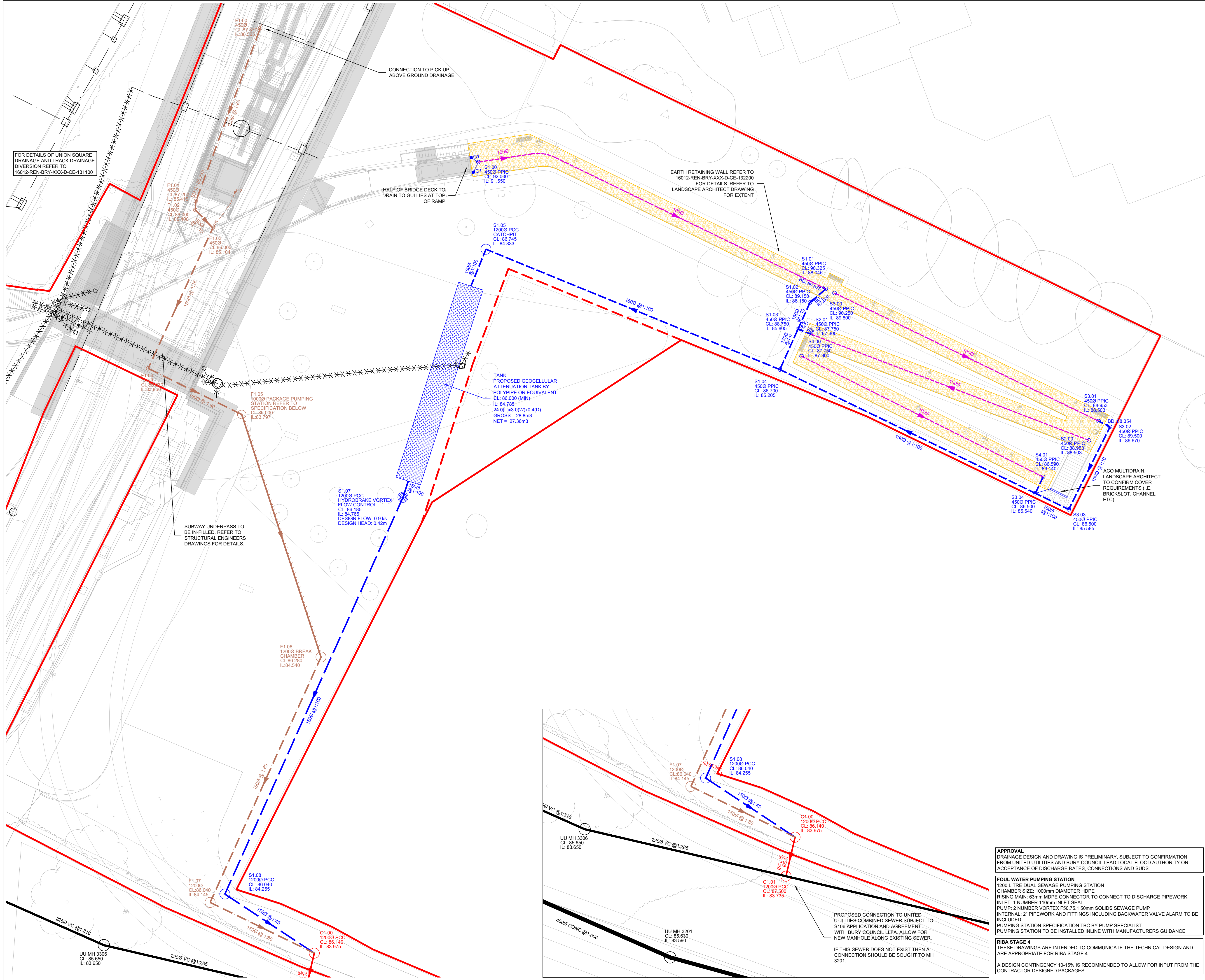




- NOTES:
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RENAISSANCE, ARCHITECTS, LANDSCAPE ARCHITECTS AND BUILDING SERVICES ENGINEERS DRAWINGS.
 - THE FINAL CONNECTIONS TO THE PUBLIC SEWER IS SUBJECT TO UNITED UTILITIES APPROVAL AND IS TO BE IN ACCORDANCE WITH THEIR AGREED DETAILS.
 - ALL BELOW GROUND DRAINAGE WORKS TO BE IN ACCORDANCE WITH RELEVANT BUILDING REGULATIONS AND SEWER SECTOR GUIDANCE APPENDIX C-DESIGN AND CONSTRUCTION GUIDANCE. IF DISCREPANCIES ARE NOTED BETWEEN SSS AND DRAWINGS THESE SHOULD BE BROUGHT TO THE ATTENTION OF RENAISSANCE FOR REVIEW.
 - ALL GULLIES AND CHANNELS ARE TO HAVE RODDABLE ACCESS
 - THE ATTENUATION TANK AND FLOW CONTROL ARE TO BE TO SUPPLIERS DESIGN AND DETAILS. INSTALLATION IS TO BE IN ACCORDANCE WITH THE SUPPLIERS REQUIREMENTS.
 - SEWERS TO BE LAID IN CLASS S BEDDING (150mm DIA GRANULAR BED AND SURROUND), WHERE DEPTH OF COVER TO TOP OF THE SEWER IS LESS THAN: 1.2m IN HIGHWAYS OR VERGES, OR LESS THAN 0.9m IN PEDESTRIAN AREAS. THEN A 150mm DIA CONCRETE SLAB SHOULD BE PROVIDED ABOVE THE GRANULAR BED AND SURROUND.REFER TO DETAILS SHEETS.
 - THE CONTRACTOR IS TO UNDERTAKE A FULL CCTV SURVEY AT COMPLETION OF THE PROJECT TO DEMONSTRATE THAT THE DRAINAGE IS CLEAN ANY DEFECTS ARE TO BE CORRECTED BY THE CONTRACTOR PRIOR TO HANDOVER OF THE SYSTEM TO THE CLIENT.
 - THE CONTRACTOR IS TO KEEP A RECORD SET OF THE AS INSTALLED DRAINAGE ON SITE AND PROVIDE THIS TO RENAISSANCE UPON COMPLETION OF THE WORKS TO ALLOW FOR PRODUCTION OF A FINAL CONSTRUCTION ISSUE DRAWING.
 - DURING THE WORKS ALTERATIONS TO THE DRAINAGE LAYOUT ARE TO BE MARKED UP BY THE CONTRACTOR AND AGREED WITH RENAISSANCE IN WRITING.
 - THE CHAMBER SIZE OF PCC MANHOLES WITH MORE THAN ONE CONNECTION IN THEM MAY NEED TO BE INCREASED AN INCREMENT TO ACCOMMODATE THE CONNECTIONS AND BENDS.
 - MANHOLE COVERS ARE TO BE IN ACCORDANCE WITH BS EN 124 FOR THE RATING INDICATED IN THE MANHOLE SCHEDULE. THE CONTRACTOR IS TO SUBMIT DETAILS FOR THE PROPOSED MANHOLE COVERS TO THE ENGINEER AND LANDSCAPE ARCHITECT FOR REVIEW PRIOR TO INSTALLATION.
 - COVER SLABS MUST CARRY THE BSI KITEMARK. WHERE THE CLEAR OPENING OF THE KITEMARKED PRODUCT IS GREATER THAN THAT OF THE COVER AND FRAME, A LOAD BEARING REDUCING SLAB SHOULD BE FITTED ABOVE THE COVER SLAB TO BRING THE SIZE DOWN TO REQUIRED SIZE.
 - ALL SEWERS TO BE BSI KITEMARK (CERTIFIED TO WIS 4-35-01)
 - ALL CONCRETE PIPES TO BE TO ES EN 1916 CLASS 120 (54kN/m).
 - BEDDING AND BACKFILL MATERIAL TO CONFORM TO THE REQUIREMENTS OF THE WATER INDUSTRY SPECIFICATION 4-08092 (TABLE A2).
 - IF PLASTIC PIPES ARE TO BE USED THEN THE FOLLOWING MUST APPLY:
A. BSI KITEMARK (CERTIFIED TO BS EN 13476-1 AND WIS 4-35-01)
B. PIPES LESS THAN OR EQUAL TO 500mm DIA
C. BEDDING AND BACKFILL MATERIAL TO CONFORM TO THE REQUIREMENTS OF THE WATER INDUSTRY SPECIFICATION 4-08092 (TABLE A2)
 - THE MINIMUM CRUSHING STRENGTH FOR CLAY PIPES SHOULD BE AS FOLLOWS: 100mm DIA. 40kN/m, 150mm DIA DIA. 40kN/m, 225mm DIA. 45kN/m AND 300mm DIA. 72kN/m.
 - THE MINIMUM CRUSHING STRENGTH FOR CONCRETE PIPES SHOULD BE -CLASS 120 TO EN 1916/BS5911-1 2002). PLASTIC PIPES SHOULD CONFORM TO WIS 4-35-01 AND BS EN13476.
 - SULPHATE RESISTANT CEMENT (C20-DC3) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDING THAT SUCH PRECAUTIONS ARE NOT NECESSARY.
 - SEWER PIPES TO BE LAID IN MAXIMUM 3 METER LENGTHS UNLESS THERE IS A SPECIFIC OPERATIONAL NEED TO LAY LONGER PIPES, AND THIS IS AGREED BY THE CONTRACTOR WITH THE PIPE MANUFACTURER.

REF	DESCRIPTION
—	SITE BOUNDARY
—	EXISTING COMBINED WATER SEWER
—	PROPOSED SURFACE WATER DRAINAGE
—	PROPOSED SURFACE WATER DRAINAGE
—	EXISTING PRIVATE DRAINAGE TO BE ABANDONED
—	GEO-CELLULAR ATTENUATION TANK
—	PERMEABLE PAVING SYSTEM REFER TO 16012-REN-BRY-XXX-D-CE-132200 FOR DETAILS
—	TEMPORARY YARD GULLY WITH INTEGRAL REMOVAL SILT BLOCKS
—	ACO TOTALFLOW GULLY - CAST IRON TOP WITH RAINING PIECE AND VERTICAL OUTLET WITH INTEGRATED FOUL AIR TRAP

P09	ISSUED FOR PLANNING CONDITION DISCHARGE	28.08.26	JB	PW
P08	UPDATED TO SUIT SUBWAY COORDINATION	24.07.26	JB	PW
P07	STAGE 4 100% SUBMISSION	27.02.25	JB	PW
P06	STAGE 4 90% SUBMISSION	12.12.25	JB	PW
P05	STAGE 4 50% SUBMISSION	27.10.25	JB	HG
P04	UPDATED TO SUIT CONTRACTOR COMMENTS	24.06.25	HW	PW
P03	UPDATED TO SUIT SURVEY FINDINGS	13.06.25	HW	PW
P02	UPDATED TO SUIT COMMENTS	20.03.25	JB	HG
P01	STAGE 3	28.02.25	JB	BW
Rev:	Description:	Date:	By:	Chkd:



Renaissance Associates Ltd
2nd Floor Tribeca House
21-27 Dale Street
Manchester
M1 1EY

BURY INTERCHANGE

BELOW GROUND DRAINAGE PLAN SHEET 2

STAGE 4

Size:	Date:	Drawn by:	Designed by:	Checked by:
A1	FEB 25	JB	JB	BW

Scale: 1:200 Project No: 2401-09

Project - Originator - Volume - Level - Type - Role - Number: Revision:

16012-REN-BRY-XXX-D-CE-131101 P09

APPROVAL
DRAINAGE DESIGN AND DRAWING IS PRELIMINARY, SUBJECT TO CONFIRMATION FROM UNITED UTILITIES AND BURY COUNCIL LEAD LOCAL FLOOD AUTHORITY ON ACCEPTANCE OF DISCHARGE RATES, CONNECTIONS AND SUDS.

FOUL WATER PUMPING STATION
1200 LITRE DUAL SEWAGE PUMPING STATION
CHAMBER SIZE: 1000mm DIAMETER HDPE
RISING MAIN: 63mm MDPE CONNECTOR TO CONNECT TO DISCHARGE PIPEWORK.
INLET: 1 NUMBER 110mm INLET SEAL
PUMP: 2 NUMBER VORTEX F50.75.1 50mm SOLIDS SEWAGE PUMP
INTERNAL: 2" PIPEWORK AND FITTINGS INCLUDING BACKWATER VALVE ALARM TO BE INCLUDED
PUMPING STATION SPECIFICATION TBC BY PUMP SPECIALIST
PUMPING STATION TO BE INSTALLED IN LINE WITH MANUFACTURERS GUIDANCE

RIBA STAGE 4
THESE DRAWINGS ARE INTENDED TO COMMUNICATE THE TECHNICAL DESIGN AND ARE APPROPRIATE FOR RIBA STAGE 4.

A DESIGN CONTINGENCY 10-15% IS RECOMMENDED TO ALLOW FOR INPUT FROM THE CONTRACTOR DESIGNED PACKAGES.

PROPOSED CONNECTION TO UNITED UTILITIES COMBINED SEWER SUBJECT TO S106 APPLICATION AND AGREEMENT WITH BURY COUNCIL LLFA. ALLOW FOR NEW MANHOLE ALONG EXISTING SEWER.

IF THIS SEWER DOES NOT EXIST THEN A CONNECTION SHOULD BE SOUGHT TO MH 3201.

APPENDIX F

SURFACE WATER DRAINAGE CALCULATIONS

Project: Bury Interchange Phase 1 Pyramid Park	Date: 17/04/2026		
	Designed by: JB	Checked by: PW	Approved By: PW
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address:		



S1.06-TANK

Type : Cellular Storage

Dimensions

Exceedance Level (m)	86.600
Depth (m)	0.400
Base Level (m)	84.785
Number of Crates Long	24
Number of Crates Wide	6
Number of Crates High	1
Porosity (%)	100
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m³)	30.215

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	S1.005
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	S1.006
Outlet Type	Free Discharge

Project: Bury Interchange Phase 1 Pyramid Park		Date: 17/04/2026			
		Designed by: JB	Checked by: PW		Approved By: PW
Report Details: Type: Inflow Summary Storm Phase: Phase		Company Address:			

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area	S1.01		Time of Concentration	0.012	100	0	100	0.012
Catchment Area (1)	S1.01		Time of Concentration	0.012	100	0	100	0.012
Catchment Area (2)	S3.01		Time of Concentration	0.009	100	0	100	0.009
Catchment Area (3)	S2.01		Time of Concentration	0.009	100	0	100	0.009
Catchment Area (4)	S4.01		Time of Concentration	0.008	100	0	100	0.008
Catchment Area (5)	S3.04		Time of Concentration	0.002	100	0	100	0.002
TOTAL		0.0		0.050				0.050

Project: Bury Interchange Phase 1 Pyramid Park	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Outfall Details Storm Phase: Phase	Company Address:			

Outfalls

Outfall	Outfall Type	Gated	Fixed Surcharged Level (m)	Level Curve
OUTFALL	Free Discharge			

Project: Bury Interchange Phase 1 Pyramid Park	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Title: Rainfall Analysis Criteria	Company Address:			

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Default
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall		
FEH		Type: FEH
Site Location	GB 380448 410509 SD 80448 10509	
Rainfall Version	2022	
Summer	☒	
Winter	☒	

Return Period

Return Period (years)	Increase Rainfall (%)
2.0	0.000
30.0	40.000
100.0	45.000

Storm Durations

Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440
960	1920
1440	2880
2160	4320
2880	5760
4320	8640
5760	11520
7200	14400
8640	17280
10080	20160

Project: Bury Interchange Phase 1 Pyramid Park		Date: 17/04/2026			
Report Details: Type: Inflows Summary Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			



FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FEH: 2 years: +0 %: 15 mins: Summer	0.01	2.3	1.011
Catchment Area (1)	FEH: 2 years: +0 %: 15 mins: Summer	0.01	2.2	0.963
Catchment Area (2)	FEH: 2 years: +0 %: 15 mins: Summer	0.01	1.6	0.702
Catchment Area (3)	FEH: 2 years: +0 %: 15 mins: Summer	0.01	1.6	0.705
Catchment Area (4)	FEH: 2 years: +0 %: 15 mins: Summer	0.01	1.5	0.639
Catchment Area (5)	FEH: 2 years: +0 %: 15 mins: Summer	0.00	0.3	0.132

Project: Bury Interchange Phase 1 Pyramid Park	Date: 17/04/2026		
	Designed by: JB	Checked by: PW	Approved By: PW
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address:		





FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FEH: 30 years: +40 %: 15 mins: Summer	0.01	7.1	3.069
Catchment Area (1)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	6.8	2.943
Catchment Area (2)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	4.9	2.130
Catchment Area (3)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	5.0	2.154
Catchment Area (4)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	4.5	1.947
Catchment Area (5)	FEH: 30 years: +40 %: 15 mins: Summer	0.00	0.9	0.393

Project: Bury Interchange Phase 1 Pyramid Park	Date: 17/04/2026		
	Designed by: JB	Checked by: PW	Approved By: PW
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address:		





FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FEH: 100 years: +45 %: 15 mins: Summer	0.01	9.2	3.977
Catchment Area (1)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	8.8	3.806
Catchment Area (2)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	6.4	2.757
Catchment Area (3)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	6.4	2.790
Catchment Area (4)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	5.8	2.517
Catchment Area (5)	FEH: 100 years: +45 %: 15 mins: Summer	0.00	1.2	0.510

Project: Bury Interchange Phase 1 Pyramid Park		Date: 17/04/2026			
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			



FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S1.01	FEH: 2 years: +0 %: 15 mins: Summer	90.32 5	88.04 5	88.077	0.032	4.6	0.005	0.000	4.5	1.972	OK
S1.02	FEH: 2 years: +0 %: 15 mins: Summer	89.15 0	86.15 0	86.180	0.030	4.5	0.005	0.000	4.4	1.972	OK
S2.01	FEH: 2 years: +0 %: 15 mins: Summer	87.75 0	87.30 0	87.333	0.033	1.6	0.005	0.000	1.6	0.703	OK
S1.03	FEH: 2 years: +0 %: 15 mins: Summer	88.75 0	85.80 5	85.837	0.032	6.0	0.005	0.000	6.0	2.674	OK
S1.05	FEH: 2 years: +0 %: 15 mins: Summer	87.74 5	84.83 3	84.905	0.071	8.2	0.081	0.000	7.7	4.125	OK
S3.01	FEH: 2 years: +0 %: 15 mins: Summer	88.95 3	88.50 3	88.522	0.019	1.6	0.003	0.000	1.6	0.701	OK
S3.02	FEH: 2 years: +0 %: 15 mins: Summer	89.50 0	86.67 0	86.687	0.017	1.6	0.003	0.000	1.6	0.700	OK
S3.03	FEH: 2 years: +0 %: 15 mins: Summer	86.50 0	85.58 5	85.616	0.031	1.6	0.005	0.000	1.5	0.698	OK
S3.04	FEH: 2 years: +0 %: 15 mins: Summer	86.50 0	85.54 0	85.582	0.042	3.3	0.007	0.000	3.1	1.467	OK
S4.01	FEH: 2 years: +0 %: 15 mins: Summer	86.59 0	86.14 0	86.153	0.013	1.5	0.002	0.000	1.4	0.638	OK
S1.04	FEH: 2 years: +0 %: 15 mins: Summer	86.70 0	85.20 5	85.279	0.074	9.0	0.012	0.000	8.2	4.137	OK
S1.07-FC	FEH: 2 years: +0 %: 240 mins: Summer	86.18 5	84.76 5	84.878	0.113	0.8	0.128	0.000	0.8	11.775	OK
S1.08	FEH: 2 years: +0 %: 240 mins: Summer	86.04 0	84.25 5	84.274	0.019	0.8	0.021	0.000	0.8	11.749	OK
OUTFALL	FEH: 2 years: +0 %: 240 mins: Summer		83.97 5	83.993	0.018	0.8			0.8	11.749	OK

Project: Bury Interchange Phase 1 Pyramid Park		Date: 17/04/2026			
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			



FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S1.01	FEH: 30 years: +40 %: 15 mins: Summer	90.32 5	88.04 5	88.105	0.060	13.9	0.010	0.000	13.7	6.010	OK
S1.02	FEH: 30 years: +40 %: 15 mins: Summer	89.15 0	86.15 0	86.207	0.057	13.7	0.009	0.000	13.6	6.009	OK
S2.01	FEH: 30 years: +40 %: 15 mins: Summer	87.75 0	87.30 0	87.362	0.062	5.0	0.010	0.000	4.9	2.152	OK
S1.03	FEH: 30 years: +40 %: 15 mins: Summer	88.75 0	85.80 5	85.861	0.056	18.5	0.009	0.000	18.4	8.159	OK
S1.05	FEH: 30 years: +40 %: 240 mins: Winter	87.74 5	84.83 3	85.090	0.257	5.5	0.291	0.000	5.2	31.192	Surcharged
S3.01	FEH: 30 years: +40 %: 15 mins: Summer	88.95 3	88.50 3	88.538	0.035	4.9	0.005	0.000	4.9	2.129	OK
S3.02	FEH: 30 years: +40 %: 15 mins: Summer	89.50 0	86.67 0	86.700	0.030	4.9	0.005	0.000	4.8	2.128	OK
S3.03	FEH: 30 years: +40 %: 15 mins: Summer	86.50 0	85.58 5	85.645	0.060	4.8	0.009	0.000	4.2	2.125	OK
S3.04	FEH: 30 years: +40 %: 15 mins: Summer	86.50 0	85.54 0	85.643	0.103	9.6	0.016	0.000	6.2	4.449	OK
S4.01	FEH: 30 years: +40 %: 15 mins: Summer	86.59 0	86.14 0	86.162	0.022	4.5	0.003	0.000	4.5	1.946	OK
S1.04	FEH: 30 years: +40 %: 15 mins: Summer	86.70 0	85.20 5	85.614	0.409	24.6	0.065	0.000	22.5	12.586	Surcharged
S1.07-FC	FEH: 30 years: +40 %: 240 mins: Winter	86.18 5	84.76 5	85.090	0.325	1.2	0.367	0.000	0.9	19.744	Surcharged
S1.08	FEH: 30 years: +40 %: 480 mins: Summer	86.04 0	84.25 5	84.274	0.019	0.9	0.021	0.000	0.9	36.519	OK
OUTFALL	FEH: 30 years: +40 %: 480 mins: Summer		83.97 5	83.993	0.018	0.9			0.9	36.519	OK

Project: Bury Interchange Phase 1 Pyramid Park		Date: 17/04/2026			
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			



FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S1.01	FEH: 100 years: +45 %: 15 mins: Summer	90.325	88.045	88.116	0.071	17.9	0.011	0.000	17.8	7.782	OK
S1.02	FEH: 100 years: +45 %: 15 mins: Summer	89.150	86.150	86.217	0.067	17.8	0.011	0.000	17.7	7.781	OK
S2.01	FEH: 100 years: +45 %: 15 mins: Summer	87.750	87.300	87.371	0.071	6.4	0.011	0.000	6.3	2.788	OK
S1.03	FEH: 100 years: +45 %: 15 mins: Summer	88.750	85.805	85.874	0.069	24.0	0.011	0.000	22.4	10.568	OK
S1.05	FEH: 100 years: +45 %: 240 mins: Winter	87.745	84.833	85.322	0.489	7.1	0.553	0.000	6.9	39.815	Surcharged
S3.01	FEH: 100 years: +45 %: 15 mins: Summer	88.953	88.503	88.543	0.040	6.4	0.006	0.000	6.3	2.756	OK
S3.02	FEH: 100 years: +45 %: 15 mins: Summer	89.500	86.670	86.702	0.032	6.3	0.005	0.000	6.2	2.755	OK
S3.03	FEH: 100 years: +45 %: 30 mins: Summer	86.500	85.585	85.853	0.268	4.4	0.043	0.000	4.2	3.794	Surcharged
S3.04	FEH: 100 years: +45 %: 30 mins: Summer	86.500	85.540	85.850	0.310	8.9	0.049	0.000	8.7	7.939	Surcharged
S4.01	FEH: 100 years: +45 %: 15 mins: Summer	86.590	86.140	86.163	0.023	5.8	0.004	0.000	5.8	2.516	OK
S1.04	FEH: 100 years: +45 %: 15 mins: Summer	86.700	85.205	85.801	0.596	28.1	0.095	0.000	25.5	16.274	Surcharged
S1.07-FC	FEH: 100 years: +45 %: 240 mins: Winter	86.185	84.765	85.321	0.556	1.0	0.629	0.000	0.9	20.540	Surcharged
S1.08	FEH: 100 years: +45 %: 240 mins: Summer	86.040	84.255	84.275	0.019	0.9	0.022	0.000	0.9	20.400	OK
OUTFALL	FEH: 100 years: +45 %: 240 mins: Summer		83.975	83.994	0.019	0.9			0.9	20.400	OK

Project: Bury Interchange Phase 1 Pyramid Park		Date: 17/04/2026			
		Designed by: JB	Checked by: PW		Approved By: PW
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Company Address:			



FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
S1.06-TANK	FEH: 2 years: +0 %: 240 mins: Summer	84.878	84.878	0.093	0.093	3.2	6.720	0.000	0.000	0.8	11.802	77.760	OK

Project: Bury Interchange Phase 1 Pyramid Park		Date: 17/04/2026			
		Designed by: JB	Checked by: PW		Approved By: PW
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Company Address:			



FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residant Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
S1.06-TANK	FEH: 30 years: +40 %: 240 mins: Winter	85.090	85.090	0.305	0.305	5.2	21.954	0.000	0.000	1.2	19.508	27.340	OK

Project: Bury Interchange Phase 1 Pyramid Park		Date: 17/04/2026			
		Designed by: JB	Checked by: PW		Approved By: PW
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Company Address:			



**FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By:
Max. Avg. Depth**

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
S1.06-TANK	FEH: 100 years: +45 %: 240 mins: Winter	85.322	85.322	0.537	0.537	6.9	28.963	0.000	0.000	1.0	20.522	4.144	OK

Project: Bury Interchange Phase 1 Pyramid Park		Date: 17/04/2026			
Report Details: Type: Connections Summary Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			



FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
S3.001	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	S3.01	S3.02	88.953	88.522	0.018	0.701	1.3	0.03	1.6	OK
S3.002	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	S3.02	S3.03	89.500	86.687	0.024	0.700	0.9	0.03	1.6	OK
S3.003	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	S3.03	S3.04	86.500	85.616	0.036	0.698	0.5	0.08	1.5	OK
S4.001	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	S4.01	S3.04	86.590	86.153	0.027	0.638	0.7	0.02	1.4	OK
S3.004	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	S3.04	S1.04	86.500	85.582	0.058	1.467	0.5	0.17	3.1	OK
S1.004	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	S1.04	S1.05	86.700	85.279	0.073	4.137	1.0	0.46	8.2	OK
S1.007	FEH: 2 years: +0 %: 240 mins: Summer	Pipe	S1.07-FC	S1.08	86.185	84.878	0.021	11.765	0.6	0.05	0.8	OK
S1.008	FEH: 2 years: +0 %: 240 mins: Summer	Pipe	S1.08	OUTFALL	86.040	84.274	0.018	11.749	0.7	0.03	0.8	OK
S1.001	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	S1.01	S1.02	90.325	88.077	0.030	1.972	1.8	0.08	4.5	OK
S1.002	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	S1.02	S1.03	89.150	86.180	0.031	1.972	1.7	0.08	4.4	OK
S1.003	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	S1.03	S1.04	88.750	85.837	0.053	2.674	1.1	0.1	6.0	OK
S2.001	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	S2.01	S1.03	87.750	87.333	0.032	0.703	0.6	0.09	1.6	OK
S1.006	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	S1.06-TANK	S1.07-FC	86.600	84.871	0.096	7.515	0.2	0.05	0.8	OK
S1.005	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	S1.05	S1.06-TANK	87.745	84.905	0.048	4.125	1.8	0.43	7.7	OK

Project: Bury Interchange Phase 1 Pyramid Park		Date: 17/04/2026			
Report Details: Type: Connections Summary Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			



FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
S3.001	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	S3.01	S3.02	88.953	88.538	0.032	2.129	1.8	0.09	4.9	OK
S3.002	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	S3.02	S3.03	89.500	86.700	0.045	2.128	1.1	0.08	4.8	OK
S3.003	FEH: 30 years: +40 %: 15 mins: Winter	Pipe	S3.03	S3.04	86.500	85.643	0.069	2.125	0.6	0.24	4.4	OK
S4.001	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	S4.01	S3.04	86.590	86.162	0.063	1.946	0.6	0.05	4.5	OK
S3.004	FEH: 30 years: +40 %: 15 mins: Winter	Pipe	S3.04	S1.04	86.500	85.620	0.150	4.444	0.5	0.45	8.1	OK
S1.004	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	S1.04	S1.05	86.700	85.614	0.150	12.586	1.3	1.27	22.5	Surcharged
S1.007	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	S1.07-FC	S1.08	86.185	84.941	0.021	1.022	0.6	0.05	0.9	Surcharged
S1.008	FEH: 30 years: +40 %: 480 mins: Summer	Pipe	S1.08	OUTFALL	86.040	84.274	0.018	36.519	0.7	0.03	0.9	OK
S1.001	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	S1.01	S1.02	90.325	88.105	0.055	6.010	2.3	0.24	13.7	OK
S1.002	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	S1.02	S1.03	89.150	86.207	0.056	6.009	2.3	0.24	13.6	OK
S1.003	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	S1.03	S1.04	88.750	85.861	0.150	8.159	1.0	0.3	18.4	OK
S2.001	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	S2.01	S1.03	87.750	87.362	0.058	2.152	0.8	0.27	4.9	OK
S1.006	FEH: 30 years: +40 %: 480 mins: Winter	Pipe	S1.06-TANK	S1.07-FC	86.600	85.072	0.150	36.309	0.2	0.08	1.4	Surcharged
S1.005	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	S1.05	S1.06-TANK	87.745	84.971	0.138	12.237	1.8	1.21	21.8	OK

Project: Bury Interchange Phase 1 Pyramid Park	Date: 17/04/2026		
	Designed by: JB	Checked by: PW	Approved By: PW
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address:		





FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
S3.001	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S3.01	S3.02	88.953	88.543	0.037	2.756	1.9	0.11	6.3	OK
S3.002	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S3.02	S3.03	89.500	86.702	0.144	2.755	0.8	0.11	6.2	OK
S3.003	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S3.03	S3.04	86.500	85.841	0.150	2.751	0.4	0.31	5.6	Surcharged
S4.001	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S4.01	S3.04	86.590	86.163	0.150	2.516	0.6	0.06	5.8	OK
S3.004	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S3.04	S1.04	86.500	85.839	0.150	5.766	0.6	0.63	11.2	Surcharged
S1.004	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S1.04	S1.05	86.700	85.801	0.150	16.274	1.4	1.44	25.5	Surcharged
S1.007	FEH: 100 years: +45 %: 240 mins: Winter	Pipe	S1.07-FC	S1.08	86.185	85.321	0.022	20.497	0.6	0.05	0.9	Surcharged
S1.008	FEH: 100 years: +45 %: 240 mins: Summer	Pipe	S1.08	OUTFALL	86.040	84.275	0.019	20.400	0.7	0.03	0.9	OK
S1.001	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S1.01	S1.02	90.325	88.116	0.064	7.782	2.5	0.31	17.8	OK
S1.002	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S1.02	S1.03	89.150	86.217	0.068	7.781	2.3	0.31	17.7	OK
S1.003	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	S1.03	S1.04	88.750	85.867	0.150	10.571	1.3	0.37	22.4	OK
S2.001	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S2.01	S1.03	87.750	87.371	0.067	2.788	0.8	0.36	6.3	OK
S1.006	FEH: 100 years: +45 %: 480 mins: Winter	Pipe	S1.06-TANK	S1.07-FC	86.600	85.201	0.150	40.950	0.2	0.07	1.3	Surcharged
S1.005	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S1.05	S1.06-TANK	87.745	85.052	0.150	15.785	1.9	1.37	24.8	Surcharged

Project: Bury Interchange Phase 1 Pyramid Park	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area
Critical by Return Period: FEH: 2 years: Increase Rainfall (%): +0: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	2.3
Total Inflow Volume (m³)	1.011

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	0.5
10	2.3
15	0.5
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area (1)
Critical by Return Period: FEH: 2 years: Increase Rainfall (%): +0: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	2.2
Total Inflow Volume (m³)	0.963

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	0.5
10	2.2
15	0.5
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area (2)
Critical by Return Period: FEH: 2 years: Increase Rainfall (%): +0: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	1.6
Total Inflow Volume (m³)	0.702

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	0.4
10	1.6
15	0.4
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area (3)
Critical by Return Period: FEH: 2 years: Increase Rainfall (%): +0: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	1.6
Total Inflow Volume (m³)	0.705

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	0.4
10	1.6
15	0.4
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area (4)
Critical by Return Period: FEH: 2 years: Increase Rainfall (%): +0: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	1.5
Total Inflow Volume (m³)	0.639

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	0.3
10	1.5
15	0.3
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area (5)
Critical by Return Period: FEH: 2 years: Increase Rainfall (%): +0: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	0.3
Total Inflow Volume (m³)	0.132

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	0.1
10	0.3
15	0.1
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area
Critical by Return Period: FEH: 30 years: Increase Rainfall (%): +40: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	7.1
Total Inflow Volume (m³)	3.069

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	1.6
10	7.1
15	1.6
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area (1)
Critical by Return Period: FEH: 30 years: Increase Rainfall (%): +40: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	6.8
Total Inflow Volume (m³)	2.943

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	1.5
10	6.8
15	1.5
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area (2)
Critical by Return Period: FEH: 30 years: Increase Rainfall (%): +40: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	4.9
Total Inflow Volume (m³)	2.130

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	1.1
10	4.9
15	1.1
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area (3)
Critical by Return Period: FEH: 30 years: Increase Rainfall (%): +40: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	5.0
Total Inflow Volume (m³)	2.154

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	1.1
10	5.0
15	1.1
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area (4)
Critical by Return Period: FEH: 30 years: Increase Rainfall (%): +40: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	4.5
Total Inflow Volume (m³)	1.947

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	1.0
10	4.5
15	1.0
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area (5)

Critical by Return Period: FEH: 30 years: Increase Rainfall (%): +40: 15 mins: Summer

Type : Catchment Area

Inflow	
Max. Inflow (L/s)	0.9
Total Inflow Volume (m³)	0.393

Tables	
Time (mins)	Total Inflow (L/s)
0	0.0
5	0.2
10	0.9
15	0.2
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area
Critical by Return Period: FEH: 100 years: Increase Rainfall (%): +45: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	9.2
Total Inflow Volume (m³)	3.977

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	2.0
10	9.2
15	2.1
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area (1)
Critical by Return Period: FEH: 100 years: Increase Rainfall (%): +45: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	8.8
Total Inflow Volume (m³)	3.806

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	1.9
10	8.8
15	2.0
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area (2)
Critical by Return Period: FEH: 100 years: Increase Rainfall (%): +45: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	6.4
Total Inflow Volume (m³)	2.757

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	1.4
10	6.4
15	1.4
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area (3)
Critical by Return Period: FEH: 100 years: Increase Rainfall (%): +45: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	6.4
Total Inflow Volume (m³)	2.790

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	1.4
10	6.4
15	1.4
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area (4)
Critical by Return Period: FEH: 100 years: Increase Rainfall (%): +45: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	5.8
Total Inflow Volume (m³)	2.517

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	1.3
10	5.8
15	1.3
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area (5)
Critical by Return Period: FEH: 100 years: Increase Rainfall (%): +45: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	1.2
Total Inflow Volume (m³)	0.510

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	0.3
10	1.2
15	0.3
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Union Square Network		Date: 26/08/2026			
Report Details: Type: Stormwater Controls Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			



6.01-TANK

Type : Tank

Dimensions

Exceedance Level (m)	92.000
Depth (m)	2.190
Base Level (m)	89.810
Freeboard (mm)	690
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:X)	0.00
Total Volume (m³)	8.505

Depth (m)	Area (m²)	Volume (m³)
0.000	5.67	0.000
1.500	5.67	8.505

Inlets

Inlet

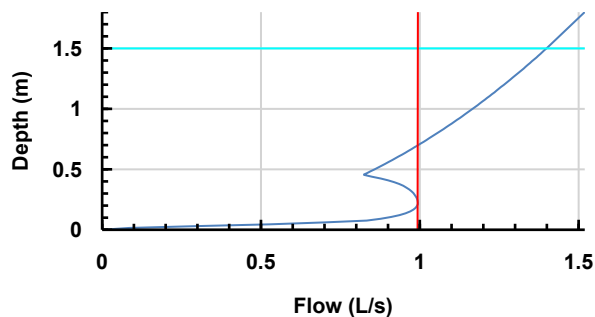
Inlet Type	Point Inflow
Incoming Item(s)	6.000
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	6.001
Outlet Type	Hydro-Brake®
Invert Level (m)	89.810
Design Depth (m)	1.500
Design Flow (L/s)	1.4
Objective	Minimise Upstream Storage Requirements
Application	Surface Water Only
Sump Available	☒

Unit Reference	SHE-0051-1400-1500-1400
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Advanced

Perimeter	Circular
Length (m)	4.050

Project: Bury Interchange Phase 1 Union Square Network		Date: 26/08/2026			
		Designed by: JB	Checked by: PW		Approved By: PW
Report Details: Type: Inflow Summary Storm Phase: Phase		Company Address:			

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area	6.00		Time of Concentration	0.021	100	0	100	0.021
TOTAL		0.0		0.021				0.021

Project: Bury Interchange Phase 1 Union Square Network	Date: 26/08/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Outfall Details Storm Phase: Phase	Company Address:			

Outfalls

Outfall	Outfall Type	Gated	Fixed Surcharged Level (m)	Level Curve
6.01	Free Discharge			

Project: Bury Interchange Phase 1 Union Square Network	Date: 26/08/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Title: Rainfall Analysis Criteria	Company Address:			

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Default
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall		
FEH		Type: FEH
Site Location	GB 380448 410509 SD 80448 10509	
Rainfall Version	2022	
Summer	☒	
Winter	☒	

Return Period

Return Period (years)	Increase Rainfall (%)
2.0	0.000
30.0	40.000
100.0	45.000

Storm Durations

Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440
960	1920
1440	2880
2160	4320
2880	5760
4320	8640
5760	11520
7200	14400
8640	17280
10080	20160

Project: Bury Interchange Phase 1 Union Square Network		Date: 26/08/2026			
		Designed by: JB	Checked by: PW		Approved By: PW
Report Details: Type: Inflows Summary Storm Phase: Phase		Company Address:			



FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FEH: 2 years: +0 %: 15 mins: Summer	0.02	3.9	1.712

Project: Bury Interchange Phase 1 Union Square Network		Date: 26/08/2026			
		Designed by: JB	Checked by: PW		Approved By: PW
Report Details: Type: Inflows Summary Storm Phase: Phase		Company Address:			



FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FEH: 30 years: +40 %: 15 mins: Summer	0.02	12.0	5.207

Project: Bury Interchange Phase 1 Union Square Network	Date: 26/08/2026		
	Designed by: JB	Checked by: PW	Approved By: PW
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address:		





FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FEH: 100 years: +45 %: 15 mins: Summer	0.02	15.5	6.737

Project: Bury Interchange Phase 1 Union Square Network	Date: 26/08/2026		
	Designed by: JB	Checked by: PW	Approved By: PW
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address:		





FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Outflow

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
6.01	FEH: 2 years: +0 %: 30 mins: Summer	89.94 5	87.35 0	87.350	0.000	1.0	0.000	0.000	1.0	2.164	OK
6.00	FEH: 2 years: +0 %: 15 mins: Summer	92.00 0	90.95 0	91.002	0.052	3.9	0.008	0.000	3.9	1.711	OK

Project: Bury Interchange Phase 1 Union Square Network	Date: 26/08/2026		
	Designed by: JB	Checked by: PW	Approved By: PW
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address:		





FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Outflow

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
6.01	FEH: 30 years: +40 %: 60 mins: Winter	89.945	87.350	87.350	0.000	1.2	0.000	0.000	1.2	6.693	OK
6.00	FEH: 30 years: +40 %: 15 mins: Summer	92.000	90.950	91.051	0.101	12.0	0.016	0.000	11.8	5.205	OK

Project: Bury Interchange Phase 1 Union Square Network		Date: 26/08/2026			
		Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Junctions Summary Storm Phase: Phase		Company Address:			



FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Outflow

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
6.01	FEH: 100 years: +45 %: 60 mins: Winter	89.94 5	87.35 0	87.350	0.000	1.4	0.000	0.000	1.4	7.853	OK
6.00	FEH: 100 years: +45 %: 15 mins: Summer	92.00 0	90.95 0	91.070	0.120	15.5	0.019	0.000	15.3	6.735	OK

Project: Bury Interchange Phase 1 Union Square Network		Date: 26/08/2026			
		Designed by: JB	Checked by: PW		Approved By: PW
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Company Address:			



FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
6.01-TANK	FEH: 2 years: +0 %: 60 mins: Summer	90.030	90.030	0.220	0.220	2.4	1.246	0.000	0.000	1.0	2.924	85.351	OK

Project: Bury Interchange Phase 1 Union Square Network		Date: 26/08/2026			
		Designed by: JB	Checked by: PW		Approved By: PW
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Company Address:			



FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residant Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
6.01-TANK	FEH: 30 years: +40 %: 60 mins: Winter	90.871	90.871	1.061	1.061	5.9	6.015	0.000	0.000	1.2	6.705	29.272	OK

Project: Bury Interchange Phase 1 Union Square Network		Date: 26/08/2026			
		Designed by: JB	Checked by: PW		Approved By: PW
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Company Address:			



**FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By:
Max. Avg. Depth**

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
6.01-TANK	FEH: 100 years: +45 %: 60 mins: Winter	91.260	91.260	1.450	1.450	7.8	8.219	0.000	0.000	1.4	7.867	3.367	OK

Project: Bury Interchange Phase 1 Union Square Network		Date: 26/08/2026			
		Designed by: JB	Checked by: PW		Approved By: PW
Report Details: Type: Connections Summary Storm Phase: Phase		Company Address:			



FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
6.000	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	6.00	6.01-TANK	92.000	91.002	0.049	1.711	0.8	0.2	3.9	OK
6.001	FEH: 2 years: +0 %: 30 mins: Summer	Pipe	6.01-TANK	6.01	92.000	90.030	0.011	2.164	1.6	0.01	1.0	Surcharged

Project: Bury Interchange Phase 1 Union Square Network		Date: 26/08/2026			
		Designed by: JB	Checked by: PW		Approved By: PW
Report Details: Type: Connections Summary Storm Phase: Phase		Company Address:			



FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
6.000	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	6.00	6.01-TANK	92.000	91.051	0.092	5.205	1.0	0.61	11.8	OK
6.001	FEH: 30 years: +40 %: 60 mins: Winter	Pipe	6.01-TANK	6.01	92.000	90.871	0.012	6.693	1.7	0.01	1.2	Surcharged

Project: Bury Interchange Phase 1 Union Square Network		Date: 26/08/2026			
		Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Connections Summary Storm Phase: Phase		Company Address:			



FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
6.000	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	6.00	6.01-TANK	92.000	91.070	0.109	6.735	1.1	0.79	15.3	OK
6.001	FEH: 100 years: +45 %: 60 mins: Winter	Pipe	6.01-TANK	6.01	92.000	91.260	0.013	7.853	1.8	0.02	1.4	Surcharged

Project: Bury Interchange Phase 1 Union Square Network	Date: 26/08/2026		
	Designed by: JB	Checked by: PW	Approved By: PW
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:		





Catchment Area
Critical by Return Period: FEH: 2 years: Increase Rainfall (%): +0: 15 mins: Summer

Type : Catchment Area

Inflow	
Max. Inflow (L/s)	3.9
Total Inflow Volume (m³)	1.712

Tables	
Time (mins)	Total Inflow (L/s)
0	0.0
5	0.9
10	3.9
15	0.9
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Union Square Network	Date: 26/08/2026		
	Designed by: JB	Checked by: PW	Approved By: PW
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:		





Catchment Area
Critical by Return Period: FEH: 30 years: Increase Rainfall (%): +40: 15 mins: Summer

Type : Catchment Area

Inflow	
Max. Inflow (L/s)	12.0
Total Inflow Volume (m³)	5.207

Tables	
Time (mins)	Total Inflow (L/s)
0	0.0
5	2.7
10	12.0
15	2.7
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Union Square Network	Date: 26/08/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area
Critical by Return Period: FEH: 100 years: Increase Rainfall (%): +45: 15 mins: Summer

Type : Catchment Area

Inflow

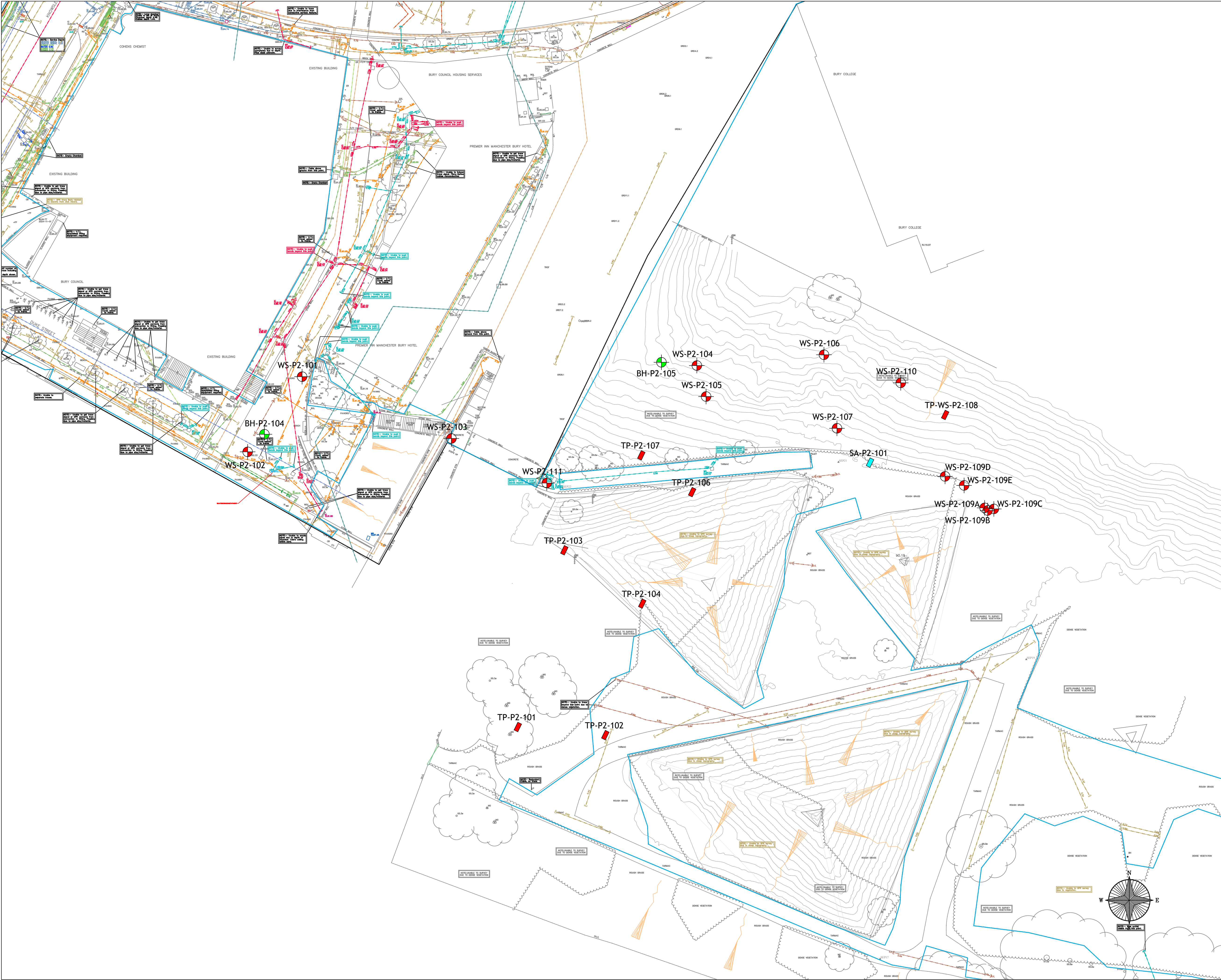
Max. Inflow (L/s)	15.5
Total Inflow Volume (m³)	6.737

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	3.4
10	15.5
15	3.5
20	0.0
25	0.0
30	0.0

APPENDIX G

GROUND INVESTIGATIONS



DO NOT SCALE

NOTES

CABLE PERCUSSIVE BORE HOLE WITH ROTARY FOLLOW ON TO DEFINE ROCK QUALITY

WINDOW SAMPLE

TRIAL PITS TO ESTABLISH NATURE OF FOUNDATIONS OF RETAINED STRUCTURES

SOAKAWAY LOCATION

P1	25.03.2025	CS	ISSUED FOR INFORMATION	AR	AR
REV	DATE	BY	DESCRIPTION	CHK	APD

DRAWING STATUS: INFORMATION

Tier Environmental Ltd.
Unit 5 Office Village
Sandpiper Court
Chester Business Park
Chester | CH4 9QZ
t: 01925 818 388

CLIENT:

WILLMOTT DIXON CONSTRUCTION

PROJECT:

BURY INTERCHANGE

TITLE:

PROPOSED EXPLORATORY HOLE LOCATION PLAN

SCALE: 1:1000	CHECKED: AR	APPROVED: AR
CAD FILE: -	DESIGN/DRAWN: CS	DATE: 25.03.2025

PROJECT No: TE1885	DRAWING No: TE1885-TE-00-XX-DR-GE-006-V02	REV: p2
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Rotary Core Log

Borehole No.

BH-P2-104

Sheet 1 of 6

Project Name: Bury Interchange

Project No.
TE1885

Co-ords: 380328.46 - 410382.07

Hole Type
CP+RC

Location: Manchester

Level: 92.44

Scale
1:25

Client: Willmott Dixon

Dates: 01/04/2025 -

Logged By
JL + AM

Well	Water Strikes	Depth (m)	Type / FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description										
				TCR	SCR	RQD														
		0.50 - 0.80	ES				0.20	92.24		MADE GROUND: Orangish brown PAVING MADE GROUND	1 -									
							0.45	91.99		MADE GROUND: Light grey CONCRETE, rebar at 0.45m crossing south west to north east and south east to north west - 2 layers MADE GROUND										
			D				0.90	91.54		MADE GROUND: Dark grey, slightly clayey, very sandy GRAVEL with moderate cobble content. Sand is fine to coarse, gravel is fine to coarse, subangular to angular of sandstone, brick and concrete. Cobble is of sandstone and brick. MADE GROUND										
										MADE GROUND: Very stiff, dark greyish brown, slightly sandy, gravelly CLAY. Gravel is angular to subangular, fine to coarse of sandstone, mudstone, brick and concrete. MADE GROUND										
		1.10 - 1.30 1.20 1.20 - 1.55	ES SPTL S D				2.20	90.24			MADE GROUND: Greyish brown, clayey GRAVEL. Gravel is angular to subangular, fine to coarse of mudstone, brick and concrete. MADE GROUND	2 -								
		2.30 2.30 - 2.60 2.30 - 2.60	SPTL S B ES																	
		3.20 3.20 - 3.50 3.20 - 3.65	SPTL S ES D								3.10		89.34		MADE GROUND: Stiff, locally firm greyish brown, very slightly sandy CLAY. Gravel is subangular to subrounded, fine to coarse of mudstone, brick and other lithologies. Sand is medium to coarse. Occasional black staining and vegetation throughout. MADE GROUND	3 -				
		4.50 4.50 - 4.95	SPTL S D																	
		Continued on next sheet										4 -								
												5 -								

Remarks

1) Groundwater ingress encountered at 13.00m bgl rose to ground level overnight 2) Terminated at target depth 3) No visual or olfactory evidence of contamination.





Rotary Core Log

Borehole No.

BH-P2-104

Sheet 2 of 6

Project Name: Bury Interchange

Project No.
TE1885

Co-ords: 380328.46 - 410382.07

Hole Type
CP+RC

Location: Manchester

Level: 92.44

Scale
1:25

Client: Willmott Dixon

Dates: 01/04/2025 -

Logged By
JL + AM

Well	Water Strikes	Depth (m)	Type / FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
		5.50 5.50 - 5.70 5.50 - 5.95	SPTL S ES D				5.70	86.74		Firm to stiff, dark greyish brown, gravelly, silty CLAY. Gravel is subrounded to subangular, fine to medium of quartz, sandstone and coal TILL	6
		7.00 7.00 - 7.45	SPTL S D								7
		7.50 - 7.80	B								8
		8.40 - 8.85	U								
		8.90	D								9
		9.30 9.30 - 9.60	SPTL S D				9.30	83.14		Stiff, light brown, mottled orange, sandy CLAY. Sand is fine to medium. Gravel is angular to subangular, fine to coarse of sandstone. TILL	10
										Continued on next sheet	

Remarks

1) Groundwater ingress encountered at 13.00m bgl rose to ground level overnight 2) Terminated at target depth 3) No visual or olfactory evidence of contamination.





Rotary Core Log

Borehole No.

BH-P2-104

Sheet 3 of 6

Project Name: Bury Interchange

Project No.
TE1885

Co-ords: 380328.46 - 410382.07

Hole Type
CP+RC

Location: Manchester

Level: 92.44

Scale
1:25

Client: Willmott Dixon

Dates: 01/04/2025 -

Logged By
JL + AM

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
		11.00 11.00 - 11.45	SPTL S D								11
		11.50 - 11.80	B								12
		12.40 12.40 - 12.55	SPTL S D								
		13.00 13.00 - 13.15 13.00 - 13.40	SPTL S D ES				13.00	79.44		Very dense, light brown, clayey GRAVEL with moderate cobble content. Gravel is subrounded to subangular, fine to coarse of sandstone. Cobble is subangular of sandstone.	13
		13.70 - 14.00 13.70 - 14.00	D ES				13.70	78.74		Stiff, becoming very stiff, dark grey, gravelly CLAY. Gravel is subangular, medium to coarse of mudstone.	14
		14.10 14.10 - 14.40	SPTL S D								15
		Continued on next sheet									

Remarks

1) Groundwater ingress encountered at 13.00m bgl rose to ground level overnight 2) Terminated at target depth 3) No visual or olfactory evidence of contamination.





Rotary Core Log

Borehole No.

BH-P2-104

Sheet 4 of 6

Project Name: Bury Interchange

Project No.
TE1885

Co-ords: 380328.46 - 410382.07

Hole Type
CP+RC

Location: Manchester

Level: 92.44

Scale
1:25

Client: Willmott Dixon

Dates: 01/04/2025 -

Logged By
JL + AM

Well	Water Strikes	Depth (m)	Type / FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
		15.10 15.10 - 15.30	SPTL S D				15.20 15.35	77.24 77.09		Dark grey MUDSTONE	16
		15.50 - 15.60	C							Very weathered, thinly laminated, dark grey, very fine grained MUDSTONE with rare plant fossils. Discontinuities are subhorizontal to subvertical, extremely close to very closely spaced, undulating smooth, planar smooth to planar rough, extremely weak wall strength. Tight to partly open and clean.	
		15.50 - 17.00		100	65	63	16.20	76.24		Very weak, thinly laminated dark grey, very fine grained MUDSTONE. Discontinuities are subhorizontal to subvertical, extremely close to closely spaced, stepped smooth, planar smooth to undulating smooth. Weak wall strength. Tight to partly open and clean	17
		17.00 - 18.50		100	85	79					
		18.70 - 18.80	C							Very weak, thinly cross laminated, dark grey, very fine grained MUDSTONE. Discontinuities are subhorizontal to subvertical, very closely to medium spaced, undulating rough and planar rough, very weak wall strength. Tight to slightly open and clean.	19
		19.00	D								
		18.50 - 20.00		100	60	68					20
							19.60	72.84		Extremely weak, thinly laminated, dark grey, very fine grained MUDSTONE. Discontinuities are subhorizontal, very closely to medium spaced. Undulating rough and planar rough. Extremely weak wall strength. Tight to moderately wide and	
										Continued on next sheet	

Remarks

1) Groundwater ingress encountered at 13.00m bgl rose to ground level overnight 2) Terminated at target depth 3) No visual or olfactory evidence of contamination.





Rotary Core Log

Borehole No.

BH-P2-104

Sheet 5 of 6

Project Name: Bury Interchange

Project No.
TE1885

Co-ords: 380328.46 - 410382.07

Hole Type
CP+RC

Location: Manchester

Level: 92.44

Scale
1:25

Client: Willmott Dixon

Dates: 01/04/2025 -

Logged By
JL + AM

Well	Water Strikes	Depth (m)	Type / FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
		20.00 - 21.40		100	70	64	21.40	71.04		infilled with clay.	21
		22.10 21.40 - 23.00	D	100	49	16				Extremely weak, thinly laminated, light grey MUDSTONE. Subrounded to subrounded, close to medium spaced, undulating rough, planar smooth, extremely weak wall strength, tight to partially open and clean.	22
		22.50 - 22.60	C				22.80	69.64		Weak, thinly laminated, dark grey MUDSTONE. Subrounded to subvertical, very close to close spacing, undulating rough, planar smooth, weak wall strength, tight and clean. Extremely weak, thinly laminated, light grey MUDSTONE. Subrounded to subvertical, very close to close spacing. Undulating rough, planar smooth, very weak wall strength, tight to partially open and clean.	23
							23.00	69.44			
		23.00 - 24.50		80	68	21	24.20	68.24		Weak, thinly laminated, dark grey MUDSTONE. Subrounded to subvertical, very close to close spacing, undulating rough, planar smooth, weak wall strength, tight and clean.	24
Continued on next sheet											25

Remarks

1) Groundwater ingress encountered at 13.00m bgl rose to ground level overnight 2) Terminated at target depth 3) No visual or olfactory evidence of contamination.





Rotary Core Log

Borehole No.
BH-P2-104

Sheet 6 of 6

Project Name: Bury Interchange	Project No. TE1885	Co-ords: 380328.46 - 410382.07	Hole Type CP+RC
Location: Manchester		Level: 92.44	Scale 1:25
Client: Willmott Dixon		Dates: 01/04/2025 -	Logged By JL + AM

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
		25.20 - 25.30	C								
		24.50 - 25.70		60	42	12	25.50	66.94			
		25.70	D				25.70	66.74		Extremely weak, thinly laminated, light grey MUDSTONE. Subrounded to subvertical, very close to close spacing. Undulating rough, planar smooth, very weak wall strength, tight to partially open and clean. End of borehole at 25.70 m	26
											27
											28
											29
											30

Remarks
1) Groundwater ingress encountered at 13.00m bgl rose to ground level overnight 2) Terminated at target depth 3) No visual or olfactory evidence of contamination.



**Tier Environmental**

Unit 5, Office Village
Sandpiper Court, Chester Business Park
Chester
CH4 9QZ

Client:

Willmott Dixon Construction Ltd

Site:

Bury Interchange

Test ID:

SA-P2-101

Job Number:

TE1885

Technician:

SE

Test Date:

27.03.2025

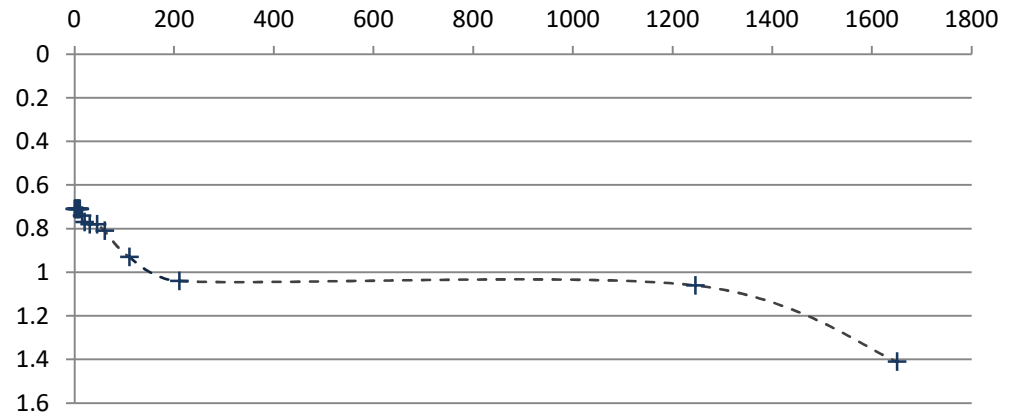
Test Number:

1 of 1

Comments:

Soakage Pit Width [m]	0.8
Soakage Pit Length [m]	2
Soakage Pit Depth [m]	2.3
Depth to water at start of test bgl [m]	0.71
Effective Storage Depth [m]	1.59
Free Volume [%]	100

Effective Depth at 25% Drainage	1.1075
Effective Depth at 75% Drainage	1.9025
Time to Drain From 25% to 75% [s]	N/A
Internal Surface Area [m ²]	6.052
Effective Storage Volume [m ³]	1.272
Test Completion [%]	44%

**Soil infiltration rate(m/s)**

Soakaway failed. Estimated to take at least 37 hours to drain 75%

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

Measurement N°	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Time [min]	0	2	3	4	5	6	7	8	9	10	15	20	30	45	60	110	210	1245	1650	
Depth to water [m]	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.74	0.77	0.78	0.78	0.81	0.93	1.04	1.06	1.41	

APPENDIX H

GREENFIELD RUN-OFF CALCCLATIONS

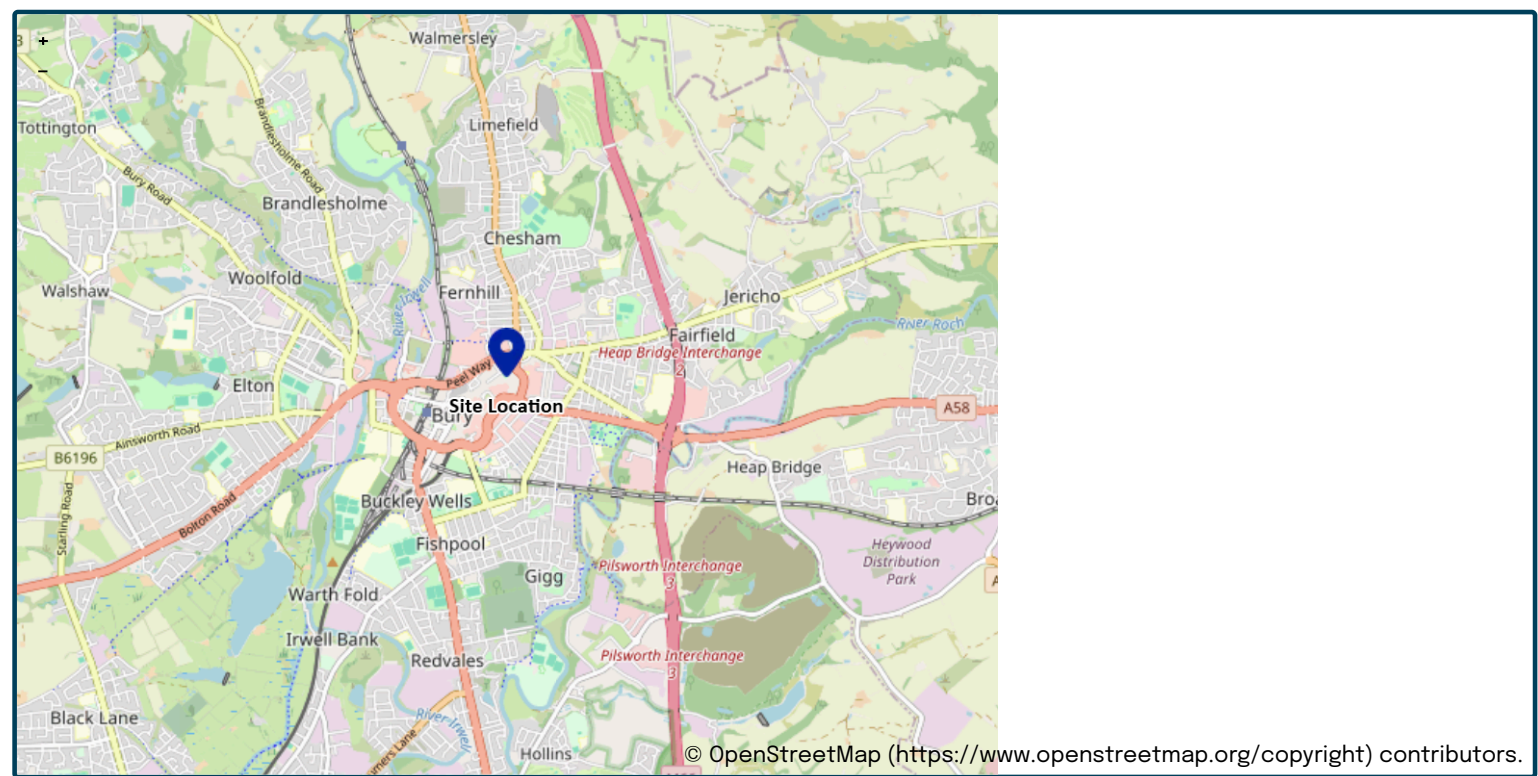
This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Project details

Date	26/08/2026
Calculated by	
Reference	
Model version	2.2.3

Location

Site name	Bury Interchange P1
Site location	Bury



Site easting (British National Grid)	380847
Site northing (British National Grid)	410843

Site details

Total site area (ha)	1 ha
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Greenfield runoff

Method

Method	FEH statistical (2025)
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FEH statistical (2025)

	<u>My value</u>	<u>Map value</u>
SAAR9120 (mm)	1099 mm	
BFIHOST19scaled	0.333	
QMed-QBar conversion	1.075	1.075
QMed (l/s)	10.8 l/s	
QBar (FEH statistical 2025) (l/s)	11.6 l/s	

Growth curve factors

	<u>My value</u>	<u>Map value</u>
Hydrological region	10	10
1 year growth factor	0.87	
2 year growth factor	0.93	
10 year growth factor	1.38	
30 year growth factor	1.7	
100 year growth factor	2.08	
200 year growth factor	2.37	

Results

Method	FEH statistical (2025)
Flow rate 1 year (l/s)	10.1 l/s
Flow rate 2 year (l/s)	10.8 l/s
Flow rate 10 years (l/s)	16.0 l/s
Flow rate 30 years (l/s)	19.7 l/s
Flow rate 100 years (l/s)	24.0 l/s
Flow rate 200 years (l/s)	27.4 l/s

Please note runoff estimation is subject to significant uncertainty. Results are therefore normally reported to only 1 decimal place. Where 2 decimal places are provided, this does not indicate accuracy to this level, it has been adopted to prevent ‘zero’ figures from being reported. Outputs less than 0.01 l/s are reported as 0.01 l/s.

Disclaimer

This report was produced using the Greenfield runoff rate estimation tool (2.2.3) developed by HR Wallingford and available at uksuds.com (<https://www.uksuds.com/>). The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at uksuds.com/terms-conditions (<https://www.uksuds.com/terms-conditions>). The outputs from this tool have been used to estimate Greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, Centre for Ecology and Hydrology, Wallingford Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

APPENDIX J
**SURFACE WATER DRAINAGE CALCULATIONS – SURCHARGE
SCENARIO**

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario		Date: 17/04/2026			
Report Details: Type: Stormwater Controls Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			



S1.06-TANK

Type : Cellular Storage

Dimensions

Exceedance Level (m)	86.600
Depth (m)	0.400
Base Level (m)	84.785
Number of Crates Long	24
Number of Crates Wide	6
Number of Crates High	1
Porosity (%)	100
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m³)	30.215

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	S1.005
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	S1.006
Outlet Type	Free Discharge

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario		Date: 17/04/2026			
Report Details: Type: Inflow Summary Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area	S1.01		Time of Concentration	0.012	100	0	100	0.012
Catchment Area (1)	S1.01		Time of Concentration	0.012	100	0	100	0.012
Catchment Area (2)	S3.01		Time of Concentration	0.009	100	0	100	0.009
Catchment Area (3)	S2.01		Time of Concentration	0.009	100	0	100	0.009
Catchment Area (4)	S4.01		Time of Concentration	0.008	100	0	100	0.008
Catchment Area (5)	S3.04		Time of Concentration	0.002	100	0	100	0.002
TOTAL		0.0		0.050				0.050

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario		Date: 17/04/2026			
Report Details: Type: Outfall Details Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			

Outfalls

Outfall	Outfall Type	Gated	Fixed Surcharged Level (m)	Level Curve
OUTFALL	Fixed Surcharged Level	☒	84.975	
FEH : 2 years: +0 %: 15 mins: Summer			84.975	
FEH : 2 years: +0 %: 15 mins: Winter			84.975	
FEH : 30 years: +40 %: 15 mins: Summer			84.975	
FEH : 30 years: +40 %: 15 mins: Winter			84.975	
FEH : 100 years: +45 %: 15 mins: Summer			84.975	
FEH : 100 years: +45 %: 15 mins: Winter			84.975	
FEH : 2 years: +0 %: 30 mins: Summer			84.975	
FEH : 2 years: +0 %: 30 mins: Winter			84.975	
FEH : 30 years: +40 %: 30 mins: Summer			84.975	
FEH : 30 years: +40 %: 30 mins: Winter			84.975	
FEH : 100 years: +45 %: 30 mins: Summer			84.975	
FEH : 100 years: +45 %: 30 mins: Winter			84.975	
FEH : 2 years: +0 %: 60 mins: Summer			84.975	
FEH : 2 years: +0 %: 60 mins: Winter			84.975	
FEH : 30 years: +40 %: 60 mins: Summer			84.975	
FEH : 30 years: +40 %: 60 mins: Winter			84.975	
FEH : 100 years: +45 %: 60 mins: Summer			84.975	
FEH : 100 years: +45 %: 60 mins: Winter			84.975	
FEH : 2 years: +0 %: 120 mins: Summer			84.975	
FEH : 2 years: +0 %: 120 mins: Winter			84.975	
FEH : 30 years: +40 %: 120 mins: Summer			84.975	
FEH : 30 years: +40 %: 120 mins: Winter			84.975	
FEH : 100 years: +45 %: 120 mins: Summer			84.975	
FEH : 100 years: +45 %: 120 mins: Winter			84.975	
FEH : 2 years: +0 %: 180 mins: Summer			84.975	
FEH : 2 years: +0 %: 180 mins: Winter			84.975	
FEH : 30 years: +40 %: 180 mins: Summer			84.975	
FEH : 30 years: +40 %: 180 mins: Winter			84.975	
FEH : 100 years: +45 %: 180 mins: Summer			84.975	
FEH : 100 years: +45 %: 180 mins: Winter			84.975	
FEH : 2 years: +0 %: 240 mins: Summer			84.975	
FEH : 2 years: +0 %: 240 mins: Winter			84.975	

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		Company Address:			

FEH : 30 years: +40 %: 240 mins: Summer			84.975	
FEH : 30 years: +40 %: 240 mins: Winter			84.975	
FEH : 100 years: +45 %: 240 mins: Summer			84.975	
FEH : 100 years: +45 %: 240 mins: Winter			84.975	
FEH : 2 years: +0 %: 360 mins: Summer			84.975	
FEH : 2 years: +0 %: 360 mins: Winter			84.975	
FEH : 30 years: +40 %: 360 mins: Summer			84.975	
FEH : 30 years: +40 %: 360 mins: Winter			84.975	
FEH : 100 years: +45 %: 360 mins: Summer			84.975	
FEH : 100 years: +45 %: 360 mins: Winter			84.975	
FEH : 2 years: +0 %: 480 mins: Summer			84.975	
FEH : 2 years: +0 %: 480 mins: Winter			84.975	
FEH : 30 years: +40 %: 480 mins: Summer			84.975	
FEH : 30 years: +40 %: 480 mins: Winter			84.975	
FEH : 100 years: +45 %: 480 mins: Summer			84.975	
FEH : 100 years: +45 %: 480 mins: Winter			84.975	
FEH : 2 years: +0 %: 600 mins: Summer			84.975	
FEH : 2 years: +0 %: 600 mins: Winter			84.975	
FEH : 30 years: +40 %: 600 mins: Summer			84.975	
FEH : 30 years: +40 %: 600 mins: Winter			84.975	
FEH : 100 years: +45 %: 600 mins: Summer			84.975	
FEH : 100 years: +45 %: 600 mins: Winter			84.975	
FEH : 2 years: +0 %: 720 mins: Summer			84.975	
FEH : 2 years: +0 %: 720 mins: Winter			84.975	
FEH : 30 years: +40 %: 720 mins: Summer			84.975	
FEH : 30 years: +40 %: 720 mins: Winter			84.975	
FEH : 100 years: +45 %: 720 mins: Summer			84.975	
FEH : 100 years: +45 %: 720 mins: Winter			84.975	
FEH : 2 years: +0 %: 960 mins: Summer			84.975	
FEH : 2 years: +0 %: 960 mins: Winter			84.975	
FEH : 30 years: +40 %: 960 mins: Summer			84.975	
FEH : 30 years: +40 %: 960 mins: Winter			84.975	
FEH : 100 years: +45 %: 960 mins: Summer			84.975	
FEH : 100 years: +45 %: 960 mins: Winter			84.975	
FEH : 2 years: +0 %: 1440 mins: Summer			84.975	

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario		Date: 17/04/2026			
Report Details: Type: Outfall Details Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			

FEH : 2 years: +0 %: 1440 mins: Winter			84.975	
FEH : 30 years: +40 %: 1440 mins: Summer			84.975	
FEH : 30 years: +40 %: 1440 mins: Winter			84.975	
FEH : 100 years: +45 %: 1440 mins: Summer			84.975	
FEH : 100 years: +45 %: 1440 mins: Winter			84.975	
FEH : 2 years: +0 %: 2160 mins: Summer			84.975	
FEH : 2 years: +0 %: 2160 mins: Winter			84.975	
FEH : 30 years: +40 %: 2160 mins: Summer			84.975	
FEH : 30 years: +40 %: 2160 mins: Winter			84.975	
FEH : 100 years: +45 %: 2160 mins: Summer			84.975	
FEH : 100 years: +45 %: 2160 mins: Winter			84.975	
FEH : 2 years: +0 %: 2880 mins: Summer			84.975	
FEH : 2 years: +0 %: 2880 mins: Winter			84.975	
FEH : 30 years: +40 %: 2880 mins: Summer			84.975	
FEH : 30 years: +40 %: 2880 mins: Winter			84.975	
FEH : 100 years: +45 %: 2880 mins: Summer			84.975	
FEH : 100 years: +45 %: 2880 mins: Winter			84.975	
FEH : 2 years: +0 %: 4320 mins: Summer			84.975	
FEH : 2 years: +0 %: 4320 mins: Winter			84.975	
FEH : 30 years: +40 %: 4320 mins: Summer			84.975	
FEH : 30 years: +40 %: 4320 mins: Winter			84.975	
FEH : 100 years: +45 %: 4320 mins: Summer			84.975	
FEH : 100 years: +45 %: 4320 mins: Winter			84.975	
FEH : 2 years: +0 %: 5760 mins: Summer			84.975	
FEH : 2 years: +0 %: 5760 mins: Winter			84.975	
FEH : 30 years: +40 %: 5760 mins: Summer			84.975	
FEH : 30 years: +40 %: 5760 mins: Winter			84.975	
FEH : 100 years: +45 %: 5760 mins: Summer			84.975	
FEH : 100 years: +45 %: 5760 mins: Winter			84.975	
FEH : 2 years: +0 %: 7200 mins: Summer			84.975	
FEH : 2 years: +0 %: 7200 mins: Winter			84.975	
FEH : 30 years: +40 %: 7200 mins: Summer			84.975	
FEH : 30 years: +40 %: 7200 mins: Winter			84.975	
FEH : 100 years: +45 %: 7200 mins: Summer			84.975	
FEH : 100 years: +45 %: 7200 mins: Winter			84.975	

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario		Date: 17/04/2026			
Report Details: Type: Outfall Details Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			

FEH : 2 years: +0 %: 8640 mins: Summer			84.975	
FEH : 2 years: +0 %: 8640 mins: Winter			84.975	
FEH : 30 years: +40 %: 8640 mins: Summer			84.975	
FEH : 30 years: +40 %: 8640 mins: Winter			84.975	
FEH : 100 years: +45 %: 8640 mins: Summer			84.975	
FEH : 100 years: +45 %: 8640 mins: Winter			84.975	
FEH : 2 years: +0 %: 10080 mins: Summer			84.975	
FEH : 2 years: +0 %: 10080 mins: Winter			84.975	
FEH : 30 years: +40 %: 10080 mins: Summer			84.975	
FEH : 30 years: +40 %: 10080 mins: Winter			84.975	
FEH : 100 years: +45 %: 10080 mins: Summer			84.975	
FEH : 100 years: +45 %: 10080 mins: Winter			84.975	

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario	Date: 17/04/2026	
Report Title: Rainfall Analysis Criteria	Designed by: JB Checked by: PW Approved By: PW	
Company Address:		

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Default
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall		Type: FEH
FEH		
Site Location	GB 380448 410509 SD 80448 10509	
Rainfall Version	2022	
Summer	☒	
Winter	☒	

Return Period	
Return Period (years)	Increase Rainfall (%)
2.0	0.000
30.0	40.000
100.0	45.000

Storm Durations	
Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440
960	1920
1440	2880
2160	4320
2880	5760
4320	8640
5760	11520
7200	14400
8640	17280
10080	20160

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario		Date: 17/04/2026			
Report Details: Type: Inflows Summary Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			



FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FEH: 2 years: +0 %: 15 mins: Summer	0.01	2.3	1.011
Catchment Area (1)	FEH: 2 years: +0 %: 15 mins: Summer	0.01	2.2	0.963
Catchment Area (2)	FEH: 2 years: +0 %: 15 mins: Summer	0.01	1.6	0.702
Catchment Area (3)	FEH: 2 years: +0 %: 15 mins: Summer	0.01	1.6	0.705
Catchment Area (4)	FEH: 2 years: +0 %: 15 mins: Summer	0.01	1.5	0.639
Catchment Area (5)	FEH: 2 years: +0 %: 15 mins: Summer	0.00	0.3	0.132

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario		Date: 17/04/2026			
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		Company Address:			



FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FEH: 30 years: +40 %: 15 mins: Summer	0.01	7.1	3.069
Catchment Area (1)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	6.8	2.943
Catchment Area (2)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	4.9	2.130
Catchment Area (3)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	5.0	2.154
Catchment Area (4)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	4.5	1.947
Catchment Area (5)	FEH: 30 years: +40 %: 15 mins: Summer	0.00	0.9	0.393

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		Company Address:			



FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FEH: 100 years: +45 %: 15 mins: Summer	0.01	9.2	3.977
Catchment Area (1)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	8.8	3.806
Catchment Area (2)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	6.4	2.757
Catchment Area (3)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	6.4	2.790
Catchment Area (4)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	5.8	2.517
Catchment Area (5)	FEH: 100 years: +45 %: 15 mins: Summer	0.00	1.2	0.510

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario		Date: 17/04/2026			
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			



FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S1.01	FEH: 2 years: +0 %: 15 mins: Summer	90.32 5	88.04 5	88.077	0.032	4.6	0.005	0.000	4.5	1.972	OK
S1.02	FEH: 2 years: +0 %: 15 mins: Summer	89.15 0	86.15 0	86.180	0.030	4.5	0.005	0.000	4.4	1.972	OK
S2.01	FEH: 2 years: +0 %: 15 mins: Summer	87.75 0	87.30 0	87.333	0.033	1.6	0.005	0.000	1.6	0.703	OK
S1.03	FEH: 2 years: +0 %: 15 mins: Summer	88.75 0	85.80 5	85.837	0.032	6.0	0.005	0.000	6.0	2.674	OK
S1.05	FEH: 2 years: +0 %: 7200 mins: Summer	87.74 5	84.83 3	85.009	0.176	0.4	0.199	0.000	0.4	42.105	Surcharged
S3.01	FEH: 2 years: +0 %: 15 mins: Summer	88.95 3	88.50 3	88.522	0.019	1.6	0.003	0.000	1.6	0.701	OK
S3.02	FEH: 2 years: +0 %: 15 mins: Summer	89.50 0	86.67 0	86.687	0.017	1.6	0.003	0.000	1.6	0.700	OK
S3.03	FEH: 2 years: +0 %: 15 mins: Summer	86.50 0	85.58 5	85.616	0.031	1.6	0.005	0.000	1.5	0.698	OK
S3.04	FEH: 2 years: +0 %: 15 mins: Summer	86.50 0	85.54 0	85.582	0.042	3.3	0.007	0.000	3.1	1.467	OK
S4.01	FEH: 2 years: +0 %: 15 mins: Summer	86.59 0	86.14 0	86.153	0.013	1.5	0.002	0.000	1.4	0.638	OK
S1.04	FEH: 2 years: +0 %: 15 mins: Summer	86.70 0	85.20 5	85.279	0.074	9.0	0.012	0.000	8.2	4.137	OK
S1.07-FC	FEH: 2 years: +0 %: 7200 mins: Summer	86.18 5	84.76 5	85.009	0.244	0.3	0.276	0.000	0.3	29.045	Surcharged
S1.08	FEH: 2 years: +0 %: 7200 mins: Winter	86.04 0	84.25 5	84.976	0.720	0.2	0.814	0.000	0.2	24.460	Surcharged
OUTFALL	FEH: 2 years: +0 %: 15 mins: Summer		83.97 5	84.975	1.000	0.0			0.0	0.000	OK

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		Company Address:			



FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S1.01	FEH: 30 years: +40 %: 15 mins: Summer	90.32 5	88.04 5	88.105	0.060	13.9	0.010	0.000	13.7	6.010	OK
S1.02	FEH: 30 years: +40 %: 15 mins: Summer	89.15 0	86.15 0	86.207	0.057	13.7	0.009	0.000	13.6	6.009	OK
S2.01	FEH: 30 years: +40 %: 15 mins: Summer	87.75 0	87.30 0	87.362	0.062	5.0	0.010	0.000	4.9	2.152	OK
S1.03	FEH: 30 years: +40 %: 15 mins: Summer	88.75 0	85.80 5	85.861	0.056	18.5	0.009	0.000	18.4	8.159	OK
S1.05	FEH: 30 years: +40 %: 1440 mins: Summer	87.74 5	84.83 3	85.148	0.315	2.3	0.356	0.000	2.3	50.163	Surcharged
S3.01	FEH: 30 years: +40 %: 15 mins: Summer	88.95 3	88.50 3	88.538	0.035	4.9	0.005	0.000	4.9	2.129	OK
S3.02	FEH: 30 years: +40 %: 15 mins: Summer	89.50 0	86.67 0	86.700	0.030	4.9	0.005	0.000	4.8	2.128	OK
S3.03	FEH: 30 years: +40 %: 15 mins: Summer	86.50 0	85.58 5	85.645	0.060	4.8	0.009	0.000	4.2	2.125	OK
S3.04	FEH: 30 years: +40 %: 15 mins: Summer	86.50 0	85.54 0	85.643	0.103	9.6	0.016	0.000	6.2	4.449	OK
S4.01	FEH: 30 years: +40 %: 15 mins: Summer	86.59 0	86.14 0	86.162	0.022	4.5	0.003	0.000	4.5	1.946	OK
S1.04	FEH: 30 years: +40 %: 15 mins: Summer	86.70 0	85.20 5	85.614	0.409	24.6	0.065	0.000	22.5	12.586	Surcharged
S1.07-FC	FEH: 30 years: +40 %: 1440 mins: Summer	86.18 5	84.76 5	85.148	0.383	0.9	0.433	0.000	0.9	36.079	Surcharged
S1.08	FEH: 30 years: +40 %: 120 mins: Summer	86.04 0	84.25 5	84.977	0.721	0.8	0.816	0.000	0.8	7.363	Surcharged
OUTFALL	FEH: 30 years: +40 %: 15 mins: Summer		83.97 5	84.975	1.000	0.0			0.0	0.000	OK

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Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			



FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S1.01	FEH: 100 years: +45 %: 15 mins: Summer	90.325	88.045	88.116	0.071	17.9	0.011	0.000	17.8	7.782	OK
S1.02	FEH: 100 years: +45 %: 15 mins: Summer	89.150	86.150	86.217	0.067	17.8	0.011	0.000	17.7	7.781	OK
S2.01	FEH: 100 years: +45 %: 15 mins: Summer	87.750	87.300	87.371	0.071	6.4	0.011	0.000	6.3	2.788	OK
S1.03	FEH: 100 years: +45 %: 1440 mins: Summer	88.750	85.805	86.129	0.324	1.9	0.052	0.000	1.9	42.423	Surcharged
S1.05	FEH: 100 years: +45 %: 1440 mins: Summer	87.745	84.833	86.128	1.295	3.0	1.464	0.000	2.9	65.324	Surcharged
S3.01	FEH: 100 years: +45 %: 15 mins: Summer	88.953	88.503	88.543	0.040	6.4	0.006	0.000	6.3	2.756	OK
S3.02	FEH: 100 years: +45 %: 15 mins: Summer	89.500	86.670	86.702	0.032	6.3	0.005	0.000	6.2	2.755	OK
S3.03	FEH: 100 years: +45 %: 1440 mins: Summer	86.500	85.585	86.129	0.544	0.5	0.087	0.000	0.5	11.080	Surcharged
S3.04	FEH: 100 years: +45 %: 1440 mins: Summer	86.500	85.540	86.129	0.589	1.0	0.094	0.000	1.1	23.215	Surcharged
S4.01	FEH: 100 years: +45 %: 15 mins: Summer	86.590	86.140	86.163	0.023	5.8	0.004	0.000	5.8	2.516	OK
S1.04	FEH: 100 years: +45 %: 1440 mins: Summer	86.700	85.205	86.129	0.924	3.0	0.147	0.000	3.0	65.618	Surcharged
S1.07-FC	FEH: 100 years: +45 %: 1440 mins: Summer	86.185	84.765	86.127	1.362	1.3	1.541	0.000	0.9	51.633	Flood Risk
S1.08	FEH: 100 years: +45 %: 180 mins: Summer	86.040	84.255	84.976	0.721	0.9	0.816	0.000	0.9	13.028	Surcharged
OUTFALL	FEH: 100 years: +45 %: 15 mins: Summer		83.975	84.975	1.000	0.0			0.0	0.000	OK

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario		Date: 17/04/2026			
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Designed by: JB	Checked by: PW	Approved By: PW	
		Company Address:			



FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
S1.06-TANK	FEH: 2 years: +0 %: 7200 mins: Summer	85.009	85.009	0.224	0.224	0.4	16.102	0.000	0.000	0.3	29.848	46.710	OK

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario		Date: 17/04/2026			
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			



FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
S1.06-TANK	FEH: 30 years: +40 %: 1440 mins: Summer	85.148	85.148	0.363	0.363	2.3	26.113	0.000	0.000	0.9	36.634	13.576	OK

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario		Date: 17/04/2026			
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			



**FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By:
Max. Avg. Depth**

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
S1.06-TANK	FEH: 100 years: +45 %: 1440 mins: Summer	86.128	86.128	1.343	1.343	2.9	29.769	0.000	0.000	1.3	51.165	1.477	OK

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario		Date: 17/04/2026			
Report Details: Type: Connections Summary Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			



FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
S3.001	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	S3.01	S3.02	88.953	88.522	0.018	0.701	1.3	0.03	1.6	OK
S3.002	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	S3.02	S3.03	89.500	86.687	0.024	0.700	0.9	0.03	1.6	OK
S3.003	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	S3.03	S3.04	86.500	85.616	0.036	0.698	0.5	0.08	1.5	OK
S4.001	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	S4.01	S3.04	86.590	86.153	0.027	0.638	0.7	0.02	1.4	OK
S3.004	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	S3.04	S1.04	86.500	85.582	0.058	1.467	0.5	0.17	3.1	OK
S1.004	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	S1.04	S1.05	86.700	85.279	0.073	4.137	1.0	0.46	8.2	OK
S1.007	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	S1.07-FC	S1.08	86.185	84.888	0.150	1.491	0.3	0.05	0.8	OK
S1.008	FEH: 2 years: +0 %: 7200 mins: Summer	Pipe	S1.08	OUTFALL	86.040	84.975	0.150	25.554	0.0	0.01	0.3	Surcharged
S1.001	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	S1.01	S1.02	90.325	88.077	0.030	1.972	1.8	0.08	4.5	OK
S1.002	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	S1.02	S1.03	89.150	86.180	0.031	1.972	1.7	0.08	4.4	OK
S1.003	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	S1.03	S1.04	88.750	85.837	0.053	2.674	1.1	0.1	6.0	OK
S2.001	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	S2.01	S1.03	87.750	87.333	0.032	0.703	0.6	0.09	1.6	OK
S1.006	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	S1.06-TANK	S1.07-FC	86.600	84.888	0.113	1.878	0.2	0.05	0.8	OK
S1.005	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	S1.05	S1.06-TANK	87.745	84.905	0.048	4.125	1.8	0.43	7.7	OK

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario		Date: 17/04/2026			
Report Details: Type: Connections Summary Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			



FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
S3.001	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	S3.01	S3.02	88.953	88.538	0.032	2.129	1.8	0.09	4.9	OK
S3.002	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	S3.02	S3.03	89.500	86.700	0.045	2.128	1.1	0.08	4.8	OK
S3.003	FEH: 30 years: +40 %: 15 mins: Winter	Pipe	S3.03	S3.04	86.500	85.643	0.069	2.125	0.6	0.24	4.4	OK
S4.001	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	S4.01	S3.04	86.590	86.162	0.063	1.946	0.6	0.05	4.5	OK
S3.004	FEH: 30 years: +40 %: 15 mins: Winter	Pipe	S3.04	S1.04	86.500	85.620	0.150	4.444	0.5	0.45	8.1	OK
S1.004	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	S1.04	S1.05	86.700	85.614	0.150	12.586	1.3	1.27	22.5	Surcharged
S1.007	FEH: 30 years: +40 %: 60 mins: Winter	Pipe	S1.07-FC	S1.08	86.185	85.047	0.150	4.092	0.4	0.05	0.9	Surcharged
S1.008	FEH: 30 years: +40 %: 60 mins: Winter	Pipe	S1.08	OUTFALL	86.040	84.976	0.150	2.494	0.1	0.04	1.2	Surcharged
S1.001	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	S1.01	S1.02	90.325	88.105	0.055	6.010	2.3	0.24	13.7	OK
S1.002	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	S1.02	S1.03	89.150	86.207	0.056	6.009	2.3	0.24	13.6	OK
S1.003	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	S1.03	S1.04	88.750	85.861	0.150	8.159	1.0	0.3	18.4	OK
S2.001	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	S2.01	S1.03	87.750	87.362	0.058	2.152	0.8	0.27	4.9	OK
S1.006	FEH: 30 years: +40 %: 240 mins: Summer	Pipe	S1.06-TANK	S1.07-FC	86.600	85.102	0.150	14.868	0.3	0.14	2.5	Surcharged
S1.005	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	S1.05	S1.06-TANK	87.745	84.971	0.138	12.236	1.8	1.21	21.8	OK

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario		Date: 17/04/2026			
Report Details: Type: Connections Summary Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			



FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
S3.001	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S3.01	S3.02	88.953	88.543	0.037	2.756	1.9	0.11	6.3	OK
S3.002	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S3.02	S3.03	89.500	86.702	0.144	2.755	0.8	0.11	6.2	OK
S3.003	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S3.03	S3.04	86.500	85.841	0.150	2.751	0.4	0.31	5.6	Surcharged
S4.001	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S4.01	S3.04	86.590	86.163	0.150	2.516	0.6	0.06	5.8	OK
S3.004	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S3.04	S1.04	86.500	85.839	0.150	5.766	0.6	0.63	11.2	Surcharged
S1.004	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S1.04	S1.05	86.700	85.801	0.150	16.274	1.4	1.44	25.5	Surcharged
S1.007	FEH: 100 years: +45 %: 120 mins: Summer	Pipe	S1.07-FC	S1.08	86.185	85.177	0.150	10.177	0.3	0.05	1.0	Surcharged
S1.008	FEH: 100 years: +45 %: 120 mins: Summer	Pipe	S1.08	OUTFALL	86.040	84.976	0.150	8.581	0.1	0.04	1.0	Surcharged
S1.001	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S1.01	S1.02	90.325	88.116	0.064	7.782	2.5	0.31	17.8	OK
S1.002	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S1.02	S1.03	89.150	86.217	0.068	7.781	2.3	0.31	17.7	OK
S1.003	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	S1.03	S1.04	88.750	85.867	0.150	10.571	1.3	0.37	22.4	OK
S2.001	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S2.01	S1.03	87.750	87.371	0.067	2.788	0.8	0.36	6.3	OK
S1.006	FEH: 100 years: +45 %: 960 mins: Summer	Pipe	S1.06-TANK	S1.07-FC	86.600	86.092	0.150	42.866	0.2	0.13	2.4	Surcharged
S1.005	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S1.05	S1.06-TANK	87.745	85.052	0.150	15.785	1.9	1.37	24.8	Surcharged

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area
Critical by Return Period: FEH: 2 years: Increase Rainfall (%): +0: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	2.3
Total Inflow Volume (m³)	1.011

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	0.5
10	2.3
15	0.5
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area (1)
Critical by Return Period: FEH: 2 years: Increase Rainfall (%): +0: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	2.2
Total Inflow Volume (m³)	0.963

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	0.5
10	2.2
15	0.5
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area (2)
Critical by Return Period: FEH: 2 years: Increase Rainfall (%): +0: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	1.6
Total Inflow Volume (m³)	0.702

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	0.4
10	1.6
15	0.4
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area (3)
Critical by Return Period: FEH: 2 years: Increase Rainfall (%): +0: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	1.6
Total Inflow Volume (m³)	0.705

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	0.4
10	1.6
15	0.4
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area (4)
Critical by Return Period: FEH: 2 years: Increase Rainfall (%): +0: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	1.5
Total Inflow Volume (m³)	0.639

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	0.3
10	1.5
15	0.3
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario	Date: 17/04/2026			
Report Details: Type: Inflow Results Storm Phase: Phase	Designed by: JB	Checked by: PW	Approved By: PW	
Company Address:				



Catchment Area (5)
Critical by Return Period: FEH: 2 years: Increase Rainfall (%): +0: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	0.3
Total Inflow Volume (m³)	0.132

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	0.1
10	0.3
15	0.1
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area
Critical by Return Period: FEH: 30 years: Increase Rainfall (%): +40: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	7.1
Total Inflow Volume (m³)	3.069

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	1.6
10	7.1
15	1.6
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario	Date: 17/04/2026			
Report Details: Type: Inflow Results Storm Phase: Phase	Designed by: JB	Checked by: PW	Approved By: PW	
Company Address:				



Catchment Area (1)
Critical by Return Period: FEH: 30 years: Increase Rainfall (%): +40: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	6.8
Total Inflow Volume (m³)	2.943

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	1.5
10	6.8
15	1.5
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario	Date: 17/04/2026			
Report Details: Type: Inflow Results Storm Phase: Phase	Designed by: JB	Checked by: PW	Approved By: PW	
Company Address:				



Catchment Area (2)
Critical by Return Period: FEH: 30 years: Increase Rainfall (%): +40: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	4.9
Total Inflow Volume (m³)	2.130

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	1.1
10	4.9
15	1.1
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario	Date: 17/04/2026			
Report Details: Type: Inflow Results Storm Phase: Phase	Designed by: JB	Checked by: PW	Approved By: PW	
Company Address:				



Catchment Area (3)
Critical by Return Period: FEH: 30 years: Increase Rainfall (%): +40: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	5.0
Total Inflow Volume (m³)	2.154

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	1.1
10	5.0
15	1.1
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario	Date: 17/04/2026			
Report Details: Type: Inflow Results Storm Phase: Phase	Designed by: JB	Checked by: PW	Approved By: PW	
Company Address:				



Catchment Area (4)
Critical by Return Period: FEH: 30 years: Increase Rainfall (%): +40: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	4.5
Total Inflow Volume (m³)	1.947

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	1.0
10	4.5
15	1.0
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area (5)
Critical by Return Period: FEH: 30 years: Increase Rainfall (%): +40: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	0.9
Total Inflow Volume (m³)	0.393

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	0.2
10	0.9
15	0.2
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario	Date: 17/04/2026			
Report Details: Type: Inflow Results Storm Phase: Phase	Designed by: JB	Checked by: PW	Approved By: PW	
Company Address:				



Catchment Area
Critical by Return Period: FEH: 100 years: Increase Rainfall (%): +45: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	9.2
Total Inflow Volume (m³)	3.977

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	2.0
10	9.2
15	2.1
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area (1)
Critical by Return Period: FEH: 100 years: Increase Rainfall (%): +45: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	8.8
Total Inflow Volume (m³)	3.806

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	1.9
10	8.8
15	2.0
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario	Date: 17/04/2026			
Report Details: Type: Inflow Results Storm Phase: Phase	Designed by: JB	Checked by: PW	Approved By: PW	
Company Address:				



Catchment Area (2)
Critical by Return Period: FEH: 100 years: Increase Rainfall (%): +45: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	6.4
Total Inflow Volume (m³)	2.757

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	1.4
10	6.4
15	1.4
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario	Date: 17/04/2026			
Report Details: Type: Inflow Results Storm Phase: Phase	Designed by: JB	Checked by: PW	Approved By: PW	
Company Address:				



Catchment Area (3)
Critical by Return Period: FEH: 100 years: Increase Rainfall (%): +45: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	6.4
Total Inflow Volume (m³)	2.790

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	1.4
10	6.4
15	1.4
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area (4)
Critical by Return Period: FEH: 100 years: Increase Rainfall (%): +45: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	5.8
Total Inflow Volume (m³)	2.517

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	1.3
10	5.8
15	1.3
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Pyramid Park Surcharged Scenario	Date: 17/04/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:			



Catchment Area (5)
Critical by Return Period: FEH: 100 years: Increase Rainfall (%): +45: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	1.2
Total Inflow Volume (m³)	0.510

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	0.3
10	1.2
15	0.3
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Union Square Network Surcharged Scenario		Date: 26/08/2026			
Report Details: Type: Stormwater Controls Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			



6.01-TANK

Type : Tank

Dimensions

Exceedance Level (m)	92.000
Depth (m)	2.190
Base Level (m)	89.810
Freeboard (mm)	690
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:X)	0.00
Total Volume (m³)	8.505

Depth (m)	Area (m²)	Volume (m³)
0.000	5.67	0.000
1.500	5.67	8.505

Inlets

Inlet

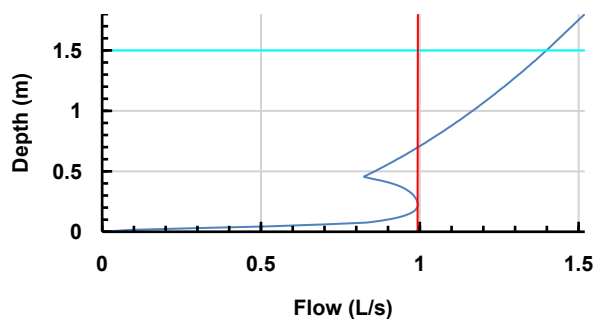
Inlet Type	Point Inflow
Incoming Item(s)	6.000
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	6.001
Outlet Type	Hydro-Brake®
Invert Level (m)	89.810
Design Depth (m)	1.500
Design Flow (L/s)	1.4
Objective	Minimise Upstream Storage Requirements
Application	Surface Water Only
Sump Available	☒

Unit Reference	SHE-0051-1400-1500-1400
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Advanced

Perimeter	Circular
Length (m)	4.050

Project: Bury Interchange Phase 1 Union Square Network Surcharged Scenario			Date: 26/08/2026			
Report Details: Type: Inflow Summary Storm Phase: Phase			Designed by:	Checked by:	Approved By:	
			JB	PW	PW	
			Company Address:			

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area	6.00		Time of Concentration	0.021	100	0	100	0.021
TOTAL		0.0		0.021				0.021

Project: Bury Interchange Phase 1 Union Square Network Surcharged Scenario		Date: 26/08/2026			
Report Details: Type: Outfall Details Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			

Outfalls

Outfall	Outfall Type	Gated	Fixed Surcharged Level (m)	Level Curve
6.01	Fixed Surcharged Level	☐	85.480	
FEH : 2 years: +0 %: 15 mins: Summer			85.480	
FEH : 2 years: +0 %: 15 mins: Winter			85.480	
FEH : 30 years: +40 %: 15 mins: Summer			85.480	
FEH : 30 years: +40 %: 15 mins: Winter			85.480	
FEH : 100 years: +45 %: 15 mins: Summer			85.480	
FEH : 100 years: +45 %: 15 mins: Winter			85.480	
FEH : 2 years: +0 %: 30 mins: Summer			85.480	
FEH : 2 years: +0 %: 30 mins: Winter			85.480	
FEH : 30 years: +40 %: 30 mins: Summer			85.480	
FEH : 30 years: +40 %: 30 mins: Winter			85.480	
FEH : 100 years: +45 %: 30 mins: Summer			85.480	
FEH : 100 years: +45 %: 30 mins: Winter			85.480	
FEH : 2 years: +0 %: 60 mins: Summer			85.480	
FEH : 2 years: +0 %: 60 mins: Winter			85.480	
FEH : 30 years: +40 %: 60 mins: Summer			85.480	
FEH : 30 years: +40 %: 60 mins: Winter			85.480	
FEH : 100 years: +45 %: 60 mins: Summer			85.480	
FEH : 100 years: +45 %: 60 mins: Winter			85.480	
FEH : 2 years: +0 %: 120 mins: Summer			85.480	
FEH : 2 years: +0 %: 120 mins: Winter			85.480	
FEH : 30 years: +40 %: 120 mins: Summer			85.480	
FEH : 30 years: +40 %: 120 mins: Winter			85.480	
FEH : 100 years: +45 %: 120 mins: Summer			85.480	
FEH : 100 years: +45 %: 120 mins: Winter			85.480	
FEH : 2 years: +0 %: 180 mins: Summer			85.480	
FEH : 2 years: +0 %: 180 mins: Winter			85.480	
FEH : 30 years: +40 %: 180 mins: Summer			85.480	
FEH : 30 years: +40 %: 180 mins: Winter			85.480	
FEH : 100 years: +45 %: 180 mins: Summer			85.480	
FEH : 100 years: +45 %: 180 mins: Winter			85.480	
FEH : 2 years: +0 %: 240 mins: Summer			85.480	
FEH : 2 years: +0 %: 240 mins: Winter			85.480	

Project: Bury Interchange Phase 1 Union Square Network Surcharged Scenario		Date: 26/08/2026			
Report Details: Type: Outfall Details Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			

FEH : 30 years: +40 %: 240 mins: Summer			85.480	
FEH : 30 years: +40 %: 240 mins: Winter			85.480	
FEH : 100 years: +45 %: 240 mins: Summer			85.480	
FEH : 100 years: +45 %: 240 mins: Winter			85.480	
FEH : 2 years: +0 %: 360 mins: Summer			85.480	
FEH : 2 years: +0 %: 360 mins: Winter			85.480	
FEH : 30 years: +40 %: 360 mins: Summer			85.480	
FEH : 30 years: +40 %: 360 mins: Winter			85.480	
FEH : 100 years: +45 %: 360 mins: Summer			85.480	
FEH : 100 years: +45 %: 360 mins: Winter			85.480	
FEH : 2 years: +0 %: 480 mins: Summer			85.480	
FEH : 2 years: +0 %: 480 mins: Winter			85.480	
FEH : 30 years: +40 %: 480 mins: Summer			85.480	
FEH : 30 years: +40 %: 480 mins: Winter			85.480	
FEH : 100 years: +45 %: 480 mins: Summer			85.480	
FEH : 100 years: +45 %: 480 mins: Winter			85.480	
FEH : 2 years: +0 %: 600 mins: Summer			85.480	
FEH : 2 years: +0 %: 600 mins: Winter			85.480	
FEH : 30 years: +40 %: 600 mins: Summer			85.480	
FEH : 30 years: +40 %: 600 mins: Winter			85.480	
FEH : 100 years: +45 %: 600 mins: Summer			85.480	
FEH : 100 years: +45 %: 600 mins: Winter			85.480	
FEH : 2 years: +0 %: 720 mins: Summer			85.480	
FEH : 2 years: +0 %: 720 mins: Winter			85.480	
FEH : 30 years: +40 %: 720 mins: Summer			85.480	
FEH : 30 years: +40 %: 720 mins: Winter			85.480	
FEH : 100 years: +45 %: 720 mins: Summer			85.480	
FEH : 100 years: +45 %: 720 mins: Winter			85.480	
FEH : 2 years: +0 %: 960 mins: Summer			85.480	
FEH : 2 years: +0 %: 960 mins: Winter			85.480	
FEH : 30 years: +40 %: 960 mins: Summer			85.480	
FEH : 30 years: +40 %: 960 mins: Winter			85.480	
FEH : 100 years: +45 %: 960 mins: Summer			85.480	
FEH : 100 years: +45 %: 960 mins: Winter			85.480	
FEH : 2 years: +0 %: 1440 mins: Summer			85.480	

Project: Bury Interchange Phase 1 Union Square Network Surcharged Scenario		Date: 26/08/2026			
Report Details: Type: Outfall Details Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			

FEH : 2 years: +0 %: 1440 mins: Winter			85.480	
FEH : 30 years: +40 %: 1440 mins: Summer			85.480	
FEH : 30 years: +40 %: 1440 mins: Winter			85.480	
FEH : 100 years: +45 %: 1440 mins: Summer			85.480	
FEH : 100 years: +45 %: 1440 mins: Winter			85.480	
FEH : 2 years: +0 %: 2160 mins: Summer			85.480	
FEH : 2 years: +0 %: 2160 mins: Winter			85.480	
FEH : 30 years: +40 %: 2160 mins: Summer			85.480	
FEH : 30 years: +40 %: 2160 mins: Winter			85.480	
FEH : 100 years: +45 %: 2160 mins: Summer			85.480	
FEH : 100 years: +45 %: 2160 mins: Winter			85.480	
FEH : 2 years: +0 %: 2880 mins: Summer			85.480	
FEH : 2 years: +0 %: 2880 mins: Winter			85.480	
FEH : 30 years: +40 %: 2880 mins: Summer			85.480	
FEH : 30 years: +40 %: 2880 mins: Winter			85.480	
FEH : 100 years: +45 %: 2880 mins: Summer			85.480	
FEH : 100 years: +45 %: 2880 mins: Winter			85.480	
FEH : 2 years: +0 %: 4320 mins: Summer			85.480	
FEH : 2 years: +0 %: 4320 mins: Winter			85.480	
FEH : 30 years: +40 %: 4320 mins: Summer			85.480	
FEH : 30 years: +40 %: 4320 mins: Winter			85.480	
FEH : 100 years: +45 %: 4320 mins: Summer			85.480	
FEH : 100 years: +45 %: 4320 mins: Winter			85.480	
FEH : 2 years: +0 %: 5760 mins: Summer			85.480	
FEH : 2 years: +0 %: 5760 mins: Winter			85.480	
FEH : 30 years: +40 %: 5760 mins: Summer			85.480	
FEH : 30 years: +40 %: 5760 mins: Winter			85.480	
FEH : 100 years: +45 %: 5760 mins: Summer			85.480	
FEH : 100 years: +45 %: 5760 mins: Winter			85.480	
FEH : 2 years: +0 %: 7200 mins: Summer			85.480	
FEH : 2 years: +0 %: 7200 mins: Winter			85.480	
FEH : 30 years: +40 %: 7200 mins: Summer			85.480	
FEH : 30 years: +40 %: 7200 mins: Winter			85.480	
FEH : 100 years: +45 %: 7200 mins: Summer			85.480	
FEH : 100 years: +45 %: 7200 mins: Winter			85.480	

Project: Bury Interchange Phase 1 Union Square Network Surcharged Scenario		Date: 26/08/2026			
Report Details: Type: Outfall Details Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			

FEH : 2 years: +0 %: 8640 mins: Summer			85.480	
FEH : 2 years: +0 %: 8640 mins: Winter			85.480	
FEH : 30 years: +40 %: 8640 mins: Summer			85.480	
FEH : 30 years: +40 %: 8640 mins: Winter			85.480	
FEH : 100 years: +45 %: 8640 mins: Summer			85.480	
FEH : 100 years: +45 %: 8640 mins: Winter			85.480	
FEH : 2 years: +0 %: 10080 mins: Summer			85.480	
FEH : 2 years: +0 %: 10080 mins: Winter			85.480	
FEH : 30 years: +40 %: 10080 mins: Summer			85.480	
FEH : 30 years: +40 %: 10080 mins: Winter			85.480	
FEH : 100 years: +45 %: 10080 mins: Summer			85.480	
FEH : 100 years: +45 %: 10080 mins: Winter			85.480	

Project: Bury Interchange Phase 1 Union Square Network Surcharged Scenario	Date: 26/08/2026	
Report Title: Rainfall Analysis Criteria	Designed by: JB Checked by: PW Approved By: PW	
Company Address:		

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Default
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall		Type: FEH
FEH		
Site Location	GB 380448 410509 SD 80448 10509	
Rainfall Version	2022	
Summer	☒	
Winter	☒	

Return Period

Return Period (years)	Increase Rainfall (%)
2.0	0.000
30.0	40.000
100.0	45.000

Storm Durations

Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440
960	1920
1440	2880
2160	4320
2880	5760
4320	8640
5760	11520
7200	14400
8640	17280
10080	20160

Project: Bury Interchange Phase 1 Union Square Network Surcharged Scenario		Date: 26/08/2026			
Report Details: Type: Inflows Summary Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			



FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FEH: 2 years: +0 %: 15 mins: Summer	0.02	3.9	1.712

Project: Bury Interchange Phase 1 Union Square Network Surcharged Scenario		Date: 26/08/2026			
Report Details: Type: Inflows Summary Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			



FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FEH: 30 years: +40 %: 15 mins: Summer	0.02	12.0	5.207

Project: Bury Interchange Phase 1 Union Square Network Surcharged Scenario		Date: 26/08/2026			
Report Details: Type: Inflows Summary Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			



FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FEH: 100 years: +45 %: 15 mins: Summer	0.02	15.5	6.737

Project: Bury Interchange Phase 1 Union Square Network Surcharged Scenario		Date: 26/08/2026			
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			



FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Outflow

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
6.01	FEH: 2 years: +0 %: 30 mins: Summer	89.94 5	87.35 0	87.350	0.000	1.0	0.000	0.000	1.0	2.164	OK
6.00	FEH: 2 years: +0 %: 15 mins: Summer	92.00 0	90.95 0	91.002	0.052	3.9	0.008	0.000	3.9	1.711	OK

Project: Bury Interchange Phase 1 Union Square Network Surcharged Scenario		Date: 26/08/2026			
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			



FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Outflow

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
6.01	FEH: 30 years: +40 %: 60 mins: Winter	89.945	87.350	87.350	0.000	1.2	0.000	0.000	1.2	6.693	OK
6.00	FEH: 30 years: +40 %: 15 mins: Summer	92.000	90.950	91.051	0.101	12.0	0.016	0.000	11.8	5.205	OK

Project: Bury Interchange Phase 1 Union Square Network Surcharged Scenario		Date: 26/08/2026			
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: JB	Checked by: PW	Approved By: PW	
		Company Address:			



FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Outflow

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
6.01	FEH: 100 years: +45 %: 60 mins: Winter	89.94 5	87.35 0	87.350	0.000	1.4	0.000	0.000	1.4	7.853	OK
6.00	FEH: 100 years: +45 %: 15 mins: Summer	92.00 0	90.95 0	91.070	0.120	15.5	0.019	0.000	15.3	6.735	OK

Project: Bury Interchange Phase 1 Union Square Network Surcharged Scenario		Date: 26/08/2026			
		Designed by: JB	Checked by: PW	Approved By: PW	
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Company Address:			



FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max.
 Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
6.01-TANK	FEH: 2 years: +0 %: 60 mins: Summer	90.030	90.030	0.220	0.220	2.4	1.246	0.000	0.000	1.0	2.924	85.351	OK

Project: Bury Interchange Phase 1 Union Square Network Surcharged Scenario		Date: 26/08/2026			
		Designed by: JB	Checked by: PW		Approved By: PW
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Company Address:			



FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max.
 Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residant Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
6.01-TANK	FEH: 30 years: +40 %: 60 mins: Winter	90.871	90.871	1.061	1.061	5.9	6.015	0.000	0.000	1.2	6.705	29.272	OK

Project: Bury Interchange Phase 1 Union Square Network Surcharged Scenario		Date: 26/08/2026			
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Designed by: JB	Checked by: PW	Approved By: PW	
		Company Address:			



**FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By:
Max. Avg. Depth**

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
6.01-TANK	FEH: 100 years: +45 %: 60 mins: Winter	91.260	91.260	1.450	1.450	7.8	8.219	0.000	0.000	1.4	7.867	3.367	OK

Project: Bury Interchange Phase 1 Union Square Network Surcharged Scenario		Date: 26/08/2026			
Report Details: Type: Connections Summary Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			



FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
6.000	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	6.00	6.01-TANK	92.000	91.002	0.049	1.711	0.8	0.2	3.9	OK
6.001	FEH: 2 years: +0 %: 30 mins: Summer	Pipe	6.01-TANK	6.01	92.000	90.030	0.011	2.164	1.6	0.01	1.0	Surcharged

Project: Bury Interchange Phase 1 Union Square Network Surcharged Scenario		Date: 26/08/2026			
Report Details: Type: Connections Summary Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			



FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
6.000	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	6.00	6.01-TANK	92.000	91.051	0.092	5.205	1.0	0.61	11.8	OK
6.001	FEH: 30 years: +40 %: 60 mins: Winter	Pipe	6.01-TANK	6.01	92.000	90.871	0.012	6.693	1.7	0.01	1.2	Surcharged

Project: Bury Interchange Phase 1 Union Square Network Surcharged Scenario		Date: 26/08/2026			
Report Details: Type: Connections Summary Storm Phase: Phase		Designed by: JB	Checked by: PW		Approved By: PW
		Company Address:			



FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
6.000	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	6.00	6.01-TANK	92.000	91.070	0.109	6.735	1.1	0.79	15.3	OK
6.001	FEH: 100 years: +45 %: 60 mins: Winter	Pipe	6.01-TANK	6.01	92.000	91.260	0.013	7.853	1.8	0.02	1.4	Surcharged

Project: Bury Interchange Phase 1 Union Square Network Surcharged Scenario	Date: 26/08/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
	Report Details: Type: Inflow Results Storm Phase: Phase			
Company Address:				



Catchment Area
 Critical by Return Period: FEH: 2 years: Increase Rainfall (%): +0: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	3.9
Total Inflow Volume (m³)	1.712

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	0.9
10	3.9
15	0.9
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Union Square Network Surcharged Scenario	Date: 26/08/2026			
Report Details: Type: Inflow Results Storm Phase: Phase	Designed by: JB	Checked by: PW	Approved By: PW	
Company Address:				



Catchment Area

Critical by Return Period: FEH: 30 years: Increase Rainfall (%): +40: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	12.0
Total Inflow Volume (m³)	5.207

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	2.7
10	12.0
15	2.7
20	0.0
25	0.0
30	0.0

Project: Bury Interchange Phase 1 Union Square Network Surcharged Scenario	Date: 26/08/2026			
	Designed by: JB	Checked by: PW	Approved By: PW	
	Report Details: Type: Inflow Results Storm Phase: Phase			



Catchment Area
Critical by Return Period: FEH: 100 years: Increase Rainfall (%): +45: 15 mins: Summer

Type : Catchment Area

Inflow

Max. Inflow (L/s)	15.5
Total Inflow Volume (m³)	6.737

Tables

Time (mins)	Total Inflow (L/s)
0	0.0
5	3.4
10	15.5
15	3.5
20	0.0
25	0.0
30	0.0

APPENDIX K

EXISTING ATTENUATION TANK INFORMATION

[illegible]

APPENDIX L CORRESPONDENCE

Joe Bullough

From: Jack Hall [REDACTED]
Sent: 25 August 2026 12:53
To: Joe Bullough; Philip Whitesmith
Cc: Marie Hughes-Jones; Phil Lavers; Martin Simpson; William Moss; Luke Gamble; Ryan McGarr
Subject: FW: Bury Interchange Ph1 - Existing Attenuation Tank - Owner Consent to Works

Joe / Phil,

As per our phone call this morning, see below update on the existing attenuation tank from an ownership approval process. We can discuss later today on the call.

I trust this is of benefit as this was one of the key actions, even to put in writing the current status / update.

We have a meeting next week with the Council, whereby we hope to agree the permanent solution (that being 3nr PCC manhole rings as per the proposal opposed to a new attenuation tank). We do not anticipate any issues with this given discussions and collaboration with TfGM and Bury Council to date.

Regards,

Jack Hall
Operations Manager

Willmott Dixon Construction Limited

Hollinwood Business Centre, Albert Mill, Albert Street
Hollinwood, Oldham, Lancashire OL8 3QL

T: [REDACTED]
M: [REDACTED]

From: Helen Webster [REDACTED]
Sent: 25 August 2026 12:39
To: Jack Hall [REDACTED]
Cc: Richard Beamer [REDACTED]; christine.bainbridge [REDACTED]; Marie Hughes-Jones [REDACTED]; Phil Lavers [REDACTED]; William Moss [REDACTED]; Martin Simpson [REDACTED]; R.Channings [REDACTED]
Subject: RE: Bury Interchange Ph1 - Existing Attenuation Tank - Owner Consent to Works

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Afternoon Jack,

Bury Council, as the landowner, was not previously aware of the existence of the attenuation tank. Since its identification, we've been liaising with the Council's Estates Team (Becky Channings - Interim Head of Asset Management) regarding the tank and the issue of its location directly beneath the bridge landing.

Although formal approval from the Council for the attenuation tank relocation has not yet been obtained, the Council has been kept informed regarding the investigation works and has raised no initial concerns regarding the

potential need to remove and relocate the tank. However, further details from the survey investigations, together with a proposed solution, are required before formal approval can be secured.

A meeting has been arranged with Bury Council Estates on 3rd September to present the proposed tank relocation strategy and discuss the scheme's approach in more detail. During the meeting, we'll seek to agree the process for securing formal approval of the tank relocation / strategy.

For transparency, Becky Channings has been copied into this email.

Regards

Helen

From: Jack Hall [REDACTED]
Sent: 25 August 2026 11:48
To: Helen Webster [REDACTED]
Cc: Richard Beamer [REDACTED]; Christine Bainbridge [REDACTED]; Marie Hughes-Jones [REDACTED]; Phil Lavers [REDACTED]; william.moss [REDACTED]; Martin Simpson [REDACTED]
Subject: Bury Interchange Ph1 - Existing Attenuation Tank - Owner Consent to Works

Hi Helen,

Further to our phone call, I am hoping you can assist.

Aligned with the recent attenuation tank discussions, we need to submit the drainage design drawings to Planning this week. We are working towards this deadline, with a number of considerations currently being addressed with our design team.

I believe this was also raised some weeks ago through a TQ, but one item we will need to demonstrate to the planners is confirmation/correspondence from the owner of the existing attenuation tank (Bury Council / Townside?) confirming their agreement in principle to the tank being removed and/or relocated as part of our revised approach.

Could you please provide an update on the correspondence to date, the current position and, importantly, the route to obtaining the necessary approval from the tank owner?

For the Planning submission, we would ideally like to provide evidence that the proposed removal/relocation has been discussed with, and is acceptable in principle to, the tank owner. Without this, there is a risk that the proposals could be challenged or objected to at a later stage if the owner has not agreed to the removal and replacement of their existing asset.

We acknowledge that the exact drainage strategy and replacement proposal is still being developed, and we have a meeting with the Council next week to progress this further. At this stage, however, any confirmation of the position in principle would be helpful in supporting this week's Planning submission.

If you can provide an update as soon as possible, it would be much appreciated.

Regards,

Jack Hall
Operations Manager

Willmott Dixon Construction Limited
Hollinwood Business Centre, Albert Street,
Hollinwood, Oldham, OL8 3QL

T: [REDACTED]
M: [REDACTED]



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