





TRIAL HOLE 1
384683.269E
397734.630N
40.280m TOP OF SERVICE

TRIAL HOLE 2
384656.093E
397725.734N
40.650m TOP OF SERVICE

TRIAL HOLE 3
384647.336E
397722.936N
40.580m TOP OF SERVICE

HEALTH & SAFETY: THE WORKS SHALL BE CARRIED OUT BY SPECIALIST COMPETENT AND EXPERIENCED CONTRACTORS. ALL OPERATIVES SHALL HAVE RECEIVED FULL AND APPROPRIATE TRAINING WITH APPROPRIATE QUALIFICATIONS FOR THE OPERATIONS THEY ARE REQUIRED TO UNDERTAKE. ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT HEALTH & SAFETY REGULATIONS.

DRAINAGE NOTES

ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER FOR ACTION PRIOR TO CONSTRUCTION.

ALL DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY AND IN CONJUNCTION WITH ALL RELEVANT BRITISH STANDARDS, CODES OF PRACTICE AND 'SEWERS FOR ADOPTION' 7TH EDITION AND ADDENDUMS AS APPROPRIATE.

ALL DRAINAGE SHALL COMPLY WITH THE TYPICAL DRAINAGE CONSTRUCTION DETAILS AND THE REQUIREMENTS OF BS EN 752.

ACCESS COVERS AND FRAMES SHALL COMPLY WITH THE LOADINGS SPECIFIED AND TO BS EN 124 AND KITEMARKED OR IF RECESSED COVERS ARE SPECIFIED THEN IN ACCORDANCE WITH FACTA ASSOCIATION EQUIVALENT.

ALL INTERNAL COVERS TO BE DOUBLE SEALED RECESSED COVERS TO ACCEPT PROPOSED FLOOR FINISHES.

THE PROPOSED BUILDING OUTLINES SHOWN ON THIS DRAWING ARE FOR INFORMATION ONLY. REFER TO ARCHITECTS PLANS FOR SETTING OUT INFORMATION AND DETAILS.

FOR SETTING OUT DIMENSIONS OF SS'S, SVP'S, RWP'S, FLOOR GULLY & OTHER DRAINAGE 'POP UP' LOCATIONS, REFER TO ARCHITECTS OR MECHANICAL & ELECTRICAL ENGINEERS DRAWINGS. LOCATION OF EXTERNAL CHANNEL DRAINS AND GULLY LOCATIONS / REQUIREMENTS TO BE CONFIRMED BY ARCHITECT.

ALL DRAINAGE PIPEWORK SHOWN SHALL BE 100MM DIAMETER FOR FOUL AND 150MM FOR SURFACE WATER UNLESS NOTED OTHERWISE.

ALL DRAINAGE PIPEWORK SHALL BE LAID SOFFIT TO SOFFIT UNLESS NOTED OTHERWISE.

ALL UNDERSLAB DRAINAGE SHALL BE LAID AT GRADIENTS OF 1:80 MIN. FOR FOUL PIPEWORK AND 1:100 MIN. FOR SURFACE WATER UNLESS NOTED OTHERWISE. ALL UNDERSLAB DRAINAGE SHALL BE CLEAR OF FOUNDATIONS UNLESS SHOWN OTHERWISE.

ALL BENDS IN PIPEWORK TO BE AS LARGE A RADIUS AS POSSIBLE (EXCLUDING CONNECTIONS TO CHAMBERS) TO ENSURE FREE FLOW. SHORT RADIUS BENDS TO BE AGREED WITH DRAINAGE ENGINEER.

ALL SURFACE WATER DROP DOWN POSITIONS SHALL HAVE A BEND SET AT INVERT LEVEL NO GREATER THAN 1.3M BELOW FINISH FLOOR LEVEL.

AT LEAST ONE SOIL PIPE AT THE HEAD OF EACH FOUL RUN SHALL BE VENTED TO THE ATMOSPHERE. ALL SVPS, SSS AND RWP DOWNPIPES SHALL BE ACCESSIBLE AT GROUND LEVEL FOR RODDING PURPOSES.

COVER LEVELS SHOWN ON THIS DRAWING ARE APPROXIMATE AND SHALL BE ADJUSTED TO SUIT LEVELS ON SITE BY CONTRACTOR. COVERS SHALL BE ORIENTATED TO SUIT PAVEMENT FINISHES WHERE APPROPRIATE.
ALL COVER LEVELS ARE TO BE CONFIRMED BY THE ARCHITECT

CONCRETE ENCASEMENT OF THE PIPEWORK SHALL BE REQUIRED WHERE VERTICAL CLEARANCE BETWEEN TWO PIPES CROSSING IS LESS THAN 300MM.

WHERE NEW DRAINAGE IS SITUATED WITHIN 5 METRES OF NEW OR EXISTING TREES THE PIPEWORK SHALL BE ENCASED IN CONCRETE TO REDUCE THE RISK OF ROOT INGRESS.

ALL DRAINAGE CONNECTING TO THE PUBLIC SEWER NETWORK SHALL NOT COMMENCE UNTIL RECEIPT OF THE APPROVAL FROM THE DRAINAGE AUTHORITY AND SHALL COMPLY WITH REQUIREMENTS USING VITRIFIED CLAY PIPEWORK TO BS EN 295 WITH PLAIN SLEEVED OR SOCKETED FLEXIBLE JOINTS SUBJECT TO APPROVAL.

SEWER AND DRAIN TESTING

ALL SEWERS AND DRAINS CONSTRUCTED AS PART OF THE CONTRACT SHALL BE TESTED AFTER THEY ARE JOINTED AND BEFORE ANY CONCRETE OR BACKFILLING IS COMMENCED, OTHER THAN SUCH AS MAY BE NECESSARY FOR STRUCTURAL STABILITY WHILST UNDER TEST

TESTING SHALL BE IN ACCORDANCE WITH SfA AND BS EN 1610

ADDITIONAL TESTING MAYBE REQUIRED AS INSTRUCTED BY THE WATER COMPANY AND/OR HIGHWAYS INSPECTOR/REPRESENTATIVE

AIR TESTS SHALL BE CARRIED OUT IN ACCORDANCE WITH SfA SECTION 5.7.4 AND BS EN 1610

WATER TESTS SHALL BE CARRIED OUT IN ACCORDANCE WITH SfA SECTION 5.7.5 AND BS EN 1610

VISUAL INSPECTIONS (CCTV SURVEY) SHALL BE CARRIED OUT, FOLLOWING COMPLETION OF ALL DRAINAGE WORKS, BY A QUALIFIED CONTRACTOR, AND IN ACCORDANCE WITH THE "WSA/FWR MODEL CONTRACT DOCUMENT FOR SEWER CONDITION INSPECTIONS"

CONNECTION INTO EXISTING SURFACE WATER RUN VIA INTERNAL 150Ø VERTICAL BACKDROP CONNECTION LEVEL 39.327, MANHOLE CL 41.300

EXISTING FOUL CHAMBER 450MM ET11 IL35.900

MANHOLE CL 41.300 LEVEL PROVIDED BY CONTRACTOR ON 08.02.24

PROPOSED 150mm FOUL WATER PIPE PLACED THROUGH EXISTING GAP IN PILE FOUNDATIONS TO BE CONNECTED INTO EXISTING UNITED UTILITIES FOUL RUN ON GRANBY ROW.

BACK DROP ON INTERNAL SIDE OF BASEMENT RETAINING WALL. M&E ENGINEER TO CONFIRM INTERNAL POP UP POSITION TO BELOW GROUND. 150mm DIAMETER PIPE TO PENETRATE THROUGH EXISTING RETAINING WALL.

HYDROBRAKE CTL-SHE-0133-1080-1845-1080 AT DESIGN FLOW: 10.8l/s DESIGN HEAD: 1.845m

2NO. 15 DEGREE ELBOW BENDS

AS-BUILT MANHOLE, MANHOLE COORDINATES AND INVERT LEVEL PROVIDED BY B+K ON 18.04.2024 VIA EMAIL

PROPOSED 150mm SURFACE WATER PIPE PLACED THROUGH EXISTING GAP IN PILE FOUNDATIONS TO BE CONNECTED INTO EXISTING UNITED UTILITIES SURFACE WATER RUN ON GRANBY ROW.

1200mm x 675mm MANHOLE ACCESS LID AND LADDER TO BE POSITIONED TO THE WEST OF THE CHAMBER TO ALLOW CLEAR ACCESS INTO MANHOLE. PART OF MANHOLE COVERED BY PROPOSED DOMESTIC WATER TANK RESTRICTING ACCESS ON THE EAST OF MANHOLE. POSITION FOR ACCESS LID SHOWN IS INDICATIVE.

150mm VERTICAL GAP BETWEEN CROSSING PIPES

150mm VERTICAL GAP BETWEEN CROSSING PIPES

218mm VERTICAL GAP BETWEEN CROSSING PIPES

162mm VERTICAL GAP BETWEEN CROSSING PIPES

FG OUT: BD IL 39.838

CONNECTION INTO EXISTING FOUL MANHOLE MH8722 FURTHER DOWN ECHO STREET TO BE CONFIRMED WITH UNITED UTILITIES THROUGH AN S104 APPROVAL. EXISTING FLOW DIRECTION TO BE OBTAINED. UPSTREAM NETWORK SUBJECT TO ADJUSTMENT FOLLOWING OBTAINING FLOW DIRECTION. ADDITIONAL MANHOLE TO BE ADDED AND CONSTRUCTED WITHIN CARRIAGEWAY, SUBJECT TO S104 APPLICATION ADJUSTMENT APPROVAL.

PERMEABLE PAVING CONTAINING 100MM DEEP TYPE 3 SUB BASE ASSEMBLY TYPE 3 (150MM DEEP MINIMUM) SUBJECT TO RWP REQUIRED SURFACE WATER RUN-OFF RATE AND STORAGE VOLUME. LOCATION, WITH UNDER SIDE OF PERMEABLE PAVING AREA INDICATES TYPE 3 SUB BASE VENTURIS STORAGE FEATURE.

ROCKER PIPES TO BE INSTALLED EITHER SIDE OF CONCRETE CORE WALL

TOC=DEPTH PIPE TO BE INSTALLED EITHER SIDE OF CONCRETE CORE WALL

RAINWATER HARVESTING TANK CL 41.300m INLET-OUTLET IL 39.925m 250DI

IL AT BD 39.700m

ORIFICE FLOW CONTROL 34mm

ABOVE GROUND RODDING ACCESS TO BE PROVIDED BY M+E ENGINEER

EXISTING FOUNDATION PILES TO BE BROKEN OUT TO FACILITATE TOS AND DRAINAGE

FOR DRAINAGE IN WESTERN COURTYARD REFER TO LANDSCAPE ARCHITECTS PLANS. AS CONNECTION ARE ABOVE GROUND REFER TO M+E CONSULTANTS DRAWINGS FOR CONNECTION POINTS

DRAINAGE CHANNEL OUTLET THROUGH EXISTING RETAINING WALL AND INTO AN EXTERNAL DOWN PIPE. SURFACE WATER TO BE COLLECTED BY YARD GULLY.

INSUFFICIENT LEVELS INFORMATION IN THIS AREA. TO BE CONFIRMED ON SITE

NOTE
POP UP LOCATIONS TAKEN FROM M&E AND ARCHITECT CONSTRUCTION ISSUE DRAWINGS.

NOTE
BELOW GROUND DRAINAGE NETWORK IS SUBJECT TO CHANGE ON RECEIPT OF ADDITIONAL SURVEY INFORMATION I.E. GPR SURVEY AND FURTHER CCTV SURVEY

STANDARD NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECT'S AND ENGINEER'S DRAWINGS AND THE SPECIFICATIONS.
2. THIS DRAWING SHOULD NOT BE SCALED.
3. ALL DIMENSIONS ARE TO BE VERIFIED BY THE CONTRACTOR ON SITE.
4. ALL DISCREPANCIES SHOULD BE REPORTED TO C.A./E.A. PRIOR TO THE COMMENCEMENT OF WORKS.

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KEY

- DEVELOPMENT BOUNDARY
- NETWORK RAIL OWNERSHIP BOUNDARY
- LAND OWNERSHIP BOUNDARY
- RWP RAIN WATER PIPE
- DC DRAINAGE CONNECTION
- FG FLOOR GULLY
- SS STUB STACK
- SVP SOIL VENT PIPE
- YG YARD GULLY
- PROPOSED FOUL WATER MANHOLE/INSPECTION CHAMBER
- PROPOSED FOUL WATER BRANCH PIPE, 100mmØ UNLESS STATED OTHERWISE
- PROPOSED FOUL WATER PIPE, 150mmØ UNLESS STATED OTHERWISE
- PROPOSED SURFACE WATER PIPE, 150mmØ UNLESS STATED OTHERWISE
- PROPOSED SURFACE WATER BRANCH PIPE, 100mmØ UNLESS STATED OTHERWISE
- PROPOSED SURFACE WATER INSPECTION CHAMBER
- EXISTING COMBINED DRAINAGE TO BE RETAINED
- ACO OUTLET SUMP UNIT
- ACO MULTIDRAIN PPD - M100PPD 0.0J
- PERMEABLE PAVING WITH TYPE 3 SUB BASE PROVIDING ATTENUATION
- BD FOUL WATER BACKDROP
- BD SURFACE WATER BACKDROP
- RAINWATER HARVESTING TANK DESIGNED BY OTHERS
- ACO MULTIDRAIN PPD - M100PPD 0.0J - WITH 1% SLOPE
- THRESHOLD DRAINS
- THRESHOLD OUTLET SUMP UNIT
- OVERLAND FLOW ROUTE
- PERFORATED PIPE

DATE	REV	DESCRIPTION	DRAWN	CHKD
27.11.24	C06	RWH TANK REVISED FOLLOWING COMMENTS	TC	CK
23.04.24	C05	AMENDED FOLLOWING B+K COMMENTS	TC	JF
07.03.24	C04	AMENDED FOLLOWING B+K COMMENTS	TC	CK
09.02.24	C03	AMMENDED POP UP LOCATIONS	BW	TC
05.01.24	C02	AMENDED TO B&K COMMENTS	BW	TC
08.12.23	C01	ISSUED FOR CONSTRUCTION	BW	TC
25.09.23	P04	ISSUED FOR INFORMATION	TC	CK
05.09.23	P03	THRESHOLD DRAINS AND DRAINAGE UPDATED	BW	CK
01.09.23	P02	DRAINAGE LAYOUT UPDATED	BW	TC
09.08.23	P01	ISSUED FOR STAGE 3	BW	CK

Civic Engineers
MANCHESTER Carver's Warehouse, 77 Dale Street, Manchester, M1 2HG. Tel: 0161 228 6757
LONDON Reeds Wharf, 33 Mill Street, London SE1 2AX. Tel: 020 7253 2977
LEEDS 1 Saw Mill Street, Water Lane, Leeds, LS11 5WE. Tel: 0113 2426 140
GLASGOW 33 Virginia Street, Glasgow, G1 1TN. Tel: 0141 370 1829
www.civicengineers.com

PROJECT
ECHO STREET

TITLE
DRAINAGE LAYOUT

DRAWING STATUS				STATUS CODE
CONSTRUCTION				-
CE PROJECT No.	SCALE @ A1	DATE CREATED	DRAWN	CHECKED
2925	1:200	AUG'23	BW	CK
DRAWING No.				REV
63073-CCE-ZZ-ZZ-DR-C-52001				C06

FOR CONSTRUCTION

FILE LOCATION PATH: P:\PROJECTS HOT\2925 PROJECT ECHO\004 BIM\CIVILS\DRAWINGS\63073-CCE-ZZ-ZZ-DR-C-52001.DWG