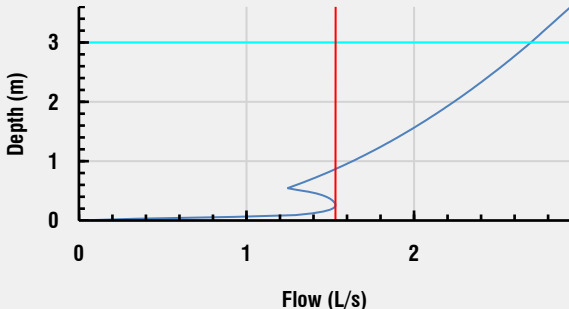


Upper Tean: C1941 Surface Water	Date: 30/11/2023		
	Designed by: AJ	Checked by: DH	Approved By:
Report Details: Type: Junctions Storm Phase: 30year	CB3 Consult:		



Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
S4	Outlet	Pipe	Free Discharge
S5	Outlet	Pipe (1)	Free Discharge
S6	Outlet	Pipe (2)	Free Discharge
S7	Outlet	Pipe (3)	Free Discharge
S8	Outlet	Pipe (4)	Free Discharge
S9	Outlet	Pipe (5)	Free Discharge
S10	Outlet	Pipe (6)	Free Discharge
S11	Outlet	Pipe (7)	Free Discharge
S12	Outlet	Pipe (8)	Free Discharge
S13	Outlet	Pipe (9)	Free Discharge
S16	Outlet	Pipe (10)	Free Discharge
S17	Outlet	Pipe (14)	Free Discharge
S18 - HB	Outlet	Pipe (16)	Hydro-Brake®
	Invert Level (m)	128.200	
	Design Depth (m)	3.000	
	Design Flow (L/s)	2.7	
	Objective	Minimise Upstream Storage Requirements	
	Application	Surface Water Only	
	Sump Available	☒	
	Unit Reference	SHE-0060-2700-3000-2700	
			
S19	Outlet	Pipe (11)	Free Discharge
S19A	Outlet (1)	Pipe (32)	Free Discharge
S20	Outlet	Pipe (13)	Free Discharge
Manhole (1)	Outlet	Pipe (18)	Orifice
	Diameter (m)	0.025	
	Coefficient of Discharge	0.600	
	Invert Level (m)	134.800	
Manhole (2)	Outlet	Pipe (19)	Orifice
	Diameter (m)	0.025	
	Coefficient of Discharge	0.600	
	Invert Level (m)	135.050	
Manhole (3)	Outlet	Pipe (20)	Orifice
	Diameter (m)	0.025	
	Coefficient of Discharge	0.600	
	Invert Level (m)	134.800	
Manhole (4)	Outlet	Pipe (21)	Orifice
	Diameter (m)	0.025	
	Coefficient of Discharge	0.600	
	Invert Level (m)	135.500	
	Outlet	Pipe (23)	Orifice

Upper Tean: C1941 Surface Water	Date: 30/11/2023		
	Designed by: AJ	Checked by: DH	Approved By:
Report Details: Type: Junctions Storm Phase: 30year	CB3 Consult:		



Junction	Outlet Name	Outgoing Connection	Outlet Type
Manhole (5)	Diameter (m)	0.025	
	Coefficient of Discharge	0.600	
	Invert Level (m)	135.800	
Manhole (6)	Outlet	Pipe (22)	Orifice
	Diameter (m)	0.025	
	Coefficient of Discharge	0.600	
Manhole (7)	Outlet	Pipe (24)	Free Discharge
	Diameter (m)	0.025	
	Coefficient of Discharge	0.600	
Manhole (8)	Outlet	Pipe (25)	Free Discharge
	Diameter (m)	0.025	
	Coefficient of Discharge	0.600	
Manhole (9)	Outlet	Pipe (26)	Orifice
	Diameter (m)	0.025	
	Coefficient of Discharge	0.600	
Manhole (10)	Outlet	Pipe (27)	Orifice
	Diameter (m)	0.025	
	Coefficient of Discharge	0.600	
Manhole (11)	Outlet	Pipe (28)	Orifice
	Diameter (m)	0.025	
	Coefficient of Discharge	0.600	
Manhole (12)	Outlet	Pipe (29)	Orifice
	Diameter (m)	0.025	
	Coefficient of Discharge	0.600	
Manhole (13)	Outlet	Pipe (30)	Orifice
	Diameter (m)	0.035	
	Coefficient of Discharge	0.600	
Manhole (14)	Outlet	Pipe (31)	Orifice
	Diameter (m)	0.025	
	Coefficient of Discharge	0.600	
Manhole (15)	Outlet	(None)	Orifice
	Diameter (m)	0.025	
	Coefficient of Discharge	0.600	
Manhole (16)	Outlet (1)	Pipe (55)	Free Discharge
	Outlet	Pipe (33)	
	Diameter (m)	0.025	
Manhole	Outlet	Pipe (17)	Orifice
	Diameter (m)	0.035	
	Coefficient of Discharge	0.600	
Simple Junction	Outlet	Pipe (1) (1)	Free Discharge
Simple Junction (1)	Outlet	Pipe (2) (1)	Free Discharge
Simple Junction (2)	Outlet	Pipe (2) (1) (1)	Free Discharge
Simple Junction (3)	Outlet	Pipe (9) (1)	Free Discharge
Simple Junction (4)	Outlet	Pipe (9) (1) (1)	Free Discharge
Simple Junction (5)	Outlet	Pipe (9) (1) (1) (1)	Free Discharge
Simple Junction (6)	Outlet	Pipe (32) (1)	Free Discharge
Manhole (18)	Outlet	Pipe (59)	Orifice
	Diameter (m)	0.030	
	Coefficient of Discharge	0.600	
Manhole (19)	Outlet	Pipe (60)	Free Discharge

Upper Tean: C1941 Surface Water	Date: 30/11/2023		
	Designed by: AJ	Checked by: DH	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: 30year	CB3 Consult:		



Tank

Type : Tank

Dimensions

Exceedance Level (m)	131.500
Depth (m)	3.300
Base Level (m)	128.200
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	95
Average Slope (1:X)	-1.588
Total Volume (m³)	119.565

Depth (m)	Area (m²)	Volume (m³)
0.000	50.000	0.000
2.500	50.000	118.750
2.501	0.001	118.766

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Pipe (14)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (15)
Outlet Type	Free Discharge

Advanced

Perimeter	Circular
Length (m)	13.665

Upper Team: C1941 Surface Water	Date: 30/11/2023		
	Designed by: AJ	Checked by: DH	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: 30year	CB3 Consult:		



Porous Paving

Type : Porous Paving

Dimensions

Exceedance Level (m)	132.850
Depth (m)	0.480
Base Level (m)	132.370
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	16.975
Long. Slope (1:X)	1000.00
Width (m)	3.518
Total Volume (m³)	6.481

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (14)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (46)
Outlet Type	Under Drain

Advanced

Conductivity (m/hr)	300.0
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Upper Team: C1941 Surface Water	Date: 30/11/2023		
	Designed by: AJ	Checked by: DH	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: 30year	CB3 Consult:		



Porous Paving (1)

Type : Porous Paving

Dimensions

Exceedance Level (m)	135.850
Depth (m)	0.480
Base Level (m)	135.370
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	11.863
Long. Slope (1:X)	1000.00
Width (m)	3.331
Total Volume (m³)	4.296

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (4)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (37)
Outlet Type	Under Drain

Advanced

Conductivity (m/hr)	300.0
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Upper Team: C1941 Surface Water	Date: 30/11/2023			
	Designed by: AJ	Checked by: DH	Approved By:	
Report Details: Type: Stormwater Controls Storm Phase: 30year	CB3 Consult:			



Porous Paving (2)

Type : Porous Paving

Dimensions	
Exceedance Level (m)	135.350
Depth (m)	1.050
Base Level (m)	134.300
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	16.840
Long. Slope (1:X)	1000.00
Width (m)	3.485
Total Volume (m³)	16.404

Under Drain	
Height Above Base (m)	0.050
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets	
Inlet	
Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets	
Outlet	
Outgoing Connection	Pipe (35)
Outlet Type	Under Drain

Advanced	
Conductivity (m/hr)	300.0

Upper Tean: C1941 Surface Water	Date: 30/11/2023		
	Designed by: AJ	Checked by: DH	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: 30year	CB3 Consult:		





Porous Paving (3)

Type : Porous Paving

Dimensions

Exceedance Level (m)	138.100
Depth (m)	0.480
Base Level (m)	137.620
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	17.754
Long. Slope (1:X)	1000.00
Width (m)	7.398
Total Volume (m³)	14.010

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (9)
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (1)

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (10)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (42)
Outlet Type	Under Drain

Advanced

Conductivity (m/hr)	300.0
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Upper Team: C1941 Surface Water	Date: 30/11/2023		
	Designed by: AJ	Checked by: DH	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: 30year	CB3 Consult:		





Porous Paving (4)

Type : Porous Paving

Dimensions

Exceedance Level (m)	138.100
Depth (m)	0.480
Base Level (m)	137.620
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	13.000
Long. Slope (1:X)	1000.00
Width (m)	3.454
Total Volume (m³)	4.875

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (11)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (43)
Outlet Type	Under Drain

Advanced

Conductivity (m/hr)	300.0
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Upper Tean: C1941 Surface Water	Date: 30/11/2023		
	Designed by: AJ	Checked by: DH	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: 30year	CB3 Consult:		



Porous Paving (5)

Type : Porous Paving

Dimensions

Exceedance Level (m)	136.200
Depth (m)	0.480
Base Level (m)	135.720
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	17.241
Long. Slope (1:X)	1000.00
Width (m)	4.581
Total Volume (m³)	8.507

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (7)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (40)
Outlet Type	Under Drain

Advanced

Conductivity (m/hr)	300.0
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Upper Team: C1941 Surface Water	Date: 30/11/2023		
	Designed by: AJ	Checked by: DH	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: 30year	CB3 Consult:		



Porous Paving (6)

Type : Porous Paving

Dimensions

Exceedance Level (m)	134.100
Depth (m)	0.480
Base Level (m)	133.620
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	15.078
Long. Slope (1:X)	1000.00
Width (m)	3.335
Total Volume (m³)	5.467

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (12)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (44)
Outlet Type	Under Drain

Advanced

Conductivity (m/hr)	300.0
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Upper Tean: C1941 Surface Water	Date: 30/11/2023			
	Designed by: AJ		Checked by: DH	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: 30year	CB3 Consult:			



Porous Paving (7)

Type : Porous Paving

Dimensions	
Exceedance Level (m)	134.100
Depth (m)	0.480
Base Level (m)	133.620
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	17.489
Long. Slope (1:X)	1000.00
Width (m)	6.235
Total Volume (m³)	11.666

Under Drain	
Height Above Base (m)	0.050
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets	
Inlet	
Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (13)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets	
Outlet	
Outgoing Connection	Pipe (45)
Outlet Type	Under Drain

Advanced	
Conductivity (m/hr)	300.0

Upper Tean: C1941 Surface Water	Date: 30/11/2023		
	Designed by: AJ	Checked by: DH	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: 30year	CB3 Consult:		





Porous Paving (10)

Type : Porous Paving

Dimensions

Exceedance Level (m)	132.600
Depth (m)	0.480
Base Level (m)	132.120
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	16.022
Long. Slope (1:X)	1000.00
Width (m)	3.498
Total Volume (m³)	6.083

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (19)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (51)
Outlet Type	Under Drain

Advanced

Conductivity (m/hr)	300.0
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Upper Team: C1941 Surface Water	Date: 30/11/2023		
	Designed by: AJ	Checked by: DH	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: 30year	CB3 Consult:		



Porous Paving (11)

Type : Porous Paving

Dimensions

Exceedance Level (m)	132.600
Depth (m)	0.480
Base Level (m)	132.120
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	16.548
Long. Slope (1:X)	1000.00
Width (m)	5.240
Total Volume (m³)	9.309

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (20)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (52)
Outlet Type	Under Drain

Advanced

Conductivity (m/hr)	300.0
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Upper Tean: C1941 Surface Water	Date: 30/11/2023			
	Designed by: AJ		Checked by: DH	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: 30year	CB3 Consult:			



Porous Paving (12)

Type : Porous Paving

Dimensions	
Exceedance Level (m)	132.350
Depth (m)	0.480
Base Level (m)	131.870
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	16.330
Long. Slope (1:X)	1000.00
Width (m)	5.062
Total Volume (m³)	8.881

Under Drain	
Height Above Base (m)	0.050
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets	
Inlet	
Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (21)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets	
Outlet	
Outgoing Connection	Pipe (53)
Outlet Type	Under Drain

Advanced	
Conductivity (m/hr)	300.0

Upper Tean: C1941 Surface Water	Date: 30/11/2023			
	Designed by: AJ	Checked by: DH	Approved By:	
Report Details: Type: Stormwater Controls Storm Phase: 30year	CB3 Consult:			



Porous Paving (13)

Type : Porous Paving

Dimensions

Exceedance Level (m)	132.450
Depth (m)	0.480
Base Level (m)	131.970
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	16.536
Long. Slope (1:X)	1000.00
Width (m)	3.514
Total Volume (m³)	6.305

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (15)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (47)
Outlet Type	Under Drain

Advanced

Conductivity (m/hr)	300.0
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Upper Team: C1941 Surface Water	Date: 30/11/2023		
	Designed by: AJ	Checked by: DH	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: 30year	CB3 Consult:		





Porous Paving (14)

Type : Porous Paving

Dimensions

Exceedance Level (m)	132.250
Depth (m)	0.480
Base Level (m)	131.770
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	7.505
Long. Slope (1:X)	1000.00
Width (m)	3.720
Total Volume (m³)	3.024

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (16)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (50)
Outlet Type	Under Drain

Advanced

Conductivity (m/hr)	300.0
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Upper Tean: C1941 Surface Water	Date: 30/11/2023			
	Designed by: AJ		Checked by: DH	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: 30year	CB3 Consult:			



Porous Paving (15)

Type : Porous Paving

Dimensions	
Exceedance Level (m)	132.250
Depth (m)	0.880
Base Level (m)	131.370
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	7.464
Long. Slope (1:X)	1000.00
Width (m)	3.695
Total Volume (m³)	6.298
Under Drain	
Height Above Base (m)	0.050
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015
Inlets	
Inlet	
Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (17)
Bypass Destination	(None)
Capacity Type	No Restriction
Outlets	
Outlet	
Outgoing Connection	Pipe (49)
Outlet Type	Under Drain
Advanced	
Conductivity (m/hr)	300.0

Upper Tean: C1941 Surface Water	Date: 30/11/2023			
	Designed by: AJ	Checked by: DH	Approved By:	
Report Details: Type: Stormwater Controls Storm Phase: 30year	CB3 Consult:			



Porous Paving (16)

Type : Porous Paving

Dimensions	
Exceedance Level (m)	131.850
Depth (m)	0.480
Base Level (m)	131.370
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	16.123
Long. Slope (1:X)	1000.00
Width (m)	3.320
Total Volume (m³)	5.821

Under Drain	
Height Above Base (m)	0.050
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets	
Inlet	
Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (18)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets	
Outlet	
Outgoing Connection	Pipe (48)
Outlet Type	Under Drain

Advanced	
Conductivity (m/hr)	300.0

Upper Tean: C1941 Surface Water	Date: 30/11/2023			
	Designed by: AJ	Checked by: DH	Approved By:	
Report Details: Type: Stormwater Controls Storm Phase: 30year	CB3 Consult:			



Porous Paving (18)

Type : Porous Paving

Dimensions

Exceedance Level (m)	134.850
Depth (m)	0.550
Base Level (m)	134.300
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	10.538
Long. Slope (1:X)	1000.00
Width (m)	4.076
Total Volume (m³)	5.542

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area (2)
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (1)

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (1)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (34)
Outlet Type	Under Drain

Advanced

Conductivity (m/hr)	300.0
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Upper Tean: C1941 Surface Water	Date: 30/11/2023			
Report Details: Type: Stormwater Controls Storm Phase: 30year	Designed by: AJ	Checked by: DH	Approved By:	
	CB3 Consult:			



Porous Paving (19)

Type : Porous Paving

Dimensions	
Exceedance Level (m)	136.100
Depth (m)	0.480
Base Level (m)	135.620
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	12.579
Long. Slope (1:X)	1000.00
Width (m)	3.928
Total Volume (m³)	5.344

Under Drain	
Height Above Base (m)	0.050
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets	
Inlet	
Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (3)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets	
Outlet	
Outgoing Connection	Pipe (36)
Outlet Type	Under Drain

Advanced	
Conductivity (m/hr)	300.0

Upper Team: C1941 Surface Water	Date: 30/11/2023			
	Designed by: AJ		Checked by: DH	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: 30year	CB3 Consult:			



Porous Paving (20)

Type : Porous Paving

Dimensions

Exceedance Level (m)	136.550
Depth (m)	0.480
Base Level (m)	136.070
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	12.586
Long. Slope (1:X)	1000.00
Width (m)	4.021
Total Volume (m³)	5.470

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (8)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (41)
Outlet Type	Under Drain

Advanced

Conductivity (m/hr)	300.0
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Upper Tean: C1941 Surface Water	Date: 30/11/2023		
	Designed by: AJ	Checked by: DH	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: 30year	CB3 Consult:		



Porous Paving (21)

Type : Porous Paving

Dimensions

Exceedance Level (m)	136.850
Depth (m)	0.480
Base Level (m)	136.370
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	13.771
Long. Slope (1:X)	1000.00
Width (m)	3.414
Total Volume (m³)	5.107

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Outlets

Outlet

Outgoing Connection	Pipe (39)
Outlet Type	Under Drain

Advanced

Conductivity (m/hr)	300.0
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Upper Tean: C1941 Surface Water	Date: 30/11/2023			
	Designed by: AJ		Checked by: DH	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: 30year	CB3 Consult:			



Porous Paving (22)

Type : Porous Paving

Dimensions	
Exceedance Level (m)	135.850
Depth (m)	0.480
Base Level (m)	135.370
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	13.411
Long. Slope (1:X)	1000.00
Width (m)	3.329
Total Volume (m³)	4.853

Under Drain	
Height Above Base (m)	0.050
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets	
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Outlets	
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Outlet	
Outgoing Connection	Pipe (38)
Outlet Type	Under Drain

Advanced	
Conductivity (m/hr)	300.0

Upper Team: C1941 Surface Water	Date: 30/11/2023		
	Designed by: AJ	Checked by: DH	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: 30year	CB3 Consult:		



Porous Paving (8)

Type : Porous Paving

Dimensions

Exceedance Level (m)	135.231
Depth (m)	0.550
Base Level (m)	134.681
Paving Layer Depth (mm)	200
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	29.659
Long. Slope (1:X)	1000.00
Width (m)	5.000
Total Volume (m³)	15.938

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (25)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (56)
Outlet Type	Under Drain

Advanced

Conductivity (m/hr)	300.0
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Upper Tean: C1941 Surface Water	Date: 30/11/2023			
	Designed by: AJ		Checked by: DH	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: 30year	CB3 Consult:			



Porous Paving (9)

Type : Porous Paving

Dimensions

Exceedance Level (m)	132.080
Depth (m)	0.600
Base Level (m)	131.480
Paving Layer Depth (mm)	200
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	55.493
Long. Slope (1:X)	1000.00
Width (m)	5.000
Total Volume (m³)	33.297

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area (26)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (57)
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	300.0
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Upper Tean: C1941 Surface Water	Date: 30/11/2023		
	Designed by: AJ	Checked by: DH	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: 30year	CB3 Consult:		





Porous Paving (17)

Type : Porous Paving

Dimensions

Exceedance Level (m)	131.844
Depth (m)	0.550
Base Level (m)	131.294
Paving Layer Depth (mm)	200
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	67.295
Long. Slope (1:X)	1000.00
Width (m)	5.799
Total Volume (m³)	41.807

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (27)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (58)
Outlet Type	Orifice
Diameter (m)	0.030
Coefficient of Discharge	0.600
Invert Level (m)	131.294

Advanced

Conductivity (m/hr)	300.0
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Upper Tean: C1941 Surface Water	Date: 30/11/2023		
	Designed by: AJ	Checked by: DH	Approved By:
Report Details: Type: Inflow Summary Storm Phase: 30year	CB3 Consult:		



Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area	Porous Paving (2)		Time of Concentration	0.016	100	0	100	0.016
Catchment Area (1)	Porous Paving (18)		Time of Concentration	0.010	100	0	100	0.010
Catchment Area (2)	Porous Paving (18)		Time of Concentration	0.004	100	0	100	0.004
Catchment Area (3)	Porous Paving (19)		Time of Concentration	0.011	100	0	100	0.011
Catchment Area (4)	Porous Paving (1)		Time of Concentration	0.008	100	0	100	0.008
Catchment Area (5)	Manhole (3)		Time of Concentration	0.008	100	0	100	0.008
Catchment Area (6)	Manhole (5)		Time of Concentration	0.011	100	0	100	0.011
Catchment Area (7)	Porous Paving (5)		Time of Concentration	0.021	100	0	100	0.021
Catchment Area (8)	Porous Paving (20)		Time of Concentration	0.011	100	0	100	0.011
Catchment Area (9)	Porous Paving (3)		Time of Concentration	0.018	100	0	100	0.018
Catchment Area (10)	Porous Paving (3)		Time of Concentration	0.016	100	0	100	0.016
Catchment Area (11)	Porous Paving (4)		Time of Concentration	0.010	100	0	100	0.010
Catchment Area (12)	Porous Paving (6)		Time of Concentration	0.011	100	0	100	0.011
Catchment Area (13)	Porous Paving (7)		Time of Concentration	0.027	100	0	100	0.027
Catchment Area (14)	Porous Paving		Time of Concentration	0.016	100	0	100	0.016
Catchment Area (15)	Porous Paving (13)		Time of Concentration	0.013	100	0	100	0.013
Catchment Area (16)	Porous Paving (14)		Time of Concentration	0.009	100	0	100	0.009
Catchment Area (17)	Porous Paving (15)		Time of Concentration	0.009	100	0	100	0.009
Catchment Area (18)	Porous Paving (16)		Time of Concentration	0.014	100	0	100	0.014
Catchment Area (19)	Porous Paving (10)		Time of Concentration	0.016	100	0	100	0.016
Catchment Area (20)	Porous Paving (11)		Time of Concentration	0.021	100	0	100	0.021
Catchment Area (21)	Porous Paving (12)		Time of Concentration	0.023	100	0	100	0.023
Catchment Area (22)	S4		Time of Concentration	0.046	100	0	100	0.046
Catchment Area (23)	S6		Time of Concentration	0.021	100	0	100	0.021
Catchment Area (24)	S5		Time of Concentration	0.031	100	0	100	0.031
Catchment Area (25)	Porous Paving (8)		Time of Concentration	0.030	100	0	100	0.030
Catchment Area (26)	Porous Paving (9)		Time of Concentration	0.037	100	0	100	0.037
Catchment Area (27)	Porous Paving (17)		Time of Concentration	0.039	100	0	100	0.039
TOTAL		0.0		0.507				0.507

Upper Tean: C1941 Surface Water	Date: 30/11/2023		
	Designed by: AJ	Checked by: DH	Approved By:
Report Details: Type: Network Design Criteria Storm Phase: 30year	CB3 Consult:		



Flow Options

Peak Flow Calculation	(UK) Modified Rational Method
Min. Time of Entry (mins)	5
Max. Travel Time (mins)	30

Pipe Options

Lock Slope Options	None
Design Options	Minimise Excavation
Design Level	Level Soffits
Min. Cover Depth (m)	1.200
Min. Slope (1:X)	500.00
Max. Slope (1:X)	40.00
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Use Flow Restriction	☐
Reduce Channel Depths	☐

Manhole Options

Apply Offset	☐
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Upper Team: C1941 Surface Water	Date: 30/11/2023			
	Designed by: AJ	Checked by: DH	Approved By:	
Report Details: Type: Outfall Details Storm Phase: 30year	CB3 Consult:			

Outfalls

Outfall	Outfall Type	Fixed Surcharged Level (m)	Level Curve
EXST	Free Discharge		
Manhole (15)	Free Discharge		

Upper Tean: C1941 Surface Water	Date: 30/11/2023			
	Designed by: AJ		Checked by: DH	Approved By:
Report Title: Rainfall Analysis Criteria	CB3 Consult:			

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	
FSR	Type: FSR
Region	England And Wales
M5-60 (mm)	18.0
Ratio R	0.355
Summer	☒
Winter	☒

Return Period

Return Period (years)	Increase Rainfall (%)
30.0	10.000

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

Upper Tean: C1941 Surface Water	Date: 30/11/2023		
	Designed by: AJ	Checked by: DH	Approved By:
Report Details: Type: Inflows Summary Storm Phase: 30year	CB3 Consult:		





Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FSR: 30 years: + 10 %: 15 mins: Winter	0.02	5.3	2.444
Catchment Area (1)	FSR: 30 years: + 10 %: 15 mins: Winter	0.01	3.3	1.507
Catchment Area (2)	FSR: 30 years: + 10 %: 15 mins: Winter	0.00	1.4	0.665
Catchment Area (3)	FSR: 30 years: + 10 %: 15 mins: Winter	0.01	3.6	1.648
Catchment Area (4)	FSR: 30 years: + 10 %: 15 mins: Winter	0.01	2.5	1.177
Catchment Area (5)	FSR: 30 years: + 10 %: 15 mins: Winter	0.01	2.5	1.177
Catchment Area (6)	FSR: 30 years: + 10 %: 15 mins: Winter	0.01	3.5	1.612
Catchment Area (7)	FSR: 30 years: + 10 %: 15 mins: Winter	0.02	6.8	3.136
Catchment Area (8)	FSR: 30 years: + 10 %: 15 mins: Winter	0.01	3.6	1.663
Catchment Area (9)	FSR: 30 years: + 10 %: 15 mins: Winter	0.02	5.9	2.726
Catchment Area (10)	FSR: 30 years: + 10 %: 15 mins: Winter	0.02	5.1	2.375
Catchment Area (11)	FSR: 30 years: + 10 %: 15 mins: Winter	0.01	3.2	1.474
Catchment Area (12)	FSR: 30 years: + 10 %: 15 mins: Winter	0.01	3.6	1.663
Catchment Area (13)	FSR: 30 years: + 10 %: 15 mins: Winter	0.03	8.9	4.107
Catchment Area (14)	FSR: 30 years: + 10 %: 15 mins: Winter	0.02	5.3	2.459
Catchment Area (15)	FSR: 30 years: + 10 %: 15 mins: Winter	0.01	4.3	1.965
Catchment Area (16)	FSR: 30 years: + 10 %: 15 mins: Winter	0.01	2.9	1.336
Catchment Area (17)	FSR: 30 years: + 10 %: 15 mins: Winter	0.01	2.9	1.333

Upper Tean: C1941 Surface Water	Date: 30/11/2023		
	Designed by: AJ	Checked by: DH	Approved By:
Report Details: Type: Inflows Summary Storm Phase: 30year	CB3 Consult:		



Catchment Area (18)	FSR: 30 years: + 10 %: 15 mins: Winter	0.01	4.5	2.085
Catchment Area (19)	FSR: 30 years: + 10 %: 15 mins: Winter	0.02	5.2	2.399
Catchment Area (20)	FSR: 30 years: + 10 %: 15 mins: Winter	0.02	7.0	3.235
Catchment Area (21)	FSR: 30 years: + 10 %: 15 mins: Winter	0.02	7.5	3.472
Catchment Area (22)	FSR: 30 years: + 10 %: 15 mins: Winter	0.05	15.0	6.938
Catchment Area (23)	FSR: 30 years: + 10 %: 15 mins: Winter	0.02	7.0	3.235
Catchment Area (24)	FSR: 30 years: + 10 %: 15 mins: Winter	0.03	10.1	4.673
Catchment Area (25)	FSR: 30 years: + 10 %: 15 mins: Winter	0.03	9.8	4.523
Catchment Area (26)	FSR: 30 years: + 10 %: 15 mins: Winter	0.04	12.0	5.545
Catchment Area (27)	FSR: 30 years: + 10 %: 15 mins: Winter	0.04	12.7	5.883

Upper Tean: C1941 Surface Water	Date: 30/11/2023		
	Designed by: AJ	Checked by: DH	Approved By:
Report Details: Type: Junctions Summary Storm Phase: 30year		CB3 Consult:	



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
S4	FSR: 30 years: +10 %: 15 mins: Winter	134.965	133.000	133.090	0.090	15.0	0.102	0.000	14.4	8.006	OK
S5	FSR: 30 years: +10 %: 15 mins: Winter	136.309	132.920	133.048	0.128	25.3	0.145	0.000	24.0	14.045	OK
S6	FSR: 30 years: +10 %: 15 mins: Winter	137.724	132.810	132.955	0.145	31.2	0.164	0.000	29.6	19.329	OK
S7	FSR: 30 years: +10 %: 15 mins: Winter	137.705	132.710	132.839	0.129	28.4	0.146	0.000	26.4	20.756	OK
S8	FSR: 30 years: +10 %: 15 mins: Winter	135.583	132.500	132.618	0.118	26.4	0.134	0.000	23.9	20.713	OK
S9	FSR: 30 years: +10 %: 15 mins: Winter	135.254	132.420	132.511	0.091	23.9	0.103	0.000	23.0	20.579	OK
S10	FSR: 30 years: +10 %: 30 mins: Winter	135.026	132.275	132.389	0.114	23.2	0.129	0.000	23.2	36.332	OK
S11	FSR: 30 years: +10 %: 60 mins: Winter	134.201	132.155	132.231	0.076	23.8	0.086	0.000	23.9	57.242	OK
S12	FSR: 30 years: +10 %: 60 mins: Winter	133.427	131.650	131.726	0.076	24.9	0.086	0.000	24.9	61.927	OK
S13	FSR: 30 years: +10 %: 60 mins: Winter	132.960	131.200	131.261	0.061	24.9	0.069	0.000	24.9	61.879	OK
S16	FSR: 30 years: +10 %: 960 mins: Winter	131.800	128.380	130.654	2.274	9.7	2.572	0.000	9.5	237.588	Surcharged
S17	FSR: 30 years: +10 %: 960 mins: Winter	131.600	128.265	130.654	2.389	9.5	2.702	0.000	9.3	231.542	Surcharged
S18 - HB	FSR: 30 years: +10 %: 960 mins: Winter	131.500	128.200	130.654	2.454	2.5	2.775	0.000	2.4	197.781	Surcharged
S19	FSR: 30 years: +10 %: 960 mins: Winter	131.923	128.680	130.654	1.974	0.5	2.233	0.000	0.3	7.257	Surcharged
S19A	FSR: 30 years: +10 %: 960 mins: Winter	132.200	128.593	130.654	2.061	0.7	2.331	0.000	0.3	7.455	Surcharged
S20	FSR: 30 years: +10 %: 960 mins: Winter	132.200	128.490	130.654	2.164	1.0	2.447	0.000	0.8	25.836	Surcharged
EXST	FSR: 30 years: +10 %: 960 mins: Winter	131.180	128.080	128.105	0.025	2.4	0.000	0.000	2.4	197.758	OK
Manhole (1)	FSR: 30 years: +10 %: 60 mins: Winter	135.850	134.800	135.087	0.287	1.1	0.046	0.000	0.7	1.297	Surcharged
Manhole (2)	FSR: 30 years: +10 %: 60 mins: Winter	136.100	135.050	135.537	0.487	1.6	0.077	0.000	0.9	1.925	Surcharged
Manhole (3)	FSR: 30 years: +10 %: 30 mins: Winter	135.850	134.800	135.341	0.541	1.7	0.086	0.000	0.9	1.560	Surcharged
Manhole (4)	FSR: 30 years: +10 %: 60 mins: Winter	136.550	135.500	135.989	0.489	1.6	0.078	0.000	0.9	1.939	Surcharged
Manhole (5)	FSR: 30 years: +10 %: 30 mins: Winter	136.850	135.800	136.443	0.643	2.3	0.102	0.000	1.0	2.149	Surcharged
Manhole (6)	FSR: 30 years: +10 %: 120 mins: Winter	138.100	137.050	137.793	0.743	2.9	0.118	0.000	1.1	8.405	Surcharged
Manhole (7)	FSR: 30 years: +10 %: 30 mins: Winter	138.100	137.050	137.062	0.012	1.5	0.002	0.000	1.5	1.117	OK
Manhole (8)	FSR: 30 years: +10 %: 30 mins: Winter	136.200	135.150	135.166	0.016	3.2	0.003	0.000	3.2	2.625	OK
Manhole (9)	FSR: 30 years: +10 %: 60 mins: Winter	134.100	133.050	133.539	0.489	1.6	0.078	0.000	0.9	1.935	Surcharged
Manhole (10)	FSR: 30 years: +10 %: 120 mins: Winter	134.100	133.050	133.772	0.722	2.5	0.115	0.000	1.1	6.765	Surcharged

Upper Tean: C1941 Surface Water		Date: 30/11/2023			
		Designed by: AJ	Checked by: DH	Approved By:	
Report Details: Type: Junctions Summary Storm Phase: 30year		CB3 Consult:			

Manhole (11)	FSR: 30 years: +10 %: 60 mins: Winter	132.85 0	131.80 0	132.48 5	0.685	2.4	0.109	0.000	1.1	3.107	Surcharged
Manhole (12)	FSR: 30 years: +10 %: 60 mins: Winter	132.45 0	131.40 0	132.01 7	0.617	1.9	0.098	0.000	1.0	2.307	Surcharged
Manhole (13)	FSR: 30 years: +10 %: 60 mins: Winter	131.85 0	130.80 0	131.51 0	0.710	4.8	0.113	0.000	2.1	6.127	Surcharged
Manhole (14)	FSR: 30 years: +10 %: 60 mins: Winter	132.60 0	131.55 0	132.23 5	0.685	2.3	0.109	0.000	1.1	3.083	Surcharged
Manhole (15)	FSR: 30 years: +10 %: 30 mins: Winter	132.60 0	131.55 0	131.56 3	0.013	3.0	0.002	0.000	3.0	2.581	OK
Manhole (16)	FSR: 30 years: +10 %: 120 mins: Winter	132.35 0	131.30 0	132.01 7	0.717	2.3	0.114	0.000	1.1	5.907	Surcharged
Manhole	FSR: 30 years: +10 %: 180 mins: Winter	135.35 0	134.30 0	134.50 0	0.200	1.2	0.032	0.000	1.1	18.282	Surcharged
Simple Junction	FSR: 30 years: +10 %: 15 mins: Winter		132.86 9	132.99 6	0.128	24.0			23.3	14.397	OK
Simple Junction (1)	FSR: 30 years: +10 %: 15 mins: Winter		132.74 0	132.89 8	0.158	29.6			28.8	19.778	OK
Simple Junction (2)	FSR: 30 years: +10 %: 15 mins: Winter		132.72 9	132.87 3	0.144	28.8			28.4	20.996	OK
Simple Junction (3)	FSR: 30 years: +10 %: 60 mins: Winter		130.61 8	130.68 0	0.063	26.0			26.0	64.952	OK
Simple Junction (4)	FSR: 30 years: +10 %: 960 mins: Winter		130.08 3	130.65 4	0.571	8.0			8.0	171.525	Surcharged
Simple Junction (5)	FSR: 30 years: +10 %: 960 mins: Winter		129.01 7	130.65 4	1.637	8.7			8.3	186.335	Surcharged
Simple Junction (6)	FSR: 30 years: +10 %: 960 mins: Winter		128.57 3	130.65 4	2.081	1.0			0.6	17.148	Surcharged
Manhole (18)	FSR: 30 years: +10 %: 60 mins: Winter	131.80 0	131.48 0	131.54 6	0.066	0.5	0.011	0.000	0.4	1.659	Flood Risk
Manhole (19)	FSR: 30 years: +10 %: 60 mins: Winter	135.68 5	134.68 1	134.69 7	0.016	3.0	0.002	0.000	3.0	4.827	OK

Upper Tean: C1941 Surface Water	Date: 30/11/2023		
	Designed by: AJ	Checked by: DH	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: 30year	CB3 Consult:		





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. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Tank	FSR: 30 years: +10 %: 960 mins: Winter	130.654	130.654	2.454	2.454	9.3	116.561	0.000	0.000	2.5	198.887	2.512	OK
Porous Paving	FSR: 30 years: +10 %: 60 mins: Summer	132.518	132.472	0.131	0.102	3.0	2.109	0.000	0.000	2.4	2.742	67.451	OK
Porous Paving (1)	FSR: 30 years: +10 %: 60 mins: Winter	135.484	135.452	0.102	0.082	1.3	1.099	0.000	0.000	1.1	1.364	74.416	OK
Porous Paving (2)	FSR: 30 years: +10 %: 180 mins: Winter	134.500	134.500	0.183	0.200	1.3	3.373	0.000	0.000	1.9	12.412	79.440	OK
Porous Paving (3)	FSR: 30 years: +10 %: 120 mins: Winter	137.795	137.794	0.157	0.174	3.7	6.531	0.000	0.000	2.9	8.483	53.386	OK
Porous Paving (4)	FSR: 30 years: +10 %: 60 mins: Winter	137.741	137.708	0.108	0.088	1.6	1.339	0.000	0.000	1.4	1.781	72.531	OK
Porous Paving (5)	FSR: 30 years: +10 %: 30 mins: Winter	135.885	135.834	0.147	0.114	4.5	2.949	0.000	0.000	3.2	2.695	65.336	OK
Porous Paving (6)	FSR: 30 years: +10 %: 60 mins: Winter	133.748	133.710	0.113	0.090	1.8	1.544	0.000	0.000	1.6	2.003	71.761	OK
Porous Paving (7)	FSR: 30 years: +10 %: 120 mins: Winter	133.776	133.773	0.139	0.153	2.9	4.774	0.000	0.000	2.5	6.836	59.079	OK
Porous Paving (10)	FSR: 30 years: +10 %: 30 mins: Winter	132.272	132.225	0.136	0.105	3.5	2.005	0.000	0.000	2.6	2.195	67.039	OK
Porous Paving (11)	FSR: 30 years: +10 %: 30 mins: Winter	132.282	132.232	0.145	0.112	4.7	3.221	0.000	0.000	3.0	2.651	65.400	OK
Porous Paving (12)	FSR: 30 years: +10 %: 120 mins: Winter	132.020	132.018	0.134	0.148	2.5	3.491	0.000	0.000	2.3	5.974	60.695	OK
Porous Paving (13)	FSR: 30 years: +10 %: 30 mins: Winter	132.112	132.067	0.126	0.097	2.8	1.863	0.000	0.000	2.0	1.582	70.450	OK
Porous Paving (14)	FSR: 30 years: +10 %: 30 mins: Winter	131.889	131.864	0.111	0.094	1.9	0.859	0.000	0.000	1.8	1.319	71.582	OK
Porous Paving (15)	FSR: 30 years: +10 %: 60 mins: Winter	131.511	131.510	0.133	0.140	1.4	1.131	0.000	0.000	1.4	1.831	82.044	OK
Porous Paving (16)	FSR: 30 years: +10 %: 60 mins: Winter	131.512	131.510	0.126	0.140	2.3	2.140	0.000	0.000	2.0	2.647	63.229	OK
Porous Paving (18)	FSR: 30 years: +10 %: 120 mins: Winter	134.500	134.500	0.189	0.200	1.6	2.508	0.000	0.000	1.5	8.463	54.743	OK
Porous Paving (19)	FSR: 30 years: +10 %: 60 mins: Winter	135.744	135.710	0.111	0.090	1.8	1.505	0.000	0.000	1.6	1.993	71.839	OK

Upper Tean: C1941 Surface Water		Date: 30/11/2023			
		Designed by: AJ	Checked by: DH	Approved By:	
Report Details: Type: Stormwater Controls Summary Storm Phase: 30year		CB3 Consult:			

Porous Paving (20)	FSR: 30 years: +10 %: 60 mins: Winter	136.194	136.161	0.111	0.091	1.8	1.541	0.000	0.000	1.6	2.008	71.825	OK
Porous Paving (21)	FSR: 30 years: +10 %: 30 mins: Winter	136.384	136.416	0.000	0.046	0.7	0.221	0.000	0.000	0.0	0.000	95.663	OK
Porous Paving (22)	FSR: 30 years: +10 %: 15 mins: Summer	135.383	135.370	0.000	0.000	0.0	0.000	0.000	0.000	0.0	0.000	100.000	OK
Porous Paving (8)	FSR: 30 years: +10 %: 60 mins: Winter	134.867	134.800	0.156	0.119	4.9	5.870	0.000	0.000	3.0	4.902	63.168	OK
Porous Paving (9)	FSR: 30 years: +10 %: 2160 mins: Winter	131.749	131.512	0.213	0.032	0.5	13.553	0.000	0.000	0.2	18.666	59.296	OK
Porous Paving (17)	FSR: 30 years: +10 %: 360 mins: Winter	131.481	131.431	0.119	0.136	1.9	12.981	0.000	0.000	0.7	11.320	68.950	OK

Upper Tean: C1941 Surface Water	Date: 30/11/2023			
	Designed by: AJ	Checked by: DH	Approved By:	
Report Details: Type: Connections Summary Storm Phase: 30year	CB3 Consult:			



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
Pipe	FSR: 30 years: + 10 %: 15 mins: Winter	Pipe	S4	S5	134.965	133.090	0.109	8.006	0.6	0.18	14.4	OK
Pipe (3)	FSR: 30 years: + 10 %: 15 mins: Winter	Pipe	S7	S8	137.705	132.839	0.124	20.756	1.0	0.35	26.4	OK
Pipe (4)	FSR: 30 years: + 10 %: 15 mins: Winter	Pipe	S8	S9	135.583	132.618	0.105	20.713	1.1	0.3	23.9	OK
Pipe (5)	FSR: 30 years: + 10 %: 30 mins: Winter	Pipe	S9	S10	135.254	132.511	0.103	36.469	1.1	0.16	23.2	OK
Pipe (6)	FSR: 30 years: + 10 %: 30 mins: Winter	Pipe	S10	S11	135.026	132.389	0.094	36.332	1.2	0.29	23.2	OK
Pipe (7)	FSR: 30 years: + 10 %: 60 mins: Winter	Pipe	S11	S12	134.201	132.231	0.076	57.242	1.7	0.13	23.9	OK
Pipe (8)	FSR: 30 years: + 10 %: 60 mins: Winter	Pipe	S12	S13	133.427	131.726	0.068	61.927	2.1	0.12	24.9	OK
Pipe (10)	FSR: 30 years: + 10 %: 30 mins: Winter	Pipe	S16	S17	131.800	129.004	0.375	45.738	0.9	0.23	31.5	Surcharged
Pipe (11)	FSR: 30 years: + 10 %: 60 mins: Winter	Pipe	S19	S19A	131.923	129.459	0.300	1.465	0.4	0.01	1.1	Surcharged
Pipe (13)	FSR: 30 years: + 10 %: 30 mins: Winter	Pipe	S20	S16	132.200	129.004	0.300	1.520	0.3	0.05	4.3	Surcharged
Pipe (14)	FSR: 30 years: + 10 %: 15 mins: Winter	Pipe	S17	Tank	131.600	128.613	0.375	21.998	2.1	0.13	28.9	OK
Pipe (15)	FSR: 30 years: + 10 %: 30 mins: Winter	Pipe	Tank	S18 - HB	131.500	129.004	0.375	4.904	0.2	0.03	2.7	Surcharged
Pipe (16)	FSR: 30 years: + 10 %: 960 mins: Winter	Pipe	S18 - HB	EXST	131.500	130.654	0.025	197.758	0.8	0.01	2.4	Surcharged
Pipe (18)	FSR: 30 years: + 10 %: 60 mins: Winter	Pipe	Manhole (1)	S4	135.850	135.087	0.034	1.296	0.3	0.01	0.7	Surcharged
Pipe (19)	FSR: 30 years: + 10 %: 60 mins: Winter	Pipe	Manhole (2)	S5	136.100	135.537	0.050	1.923	0.3	0.01	0.9	Surcharged
Pipe (20)	FSR: 30 years: + 10 %: 30 mins: Winter	Pipe	Manhole (3)	S5	135.850	135.341	0.059	1.559	0.3	0.01	0.9	Surcharged
Pipe (17)	FSR: 30 years: + 10 %: 120 mins: Winter	Pipe	Manhole	S4	135.350	134.500	0.034	11.962	0.8	0.01	1.1	Surcharged
Pipe (1)	FSR: 30 years: + 10 %: 15 mins: Winter	Pipe	S5	Simple Junction	136.309	133.048	0.128	14.045	0.8	0.3	24.0	OK

Upper Tean: C1941 Surface Water	Date: 30/11/2023				
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Report Details: Type: Connections Summary Storm Phase: 30year		CB3 Consult:			

Pipe (1) (1)	FSR: 30 years: + 10 %: 15 mins: Winter	Pipe	Simple Junction	S6	137.103	132.996	0.136	14.397	0.7	0.29	23.3	OK
Pipe (21)	FSR: 30 years: + 10 %: 60 mins: Winter	Pipe	Manhole (4)	Simple Junction	136.550	135.989	0.010	1.938	1.7	0.01	0.9	Surchar ged
Pipe (22)	FSR: 30 years: + 10 %: 120 mins: Winter	Pipe	Manhole (6)	S6	138.100	137.793	0.052	8.403	0.7	0.01	1.1	Surchar ged
Pipe (23)	FSR: 30 years: + 10 %: 30 mins: Winter	Pipe	Manhole (5)	S6	136.850	136.443	0.068	1.865	0.3	0.01	1.0	Surchar ged
Pipe (2)	FSR: 30 years: + 10 %: 15 mins: Winter	Pipe	S6	Simple Junction (1)	137.724	132.955	0.151	19.329	0.8	0.37	29.6	OK
Pipe (24)	FSR: 30 years: + 10 %: 30 mins: Winter	Pipe	Manhole (7)	Simple Junction (1)	138.100	137.062	0.011	1.117	2.6	0.01	1.5	OK
Pipe (2) (1)	FSR: 30 years: + 10 %: 15 mins: Winter	Pipe	Simple Junction (1)	Simple Junction (2)	137.829	132.898	0.151	19.778	0.8	0.36	28.8	OK
Pipe (2) (1) (1)	FSR: 30 years: + 10 %: 15 mins: Winter	Pipe	Simple Junction (2)	S7	137.794	132.873	0.137	20.996	0.9	0.36	28.4	OK
Pipe (25)	FSR: 30 years: + 10 %: 30 mins: Winter	Pipe	Manhole (8)	Simple Junction (2)	136.200	135.166	0.062	2.625	0.5	0.03	3.2	OK
Pipe (26)	FSR: 30 years: + 10 %: 60 mins: Winter	Pipe	Manhole (9)	S11	134.100	133.539	0.043	1.933	0.3	0.01	0.9	Surchar ged
Pipe (27)	FSR: 30 years: + 10 %: 120 mins: Winter	Pipe	Manhole (10)	S12	134.100	133.772	0.041	6.763	0.7	0.01	1.1	Surchar ged
Pipe (9)	FSR: 30 years: + 10 %: 60 mins: Winter	Pipe	S13	Simple Junction (3)	132.960	131.261	0.062	61.879	2.1	0.05	24.9	OK
Pipe (28)	FSR: 30 years: + 10 %: 60 mins: Winter	Pipe	Manhole (11)	Simple Junction (3)	132.850	132.485	0.022	3.105	1.6	0.01	1.1	Surchar ged
Pipe (9) (1)	FSR: 30 years: + 10 %: 60 mins: Winter	Pipe	Simple Junction (3)	Simple Junction (4)	132.751	130.680	0.062	64.952	2.2	0.05	26.0	OK
Pipe (29)	FSR: 30 years: + 10 %: 60 mins: Winter	Pipe	Manhole (12)	Simple Junction (4)	132.450	132.017	0.019	2.305	1.5	0.01	1.0	Surchar ged
Pipe (9) (1) (1)	FSR: 30 years: + 10 %: 60 mins: Winter	Pipe	Simple Junction (4)	Simple Junction (5)	132.559	130.144	0.230	67.239	2.3	0.06	26.7	OK
Pipe (9) (1) (1) (1)	FSR: 30 years: + 10 %: 60 mins: Winter	Pipe	Simple Junction (5)	S16	132.176	129.459	0.375	71.680	1.3	0.06	28.8	Surchar ged
Pipe (30)	FSR: 30 years: + 10 %: 60 mins: Winter	Pipe	Manhole (13)	Simple Junction (5)	131.850	131.510	0.150	6.113	2.3	0.02	2.1	Surchar ged
Pipe (31)	FSR: 30 years: + 10 %: 60 mins: Summer	Pipe	Manhole (14)	S19	132.600	132.219	0.150	2.644	1.2	0.01	1.1	Surchar ged
Pipe (33)	FSR: 30 years: + 10 %: 120 mins: Winter	Pipe	Manhole (16)	S20	132.350	132.017	0.150	5.905	0.5	0.01	1.1	Surchar ged
Pipe (34)	FSR: 30 years: + 10 %: 30 mins: Summer	Pipe	Porous Paving (18)	Manhole	134.861	134.441	0.121	1.167	0.3	0.16	2.2	OK

Upper Tean: C1941 Surface Water	Date: 30/11/2023		
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Pipe (35)	FSR: 30 years: + 10 %: 120 mins: Summer	Pipe	Porous Paving (2)	Manhole	135.367	134.491	0.150	5.792	0.1	0.07	1.0	OK
Pipe (36)	FSR: 30 years: + 10 %: 30 mins: Winter	Pipe	Porous Paving (19)	Manhole (2)	136.113	135.720	0.150	1.276	0.1	0.03	1.7	OK
Pipe (37)	FSR: 30 years: + 10 %: 30 mins: Winter	Pipe	Porous Paving (1)	Manhole (1)	134.451	135.461	0.120	0.830	0.1	0.02	1.2	OK
Pipe (38)	FSR: 30 years: + 10 %: 15 mins: Summer	Pipe	Porous Paving (22)	Manhole (3)	135.759	135.370	0.150	0.000	0.0	0	0.0	OK
Pipe (39)	FSR: 30 years: + 10 %: 15 mins: Summer	Pipe	Porous Paving (21)	Manhole (5)	136.167	136.373	0.150	0.000	0.0	0	0.1	OK
Pipe (40)	FSR: 30 years: + 10 %: 30 mins: Winter	Pipe	Porous Paving (5)	Manhole (8)	136.869	135.844	0.021	2.630	2.1	0.06	3.2	OK
Pipe (41)	FSR: 30 years: + 10 %: 30 mins: Winter	Pipe	Porous Paving (20)	Manhole (4)	136.563	136.171	0.150	1.270	0.1	0.04	1.7	OK
Pipe (42)	FSR: 30 years: + 10 %: 60 mins: Winter	Pipe	Porous Paving (3)	Manhole (6)	138.118	137.774	0.150	5.837	1.4	0.08	4.1	OK
Pipe (43)	FSR: 30 years: + 10 %: 30 mins: Winter	Pipe	Porous Paving (4)	Manhole (7)	138.113	137.718	0.015	1.120	1.7	0.02	1.5	OK
Pipe (44)	FSR: 30 years: + 10 %: 30 mins: Winter	Pipe	Porous Paving (6)	Manhole (9)	134.434	133.722	0.150	1.272	0.1	0.03	1.7	OK
Pipe (45)	FSR: 30 years: + 10 %: 60 mins: Winter	Pipe	Porous Paving (7)	Manhole (10)	133.730	133.759	0.150	4.869	1.5	0.06	3.5	OK
Pipe (46)	FSR: 30 years: + 10 %: 30 mins: Winter	Pipe	Porous Paving	Manhole (11)	132.867	132.487	0.150	2.131	0.1	0.05	2.6	OK
Pipe (47)	FSR: 30 years: + 10 %: 30 mins: Winter	Pipe	Porous Paving (13)	Manhole (12)	132.467	132.077	0.150	1.519	0.1	0.04	2.0	OK
Pipe (48)	FSR: 30 years: + 10 %: 60 mins: Winter	Pipe	Porous Paving (16)	Manhole (13)	131.866	131.503	0.150	2.587	0.1	0.04	1.9	OK
Pipe (49)	FSR: 30 years: + 10 %: 30 mins: Winter	Pipe	Porous Paving (15)	Manhole (13)	132.257	131.492	0.150	1.262	0.1	0.03	1.8	OK
Pipe (50)	FSR: 30 years: + 10 %: 30 mins: Winter	Pipe	Porous Paving (14)	Manhole (13)	132.258	131.873	0.150	1.258	0.1	0.04	1.8	OK
Pipe (51)	FSR: 30 years: + 10 %: 30 mins: Winter	Pipe	Porous Paving (10)	Manhole (14)	132.697	132.239	0.150	2.133	1.4	0.05	2.6	OK
Pipe (52)	FSR: 30 years: + 10 %: 30 mins: Winter	Pipe	Porous Paving (11)	Manhole (15)	132.443	132.244	0.020	2.584	2.2	0.05	3.0	OK
Pipe (53)	FSR: 30 years: + 10 %: 30 mins: Winter	Pipe	Porous Paving (12)	Manhole (16)	132.341	131.998	0.150	2.872	0.2	0.06	3.6	OK
Pipe (32)	FSR: 30 years: + 10 %: 30 mins: Summer	Pipe	S19A	Simple Junction (6)	132.200	128.886	0.300	0.490	0.2	0.01	1.0	OK
Pipe (32) (1)	FSR: 30 years: + 10 %: 60 mins: Winter	Pipe	Simple Junction (6)	S20	132.200	129.459	0.300	1.972	0.5	0.05	3.9	Surchar ged

Upper Tean: C1941 Surface Water	Date: 30/11/2023		
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Report Details: Type: Connections Summary Storm Phase: 30year	CB3 Consult:		



Pipe (55)	FSR: 30 years: + 10 %: 30 mins: Winter	Pipe	Manhole (15)	Simple Junction (6)	132.600	131.563	0.150	2.528	1.2	0.02	3.0	OK
Pipe (58)	FSR: 30 years: + 10 %: 360 mins: Winter	Pipe	Porous Paving (17)	S16	131.912	131.405	0.150	11.317	0.0	0.01	0.7	OK
Pipe (57)	FSR: 30 years: + 10 %: 30 mins: Winter	Pipe	Porous Paving (9)	Manhole (18)	132.690	131.562	0.062	0.931	0.1	0.05	0.6	OK
Pipe (59)	FSR: 30 years: + 10 %: 60 mins: Winter	Pipe	Manhole (18)	S16	131.800	131.546	0.150	1.655	0.1	0	0.4	Flood Risk
Pipe (60)	FSR: 30 years: + 10 %: 60 mins: Winter	Pipe	Manhole (19)	S8	135.685	134.697	0.062	4.827	0.5	0.03	3.0	OK
Pipe (56)	FSR: 30 years: + 10 %: 60 mins: Winter	Pipe	Porous Paving (8)	Manhole (19)	135.603	134.813	0.031	4.831	1.2	0.18	3.0	OK

Upper Tean: C1941 Surface Water	Date: 30/11/2023		
	Designed by: AJ	Checked by: DH	Approved By:
Report Details: Type: Phase Management Storm Phase: 30year	CB3 Consult:		





30year

FSR: 30 years: Increase Rainfall (%): +10: 960 mins: Winter

Tables

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
EXST			2.4	197.758
Manhole (15)			0.0	0.393
TOTAL	12.1	275.908	2.4	198.151

Graphs

