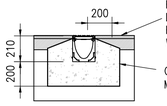
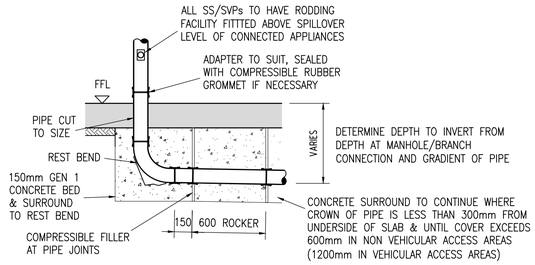


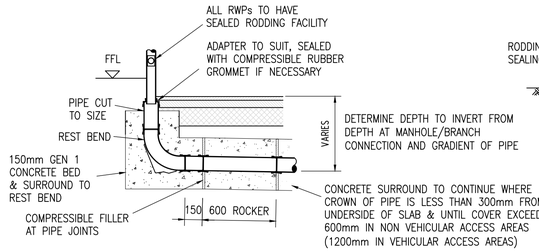
TYPICAL ACO MULTIDRAIN M150D 0.0J DETAIL WITH GRATING TO LOAD CLASS B125/C250.



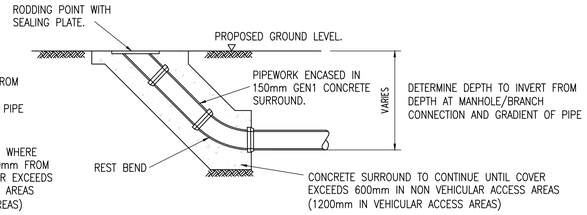
TYPICAL ACO MULTIDRAIN M150D 0.0J DETAIL WITH GRATING TO LOAD CLASS D400.



TYPICAL SS/SVP CONNECTION



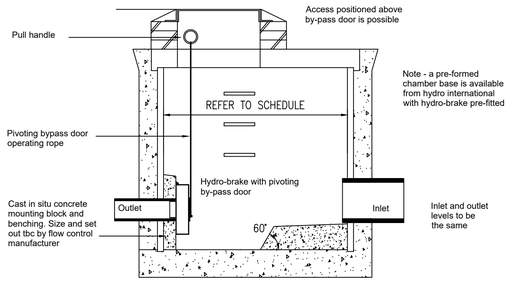
TYPICAL RWP CONNECTION



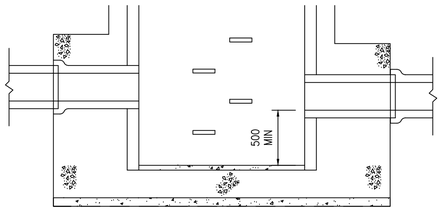
EXTERNAL RODDING EYE DETAIL

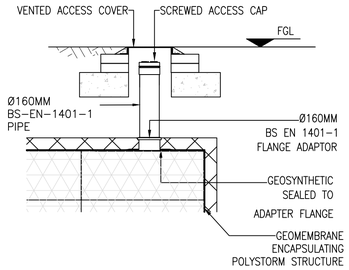
TYPICAL HYDROBRAKE MANHOLE DETAIL

REFER TO HYDRO INTERNATIONAL DRAWINGS FOR SITE SPECIFIC DETAILS

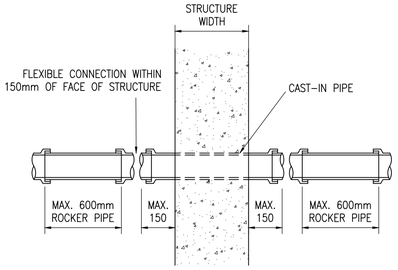


TYPICAL CATCHPIT MANHOLE DETAIL

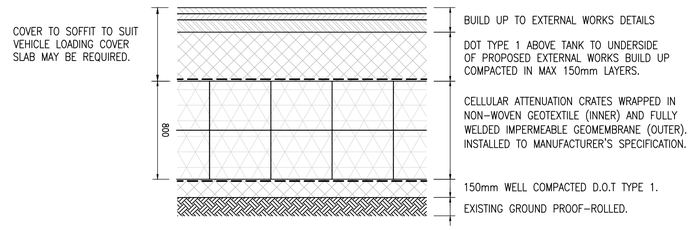




TYPICAL TANK VENTILATION DETAIL



PLAN SHOWING PIPE PENETRATION THROUGH STRUCTURE (ROCKER OPTION)

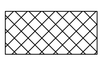


BUILD UP ABOVE ATTENUATION CRATES

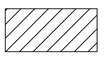
UNDER HARD LANDSCAPING

NOTES

1. DO NOT SCALE FROM THIS DRAWING, UTILISE ONLY NUMBERED DIMENSIONS.
2. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS, NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
3. UNLESS NOTED OTHERWISE, THIS DRAWING IS FOR PLANNING APPROVAL.
2. ALL DRAINAGE TO BE TO THE SATISFACTION OF THE LOCAL AUTHORITY BUILDING CONTROL AND MAIN DRAINAGE SECTIONS ON MATTERS INVOLVING PUBLIC SEWERS.
3. ALL PIPEWORK, BENDS AND JUNCTIONS TO BE EXTRA STRENGTH VITRIFIED CLAY TO BS 65:1991 (SURFACE WATER ONLY) & BS EN 295, OR PVCu TO BS EN 1401–1. TO BE AGREED WITH RELEVANT AUTHORITY.
4. INVERT LEVELS ON EXISTING DRAINS & OUTFALLS TO BE CHECKED PRIOR TO COMMENCEMENT OF WORKS.
5. TRENCH WIDTHS GENERALLY:– AS SMALL AS PRACTICABLE BUT NOT LESS THAN PIPE DIAMETER +300mm OR LARGER IF SPECIFIED. TRENCH SIDES MUST BE VERTICAL FROM BOTTOM UP TO 300mm ABOVE CROWN OF PIPE.
6. WHERE DRAINAGE PIPES HAVE LESS THAN 1.2m COVER IN TRAFFICKED AREAS AND LESS THAN 600mm UNDER LANDSCAPED AREAS PIPES SHALL HAVE A FULL CLASS Z CONCRETE SURROUND. CONCRETE PROTECTION TO BE DISCONTINUED AT EACH PIPE JOINT WITH COMPRESSIBLE MATERIAL. ALL OTHER FLEXIBLE PIPES TO HAVE CLASS S GRANULAR BEDDING DETAIL UNLESS OTHERWISE NOTED. ALL OTHER RIGID PIPES TO HAVE CLASS B GRANULAR BEDDING DETAIL UNLESS OTHERWISE NOTED.
7. GRANULAR BEDDING:
   - 10mm SINGLE SIZED COARSE AGGREGATE SHALL BE USED ON PIPES NOT EXCEEDING 140mm DIAMETER.
   - 2–14mm WELL GRADED COARSE AGGREGATE MAY BE USED ON PIPES EXCEEDING 140mm BUT NOT EXCEEDING 400mm DIAMETER.
   - 4–20mm WELL GRADED COARSE AGGREGATE MAY BE USED ON PIPES EXCEEDING 400mm DIAMETER.
   - THE DEPTH OF GRANULAR BEDDING UNDER THE PIPES SHALL BE X/6 OR 150mm, WHICHEVER IS GREATER, WHERE X=EXTERNAL DIAMETER OF THE PIPE.
8. ADOPTABLE PUBLIC SEWERS TO BE CONSTRUCTED IN ACCORDANCE WITH SEWAGE SECTOR GUIDANCE APPENDIX C.
9. ALL PRIVATE DRAINAGE WORKS SHALL BE IN ACCORDANCE WITH "THE BUILDING REGULATIONS APPROVED DOCUMENT H" AND BRITISH STANDARD BS EN 752.
10. ALL NEW DRAINAGE TO BE TESTED PRIOR TO BACKFILL OF THE TRENCHES & PRIOR TO HANDOVER TO THE SATISFACTION OF THE BUILDING CONTROL INSPECTOR.
11. THE CONTRACTOR MUST LIAISE WITH THE LOCAL AUTHORITY MAIN DRAINAGE SECTION PRIOR TO COMMENCEMENT OF WORK ON PUBLIC DRAINAGE.
12. TRENCH BACKFILL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 250mm ONCE 300mm COVER HAS BEEN PROVIDED TO THE TOP OF PIPE.
13. THE CONTRACTOR SHALL ALLOW IN HIS RATES FOR MAINTAINING FLOW IN PUBLIC SEWERS AT ALL TIMES DURING DIVERSION WORKS INCLUDING TEMPORARY PUMPING AND ALSO KEEPING EXCAVATIONS FREE FROM GROUNDWATER INCLUDING PUMPING AND FORMATION OF TEMPORARY SUMPS.
14. THE CONTRACTOR SHALL MAKE PROVISIONS FOR AND LIAISE WITH ALL RELEVANT STATUTORY BODIES FOR THE MANAGEMENT OF TRAFFIC WHILE CARRYING OUT WORKS IN THE PUBLIC HIGHWAY.
15. THE CONTRACTOR IS TO SATISFY HIMSELF TO THE POSITION AND AND DEPTH OF THE PUBLIC UTILITIES AND ALLOW FOR TEMPORARY SUPPORT, PROTECTION AND DIVERSION WORKS AS NECESSARY. THE CONTRACTOR SHALL ALSO INCLUDE FOR ANY TRIAL PIT EXCAVATIONS NECESSARY.
16. BACKFILL TO EXCAVATIONS IN PUBLIC HIGHWAYS TO BE WELL COMPACTED GRANULAR TYPE 1 TO CL.803 OF THE DTp SPECIFICATION FOR HIGHWAY WORKS 2009.
17. ALL EXTERNAL GULLIES TO BE 375mm DIA. MINIMUM, PRECAST CONCRETE, HEAVY DUTY, KITE MARKED & ANTI–THEFT.



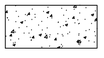
- UNDER SOFT LANDSCAPING – CLASS 8 MATERIAL TO S.H.W CLAUSE 503.3 (iv).
- UNDER HARD LANDSCAPING/BUILDING SLAB – DOT TYPE 1.



CLASS 8 MATERIAL TO S.H.W CLAUSE 503.3 (iv). (I.E. BACKFILL WITH NO LUMPS OF CLAY OR STONE LARGER THAN 40mm)



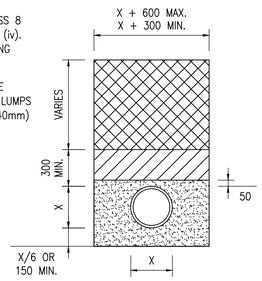
GRANULAR MATERIAL TO S.H.W. CLAUSE 503.3 (i). SEE TABLE 5/3.



GEN 1 OR ST 2 CONCRETE TO S.H.W. CLAUSE 503.3 (iii).

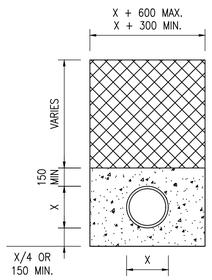
NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES.
- DIMENSION X IS THE EXTERNAL PIPE DIAMETER.
- THE MIN/MAX WIDTH OF TRENCH APPLIES ON & BELOW A LINE 300mm ABOVE THE TOP OF THE PIPE. ABOVE THE 300mm LINE TRENCH BACKFILL MATERIAL SHALL BE AS DESCRIBED IN CLAUSE 505 OF S.H.W.
- CONCRETE SURROUND MAY EXTEND TO SIDES OF TRENCH OR BE OF MINIMUM WIDTH TO PROVIDE 150mm COVER AT EACH SIDE OF THE PIPE.
- UNTIL THERE IS 300mm COVER OVER CROWN OF PIPE, COMPACT GRANULAR & BACKFILL MATERIAL BY HAND IN 100mm THICK LAYERS.



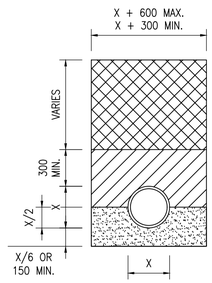
CLASS S BEDDING DETAIL (uPVC/FLEXIBLE PIPES)

FOR USE WHEN COVER TO SOFFIT OF PIPE IS GREATER THAN 600mm IN NON–TRAFFICKED AREAS AND GREATER THAN 1200mm IN AREAS WITH VEHICULAR ACCESS.



CLASS Z BEDDING DETAIL (ALL PIPES)

FOR USE WHEN COVER TO SOFFIT OF PIPE IS LESS THAN 600mm IN NON–TRAFFICKED AREAS AND LESS THAN 1200mm IN AREAS WITH VEHICULAR ACCESS. MIN. 18mm COMPRESSIBLE BOARD AT ALL PIPE JOINTS

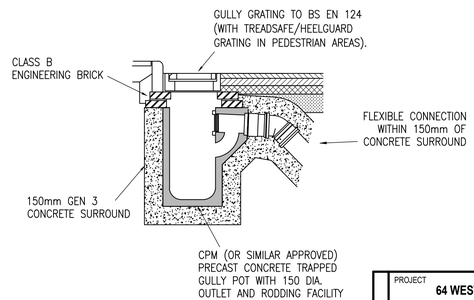


CLASS B BEDDING DETAIL (CLAY/CONCRETE ONLY)

FOR USE WHEN COVER TO SOFFIT OF PIPE IS GREATER THAN 600mm IN NON–TRAFFICKED AREAS AND GREATER THAN 1200mm IN AREAS WITH VEHICULAR ACCESS.

CLASS S/B GRANULAR BEDDING MATERIAL – S.H.W 503 (i) TABLE 5/3 [BS EN 13242] –		
NOMINAL PIPE DIAMETER (mm)	SINGLE SIZED COARSE AGGREGATE (mm)	GRADED COARSE AGGREGATE (mm)
NOT EXCEEDING 140	4/10	–
EXCEEDING 140 BUT NOT EXCEEDING 400	4/10, 6/10 OR 10/20	2/14 OR 4/20
EXCEEDING 400	4/10, 6/14, 10/20 OR 20/40	2/14, 4/20 OR 4/40

CLASS Z COMPRESSIBLE FILLER BOARD DETAILS	
NOMINAL PIPE DIAMETER (mm)	THICKNESS OF COMPRESSIBLE FILLER (mm)
LESS THAN 450	18
450 – 1200	36
GREATER THAN 1200	54



TYPICAL PRECAST CONCRETE ROAD GULLY DETAIL

PROJECT: 64 WESTFIELD LANE, CLECKHEATON, BD19 6DR

TITLE: PROPOSED DRAINAGE DETAILS SHEET 2 OF 2

PROJECT No.	DRAWING No.	AMENDMENT	DATE DRAWN	DRAWN BY
WA-1079	D-04	-	MAY '26	MH

Amendment Note

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