

DO NOT SCALE

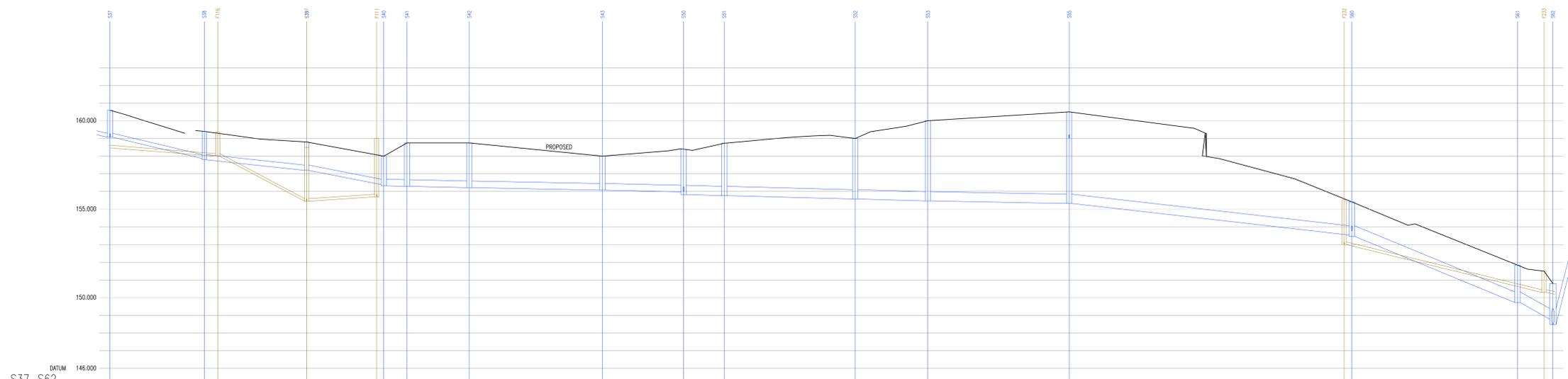


GENERAL NOTES

- THIS DRAWING IS BASED UPON REDROW HOMES SITE LAYOUT REFERENCE BW-16-02-03 - PROPOSED SITE LAYOUT, AND MET GEO-ENVIRONMENTAL TOPOGRAPHICAL SURVEY DRAWING REFERENCE P15-01196 DATED FEB 2015.
- ALL LEVELS AND DIMENSIONS SHALL BE VERIFIED ON SITE PRIOR TO COMMENCEMENT OF ANY WORKS. ANY DISCREPANCIES SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER. IF IN DOUBT, ASK.
- ALL DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH ICGSA'S SPECIFICATIONS/SPECIAL REQUIREMENTS.
- ALL BUILDING DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH BS EN 12052:2008 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.
- 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 DVD/CD PASSED TO THE ENGINEER FOR REVIEW.

DRAINAGE NOTES

- (THESE NOTES APPLY TO ALL ADOPTABLE DRAINAGE WORKS)
- ALL ADOPTABLE SEWER WORKS AND MATERIALS ARE TO BE IN ACCORDANCE WITH DESIGN AND CONSTRUCTION GUIDANCE (DCC)/CODE FOR ADOPTION. THE RELEVANT BRITISH/EUROPEAN AND ICGSA'S STANDARDS/REQUIREMENTS/ADDENDUM TO THE MECHANICAL AND ELECTRICAL SPECIFICATION AND KITEMARKED.
 - MANHOLE COVERS SHALL/MUST HAVE A CLEAR OPENING OF 675mm AND SHALL BE CLASS D400 TO BS EN 124 WITH 150mm DEEP FRAMES.
 - FILLED GROUND MUST BE FILLED AND CONSOLIDATED UNDER THE SUPERVISION AND TO THE SATISFACTION OF ALL RELEVANT SEWER WORKS ARE CARRIED OUT.
 - ICGSA IS NOT OBLIGED TO ACCEPT FILTER DRAIN/LAND DRAINAGE RUN-OFF INTO THE PUBLIC SEWER NETWORK OR ADOPTABLE DRAINAGE SYSTEM (DIRECTLY OR IN-DIRECTLY). 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 SLABS MUST CARRY THE BS KITEMARK OR WILL BE REJECTED BY ICGSA INSPECTOR WHERE THE CLEAR OPENING OF THE KITEMARKED PRODUCT IS DIFFERENT TO THAT OF THE COVER AND FRAME. A LOAD BEARING SLAB SHOULD BE FITTED ABOVE THE COVER SLAB TO BRING THE SIZE DOWN TO 675mm X 675mm FOR THE ICGSA SPECIFIED COVER SIZE.
 - SULPHATE RESISTANT CEMENT (C20-DCC2) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED PROVING THAT SUCH PRECAUTIONS ARE NOT NECESSARY.
 - SEWERS MUST HAVE 3m CLEARANCE FROM TREES AND 1.5m FROM SHRUBS / BUSHES.
 - SEWERS TO BE LAID IN CLASS 'S' BEDDING AND SURROUND. WHERE DEPTH OF COVER TO TOP OF THE SEWER IS LESS THAN 1.2m IN HIGHWAYS AND KERBS (OR LESS THAN 800mm IN NON-VEHICULAR ACCESS AREAS) THEN A CONCRETE SLAB SHOULD BE PROVIDED ABOVE THE GRANULAR BED AND SURROUND.
 - BEDDING AND BACKFILL MATERIAL IS TO CONFORM TO THE REQUIREMENT OF WATER INDUSTRY SPECIFICATION 4-08-02 (TABLE A2).
 - THE CHAMBER SIZE OF MANHOLES WITH MORE THAN ONE CONNECTION IN THEM MAY NEED TO BE INCREASED TO ACCOMMODATE THE CONNECTIONS AND BENDS.
 - ICGSA POLICY IS THAT TYPE 'C' BRICK MANHOLES AND 1050mm DIA MANHOLE RINGS ARE NOT PREFERRED. INSTEAD IT IS PREFERRED THAT YOU USE A TYPE 'B' MANHOLE WITH 1200mm DIA OR 1500mm DIA RINGS, WITH THE OPENING SIZED OVER THE CHANNEL WHERE DEPTH OF COVER TO PIPE SOFFIT IS BETWEEN 1-1.5m
 - ADOPTABLE PLASTIC SEWER PIPES TO BE BS1 KITEMARKED (CERTIFIED TO MIS 4-35-01 AND BS/EN13476) AND TO THE RELEVANT BRITISH STANDARDS (SOLID WALL PVC-U TO BS EN 1401, SPIRAL WOUND WELDED PIPE TO EN 13476 PARTS 1 & 2, STRUCTURE-WALL THERMOPLASTIC TO EN 13476 PARTS 1 & 3, POLYPROPYLENE TO BS EN 1852). ADOPTABLE PLASTIC SEWER PIPES ARE TO BE LAID IN MAXIMUM 3m LENGTHS UNLESS THERE IS A SPECIFIC OPERATIONAL NEED TO LAY LONGER LENGTHS. PLASTIC CHANNEL SECTIONS IN MANHOLES ARE NOT ACCEPTABLE AND ICGSA WOULD PREFER CLAYWARE CHANNEL IN MANHOLES. WE HAVE FOUND THAT PLASTIC CHANNELS ARE DIFFICULT TO SET IN CONCRETE BECAUSE THEY FLOAT AND A SATISFACTORY FINISH CANNOT BE OBTAINED ON THE BENCHING.
 - WHERE A B125 COVER AND FRAME HAS BEEN APPROVED, THIS MUST NOT BE COATED IN PLASTIC AND MUST HAVE LIFTING EYES SUITABLY SIZED TO ACCOMMODATE STANDARD LIFTING KEYS. SCREW DOWN COVERS ARE NOT ACCEPTABLE.

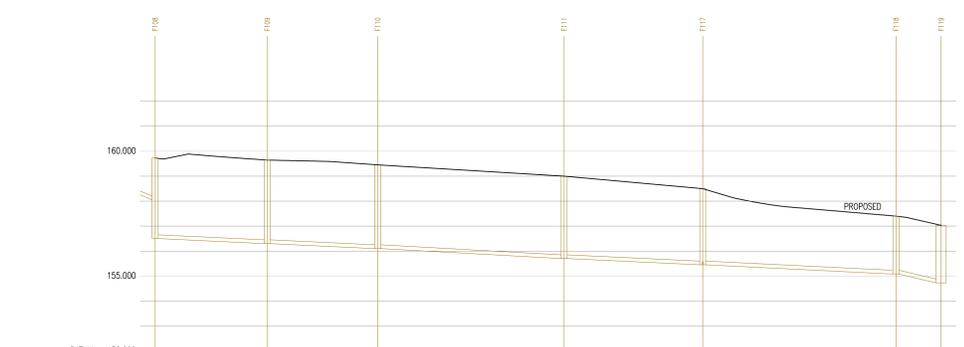


S37-S62		DATUM 146.000	
GROUND LEVEL	160.972	159.989	159.377
STORMWATER COVER LEVEL	160.972	159.396	158.000
STORMWATER INVERT	159.070	157.801	157.195
STORMWATER DETAILS	Pipe 5.001 Dg 300 Circular CLAY 1 in 22	Pipe 5.002 Dg 300 Circular CLAY 1 in 48	Pipe 5.003 Dg 300 Circular CLAY 1 in 27
STORMWATER LENGTHS	26.596	28.982	21.757
FOULWATER COVER LEVEL	159.353	158.500	158.000
FOULWATER INVERT	158.000	156.450	155.700
FOULWATER DETAILS	Pipe 1.002 Dg 150 Circular CLAY 1 in 66	Pipe 1.003 Dg 150 Circular CLAY 1 in 13	Pipe 1.008 Dg 150 Circular CLAY 1 in 111
FOULWATER LENGTHS	33.219	33.086	27.751

CLAY PIPE STRENGTH REQUIREMENTS
 100mm DIA. MINIMUM CRUSHING STRENGTH = 40kN/m
 150mm DIA. MINIMUM CRUSHING STRENGTH = 40kN/m
 225mm DIA. MINIMUM CRUSHING STRENGTH = 45kN/m
 300mm DIA. MINIMUM CRUSHING STRENGTH = 72kN/m

CONCRETE PIPE STRENGTH REQUIREMENTS
 ALL CONCRETE PIPES SHOULD BE CLASS 120
 TO EN 1916 / BS 5911-1:2002

CLASS 'S' TYPE BEDDING AND SURROUND FOR ALL PIPES

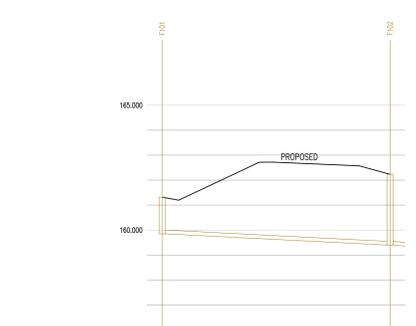


F108-F119		DATUM 152.000	
GROUND LEVEL	159.731	159.628	159.677
FOULWATER COVER LEVEL	159.731	159.643	159.611
FOULWATER INVERT	156.200	156.200	156.100
FOULWATER DETAILS	Pipe 1.005 Dg 150 Circular CLAY 1 in 12	Pipe 1.006 Dg 150 Circular CLAY 1 in 11	Pipe 1.007 Dg 150 Circular CLAY 1 in 83
FOULWATER LENGTHS	22.424	22.129	37.343

CLAY PIPE STRENGTH REQUIREMENTS
 100mm DIA. MINIMUM CRUSHING STRENGTH = 40kN/m
 150mm DIA. MINIMUM CRUSHING STRENGTH = 40kN/m
 225mm DIA. MINIMUM CRUSHING STRENGTH = 45kN/m
 300mm DIA. MINIMUM CRUSHING STRENGTH = 72kN/m

CONCRETE PIPE STRENGTH REQUIREMENTS
 ALL CONCRETE PIPES SHOULD BE CLASS 120
 TO EN 1916 / BS 5911-1:2002

CLASS 'S' TYPE BEDDING AND SURROUND FOR ALL PIPES



F101-F102		DATUM 156.000	
GROUND LEVEL	162.718	162.718	162.344
FOULWATER COVER LEVEL	162.718	162.344	162.234
FOULWATER INVERT	159.860	159.860	159.400
FOULWATER DETAILS	Pipe 1.009 Dg 150 Circular CLAY 1 in 61	Pipe 1.010 Dg 150 Circular CLAY 1 in 26	
FOULWATER LENGTHS	45.636		

CLAY PIPE STRENGTH REQUIREMENTS
 100mm DIA. MINIMUM CRUSHING STRENGTH = 40kN/m
 150mm DIA. MINIMUM CRUSHING STRENGTH = 40kN/m
 225mm DIA. MINIMUM CRUSHING STRENGTH = 45kN/m
 300mm DIA. MINIMUM CRUSHING STRENGTH = 72kN/m

CONCRETE PIPE STRENGTH REQUIREMENTS
 ALL CONCRETE PIPES SHOULD BE CLASS 120
 TO EN 1916 / BS 5911-1:2002

CLASS 'S' TYPE BEDDING AND SURROUND FOR ALL PIPES

SUBJECT TO THE APPROVAL OF KIRKLEES COUNCIL

SUBJECT TO THE APPROVAL OF YORKSHIRE WATER

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PROJECT: BRADLEY VILLA FARM HUDDERSFIELD

FILE: LONGITUDINAL SECTIONS S37-S62 / F108-F119 / F101-F102

SCALE: 1:500H 1:100V

PROJECT No: 4607 DRAWING No: 4607-16-06-120 REV: A

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