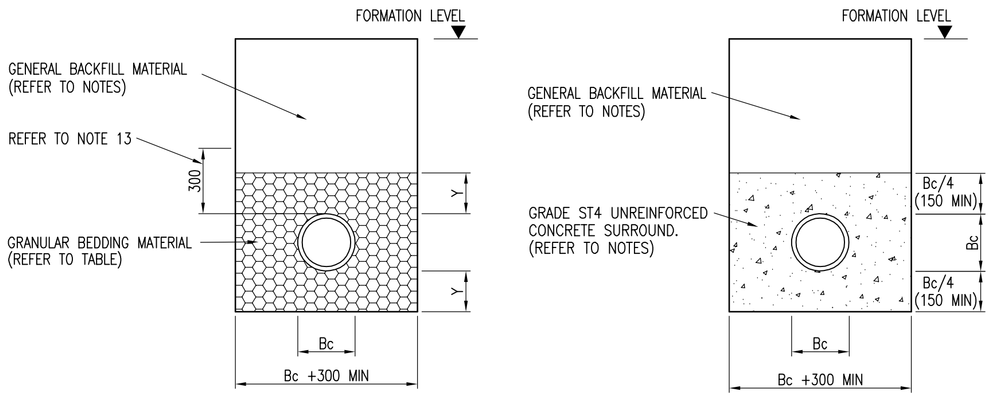


CLASS 'S' DETAIL
(REFER TO NOTES)

CLASS 'Z' DETAIL
(REFER TO NOTES)

NOMINAL PIPE DIA (mm)	SINGLE SIZED (mm)	GRADED (mm)
150	10 OR 14	14 TO 5
200 TO 300	10,14 OR 20	14 TO 5 OR 20 TO 5
375 TO 525	14 OR 20	14 TO 5 OR 20 TO 5
GREATER THAN 525	14,20 OR 40	14 TO 5,20 TO 5 OR 40 TO 5

GRANULAR BEDDING MATERIAL
(ALL AGGREGATES TO TABLE 4 OF BS 882 :1983.)

NOMINAL PIPE DIA (mm)	THICKNESS OF COMPRESSIBLE FILLER (mm)
LESS THAN 450	18
450 TO 1200	36
GREATER THAN 1200	54

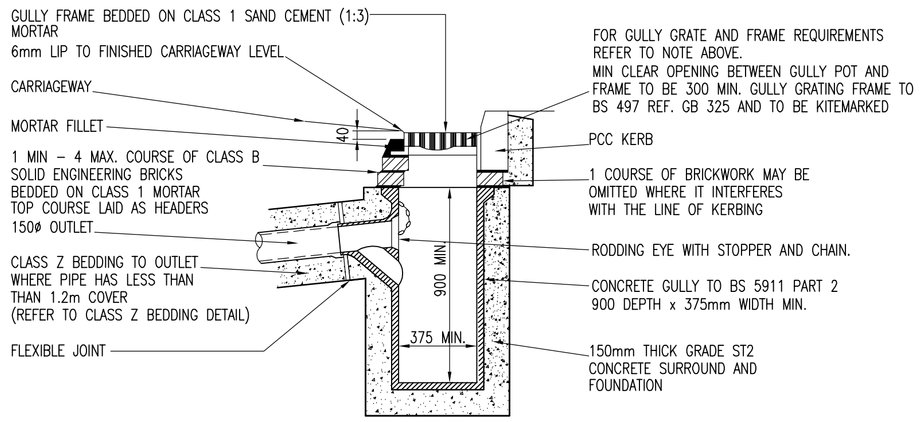
COMPRESSIBLE FILLER TABLE
(BITUMEN IMPREGNATED INSULATING BOARD TO BS 1142: PART 3)

NOTES

A) Bc = OUTSIDE DIAMETER OF PIPE BARREL.

B) Y = FOR UNIFORM SOILS:
SLEEVE JOINTED PIPES, MIN. 50mm OR 1/6Bc, WHICHEVER IS THE GREATER.
SOCKETED PIPE, MIN. 100mm OR 1/6Bc, WHICHEVER IS THE GREATER UNDER BARRELS AND NOT LESS THAN 50mm UNDER SOCKETS.
FOR ROCK OR MIXED SOILS CONTAINING ROCK BANDS, BOULDERS, STONES OR OTHER IRREGULAR HARD SPOTS:
SLEEVE JOINTED PIPES, MIN. 150mm OR 1/4Bc, WHICHEVER IS THE GREATER.
SOCKETED PIPE, MIN. 200mm OR 1/4Bc, WHICHEVER IS THE GREATER UNDER BARRELS AND NOT LESS THAN 150mm UNDER SOCKETS.

GULLEY FRAME AND COVERS TO BE;
TYPE GA1-325 ORGAI-450 DN400 IN CARRAIGEWAY AREAS (ROAD TYPE 4)
TYPE HY 813 PEDESTRIAN GULLEY GRATE DN400 (STANTON) IN SHARED CARRIAGEWAY AREAS (ROAD TYPE 5B)
REFER TO COVER AND FRAME DETAILS. ALL GULLY COVERS TO BE ANTI-THEFT TYPE



NOTE: ANY EXISITNG DAMAGED COVERS / FRAMES WITHIN THE SCHEME LIMITS WILL REQUIRE REPLACING WITH WITH APPROPRIATE D400 TYPE UNIT AND ANY LOW GULLIES TO BE BROUGHT UP TO SUIT FINISHED LEVELS.

TYPICAL ROAD GULLY DETAIL
(SCALE 1:20)

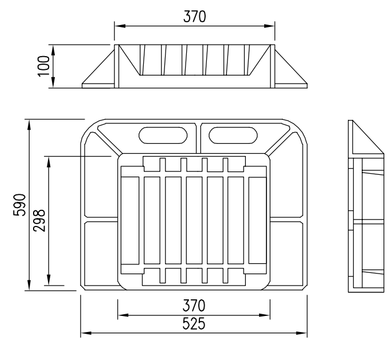
DRAINAGE NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT WSP, ARCHITECTS AND M&E CONSULTANTS DRAWINGS AND PROJECT SPECIFICATIONS.
2. ALL BUILDING DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH BS EN:752 DRAINAGE AND SEWER SYSTEMS OUTSIDE BUILDING, THE CURRENT BUILDING REGULATIONS AND THE LOCAL AUTHORITY BUILDING CONTROL SPECIFICATIONS AND REQUIREMENTS.
3. ANY DRAINAGE TO BE PUT FORWARD FOR ADOPTION BY A WATER COMPANY SHALL BE CONSTRUCTED TO 'SEWERS FOR ADOPTION 6th EDITION' AND ANY SPECIFIC REQUIREMENTS OF OF THE ADOPTING AUTHORITY.
4. ALL INSITU AND PRECAST CONCRETE PRODUCTS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS8500 AND BRE SPECIAL DIGEST 1 FOR SULPHATE EXPOSURE. FOR THE EXPOSURE CLASS REFER TO THE RECOMMENDATIONS OUTLINED IN THE SITE INVESTIGATION REPORT.
5. ALL DRAINAGE WORKS ARE TO CARRIED OUT IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF SERIES 500 OF THE SPECIFICATION FOR HIGHWAY WORKS (MCHW) AND THE LATEST REQUIREMENTS OF SOUTH YORKSHIRE LABORATORY (SYL) SPECIFICATION FOR THE SUPPLY OF MATERIALS FOR USE IN HIGHWAY WORKS.
6. WHERE PIPES ARE BENEATH THE CARRIAGEWAY OR FOOTWAY, AT A SHALLOW DEPTH LESS THAN 1.2 METRES COVER FROM THE FINISHED SURFACE LEVEL PIPEWORK (OR ELSEWHERE IF THE ENGINEER CONSIDERS THAT THE NATURE OF THE GROUND DEMANDS IT), THEY ARE TO BE BEDDED ON AND SURROUNDED WITH 150MM OF CONCRETE GRADE ST4.
7. VITRIFIED CLAY PIPES SHALL COMPLY WITH BS EN 295 AND BS 65. THE FITTINGS SHALL HAVE FLEXIBLE MECHANICAL JOINTS. THEY SHALL BE CLAY PIPES BEDDED ON MATERIAL COMPLYING WITH SYL SPECIFICATION NO. 26 AND IN ACCORDANCE WITH SIMPLIFIED TABLES OF EXTERNAL LOADS ON BURIED PIPELINES? ISSUED BY THE TRANSPORT RESEARCH LABORATORY.
8. PLASTIC PIPES FITTINGS AND JOINTS SHALL BE IN ACCORDANCE WITH THE PLASTIC PIPES REQUIREMENTS OF BS 4660, BS EN 1401/1 AND THE WATER INDUSTRY AND FITTINGS SPECIFICATION WIS 4/35/01.
9. CONCRETE PIPES AND FITTINGS SHALL COMPLY WITH THE REQUIREMENTS OF CONCRETE BS 5911 : PART 100 AND SYL SPECIFICATION PIPES AND NO. 14. FITTINGS
10. UNLESS OTHERWISE AGREED IN WRITING WITH THE ENGINEER, ALL PIPES JOINTS & SHALL BE FLEXIBLY JOINTED.
11. BRICKS ARE TO BE A CLASS B ENGINEERING OR CONCRETE ENGINEERING BRICKS FOR QUALITY COMPLYING TO SYL NO. 16, AND ARE TO BE LAID IN ENGLISH BOND.
12. DRAINAGE IRONWORK SHALL COMPLY IN ALL RESPECTS WITH BS EN 124 BS AND BE KITEMARKED OR EQUIVALENT (ANY CERTIFICATION BODY ACCREDITEDTO BS EN 45011).
13. MANHOLE COVERS AND FRAMES TO BE DUCTILE IRON CLASS D400 (150MM DEEP) DOUBLE TRIANGULAR TO MANHOLE BS EN 124 WITH 600MM SQUARE OPENINGS AS MANUFACTURED BY STANTON (INTER-AX D400-H) (OR SIMILAR APPROVED). MUST BE DUCTILE IRON WITH CAPTIVE HINGE TO BS EN 124. STEP IRONS FOR MANHOLES TO BE IN ACCORDANCE WITH BS 1247.
14. GULLEY GRATES TO BE MANUFACTURED BY STANTON TYPE HY 813 (OR SIMILAR APPROVED)
15. ALL GULLIES SHALL BE TRAPPED AND PROVIDED WITH A RODDING EYE AND FIXED CHAIN STOPPER.
16. PLASTIC GULLY POTS SHALL COMPLY WITH THE CURRENT BRITISH BOARD OF AGREMENT ROADS AND PLASTIC BRIDGES CERTIFICATE (BBA PUBLICATIONS).
17. CONCRETE GULLEY POTS SHALL COMPLY WITH THE REQUIREMENTS OF BS 5911 : PART 230 PRECAST CONCRETE PRECAST CONCRETE PIPES, FITTINGS AND ANCILLARY PRODUCTS AND SYL SPECIFICATION NO. 14. OR BS EN 295, AND SHALL BE IN ACCORDANCE WITH SYL SPECIFICATION NO. 12.
18. GULLY POTS SHALL BE SET ON A FOUNDATION OF AND SURROUNDED BY GULLY 150MM OF CONCRETE GRADE ST4. AFTER THE CONCRETE HAS SET AND POTS HARDENED, BACKFILLING SHALL BE CARRIED OUT AND THOROUGHLY COMPACTED.
19. CONCRETE: ALL CONCRETE SHALL BE IN ACCORDANCE WITH BS 5328. WHERE STANDARD MIXES ARE SPECIFIED, THE RELATED STRENGTHS SHALL BE ST4 20.0 N/MM2 & ST5 25.0 N/MM2

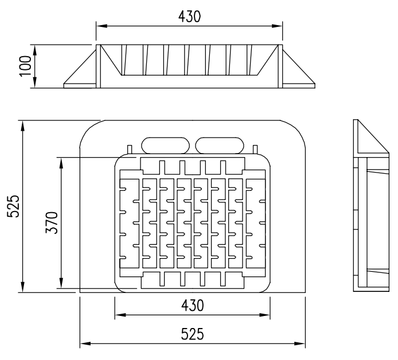
DO NOT SCALE

HIGHWAY SPECIFICATION

1. ALL ROAD PAVEMENTS ARE TO BE BUILT IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE FOLLOWING SERIES OF THE SPECIFICATION FOR HIGHWAY WORKS (MCHW):-
   700 : ROAD PAVEMENTS GENERAL
   800 : ROAD PAVEMENTS-UNBOUND, HYDRAULICALLY BOUND AND OTHER MATERIALS
   900 : ROAD PAVEMENTS-ASPHALT BOUND MATERIALS
   1100 : KERBS FOOTWAYS AND PAVED AREAS, CLAUSE1107
2. IN ACCORDANCE WITHTHE SOUTH YORKSHIRE LABORATORY (SYL) SPECIFICATIONS FOR THE SUPPLY OF MATERIALS FOR USE IN HIGHWAY WORKS
3. SUB-BASE SHALL BE IN ACCORDANCE WITH SYL SUB-BASE SPECIFICATION NO. 19. THE SOURCE MATERIAL SHALL BE APPROVED BY THE ENGINEER.
4. ROADBASE TO BE DENSE BASE TO BS 4987 AND SYL BASE SPECIFICATION NO. 30. (ROADBASE)
5. BINDER COURSE TO BE DENSE BINDER COURSE COMPLYING WITH BS 4987 AND BINDER COURSE SYL SPECIFICATION NO. 31 OR ROLLED ASPHALT COMPLYING WITH BS 594 AND SYL SPECIFICATION NO.7.
6. SURFACE COURSE TO BE 10MM SIZE CLOSE GRADED SURFACE COURSE COMPLYING WITH BS 4987 AND SYL SPECIFICATION NO. 33 OR 6MM SIZE DENSE SURFACE COURSE TO BS 4987 AND SYL SPECIFICATION NO. 34 OR INTERLOCKING BLOCK PAVING COMPLYING WITH BS 6717 "PRECAST CONCRETE PAVING BLOCKS"
7. HOT BITUMINOUS MATERIALS SHALL BE LAID AND COMPACTED IN ACCORDANCE BRITISH WITH THE REQUIREMENTS AND RECOMMENDATIONS FOR LAYING IN BS 4987: STANDARD FOR PART 2 OR BS 594: PART 2, AS APPROPRIATE. WHERE THERE IS NO BRITISH ASPHALT STANDARD FOR THE PARTICULAR MATERIAL IT SHALL BE LAID IN ACCORDANCE MATERIALS WITH THE REQUIREMENTS AND RECOMMENDATIONS OF BS 594:PART 2, SUBJECT ALSO TO THE REQUIREMENTS OF CLAUSE 901 SUB CLAUSES 8 TO 31 (MCHW)
8. A TACK COAT OF CLASS K1-40 BITUMEN EMULSION SHALL BE APPLIED TO THE BINDER COURSE AT THE RATE OF 0.35 TO 0.5 L/m². THE EMULSION SHALL NOT BE ALLOWED TO ACCUMULATE IN HOLLOWS BUT SHALL BE DISPERSED BY BRUSHING.
   THE EMULSION SHALL COMPLY WITH BS 434 : PART 1.
9. BLOCK PAVING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF AND BRITISH RECOMMENDATIONS IN BS 7533 AND MCHW CLAUSE 1107
10. ALL PRECAST CONCRETE KERBS, CHANNELS AND EDGING SHALL BE CONCRETE KERBS HYDRAULICALLY PRESSED AND SHALL COMPLY WITH THE REQUIREMENTS CHANNEL AND OF SYL SPECIFICATION NO. 11.
11. STATUTORY AUTHORITY COVER FRAMES TO BE LIFTED TO THE NEW FINISHED SURFACE LEVELS. ANY COVERS / FRAMES THAT ARE DEFECTIVE, DAMAGED POLISHED OR DAMAGED WITHIN THE SITE LIMITS TO BE REPLACED
12. WHERE AREA OF BACKFILL AND OR SUB-BASE IS LESS THAN 1.0m IN WIDTH CONCRETE MIX ST5 25N/mm² SHALL BE USED UPTO 100mm OF THE FINISHED CARRIAGEWAY SURFACE.
13. WHERE THE CONCRETE KERB ABUTS THE TARMAC, THE SURFACING TO BE PAINTED WITH A TACK COAT OF 200 PEN BITUMEN.
14. ANY NEWLY LAID TARMAC THAT IS 24 HRS OLD EITHER IN THE CARRIAGEWAY OR IN THE FOOTWAY WILL REQUIRE TACK COAT APPLICATION PRIOR TO ANY FURTHER SURFACING WITH HAND LANCE APPLICATION. IN THE FOOTWAY AND IN THE CARRIAGEWAY A HOT TANKER APPLIED BITUMEN TACK COAT IN ACCORDANCE WITH THE SPECIFICATION FOR HIGHWAY WORKS, AS FOLLOWS:
   I. BINDER CLASSIFICATION AND APPLICATION DETAILS TO CL 920
   II. THE BINDER SHALL BE BITUMEN EMULSION TO BS 434:PART 1
   III. THE BINDER SHALL BE CLASS A1-40 OR K1-40
   IV. RATE OF SPREAD SHALL BE 0.3 TO 0.5/M2
   V. PERMITTED ADDITIVES TO BINDER : NONE
   VI. BLINDING MATERIAL: NONE



STANTON GA1-325 ORGAI-450 GULLEY GRATE
N.T.S



STANTON HY 813 PEDESTRIAN GULLY GRATE
N.T.S

REV	DATE	BY	DESCRIPTION	CHK	APP
A	03/07/18	MW	ISSUED FOR S38 APPROVAL	NS	NS

DRAWING STATUS: S3 - FOR REVIEW

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CLIENT: ENGIE

ARCHITECT: ACANTHUS WSM ARCHITECTS

SITE/PROJECT: ST CATHERINES WALK
BARNSLEY

TITLE: STANDARD HIGHWAY CONSTRUCTION DETAILS
SHEET 2 OF 2

SCALE @ A1:	CHECKED:		APPROVED:
AS SHOWN	NS		NS
PROJECT NO:	DESIGNED:	DRAWN:	DATE:
70042416	NS	MW	June 18

DRAWING No: 70042416-SD-002 REV: A

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