PRELIMINARY SUBJECT TO CONFIRMATION OF PROPOSED SITE LEVELS AND ALL FOUL WATER POP UP AND RAINWATER DOWNPIPE LOCATIONS AND FLOW RATES

PRELIMINARY SUBJECT TO CONFIRMATION OF PROPOSED SITE LAYOUT, FOUNDATIONS AND SITE LEVELS

DRAINAGE NOTES

- FOUL AND SURFACE WATER CONNECTIONS ARE TO BE CONFIRMED
- ALL POP-UP SETTING OUT IS TO BE PROVIDED BY THE ARCHITECT
- ALL SURFACE / FOUL WATER CONNECTIONS ARE TO HAVE RODDABLE ACCESS FROM ABOVE GROUND
- ANY 600Ø ACCESS CHAMBERS GREATER THAN 1.2m DEEP WILL REQUIRE A REDUCED ACCESS SHAFT

GENERAL NOTES

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ENGINEERS, ARCHITECTS AND SPECIALISTS DRAWINGS AND SPECIFICATIONS.
2. ALL RELEVANT DIMENSIONS TO BE OBTAINED/CHECKED AGAINST ARCHITECT'S DRAWINGS AND BY SITE MEASUREMENT PRIOR TO THE COMMENCEMENT OF WORKS OR ORDERING OF MATERIALS. DISCREPANCIES BETWEEN THE DRAWINGS AND SITE CONDITIONS TO BE NOTIFIED TO THE ENGINEER.
3. DO NOT SCALE FROM THIS DRAWING.
4. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION OF ALL UNDERGROUND SERVICES THAT MAY EXIST AND TO DIVERT THEM IF NECESSARY PRIOR TO THE COMMENCEMENT OF THE WORKS.
5. MATERIALS OR WORKMANSHIP NOT COMPLYING WITH THE ENGINEERS DRAWINGS AND SPECIFICATION SHALL BE DEEMED UNACCEPTABLE AND REMOVED FROM SITE AND REPLACED WITH WORK CORRECTLY MANUFACTURED, DELIVERED AND ERECTED.
6. ALL EXISTING INVERT LEVELS TO BE CHECKED BY THE CONTRACTOR AT THE START OF WORKS AND ANY OTHER DISCREPANCIES NOTIFIED TO THE ENGINEER. ALL LEVELS ARE BASED ON TOPOGRAPHICAL SURVEY INFORMATION PROVIDED BY OTHERS.
7. ALL OPENING NOTICES ETC. AS REQUIRED UNDER HIGHWAYS ACTS ETC. ARE TO BE OBTAINED PRIOR TO COMMENCEMENT OF WORKS. ALL WORKS ARE TO BE INSPECTED BY L.A., NHBC OR YORKSHIRE WATER AS APPLICABLE.
8. ALL MATERIALS TO BEAR THE RELEVANT B.S. KITEMARK AND COMPLY FULLY WITH THE SPECIFICATIONS. ALL CONCRETE & CONCRETE PRODUCTS MUST USE SULPHATE RESISTANT CEMENT (UNLESS THE SITE INVESTIGATION REPORT PROVES THAT SULPHATE ATTACK FROM SOILS AND GROUNDWATER WILL NOT OCCUR TO WITHSTAND A CLASS 3 CONDITION).
9. WHERE "ULTRA RIB" UPVC PIPES (OR SIMILAR APPROVED) ARE USED IN ADOPTABLE DRAINAGE THEY SHALL STILL BE HANDLED AND LAID IN ACCORDANCE WITH THE SPECIFICATION AND GUIDANCE ISSUED BY THE HIGH PERFORMANCE PIPE ASSOCIATION. A CLASS S BED AND SURROUND MUST BE USED FOR SUCH PIPES.
10. TRENCH BACKFILL IN HIGHWAYS / CAR PARKS TO WITHIN 1M OF HIGHWAY SHALL BE A SUITABLE GRANULAR MATERIAL ALL IN ACCORDANCE WITH SEWERS FOR ADOPTION CL. 3.3.4. BACKFILL MATERIAL IN OTHER AREAS SHALL BE SELECTED EXCAVATED MATERIAL FREE FROM STONES LARGER THAN 40mm, LUMPS OF CLAY OVER 100mm, TIMBER, FROZEN MATERIAL OR VEGETABLE MATTER.
11. UPVC PIPES AND FITTINGS SHALL COMPLY WITH WIS 4-35-01. CLAY PIPES AND FITTINGS SHALL BE EXTRA STRENGTH TO BSEN 295 AND BS 65. CONCRETE PIPES AND FITTINGS SHALL COMPLY WITH BS 5911 , PIPES SHALL BE CLASS H.
12. A CLASS S BED MUST BE PROVIDED TO UPVC PIPES , A CLASS B BED MAY BE USED FOR V.C. AND CONCRETE PIPES.
13. BACKFILL TO DRAINAGE TRENCHES ABOVE PIPE BEDDING AND SURROUND WITHIN ROAD AND CAR PARK AREAS TO BE GRANULAR FILL COMPLYING WITH CLASS 6F2 OR DOT TYPE 1 OR QUARRY SCALPING GRADED FROM 75mm DOWN.
14. A CONCRETE SURROUND IS NOT NORMALLY REQUIRED TO MANHOLES UNLESS INSTALLED IN AREAS OF UNSTABLE GROUND. UNDER CONDITIONS OF FLOATATION OR WHERE SUBJECTED TO EXCEPTIONAL OR ECCENTRIC LOADS, IN WHICH CASE A 150mm SURROUND OF AT LEAST 20N/mm2 CONCRETE SHOULD BE PROVIDED. ANY JOINTS SHOULD BE STAGGERED WITH THE PRECAST CONCRETE JOINTS.
15. DOUBLE STEPS SHALL BE PLASTIC ENCAPSULATED CARBON TO BS EN 1247-2 MANHOLE STEPS. STEP IRONS AT 300ctrs. HORIZONTALLY & VERTICALLY MAY BE USED AS AN ALTERNATIVE TO DOUBLE STEPS.
16. ALL WORK TO BE IN ACCORDANCE WITH "SEWERS FOR ADOPTION SEVENTH EDITION" AND YORKSHIRE WATER WATER STANDARD CONSTRUCTION DETAILS.
17. TOP OF FOUNDATIONS ARE TO BE A MIN 450mm FROM FINISHED EXTERNAL LEVELS.
18. FOUNDATIONS WITHIN CLOSE PROXIMITY TO PROPOSED DRAINAGE WILL NEED TO BE AT THE SAME DEPTH AS DRAINAGE TO AVOID THE POTENTIAL FOR UNDERMINING.

DRAINAGE STRATEGY

SURFACE WATER

THE PROPOSED S104 NETWORK WILL DISCHARGE INTO A COMBINED WATER MANHOLE PRIOR TO OUTFALLING INTO THE EXISTING YORKSHIRE WATER COMBINED SEWER WITHIN DOWKER STREET AT A RESTICTED RATE OF 5.0 l/S, ATTENUATION STORAGE WILL BE PROVIDED IN THE FORM OF ADOPTABLE OVERSIZED PIPEWORK FOR THE 1 IN 30 YEAR STORM EVENTS, AND AN OFFLINE ATTENUATION TANK WILL BE PROVIDED TO STORE SURFACE WATER FOR ALL STORM EVENTS DURING THE 1 IN 100 YEAR + 45% CLIMATE CHANGE.

SURFACE WATER DESIGN PARAMETERS

M5-60(mm) = 19.300

RATIO R = 0.264

VOLUMETRIC RUN-OFF COEFFICIENT = 1.000 (SUMMER & WINTER)

FOUL WATER

THE PROPOSED S104 NETWORK WILL DISCHARGE INTO A COMBINED WATER MANHOLE PRIOR TO OUTFALLING INTO THE EXISTING YORKSHIRE WATER COMBINED SEWER WITHIN DOWKER STREET AT A UNRESTICTED RATE.

RESIDUAL DESIGN HAZARDS

1. LIVE TRAFFIC ADJACENT TO SITE.
2. ALL SERVICES MUST BE VERIFIED BY THE CONTRACTOR THROUGH LIAISON WITH THE VARIOUS UNDERTAKERS AND BY USING DETECTION EQUIPMENT PRIOR TO ANY EXCAVATIONS TAKING PLACE, PERMIT TO WORK REQUIRED.
3. DEEP EXCAVATION REQUIRED FOR DRAINAGE WORKS. CONTRACTOR TO UTILISE BANKSMEN AND EMPLOY APPROPRIATE CONSTRUCTION TECHNIQUES TO PROTECT ALL WORKERS WITHIN DEEP EXCAVATIONS.
4. SILICA DUST TO BE COMPRESSED WHEN USING CUTTING EQUIPMENT.
5. WORKING IN CLOSE PROXIMITY TO EXISTING SURFACE WATER CULVERT.

LEGEND

- PROPOSED S104 SURFACE WATER SEWER SUBJECT TO YORKSHIRE WATER AGREEMENT
- PROPOSED SURFACE WATER FLOW CONTROL CHAMBER
- PROPOSED S104 FOUL WATER SEWER SUBJECT TO YORKSHIRE WATER AGREEMENT
- PROPOSED S104 COMBINED WATER SUBJECT TO YORKSHIRE WATER AGREEMENT
- PROPOSED HIGHWAY GULLY & HIGHWAY MANHOLE SUBJECT TO S38 AGREEMENT
- PROPOSED PRIVATE SURFACE WATER
- PROPOSED SURFACE WATER ACCESS CHAMBER (MIN 600Ø CHAMBER)
- PROPOSED PRIVATE ACO CHANNEL
- ATTENUATION CRATES WITH VENT PIPE. VENT PIPE LOCATION TO BE CONFIRMED BY ARCHITECT
- PROPOSED PRIVATE FOUL WATER (MIN 600Ø CHAMBER)
- EXISTING YORKSHIRE WATER COMBINED WATER SEWER
- EXISTING YORKSHIRE WATER SURFACE WATER CULVERT
- SEWER EASEMENT
- SITE BOUNDARY

REV	DATE	DESCRIPTION	BY	CHK	APP
P03	04/11/2023	UPDATED TO SUIT LLFA COMMENTS	JP	KOB	KOB
P02	16/08/2023	UPDATED TO SUIT LATEST LAYOUT	JP	KOB	KOB
P01	28/07/2023	PRELIMINARY ISSUE	JP	KOB	KOB

DRAWING STATUS: **PRELIMINARY**

CLIENT: WESTSHIELD

ARCHITECT: BERNARD TAYLOR PARTNERSHIPS

PROJECT: DOWKER STREET, MILNESBRIDGE, HUDDERSFIELD

TITLE: DRAINAGE LAYOUT

STATUS:	PROJECT No.	PROJECT	ORIGINATOR	VOL/SYS	LEVEL	TYPE	ROLE	DRAWING No.	REV:
S2	223-043	DSH	AJP	XX	00	DR	C	0900	P03

SCALE @ A1:	DESIGNED:	DRAWN:	CHECKED:	APPROVED:	DATE:
1:200	JP	JP	KOB	KOB	JULY 2023

AJP consulting engineers
est. 1979
0151 227 1462 info@ajpltd.co.uk 01 Dale Street, Liverpool, L2 2ET