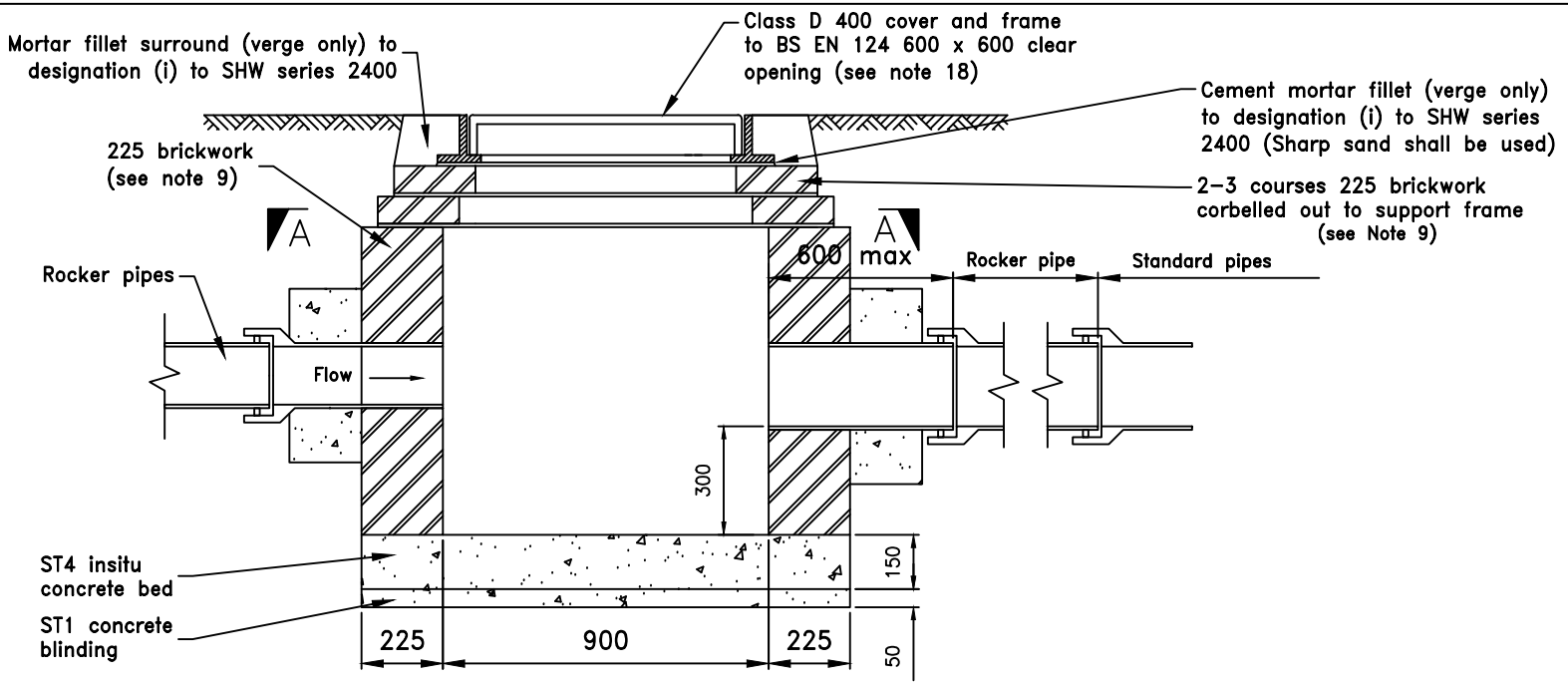
Project

STANDARD DRAWINGS

Drawing title

CATCHPIT TYPE 2 - PRECAST CONCRETE CONSTRUCTION (Permitted Range of Depths - Cover to sump 3.0m-5.0m)

Drawn	AB	Date	TBC
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Drawing No.	SD/500/8		



Minimum internal dimensions of chamber	Diameter of largest pipe in chamber
675 x 900	300 or less

CATCHPIT SIZES

- Notes**
- All dimensions are in millimetres.
 - Water Authorities Association guide Sewers for Adoption applies except where modified by this drawing.
 - Installation of Catchpit, Inspection Chamber and Soakaways shall comply with Clause 507 SHW.
 - Rectangular catchpits shall only be used where pipes enter and leave on the same axis. The pipe run must be parallel to the longer wall.
 - Cover and frame shall be Class D400 Badge marked, HD and Kitemarked with a protective coating, Clause 507.9 SHW.
 - Catchpits shall be positioned so that no part of the structure is under the line of kerbs.
 - The access cover to catchpits shall be positioned with consideration for safety.
 - Precast concrete chambers shall comply with BS 5911-3 & BS EN 1917:2002.
 - Brickwork Class B shall comply with Clause 507 SHW (including Cl. 507.3, Cl. 507.18 & Cl. 2406.3)
 - Mortar to designation (i) SHW Series 2400 or a proprietary sealant shall be used in all joints between precast concrete units.
 - Finish to internal concrete shall be F1 on formed surfaces and U2 on unformed surfaces. In accordance with clause 1708.4 SHW.
 - All voids beneath the catchpit structure shall be backfilled with ST1 concrete.
 - Precast Concrete Chambers shall be backfilled using General Fill (Table 6/1 SHW) or ST2 concrete, Clause 507.7 SHW. ST4 concrete surround 150 min. shall be used at access shafts.
 - All concrete below ground shall have SRPC unless otherwise directed by the Overseeing Organisation.
 - Ends of pipes shall be neatly built into the chamber and finished flush with mortar to designation (i) SHW Series 2400.
 - The nearest pipe joint to chamber shall not be restricted by concrete backfill.
 - Safety chains or grills shall be provided where pipe diameter exceeds 600.
 - Surface level/cover tolerance shall be +6 -15 in paved areas, -15 min. -50max in verges.
 - Pipe level difference permitted inside chamber, the outlet may be 50 mm lower than inlet.
 - The articulated length of pipe (Rocker Pipe) to Clause 507.17 SHW shall be selected for pipe diameter either smaller or larger than 450 diameter.
 - Precast concrete heavy duty cover slabs can be used in place of straight back taper chamber section.



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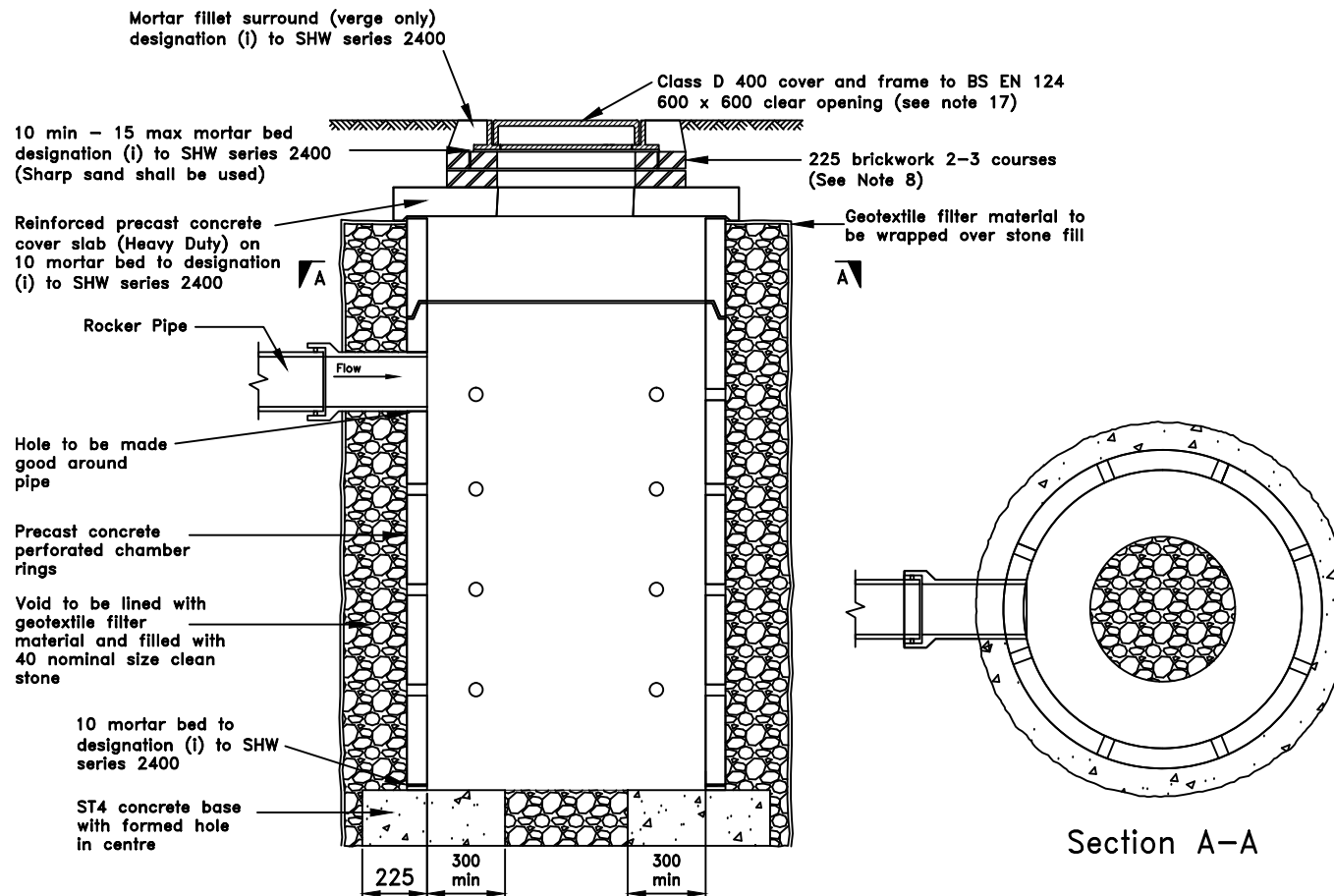
Project

STANDARD DRAWINGS

Drawing title


**CATCHPIT TYPE 3 - BRICKWORK CONSTRUCTION
(Permitted Range of Depths - Cover to sump up to 1.2m)**

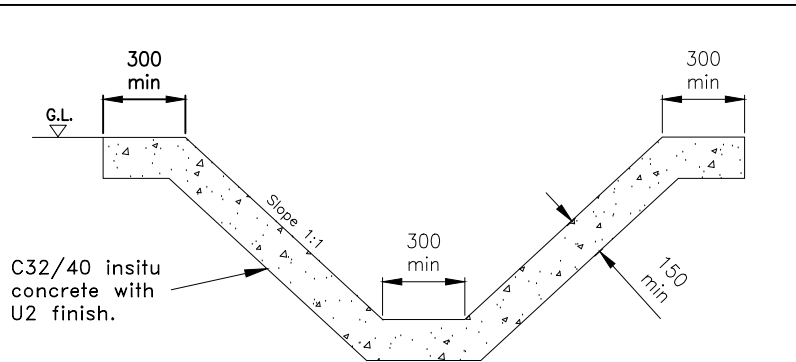
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Drawing No.	SD/500/9		



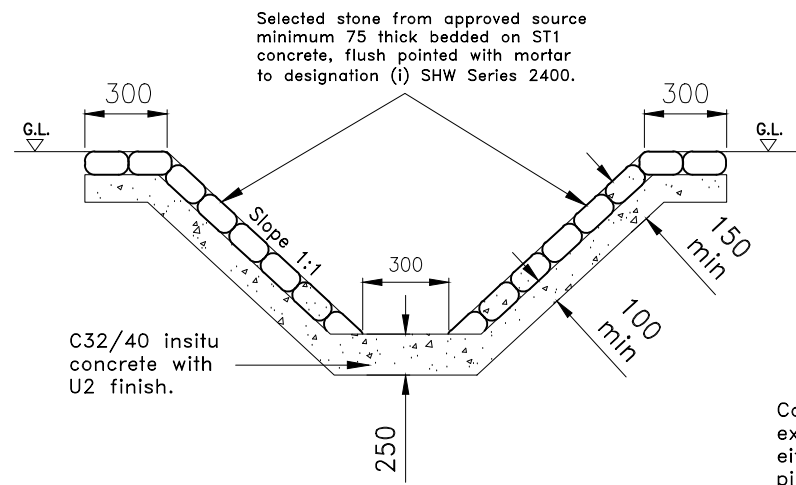
Notes

1. All dimensions are in millimetres.
2. Water Authorities Association guide Sewers for adoption applies except where modified by this drawing.
3. Installation of Catchpit, Inspection Chamber and Soakaways shall comply with Clause 507 SHW.
4. Cover and frame shall be Class D400 Badge marked, HD and Kitemarked with a protective coating, Clause 507.9 SHW.
5. Catchpits shall be positioned so that no part of the structure is under the line of kerbs.
6. The access cover to catchpits shall be positioned with consideration for safety.
7. Precast concrete chambers shall comply with BS 5911-3 & BS EN 1917:2002.
8. Brickwork Class B shall comply with Clause 507 SHW (including Cl. 507.3, Cl. 507.18 & Cl. 2406.3)
9. Mortar to designation (i) SHW Series 2400 or a proprietary sealant shall be used in all joints between precast concrete units.
10. Finish to internal concrete shall be F1 on formed surfaces and U2 on unformed surfaces. In accordance with clause 1708.4 SHW.
11. All voids beneath the catchpit structure shall be backfilled with ST1 concrete.
12. Precast Concrete Chambers shall be backfilled using General Fill (Table 6/1 SHW) or ST2 concrete, Clause 507.7 SHW. ST4 concrete surround 150 min. shall be used at access shafts.
13. All concrete below ground shall have SRPC unless otherwise directed by the Overseeing Organisation.
14. Ends of pipes shall be neatly built into the chamber and finished flush with mortar to designation (i) SHW Series 2400.
15. The nearest pipe joint to chamber shall not be restricted by concrete backfill.
16. Safety chains or grills shall be provided where pipe diameter exceeds 600.
17. Surface level/cover tolerance shall be +6 -15 in paved areas, -15 min. -50 max. in verges.
18. Pipe level difference permitted inside chamber, the outlet may be 50 mm lower than inlet.
19. The articulated length of pipe (Rocker Pipe) to Clause 507.17 SHW shall be selected for pipe diameter either smaller or larger than 450 diameter.
20. Precast concrete heavy duty cover slabs can be used in place of straight back taper chamber section.

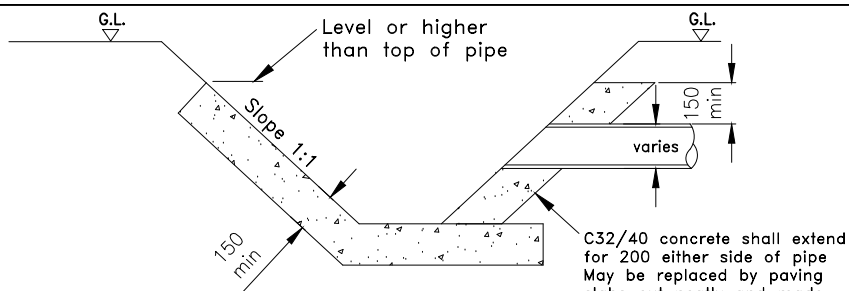
	Highways and Transport Council Offices Market Street Newbury RG14 5LD	Project	STANDARD DRAWINGS	Drawn	AB	Date	TBC
		Drawing title	SOAKAWAY Precast Concrete Construction	Checked	TBC	Scale	NOT TO SCALE
				Drawing No.	SD/500/10		



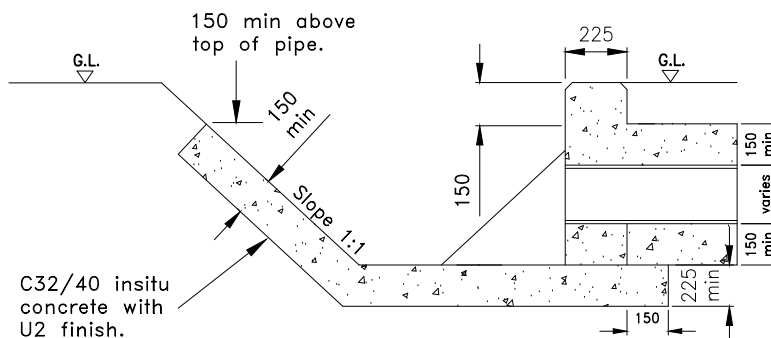
DITCH TYPE 1
CONCRETE LINING



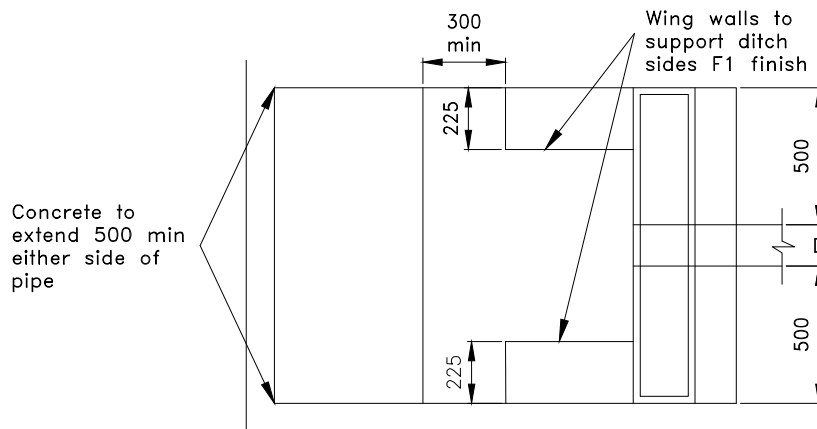
DITCH TYPE 2
RANDOM RUBBLE LINING



OUTFALL TYPE 1
for pipes < 225



OUTFALL TYPE 2
for pipes > 225



OUTFALL TYPE 2 Plan

Notes

1. All dimensions are in millimetres
2. Standard ditches shall be lined with the existing profile. Scour protection at outfalls is always required.
3. All work to existing ditches shall have consent from the Environment Agency, Local Authority and the Landowner, as required.
4. Pre-cast concrete paving slabs shall comply to BS EN 1339:2003.
5. Formed surfaces shall be Class F1 finish. In accordance with clause 1708.4 SHW.
6. Unformed surfaces shall be Class U2 plain finish. In accordance with clause 1708.4 SHW.
7. Outfall Type 2 shall be constructed using Class B engineering bricks laid in English Bond in mortar to designation (i) SHW Series 2400. Brickwork shall be finished with a brick on edge coping.
8. All concrete below ground shall have SRPC unless otherwise directed by the Overseeing Organisation.



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Drawing title

STANDARD DRAWINGS

LINED DITCHES AND OUTFALLS

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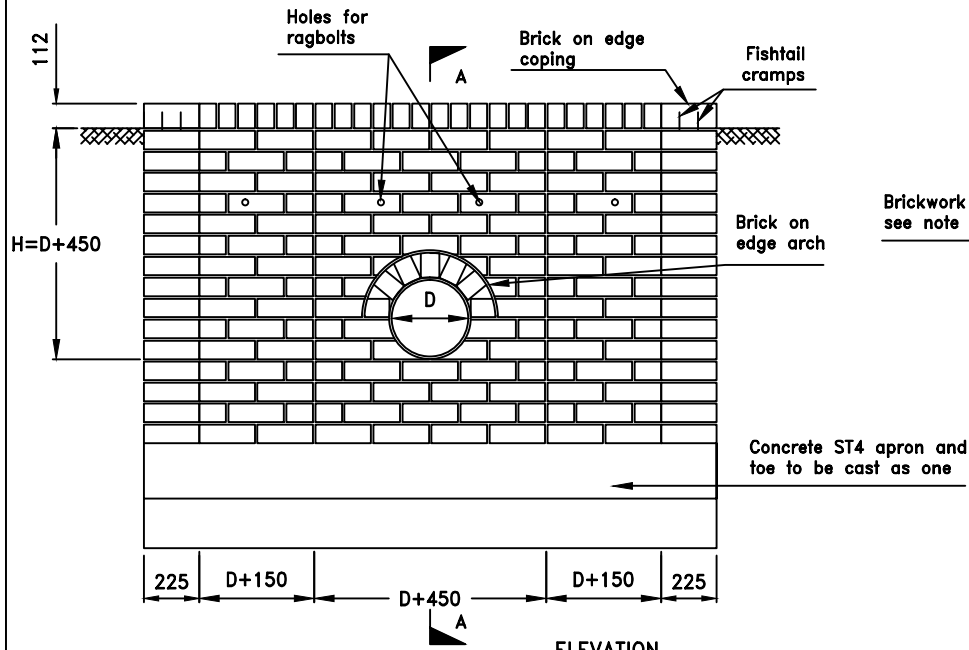
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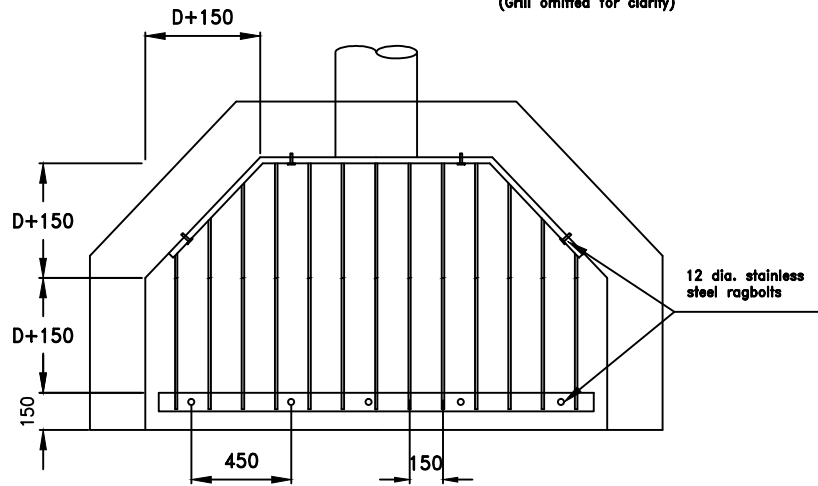
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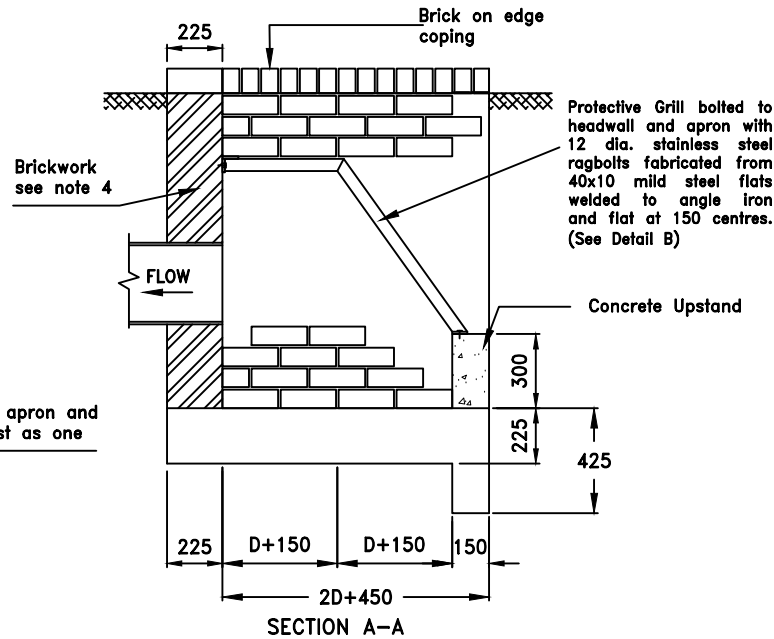
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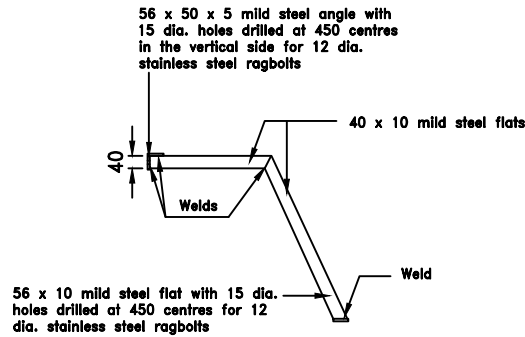
ELEVATION
(Grill omitted for clarity)



PLAN



SECTION A-A



DETAIL B
Prefabricated Grill - custom
designed to fit headwall

EXAMPLE OF GRILL DESIGN
Actual design shall be
approved for location by
Overseeing Organisation.

Notes

1. All dimensions are in millimetres.
2. The Piping of ditches shall have the consent of the Environment Agency and the Landowner.
3. Brickwork shall be constructed using English Bond in Class B Engineering Bricks to BS EN 771 and BS EN 772 flush pointed with mortar to designation (i) SHW Series 2400.
4. Brickwork shall be:
225 Thick for $H < 1.2m$
337 Thick for $H > 1.2m$
5. Concrete shall be grade ST4 to Clause 2602 SHW .
6. All concrete below ground shall have SRPC unless otherwise directed by the Overseeing Organisation.
7. Unformed surfaces shall be U2 plain finish. In accordance with clause 1708.4 SHW.
8. Protective Grills shall be fitted for where pipes over 300 dia. are accessible to children.
9. Grill assembly shall be pre drilled and have hot dip galvanised finish to BS EN ISO 1460 after fabrication.
10. Purpose made Grills shall be designed for use with the approval of the Overseeing Organisation.



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Drawing title

STANDARD DRAWINGS

HEADWALL TYPE 1
Upstream of Pipe Brickwork Construction

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Drawing No.

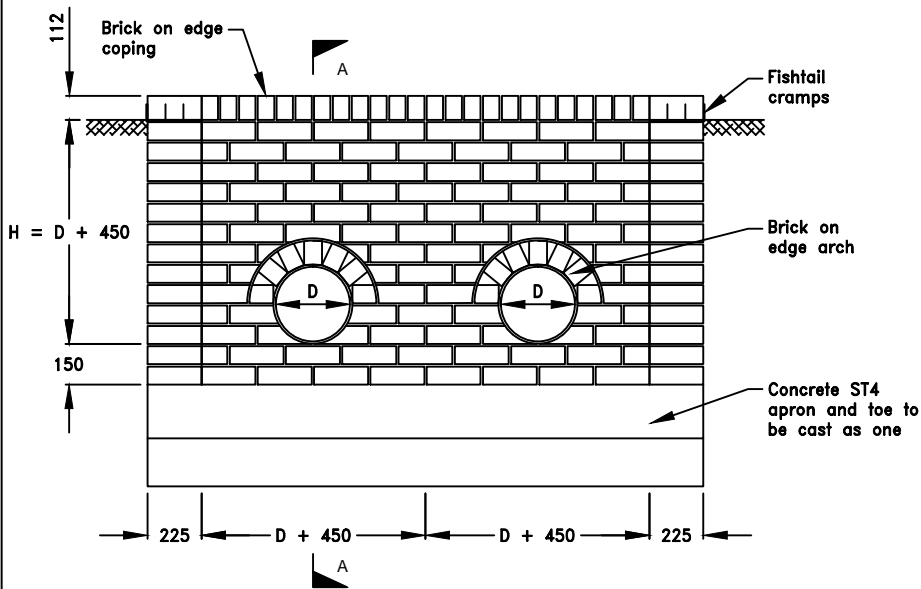
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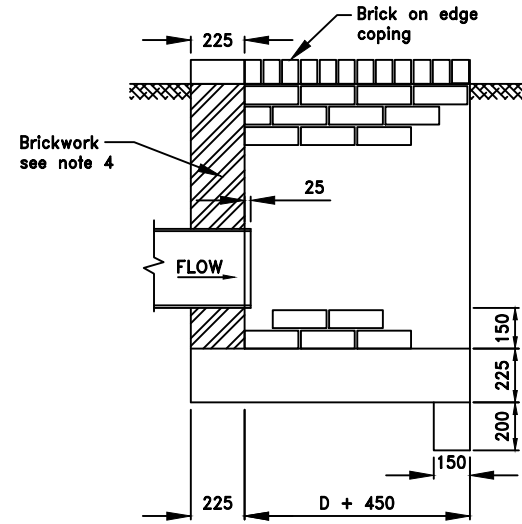
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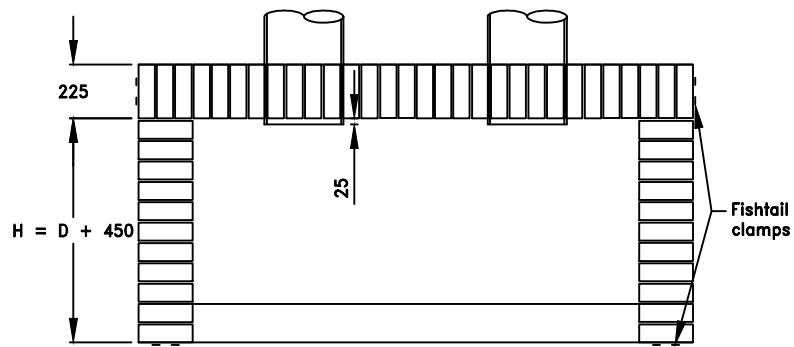
SD/500/12



ELEVATION
(Grill omitted for clarity)

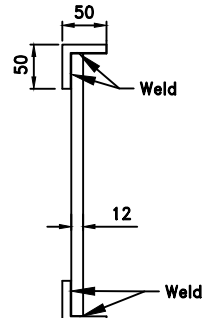


SECTION A - A



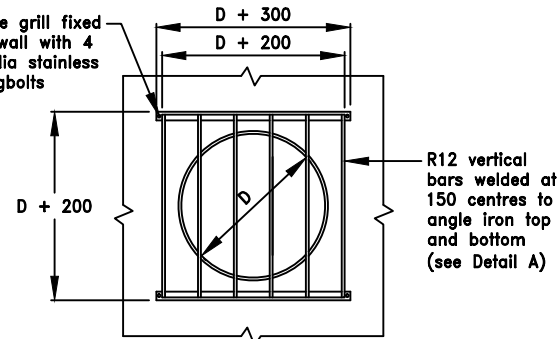
PLAN

50 x 50 x 5
mild steel angle.
15 dia hole
drilled at each
end in vertical
side



DETAIL A

Protective grill fixed
to headwall with 4
No 12 dia stainless
steel ragbolts



PROTECTIVE GRILL
(See Notes 8, 9 & 10)

Notes

1. All dimensions are in millimetres.
2. The Piping of ditches shall have the consent of the Environment Agency and the Landowner.
3. Brickwork shall be constructed using English Bond in Class B Engineering Bricks to BS EN 771 and BS EN 772 flush pointed with mortar to designation (i) SHW Series 2400.
4. Brickwork shall be:
225 Thick for H < 1.2m
337 Thick for H > 1.2m
5. Concrete shall be grade ST4 to Clause 2602 SHW .
6. All concrete below ground shall have SRPC unless otherwise directed by the Overseeing Organisation.
7. Unformed surfaces shall be U2 plain finish. In accordance with clause 1708.4 SHW.
8. Protective Grills shall be fitted for where pipes over 300 dia. are accessible to children.
9. Grill assembly shall be pre drilled and have hot dip galvanised finish to BS EN ISO 1460 after fabrication.
10. Purpose made Grills shall be designed for use with the approval of the Overseeing Organisation.



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STANDARD DRAWINGS

Drawing title

HEADWALL TYPE 2
Downstream of Pipe Brickwork Construction

Drawn

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Date

TBC

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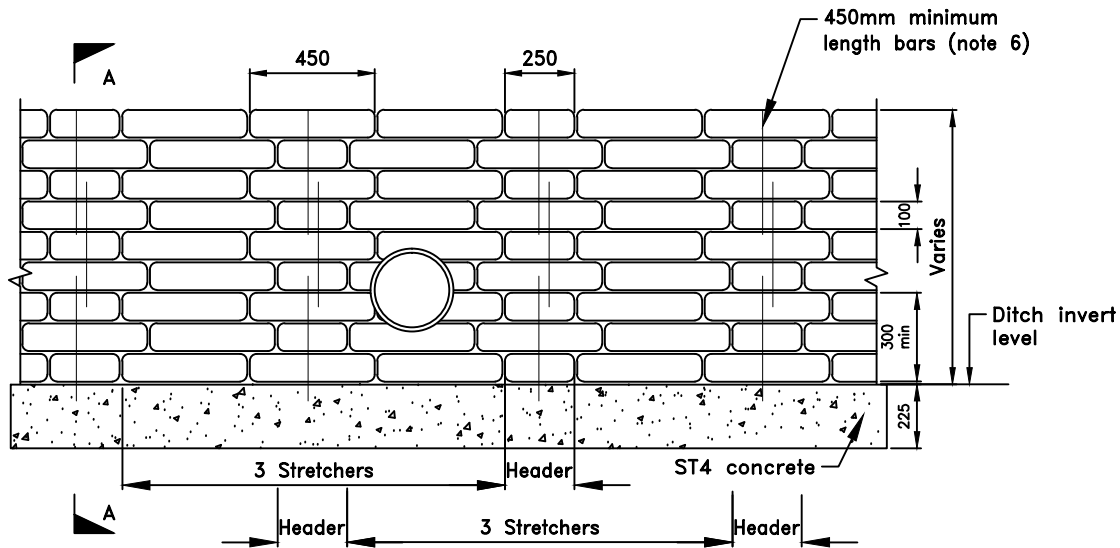
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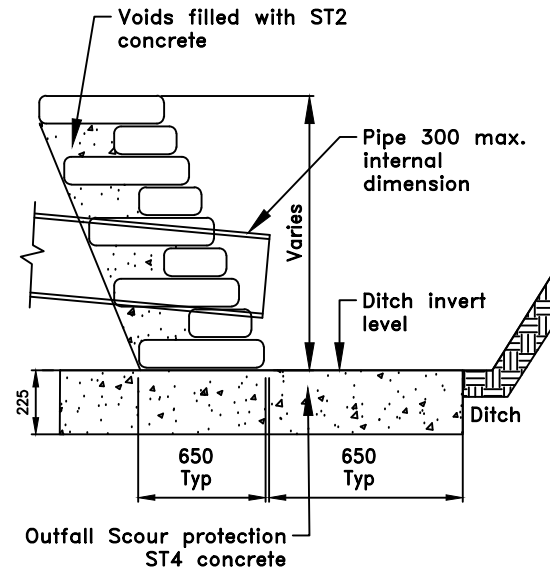
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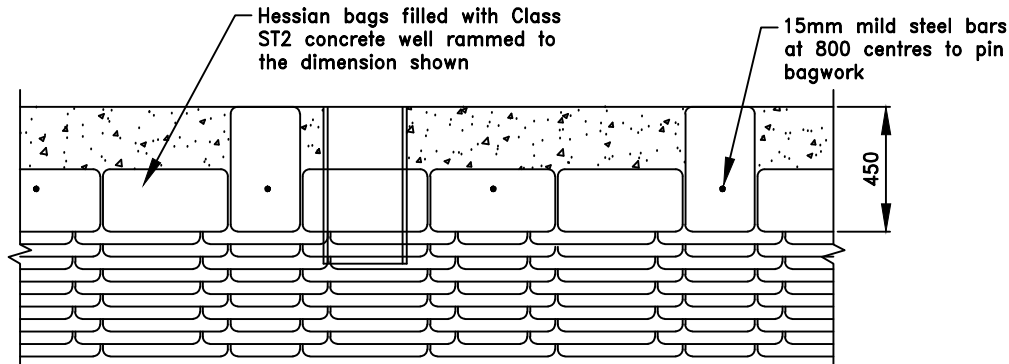
SD/500/13



ELEVATION



SECTION A - A



PLAN

Notes

1. All dimensions are in millimetres.
2. Concrete Bagwork Walling shall be used with approval of the Overseeing Organisation.
3. Installation of Concrete Bagwork Wall shall comply with Clause 519 SHW except where modified by this drawing.
4. Bagwork construction may also be used for outfalls.
5. Bagwork Wall shall be constructed using natural hessian sand bags , Clause 519.2 SHW.
6. Reinforcement 15 x 450 min mild steel bars shall be used at 800 centres.
7. Concrete ST4 shall comply with Clause 2602 SHW.



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STANDARD DRAWINGS

Drawn

A.D

Date

AUGUST 2015

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B.S

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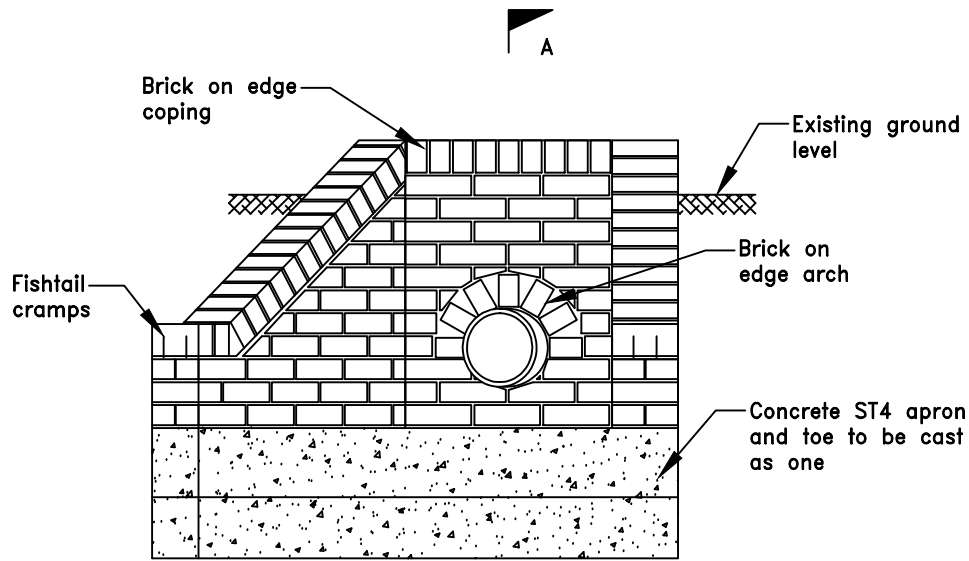
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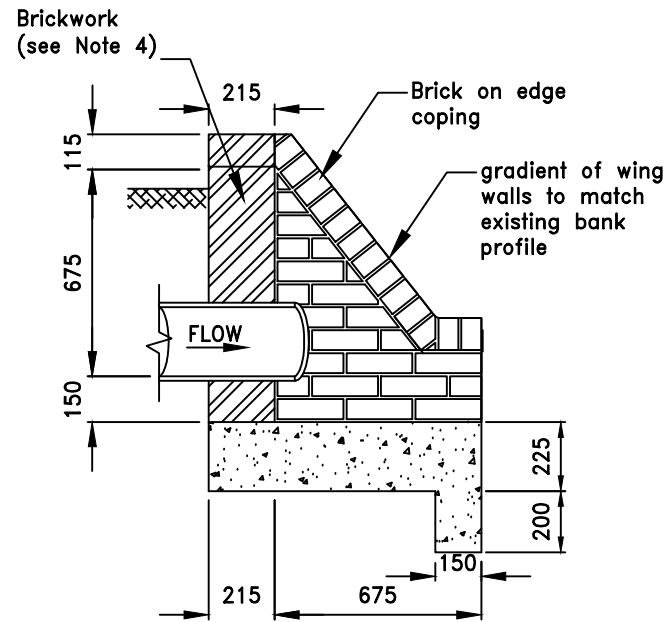
HEADWALL TYPE 3
Concrete Bagwork Wall

Drawing No.

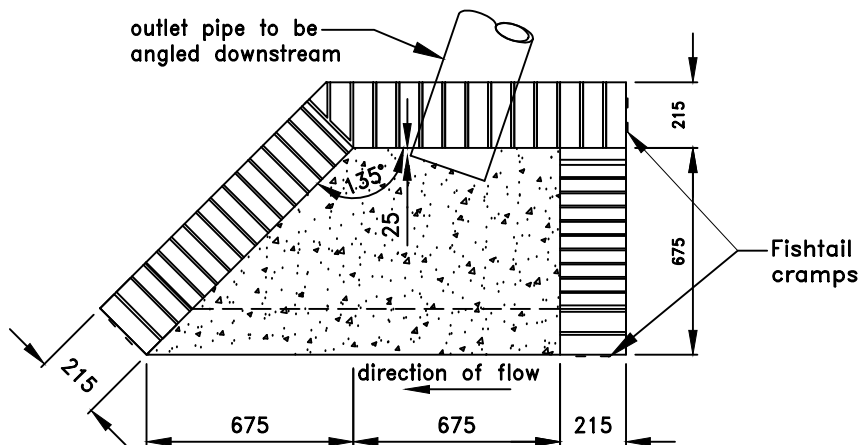
SD/500/14



ELEVATION



SECTION A - A



PLAN

Notes

1. All dimensions are in millimetres unless shown otherwise.
2. Piping of ditches shall have the consent of the Environment Agency and the Landowner.
3. Brickwork shall be constructed using Class B engineering bricks laid in English Bond flush pointed with mortar to designation (i) SHW Series 2400.
4. Brickwork shall be:
225 Thick for H < 1.2m
337 Thick for H > 1.2m
5. Concrete shall be grade ST4 to Clause 2602 SHW.
6. Formed surfaces shall be Class F1 finish. Unformed surfaces shall be U2 plain finish. In accordance with clause 1708.4 SHW.
7. All concrete below ground shall have SRPC unless otherwise directed by the overseeing organisation



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Drawing title

STANDARD DRAWINGS

HEADWALL TYPE 4
Brickwork Construction Outfall Detail

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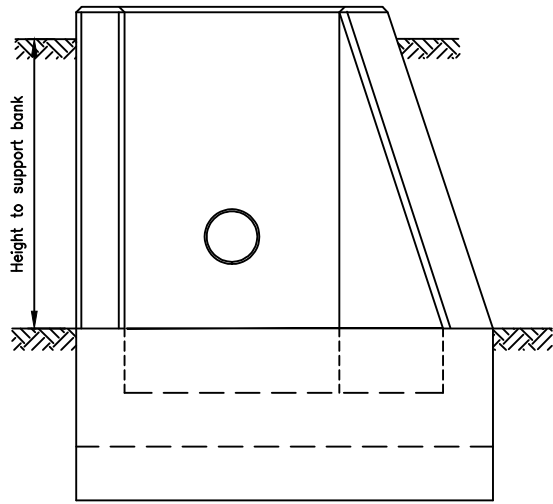
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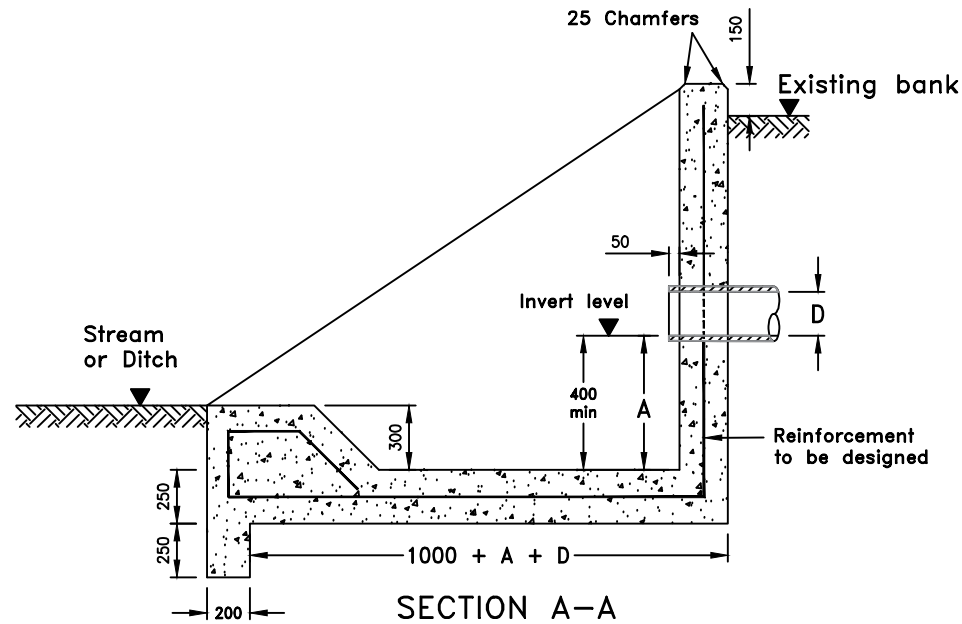
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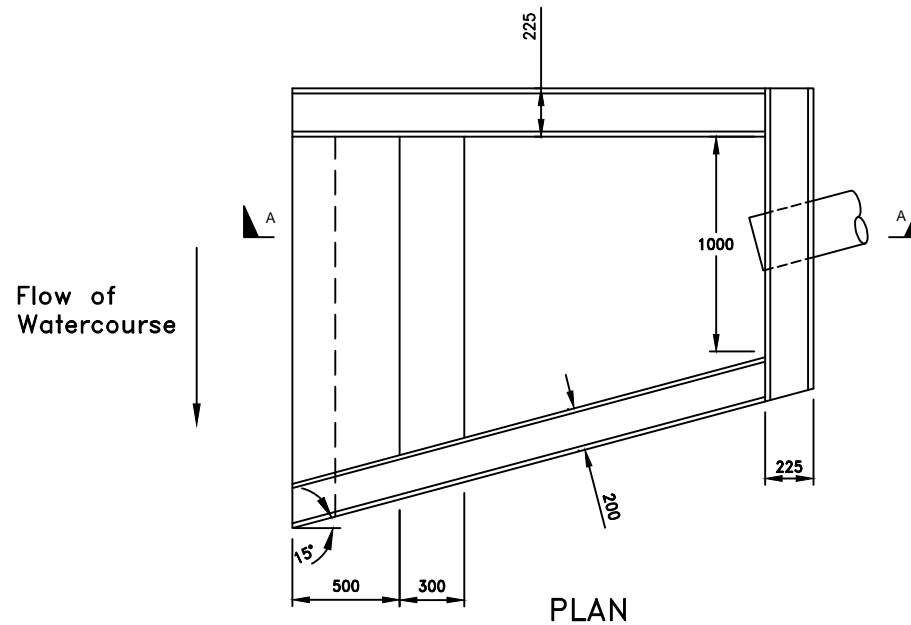
SD/500/15



FRONT ELEVATION



SECTION A-A



PLAN

Notes

1. All dimensions are in millimetres
2. Concrete to be Class C32/40 and shall conform to BS 8500 pt 1 and pt 2.
3. Formed surfaces shall be Class F2 finish. Unformed surfaces shall be Class U1 plain finish
4. Reinstatement to river bed and banks shall be to approval of the Overseeing Organisation.
5. Dimensions A , D and invert level shall be provided with the Headwall Schedule.
6. All concrete below ground shall have SRPC unless otherwise directed by the Overseeing Organisation
7. Structural Concrete Headwall design shall be approved by the Overseeing Organisation. The design shall be checked for structural stability , structural detailing and structural calculations.

Design shown as example
Full structural design required



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STANDARD DRAWINGS

HEADWALL TYPE H1

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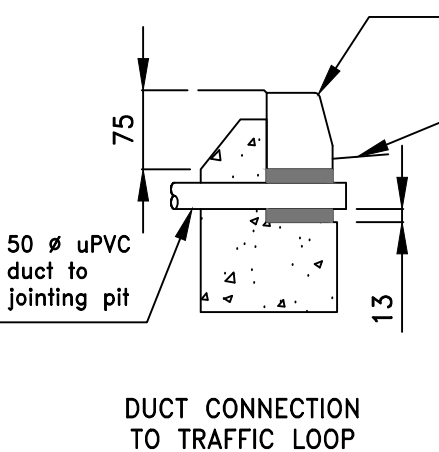
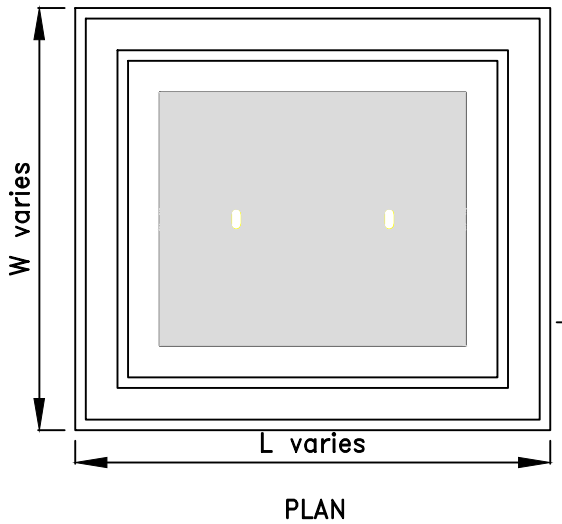
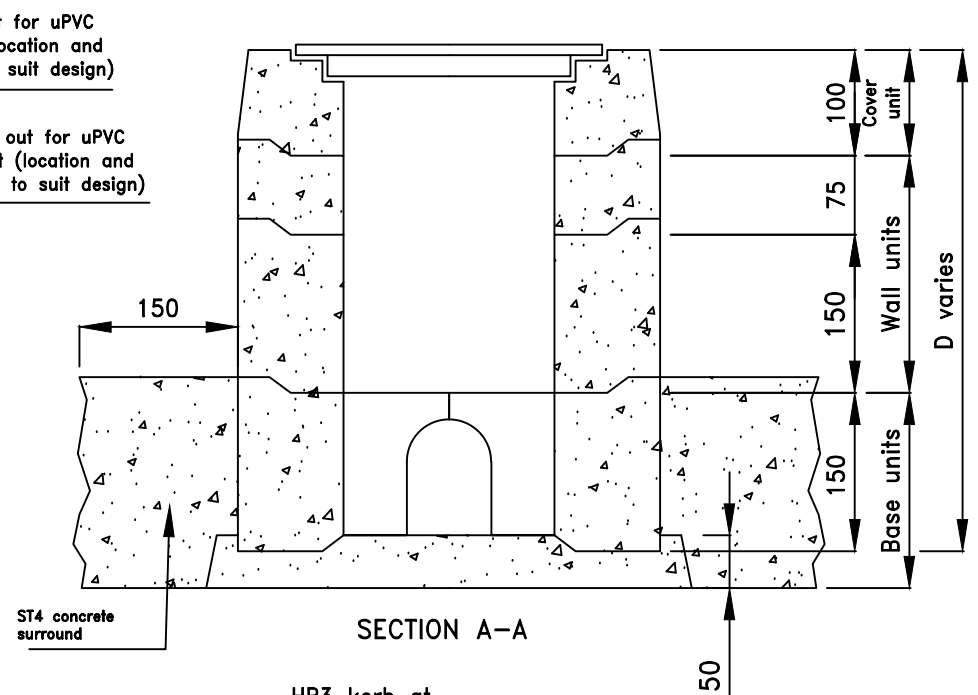
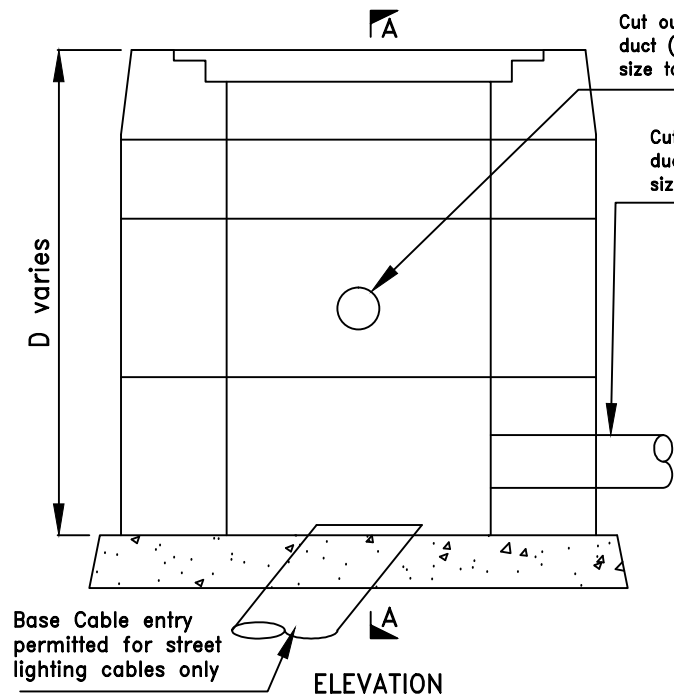
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Drawing No.

SD/500/16



CHAMBER TYPE	INTERNAL DIMENSIONS			CONSTRUCTION (Codes of Glandel Units)			BADGE MARK
	L	W	D	Wall	Base	Cover and Frame	
D(1)	430	280	475	H/W/75 H/W/100 H/W/150	V/B3/D or V/B4/D V/B5/D	V/C1/D 10T L/L	
D(2)	430	280	800				
E	610	455	750	V/W/E75 V/W/E100 V/W/E150	V/B2/E	V/C1/E 10T L/L	
F	685	455	850	V/W/F75 V/W/F100 V/W/F150	V/B2/F	V/C1/F 10T L/L	See note 9
Sp	1300	1000	To suit	Brickwork see Note 4	ST4 Concrete	38T	

CHAMBER TYPES

- Notes
- All dimensions are in millimetres
 - All chambers shall be located in footway, traffic island or verge. The position of all chambers and ducts to be agreed with the Overseeing Organisation.
 - Size of chamber used shall depend on the depth and number of ducts to be accommodated.
 - Standard Units shall be as manufactured by Glandel Ltd, or similar approved.
 - Chamber Type Sp shall be constructed in English Bond Class B Engineering bricks to comply with SHW series 2400.
 - The courses shall be laid in horizontal and vertical alignment. Joints shall not exceed 10 and shall be flush pointed internally as work proceeds.
 - Base units for all chambers may be replaced with cast-insitu ST4 concrete 150 thick. Formed surfaces shall be Class F1. Unformed surfaces shall be Class U2 plain finish. In accordance with clause 1708.4 SHW.
 - All joints between chamber and ducts shall be made good with Class 1 mortar. The duct shall be surrounded by 150 min thick ST4 concrete.
 - Covers shall be galvanised with an unlock and lift device and badgemarked Traffic Loop, Traffic signals or Street Lighting as appropriate.
 - Surface level tolerances shall be +60 or -15 in paved areas or -15 to -50 maximum in verges.
 - Electrical chamber detail see Electrical Standard Detail Drawings Chamber Detail SD/1400/033 and SD/1400/034.



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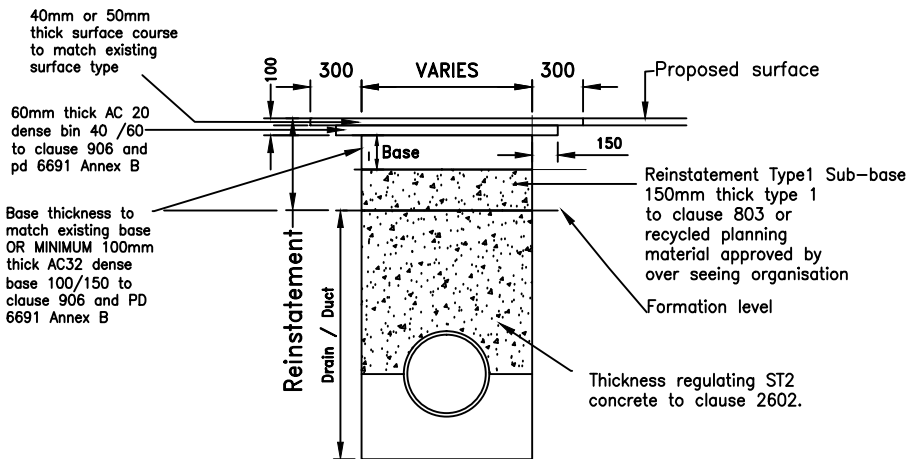
Project

STANDARD DRAWINGS

Drawing title

JOINTING CHAMBERS For Traffic Signal and Street Lighting Cables

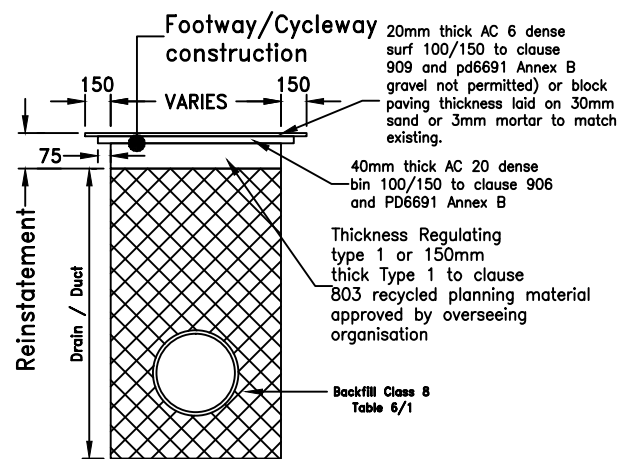
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Drawing No.	SD/500/17		



TYPE PR1 – Carriageway

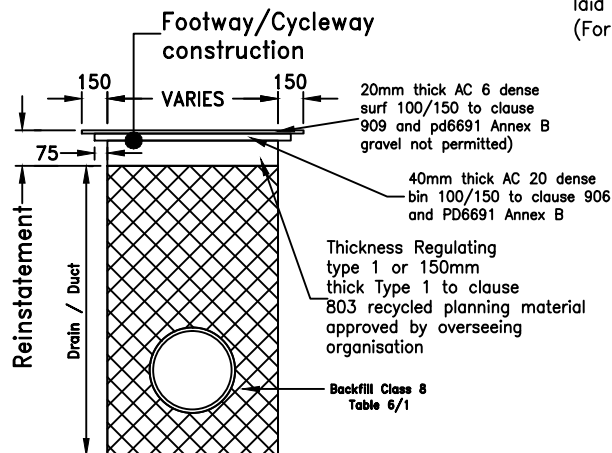
For use where ducts and drains are laid in existing carriageway. Proposed carriageway level between 0 to 100mm above existing carriageway level. (For ducts see SD/500/3)

Note:
Where trench reinstatement is in the carriageway area which will be finally reconstructed or resurfaced. Asphaltic concrete material can be used for temporary reinstatement as approved by the Overseeing Organisation.



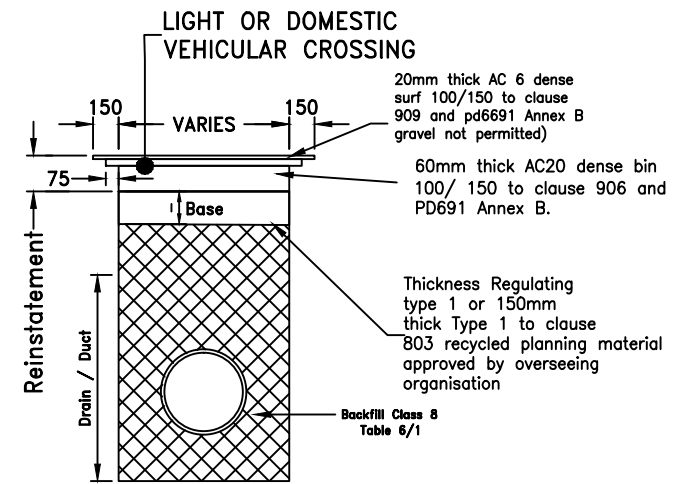
TYPE PR3 – Footways, Cycleways comprising paved areas

For use where drains are laid in existing paved footways. (For ducts see SD/500/3)



TYPE PR2 – Footways, Cycleways, and asphalt paving

For use where drains are laid in existing paved footways. (For ducts see SD/500/3)



TYPE PR4 – Light or domestic, Vehicular crossings.

For use where drains are laid in existing paved footways. (For ducts see SD/500/3)

Notes

1. All dimensions are in millimetres.
2. Refer to Appendix 7/2: Excavation and Reinstatement of Existing Surfaces, for details.
3. A temporary reinstatement using Type 1 sub-base may be used if carriageway is trafficked before asphalt surfacing is laid.
4. Crushed gravel aggregate shall not be used in the top 150mm below binder course level unless permitted by the Overseeing Organisation.



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STANDARD DRAWINGS

Drawing title

**REINSTATEMENT OF EXISTING PAVEMENTS
TYPE PR1, 2,3 & 4**

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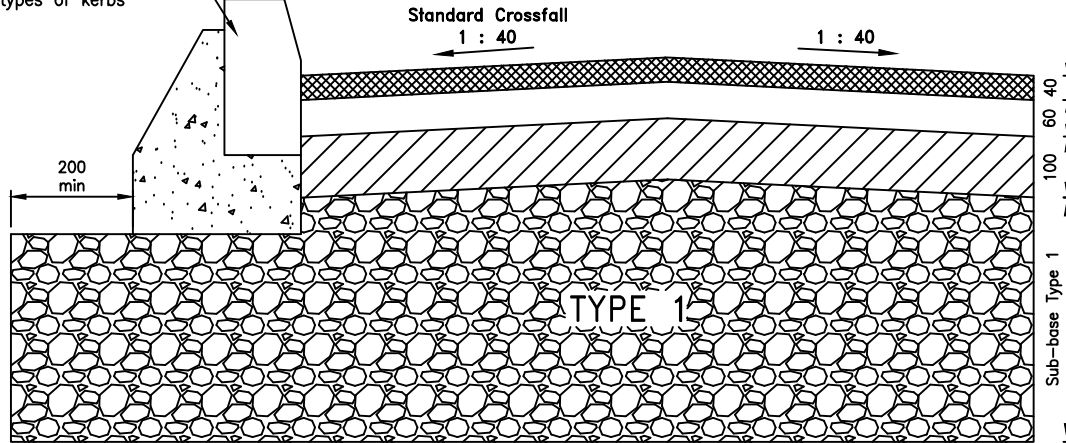
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Drawing No.

SD/700/1

See drawing number SD/1100/1 for different types of kerbs



- AC10 Close Surf 100/150 (clause 912)
- AC20 Dense Bin 40/60 REC (clause 906)
- AC32 Dense Base 40/60 REC (clause 906)

Granular Sub-base Type 1 material (see Notes 10)
Thickness dependent on CBR of sub-grade as below

CBR of sub-grade %	<=2	<=5	<=15	<=30	>30
Sub-base thickness mm	600	350	200	150	0

Minimum total thickness of pavement construction 450 if sub-grade is frost susceptible

PAVEMENT CONSTRUCTION THICKNESS MUST BE SUITABLE FOR THE ANTICIPATED TRAFFIC LOADINGS AND LOCATIONS

Notes

1. Alternative or lower grade binders may only be used with the approval of the Overseeing Organisation.
2. Where the nominal size of the aggregate has not been specified the developer shall comply with the particular requirements regarding depths of course and size of aggregates in the appropriate British Standard.
3. When the Surface Course is not laid immediately after the Binder Course the Binder Course shall be blinded with coated grit complying with BS EN 13108 and BS 594987.
4. Tack Coats shall be as specified in BS 594987:2015 and BS 434-2 unless approved by the Overseeing Organisation.
5. Tack Coat shall be applied between all asphalt layers at the correct rate of spread for overlaying either New Asphalt or Cold Milled surfaces.
6. New Asphalt surface; Tack Coat shall comply with Class K1-60 BS 434-2 and applied at a uniform rate of spread of 0.33litre/m² (leaving 0.20kg/m² residual binder).
7. Cold Milled surface; Tack Coat shall comply with Class K1-60 of BS 434-2 shall be applied at a uniform rate of spread of 0.42litre/m² (leaving 0.25kg/m² residual binder).
8. The aggregate in Surface Course material shall have a minimum PSV (Polished Stone Value) of 50 and a maximum AAV (Aggregate Abrasion Value) of 14.
9. Gravel aggregates shall not be permitted in Asphaltic Concrete.
10. Limestone aggregate or Limestone filler shall not be permitted in Surface Course material or Binder Course material which is to be trafficked.
11. Asphaltic Concrete shall comply and be laid in accordance with BS EN 13108 and BS 594987.
12. Type 1 sub-base material using crushed gravel aggregate shall not be used in the top 150mm below the Base layer unless permitted by Overseeing Organisation. Then the developer shall demonstrate its suitability together with the compaction plant he proposes to use by completing a trial area. The Overseeing Organisation shall reserve the right to reject any material which is outside the specified grading and any costs in relation to trial areas, whether the material and the method of compaction is approved or rejected, shall be met by the developer.
13. Manhole covers shall not be re-set until the Binder Course is laid.
14. Base material shall have a minimum stiffness modulus of 2.5 GPa when using performance specified material.
15. 150 Concrete Roadbase CBGMC class C3 /4 to BS EN 14227 may be used in areas where the use of a paving machine is not practicable.
16. Design life for all pavement options shall be 40 years HD24 (DMRB 7.2.1)
17. Any different design shall comply with HD26 (DMRB 7.2.3.) the Carriageway construction thickness to be designed for predicted MSA values.
18. Where required by the Overseeing Organisation a coated grit shall be applied to the Surface Course (note 3).



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STANDARD DRAWINGS

PAVEMENT CONSTRUCTION THICKNESS
Minor Access Roads, Accessways, Mews Courts and Housing Squares

Drawn

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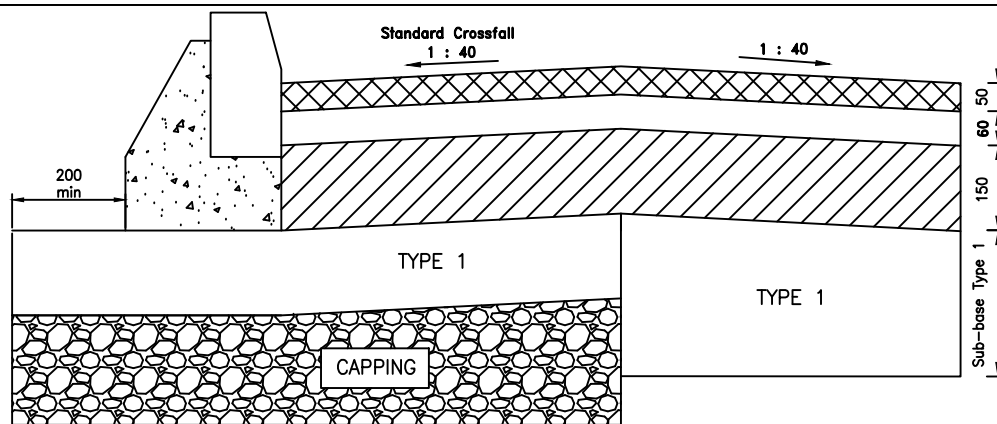
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Drawing No.

SD/900/1



HRA 35/14F surf 40/60 and PCC 14/20mm (Cl. 943)
or HRA 55/14 F surf 40/60 (Cl. 911) see Note 17

AC 20 bin 40/60

AC 32 dense Base 40/60

DESIGN SHOWN FOR A STANDARD ACCESS ROAD
OTHER DESIGNS FOR 40msa SHALL COMPLY
WITH HD24 (DMRB7.2.1)

Granular Sub base Type 1 material (see note 13)
Thickness dependant on CBR of sub-grade see below.

CBR of sub-grade (%)	<=2	<=5	<=15	<=30	>30
Thickness mm	750	500	225	150	0

Minimum total thickness 450 if sub-grade is frost susceptible

PAVEMENT CONSTRUCTION THICKNESS MUST BE SUITABLE FOR THE ANTICIPATED TRAFFIC LOADINGS AND LOCATION

Notes

- Alternative or lower grade binders shall only be used with the approval of the Overseeing Organisation.
- Where the nominal size of the aggregate has not been specified the developer shall comply with the particular requirements regarding depths of course and size of aggregates in the appropriate British Standard.
- When the Surface Course is not laid immediately after the Binder Course the Binder Course shall be blinded with Coated Grit complying with BS EN 13108 and BS 594987. Coated Grit to be applied to the Surface Course where directed by the Overseeing Organisation.
- Bond Coats shall be used in preference to Tack Coats as specified in BS 594987:2015 (5.5.1) unless approved by the Overseeing Organisation. Bond Coat shall be applied between all asphalt layers at the correct rate of spread for overlaying either New Asphalt or Cold Milled surfaces.
- New Asphalt surface; Bond Coat shall comply with Class K1-70 of BS 434-2 and applied at a uniform rate of spread to 0.50 litre/m² (leaving 0.35kg/m² residual binder).
- Cold Milled surface; Bond Coat shall comply with Class K1-70 to BS 434-2 and applied at a uniform rate of spread of 0.86 litre/m² (leaving 0.60kg/m² residual binder).
- The aggregate in Surface Course material shall have a minimum PSV (Polished Stone Value) of 60 and a maximum AAV (Aggregate Abrasion Value) of 14
- Gravel aggregates shall not be permitted in Asphaltic Concrete.
- Limestone aggregate or Limestone filler shall not be permitted in Surface Course material or Binder Course material which is to be trafficked.
- HRA shall comply with and be laid in accordance with BS EN 13108 and BS 594987
- Asphaltic concrete must comply and be laid in accordance with BS EN 13108 and BS 594987.
- Pre-Coated chippings for HRA Surface Course shall have a minimum PSV of 65 and a maximum AAV of 14
- Type 1 sub-base material using crushed gravel aggregate shall not be used in the top 150mm below the Base layer unless permitted by the Overseeing Organisation. Then the developer shall demonstrate its suitability together with the compaction plant he proposes to use by completing a trial area. The Overseeing Organisation shall reserve the right to reject any material which is outside the specified grading and any cost in relation to trial areas, whether the material and the method of compaction is approved or rejected, shall be met by the developer.
- Manhole covers shall not be re-set until the Binder Course is laid.
- Base material shall have a minimum stiffness modulus of 2.5 GPa when using performance specified material.
- 150 concrete road base CBGMC class C 3/4 to BS EN 14227 may be used in areas where the use of a paving machine is not practicable
- Design life for all pavement options shall be 40 years. HD24 (DMRB 7.2.1)
- Any different design to comply with HD26 (DMRB 7.2.3), the Carriageway construction thickness shall be designed for predicted MSA values.
- Where required by the Overseeing Organisation Coated Grit shall be applied to the Surface Course (note 3).
- Alternative Surface Course system may be used with the approval of the Overseeing Organisation provided an appropriate HAPAS certificate is supplied. Only modified binders shall be used. Minimum wheel tracking Class shall be Level 4.
- Laybys and Hardstandings shall be surfaced with block paving design to the approval of the Overseeing Organisation.



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Drawing title

STANDARD DRAWINGS

PAVEMENT CONSTRUCTION THICKNESS
Major Access Roads and Intermediate Roads
(Less than 250 commercial vehicles per lane per day)

Drawn

Date

AB

TBC

Checked

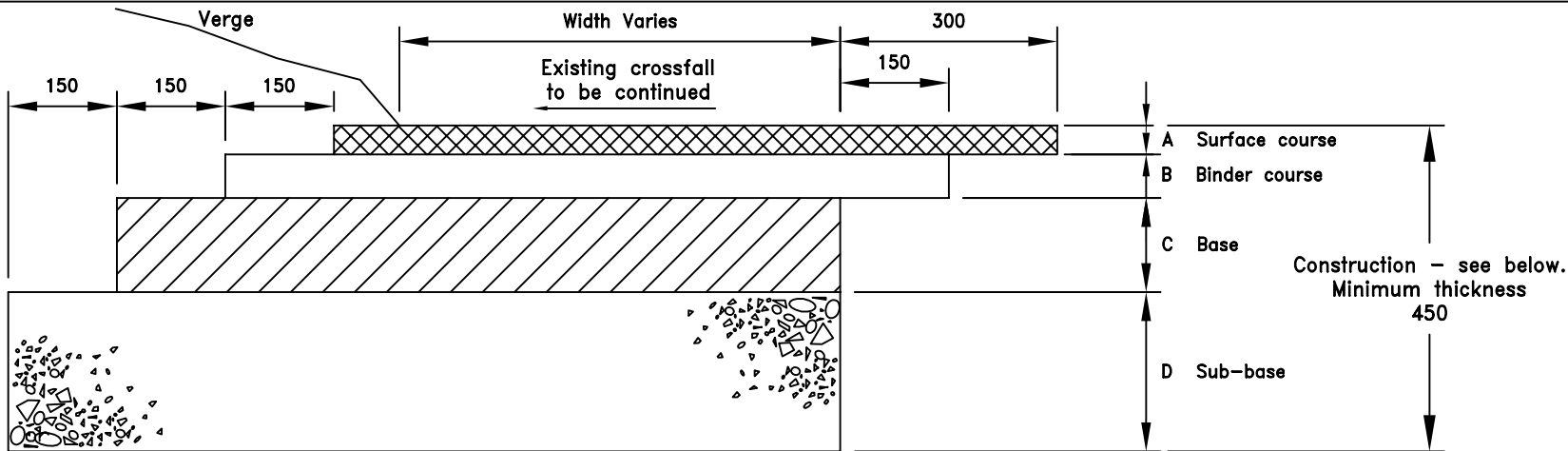
Scale

TBC

NOT TO SCALE

Drawing No.

SD/900/2



Section

Construction to be to the approval of the overseeing organisation

TYPE 1

450mm	A	30mm	AC 10 Close surface course (100/150 Pen Binder)
	B	70mm	AC 20 Dense binder course (40/60 Pen Binder)
	C	100mm	AC 32 Dense base (40/60 Pen Binder)
	D	250mm	Granular sub-base material Type 1 (minimum) see note 4

TYPE 2

480mm	A	40mm	AC 10 Close graded bitumen macadam surface course (100/150 Pen Binder)
	B	60mm	AC 20 Dense binder course (40/60 Pen Binder)
	C	130mm	AC 32 Dense base (40/60 Pen Binder)
	D	250mm	Granular sub-base material Type 1 (minimum) see note 4

TYPE 3

490mm	A	50mm	HRA 35/14f surface course with 14/20mm pre-coated chippings to (40/60 Pen Binder)
	B	60mm	AC 20 Dense binder course (40/60 Pen Binder)
	C	130mm	AC 32 Dense base (40/60 Pen Binder)
	D	250mm	Granular sub-base material Type 1 (minimum) see note 4

Notes

1. All dimensions are in millimetres.
2. Materials specification see SD/900/1 and 2
3. Where required by the overseeing organisation coated grit shall be applied to the surface course
4. Crushed gravel aggregate shall not be used in the top 150mm below base course level unless permitted by the overseeing organisation
5. Sub-base material type 1 or type 1/ capping layer depth may vary and shall be as directed by the overseeing organisation
6. See design tables in DMRB Vol 7



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STANDARD DRAWINGS

Drawing title

CARRIAGEWAY HAUNCHING

Drawn

A.D

Date

JUNE 2015

Checked

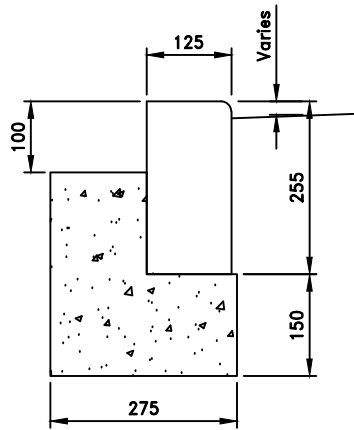
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Scale

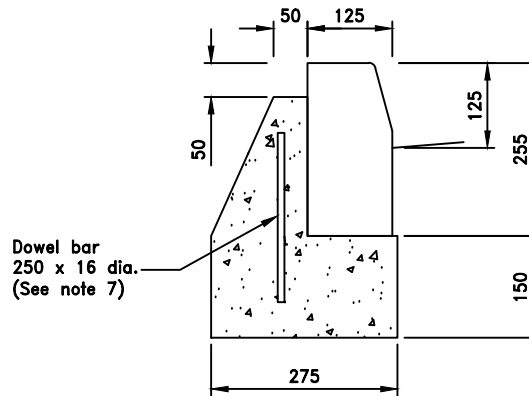
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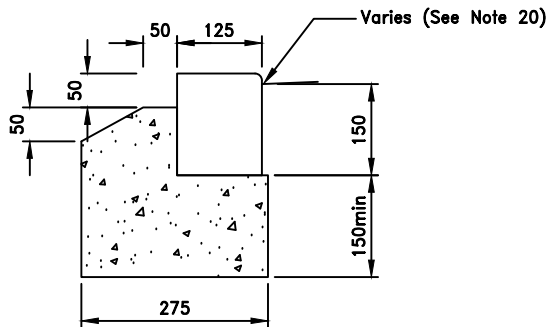
SD/900/3



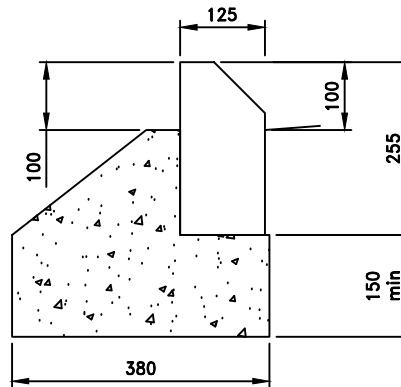
**BULL NOSED – FIG 2
BN KERB**



**HALF BATTER – FIG 7
HB2 KERB
See Note 17**



**DROPPED BULL NOSED – FIG 2A
BN KERB**



**45° SPLAY – FIG 5
SP KERB**

CONCRETE BACKING TO KERB
Drawing illustrates different backing options to suit various Footway and Verge design thickness.

Notes

1. All dimensions are in millimetres.
2. All Precast Concrete Kerb, Channel, Edging and Quadrant shall comply with Clause 1101 SHW except where modified on this drawing.
3. All insitu concrete to foundation and haunch shall be minimum slump ST4 concrete.
4. Kerb foundation shall be laid on compacted Type 1 sub-base of minimum thickness 100.
5. The kerb bed and backing shall normally be laid in one operation.
6. Where bed is laid in advance of kerbs 200 x 20 dia mild steel dowel bars shall be required in backing at 450 centres and kerbs shall be bedded on 10 min mortar designation (i) SHW Series 2400.
7. Dowel bars shall be required with standard kerbs in circumstances where the kerbs are vulnerable.
8. 300 x 16 dia dowel bars at 450 centres shall be used with Safety Kerbs unless the backing concrete is brought level with top of kerb.
9. Kerbs shall be laid with dry joints and closely butted to adjacent kerbs and channels.
10. Transition kerbs shall be used at all changes in kerb type.
11. Channel kerb blocks shall be used where gradient is flatter than 1:150.
12. For radii of 12m or less kerbs and channels of the appropriate radius shall be used.
13. For radii between 12m and 18m straight kerbs 600 long shall be used
14. Cutting of kerbs and channels shall be by approved mechanical means.
15. The length of any kerb or channel shall not be less than 300.
16. Where channel kerb blocks are laid to false falls the kerb face must be 100 min – 150 max.
17. All kerbing supporting verge areas shall be backed as shown for SP kerb.
18. Where edgings are laid at the top of an earth embankment concrete bed shall be 150 min on Type 1 material.
19. Where paviers are to be laid adjacent to the kerb, the kerb and channel backing shall be adjusted accordingly.
20. Kerb faces at crossings shall be:

		Tolerance
Pedestrian	10	+ or -6
Tactile paved	0	+6
Vehicular	20	+ or -6
21. Where a risk assessment shows large kerbs cannot be mechanically handled small element kerbs weighting no more than 20Kg shall be permitted with the approval of the Overseeing Organisation. Plastic kerbs are not permitted
22. Minimum number of Bullnosed kerbs at crossing points shall be:

Pedestrian	2 (full sized).
Vehicular	4 (full sized).



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STANDARD DRAWINGS

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M.G

Date

AUGUST 2015

Drawing title

**PRECAST CONCRETE KERBS
(BN, HB2 , SP)**

Checked

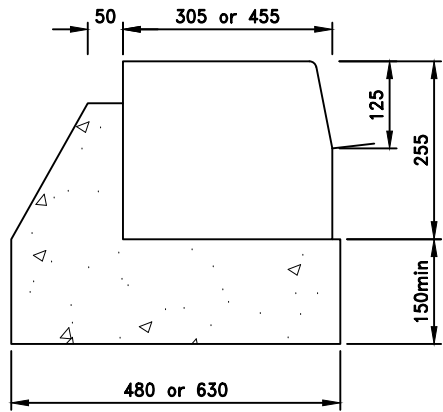
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Scale

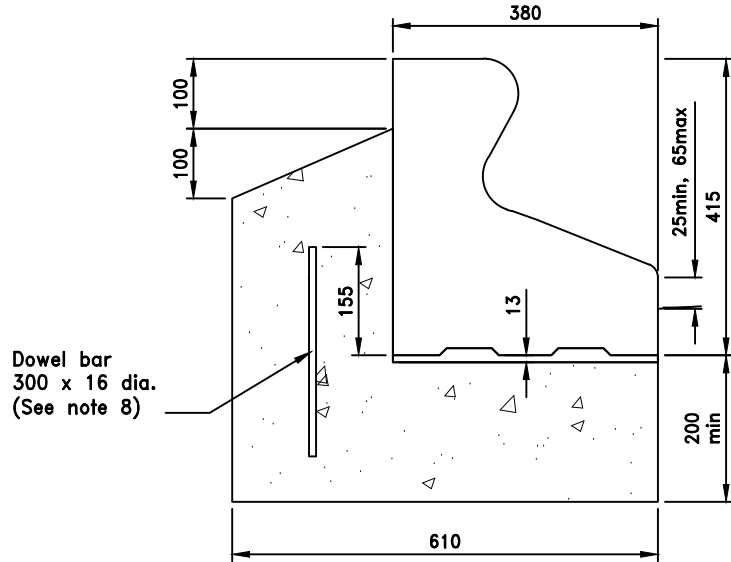
NOT TO SCALE

Drawing No.

SD/1100/1



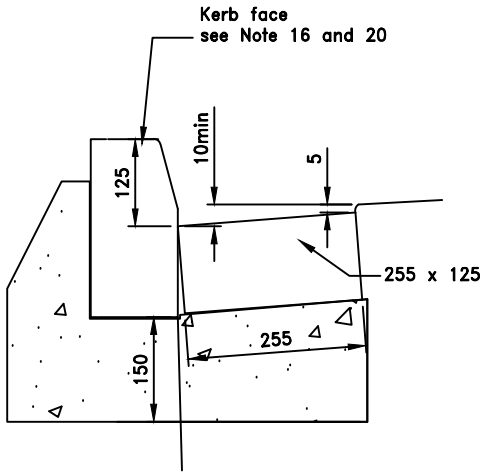
QUADRANT – FIG 14
QHB2 KERB



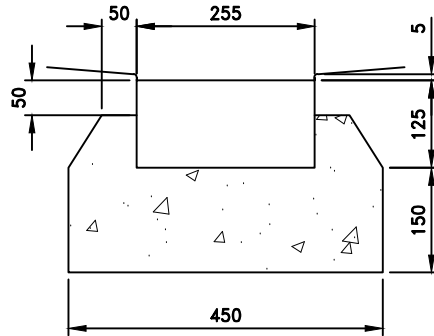
SAFETY KERB GST/2A

Dowel bar
300 x 16 dia.
(See note 8)

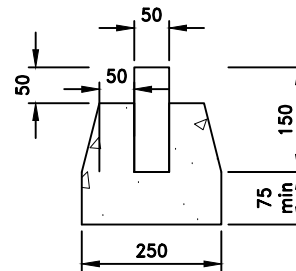
CONCRETE BACKING TO KERB
Drawing illustrates different
backing options to suit various
Footway and Verge design
thickness.



SQUARE CHANNEL – FIG 8
CS1



SQUARE CHANNEL – CS1



SQUARE EDGING – FIG 11
EF EDGING
See Note 18

Notes

- All dimensions are in millimetres.
- All Precast Concrete Kerb, Channel, Edging and Quadrant shall comply with Clause 1101 SHW except where modified on this drawing.
- All insitu concrete to foundation and haunch shall be minimum slump ST4 concrete.
- Kerb foundation shall be laid on compacted Type 1 sub-base of minimum thickness 100.
- The kerb bed and backing shall normally be laid in one operation.
- Where bed is laid in advance of kerbs 200 x 20 dia mild steel dowel bars shall be required in backing at 450 centres and kerbs shall be bedded on 10 min mortar designation (i) SHW Series 2400.
- Dowel bars shall be required with standard kerbs in circumstances where the kerbs are vulnerable.
- 300 x 16 dia dowel bars at 450 centres shall be used with Safety Kerbs unless the backing concrete is brought level with top of kerb.
- Kerbs shall be laid with dry joints and closely butted to adjacent kerbs and channels.
- Transition kerbs shall be used at all changes in kerb type.
- Channel kerb blocks shall be used where gradient is flatter than 1:150.
- For radii of 12m or less kerbs and channels of the appropriate radius shall be used.
- For radii between 12m and 18m straight kerbs 600 long shall be used
- Cutting of kerbs and channels shall be by approved mechanical means.
- The length of any kerb or channel shall not be less than 300.
- Where channel kerb blocks are laid to false falls the kerb face must be 100 min – 150 max.
- All kerbing supporting verge areas shall be backed as shown for SP kerb.
- Where edgings are laid at the top of an earth embankment concrete bed shall be 150 min on Type 1 material.
- Where paviers are to be laid adjacent to the kerb, the kerb and channel backing shall be adjusted accordingly.
- Kerb faces at crossings shall be:

	Tolerance
Pedestrian	10 + or -6
Tactile paved	0 +6
Vehicular	20 + or -6
- Where a risk assessment shows large kerbs cannot be mechanically handled small element kerbs weighting no more than 20Kg shall be permitted with the approval of the Overseeing Organisation. Plastic kerbs are not permitted
- Minimum number of Bullnosed kerbs at crossing points shall be:

Pedestrian	2 (full sized).
Vehicular	4 (full sized).



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STANDARD DRAWINGS

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Drawing title

PRECAST CONCRETE QUADRANT, SAFETY KERB, CHANNEL AND EDGING
(QHB2 , CS, EF)

Drawn

Date

M.G

AUGUST 2015

Checked

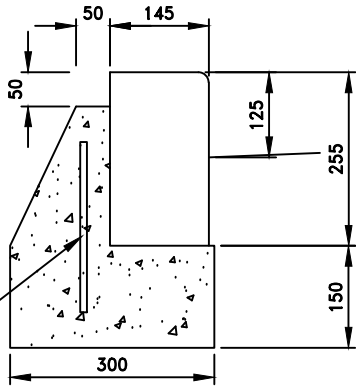
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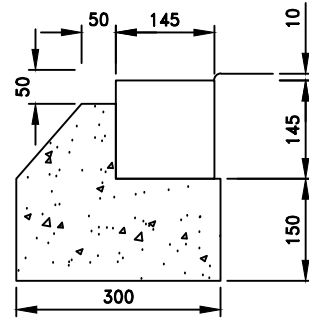
NOT TO SCALE

Drawing No.

SD/1100/2

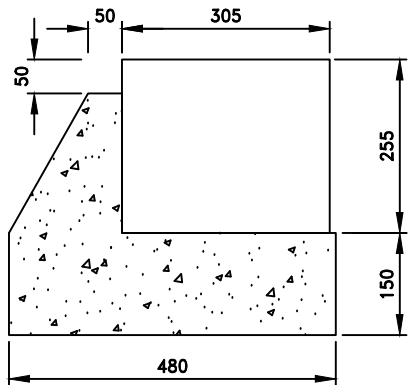


CK1 Conservation Kerb

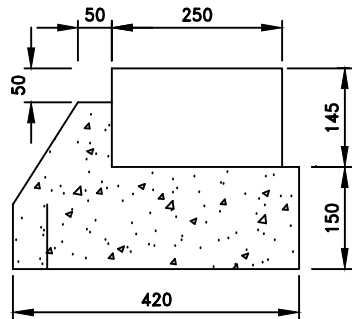


Centre Stone
CK2 Conservation Kerb

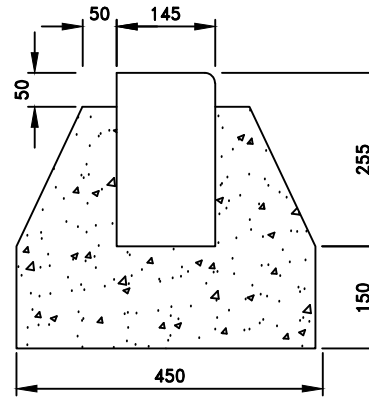
Dowel bar
250 x 16 dia.
(See note 7)



QUADRANT
CK3 Conservation Kerb



CK4 Conservation
Channel
KERB - CK4 150
KERB - CK4A 250



CK5 Conservation Kerb

Notes

1. All dimensions are in millimetres.
2. All Conservation Concrete Kerb, Channel, Edging and Quadrant shall be silver grey Granite aggregate fine textured and shall comply with BS EN 1340:2003.
3. All insitu concrete to foundation and haunch shall be minimum slump ST4 concrete.
4. Kerb foundation shall be laid on compacted Type 1 sub-base of minimum thickness 100.
5. The kerb bed and backing shall normally be laid in one operation.
6. Where bed is laid in advance of kerbs 200 x 20 dia mild steel dowel bars shall be required in backing at 450 centres and kerbs shall be bedded on 10 min mortar designation (i) SHW Series 2400.
7. Dowel bars shall be required with standard kerbs in circumstances where the kerbs are vulnerable.
8. 300 x 16 dia dowel bars at 450 centres shall be used with Safety Kerbs unless the backing concrete is brought level with top of kerb.
9. Kerbs shall be laid with dry joints and closely butted to adjacent kerbs and channels.
10. Transition kerbs shall be used at all changes in kerb type.
11. Channel kerb blocks shall be used where gradient is flatter than 1:150.
12. For radii of 12m or less kerbs and channels of the appropriate radius shall be used.
13. For radii between 12m and 18m straight kerbs 600 long shall be used
14. Cutting of kerbs and channels shall be by approved mechanical means.
15. The length of any kerb or channel shall not be less than 300.
16. Where channel kerb blocks are laid to false falls the kerb face must be 100 min - 150 max.
17. All kerbing supporting verge areas shall be backed as shown for SP kerb.
18. Where edgings are laid at the top of an earth embankment concrete bed shall be 150 min on Type 1 material.
19. Where paviers are to be laid adjacent to the kerb, the kerb and channel backing shall be adjusted accordingly.
20. Kerb faces at crossings shall be:

		Tolerance
Pedestrian	10	+ or -6
Tactile paved	0	+6
Vehicular	20	+ or -6
21. Where a risk assessment shows large kerbs cannot be mechanically handled small element kerbs weighting no more than 20Kg shall be permitted with the approval of the Overseeing Organisation. Plastic kerbs are not permitted.
22. Minimum number of Bullnosed kerbs at crossing points shall be:

Pedestrian	2 (full sized).
Vehicular	4 (full sized).



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STANDARD DRAWINGS

Drawing title

CONSERVATION KERBS

Drawn

M.G

Date

AUGUST 2015

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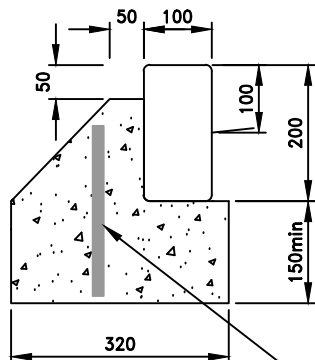
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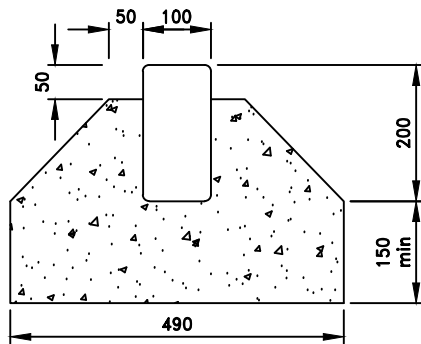
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SD/1100/3

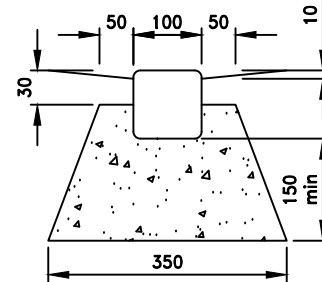


GRANITE SETT
DS1

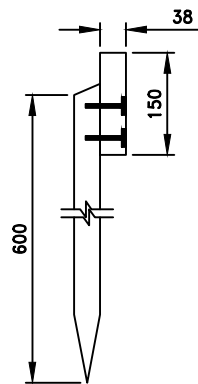
Dowel Bar
250 X 16 DIA
(See note 8)



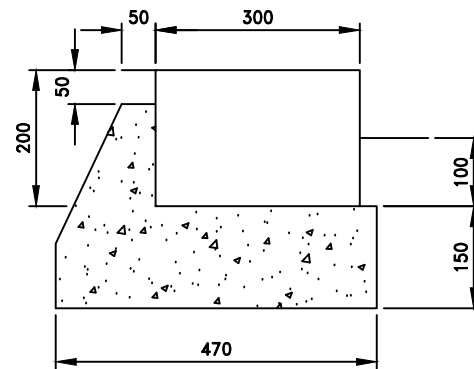
GRANITE SETT
DS2



GRANITE SETT
DS3



TIMBER EDGING
TE1 EDGING
See note 24



GK6 Granite Kerb

Notes

1. All dimensions are in millimetres.
2. Granite Setts shall be silver grey coarse textured to BS EN 1342.
3. Granite Kerbs shall be silver grey fine textured to BS EN 1343.
4. All insitu concrete to foundation and haunch shall be minimum slump ST4 concrete.
5. Kerb foundation shall be laid on compacted Type 1 sub-base of minimum thickness 100.
6. The kerb bed and backing shall normally be laid in one operation.
7. Where bed is laid in advance of kerbs 200 x 20 dia mild steel dowel bars shall be required in backing at 450 centres and kerbs shall be bedded on 10 min mortar designation (i) SHW Series 2400.
8. Dowel bars shall be required with standard kerbs in circumstances where the kerbs are vulnerable.
9. 300 x 16 dia dowel bars at 450 centres shall be used with Safety Kerbs unless the backing concrete is brought level with top of kerb.
10. Kerbs shall be laid with dry joints and closely butted to adjacent kerbs and channels.
11. Transition kerbs shall be used at all changes in kerb type.
12. Channel kerb blocks shall be used where gradient is flatter than 1:150.
13. For radii of 12m or less kerbs and channels of the appropriate radius shall be used.
14. For radii between 12m and 18m straight kerbs 600 long shall be used.
15. Cutting of kerbs and channels shall be by approved mechanical means.
16. The length of any kerb or channel shall not be less than 300.
17. Where channel kerb blocks are laid to false falls the kerb face must be 100 min – 150 max.
18. All kerbing supporting verge areas shall be backed as shown for SP kerb.
19. Where edgings are laid at the top of an earth embankment concrete bed shall be 150 min on Type 1 material.
20. Where paviers are to be laid adjacent to the kerb, the kerb and channel backing shall be adjusted accordingly.
21. Kerb faces at crossings shall be:

	Tolerance	
Pedestrian	10	+ or -6
Tactile paved	0	+6
Vehicular	20	+ or -6
22. Where a risk assessment shows large kerbs cannot be mechanically handled small element kerbs weighting no more than 20Kg shall be permitted with the approval of the Overseeing Organisation. Plastic kerbs are not permitted.
23. Minimum number of Bullnosed kerbs at crossing points shall be: Pedestrian 2 (full sized), Vehicular 4 (full sized).
24. Timber edging and pegs shall be pressure treated to Clause 311 SHW. Timber pegs shall be 50x50x600 fixed at 900 centres. Double pegs to be used at joints. 2 no galvanised 68mm nails per peg.



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STANDARD DRAWINGS

Drawing title

GRANITE SETT AND GRANITE KERB

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Date

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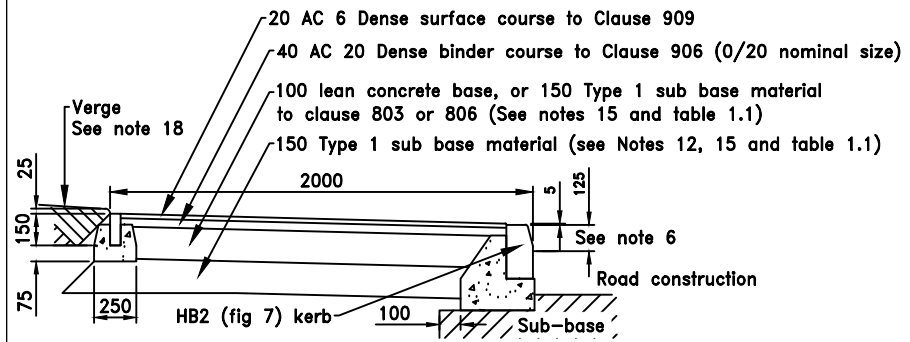
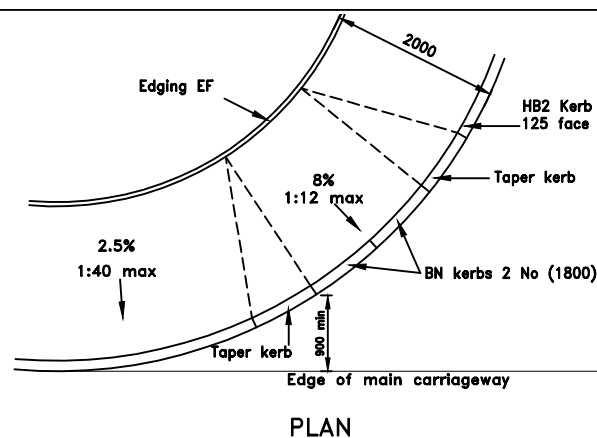
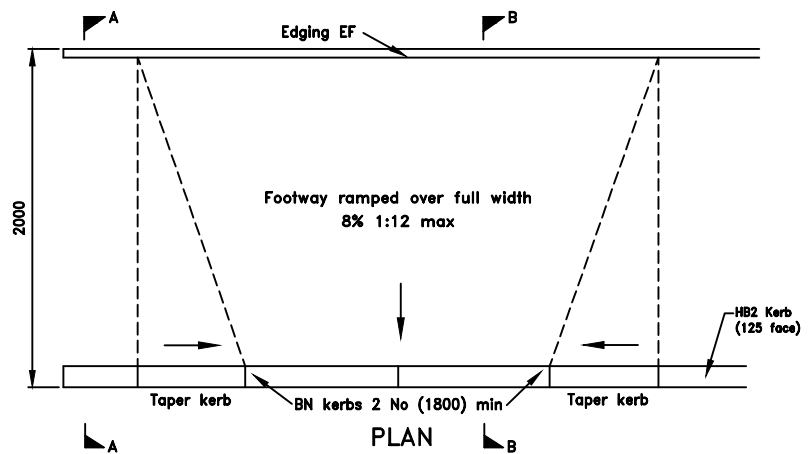
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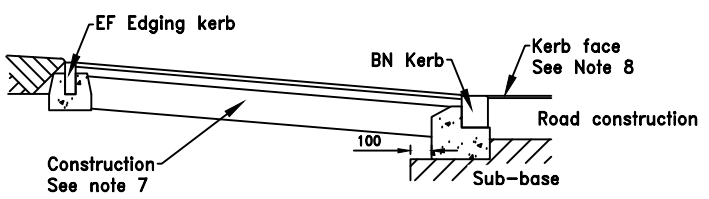
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Drawing No.

SD/1100/4



Section A-A
PEDESTRIAN ONLY FOOTPATH AND VERGE



Section B-B
CROSSING POINT

LIGHT DUTY FOOTWAY / FOOTPATH
DOMESTIC VEHICULAR CROSSOVER

20 AC 6 Dense surface course to Clause 909
60 AC 20 Dense binder course to Clause 906
Type 1 - sub base material to Clause 803
(See table 1.1 and note 12 and 15)

Table 1.1

Sub Base depth	225	150	150
Subgrade CBR*	≤ 2%	≤ 5%	> 5%

HEAVY DUTY FOOTWAY/CROSSOVER AND
HEAVY VEHICLE OVERUN

25 AC 6 Dense surface course to Clause 909
90 AC 20 Dense binder course to Clause 906
Type 1 sub-base material to Clause 803
(See table 1.2 and note 12 and 15)

HEAVY DUTY RURAL CROSSOVER

150 unreinforced air-entrained concrete C32/40 to BS EN 13877 and BS 8500.
Type 1 sub-base material to Clause 803.
(See table 1.2 and note 15)

Table 1.2

Sub Base depth	365	270	210	165	150
Subgrade CBR*	≤ 2%	< 3%	≤ 4%	≤ 5%	> 5%

* It may be necessary to stabilise the Subgrade or replace with granular Capping if CBR < 2%.

- Notes
- All dimensions are in millimetres.
 - For Cycleway detail see SD/1100/6.
 - Footways and verges shall both be 2000 wide except where otherwise approved. A 2000 wide verge shall be provided behind footways and cycleways in embankments.
 - All Precast Concrete kerbs shall comply to BS EN 1340:2003.
 - Kerbing details shall be to drawing SD/1100/1, 1100/2, 1100/3 or 1100/4 except where modified by this drawing.
 - Standard Kerb faces shall be:

Half batter kerbs	HB2	125
Splay kerbs	SP	100
 - Crossing points shall be constructed as shown in section B-B. Construction thickness shall be increased at vehicular crossing points, see Tables on this drawing.
 - Kerb faces shall be:

		Tolerance
Pedestrian	10	+or-6
Cycleway/Tactile paved	0	+6
Vehicular	20	+or-6
 - Minimum number of full Bullnosed kerbs at crossing points shall be:

Pedestrian	2 (full sized)
Cycleway	3 (full sized)
Vehicular	4 (full sized)
 - Taper kerbs shall be used at changes in kerb face at crossing points.
 - Edging kerbs shall be provided on all free edges of paved areas not confined by a kerb or boundary wall.
 - An additional 150 of Type 1 material shall be laid to footways and cycleways when on embankment.
 - Footway and highway verges shall normally fall at 1:40 towards the highway.
 - Vertical alignment of back edging shall be maintained at crossing points and the crossing graded from edging to carriageway level.
 - Asphaltic Concrete shall comply with BS 594987, Sub-base shall be Clause 803 or 806. Asphalt plantings to the approval of the Overseeing Organisation may be used.
 - For block paved construction see SD/1100/8.
 - All soft spots and organic material shall be removed before construction.
 - An approved residual weedkiller which does not contain Atrazine or Simazine applied to the formation shall require approval of the Overseeing Organisation.
 - Verge areas shall have 150 deep topsoil spread 25 above top of kerb or edging to allow for settlement and shall be seeded in accordance with the Specification.
 - Existing verges adjacent to new kerbing shall be regraded and seeded.
 - Alternative designs incorporating flags and paviors shall be to the approval of the Overseeing Organisation.



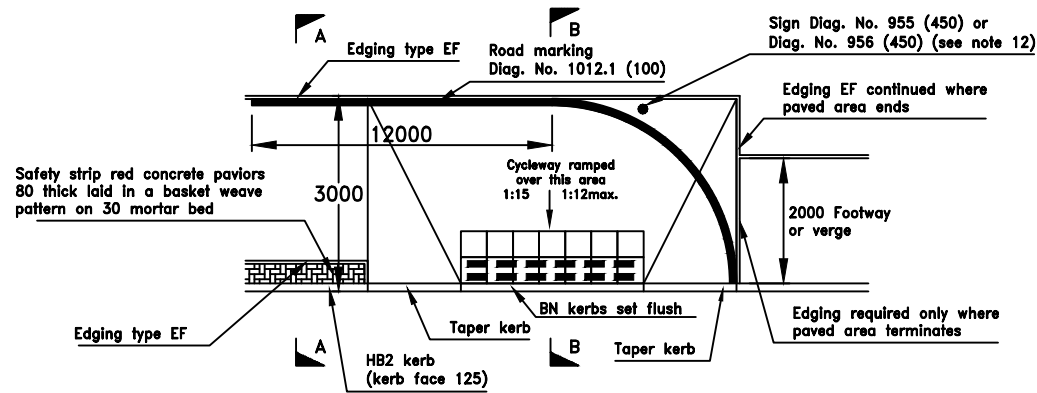
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Project
STANDARD DRAWINGS
Drawing title

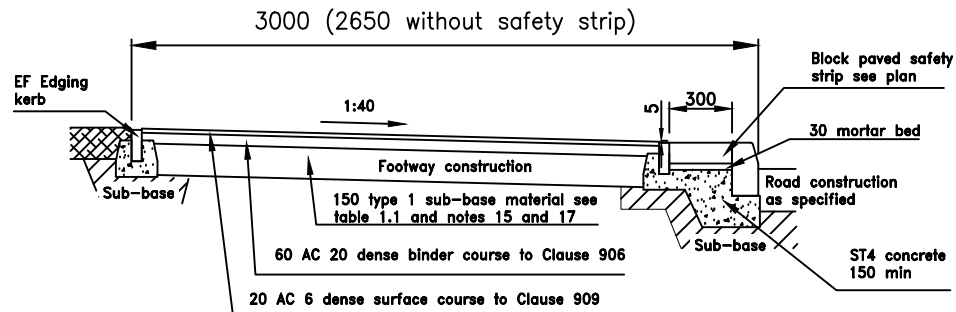
FOOTWAYS AND VEHICULAR CROSSOVERS

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Drawing No.

SD/1100/5



PLAN
 SHARED UNSEGREGATED FOOTWAY/CYCLEWAY
 WITH SAFETY STRIP SHOWING TERMINATION POINT

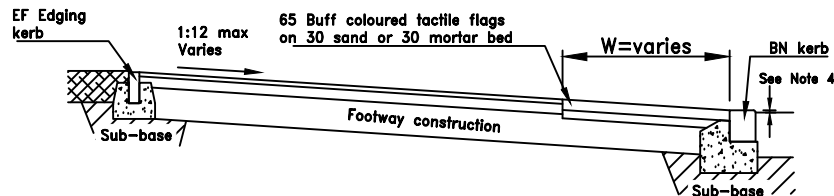


SECTION A - A

Sub Base depth	225	150	150
Subgrade CBR *	≤ 2%	≤ 5%	> 5%

Table 1.1

* It may be necessary to stabilise the Subgrade or replace with granular Capping if CBR < 2%.



SECTION B - B
 CROSSING POINT

NOTES

- All dimensions are in millimetres
- For details of segregated cycleway layout see cycling in Berkshire.
- For signal controlled Crossing points see SD/1100/8
- Minimum 3 full size Bullnosed kerbs shall be used at cycleway crossing point.
- Crossing points shall be constructed as shown on Section B-B. Kerb face at cycleway crossing shall be 0 to +6.
- Asphaltic Concrete shall comply with BS 594987, Sub-base shall be Clause 803 or 806. Asphalt planings to the approval of the Overseeing Organisation may be used.
- Kerbing details are shown on drawings SD/1100/1, 1100/2, 1100/3, 1100/4.
- Footway details are shown on drawings SD/1100/5.
- Block paviors and flags see SD/1100/8.
- Traffic Islands see SD/1100/9.
- Traffic sign erection see SD/1200/1.
- Height to under edge of signs on cycleways shall be 2.4m.
- Half size 'Give Way' markings shall be laid at uncontrolled crossings.
- The laying arrangements shown for tactile slabs are indicative only and shall be in accordance with the 'Guidance on the Use of Tactile Paving Surfaces' DETR. Tactile slabs shall be laid 1200 deep when laid to crossings in direct line of pedestrian travel otherwise they shall be laid 800 deep.
- An additional 150 Type 1 Sub-base material shall be laid to footway or cycleway when laid on embankment.
- Manholes and other covers within tactile areas shall be heavy duty recessed trays.
- All soft spots and organic material shall be removed before construction.



Highways and Transport
 Council Offices
 Market Street
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Project

Drawing title

STANDARD DRAWINGS

CYCLEWAYS AND SHARED FACILITIES
 Footway Construction

Drawn

AB

Date

TBC

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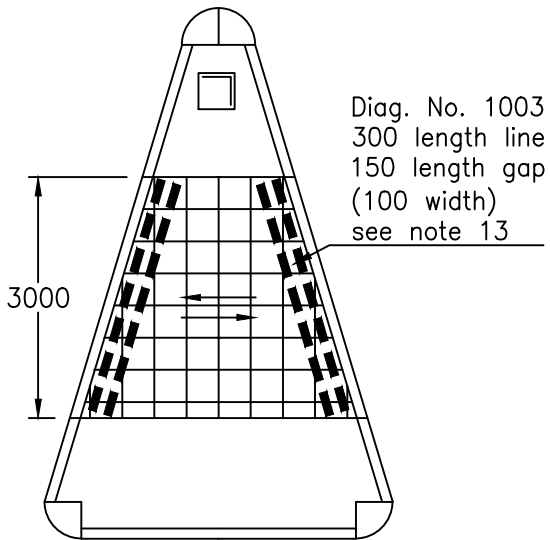
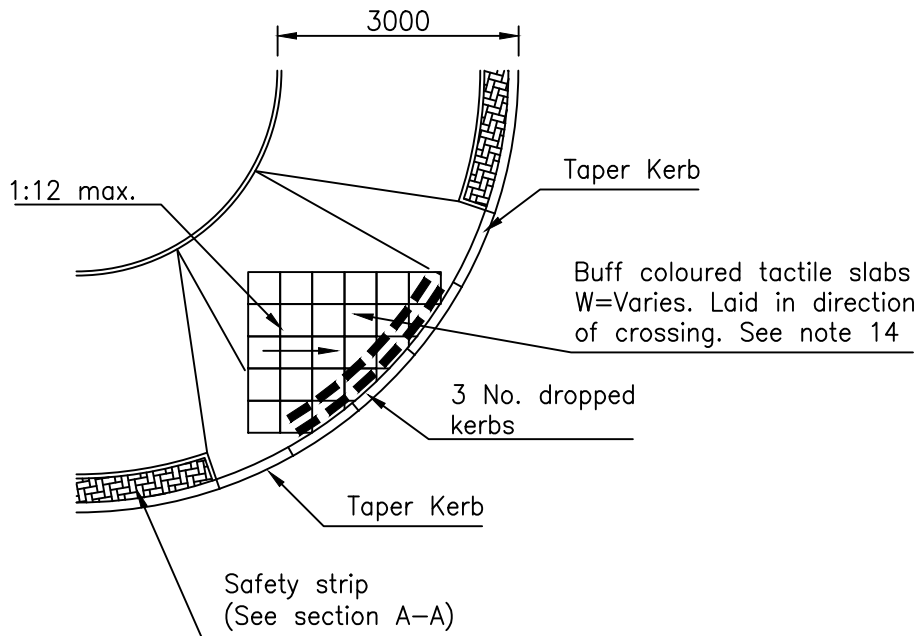
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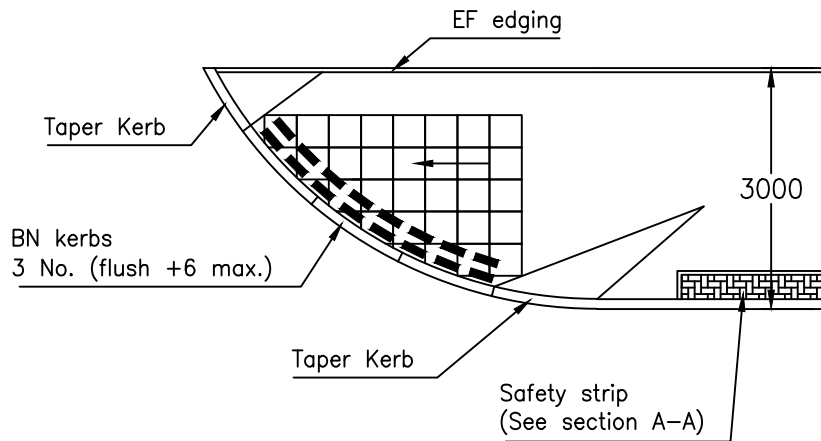
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Drawing No.

SD/1100/6



TRAFFIC ISLAND
(see SD/1100/9)



PLAN
KERBED ACCESSWAY

NOTES

1. All dimensions are in millimetres
2. For details of segregated cycleway layout see cycling in Berkshire.
3. For signal controlled Crossing points see SD/1100/8
4. Minimum 3 full size Bullnosed kerbs shall be used at cycleway crossing point.
5. Crossing points shall be constructed as shown on Section B-B. Kerb face at cycleway crossing shall be 0 to +6.
6. Asphaltic Concrete shall comply with BS 594987, Sub-base shall be Clause 803 or 806. Asphalt planings to the approval of the Overseeing Organisation may be used.
7. Kerbing details are shown on drawings SD/1100/1, 1100/2, 1100/3, 1100/4.
8. Footway details are shown on drawings SD/1100/5.
9. Block paviors and flags see SD/1100/8.
10. Traffic Islands see SD/1100/9.
11. Traffic sign erection see SD/1200/1.
12. Height to under edge of signs on cycleways shall be 2.4m.
13. Half size 'Give Way' markings shall be laid at uncontrolled crossings.
14. The laying arrangements shown for tactile slabs are indicative only and shall be in accordance with the 'Guidance on the Use of Tactile Paving Surfaces' DETR. Tactile slabs shall be laid 1200 deep when laid to crossings in direct line of pedestrian travel otherwise they shall be laid 800 deep.
15. An additional 150 Type 1 Sub-base material shall be laid to footway or cycleway when laid on embankment.
16. Manholes and other covers within tactile areas shall be heavy duty recessed trays.
17. All soft spots and organic material shall be removed before construction.



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STANDARD DRAWINGS

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AB

Date

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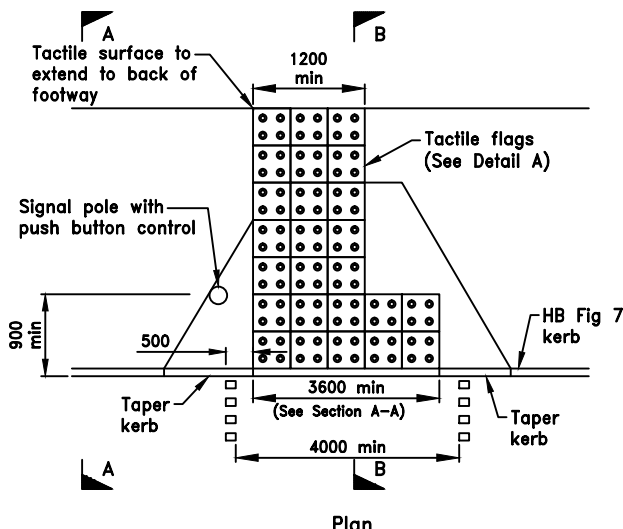
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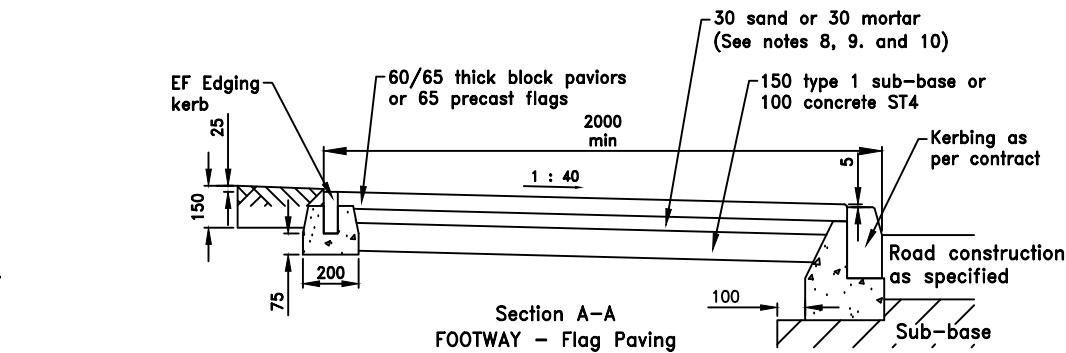
CYCLEWAYS AND SHARED FACILITIES
Tactile Blister Paving

Drawing No.

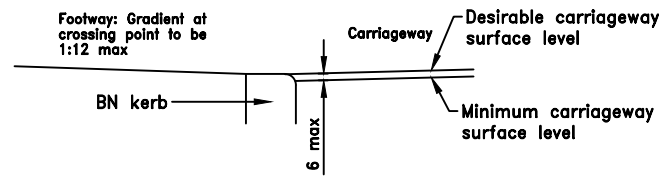
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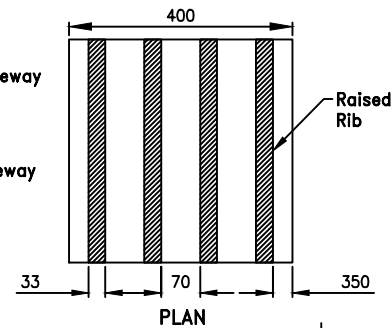
Plan
TACTILE FOOTWAY SURFACE
(See Notes 15, 16 and 17)



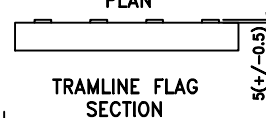
Section A-A
FOOTWAY - Flag Paving



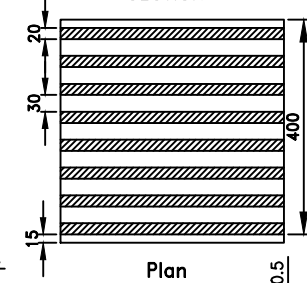
SECTION B-B
SECTION THROUGH CROSSING
POINT AT KERB



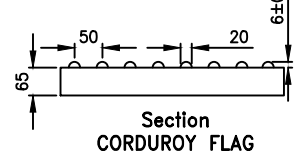
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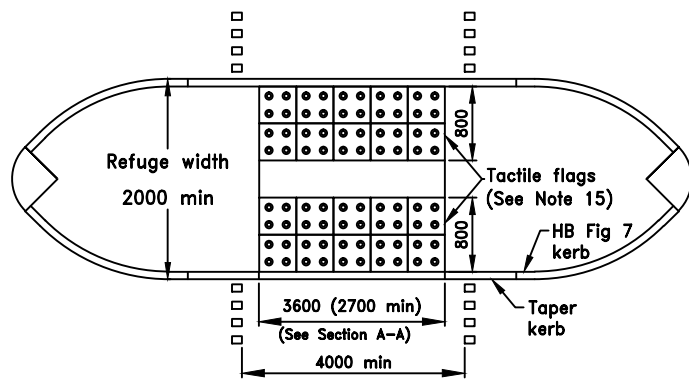
TRAMLINE FLAG
SECTION



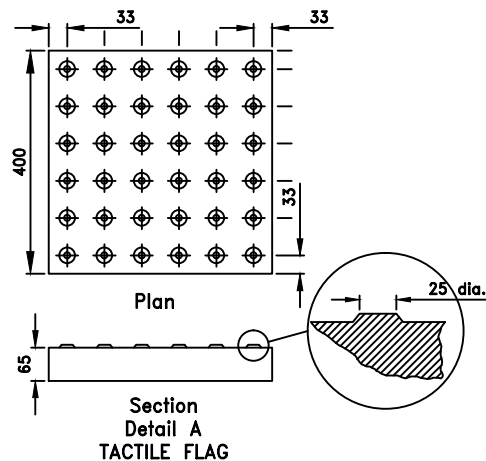
PLAN



Section
CORDUROY FLAG



Plan
PEDESTRIAN REFUGE
Tactile Flag Arrangement



Section
Detail A
TACTILE FLAG

NOTES

- All dimensions are in millimetres.
- This drawing shall be read in conjunction with SD/1100/5.
- Block paving shall comply with BS 7533, BS 6717 and BS 6677.
- Clay paviors shall not be permitted.
- Precast concrete flags shall be 400 x 400 and shall comply with BS EN 1339:2003.
- 60 or 65 thick blocks shall only be used in area not subjected to vehicular traffic elsewhere the blocks shall be 80 thick.
- Block paviors shall be laid in square herringbone pattern for footways and 45° herringbone pattern in areas subjected to vehicular traffic.
- Blocks shall normally be bedded on 30 sharp sand complying with BS 7533:3 Table D2 Category 1A.
- In areas where the blocks may be trafficked, or narrow strips of paving are used as a feature, the sand shall be substituted by 30 mortar to designation (ii) or (iii) laid on 150mm ST4 concrete.
- Flags shall be bedded on 30 mortar to designation (ii) or (iii).
- All mortar pointing shall be colour matched to the blocks or flags.
- Manholes and other covers within tactile paving areas shall be heavy duty recessed trays.
- Sanded joints shall be sealed down with a stabilising compound.
- Red tactile paving flags shall be laid at all controlled pedestrian crossing points.
- The laying arrangement shown of tactile slabs are indicative only and shall be in accordance with 'Guidance on the use of Tactile Paving Surfacing DETR. When the dropped kerb is in direct line of travel the tactiles surface shall be laid to a depth of 1200mm
- The siting of the signal poles shall be the responsibility of the signal engineer.
- Crossing kerbs shall be flush with the carriageway where tactile flags are used. Elsewhere footway crossings shall be as shown on SD/1100/5.
- Care shall be taken to ensure adequate drainage when the crossing kerb is flush with the carriageway.
- Tactile paving shall be 65 thickness.



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Market Street
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Project

STANDARD DRAWINGS

Drawing title

CONCRETE PAVERS AND FLAGS
FOR SIGNAL CONTROLLED CROSSING POINTS

Drawn

M.G

Date

AUGUST 2015

Checked

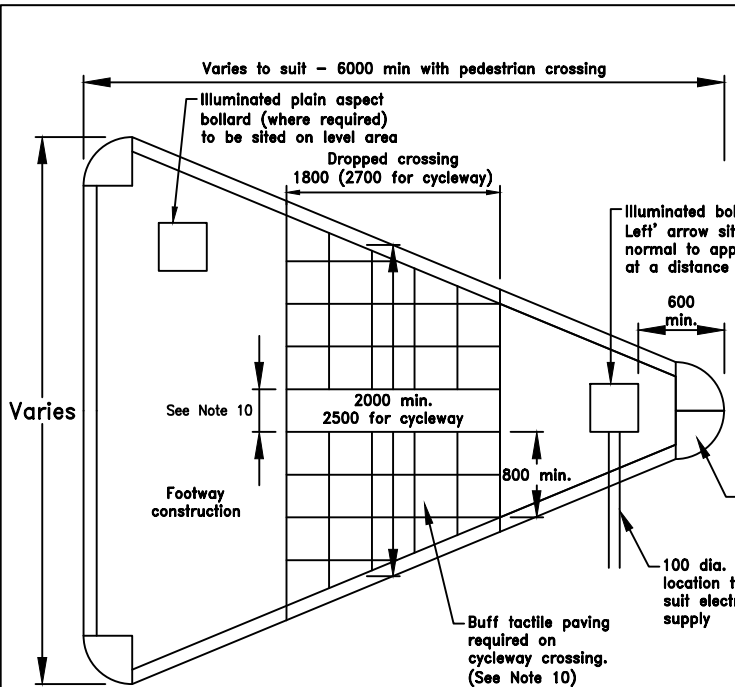
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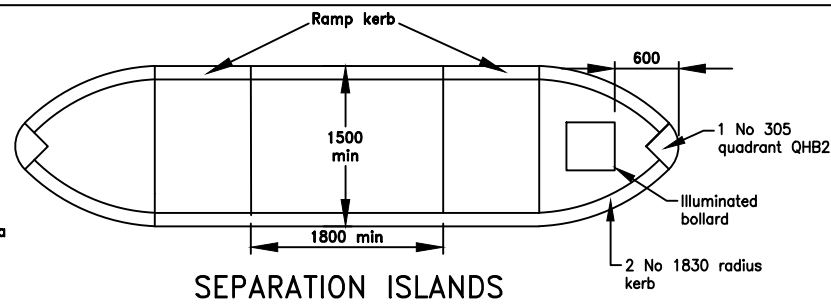
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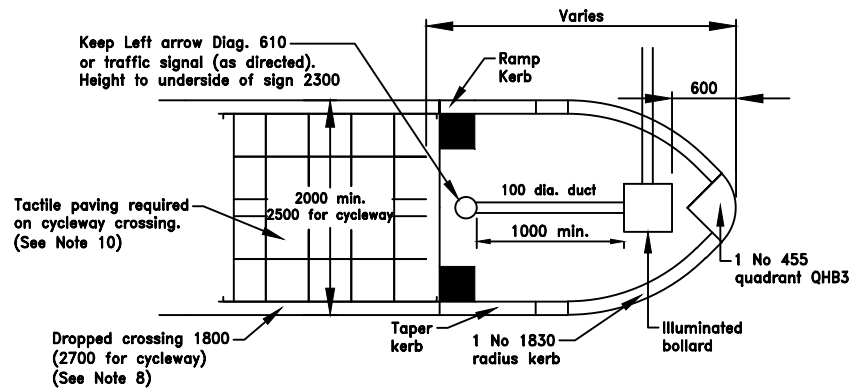
SD/1100/8



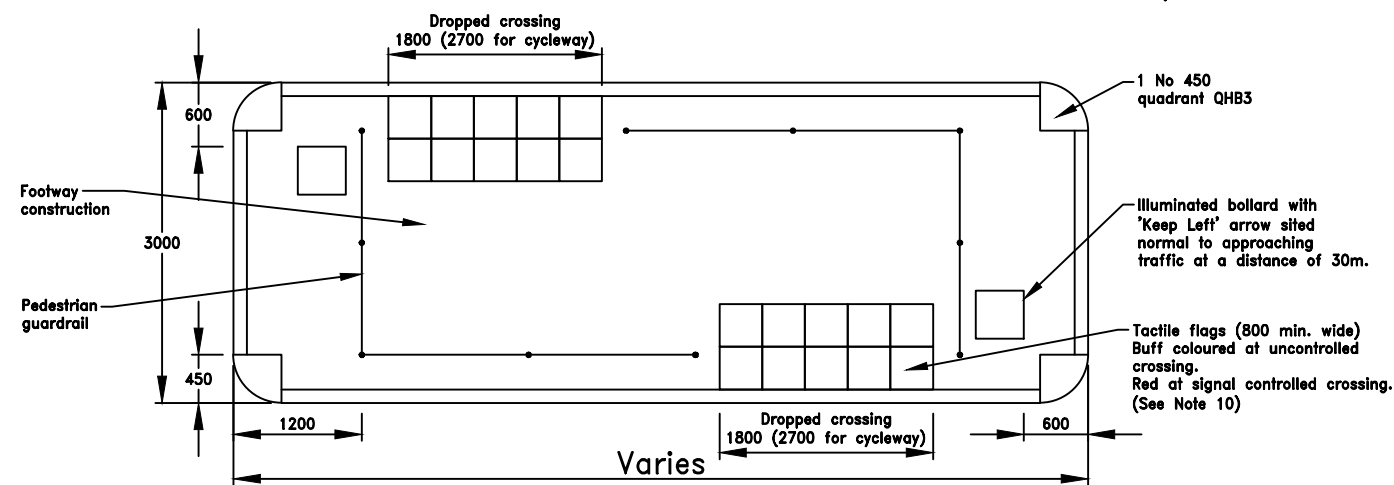
JUNCTION ISLAND



SEPARATION ISLANDS



PEDESTRIAN/CYCLIST REFUGE



REFUGE WITH PEDESTRIAN GUARDRAILING

- Notes
- All dimensions are in millimetres.
 - This drawing shall be read in conjunction with SD/1100/1, 1100/2, 1100/3, 1100/4, 1100/5 and 1100/6.
 - All island design and positioning shall be to the approved by the Overseeing Organisation.
 - Minimum island widths: (pedestrian flows not significant)

Separation island	1500
Pedestrian refuge	2000
Cycleway refuge	2500
 - Separation islands and pedestrian refuges may be one island or two separate identical islands minimum dimensions shall be as shown.
 - Pedestrian refuge area 2000 square min. This dimension shall be increased to 2500 for busy sites and cycleway crossings.
 - All islands shall be of flexible footway construction unless otherwise specified.
 - Taper kerbs shall be used at all changes in kerb face.
 - A dropped crossing shall be provided in footways and cycleways opposite the islands.
 - Tactile surfaces are indicative only and shall be laid in accordance with Guidance on the use of Tactile Paving Surfaces to be laid at cycleway crossing points and elsewhere as directed by the overseeing organisation
 - Uncontrolled crossings – buff slabs.
 - Controlled crossings – red slabs.
 Where the gap between the two areas of slabs is less than 500 the slabs shall be laid from kerb to kerb.
 - Where guardrails are required the refuge shall be a single island of width 3000 minimum.
 - Guardrails shall be set back 450 from edge of carriageway and 1200 from the noses of islands.
 - Openings in the guardrails on islands shall be offset.
 - A 'Keep Left' bollard shall be installed facing on coming traffic on each island.
 - An externally illuminated high level 'Keep Left' arrow Diag. 610 may be required in addition to bollards.
 - All electrical equipment shall be to the approval of the Overseeing Organisation.
 - Manholes and other covers within tactile areas shall be heavy duty recessed trays.
 - Illuminated bollards shall be replaced by non illuminated types as directed by the Overseeing Organisation.

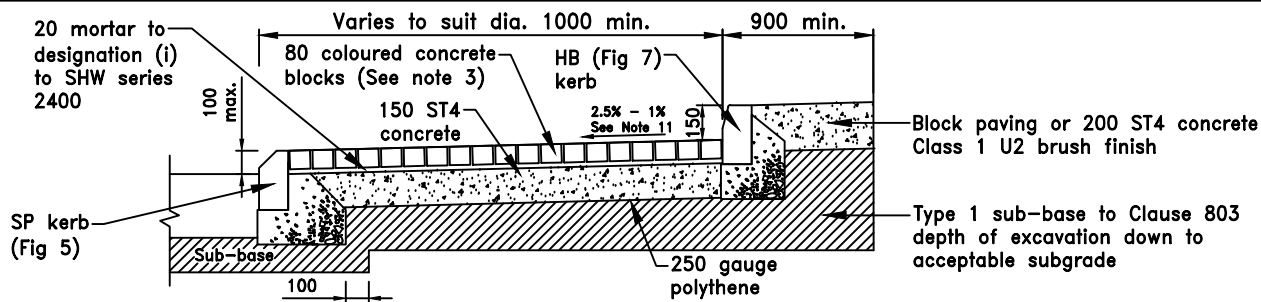


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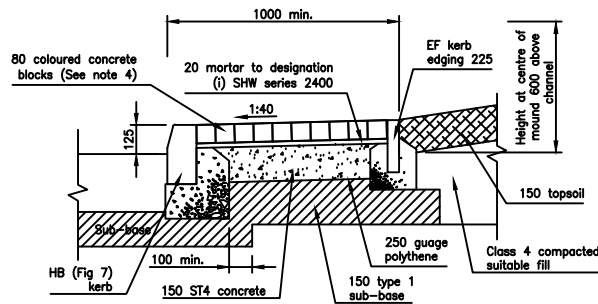
Project
STANDARD DRAWINGS
Drawing title

TRAFFIC ISLANDS

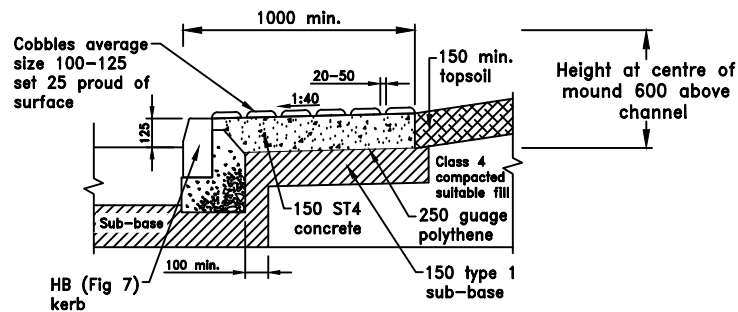
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Drawing No.	SD/1100/9		



OVER-RUNNABLE STRIP FOR ISLANDS IN SMALL ROUNDABOUTS
FIG 1



BLOCK PAVED EDGE STRIP
FIG 2



COBBLED EDGE STRIP
FIG 3

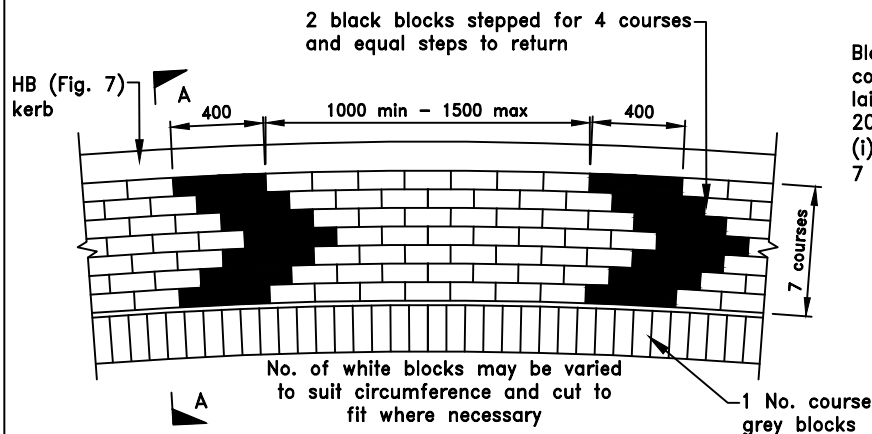


FIG 4a PLAN

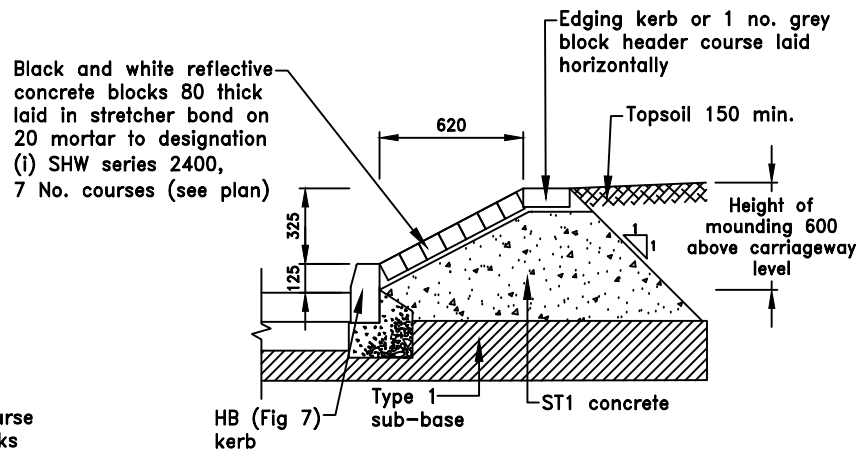


FIG 4b SECTION A-A

Notes

1. All dimensions are in millimetres.
2. This drawing shall be read in conjunction with Drg No SD/1100/1 and 1100/2.
3. All concrete blocks shall comply with BS EN 1338:2003.
4. The colour of concrete blocks shall be approved by the Overseeing Organisation. Red colour preferred for edge strips.
5. Block paving shall be laid in stretcher bond.
6. Width of paved edge strip may be increased to suit other design considerations.
7. Concrete pavements shall be constructed in 5000 bays with flexcell joints.
8. Topsoil shall be seeded in accordance with the Specification.
9. Island design shall be approved by the Overseeing Organisation.
10. Chevron paving shall only be used with the approval of the Overseeing Organisation.
11. Gradients shall be suitable for the design.



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Drawing title

STANDARD DRAWINGS

ROUNDABOUT CENTRAL ISLAND HARD LANDSCAPING

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Date

M.G

AUGUST 2015

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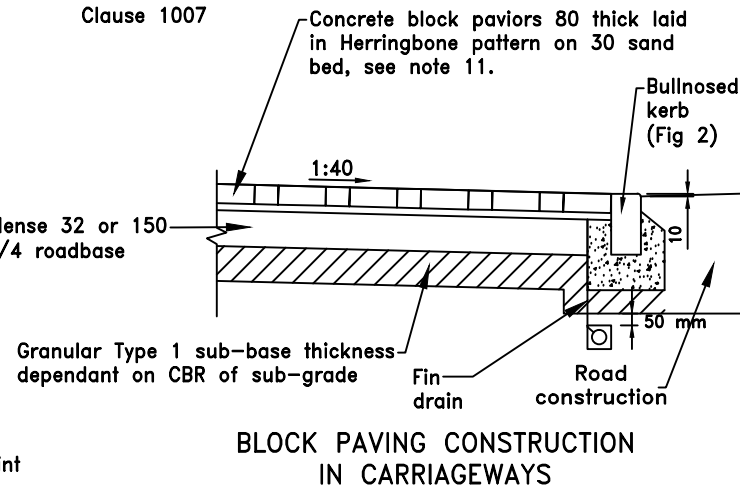
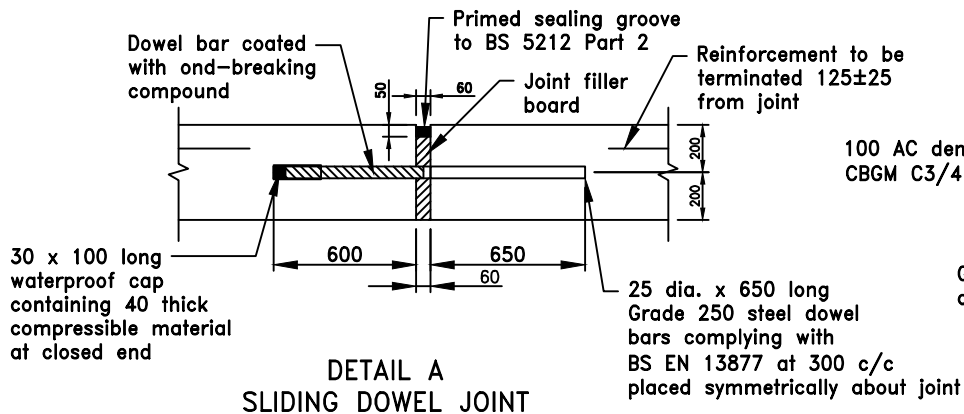
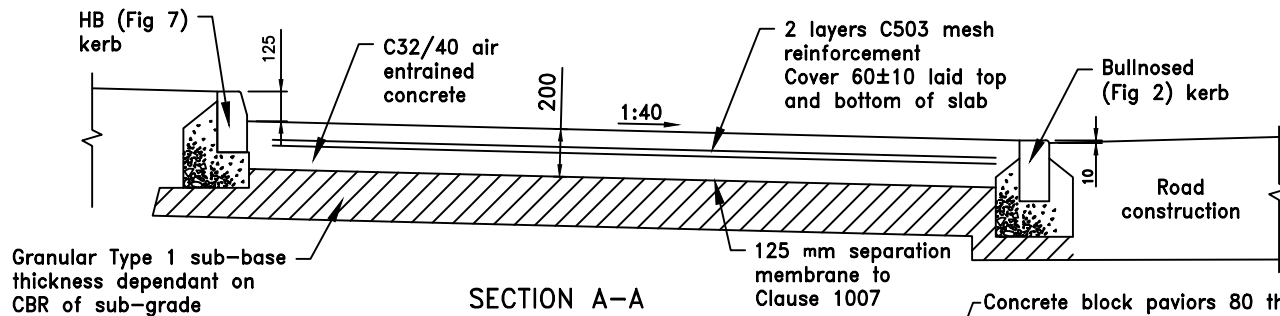
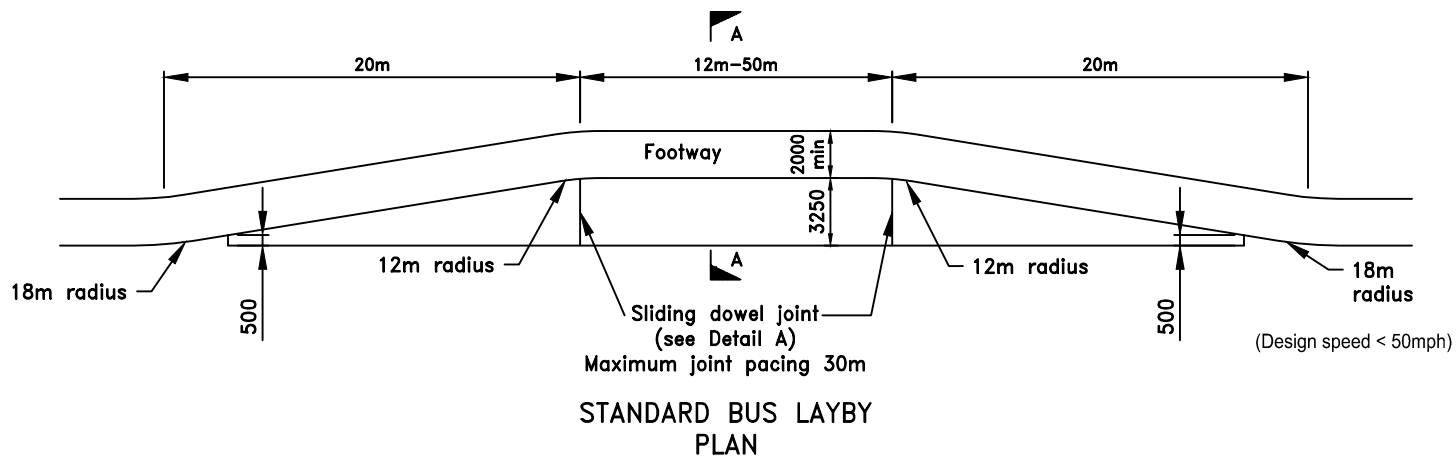
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Drawing No.

SD/1100/10



Notes

- All dimensions are in millimetres unless otherwise stated.
- Concrete shall be to BS EN 8500.
- Surface treatment of concrete layby shall be brush finished.
- Exposed surfaces of concrete pavement shall be cured immediately after surface treatment.
- Steel fabric reinforcement shall be to Clause 1008 and BS 4483. Main bars shall be placed laterally on top.
- Dowel bars to clause 1011(SHW) shall be placed at 300 centres. No bars shall be placed within 150 of slab edge.
- Maximum spacing of sliding dowel joints shall be 20m.
- Hot-applied joint sealant shall comply with clause 1016 and 1017 of SHW.
- The sealant shall be applied in accordance with the manufacturers recommendations.
- 80 thick concrete block paving shall be used as an alternative to reinforced concrete, see detail.
- Block paving shall comply with BS EN 1338:2003.
- Formation drainage shall be installed where necessary. Fin drains shall be in accordance with Highway Construction Details F18 and F19.
- For kerb details see SD/1100/1 and 1100/2.
- For footway details see SD/1100/5 and 1100/6.
- Shelters shall be sited to cause minimum restriction to the footway.
- Bus laybys on high speed roads shall be designed in accordance with TD69/07 DMRB 6.3.3.



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Project

STANDARD DRAWINGS

Drawing title

LAYBY CONCRETE CONSTRUCTION

Drawn

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Date

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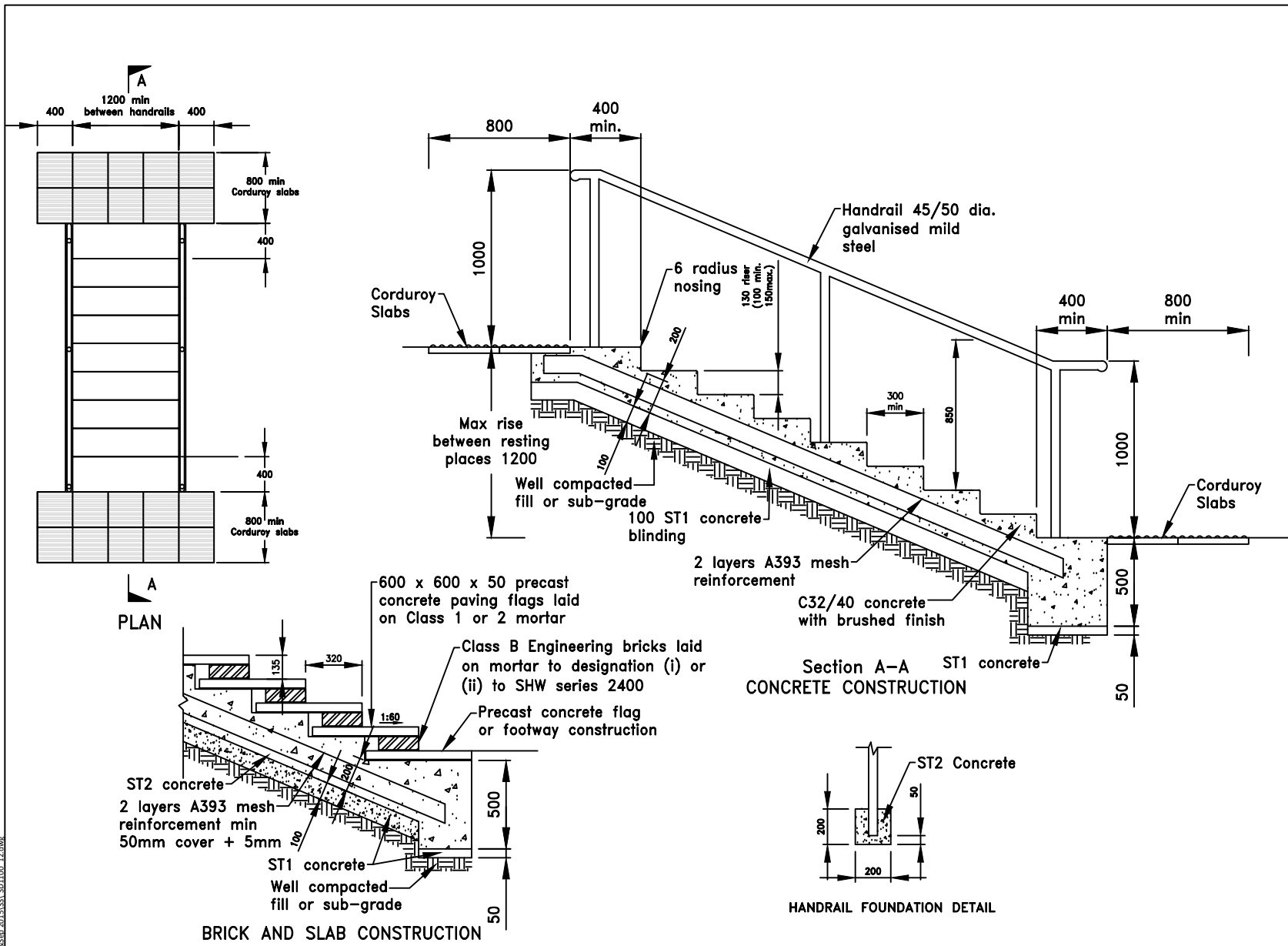
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Drawing No.

SD/1100/11



- Notes
- All dimensions in millimetres.
 - Tactile paving is indicative only and reference shall be made to Guidance on the Use of Tactile Paving Surfaces published by DETR.
 - Steps shall not be permitted in footways alongside carriageways.
 - Where steps are necessary provision shall be made for a complimentary ramp.
 - Width of steps shall be 2000 or 1200 min in restricted areas.
 - There shall be a minimum of 3 steps in a flight.
 - Level resting places shall be provided at intervals every 12 steps in flights of steps.
 - Resting places to stairs shall be 1800 long (1200 min) and resting places to ramps shall be 1200 long (1500 min).
 - Treads of steps shall have a non-slip finish.
 - Noses of treads shall be finished with a colour contrasting non-slip strip.
 - Handrails shall be provided on both sides of steps and ramps.
 - Handrails shall be fixed to adjacent walls with 50 clearance.
 - Handrails shall be finished with a solid end piece.
 - Handrails shall be fixed according to the manufacturers instructions.
 - Subgrade type and load bearing shall be to the approval of the Overseeing Organisation.
 - For footway construction see SD/1100/5 and 1100/6.

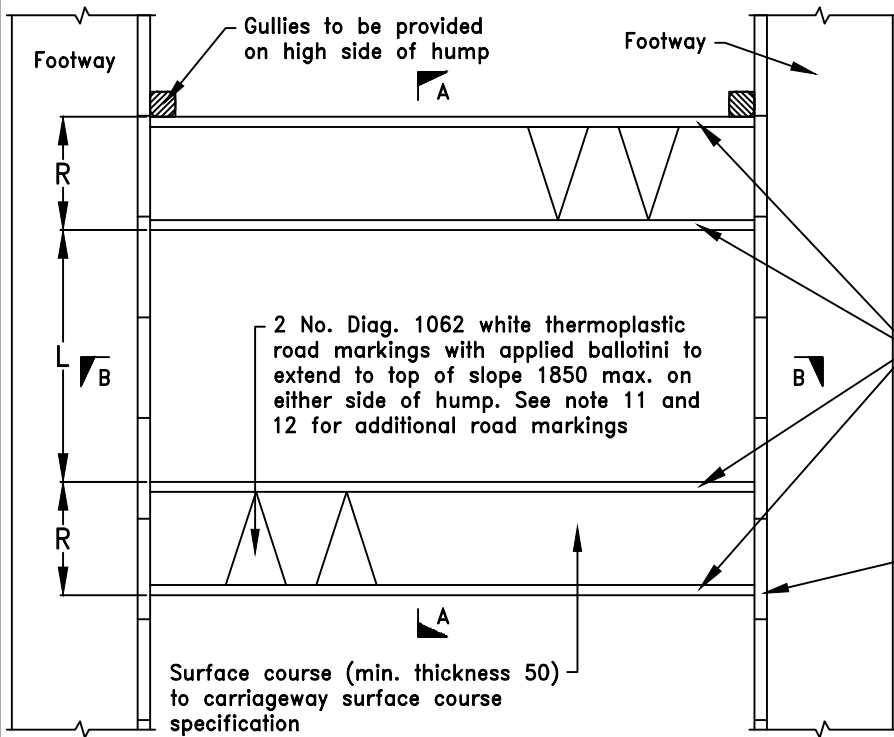
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Project	STANDARD DRAWINGS	
Drawing title	STEPS (Remote from the carriageway)	

Drawn	J.F	Date	AUGUST 2015
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Drawing No.	SD/1100/12		

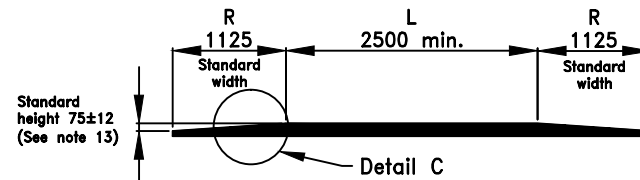


PLAN

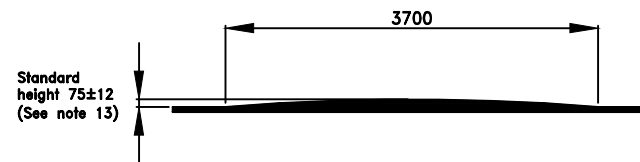
Carriageway width (varies)

Kerb height normally 20mm and shall be laid in accordance with SD/1100/3

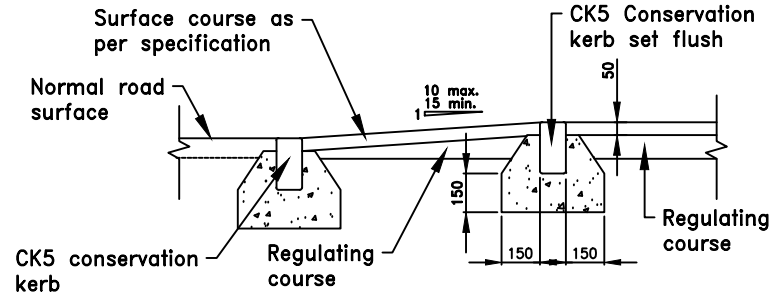
SECTION B-B



SECTION A-A



ROUND TOPPED HUMP
Alternative Section A-A



DETAIL 'C'

Notes

1. All dimensions are in millimetres
2. Position of humps shall comply with the Highways (Road Humps) Regulations 1999.
3. Position of humps and gullies shall be approved by the Overseeing Organisation prior to construction.
4. Length of hump shall be determined by the overall road layout and bus traffic.
5. Minimum length of round top hump shall be 3700.
6. Minimum length of plateau of flat topped hump 'L' shall be 2500.
7. On bus routes 'L' shall be 6000 min.
8. Where humps are installed at pedestrian crossing points 'L' shall be 3000 min.
9. For kerb detail see SD/1100/1, 2, 3 and 4 and for footway details see SD/1100/5 and 6.
10. Gullies shall be installed where hump impedes the flow in the channel.
11. Continuous edge of carriageway lines 100 wide shall be required on both sides of the carriageway and shall extend for 6000 either side of hump where required
12. Centre line markings shall be to Diag. 1004, 6000 module, 150 wide and the 4000 mark shall be centred over hump.
13. Height of ramp shall be approved by the Overseeing Organisation. Heights between 50 and 75 according to situation. On bus routes the height shall be 50.
14. Additional information on road humps: Traffic Advisory leaflet 2/96, 7/96 and 1/98.
15. Additional road signs shall be erected in advance of road humps. See Traffic Signs Regulations and General Directions 2002.



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STANDARD DRAWINGS

Drawing title

ROAD HUMP
Flexible Construction

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Date

AUGUST 2015

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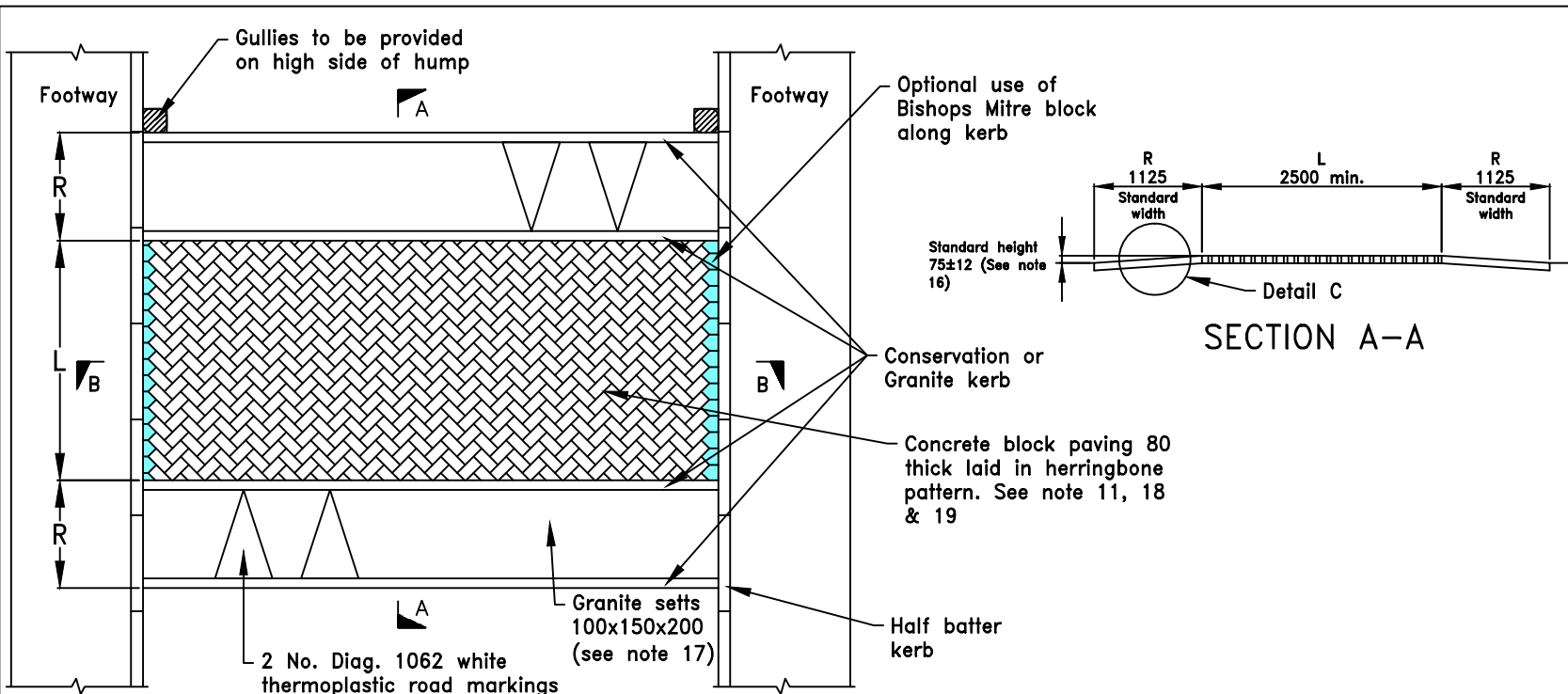
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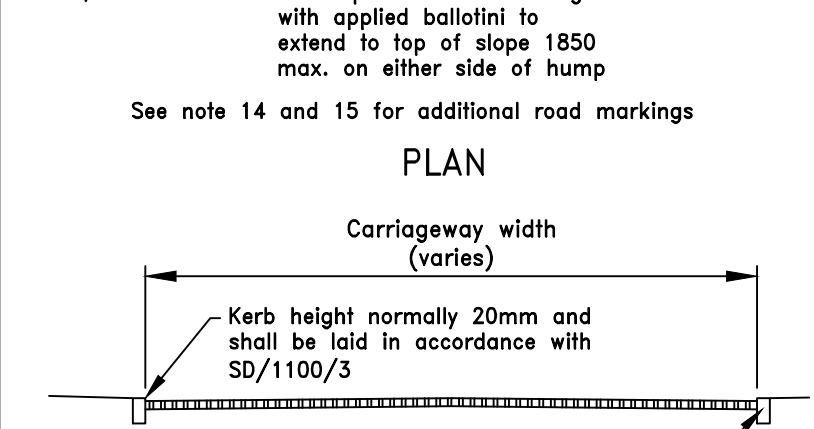
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SD/1100/13

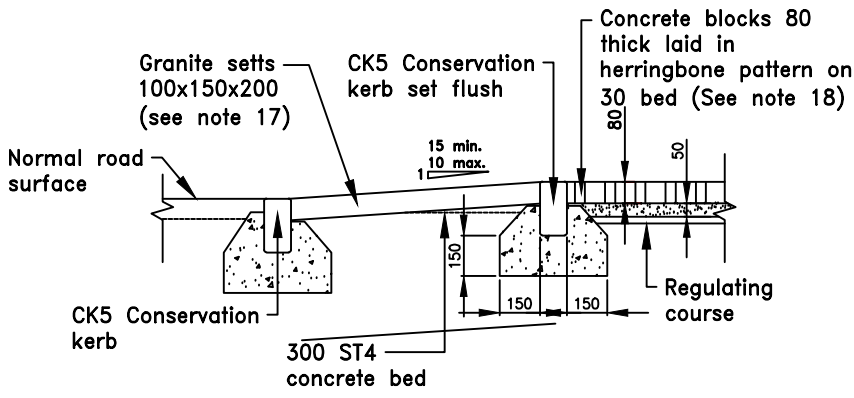


SECTION A-A



PLAN

SECTION B-B



DETAIL 'C'

- Notes
- All dimensions are in millimetres
 - Position of humps shall comply with the Highways (Road Humps) Regulations 1999.
 - Position of humps and gullies shall be approved by the Overseeing Organisation prior to construction.
 - Length of hump shall be determined by the overall road layout and bus traffic.
 - Minimum length of plateau of flat topped hump 'L' shall be 2500.
 - On bus routes 'L' shall be 6000 min.
 - Where humps are installed at pedestrian crossing points 'L' shall be 3000 min.
 - For kerb details see SD/1100/1, 2, 3 and 4 and for footway details see SD/1100/5 and 6.
 - Gullies shall be installed where hump impedes the flow in the channel.
 - Block paving shall comply with BS EN 1338:2003.
 - Block paving shall be 80 thick laid in 45° herringbone pattern with Bishops Hat type edge blocks or similar approved and sealed with the manufacturers recommended sand.
 - Blocks shall be colour grey, buff, red or brindle.
 - The sanded joints shall be sealed with a stabilising compound.
 - Continuous edge of carriageway lines 100 wide are required on both sides of the carriageway and shall extend for 6000 either side of hump.
 - Centre line markings shall be to Diag. 1004, 6000 module, 150 wide and the 4000 mark shall be centred over hump.
 - Height of ramp shall be approved by the Overseeing Organisation. Heights between 50 and 75 according to situation. On bus routes the height shall be 50.
 - Granite setts shall be laid in mortar designation (i) with 100% sharp sand and 15mm joints, or in a rapid hardening cementitious material. Setts shall be to BS EN 1342 coarse textured, silver grey.
 - Sand bed to blocks shall be laid with adequate sub-surface drainage through lower bituminous layers.
 - Block Paving design shall comply with BS 7533:3 Table D2 category 1A.

STANDARD DRAWINGS

ROAD HUMP
Block Paving Construction

Drawn	J.F	Date	AUGUST 2015
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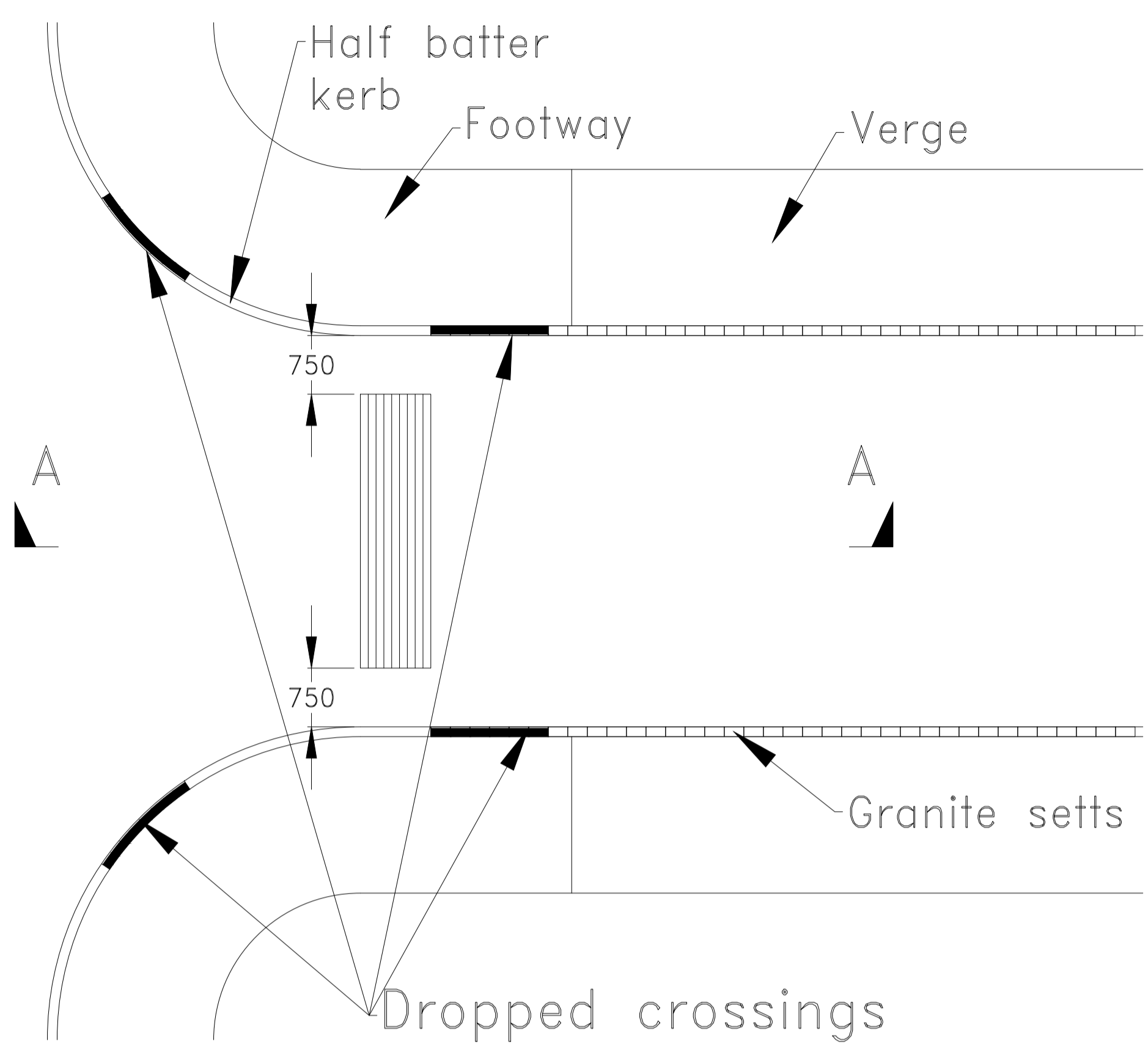
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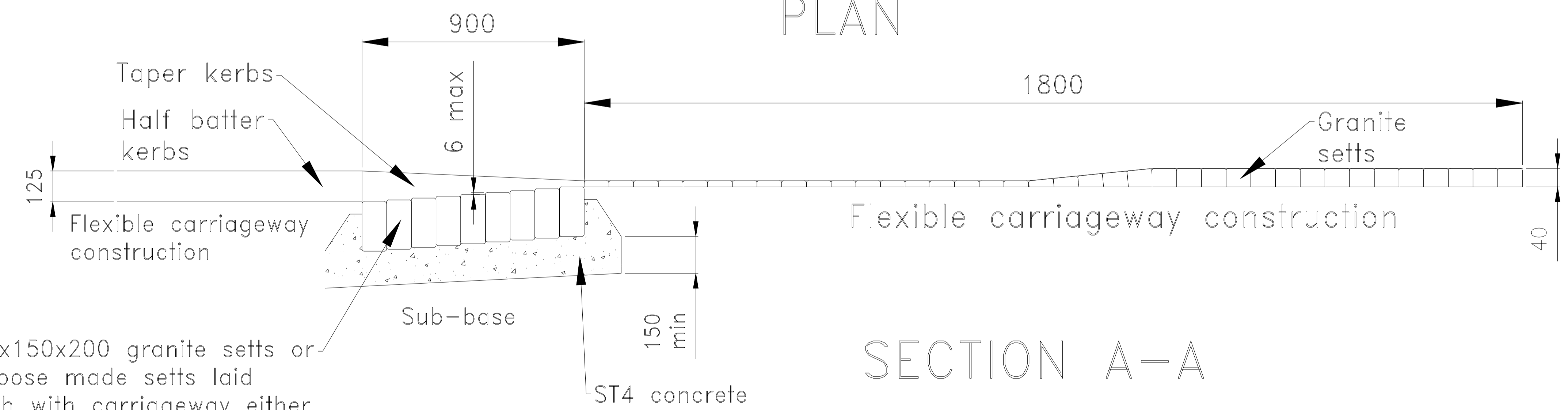
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RG14 5LD

Project

Drawing title



PLAN



SECTION A-A

100x150x200 granite setts or purpose made setts laid flush with carriageway either side of ramp

Notes

1. All dimensions are in millimetres.
2. Carriageway construction see drawings SD/900/1.
3. Kerb details see drawing SD/1100/1, 2, 3 and 4. Footway details see drawing SD/1100/5 and 6.
4. Gateway setts shall be laid level where there is no change in kerb height.
5. The gateway rumble strip shall terminate 750 min. from kerb on either side for the benefit of cyclists.
6. Granite setts shall be laid and pointed in mortar designation (i) see Table 24/1 Clause 2404 SHW with 100% sharp sand and 15mm joints or rapid hardening cementitious material.
7. Setts shall be to BS EN 1342 course textured, colour silver grey.



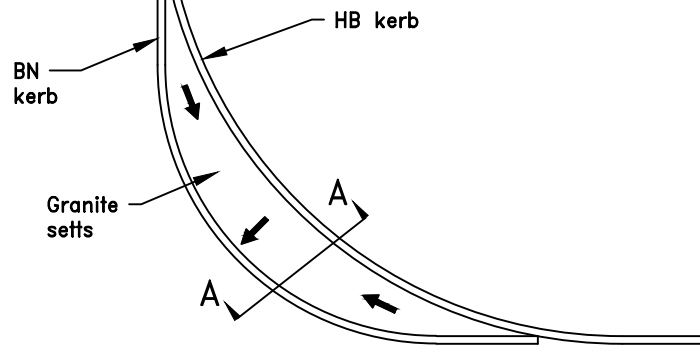
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STANDARD DRAWINGS

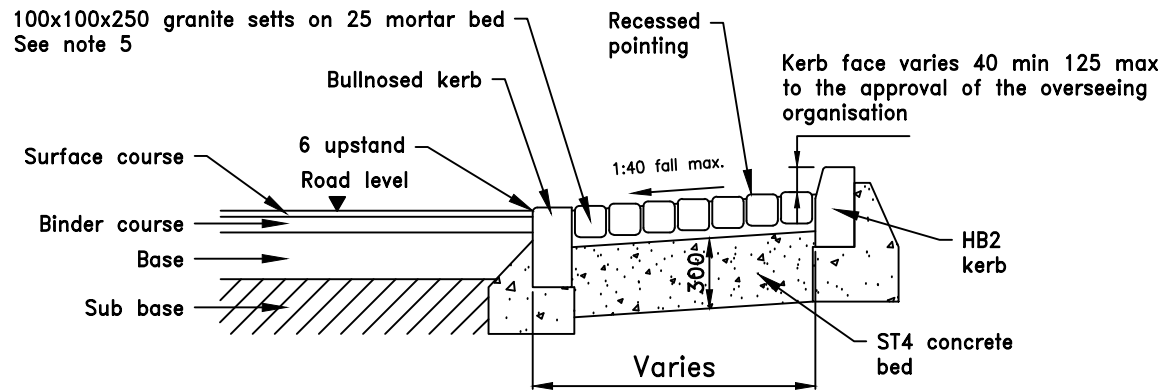
Drawing title
Gateway To Shared Access

Drawn J.F	Date AUGUST 2015
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Drawing No.
SD/1100/15



PLAN
Speed Control Bend Type A



TYPICAL SECTION A.A OF OVER-RUNNABLE AREA
FOR SPEED CONTROL BEND TYPE A

Notes

1. All dimensions are in millimetres
2. The layout of Estate roads shall have the approval of the Planning and Highway Authorities.
3. These construction details shall also be used at other speed control features included in the design guide.
4. For kerbing details see SD/1100/1, 2, 3 and 4 and for Road Construction details see SD/900/1 and SD/900/2.
5. Granite setts shall be laid and pointed in mortar designation (i) see Table 24/1 Clause 2404 SHW with 100% sharp sand and 15mm joints or set in rapid hardening cementitious material.
6. Setts shall be to BS EN 1342 course textured colour silver grey. Alternatively, 100X100X200 buff coloured Tegula concrete blocks may be used for speed control bend type A.



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STANDARD DRAWINGS

Drawing title

Speed Control Feature

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AB

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Drawing No.

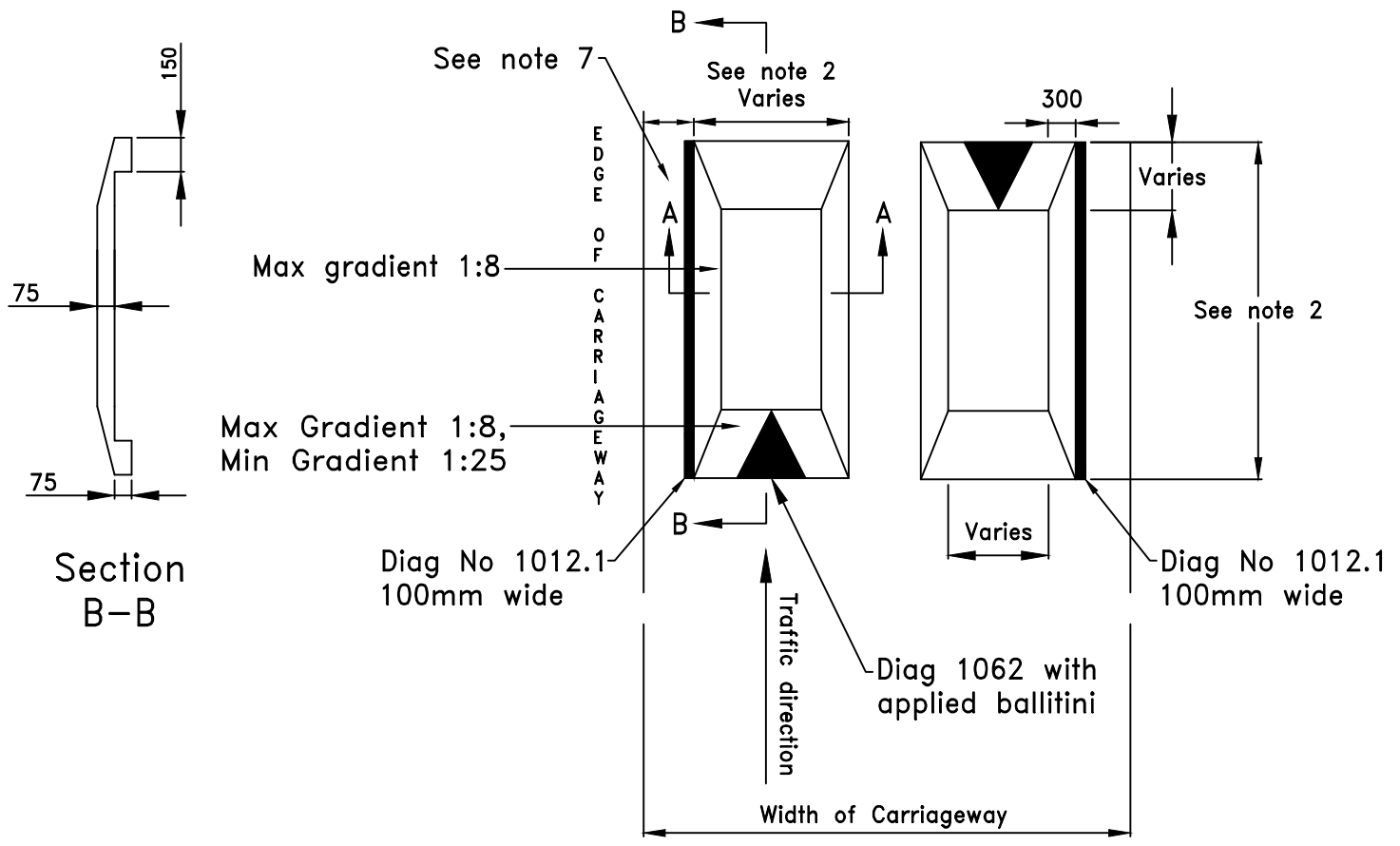
SD/1100/16

Notes

1. All dimensions are in millimetres.
2. The dimensions of road humps shall be to this specification and shall be approved by the Overseeing Organisation prior to construction.
3. Additional road signs shall be erected in advance of the road humps. See Traffic Signs Regulations and General Directions 2002.
4. Any centre hatching shall be optional as directed by Overseeing Organisation.
5. Cushions shall be constructed using: Surface Course HRA 35/14F surf 40/60 and Pre-Coated Chippings to BS EN 13108 and BS 594987. The minimum PSV, AAV shall be as stated in SD/900/1.
6. Speed cushions shall be constructed 75 high and a height tolerance of +5mm and -10mm.
7. The speed cushions shall be set out in relation to the centre of the carriageway. The channel width shall be equal on both sides and shall be dependant on carriageway width.

Sides not steeper than
1 in 4

Section
A-A



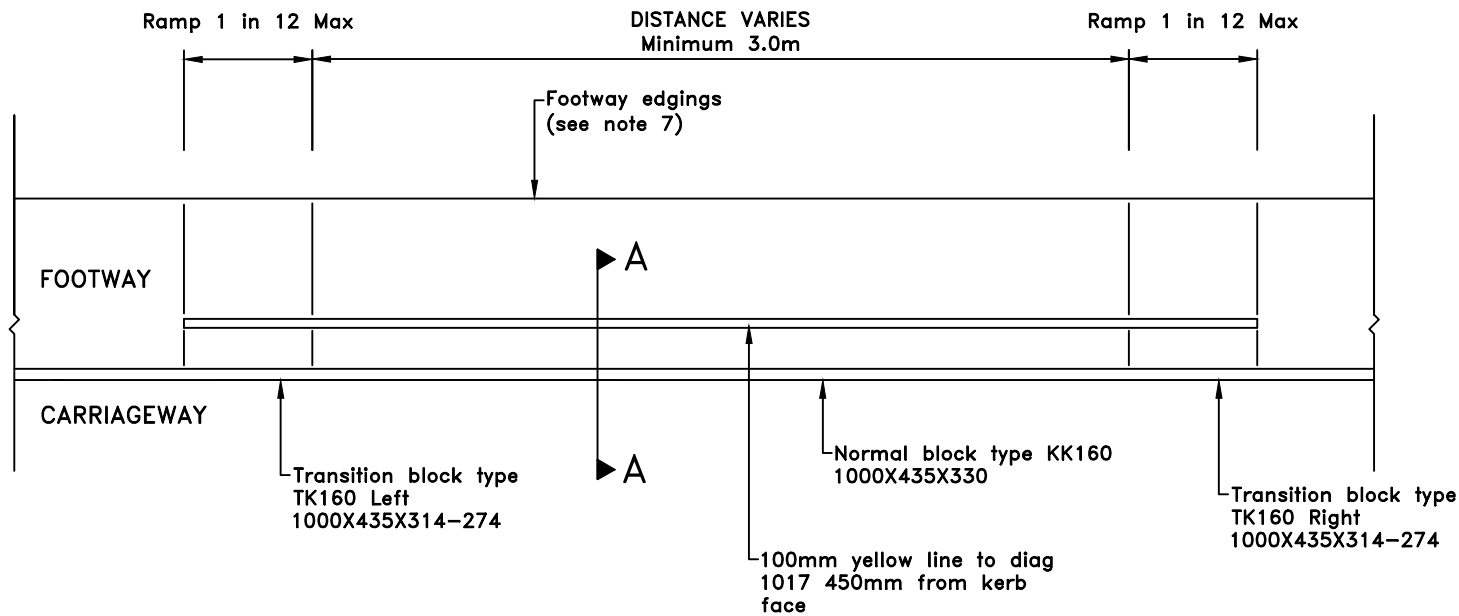
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Project
STANDARD DRAWINGS
Drawing title

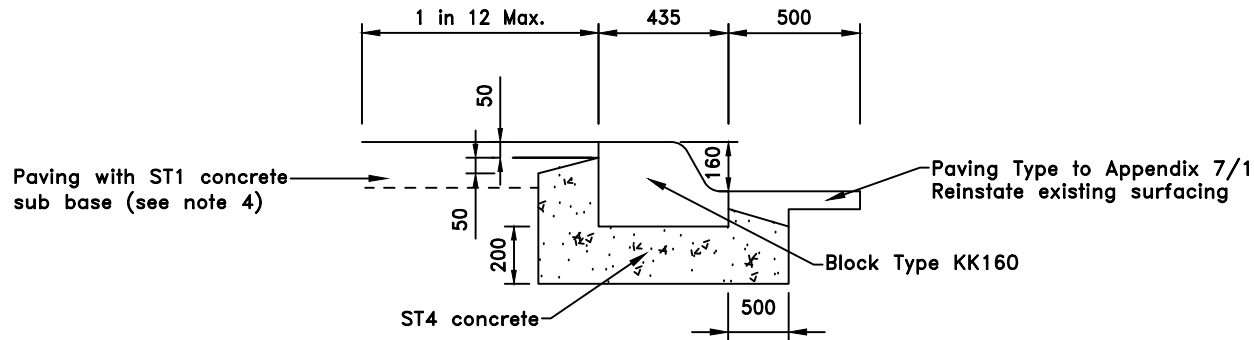
Speed Cushion Detail

Drawn	J.F	Date	AUGUST 2015
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Drawing No.
SD/1100/17



PLAN



SECTION A-A

NOTES

1. All dimensions are in millimetres unless otherwise stated
2. Profile kerbing for the bus boarder shall be KASSEL kerb or similar as approved by Overseeing Organisation.
3. Existing kerb/channels shall be removed for the length of the bus boarder and voids reinstated with ST2 concrete.
4. Paving shall be to standard detail drawing SD/1100/5 light duty footway to match existing paving.
5. Bus Boarder kerb types :
TK160 Right ramp,
TK160 Left ramp,
KK160 Full height kerbs.
6. Where the footway edging cannot be raised to provide a fall out to the road, suitable footway drainage shall be provided as directed by the Overseeing Organisation.
7. The length of the bus boarder shall be agreed with the Overseeing Organisation.



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STANDARD DRAWINGS

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BUS BOARDER TYPE 1

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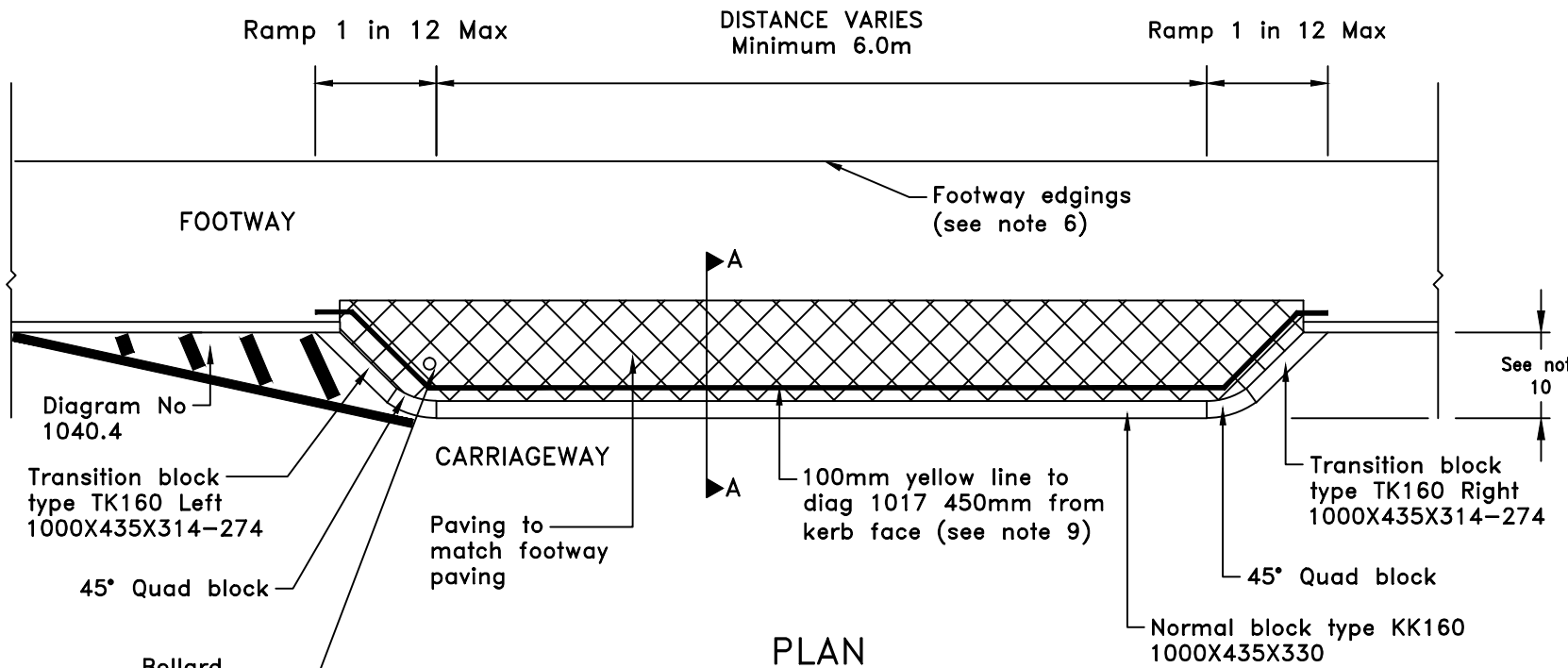
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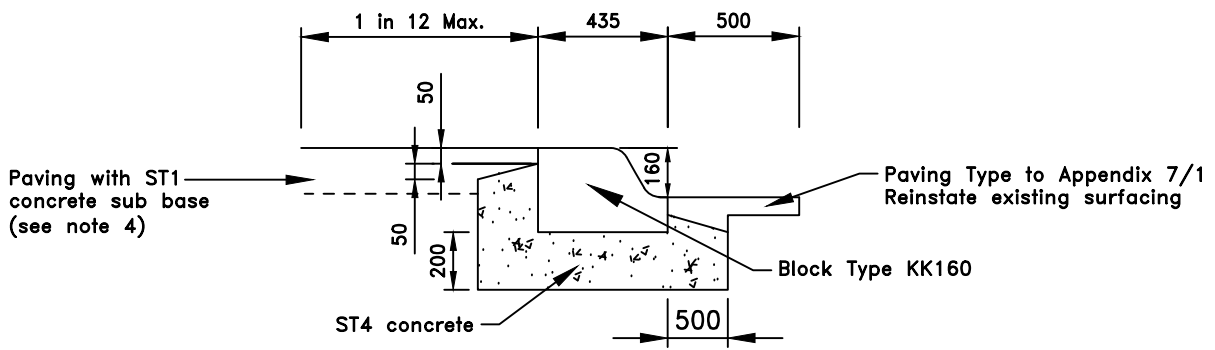
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Drawing No.

SD/1100/18



PLAN



SECTION A-A

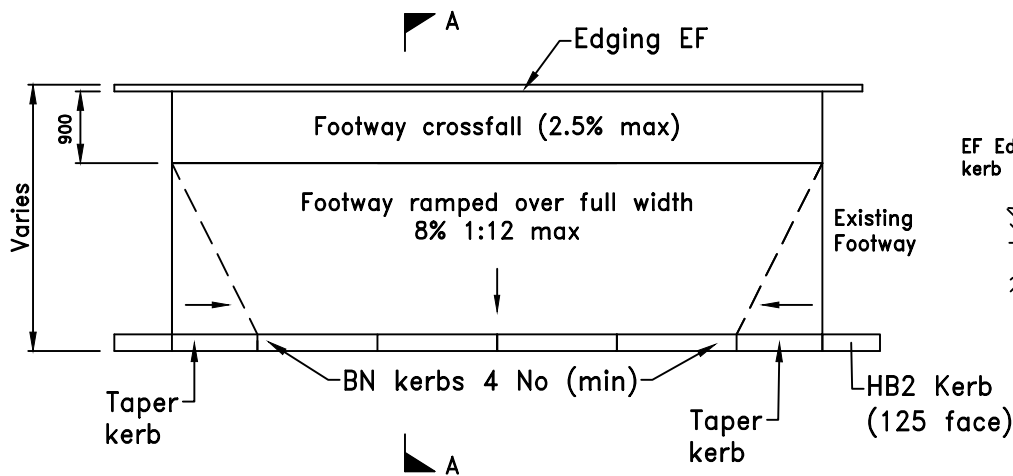
- NOTES**
- All dimensions are in millimetres unless otherwise stated
 - Profile kerbing for the bus boarder shall be KASSEL kerb or similar approved by the Overseeing Organisation.
 - Existing kerb/channels shall be removed for the length of the bus boarder and voids reinstated with ST2 concrete.
 - Paving shall be to standard detail drawing SD/1100/5 light duty footway to match existing paving.
 - Bus Boarder kerb types :
TK160 Right ramp,
TK160 Left ramp,
KK160 Full height kerbs.
 - Where the footway edging cannot be raised to provide a fall out to the road, suitable footway drainage shall be provided as directed by the Overseeing Organisation.
 - CSI, CK4 or GK4 channel shall be laid for the full length of the bus boarder where required by the Overseeing Organisation.
 - Bollard shall be type D to standard detail drawing SD/300/4.
 - Shall provide on carriageway bus stop road marking to diagram 1025.1 to Traffic Signs Manual as directed by Overseeing Organisation.
 - Generally 1000mm, distance shall be as directed by the Overseeing Organisation.
 - The length of the bus boarder shall be agreed with the Overseeing Organisation



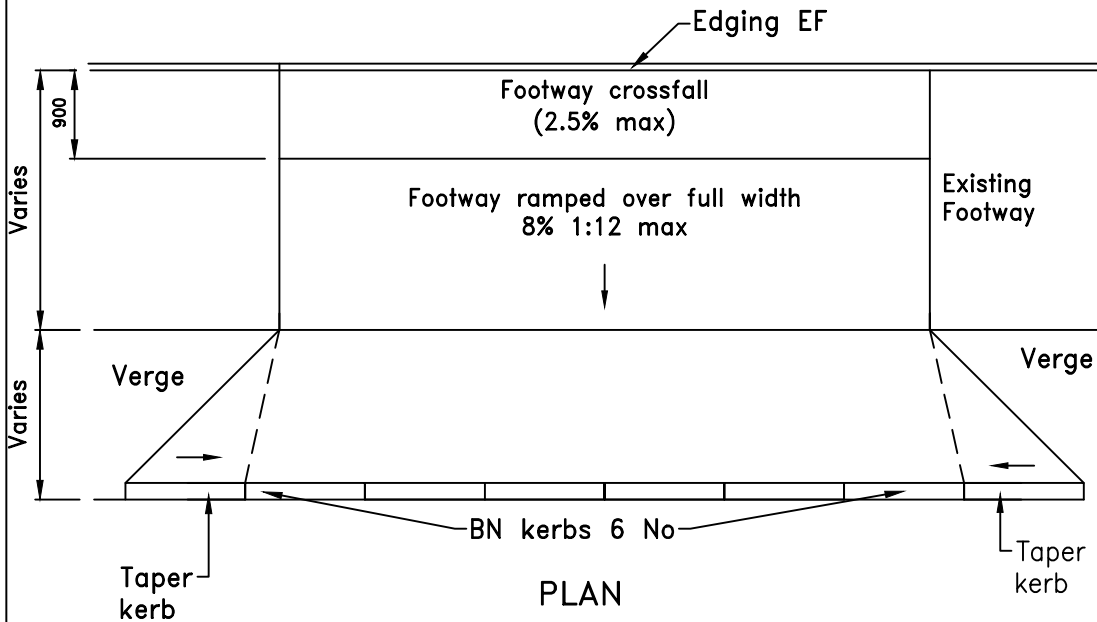
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Project	STANDARD DRAWINGS	
Drawing title	BUS BOARDER TYPE 2	

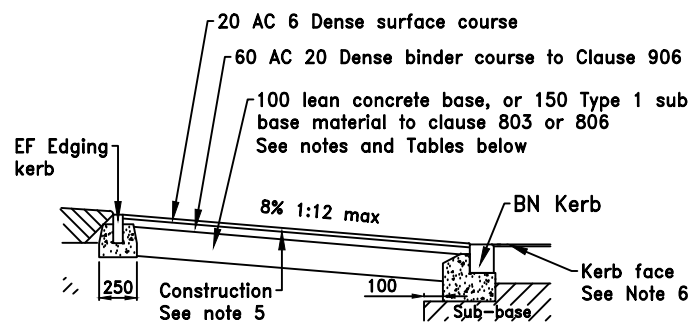
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Drawing No.	SD/1100/19		



PLAN
Vehicular Crossover without Verge



PLAN
Vehicular Crossover with Verge



Section A-A
Light Duty Vehicular Crossover

**LIGHT DUTY FOOTWAY/FOOTPATH
DOMESTIC VEHICULAR CROSSOVER**

20 AC 6 Dense surface course to Clause 909
60 AC 20 Dense binder course to Clause 906
Type 1 - sub base material to Clause 803
(See table 1.1 and note 10)

Table 1.1

Sub Base	225	150	150
Subgrade*	≤ 2%	≤ 5%	> 5%

**HEAVY DUTY FOOTWAY/CROSSOVER
AND HEAVY VEHICLE OVERUN**

25 AC 6 Dense surface course to Clause 909
90 AC 20 Dense binder course to Clause 906
Type 1 sub-base material to Clause 803
(See table 1.2 and note 10)

HEAVY DUTY RURAL CROSSOVER

150 unreinforced air-entrained concrete C32/40 to BS EN 13877 and BS 8500
Type 1 sub-base material to Clause 803.
(See table 1.2 and note 10)

Table 1.2

Sub Base	365	270	210	165	150
Subgrade*	≤ 2%	< 3%	≤ 4%	≤ 5%	> 5%

* It may be necessary to stabilise subgrade or replace with granular capping if CBR < 2%

Notes

- All dimensions are in millimetres.
- All Precast Concrete kerbs shall comply with BS EN 1340:2003.
- Kerbing details shall be as drawing SD/1100/1 and 1100/2 except where modified by this drawing.
- Standard Kerb face shall be :
Half batter kerbs HB2 125mm
Splay kerbs SP 100mm
- Crossing points shall be constructed as shown and construction thickness increased at vehicular crossing points, see Tables.
- Kerb faces shall be: Tolerance
Vehicular 20mm + or - 6
- Taper kerbs shall be used at changes in kerb face at crossing points.
- Edging kerbs shall be provided on all free edges of paved areas not confined by a kerb or boundary wall.
- Vertical alignment of back edging shall be maintained at crossing points and the crossing graded from edging to carriageway level.
- Asphaltic concrete shall comply with BS 594987, Sub-base shall be to Clause 803 or 806. Asphaltic planings to the approval of the Overseeing Organisation may be used.
- All soft spots and organic material shall be removed before construction.
- An approved residual weedkiller which does not contain Atrazine or Simazine applied to the formation shall require approval of the Overseeing Organisation.
- Verge areas shall have a 150 covering of topsoil spread 25 above top of kerb or edging to allow for settlement and shall be seeded in accordance with the Specification.
- Existing verges adjacent to new kerbing shall be regraded and seeded.
- Alternative designs incorporating flags and pavours shall be to the approval of the Overseeing Organisation.
- Minimum number of BN kerbs = 4.



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STANDARD DRAWINGS

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VEHICULAR ACCESS CONSTRUCTION DETAILS

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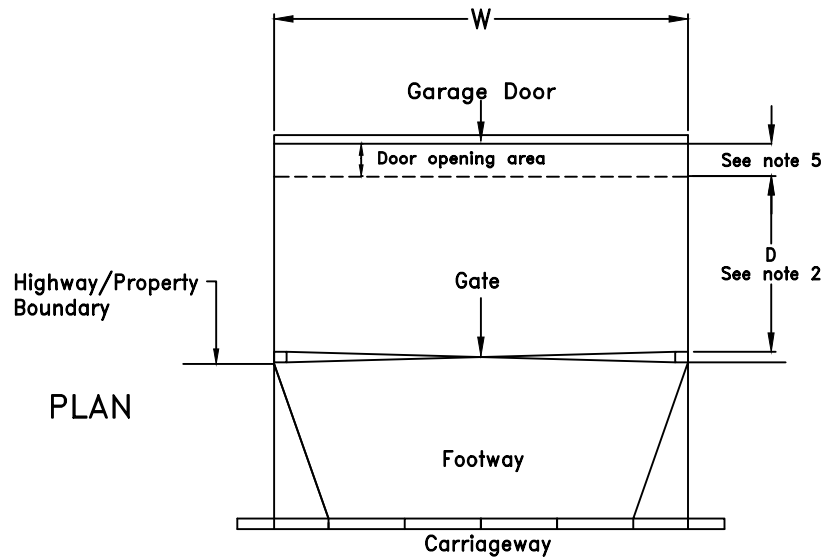
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Drawing No.

SD/1100/20



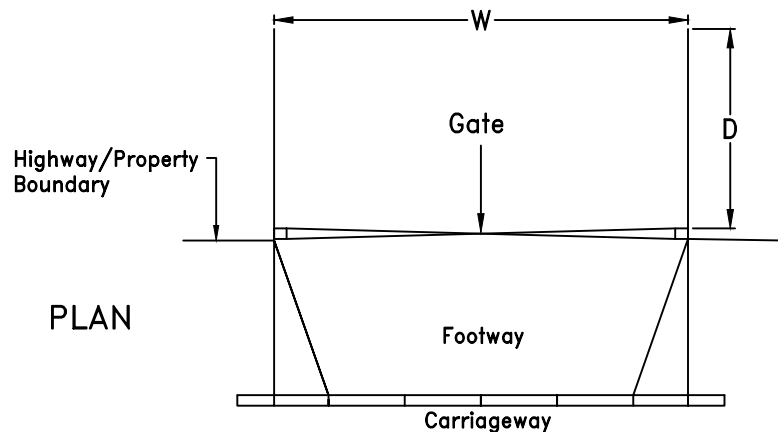
PLAN

Off road parking with Garage

	Desirable	Absolute Minimum
W	3.2m	2.6m
D	6m	5.5m

Notes

1. All dimensions are in millimetres unless otherwise stated.
2. The minimum available Distance 'D' between the Garage door and the Highway/Property boundary shall be reduced from 6m to 5.5m if a vertical sliding Garage door is used.
3. Refer to Standard Detail SD/1100/20 for Access construction details.
4. For acceptable crossfall at access see Standard Detail drawing SD/1100/18.
5. Additional space required to swing open the up and over garage door.



PLAN

Off road parking without Garage

	Desirable	Absolute Minimum
W	3.0m	2.4m
D	5.6m	4.8m



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STANDARD DRAWINGS

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VEHICLE ACCESS GEOMETRY

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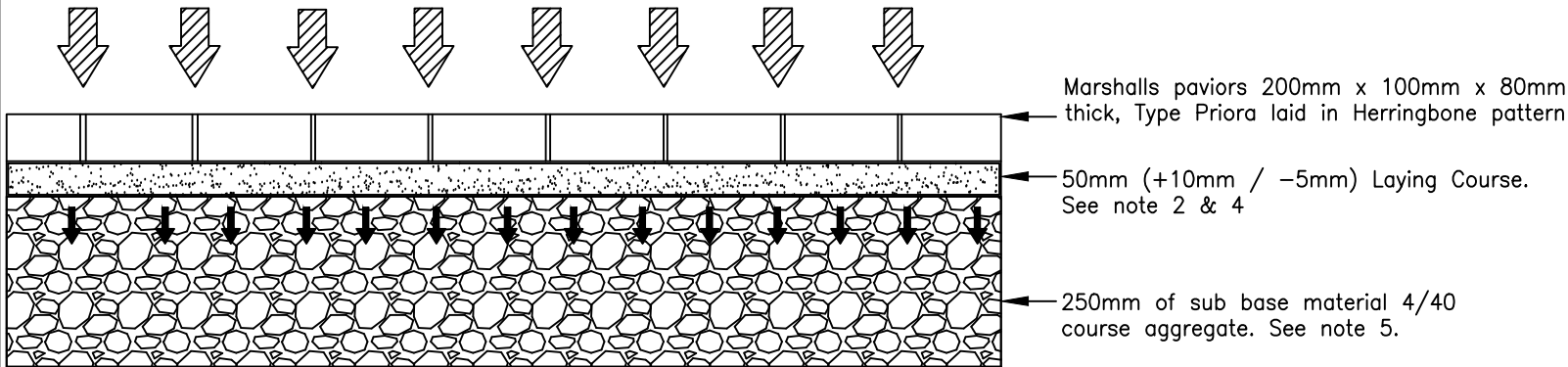
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Drawing No.

SD/1100/21

Surface water infiltration



Marshall's paviors 200mm x 100mm x 80mm thick, Type Piora laid in Herringbone pattern

50mm (+10mm / -5mm) Laying Course. See note 2 & 4

250mm of sub base material 4/40 course aggregate. See note 5.

Cross Section Of Paving System

N.B. The system shall only be used in verges.

Notes:

1. All dimensions are in millimetres.
2. Design shall comply with BS 7533-13:2009 The Guide for The Design of Permeable Pavements.
3. Laying course material (1/10 aggregate) shall conform to BS 7533:13:2009 para 6.7 and the grading in Table A2.
4. The jointing & void filling material should be checked with the paving unit manufactures.
5. Increase the sub-base thickness for traffic loadings greater than domestic vehicle loading. See Table 7 and 8 in BS 7533-13:2009.



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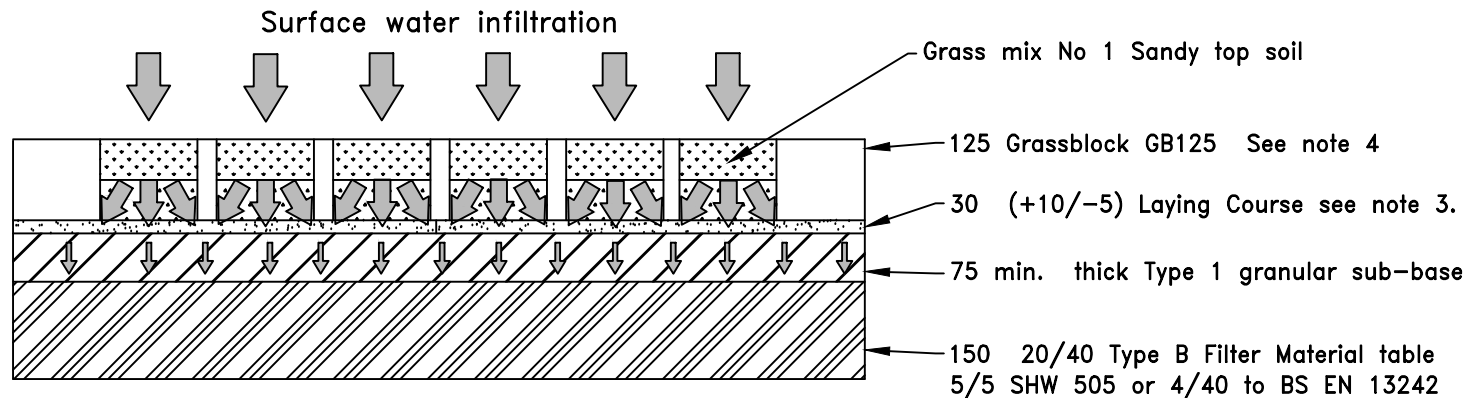
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Drawing title

PERMEABLE CONCRETE BLOCK PAVING

Drawing No.

SD/1100/22



Cross Section Of Paving System

N.B. The system shall only be used in verges and car parking areas subject to light traffic loading. Where construction is likely to be subject to heavy vehicles and or a CBR less than 5; Type 1 shall be 100mm thick, Type B filter material shall be 200mm thick over a non woven geogrid to provide a barrier to pollutants and provide structural integrity.

Notes

1. All dimensions are in millimetres
2. Grassblock supplied by GrassConcrete Ltd or other approved by the Overseeing Organisation. Grassblock shall be laid to method one for normal traffic shown on this drawing.
3. Permeable Laying Course (1/10 aggregate) shall conform to the drainage requirements in BS7533:13:2009 para 6.7 and Table A2.
4. Grass Blocks are available 83mm, 103mm, 125mm deep.



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STANDARD DRAWINGS

Drawing title

GRASS CONCRETE ECOLOGICAL PAVING

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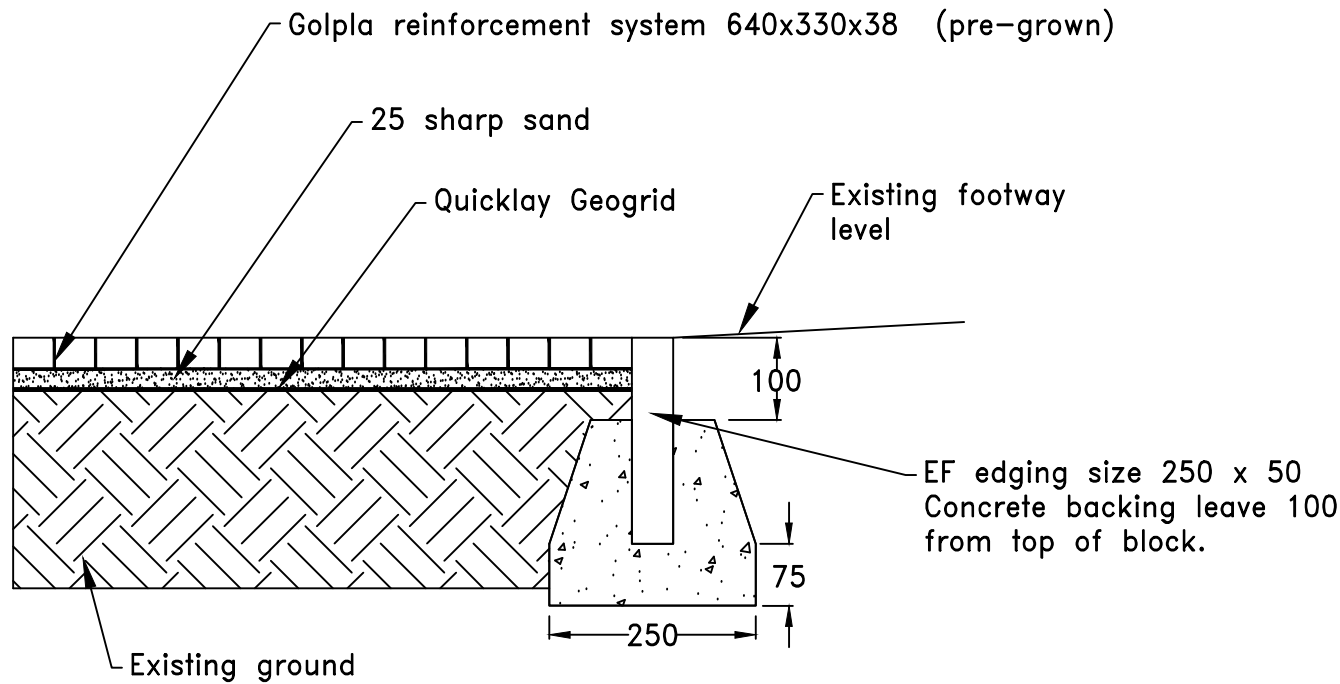
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Drawing No.

SD/1100/23



Notes

1. All dimensions are in millimetres
2. Golpla grass reinforcement is available from Geosynthetics Limited or other manufacturer with the approval of the Overseeing Organisation.
3. The Method of laying shall comply with the recommendations of the supplier / manufacturer.
4. Laying course material shall be sharp sand or the alternative permeable laying course described in BS7533:13:2009 Table A2.
5. The permeability of the existing sub-soil shall be checked for suitability with the Overseeing Organisation.



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STANDARD DRAWINGS

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GRASS PLASTIC ECOLOGICAL PAVING

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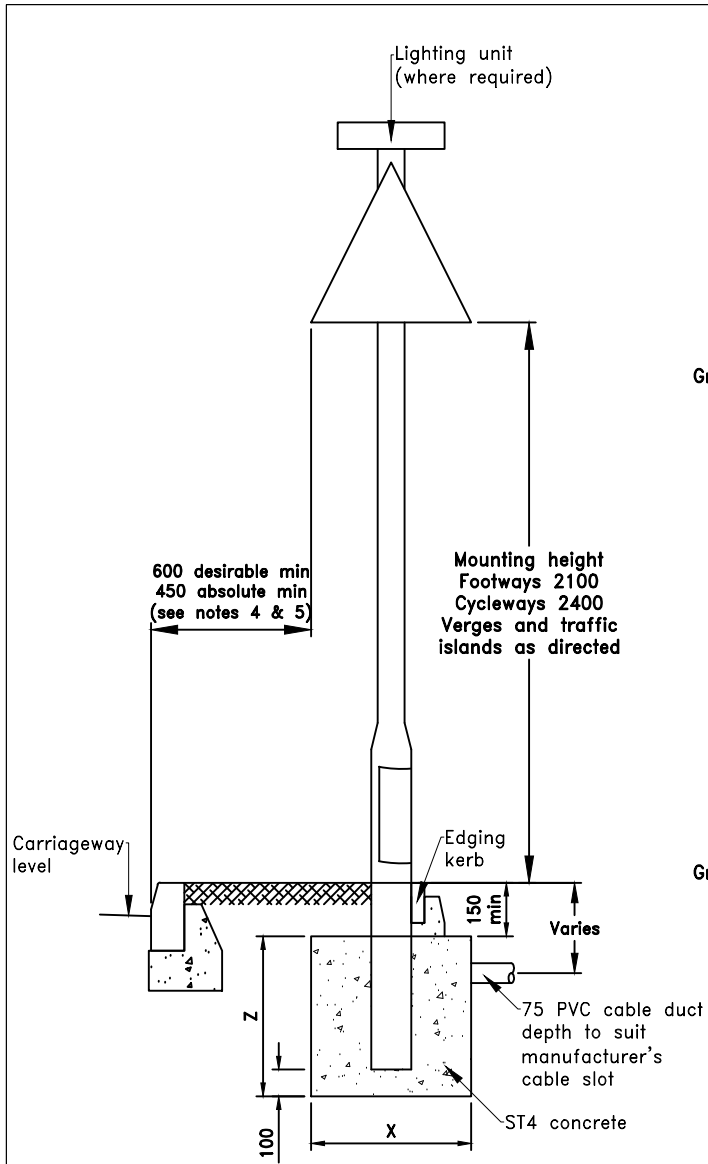
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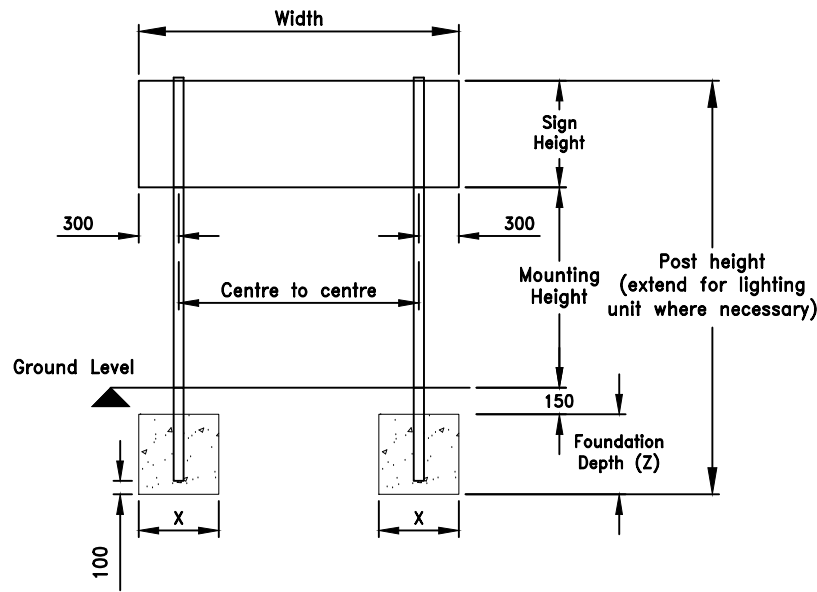
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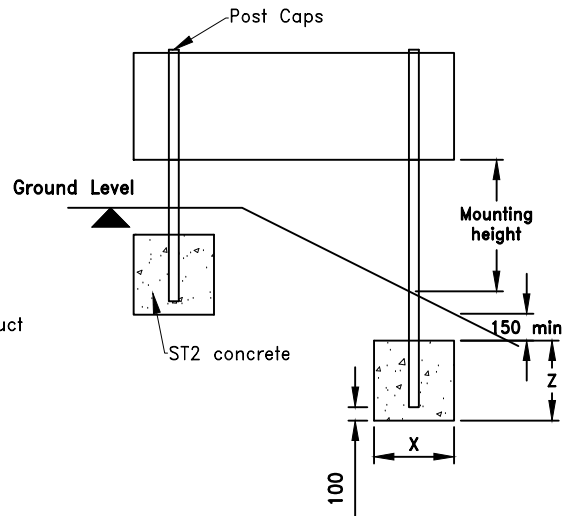
SD/1100/24



**FOUNDATION FOR SIGN POST WITH ELECTRICAL
BASE HOUSING
(Straight post similar – duct omitted)**



FOUNDATION DETAIL FOR TWO POSTS



**TYPICAL FOUNDATION DETAIL ON
EMBANKMENT**

Notes

- All dimensions in millimetres.
- All signs shall comply with the Traffic Signs regulations and General Directions 2002.
- Sign positions shall comply with the requirements of the Overseeing Organisation.
- Single posts shall normally be sited at the back of footway or highway verge.
- Clearance to the edge of signs shall be increased where there is a severe camber, or crossfall, or sign is in a central reservation or bend.
- Traffic signal poles shall be set back 800mm from edge of carriageway or 500mm where swan neck poles are used. The Overseeing Organisation shall be consulted if a pole in this position will affect a footway or is otherwise impractical.
- Mounting heights of all signs shall be approved by the Overseeing Organisation.
- Not more than two signs shall be mounted on one post.
- Illuminated signs or signs greater than 0.36sq.m wide shall not be fitted to lamp columns.
- Post height shall allow for sloping ground.
- Posts shall be galvanized steel and comply with BS EN ISO 1461. In a conservation area posts shall be black and the backs of signs shall be black.
- Standard signs shall be mounted on a 76 diameter post with a wall thickness of 3.2.
- Open ended poles shall be provided with internal sealed caps.
- All post foundations shall be designed unless shown on standard drawing SD/1200/2. Foundation depth D shall be 600 min. unless stated otherwise in the sign schedule.
- Overdig shall be backfilled with Type 1 sub-base material in paved areas.
- Min. 150 deep topsoil required over foundations in verges.
- Posts with electrical housing shall be sited so that the door faces away from oncoming traffic.
- For illuminated signs supported on more than one post the electrical housing shall be in the post farthest from the carriageway.
- Lighting units shall be approved and will be dependant on size of sign.
- All illuminated signs shall be identified by a unique number which will be provided by the Overseeing Organisation.
- All signs shall be fixed with bolted clamp brackets only.
- All details shall be in accordance with specification



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STANDARD DRAWINGS STREET LIGHTING AND ELECTRICAL

Drawing title

TRAFFIC SIGN AND FOUNDATION DETAIL

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Drawing No.

SD/1200/1

NOTE

1. All dimensions are in millimetres unless otherwise stated.
2. All details shall be in accordance with specification.

TABLE 1: POST/FOUNDATION DETAILS













Sign Height h	SINGLE POST							TWIN POST				
	300	450	600		750		900	1200		1500		
Sign Shape												
No. of Posts	1	1	1	1	1	1	1	1	2	2	2	2
Post Diameter	76	76	76	76	76	76	76	76	76	76	76	89
Foundation Type (see Table 3)	A	A	B	B	C	E	E	G	2xD	2xF	2xF	2xH

TABLE 2: POST/FOUNDATION DETAILS








Sign Height h	300	450	600		750	
Sign Shape						
No. of Signs on Single Post	2	2	2	2	2	2
Post Diameter	76	76	76	76	76	76
Foundation Type (see Table 3)	A	B	B	B	D	D

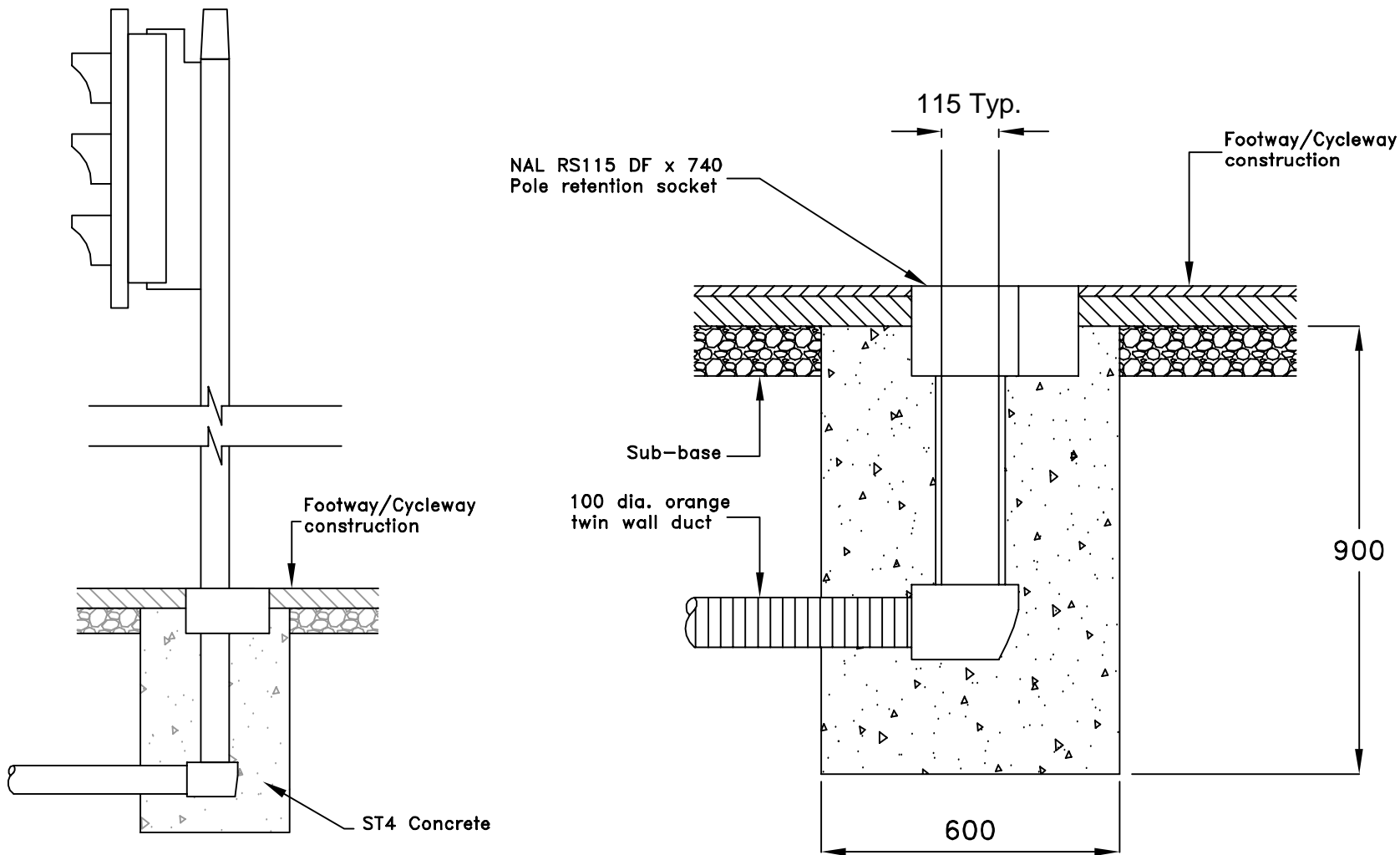
TABLE 4: POST INSETS

Sign Height h	1200	1500
Post inset p	200	250

TABLE 3: STANDARD FOUNDATION SIZES

Foundation Type	A	B	C	D	E	F	G	H
Width x	350	350	350	350	350	350	350	350
Length y	350	350	350	350	350	350	350	350
Depth z	600	650	700	750	800	850	900	1050

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		STANDARD DRAWINGS STREET LIGHTING & ELECTRICAL		Checked TBC	Date TBC
		Drawing title TRAFFIC SIGN POST & FOUNDATION SIZE		Drawing No. SD/1200/2	



FOUNDATION FOR SIGNAL POST

POST RETENTION SOCKET FOUNDATION DETAIL

Notes

1. All dimensions in millimetres.
2. All concrete shall comply with BS 8500-1:2006.
3. Post retention socket shall be set in 600x600x900 ST4 concrete base in accordance with NAL Ltd installation sheet.
4. The NAL stump pole shall be used for setting the vertical alignment of the socket in the concrete base. After compacting concrete remove stump pole carefully and tighten the NAL adjustment bolt.
5. Signal post positions shall comply with the requirements of the Overseeing Organisation.
6. Traffic signal posts shall be set back min. 800 from edge of carriageway or min. 500 where swan neck posts are used. The Overseeing Organisation must be consulted if the post position will affect a footway or is otherwise impractical.
7. Overdig shall be backfilled with ST2 concrete in paved areas.
8. A Post retention socket is not required in verges. Foundation shall comply with post standard detail drawing SD/1200/1.
9. Use NAL RS115 740 socket for 4m poles.
10. All details shall be in accordance with the specification.



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STANDARD DRAWINGS

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TRAFFIC SIGNAL POST FOUNDATION DETAIL

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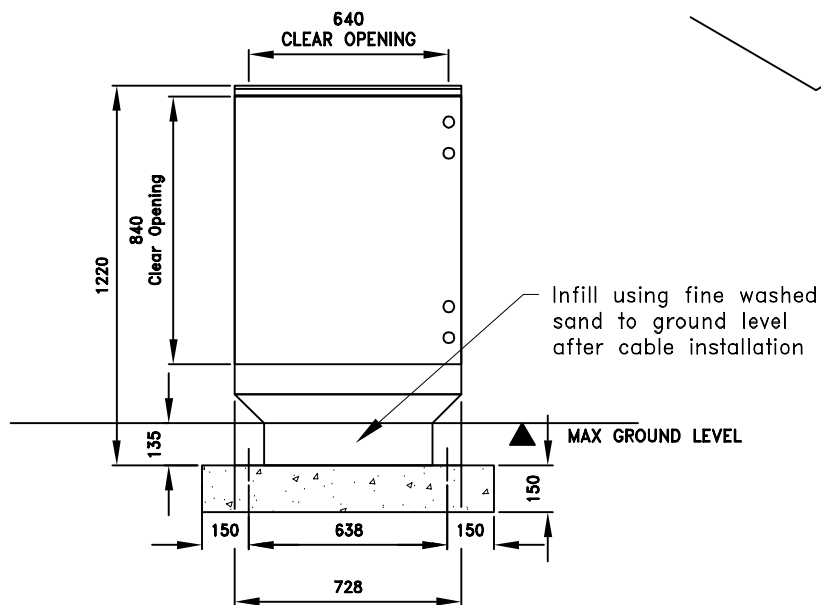
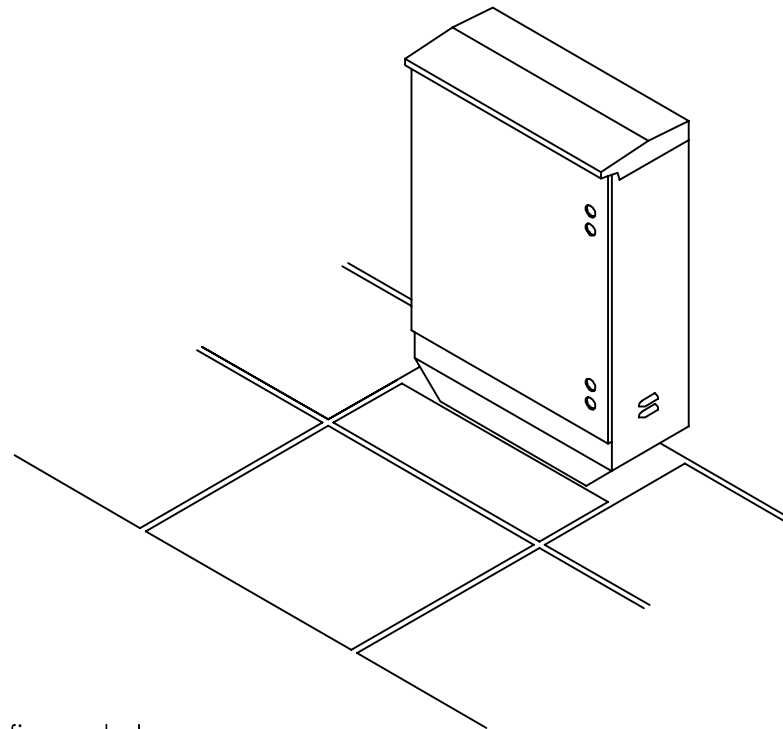
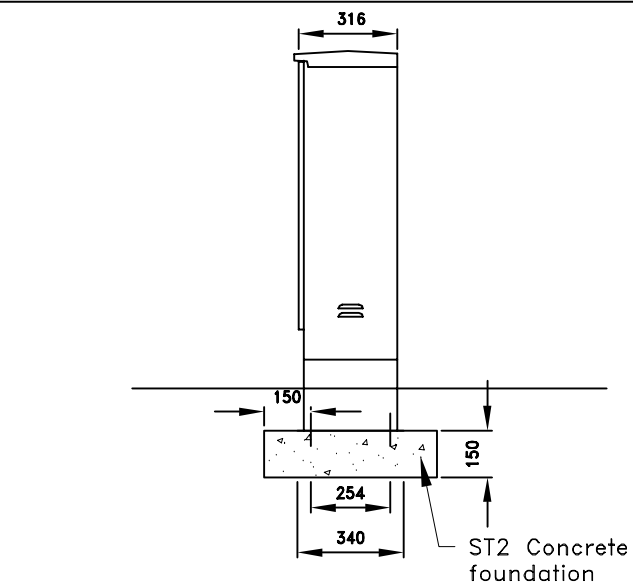
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Drawing No.

SD/1200/3



Cabinet to be bolted to foundation using
4No.12 x 100 Ragbolts or rawbolts

Notes

1. All dimensions in millimetres.
2. Cabinet shall be mounted in ST2 concrete CL.1418.8 SHW.
3. Cable entry shall be a 100mm dia. uPVC duct.
4. All equipment shall be to specification and/or approval of the Overseeing Organisation.
5. All equipment shall be sited within the highway boundary.
6. Top of damp sand sealed with C.I.B.A. Geigy XD 4133 resin and hardener to level the internal base of cabinet, min. thickness 6mm.
7. Reinstatement to excavations in paved areas shall use Type 1 Sub-base CL.803 SHW up to formation level.
8. A hard standing area comprising Concrete paving slabs or similar approved shall be laid in front of door in verges.
9. Cabinet shall be painted with two coats of gloss paint to BS4800. Colour as specified by Overseeing Organisation.
10. Cabinet shall be type Philips Communication or similar approved.
11. Copper earth electrode shall be installed when required by the Overseeing Organisation. See standard drawing SD/1400/032.
12. All details shall be in accordance with the specification.



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STANDARD DRAWINGS

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STANDARD ELECTRICAL STREET CABINET FOUNDATION DETAIL

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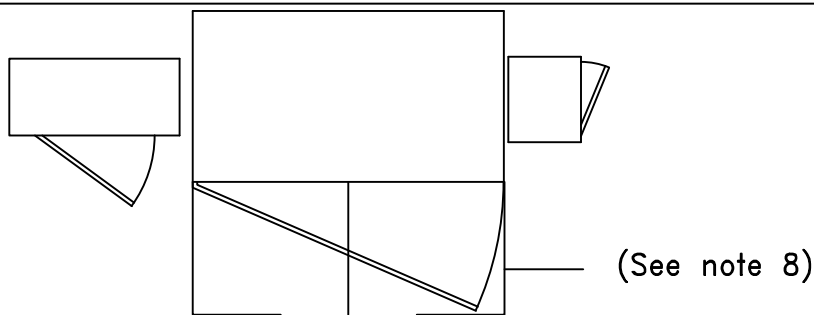
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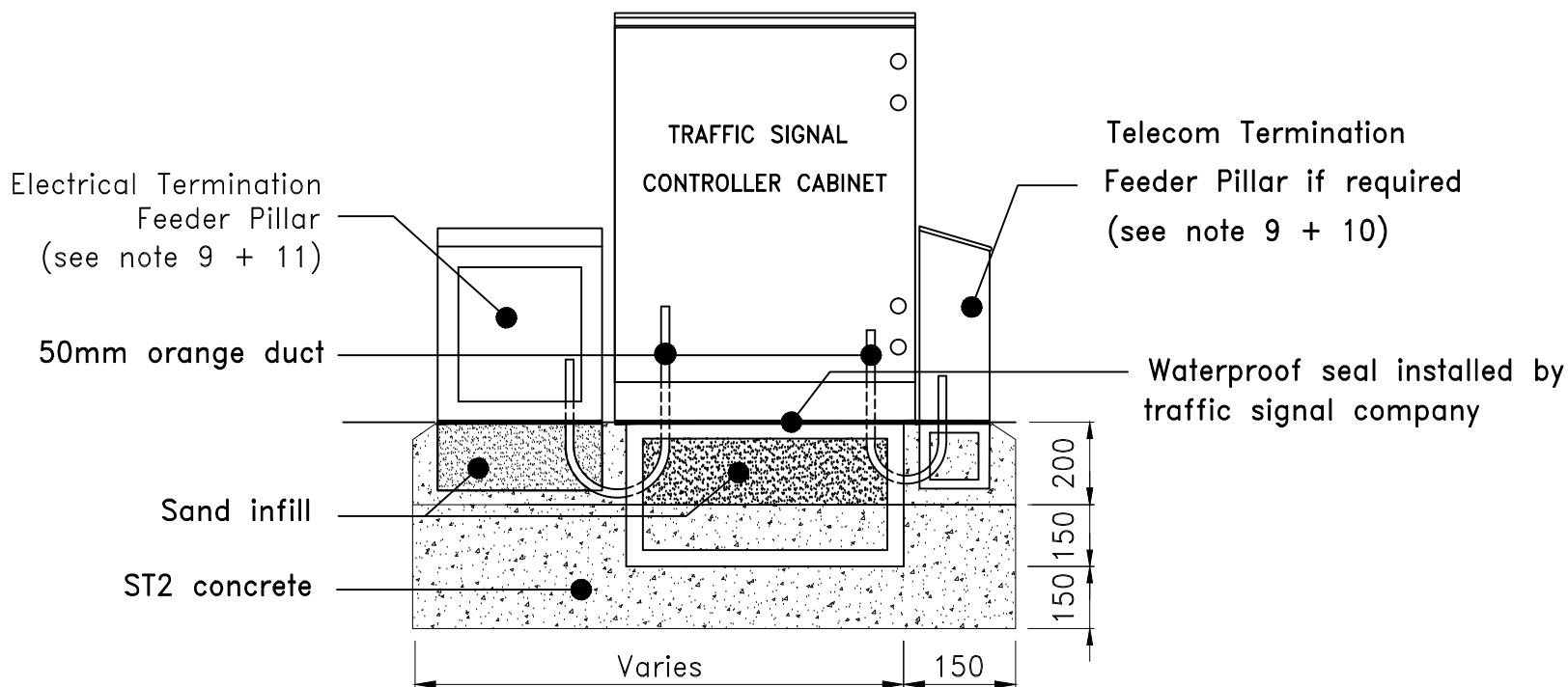
Drawing No.

SD/1200/4



(See note 8)

PLAN



ELEVATION

Notes

1. All dimensions in millimetres.
2. Cabinets shall be installed in ST2 concrete CL. 1418.8 SHW.
3. Cable entry shall be a 50mm dia. uPVC duct.
4. All equipment shall be to specification and/or approval of the Overseeing Organisation.
5. All equipment shall be sited within the highway boundary.
6. Top of damp sand sealed with C.I.B.A. Geigy XD 4133 resin and hardener to level of internal base of cabinet, min. thickness 6mm.
7. Reinstatement to excavations in paved areas shall use Type 1 Sub-base CL.803 SHW up to formation level.
8. A hard standing area comprising Concrete paving slabs (min. 2 nr 600 x 600) or similar approved shall be laid in front of the traffic signal controller door in verges.
9. Cabinets sited in a conservation area shall be painted with two coats of black gloss paint to BS4800 .
10. Telecom Feeder Pillar for Traffic Signal controller shall be galvanised Haldo No. E31000 912X155X175 or galvanised Tofco No. FP385 700X150X150 or similar approved by the Overseeing Organisation.
11. Electrical Feeder Pillar for Traffic Signal controller shall be galvanised Haldo No. E33000 or galvanised Tofco No. FP33-3 size 100X250X500 or similar approved by the Overseeing Organisation.



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STANDARD DRAWINGS STREET LIGHTING AND ELECTRICAL

Drawing title

TRAFFIC SIGNAL CONTROLLER CABINET FOUNDATION DETAIL

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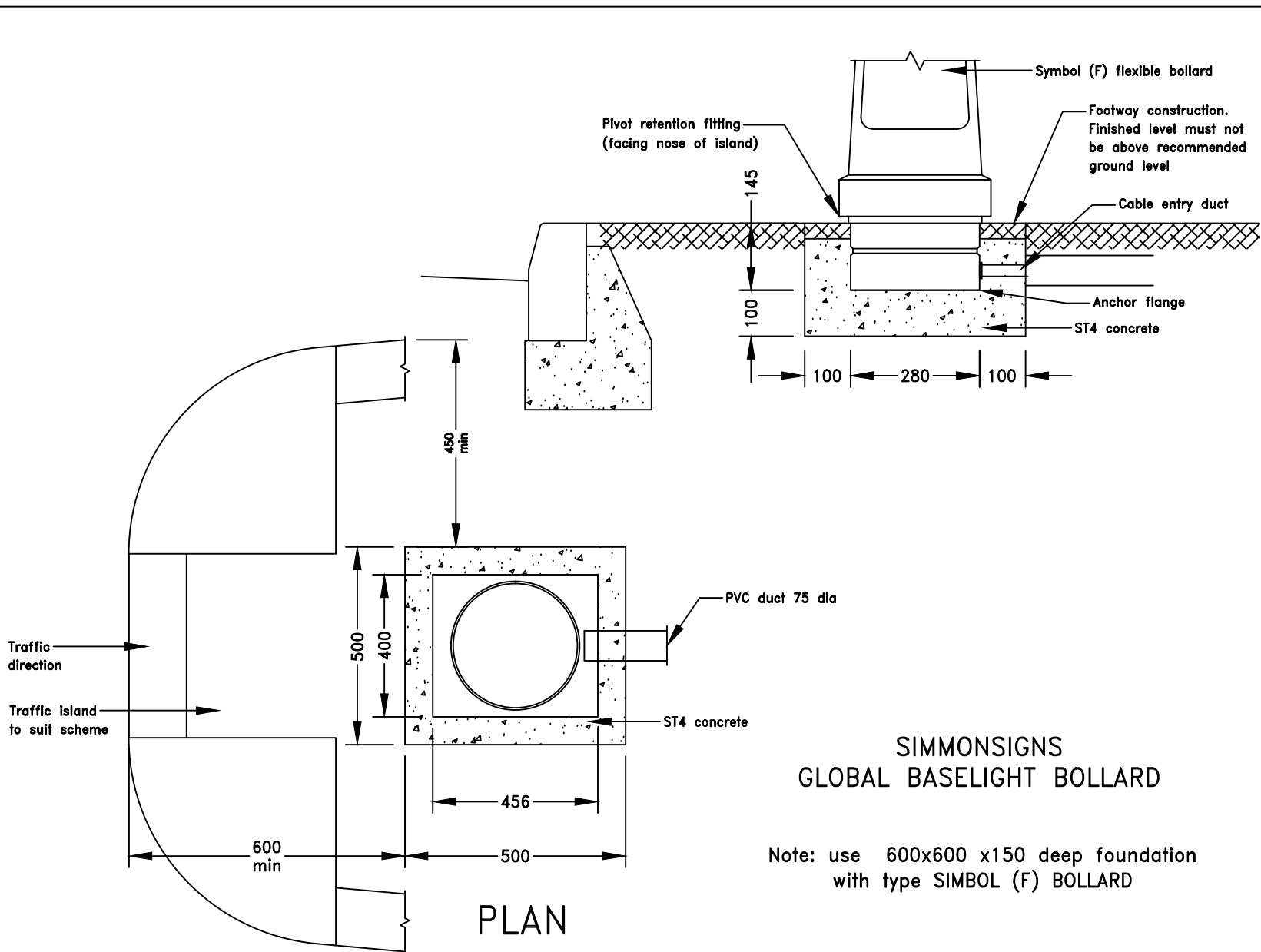
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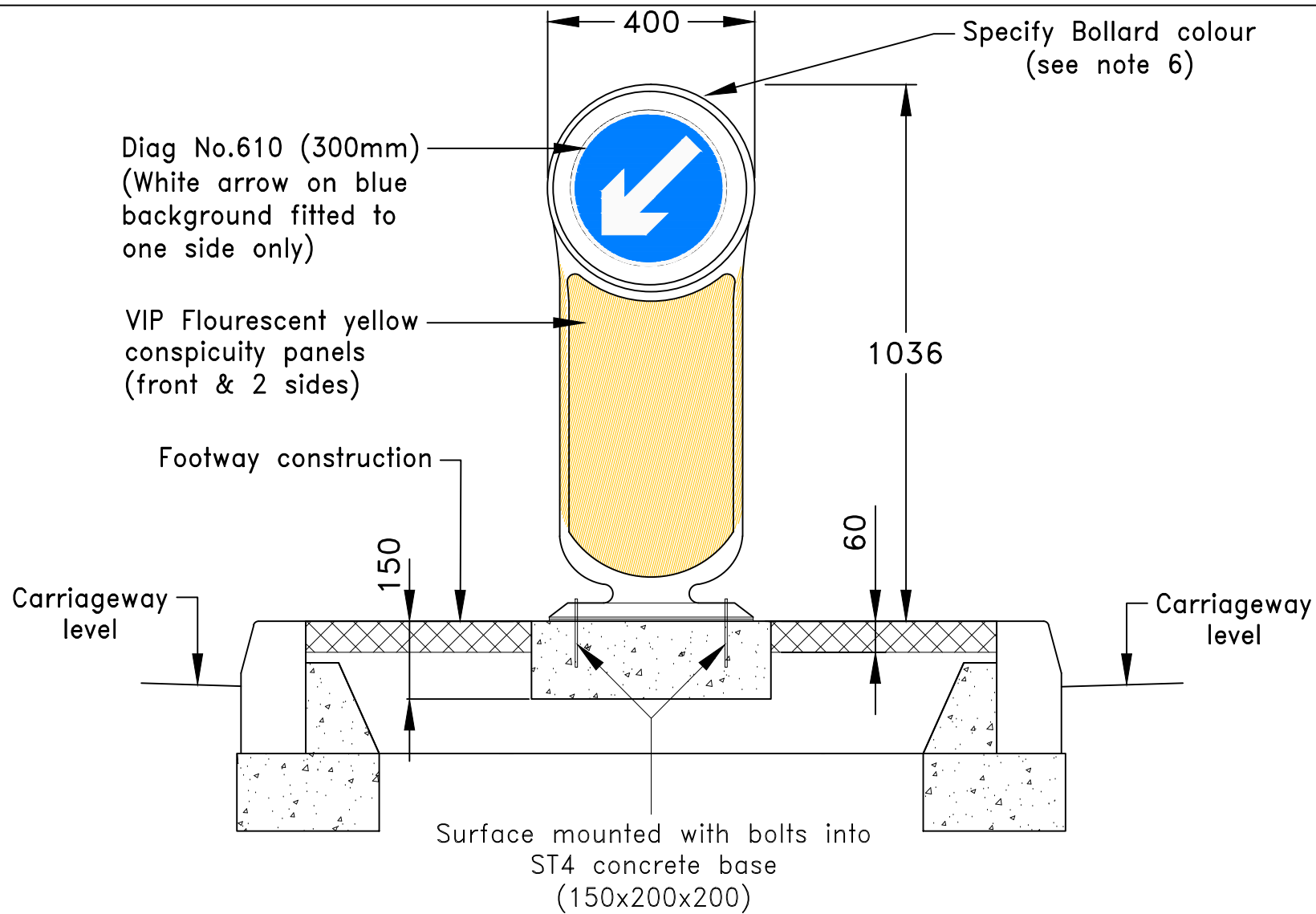
SD/1200/5



Notes

1. All dimensions in millimetres.
2. All equipment shall be to specification and/or approval of the Overseeing Organisation.
3. All equipment shall be sited within the highway boundary.
4. Bollards shall be Simonsigns Simbol (F) with global illuminated base unless otherwise approved by the Overseeing Organisation.
5. Bollards shall be fitted according to the manufacturers instructions.
6. Bollards shall be aligned with the retainer bolts in line with the traffic flow.
7. Bollards shall be aligned with the hinged side facing approaching traffic.
8. An infra-red photocell, shall be factory fitted to all bollards.
9. All illuminated signs shall be identified by a unique number stencilled in black paint on the rear. The numbers shall be provided by the Overseeing Organisation.

	Highways and Transport Council Offices Market Street Newbury RG14 5LD	Project	STANDARD DRAWINGS		Drawn	AB	Date	TBC
		Drawing title	ILLUMINATED BOLLARD FOUNDATION DETAIL		Checked	TBC	Scale	NOT TO SCALE
				Drawing No.	SD/1200/6			



NON ILLUMINATED GLASDON REBOUND BOLLARD

Notes

1. All dimensions in millimetres.
2. All equipment shall be to specification and/or approval of the Overseeing Organisation.
3. All equipment shall be sited within the highway boundary.
4. Bollard type Glasdon Rebound Signmaster with bolt down base option unless otherwise approved by the Overseeing Organisation.
5. Bollards shall be installed according to the manufacturer's instructions.
6. Bollard colour option (black or white) shall be specified by the Overseeing Organisation before ordering.
7. Glasdon Retroreflective Patch option B shall comprise:
1nr yellow retroreflective front panel,
2nr right side panels &
2nr left side panels.
8. Bollard signface option shall be confirmed with the Overseeing Organisation before ordering eg;
keep left arrow (610) or
keep right arrow (610) or
plain white face



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Project

STANDARD DRAWINGS

Drawn

J.F

Date

AUGUST 2015

Checked

B.S

Scale

NOT TO SCALE

Drawing title

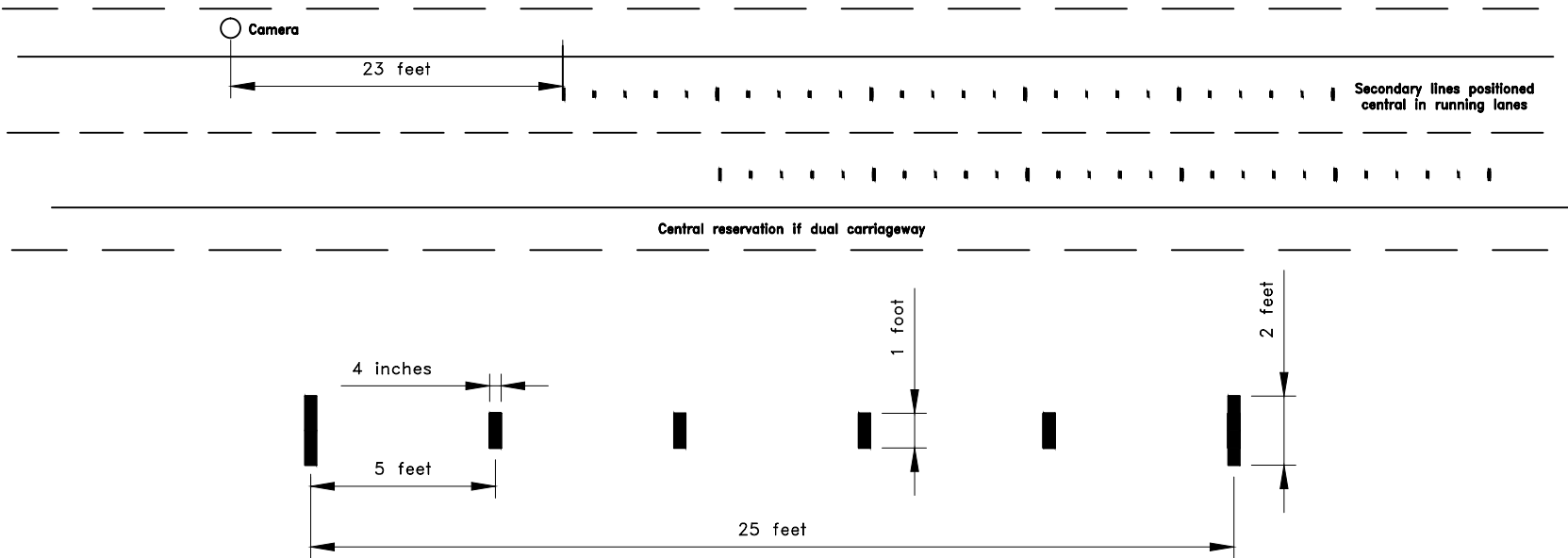
NON ILLUMINATED BOLLARD FOUNDATION DETAIL

Drawing No.

SD/1200/7

Notes

1. All setting out dimensions in feet and inches (required for speed markings).
2. The markings shall be central in all running lanes
3. All markings shall be 4 inches in width
4. All markings shall be of reflective material in accordance with Traffic Signs Regulations and General Directions 2002.
5. There shall be five sets of (5 x 5 foot groups) therefore total distance covered = 126 feet



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SPEED CAMERA ROAD MARKINGS LAYOUT

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Scale

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SD/1200/8

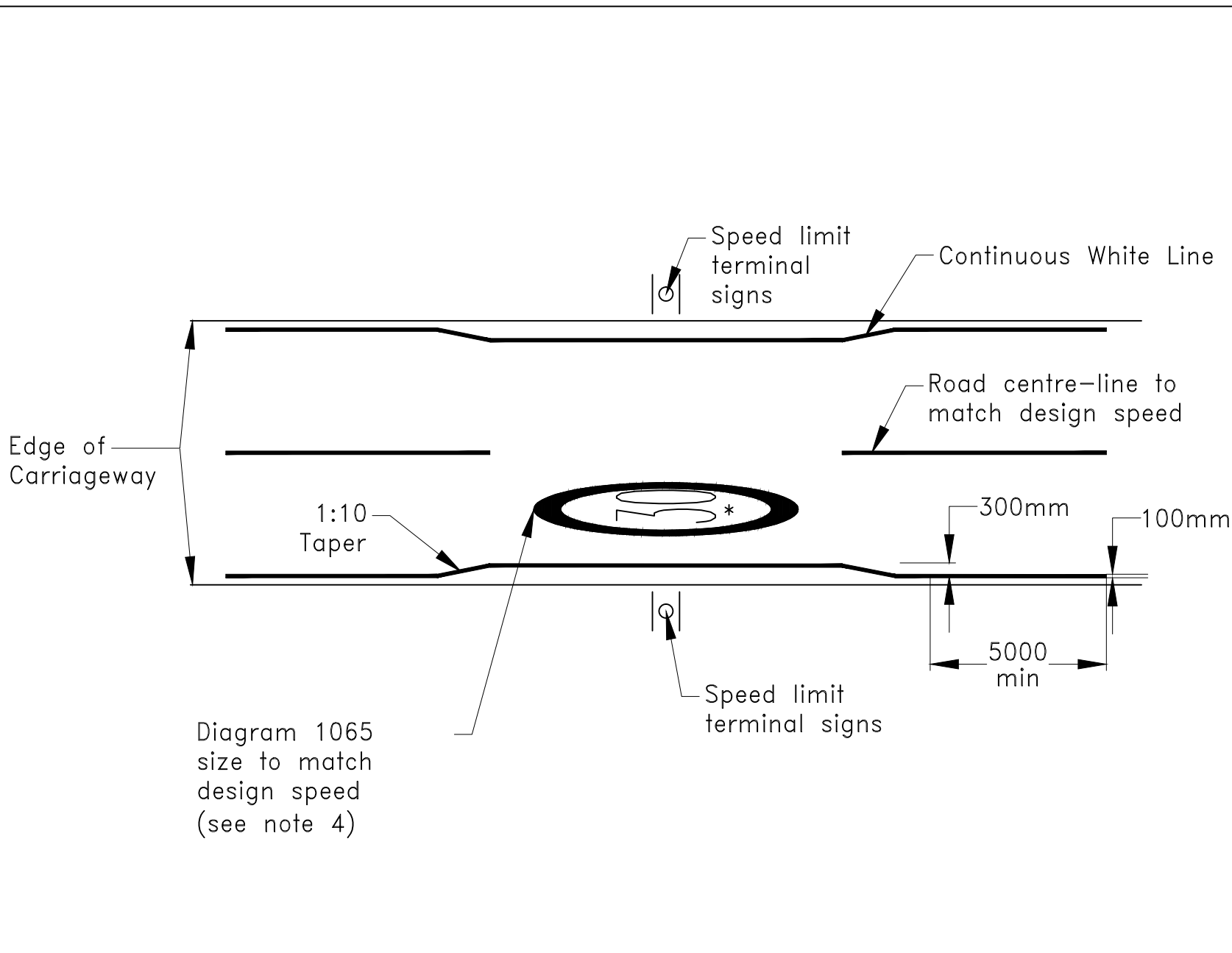


Diagram 1065
size to match
design speed
(see note 4)

Notes

1. All dimensions in millimetres
2. All road markings to comply with The Traffic Signs Regulations and General Regulations 2002.
3. The speed roundel dimensions shall be selected for the road speed – see TSRGR 2002.
4. * The drawing shows the roundel for a 30mph entry limit. The actual speed required shall be confirmed by the Overseeing Organisation.



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STANDARD DRAWINGS

Drawing title
SPEED LIMIT ENTRY POINT ROAD MARKINGS

Drawn J.F	Date AUGUST 2015
Checked B.S	Scale NOT TO SCALE

Drawing No.
SD/1200/9