
Albany Court, Newcastle Business Park, Amethyst Road, Newcastle upon Tyne NE4 7YL

SUDS Verification Report

Mortimer Community College Extension – Education

for

South Tyneside Council

08713-JKC-XX-XX-SP-C-
0003

February 2026

SUDS Verification Report

Mortimer Community College Extension – Education

for

South Tyneside Council

Revision	Date of issue	Comments	Prepared By	Checked By
P01	12/02/2026	First Issue	OH/FM	DH

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Introduction

Jasper Kerr Consulting have been appointed by South Tyneside Council to produce a SUDS verification report in order to discharge the Pre-occupation Planning Condition 16, for the development in South Shields. This document is to be included in the Health and Safety file.

For reference the Planning Condition 16 is as follows;

“The development hereby shall not be occupied until a verification report evidencing the completion of the approved sustainable drainage system (tanked permeable paving, rain garden and attenuation storage tank), the contents of which is to include amongst other things methodology of installation, evidence of depths and dimensions and supporting images from installation, has been submitted to and approved in writing by the Local Planning Authority.

To ensure the discharge of surface water from the site does not increase the risk of flooding in accordance with Policies ST2 and DM1 of the South Tyneside Local Development Framework and the NPPF.”

Site Location

The application site is within the existing Mortimer Community College site and is located off Reading Road, South Shields, Tyne & Wear. The areas of the college that are proposed for development are located in the northwest and northeast corners of the site. The site is bounded by residential properties to the north on Reading Road and further residential properties to the east on Mortimer Road. To the southwest of the site beyond the sports pitches are residential properties on Bisley Drive. To the south are playing fields and a MUGA, whilst the separate Mortimer Primary School is located to the southeast.

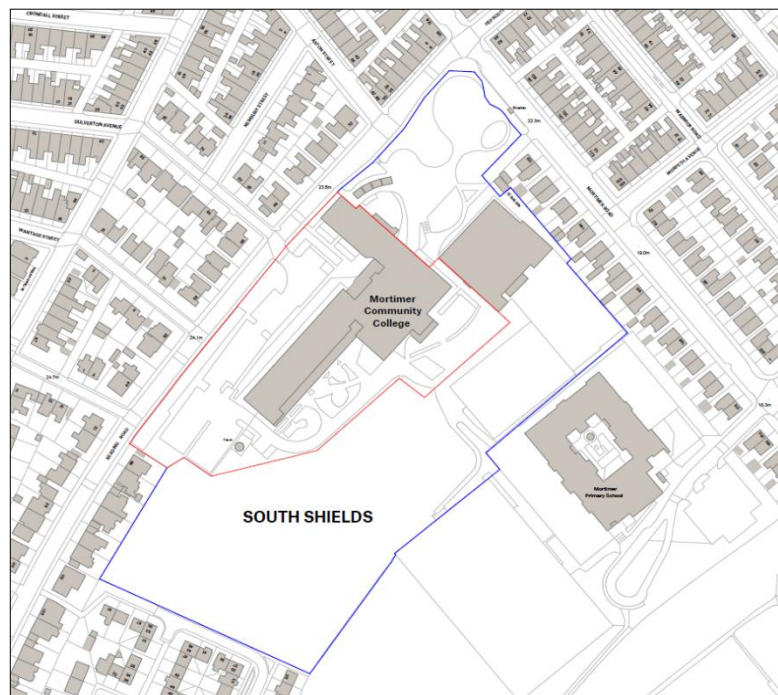


Figure 1: Site Location



Figure 2: Proposed Landscaping Plan – OOB

The Development

The coloured areas shown on Figure 2 indicate the external works associated with this development. The car park to the west of the college slopes towards the college and the 3-storey extension is being built into this slope so there will be an element of retaining around the north and eastern elevation of the extension. The existing car park is being regraded and re-surfaced and the existing access road which runs along the western edge of the college will be moved west to run around the extension. The proposed levels of the access road will direct surface water to the south and away from the entrance into the 3-storey extension and a 100mm kerb face will be maintained along this elevation.

SUDS Strategy

The proposed SUDS strategy for the site is a multi-element approach as shown in the Jasper Kerr drawing 08713-JKC-XX-00-DR-C-1003 – Drainage Layout.

The SUDS features incorporated into the project are as follows;

1. Attenuation tank, 11m x 0.4m x 0.3m = 13.2m³ (gross). 95% Void ratio = 12.5m³ (net)
2. Flow Control, Hydrobrake to restrict discharge to 2.5 l/s
3. Permeable parking bays with diffuser boxes
4. Rain Gardens

Site Log

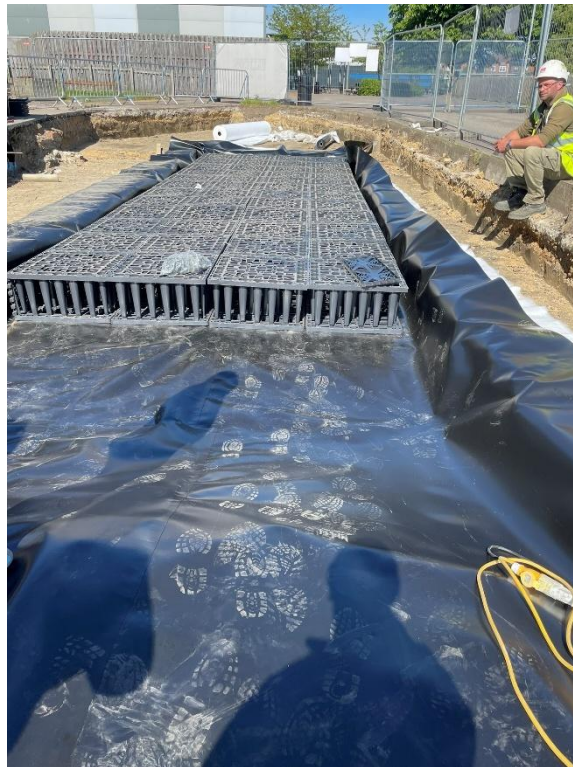
A combination of site visits and photos taken by site have been used to observe and confirm the construction of SUDS features matches those specified in Jasper Kerr's construction details.

Comments/Images

Attenuation Tank

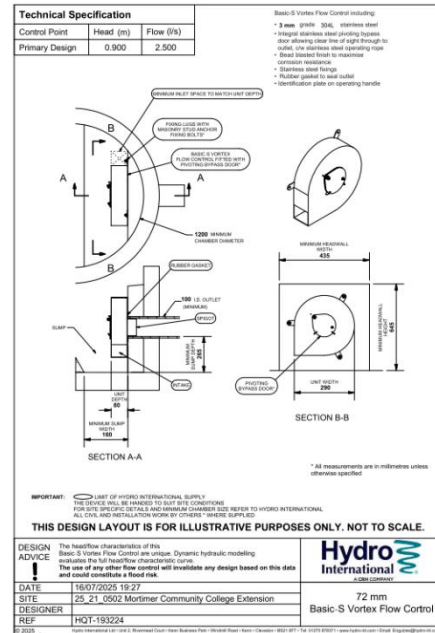
Visit to review excavation of Attenuation tank. The Excavations have been completed and water that had filled it overnight has been pumped out ready to start laying the liners and constructing the tank.

The impermeable liner has been laid. The size and depth match the drawings and specification from the tank supplier, and you can see the impermeable liner is free from rips or tears which could impede the performance of the tank. The crates that have been built in this image are clearly interlocked and connected properly meaning they will stay together, and the tank will keep its shape after being backfilled. The impermeable liner extends above the top of the crates and as this tank is only 1 crate tall, we can see that the cover is to the specification provided too.



Hydrobrake

In these images taken by the contractor we can see the installed Hydrobrake chamber in line with the details provided by Hydro. The Hydrobrake will ensure that water is discharged from the site in line with the NWL requirements and will allow the water to back up and fill the attenuation tank. The Hydrobrake technical specification sheet below shows the head and flow to be 0.900m and 2.500l/s respectively. The hydraulic modelling utilised a design head of 1.000m, this has been revised to 0.900m and there is still no flooding across the site and discharge rate is still restricted to 2.5l/s.



Permeable paving and diffuser units

Two types of permeable paving have been proposed across the site, light and medium duty. The light duty, discharges from a single diffuser unit into manhole SW9, the medium duty discharges via multiple diffuser units into the proposed rain garden. For the light duty paving, the installed diffuser box can be seen in the first photo below. The second photo shows the permeable blocks being laid on top of the specified build up, the photo shows the larger type 3 aggregate and the finer crushed rock layers.



Rain Gardens with Perforated Pipes

The below image shows pictures taken by the contractor during the installation of the Rain Gardens, these show the perforated pipe, being backfilled by type b filter material. The first picture shows the geotextile still be wrapped around the pipe and filter material, the second photos show it wrapped. The proposed drainage design has diffuser boxes connecting into the perforated pipe from the permeable parking bays, an example of these can be seen in the third photo.



Evidence provided

The contractors on site have provided information regarding any changes to the proposed drainage layout from Jasper Kerr that occurred during construction. These have fed into the Jasper Kerr 'As-designed' drainage drawings and are included within **Appendix C**. A CCTV survey was conducted post construction of the surface water drains this can be found in **Appendix E**. The CCTV survey results show initially some blockages, due to construction debris but these have been removed and the system is now clear and good working order.

Conclusions

Based on site observations and discussions with the contractor Jasper Kerr can confirm that all of the SuDS elements have now been installed in accordance with the approved design drawings and maintenance undertaken as outlined within the 'Sustainable Drainage Maintenance and Management' document provided by Jasper Kerr (found in **Appendix B**), will ensure these elements will perform as well as intended.

Appendices

Appendix A – Proposed site layout – OOB

Appendix B – Maintenance and Management Document

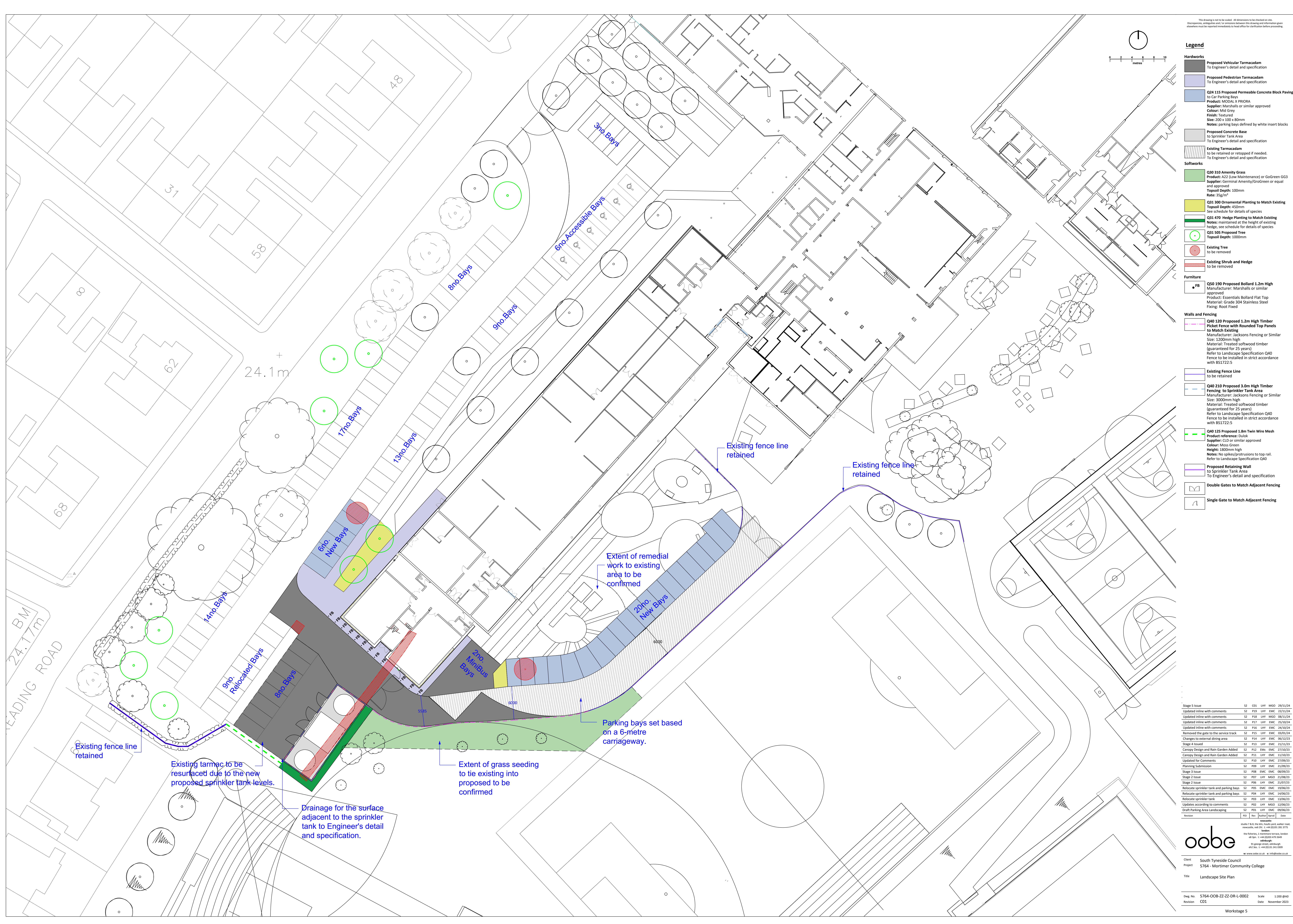
Appendix C – As built drainage drawings – Jasper Kerr Consulting

Appendix D – Manufacturers details - Various

Appendix E – CCTV drainage survey

Appendix A

Proposed Site Layout - OOBE Architecture



Appendix B

Contractor Site Drawings Including images

Albany Court, Newcastle Business Park, Newcastle upon Tyne NE4 7YB

Sustainable Drainage Maintenance and Management

Mortimer College, South Shields

for

South Tyneside Council

**08713-JKC-XX-XX-T-C-
0001**

November 2024

Sustainable Drainage Maintenance and Management
Mortimer College, South Shields
for
South Tyneside Council

Revision	Date of issue	Comments	Prepared By	Checked By
0	22/11/24	For Approval	OH	SB

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Appendices:

Appendix A – Proposed drainage layout

Appendix B – SUDS checklist

1.0 Introduction

Jasper Kerr Consulting Engineers Ltd were commissioned by South Tyneside Council to undertake a Drainage Strategy for the proposed extension to Mortimer College, South Shields, Tyne and Wear. This report has been produced in support of this and outlines the proposed maintenance and management activities associated with the proposed drainage strategy.

2.0 Maintenance Requirements

2.1 Types of Maintenance

Maintenance requirements are:

- Regular Maintenance: consists of basic tasks carried out to a frequent and predictable schedule, including inspections/monitoring, silt or oil removal if required more frequently than once per year, vegetation management, sweeping of surfaces and litter and debris removal.
- Occasional Maintenance: comprises tasks that are likely to be required periodically, but on a much less frequent and predictable basis than the regular tasks (e.g. sediment removal or filter replacement).
- Remedial Actions: describes the intermittent tasks that may be required to rectify faults associated with the system, although the likelihood of faults can be minimised by good design, construction and regular maintenance activities. Where remedial work is found to be necessary, it is likely to be due to site-specific characteristics or unforeseen events, and so timings are difficult to predict. Remedial maintenance can comprise activities such as: inlet and outlet repairs, erosion repairs, reinstatement or realignment of edgings, barriers, rip-rap or other erosion control, infiltration surface rehabilitation, replacement of blocked filter materials/fabrics, construction stage sediment removal (although this activity should have been undertaken before the start of the maintenance contract), system rehabilitation immediately following a pollution event

2.2 General Maintenance

The following is taken from CIRIA C753, The SuDS Manual, and outlines high level maintenance activities:

TABLE 32.1 Typical key SuDS components operation and maintenance activities (for full specifications, see Chapters 11–23)

Operation and maintenance activity	SuDS component											
	Pond	Wetland	Detention basin	Infiltration basin	Soakaway	Infiltration trench	Filter drain	Modular storage	Pervious pavement	Swale/bioretention/trees	Filter strip	Green roofs
Regular maintenance												
Inspection	■	■	■	■	■	■	■	■	■	■	■	■
Litter and debris removal	■	■	■	■	□	■	■	□	■	■	■	□
Grass cutting	■	■	■	■	□	■	■	□	□	■	■	
Weed and invasive plant control	□	□	□	□		□	□		□		□	■
Shrub management (including pruning)	□	□	□	□					□	□	□	
Shoreline vegetation management	■	■	□									
Aquatic vegetation management	■	■	□									
Occasional maintenance												
Sediment management ¹	■	■	■	■	■	■	■	■	■	■	■	■
Vegetation replacement	□	□	□	□						□	□	■
Vacuum sweeping and brushing									■			
Remedial maintenance												
Structure rehabilitation /repair	□	□	□	□	□	□	□	□	□	□	□	□
Infiltration surface reconditioning				□	□	□	□		□	□	□	

Key
 ■ will be required
 □ may be required

Notes
 1 Sediment should be collected and managed in pre-treatment systems, upstream of the main device.

Figure 1: Extract from CIRIA

Further information is available within CIRIA C753 chapters 11 – 23.



In addition to the information contained within CIRIA C753, the following table expands upon general maintenance requirements associated with general sustainable drainage features:

Generic Operation and Maintenance Requirements			
Maintenance Schedule	Required Action	Typical Frequency	Responsibility
Regular Maintenance	Brushing and vacuuming (standard cosmetic sweep over whole surface)	Once a year, after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer recommendations - pay particular attenuation to where water runs onto pervious surface from adjacent impermeable areas as this area is most likely to collect increased sediment.	Land Owner/ Maintenance Company
Occasional Maintenance	Stabilise and mow contributing and adjacent areas	As required	Land Owner/ Maintenance Company
	Removal of weeds or management using glyphosphate applied directly into the weeds by an applicator rather than spraying.		
Remedial Actions	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50mm of the level of the paving	As required	Land Owner/ Maintenance Company
	Remedial work to any depressions, rutting and/ or cracked or broken blocks/ cellular paving considered detrimental to the structural performance or a hazard to users and replace any lost jointing and/ or fill material		
	Rehabilitation of surface and upper substructure by remedial sweeping	Every 10 to 15 years or as required (if infiltration performance is reduced)	
Monitoring	Initial inspection	Monthly for three months following installation	Land Owner/ Maintenance Company
	Inspect for evidence of poor operation and/ or weed growth - if required take remedial actions	Three-monthly, 48 hours after large storms in first six months of operation	
	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually	
	Monitor inspection chambers and inlets		

2.3 Specific Maintenance

The following tables are provided to identify maintenance requirements and responsibilities associated with specific elements of the proposed sustainable drainage features:

Flow Control Device			
Regular inspection and maintenance are required to ensure the effective long-term operation of below-ground flow control device. Maintenance responsibility for systems should be placed with a responsible organisation. The table below provides guidance on the type of operational and maintenance requirements that may be appropriate. The list of actions is not exhaustive and some actions may not always be required.			
Maintenance Schedule	Required Action	Typical Frequency	Responsibility
Regular maintenance	Inspect and remove silt accumulation. Establish silt removal frequencies	Monthly for 3 months, then annually	Land Owner/ Maintenance Company initially then NWL following adoption
Occasional maintenance	Remove silt when 100mm deep in chamber base	Every 2 years or as required	Land Owner/ Maintenance Company initially then NWL following adoption
Remedial Actions	Repair physical damage if necessary	Repair physical damage if necessary	Land Owner/ Maintenance Company initially then NWL following adoption
Attenuation Tanks (Cellular Storage)			
Regular inspection and maintenance are required to ensure the effective long-term operation of below-ground storage systems. Maintenance responsibility for systems should be placed with a responsible organisation. The table below provides guidance on the type of operational and maintenance requirements that may be appropriate. The list of actions is not exhaustive and some actions may not always be required.			
Maintenance Schedule	Required Action	Typical Frequency	Responsibility
Regular Maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action	Monthly for 3 months, then annually	Land Owner/ Maintenance Company
	Remove sediment from pre-treatment structures and/or internal forebays	Annually, or as required	
Remedial Actions	Repair/rehabilitate inlets, outlet, overflow and vents	As required	Land Owner/ Maintenance Company
Monitoring	Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed	Annually	Land Owner/ Maintenance Company



	Survey inside of tank for sediment buildup and remove if necessary	Every 5 years, or as required	
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Permeable Paving

Regular inspection and maintenance is important for the effective operation of pervious pavements. Before handing over the pavement to the client, it should be inspected for clogging, litter, weeds and water ponding, and all failures should be rectified. After handover, the pavement should be inspected regularly, preferably during and after heavy rainfall to check effective operation and to identify any areas of ponding.

Pervious pavements need to be regularly cleaned of silt and other sediments to preserve their infiltration capacity. Sweeping once per year should be sufficient to maintain an acceptable infiltration rate on most sites. However, in some instances, more or less sweeping may be required and the frequency should be adjusted.

A brush and suction cleaner (which can be a lorry-mounted device or a smaller precinct sweeper) should be used for regular sweeping. Care should be taken in adjusting vacuuming equipment to avoid removal of jointing/ fill material. Any lost material should be replaced. It is also possible to clean the surface using lightweight rotating brush cleaners combined with power spraying using hot water

If the surface has clogged then a more specialist sweeper with water jetting and oscillating and rotating brushes may be required, especially for porous asphalt surfaces, to restore the surface infiltration rate to an acceptable level.

For concrete block permeable paving the design life should be no different from standard paving, assuming that an effective maintenance regime is in place to minimise risks of infiltration clogging. Maintenance Plans and schedules should be prepared during the design phase. Specific maintenance needs of the pervious pavement should be monitored, and maintenance schedules adjusted to suit requirements. The table below provides guidance on the type of operational and maintenance requirements that may be appropriate. The list of actions is not exhaustive, and some actions may not always be required.

Many of the specific maintenance activities for pervious pavements can be undertaken as part of a general site cleaning contract (many car parks or roads are swept to remove litter and for visual reasons to keep them tidy) and therefore, if litter management is already required at site, this should have marginal cost implications.

Generally, pervious pavements require less frequent gritting in winter to prevent ice formation. There is also less risk of ice formation after snow melt, as the melt water drains directly into the underlying sub-base and does not have chance to refreeze. A slight frost may occur more frequently on the surface of pervious pavements compared to adjacent impermeable surfaces, but this is only likely to last for a few hours. It does not happen in all installations and, if necessary, this can be dealt with by application of salt. It is not likely to pose a hazard to vehicle movement

Maintenance Schedule	Required Action	Typical Frequency	Responsibility
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Regular maintenance	Brushing and vacuuming (standard cosmetic sweep over whole surface)	Once a year, after Autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer's recommendations – pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this area is most likely to collect the most sediment	Land Owner/ Maintenance Company
Regular maintenance	Inspection of the perforated pipe at the inspection chambers to ensure a flow through the site is still occurring and no blockage is present	Monthly to being with dropping to quarterly if no issues are identified and less regularly if this also show no issues. Minimum inspection once per year.	Land Owner/ Maintenance Company
Occasional Maintenance	Stabilise and mow contributing and adjacent areas	As required	Land Owner/ Maintenance Company
	Removal of weeds or management using glyphosate applied directly into the weeds by an applicator rather than spraying	As required – once per year on less frequently used pavements	
	Check for and clear any blockages within the perforated pipe. Use of a CCTV to inspect drainage	Upon completion of the proposed construction works and yearly there after (unless an issue is identified)	
Remedial Actions	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50 mm of the level of the paving	As required	Land Owner/ Maintenance Company



	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material	As required	
	Rehabilitation of surface and upper substructure by remedial sweeping	Every 10 to 15 years or as required (if infiltration performance is reduced due to significant clogging)	
	Replacement of filter material	Every 20-25 years	
Monitoring	Initial inspection	Monthly for three months after installation	
	Inspect for evidence of poor operation and/or weed growth – if required, take remedial action	Three-monthly, 48h after large storms in first six months	
	Ensure the flows are leaving the permeable paving as expected this may be silted up and require rodding to allow flows to leave the permeable paving	As required when localised ponding occurs	
Monitoring	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually	
	Monitor inspection chambers and inlets	Annually	
			Land Owner/ Maintenance Company

Rain Gardens			
These rain gardens are formed as per the details indicated in drawing C-1005 – SUDS Construction Details(Appendix B). Regular inspection and maintenance are required to ensure the effective long-term operation of the perforated land drain at the base of the soft landscaped “rain gardens”. Maintenance responsibility for systems should be placed with a responsible organisation. The table below provides guidance on the type of operational and maintenance requirements that may be appropriate. The list of actions is not exhaustive and some actions may not always be required.			
Maintenance Schedule	Required Action	Typical Frequency	Responsibility
Regular Maintenance	Inspection of the perforated pipe at the inspection chambers to ensure a flow through the site is still occurring and no blockage is present	Monthly to being with dropping to quarterly if no issues are identified	Land Owner/ Maintenance Company
	Remove sediment from pre-treatment structures (silt traps)	Monthly to being with dropping to quarterly if no issues are identified	
Occasional Maintenance	Check for and clear any blockages within the perforated pipe. Use of a CCTV to inspect drainage	Upon completion of the proposed construction works and yearly there after (unless an issue is identified)	Land Owner/ Maintenance Company
Monitoring	Ensure the flows are leaving the rain garden as expected if this is not the case it may be silted up and require rodding from the overflow pipe	As required when it appears rain garden is backing up with water lying on the surface.	Land Owner/ Maintenance Company

3.0 Summary

3.1 Conclusion

This document summarises the maintenance requirements of the sustainable drainage features proposed as part of the surface water drainage system for the proposed extension to Mortimer College in South Shields.

This document should be read alongside the Drainage Strategy and detailed design information. It is recommended that a detailed maintenance schedule is developed and maintained as an active document by the landowner/ maintenance company based upon the emerging bespoke needs of the development post-completion with particular reference to the recommendations provided by the manufacturers of proprietary drainage features such as the permeable block paving and attenuation tank.

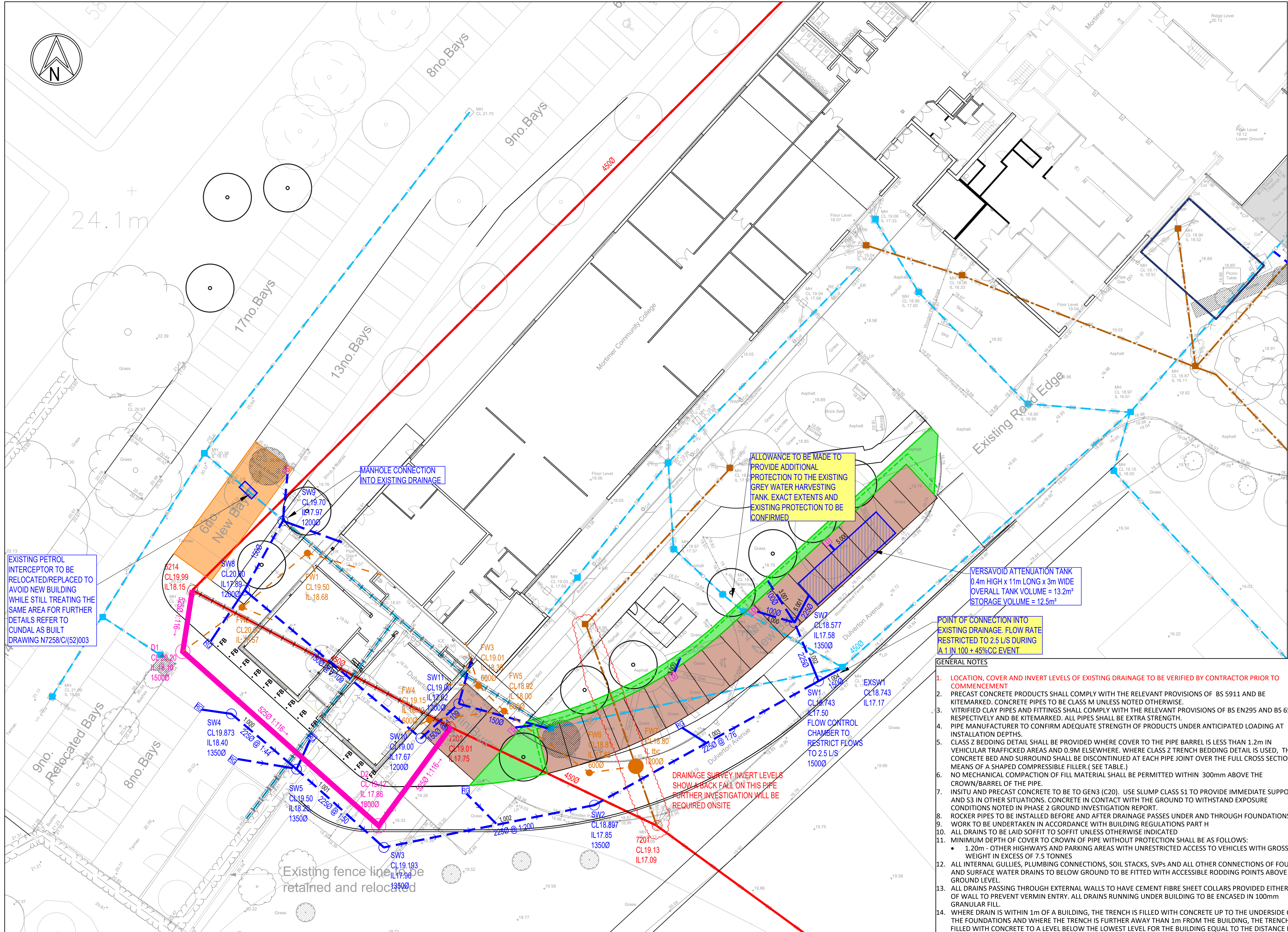
4.0 Appendices

Appendix A – Proposed drainage layout

Appendix B – SUDS Maintenance Schedule

Appendix A

Proposed Drainage Layout



KEY

- EXISTING NWL COMBINED WATER SEWER AND MANHOLE
- EXISTING PRIVATE SURFACE WATER DRAIN AND MANHOLE
- EXISTING PRIVATE FOUL WATER DRAIN AND MANHOLE
- EXISTING DRAINAGE TO BE DIVERTED
- PROPOSED NWL COMBINED WATER SEWER DIVERSION ROUTE
- PROPOSED SURFACE WATER DRAINAGE AND ASSOCIATED MANHOLE
- DIFFUSER UNIT OUTLET FROM PERMEABLE PAVING
- PROPOSED GULLY AT BOUNDARY WITH PUBLIC HIGHWAY
- PROPOSED RAIN GARDEN
- PROPOSED PERMEABLE PAVING - LIGHT DUTY
- PROPOSED PERMEABLE PAVING - MEDIUM DUTY

NOTES:

- DRAINAGE DESIGN SUBJECT TO LOCAL AUTHORITY APPROVAL VIA PLANNING APPLICATION
- DRAINAGE CONNECTIONS SUBJECT TO SECTION 106 INDIRECT CONNECTION APPROVAL FROM NWL. CONTRACTOR TO ALLOW FOR APPLICATION.
- SEWER DIVERSION SUBJECT TO NWL APPROVAL VIA SECTION 185 APPROVAL. CONTRACTOR TO ALLOW FOR APPLICATION

SUBJECT TO LOCAL AUTHORITY & WATER AUTHORITY APPROVAL					
T02	22/11/24	OH	UPDATED TO NEW LANDSCAPE LAYOUT	SB	SB
T01	06/12/23	SB	INITIAL ISSUE	DH	DH
Rev	Date	By	Description	Chk	App

Drawing Status: PRELIMINARY

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Client: SOUTH TYNESIDE COUNCIL

Architect: SPACE ARCHITECTS

Project: MORTIMER COMMUNITY COLLEGE EXTENSION

Title: DRAINAGE LAYOUT

Scale @ A1	1:250	Checked	DH	Approved	DH
Project No.	JK-7144	Designed	SB	Drawn	SB
Date	DECEMBER 2023				
Drawing No.	08713-JKC-XX-00-DR-C-1003				T02

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- GENERAL NOTES**
- LOCATION, COVER AND INVERT LEVELS OF EXISTING DRAINAGE TO BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT
 - PRECAST CONCRETE PRODUCTS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS 5911 AND BE KITEMARKED. CONCRETE PIPES TO BE CLASS M UNLESS NOTED OTHERWISE.
 - VITRIFIED CLAY PIPES AND FITTINGS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN295 AND BS 65 RESPECTIVELY AND BE KITEMARKED. ALL PIPES SHALL BE EXTRA STRENGTH.
 - PIPE MANUFACTURER TO CONFIRM ADEQUATE STRENGTH OF PRODUCTS UNDER ANTICIPATED LOADING AT INSTALLATION DEPTHS.
 - CLASS Z BEDDING DETAIL SHALL BE PROVIDED WHERE COVER TO THE PIPE BARREL IS LESS THAN 1.2m IN VEHICULAR TRAFFICKED AREAS AND 0.9m ELSEWHERE. WHERE CLASS Z TRENCH BEDDING DETAIL IS USED, THE CONCRETE BED AND SURROUND SHALL BE DISCONTINUED AT EACH PIPE JOINT OVER THE FULL CROSS SECTION BY MEANS OF A SHAPED COMPRESSIBLE FILLER (SEE TABLE.)
 - NO MECHANICAL COMPACTION OF FILL MATERIAL SHALL BE PERMITTED WITHIN 300mm ABOVE THE CROWN/BARREL OF THE PIPE.
 - INSITU AND PRECAST CONCRETE TO BE TO GEN3 (C20). USE SLUMP CLASS S1 TO PROVIDE IMMEDIATE SUPPORT AND S3 IN OTHER SITUATIONS. CONCRETE IN CONTACT WITH THE GROUND TO WITHSTAND EXPOSURE CONDITIONS NOTED IN PHASE 2 GROUND INVESTIGATION REPORT.
 - ROCKER PIPES TO BE INSTALLED BEFORE AND AFTER DRAINAGE PASSES UNDER AND THROUGH FOUNDATIONS
 - WORK TO BE UNDERTAKEN IN ACCORDANCE WITH BUILDING REGULATIONS PART H
 - ALL DRAINS TO BE LAID SOFFIT TO SOFFIT UNLESS OTHERWISE INDICATED
 - MINIMUM DEPTH OF COVER TO CROWN OF PIPE WITHOUT PROTECTION SHALL BE AS FOLLOWS:
 - 1.20m - OTHER HIGHWAYS AND PARKING AREAS WITH UNRESTRICTED ACCESS TO VEHICLES WITH GROSS WEIGHT IN EXCESS OF 7.5 TONNES
 - ALL INTERNAL GULLIES, PLUMBING CONNECTIONS, SOIL STACKS, SVPs AND ALL OTHER CONNECTIONS OF FOUL AND SURFACE WATER DRAINS TO BELOW GROUND TO BE FITTED WITH ACCESSIBLE RODDING POINTS ABOVE GROUND LEVEL
 - ALL DRAINS PASSING THROUGH EXTERNAL WALLS TO HAVE CEMENT FIBRE SHEET COLLARS PROVIDED EITHER SIDE OF WALL TO PREVENT VERMIN ENTRY. ALL DRAINS RUNNING UNDER BUILDING TO BE ENCASED IN 100mm GRANULAR FILL.
 - WHERE DRAIN IS WITHIN 1m OF A BUILDING, THE TRENCH IS FILLED WITH CONCRETE UP TO THE UNDERSIDE OF THE FOUNDATIONS AND WHERE THE TRENCH IS FURTHER AWAY THAN 1m FROM THE BUILDING, THE TRENCH IS FILLED WITH CONCRETE TO A LEVEL BELOW THE LOWEST LEVEL FOR THE BUILDING EQUAL TO THE DISTANCE FROM THE BUILDING, LESS 150mm.
 - FOUL GULLIES MUST BE TRAPPED
 - RWPs, SVPs, SSS AND INTERNAL GULLY LOCATIONS TO BE PROVIDED BY RYDER AND TGA
 - ATTENUATION TANKS TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTION
 - OFF SITE DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH CURRENT NORTHUMBRIAN WATER ADOPTABLE STANDARDS
 - ALL MANHOLE COVERS AND GULLIES TO HAVE D400 RATED COVERS
 - ALL NEWLY INSTALLED DRAINAGE AND EXISTING DRAINAGE IMPACTED BY THE DEVELOPMENT TO BE CCTV SURVEYED UPON COMPLETION OF THE WORKS TO ENSURE IT IS ALL IN GOOD WORKING ORDER AND FREE FROM DAMAGE/DEBRIS.

Appendix B

SUDS Maintenance Schedule

Mortimer College Exension

Annual Drainage Inspection Schedule

Project Handover Date:		Year of Inspection:													
Frequency	Date of Inspection	Inspected by (Person and Company Name)	Rain Gardens					Porus Paving				Pipes, Manholes and Attenuation Structures			Comments/Details of remedial works
			Free from litter, remove as required	Nusance planting removed	Planting cover is as designed	Monitor infiltration to ensure no basining occurs (48hr Duration)	Free from erosion/damage	Brushing with Sand	Weed removal or sparying of glyphospate	Remediate adjacent soft landscaping if levels gets with 50mm of paving level	Reapir/replacement of rutting and cracked or broken blocks	Visual inspection of manholes internally to ensure free from debris	CCTV inspection of drainage to ensure its is clear of debris	Jetting and removal of silts from the system including silt trap deposits	
			Monthly	Monthly	Monthly	Monthly/ As required	Monthly	Annually	Annually	As Required	Annyally	Annually	3 months after handover then bi annually	Annually	
Month 1															
Month 2															
Month 3															
Month 4															
Month 5															
Month 6															
Month 7															
Month 8															
Month 9															
Month 10															
Month 11															
Month 12															

Appendix C

As Built Drainage Drawings - Jasper Kerr Consulting

DO NOT SCALE

NOTES

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ENGINEERS DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT.
- DO NOT SCALE THIS DRAWING. USE DOCUMENTED DIMENSIONS ONLY. IF IN DOUBT SEEK CONFIRMATION FROM THE ENGINEER.
- ALL LEVELS ARE IN METERS ABOVE ORDNANCE DATUM UNLESS STATED OTHERWISE.
- PROPOSED RAIN GARDEN LOCATION SHOULD BE CLEARLY MARKED BEFORE SITE WORK BEGINS AND PROTECTED BY SIGNAGE AND SILT FENCING TO AVOID DISTURBANCE DURING CONSTRUCTION. NO VEHICULAR TRAFFIC EXCEPT THAT SPECIFICALLY USED TO CONSTRUCT THE COMPONENT SHOULD BE ALLOWED CLOSE TO THE RAIN GARDEN. EXCAVATING EQUIPMENT SHOULD OPERATE FROM THE SIDE OF THE RAIN GARDEN AND NOT THE BASE. IF COMPACTION DOES OCCUR A MINIMUM OF 300mm DEPTH OF SOIL SHOULD BE REMOVED AND REPLACED WITH A BLEND OF TOPSOIL AND SAND TO PROMOTE INFILTRATION AND BIOLOGICAL GROWTH.
- RAIN GARDEN SHOULD NOT RECEIVE RUN OFF UNTIL VEGETATION IS FULLY ESTABLISHED AND CONSTRUCTION HAS REACHED A STATE WHERE SEDIMENT LOADS WILL NOT CAUSE RAPID SILTATION. THIS COULD BE ACHIEVED BY PLACING A TEMPORARY EROSION CONTROL BLANKET EG JUTE, STRAW OR GEOSYNTHETIC MATS OVER THE FRESHLY APPLIED SEED MIX.
- RAIN GARDEN SHOULD BE SALT TOLERANT.
- RAIN GARDEN SHOULD BE PLANTED AT A TIME OF YEAR WHEN SUCCESSFUL PLANT ESTABLISHMENT WITHOUT IRRIGATION IS MOST LIKELY. IF MORE THAN 30% OF THE PLANTED AREA IS BARE AFTER FOUR WEEKS, RESEEDING OR REPLANTING SHOULD BE CARRIED OUT TO ACHIEVE 90% COVERAGE.
- WHERE A SECURE WATERTIGHT JOINT IS REQUIRED BETWEEN THE PIPEWORK AND THE SUDS SWALE INLET UNIT, A SUITABLE PROPRIETARY SEALANT SHOULD BE USED.
- PIPES FOR DRAINAGE SHOULD COMPLY WITH THE SPECIFICATION REQUIREMENTS AND TO BE ONE OF THE FOLLOWING:
 - VITRIFIED CLAY TO BS 65,
 - CONCRETE TO BS5911:PART 100,
 - UNPLASTICISED POLYVINYL-CHLORIDE TO BS 4660 OR BS5481,
 - PLASTICS TO BS4962.
- TOPSOIL THAT IS TO BE USED UNDER VEGETATION ON SUDS FEATURES MUST BE IN ACCORDANCE WITH BS EN 3882:2015 AND BE SANDY LOAM IN TEXTURE CLASSIFICATION.
- GRAVITY DRAINS SHOULD BE TESTED BETWEEN MANHOLES AND SHALL COMPLY WITH THE CONDITIONS GIVEN AT AIR TEST AND WATER TEST.
- ALL DRAINS AND CONNECTIONS TO BE FULLY COLOUR CCTV SURVEYED ON COMPLETION OF THE WORKS. THIS SHALL BE SUPPORTED BY A PLAN OF THE DRAINS SURVEYED, TOGETHER WITH A DETAILED REPORT ON THE CONDITION OF THE DRAINS.
- SUDS COMPONENTS TO BE CONSTRUCTED IN ACCORDANCE WITH C768 GUIDANCE ON THE CONSTRUCTION OF SUDS AND C753 THE SUDS MANUAL (AND IN PARTICULAR CHAPTER 31 RELATING TO CONSTRUCTION).

NOTE:-
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X	26/02/26	OH	AS BUILT	FM	DH
003	26/11/25	OH	FILTER TRENCH SECTION ADDED		DH
002	19/08/25	SB	FILTER TRENCH DETAIL ADDED		SB
001	30/01/25	OH	CONSTRUCTION ISSUE		SB
T01	08/12/23	SB	TENDER ISSUE		DH
P01	10/10/23	DH	INITIAL ISSUE		DH
Rev	Date	By	Description	Chk	App

Drawing Status

AS BUILT



Client

SOUTH TYNESIDE COUNCIL

Architect

SPACE ARCHITECTS

Project

MORTIMER COMMUNITY
COLLEGE EXTENSION

Title

SUDS CONSTRUCTION
DETAILS

Scale @ A1	1:250	Checked	DH	Approved	DH
Project No.	JK-7144	Designed	DH	Drawn	DH
				Date	OCTOBER 2023

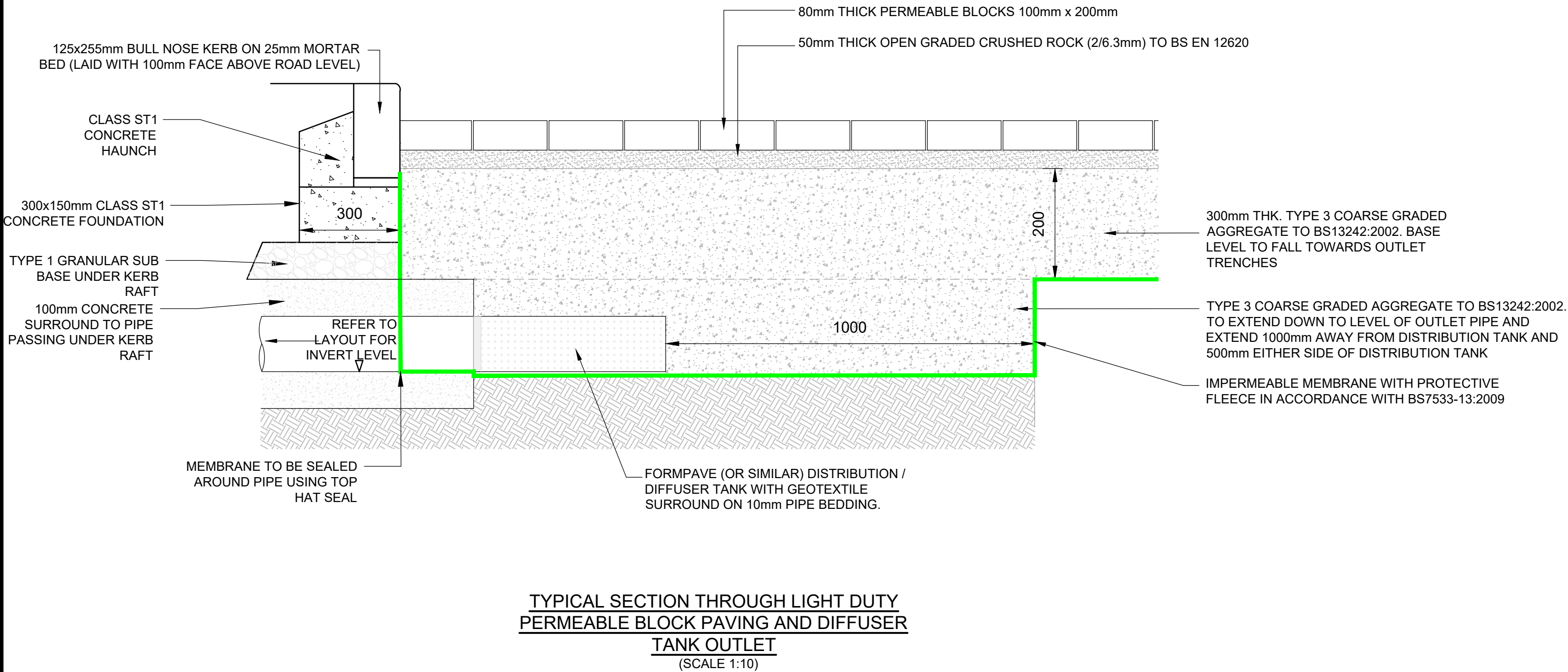
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08713-JKC-XX-ZZ-DR-C-1002

Rev.

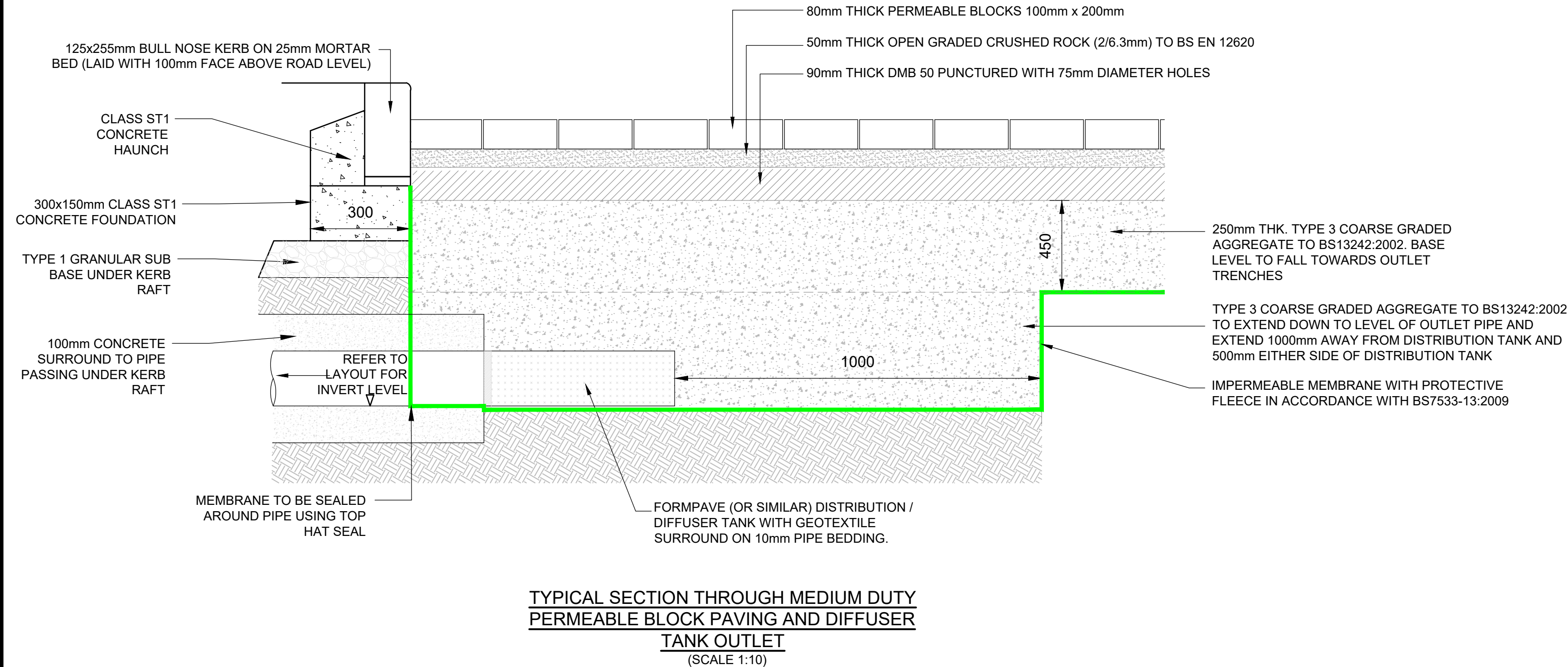
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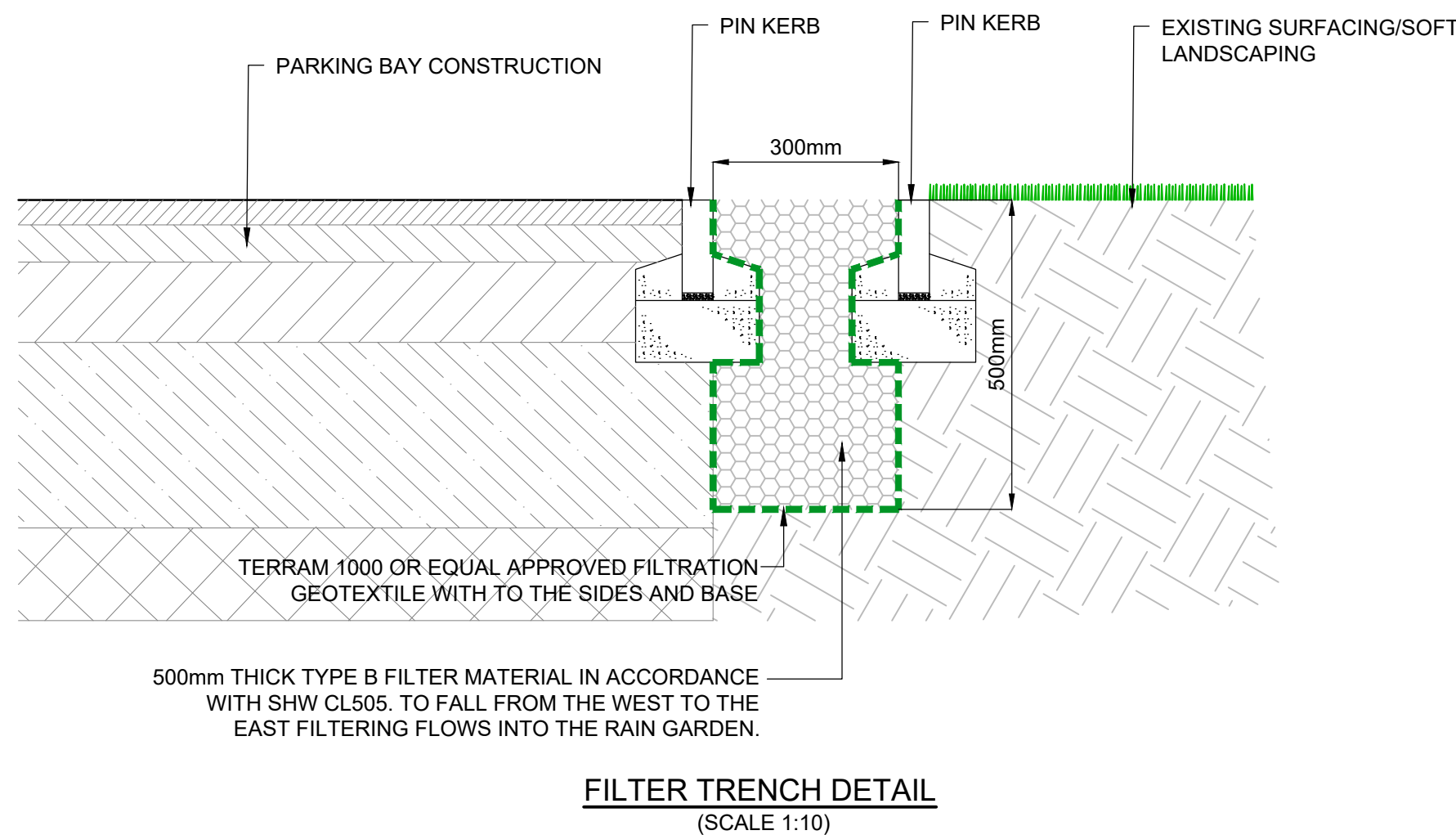
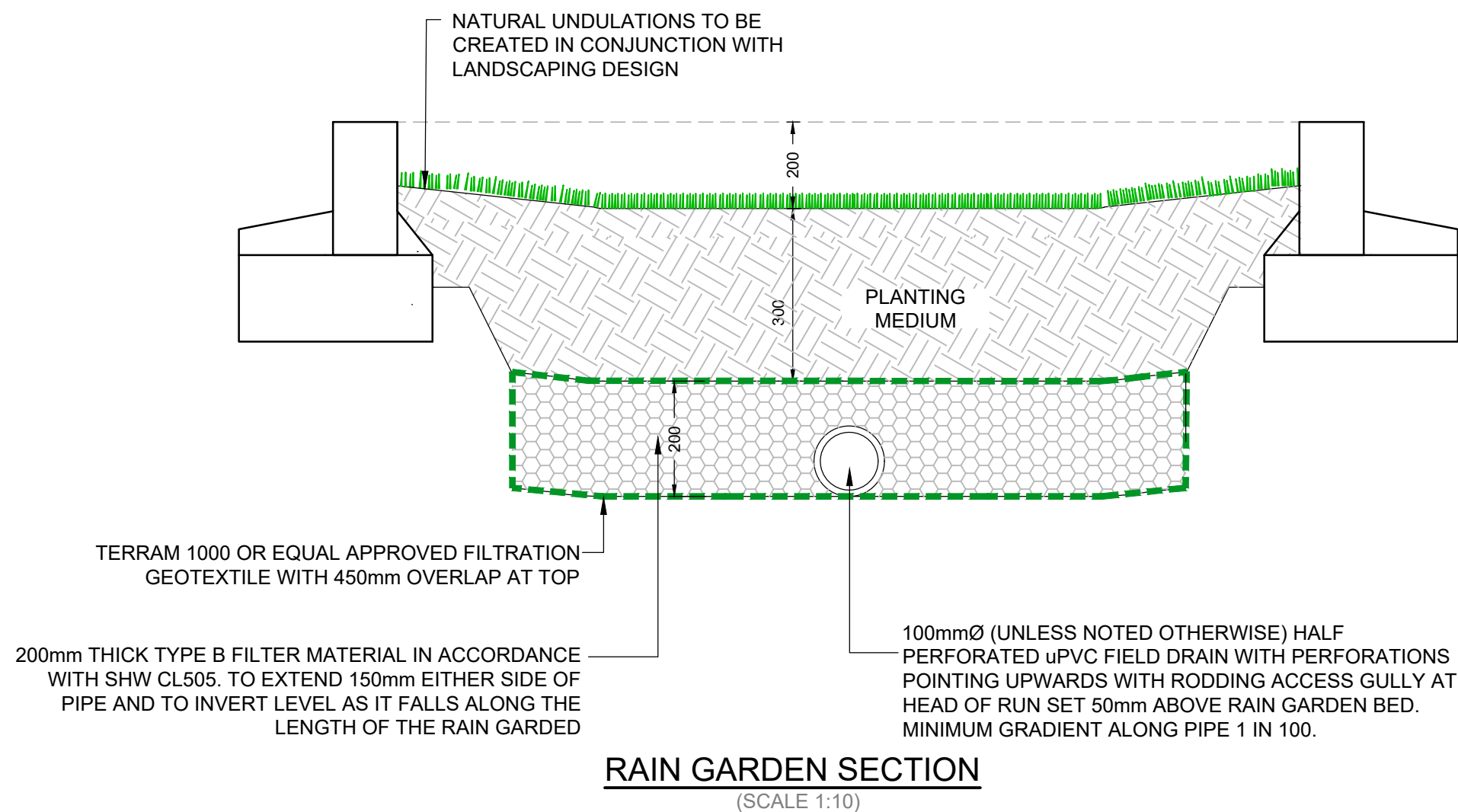
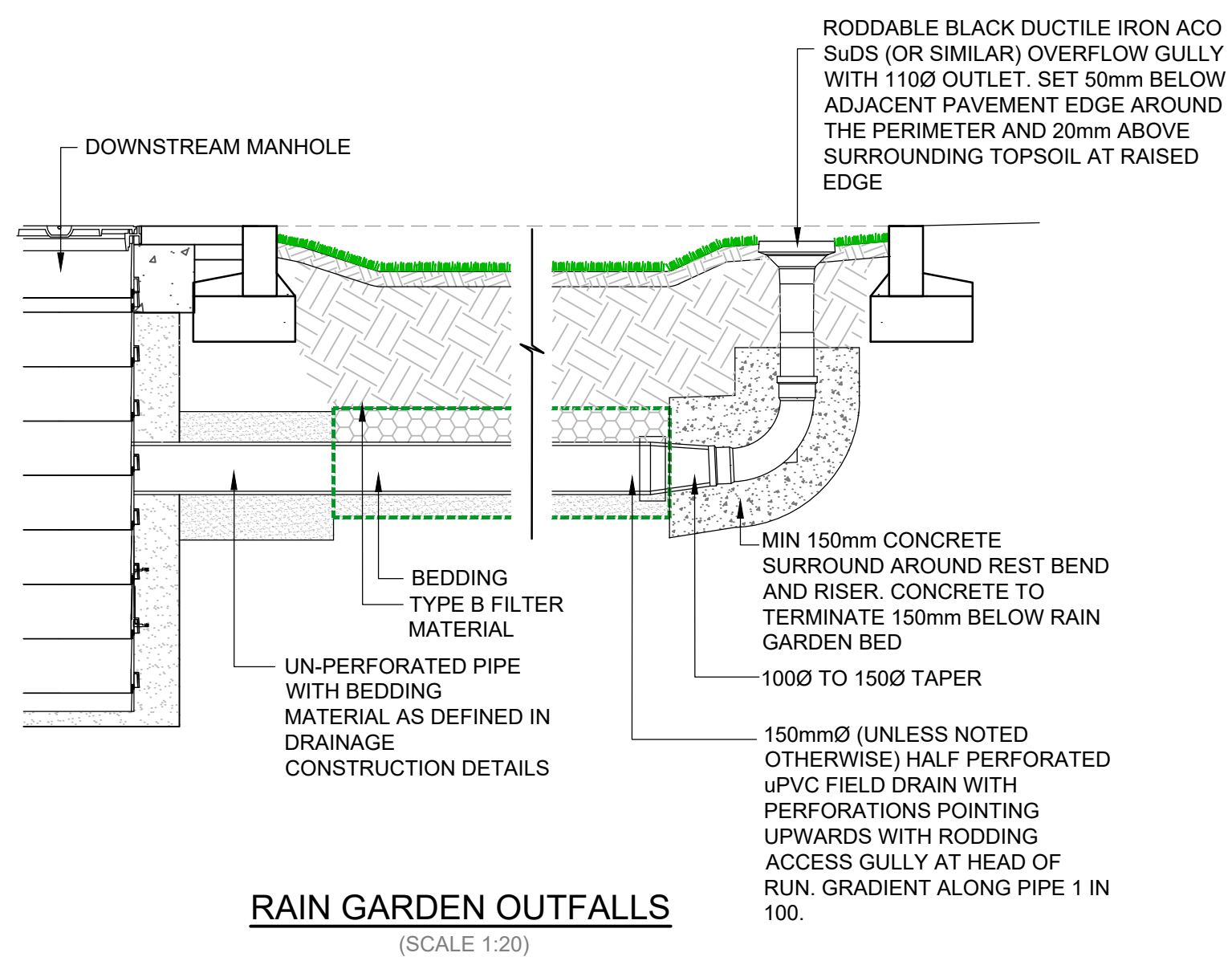
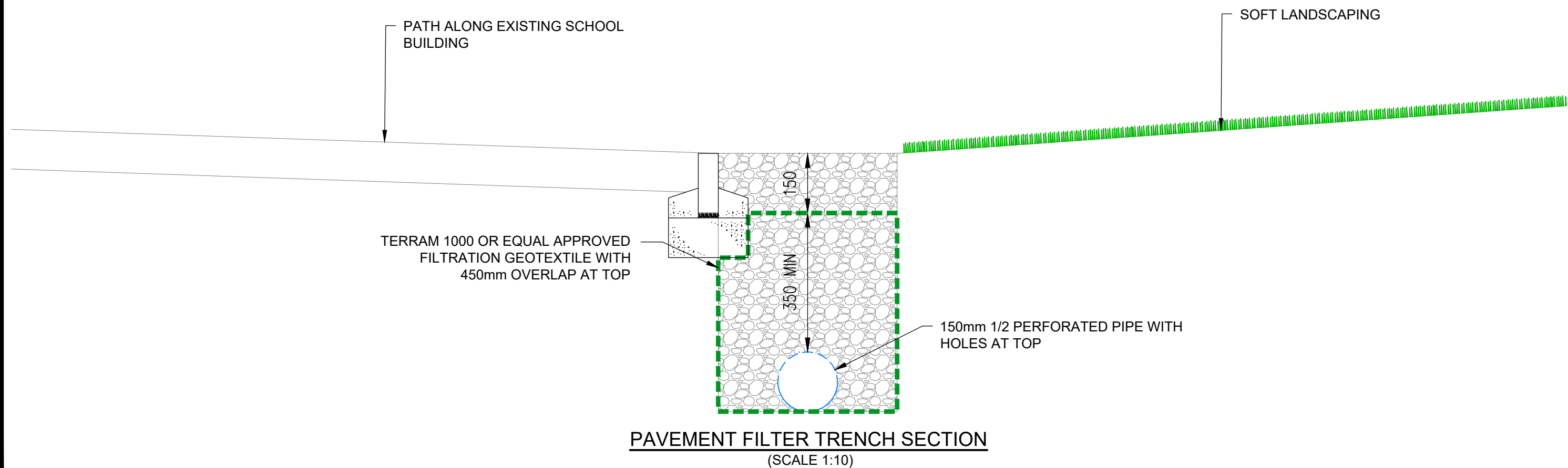
THIS BUILD UP IS PROVIDED BY MARHSALLS IF AN ALTERNATIVE MANUFACTURER / PRODUCT IS USED AND ALTERNATIVE BUILD-UP WILL BE REQUIRED

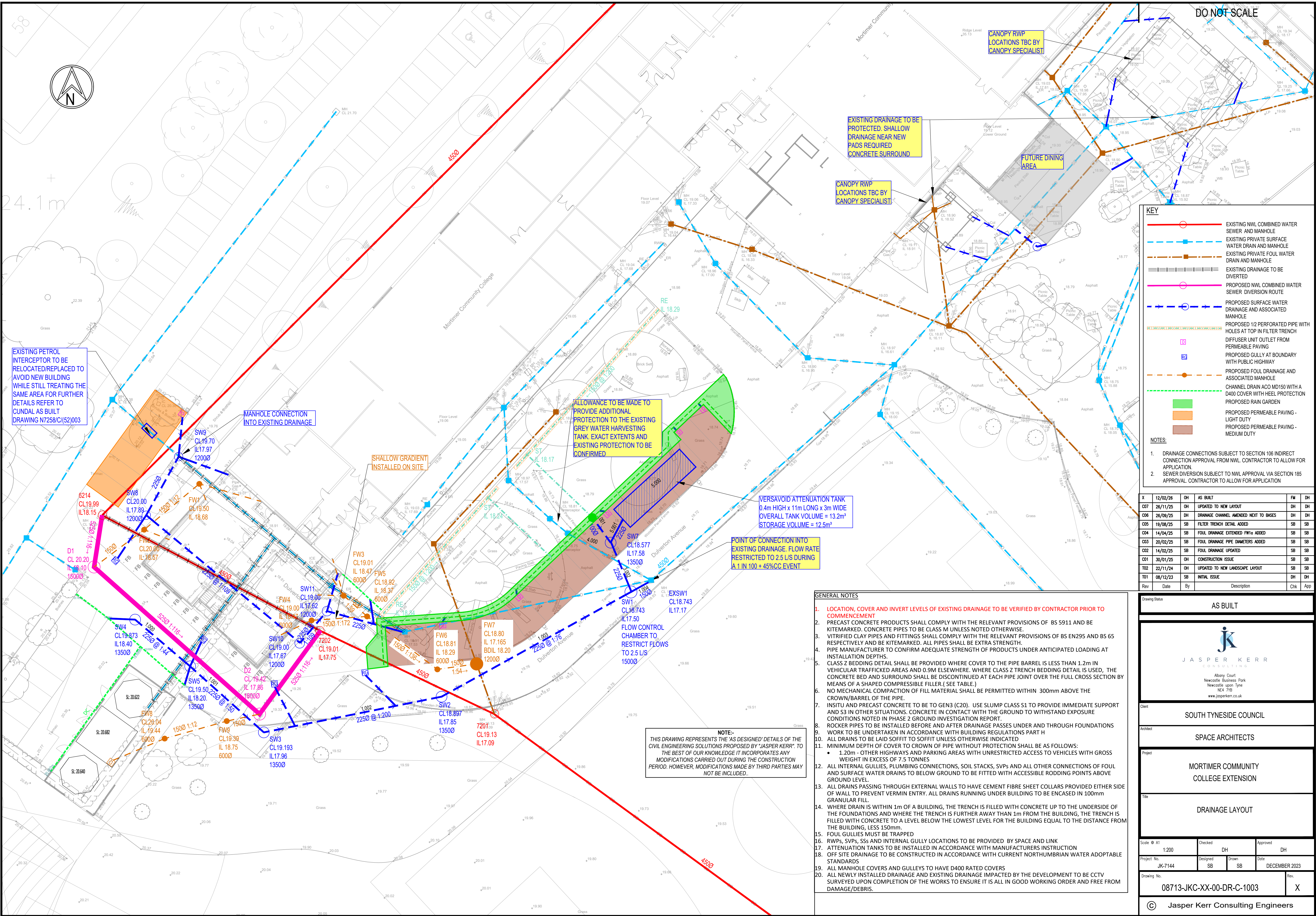
ASSUMED CBR OF 4%



THIS BUILD UP IS PROVIDED BY MARHSALLS IF AN ALTERNATIVE MANUFACTURER / PRODUCT IS USED AND ALTERNATIVE BUILD-UP WILL BE REQUIRED

ASSUMED CBR OF 4%





KEY

- EXISTING NWL COMBINED WATER SEWER AND MANHOLE
- EXISTING PRIVATE SURFACE WATER DRAIN AND MANHOLE
- EXISTING PRIVATE FOUL WATER DRAIN AND MANHOLE
- EXISTING DRAINAGE TO BE DIVERTED
- PROPOSED NWL COMBINED WATER SEWER DIVERSION ROUTE
- PROPOSED SURFACE WATER DRAINAGE AND ASSOCIATED MANHOLE
- PROPOSED 1/2 PERFORATED PIPE WITH HOLES AT TOP IN FILTER TRENCH DIFFUSER UNIT OUTLET FROM PERMEABLE PAVING
- PROPOSED GULLY AT BOUNDARY WITH PUBLIC HIGHWAY
- PROPOSED FOUL DRAINAGE AND ASSOCIATED MANHOLE
- CHANNEL DRAIN ACO MD150 WITH A D400 COVER WITH HEEL PROTECTION
- PROPOSED RAIN GARDEN
- PROPOSED PERMEABLE PAVING - LIGHT DUTY
- PROPOSED PERMEABLE PAVING - MEDIUM DUTY

NOTES:

- DRAINAGE CONNECTIONS SUBJECT TO SECTION 106 INDIRECT CONNECTION APPROVAL FROM NWL CONTRACTOR TO ALLOW FOR APPLICATION.
- SEWER DIVERSION SUBJECT TO NWL APPROVAL VIA SECTION 185 APPROVAL CONTRACTOR TO ALLOW FOR APPLICATION

X	12/02/26	OH	AS BUILT	FM	DH
C07	26/11/25	OH	UPDATED TO NEW LAYOUT	DH	DH
C06	26/09/25	DH	DRAINAGE CHANNEL AMENDED NEXT TO BASES	DH	DH
C05	19/08/25	SB	FILTER TRENCH DETAIL ADDED	SB	SB
C04	14/04/25	SB	FOUL DRAINAGE EXTENDED FW10 ADDED	SB	SB
C03	20/02/25	SB	FOUL DRAINAGE PIPE DIAMETERS ADDED	SB	SB
C02	14/02/25	SB	FOUL DRAINAGE UPDATED	SB	SB
C01	30/01/25	OH	CONSTRUCTION ISSUE	SB	SB
T02	22/11/24	OH	UPDATED TO NEW LANDSCAPE LAYOUT	SB	SB
T01	06/12/23	SB	INITIAL ISSUE	DH	DH
Rev	Date	By	Description	Chk	App

- GENERAL NOTES**
- LOCATION, COVER AND INVERT LEVELS OF EXISTING DRAINAGE TO BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT
 - PRECAST CONCRETE PRODUCTS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS 5911 AND BE KITEMARKED. CONCRETE PIPES TO BE CLASS M UNLESS NOTED OTHERWISE.
 - VITRIFIED CLAY PIPES AND FITTINGS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN295 AND BS 65 RESPECTIVELY AND BE KITEMARKED. ALL PIPES SHALL BE EXTRA STRENGTH.
 - PIPE MANUFACTURER TO CONFIRM ADEQUATE STRENGTH OF PRODUCTS UNDER ANTICIPATED LOADING AT INSTALLATION DEPTHS.
 - CLASS Z BEDDING DETAIL SHALL BE PROVIDED WHERE COVER TO THE PIPE BARREL IS LESS THAN 1.2m IN VEHICULAR TRAFFICKED AREAS AND 0.9m ELSEWHERE. WHERE CLASS Z TRENCH BEDDING DETAIL IS USED, THE CONCRETE BED AND SURROUND SHALL BE DISCONTINUED AT EACH PIPE JOINT OVER THE FULL CROSS SECTION BY MEANS OF A SHAPED COMPRESSIBLE FILLER (SEE TABLE.)
 - NO MECHANICAL COMPACTION OF FILL MATERIAL SHALL BE PERMITTED WITHIN 300mm ABOVE THE CROWN/BARREL OF THE PIPE.
 - INSITU AND PRECAST CONCRETE TO BE TO GEN3 (C20). USE SLUMP CLASS S1 TO PROVIDE IMMEDIATE SUPPORT AND S3 IN OTHER SITUATIONS. CONCRETE IN CONTACT WITH THE GROUND TO WITHSTAND EXPOSURE CONDITIONS NOTED IN PHASE 2 GROUND INVESTIGATION REPORT.
 - ROCKER PIPES TO BE INSTALLED BEFORE AND AFTER DRAINAGE PASSES UNDER AND THROUGH FOUNDATIONS
 - WORK TO BE UNDERTAKEN IN ACCORDANCE WITH BUILDING REGULATIONS PART H
 - ALL DRAINS TO BE LAID SOFFIT TO SOFFIT UNLESS OTHERWISE INDICATED
 - MINIMUM DEPTH OF COVER TO CROWN OF PIPE WITHOUT PROTECTION SHALL BE AS FOLLOWS:
 - 1.20m - OTHER HIGHWAYS AND PARKING AREAS WITH UNRESTRICTED ACCESS TO VEHICLES WITH GROSS WEIGHT IN EXCESS OF 7.5 TONNES
 - ALL INTERNAL GULLIES, PLUMBING CONNECTIONS, SOIL STACKS, SVPs AND ALL OTHER CONNECTIONS OF FOUL AND SURFACE WATER DRAINS TO BELOW GROUND TO BE FITTED WITH ACCESSIBLE RODDING POINTS ABOVE GROUND LEVEL
 - ALL DRAINS PASSING THROUGH EXTERNAL WALLS TO HAVE CEMENT FIBRE SHEET COLLARS PROVIDED EITHER SIDE OF WALL TO PREVENT VERMIN ENTRY. ALL DRAINS RUNNING UNDER BUILDING TO BE ENCASED IN 100mm GRANULAR FILL.
 - WHERE DRAIN IS WITHIN 1m OF A BUILDING, THE TRENCH IS FILLED WITH CONCRETE UP TO THE UNDERSIDE OF THE FOUNDATIONS AND WHERE THE TRENCH IS FURTHER AWAY THAN 1m FROM THE BUILDING, THE TRENCH IS FILLED WITH CONCRETE TO A LEVEL BELOW THE LOWEST LEVEL FOR THE BUILDING EQUAL TO THE DISTANCE FROM THE BUILDING, LESS 150mm.
 - FOUL GULLIES MUST BE TRAPPED
 - RWPs, SVPs, SSSs AND INTERNAL GULLY LOCATIONS TO BE PROVIDED BY SPACE AND LINK
 - ATTENUATION TANKS TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTION
 - OFF SITE DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH CURRENT NORTHUMBRIAN WATER ADOPTABLE STANDARDS
 - ALL MANHOLE COVERS AND GULLIES TO HAVE D400 RATED COVERS
 - ALL NEWLY INSTALLED DRAINAGE AND EXISTING DRAINAGE IMPACTED BY THE DEVELOPMENT TO BE CCTV SURVEYED UPON COMPLETION OF THE WORKS TO ENSURE IT IS ALL IN GOOD WORKING ORDER AND FREE FROM DAMAGE/DEBRIS.

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Drawing Status: **AS BUILT**

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Client: **SOUTH TYNESIDE COUNCIL**

Architect: **SPACE ARCHITECTS**

Project: **MORTIMER COMMUNITY COLLEGE EXTENSION**

Title: **DRAINAGE LAYOUT**

Scale: @ A1
1:200

Checked: **DH**
Approved: **DH**

Project No.: **JK-7144**
Designed: **SB**
Drawn: **SB**
Date: **DECEMBER 2023**

Drawing No.: **08713-JKC-XX-00-DR-C-1003**
Rev: **X**

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NOTES

- NOTE:-**
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Drawing Status
AS BUILT

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Client **SOUTH TYNESIDE COUNCIL**

SPACE ARCHITECTS

PORTIMER COMMUNITY
COLLEGE EXTENSION

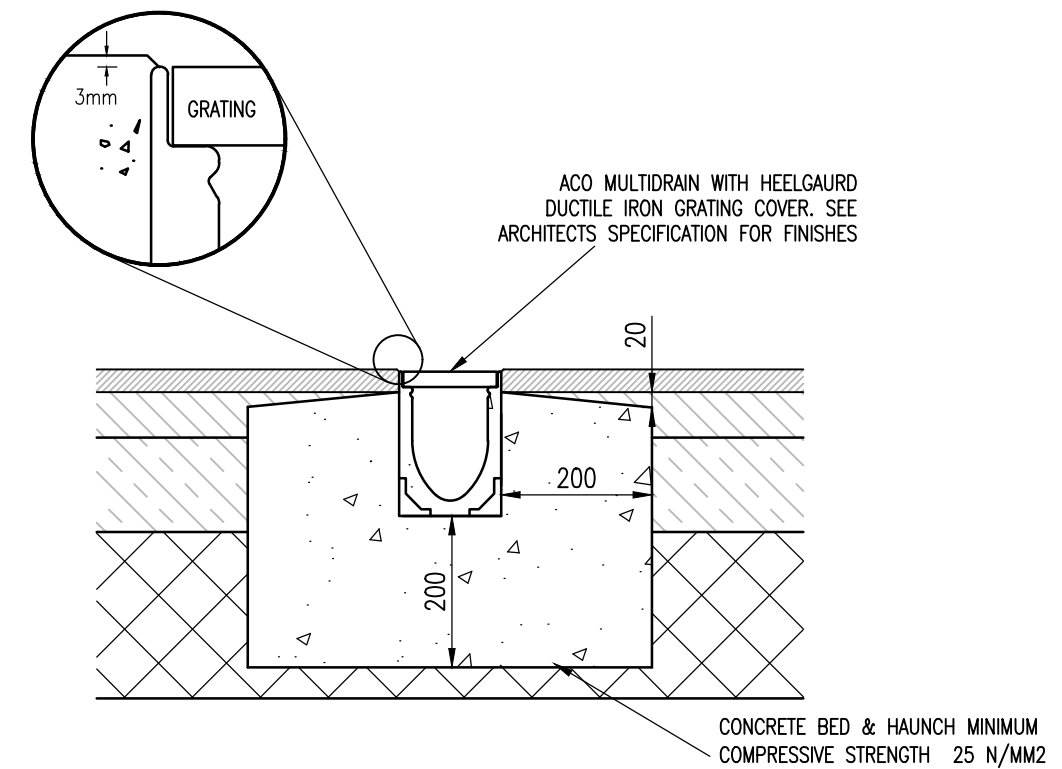
BELOW GROUND DRAINAGE
DETAILS SHEET 1

Scale @ A1 1:20	Checked SB	Approved SB
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Project No. JK-7144	Designed OH	Drawn OH	Date DECEMBER 2023
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Drawing No.	Rev.
08713-JKC-XX-ZZ-DR-C-1004	X

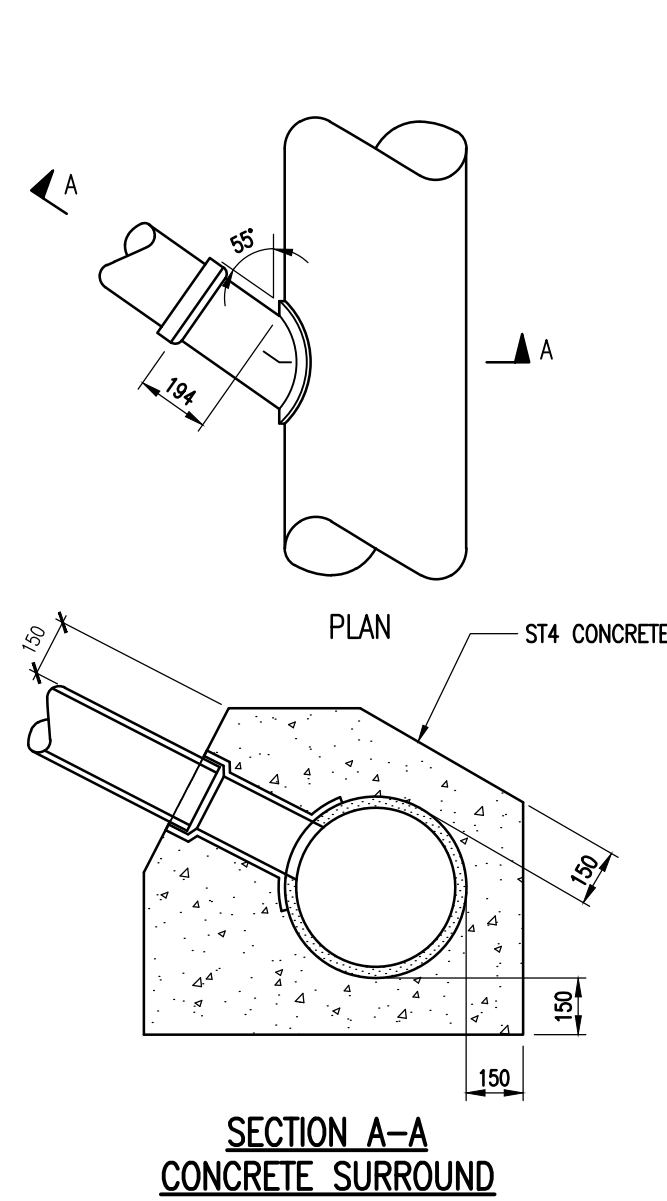
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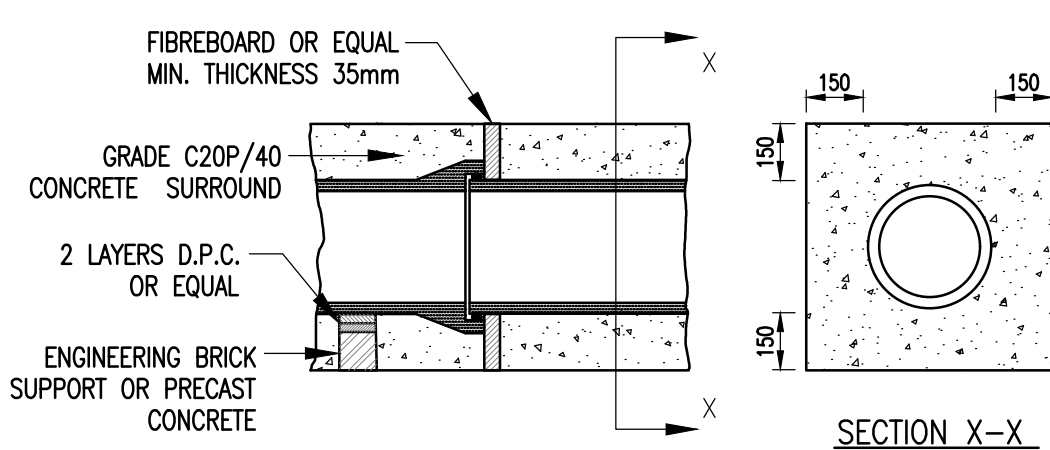
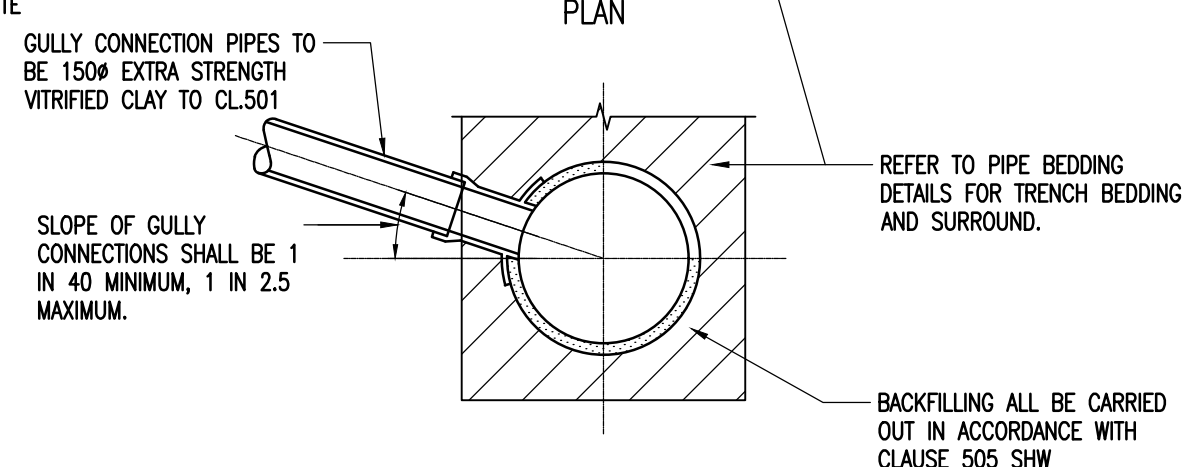
FOR MORE DETAILED INSTALLATION GUIDE REFER TO MANUFACTURERS LITERATURE
SCALE 1:10



(NTS)



REFER TO PIPE BEDDING
DETAILS FOR TRENCH BEDDING
AND SURROUND.



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

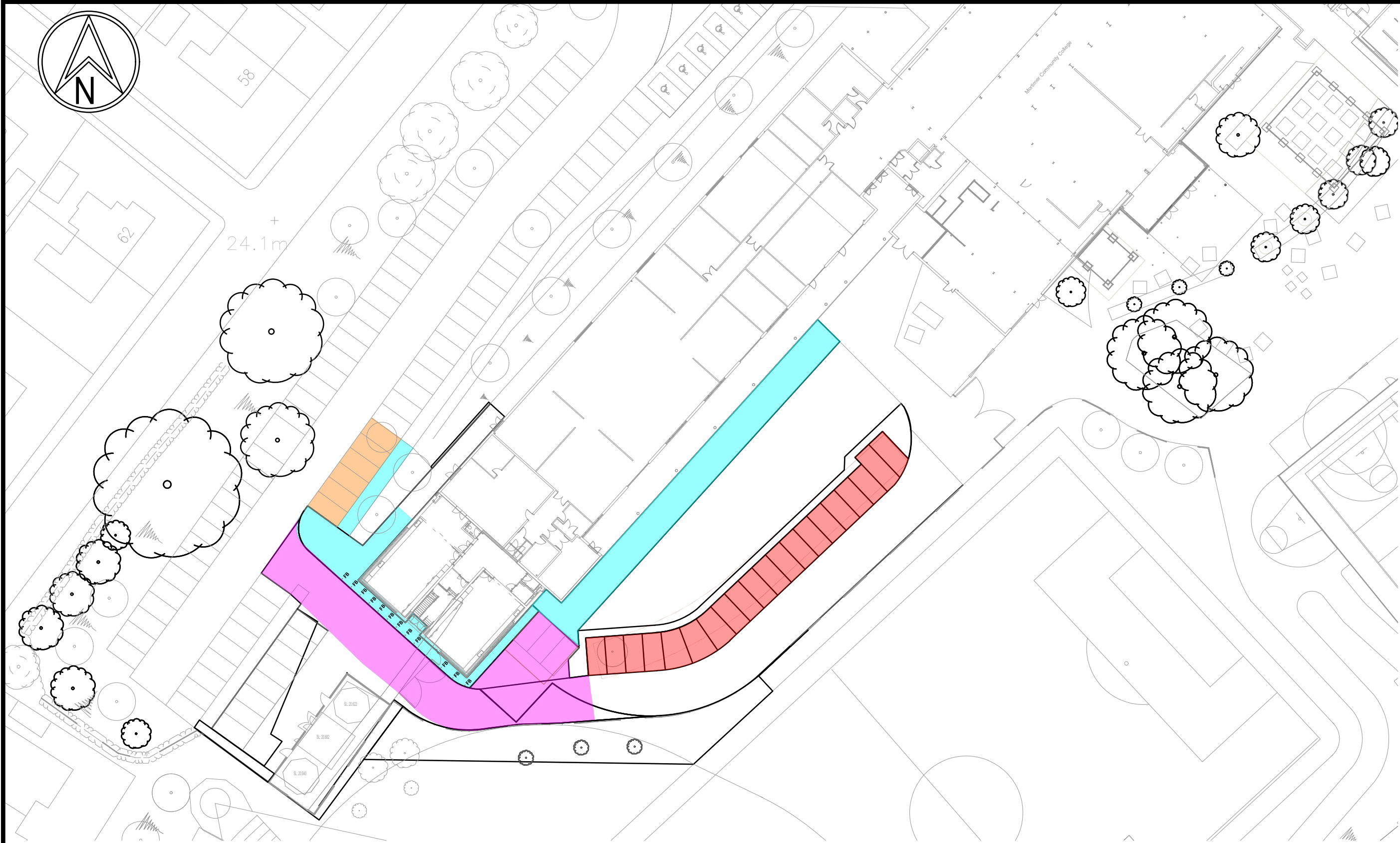
(BITUMEN IMPREGNATED INSULATING BOARD TO BS 1142: PART 3)

NOMINAL PIPE DIA. (mm)	MAXIMUM TRENCH WIDTH UP TO A LEVEL 300mm ABOVE THE CROWN OF THE PIPE (mm)	GRADING OF MATERIAL
100	600	4/10
150	700	4/10
225	800	4/10,10/20 OR 4/20
300	900	4/10,10/20 OR 4/20
375-500	1200-1300	10/20 OR 4/20
600+	1500	10/20,20/40,4/20 OR 4/40

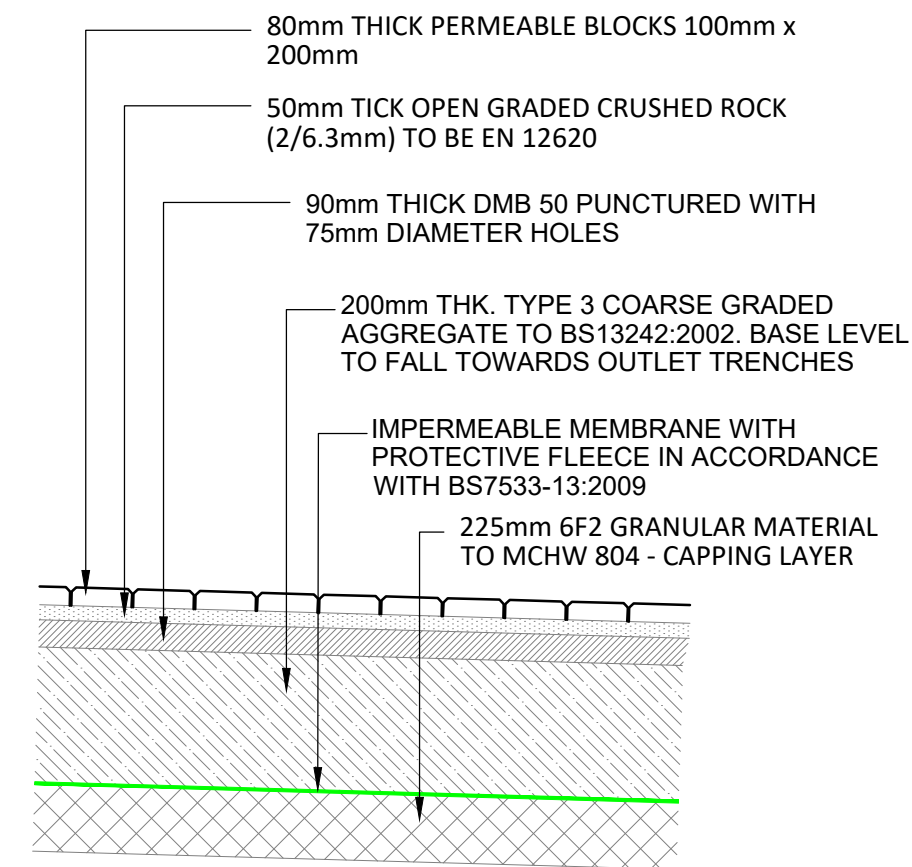
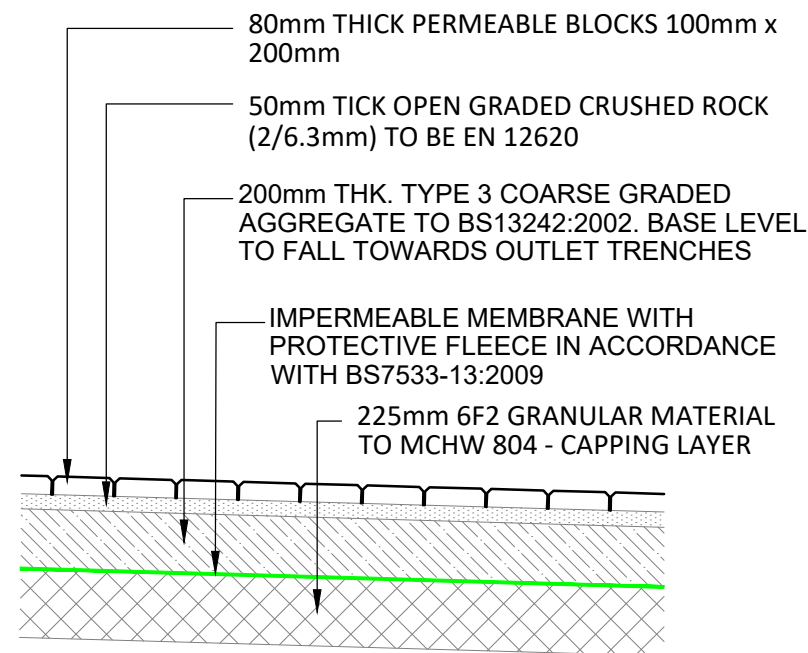
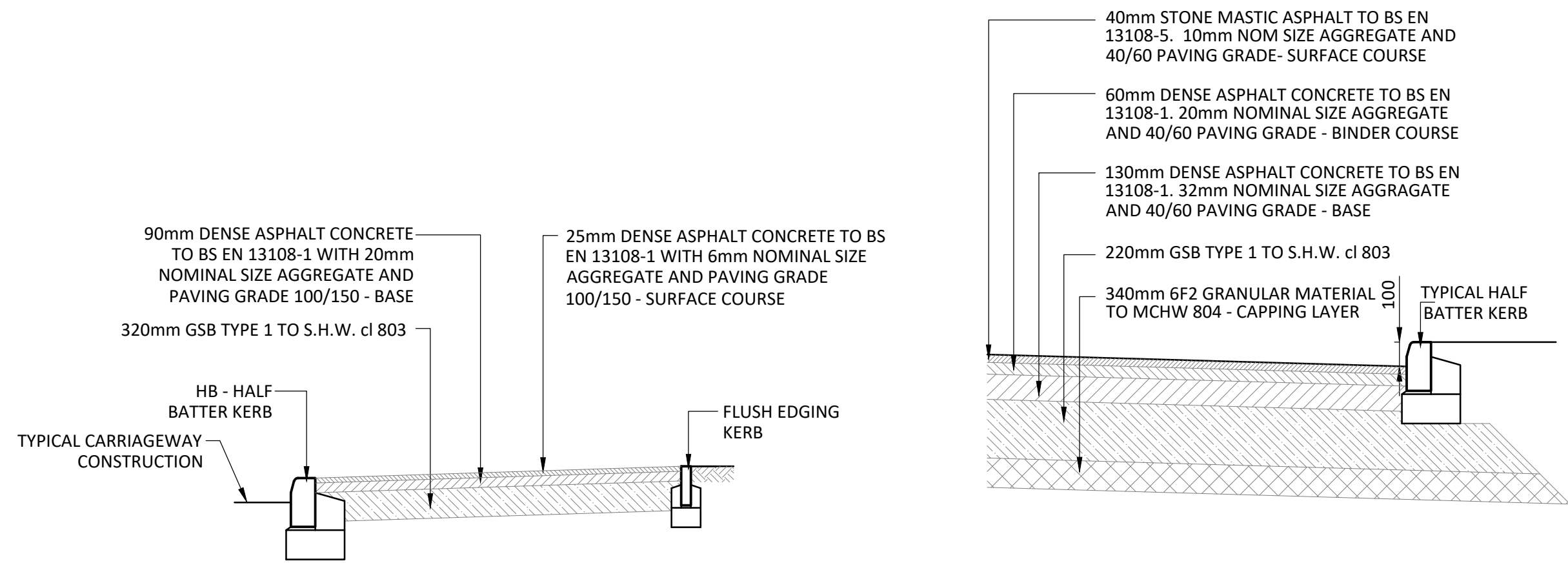
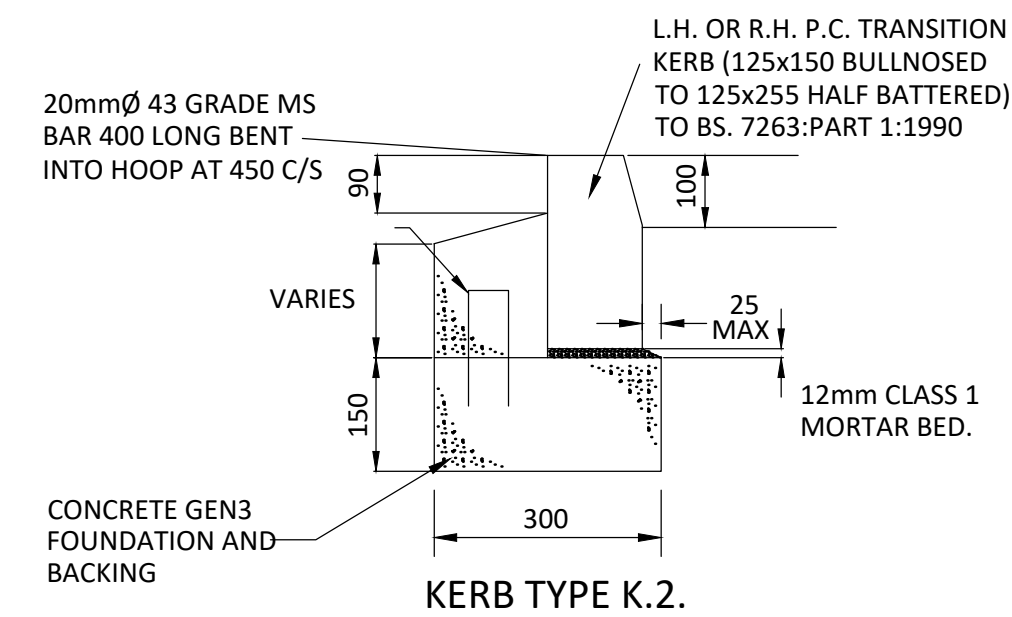
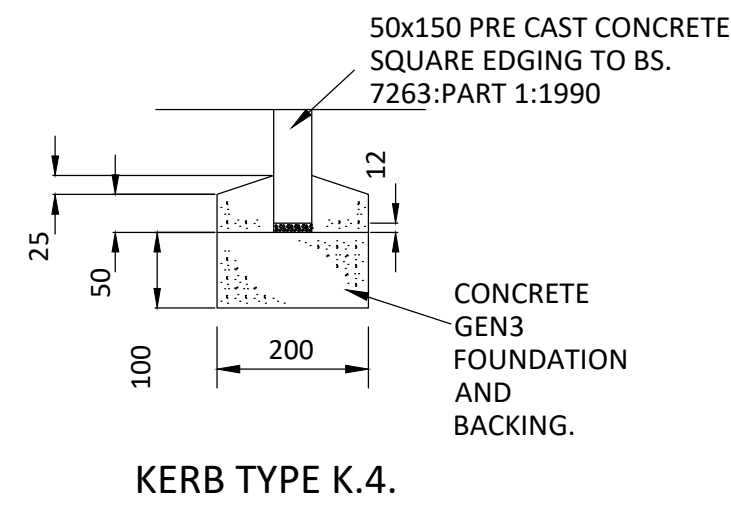
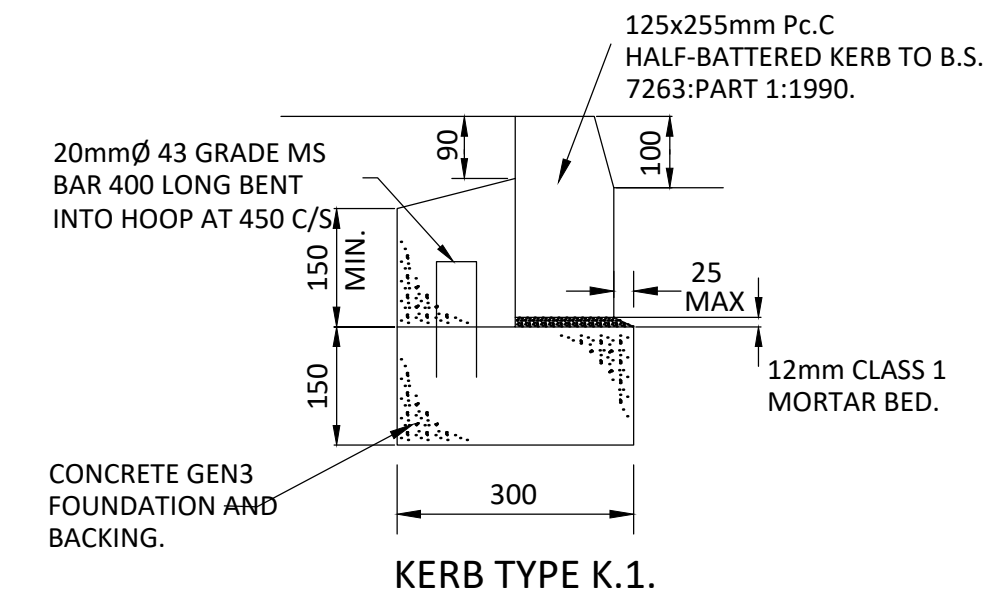
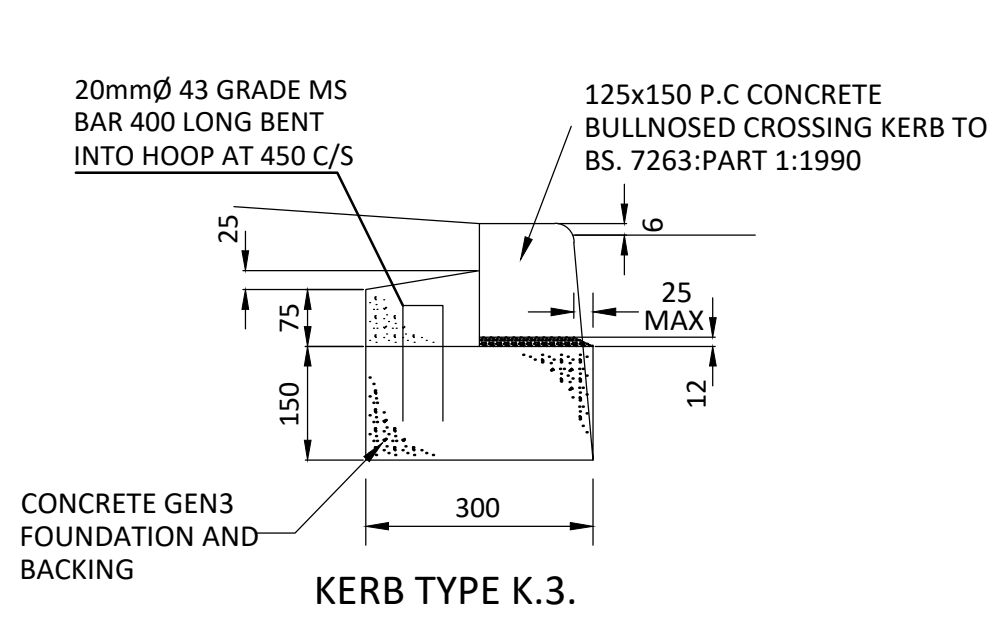
DIAMETER / TRENCH WIDTH / GRADING

Diagram illustrating a 90° bend assembly using a sliding coupling. The assembly includes a 100# or 150# FOUL STUB STACK, a SA9 or SA10 ADAPTOR, a 100# or 150# REST BEND SBR1 or SBR2, and a SUPERSLEEVE. The sliding coupling is labeled SC4/1 or SC4/2. A dimension of R5.0 or 2.0 is indicated for the bend radius.

TYPICAL BEND DETAIL FOR SVP AND STUB STACK



DO NOT SCALE



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TYPICAL TARMACADAM FOOTWAY CONSTRUCTION

TYPICAL TARMACADAM CARRIAGEWAY CONSTRUCTION

LIGHT DUTY PERMEABLE PAVING CONSTRUCTION

MEDIUM DUTY PERMEABLE PAVING CONSTRUCTION

DESIGN CRITERIA: (SCALE 1:25)

IT IS ASSUMED THAT THESE FOOTPATHS WILL BE USED ONLY BY PEDESTRIANS WITH NO TRAFFICKING BY MAINTENANCE OR OPERATION VEHICLES.

DETAIL APPLICABLE FOR SUBGRADE CBR VALUES OF 3%. ADVICE TO BE SOUGHT IF SUBGRADE IS FOUND TO BE WEAKER.

SUB BASE NOT DESIGNED TO BE TRAFFICKED BY CONSTRUCTION VEHICLES

DESIGN CRITERIA: (SCALE 1:25)

IT IS ASSUMED THAT THESE ROADWAYS WILL BE REGULARLY USED BY HEAVY VEHICLES

DETAIL APPLICABLE FOR SUBGRADE CBR VALUES OF 3%. ADVICE TO BE SOUGHT IF SUBGRADE IS FOUND TO BE WEAKER THAN 3%.

SUB BASE NOT DESIGNED TO BE TRAFFICKED BY CONSTRUCTION VEHICLES

DESIGN CRITERIA:

IT IS ASSUMED THAT THESE ROADWAYS WILL BE USED BY CARS ONLY

DETAIL APPLICABLE FOR SUBGRADE CBR VALUES OF 3%. ADVICE TO BE SOUGHT IF SUBGRADE IS FOUND TO BE WEAKER.

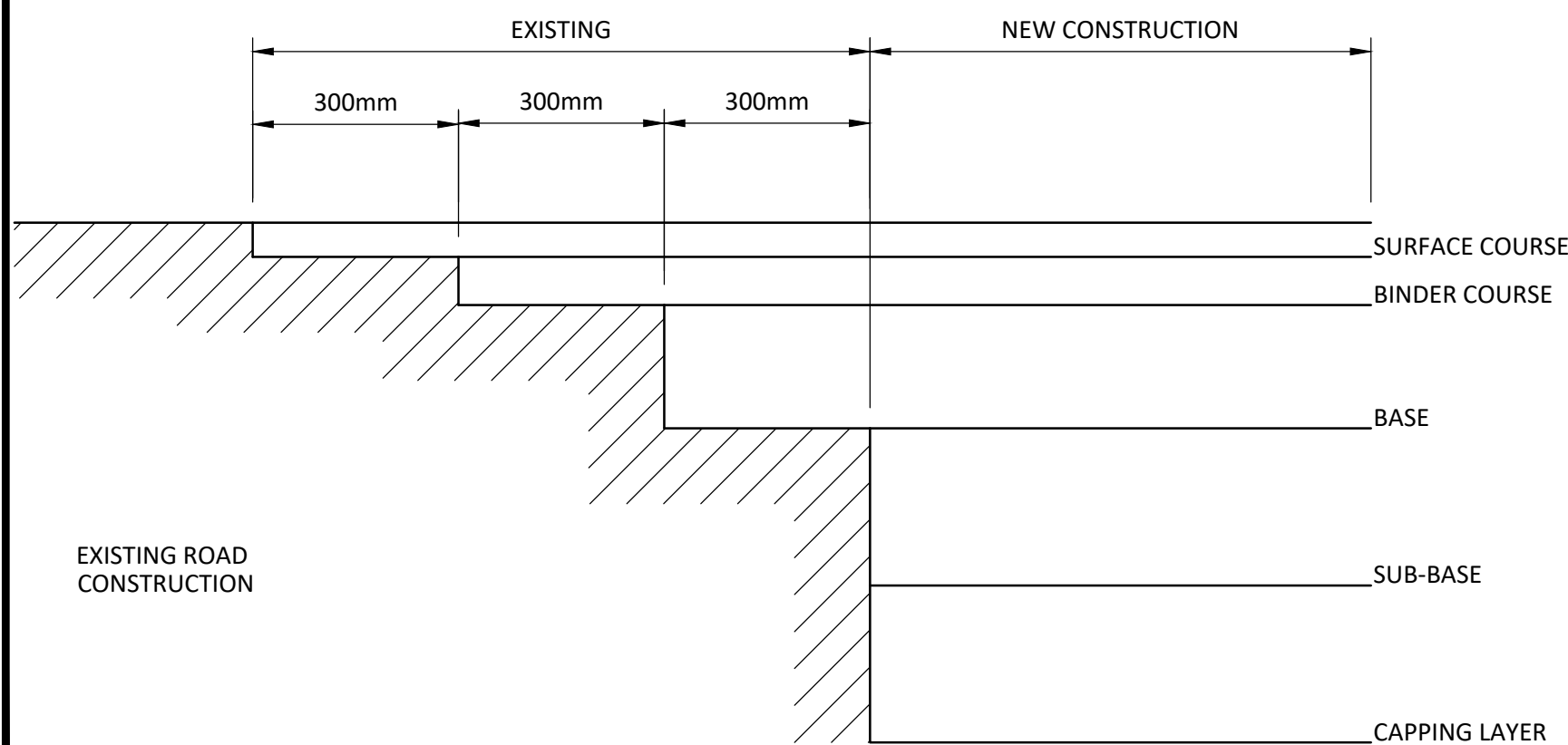
SUB BASE NOT DESIGNED TO BE TRAFFICKED BY CONSTRUCTION VEHICLES

DESIGN CRITERIA:

IT IS ASSUMED THAT THESE ROADWAYS WILL BE USED BY CARS ONLY

DETAIL APPLICABLE FOR SUBGRADE CBR VALUES OF 3%. ADVICE TO BE SOUGHT IF SUBGRADE IS FOUND TO BE WEAKER.

SUB BASE NOT DESIGNED TO BE TRAFFICKED BY CONSTRUCTION VEHICLES



TYPICAL TIE-IN DETAIL

(scale 1:25)

X	12/02/26	OH	AS BUILT	FM	DH
CD4	18/09/25	DH	MINI BUS BAY SURFACING AMENDED	DH	DH
CD3	19/08/25	SB	MINI BUS BAY SURFACING AMENDED	SB	SB
CD2	14/04/25	OH	TE-IN DETAILED ADDED	SB	SB
CD1	30/01/25	OH	CONSTRUCTION ISSUE	SB	SB
TD1	08/12/23	SB	INITIAL ISSUE	DH	DH
Rev	Date	By	Description	Chk	App

Drawing Status	AS BUILT
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Client	SOUTH TYNESIDE COUNCIL
--------	------------------------

Architect	SPACE ARCHITECTS
-----------	------------------

Project	MORTIMER COMMUNITY COLLEGE EXTENSION
---------	---

Title	PROPOSED SURFACE FINISHES
-------	------------------------------

Scale @ A1	1:500	Checked	DH	Approved	DH
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Project No.	JK-7144	Designed	SB	Drawn	SB	Date	DECEMBER 2023
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Drawing No.	08713-JKC-XX-00-DR-C-1005	Rev.	X
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X	12/02/26	OH	AS BUILT	FM	DH
C02	14/04/25	SB	FW1a ADDED	SB	SB
C01	03/03/25	SB	CONSTRUCTION ISSUE	SB	SB
T01	08/12/23	OH	INITIAL ISSUE	DH	DH
Rev	Date	By	Description	Chk	App

Drawing Status	AS BUILT
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Client

SOUTH TYNESIDE COUNCIL

SPACE ARCHITECTS

Project

MORTIMER COMMUNITY
COLLEGE EXTENSION

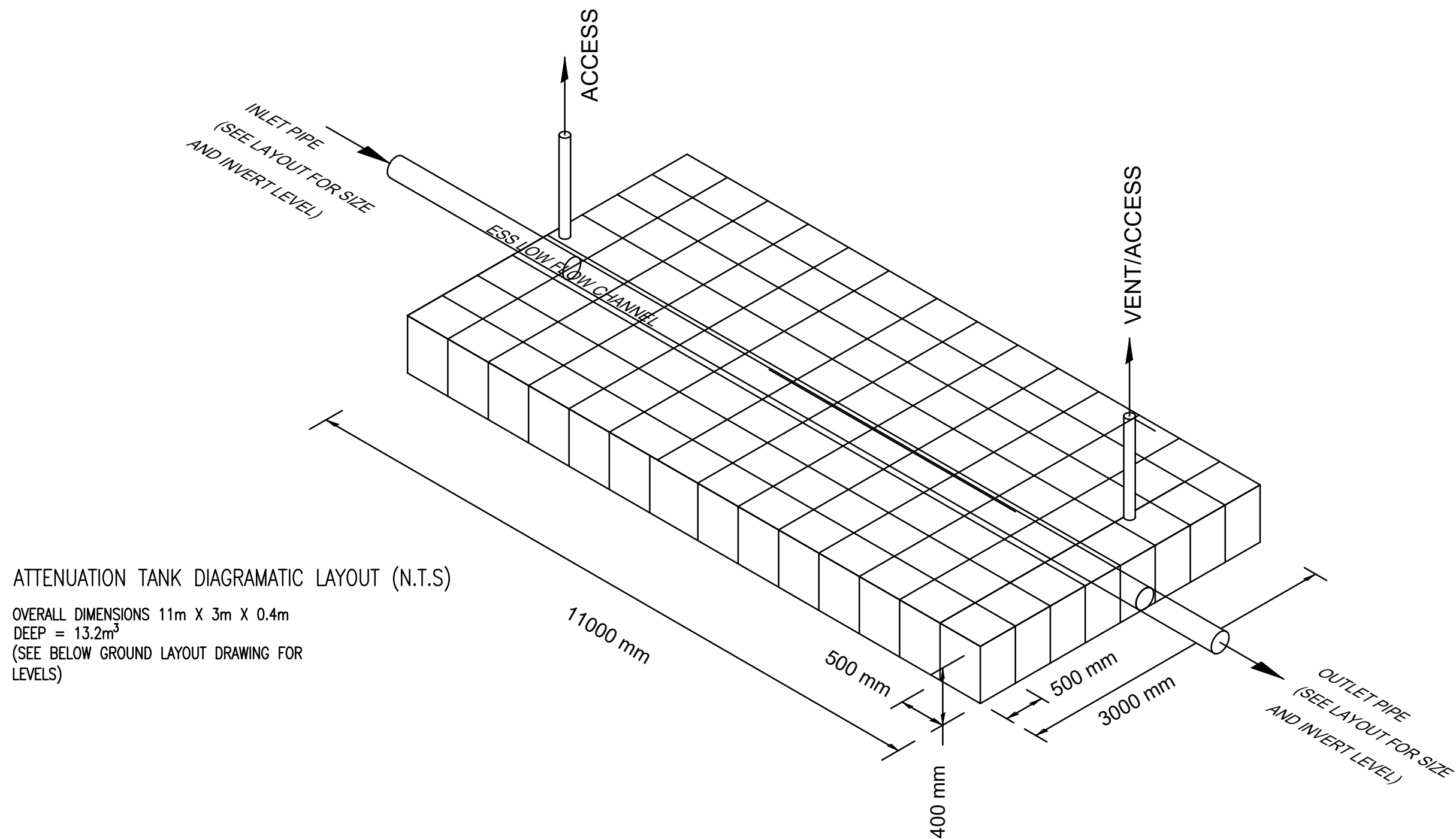
Title	BELOW GROUND DRAINAGE DETAILS SHEET 2
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Scale @ A1 1:20	Checked SB	Approved SB
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Project No.	Designed	Drawn	Date
JK-7144	OH	OH	DECEMBER 2023

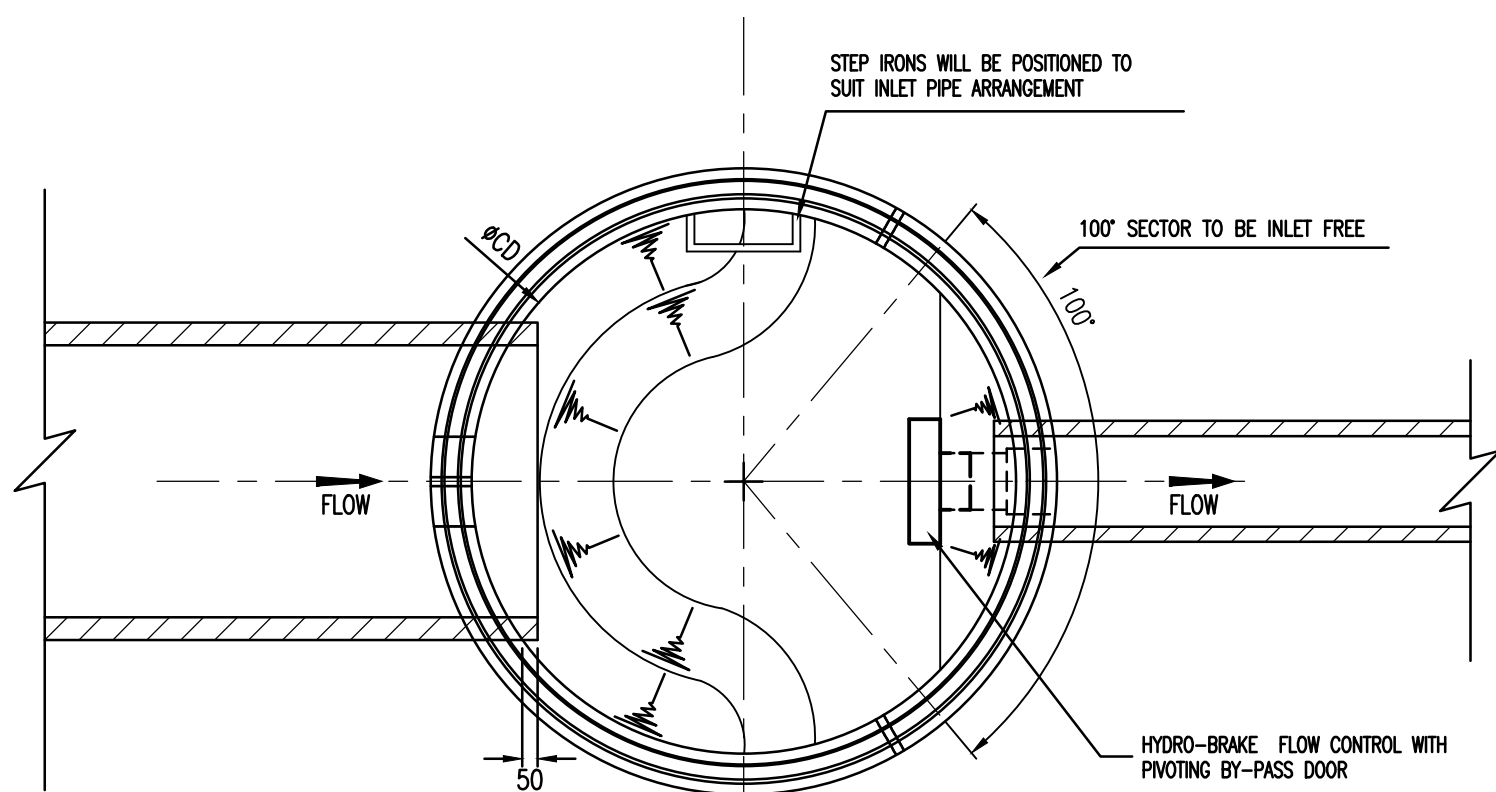
Drawing No.	Rev.
08713-JKC-XX-ZZ-DR-C-1007	X

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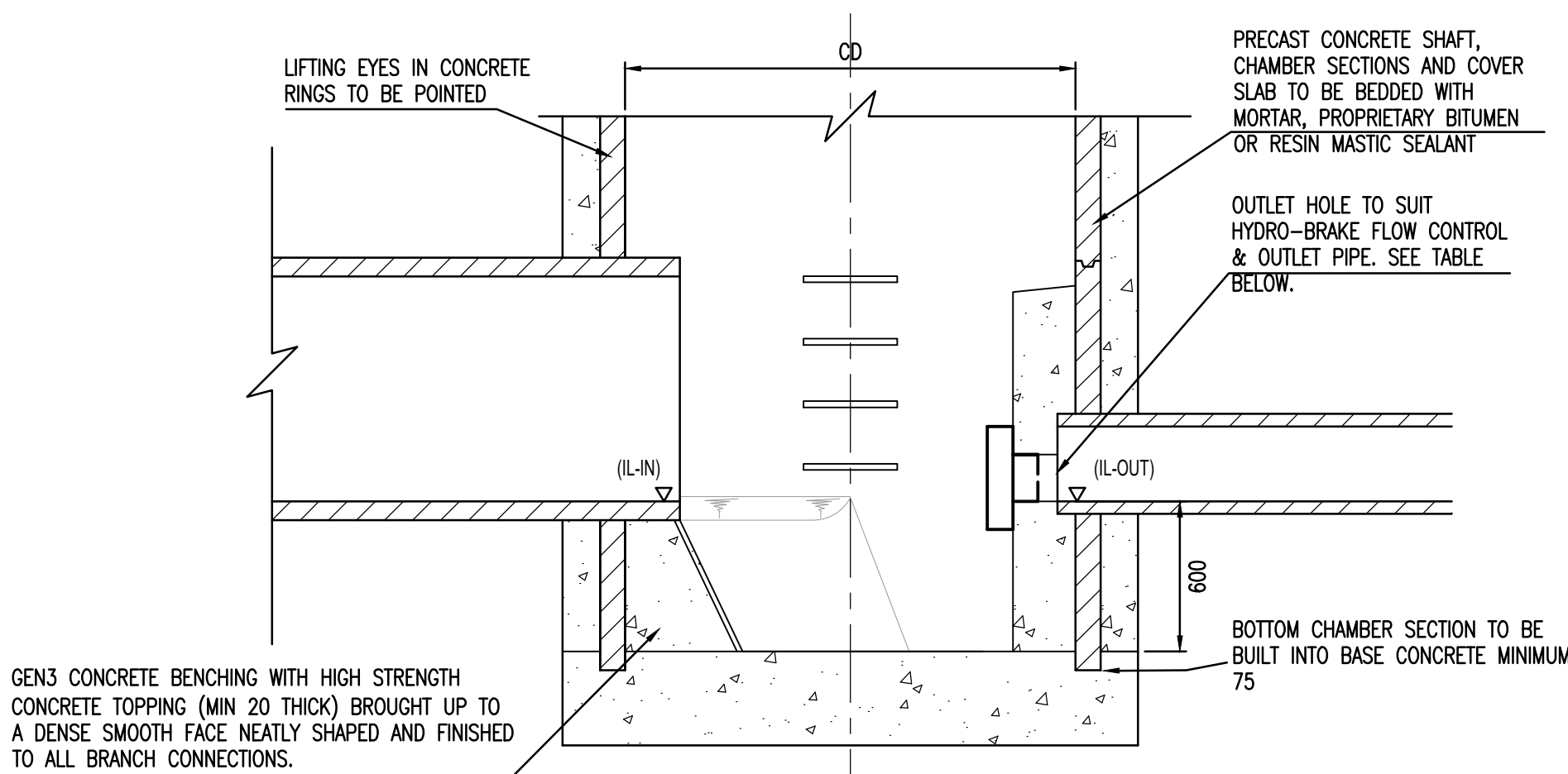


ATTENUATION TANK DIAGRAMATIC LAYOUT (N.T.S)

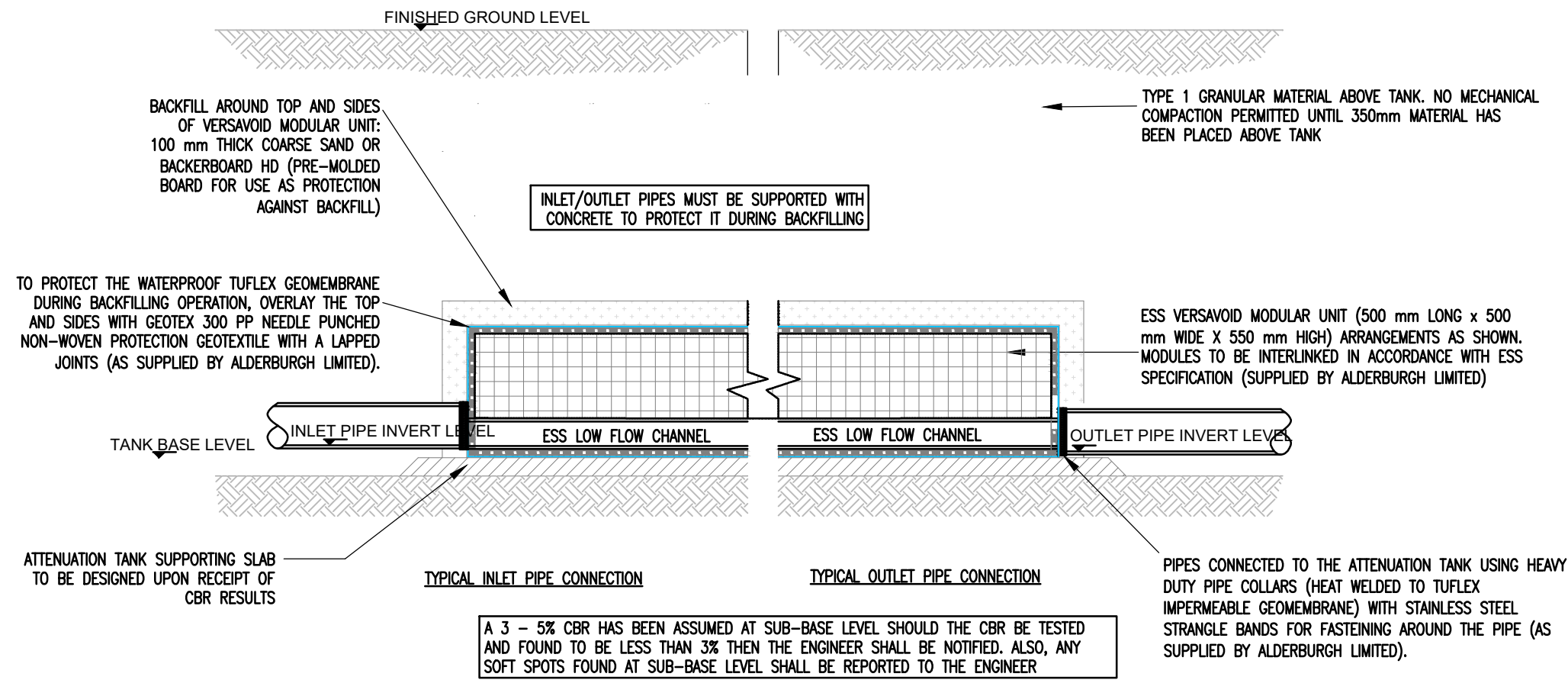
OVERALL DIMENSIONS 11m X 3m X 0.4m
DEEP = 13.2m³
(SEE BELOW GROUND LAYOUT DRAWING FOR
LEVELS)



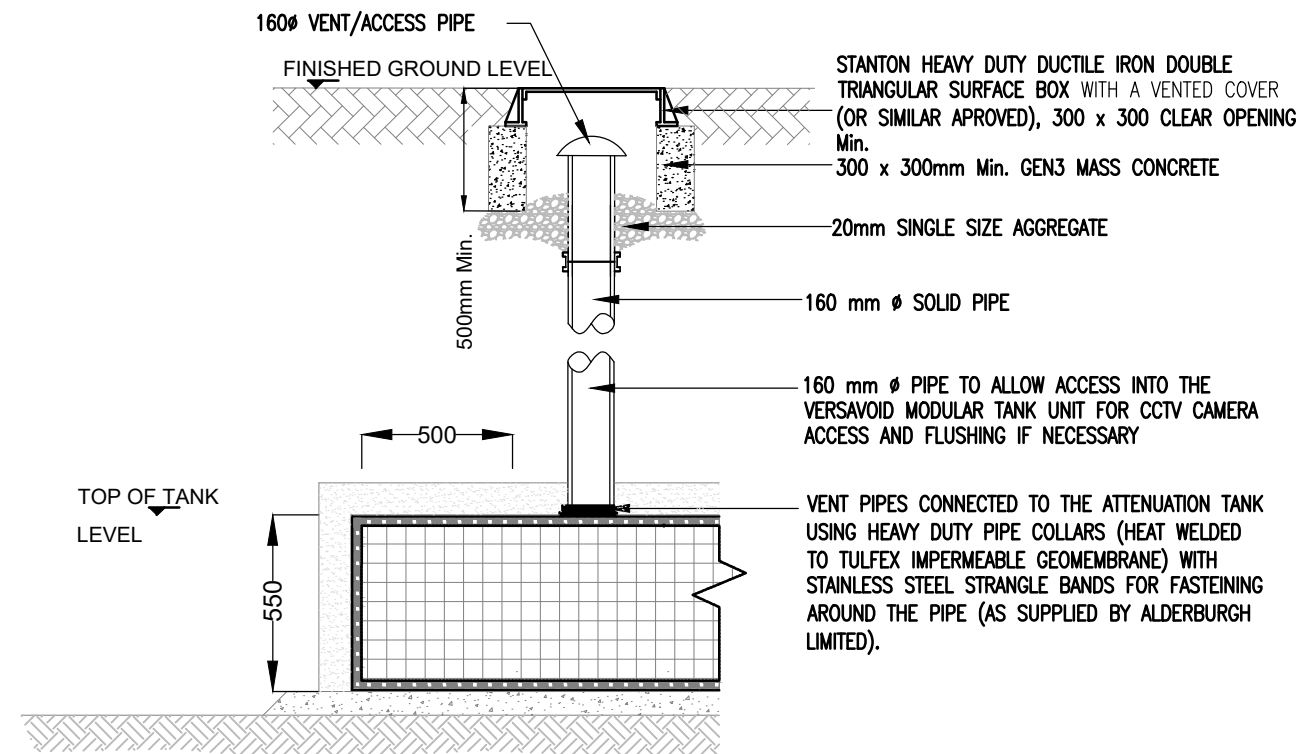
PLAN ON HYDRO-BRAKE CHAMBER
SCALE 1:20



CROSS SECTION
SCALE 1:25



ATTENUATION TANK DETAILS USING VERSAVOID MODULAR UNITS
(N.T.S)



TYPICAL 160Ø VENT / INSPECTION PIPE CONNECTION
(N.T.S.)

THE CONTRACTOR SHALL PROHIBIT THE MOVEMENT OF CONSTRUCTION PLANT ACROSS THE STORAGE TANK AND WHERE NECESSARY PROVIDE ADDITIONAL SUPPORT AND PROTECTION TO THE STRUCTURE. PARTICULARLY POST CONSTRUCTION. TEMPORARY FENCING CAN BE USED TO PROHIBIT TRADE STOCKS, PILING MATERIALS, HEAVY PLANTS ETC.,

ATTENUATION TANK INSTALLATION NOTES

1. ALL STORAGE TANK DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE SPECIFICATIONS, METHOD STATEMENTS AND RECOMMENDATIONS OF ENVIRONMENTAL, SUSTAINABLE SOLUTIONS (ESS) LIMITED, ROCHDALE.
2. THE CONTRACTOR SHALL ALLOW FOR DEALING WITH SURFACE WATER RUN-OFF INTO EXCAVATIONS AND FROM GROUNDWATER BY MEANS OF PUMPS, PIPING AND DE-WATERING AS APPROPRIATE, IN ORDER TO KEEP THE EXCAVATION AS REASONABLY DRY AS POSSIBLE DURING THE CONSTRUCTION OF THE WORKS.
3. ALL LEVELS AND DIMENSIONS SHALL BE VERIFIED ON SITE PRIOR TO THE COMMENCEMENT OF ANY WORKS, ANY DISCREPANCIES SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
4. THE CONTRACTOR SHALL TAKE ALL NECESSARY SAFETY PRECAUTIONS IN LINE WITH CURRENT LEGISLATION WHEN WORKING IN / NEAR CONFINED SPACES, DEEP EXCAVATIONS AND MACHINERY.
5. THE CONTRACTOR SHALL TAKE ALL NECESSARY SAFETY TO PROTECT PEDESTRIANS AND VEHICLES FROM THE WORKING AREAS.
6. TO PROTECT THE ESS VERSANDU MODULAR ATTENUATION / SOMAXIMO STORAGE TANK FROM CONTAMINATION SITE DEBRIS, THE CONTRACTOR SHALL ENSURE THAT STOPPERS ARE SECURELY PLACED IN ALL CONNECTIONS IMMEDIATELY UPSTREAM OF THE TANK UNITS, WHICH ARE TO BE REMOVED ONCE THE FINAL CLEANING OF THE ROADS / DRAINAGE HAS BEEN COMPLETED.
7. UPON COMPLETION OF THE WORKS THE CONTRACTOR SHALL LEAVE THE SITE CLEAN, LEAVING ALL DEBRIS FROM SITE, NO DEBRIS SHALL BE PERMITTED TO ENTER THE TANK STORAGE SYSTEM.
8. REFER SPECIFICATION OF WORK DOCUMENT FOR DETAILED INSTALLATION METHODOLOGY (CONTACT ENVIRONMENTAL, SUSTAINABLE SOLUTIONS (ESS) LIMITED)

MANHOLE SCHEDULE

REF	COVER LEVEL	INVERT LEVEL	DEPTH TO SOFFIT	CHAMBER TYPE	INTERNAL DIA	MINIMUM CLEAR OPENING SIZE	BS EN 124 STRENGTH GRADE	EASTING	NORTHING
6214	19.99	18.15	1.315	EX	EX	EX	D400	436702.413	565268.182
7202	19.01	17.75	1.085	EX	EX	EX	D400	436729.344	565253.929
D1	20.20	18.10	1.575	B	1500	675x675	D400	436701.384	565261.781
D2	19.33	17.86	0.945	B	1800	1350x675	D400	436721.808	565243.612
FW1	19.50	18.68	0.670	PPIC	600	450x450	B125	436714.379	565272.049
FW2	20.00	18.57	1.280	PPIC	600	450x450	B125	436707.569	565266.393
FW3	19.01	18.47	0.390	PPIC	600	450x450	B125	436732.209	565258.229
FW4	19.00	18.47	0.380	PPIC	600	450x450	C250	436728.235	565255.187
FW5	18.92	18.37	0.400	PPIC	600	450x450	C250	436734.890	565255.566
FW6	18.81	18.29	0.370	PPIC	600	450x450	D400	436743.768	565249.141
FW7	18.80	17.165	1.485	B	1200	675x675	D400	436748.617	565249.818
FW8	20.04	19.44	0.450	PPIC	600	450x450	C250	436710.093	565240.591
FW9	19.39	18.75	0.490	PPIC	600	450x450	D400	436717.764	565242.755
SW1	18.743	17.50	1.018	FLOW CONTROL	1500	1350x675	D400	436767.669	565258.701
SW2	18.897	17.85	0.822	B	1350	1350x675	D400	436744.287	565245.767
SW3	19.193	17.96	1.008	B	1350	1350x675	B125	436722.340	565241.357
SW4	19.873	18.40	1.248	B	1350	1350x675	D400	436706.449	565255.287
SW5	19.50	18.20	1.075	B	1350	1350x675	D400	436713.244	565249.516
SW7	18.577	17.58	0.722	B	1350	1350x675	D400	436765.161	565264.791
SW8	20.00	17.89	1.885	B	1200	675x675	C250	436707.823	565268.184
SW9	19.70	17.97	1.505	B	1200	675x675	C250	436711.819	565275.408
SW10	19.00	17.67	1.105	B	1200	675x675	D400	436726.767	565252.538
SW11	19.00	17.62	1.155	B	1200	675x675	D400	436730.148	565256.335

Appendix D

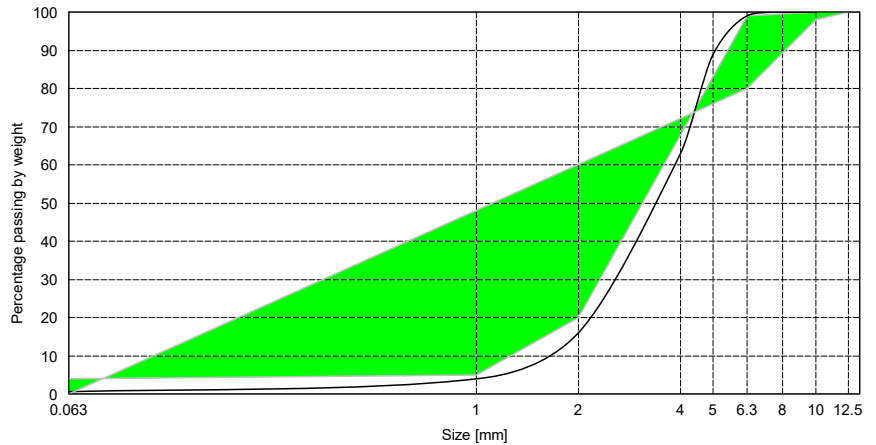
Manufacturer's Details - Various

GRADATION ANALYSIS TEST REPORT

Product: 2/6mm Pavior
Material Code: S100T06SS000
Supplied by: Raisby Quarry
Customer:
Site Address:
Material type: BS EN 13242 / .
Sampled to: BS EN 932 - 1:1997
Prepared to: BS EN 933-2 :1999
Test method: BS EN 933-1 :2012



Sample number	16949
Ticket No	
Sampled by	M. Moody
Date Sampled	08/09/2025
Sample location	Stockpile
Weather Conditions	
Remarks	



Sieve Size (mm)	Percent passing	Specification	Complies (Spec)	Control limits	Complies (Ctrl)
12.5	100	100	Yes	-	-
10	100	98 - 100	Yes	-	-
8	100	-	-	-	-
6.3	99	80 - 99	Yes	-	-
5	89	-	-	-	-
4	63	-	-	-	-
2	16	0 - 20	Yes	-	-
1	4	0 - 5	Yes	-	-
0.063	0.5	0 - 4.0	Yes	-	-
Moisture content (%)	5.9				
Uniformity Coefficient	3				

Sampled By: M. Moody

Tested By: M. Moody

Date Tested: 09/09/2025



Construction Products Regulation Declaration of Performance

1 DoP Reference Number	ED/E1/0146
2 Product Description	ACO S150 Channels Type M
3 Product Serial Number(s)	1151, 1152, 1153, 1154, 1176
4 Intended use	Collection and conveyance of surface water from areas subject to pedestrian and/ or vehicular traffic
5 Manufacturer	ACO Technologies plc ACO Business Park, Hitchin Road, Shefford Bedfordshire, SG17 5TE United Kingdom
6 Authorised Representative	Not Applicable
7 Assessment and verification of constancy of performance	System 3
8 Relevant Harmonised Standard	EN 1433: 2002
9 First year of CE Marking	2006
10 Notified Body that performed Type Test	1502
11 Type Test Report Reference No.	2/39.51/2009
12 Essential Characteristics	Declared performance
1. Water-tightness - jointing of drainage channels	No leakage
2. Load bearing capacity, deflection under load	
- Maximum load	F 900
- Permanent set	NPD
3. Durability	Flexural Strength $\geq 22 \text{ N/mm}^2$ Compressive Strength $\geq 90 \text{ N/mm}^2$
13 Specific Technical Documentation (Article 37/ 38)	Not Applicable

The performance of the product(s) identified in points 2 and 3 is in conformity with the declared performance in point 12.
This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 5.

Signed for and on behalf of the Manufacturer by

Richard Hill
Managing Director
ACO Technologies PLC
17/05/2013



Construction Products Regulation Declaration of Performance

1 DoP Reference Number	ED/E1/0147
2 Product Description	ACO S150 No 1170 Slotted Grating
3 Product Serial Number(s)	1170
4 Intended use	Collection and conveyance of surface water from areas subject to pedestrian and/ or vehicular traffic
5 Manufacturer	ACO Technologies plc ACO Business Park, Hitchin Road, Shefford Bedfordshire, SG17 5TE United Kingdom
6 Authorised Representative	Not Applicable
7 Assessment and verification of constancy of performance	System 3
8 Relevant Harmonised Standard	EN 1433: 2002
9 First year of CE Marking	2006
10 Notified Body that performed Type Test	1502
11 Type Test Report Reference No.	2/782.25/2013
12 Essential Characteristics	Declared performance
1. Water-tightness - jointing of drainage channels	NPD
2. Load bearing capacity, deflection under load	
- Maximum load	F 900
- Permanent set	<1mm
3. Durability	EN 1563: 2011
13 Specific Technical Documentation (Article 37/ 38)	Not Applicable

The performance of the product(s) identified in points 2 and 3 is in conformity with the declared performance in point 12.
This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 5.

Signed for and on behalf of the Manufacturer by

Richard Hill
Managing Director
ACO Technologies PLC
17/05/2013

Ian Farmer Associates (1998) Limited
Unit 4 Faraday Close
Pattinson North Ind. Est
Washington
Tyne and Wear
NE38 8QJ
F.A.O.

Final Test Report - 2250046-82 / 1

Site: Bishop Middleham Quarry
Job Number: 2250046-82
Originating Client: Thompsons Of Prudhoe / W M Thompson Quarries
Originating Reference: 2250046
Date Sampled: 19/03/2025
Date Scheduled: 19/03/2025
Date Testing Started: 20/03/2025
Date Testing Finished: 10/04/2025

Previous Reports		Amendments	Date Issued

Amendments:

Authorised By:



Tim Robinson
Quality Supervisor

Report Issue Date: 10/04/2025

Site: Bishop Middleham Quarry

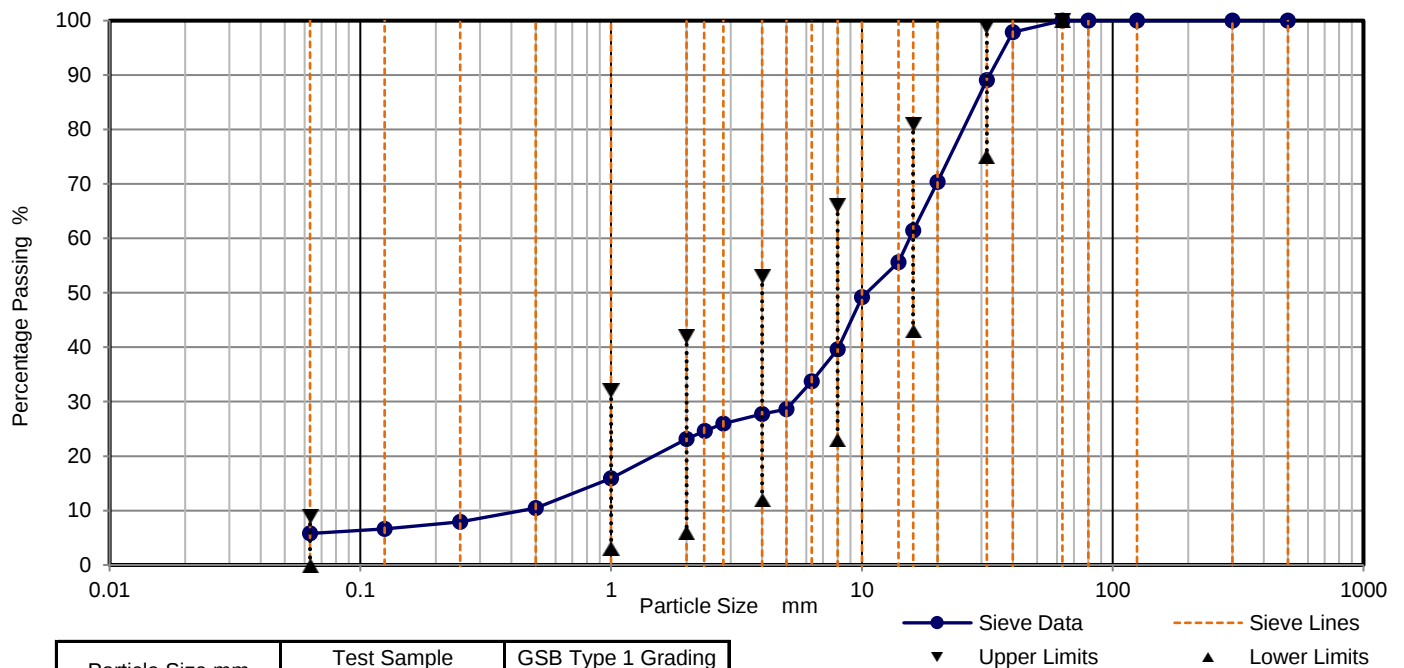
Job Number: 2250046-82

Client: Thompsons Of Prudhoe / W M Thompson Quarries

Page: 2

PARTICLE SIZE DISTRIBUTION - WASHING AND SIEVING METHOD

IFA Number	Client Reference	Class / Description	Source of Sample	Sampling Details	Certificate of Sampling Attached?
M17442	Not Supplied	GSB Type 1	Bishop Middleham	Sampled by Client on 19/03/25	NO



Particle Size mm	Test Sample % Passing	GSB Type 1 Grading Limits (%)
500	100	-
300	100	-
125	100	-
80	100	-
63	100	100
40	98	-
31.5	89	75 - 99
20	70	-
16	61	43 - 81
14	56	-
10	49	-
8	40	23 - 66
6.3	34	-
5	29	-
4	28	12 - 53
2.8	26	-
2.35	25	-
2	23	6 - 42
1	16	3 - 32
0.5	10	-
0.25	8	-
0.125	7	-
0.063	5.8	0 - 9

Sample Proportions	% dry mass
Very coarse	0
Gravel	77
Sand	17
Fines <0.063mm	6

Grading Analysis	
D100	mm 63
D60	mm 15.5
D30	mm 5.32
D10	mm 0.443
Uniformity Coefficient	35
Curvature Coefficient	4.12

Remarks

Preparation and testing in accordance with BS EN 933 unless noted below

Method of Preparation: BS EN 932 : Part 2 : 1999, clause 10 Sample reduction by quartering
 BS EN 933 : Part 1 : 2012, clause 7.1 Washing of particle size distribution

Method of Test: BS EN 933 : Part 1 : 2012, clause 7.2 Sieving of particle size distribution
 Specification for Highways Works, February 2016, Series 800 - Road Pavements, Table 8/5

Site: Bishop Middleham Quarry

Job Number: 2250046-82

Client: Thompsons Of Prudhoe / W M Thompson Quarries

Page: 3

Water Content by Drying in a Ventilated Oven

Source of Sample	Top Middleham Quarry	Sampled By	Sampled by Client	Certificate of Sampling Attached?	NO
IFA Number	Client Reference	Date Sampled	Water Content (%)	Class / Description	
M17442	Not Supplied	19/03/2025	4	GSB Type 1	

Method of Preparation: BS EN 1097 : Part 5 : 2008 : Clause 6 Preparation of test portion

Method of Test: BS EN 1097 : Part 5 : 2008 : Clause 7 Procedure for determination of water content



1464

Results reported relate only to the samples tested.

Site: Bishop Middleham Quarry

Job Number: 2250046-82

Client: Thompsons Of Prudhoe / W M Thompson Quarries

Page: 4

**PARTICLE DENSITY AND WATER ABSORPTION
FOR MATERIAL PASSING THE 31.5mm TEST SIEVE AND RETAINED ON THE 4mm TEST SIEVE**

IFA Number	Client Reference	Class / Description	Source of Sample	Sampling Details	Certificate of Sampling Attached?
M17442	Not Supplied	GSB Type 1	Bishop Middleham	Sampled by Client on 19/03/25	NO

Mass of Test Portion (g)	6162.1
Percentage of Sample in Size Fraction	60
Number of Fractions Tested	2

Particle Density of Oven Dried Sample (Prd)	2.59
Particle Density of Saturated Surface-dry Sample (Pssd)	2.66
Apparent Particle Density (Pa)	2.81
Water Absorption (as % of dry mass) (WA24)	3.1

Remarks:

Method of Preparation: BS EN 1097-6:2022, clause 8.2 Preparation of aggregate particles passing the 31.5mm test sieve and retained on the 4mm test sieve

Method of Test: BS EN 1097-6:2022, clause 8.3 Pycnometer method for aggregate particles passing the 31.5mm test sieve and retained on the 4mm test sieve


1464

Result reported relates only to the sample tested.

Site: Bishop Middleham Quarry

Job Number: 2250046-82

Client: Thompsons Of Prudhoe / W M Thompson Quarries

Page: 5

**PARTICLE DENSITY AND WATER ABSORPTION
FOR MATERIAL PASSING THE 4mm TEST SIEVE AND RETAINED ON THE 0.063mm TEST SIEVE**

IFA Number	Client Reference	Class / Description	Source of Sample	Sampling Details	Certificate of Sampling Attached?
M17442	Not Supplied	GSB Type 1	Bishop Middleham	Sampled by Client on 19/03/25	NO

Mass of Test Portion (g)	2700.9
Percentage of Sample in Size Fraction	26
Number of Fractions Tested	2

Particle Density of Oven Dried Sample (Prd)	2.33
Particle Density of Saturated Surface-dry Sample (Pssd)	2.45
Apparent Particle Density (Pa)	2.64
Water Absorption (as % of dry mass) (WA24)	5.1

Remarks:

Method of Preparation: BS EN 1097-6:2022, clause 9.2 Preparation of aggregate particles passing the 4mm test sieve and retained on the 0.063mm test sieve

Method of Test: BS EN 1097-6:2022, clause 9.3 Pycnometer method for aggregate particles passing the 4mm test sieve and retained on the 0.063mm test sieve


1464

Result reported relates only to the sample tested.

Site: Bishop Middleham Quarry

Job Number: 2250046-82

Client: Thompsons Of Prudhoe / W M Thompson Quarries

Page: 6

Determination of Magnesium Sulfate Soundness

IFA Number	Client Reference	Class / Description	Source of Sample	Sampling Details	Certificate of Sampling Attached?
M17442	Not Supplied	GSB Type 1	Bishop Middleham	Sampled by Client on 19/03/25	NO

Proportion of Sample Used (%)	83
--------------------------------------	-----------

Size Fraction under Test	10mm - 14mm
---------------------------------	--------------------

Magnesium Sulfate Value (%)	13	12.7
Mean Magnesium Sulphate Value (%)	13	

Remarks:
Method of Preparation: BS EN 1367 : Part 2 : 2009, clause 8 Preparation of test specimens

Method of Test: BS EN 1367 : Part 2 : 2009, clause 8 Procedure for the determination of magnesium sulfate soundness

Result reported relates only to the sample tested.

Site: Bishop Middleham Quarry

Job Number: 2250046-82

Client: Thompsons Of Prudhoe / W M Thompson Quarries

Page: 7

Determination of Frost-Heave

IFA Number	Client Reference	Class / Description	Source of Sample	Sampling Details	Certificate of Sampling Attached?
M17442	Not Supplied	GSB Type 1	Bishop Middleham	Sampled by Client on 19/03/25	NO

Date Tested	31/03/25 - 04/04/25	Liquid Limit	% passing 0.425mm	7
		Plastic Limit	NP*	Natural / Sieved
As Received Water Content (0.1%)	4	Unrepresentative Lumps Present	No	
Maximum Dry Density (Mg/m³)	2.23	Dry Density As Tested (Mg/m³)	2.22	
Optimum Water Content (%)	6	Water Content As Tested (%)	5.9	
Maximum Heave in 96hrs	9.5	8.5	11.0	
Mean Value	9.7			
Non-Frost-Susceptible				

Sieve Size	As Received Test Sample % Passing	Stable Test Sample % Passing	GSB Type 1 Grading Limits (%)
125	100	100	-
80	100	100	-
63	100	100	100
40	98	100	-
31.5	89	100	75 - 99
20	70	99	-
16	61	90	43 - 81
14	56	86	-
10	49	74	-
8	40	65	23 - 66
6.3	34	55	-
5	29	48	-
4	28	43	12 - 53
2.8	26	38	-
2.35	25	35	-
2	23	32	6 - 42
1	16	22	3 - 32
0.5	10	16	-
0.25	8	12	-
0.125	7	10	-
0.063	5.8	8.8	0 - 9

Maximum Heave of reference sand mixture, tested to ensure the results are valid (96 hrs)	8.5	Mean Value
	11.5	10
	10.0	

Remarks: For material to be classified as non-frost-susceptible the mean heave value is to be 15mm or less.

*The plastic limit result NP denotes the sample was non-plastic

Method of Preparation: BS 812 : Part 124 : 2009 clause 8 Preparation of test specimens for frost heave test
 BS EN 1097 : Part 5 : 2008 clause 7 Preparation for determination of water content by drying in a vented oven
 BS EN 933 : Part 1 : 2012, clause 7.1 Washing of particle size distribution
 BS 1377 : Part 1 : 2016 : Clause 8.4.3 Preparation of samples for plasticity tests
 BS 1377 : Part 2 : 1990 : Clause 4.2 Preparation of samples for plastic limit tests

Method of Test: BS 812 : Part 124 : 2009 clause 9 Determination of frost heave (including Annex B, use of comparator specimens)
 BS EN 1097 : Part 5 : 2008 clause 7 Procedure for determination of water content by drying in a vented oven
 BS EN 933 : Part 1 : 2012, clause 7.2 Sieving of particle size distribution
 BS 1377 : Part 2 : 1990 : Clause 4.3 or 4.4 Determination of the liquid limit
 BS 1377 : Part 2 : 1990 : Clause 5.3 Determination of the plastic limit and plasticity index
 Specification for Highways Works, February 2016, Series 800 - Road Pavements, Table 8/5

Result reported relates only to the sample tested.

Site: Bishop Middleham Quarry

Job Number: 2250046-82

Client: Thompsons Of Prudhoe / W M Thompson Quarries

Page: 8

DETERMINATION OF RESISTANCE TO FRAGMENTATION BY LOS ANGELES METHOD

Sample Number	Client Reference	Class / Description	Source of Sample	Sampling Details	Certificate of Sampling Attached?
M17442	Not Supplied	GSB Type 1	Bishop Middleham Quarry	Sampled by Client on 19/03/25	NO

Size Fraction Used	10 - 14mm
---------------------------	------------------

Sieve Separation Performed	11.2mm
-----------------------------------	---------------

Date of Test	26/03/2025
---------------------	-------------------

Los Angeles Coefficient (LA)	24
-------------------------------------	-----------

Remarks: No Remarks

Method of Preparation: BS EN 1097:Part2:2020. clause 5.2 Preparation of test portion for Los Angeles test

Method of Test: BS EN 1097:Part2:2020. clause 5.3 Test procedure for Los Angeles test


1464

Result reported relates only to the sample tested.



Site: Bishop Middleham Quarry

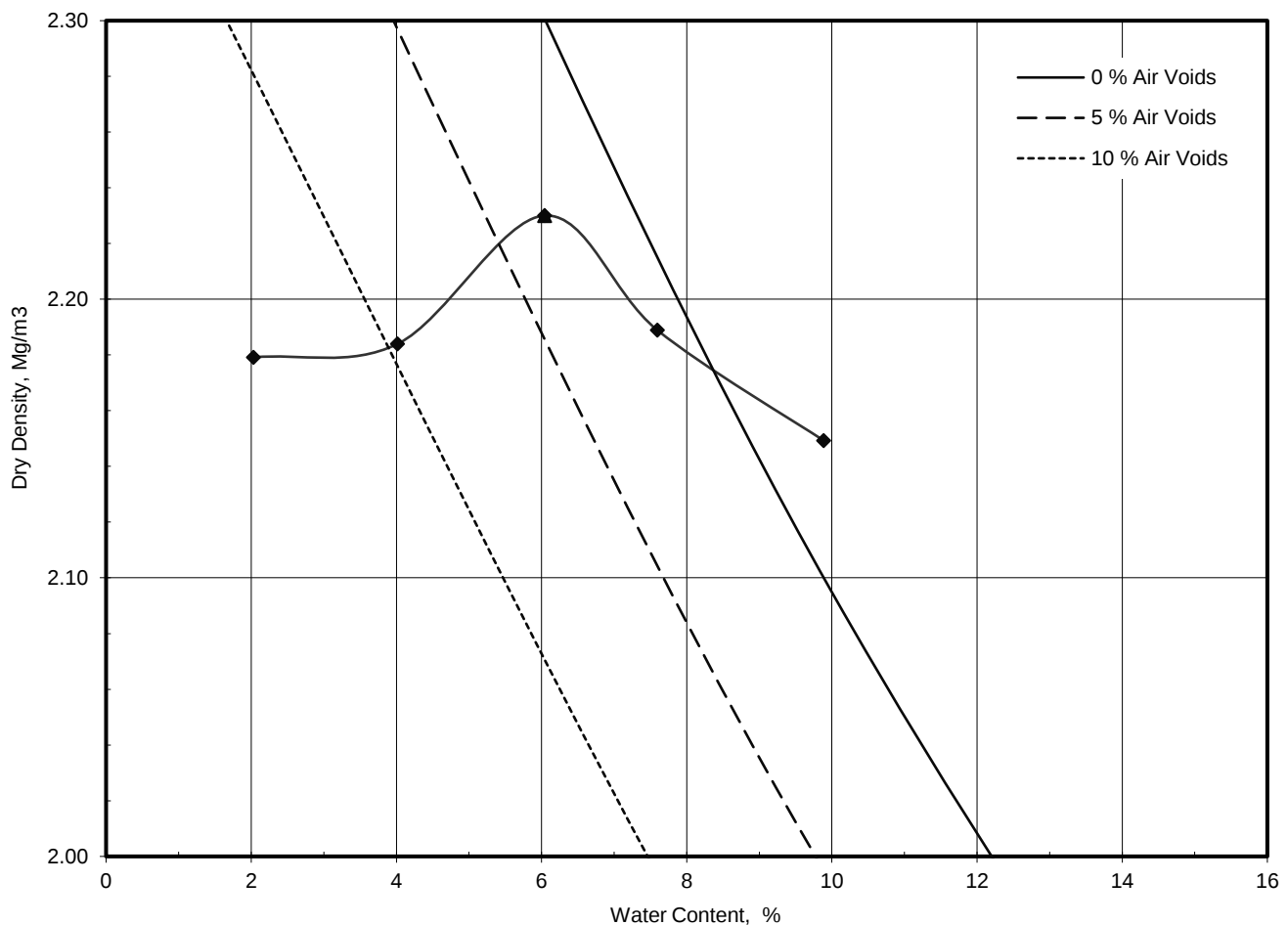
Job Number: 2250046-82

Client: Thompsons Of Prudhoe / W M Thompson Quarries

Page: 9

Laboratory Reference Density and Water Content - Vibrating Hammer

Borehole / Trial Pit	Client Reference	Class / Description	Source of Sample	Sampling Details	Certificate of Sampling Attached?
M17442	Not Supplied	GSB Type 1	Bishop Middleham Quarry	Sampled by Client on 19/03/25	NO
Percentage Retained 40mm		4 %	Samples Used		Single sample tested
Grading Zone		X	Particle Density		2.65 Mg/m³ Assumed
Mould Type		CBR	Description of Vibrating Hammer		Compaction by Vibrating Hammer
Maximum Dry Density		2.23 Mg/m³	Optimum Moisture Content		6 %



Remarks: Form of curve assessed as Convex Upwards

HBM only	Time agent added	1	2	3	4	5	6	7	8	9	10
	Time test completed										

Method of Preparation: BS EN 13286 : Part 4 : 2021, clause 6 Preparation of test portions for laboratory reference Vibrating Hammer

Preparation Details: Material used was oven dried at degC Single sample tested

Method of Test: BS EN 13286 : Part 4 : 2021, clause 7 Test procedure for laboratory reference Vibrating Hammer

Result reported relates only to the sample tested.



1464

Site: Bishop Middleham Quarry

Job Number: 2250046-82

Client: Thompsons Of Prudhoe / W M Thompson Quarries

Page: 10

DETERMINATION OF RESISTANCE TO WEAR OF AGGREGATE - MICRO DEVAL TEST

Sample Number	Client Reference	Class / Description	Source of Sample	Sampling Details	Certificate of Sampling Attached?
M17442	Not Supplied	GSB Type 1	Bishop Middleham Quarry	Sampled by Client on 19/03/25	NO

Micro Deval Coefficient (MDE) (Test 1)	10.6
Micro Deval Coefficient (MDE) (Test 2)	10.8

Mean Micro Deval Coefficient (MDE)	11
------------------------------------	-----------

Remarks: UKAS accredited test conducted at an approved contractor

Method of Preparation: BS EN 1097-1 : 2011, Preparation of test portion for the determination of the Resistance to Wear of Aggregate - Micro Deval Test (Wet Condition)

Method of Test: BS EN 1097-1 : 2011, Test procedure for the determination of the Resistance to Wear of Aggregate - Micro Deval Test (Wet Condition)

Result reported relates only to the sample tested.



Final Test Report - 2250046-82 / 1

Site: Bishop Middleham Quarry
Job Number: 2250046-82
Originating Client: Thompsons Of Prudhoe / W M Thompson Quarries

All opinions and interpretations contained within this report are outside of our Scope of Accreditation.

This test report shall not be reproduced, except in full and only with the written permission of Ian Farmer Associates Ltd.

Samples will be retained for 28 days from date of issue of the final test report before being disposed of, unless we receive written instruction to the contrary.

Report End

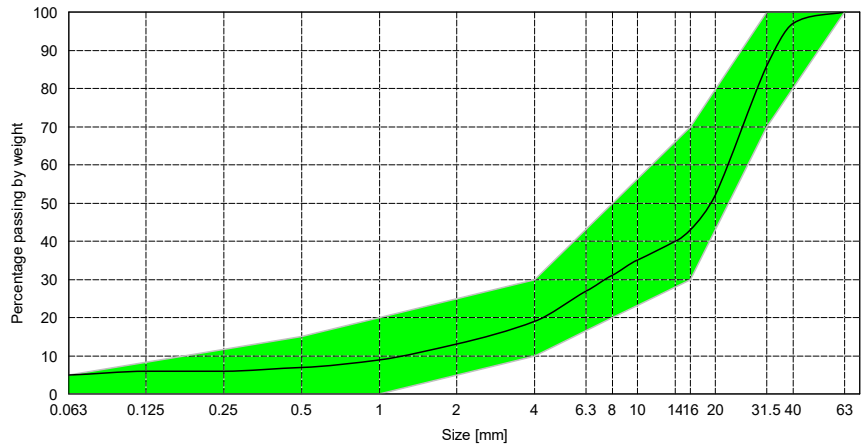
Report Issue Date: 10/04/2025

GRADATION ANALYSIS TEST REPORT

Product: Type I X Sub-Base
 Material Code: A100TSLIN000
 Supplied by: Raisby Quarry
 Customer:
 Site Address:
 Material type: Proprietary / .
 Sampled to: BS EN 932 - 1:1997
 Prepared to: BS EN 933-2 :1999
 Test method: BS EN 933-1 :2012



Sample number 18738
 Ticket No
 Sampled by P. Clark
 Date Sampled 08/01/2026
 Sample location Stockpile
 Weather
 Conditions
 Remarks

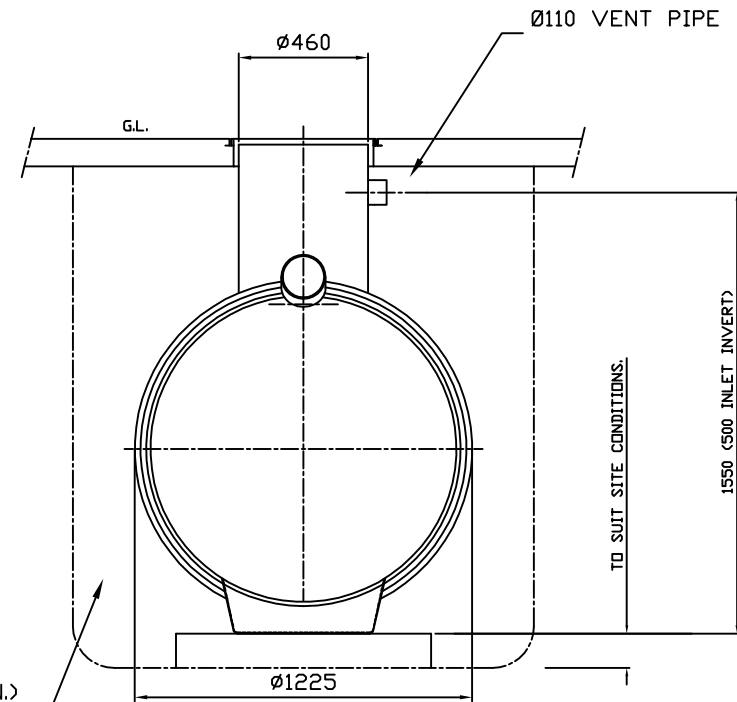
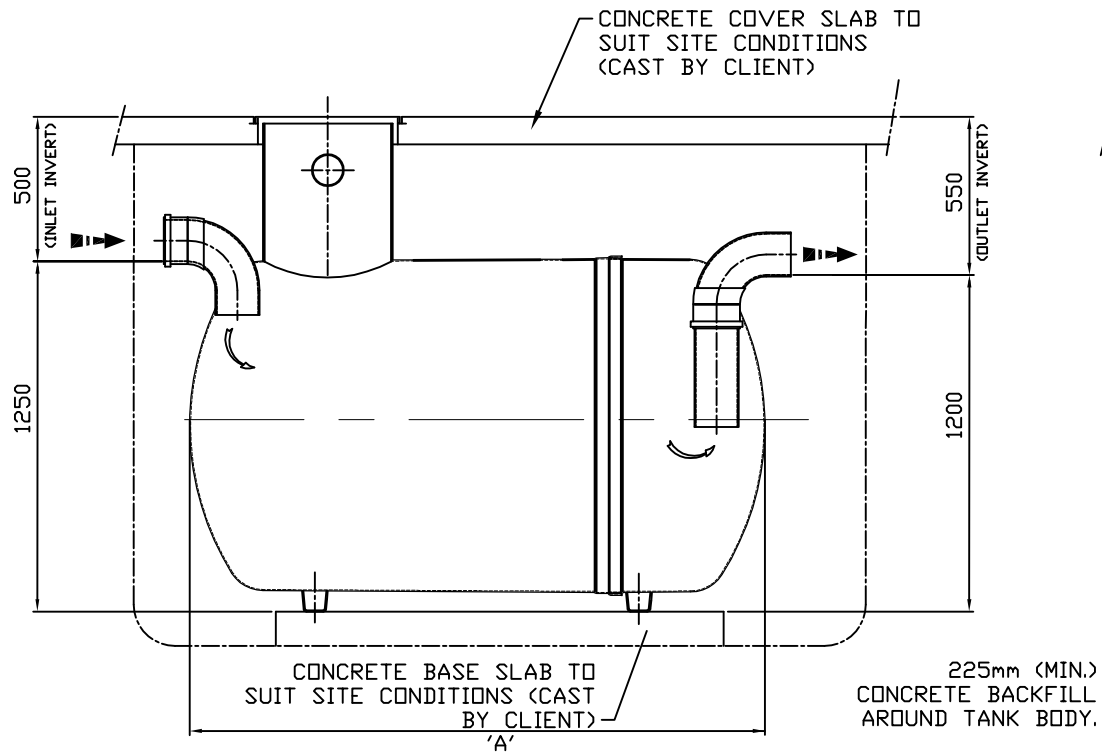
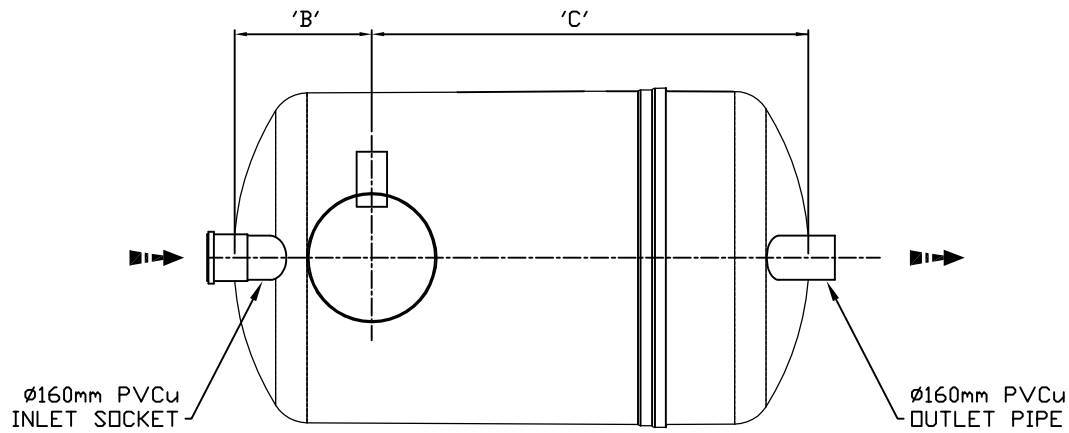


Sieve Size (mm)	Percent passing	Specification	Complies (Spec)	Control limits	Complies (Ctrl)
80		-	-	-	-
63	100	100 - 100	Yes	-	-
40	97	-	-	-	-
31.5	86	70 - 100	Yes	-	-
20	52	-	-	-	-
16	43	30 - 70	Yes	-	-
14	40	-	-	-	-
10	35	-	-	-	-
8	31	20 - 50	Yes	-	-
6.3	27	-	-	-	-
4	19	10 - 30	Yes	-	-
2	13	-	-	-	-
1	9	0 - 20	Yes	-	-
0.5	7	0 - 15	Yes	-	-
0.25	6	-	-	-	-
0.125	6	-	-	-	-
0.063	5.0	0 - 5.0	Yes	-	-
Moisture content (%)	3.0				
Uniformity Coefficient	17				

Sampled By: P. Clark

Tested By: M. Moody

Date Tested: 09/01/2026



NOTES:-

- 1.) UNITS CAN BE SUPPLIED WITH EXTENSION SHAFTS IN 0.5m INCREMENTS.
- 2.) STANDARD INLET / OUTLET PIPES ARE PVCu UNDERGROUND DRAINAGE TO BS4660. FOR OTHER PIPE SIZES AND TYPES AVAILABLE CONSULT KLARGESTER.
- 3.) STANDARD IN-LINE ORIENTATION SHOWN. FOR OTHER ORIENTATIONS SEE DOCUMENT TDS0033.
- 4.) IT IS ESSENTIAL THAT THIS DRAWING IS READ INCONJUNCTION WITH THE INSTALLATION INSTRUCTIONS (SUPPLIED WITH UNIT). THIS DRAWING SHOULD BE USED FOR DIMENSIONAL INFORMATION ONLY.

UNIT	DIM 'A'	DIM 'B'	DIM 'C'	WORKING CAPACITY.	APPROX WEIGHT.		FALL ACROSS UNIT
					EMPTY	FULL	
W1/010	1123	560	563	1013 Litres	50 Kg	1065 Kg	50
W1/020	2074	700	1374	2052 Litres	70 Kg	2125 Kg	50
W1/030	2952	700	2252	3005 Litres	95 Kg	3100 Kg	50
W1/040	3898	700	3198	4023 Litres	120 Kg	4145 Kg	50

2	04/07/12	L.S	CC1061
1	02.03.09	JC	CC702
ISSUE	DATE	DRAWN	MODIFICATION
This drawing is copyright and may not be reproduced or used without the written permission of Kingspan.			
KINGSPAN RESERVE THE RIGHT TO CHANGE SPECIFICATIONS WITHOUT NOTICE			

ALL DIMENSIONS ARE IN MILLIMETRES – DO NOT SCALE			
		TITLE	
		W1/010 – W1/040 WASH DOWN & SILT SEPARATORS (1-STAGE)	
SCALE		1:10	SHEET SIZE A1
DRAWING No.		DS0832P	ISSUE 2

Run-off from building roofs is collected into downpipes and flows into a back inlet gully incorporating an internal filter or catchpit inspection chambers. The back inlet gully or chamber discharges the filtered stormwater into the permeable sub-base via Permavoid Rainwater Diffuser Unit encapsulated in a 2mm mesh fabric. The run-off will then diffuse out of the Permavoid Rainwater Diffuser Unit and into the modified granular sub-base layer. The Permavoid unit is a 150mm deep modular interlocking plastic unit storage system designed for use as a combined drainage component and sub-base replacement system, ideal for shallow infiltration/attenuation.



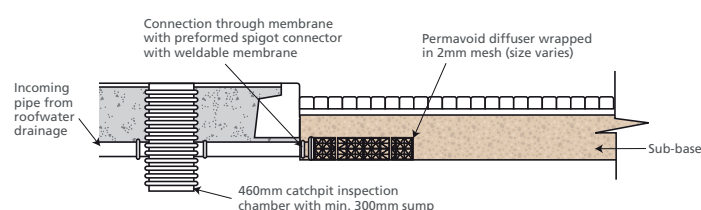
Permavoid Rainwater Diffuser Unit - Configuration Options

	Width				
	354mm	708mm	1062mm	1416mm	2124mm
Length	708mm	✓	✓	✓	✓
	1062mm	✗	✓	✓*	✓
	1416mm	✓	✓	✓	✓
	2124mm	✓	✓	✓	✓

*1062 x 1062mm diffuser unit has a 354 x 354mm central opening.
 Depths available are either 150mm or 300mm.
 Connections available are either Ø110mm or Ø160mm.

Catchpit: 460mm diameter catchpit with 160mm inlet - PSMST 160
 460mm diameter catchpit with 110mm inlet - PSMST 110

Typical Layout - Rainwater downpipe drainage into sub-base reservoir



Technical Support

Detailed guidance and assistance is available.
 For further information, please contact our Technical Team on +44 (0) 1509 615 100 or email civils@polypipe.com or visit www.polypipe.com/civils-technical-hub

ELEMENT	VALUE
PHYSICAL PROPERTIES	
Weight per unit	3kg
Length	708mm
Width	354mm
Depth	150mm
SHORT TERM COMPRESSIVE STRENGTH	
Vertical	715kN/m ²
Lateral	156kN/m ²
SHORT TERM DEFLECTION	
Vertical	1mm per 126kN/m ²
Lateral	1mm per 15kN/m ²
TENSILE STRENGTH	
Of a single joint	42.4kN/m ²
Of a single joint at (1% secant modulus)	18.8kN/m ²
Bending resistance of unit	0.71kN/m
Bending resistance of single joint	0.16kN/m
OTHER PROPERTIES	
Volumetric void ratio	95%
Average effective perforated surface area	52%
Intrinsic permeability (k)	Minimum 1.0 x 10 ⁻⁵
Ancillary	Permavoid Permatie
	Permavoid Shear Connector
Material	Polypropylene (PP)

HYDRAULIC PERFORMANCE

3 units wide, 1 unit deep
 (1.06m x 0.15m)

FREE DISCHARGE

Gradient (%)	0	1	2	3	4	5
Flow rate (l/m/s)	8	13	15	17	19	21

Permavoid Rainwater Diffuser Unit can be utilised in these SuDS techniques

TECHNIQUES													
Blue-Green roofs	Podium Decks	Trees	Sports Pitches	Cycle Paths	Permeable Paving (sub base & podium)	Bioretention & Rain Gardens	Attenuation Storage Tanks	Infiltration	Swales	Filter Drains	Detention Basins	Ponds & Wetlands	Filter Strips
			✓		✓		✓						

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Ian Farmer Associates (1998) Limited
Unit 4 Faraday Close
Pattinson North Ind. Est
Washington
Tyne and Wear
NE38 8QJ
F.A.O.

Interim Test Report - 2254755A / 1

Site: Grab & Deliver, Herrington
Job Number: 2254755A
Originating Client: Grab & Deliver
Originating Reference: 2254755
Date Sampled: 20/10/2025
Date Scheduled: 21/10/2025
Date Testing Started: 24/10/2025
Date Testing Finished: 19/11/2025

Previous Reports		Amendments	Date Issued

Amendments:

Authorised By:



Tim Robinson
Quality Supervisor

Report Issue Date: 19/11/2025

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Results reported relate only to the samples tested.

Site: Grab & Deliver, Herrington

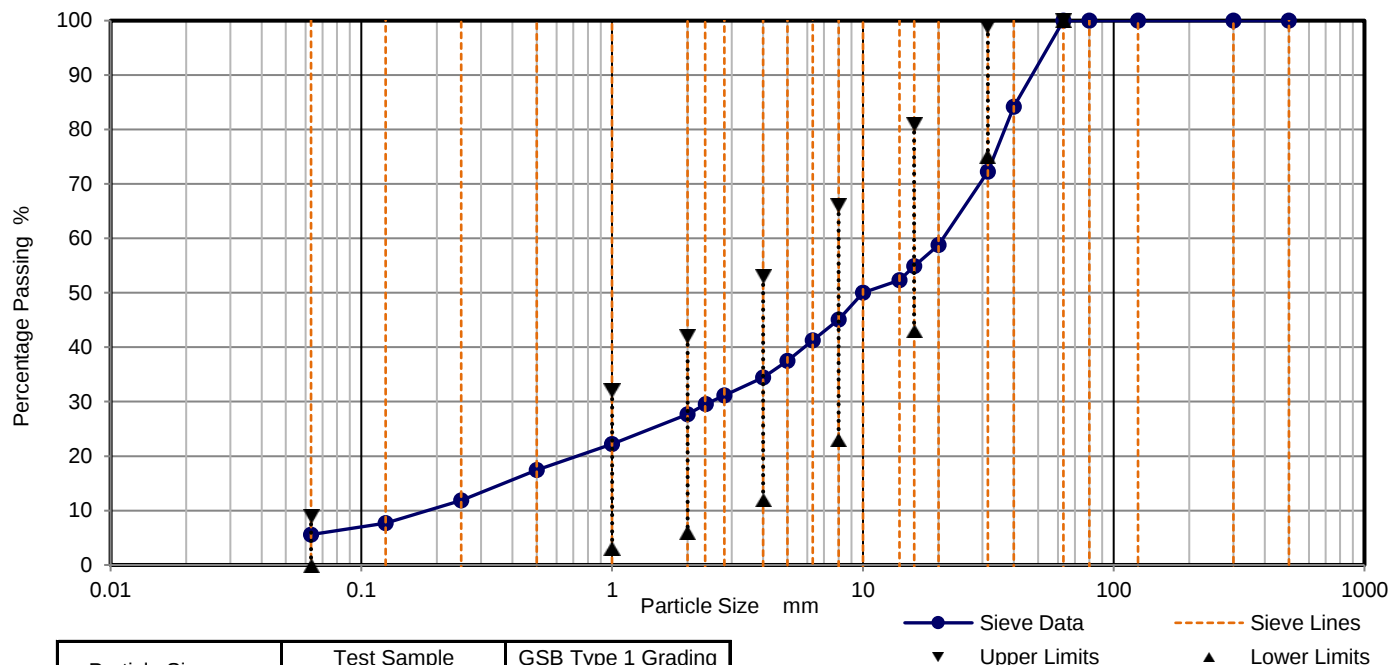
Job Number: 2254755A

Client: Grab & Deliver

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PARTICLE SIZE DISTRIBUTION - WASHING AND SIEVING METHOD

IFA Number	Client Reference	Class / Description	Source of Sample	Sampling Details	Certificate of Sampling Attached?
M17789/1	GSB1	Brown gravelly SAND	Site Won	I. Catchpole for IFA on 20/10/25	NO



Particle Size mm	Test Sample % Passing	GSB Type 1 Grading Limits (%)
500	100	-
300	100	-
125	100	-
80	100	-
63	100	100
40	84	-
31.5	72	75 - 99
20	59	-
16	55	43 - 81
14	52	-
10	50	-
8	45	23 - 66
6.3	41	-
5	38	-
4	34	12 - 53
2.8	31	-
2.35	30	-
2	28	6 - 42
1	22	3 - 32
0.5	17	-
0.25	12	-
0.125	8	-
0.063	5.6	0 - 9

Sample Proportions	% dry mass
Very coarse	0
Gravel	72
Sand	22
Fines <0.063mm	6

Grading Analysis	
D100	mm 63
D60	mm 20.8
D30	mm 2.47
D10	mm 0.183
Uniformity Coefficient	114
Curvature Coefficient	1.6

Remarks

Preparation and testing in accordance with BS EN 933 unless noted below

Method of Preparation: BS EN 932 : Part 2 : 1999, clause 10 Sample reduction by quartering
BS EN 933 : Part 1 : 2012, clause 7.1 Washing of particle size distribution

Method of Test: BS EN 933 : Part 1 : 2012, clause 7.2 Sieving of particle size distribution
Specification for Highways Works, February 2016, Series 800 - Road Pavements, Table 8/5

Site: Grab & Deliver, Herrington

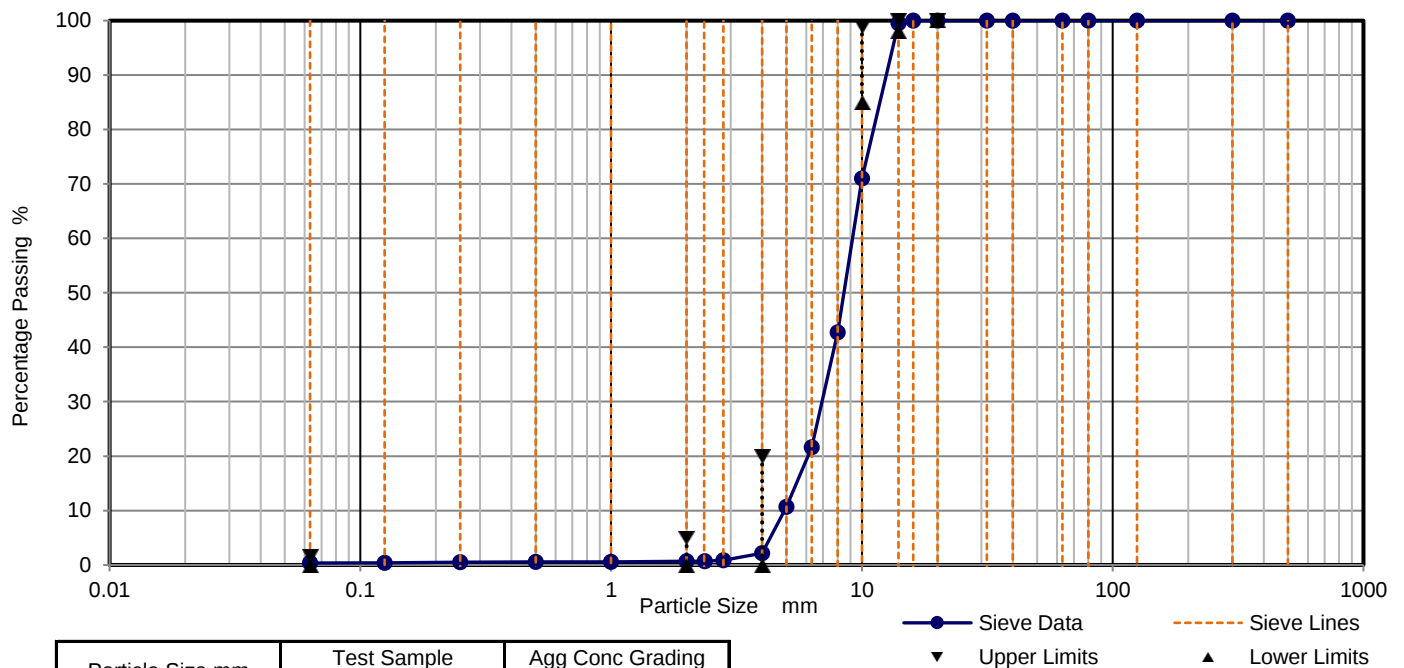
Job Number: 2254755A

Client: Grab & Deliver

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PARTICLE SIZE DISTRIBUTION - WASHING AND SIEVING METHOD

IFA Number	Client Reference	Class / Description	Source of Sample	Sampling Details	Certificate of Sampling Attached?
M17789/4	4/10mm	Brown GRAVEL	Site Won	I. Catchpole for IFA on 20/10/25	NO



Particle Size mm	Test Sample % Passing	Agg Conc Grading Limits (%)
500	100	-
300	100	-
125	100	-
80	100	-
63	100	-
40	100	-
31.5	100	-
20	100	100
16	100	-
14	100	98 - 100
10	71	85 - 99
8	43	-
6.3	22	-
5	11	-
4	2	0 - 20
2.8	1	-
2.35	1	-
2	1	0 - 5
1	1	-
0.5	1	-
0.25	0	-
0.125	0	-
0.063	0.4	0 - 1.5

Sample Proportions	% dry mass
Very coarse	0
Gravel	99
Sand	0
Fines <0.063mm	0

Grading Analysis	
D100	mm 16
D60	mm 9.17
D30	mm 6.93
D10	mm 4.91
Uniformity Coefficient	1.87
Curvature Coefficient	1.06

Remarks

Preparation and testing in accordance with BS EN 933 unless noted below

Method of Preparation: BS EN 932 : Part 2 : 1999, clause 10 Sample reduction by quartering
 BS EN 933 : Part 1 : 2012, clause 7.1 Washing of particle size distribution

Method of Test: BS EN 933 : Part 1 : 2012, clause 7.2 Sieving of particle size distribution
 Specification for BS EN 12620:2002+A1:2008, Aggregates for concrete, Table C1, 4 specification

Site: Grab & Deliver, Herrington

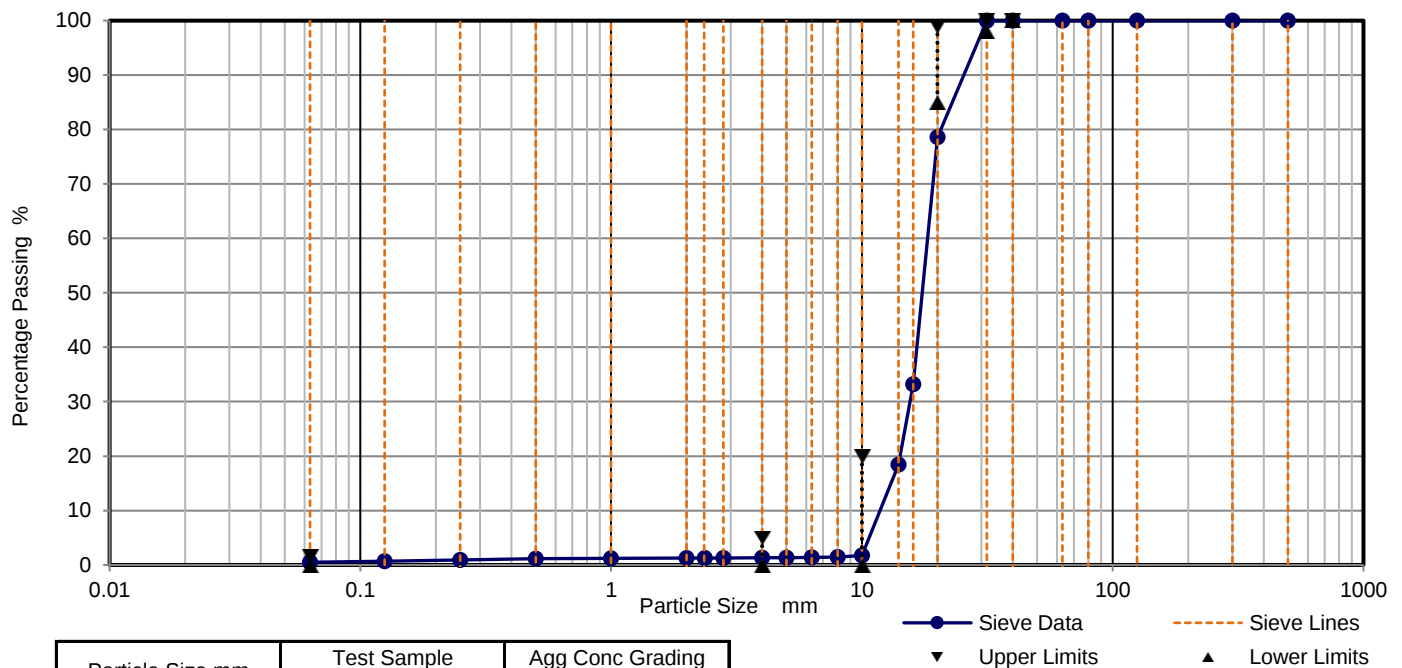
Job Number: 2254755A

Client: Grab & Deliver

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PARTICLE SIZE DISTRIBUTION - WASHING AND SIEVING METHOD

IFA Number	Client Reference	Class / Description	Source of Sample	Sampling Details	Certificate of Sampling Attached?
M17789/5	10/20mm	Brown GRAVEL	Site Won	I. Catchpole for IFA on 20/10/25	NO



Particle Size mm	Test Sample % Passing	Agg Conc Grading Limits (%)
500	100	-
300	100	-
125	100	-
80	100	-
63	100	-
40	100	100
31.5	100	98 - 100
20	79	85 - 99
16	33	-
14	18	-
10	2	0 - 20
8	1	-
6.3	1	-
5	1	-
4	1	0 - 5
2.8	1	-
2.35	1	-
2	1	-
1	1	-
0.5	1	-
0.25	1	-
0.125	1	-
0.063	0.5	0 - 1.5

Sample Proportions	% dry mass
Very coarse	0
Gravel	99
Sand	1
Fines <0.063mm	1

Grading Analysis	
D100	mm 31.5
D60	mm 18.3
D30	mm 15.5
D10	mm 12.6
Uniformity Coefficient	1.45
Curvature Coefficient	1.05

Remarks

Preparation and testing in accordance with BS EN 933 unless noted below

Method of Preparation: BS EN 932 : Part 2 : 1999, clause 10 Sample reduction by quartering
 BS EN 933 : Part 1 : 2012, clause 7.1 Washing of particle size distribution

Method of Test: BS EN 933 : Part 1 : 2012, clause 7.2 Sieving of particle size distribution
 Specification for BS EN 12620:2002+A1:2008, Aggregates for concrete, Table C1, 4 specification

Site: Grab & Deliver, Herrington

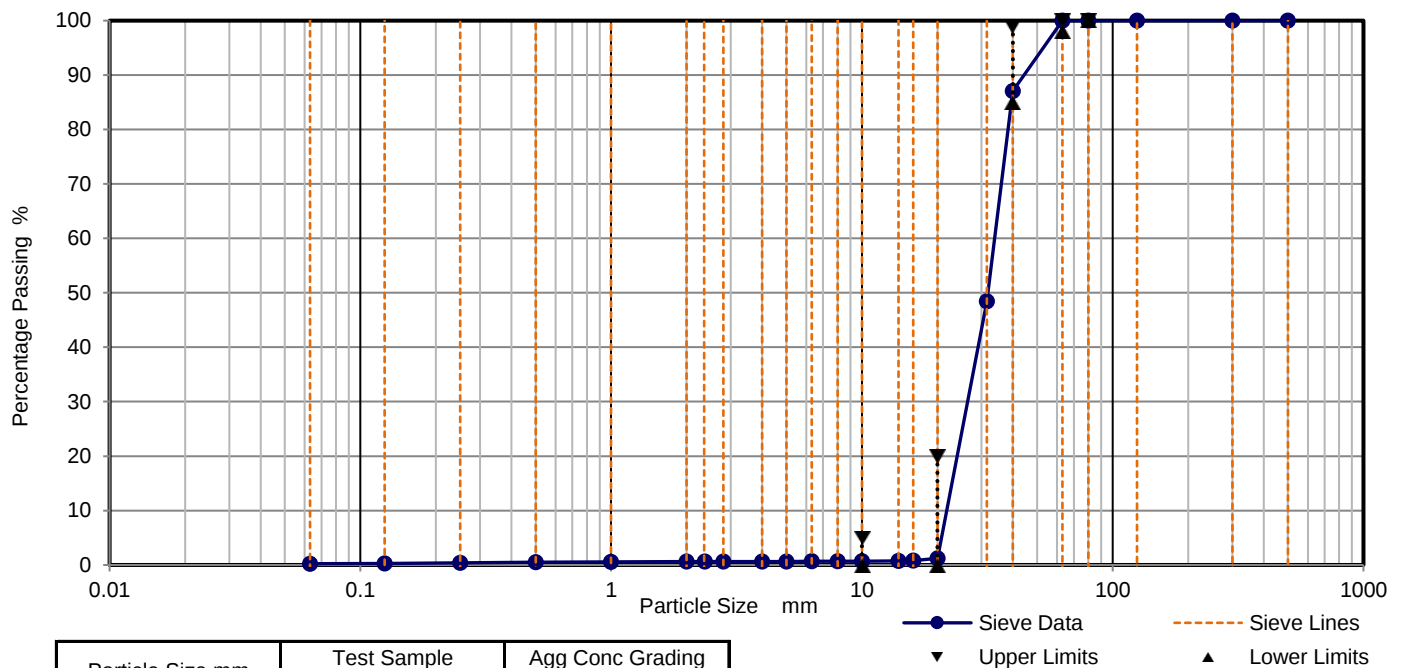
Job Number: 2254755A

Client: Grab & Deliver

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PARTICLE SIZE DISTRIBUTION - WASHING AND SIEVING METHOD

IFA Number	Client Reference	Class / Description	Source of Sample	Sampling Details	Certificate of Sampling Attached?
M17789/6	20/40mm	Brown GRAVEL	Site Won	I. Catchpole for IFA on 20/10/25	NO



Particle Size mm	Test Sample % Passing	Agg Conc Grading Limits (%)
500	100	-
300	100	-
125	100	-
80	100	100
63	100	98 - 100
40	87	85 - 99
31.5	48	-
20	1	0 - 20
16	1	-
14	1	-
10	1	0 - 5
8	1	-
6.3	1	-
5	1	-
4	1	-
2.8	1	-
2.35	1	-
2	1	-
1	1	-
0.5	0	-
0.25	0	-
0.125	0	-
0.063	0.2	-

Sample Proportions	% dry mass
Very coarse	0
Gravel	99
Sand	0
Fines <0.063mm	0

Grading Analysis	
D100	mm 63
D60	mm 33.8
D30	mm 26.4
D10	mm 21.8
Uniformity Coefficient	1.55
Curvature Coefficient	0.945

Remarks

Preparation and testing in accordance with BS EN 933 unless noted below

Method of Preparation: BS EN 932 : Part 2 : 1999, clause 10 Sample reduction by quartering
BS EN 933 : Part 1 : 2012, clause 7.1 Washing of particle size distribution

Method of Test: BS EN 933 : Part 1 : 2012, clause 7.2 Sieving of particle size distribution
Specification for BS EN 12620:2002+A1:2008, Aggregates for concrete,

Site: Grab & Deliver, Herrington

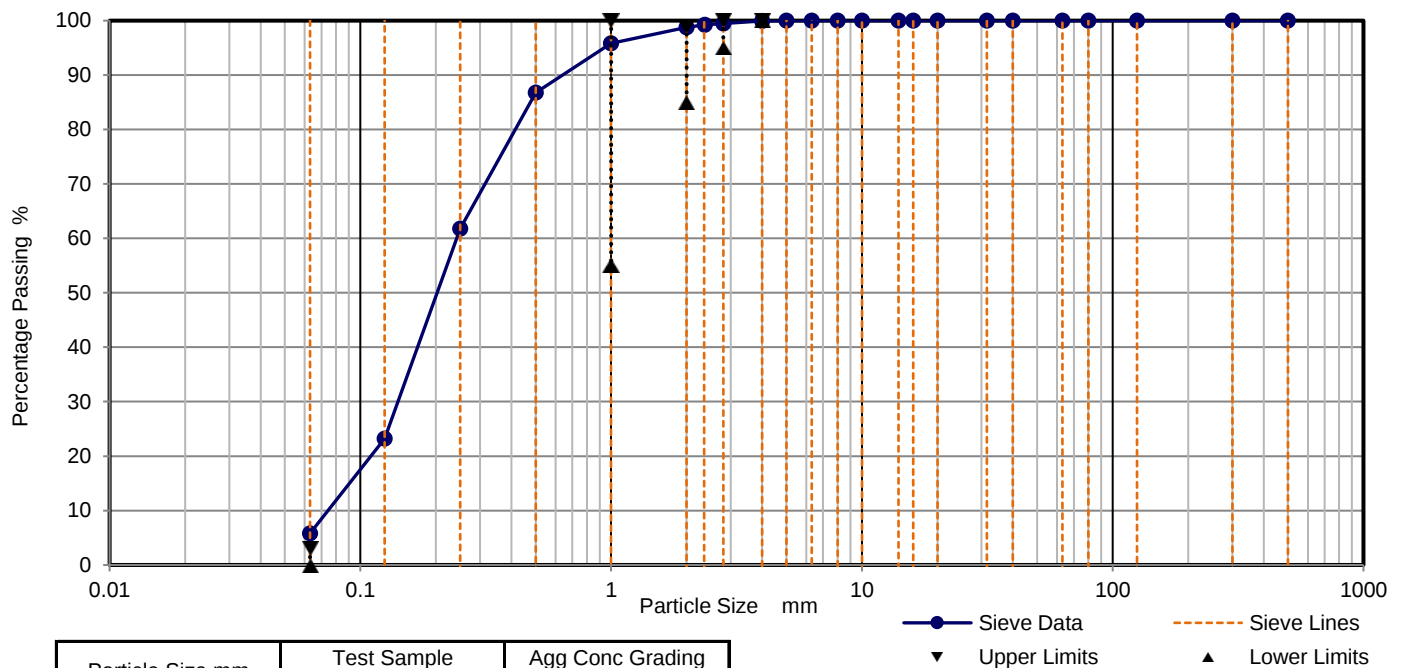
Job Number: 2254755A

Client: Grab & Deliver

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PARTICLE SIZE DISTRIBUTION - WASHING AND SIEVING METHOD

IFA Number	Client Reference	Class / Description	Source of Sample	Sampling Details	Certificate of Sampling Attached?
M17789/7	fine sand	Brown SAND	Site Won	I. Catchpole for IFA on 20/10/25	NO



Particle Size mm	Test Sample % Passing	Agg Conc Grading Limits (%)
500	100	-
300	100	-
125	100	-
80	100	-
63	100	-
40	100	-
31.5	100	-
20	100	-
16	100	-
14	100	-
10	100	-
8	100	-
6.3	100	-
5	100	-
4	100	100
2.8	99	95 - 100
2.35	99	-
2	99	85 - 99
1	96	55 - 100
0.5	87	-
0.25	62	-
0.125	23	-
0.063	5.8	0 - 3

Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	93
Fines <0.063mm	6

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks

Preparation and testing in accordance with BS EN 933 unless noted below

Method of Preparation: BS EN 932 : Part 2 : 1999, clause 10 Sample reduction by quartering
BS EN 933 : Part 1 : 2012, clause 7.1 Washing of particle size distribution

Method of Test: BS EN 933 : Part 1 : 2012, clause 7.2 Sieving of particle size distribution
Specification for BS EN 12620:2002+A1:2008, Aggregates for concrete, Table D1, 4 specification

Site: Grab & Deliver, Herrington

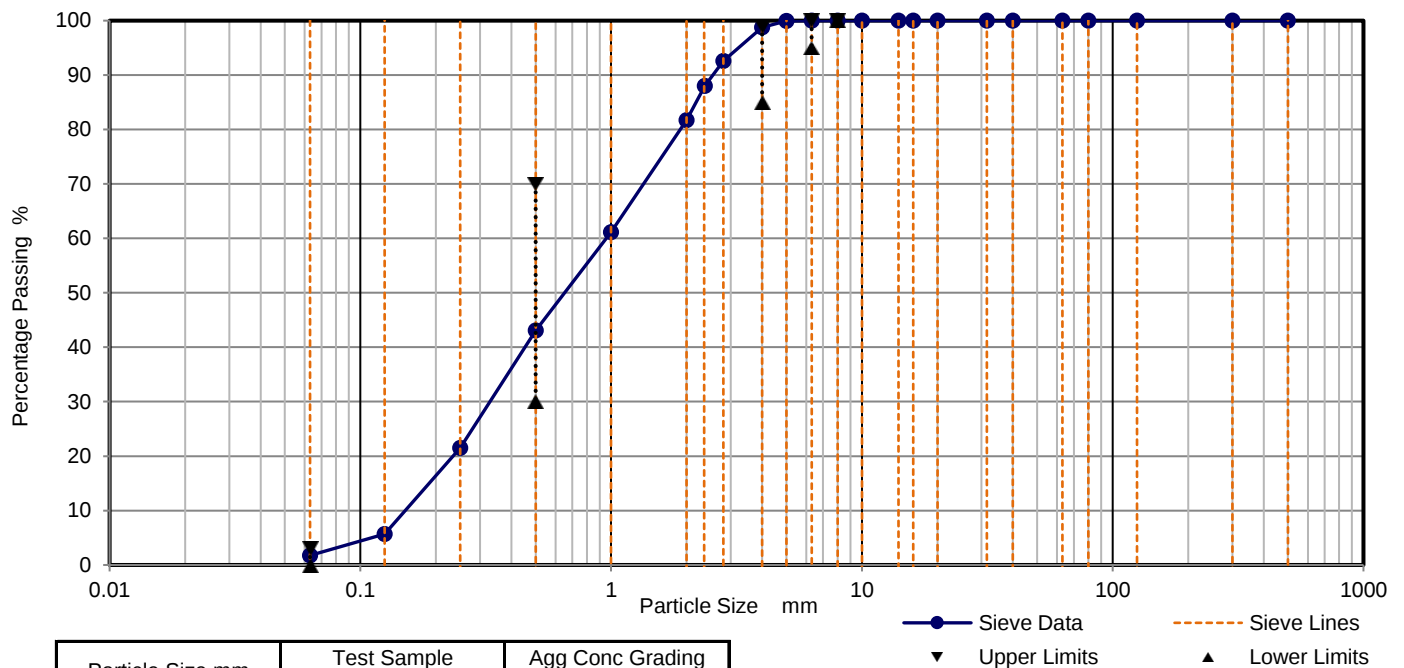
Job Number: 2254755A

Client: Grab & Deliver

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PARTICLE SIZE DISTRIBUTION - WASHING AND SIEVING METHOD

IFA Number	Client Reference	Class / Description	Source of Sample	Sampling Details	Certificate of Sampling Attached?
M17789/8	coarse sand	Brown SAND	Site Won	I. Catchpole for IFA on 20/10/25	NO



Particle Size mm	Test Sample % Passing	Agg Conc Grading Limits (%)
500	100	-
300	100	-
125	100	-
80	100	-
63	100	-
40	100	-
31.5	100	-
20	100	-
16	100	-
14	100	-
10	100	-
8	100	100
6.3	100	95 - 100
5	100	-
4	99	85 - 99
2.8	93	-
2.35	88	-
2	82	-
1	61	-
0.5	43	30 - 70
0.25	22	-
0.125	6	-
0.063	1.8	0 - 3

Sample Proportions	% dry mass
Very coarse	0
Gravel	18
Sand	80
Fines <0.063mm	2

Grading Analysis	
D100	mm 5
D60	mm 0.958
D30	mm 0.328
D10	mm 0.151
Uniformity Coefficient	6.34
Curvature Coefficient	0.746

Remarks

Preparation and testing in accordance with BS EN 933 unless noted below

Method of Preparation: BS EN 932 : Part 2 : 1999, clause 10 Sample reduction by quartering
 BS EN 933 : Part 1 : 2012, clause 7.1 Washing of particle size distribution

Method of Test: BS EN 933 : Part 1 : 2012, clause 7.2 Sieving of particle size distribution
 Specification for BS EN 12620:2002+A1:2008, Aggregates for concrete, Table D1, 4 specification

Site: Grab & Deliver, Herrington

Job Number: 2254755A

Client: Grab & Deliver

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Water Content by Drying in a Ventilated Oven

Source of Sample	Site Won	Sampled By	I. Catchpole for IFA	Certificate of Sampling Attached?	NO
IFA Number	Client Reference	Date Sampled	Water Content (%)	Class / Description	
M17789/1	GSB1	20/10/2025	14	Brown gravelly SAND	
M17789/4	4/10mm	20/10/2025	6.1	Brown GRAVEL	
M17789/5	10/20mm	20/10/2025	5.9	Brown GRAVEL	
M17789/6	20/40mm	20/10/2025	6.8	Brown GRAVEL	
M17789/7	fine sand	20/10/2025	23	Brown SAND	
M17789/8	coarse sand	20/10/2025	14	Brown SAND	

Method of Preparation: BS EN 1097 : Part 5 : 2008 : Clause 6 Preparation of test portion

Method of Test: BS EN 1097 : Part 5 : 2008 : Clause 7 Procedure for determination of water content


1464

Results reported relate only to the samples tested.

Site: Grab & Deliver, Herrington

Job Number: 2254755A

Client: Grab & Deliver

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DETERMINATION OF CONSTITUENTS OF COARSE RECYCLED AGGREGATE

IFA Number	Client Reference	Class / Description	Source of Sample	Sampling Details	Certificate of Sampling Attached?
M17789/1	GSB1	Brown gravelly SAND	Site Won	I. Catchpole for IFA on 20/10/25	NO

Sample Details

Sample Reception Date	20/10/2025
Sample drying temp (°C)	110
Sample Reduction Procedure	Not Reduced
Date of Test	04/11/2025

		Highways Specification December 2016 maximum permitted content (% by mass)		
CLASS	PROPORTION (%)	GSB Type 1	6F2	6F3
Concrete and Concrete Products (Rc)	62	-	-	-
Unbound Aggregate (Ru)	5.8	-	-	-
Clay Masonry (Rb)	20	-	-	-
Bituminous Material (Ra)	11	50	50	50
Glass (Rg)	0.1	25	-	-
Other Particles (X)	0.2	1	-	-
Description of Class X	WOOD, PLASTIC			

Floating Particles (FL)	cm³/kg	0	-	-	-
Description of Floating Particles					

Remarks:

Method of Preparation: BS EN 933 : Part 11 : 2009 Clause 6, Preparation of test portion for geometrical properties of aggregates test

Method of Test: BS EN 933 : Part 11 : 2009 Clause 7, Procedure for geometrical properties of aggregates test

Site: Grab & Deliver, Herrington

Job Number: 2254755A

Client: Grab & Deliver

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**PARTICLE DENSITY AND WATER ABSORPTION
FOR MATERIAL PASSING THE 63mm TEST SIEVE AND RETAINED ON THE 31.5mm TEST SIEVE**

IFA Number	Client Reference	Class / Description	Source of Sample	Sampling Details	Certificate of Sampling Attached?
M17789/1	GSB1	Brown gravelly SAND	Site Won	I. Catchpole for IFA on 20/10/25	NO

Mass of Test Portion (g)	1493.8
Percentage of Sample in Size Fraction	30
Number of Fractions Tested	3

Particle Density of Oven Dried Sample (Prd)	1.96
Particle Density of Saturated Surface-dry Sample (Pssd)	2.13
Apparent Particle Density (Pa)	2.34
Water Absorption (as % of dry mass) (WA24)	8.2

Remarks:

Method of Preparation: BS EN 1097-6:2022, clause 7.2 Preparation of aggregate particles passing the 63mm test sieve and retained on the 31.5mm test sieve

Method of Test: BS EN 1097-6:2022, clause 7.3 Wire basket method for aggregate particles passing the 63mm test sieve and retained on the 31.5mm test sieve


1464

Result reported relates only to the sample tested.

Site: Grab & Deliver, Herrington

Job Number: 2254755A

Client: Grab & Deliver

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**PARTICLE DENSITY AND WATER ABSORPTION
FOR MATERIAL PASSING THE 31.5mm TEST SIEVE AND RETAINED ON THE 4mm TEST SIEVE**

IFA Number	Client Reference	Class / Description	Source of Sample	Sampling Details	Certificate of Sampling Attached?
M17789/1	GSB1	Brown gravelly SAND	Site Won	I. Catchpole for IFA on 20/10/25	NO

Mass of Test Portion (g)	1965.5
Percentage of Sample in Size Fraction	40
Number of Fractions Tested	3

Particle Density of Oven Dried Sample (Prd)	2.04
Particle Density of Saturated Surface-dry Sample (Pssd)	2.19
Apparent Particle Density (Pa)	2.42
Water Absorption (as % of dry mass) (WA24)	7.7

Remarks:

Method of Preparation: BS EN 1097-6:2022, clause 8.2 Preparation of aggregate particles passing the 31.5mm test sieve and retained on the 4mm test sieve

Method of Test: BS EN 1097-6:2022, clause 8.3 Pycnometer method for aggregate particles passing the 31.5mm test sieve and retained on the 4mm test sieve


1464

Result reported relates only to the sample tested.

Site: Grab & Deliver, Herrington

Job Number: 2254755A

Client: Grab & Deliver

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**PARTICLE DENSITY AND WATER ABSORPTION
FOR MATERIAL PASSING THE 4mm TEST SIEVE AND RETAINED ON THE 0.063mm TEST SIEVE**

IFA Number	Client Reference	Class / Description	Source of Sample	Sampling Details	Certificate of Sampling Attached?
M17789/1	GSB1	Brown gravelly SAND	Site Won	I. Catchpole for IFA on 20/10/25	NO

Mass of Test Portion (g)	1478.9
Percentage of Sample in Size Fraction	30
Number of Fractions Tested	3

Particle Density of Oven Dried Sample (Prd)	2.06
Particle Density of Saturated Surface-dry Sample (Pssd)	2.24
Apparent Particle Density (Pa)	2.51
Water Absorption (as % of dry mass) (WA24)	8.7

Remarks:

Method of Preparation: BS EN 1097-6:2022, clause 9.2 Preparation of aggregate particles passing the 4mm test sieve and retained on the 0.063mm test sieve

Method of Test: BS EN 1097-6:2022, clause 9.3 Pycnometer method for aggregate particles passing the 4mm test sieve and retained on the 0.063mm test sieve


1464

Result reported relates only to the sample tested.

Site: Grab & Deliver, Herrington

Job Number: 2254755A

Client: Grab & Deliver

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Determination of Frost-Heave

IFA Number	Client Reference	Class / Description	Source of Sample	Sampling Details	Certificate of Sampling Attached?
M17789/1	GSB1	Brown gravelly SAND	Site Won	I. Catchpole for IFA on 20/10/25	NO

Date Tested	10/11/25 - 14/11/25
-------------	---------------------

Liquid Limit		% passing 0.425mm	15
Plastic Limit	NP*	Natural / Sieved	Sieved

As Received Water Content (0.1%)	14
Maximum Dry Density (Mg/m³)	1.88
Optimum Water Content (%)	10

Unrepresentative Lumps Present	No
Dry Density As Tested (Mg/m³)	1.87
Water Content As Tested (%)	9.9

Maximum Heave in 96hrs	6.0	7.0	7.5
Mean Value	6.9		

Non-Frost-Susceptible

Sieve Size	As Received Test Sample % Passing	Stable Test Sample % Passing	GSB Type 1 Grading Limits (%)
125	100	100	-
80	100	100	-
63	100	100	100
40	84	100	-
31.5	72	100	75 - 99
20	59	96	-
16	55	81	43 - 81
14	52	77	-
10	50	65	-
8	45	58	23 - 66
6.3	41	53	-
5	38	48	-
4	34	44	12 - 53
2.8	31	40	-
2.35	30	38	-
2	28	36	6 - 42
1	22	29	3 - 32
0.5	17	23	-
0.25	12	17	-
0.125	8	12	-
0.063	5.6	9.5	0 - 9

Maximum Heave of reference sand mixture, tested to ensure the results are valid (96 hrs)	9.5	Mean Value
	11.0	
	9.0	
		9.8

Remarks: For material to be classified as non-frost-susceptible the mean heave value is to be 15mm or less.

*The plastic limit result NP denotes the sample was non-plastic

Method of Preparation: BS 812 : Part 124 : 2009 clause 8 Preparation of test specimens for frost heave test
 BS EN 1097 : Part 5 : 2008 clause 7 Preparation for determination of water content by drying in a vented oven
 BS EN 933 : Part 1 : 2012, clause 7.1 Washing of particle size distribution
 BS 1377 : Part 1 : 2016 : Clause 8.4.3 Preparation of samples for plasticity tests
 BS 1377 : Part 2 : 1990 : Clause 4.2 Preparation of samples for plastic limit tests

Method of Test: BS 812 : Part 124 : 2009 clause 9 Determination of frost heave (including Annex B, use of comparator specimens)
 BS EN 1097 : Part 5 : 2008 clause 7 Procedure for determination of water content by drying in a vented oven
 BS EN 933 : Part 1 : 2012, clause 7.2 Sieving of particle size distribution
 BS 1377 : Part 2 : 1990 : Clause 4.3 or 4.4 Determination of the liquid limit
 BS 1377 : Part 2 : 1990 : Clause 5.3 Determination of the plastic limit and plasticity index
 Specification for Highways Works, February 2016, Series 800 - Road Pavements, Table 8/5

Result reported relates only to the sample tested.

Site: Grab & Deliver, Herrington

Job Number: 2254755A

Client: Grab & Deliver

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DETERMINATION OF RESISTANCE TO FRAGMENTATION BY LOS ANGELES METHOD

Sample Number	Client Reference	Class / Description	Source of Sample	Sampling Details	Certificate of Sampling Attached?
M17789/1	GSB1	Brown gravelly SAND	Site Won	I. Catchpole for IFA on 20/10/25	NO

Size Fraction Used	10 - 14mm
---------------------------	------------------

Sieve Separation Performed	11.2mm
-----------------------------------	---------------

Date of Test	05/11/2025
---------------------	-------------------

Los Angeles Coefficient (LA)	40
-------------------------------------	-----------

Remarks: No Remarks

Method of Preparation: BS EN 1097:Part2:2020. clause 5.2 Preparation of test portion for Los Angeles test

Method of Test: BS EN 1097:Part2:2020. clause 5.3 Test procedure for Los Angeles test


1464

Result reported relates only to the sample tested.



Site: Grab & Deliver, Herrington

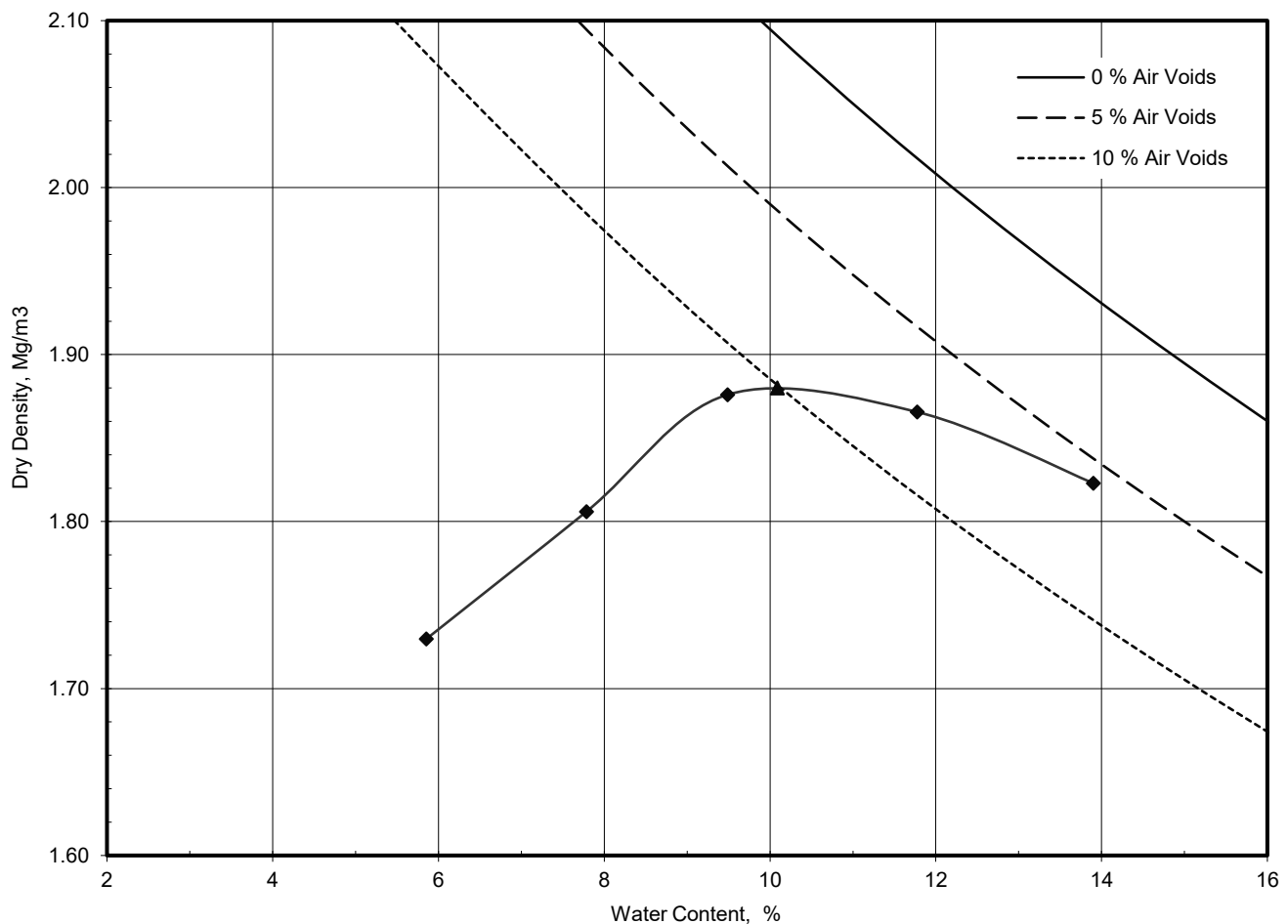
Job Number: 2254755A

Client: Grab & Deliver

Page: 16

Laboratory Reference Density and Water Content - Vibrating Hammer

Borehole / Trial Pit	Client Reference	Class / Description	Source of Sample	Sampling Details	Certificate of Sampling Attached?
M17789/1	GSB1	Brown gravelly SAND	Site Won	I. Catchpole for IFA on 20/10/25	NO
Percentage Retained 40mm		19 %	Samples Used		
Grading Zone		X	Particle Density		2.65 Mg/m ³ Assumed
Mould Type		CBR	Description of Vibrating Hammer		
Maximum Dry Density		1.88 Mg/m ³	Optimum Moisture Content		10 %



Remarks: Form of curve assessed as Convex Upwards

HBM only	Time agent added	1	2	3	4	5	6	7	8	9	10
	Time test completed										

Method of Preparation: BS EN 13286 : Part 4 : 2021, clause 6 Preparation of test portions for laboratory reference Vibrating Hammer

Preparation Details: Material used was oven dried at 50degC Single sample tested

Method of Test: BS EN 13286 : Part 4 : 2021, clause 7 Test procedure for laboratory reference Vibrating Hammer



1464

Result reported relates only to the sample tested.



Interim Test Report - 2254755A / 1

Site: Grab & Deliver, Herrington

Job Number: 2254755A

Originating Client: Grab & Deliver

All opinions and interpretations contained within this report are outside of our Scope of Accreditation.

This test report shall not be reproduced, except in full and only with the written permission of Ian Farmer Associates Ltd.

Samples will be retained for 28 days from date of issue of the final test report before being disposed of, unless we receive written instruction to the contrary.

Report End

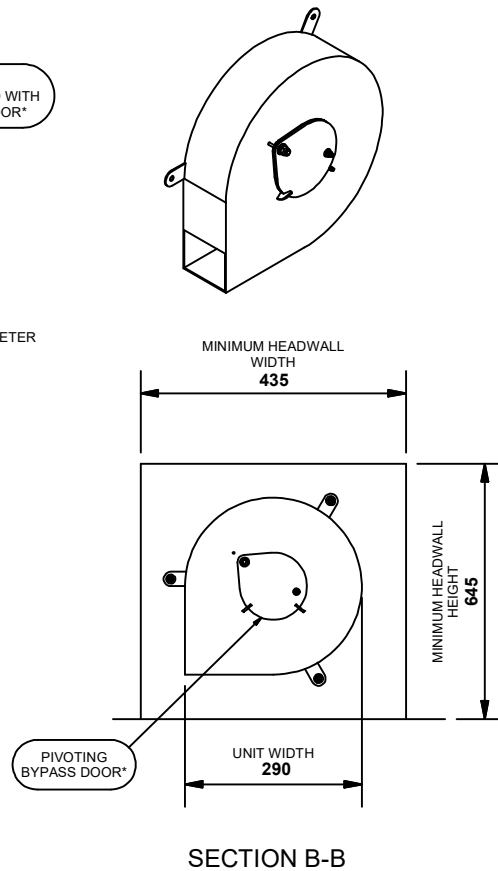
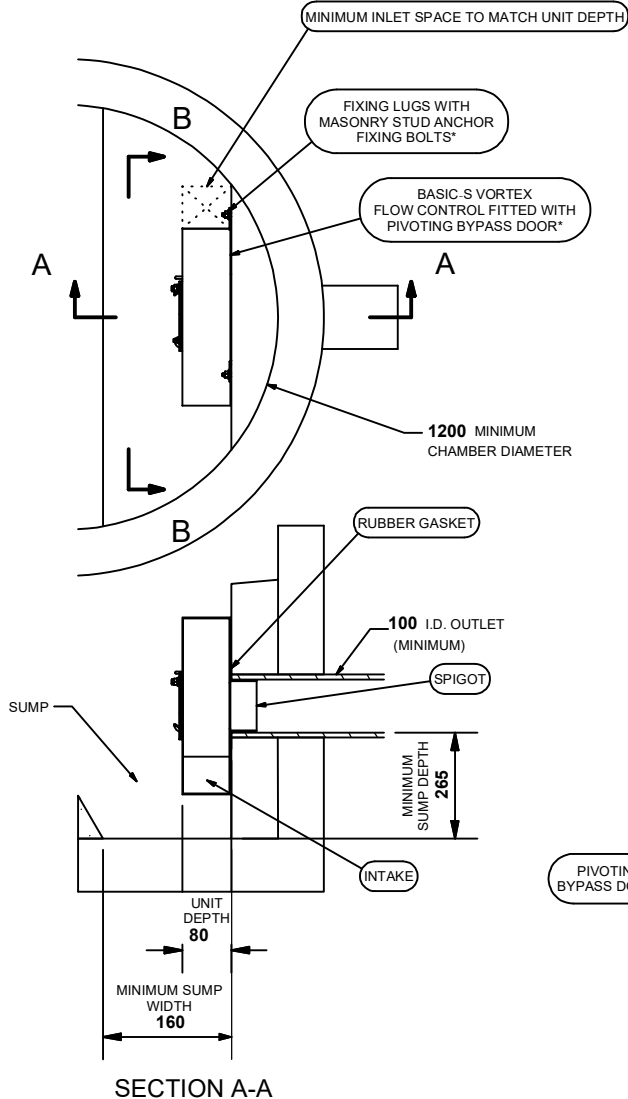
Report Issue Date: 19/11/2025

Technical Specification

Control Point	Head (m)	Flow (l/s)
Primary Design	0.900	2.500

Basic-S Vortex Flow Control including:

- 3 mm grade 304L stainless steel
- Integral stainless steel pivoting bypass door allowing clear line of sight through to outlet, c/w stainless steel operating rope
- Bead blasted finish to maximise corrosion resistance
- Stainless steel fixings
- Rubber gasket to seal outlet
- Identification plate on operating handle



* All measurements are in millimetres unless otherwise specified

IMPORTANT:  LIMIT OF HYDRO INTERNATIONAL SUPPLY
THE DEVICE WILL BE HANDED TO SUIT SITE CONDITIONS
FOR SITE SPECIFIC DETAILS AND MINIMUM CHAMBER SIZE REFER TO HYDRO INTERNATIONAL
ALL CIVIL AND INSTALLATION WORK BY OTHERS * WHERE SUPPLIED

THIS DESIGN LAYOUT IS FOR ILLUSTRATIVE PURPOSES ONLY. NOT TO SCALE.

DESIGN ADVICE



The head/flow characteristics of this Basic-S Vortex Flow Control are unique. Dynamic hydraulic modelling evaluates the full head/flow characteristic curve.
The use of any other flow control will invalidate any design based on this data and could constitute a flood risk.

Hydro
International
A CRH COMPANY

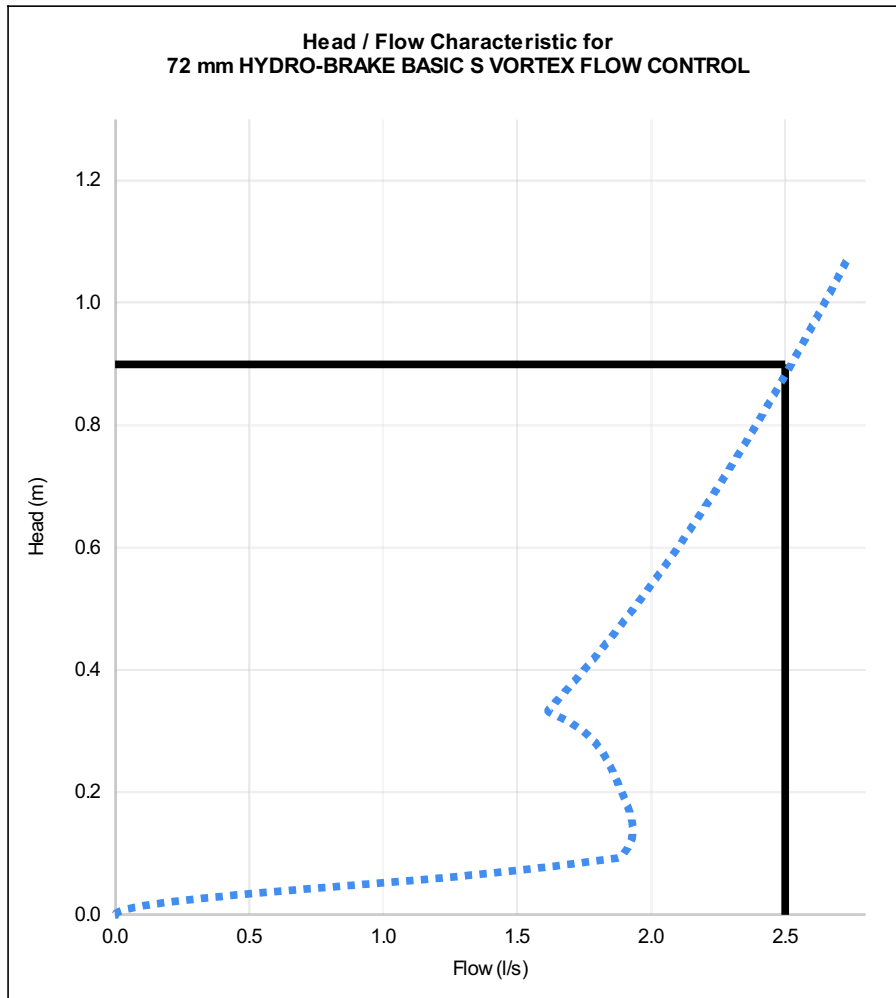
DATE	16/07/2025 19:27
SITE	25_21_0502 Mortimer Community College Extension
DESIGNER	
REF	HQT-193224

72 mm
Basic-S Vortex Flow Control

72 mm HYDRO-BRAKE BASIC S VORTEX FLOW CONTROL SPECIFICATION SHEET

Project Information			
Date:	16/07/2025 19:27	Site Ref:	HQT-193224
Site Name:	25_21_0502 Mortimer Community College Extension		

Primary Design Point			
Flow (l/s)	2.50	Head (m)	0.90



Head (m)	Flow (l/s)
0.000	0.000
0.031	0.416
0.062	1.260
0.093	1.881
0.124	1.928
0.155	1.928
0.186	1.905
0.217	1.874
0.248	1.841
0.279	1.796
0.310	1.713
0.341	1.630
0.372	1.694
0.403	1.756
0.434	1.815
0.466	1.872
0.497	1.927
0.528	1.981
0.559	2.032
0.590	2.083
0.621	2.131
0.652	2.179
0.683	2.225
0.714	2.271
0.745	2.315
0.776	2.358
0.807	2.401
0.838	2.442
0.869	2.483
0.900	2.523

Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2015

This is to certify that:

Stanton Precast Limited
Littlewell Lane
Stanton-by-Dale
Ilkeston
DE7 4QW
United Kingdom

Holds Certificate Number:

FM 01313

and operates a Quality Management System which complies with the requirements of ISO 9001:2015 for the following scope:

The design, development, and manufacture of reinforced & unreinforced precast building & civil engineering elements through circular & elliptical concrete pipes and fittings, access shafts & cover slabs, steel cylinder pipes, pre-cast reinforced and pre-stressed concrete railway sleepers along with the manufacture of precast tunnel segments.

For and on behalf of BSI:



Matt Page, Managing Director Assurance - UK & Ireland

Original Registration Date: 1987-10-01

Latest Revision Date: 2023-06-22

Effective Date: 2022-04-22

Expiry Date: 2025-04-21

Page: 1 of 1



...making excellence a habit.™

Wavin Ltd

Parsonage Way
Chippenham
Wiltshire SN15 5PN

Tel: 01249 766600 Fax: 01249 443286

e-mail: info@wavin.co.uk

website: www.wavin.co.uk



Agrément Certificate

98/3472

Product Sheet 1

ULTRARIB GRAVITY SEWER SYSTEM

OSMA ULTRARIB 150 MM, 225 MM AND 300 MM INTERNAL DIAMETER PIPES AND FITTINGS

This Agrément Certificate Product Sheet⁽¹⁾ relates to Osma UltraRib 150 mm, 225 mm and 300 mm Internal Diameter Pipes and Fittings, a range of PVC-U pipes and fittings for use in domestic drains and public and private sewers at depths of up to 10 metres.

(1) Hereinafter referred to as 'Certificate'.

CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.



KEY FACTORS ASSESSED

Strength — the products have adequate strength for the intended application (see section 6).

Performance of joints — the joints remain watertight under normal use (see section 7).

Flow characteristics — the products will have normal flow characteristics associated with PVC-U underground sewerage systems (see section 8).

Resistance to chemicals — the products have adequate resistance to the type of chemicals likely to be found in domestic sewage (see section 9).

Resistance to elevated temperatures — the products have adequate resistance to the temperatures likely to be found in domestic sewage (see section 10).

Durability — the material from which the products are manufactured will not deteriorate significantly and the anticipated service life will be in excess of 50 years (see section 12).



The BBA has awarded this Certificate to the company named above for the products described herein. These products have been assessed by the BBA as being fit for their intended use provided they are installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Paul Valentine
Technical Excellence Director

Claire Curtis-Thomas
Chief Executive

Date of Third issue: 27 February 2019

Originally certificated on 13 July 1998

The BBA is a UKAS accredited certification body – Number 113.

The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk
Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.

Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.

British Board of Agrément

Bucknalls Lane
Watford
Herts WD25 9BA

©2019

tel: 01923 665300
clientservices@bbacerts.co.uk
www.bbacerts.co.uk

Regulations

In the opinion of the BBA, Osma UltraRib 150 mm, 225 mm and 300 mm Internal Diameter Pipes and Fittings, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements of the following Building Regulations (the presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):



The Building Regulations 2010 (England and Wales) (as amended)

Requirement:	H1(1)	Foul water drainage
Comment:		The products will convey the flow of foul or surface water and minimise the risk of blockages or leaks. See sections 4.1, 6, 7, and 8 of this Certificate.
Requirement:	H3(3)	Rainwater drainage
Comment:		The products will convey the flow of rainwater and minimise the risk of blockages or leaks. See sections 4.1, 6, 7, and 8 of this Certificate.
Regulation:	7	Materials and workmanship (applicable to Wales only)
Regulation:	7(1)	Materials and workmanship (applicable to England only)
Comment:		The products are acceptable. See section 12 and the <i>Installation</i> part of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)	Durability, workmanship and fitness of materials
Comment:		The products are acceptable. See sections 11.1 and 12 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	3.6	Surface water drainage
Standard:	3.7	Wastewater drainage
Comment:		The products will satisfy the relevant requirements of these Standards, with reference to clauses 3.6.3 ⁽¹⁾⁽²⁾ , 3.6.8 ⁽¹⁾⁽²⁾ , 3.6.10 ⁽¹⁾⁽²⁾ , 3.7.1 ⁽¹⁾⁽²⁾ , 3.7.4 ⁽¹⁾⁽²⁾ , 3.7.9 ⁽¹⁾⁽²⁾ , 3.7.10 ⁽¹⁾⁽²⁾ and 3.7.11 ⁽¹⁾⁽²⁾ . See sections 4.1, 6, 7, and 8 of this Certificate.
Standard:	7.1(a)(b)	Statement of sustainability
Comment:		The products can contribute to meeting the relevant requirements of Regulation 9, Standards 1 to 6 and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard.
Regulation:	12	Building standards applicable to conversions
Comment:		All comments given for the products under Regulation 9, Standards 1 to 6 also apply to this Regulation, with reference to clause 0.12.1 ⁽¹⁾⁽²⁾ and Schedule 6 ⁽¹⁾⁽²⁾ .
		(1) Technical Handbook (Domestic).
		(2) Technical Handbook (Non-Domestic).



The Building Regulations (Northern Ireland) 2012 (as amended)

Regulation:	23(a)(i)	Fitness of materials and workmanship
Comment:	(iii)(b)(i)	The products are acceptable. See section 12 and the <i>Installation</i> part of this Certificate.
Regulation:	81	Underground foul drainage
Comment:		The products will convey the flow of foul or surface water and minimise the risk of blockages or leaks. See sections 4.1, 6, 7, and 8 of this Certificate.

Regulation:	82	Rainwater drainage
Comment:	The products will convey the flow of rainwater and minimise the risk of blockages or leaks. See sections 4.1, 6, 7, and 8 of this Certificate.	

Construction (Design and Management) Regulations 2015

Construction (Design and Management) Regulations (Northern Ireland) 2016

Information in this Certificate may assist the client, designer (including Principal Designer) and contractor (including Principal Contractor) to address their obligations under these Regulations.

See sections: 3 *Delivery and site handling* (3.2) and 14 *General* of this Certificate.

Additional Information

NHBC Standards 2019

In the opinion of the BBA, Osma UltraRib 150 mm, 225 mm and 300 mm Internal Diameter Pipes and Fittings, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapter 5.3 *Drainage below ground*.

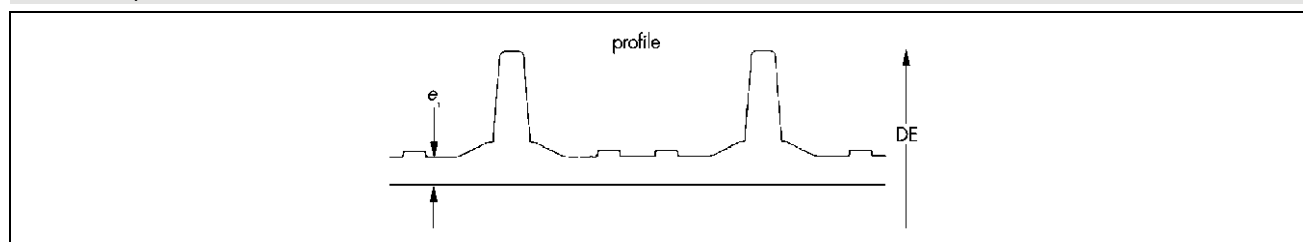
Technical Specification

1 Description

Osma UltraRib 150 mm, 225 mm and 300 mm Internal Diameter Pipes and Fittings (see Tables 1 to 3) of stiffness Class SN8 comprise:

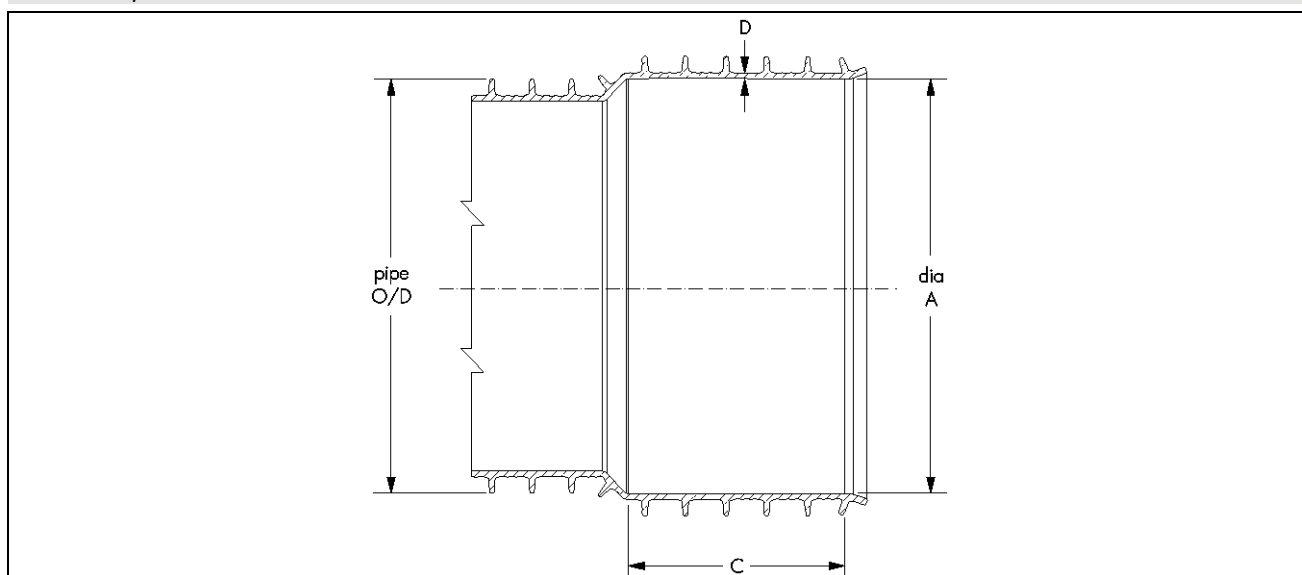
- solid wall pipes — extruded from PVC-U with a repeating pattern of radial ribs perpendicular to the axis of the pipe and provide a housing for type WC elastomeric ring seals to BS EN 681-1 : 1996. The pipes are brown in colour and are produced in three diameters either with plain ends (spigot x spigot) or with one end socketed (socket x spigot)
- PVC-U or polypropylene (PP) fittings — brown in colour. The sockets of each fitting are not ribbed. The body of the fitting is ribbed where appropriate. The range of fittings covered by this Certificate is shown in Table 3
- two-part, screw fitted PVC-U access covers — brown in colour. The caps incorporate a type WC ring seal to BS EN 681-1 : 1996.

Table 1 Pipe dimensions



Nominal size (DN/ID) (mm)	Outside diameter (DE) (mm)	Mean bore (mm)	Product code			Thickness (e_1)		Mean weight ($\text{kg}\cdot\text{m}^{-1}$)
			Plain end	Socketed end		nominal (mm)	minimum (mm)	
			3 m length	3 m length	6 m length			
150	170	152.0	6UR073	6UR043	6UR046	1.9	1.5	2.1
225	250	226.0	9UR073	9UR043	9UR046	2.3	1.9	4.5
300	335	301.0	12UR073	12UR043	—	2.9	2.3	7.0

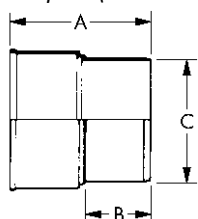
Table 2 Pipe socket dimensions



Nominal size (DN/ID) (mm)	Nominal pipe O/D (mm)	Socket inside diameter A (mm)		Socket depth C (mm)	Minimum wall thickness D (mm)
		maximum	minimum		
150	170	170.5	171.6	83	1.3
225	250	250.8	252.0	100	1.6
300	335	336.1	337.6	100	1.9

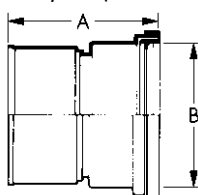
Table 3 Fittings⁽¹⁾

S/S adaptor (150 mm socket x 160 mm BS EN 1401-1 spigot)



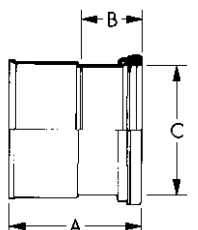
Product code	Nominal size (mm)	Dimensions (mm)		
		A	B	C
6UR141	150	180	84	160

D/S adaptor (to thin wall clay spigot)



Product code	Nominal size (mm)	Dimensions (mm)	
		A	B
6UR129	150	193	180

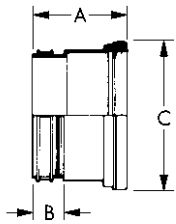
D/S adaptor (150 mm socket x 160 mm BS EN 1401-1 socket)



Product code	Nominal size (mm)	Dimensions (mm)		
		A	B	C
6UR142	150	173	86	161

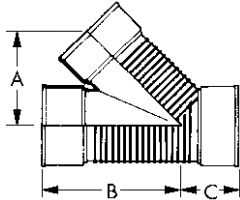
Table 3 Fittings⁽¹⁾ (continued)

S/S adaptor (150 mm spigot x 160 mm BS EN 1401-1 socket)



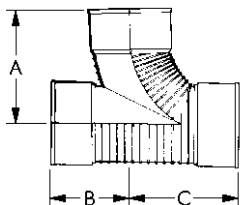
Product code	Nominal size (mm)	Dimensions (mm)		
		A	B	C
6UR143	150	125	42	161

D/S equal junctions 45°



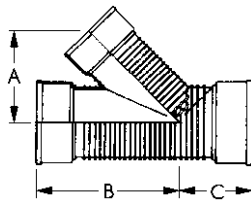
Product code	Nominal size (mm)	Dimensions (mm)		
		A	B	C
6UR213	150	210	304	126
9UR213	225	338	495	182
12UR213	300	410	600	270

D/S equal junction 87½° (to UltraRib spigot)



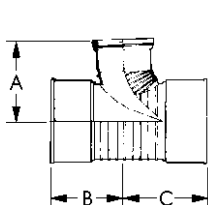
Product code	Nominal size (mm)	Dimensions (mm)		
		A	B	C
6UR193	150	246	180	225

D/S unequal junctions 45°



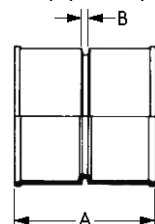
Product code	Nominal size (mm)	Dimensions (mm)		
		A	B	C
6UR219	150 x 110	185	265	90
9UR224	225 x 110	240	410	130
9UR226	225 x 160	275	415	130
9UR227	225 x 150	287	422	120
12UR236	300 x 160	295	500	155
12UR237	300 x 150	335	497	162
12UR240	300 x 225	470	575	295

D/S unequal junction 87½° (to BS EN 1401-1 spigot)



Product code	Nominal size (mm)	Dimensions (mm)		
		A	B	C
6UR199	150 x 110	174	163	177

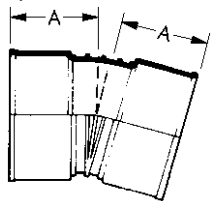
D/S pipe couplers with central register



Product code	Nominal size (mm)	Dimensions (mm)	
		A	B
6UR205	150	185	12
9UR205	225	240	12
12UR205	300	275	15

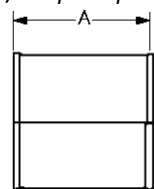
Table 3 Fittings⁽¹⁾ (continued)

D/S short radius bends 15°



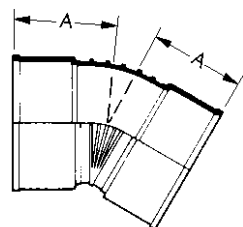
Product code	Nominal size (mm)	Dimension A (mm)
6UR567	150	112
9UR567	225	135
12UR567	300	190

D/S slip couplers



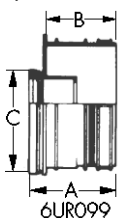
Product code	Nominal size (mm)	Dimension A (mm)
6UR105	150	185
9UR105	225	270
12UR105	300	325

D/S short radius bends 30°



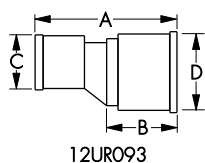
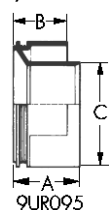
Product code	Nominal size (mm)	Dimension A (mm)
6UR566	150	125
9UR566	225	150
12UR566	300	210

S/S reducers level invert



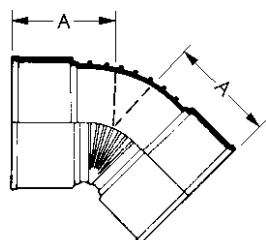
Product code	Nominal size (mm)	Dimensions (mm)		
		A	B	C
6UR099	150 x 110	115	95	110

S/S reducers level invert



Product code	Nominal size (mm)	Dimensions (mm)			
		A	B	C	D
9UR95	225 x 150	142	122	170	
12UR093	300 x 225	405	205	275	365

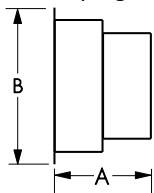
D/S short radius bends 30°



Product code	Nominal size (mm)	Dimension A (mm)
6UR563	150	140
9UR563	225	170
12UR563	300	235

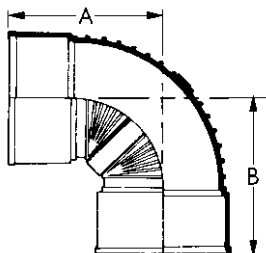
Table 3 Fittings⁽¹⁾ (continued)

Socket plugs⁽²⁾



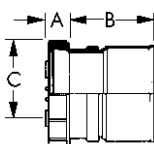
Product code	Nominal size (mm)	Dimensions (mm)	
		A	B
6UR296	150	95	195
9UR296	225	95	320
12UR296	300	170	340

D/S short radius bends 87½°



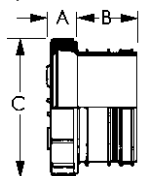
Product code	Nominal size (mm)	Dimensions (mm)	
		A	B
6UR561	150	262	262
9UR561	225	600	600
12UR561	300	685	710

S/S screwed access cover



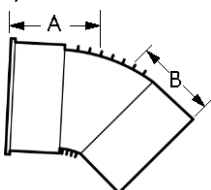
Product code	Nominal size (mm)	Dimensions (mm)		
		A	B	C
6UR290	150	40	185	196

P/E screwed access cover



Product code	Nominal size (mm)	Dimensions (mm)		
		A	B	C
6UR290	150	40	85	196

S/S short bend radius 45°



Product code	Nominal size (mm)	Dimensions (mm)	
		A	B
6UR163	150	138	128

(1) Dimensions are for guidance only, with a tolerance of ±5 mm.

(2) PP fittings (all others are PVC).

2 Manufacture

2.1 The pipes and fittings are produced by injection moulding or by thermoforming from PVC-U material, brown in colour.

2.2 Continuous quality control is exercised during manufacture to maintain product quality and includes checks for dimensional accuracy, impact resistance and weight of the pipes, and for dimensional accuracy and stress resistance of the fittings.

2.3 As part of the assessment and ongoing surveillance of product quality, the BBA has:

- agreed with the manufacturer the quality control procedures and product testing to be undertaken
- assessed and agreed the quality control operated over batches of incoming materials
- monitored the production process and verified that it is in accordance with the documented process
- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- undertaken to carry out the above measures on a regular basis through a surveillance process, to verify that the specifications and quality control operated by the manufacturer are being maintained.

2.4 The management system of Wavin Ltd has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 by BSI (Certificate FM00217) and BS EN ISO 14001 : 2015 by Intertek (Certificate 042231).

2.5 BSI Kitemark licence No KM 56705 has been issued to Wavin Ltd, Personage Way, Chippenham SN15 5PN, for the manufacture of pipes and couplers certified to WIS 4-35-01 : 2008 and BS EN 13476-3 : 2007.

3 Delivery and site handling

3.1 Each pipe length and fitting is engraved, marked or labelled with the Certificate holder's name, the pipe's internal diameter, and the BBA logo and/or the number of this Certificate. The fittings are also marked with the product code.

3.2 Handling, storage and transportation should be in accordance with BS 8000-0 : 2014, BS 8000-14 : 1989 and BS EN 1610 : 2015. When long-term storage is envisaged, the pipes and fittings must be protected from direct sunlight.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Osma UltraRib 150 mm, 225 mm and 300 mm Internal Diameter Pipes and Fittings.

Design Considerations

4 Use



4.1 Osma UltraRib 150 mm, 225 mm and 300 mm Internal Diameter Pipes and Fittings are for use in combination as sewerage systems designed in accordance with BS EN 752 : 2017, for the conveyance, by combined or separate systems, of surface water and domestic sewage as is permitted to be discharged into public sewers by the Water Industry Act 1991, Chapter 56, and surface water and sewage as is permitted and defined by the Sewerage (Scotland) Act 1968 and the Water and Sewerage Services (Northern Ireland) Order 2006.

4.2 The Certificate does not cover the use of the products for untreated trade effluents.

5 Practicability of installation

The pipes and fittings are designed to be installed by a competent contractor experienced with these types of products.

6 Strength



6.1 The fittings have adequate strength for use in situations when pipes to WIS 4-35-01 : 2008 and BS EN 13476-3 : 2007 are suitable.

6.2 The nominal short-term stiffness of the pipes and fittings is not less than 8 kN·m⁻².

7 Performance of joints



7.1 The performance of joints will not be adversely affected by thermal expansion or contraction when correctly installed.

7.2 Joints on the pipeline remain watertight under conditions of pipeline movement in excess of those expected to occur in normal good drainage practice.

8 Flow characteristics



8.1 The products will have the normal flow characteristics associated with PVC-U underground sewerage systems.

8.2 Full bore discharges and velocities are available from the *Hydraulic Design of Pipes, Sewers and Channels*, Volume 2, 8th Edition by H R Wallingford and D I H Barr. The values are based on the Colebrook-White equation.

9 Resistance to chemicals

The products are suitable for use where pipes to WIS 4-35-01 : 2008 and BS EN 13476-3 : 2007, and fittings to BS EN 1401-1 : 2009, are normally used. They have adequate resistance to the type and quantities of chemicals likely to be found in domestic sewage.

10 Resistance to elevated temperatures

The products are for use where pipes to WIS 4-35-01 : 2008 and BS EN 13476-3 : 2007, and fittings to BS EN 1401-1 : 2009, are normally used and have adequate resistance to the temperatures likely to be found in domestic sewage.

11 Maintenance



11.1 Drains incorporating the products can be rodded easily using conventional flexible drain rods. Toothed root cutters, as used with some mechanical cleaning systems, could damage the fittings and should not be used.

11.2 The products have adequate resistance to water cleansing using pressure jetting equipment. It is recommended that low-pressure, high-volume systems are utilised in accordance with WIS 4-35-01 : 2008.

12 Durability



In the opinion of the BBA, no significant deterioration of the products will take place and installations will have a service life in excess of 50 years.

13 Reuse and recyclability

The pipes and fittings are manufactured from PVC-U and PP, which are readily recyclable.

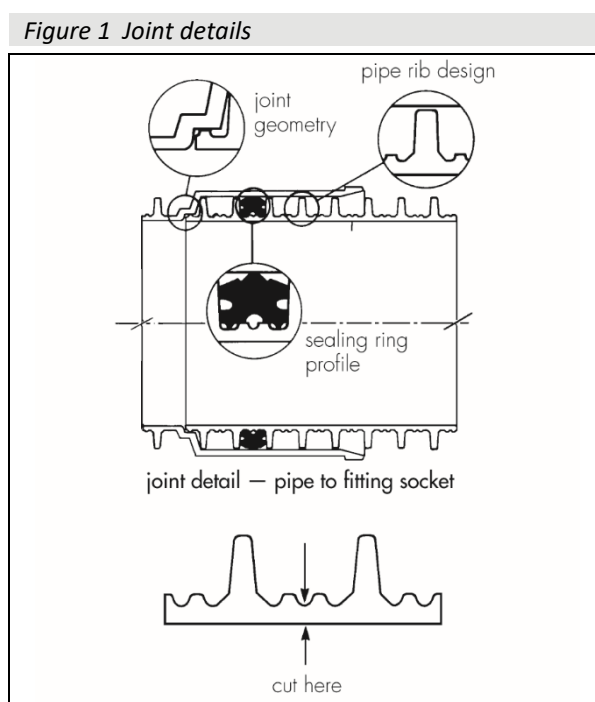
Installation

14 General

Installation of Osma UltraRib 150 mm, 225 mm and 300 mm Internal Diameter Pipes and Fittings must be in accordance with the Certificate holder's Installation Manual and, when appropriate, BS 8000-0 : 2014, BS 8000-14 : 1989, BS EN 1610 : 2015, BS EN 752 : 2017 and Water UK/WRc plc *Sewers for Adoption*, 7th edition, March 2012.

15 Procedure for jointing pipe

15.1 The pipes are cut midway between the ribs, as shown in Figure 1.



15.2 Swarf is removed from the pipe end.

15.3 The pipe spigots and sockets are cleaned and the sealing ring is checked to ensure that it is correctly seated (not twisted) between the second and third ribs of the pipe end.

15.4 The manufacturer's lubricant is applied generously to the whole of the inside area of the socket, ensuring that it does not subsequently become contaminated with dirt.

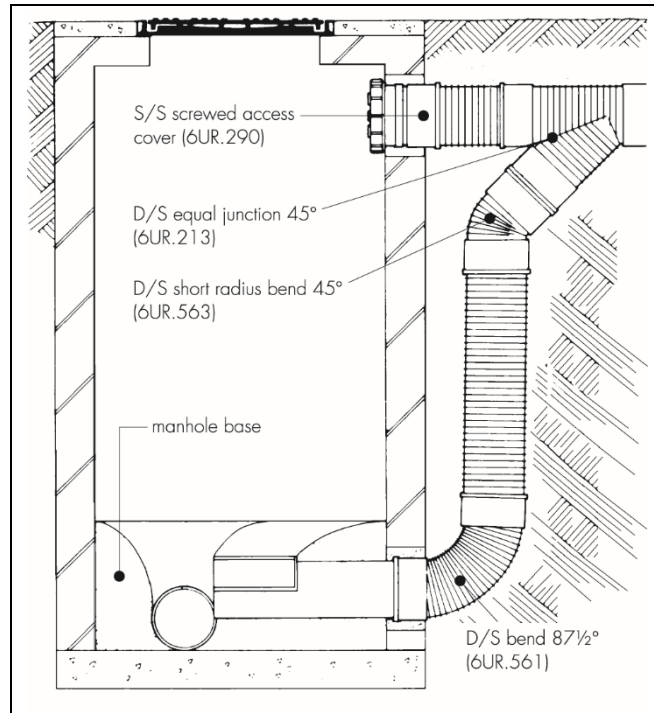
15.5 The pipe is offered to the socket, aligned and pushed fully home.

15.6 Jointing to other materials must be carried out in accordance with the Certificate holder's Installation Manual.

15.7 The pipes and fittings must have adequate protection against damage from site traffic.

15.8 Screw-fitted access covers are for use in backdrop manholes (see Figure 2).

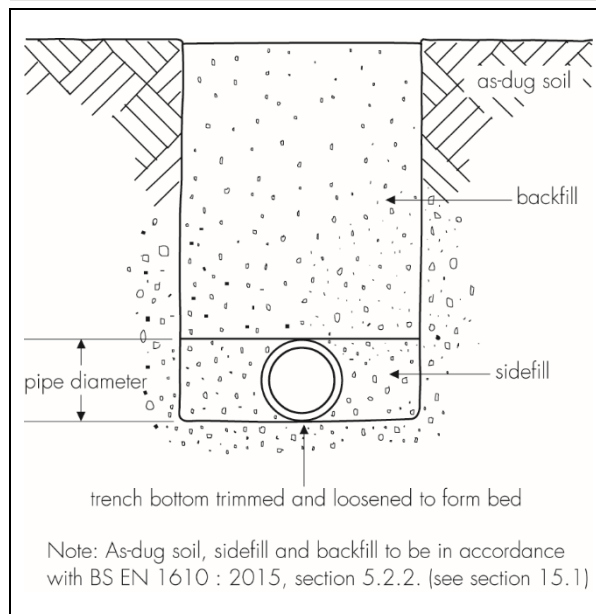
Figure 2 Manhole with backdrop — typical installation of screwed access cover



16 Procedure for laying pipes

Trench bottom in granular material

Figure 3 Typical trench detail



16.1 Where the as-dug material is suitable⁽¹⁾ for use as bedding, the bottom of the trench may be trimmed to form the pipe bed.

(1) Suitable material is defined in BS EN 1610 : 2015, Section 5.2.2.

16.2 Small depressions should be made to accommodate the pipe sockets or couplings. After the pipe has been laid these should be carefully filled to ensure that no voids remain under, or around, the socket.

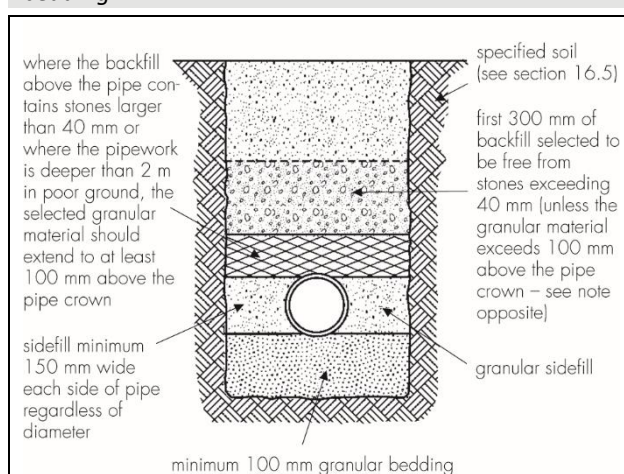
16.3 When the formation is prepared, the pipes should be laid upon it true to line and level within the specified tolerances. Each pipe should be checked and any necessary adjustments to level made by raising or lowering the formation, ensuring that the pipes finally rest evenly on the adjusted formation throughout their length. Adjustment should never be made by local packing.

16.4 Where the formation is low and does not provide continuous support, it should be brought up to the correct level by placing and compacting suitable material.

On granular beds

16.5 When the as-dug material is not suitable as a bedding, a layer of suitable granular material as defined in BS EN 1610 : 2015, Section 5.2.1, must be spread evenly on the trimmed trench bottom before the pipes are installed. The trench should be excavated to allow for a minimum thickness of 100 mm granular bedding under the pipes (see Figure 4).

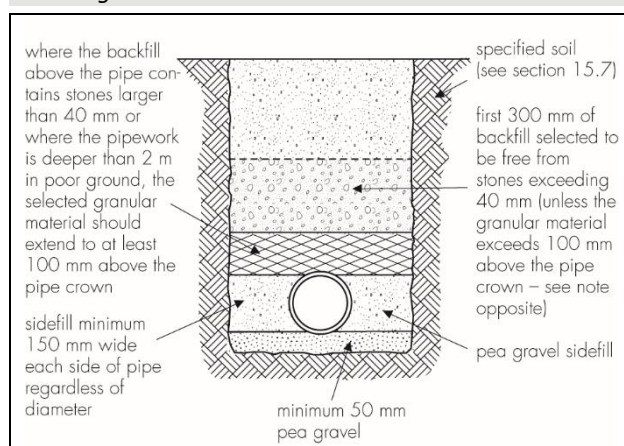
Figure 4 Pipes laid on 100 mm minimum granular bedding



16.6 The trench formation should be prepared, the bedding placed and the pipes laid in accordance with BS EN 1610 : 2015, BS 8000-0 : 2014 and 8000-14 : 1989.

16.7 For 150 mm pipes and fittings, and where the as-dug material can be hand trimmed by shovel and is not puddled when walked upon, a 50 mm depth of bedding material may be used. In this case, the material must be nominal 10 mm single-sized aggregate with no sharp edges, ie pea gravel (see Figure 5).

Figure 5 Pipes laid on 50 mm minimum pea gravel bedding



16.8 When the 150 mm pipes are to be laid on rock, compacted sand or gravel requiring mechanical means of trimming, or in very soft or wet ground, the bedding should be as detailed in section 16.5.

17 Tests

17.1 Tests were carried out on pipes and couplers to determine:

- flexibility and pipe ring stiffness to WIS/IGN No 4-31-05, Appendix E
- long-term stiffness to WIS/IGN No 4-31-05, Appendix D
- short-term stiffness to WIS/IGN No 4-31-05, Appendix B
- impact to WIS/IGN No 4-31-05, Appendix A
- dimensional accuracy to BS ISO 11922-1 : 1997
- stress rupture to BS 4728 : 1971
- resistance to penetration by simulated sharp aggregate
- Vicat softening temperature to BS 2782-1.120B : 1990
- impact resistance at 0°C to BS EN 744 : 1996
- longitudinal bending to the Manual of Contract Documents for Highway Works (MCHW), Volume 1, Series 500, Section 518.

17.2 Pipes, socketed pipes and couplers are kitemarked to WIS 4-35-01 : 2008 and BS EN 13476-3 : 2007.

17.3 Tests were carried out on the products to determine:

- combined temperature and external load to WIS 4-35-01 : 2008, Appendix A
- leaktightness whilst under angular deflection and diametric distortion to WIS 4-35-01 : 2008
- rodding resistance to WIS 4-35-01 : 2008, Appendix B
- ring stiffness to ISO 13967 : 1998.

17.4 Tests were carried out on the fittings to determine:

- dimensional accuracy to BS ISO 11922-1 : 1997
- drop test (fabricated fittings) to BS EN 12061 : 1999
- mechanical strength and flexibility (fabricated fittings) to BS EN 12256 : 1998.

18 Investigations

18.1 An examination was made of data relating to:

- resistance to water jetting to WIS 4-35-01 : 2008
- practicability of installation
- chemical resistance
- design method
- ease of jointing
- flow capacities.

18.2 A user survey was carried out to evaluate the performance of the products in use.

18.3 The manufacturing process was evaluated, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

Bibliography

BS 2782-1.120B : 1990 *Methods of testing plastics — Thermal properties — Determination of Vicat softening temperature of thermoplastics*

BS 4728 : 1971 *Method for determination of the resistance to constant internal pressure of thermoplastics pipe*

BS 8000-0 : 2014 *Workmanship on construction sites — Introduction and general principles*

BS 8000-14:1989 *Workmanship on building sites — Code of practice for below ground drainage*

BS EN 681-1 : 1996 *Elastomeric seals — Material requirements for pipe joint seals used in water and drainage applications — Vulcanized rubber*

BS EN 744 : 1996 *Plastics piping and ducting systems. — Thermoplastics pipes — Test method for resistance to external blows by the round-the-clock method*

BS EN 752 : 2017 *Drain and sewer systems outside buildings*

BS EN 1401-1 : 2009 *Plastic piping systems for non-pressure underground drainage and sewerage — Unplasticized poly(vinyl chloride) (PVC-U) — Specifications for pipes, fittings and the system*

BS EN 1610 : 2015 *Construction and testing of drains and sewers*

BS EN 12061 : 1999 *Plastics piping systems — Thermoplastics fittings — Test method for impact resistance*

BS EN 12256 : 1998 *Plastics piping systems — Thermoplastics fittings — Test method for mechanical strength or flexibility of fabricated fittings*

BS EN 13476-3 : 2007 + A1 : 2009 *Plastics piping systems for non-pressure underground drainage and sewerage — Structured wall piping systems of unplasticized poly (vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE) — Specifications for pipes and fittings with smooth internal and profiled external surface and the system, Type B*

BS EN ISO 9001 : 2015 *Quality management systems — Requirements*

BS EN ISO 14001 : 2004 *Environmental management systems — Requirements*

BS ISO 11922-1 : 1997 *Thermoplastics pipes for the conveyance of fluids — Dimensions and tolerances — Metric series*

ISO 13967 : 1998 *Thermoplastic fittings — Determination of ring stiffness*

Manual of Contract Documents for Highway Works, Volume 1 *Specification for Highways Works*

WIS 4-35-01, Issue 2 : 2008 *Specification for thermoplastic structured wall pipes — Supplementary test requirements*

WIS/IGN No 4-31-05 *Specification for solid wall concentric external rib-reinforced uPVC sewer pipe*

19 Conditions

19.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page – no other company, firm, organisation or person may hold or claim that this Certificate has been issued to them
- is valid only within the UK
- has to be read, considered and used as a whole document – it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- is subject to English Law.

19.2 Publications, documents, specifications, legislation, regulations, standards and the like referenced in this Certificate are those that were current and/or deemed relevant by the BBA at the date of issue or reissue of this Certificate.

19.3 This Certificate will remain valid for an unlimited period provided that the product/system and its manufacture and/or fabrication, including all related and relevant parts and processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

19.4 The BBA has used due skill, care and diligence in preparing this Certificate, but no warranty is provided.

19.5 In issuing this Certificate the BBA is not responsible and is excluded from any liability to any company, firm, organisation or person, for any matters arising directly or indirectly from:

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product/system or any other product/system
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product/system
- actual installations of the product/system, including their nature, design, methods, performance, workmanship and maintenance
- any works and constructions in which the product/system is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product/system, including its manufacture, supply, installation, use, maintenance and removal
- any claims by the manufacturer relating to CE marking.

19.6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system is manufactured, supplied, installed, used, maintained and removed. It does not purport in any way to restate the requirements of the Health and Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of issue or reissue of this Certificate; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any statutory, common law or other duty of care.

Date: 10.01.18
Code: PVC-u Below Ground Products
Page: 1 of 5

1: IDENTIFICATION OF THE SUBSTANCE / MIXTURE

1.1 Product Identity

Product Name: Polypipe Building Products PVC-u Below Ground Products – Underground Drainage, Polysewer, Sewer drain, Ducting, Land Drain and Civils

1.2 Relevant Identified Uses:

Recommended use: Below Ground Systems

1.3 Details of Supplier

POLYPIPE BUILDING PRODUCTS
BROOMHOUSE LANE
EDLINGTON
DONCASTER
DN12 1ES

TELEPHONE: 01709 770000

EMERGENCY: 01709 770000

EMAIL: bp.datasheets@polypipe.com

The following information is based upon our current knowledge and experience of our products and is not exhaustive. It applies to the product range outlined above. The potential hazards identified, together with the recommended precautions for storage, handling and use, give the basic information for conducting workplace risk assessments and adequate control measures under the Control of Substances Hazardous to Health Regulations 2002, Control of Substances Hazardous to Health (Amendment) Regulations 2004, The CLP Regulations and the Approved Code of Practice

2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Non-Hazardous under normal conditions and use

2.2 Label elements

Not applicable

2.3 Other hazards

Non-Hazardous under normal conditions and use. Fine particles released during cutting may cause irritation to the eyes and respiratory tract.

3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

PVC-u

Calcium hydroxide - Stabilizer

Natural Calcium Carbonate - Filler

Chemical Name	EC No	CAS No.	Weight %	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
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**POLYPIPE BUILDING PRODUCTS LTD
MATERIAL SAFETY DATA SHEET**

Date: 10.01.18
Code: PVC-u Below Ground Products
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Poly (vinyl chloride)	-	009002-86-2	>99		-
Natural Calcium Carbonate	215-279-6	1317-65-3	>=85-<100		
Calcium hydroxide	215-137-3	1305-62-0	<20	STOT SE 3; H335 Skin Irrit. 2; H315 Eye Dam. 1; H318	01-2119475151-45-xxxx

4: FIRST AID MEASURES

4.1. Description of first aid measures

General Advice

Inhalation:	Not applicable in normal use. If thermal decomposition occurs and vapours have been inhaled, affected person is to be moved to fresh air and seek medical attention.
Skin Contact:	Not applicable under normal use. Fine particles released during cutting - wash with soap and water
Eye contact:	Not applicable under normal use. Fine particles released during cutting – rinse with clean water for up to 10 minutes holding eyelids apart. Seek medical advice.
Ingestion:	Not applicable in normal use. If ingestion of dust occurs during cutting, rinse mouth out with water and seek medical advice. Do not induce vomiting.

5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media Water, Foam, CO2, Sand or Earth

Unsuitable Extinguishing Media Do NOT use water

5.2. Special hazards arising from the substance or mixture

Combustible but not readily ignited under normal conditions.

Combustion or thermal decomposition will evolve toxic and irritant vapours – Hydrogen Chloride, Carbon Monoxide & Carbon Dioxide, Smoke & Fire Soot

5.3. Advice for firefighters

With large fires self-contained breathing apparatus and protective clothing must be worn. Combustion will cease on flame removal.

6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal Precautions: Not applicable under normal conditions. Avoid build of dust during any cutting process

6.2. Environmental precautions

Not applicable under normal conditions.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Material should be collected in clean containers and recycled where practicable.

**POLYPIPE BUILDING PRODUCTS LTD
MATERIAL SAFETY DATA SHEET**

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Code: PVC-u Below Ground Products
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6.4. Reference to other sections

Reference to other sections: Sections 8 & 13

7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling

Ensure safe lifting techniques are applied when handling the product.
The use of Personal Protective Equipment (PPE) is recommended when working with this product.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions

Store under cover away from sources of heat and ignition and strong acids
Store in a dry location

8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Chemical Name	CAS No.	LTEL 8 hr TWA ppm	LTEL 8 hr TWA mg/m3	STEL ppm	STEL mg/m3	Note:
PVC Dust (Respirable)	009002-86-2	-	1.5	-	COM	01-2119457290-43-XXXX
Natural Calcium Carbonate (Inhalable) (Respirable)	1317-65-3		10 4			
Calcium hydroxide (Inhalable)	1305-62-0		5			

8.2. Exposure controls

Engineering Controls

Not applicable in normal use.

Personal Protective Equipment

General & hygienic measures

Wash hands before breaks and at the end of work
Avoid contact with the eyes

Eye/Face Protection

Suitable safety goggles should be worn to reduce the potential risk due to cutting swarf and dust

Respiratory Protection

Wear suitable dust mask if cutting operation creates dust

Protection of Hands

Abrasive resistant gloves should be worn to reduce the potential risk of small cuts and abrasions, which may occur during the installation process

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Code: PVC-u Below Ground Products
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9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State:	Solid PVC-u product
Odour:	Slight
Auto ignition Temperature:	450 °C
Explosive properties	Deposited dust is weakly flammable and has no self-sustained flame. This product is not classified as a dust explosive
Solubility (Water):	Insoluble
Solubility (Other):	Soluble in: cyclohexanone, tetrahydrofuran, 1,2 Dichloroethane
Specific Gravity:	1, 4 at 20 Deg C

10: STABILITY AND REACTIVITY

10.1. Reactivity

Stable under normal handling and storage conditions

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

PVC-u

With the exception of sulphuric acid (> 90%) and nitric acid (>50%), PVC is resistant to acids and alkalis up to 60 Deg C. However, above this temperature the polymer is attacked by the stronger acids.

Calcium Carbonate (filler)

Reacts with acids to form carbon dioxide.

10.4. Conditions to avoid

Dust accumulation

10.5 Incompatible materials

PVC-u see 10.3

Calcium Hydroxide – Stabiliser – Strong oxidising agents

10.6. Hazardous decomposition products

PVC-u

Thermal decomposition will evolve toxic vapours. (hydrogen chloride, carbon monoxide, carbon dioxide and fire soot).

11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

PVC-u

Inhalation	PVC products may contain traces of vinyl chloride monomer
Ingestion	High concentrations of dust may be irritant to the respiratory system
Skin	May cause abrasion in contact with skin
Eyes	May cause abrasion on contact with eyes

12: ECOLOGICAL INFORMATION

General information:

There is no risk to the environment from the use of this product. The product is insoluble in water. The product has no mobility in soil. There is no evidence for biodegradability in water or soil. The product is not harmful to organisms.

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13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Recover and recycle if possible. Dispose of waste material in accordance with national and local regulations

14. TRANSPORT INFORMATION

These products are not classified as dangerous goods for carriage

15: REGULATORY INFORMATION

Not classified as hazardous for supply

16: OTHER INFORMATION

Training Advice Provide adequate information, instruction, and training for operator

This product should be used in accordance with the manufacturer's instructions

It is the user's responsibility to adhere to both National and Local Safety Regulations.

This safety data sheet complies with the requirements of: Regulation (EC) No. 1907/2006

Disclaimer

The information provided in this Safety Data Sheet was compiled using current safety information supplied by distributors of the component materials. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

This safety data sheet. Recipients of the product must take responsibility for observing existing laws and regulations. This Safety Data Sheet is in REACH Annex II format and supersedes all previous issues, and users are cautioned to ensure it is the current version.

Destroy all previous revisions and refer to the supplier on +44 1709 770000 for queries regarding this data sheet.

Appendix E

CCTV Drainage Survey Report



Project

Project Name: 2025_12_06 MORTIMER COMMUNITY CENTRE SOUTH SHIELDS
Project Description: CCTV SURVEY
Project Date: 06/12/2025
Inspection Standard: MSCC5 Sewers & Drainage GB (SRM5 Scoring)





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Project Information

Project Name	Project Number	Project Date
2025_12_06 MORTIMER COMMUNITY CENTRE SOUTH SHIELDS		06/12/2025

Client

Company: CON FORCE UK
Description: CCTV SURVEY
Street: Unit 2 Hunters Buildings, Bowesfield Lane
Town or City: STOCKTON ON TEES
Post Code: TS18 3QZ
Phone: 01642 675253
Email: info@con-force.co.uk



Contractor

Company: BUTLER BROTHERS
Description: DRAINAGE AND CIVILS
Contact: MARK BUTLER
Street: UNIT 1 HUTCHINSON STREET
Town or City: STOCKTON ON TEES
County: CLEVELAND
Post Code: TS181RW
Mobile: 07415305001
Email: INFO@BUTLERBROSLTD.COM



Scoring Summary

Project Name	Project Number	Project Date
2025_12_06 MORTIMER COMMUNITY CENTRE SOUTH SHIELDS		06/12/2025

Structural Defects

Item No.	PLR	Grade	Description
All inspected pipes are in an acceptable structural condition (< grade 3).			

Service / Operational Condition

- Grade 3: Best practice suggests consideration should be given to maintenance activities in the medium term.
- Grade 4: Best practice suggests consideration should be given to maintenance activity to avoid potential blockages.
- Grade 5: Best practice suggests that this pipe is at a high risk of backing up or causing flooding.

Item No.	PLR	Grade	Description
2	D1X	3	Settled deposits, coarse, 10% cross-sectional area loss
4	SW8X	3	Settled deposits, coarse, 5% cross-sectional area loss
8	SW5X	4	Settled deposits, coarse, 20% cross-sectional area loss
28	FW6X	3	Settled deposits, coarse, 5% cross-sectional area loss

Abandoned Surveys

Item No.	PLR	Description
4	SW8X	Survey abandoned
8	SW5X	Survey abandoned

Information

These scoring summaries are based on the SRM grading from the WRc.



Section Profile

Project Name
2025_12_06 MORTIMER COMMUNITY CENTRE SOUTH SHIELDS

Project Number

Project Date
06/12/2025

Circular, 100 mm, 0 mm

Item No.	Upstream Node	Downstream Node	Date	Road	Material	Total Length	Inspected Length
29	CON A	FW3	06/12/2025	READING ROAD	Polyvinyl chloride	3.16 m	3.16 m
30	CON B	FW3	06/12/2025	READING ROAD	Polyvinyl chloride	3.64 m	3.64 m

Total: 2 Inspections x Circular 100 mm, 0 mm = 6.80 m Total Length and 6.80 m Inspected Length

Circular, 150 mm, 0 mm

Item No.	Upstream Node	Downstream Node	Date	Road	Material	Total Length	Inspected Length
15	FW2	D1	06/12/2025	READING ROAD	Polyvinyl chloride	10.14 m	10.14 m
16	FW1	FW2	06/12/2025	READING ROAD	Polyvinyl chloride	4.08 m	4.08 m
17	RG	SW8	06/12/2025	READING ROAD	Polyvinyl chloride	6.73 m	6.73 m
18	RW	SW9	06/12/2025	READING ROAD	Polyvinyl chloride	6.44 m	6.44 m
19	D	SW9	06/12/2025	READING ROAD	Polyvinyl chloride	4.51 m	4.51 m
20	RG	SW4	06/12/2025	READING ROAD	Polyvinyl chloride	4.03 m	4.03 m
21	RG	SW5	06/12/2025	READING ROAD	Polyvinyl chloride	3.16 m	3.16 m
22	GULLY	SW5	06/12/2025	READING ROAD	Polyvinyl chloride	5.85 m	5.85 m
23	FW9	D2	06/12/2025	READING ROAD	Polyvinyl chloride	6.72 m	6.72 m
24	FW8	FW9	06/12/2025	READING ROAD	Polyvinyl chloride	10.00 m	10.00 m
25	CON A	FW4	06/12/2025	READING ROAD	Polyvinyl chloride	4.70 m	4.70 m
26	FW4	FW5	06/12/2025	READING ROAD	Polyvinyl chloride	5.76 m	5.76 m
27	FW5	FW6	06/12/2025	READING ROAD	Polyvinyl chloride	11.51 m	11.51 m
28	FW6	FW7	06/12/2025	READING ROAD	Polyvinyl chloride	8.22 m	8.22 m
31	FW3	FW5	06/12/2025	READING ROAD	Polyvinyl chloride	3.64 m	3.64 m
32	SVP	SW11	06/12/2025	READING ROAD	Polyvinyl chloride	7.10 m	7.10 m
33	GULLY	FW5	06/12/2025	READING ROAD	Polyvinyl chloride	3.36 m	3.36 m

Total: 17 Inspections x Circular 150 mm, 0 mm = 105.95 m Total Length and 105.95 m Inspected Length

Circular, 225 mm, 0 mm

Item No.	Upstream Node	Downstream Node	Date	Road	Material	Total Length	Inspected Length
5	SW9	SW8	06/12/2025	READING ROAD	Polyvinyl chloride	6.55 m	6.55 m
6	INTERCEPTO	SW9	06/12/2025	READING ROAD	Polyvinyl chloride	3.98 m	3.98 m
7	SW4	SW5	06/12/2025	READING ROAD	Polyvinyl chloride	10.20 m	10.20 m
9	SW5	SW3	06/12/2025	READING ROAD	Polyvinyl chloride	12.03 m	12.03 m
10	SW3	SW2	06/12/2025	READING ROAD	Polyvinyl chloride	26.65 m	26.65 m
11	SW2	SW1	06/12/2025	READING ROAD	Polyvinyl chloride	18.83 m	18.83 m
12	SW8	SW10	06/12/2025	READING ROAD	Polyvinyl chloride	23.55 m	23.55 m
13	SW10	SW11	06/12/2025	READING ROAD	Polyvinyl chloride	4.81 m	4.81 m
14	SW11	SWMH	06/12/2025	READING ROAD	Polyvinyl chloride	8.37 m	8.37 m

Total: 9 Inspections x Circular 225 mm, 0 mm = 114.97 m Total Length and 114.97 m Inspected Length

Circular, 525 mm, 0 mm

Item No.	Upstream Node	Downstream Node	Date	Road	Material	Total Length	Inspected Length
1	6214	D1	06/12/2025	READING ROAD	Concrete	4.68 m	4.68 m
2	D1	FW9	06/12/2025	READING ROAD	Concrete	27.65 m	27.65 m
3	FW9	7202	06/12/2025	READING ROAD	Concrete	10.98 m	10.98 m

Total: 3 Inspections x Circular 525 mm, 0 mm = 43.31 m Total Length and 43.31 m Inspected Length

Total: 31 Inspections = 271.03 m Total Length and 271.03 m Inspected Length



Section Summary

Project Name	Project Number	Project Date
2025_12_06 MORTIMER COMMUNITY CENTRE SOUTH SHIELDS		06/12/2025

Number of sections	33
Total length of sections	278.71 m
Total length of inspected sections	278.71 m
Total length of not inspected sections	0.00 m
Number of abandoned inspections	2
Number of section inspection photos	2
Number of section inspection videos	33
Number of section inspection scans	0
Number of section inclination measurements	0

PLR:	6214X	Upstream Node:	6214
Inspection Direction:	Upstream	Downstream Node:	D1
Inspected Length:	4.68 m	Dia/Height:	525 mm
Total Length:	4.68 m	Material:	Concrete

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: D1
2	0.00	WL	Water level, 5% of the vertical dimension
3	4.68	MHF	Finish node, manhole, reference: 6214

PLR:	D1X	Upstream Node:	D1
Inspection Direction:	Downstream	Downstream Node:	FW9
Inspected Length:	27.65 m	Dia/Height:	525 mm
Total Length:	27.65 m	Material:	Concrete

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: D1
2	0.00	DER	Settled deposits, coarse, 10% cross-sectional area loss
3	0.00	WL	Water level, 5% of the vertical dimension
4	27.65	MHF	Finish node, manhole, reference: D2

PLR:	D2X	Upstream Node:	FW9
Inspection Direction:	Downstream	Downstream Node:	7202
Inspected Length:	10.98 m	Dia/Height:	525 mm
Total Length:	10.98 m	Material:	Concrete

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: D2
2	0.00	WL	Water level, 5% of the vertical dimension
3	10.98	MHF	Finish node, manhole, reference: 7202



Section Summary

Project Name	Project Number	Project Date
2025_12_06 MORTIMER COMMUNITY CENTRE SOUTH SHIELDS		06/12/2025

PLR:		SW8X		Upstream Node:	SW8
Inspection Direction:		Downstream		Downstream Node:	SW10
Inspected Length:		1.60 m		Dia/Height:	225 mm
Total Length:		1.60 m		Material:	Polyvinyl chloride
No.	m+	Code	Observation		
1	0.00	MH	Start node, manhole, reference: SW8		
2	0.00	DER	Settled deposits, coarse, 5% cross-sectional area loss		
3	0.00	WL	Water level, 5% of the vertical dimension		
4	1.60	SA	Survey abandoned		
PLR:		SW9 X		Upstream Node:	SW9
Inspection Direction:		Upstream		Downstream Node:	SW8
Inspected Length:		6.55 m		Dia/Height:	225 mm
Total Length:		6.55 m		Material:	Polyvinyl chloride
No.	m+	Code	Observation		
1	0.00	MH	Start node, manhole, reference: SW8		
2	0.00	WL	Water level, 5% of the vertical dimension		
3	6.55	MHF	Finish node, manhole, reference: SW9		
PLR:		INTERCEPTOX		Upstream Node:	INTERCEPTO
Inspection Direction:		Upstream		Downstream Node:	SW9
Inspected Length:		3.98 m		Dia/Height:	225 mm
Total Length:		3.98 m		Material:	Polyvinyl chloride
No.	m+	Code	Observation		
1	0.00	MH	Start node, manhole, reference: SW9		
2	0.00	WL	Water level, 5% of the vertical dimension		
3	3.98	OSF	Finish node, oil separator, reference: INTERCEPTO		
PLR:		SW4X		Upstream Node:	SW4
Inspection Direction:		Downstream		Downstream Node:	SW5
Inspected Length:		10.20 m		Dia/Height:	225 mm
Total Length:		10.20 m		Material:	Polyvinyl chloride
No.	m+	Code	Observation		
1	0.00	MH	Start node, manhole, reference: SW4		
2	0.00	WL	Water level, 5% of the vertical dimension		
3	10.20	MHF	Finish node, manhole, reference: SW5		
PLR:		SW5X		Upstream Node:	SW5
Inspection Direction:		Downstream		Downstream Node:	SW3
Inspected Length:		6.08 m		Dia/Height:	225 mm
Total Length:		6.08 m		Material:	Polyvinyl chloride
No.	m+	Code	Observation		
1	0.00	MH	Start node, manhole, reference: SW5		
2	0.00	WL	Water level, 5% of the vertical dimension		
3	6.08	DER	Settled deposits, coarse, 20% cross-sectional area loss		
4	6.08	SA	Survey abandoned		



Section Summary

Project Name	Project Number	Project Date
2025_12_06 MORTIMER COMMUNITY CENTRE SOUTH SHIELDS		06/12/2025

PLR:	SW5X	Upstream Node:	SW5
Inspection Direction:	Downstream	Downstream Node:	SW3
Inspected Length:	12.03 m	Dia/Height:	225 mm
Total Length:	12.03 m	Material:	Polyvinyl chloride

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: SW5
2	0.00	WL	Water level, 5% of the vertical dimension
3	12.03	MHF	Finish node, manhole, reference: SW3

PLR:	SW3X	Upstream Node:	SW3
Inspection Direction:	Downstream	Downstream Node:	SW2
Inspected Length:	26.65 m	Dia/Height:	225 mm
Total Length:	26.65 m	Material:	Polyvinyl chloride

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: SW3
2	0.00	WL	Water level, 5% of the vertical dimension
3	8.23	JN	Junction at 9 o'clock, 150mm dia
4	17.55	JN	Junction at 9 o'clock, 150mm dia
5	26.65	MHF	Finish node, manhole, reference: SW2

PLR:	SW2X	Upstream Node:	SW2
Inspection Direction:	Downstream	Downstream Node:	SW1
Inspected Length:	18.83 m	Dia/Height:	225 mm
Total Length:	18.83 m	Material:	Polyvinyl chloride

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: SW2
2	0.00	WL	Water level, 5% of the vertical dimension
3	18.83	CPF	Finish node, catchpit, reference: SW1

PLR:	SW8X	Upstream Node:	SW8
Inspection Direction:	Upstream	Downstream Node:	SW10
Inspected Length:	23.55 m	Dia/Height:	225 mm
Total Length:	23.55 m	Material:	Polyvinyl chloride

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: SW10
2	0.00	WL	Water level, 5% of the vertical dimension
3	23.55	MHF	Finish node, manhole, reference: SW8

PLR:	SW10 X	Upstream Node:	SW10
Inspection Direction:	Downstream	Downstream Node:	SW11
Inspected Length:	4.81 m	Dia/Height:	225 mm
Total Length:	4.81 m	Material:	Polyvinyl chloride

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: SW10
2	0.00	WL	Water level, 5% of the vertical dimension
3	4.81	MHF	Finish node, manhole, reference: SW11



Section Summary

Project Name	Project Number	Project Date
2025_12_06 MORTIMER COMMUNITY CENTRE SOUTH SHIELDS		06/12/2025

PLR:	SW11X	Upstream Node:	SW11
Inspection Direction:	Downstream	Downstream Node:	SWMH
Inspected Length:	8.37 m	Dia/Height:	225 mm
Total Length:	8.37 m	Material:	Polyvinyl chloride

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: SW11
2	0.00	WL	Water level, 5% of the vertical dimension
3	4.82	WL	Water level, 10% of the vertical dimension
4	5.48	WL	Water level, 20% of the vertical dimension
5	5.71	LR	Line deviates right
6	8.37	MHF	Finish node, manhole, reference: SWMH

PLR:	FW2X	Upstream Node:	FW2
Inspection Direction:	Upstream	Downstream Node:	D1
Inspected Length:	10.14 m	Dia/Height:	150 mm
Total Length:	10.14 m	Material:	Polyvinyl chloride

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: D1
2	0.00	WL	Water level, 5% of the vertical dimension
3	10.14	MHF	Finish node, manhole, reference: FW2

PLR:	FW1X	Upstream Node:	FW1
Inspection Direction:	Upstream	Downstream Node:	FW2
Inspected Length:	4.08 m	Dia/Height:	150 mm
Total Length:	4.08 m	Material:	Polyvinyl chloride

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: FW2
2	0.00	WL	Water level, 5% of the vertical dimension
3	4.08	MHF	Finish node, manhole, reference: FW1

PLR:	RGX	Upstream Node:	RG
Inspection Direction:	Upstream	Downstream Node:	SW8
Inspected Length:	6.73 m	Dia/Height:	150 mm
Total Length:	6.73 m	Material:	Polyvinyl chloride

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: SW8
2	0.00	WL	Water level, 5% of the vertical dimension
3	5.18	LU	Line deviates up
4	6.73	GYF	Finish node, gully, reference: RG

PLR:	RWX	Upstream Node:	RW
Inspection Direction:	Upstream	Downstream Node:	SW9
Inspected Length:	6.44 m	Dia/Height:	150 mm
Total Length:	6.44 m	Material:	Polyvinyl chloride

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: SW9
2	0.00	WL	Water level, 5% of the vertical dimension



Section Summary

Project Name	Project Number	Project Date
2025_12_06 MORTIMER COMMUNITY CENTRE SOUTH SHIELDS		06/12/2025

No.	m+	Code	Observation
3	6.44	OCF	Finish node, other special chamber, reference: RW
PLR: DX Inspection Direction: Upstream Inspected Length: 4.51 m Total Length: 4.51 m Upstream Node: D Downstream Node: SW9 Dia/Height: 150 mm Material: Polyvinyl chloride			
No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: SW9
2	0.00	WL	Water level, 5% of the vertical dimension
3	1.05	SC	Pipe size changes, new size(s), 100mm high
4	4.51	GYF	Finish node, gully, reference: D
PLR: RGX Inspection Direction: Upstream Inspected Length: 4.03 m Total Length: 4.03 m Upstream Node: RG Downstream Node: SW4 Dia/Height: 150 mm Material: Polyvinyl chloride			
No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: SW4
2	0.00	WL	Water level, 5% of the vertical dimension
3	0.76	OJL	Open joint, large
4	2.11	LL	Line deviates left
5	4.03	GYF	Finish node, gully, reference: RG
PLR: RGX Inspection Direction: Upstream Inspected Length: 3.16 m Total Length: 3.16 m Upstream Node: RG Downstream Node: SW5 Dia/Height: 150 mm Material: Polyvinyl chloride			
No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: SW5
2	0.00	WL	Water level, 5% of the vertical dimension
3	1.15	OJL	Open joint, large
4	1.82	LR	Line deviates right
5	3.16	GYF	Finish node, gully, reference: RG
PLR: GULLYX Inspection Direction: Upstream Inspected Length: 5.85 m Total Length: 5.85 m Upstream Node: GULLY Downstream Node: SW5 Dia/Height: 150 mm Material: Polyvinyl chloride			
No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: SW5
2	0.00	WL	Water level, 5% of the vertical dimension
3	1.82	LL	Line deviates left
4	1.82	SC	Pipe size changes, new size(s), 100mm high
5	5.85	GYF	Finish node, gully, reference: GULLY

Section Summary

Project Name 2025_12_06 MORTIMER COMMUNITY CENTRE SOUTH SHIELDS	Project Number	Project Date 06/12/2025
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PLR:	FW9X	Upstream Node:	FW9
Inspection Direction:	Upstream	Downstream Node:	D2
Inspected Length:	6.72 m	Dia/Height:	150 mm
Total Length:	6.72 m	Material:	Polyvinyl chloride

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: D2
2	0.00	WL	Water level, 5% of the vertical dimension
3	6.72	MHF	Finish node, manhole, reference: FW9

PLR:	FW8X	Upstream Node:	FW8
Inspection Direction:	Upstream	Downstream Node:	FW9
Inspected Length:	10.00 m	Dia/Height:	150 mm
Total Length:	10.00 m	Material:	Polyvinyl chloride

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: FW9
2	0.00	WL	Water level, 5% of the vertical dimension
3	4.63	LL	Line deviates left
4	10.00	MHF	Finish node, manhole, reference: FW8

PLR:	CON AX	Upstream Node:	CON A
Inspection Direction:	Upstream	Downstream Node:	FW4
Inspected Length:	4.70 m	Dia/Height:	150 mm
Total Length:	4.70 m	Material:	Polyvinyl chloride

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: FW4
2	0.00	WL	Water level, 5% of the vertical dimension
3	4.70	OCF	Finish node, other special chamber, reference: CON A

PLR:	FW4 X	Upstream Node:	FW4
Inspection Direction:	Downstream	Downstream Node:	FW5
Inspected Length:	5.76 m	Dia/Height:	150 mm
Total Length:	5.76 m	Material:	Polyvinyl chloride

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: FW4
2	0.00	WL	Water level, 5% of the vertical dimension
3	5.76	MHF	Finish node, manhole, reference: FW5

PLR:	FW5X	Upstream Node:	FW5
Inspection Direction:	Downstream	Downstream Node:	FW6
Inspected Length:	11.51 m	Dia/Height:	150 mm
Total Length:	11.51 m	Material:	Polyvinyl chloride

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: FW5
2	0.00	WL	Water level, 5% of the vertical dimension
3	10.92	LL	Line deviates left
4	11.51	MHF	Finish node, manhole, reference: FW6

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Section Summary

Project Name	Project Number	Project Date
2025_12_06 MORTIMER COMMUNITY CENTRE SOUTH SHIELDS		06/12/2025

PLR:	FW6X	Upstream Node:	FW6
Inspection Direction:	Downstream	Downstream Node:	FW7
Inspected Length:	8.22 m	Dia/Height:	150 mm
Total Length:	8.22 m	Material:	Polyvinyl chloride

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: FW6
2	0.00	WL	Water level, 5% of the vertical dimension
3	1.69	DER	Settled deposits, coarse, 5% cross-sectional area loss
4	8.22	MHF	Finish node, manhole, reference: FW7

PLR:	CON AX	Upstream Node:	CON A
Inspection Direction:	Upstream	Downstream Node:	FW3
Inspected Length:	3.16 m	Dia/Height:	100 mm
Total Length:	3.16 m	Material:	Polyvinyl chloride

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: FW3
2	0.00	WL	Water level, 5% of the vertical dimension
3	0.96	LR	Line deviates right
4	3.16	OCF	Finish node, other special chamber, reference: CON A

PLR:	CON BX	Upstream Node:	CON B
Inspection Direction:	Upstream	Downstream Node:	FW3
Inspected Length:	3.64 m	Dia/Height:	100 mm
Total Length:	3.64 m	Material:	Polyvinyl chloride

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: FW3
2	0.00	WL	Water level, 5% of the vertical dimension
3	1.34	LR	Line deviates right
4	3.64	OCF	Finish node, other special chamber, reference: CON B

PLR:	FW3X	Upstream Node:	FW3
Inspection Direction:	Downstream	Downstream Node:	FW5
Inspected Length:	3.64 m	Dia/Height:	150 mm
Total Length:	3.64 m	Material:	Polyvinyl chloride

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: FW3
2	0.00	WL	Water level, 5% of the vertical dimension
3	3.64	MHF	Finish node, manhole, reference: FW5

PLR:	SVPX	Upstream Node:	SVP
Inspection Direction:	Upstream	Downstream Node:	SW11
Inspected Length:	7.10 m	Dia/Height:	150 mm
Total Length:	7.10 m	Material:	Polyvinyl chloride

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: SW11
2	0.00	WL	Water level, 5% of the vertical dimension
3	0.76	LU	Line deviates up



Section Summary		
2025_12_06 MORTIMER COMMUNITY CENTRE SOUTH SHIELDS	Project Number	Project Date
		06/12/2025

No.	m+	Code	Observation
4	1.44	LR	Line deviates right
5	2.30	LL	Line deviates left
6	3.84	LL	Line deviates left
7	7.10	OCF	Finish node, other special chamber, reference: SVP
PLR:		GULLYX	Upstream Node: GULLY
Inspection Direction:		Upstream	Downstream Node: FW5
Inspected Length:		3.36 m	Dia/Height: 150 mm
Total Length:		3.36 m	Material: Polyvinyl chloride
No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: FW5
2	0.00	WL	Water level, 5% of the vertical dimension
3	3.36	GYF	Finish node, gully, reference: GULLY



Project Summary

Project Name	Project Number	Project Date
2025_12_06 MORTIMER COMMUNITY CENTRE SOUTH SHIELDS		06/12/2025

Pipe Summary

No.	Type	PLR	Upstream Node	Downstream Node	Road	Town	Use	Mat.	Profile	Length
1	SEC	6214X	6214	D1	Reading Road	South Shields	C	CO	Circular 525mm	4.68 m
2	SEC	D1X	D1	FW9	Reading Road	South Shields	C	CO	Circular 525mm	27.65 m
3	SEC	D2X	FW9	7202	Reading Road	South Shields	C	CO	Circular 525mm	10.98 m
4	SEC	SW8X	SW8	SW10	Reading Road	South Shields	S	PVC	Circular 225mm	1.60 m
5	SEC	SW9 X	SW9	SW8	Reading Road	South Shields	S	PVC	Circular 225mm	6.55 m
6	SEC	INTERCEPTOX	INTERCEPTO	SW9	Reading Road	South Shields	S	PVC	Circular 225mm	3.98 m
7	SEC	SW4X	SW4	SW5	Reading Road	South Shields	S	PVC	Circular 225mm	10.20 m
8	SEC	SW5X	SW5	SW3	Reading Road	South Shields	S	PVC	Circular 225mm	6.08 m
9	SEC	SW5X	SW5	SW3	Reading Road	South Shields	S	PVC	Circular 225mm	12.03 m
10	SEC	SW3X	SW3	SW2	Reading Road	South Shields	S	PVC	Circular 225mm	26.65 m
11	SEC	SW2X	SW2	SW1	Reading Road	South Shields	S	PVC	Circular 225mm	18.83 m
12	SEC	SW8X	SW8	SW10	Reading Road	South Shields	S	PVC	Circular 225mm	23.55 m
13	SEC	SW10 X	SW10	SW11	Reading Road	South Shields	S	PVC	Circular 225mm	4.81 m
14	SEC	SW11X	SW11	SWMH	Reading Road	South Shields	S	PVC	Circular 225mm	8.37 m
15	SEC	FW2X	FW2	D1	Reading Road	South Shields	F	PVC	Circular 150mm	10.14 m
16	SEC	FW1X	FW1	FW2	Reading Road	South Shields	F	PVC	Circular 150mm	4.08 m
17	SEC	RGX	RG	SW8	Reading Road	South Shields	S	PVC	Circular 150mm	6.73 m
18	SEC	RWX	RW	SW9	Reading Road	South Shields	S	PVC	Circular 150mm	6.44 m
19	SEC	DX	D	SW9	Reading Road	South Shields	S	PVC	Circular 150mm	4.51 m
20	SEC	RGX	RG	SW4	Reading Road	South Shields	S	PVC	Circular 150mm	4.03 m
21	SEC	RGX	RG	SW5	Reading Road	South Shields	S	PVC	Circular 150mm	3.16 m
22	SEC	GULLYX	GULLY	SW5	Reading Road	South Shields	S	PVC	Circular 150mm	5.85 m
23	SEC	FW9X	FW9	D2	Reading Road	South Shields	F	PVC	Circular 150mm	6.72 m
24	SEC	FW8X	FW8	FW9	Reading Road	South Shields	F	PVC	Circular 150mm	10.00 m
25	SEC	CON AX	CON A	FW4	Reading Road	South Shields	F	PVC	Circular 150mm	4.70 m
26	SEC	FW4 X	FW4	FW5	Reading Road	South Shields	F	PVC	Circular 150mm	5.76 m
27	SEC	FW5X	FW5	FW6	Reading Road	South Shields	F	PVC	Circular 150mm	11.51 m
28	SEC	FW6X	FW6	FW7	Reading Road	South Shields	F	PVC	Circular 150mm	8.22 m
29	SEC	CON AX	CON A	FW3	Reading Road	South Shields	F	PVC	Circular 100mm	3.16 m
30	SEC	CON BX	CON B	FW3	Reading Road	South Shields	F	PVC	Circular 100mm	3.64 m



Project Summary

Project Name	Project Number	Project Date
2025_12_06 MORTIMER COMMUNITY CENTRE SOUTH SHIELDS		06/12/2025

No.	Type	PLR	Upstream Node	Downstream Node	Road	Town	Use	Mat.	Profile	Length
31	SEC	FW3X	FW3	FW5	Reading Road	South Shields	F	PVC	Circular 150mm	3.64 m
32	SEC	SVPX	SVP	SW11	Reading Road	South Shields	S	PVC	Circular 150mm	7.10 m
33	SEC	GULLYX	GULLY	FW5	Reading Road	South Shields	F	PVC	Circular 150mm	3.36 m
Total:										278.71 m

Pipe Levels

No.	PLR	Upstream Node	Upstream C.L.	Upstream I.L.	Upstream I.D.	Downstream Node	Downstream C.L.	Downstream I.L.	Downstream I.D.
1	6214X	6214			0.000 m	D1			0.000 m
2	D1X	D1			0.000 m	FW9			0.000 m
3	D2X	FW9			0.000 m	7202			0.000 m
4	SW8X	SW8			0.000 m	SW10			0.000 m
5	SW9 X	SW9			0.000 m	SW8			0.000 m
6	INTERCEPTOX	INTERCEPTO			0.000 m	SW9			0.000 m
7	SW4X	SW4			0.000 m	SW5			0.000 m
8	SW5X	SW5			0.000 m	SW3			0.000 m
9	SW5X	SW5			0.000 m	SW3			0.000 m
10	SW3X	SW3			0.000 m	SW2			0.000 m
11	SW2X	SW2			0.000 m	SW1			0.000 m
12	SW8X	SW8			0.000 m	SW10			0.000 m
13	SW10 X	SW10			0.000 m	SW11			0.000 m
14	SW11X	SW11			0.000 m	SWMH			0.000 m
15	FW2X	FW2			0.000 m	D1			0.000 m
16	FW1X	FW1			0.000 m	FW2			0.000 m
17	RGX	RG			0.000 m	SW8			0.000 m
18	RWX	RW			0.000 m	SW9			0.000 m
19	DX	D			0.000 m	SW9			0.000 m
20	RGX	RG			0.000 m	SW4			0.000 m
21	RGX	RG			0.000 m	SW5			0.000 m
22	GULLYX	GULLY			0.000 m	SW5			0.000 m



Project Summary

Project Name	Project Number	Project Date
2025_12_06 MORTIMER COMMUNITY CENTRE SOUTH SHIELDS		06/12/2025

No.	PLR	Upstream Node	Upstream C.L.	Upstream I.L.	Upstream I.D.	Downstream Node	Downstream C.L.	Downstream I.L.	Downstream I.D.
23	FW9X	FW9			0.000 m	D2			0.000 m
24	FW8X	FW8			0.000 m	FW9			0.000 m
25	CON AX	CON A			0.000 m	FW4			0.000 m
26	FW4 X	FW4			0.000 m	FW5			0.000 m
27	FW5X	FW5			0.000 m	FW6			0.000 m
28	FW6X	FW6			0.000 m	FW7			0.000 m
29	CON AX	CON A			0.000 m	FW3			0.000 m
30	CON BX	CON B			0.000 m	FW3			0.000 m
31	FW3X	FW3			0.000 m	FW5			0.000 m
32	SVPX	SVP			0.000 m	SW11			0.000 m
33	GULLYX	GULLY			0.000 m	FW5			0.000 m

Pipe Summary by Profile

Profile	Total Length	No. Pipes
Circular 100mm	3.16 m	
Circular 100mm	3.64 m	
Circular 100mm =	6.80 m	2
Circular 150mm	10.14 m	
Circular 150mm	4.08 m	
Circular 150mm	6.73 m	
Circular 150mm	6.44 m	
Circular 150mm	4.51 m	
Circular 150mm	4.03 m	
Circular 150mm	3.16 m	
Circular 150mm	5.85 m	
Circular 150mm	6.72 m	
Circular 150mm	10.00 m	
Circular 150mm	4.70 m	
Circular 150mm	5.76 m	
Circular 150mm	11.51 m	
Circular 150mm	8.22 m	
Circular 150mm	3.64 m	
Circular 150mm	7.10 m	
Circular 150mm	3.36 m	
Circular 150mm =	105.95 m	17
Circular 225mm	1.60 m	



Project Summary

Project Name	Project Number	Project Date
2025_12_06 MORTIMER COMMUNITY CENTRE SOUTH SHIELDS		06/12/2025

Profile	Total Length	No. Pipes
Circular 225mm	6.55 m	
Circular 225mm	3.98 m	
Circular 225mm	10.20 m	
Circular 225mm	6.08 m	
Circular 225mm	12.03 m	
Circular 225mm	26.65 m	
Circular 225mm	18.83 m	
Circular 225mm	23.55 m	
Circular 225mm	4.81 m	
Circular 225mm	8.37 m	
Circular 225mm =	122.65 m	11
Circular 525mm	4.68 m	
Circular 525mm	27.65 m	
Circular 525mm	10.98 m	
Circular 525mm =	43.31 m	3
Total =	278.71 m	33

Inspection Summary

Pipe No.	Insp. No.	Upstream Node	Downstream Node	Dir.	Operator	Insp. Date	Insp. Time	Str	Ser	Final Observation	Length
1	1	6214	D1	US	J Taylor	06/12/2025	8:36	1	1	MHF	4.68 m
2	1	D1	FW9	DS	J Taylor	06/12/2025	8:39	1	3	MHF	27.65 m
3	1	FW9	7202	DS	J Taylor	06/12/2025	8:42	1	1	MHF	10.98 m
4	1	SW8	SW10	DS	J Taylor	06/12/2025	9:12	1	3	SA, DUE TO DEBRIS	1.60 m
5	1	SW9	SW8	US	J Taylor	06/12/2025	9:46	1	1	MHF	6.55 m
6	1	INTERCEPTO	SW9	US	J Taylor	06/12/2025	9:49	1	1	OSF	3.98 m
7	1	SW4	SW5	DS	J Taylor	06/12/2025	10:33	1	1	MHF	10.20 m
8	1	SW5	SW3	DS	J Taylor	06/12/2025	10:35	1	4	SA, DUE TO DEBRIS	6.08 m
9	1	SW5	SW3	DS	J Taylor	06/12/2025	10:43	1	1	MHF	12.03 m
10	1	SW3	SW2	DS	J Taylor	06/12/2025	10:46	1	1	MHF	26.65 m
11	1	SW2	SW1	DS	J Taylor	06/12/2025	10:50	1	1	CPF	18.83 m
12	1	SW8	SW10	US	J Taylor	06/12/2025	12:14	1	1	MHF	23.55 m
13	1	SW10	SW11	DS	J Taylor	06/12/2025	12:19	1	1	MHF	4.81 m
14	1	SW11	SWMH	DS	J Taylor	06/12/2025	12:22	1	1	MHF	8.37 m
15	1	FW2	D1	US	J Taylor	06/12/2025	12:40	1	1	MHF	10.14 m



Project Summary

Project Name	Project Number	Project Date
2025_12_06 MORTIMER COMMUNITY CENTRE SOUTH SHIELDS		06/12/2025

Pipe No.	Insp. No.	Upstream Node	Downstream Node	Dir.	Operator	Insp. Date	Insp. Time	Str	Ser	Final Observation	Length
16	1	FW1	FW2	US	J Taylor	06/12/2025	12:39	1	1	MHF	4.08 m
17	1	RG	SW8	US	J Taylor	06/12/2025	12:39	1	1	GYF	6.73 m
18	1	RW	SW9	US	J Taylor	06/12/2025	12:39	1	1	OCF, RW	6.44 m
19	1	D	SW9	US	J Taylor	06/12/2025	12:39	1	1	GYF	4.51 m
20	1	RG	SW4	US	J Taylor	06/12/2025	12:39	1	1	GYF	4.03 m
21	1	RG	SW5	US	J Taylor	06/12/2025	12:39	1	1	GYF	3.16 m
22	1	GULLY	SW5	US	J Taylor	06/12/2025	12:39	1	1	GYF	5.85 m
23	1	FW9	D2	US	J Taylor	06/12/2025	12:39	1	1	MHF	6.72 m
24	1	FW8	FW9	US	J Taylor	06/12/2025	12:39	1	1	MHF	10.00 m
25	1	CON A	FW4	US	J Taylor	06/12/2025	12:39	1	1	OCF, SVP	4.70 m
26	1	FW4	FW5	DS	J Taylor	06/12/2025	12:39	1	1	MHF	5.76 m
27	1	FW5	FW6	DS	J Taylor	06/12/2025	12:39	1	1	MHF	11.51 m
28	1	FW6	FW7	DS	J Taylor	06/12/2025	12:39	1	3	MHF	8.22 m
29	1	CON A	FW3	US	J Taylor	06/12/2025	12:39	1	1	OCF, SVP	3.16 m
30	1	CON B	FW3	US	J Taylor	06/12/2025	12:39	1	1	OCF, SVP	3.64 m
31	1	FW3	FW5	DS	J Taylor	06/12/2025	12:39	1	1	MHF	3.64 m
32	1	SVP	SW11	US	J Taylor	06/12/2025	12:38	1	1	OCF, SVP	7.10 m
33	1	GULLY	FW5	US	J Taylor	06/12/2025	12:38	1	1	GYF	3.36 m
										Total:	278.71 m

Inspection Summary by Profile		
Profile	Total Length	No. Inspections
Circular 100mm	3.16 m	
Circular 100mm	3.64 m	
Circular 100mm =	6.80 m	2
Circular 150mm	10.14 m	
Circular 150mm	4.08 m	
Circular 150mm	6.73 m	
Circular 150mm	6.44 m	
Circular 150mm	4.51 m	
Circular 150mm	4.03 m	
Circular 150mm	3.16 m	
Circular 150mm	5.85 m	



Project Summary

Project Name	Project Number	Project Date
2025_12_06 MORTIMER COMMUNITY CENTRE SOUTH SHIELDS		06/12/2025

Profile	Total Length	No. Inspections
Circular 150mm	6.72 m	
Circular 150mm	10.00 m	
Circular 150mm	4.70 m	
Circular 150mm	5.76 m	
Circular 150mm	11.51 m	
Circular 150mm	8.22 m	
Circular 150mm	3.64 m	
Circular 150mm	7.10 m	
Circular 150mm	3.36 m	
Circular 150mm =	105.95 m	17
Circular 225mm	1.60 m	
Circular 225mm	6.55 m	
Circular 225mm	3.98 m	
Circular 225mm	10.20 m	
Circular 225mm	6.08 m	
Circular 225mm	12.03 m	
Circular 225mm	26.65 m	
Circular 225mm	18.83 m	
Circular 225mm	23.55 m	
Circular 225mm	4.81 m	
Circular 225mm	8.37 m	
Circular 225mm =	122.65 m	11
Circular 525mm	4.68 m	
Circular 525mm	27.65 m	
Circular 525mm	10.98 m	
Circular 525mm =	43.31 m	3
Total =	278.71 m	33



Project Summary

Project Name 2025_12_06 MORTIMER COMMUNITY CENTRE SOUTH SHIELDS	Project Number	Project Date 06/12/2025
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Defect Summary				CCTV Drainage Survey Observation Count																				
				General				Structural Condition								Service Condition						Misc		
Sect. No.	Insp. No.	Upstream Node	Downstream Node	Insp. Length (m)	No. Grade 4/5 Obs.	Survey Abandoned	Camera Under Water	Cracks	Fractures	Broken	Deformed	Collapsed	Holes	Surface Damage	Displaced Joints	Open Joints	Roots	Infiltration	Encrustation	Silt	Grease	Obstruction	Water Level	Line Deviates
1	1	6214	D1	4.7																			1	
2	1	D1	FW9	27.7																			1	
3	1	FW9	7202	11.0																			1	
4	1	SW8	SW10	1.6		1																	1	
5	1	SW9	SW8	6.6																			1	
6	1	INTERCEPTO	SW9	4.0																			1	
7	1	SW4	SW5	10.2																			1	
8	1	SW5	SW3	6.1	1	1																	1	
9	1	SW5	SW3	12.0																			1	
10	1	SW3	SW2	26.7																			1	
11	1	SW2	SW1	18.8																			1	
12	1	SW8	SW10	23.6																			1	
13	1	SW10	SW11	4.8																			1	
14	1	SW11	SWMH	8.4																			3	1
15	1	FW2	D1	10.1																			1	
16	1	FW1	FW2	4.1																			1	
17	1	RG	SW8	6.7																			1	1
18	1	RW	SW9	6.4																			1	
19	1	D	SW9	4.5																			1	
20	1	RG	SW4	4.0												1							1	1
21	1	RG	SW5	3.2												1							1	1
22	1	GULLY	SW5	5.9																			1	1
23	1	FW9	D2	6.7																			1	
24	1	FW8	FW9	10.0																			1	1
25	1	CON A	FW4	4.7																			1	
26	1	FW4	FW5	5.8																			1	
27	1	FW5	FW6	11.5																			1	1



Project Summary

Project Name	Project Number	Project Date
2025_12_06 MORTIMER COMMUNITY CENTRE SOUTH SHIELDS		06/12/2025

Sect. No.	Insp. No.	Upstream Node	Downstream Node	Insp. Length (m)	No. Grade 4/5 Obs.	Survey Abandoned	Camera Under Water	Cracks	Fractures	Broken	Deformed	Collapsed	Holes	Surface Damage	Displaced Joints	Open Joints	Roots	Infiltration	Encrustation	Silt	Grease	Obstruction	Water Level	Line Deviates
28	1	FW6	FW7	8.2																			1	
29	1	CON A	FW3	3.2																			1	1
30	1	CON B	FW3	3.6																			1	1
31	1	FW3	FW5	3.6																			1	
32	1	SVP	SW11	7.1																			1	4
33	1	GULLY	FW5	3.4																			1	
Total:				278.7	1	2																	35	13



Section Inspection - 06/12/2025 - 6214X

Item No. 1	Insp. No. 1	Date 06/12/25	Time 8:36	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR 6214X
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Upstream	Upstream Node:	6214
Road:	Reading Road	Inspected Length:	4.68 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	4.68 m	Downstream Node:	D1
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Combined	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	525 mm		
Flow Control:	No flow control	Material:	Concrete		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:

Recommendations:



Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

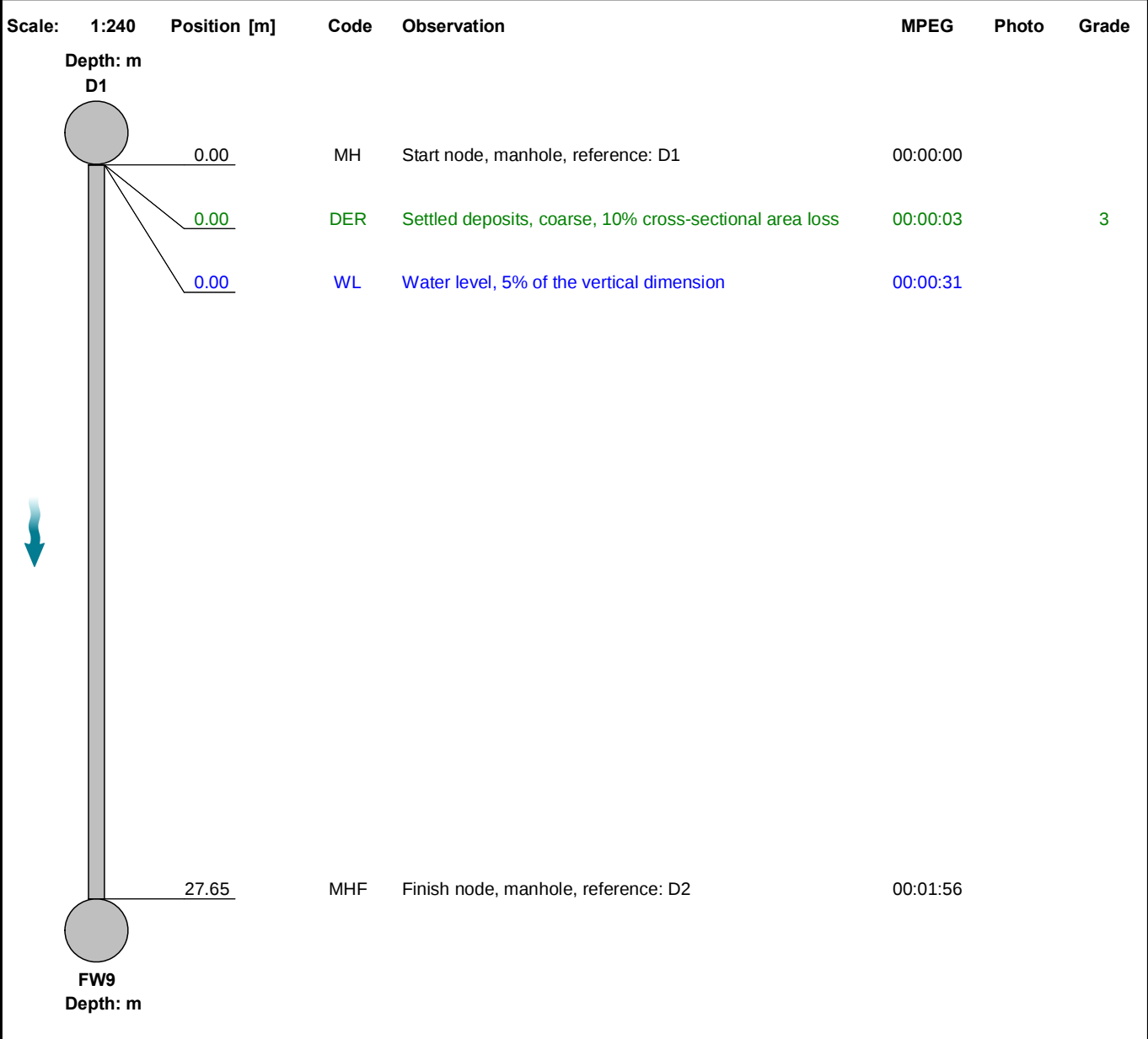


Section Inspection - 06/12/2025 - D1X

Item No. 2	Insp. No. 1	Date 06/12/25	Time 8:39	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR D1X
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Downstream	Upstream Node:	D1
Road:	Reading Road	Inspected Length:	27.65 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	27.65 m	Downstream Node:	FW9
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Combined	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	525 mm		
Flow Control:	No flow control	Material:	Concrete		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:
Recommendations:



Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	1	2.0	0.1	2.0	3.0



Section Inspection - 06/12/2025 - D2X

Item No. 3	Insp. No. 1	Date 06/12/25	Time 8:42	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR D2X
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Downstream	Upstream Node:	FW9
Road:	Reading Road	Inspected Length:	10.98 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	10.98 m	Downstream Node:	7202
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Combined	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	525 mm		
Flow Control:	No flow control	Material:	Concrete		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:

Recommendations:



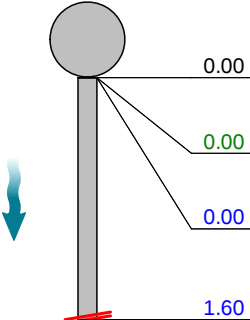
Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

Section Inspection - 06/12/2025 - SW8X

Item No.	Insp. No.	Date	Time	Client's Job Ref	Weather	Pre Cleaned	PLR
4	1	06/12/25	9:12	Not Specified	No Rain Or Snow	Yes	SW8X
Operator		Vehicle		Camera	Preset Length	Legal Status	Alternative ID
J TAYLOR		TGZ 6788		Crawler	Not Specified	Private Sewer	Not Specified

Town or Village:	South Shields	Inspection Direction:	Downstream	Upstream Node:	SW8
Road:	Reading Road	Inspected Length:	1.60 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	1.60 m	Downstream Node:	SW10
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	225 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:	
Recommendations:	

Scale:	1:50	Position [m]	Code	Observation	MPEG	Photo	Grade
Depth: m SW8 							
		0.00	MH	Start node, manhole, reference: SW8	00:00:00		
		0.00	DER	Settled deposits, coarse, 5% cross-sectional area loss	00:00:09		3
		0.00	WL	Water level, 5% of the vertical dimension	00:00:55		
		1.60	SA	Survey abandoned: DUE TO DEBRIS	00:01:00		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	1	2.0	1.3	2.0	3.0



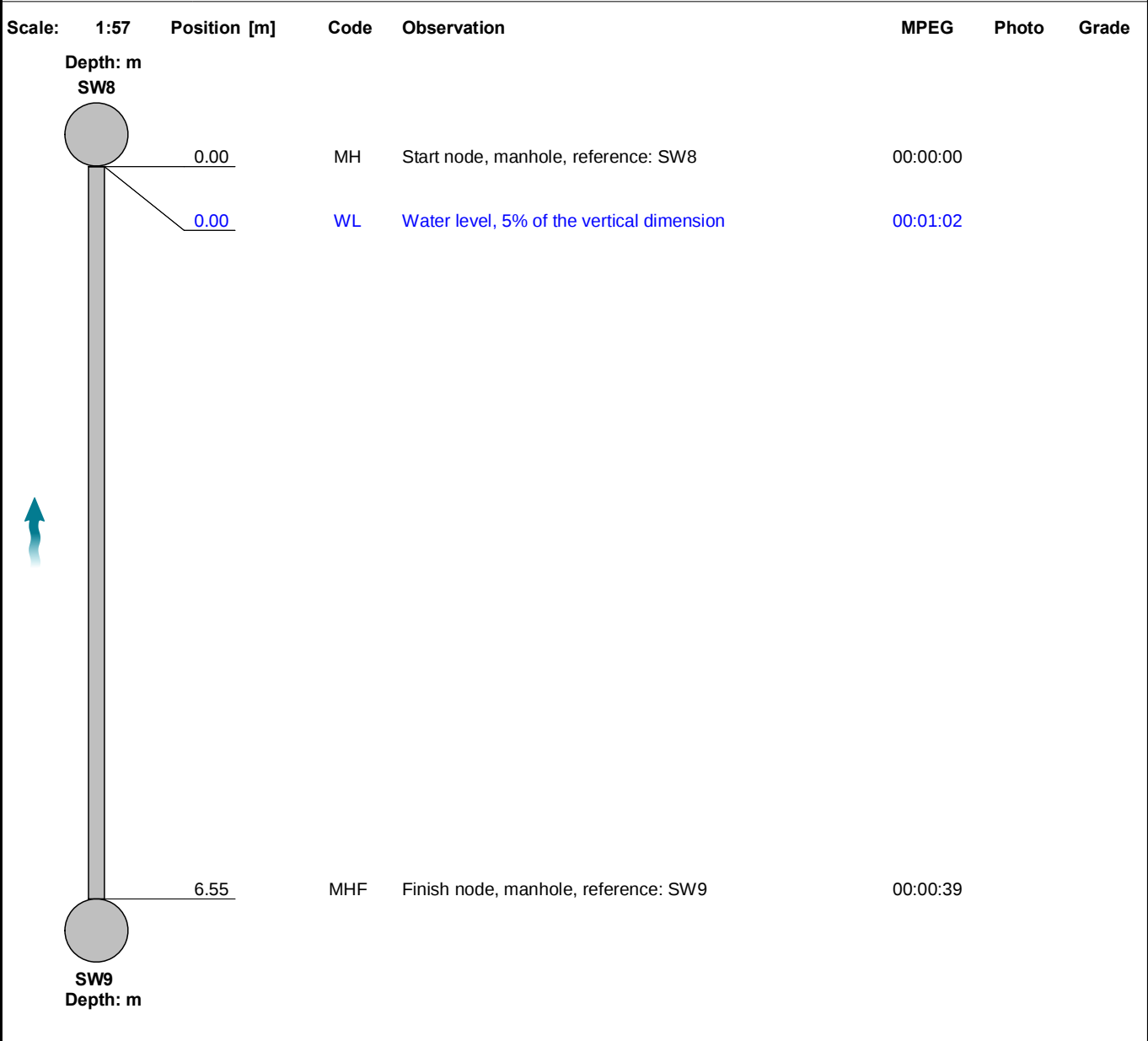
Section Inspection - 06/12/2025 - SW9 X

Item No. 5	Insp. No. 1	Date 06/12/25	Time 9:46	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR SW9 X
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Upstream	Upstream Node:	SW9
Road:	Reading Road	Inspected Length:	6.55 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	6.55 m	Downstream Node:	SW8
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	225 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:

Recommendations:



Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0



UNIT 1 HUTCHINSON STREET, STOCKTON ON TEES

INFO@BUTLERBROSLTD.COM

Section Inspection - 06/12/2025 - INTERCEPTOX

Item No. 6	Insp. No. 1	Date 06/12/25	Time 9:49	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR INTERCEPTOX
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Upstream	Upstream Node:	INTERCEPTO
Road:	Reading Road	Inspected Length:	3.98 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	3.98 m	Downstream Node:	SW9
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	225 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:

Recommendations:

Scale:	1:50	Position [m]	Code	Observation	MPEG	Photo	Grade
Depth: m SW9							
			MH	Start node, manhole, reference: SW9	00:00:00		
			WL	Water level, 5% of the vertical dimension	00:00:42		
			OSF	Finish node, oil separator, reference: INTERCEPTO	00:00:30		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

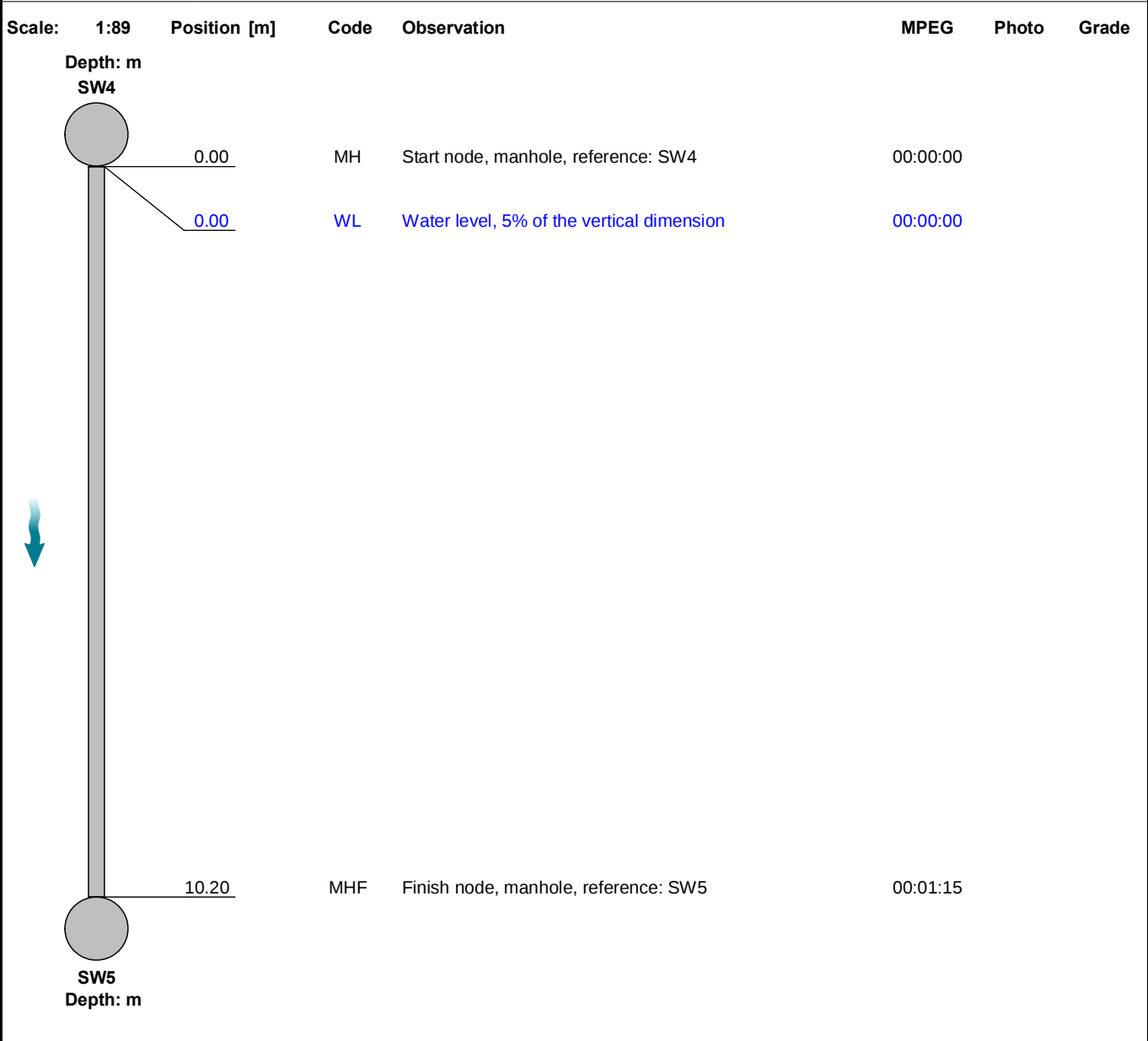


Section Inspection - 06/12/2025 - SW4X

Item No. 7	Insp. No. 1	Date 06/12/25	Time 10:33	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR SW4X
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Downstream	Upstream Node:	SW4
Road:	Reading Road	Inspected Length:	10.20 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	10.20 m	Downstream Node:	SW5
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	225 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:
Recommendations:



Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0



UNIT 1 HUTCHINSON STREET, STOCKTON ON TEES

INFO@BUTLERBROSLTD.COM

Section Inspection - 06/12/2025 - SW5X

Item No. 8	Insp. No. 1	Date 06/12/25	Time 10:35	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR SW5X
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Downstream	Upstream Node:	SW5
Road:	Reading Road	Inspected Length:	6.08 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	6.08 m	Downstream Node:	SW3
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	225 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:

Recommendations:

The diagram illustrates a vertical manhole shaft. At the top, a grey circle represents the manhole opening, labeled 'SW5'. A vertical grey line represents the shaft. A scale bar on the left indicates a depth of 6.08 meters. A blue arrow points downwards along the shaft. A table on the right lists observations from the manhole.

Scale:	1:53	Position [m]	Code	Observation	MPEG	Photo	Grade
Depth: m							
0.00			MH	Start node, manhole, reference: SW5	00:00:00		
0.00			WL	Water level, 5% of the vertical dimension	00:01:20		
6.08			DER	Settled deposits, coarse, 20% cross-sectional area loss	00:00:35		4
6.08			SA	Survey abandoned: DUE TO DEBRIS	00:00:36		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	1	5.0	0.8	5.0	4.0

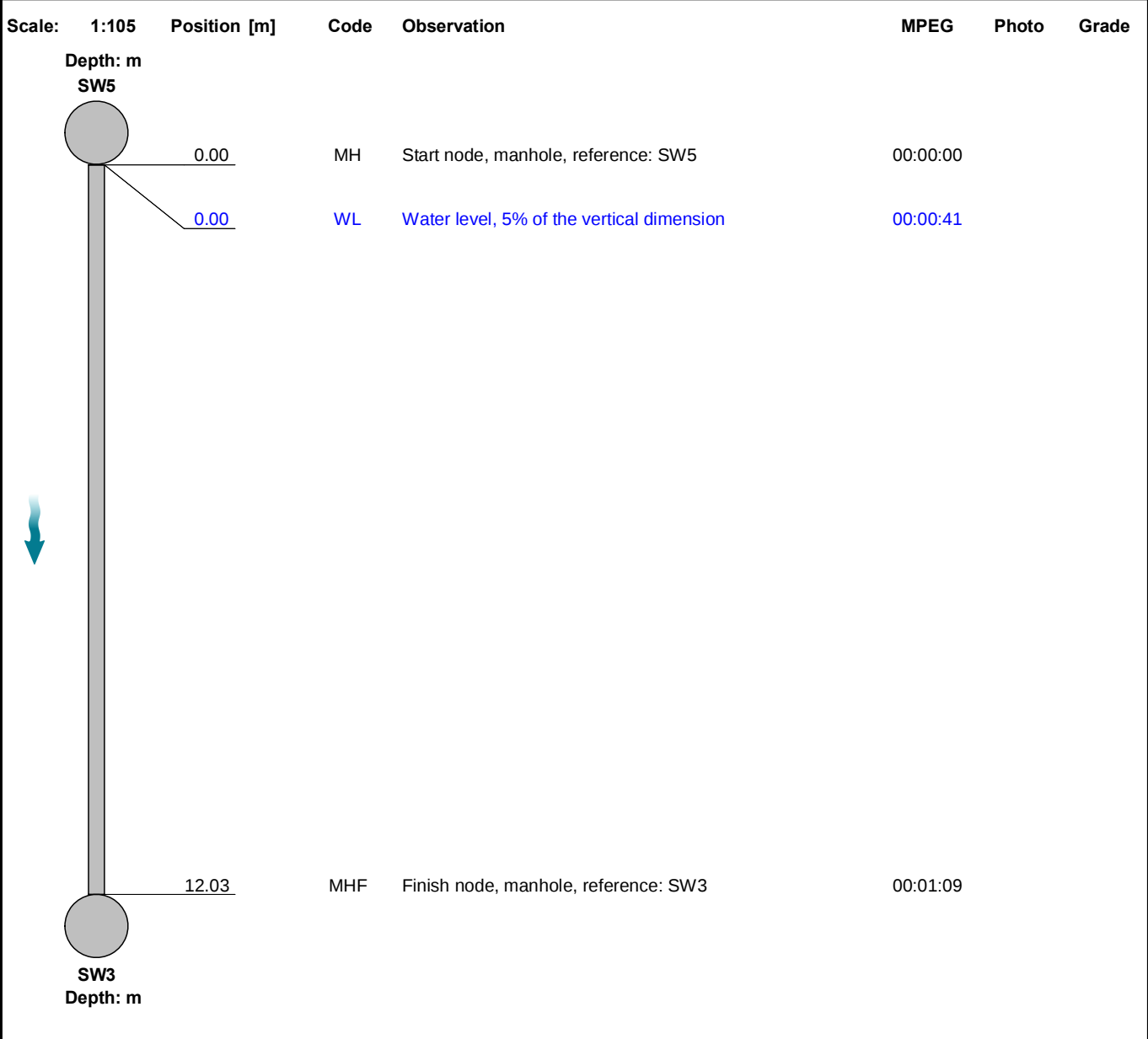


Section Inspection - 06/12/2025 - SW5X

Item No. 9	Insp. No. 1	Date 06/12/25	Time 10:43	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR SW5X
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Downstream	Upstream Node:	SW5
Road:	Reading Road	Inspected Length:	12.03 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	12.03 m	Downstream Node:	SW3
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	225 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:
Recommendations:



Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0



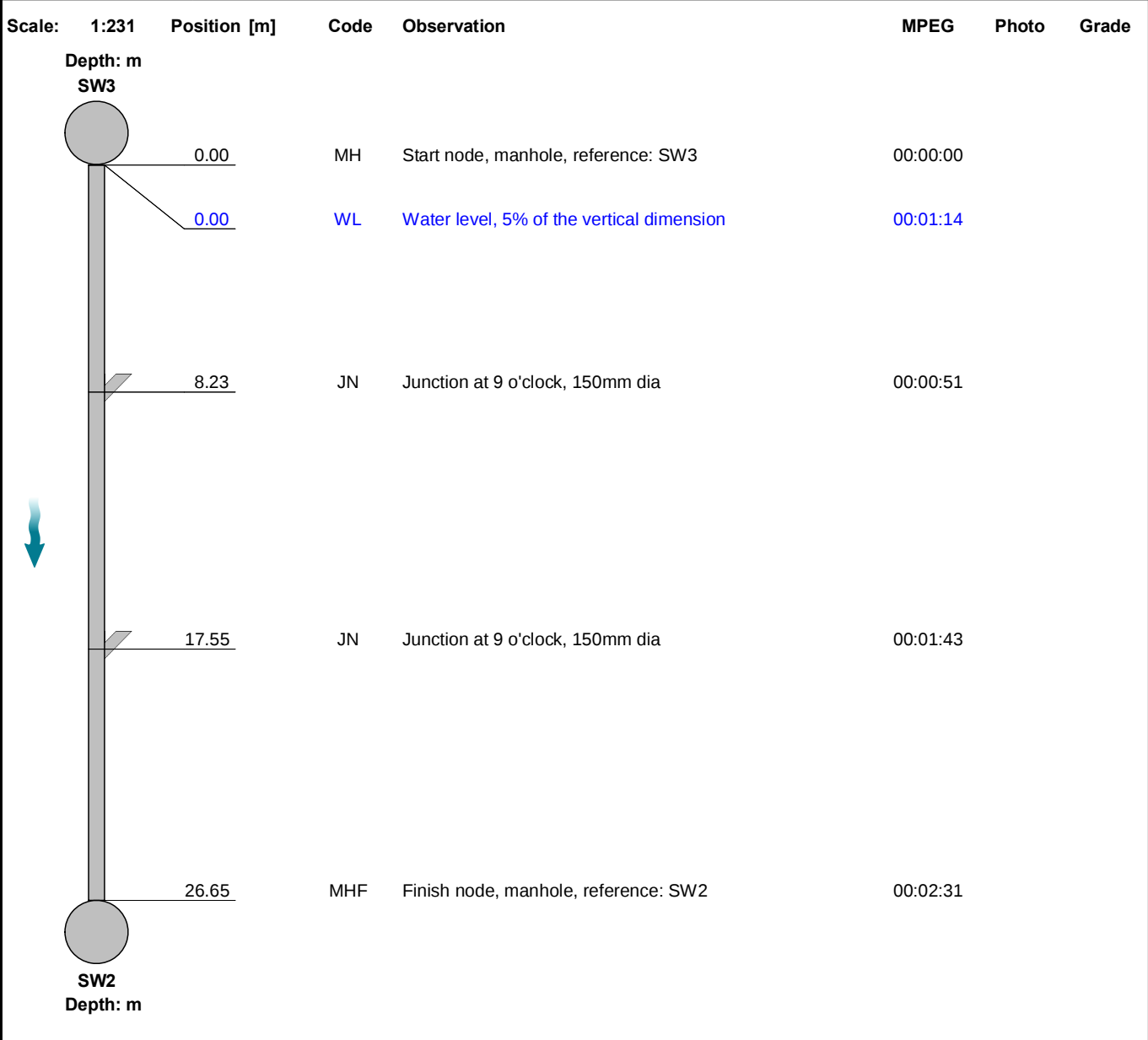
Section Inspection - 06/12/2025 - SW3X

Item No. 10	Insp. No. 1	Date 06/12/25	Time 10:46	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR SW3X
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Downstream	Upstream Node:	SW3
Road:	Reading Road	Inspected Length:	26.65 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	26.65 m	Downstream Node:	SW2
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	225 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:

Recommendations:



Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

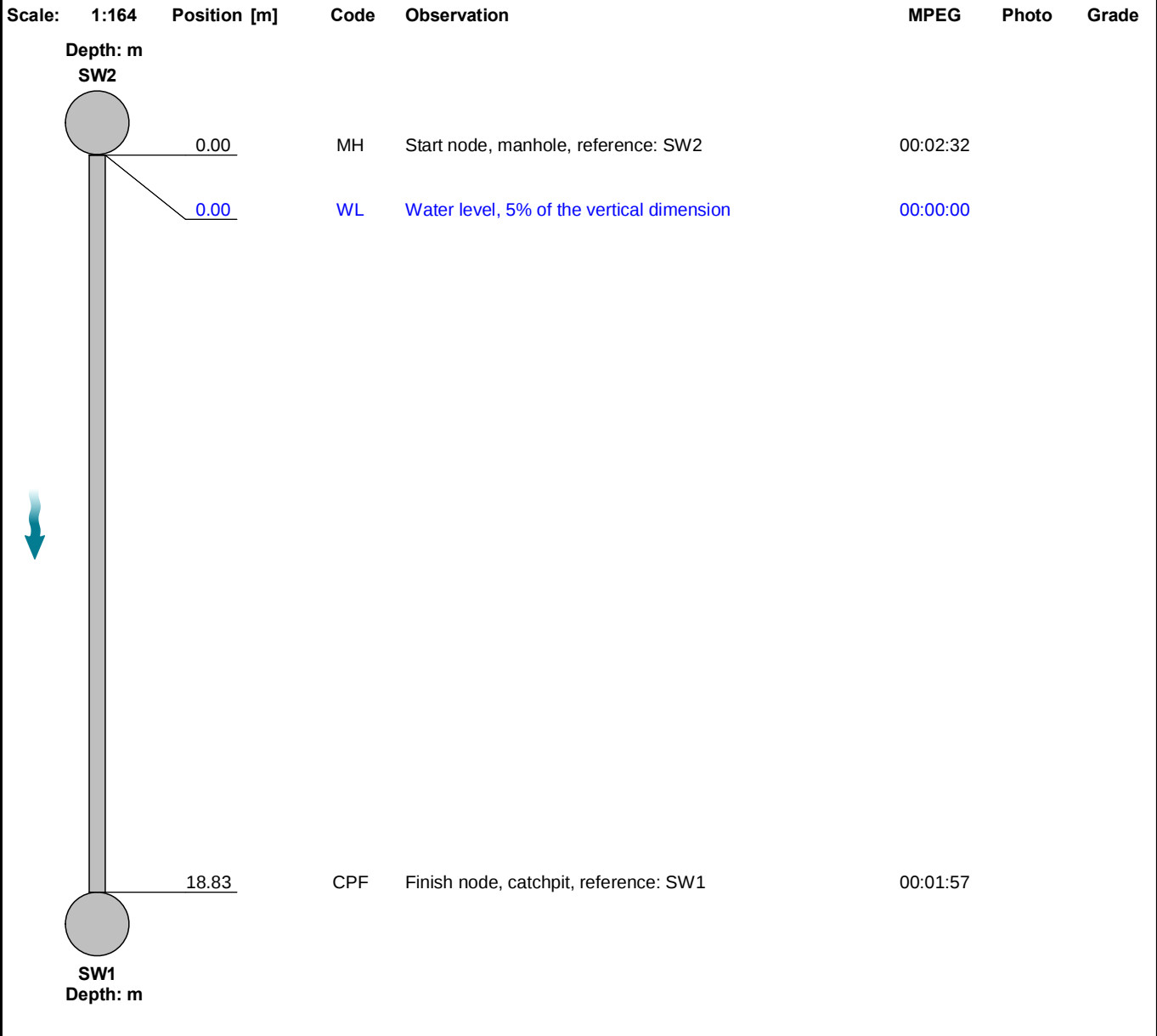


Section Inspection - 06/12/2025 - SW2X

Item No. 11	Insp. No. 1	Date 06/12/25	Time 10:50	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR SW2X
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Downstream	Upstream Node:	SW2
Road:	Reading Road	Inspected Length:	18.83 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	18.83 m	Downstream Node:	SW1
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	225 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:
Recommendations:



Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0



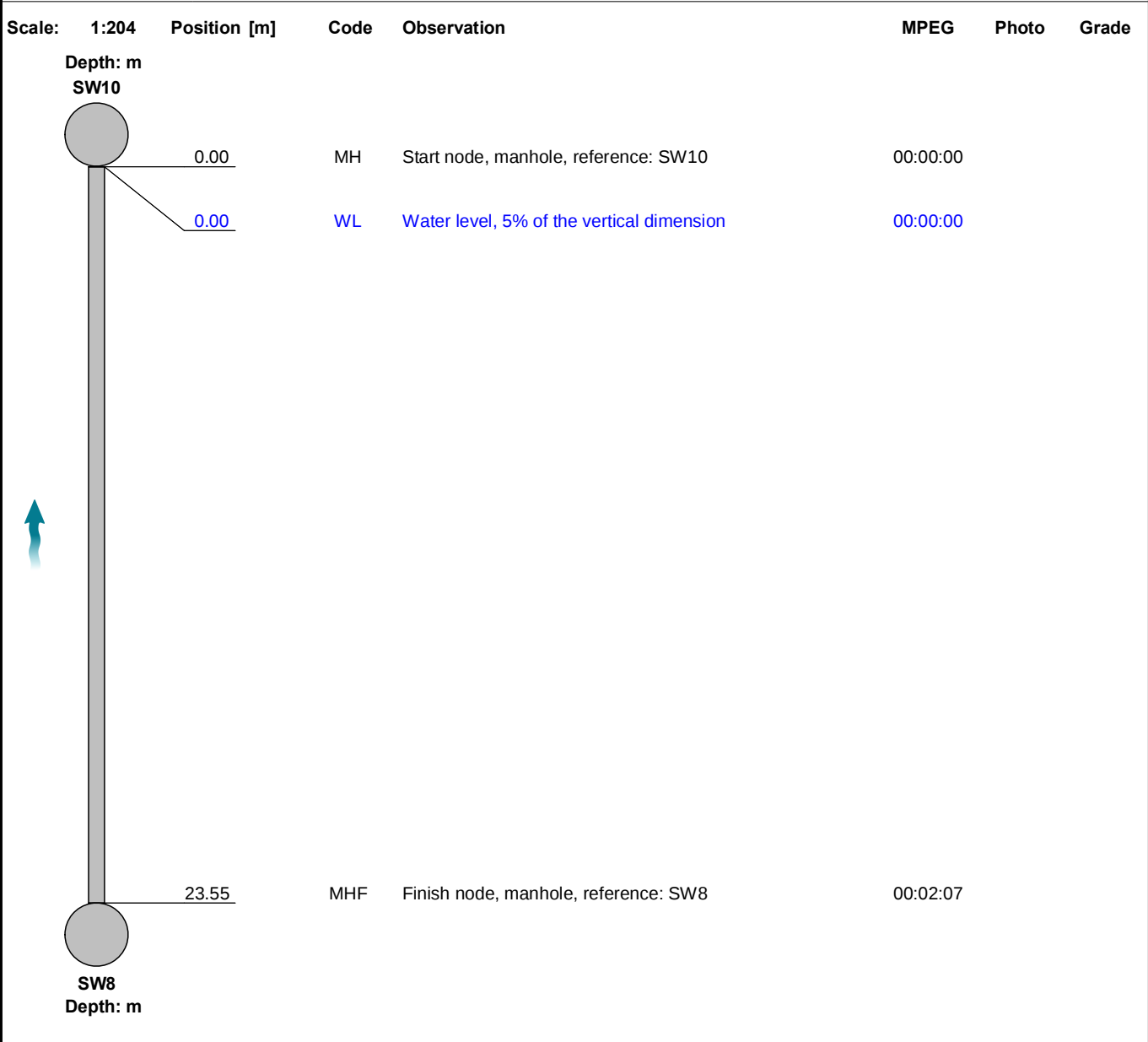
Section Inspection - 06/12/2025 - SW8X

Item No. 12	Insp. No. 1	Date 06/12/25	Time 12:14	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR SW8X
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Upstream	Upstream Node:	SW8
Road:	Reading Road	Inspected Length:	23.55 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	23.55 m	Downstream Node:	SW10
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	225 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:

Recommendations:



Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0



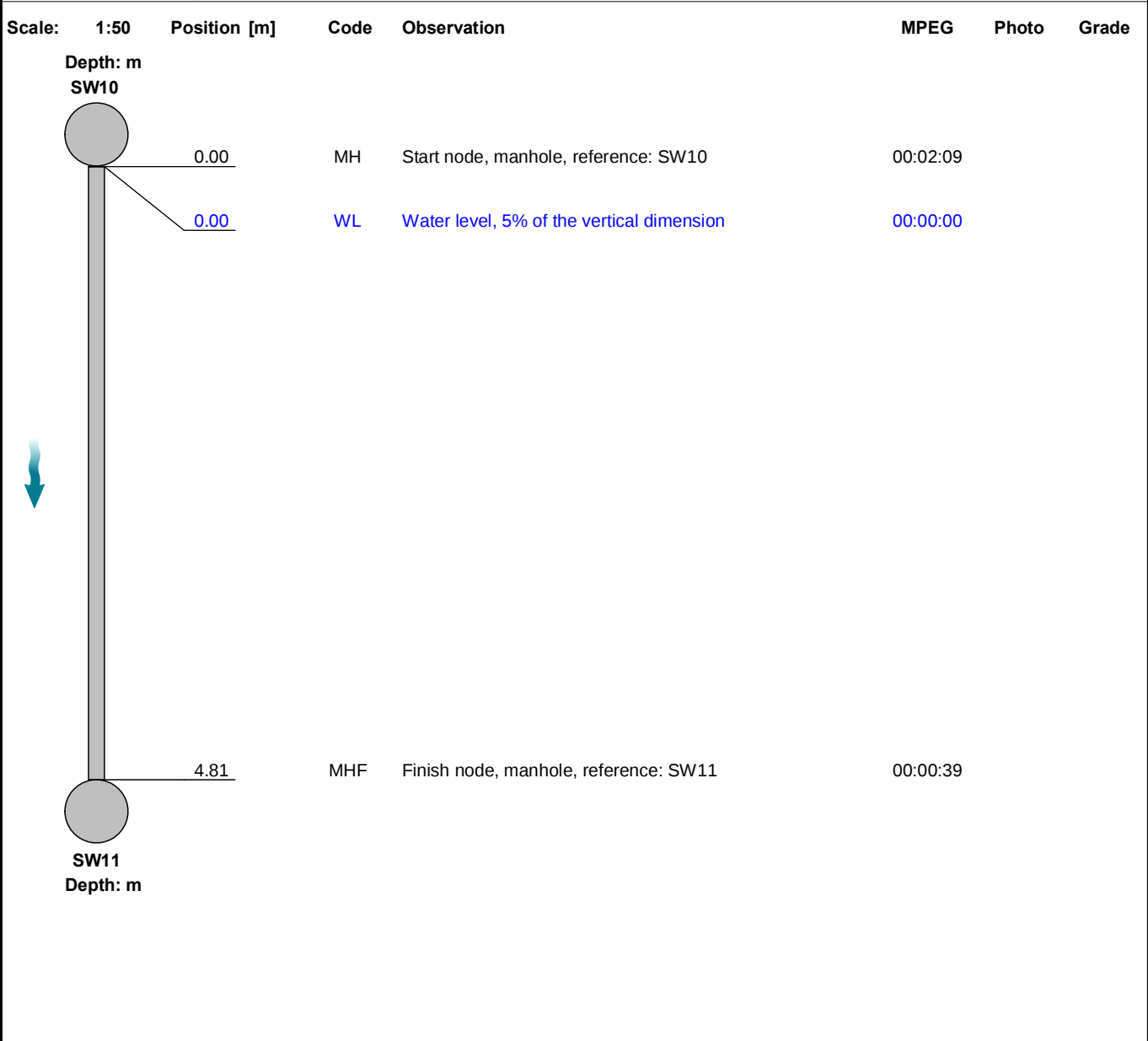
Section Inspection - 06/12/2025 - SW10 X

Item No. 13	Insp. No. 1	Date 06/12/25	Time 12:19	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR SW10 X
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Downstream	Upstream Node:	SW10
Road:	Reading Road	Inspected Length:	4.81 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	4.81 m	Downstream Node:	SW11
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	225 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:

Recommendations:



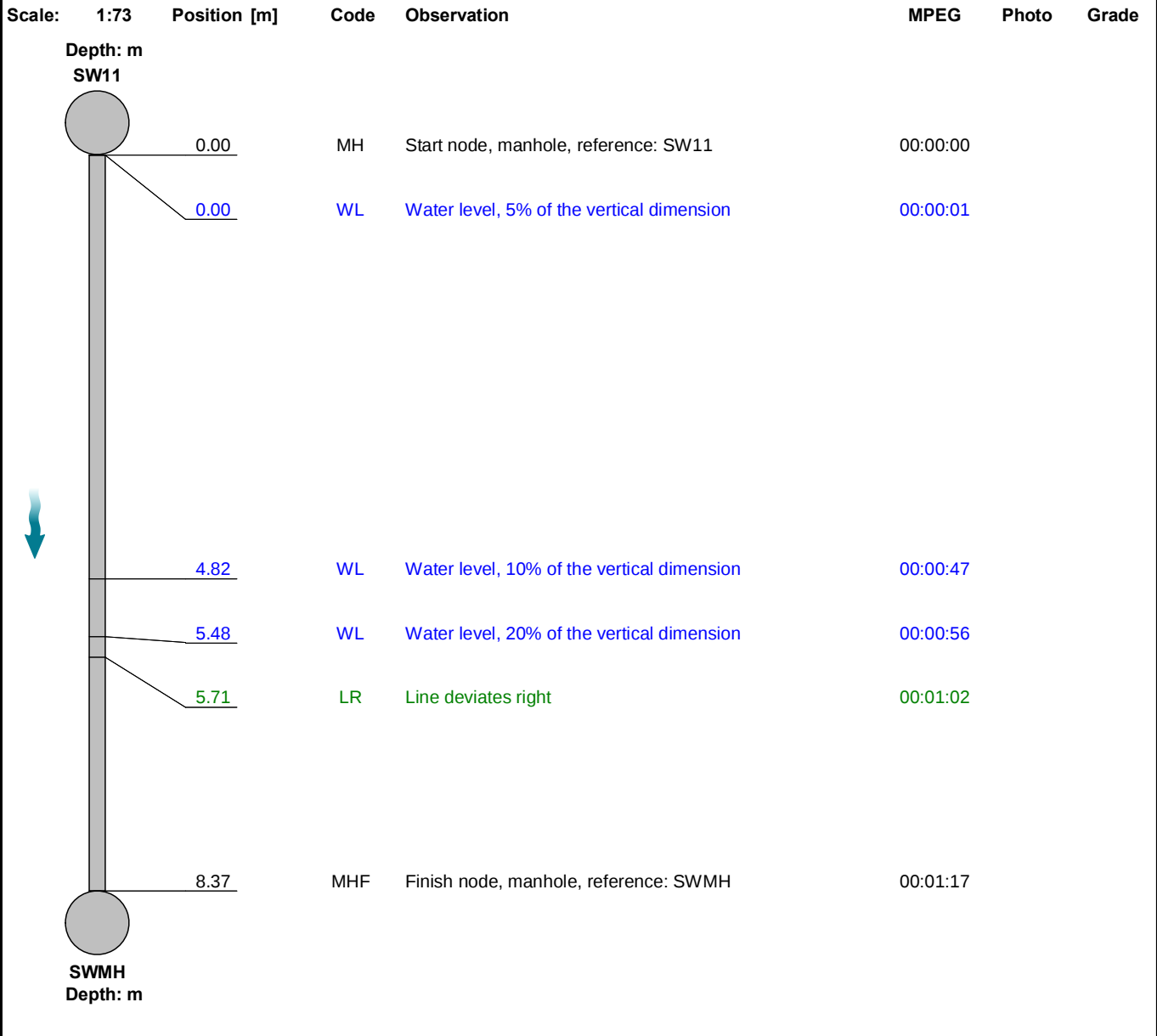
Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0



Section Inspection - 06/12/2025 - SW11X

Item No. 14	Insp. No. 1	Date 06/12/25	Time 12:22	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR SW11X
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Downstream	Upstream Node:	SW11
Road:	Reading Road	Inspected Length:	8.37 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	8.37 m	Downstream Node:	SWMH
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Surface water		Pipe Shape:	Circular	
Type of Pipe:	Gravity drain/sewer		Dia/Height:	225 mm	
Flow Control:	No flow control		Material:	Polyvinyl chloride	
Year Constructed:	Not Specified		Lining Type:	No Lining	
Inspection Purpose:	Sample condition survey		Lining Material:	No Lining	
Comments:					
Recommendations:					



Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

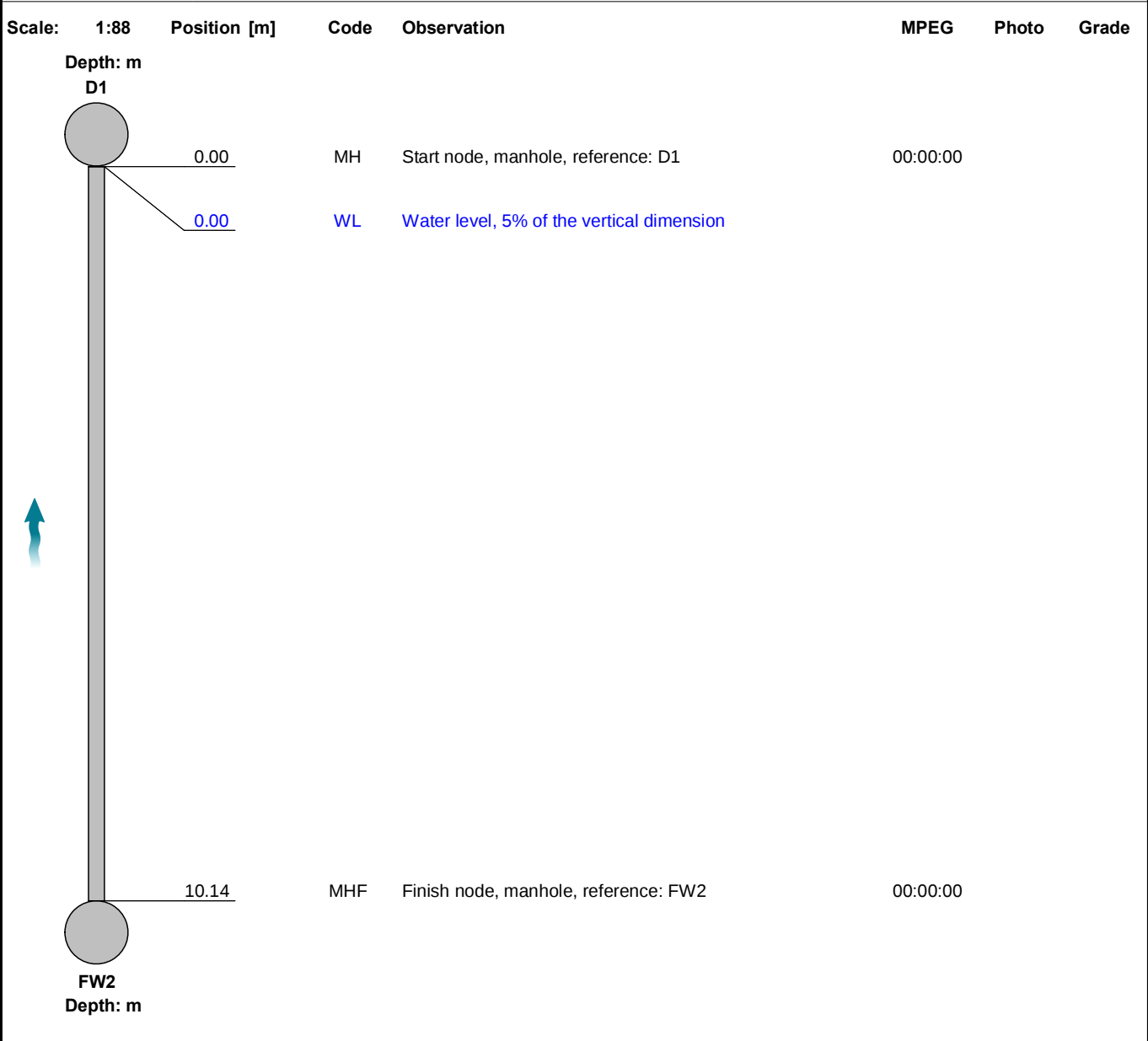


Section Inspection - 06/12/2025 - FW2X

Item No. 15	Insp. No. 1	Date 06/12/25	Time 12:40	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR FW2X
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Upstream	Upstream Node:	FW2
Road:	Reading Road	Inspected Length:	10.14 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	10.14 m	Downstream Node:	D1
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Foul	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	150 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:
Recommendations:



Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0



Section Inspection - 06/12/2025 - FW1X

Item No. 16	Insp. No. 1	Date 06/12/25	Time 12:39	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR FW1X
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Upstream	Upstream Node:	FW1
Road:	Reading Road	Inspected Length:	4.08 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	4.08 m	Downstream Node:	FW2
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Foul	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	150 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:

Recommendations:



Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

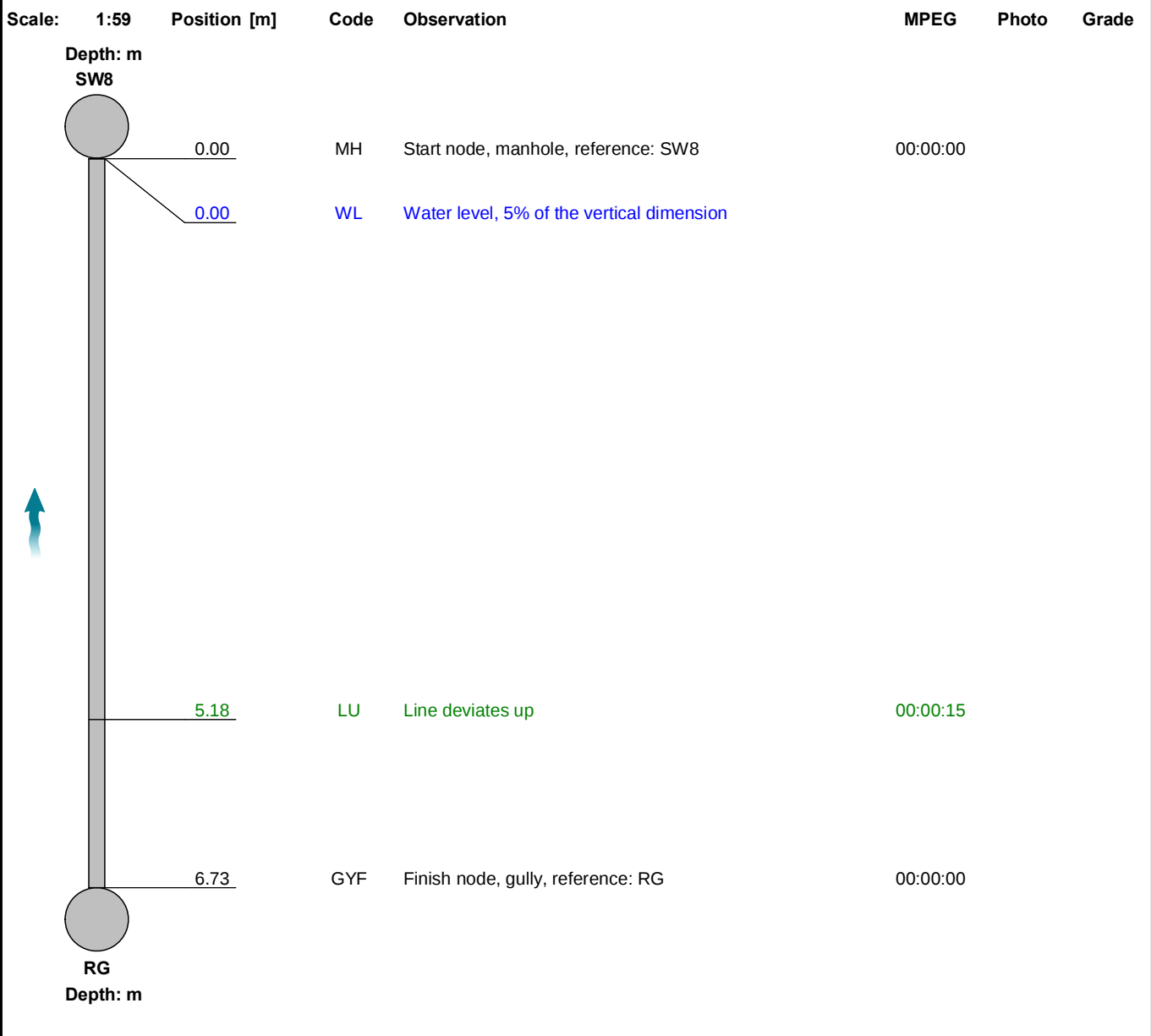


Section Inspection - 06/12/2025 - RGX							
Item No. 17	Insp. No. 1	Date 06/12/25	Time 12:39	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR RGX
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Upstream	Upstream Node:	RG
Road:	Reading Road	Inspected Length:	6.73 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	6.73 m	Downstream Node:	SW8
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	150 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:

Recommendations:



Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

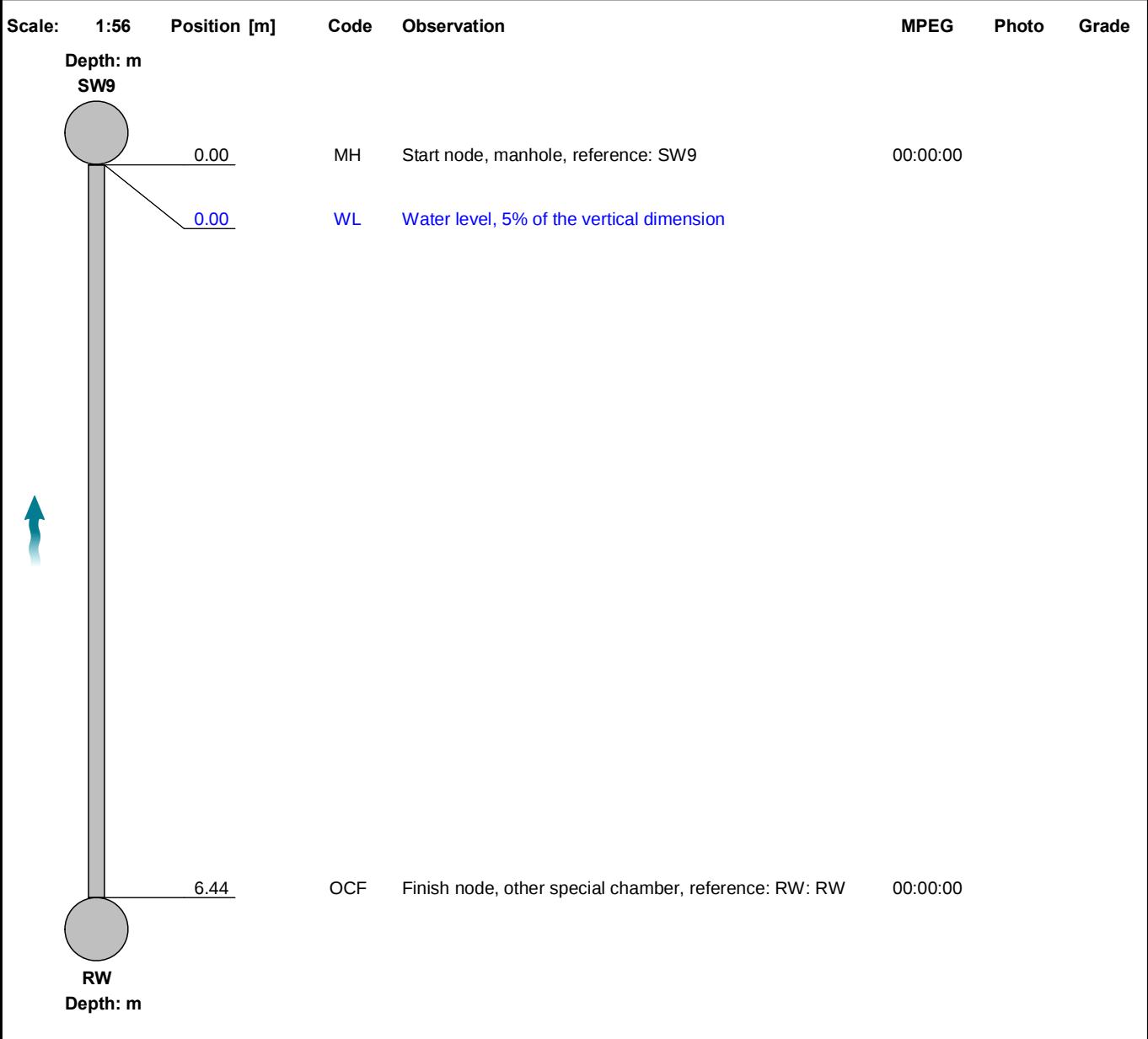


Section Inspection - 06/12/2025 - RWX

Item No. 18	Insp. No. 1	Date 06/12/25	Time 12:39	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR RWX
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Upstream	Upstream Node:	RW
Road:	Reading Road	Inspected Length:	6.44 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	6.44 m	Downstream Node:	SW9
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	150 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:
Recommendations:



Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0



Section Inspection - 06/12/2025 - DX

Item No. 19	Insp. No. 1	Date 06/12/25	Time 12:39	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR DX
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Upstream	Upstream Node:	D
Road:	Reading Road	Inspected Length:	4.51 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	4.51 m	Downstream Node:	SW9
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	150 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:
Recommendations:



Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0



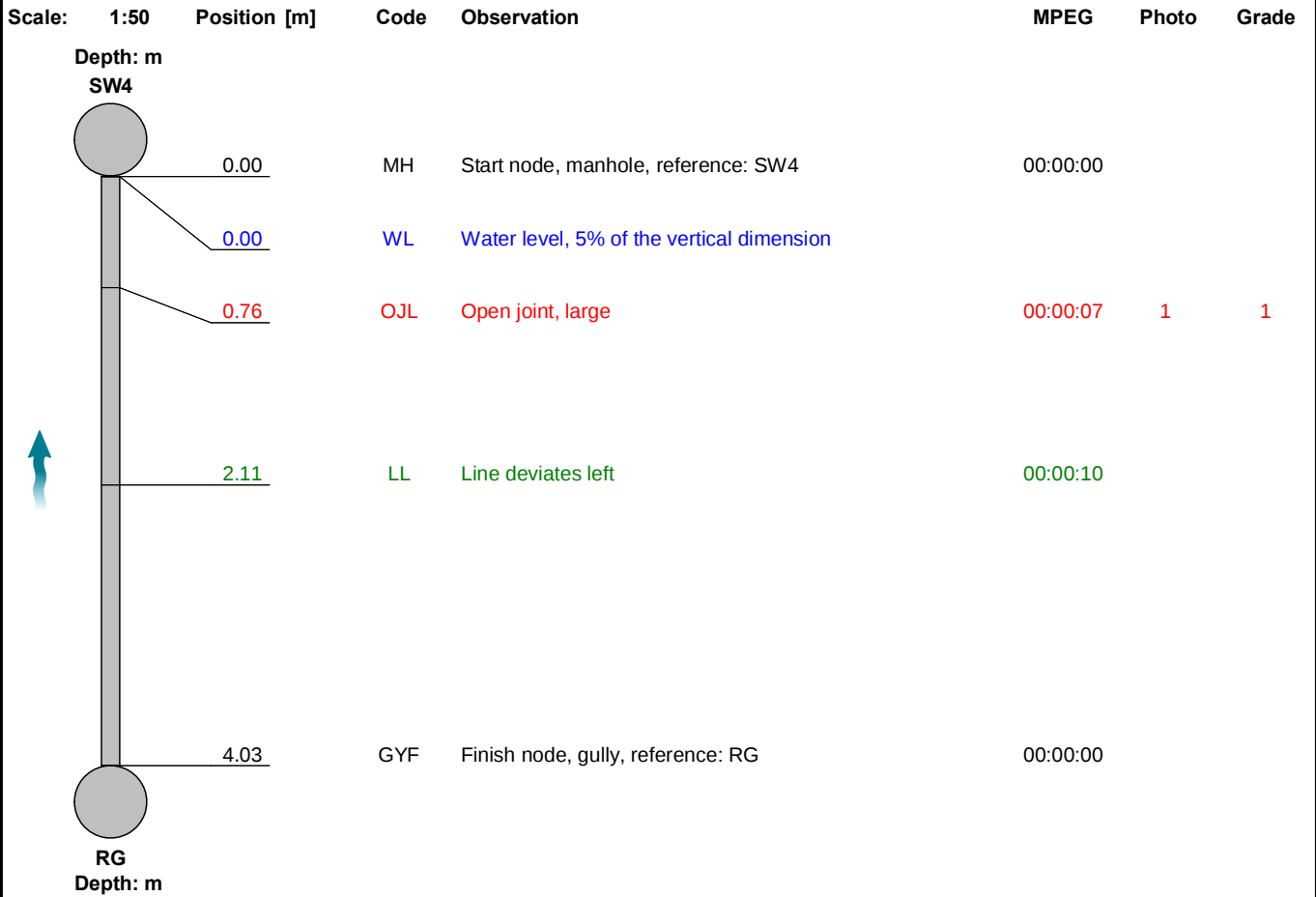
Section Inspection - 06/12/2025 - RGX

Item No. 20	Insp. No. 1	Date 06/12/25	Time 12:39	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR RGX
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Upstream	Upstream Node:	RG
Road:	Reading Road	Inspected Length:	4.03 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	4.03 m	Downstream Node:	SW4
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	150 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:

Recommendations:



Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
1	2.0	0.5	2.0	1.0	0	0.0	0.0	0.0	1.0



Section Pictures - 06/12/2025 - RGX				
Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
20	Upstream	RGX		



1, 00:00:07, 0.76 m
Open joint, large

Section Inspection - 06/12/2025 - RGX

Item No.	Insp. No.	Date	Time	Client's Job Ref	Weather	Pre Cleaned	PLR
21	1	06/12/25	12:39	Not Specified	No Rain Or Snow	Yes	RGX
Operator		Vehicle		Camera	Preset Length	Legal Status	Alternative ID
J TAYLOR		TGZ 6788		Crawler	Not Specified	Private Sewer	Not Specified

Town or Village:	South Shields	Inspection Direction:	Upstream	Upstream Node:	RG
Road:	Reading Road	Inspected Length:	3.16 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	3.16 m	Downstream Node:	SW5
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	150 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

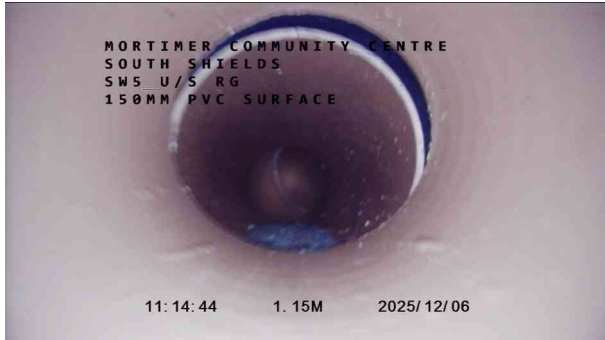
Comments:	
Recommendations:	

Scale:	1:50	Position [m]	Code	Observation	MPEG	Photo	Grade
Depth: m SW5 0.00 0.00 1.15 1.82 3.16 RG Depth: m MH WL OJL LR GYF Start node, manhole, reference: SW5 Water level, 5% of the vertical dimension Open joint, large Line deviates right Finish node, gully, reference: RG 00:00:00 00:00:11 00:00:13 00:00:00 1							

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
1	2.0	0.6	2.0	1.0	0	0.0	0.0	0.0	1.0

Section Pictures - 06/12/2025 - RGX

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
21	Upstream	RGX		



1, 00:00:11, 1.15 m
Open joint, large

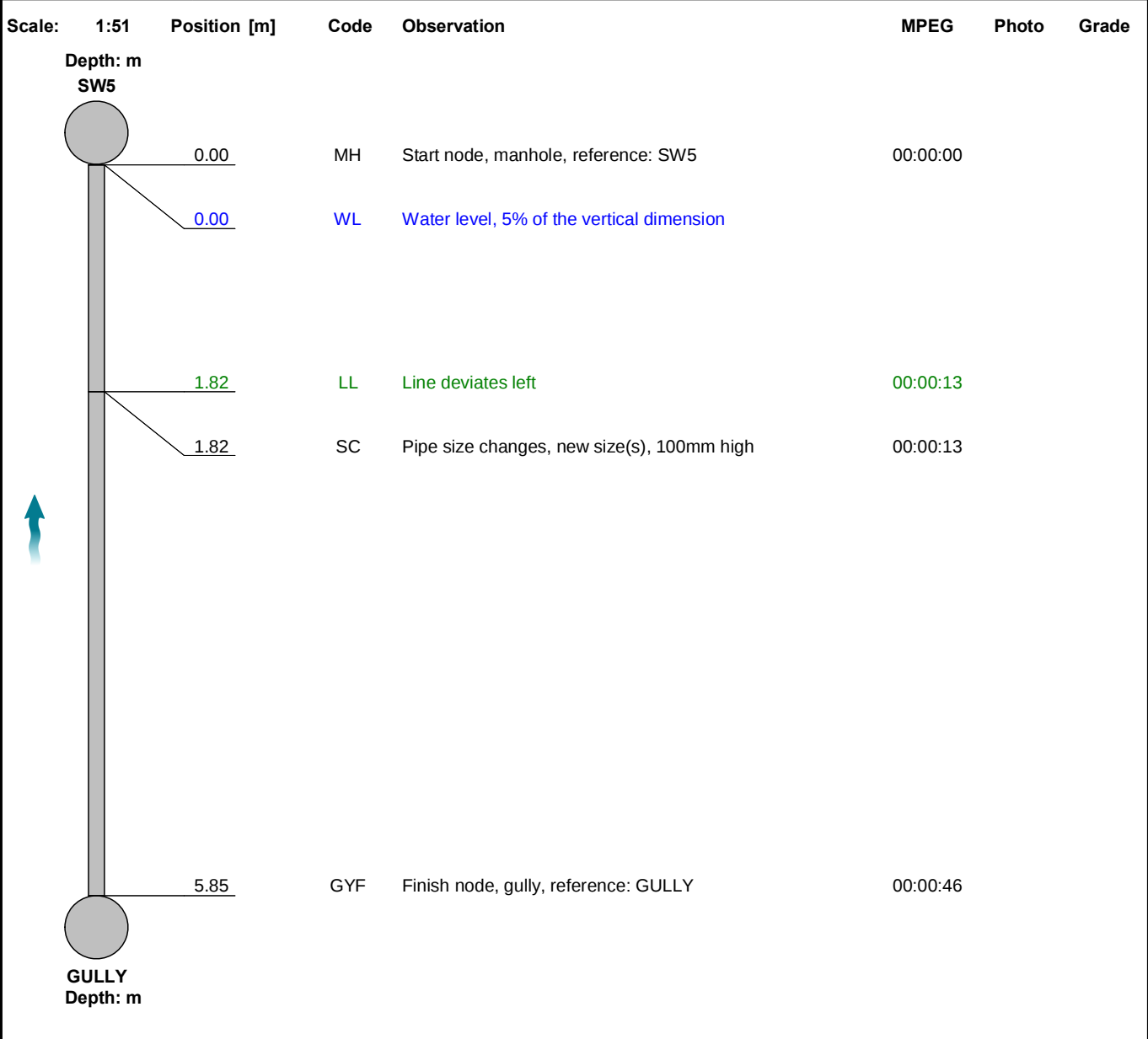


Section Inspection - 06/12/2025 - GULLYX

Item No. 22	Insp. No. 1	Date 06/12/25	Time 12:39	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR GULLYX
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Upstream	Upstream Node:	GULLY
Road:	Reading Road	Inspected Length:	5.85 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	5.85 m	Downstream Node:	SW5
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	150 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:
Recommendations:



Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

Section Inspection - 06/12/2025 - FW9X

Item No. 23	Insp. No. 1	Date 06/12/25	Time 12:39	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR FW9X
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Upstream	Upstream Node:	FW9
Road:	Reading Road	Inspected Length:	6.72 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	6.72 m	Downstream Node:	D2
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Foul	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	150 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:

Recommendations:

Scale: 1:59

Position [m]

Code

Observation

MPEG

Photo

Grade

Depth: m

D2

0.00

0.00

MH

Start node, manhole, reference: D2

00:00:00

WL

Water level, 5% of the vertical dimension

6.72

MHF

Finish node, manhole, reference: FW9

00:00:00

FW9

Depth: m

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0



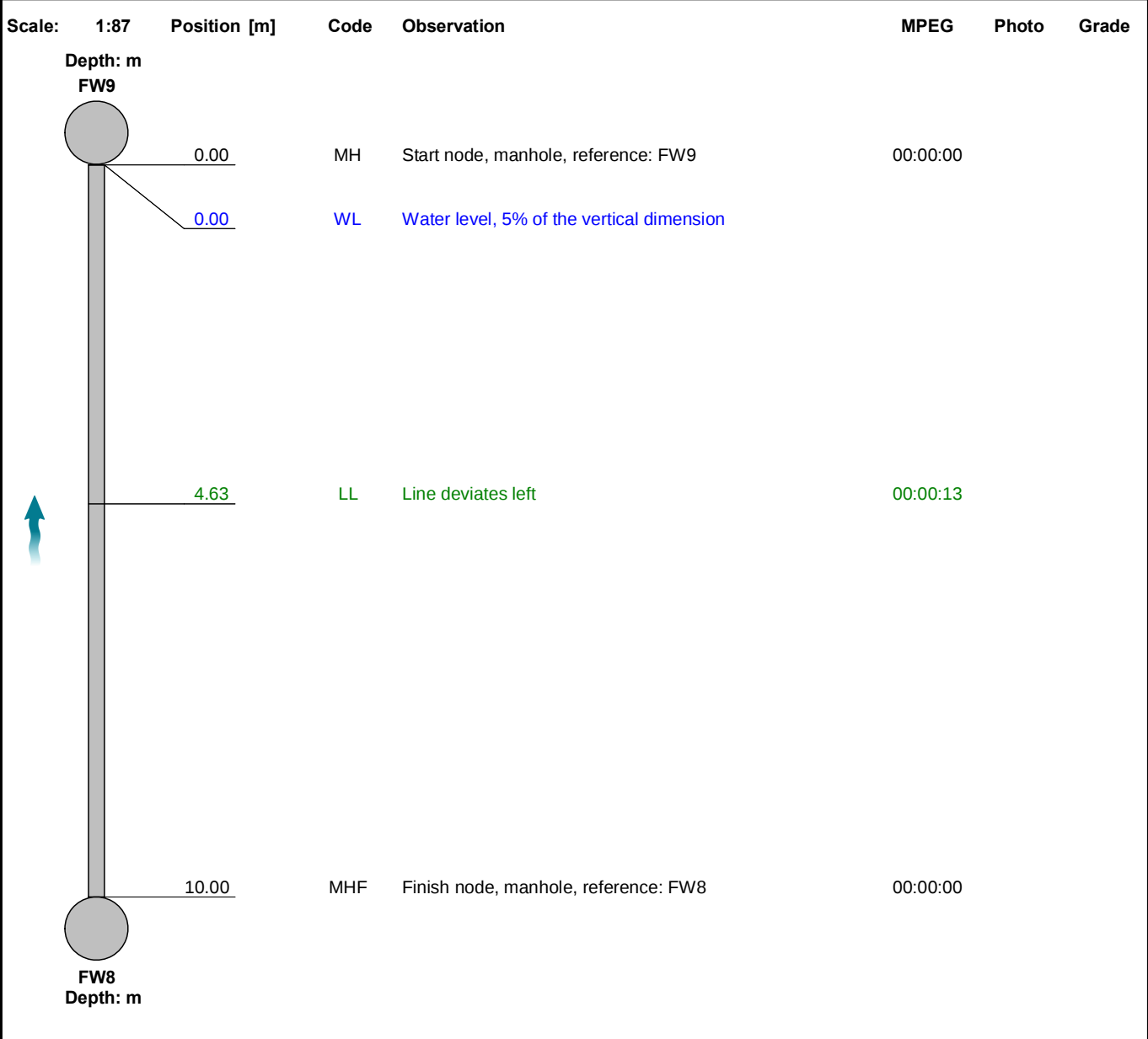
Section Inspection - 06/12/2025 - FW8X

Item No. 24	Insp. No. 1	Date 06/12/25	Time 12:39	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR FW8X
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Upstream	Upstream Node:	FW8
Road:	Reading Road	Inspected Length:	10.00 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	10.00 m	Downstream Node:	FW9
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Foul	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	150 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:

Recommendations:



Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0



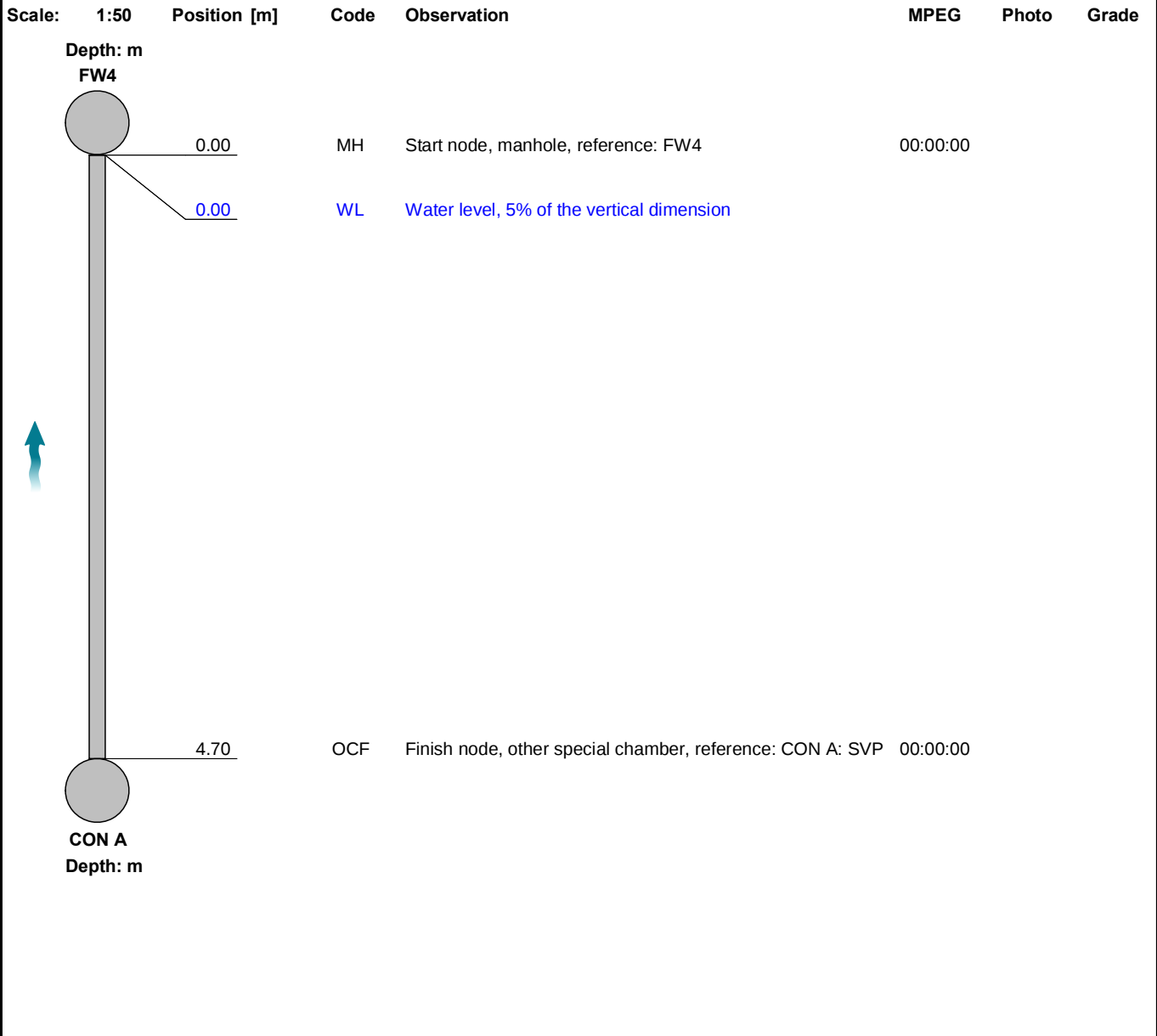
Section Inspection - 06/12/2025 - CON AX

Item No. 25	Insp. No. 1	Date 06/12/25	Time 12:39	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR CON AX
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Upstream	Upstream Node:	CON A
Road:	Reading Road	Inspected Length:	4.70 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	4.70 m	Downstream Node:	FW4
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Foul	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	150 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:

Recommendations:



Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

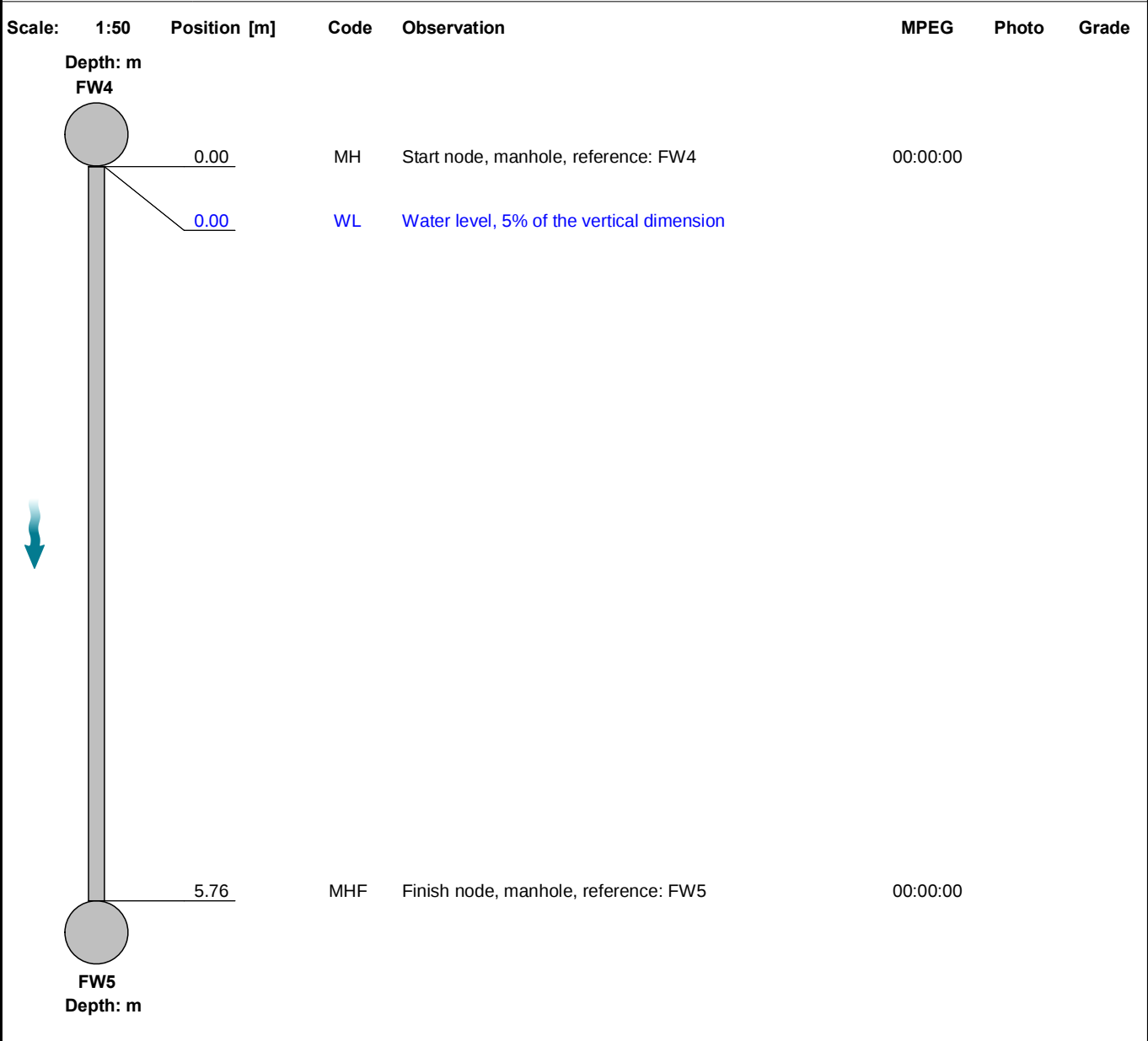


Section Inspection - 06/12/2025 - FW4 X

Item No. 26	Insp. No. 1	Date 06/12/25	Time 12:39	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR FW4 X
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Downstream	Upstream Node:	FW4
Road:	Reading Road	Inspected Length:	5.76 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	5.76 m	Downstream Node:	FW5
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Foul	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	150 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:
Recommendations:



Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0



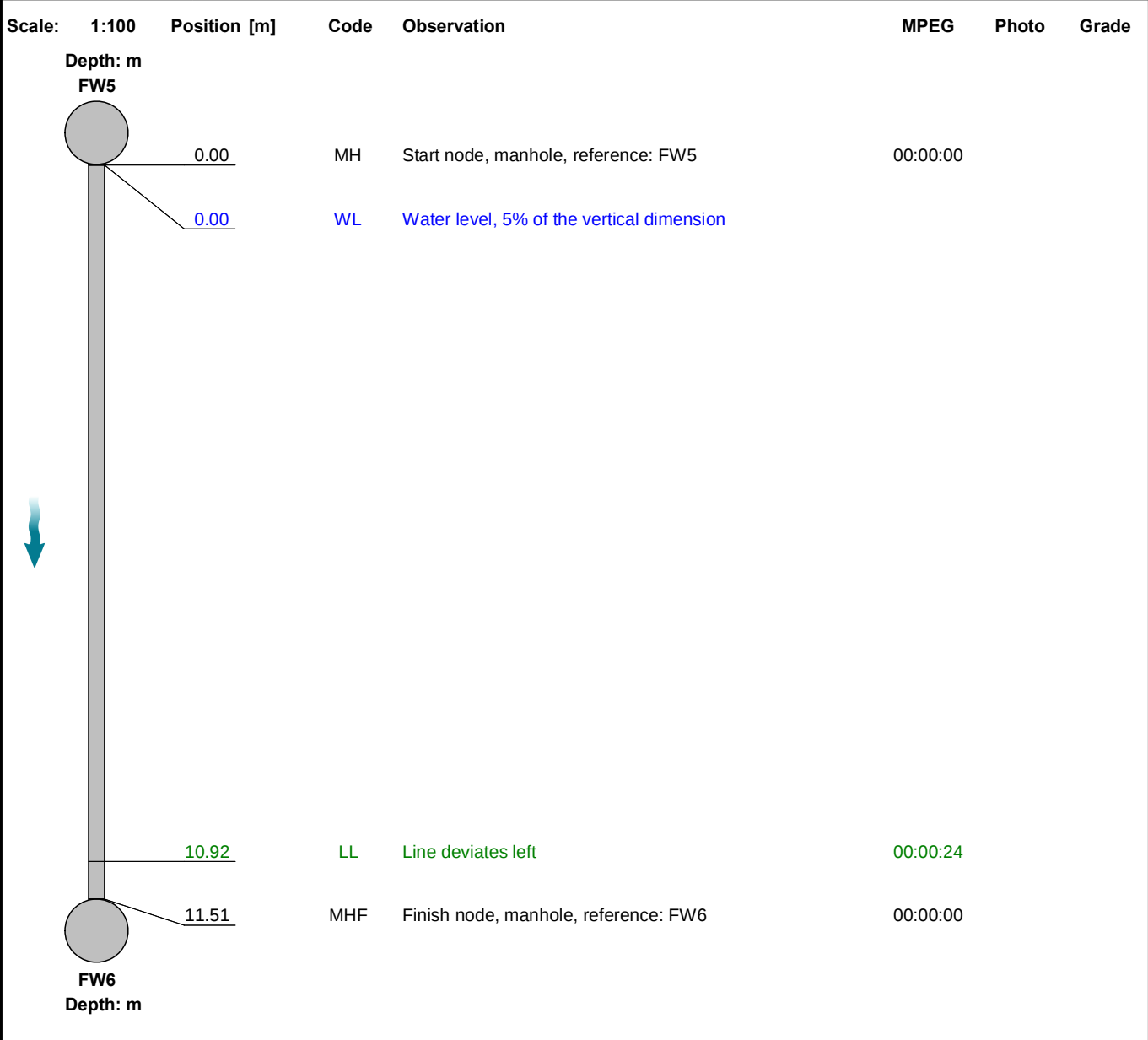
Section Inspection - 06/12/2025 - FW5X

Item No. 27	Insp. No. 1	Date 06/12/25	Time 12:39	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR FW5X
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Downstream	Upstream Node:	FW5
Road:	Reading Road	Inspected Length:	11.51 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	11.51 m	Downstream Node:	FW6
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Foul	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	150 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:

Recommendations:



Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0



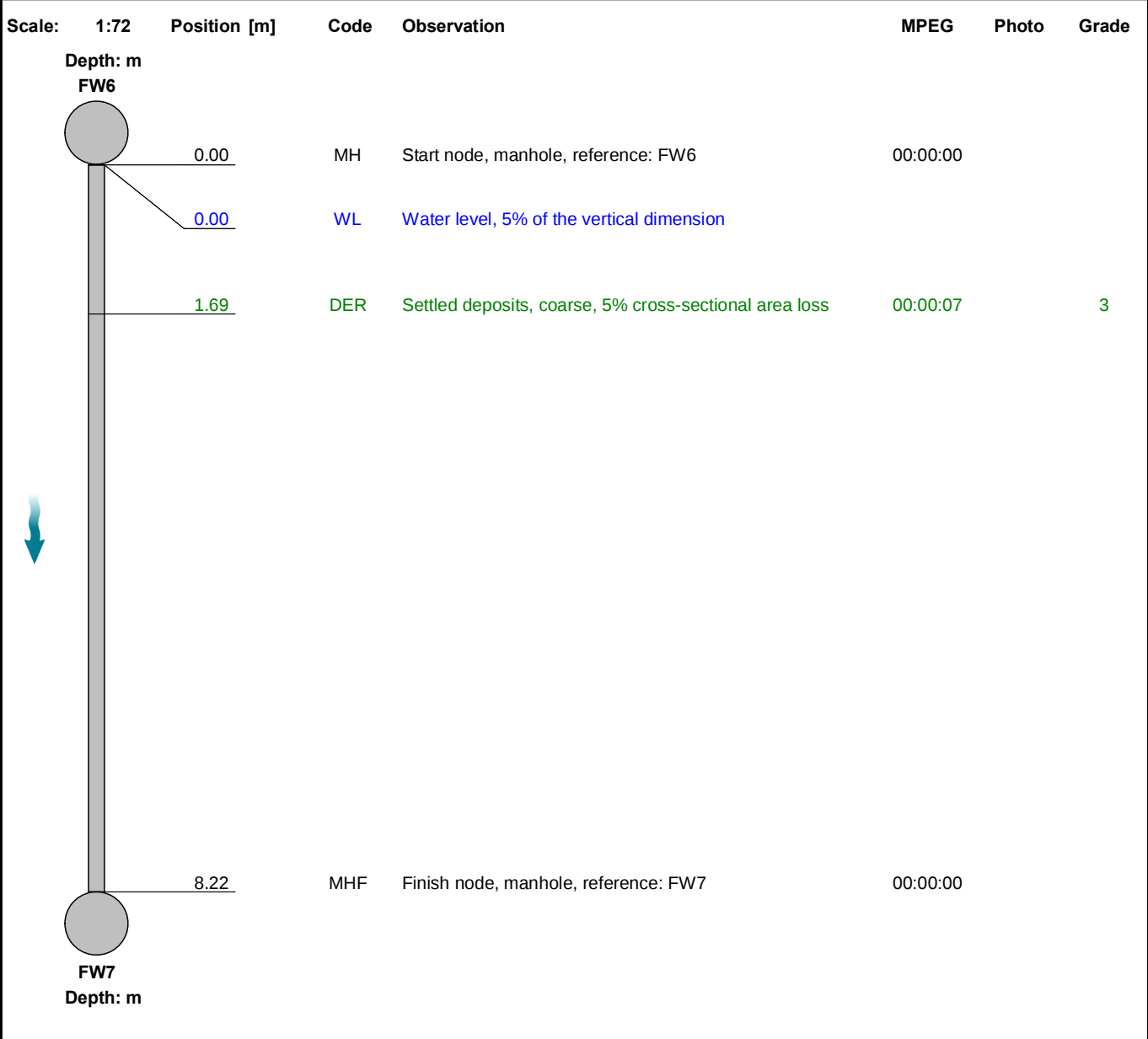
Section Inspection - 06/12/2025 - FW6X

Item No. 28	Insp. No. 1	Date 06/12/25	Time 12:39	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR FW6X
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Downstream	Upstream Node:	FW6
Road:	Reading Road	Inspected Length:	8.22 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	8.22 m	Downstream Node:	FW7
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Foul	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	150 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:

Recommendations:



Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	1	2.0	0.2	2.0	3.0

Section Inspection - 06/12/2025 - CON AX

Item No.	Insp. No.	Date	Time	Client's Job Ref	Weather	Pre Cleaned	PLR
29	1	06/12/25	12:39	Not Specified	No Rain Or Snow	Yes	CON AX
Operator		Vehicle		Camera	Preset Length	Legal Status	Alternative ID
J TAYLOR		TGZ 6788		Crawler	Not Specified	Private Sewer	Not Specified

Town or Village:	South Shields	Inspection Direction:	Upstream	Upstream Node:	CON A
Road:	Reading Road	Inspected Length:	3.16 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	3.16 m	Downstream Node:	FW3
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Foul	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	100 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:	
Recommendations:	

Scale:	1:50	Position [m]	Code	Observation	MPEG	Photo	Grade
Depth: m FW3 0.00 0.00 0.96 3.16 CON A Depth: m MH WL LR OCF Start node, manhole, reference: FW3 Water level, 5% of the vertical dimension Line deviates right Finish node, other special chamber, reference: CON A: SVP 00:00:00 00:00:04 00:00:12							

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

Section Inspection - 06/12/2025 - CON BX

Item No.	Insp. No.	Date	Time	Client's Job Ref	Weather	Pre Cleaned	PLR
30	1	06/12/25	12:39	Not Specified	No Rain Or Snow	Yes	CON BX
Operator		Vehicle		Camera	Preset Length	Legal Status	Alternative ID
J TAYLOR		TGZ 6788		Crawler	Not Specified	Private Sewer	Not Specified

Town or Village:	South Shields	Inspection Direction:	Upstream	Upstream Node:	CON B
Road:	Reading Road	Inspected Length:	3.64 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	3.64 m	Downstream Node:	FW3
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Foul	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	100 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:	
Recommendations:	

Scale:	1:50	Position [m]	Code	Observation	MPEG	Photo	Grade
Depth: m FW3 0.00 0.00 1.34 3.64 CON B Depth: m MH WL LR OCF Start node, manhole, reference: FW3 Water level, 5% of the vertical dimension Line deviates right Finish node, other special chamber, reference: CON B: SVP 00:00:00 00:00:04 00:00:00							

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

Section Inspection - 06/12/2025 - FW3X

Item No.	Insp. No.	Date	Time	Client's Job Ref	Weather	Pre Cleaned	PLR
31	1	06/12/25	12:39	Not Specified	No Rain Or Snow	Yes	FW3X
Operator		Vehicle		Camera	Preset Length	Legal Status	Alternative ID
J TAYLOR		TGZ 6788		Crawler	Not Specified	Private Sewer	Not Specified

Town or Village:	South Shields	Inspection Direction:	Downstream	Upstream Node:	FW3
Road:	Reading Road	Inspected Length:	3.64 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	3.64 m	Downstream Node:	FW5
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Foul	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	150 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:	
Recommendations:	

Scale:	1:50	Position [m]	Code	Observation	MPEG	Photo	Grade
Depth: m FW3 0.00 0.00 3.64 FW5 Depth: m							
			MH	Start node, manhole, reference: FW3	00:00:00		
			WL	Water level, 5% of the vertical dimension			
			MHF	Finish node, manhole, reference: FW5	00:00:00		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

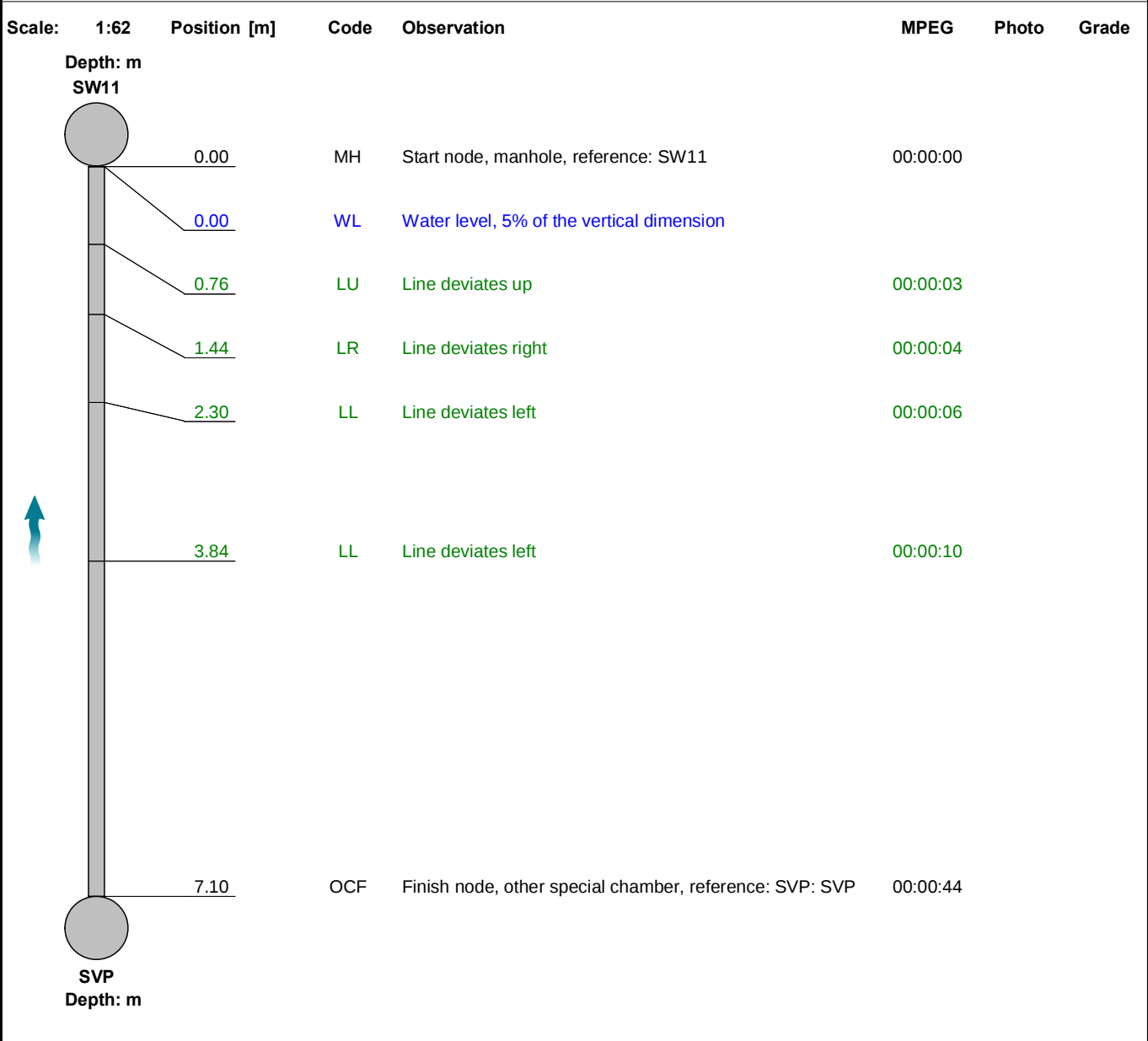


Section Inspection - 06/12/2025 - SVPX

Item No. 32	Insp. No. 1	Date 06/12/25	Time 12:38	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR SVPX
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Upstream	Upstream Node:	SVP
Road:	Reading Road	Inspected Length:	7.10 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	7.10 m	Downstream Node:	SW11
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	150 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:
Recommendations:



Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0



Section Inspection - 06/12/2025 - GULLYX

Item No. 33	Insp. No. 1	Date 06/12/25	Time 12:38	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR GULLYX
Operator J TAYLOR		Vehicle TGZ 6788		Camera Crawler	Preset Length Not Specified	Legal Status Private Sewer	Alternative ID Not Specified

Town or Village:	South Shields	Inspection Direction:	Upstream	Upstream Node:	GULLY
Road:	Reading Road	Inspected Length:	3.36 m	Upstream Pipe Depth:	
Location:	Road	Total Length:	3.36 m	Downstream Node:	FW5
Surface Type:		Joint Length:		Downstream Pipe Depth:	
Use:	Foul	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	150 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Sample condition survey	Lining Material:	No Lining		

Comments:

Recommendations:



3.36

GYF

Finish node, gully, reference: GULLY

00:00:00

GULLY

Depth: m

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0