© Buro Happold Limited or its group companies.
All Rights reserved. Buro Happold and its group companies await (unless otherwise agreed in writing) their rights under s.77 & 89 of the Copyright, Designs and Patents Act 1988.
Buro Happold does not endorse use or supply of material that would breach any laws, sanctions or other restrictive measures in any jurisdiction including but not limited to use or supply of steel or its components originating from Russia.

DO NOT SCALE THIS DRAWING.

HEALTH AND SAFETY INFORMATION

IN ADDITION TO THE HAZARDS RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING

CONSTRUCTION:
- WORKS IN PROXIMITY TO UNITED UTILITIES PUBLIC SEWER AND EASEMENT REQUIREMENTS
- WORKS IN PROXIMITY TO LIVE SERVICES
- WORKS INTERFACE WITH EXISTING BUILDINGS WITH ACCESS TO BE MAINTAINED DURING WORKS

MAINTENANCE/CLEANING/OPERATION:
- WORKS IN PROXIMITY TO UNITED UTILITIES PUBLIC SEWER AND EASEMENT REQUIREMENTS
- WORKS IN PROXIMITY TO LIVE SERVICES
- WORKS INTERFACE WITH EXISTING BUILDINGS WITH ACCESS TO BE MAINTAINED DURING WORKS

DECOMMISSIONING/DEMOLITION:
- WORKS IN PROXIMITY TO UNITED UTILITIES PUBLIC SEWER AND EASEMENT REQUIREMENTS
- WORKS IN PROXIMITY TO LIVE SERVICES
- WORKS INTERFACE WITH EXISTING BUILDINGS WITH ACCESS TO BE MAINTAINED DURING WORKS

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
2. THE DESIGN OF THIS SCHEME HAS BEEN BASED ON THE FOLLOWING DRAWINGS AND INFORMATION:
   - TOPOGRAPHICAL, GPR and CCTV SURVEY DRAWING No. 524432-U RECEIVED JULY 2023, BY SURVEY OPERATIONS
   - ARCHITECT'S PROPOSED GROUND FLOOR PLAN DRAWING No. 103040-HBA-YY-00-DR-A-200100 RECEIVED 31.03.26, BY HAWKINS BROWN
   - TREE CONSTRAINTS PLAN DRAWING No. TR-01 RECEIVED 04.02.19, BY PLANT-IE
   - LANDSCAPE ARCHITECT PROPOSED GENERAL ARRANGEMENT PLAN DRAWING No. 103040-PLA-XX-XX-DR-L-000001 RECEIVED 26.03.26, BY PLANT-IE
   - PROPOSED FOUNDATION GENERAL ARRANGEMENT DRAWING No. 103040-BHE-ZZ-FN-DR-S-000801 BY BURO HAPPOLD STRUCTURAL ENGINEERS.
   - PROPOSED PUBLIC HEALTH POP-UPS DRAWING PROVIDED BY BURO HAPPOLD MEP ENGINEERS.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS, DETAILS AND SPECIFICATIONS.
4. ALL ABOVE GROUND RAINWATER AND SANITARY PIPEWORK IS SHOWN INDICATIVELY. REFERENCE SHOULD BE MADE TO MEP DESIGN DRAWINGS FOR ALL ABOVE GROUND DRAINAGE APPARATUS.
5. PROPOSED DRAINAGE HAS BEEN COORDINATED WITH EXISTING UTILITIES AS FAR AS PRACTICABLE WITH THE INFORMATION AVAILABLE. CONTRACTOR TO UNDERTAKE UP-TO-DATE SURVEY TO IDENTIFY EXISTING UTILITIES WHICH HAVE BEEN INSTALLED FOLLOWING THE PREVIOUS GPR SURVEY.
6. PROPOSED DRAINAGE HAS BEEN COORDINATED WITH PROPOSED AND EXISTING FOUNDATIONS AS FAR AS PRACTICABLE. CONTRACTOR TO CONFIRM EXISTING FOUNDATIONS ON SITE.
7. REFER TO LANDSCAPE, STRUCTURAL AND MEP SPECIFICATIONS FOR ASSOCIATED DETAILS.
8. ALL INSPECTION CHAMBERS GREATER THAN 1.2m DEPTH TO BE FITTED WITH RESTRICTED ACCESS REDUCER SUCH AS POLYPIPE UG514 OR EQUIVLANT APPROVED.
9. TOTAL ATTENUATION VOLUME PROVIDED IN BIORETENTION AREAS = 19m³ BASED ON A MAXIMUM DISCHARGE RATE OF 7.1 L/S DISCHARGING TO EX MH15. THIS DISCHARGE RATE IS A MINIMUM OF 50% BETTERMENT ON EXISTING BROWNFIELD DISCHARGE RATES FOR NEW CORE ROOF AREA TO BE PROVIDED AS AGREED IN PRINCIPLE WITH UNITED UTILITIES. EXISTING ROOF AREAS / HARDSTANDING TO DISCHARGE AS PER EXISTING DRAINAGE REGIME.
10. PRIOR TO THE COMMENCEMENT OF WORK THE LOCATION, SIZE AND DEPTH OF ALL EXISTING DRAINS/SEWERS AND SERVICES SHALL BE ESTABLISHED BY THE CONTRACTOR. ANY DISCREPANCIES FROM THE INFORMATION INDICATED ON THESE DRAWINGS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ARCHITECT OR ENGINEER.
11. PRIOR TO THE COMMENCEMENT OF WORK, THE CONDITION OF EXISTING DRAINAGE TO BE RETAINED MUST BE CONFIRMED TO DETERMINE WHETHER ANY REMEDIAL WORKS ARE REQUIRED.
12. THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION, TEMPORARY AND PERMANENT SUPPORT AND DIVERSION WORKS AS NECESSARY, TO ALL EXISTING SERVICES TO THE SATISFACTION OF THE PUBLIC UTILITIES.
13. ANY DRAINAGE TO BE ABANDONED SHALL BE DONE IN ACCORDANCE WITH MCHW CC 500 - DRAINAGE DOCUMENT.
14. DRAINAGE TO BE ABANDONED MUST BE PROVEN TO BE NOT IN USE BEFORE BEING ABANDONED. IF FOUND TO BE LIVE, CONTRACTOR WILL NEED TO PROVE TYPE (SURFACE OR FOUL WATER) AND CONNECT TO APPROPRIATE SYSTEM.
15. REFER TO DRAWING 103040-BHE-XX-XX-DR-C-003800 FOR MANHOLE SCHEDULES.
16. ALLOWANCE TO BE MADE FOR REMEDIATION OF RETAINED DRAINAGE E.G. JETTING.
17. LANDSCAPE ARCHITECTS TO SET OUT ALL PROPOSED GULLIES AND THRESHOLD DRAINS.
18. SETTING OUT OF ALL DROP POINTS INTO BELOW GROUND DRAINAGE NETWORK TO BE PROVIDED BY THE ARCHITECT.
19. LOCALISED NOTCHES WITHIN SLAB THICKENING TO ALLOW FOR BELOW GROUND DRAINAGE. REFER TO STRUCTURAL ENGINEERS DRAWINGS.

LEGEND

- RED LINE BOUNDARY
- MANCUNIAN WAY ELEVATED CARRIAGEWAY
- ELEVATED CARRIAGEWAY NO DIG ZONE (INDICATIVE)
- EXISTING COMBINED WATER PRIVATE DRAINAGE
- EXISTING COMBINED WATER PUBLIC SEWER
- EXISTING COMBINED WATER PUBLIC SEWER EASEMENT
- EXISTING DRAINAGE CHANNEL
- EXISTING DRAINAGE TO BE ABANDONED
- EXISTING GULLY TO BE ABANDONED
- EXISTING GULLY TO BE RETAINED (EX G)
- EXISTING RAINWATER PIPE TO BE RETAINED (EX. RWP)
- EXISTING FOUNDATIONS TO BE MAINTAINED
- PROPOSED SURFACE WATER DRAIN
- PROPOSED EXTERNAL BACKDROP (BD)
- PROPOSED RAINWATER PIPE AND BELOW GROUND DRAIN (RWP)
- PROPOSED GULLY (PR G)
- PROPOSED ROOF AREA (REQUIRES 50% BETTERMENT ON EXISTING DISCHARGE RATES)
- PROPOSED BIORETENTION FEATURE WITH GRANULAR STORAGE LAYER AND PERFORATED PIPEWORK
- PROPOSED RODDING EYE
- PROPOSED FILTER DRAIN FOR INTERIM CONSTRUCTION PERIOD
- PROPOSED FOUNDATIONS (PILE CAP, PILES, GROUND BEAM) (PC03)

EXISTING DN300 PRIVATE COMBINED DRAIN SERVING EXISTING SITE TO BE RETAINED AND CONNECTION TO UU SEWER.

EXISTING PRIVATE COMBINED DRAIN SERVING EXISTING SITE TO BE RETAINED AND CONNECTION TO UU SEWER. PROPOSED SURFACE WATER NETWORK IS TO CONNECT TO THE EXISTING NETWORK HERE.

EX MH15
CL = 37.00m
EX IL = 34.740m
BD IL = 35.600m

EX MH 15
CL: 37.00
IL: 34.74
1400x1000

UU MH1102
CL: 37.14m
IL: 27.81m

300Ø

drop kerb in front of crossing

Drop kerb in front of Sandra Burslem door

Drop kerb to facilitate emergency

BACKDROP AND WASTOP INLINE CHECK VALVE (OR EQUIVALENT ALTERNATIVE) ON UPSTREAM PIPE TO MITIGATE RISK OF ODOURS OR SURCHARGE FROM EXISTING COMBINED WATER NETWORK.

EXISTING DRAINAGE TO BE REMOVED AS PART OF NEW BUILD SCHEME.

EX G

EX RWP

BD

300Ø @ 1:84

MH S08
CL = 37.200m
IL = 35.650m
BD IL = 36.200m
1.2m DIAMETER CHAMBER
50MM ORIFICE PLATE ON OUTGOING PIPE TO RESTRICT FLOWS IN SURFACE WATER NETWORK TO BETTERMENT FLOW RATE LESS THAN 7.1 L/S.

150Ø @ 1:61

300Ø @ 1:141

FILTER DRAIN TO BE INSTALLED AS AN INTERIM MEASURE TO MANAGE OVERLAND FLOWS FOR PERIOD BETWEEN COMPLETION OF REFURBISHMENT SCHEME AND NEW BUILD SCHEME EXTERNAL WORKS.
450mm WIDTH x 500-900mm DEPTH

EXISTING RWPS AND DOWNSTREAM PIPEWORK TO BE RETAINED. EXISTING RWPS TO DRAIN A PORTION OF EXISTING ROOF AREA. REFER TO MEP ENGINEERING INFORMATION FOR ROOF DRAINAGE STRATEGY.

CCTV SURVEY EVIDENCE FROM 2023 AND HISTORIC DRAWING SHOWS THIS CONNECTS TO THE EXISTING COMBINED WATER PRIVATE DRAINAGE NETWORK TO THE NORTH OF THE SITE.

EXISTING CATCHMENT 2 = 0.033 HECTARES
EXISTING FLOW RATE 2 = 4.5 L/S
CATCHMENT 2 TO MAINTAIN EXISTING RWPS.

EXISTING CATCHMENT 3 = 0.037 HECTARES
EXISTING FLOW RATE 3 = 5.0 L/S
CATCHMENT 3 TO BE REDIRECTED TO THE NEW RWP IN CORE.

FILTER DRAIN DOWNSTREAM
CL = 37.190m
IL = 36.265m

MH S07
CL = 37.210m
IL = 35.750m
600mm DIAMETER CHAMBER

MH S06
CL = 37.210m
IL = 35.800m
600mm DIAMETER CHAMBER

300Ø @ 1:116

225Ø @ 1:25

MH S05
CL = 37.200m
IL = 35.925m
450Ø PPIC

BIORETENTION AREA 3
CL = 37.310m
IL = 35.925m
100mm ASSUMED PONDING DEPTH
150mm TOP SOIL TO LANDSCAPE ARCHITECTS SPECIFICATION
350mm SUB SOIL TO LANDSCAPE ARCHITECTS SPECIFICATION
700mm GRANULAR STORAGE LAYER (30% POROSITY)

FILTER DRAIN 1:300 @ 1:200

EX. RWP 3

EX. RWP 2

EX. RWP 1

EXISTING UNITED UTILITIES' COMBINED WATER PUBLIC SEWER IS LOCATED BENEATH THE EXISTING BUILDING STRUCTURE. EASEMENT SHOWN IS BASED ON DIAMETER AND DEPTH OF THE SEWER. THE EASEMENT IS REQUIRED FOR UU FOR ACCESS AND MAINTENANCE PURPOSES. ANY WORKS WITHIN OR IN CLOSE PROXIMITY TO THE EASEMENT IS SUBJECT TO CONSULTATION WITH UNITED UTILITIES.

EXISTING RWP AND DOWNSTREAM DRAIN TO BE RETAINED AND USED TO DRAIN A PORTION OF THE EXISTING ROOF AREA. CCTV SURVEY EVIDENCE FROM 2023 SHOWS THIS CONNECTS TO THE EXISTING COMBINED WATER PRIVATE DRAINAGE NETWORK TO THE SOUTH OF THE SITE.

EXISTING CATCHMENT AREA 1 = 0.009 HECTARES
EXISTING DISCHARGE RATE 1 = 1.2 L/S

PROPOSED RAINWATER PIPE TO CONNECT TO BIORETENTION AREA 3 WITHIN GRANULAR STORAGE LAYER.

150Ø OUTGOING
IL = 36.400m

RWP

AN ASSESSMENT HAS BEEN MADE FOR THE EXISTING BROWNFIELD SURFACE WATER DISCHARGE RATES FROM THE EXISTING ROOF AREA AND ROOF AREA OF THE NEW CORE STRUCTURE. A MINIMUM OF 50% BETTERMENT IS TO BE PROVIDED FOR THE ROOF AREA OF THE NEW CORE STRUCTURE. EXISTING FLOWS HAVE BEEN CALCULATED USING MODIFIED RATIONAL METHOD BASED ON ROOF AREA OF NEW CORE.
EXISTING ROOF CATCHMENT AREA = 0.031 HA
EXISTING ROOF FLOW RATE = 4.2 L/S
PROPOSED BETTERMENT FLOW RATE = 2.1 L/S

MH S04
CL = 37.100m
IL = 36.010m
450Ø PPIC

MH S02
CL = 37.050m
IL = 36.055m
450Ø PPIC

MH S03
CL = 37.050m
IL = 36.030m
450Ø PPIC

BIORETENTION AREA 2
CL = 37.150m
IL = 36.010m
100mm ASSUMED PONDING DEPTH
150mm TOP SOIL TO LANDSCAPE ARCHITECTS SPECIFICATION
300mm SUB SOIL TO LANDSCAPE ARCHITECTS SPECIFICATION
550mm GRANULAR STORAGE LAYER (30% POROSITY)

225Ø @ 1:215

225Ø @ 1:200

225Ø @ 1:200

225Ø @ 1:200

225Ø @ 1:200

EXISTING DRAINAGE PREVIOUSLY SERVING EXISTING LIBRARY BUILDING TO ABANDONED AND REMOVED TO ALLOW FOR INSTALLATION OF NEW DRAINAGE NETWORK.

BIORETENTION AREA 1
CL = 37.000m
IL = 36.100m
50mm ASSUMED PLANTING DEPTH
150mm TOP SOIL TO LANDSCAPE ARCHITECTS SPECIFICATION
300mm SUB SOIL TO LANDSCAPE ARCHITECTS SPECIFICATION
400mm GRANULAR STORAGE LAYER (30% POROSITY)

RODDING EYE FOR ACCESS AND MAINTENANCE PURPOSES.

Ornamental planting

Trees in pots

Wayfinding

Wayfinding

PR G

BD

150Ø @ 1:5

EX MH 3
CL: 37.20m
IL: 34.83m
1200x1000

150Ø

EX MH 4
CL: 37.20m
IL: 34.52m

225Ø

EX MH 5
CL: 37.20m
IL: 34.63m
1200x1000

225Ø

PR G

225Ø @ 1:200

MH S01
CL = 37.000m
IL = 36.100m
450Ø PPIC

EX MH 6
CL: 37.23m
IL: 34.81m
1250x1000

225Ø @ 1:200

PROPOSED GULLY TO CONNECT TO PERFORATED PIPEWORK WITHIN BIORETENTION AREA 1.

UU MH2102b
CL: 37.05m
IL: 28.32m

PROPOSED GULLY TO CONNECT TO EXISTING CHAMBER.

UU MH2102a
CL: 37.02
IL: 28.32m

EXISTING DRAINAGE CHANNEL TO BE RETAINED.

Buisness school paving extended

EXISTING CONNECTION TO UNITED UTILITIES (UU) COMBINED WATER PUBLIC SEWER IS MAINTAINED. ACCESS TO EXISTING UU MANHOLE MUST BE MAINTAINED FOR MAINTENANCE PURPOSES.

PROPOSED COMBINED WATER PRIVATE DRAINAGE TO BE MAINTAINED FOR PROPOSED FOUL WATER DRAINAGE CONNECTION.

EXISTING GULLY AND BRANCH CONNECTION TO CHAMBER TO BE MAINTAINED.

PROPOSED SOFT LANDSCAPING TO BE USED AS A SUDS FEATURE (BIORETENTION) AND INCLUDE A LAYER OF GRANULAR STORAGE BENEATH PLANTING TO PROVIDE BETTERMENT.

FILTER DRAIN UPSTREAM
CL = 37.035
IL = 36.535

EXISTING DRAINAGE PREVIOUSLY CONNECTED TO GULLY. ABANDONED AS PART OF ALL SAINTS PARK WORKS UNDERTAKEN TO DATE.

EX G

SCALE BEFORE REDUCTION
2 1 0 2 4 6 8
1 : 100

Rev	Description	Date	Isst'd	Rev'd	App'd
P06	STAGE 4 ISSUE	10/04/2026	NC	NC	PA
P05	STAGE 4 INTERIM ISSUE	20/02/2026	TB	NC	PA
P04	PLANNING ISSUE - UPDATED RLB	28/01/2026	TB	NC	MW
P03	PLANNING ISSUE - UPDATED RLB	23/01/2026	TB	NC	MW
P02	PLANNING ISSUE	09/01/2026	TB	NC	AH
P01	STAGE 3 ISSUE	19/12/2025	TB	NC	AH

RIBA STAGE 4

Project Stage

S4 - For Review and Authorisation

Status of Drawing

BURO HAPPOLD

2nd Floor, Eastgate
Castle Street
Manchester M3 4LZ
UK

Tel: +44 (0)161 233 5000
Fax: +44 (0)870 787 4143
Email: 000000@burohappold.com
Web: www.burohappold.com

Client: Manchester Metropolitan University
Architect: Hawkins Brown
Project: All Saints West Refurbishment Project
Drg Title: PROPOSED SURFACE WATER DRAINAGE PLAN

Job No.: 067403
Scale@A0: 1:100
Drawn/Designed By: T.Bowers
Checked By: N.Cullen
Approved By: P.Anwyl
Drawing No.: 103040-BHE-XX-XX-DR-C-003100
Revision: P06

Saved by: 000000@burohappold.com 2026-04-10 09:43:00 Last plotted: 2026-04-10 09:43:00 File name: C:\Users\000000\Documents\Projects\067403_All Saints West Refurbishment_MEP Works_000000_000000.rvt