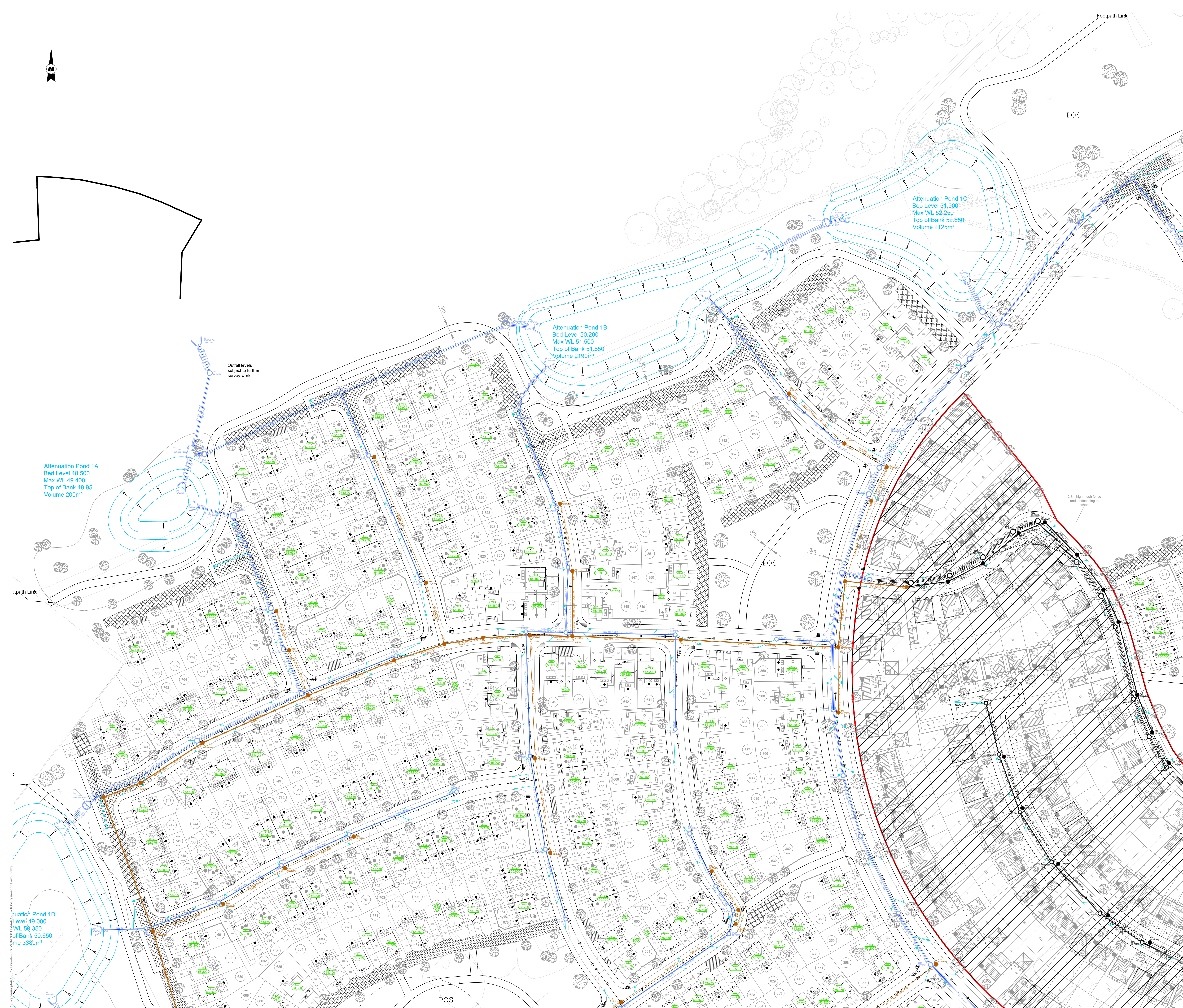




MINIMUM DIMENSIONS FOR MANHOLES

Type	Size of opening (mm)	Min internal diameter (mm)	Min clear opening (mm)	Min clear opening (mm)
Manhole	1500	1200	1000	800
Manhole	1200	900	700	600
Manhole	900	600	500	400
Manhole	600	400	300	200
Manhole	400	200	150	100
Manhole	200	100	75	50

NOTES:

1. LARGER SIZES MAY BE REQUIRED FOR MANHOLES ON BENDS OR WHERE THERE ARE JUNCTIONS.
2. MAY BE REDUCED TO 475 OR 400 WHERE REQUIRED BY HIGHWAY LOADING CONSIDERATIONS. SUBJECT TO A SAFE SYSTEM OF WORK BEING SPECIFIED.
3. NOT APPLICABLE DUE TO WORKING SPACE NEEDED.
4. MINIMUM HEIGHT OF CHAMBER IN SHUTTED MANHOLE 2M FROM BENCHING TO UNDERSIDE OF REDUCING SLAB.
5. MIN CLEAR SPACE BETWEEN JUNCTIONS OR STEPS AND THE OPPOSITE FACE OF THE SHAFT SHOULD BE APPROXIMATELY 900MM.
6. JUNCTIONS - NO STEPS OR LANDINGS. PERMANENT OR REMOVABLE.
7. THE MINIMUM SIZE OF ANY MANHOLE SERVING A SEWER OR ANY DRAIN SERVING MORE THAN ONE PROPERTY SHOULD BE 1200 MM X 675 MM RECTANGULAR OR 1200 MM DIAMETER.

SEVERN TRENT WATER MANHOLE REQUIREMENTS FOR DESIGN AND CONSTRUCTION GUIDANCE

GENERAL REQUIREMENTS

COPIES OF DELIVERY NOTES FOR CONCRETE AND PIPE BEDDINGS WILL BE REQUIRED INTERNALLY AS THE JCB PROGRESSES. ALL OTHER COMPONENT UNITS MUST BE KITE MARKED.

CHAMBERS AND BEDDINGS

ALL CHAMBERS WITH PIPE SIZES 150MM, 225MM, 300MM MUST HAVE SWIFT BENDS AND CHAMBERS. ALL BEDDING TO BE A MINIMUM 40MM THICK GRANULITH CONCRETE FLOWELLED TO A SMOOTH FINISH.

REINFORCEMENT IN MANHOLES

IF THE CHAMBER IS LESS THAN 3M DEEP WE REQUIRE DOUBLE ENCAPSULATED STEP RINGS. UNLESS OTHERWISE APPROVED. IF THE CHAMBER IS OVER 3M DEEP WE REQUIRE HOT DIPPED GALVANISED MILD STEEL JAGGERS. THESE MUST BE 80MM B.T. THREADED AND AN AREA OF SHAFT. DEPTH IS MEASURED FROM FINISHED COVER LEVEL TO THE TOP OF THE BEDDING. THE MAXIMUM DISTANCE BETWEEN COVER LEVEL AND THE FIRST STEP MUST BE 675MM.

BEDDINGS

MIN 2 MAX 4 COURSES UNDER FRAME AND MUST BE SOLID CLASS B ENGINEERING BRICKS OR CONCRETE SPACING RINGS NEATLY POINTED UP. ENGLISH BOND TO BE USED ON ALL BEDDING. SULPHATE RESISTING CEMENT MUST BE USED IN ALL LOCATIONS.

COVER AND FRAMES

COVER SLAB OPENING, COVER AND FRAMES MUST BE 675 X 675 UNLESS OTHERWISE APPROVED. CHAIRS SHALL BE USED AT ALL LOCATIONS. ON SPINE ROADS MUST BE 100MM DEEP. ON RESIDENTIAL GULLIES/GATES 100MM MAY BE USED SUBJECT TO APPROVAL. FRAMES FOR MANHOLES SHOULD BE BEDDED IN A NO YESTER REINFORCED MORTAR IN ALL SITUATIONS WHERE COVERS ARE SITED IN NEW ROAD CATEGORIES I & II. INFILL TYPE COVERS SHOULD NOT BE USED.

IN BLOCK PAVED AREAS 150MM DEEP FRAMES MUST BE USED IN ACCORDANCE WITH DESIGN AND CONSTRUCTION GUIDANCE P22.

LATERALS

THEY SHOULD BE LAID TO THE SAME STANDARD AS PUBLIC SEWERS. THEY SHOULD HAVE NO CHANGES OF LINE OR GRADIENT BETWEEN THE SEWER AND THE DEMARCATION CHAMBER. THEY SHOULD HAVE AN ADJUSTABLE MANHOLE AS THE DEMARCATION CHAMBER UNLESS THERE IS ONLY ONE PROPERTY INVOLVED. PLASTIC CHAMBERS TO BE USED. 150MM IS ALLOWED. LOCABLE RIG AND ATTACHMENTS MAY BE ALLOWED IN CERTAIN LOCATIONS SUBJECT TO APPROVAL. THE DEMARCATION SHOULD BE INSIDE THE BOUNDARY OF THE PROPERTY NO MORE THAN 1M INSIDE THE BOUNDARY. PREFERABLY IN THE DRIVEWAY AND NOT IN THE WHEEL TRACKS OF VEHICLES.

PUBLIC DRAINAGE

FOUL WATER MANHOLE
PIPE LINE
DIRECTION ARROW
ROUND MAN

SURFACE WATER MANHOLE
PIPE LINE
DIRECTION ARROW
GULLY
HIGHWAY DRAIN / GULLY CONNECTION

PRELIMINARY

SUBJECT TO SECTION 38 & 104 APPROVAL

HEADWALLS TO BE PRE-CAST CONCRETE. REFER TO ACTION DRAWINGS FOR DETAILS.

ANY FOND BED LING OR BANK STABILISATION METHODS REQUIRED FOR BALANCING POND TO BE ASSESSED BY STRUCTURAL ENGINEER.

IMPORTANT: HEADWALLS WILL REQUIRE THE ENVIRONMENT AGENCY'S PRIOR WRITTEN CONSENT UNDER SECTION 109 OF THE WATER RESOURCES ACT 1989 BEFORE ANY CONSTRUCTION TAKES PLACE.

POURED STONE VALUES, AGGREGATE SIZES, AGGREGATE ABRASION VALUES AND PENETRATION VALUES OF THE COURSE MATERIALS MUST BE CHECKED WITH HIGHWAY AUTHORITY AND COMPLY WITH ALL CODES OF PRACTICE PRIOR TO ORDERING DELIVERY OF MATERIALS.

S108 APPLICATION

A SECTION 109 APPLICATION TO SEVERN TRENT WATER MUST BE COMPLETED FOR THE RE-USE OF ANY EXISTING CONNECTION INTO THE EXISTING PUBLIC SEWERAGE SYSTEM OR THE CONSTRUCTION OF A NEW CONNECTION.

AN APPLICATION WILL BE REQUIRED FOR THE POUL AND SURFACE WATER DRAINAGE ARRANGEMENTS AND THIS SHOULD BE COMPLETED BY THE CONTRACTOR.

ALL SEWERS ARE TO COMPLY WITH THE DESIGN AND CONSTRUCTION GUIDE AND SEVERN TRENT WATER REQUIREMENTS.

FOUNDATIONS FOR PLOTS ADJACENT TO ADAPTABLE SEWERS LESS THAN 3M AWAY FROM PLOT WALL TO BE LOWER THAN THE HIGHEST LEVELS OF SEWER TO PREVENT ANY LOADING FORCES ON THE SEWERS.

LEVEL OF EXISTING ROAD AT POINT OF THE IN WITH PROPOSED SITE ROAD MUST BE CHECKED BEFORE COMMENCEMENT OF WORKS AND ANY DISCREPANCIES REPORTED IMMEDIATELY.

A SCREEN AND SUMP IS TO BE FITTED OVER THE OUTGOING PIPE TO THE LAST NEW SURFACE AND FOUL MANHOLES BEFORE ENTERING THE EXISTING SEWER IN ACCORDANCE WITH SEWERS FOR ADOPTION. THE SCREEN SHALL ONLY BE REMOVED ONCE THE NEW CONSTRUCTION WORKS HAVE BEEN COMPLETED.

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGN DRAWINGS AND OTHER INFORMATION.

ALL EXISTING SEWER LEVELS AND LOCATIONS ARE CHECKED AND VERIFIED PRIOR TO ANY CONSTRUCTION WORKS AND ANY DISCREPANCIES REPORTED IMMEDIATELY.

MANHOLE RINGS SHALL NOT BE CUT.

SURFACE WATER SEWER NETWORK DESIGNED IN ACCORDANCE WITH ROADS CENTRIES ON ORIGINAL DRAINAGE AND LEVELS CONCEPT LAYOUT AND POSITIONS ARE SUBJECT TO CHANGE.

P06	Manhole invert levels adjusted across site	CW	AG	17.11.21
P03	Roads and sewers widened following raise in PFILs	JW	CW	04.11.21
P04	PFIL's lifted across site	CW	AG	06.10.21
P03	Latest planning layout added	CW	AG	15.09.21
P02	M/s S104, S106, S220 & S220 removed - pipe numbers updated as necessary	JW	CW	28.08.21
PV1	First issue			
Rev	Description	By	Chk	Date

rps MAKING COMPLEX EASY

321 Bradford Street, Birmingham, West Midlands B5 6ET
T: +44 121 622 8630 E: rps@rpsgroup.com

Client: **Countryside Properties**

Project: **Drakelow Park**

Title: **Engineering Layout Sheet 3 of 4**

Status: **Preliminary** Scale: **1:500** Date Created: **04.08.2021**

Task Team: **AG** Information: **CW** Task Information: **AG**

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