



- KEY:**
- DEVELOPMENT BOUNDARY
  - EXISTING COMBINED SEWER
  - EXISTING OPEN WATERCOURSE
  - EXISTING COLLECTED WATERCOURSE
  - PROPOSED FOUL WATER SEWER (MANHOLE S104)
  - PROPOSED SURFACE WATER SEWER (MANHOLE S104)
  - PROPOSED COMBINED WATER SEWER (MANHOLE S104)
  - PROPOSED SURFACE WATER & FOUL WATER BACKDROPS
  - PROPOSED FOUL WATER LATERAL / EDUCATION CHAMBER
  - PROPOSED SURFACE WATER LATERAL / SEPARATION CHAMBER
  - ROAD HIGHWAY GULLY (GG GENOTES DOUBLE GULLY)
  - S104 DRAINAGE EASEMENT
  - EXISTING WAY EASEMENT (SHOWN WITHIN DEVELOPMENT BOUNDARY ONLY)
  - SERVICE MARGIN
  - EXTENT OF LAND TRANSFERRED TO WATER AUTHORITY OWNERSHIP
  - WATER AUTHORITY TO BE GRANTED RIGHTS OF ACCESS IN PERPETUITY

- NOTES:**
- THIS DRAWING IS BASED UPON:
    - NINETEEN SEVEN TECHNICAL PLANNING LAYOUT N2089 008 REV Q (FORMER AMENDED);
    - APS SURVEYING SERVICES TOPOGRAPHICAL SURVEY DRAWING DATED JUNE 2024
    - TERRA MEASUREMENTS TOPOGRAPHICAL SURVEY DATED JANUARY 2020;
    - YORKSHIRE WATER RECORD DRAWINGS;
    - ORDNANCE SURVEY MAPS.
  - ALL DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH 'SEWERS FOR ADOPTION' CODES EDITION AND ADOPTING WATER AUTHORITY SPECIFICATIONS/SPECIAL REQUIREMENTS.
  - ALL BUILDING DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH BS EN 752:2008 BUILDING REGULATIONS AND THE LOCAL AUTHORITY BUILDING CONTROL SPECIFICATIONS AND REGULATIONS.
  - THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION, TEMPORARY AND PERMANENT SUPPORT & DIVERSION WORKS AS NECESSARY TO ALL EXISTING SERVICES TO THE SATISFACTION OF THE PUBLIC UTILITY COMPANIES.
  - ALL LEVELS AND DIMENSIONS SHALL BE VERIFIED ON SITE PRIOR TO THE COMMENCEMENT OF ANY WORKS. DISCREPANCIES SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
  - THE CONTRACTOR SHALL ALLOW FOR OBTAINING ALL RELEVANT APPROVALS FROM THE RELEVANT AUTHORITIES WHEN WORKING IN THE PUBLIC HIGHWAY AND ON SEWERAGE SYSTEMS.
  - UPON COMPLETION OF THE WORKS, THE CONTRACTOR SHALL CLEAN ALL DRAINAGE BY JETTING, REMOVING ALL DEBRIS FROM SITE. NO DEBRIS SHALL BE PERMITTED TO ENTER THE PUBLIC DRAINAGE OR WATERCOURSE SYSTEM. ALL DRAINS SHALL BE CCTV SURVEYED WITH THE CD PASSED TO THE CLIENT FOR REVIEW.

**ADOPTABLE DRAINAGE NOTES:**  
(THESE NOTES APPLY TO ALL ADOPTABLE DRAINAGE WORKS)

ALL ADOPTABLE SEWER WORKS AND MATERIAL TO BE IN ACCORDANCE WITH DESIGN AND CONSTRUCTION GUIDANCE (DCG) CODE FOR ADOPTION, THE RELEVANT BRITISH EUROPEAN AND THE ADOPTING WATER AUTHORITY'S STANDARDS (REQUIREMENTS) ACCORDING TO THE MECHANICAL AND ELECTRICAL SPECIFICATIONS AND REFERENCED.

MANHOLE COVERS MUST HAVE A CLEAR OPENING OF 600mm AND SHALL BE CLASS D40 TO BS EN 124 WITH 150mm DEEP FRAMES IN HIGHWAYS.

THE ADOPTING WATER AUTHORITY IS NOT OBLIGED TO ACCEPT FILTER DRAIN (LAND DRAINAGE RUN OFF) INTO THE PUBLIC SEWER NETWORK OR ADOPTABLE DRAINAGE SYSTEM DIRECTLY OR INDIRECTLY. AN ALTERNATIVE METHOD OF DISPOSAL OF THE LAND DRAINAGE RUN OFF WILL THEREFORE BE REQUIRED AND YOU WILL HAVE TO LIAISE WITH THE LOCAL AUTHORITY. LAND DRAINAGE SECTION WITH REGARD TO THE DISPOSAL OF THE FILTER DRAIN (LAND DRAINAGE RUN OFF).

COVER GLASS MUST CARRY THE SIX MONTH OR WILL BE REJECTED BY THE ADOPTING WATER AUTHORITY. WHERE THE CLEAR OPENING OF THE MARKED PRODUCT IS DIFFERENT TO THAT OF THE COVER AND FRAME, A LOADING BEARING SLAB SHOULD BE FITTED ABOVE THE COVER SLAB TO BRING THE SIZE DOWN TO 600mm x 600mm FOR THE SPECIFIED COVER SIZE. PLEASE REFER TO CONCRETE PIPE SYSTEMS ASSOCIATION (CPSA) TECHNICAL BULLETIN (ISSUED AUTUMN 2004 FOR KITEMARKED COVER SLAB OPENING SIZES).

SULPHATE RESISTANT CEMENT (SR) AND PRECAST CONCRETE PRODUCTS MUST BE USED ON A LABORATORY REPORT PROVIDED PROVING THAT SUCH PRECAUTIONS ARE NOT NECESSARY.

THE ADOPTABLE SEWERS SHOULD BE A MINIMUM OF 1m AND MANHOLES 0.5m FROM KERB FACES AND SERVICE MARGINS.

SEWERS MUST HAVE 1 METRE CLEARANCE FROM TREES AND HEDGES.

SEWERS TO BE LAID IN CLASS 'B' BEDDING (150mm GRANULAR BED AND SURROUND), WHERE BATH OF COVER TO TOP OF THE SEWER IS LESS THAN 2m IN HIGHWAYS AND VEHICLES OR LESS THAN 100mm IN VEHICLES (ACCESS AREAS). THE MINIMUM CONCRETE SLAB SHOULD BE PROVIDED ABOVE GRANULAR BED AND SURROUND.

BEDDING AND BACKFILL MATERIAL TO CONFORM TO THE REQUIREMENT OF WATER INDUSTRY SPECIFICATION 448-02 (TABLE A2).

THE CHAMBER SIZE OF MANHOLES WITH MORE THAN ONE CONNECTION IN THEM MAY NEED TO BE INCREASED IN ORDER TO ACCOMMODATE THE CONNECTIONS AND BENDS.

ADOPTABLE PLASTIC SEWER PIPES TO BE BS (KITEMARKED) (CERTIFIED TO WS 4-35-01 AND BS EN 12476). ADOPTABLE PLASTIC SEWER PIPES TO BE Laid IN MAXIMUM 3 METRE LENGTHS UNLESS THERE IS A SPECIFIC OPERATIONAL NEED TO LAY LONGER LENGTHS. CLAYWARE CHANNELS SHOULD BE USED IN MANHOLES AS PLASTIC CHANNELS ARE DIFFICULT TO SET IN CONCRETE BECAUSE THEY FLOAT AND A SATISFACTORY FINISH CANNOT BE OBTAINED ON THE BEDDING.

THE MINIMUM DRAINING STRENGTH FOR CLAY PIPES SHOULD BE AS FOLLOWS: 100mm DIA 400mm, 150mm DIA 400mm, 225mm DIA 400mm AND 300mm DIA 700mm. THE MINIMUM CRUSHING STRENGTH FOR CONCRETE PIPES SHOULD BE: (CLASS 120 TO EN 19168:BS8911:2002). PLASTIC PIPES SHOULD CONFORM TO WS 4-35-01 AND BS EN 12476.

WHERE BIPS COVER AND FRAMES HAVE BEEN APPROVED, THIS MUST NOT BE COATED IN PLASTIC AND MUST HAVE LIFTING SURFACE SIZES TO ACCOMMODATE STANDARD LIFTING KEYS. SCREEN DOWN COVERS ARE NOT ACCEPTABLE.

THE CLEARANCE OF THE CROSSOVER POINTS (MIN 300mm) BETWEEN THE SURFACE WATER SEWERS, FOUL WATERS SEWERS, RISING MAINS AND OTHER SERVICES SHOULD BE SUFFICIENT CLEARANCE TO PROVIDE 150mm GRANULAR BED AND SURROUND AROUND BOTH PIPES. THERE SHOULD BE SUFFICIENT CLEARANCE TO ACCOMMODATE THE BEDDING FOR BOTH PIPES. APPROX. 300mm. IF CROSSOVER IS NEAR THE ROCKIER THEN THE CLEARANCE NEEDED MAY BE INCREASED.

THIS DRAWING IS SUBJECT TO THE APPROVAL OF THE WATER AUTHORITY

THIS DRAWING IS SUBJECT TO THE APPROVAL OF BRADFORD COUNCIL

PROPOSED ATTENUATION BASIN  
TOTAL VOLUME PROVIDED 2,000m<sup>3</sup> TO ACCOMMODATE FLOWS UP TO 1:100 YEAR EVENT + 30% CLIMATE CHANGE ALLOWANCE  
BED LEVEL: 176.375  
1:1 YEAR WATER LEVEL: 176.773  
1:100 YEAR WATER LEVEL: 177.288  
1:100 YEAR + CC WATER LEVEL: 177.932

PROPOSED VORTEX FLOW CONTROL MANHOLE (S40) TO RESTRICT OFF SITE FLOWS TO NO GREATER THAN 18.7m AT 1.80m DESIGN HEAD FPM 881-0100-01070-0100

SEWER DEPTH INFORMATION ON EXISTING NETWORK MUST BE CHECKED AND VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF DRAINAGE WORKS

EXISTING WATERCOURSE DOWNSTREAM OF PROPOSED OUTLET REQUIRES SUPPLEMENTARY IMPROVEMENT WORKS. DETAILS TO BE PROVIDED TO THE CONTRACTOR PRIOR TO CONSTRUCTION INCLUDING ANY APPROVALS.

Rev	Date	Amendments	By
Drawing Status: TENDER PACK			
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Drawn: RD	Scale: 1:500 @ A0		
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