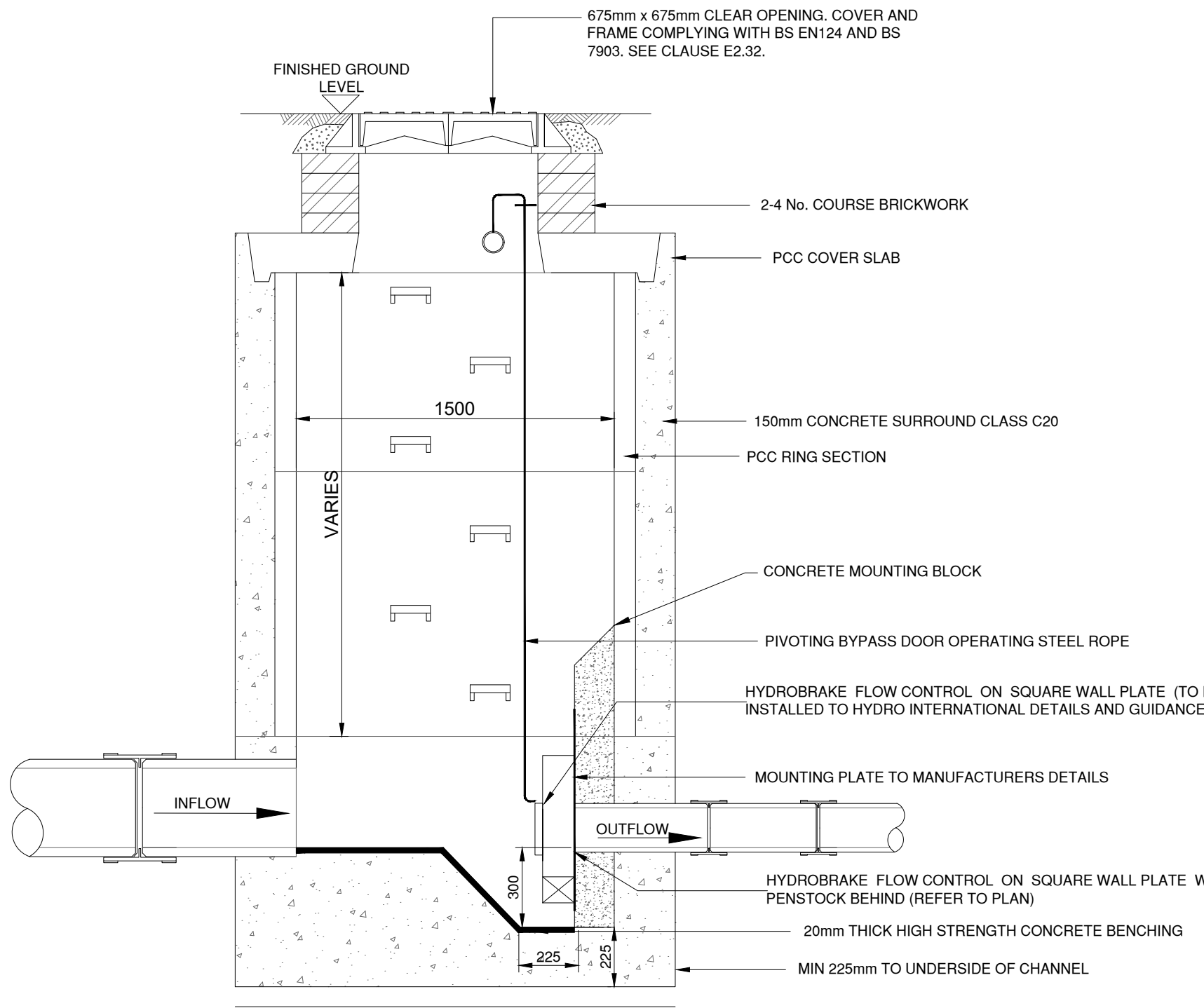


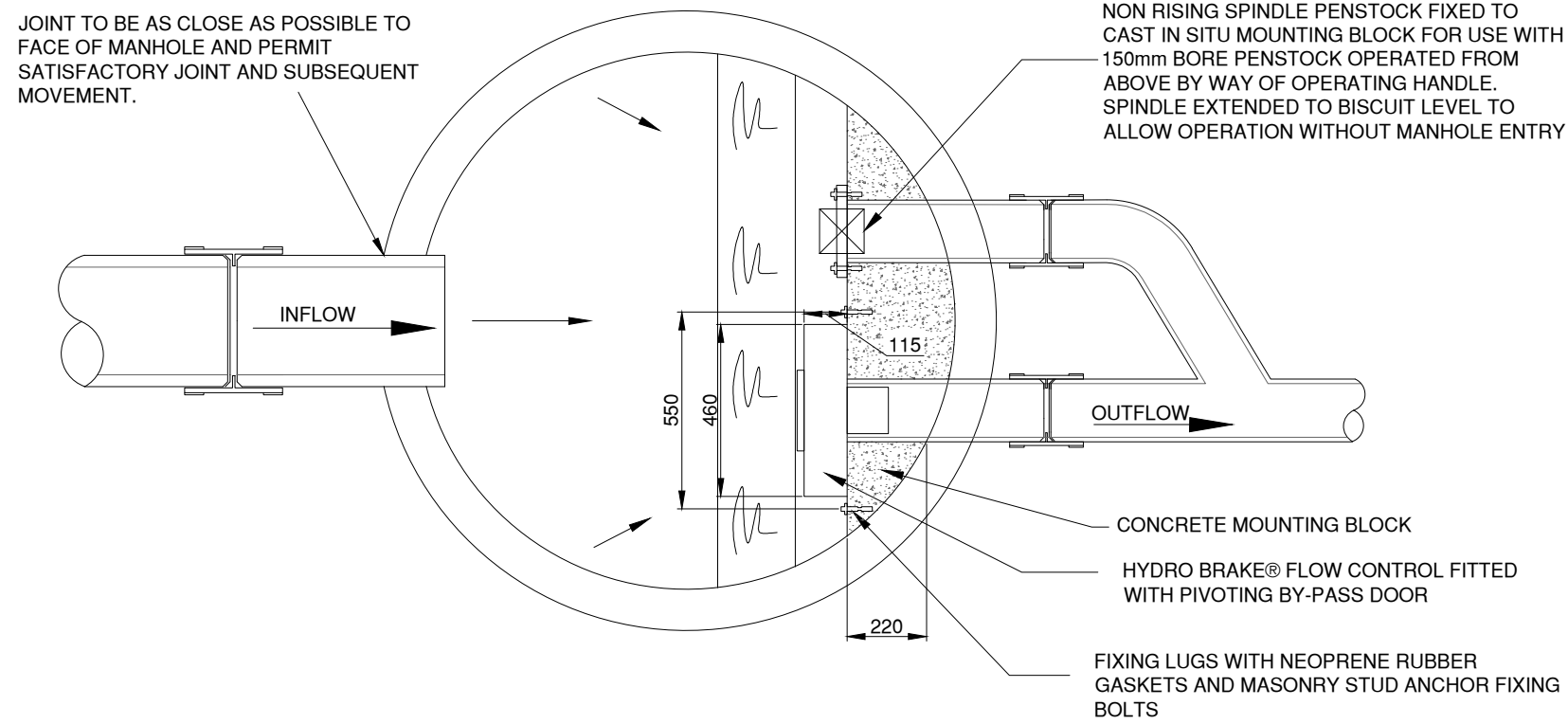


DRAINAGE NOTES:

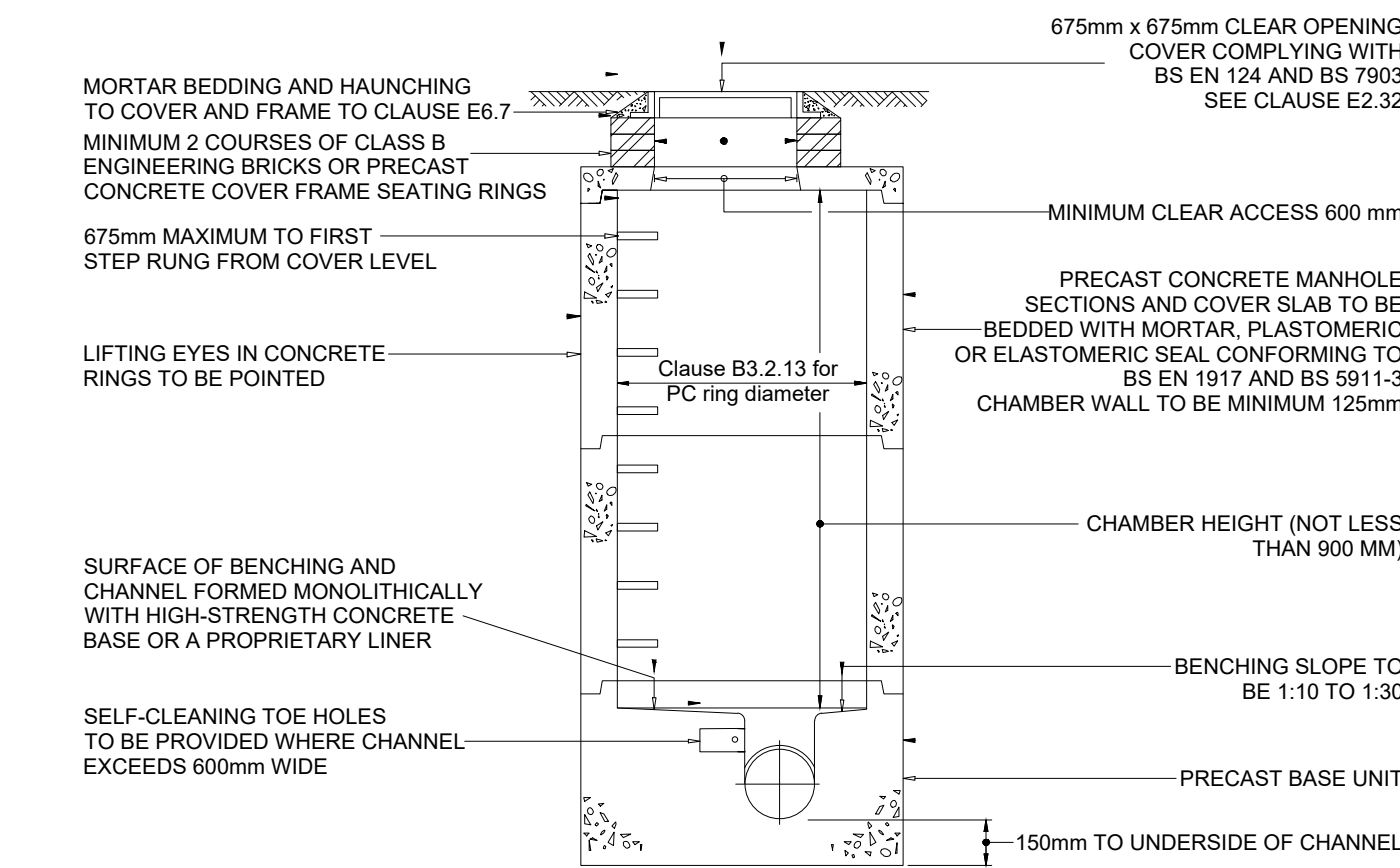
- ANY EXISTING DRAINAGE WHICH BECOMES UNDER TRAFFICKED AREAS IN THE NEW SCHEME SHOULD BE SUBJECT TO THE FOLLOWING REMEDIAL/REVISIONS. WHERE DEPTH OF COVER IS LESS THAN 1200mm, THE EXISTING PIPEWORK SHALL BE EXPOSED & SURROUNDED WITH 150mm CONCRETE AS CLASS 'X' BEDDING. WHERE THE EXISTING MANHOLE COVER & FRAME IS NOT AS MANHOLE DETAIL A OR B, OR TO BS497 GRADE A, OR EN124 CLASS D, THEN IT SHOULD BE CHANGED FOR SUCH.
 - THE CONTRACTOR MUST ENSURE THAT ANY OF THE EXISTING DRAINAGE WHICH IS LIVE IS KEPT CLEAR OF DEBRIS AND SHOULD ALLOW FOR JETTING THROUGH THE NEW & EXISTING DRAINAGE UPON COMPLETION.
 - CONTRACTOR TO TAKE MEASURES TO PROTECT HIS OPERATIVES WITH RESPECT TO THE PRESENCE OF GAS IN SEWER TRENCHES AND MANHOLES THROUGH THE USE OF GAS MONITORING EQUIPMENT AND BREATHING APPARATUS AS REQUIRED.
 - CONTRACTOR TO APPLY FOR SEWER PERMITS AND ROAD OPENING PERMITS AS NECESSARY FROM THE APPROPRIATE AUTHORITIES, PRIOR TO COMMENCING WORKS.
- HEALTH & SAFETY**
- CONTRACTOR SHOULD BE AWARE OF GENERAL CONSTRUCTION RISKS TO PREVENT SLIPS, TRIPS AND FALLS AND TAKE NECESSARY PRECAUTIONS WITHOUT SPECIAL INSTRUCTION.
- ROADS & DRAINAGE**
- CONTRACTOR TO PROVIDE TRENCH SUPPORTS AS APPROPRIATE AND ENSURE THAT PLANT REMAINS A SAFE DISTANCE FROM TRENCHES PRIOR TO INSTALLING DRAINAGE.
 - THE TIME THAT EXCAVATIONS ARE OPEN ON SITE SHOULD BE KEPT TO A MINIMUM AND ALL TRENCHES SHOULD BE SURROUNDED BY A BARRIER.
 - CONTRACTOR TO TAKE MEASURES TO PROTECT HIS OPERATIVES WITH RESPECT TO THE PRESENCE OF GAS IN SEWER TRENCHES AND MANHOLES THROUGH THE USE OF GAS MONITORING EQUIPMENT AND BREATHING APPARATUS AS REQUIRED.
 - CONNECTIONS TO EXISTING SEWERS TO BE MADE BY NWL APPROVED CONTRACTOR ONLY.
 - CONTRACTOR TO MAKE OPERATIVES AWARE OF ASSOCIATED DANGERS TO HEALTH SUCH AS LEPTOSPIROSIS (WEILS DISEASE) AND RECOMMENDED PRECAUTIONS. ADEQUATE WELFARE FACILITIES AND PROTECTIVE CLOTHING TO BE PROVIDED AS REQUIRED.
 - UNFINISHED MANHOLES MUST BE COVERED WITH LOAD BEARING MATERIALS AND SURROUNDED WITH A BARRIER.
- PIPES & CABLES**
- SERVICE RECORDS TO BE REFERRED TO PRIOR TO WORK COMMENCING. CONTRACTOR TO PROCEED WITH CAUTION AND SERVICES TO BE LOCATED BY HAND DIG AND PROTECTED ACCORDINGLY.
- EXCAVATION/FILL**
- CONTRACTOR TO ENSURE RELEVANT MEASURES ARE TAKEN TO KEEP PLANT AND PEOPLE A SAFE DISTANCE FROM STEEP SLOPES DURING THE WORKS.
 - CONTRACTOR TO ENSURE THAT PROCEDURES ARE IN PLACE TO KEEP PEOPLE A SAFE DISTANCE FROM WORKING PLANT WHERE NECESSARY.
 - CONTRACTOR TO REFER TO GROUND INVESTIGATION AND REPORT FOR CONTAMINATION TESTS AND TO PROVIDE ADEQUATE WELFARE FACILITIES AND PROTECTIVE CLOTHING AS REQUIRED.
- 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, TO ALL ROAD GULLY CONNECTIONS AND WITHIN AREAS OF DEEP ROOTING VEGETATION.**
- WHERE CLASS Z TRENCH BEDDING DETAIL IS USED, THE CONCRETE BED AND SURROUND SHALL BE DISCOUNTED AT EACH PIPE JOINT OVER THE FULL CROSS SECTION BY MEANS OF A SHAPED COMPRESSIBLE FILLER.**
- SELECTED BACKFILL MATERIAL SHALL CONSIST OF UNIFORMED MATERIAL FREE FROM STONES LARGER THAN 40mm, CLAY LUMPS LARGER THAN 75mm, TREE ROOTS ORGANIC MATTER AND FROZEN SOIL. SELECTED BACKFILL MATERIAL SHALL BE PLACED IN LAYERS NOT EXCEEDING 225mm, EACH LAYER COMPACTED TO FORM A STABLE TRENCH BACKFILL.**
- GENERAL BACKFILL MATERIAL TO BE FREE FROM STONES LARGER THAN 40mm. GENERAL BACKFILL MATERIAL IS TO BE PLACED IN LAYERS NOT EXCEEDING 150mm THICKNESS AND EACH LAYER COMPACTED BY HAND. NO MECHANICAL COMPACTION OF FILL MATERIAL SHALL BE PERMITTED WITHIN 300mm ABOVE THE CROWN/BARREL OF THE PIPE.**
- BACK FILLING AND REINSTATEMENT TO TRENCHES IN PUBLIC HIGHWAYS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS AND SPECIFICATIONS OF THE ADOPTING AUTHORITY, OR, IN THE ABSENCE OF SUCH, IN ACCORDANCE WITH THE REQUIREMENTS OF THE STREET WORKS REGULATIONS 1992 AND RELEVANT PROVISIONS OF H.A.U.C. SPECIFICATION FOR THE REINSTATEMENT OF OPENINGS IN HIGHWAYS' JUNE1992, BOTH UNDER SECTION 71 OF THE NEW ROADS AND STREET WORKS ACT 1991.**
- BACKFILL TO DRAINAGE TRENCHES IN HARD PAVED AREAS SHALL BE G.S.B TYPE 1.**
- ALL RW DOWNCOMERS TO DISCHARGE TO TRAPPED GULLIES.**
- ALL ROAD GULLIES ARE TO BE TRAPPED GULLIES.**
- ALL GULLY LEADS TO BE 150mm DIAMETER.**
- ALL REDUNDANT EXISTING DRAINAGE TO BE GRUBBED UP OR GROUTED, ANY EXISTING LIVE DRAINAGE SHOULD BE REPORTED TO THE ENGINEER AND RECONNECTED.**
- ALL ROAD GULLIES & LEADS TO BE CLEARED OF DEBRIS UPON COMPLETION OF WORKS.**



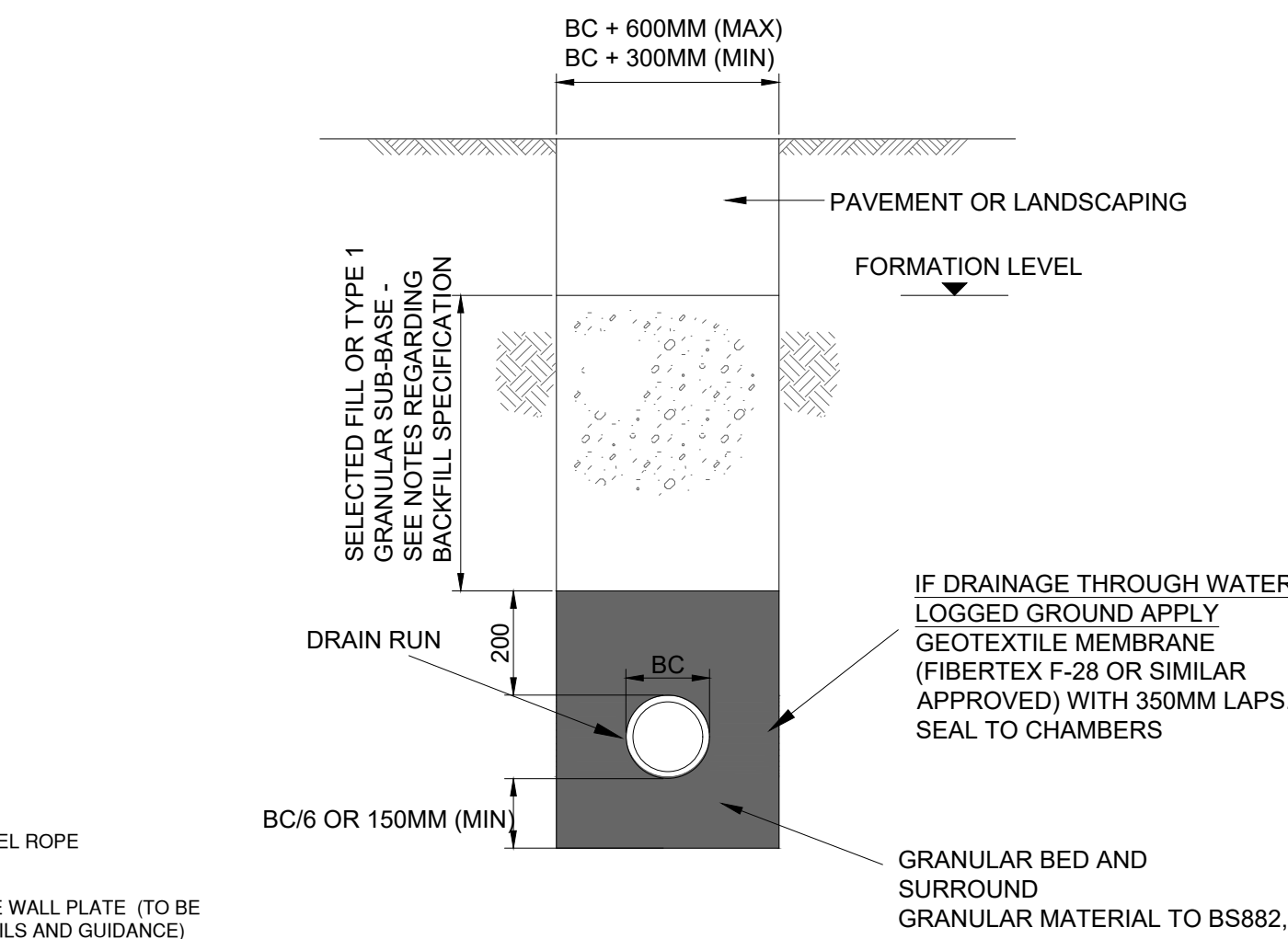
TYPICAL HYDROBRAKE MANHOLE DETAIL
SCALE 1:20



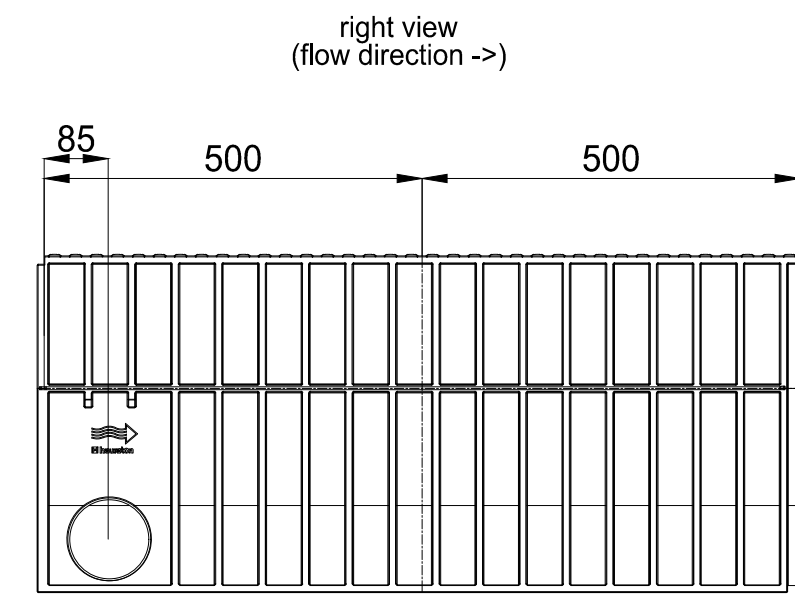
PLAN ON TYPICAL HYDROBREAK MANHOLE
SCALE 1:20



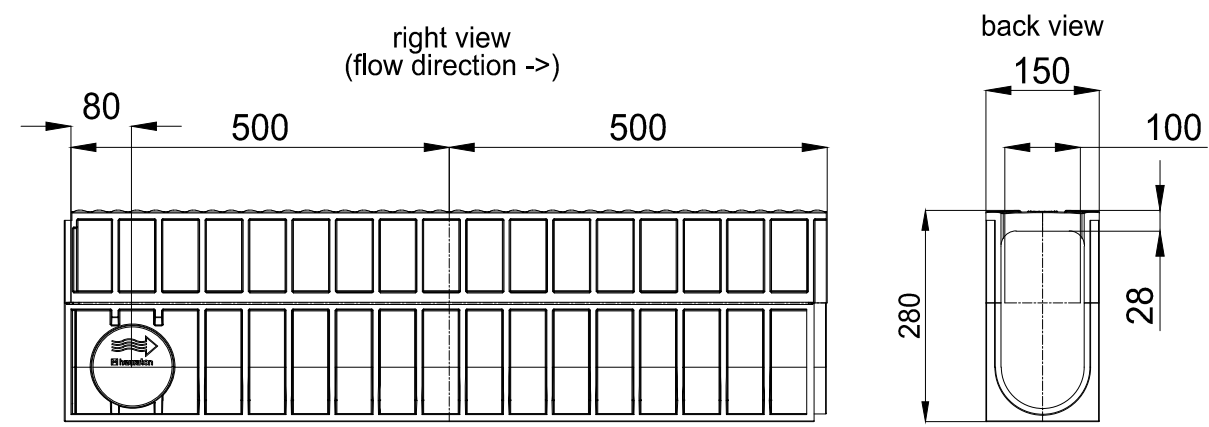
TYPE 2 MANHOLE CHAMBER MAXIMUM DEPTH FROM COVER TO SOFFIT 3m
SCALE 1:20



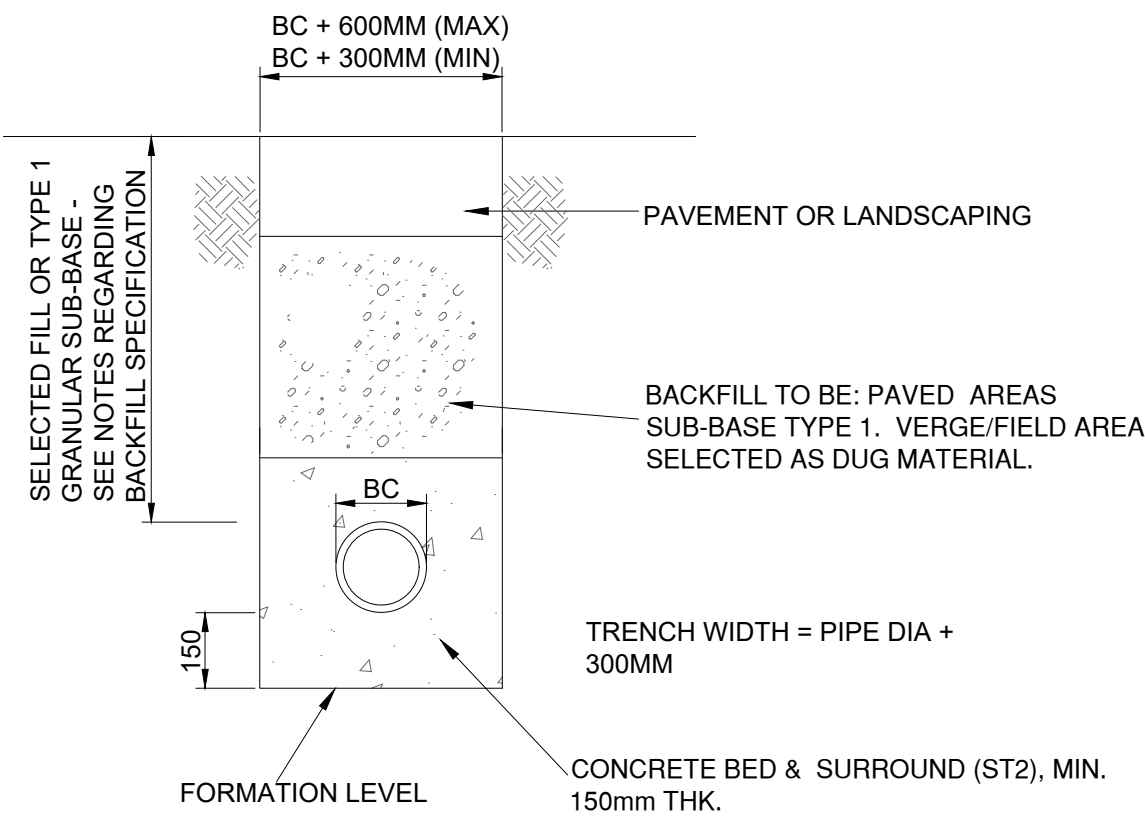
CLASS S BED AND SURROUND
SCALE 1:10



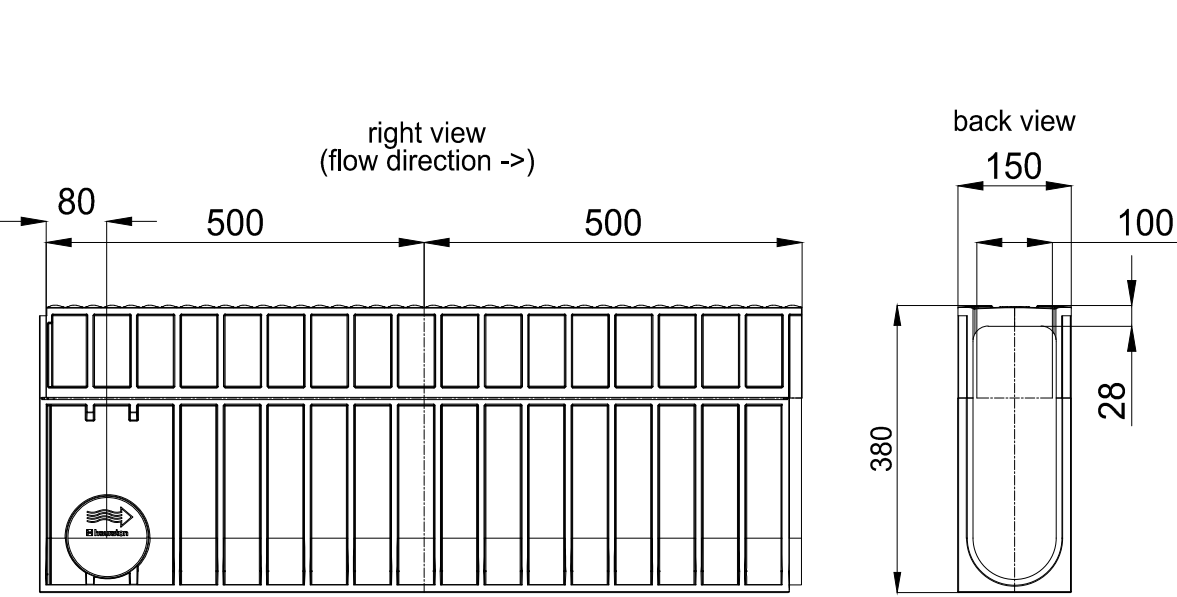
HAURATON RECYFIX MONOTEC 200 TYPE 450
SCALE 1:10



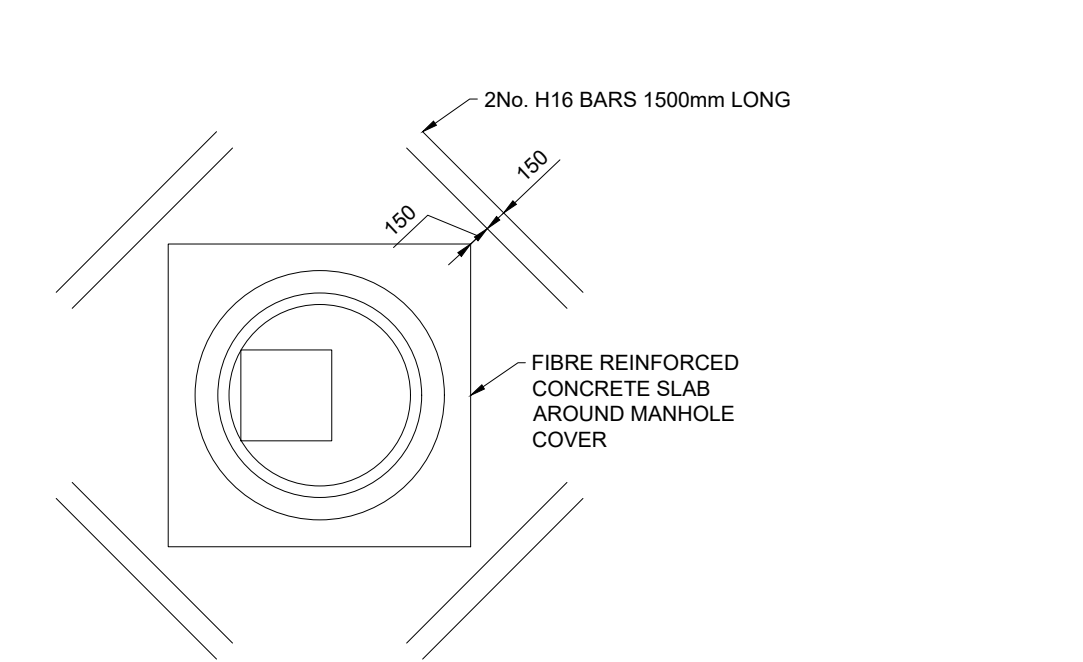
HAURATON RECYFIX MONOTEC 100 TYPE 280
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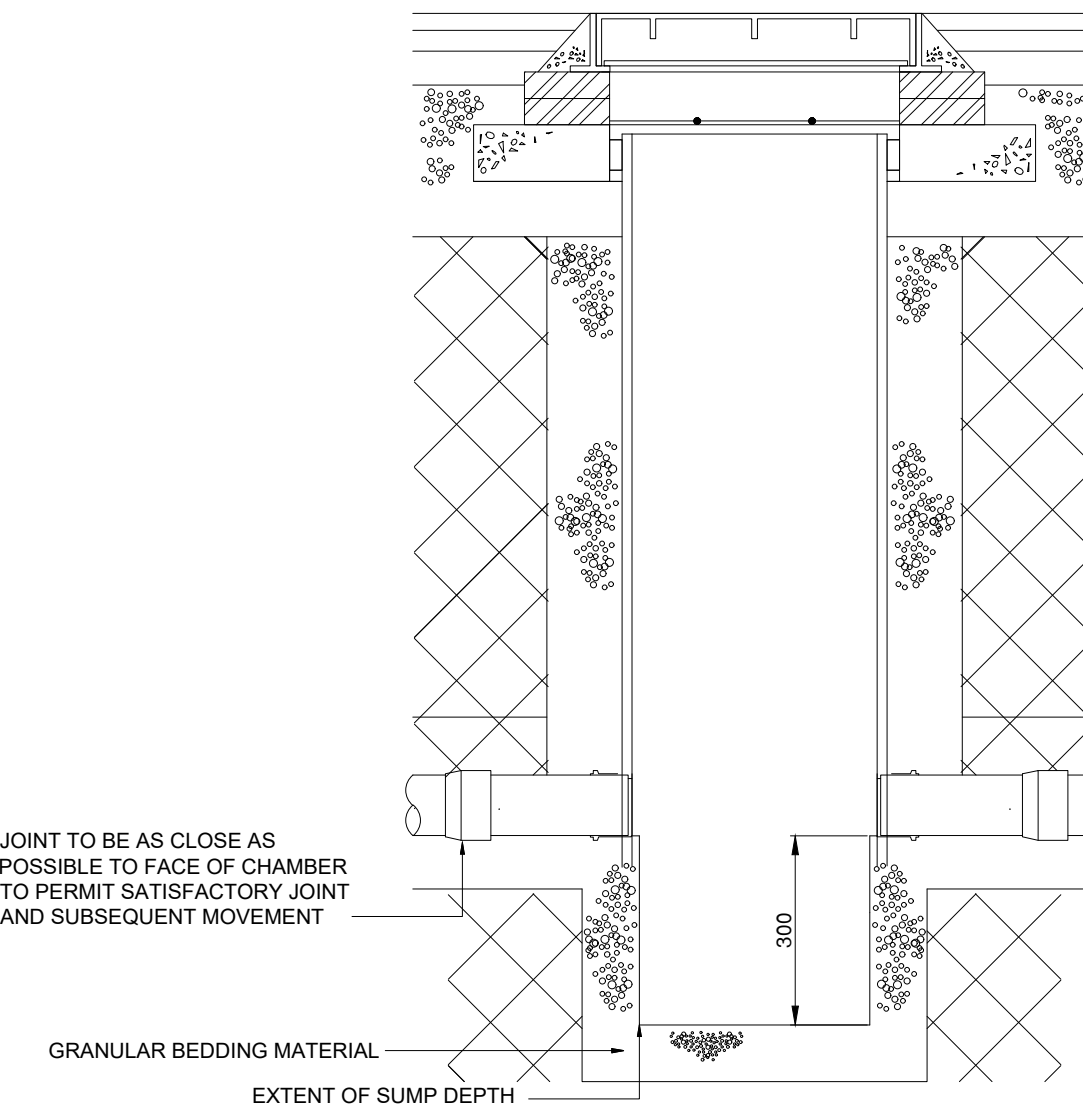
CLASS Z BED AND SURROUND FOR PIPE DEPTHS LESS THAN 1.2m
SCALE 1:10



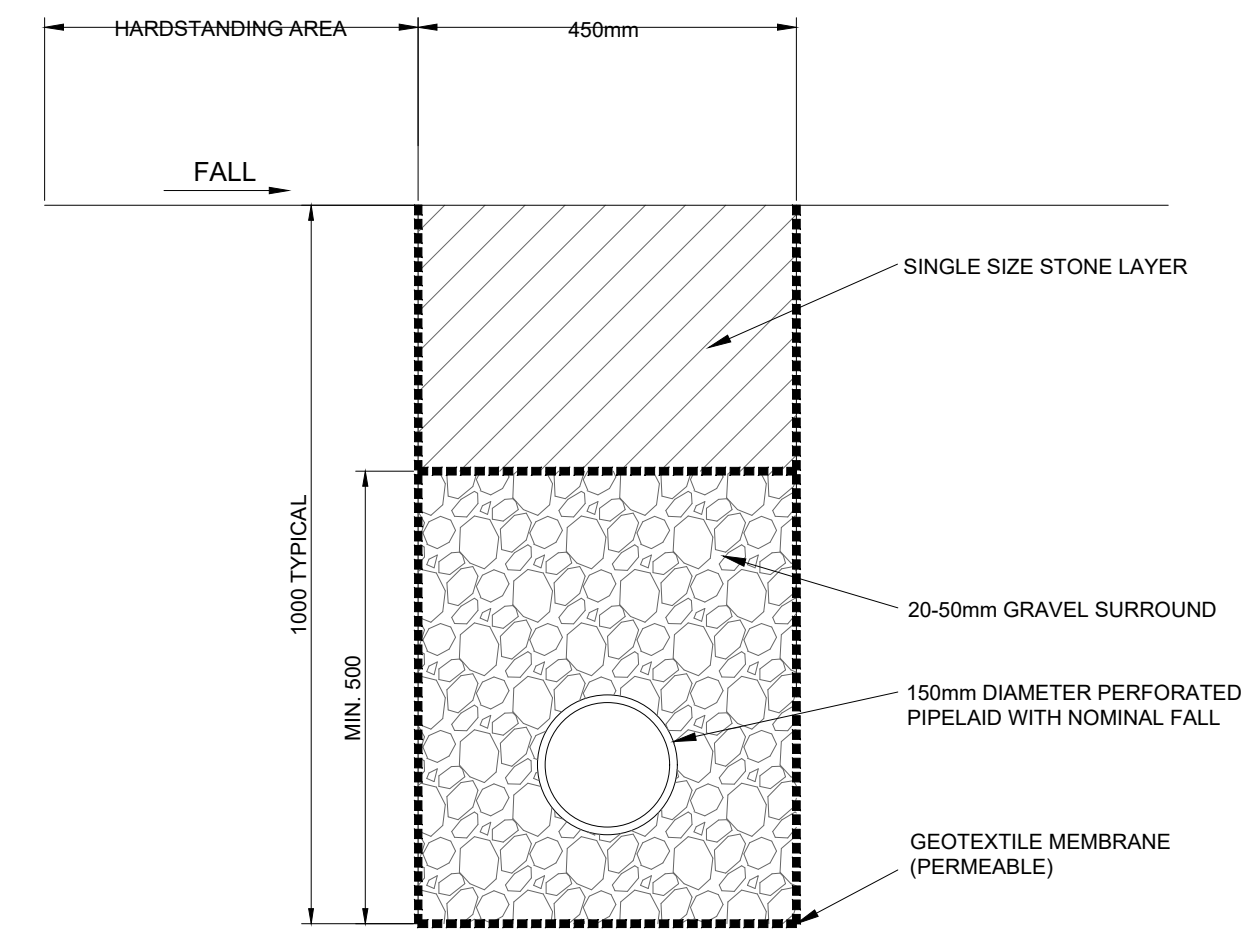
HAURATON RECYFIX MONOTEC 100 TYPE 380
SCALE 1:10



MANHOLE SLAB REINFORCEMENT
Scale 1:50



FILTER DRAIN INSPECTION CHAMBER WITH CATCH-PIT
SCALE 1:20



TYPICAL FILTER STRIP AND FILTER DRAIN DETAIL
SCALE 1:10

Revision	Date	Drawn	Description
T1	25/09/22	JFH	Issued for Tender.
T2	26/05/23	CA	Revised to suit new site layout.

Client & Project
James Jones P&P Ltd
Wrexham Biomass & Dry Store

Address
JJPPL
Wrexham Industrial Estate,
Oak Road,
Wrexham,
LL13 9RG
Drawing Title

Proposed Drainage Details

Status / Stage	Sheet	Scale @ A1	Drawn	Checked
D1	1 of 1	AS SHOWN	CA	AW

Drawing Number
S3220-BDN-Z4-XX-DR-C-0201

Revision
T2

0mm	100mm	200mm	400mm	600mm
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Established 1983.
T: 01915556189 E: durham@bdnhtd.com
W: www.bdnhtd.com
North East (Head Office)
The Old School, Simpson Street,
Sunderland, SR4 6DR
North West
Room 107, Liverston Business Centre,
Ulverston, LA12 7LG

BuildingDesignNorthern