

**JULY 2022
ADDENDUM 4 TO
LEVEL 2 FLOOD RISK ASSESSMENT
NATIONAL PLANNING POLICY FRAMEWORK
PLANNING PRACTICE GUIDANCE (NPPF PPG)**

LAND SOUTH of TROWBRIDGE

FOR



**REPORT REF. NO.: 447/FRA2/ADDM4
V1 – 21.07.22**

TeignConsult
9 Higher Kingsdown Road
Teignmouth
TQ14 9AT

**ADDENDUM 4
TO LEVEL 2 FLOOD RISK ASSESSMENT**

LAND SOUTH OF TROWBRIDGE

APPENDICES

Appendix 1	Hydrology Report updates
Appendix 2	Modelling Report updates
Appendix 3	SW Drainage updates

1.0 INTRODUCTION

1.1 Context

This Addendum has been produced in response to the EA response dated 1st July 2022 and the LLFA comments dated 12th June 2022.

This FRA Addendum 4 directly responds to those comments made by the Environment Agency and the LLFA to the submitted planning application, alongside revising the original FRA and FRA Addendums 1, 2 and 3 in response to the amended proposals where required.

This document should be read in conjunction with the original FRA and its appendices dated 4th November 2019. Note there are two documents consisting of text and appendices on the Wiltshire Planning portal and they can be found here:

<https://development.wiltshire.gov.uk/pr/s/planning-application/a0i3z000014evqKAAQ/2000379out?tabset-8903c=2>

FRA Addendum 1 dated 18th December 2020 can also be found on the planning portal here:

<https://development.wiltshire.gov.uk/pr/s/planning-application/a0i3z000014evqKAAQ/2000379out?tabset-8903c=2>

FRA Addendum 2 dated 20th October 2021 can be found here:

<https://development.wiltshire.gov.uk/pr/s/contentdocument/0693z00000N4nomAAB>

FRA Addendum 3 dated 17th May 2022 can be found here:

<https://development.wiltshire.gov.uk/pr/s/planning-application/a0i3z000014evqKAAQ/2000379out?tabset-8903c=2>

Development proposals remain at 180 dwellings and this addendum only deals with any changes to the flood risk strategies as a result of the latest EA and LLFA comments.

The same comment numbers used by the EA and LLFA have been retained and if there is no change to the proposals noted in this document the original FRA and Addendums 1 - 3 covers that sub-topic.

The same paragraph numbers have been used throughout the documents for clarity.

3.4.1 Fluvial Flooding

See the updated Hydrology Report contained in Appendix 1 and the Modelling report contained in Appendix 2.

Hi-Flows version 10 data has been used.

No flow level data nearby - nearest gauge with AM data is 53029 Biss at Trowbridge.

The Chronology of British Hydrological Events (CBHE) website and the British Chronology of Flash Floods websites have been checked and no records are included on either website for historic flood event data.

No flow level data nearby is available, the nearest gauge with AM data is 53029 Biss at Trowbridge and as such no calibration has been included in the modelling.

Hydrology has been updated so that a single storm duration of 8.75 hours and interval of 0.25 hours has been used in the hydrographs.

The table of flows used in the modelling is included below.

The response to the EA comments is included on Page 5.

Peak flows used in the modelling of the 3 flood zones FZ3B, FZ3A and FZ2 going forward are as follows:

FEH RR Method - Peak flow at Tp																				
Location / Node	Co-Ords								Return Period flows											
	N	E	Catchment area	Tp	CSD used	Interval used	Time peak flow occurs	QBAR	5	20	20CC39%	100	100CC39%	1000	1000CC39%					
			(km²)	Hrs	Hrs	Hrs	Hrs		m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s					
1.34	384361.11	155468.42	6.3662		8.750	0.250	9.500	1.857	2.730	4.190	5.824	6.190	8.604	10.860	15.095					
North Bradley	384612.79	155796.59	1.3387		8.750	0.250	8.500	0.720	1.060	1.610	2.238	2.350	3.267	4.060	5.643					
1.26U	38578.73	156005.05	7.8558		8.750	0.250	9.250	2.633	3.857	5.895	8.194	8.654	12.029	15.045	20.913					
Residual flow N Stream based on 1.26U & 1.26D*1			0.2940		8.750	0.250	8.750	0.401	0.585	0.802	1.115	1.183	1.644	2.024	2.813					
1.26D	384581.66	156035.23	8.1498		8.750	0.250	9.000	2.880	4.190	6.454	8.971	9.500	13.205	16.550	23.005					
1.23	384223.16	156084.40	8.5770		8.750	0.250	9.500	2.959	4.330	6.606	9.182	9.680	13.455	16.790	23.338					
Residual flow for U Studley & 1.26D & 1.21*2			0.7115		8.750	0.250	12.250	0.242	0.354	0.752	1.045	1.076	1.496	1.817	2.526					
1.21	384134.20	156155.19	8.8613	4.901	8.750	0.250	9.250	3.116	4.560	6.952	9.663	10.185	14.157	17.650	24.534					
											*1	Flow derived by deducting 1.34 & NBrad from 1.26D								
											*2	Flow derived by deducting 1.26D from 1.21								

3.5 Disposal of Surface Water Runoff

The response to the LLFA comments is included on Pages 6 – 7.

The updated MicroDrainage files are included in Appendix 3.

EA Letter of 1.07.22 on 20/00379/OUT

No	EA Comments	Response	Appendix / Ref
1	The hydrology and hydraulic modelling have been significantly improved and with a few additional revisions would be considered fit for purpose. Detailed comments are provided in the attached Excel spreadsheet document, and we request that the issues identified are addressed. Responses to each of the detailed comments should be provided in the spreadsheet document as this helps us to respond when undertaking another review. Bridge crossing Whilst the modelling still requires a few revisions we note that it indicates that there would be at least 0.6m of freeboard from the soffit of the crossing to the modelled 1% (1 in 100) annual probability fluvial flood event including a 39% allowance for climate change. As it stands the modelling appears to also indicate that there would be slight lowering in modelled water levels as a result of the proposal; it would be helpful to see this summarised in a single table. Cross-sections We note that proposed cross-sections 1.264 and 1.266 have been provided, but we cannot find anything for the other cross-sections affected by the floodplain compensation proposals (1.267, 1.2631, 1.261, and 1.26). Please can these be provided?	Hydrology and modelling have been updated as instructed Comments are included in the spreadsheet. Table is included earlier in the report and Appendix 1 See additional drawing FRA15 – FRA19 for additional sections.	App1 App 1 FRA15 - FRA19

LLFA (Atkins) Letter of 12.06.22 on 20/00379/OUT – The latest LLFA comments are in red

No	LLFA Comments	Response	Appendix / Ref
O3	The drainage proposals currently provide limited numbers of SuDS features. The design does not currently consider the use of source-control devices, (such as raingardens, bioretention areas, green roofs), or green-blue infrastructure corridors (including ditches, swales) which could provide multi-faceted benefits of managing water quantity and quality as well as promoting amenity and biodiversity throughout the development. In order to improve the character and quality of the area and the development's climate change resilience the applicant is required to incorporate additional SuDS features across the development which provide benefits to water quantity, quality, amenity and biodiversity benefits. OBJECTION MAINTAINED: The site has been re-designed to incorporate blue-green corridors, with ditches, and detention basins. It is stated that additional features could be provided as part of detailed design, dependent on levels; in the experience of the LLFA if SuDS features are not included as part of outline planning, they will be value-engineered out. Even though detailed plot-levels are not known, indicative levels for the site are known to the applicant. Therefore, the applicant is required to update the drainage design to include all likely locations of source-control features such as raingardens, bioretention features etc. in order that land is available within the development for inclusion of such features. It is understood that levels may need to change, and some features may need to be reduced / relocated as the design progresses.	As discussed with the planning case officer during the determination period, there is an opportunity to incorporate source control features within the proposed layout of the development at the detailed design stage. Indeed, the illustrative layout submitted in support of the application has had regard to the need to deliver SUDS alongside a development of up to 180 dwellings. It has therefore been agreed with the planning case officer that further detail on source control features does not need to be included in the outline planning application and that this can be adequately controlled through a planning condition and addressed at the reserved matters stage.	No further comment from applicant

O5	Drainage Calculations It is noted that the applicant has stated that full hydraulic calculations cannot be provided due to final site levels not being determined; in the experience of the LLFA, a model could be provided at this stage and updated following the receipt of finalised site levels. These calculations are required to demonstrate that surface water will be safely managed on site, and drainage features are appropriately sized, as this could impact the development layout. OBJECTION MAINTAINED: Whilst it is acknowledged that calculations, with supporting plans have been submitted, the following errors need to be corrected prior to the objection being removed (in order to demonstrate that there will be viable drainage strategy on site, and sufficient attenuation will be provided): At the transitions from ditches to piped drainage, the Microdrainage model incorrectly shows 10m diameter manholes. The applicant is required to change these 10m diameter manholes to junctions to prevent an overestimation of attenuation capacity within the network.	The MicroDrainage files have been rerun with the junction nodes as requested. This has made no difference to the design.	App 3

APPENDIX 1

Hydrology Report updates

Hydrology Statement for Lambrok Stream & Tributaries at Southwick, Trowbridge

Location & Background

The EA have requested revised hydrology using a single storm duration and interval for the flows to be tested in the modelling.

Hydrographs & Design Flows for modelling

Adjusted Catchment descriptors were included in Appendix H3 of the V1 modelling report.

Using the agreed FEHRR method the critical storm duration of Node 1.21 rounded to the nearest 0.25 hours has been used across all flow inputs. This is 8.75 hours and a time interval of 0.25 hours has been used. Previously critical storm durations between 6.80 and 9.19hrs had been used. The full hydrographs have been calculated to match the peak flow previously calculated at 8.75 hours using the FEH RR node in Flood Modeller. The updated hydrograph data is included in Appendices H9A – H11A.

The two intermediate urban area flows (NStream & UStudley) have been calculated by deducting the upstream flow(s) from the downstream node flow at each return period as instructed.

The Revision A summary table of flows is included in appendix H5A.

All other nodes remain unchanged as no comments were made on these by the EA in their latest consultation letter.

The hydrograph data for the:

- (i) FZ3B outline and 20 year flow (including 39% climate change allowance) is included in Appendix H9A;
- (ii) FZ3A outline and 100 year flow (including 39% etc) is included in Appendix H10A;
- (iii) FZ2 outline and 1000 year flow including 39% etc) is included in Appendix H11A.

Copies of the electronic files will be provided under separate cover.

Conclusion:

Hydrology updated as instructed and taken forward to updated modelling report.

Appendix H5A

Updated Hydrology Flows at model nodes

FEH RR Method - Peak flow at Tp																		
Location / Node	Co-Ords																	
N	E								Return Period flows									
Catchment area	Tp				CSD used	Interval used	Time peak flow occurs	QBAR	5	20	20CC39%	100	100CC39%	1000	1000CC39%			
(km²)	Hrs				Hrs	Hrs	Hrs		m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s		
6.3662					8.750	0.250	9.500	1.857	2.730	4.190	5.824	6.190	8.604	10.860	15.095			
North Bradley	384612.79	155796.59	1.3387		8.750	0.250	8.500	0.720	1.060	1.610	2.238	2.350	3.267	4.060	5.643			
1.26U	38578.73	156005.05	7.8558		8.750	0.250	9.250	2.633	3.857	5.895	8.194	8.654	12.029	15.045	20.913			
Residual flow N Stream based on 1.26U & 1.26D*1			0.2940		8.750	0.250	8.750	0.401	0.585	0.802	1.115	1.183	1.644	2.024	2.813			
1.26D	384581.66	156035.23	8.1498		8.750	0.250	9.000	2.880	4.190	6.454	8.971	9.500	13.205	16.550	23.005			
1.23	384223.16	156084.40	8.5770		8.750	0.250	9.500	2.959	4.330	6.606	9.182	9.680	13.455	16.790	23.338			
Residual flow for U Studley & 1.26D & 1.21*2			0.7115		8.750	0.250	12.250	0.242	0.354	0.752	1.045	1.076	1.496	1.817	2.526			
1.21	384134.20	156155.19	8.8613	4.901	8.750	0.250	9.250	3.116	4.560	6.952	9.663	10.185	14.157	17.650	24.534			

Appendix H9A

Q20 design hydrographs at nodes

Q20 1.34			Nbrad original			1.26U (inc Nbrad)			Nstream Calc (1.26D-1.26U)			or try	Nstream Calc (1.26D-1.34-Nbrad)			1.26D			1.23			Ustudley (1.21-1.26D)			1.21		
time	flow	CC39%	time	flow	CC39%	time	flow	CC39%	time	flow	CC39%		time	flow	CC39%	time	flow	CC39%	time	flow	CC39%	time	flow	CC39%	time	flow	CC39%
0.000	0.119	0.165	0.000	0.023	0.032	0.000	0.147	0.204	0.000	0.000	0.000		0.000	0.005	0.007	0.000	0.147	0.204	0.000	0.156	0.217	0.000	0.013	0.018	0.000	0.160	0.222
0.250	0.120	0.167	0.250	0.024	0.033	0.250	0.149	0.207	0.250	0.001	0.001		0.250	0.006	0.008	0.250	0.150	0.209	0.250	0.158	0.220	0.250	0.013	0.018	0.250	0.163	0.227
0.500	0.123	0.171	0.500	0.025	0.035	0.500	0.154	0.214	0.500	0.002	0.003		0.500	0.008	0.011	0.500	0.156	0.217	0.500	0.163	0.227	0.500	0.012	0.017	0.500	0.168	0.234
0.750	0.129	0.179	0.750	0.028	0.039	0.750	0.161	0.224	0.750	0.004	0.006		0.750	0.008	0.011	0.750	0.165	0.229	0.750	0.172	0.239	0.750	0.013	0.018	0.750	0.178	0.247
1.000	0.136	0.189	1.000	0.033	0.046	1.000	0.172	0.239	1.000	0.007	0.010		1.000	0.010	0.014	1.000	0.179	0.249	1.000	0.185	0.257	1.000	0.012	0.017	1.000	0.191	0.265
1.250	0.147	0.204	1.250	0.039	0.054	1.250	0.187	0.260	1.250	0.010	0.014		1.250	0.011	0.015	1.250	0.197	0.274	1.250	0.203	0.282	1.250	0.013	0.018	1.250	0.210	0.292
1.500	0.160	0.222	1.500	0.046	0.064	1.500	0.206	0.286	1.500	0.016	0.022		1.500	0.016	0.022	1.500	0.222	0.309	1.500	0.226	0.314	1.500	0.013	0.018	1.500	0.235	0.327
1.750	0.178	0.247	1.750	0.056	0.078	1.750	0.231	0.321	1.750	0.022	0.031		1.750	0.019	0.026	1.750	0.253	0.352	1.750	0.255	0.354	1.750	0.013	0.018	1.750	0.266	0.370
2.000	0.200	0.278	2.000	0.069	0.096	2.000	0.262	0.364	2.000	0.030	0.042		2.000	0.023	0.032	2.000	0.292	0.406	2.000	0.292	0.406	2.000	0.014	0.019	2.000	0.306	0.425
2.250	0.227	0.316	2.250	0.084	0.117	2.250	0.301	0.418	2.250	0.040	0.056		2.250	0.030	0.042	2.250	0.341	0.474	2.250	0.338	0.470	2.250	0.014	0.019	2.250	0.355	0.493
2.500	0.261	0.363	2.500	0.103	0.143	2.500	0.348	0.484	2.500	0.053	0.074		2.500	0.037	0.051	2.500	0.401	0.557	2.500	0.395	0.549	2.500	0.014	0.019	2.500	0.415	0.577
2.750	0.302	0.420	2.750	0.127	0.177	2.750	0.406	0.564	2.750	0.069	0.096		2.750	0.046	0.064	2.750	0.475	0.660	2.750	0.464	0.645	2.750	0.014	0.019	2.750	0.489	0.680
3.000	0.352	0.489	3.000	0.155	0.215	3.000	0.476	0.662	3.000	0.087	0.121		3.000	0.056	0.078	3.000	0.563	0.783	3.000	0.547	0.760	3.000	0.015	0.021	3.000	0.578	0.803
3.250	0.411	0.571	3.250	0.188	0.261	3.250	0.560	0.778	3.250	0.109	0.152		3.250	0.070	0.097	3.250	0.669	0.930	3.250	0.648	0.901	3.250	0.015	0.021	3.250	0.684	0.951
3.500	0.483	0.671	3.500	0.228	0.317	3.500	0.660	0.917	3.500	0.137	0.190		3.500	0.086	0.120	3.500	0.797	1.108	3.500	0.767	1.066	3.500	0.015	0.021	3.500	0.812	1.129
3.750	0.568	0.790	3.750	0.276	0.384	3.750	0.780	1.084	3.750	0.168	0.234		3.750	0.104	0.145	3.750	0.948	1.318	3.750	0.910	1.265	3.750	0.016	0.022	3.750	0.964	1.340
4.000	0.668	0.929	4.000	0.332	0.461	4.000	0.922	1.282	4.000	0.205	0.285		4.000	0.127	0.177	4.000	1.127	1.567	4.000	1.079	1.500	4.000	0.017	0.024	4.000	1.144	1.590
4.250	0.787	1.094	4.250	0.396	0.550	4.250	1.089	1.514	4.250	0.250	0.348		4.250	0.156	0.217	4.250	1.339	1.861	4.250	1.279	1.778	4.250	0.018	0.025	4.250	1.357	1.886
4.500	0.925	1.286	4.500	0.470	0.653	4.500	1.284	1.785	4.500	0.302	0.420		4.500	0.191	0.265	4.500	1.586	2.205	4.500	1.511	2.100	4.500	0.019	0.026	4.500	1.605	2.231
4.750	1.082	1.504	4.750	0.551	0.766	4.750	1.504	2.091	4.750	0.356	0.495		4.750	0.227	0.316	4.750	1.860	2.585	4.750	1.774	2.466	4.750	0.025	0.035	4.750	1.885	2.620
5.000	1.254	1.743	5.000	0.639	0.888	5.000	1.747	2.428	5.000	0.411	0.571		5.000	0.265	0.368	5.000	2.158	3.000	5.000	2.060	2.863	5.000	0.031	0.043	5.000	2.189	3.043
5.250	1.438	1.999	5.250	0.732	1.017	5.250	2.006	2.788	5.250	0.468	0.651		5.250	0.304	0.423	5.250	2.474	3.439	5.250	2.364	3.286	5.250	0.038	0.053	5.250	2.512	3.492
5.500	1.630	2.266	5.500	0.828	1.151	5.500	2.277	3.165	5.500	0.526	0.731		5.500	0.345	0.480	5.500	2.803	3.896	5.500	2.682	3.728	5.500	0.047	0.065	5.500	2.850	3.962
5.750	1.829	2.542	5.750	0.925	1.286	5.750	2.558	3.556	5.750	0.584	0.812		5.750	0.388	0.539	5.750	3.142	4.367	5.750	3.011	4.185	5.750	0.057	0.079	5.750	3.199	4.447
6.000	2.033	2.826	6.000	1.022	1.421	6.000	2.845	3.955	6.000	0.641	0.891		6.000	0.431	0.599	6.000	3.486	4.846	6.000	3.346	4.651	6.000	0.068	0.095	6.000	3.554	4.940
6.250	2.239	3.112	6.250	1.117	1.553	6.250	3.136	4.359	6.250	0.696	0.967		6.250	0.476	0.662	6.250	3.832	5.326	6.250	3.685	5.122	6.2.					

Appendix H10A

Q100 design hydrographs at nodes

Q100	1.34			Nbrad original			1.26U (inc Nbrad)			Nstream Calc (1.26D-1.26U)			or try	Nstream Calc (1.26D-1.34-Nbrad)			1.26D			1.23			Ustudley (1.21-1.26D)			1.21		
	time	flow	CC39%	time	flow	CC39%	time	flow	CC39%	time	flow	CC39%		time	flow	CC39%	time	flow	CC39%	time	flow	CC39%	time	flow	CC39%	time	flow	CC39%
0.000	0.118	0.164		0.000	0.023	0.032	0.000	0.147	0.204	0.000	0.001	0.001		0.000	0.007	0.010	0.000	0.148	0.206	0.000	0.156	0.217	0.000	0.012	0.017	0.000	0.160	0.222
0.250	0.121	0.168		0.250	0.024	0.033	0.250	0.150	0.209	0.250	0.002	0.003		0.250	0.007	0.010	0.250	0.152	0.211	0.250	0.159	0.221	0.250	0.012	0.017	0.250	0.164	0.228
0.500	0.125	0.174		0.500	0.027	0.038	0.500	0.157	0.218	0.500	0.003	0.004		0.500	0.008	0.011	0.500	0.160	0.222	0.500	0.167	0.232	0.500	0.012	0.017	0.500	0.172	0.239
0.750	0.133	0.185		0.750	0.031	0.043	0.750	0.168	0.234	0.750	0.006	0.008		0.750	0.010	0.014	0.750	0.174	0.242	0.750	0.180	0.250	0.750	0.012	0.017	0.750	0.186	0.259
1.000	0.145	0.202		1.000	0.038	0.053	1.000	0.184	0.256	1.000	0.010	0.014		1.000	0.011	0.015	1.000	0.194	0.270	1.000	0.199	0.277	1.000	0.012	0.017	1.000	0.206	0.286
1.250	0.160	0.222		1.250	0.046	0.064	1.250	0.205	0.285	1.250	0.017	0.024		1.250	0.016	0.022	1.250	0.222	0.309	1.250	0.225	0.313	1.250	0.012	0.017	1.250	0.234	0.325
1.500	0.181	0.252		1.500	0.057	0.079	1.500	0.234	0.325	1.500	0.024	0.033		1.500	0.020	0.028	1.500	0.258	0.359	1.500	0.259	0.360	1.500	0.012	0.017	1.500	0.270	0.375
1.750	0.207	0.288		1.750	0.072	0.100	1.750	0.271	0.377	1.750	0.033	0.046		1.750	0.025	0.035	1.750	0.304	0.423	1.750	0.302	0.420	1.750	0.012	0.017	1.750	0.316	0.439
2.000	0.240	0.334		2.000	0.090	0.125	2.000	0.317	0.441	2.000	0.046	0.064		2.000	0.033	0.046	2.000	0.363	0.505	2.000	0.357	0.496	2.000	0.012	0.017	2.000	0.375	0.521
2.250	0.281	0.391		2.250	0.113	0.157	2.250	0.374	0.520	2.250	0.061	0.085		2.250	0.041	0.057	2.250	0.435	0.605	2.250	0.425	0.591	2.250	0.013	0.018	2.250	0.448	0.623
2.500	0.331	0.460		2.500	0.141	0.196	2.500	0.444	0.617	2.500	0.081	0.113		2.500	0.053	0.074	2.500	0.525	0.730	2.500	0.509	0.708	2.500	0.012	0.017	2.500	0.537	0.746
2.750	0.392	0.545		2.750	0.175	0.243	2.750	0.530	0.737	2.750	0.103	0.143		2.750	0.066	0.092	2.750	0.633	0.880	2.750	0.611	0.849	2.750	0.012	0.017	2.750	0.645	0.897
3.000	0.466	0.648		3.000	0.216	0.300	3.000	0.633	0.880	3.000	0.131	0.182		3.000	0.082	0.114	3.000	0.764	1.062	3.000	0.734	1.020	3.000	0.012	0.017	3.000	0.776	1.079
3.250	0.555	0.771		3.250	0.265	0.368	3.250	0.758	1.054	3.250	0.164	0.228		3.250	0.102	0.142	3.250	0.922	1.282	3.250	0.882	1.226	3.250	0.012	0.017	3.250	0.934	1.298
3.500	0.661	0.919		3.500	0.324	0.450	3.500	0.906	1.259	3.500	0.205	0.285		3.500	0.126	0.175	3.500	1.111	1.544	3.500	1.059	1.472	3.500	0.011	0.015	3.500	1.122	1.560
3.750	0.788	1.095		3.750	0.395	0.549	3.750	1.083	1.505	3.750	0.252	0.350		3.750	0.152	0.211	3.750	1.335	1.856	3.750	1.269	1.764	3.750	0.012	0.017	3.750	1.347	1.872
4.000	0.938	1.304		4.000	0.476	0.662	4.000	1.293	1.797	4.000	0.308	0.428		4.000	0.187	0.260	4.000	1.601	2.225	4.000	1.519	2.111	4.000	0.012	0.017	4.000	1.613	2.242
4.250	1.115	1.550		4.250	0.571	0.794	4.250	1.541	2.142	4.250	0.374	0.520		4.250	0.229	0.318	4.250	1.915	2.662	4.250	1.814	2.521	4.250	0.012	0.017	4.250	1.927	2.679
4.500	1.322	1.838		4.500	0.678	0.942	4.500	1.829	2.542	4.500	0.452	0.628		4.500	0.281	0.391	4.500	2.281	3.171	4.500	2.157	2.998	4.500	0.012	0.017	4.500	2.293	3.187
4.750	1.555	2.161		4.750	0.798	1.109	4.750	2.156	2.997	4.750	0.532	0.739		4.750	0.335	0.466	4.750	2.688	3.736	4.750	2.545	3.538	4.750	0.018	0.025	4.750	2.706	3.761
5.000	1.812	2.519		5.000	0.927	1.289	5.000	2.515	3.496	5.000	0.614	0.853		5.000	0.390	0.542	5.000	3.129	4.349	5.000	2.968	4.126	5.000	0.026	0.036	5.000	3.155	4.385
5.250	2.086	2.900		5.250	1.063	1.478	5.250	2.898	4.028	5.250	0.700	0.973		5.250	0.449	0.624	5.250	3.598	5.001	5.250	3.417	4.750	5.250	0.034	0.047	5.250	3.632	5.048
5.500	2.373	3.298		5.500	1.203	1.672	5.500	3.299	4.586	5.500	0.787	1.094		5.500	0.510	0.709	5.500	4.086	5.680	5.500	3.887	5.403	5.500	0.044	0.061	5.500	4.130	5.741
5.750	2.669	3.710		5.750	1.345	1.870	5.750	3.715	5.164	5.750	0.874	1.215		5.750	0.575	0.799	5.750	4.589	6.379	5.750	4.372	6.077	5.750	0.056	0.078	5.750	4.645	6.457
6.000	2.973	4.132		6.000	1.487	2.067	6.000	4.140	5.755	6.000	0.959	1.333		6.000	0.639	0.888	6.000	5.099	7.088	6.000	4.867	6.765	6.000	0.071	0.099	6.000	5.170	7.186
6.250	3.281	4.561		6.250	1.627	2.262	6.250	4.570																				

Appendix H11A

Q1000 design hydrographs at nodes

Q1000	1.34			Nbrad original			1.26U			Nstream Calc (1.26D-1.26U)	or try	Nstream Calc (1.26D-1.34-Nbrad)	1.26D			1.23			Ustudley (1.21-1.26D)			1.21				
time	flow	CC39%	time	flow	CC39%	time	flow	CC39%	time	flow	CC39%	time	flow	CC39%	time	flow	CC39%	time	flow	CC39%	time	flow	CC39%			
0.000	0.118	0.164	0.000	0.023	0.032	0.000	0.147	0.204	0.000	0.001	0.001	0.000	0.007	0.010	0.000	0.148	0.206	0.000	0.156	0.217	0.000	0.012	0.017	0.000	0.160	0.222
0.250	0.122	0.170	0.250	0.026	0.036	0.250	0.152	0.211	0.250	0.003	0.004	0.250	0.007	0.010	0.250	0.155	0.215	0.250	0.162	0.225	0.250	0.012	0.017	0.250	0.167	0.232
0.500	0.130	0.181	0.500	0.030	0.042	0.500	0.164	0.228	0.500	0.006	0.008	0.500	0.010	0.014	0.500	0.170	0.236	0.500	0.176	0.245	0.500	0.012	0.017	0.500	0.182	0.253
0.750	0.144	0.200	0.750	0.038	0.053	0.750	0.183	0.254	0.750	0.011	0.015	0.750	0.012	0.017	0.750	0.194	0.270	0.750	0.198	0.275	0.750	0.012	0.017	0.750	0.206	0.286
1.000	0.164	0.228	1.000	0.049	0.068	1.000	0.211	0.293	1.000	0.018	0.025	1.000	0.016	0.022	1.000	0.229	0.318	1.000	0.231	0.321	1.000	0.012	0.017	1.000	0.241	0.335
1.250	0.192	0.267	1.250	0.063	0.088	1.250	0.249	0.346	1.250	0.029	0.040	1.250	0.023	0.032	1.250	0.278	0.386	1.250	0.276	0.384	1.250	0.011	0.015	1.250	0.289	0.402
1.500	0.228	0.317	1.500	0.083	0.115	1.500	0.299	0.416	1.500	0.042	0.058	1.500	0.030	0.042	1.500	0.341	0.474	1.500	0.336	0.474	1.500	0.011	0.015	1.500	0.352	0.489
1.750	0.274	0.381	1.750	0.108	0.150	1.750	0.363	0.505	1.750	0.060	0.083	1.750	0.041	0.057	1.750	0.423	0.588	1.750	0.412	0.573	1.750	0.010	0.014	1.750	0.433	0.602
2.000	0.333	0.463	2.000	0.140	0.195	2.000	0.444	0.617	2.000	0.081	0.113	2.000	0.052	0.072	2.000	0.525	0.730	2.000	0.508	0.706	2.000	0.010	0.014	2.000	0.535	0.744
2.250	0.405	0.563	2.250	0.180	0.250	2.250	0.544	0.756	2.250	0.109	0.152	2.250	0.068	0.095	2.250	0.653	0.908	2.250	0.627	0.872	2.250	0.009	0.013	2.250	0.662	0.920
2.500	0.494	0.687	2.500	0.228	0.317	2.500	0.667	0.927	2.500	0.142	0.197	2.500	0.087	0.121	2.500	0.809	1.125	2.500	0.773	1.074	2.500	0.008	0.011	2.500	0.817	1.136
2.750	0.602	0.837	2.750	0.287	0.399	2.750	0.817	1.136	2.750	0.182	0.253	2.750	0.110	0.153	2.750	0.999	1.389	2.750	0.951	1.322	2.750	0.008	0.011	2.750	1.007	1.400
3.000	0.733	1.019	3.000	0.358	0.498	3.000	0.998	1.387	3.000	0.232	0.322	3.000	0.139	0.193	3.000	1.230	1.710	3.000	1.166	1.621	3.000	0.005	0.007	3.000	1.235	1.717
3.250	0.891	1.238	3.250	0.444	0.617	3.250	1.216	1.690	3.250	0.290	0.403	3.250	0.171	0.238	3.250	1.506	2.093	3.250	1.424	1.979	3.250	0.004	0.006	3.250	1.510	2.099
3.500	1.079	1.500	3.500	0.546	0.759	3.500	1.477	2.053	3.500	0.360	0.500	3.500	0.212	0.295	3.500	1.837	2.553	3.500	1.733	2.409	3.500	0.002	0.003	3.500	1.839	2.556
3.750	1.303	1.811	3.750	0.668	0.929	3.750	1.786	2.483	3.750	0.444	0.617	3.750	0.259	0.360	3.750	2.230	3.100	3.750	2.101	2.920	3.750	0.000	0.000	3.750	2.230	3.100
4.000	1.568	2.180	4.000	0.810	1.126	4.000	2.154	2.994	4.000	0.543	0.755	4.000	0.319	0.443	4.000	2.697	3.749	4.000	2.537	3.526	4.000	-0.003	-0.004	4.000	2.694	3.745
4.250	1.882	2.616	4.250	0.973	1.352	4.250	2.588	3.597	4.250	0.660	0.917	4.250	0.393	0.546	4.250	3.248	4.515	4.250	3.051	4.241	4.250	-0.006	-0.008	4.250	3.242	4.506
4.500	2.247	3.123	4.500	1.160	1.612	4.500	3.093	4.299	4.500	0.796	1.106	4.500	0.482	0.670	4.500	3.889	5.406	4.500	3.651	5.075	4.500	-0.009	-0.013	4.500	3.880	5.393
4.750	2.660	3.697	4.750	1.368	1.902	4.750	3.665	5.094	4.750	0.938	1.304	4.750	0.575	0.799	4.750	4.603	6.398	4.750	4.330	6.019	4.750	-0.001	-0.001	4.750	4.602	6.397
5.000	3.114	4.328	5.000	1.592	2.213	5.000	4.294	5.969	5.000	1.083	1.505	5.000	0.671	0.933	5.000	5.377	7.474	5.000	5.067	7.043	5.000	0.008	0.011	5.000	5.385	7.485
5.250	3.599	5.003	5.250	1.827	2.540	5.250	4.965	6.901	5.250	1.233	1.714	5.250	0.772	1.073	5.250	6.198	8.615	5.250	5.851	8.133	5.250	0.019	0.026	5.250	6.217	8.642
5.500	4.106	5.707	5.500	2.070	2.877	5.500	5.667	7.877	5.500	1.388	1.929	5.500	0.879	1.222	5.500	7.055	9.806	5.500	6.672	9.274	5.500	0.032	0.044	5.500	7.087	9.851
5.750	4.631	6.437	5.750	2.317	3.221	5.750	6.395	8.889	5.750	1.541	2.142	5.750	0.988	1.373	5.750	7.936	11.031	5.750	7.519	10.451	5.750	0.049	0.068	5.750	7.985	11.099
6.000	5.169	7.185	6.000	2.564	3.564	6.000	7.139	9.923	6.000	1.693	2.353	6.000	1.099	1.528	6.000	8.832	12.276	6.000	8.383	11.652	6.000	0.068	0.095	6.000	8.900	12.371
6.250	5.713	7.941	6.250	2.806	3.900	6.250	7.893	10.971	6.250	1.839	2.556	6.250	1.213	1.686	6.250	9.732	13.527	6.250	9.256	12.866	6.250	0.093	0.129	6.250	9.825	13.657
6.500	6.260	8.701	6.500	3.041	4.227	6.500	8.650	12.024	6.500	1.975	2.745	6.500	1.324	1.840	6.500	10.625	14.769	6.500	10.129	14.079	6.500	0.123	0.171	6.500	10.748	14.940
6.750	6.804	9.458	6.750	3.263	4.536	6.750	9.404	13.072	6.750	2.098	2.916	6.750	1.435	1.995	6.750	11.502	15.988	6.750	10.993	15.280	6.750	0.159	0.221	6.750	11.661	16.209
7.000	7.340	10.203	7.000	3.469	4.822	7.000	10.147	14.104	7.000	2.204	3.064	7.000	1.542	2.143	7.000	12.351	17.168	7.000	11.839	16.456	7.000	0.202	0.281	7.000	12.553	17.449
7.250	7.863	10.930	7.250	3.652	5.076	7.250	10.872	15.112	7.250	2.289	3.182	7.250	1.646	2.288	7.250	13.161	18.294	7.250	12.658	17.595	7.250	0.254	0.353	7.250	13.415	18.647
7.500	8.368	11.632	7.500	3.809	5.295	7.500	11.572	16.085	7.500	2.349	3.265	7.500	1.744	2.424	7.500	13.921	19.350	7.500	13.440	18.682	7.500	0.315	0.438	7.500	14.236	19.788
7.750	8.848	12.299	7.750	3.933	5.467	7.750	12.238	17.011	7.750	2.377	3.304	7.750	1.834	2.549	7.750	14.615	20.315	7.750	14.173	19.700	7.750	0.388	0.539	7.750	15.003	20.854
8.000	9.297	12.923	8.000	4.018	5.585	8.000	12.861	17.877	8.000	2.370	3.294	8.000	1.916	2.663	8.000	15.231	21.171	8.000	14.846	20.636	8.000	0.474	0.659	8.000	15.705	21.830
8.250	9.707	13.493	8.250	4.060	5.643	8.250	13.432	18.670	8.250	2.318	3.222	8.250	1.983	2.756	8.250	15.750	21.893	8.250	15.446	21.470	8.250	0.576	0.801	8.250	16.326	22.693
8.500	10.072	14.000	8.500	4.060	5.643	8.500	13.939	19.375	8.500	2.217	3.082	8.500	2.024	2.813	8.500	16.156	22.457	8.500	15.958	22.182	8.500	0.694	0.965	8.500	16.850	23.422
8.750	10.381	14.430	8.750	4.024	5.593	8.750	14.371	19.976	8.750	2.057	2.859	8.750	2.023	2.812	8.750	16.428	22.835	8.750	16.364	22.746	8.750	0.831	1.155	8.750	17.259	23.990
9.000	10.622	14.765	9.000	3.955	5.497	9.000	14.707	20.443	9.000	1.843	2.562	9.000	1.973	2.742	9.000	16.550	23.005	9.000	16.643	23.134	9.000	0.980	1.362	9.000	17.530	24.367
9.250	10.784	14.990	9.250	3.858	5.363	9.250	14.935	20.760	9.250	1.598	2.221	9.250	1.891	2.628	9.250	16.533	22.981	9.250	16.783	23.328	9.250	1.117	1.553	9.250	17.650	24.534
9.500	10.860	15.095	9.500	3.736	5.193	9.500	15.045	20.913	9.500	1.351	1.878	9.500	1.800	2.502	9.500	16.396	22.790	9.500	16.790	23.338	9.500	1.237	1.719	9.500	17.633	24.510
9.750	10.856	15.090	9.750	3.595	4.997	9.750	15.044	20.911	9.750	1.111	1.544	9.750	1.704	2.369	9.750	16.155	22.455	9.750	16.682	23.188	9.750	1.341	1.864	9.750	17.496	24.319
10.000	10.784	14.990	10.000	3.437	4.777	10.000	14.947	20.776	10.000	0.878	1.220	10.000	1.604	2.230	10.000	15.825	21.997	10.000	16.474	22.899	10.000	1.431	1.989	10.000	17.256	23.986
10.250	10.651	14.805	10.250	3.267	4.541	10.250	14.767	20.526	10.250	0.652	0.906	10.250	1.501	2.086	10.250	15.419	21.432	10.250	16.181	22.492	10.250	1.509	2.098	10.250	16.928	23.530
10.500	10.467	14.549	10.500	3.085	4.288	10.500	14.515	20.176	10.500	0.432	0.600	10.500	1.395	1.939	10.500	14.947	20.776	10.500	15.814	21.981	10.500	1				

APPENDIX 2

Modelling Report updates including drawings FRA10 – FRA19

Modelling Statement for Lambrok Stream & Tributaries at Southwick, Trowbridge

Location & Background

The EA have requested updated modelling based on the revised hydrology. They have also instructed that the models should be run in the “normal bed” mode with a fixed gradient of 0.0027. This report covers these updates only. Additional node section drawings requested are included in this report.

Model Runs

At the downstream boundary a Normal Depth boundary node has been used with a fixed bed gradient. All flows were bought forward from the FEHRR method and 39% added for Climate change to represent the Essential Infrastructure status of the road crossing.

Following the downstream boundary model runs three main return period flows were used to represent:

Existing FZ3B – 1 in 20yr plus CC39%

Existing FZ3A – 1 in 100yr plus CC39%

Existing FZ2 – 1 in 1000yr plus CC39%

The updates in the hydrology and modelling have resulted in no changes to the 1 in 1000CC year water levels throughout the study reach. In the 1 in 20CC year runs the water levels are now 30-40mm lower. In the 100CC year event water levels are slightly lower at the downstream end but very similar at the upstream end of the study area. As a result the “Level for Level” earthworks flood compensation scheme shown on drawings FRA13 and FRA14 remains unchanged following this revised modelling as it now over compensates given the lower FZ3A flood levels

Using these three flood zone flows other Revision A model scenarios were run as follows:

Model run	File Prefix / Suffix
A-X20CC, A-X100CC, A-X1000CC	X- Existing scenario based on critical downstream boundary node
A-X20CC-R, A-X100CC-R, A-X1000CC-R	X-R 10% increase in Manning across all node points in existing models
A-P20CC-BR20m, A-P100CC-BR20m, A-P1000CC-BR20m	P – Proposed scenario based on 3 openings in road embankment, one bridge and two flood relief culverts as shown on Drawing FRA10
A-P20CC-BR20m-R, A-P100CC-20m-R, A-P1000CC-20m-R	P-R 10% increase in Manning across all node points in proposed models

We have already proved that the blockage scenario runs have no impact on third party land with flows diverting either to the relief culverts or main opening depending on which structure is blocked.

The output comparison summary sheets for the existing and proposed scenario model runs are included in Appendix M3.

Copies of the electronic files will be provided under separate cover.

Conclusion:

The updates in the hydrology and modelling **have resulted in no changes to the 1 in 1000CC year water levels** throughout the study reach. In the **1 in 20CC year runs the water levels are now 30-40mm lower**. In the **100CC year event water levels are slightly lower at the downstream end but very similar at the upstream end** of the study area.

The modelling results prove that sufficient investigation has been undertaken for this outline planning application and **as can be seen by the latest results any requests for further iterations would be unreasonable.**

Drawings

FRA10 – Existing Flood Zones on Topographical survey with proposed road crossing

FRA11 – Road crossing of flood plain section

FRA12 – Bridge opening section

FRA13 – Flood compensation earthworks above 100yr CC39% event

FRA14 – Flood compensation cross sections 1 of 6

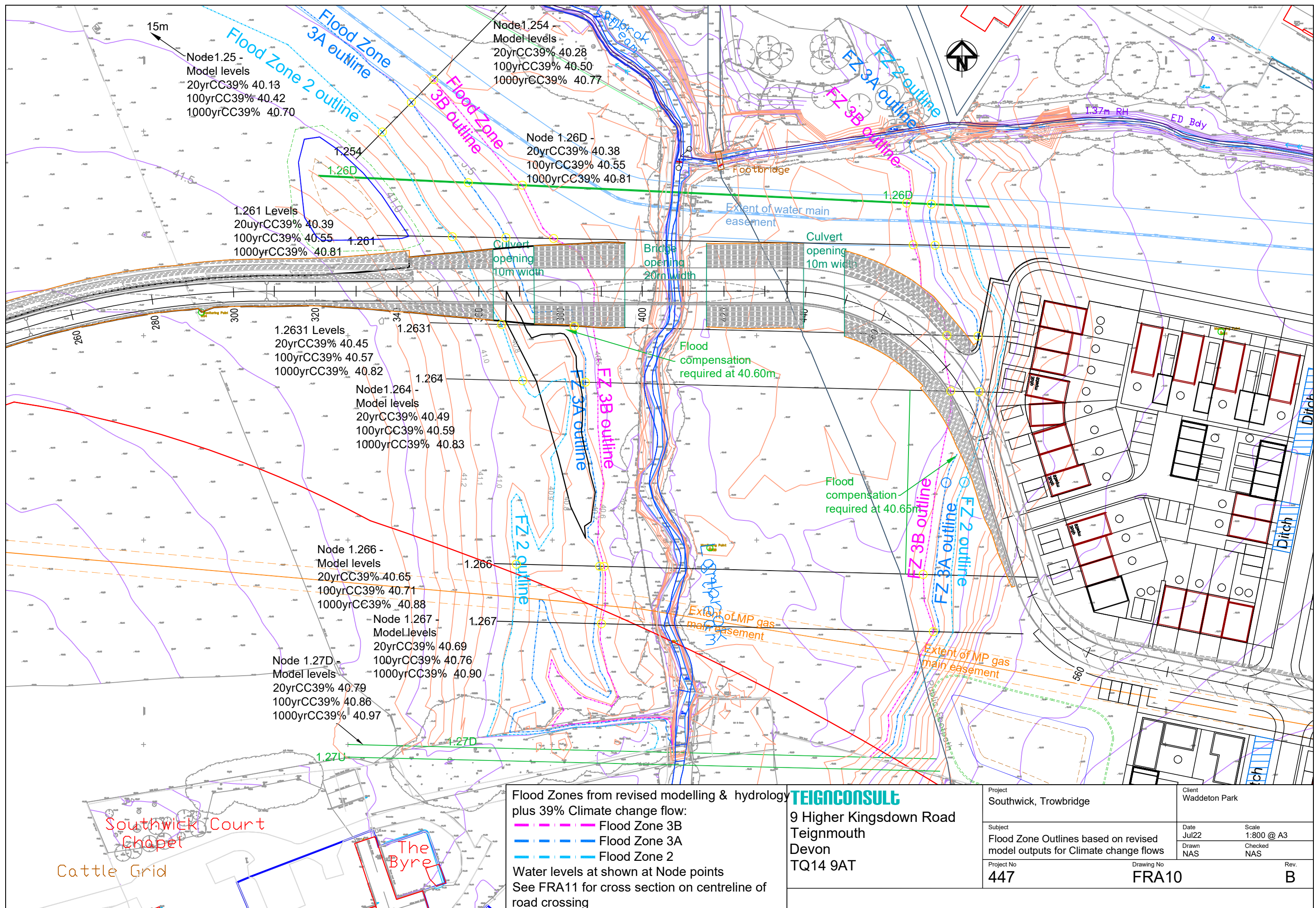
FRA15 – Flood compensation cross sections 2 of 6

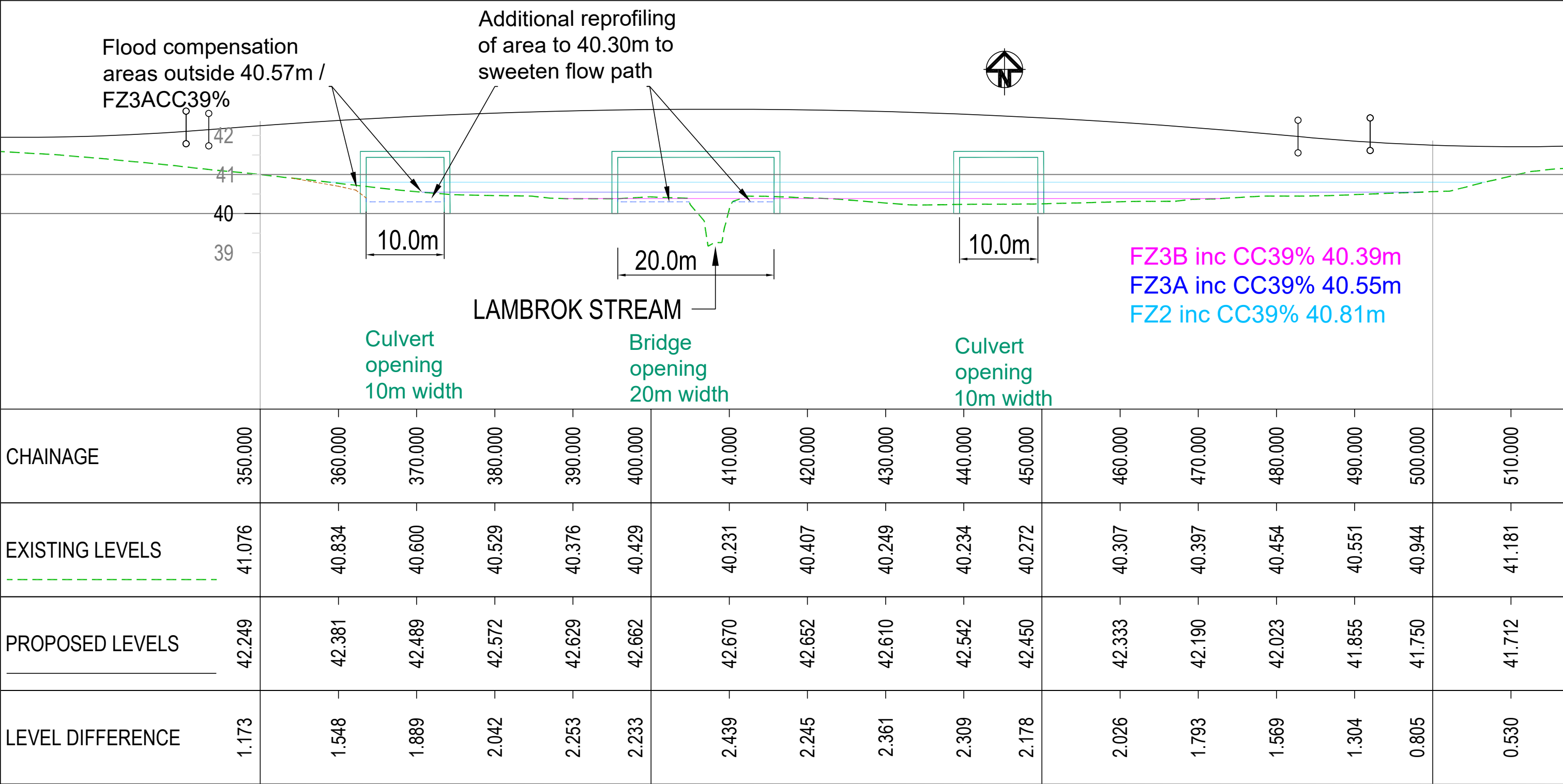
FRA16 – Flood compensation cross sections 3 of 6

FRA17 – Flood compensation cross sections 4 of 6

FRA18 – Flood compensation cross sections 5 of 6

FRA19 – Flood compensation cross sections 6 of 6

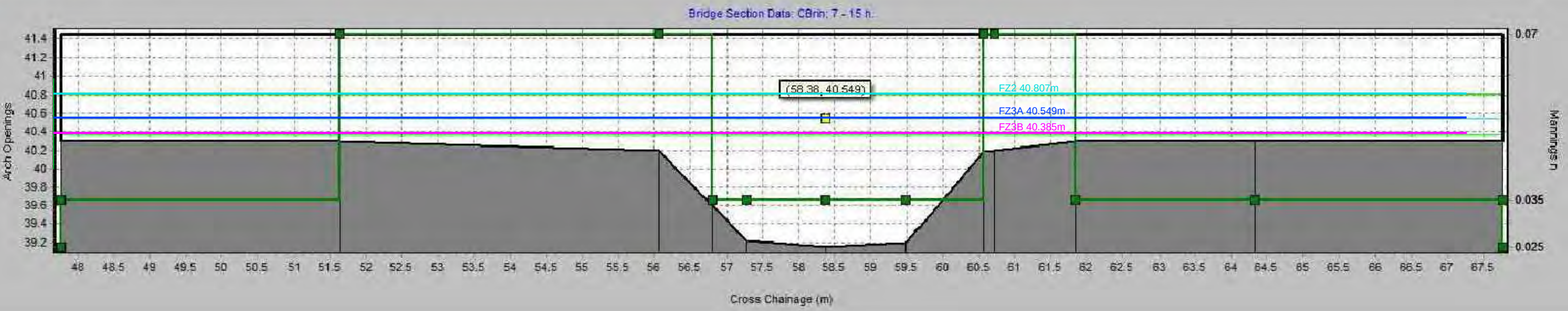




Section along road centre line - not perpendicular to floodplain

Horizontal scale 1-500
Vertical scale 1-100

Flood Zones from EA revised modelling & hydrology plus 39% Climate change flow: </



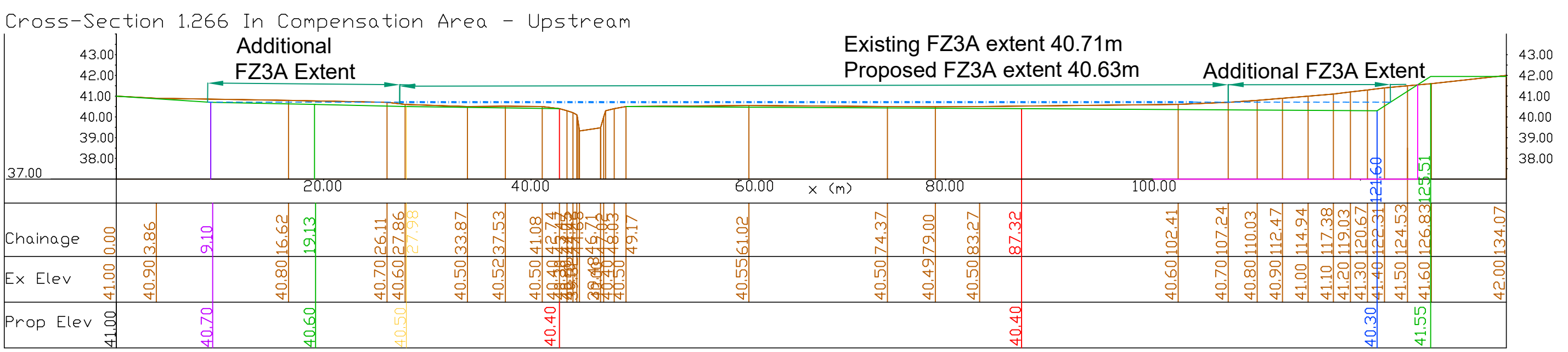
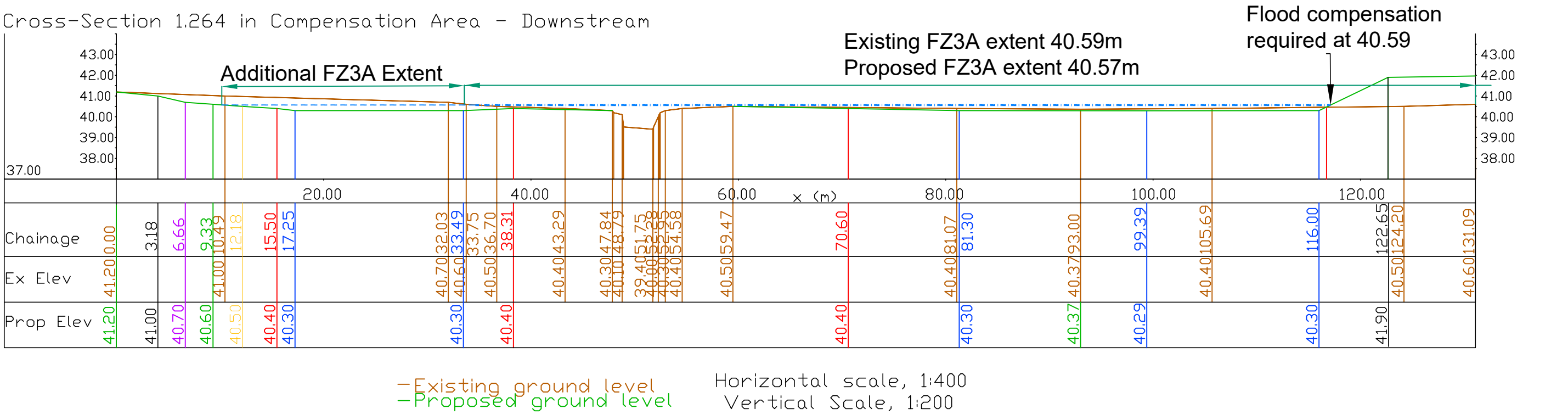
Bridge Opening Data

Chainage	Level
47.760	41.450 Soffit
47.765	40.300
51.630	40.300
56.070	40.190 Left bank
56.800	39.600
57.270	39.220
58.380	39.150 Existing invert
59.490	39.200
60.570	40.180 Right bank
60.720	40.200
61.850	40.300
64.330	40.300
67.765	40.300
67.770	41.450 Soffit

Node / Section output from ISIS
model A- P100CC-BR20m
Showing Bridge opening in
embankment - Node CBrin

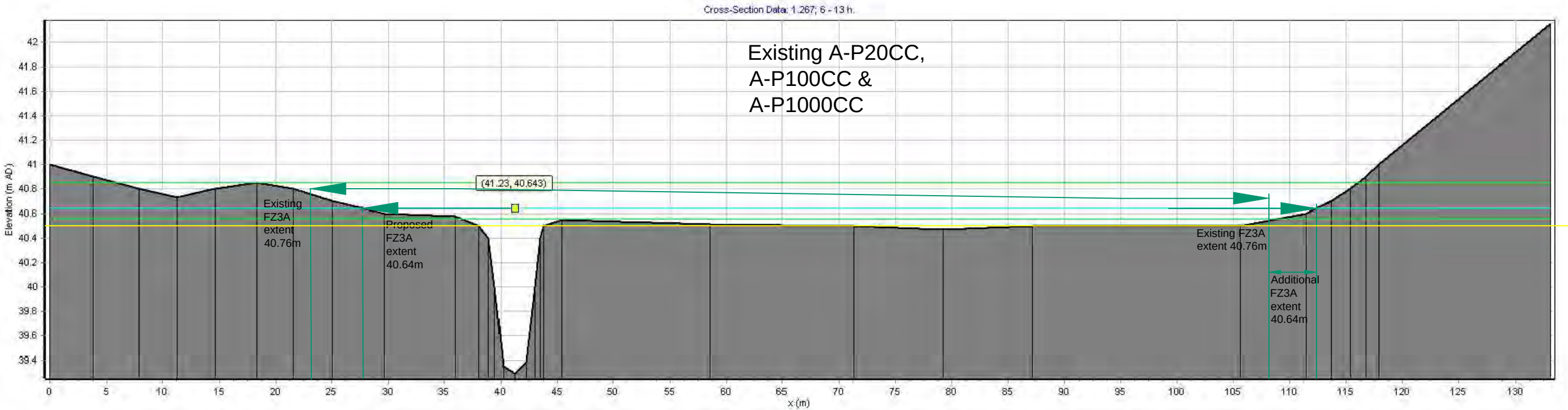
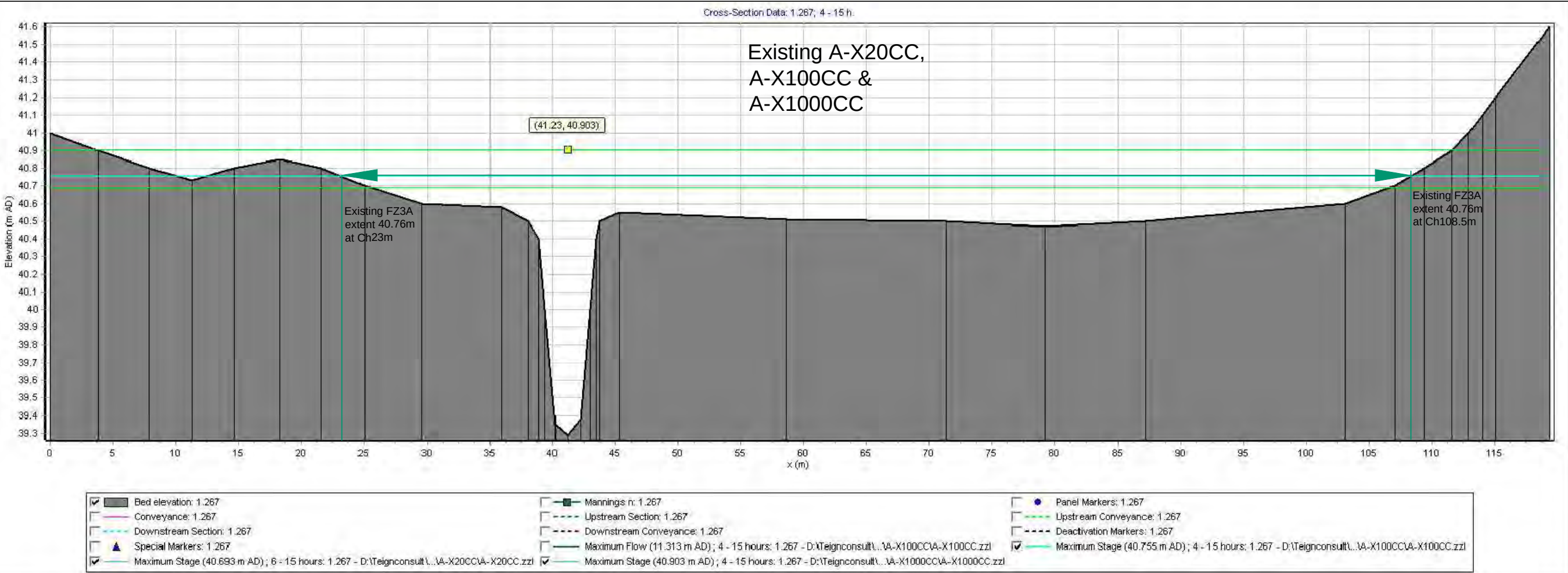
20yrCC39% water level - 40.385
100yrCC39% water level - 40.549
1000yrCC39% water level - 40.807

TEIGNCONSULT 9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	Project Southwick, Trowbridge Road Crossing of Flood Plain		Client Waddeton Park	
	Subject Bridge Opening Data Upstream 1.263, Downstream 1.261	Date July22	Scale NTS @ A3	
		Drawn NAS	Checked NAS	Rev. NAS
	Project No 447	Drawing No FRA12		Rev. B



See Drawing FRA10 for location
of cross sections 1.264 & 1.266

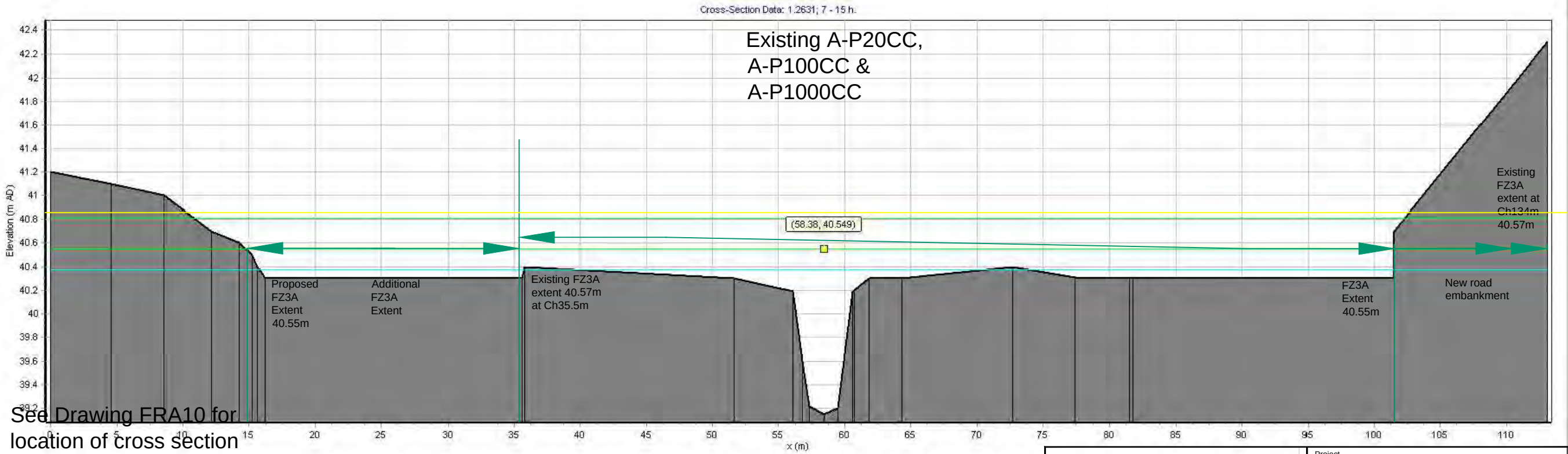
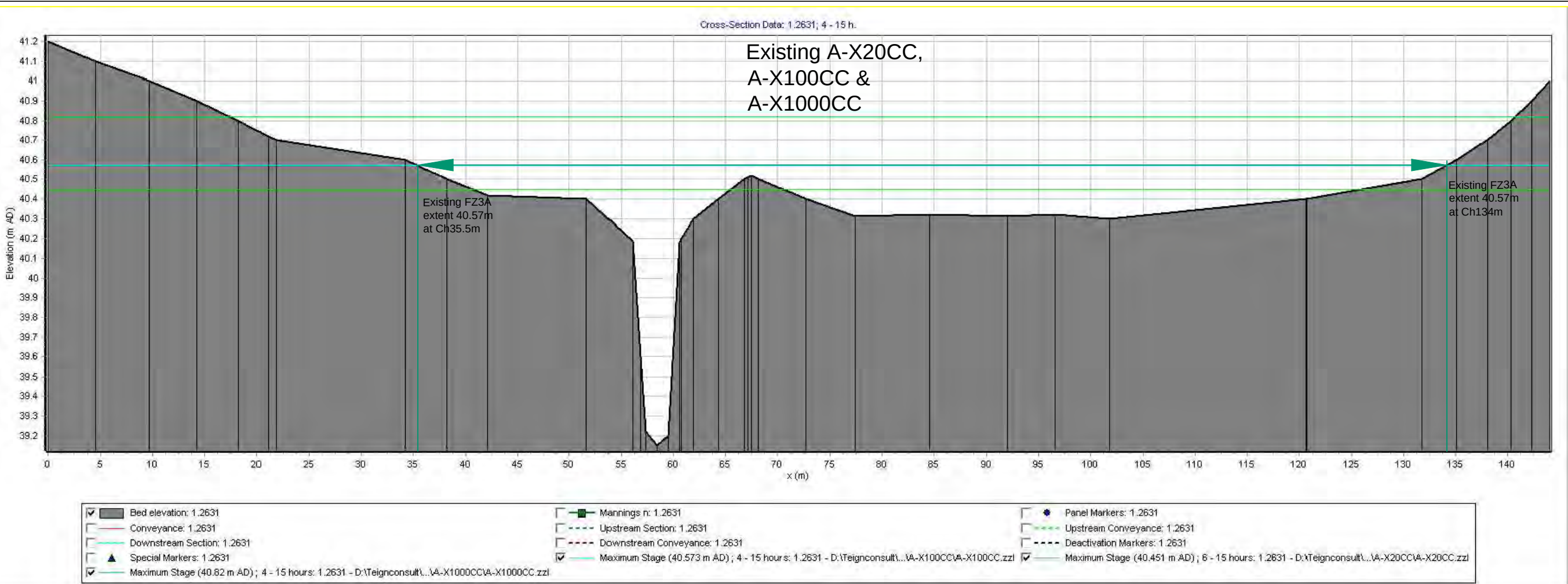
TEIGNCONSULT 9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	Project Southwick, Trowbridge		Client Waddeton Park	
	Subject Flood Compensation Areas & Volumes Schematic Cross Sections 1.264 & 1.266		Date July22	Scale As shown @ A3
	Project No 447		Drawn NAS	Checked NAS
	Drawing No FRA14		Rev. B	



See Drawing FRA10 for
location of cross section

☒ Bed elevation: 1.267	☒ Mannings n: 1.267
☐ Panel Markers: 1.267	☐ Conveyance: 1.267
☐ Upstream Section: 1.267	☐ Upstream Conveyance: 1.267
☐ Downstream Section: 1.267	☐ Downstream Conveyance: 1.267
☐ Deactivation Markers: 1.267	☐ Special Markers: 1.267
☐ Minimum Stage (40.565 m AD); 6 - 13 hours: 1.267 - D:\Teignconsult\...VA-P100CC\A-P100CC-BR20M.zzi	☐ Minimum Stage (40.555 m AD); 0 - 0.00055556 hours: 1.267 - D:\Teignconsult\...VA-P20CC\A-P20CC-BR20M.zzi
☐ Minimum Stage (40.423 m AD); 7 - 15 hours: 1.267 - D:\Teignconsult\...VA-P1000CC\A-P1000CC-BR20M.zzi	☒ Maximum Stage (40.643 m AD); 6 - 13 hours: 1.267 - D:\Teignconsult\...VA-P100CC\A-P100CC-BR20M.zzi
☒ Maximum Stage (40.555 m AD); 0 - 0.00055556 hours: 1.267 - D:\Teignconsult\...VA-P20CC\A-P20CC-BR20M.zzi	☒ Maximum Stage (40.847 m AD); 7 - 15 hours: 1.267 - D:\Teignconsult\...VA-P1000CC\A-P1000CC-BR20M.zzi
☐ Maximum Stage (40.643 m AD); 6 - 13 hours: 1.267 - D:\Teignconsult\...VA-P100CC\A-P100CC-BR20M.zzi	

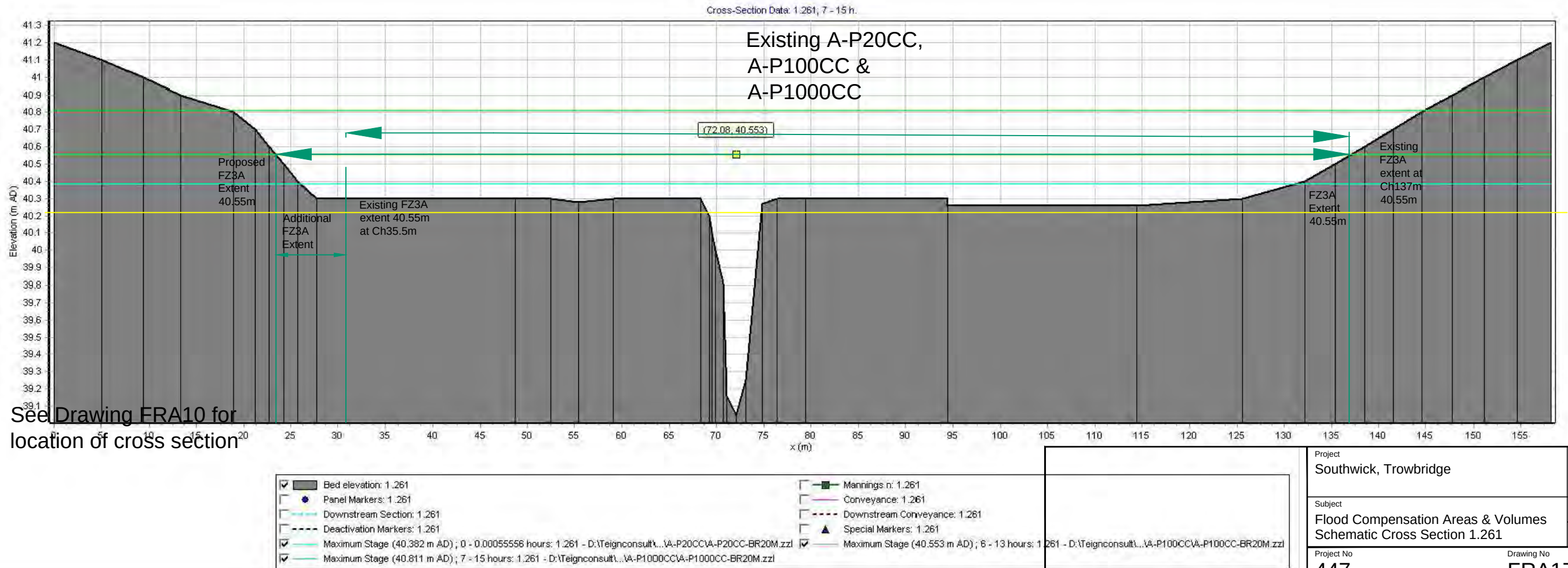
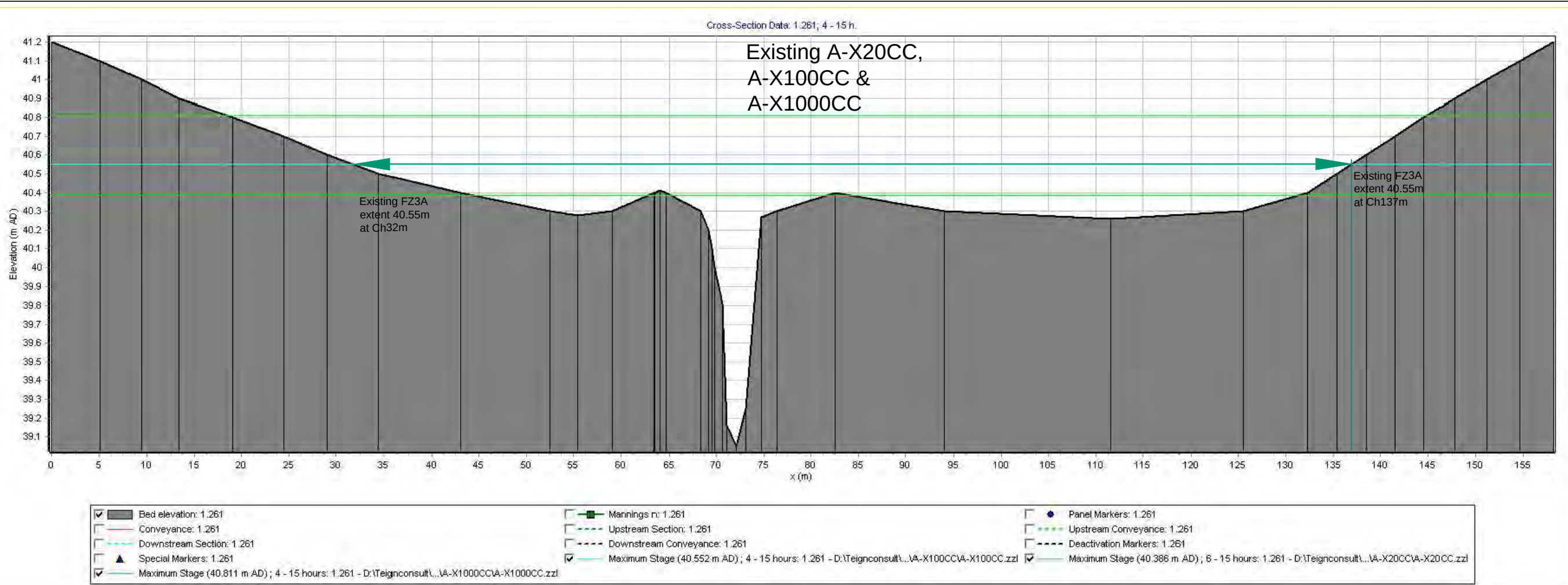
Project	Southwick, Trowbridge		Client	Waddeton Park	
Subject	Flood Compensation Areas & Volumes Schematic Cross Section 1.267		Date	Jul22	Scale As shown @ A3
	Drawn	NAS	Checked	NAS	
Project No	447	Drawing No	FRA15	Rev.	-



See Drawing FRA10 for
location of cross section

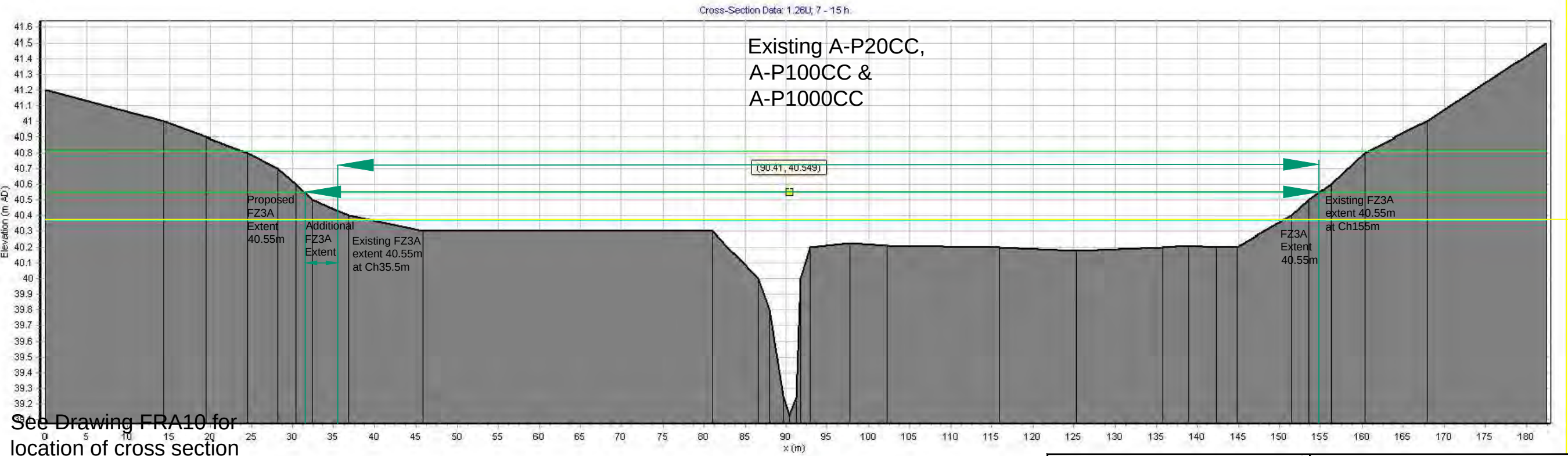
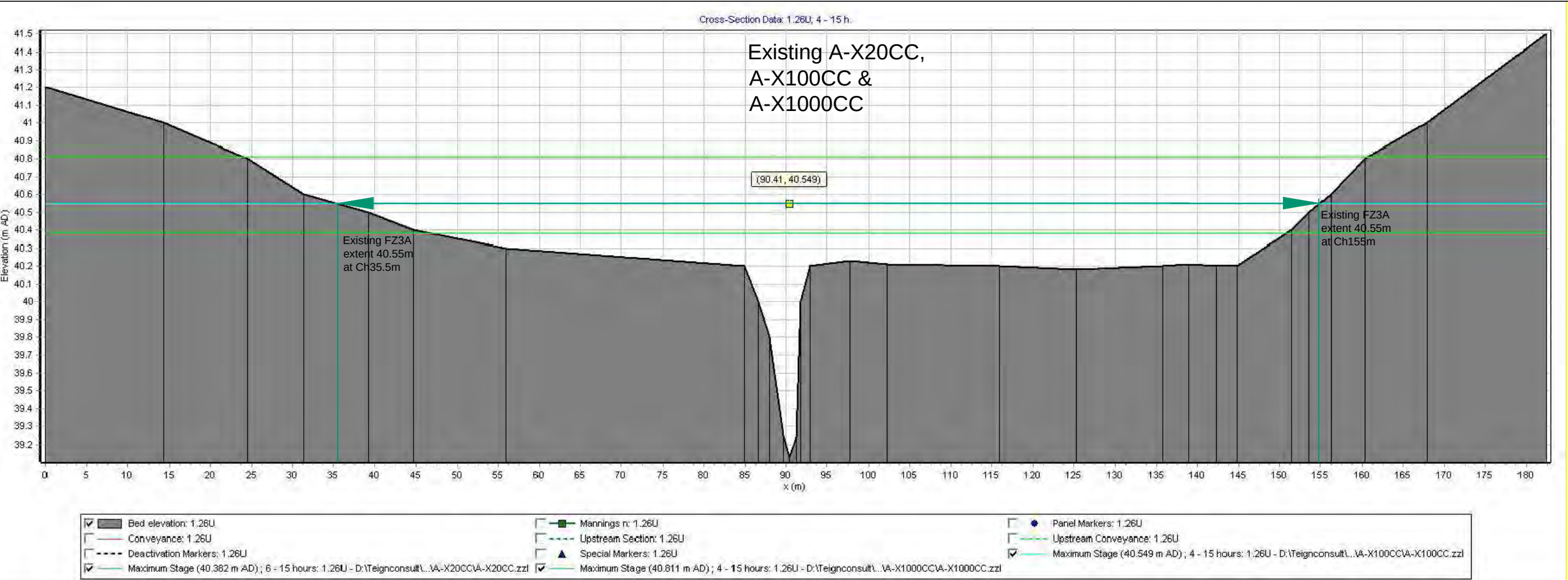
☒ Bed elevation: 1.2631	☒ Mannings n: 1.2631
☒ Panel Markers: 1.2631	☒ Conveyance: 1.2631
☒ Upstream Section: 1.2631	☒ Upstream Conveyance: 1.2631
☒ Deactivation Markers: 1.2631	☒ Special Markers: 1.2631
☒ Maximum Stage (40.378 m AD); 0 - 0.00055556 hours: 1.2631 - D:\Teignconsult\...A-P20CC\A-P20CC-BR20M.zxl	☒ Maximum Stage (40.549 m AD); 6 - 13 hours: 1.2631 - D:\Teignconsult\...A-P100CC\A-P100CC-BR20M.zxl
☒ Maximum Stage (40.807 m AD); 7 - 15 hours: 1.2631 - D:\Teignconsult\...A-P1000CC\A-P1000CC-BR20M.zxl	

Project Southwick, Trowbridge	Client Waddeton Park	
Subject Flood Compensation Areas & Volumes Schematic Cross Section 1.2631	Date Jul22	Scale As shown @ A3
Project No 447	Drawn NAS	Checked NAS
Drawing No FRA16	Rev. -	



See Drawing FRA10 for
location of cross section

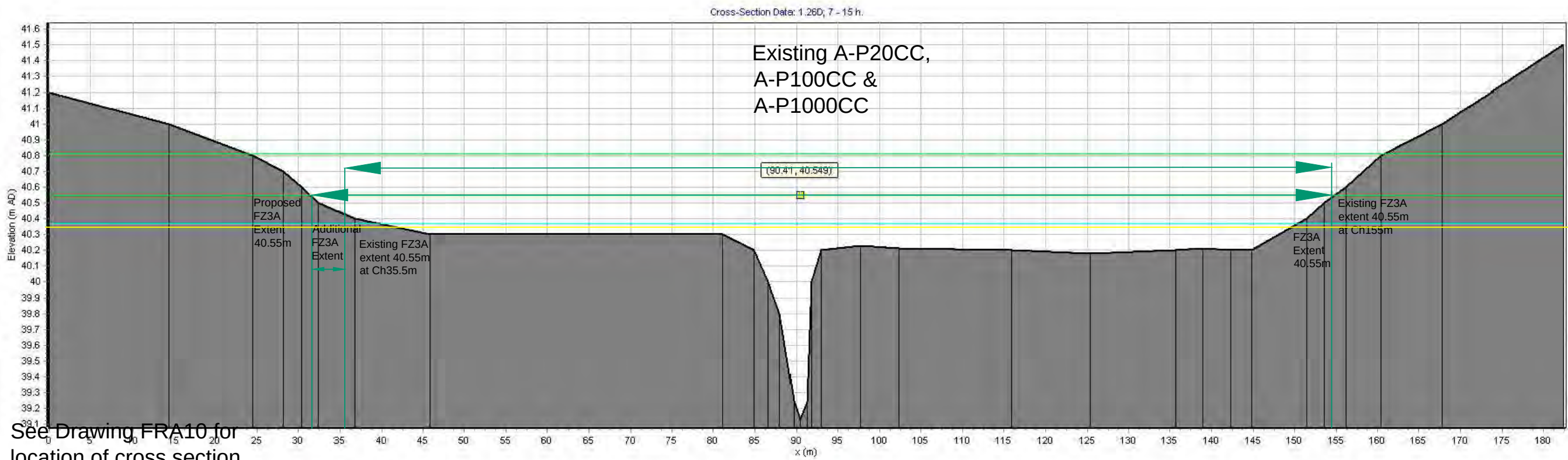
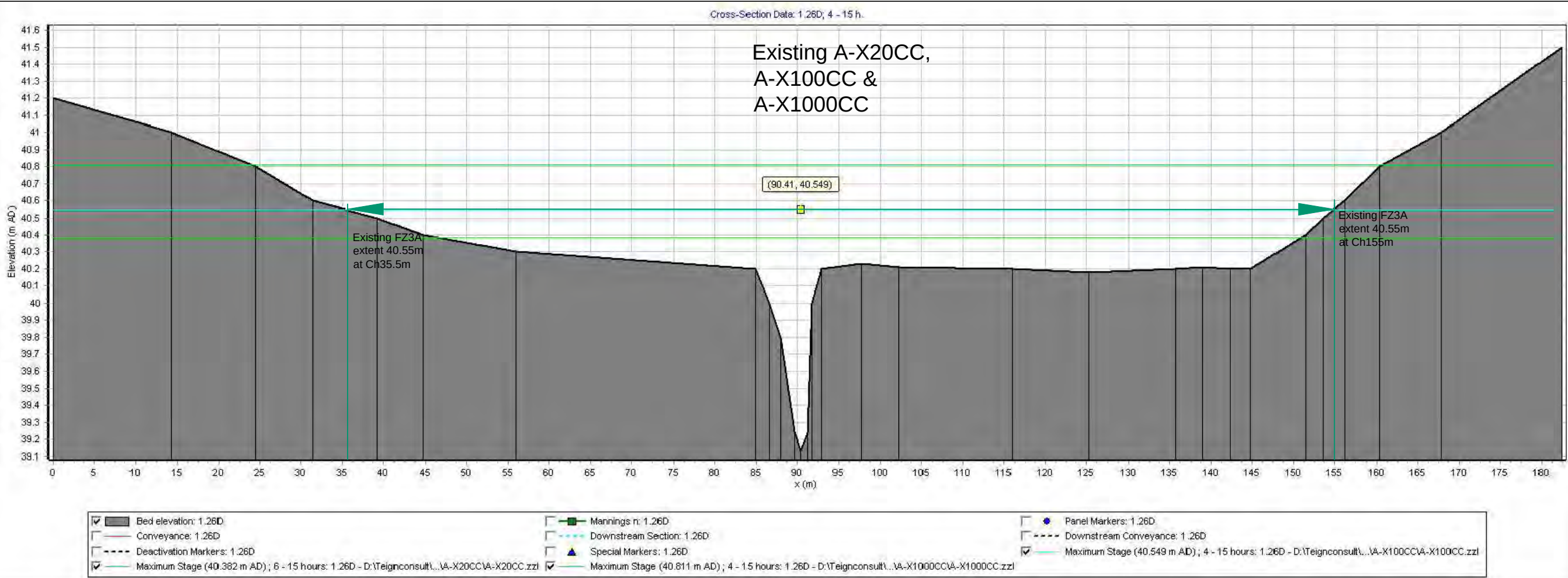
Project Southwick, Trowbridge		Client Waddeton Park	
Subject Flood Compensation Areas & Volumes Schematic Cross Section 1.261		Date Jul22	Scale As shown @ A3
		Drawn NAS	Checked NAS
Project No 447		Drawing No FRA17	Rev. -



See Drawing FRA10 for
location of cross section

- Legend:
- Bed elevation: 1.26U
 - Panel Markers: 1.26U
 - Upstream Section: 1.26U
 - Deactivation Markers: 1.26U
 - Maximum Stage (40.388 m AD); 0 - 0.00055556 hours: 1.26U - D:\Teignconsult\...A-P20CC\A-P20CC-BR20M.zzi
 - Maximum Stage (40.809 m AD); 7 - 15 hours: 1.26U - D:\Teignconsult\...A-P1000CC\A-P1000CC-BR20M.zzi
 - Mannings n: 1.26U
 - Conveyance: 1.26U
 - Upstream Conveyance: 1.26U
 - Special Markers: 1.26U
 - Maximum Stage (40.549 m AD); 6 - 13 hours: 1.26U - D:\Teignconsult\...A-P100CC\A-P100CC-BR20M.zzi

Project Southwick, Trowbridge		Client Waddeton Park	
Subject Flood Compensation Areas & Volumes Schematic Cross Section 1.26U		Date Jul22	Scale As shown @ A3
		Drawn NAS	Checked NAS
Project No 447		Drawing No FRA18	Rev. -



See Drawing FRA10 for
location of cross section

☒ Bed elevation: 1.26D	☒ Mannings n: 1.26D
☒ Panel Markers: 1.26D	☒ Conveyance: 1.26D
☒ Downstream Section: 1.26D	☒ Downstream Conveyance: 1.26D
☒ Deactivation Markers: 1.26D	☒ Special Markers: 1.26D
☒ Maximum Stage (40.368 m AD); 0 - 0.00055556 hours: 1.26D - D:\Teignconsult\...A-P20CC\A-P20CC-BR20M.zzi	☒ Maximum Stage (40.549 m AD); 6 - 13 hours: 1.26D - D:\Teignconsult\...A-P100CC\A-P100CC-BR20M.zzi
☒ Maximum Stage (40.809 m AD); 7 - 15 hours: 1.26D - D:\Teignconsult\...A-P100CC\A-P1000CC-BR20M.zzi	

Project	Southwick, Trowbridge		Client	Waddeton Park	
Subject	Flood Compensation Areas & Volumes Schematic Cross Section 1.26D		Date	Jul22	Scale As shown @ A3
Project No	447		Drawn	NAS	Checked NAS
Drawing No	FRA19		Rev.	-	

Appendix M3

Existing and proposed flows and water levels summary x3 20yrCC – 1000yrCC

Output data from file D:\TEIGNCONSULT\PROJECTS\447 - SOUTHWICK COURT
Selected output data from time (hr):
Using results directly from mmm file: D:\Teignconsult\Projects\447 - Southwick Court
JBA bed gradient & hydrology applied

TROWBRIDGE\ISIS2\
Trowbridge\ISIS2\

XXXX Flow > +/-0.1, Stage >+0.010m
XXXX Flow > +/-0.01, Stage equal or +/- 0.010m
XXXX Flow +/-0.01, Stage </- 0.01

See tab \ Compare A&P20CC 9.67hrs for additional results which show acceptable results

A-X20yrCC					A-X20yrCC+10% manning				A-P20yrCC-BR20m					A-P20yrCC+10% manning					
Label	Max Flow	Time (hr)	Max Stage	Time (hr)	Max Flow	Time (hr)	Max Stage	Time (hr)	Max Flow	Time (hr)	Max Stage	Time (hr)	Diff	Max Flow	Time (hr)	Max Stage	Time (hr)	Diff	Label
1.34	5.824	9.500	42.027	9.583	5.824	9.500	42.058	9.500	5.824	9.501	42.027	9.503		5.824	9.501	42.058	9.536		1.34
1.34U	5.824	9.500	42.025	9.583	5.824	9.500	42.055	9.500	5.829	9.331	42.026	9.501		5.824	9.528	42.055	9.526		1.34U
1.34B	5.711	9.250	42.025	9.583	5.399	9.750	42.055	9.500	5.748	9.929	42.026	9.501		5.398	9.743	42.055	9.526		1.34B
1.335B	5.711	9.250	41.992	9.583	5.399	9.750	42.025	9.583	5.757	9.929	41.992	9.501		5.398	9.743	42.025	9.525		1.335B
Sp27U	0.140	9.583	42.025	9.583	0.430	9.583	42.055	9.500	0.140	9.510	42.026	9.501		0.427	9.539	42.055	9.526		Sp27U
Sp27D	0.140	9.583	41.992	9.583	0.430	9.583	42.025	9.583	0.140	9.510	41.992	9.501		0.427	9.539	42.025	9.525		Sp27D
1.335D	5.824	9.500	41.992	9.583	5.824	9.500	42.025	9.583	5.837	9.929	41.992	9.501		5.824	9.528	42.025	9.525		1.335D
1.33	5.824	9.667	41.639	9.667	5.825	9.667	41.657	9.750	6.212	6.001	41.639	9.928		5.827	9.764	41.657	9.762		1.33
1.32	5.814	9.667	41.413	10.000	5.808	9.833	41.432	10.083	5.838	9.929	41.414	9.960		6.782	6.001	41.432	10.111		1.32
1.319B	4.557	7.833	41.413	10.000	4.272	7.500	41.432	10.083	5.157	6.004	41.414	9.960		5.720	6.001	41.432	10.111		1.319B
1.315B	4.557	7.833	41.394	10.083	4.272	7.500	41.425	10.083	5.157	6.004	41.395	10.071		5.720	6.001	41.425	10.167		1.315B
Sp25U	3.166	10.000	41.413	10.000	4.238	10.000	41.432	10.083	3.230	9.929	41.414	9.960		4.255	10.068	41.432	10.111		Sp25U
Sp25D	3.166	10.000	41.394	10.083	4.238	10.000	41.425	10.083	3.230	9.929	41.395	10.071		4.255	10.068	41.425	10.167		Sp25D
1.315	5.814	9.667	41.394	10.083	5.808	9.750	41.425	10.083	5.838	9.929	41.395	10.071		6.782	6.001	41.425	10.167		1.315
1.31	5.793	9.917	41.375	10.083	5.784	9.917	41.402	10.167	5.903	6.018	41.376	10.125		6.500	6.013	41.403	10.205		1.31
1.29	5.789	10.083	41.103	9.917	5.780	10.083	41.127	9.917	5.815	9.957	41.102	9.935		5.782	10.153	41.127	9.943		1.29
1.28U	5.800	10.167	40.927	9.667	5.792	10.167	40.936	9.667	6.242	6.000	40.924	9.642		6.017	6.003	40.934	9.691		1.28U
NBrad	2.238	8.333	40.927	9.667	2.238	8.333	40.936	9.667	2.238	8.253	40.924	9.642		2.238	8.251	40.934	9.691		NBrad
1.28D	7.755	9.583	40.927	9.667	7.730	9.583	40.936	9.667	7.759	9.622	40.924	9.642	-0.003	7.733	9.690	40.934	9.691	-0.002	1.28D
INT1	7.755	9.583	40.921	9.667	7.730	9.667	40.930	9.667	7.759	9.621	40.919	9.656	-0.002	7.732	9.692	40.928	9.693	-0.002	INT1
INT2	7.754	9.583	40.911	9.667	7.730	9.667	40.919	9.667	7.757	9.624	40.909	9.650	-0.002	7.731	9.747	40.917	9.751	-0.002	INT2
INT3	7.754	9.583	40.900	9.667	7.729	9.667	40.907	9.667	7.757	9.653	40.897	9.663	-0.003	7.730	9.746	40.905	9.748	-0.002	INT3
1.27U	7.754	9.583	40.848	9.667	7.730	9.667	40.851	9.667	7.757	9.661	40.840	9.643	-0.008	7.729	9.751	40.845	9.749	-0.006	1.27U
S99BU	3.244	6.333	40.848	9.667	2.673	5.333	40.851	9.667	2.495	6.000	40.840	9.643	-0.008	2.283	6.001	40.845	9.749	-0.006	S99BU
S99BD	3.244	6.333	40.792	9.667	2.673	5.333	40.805	9.750	2.495	6.000	40.761	9.704	-0.031	2.283	6.001	40.783	9.775	-0.022	S99BD
Sp99U	5.859	9.667	40.848	9.667	5.998	9.667	40.851	9.667	5.500	9.682	40.840	9.643	-0.008	5.723	9.749	40.845	9.749	-0.006	Sp99U
Sp99D	5.859	9.667	40.792	9.667	5.998	9.667	40.805	9.750	5.500	9.682	40.761	9.704	-0.031	5.723	9.749	40.783	9.775	-0.022	Sp99D
1.27D	7.754	9.583	40.792	9.667	7.729	9.667	40.805	9.750	7.757	9.661	40.761	9.704	-0.031	7.729	9.751	40.783	9.775	-0.022	1.27D
1.267	7.754	9.583	40.693	9.667	7.730	9.667	40.711	9.750	7.756	9.706	40.585	9.694	-0.108	7.736	9.776	40.594	9.783	-0.117	1.267
1.266	7.753	9.583	40.652	9.750	7.730	9.750	40.676	9.750	7.757	9.700	40.554	10.343	-0.098	7.754	9.783	40.567	9.782	-0.109	1.266
1.264	7.752	9.833	40.494	9.750	7.731	9.750	40.507	9.750	7.758	9.732	40.431	9.596	-0.063	7.750	9.782	40.461	9.783	-0.046	1.264
1.2631	7.753	9.833	40.451	9.667	7.730	9.750	40.473	9.750	7.760	9.739	40.385	9.593	-0.066	7.756	9.783	40.416	9.782	-0.057	1.2631
CBrin									8.056	9.739	40.385	9.593		8.099	9.783	40.416	9.782		CBrin
CvLin									0.369	6.704	40.385	9.593		0.559	6.837	40.416	9.782		CvLin
CvLup									0.369	6.704	40.408	9.600		0.559	6.837	40.431	9.782		CvLup
CvRin									0.303	6.664	40.385	9.593		0.587	6.826	40.416	9.782		CvRin
CvRup									0.303	6.664	40.408	9.600		0.587	6.826	40.431	9.782		CvRup
CBrout									8.056	9.739	40.397	9.601		8.099	9.783	40.424	9.782		CBrout
CvLdn									0.301	6.701	40.412	9.600		0.459	6.838	40.436	9.782		CvLdn
CvLout									0.301	6.701	40.397	9.601		0.459	6.838	40.424	9.782		CvLout
CvRdn									0.334	6.846	40.411	9.600		0.431	6.826	40.435	9.782		CvRdn
CvRout									0.334	6.846	40.397	9.601		0.431	6.826	40.424	9.782		CvRout
1.261	7.754	9.833	40.386	9.667	7.733	9.750	40.417	9.667	7.760	9.739	40.397	9.601	0.011	7.769	9.544	40.424	9.782	0.007	1.261
1.26U	7.755	9.833	40.382	9.667	7.731	9.750	40.411	9.583	7.761	9.735	40.385	9.576	0.003	7.777	9.782	40.412	9.735	0.001	1.26U
NStream	1.115	8.750	40.382	9.667	1.115	8.750	40.411	9.583	1.115	8.750	40.385	9.576	0.003	1.115	8.750	40.412	9.735	0.001	NStream
1.26D	8.734	9.500	40.382	9.667	8.712	9.500	40.411	9.583	8.746	9.464	40.385	9.576	0.003	8.730	9.546	40.412	9.735	0.001	1.26D
1.254	8.728	9.583	40.284	9.750	8.739	9.583	40.318	9.833	8.966	6.003	40.287	6.000	0.003	8.741	9.538	40.318	9.782	0.000	1.254
1.25	8.700	9.667	40.128	10.000	8.671	9.750	40.174	10.083											

Comparison at peak stage time of 9.67hrs from A-X20CC run

FILE=A-P20CC-BR20M.dat

Proposed bridge & culverts

ISIS

VER=

6.7.0.110

FILE=A-X20CC.dat

ISIS

VER=

6.7.0.110

ISIS

VER=

6.7.0.111

ISIS

Diffs

label12	results	from	the	direct	method	at	time	9.67hrs	label12	results	from	the	direct	method	at	time	9.67 hrs
	?	flow	stage	froude	velocity	umode	ustate	z		?	flow	stage	froude	velocity	umode	ustate	z
1.34	y	5.823	41.965	0.353	1.099	0	0	39.7	1.34	y	5.823	41.976	0.399	1.075	0	0	39.7
1.34U	y	5.823	41.963	0.354	1.101	0	0	39.7	1.34U	y	5.823	41.974	0.385	1.081	0	0	39.7
1.34B	y	5.823	41.963	0.349	1.116	1	0	40.7	1.34B	y	5.817	41.963	0.349	1.115	1	0	40.7
1.335B	y	5.823	41.948	0.352	1.122	0	0	40.69	1.335B	y	5.817	41.948	0.351	1.121	0	0	40.69
Sp27U	y	0	41.963	0.246	0.412	0	0	41.97	Sp27U	y	0.006	41.986	0.246	0.412	0	0	41.97
Sp27D	y	0	41.948	0	0	0	0	0	Sp27D	y	0.006	41.948	0	0	0	0	0
1.335D	y	5.823	41.948	0.337	1.085	0	0	39.68	1.335D	y	5.823	41.948	0.337	1.085	0	0	39.68
1.33	y	5.823	41.64	0.486	0.734	0	0	39.19	1.33	y	5.823	41.64	0.486	0.734	0	0	39.19
1.32	y	5.823	41.289	0.373	1.155	0	0	38.89	1.32	y	5.823	41.289	0.373	1.155	0	0	38.89
1.319B	y	5.823	41.289	0	1.519	1	0	39.9	1.319B	y	5.823	41.289	0	1.519	1	0	39.9
1.315B	y	5.823	41.229	0	1.519	0	0	39.89	1.315B	y	5.823	41.229	0	1.519	0	0	39.89
Sp25U	y	0	41.289	0.094	0.204	0	0	41.32	Sp25U	y	0	41.289	0.094	0.204	0	0	41.32
Sp25D	y	0	41.229	0.107	0.224	0	0	0	Sp25D	y	0	41.229	0.107	0.224	0	0	0
1.315	y	5.823	41.229	0.499	1.046	0	0	39.06	1.315	y	5.823	41.229	0.499	1.046	0	0	39.06
1.31	y	5.823	41.26	0.096	0.149	0	0	39.13	1.31	y	5.823	41.26	0.096	0.149	0	0	39.13
1.29	y	5.823	41.064	0.543	1.012	0	0	39.45	1.29	y	5.823	41.064	0.542	1.011	0	0	39.45
1.28U	y	5.823	40.903	0.1	0.162	0	0	38.66	1.28U	y	5.823	40.903	0.1	0.161	0	0	38.66
NBrad	y	2.009	40.903	0	0	0	0	0	NBrad	y	2.009	40.903	0	0	0	0	0
1.28D	y	7.832	40.903	0.135	0.217	0	0	38.66	1.28D	y	7.832	40.903	0.134	0.217	0	0	38.66
INT1	y	7.832	40.897	0.155	0.259	0	0	38.595	INT1	y	7.832	40.897	0.155	0.258	0	0	38.595
INT2	y	7.832	40.886	0.225	0.359	0	0	38.532	INT2	y	7.832	40.887	0.224	0.358	0	0	38.532
INT3	y	7.832	40.873	0.315	0.473	0	0	38.501	INT3	y	7.832	40.874	0.313	0.471	0	0	38.501
1.27U	y	7.832	40.826	0.708	0.871	0	0	38.47	1.27U	y	7.832	40.828	0.699	0.861	0	0	38.47
S99BU	y	3.247	40.835	0	1.715	1	0	39.47	S99BU	y	2.805	40.828	0	1.482	1	0	39.47
S99BD	y	3.247	40.719	0	1.715	0	0	39.46	S99BD	y	2.805	40.746	0	1.482	0	0	39.46
Sp99U	y	4.585	40.817	0.468	0.984	0	0	40.53	Sp99U	y	5.027	40.828	0.468	0.984	0	0	40.53
Sp99D	y	4.585	40.719	0.751	1.314	0	0	0	Sp99D	y	5.027	40.746	0.751	1.314	0	0	0
1.27D	y	7.832	40.719	1.118	1.379	0	0	38.45	1.27D	y	7.832	40.746	1.013	1.236	0	0	38.45
1.267	y	7.832	40.555	1.205	1.021	0	0	38.29	1.267	y	7.832	40.674	0.438	0.507	0	0	38.29
1.266	y	7.832	40.534	0.646	0.617	0	0	38.32	1.266	y	7.832	40.63	0.774	0.727	0	0	38.32
1.264	y	7.832	40.419	0.777	0.669	0	0	38.38	1.264	y	7.832	40.451	1.172	1.056	0	0	38.38
1.2631	y	7.832	40.378	0.919	0.81	0	0	38.15	1.2631	y	7.832	40.437	0.741	0.701	0	0	38.15
CvBrin	y	7.785	40.368	0.258	0.336	1	0	39.15									
CvLin	y	0	40.382	2092.365	0.336	5	0	0									
CvLup	y	0	40.382	0	0	0	0	40.3									
CvRin	y	0.047	40.383	0	0.336	5	0	0									
CvRup	y	0.047	40.383	0.037	0.059	0	0	40.3									
CBROUT	y	7.785	40.382	0.258	0.336	5	0	0									
CvLdn	y	0	40.382	0.173	0.292	1	1	40.3									
CvLout	y	0	40.382	0.595	0.556	0	0	0									
CvRdn	y	0.047	40.382	0.031	0.05	1	1	40.26									
CvRout	y	0.047	40.382	0.595	0.556	0	0	0									
1.261	y	7.832	40.382	0.605	0.574	0	0	38.05	1.261	y	7.832	40.355	0.96	0.915	0	0	38.05
1.26U	y	7.832	40.368	0.428	0.442	0	0	38.13	1.26U	y	7.832	40.366	0.391	0.438	0	0	38.13
NStream	y	0.97	40.368	0	0	0	0	0	NStream	y	0.97	40.366	0	0	0	0	0
1.26D	y	8.802	40.368	0.478	0.506	0	0	38.13	1.26D	y	8.802	40.366	0.439	0.493	0	0	38.13
1.254	y	8.802	40.287	0.346	0.516	0	0	37.89	1.254	y	8.802	40.287	0.346	0.516	0	0	37.89
1.25	y	8.802	40.116	0.345	0.473	0	0	37.52	1.25	y	8.802	40.116	0.345	0.473	0	0	37.52
1.24	y	8.802	40.04	0.223	0.386	0	0	37.12	1.24	y	8.802	40.04	0.223	0.386	0	0	37.12
1.23U	y	8.802	39.883	0.304	1.024	0	0	37.07	1.23U	y	8.802	39.883	0.304	1.024	0	0	37.07
UStudley	y	0.802	39.883	0	0	0	0	0	UStudley	y	0.802	39.883	0	0	0	0	0
1.23D	y	9.604	39.883	0.331	1.117	0	0	37.07	1.23D	y	9.604	39.883	0.331	1.117	0	0	37.07
1.229US	y	9.604	39.874	0.25	5	5	0	0	1.229US	y	9.604	39.873	0.187	0.251	5	0	0
1.229BUS	y	9.604	39.752	0.458	2.182	0	0	38.08	1.229BUS	y	9.604	39.752	0.459	2.182	0	0	38.08
1.229BDS	y	9.604	39.587	0.62	2.205	3	1	38.07	1.229BDS	y	9.604	39.587	0.621	2.205	3	1	38.07
Sp19U	y	0						40.14	Sp19U	y	0						40.14
Sp19D	y	0						0	Sp19D	y	0						40.14
1.229DS	y	9.604	39.522	0.287	0.338	0	0	0	1.229DS	y	9.604	39.522	0.287	0.338	0	0	0
1.229	y	9.604	39.874	0.333	1.129	1	0	37.08	1.229	y	9.604	39.873	0.333	1.129	1	0	37.08
1.228	y	9.604	39.522	0.501	1.875	0	0	37.07	1.228	y	9.604	39.522	0.501	1.875	0	0	37.07
1.22	y	9.604	39.461	0.588	2.084	0	0	37.07	1.22	y	9.604	39.461	0.588	2.084	0	0	37.07
1.21	y	9.604	39.081	0.694	0.964	0	0	36.43	1.21	y	9.604	39.081	0.694	0.964	0	0	36.43

Flow

Stage

0

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-0.006

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-0.442

-0.011

-0.442

-0.027

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-0.119

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Output data from file D:\TEIGNCONSULT\PROJECTS\447 - SOUTHWICK COURT TROWBRIDGE\ISIS2\

Selected output data from time (hr):

Using results directly from mmm file: D:\Teignconsult\Projects\447 - Southwick Court Trowbridge\ISIS2\

JBA bed gradient & hydrology applied

A-X100yrCC					A-X100yrCC+10% manning				A-P100yrCC-BR20m				A-P100yrCC+10% manning						
Label	Max Flow	Time (hr)	Max Stage	Time (hr)	Max Flow	Time (hr)	Max Stage	Time (hr)	Max Flow	Time (hr)	Max Stage	Time (hr)	Diff	Max Flow	Time (hr)	Max Stage	Time (hr)	Diff	Label
1.34	8.604	9.500	42.142	9.500	8.604	9.500	42.163	9.500	8.604	9.501	42.142	9.503		8.604	9.501	42.163	9.507		1.34
1.34U	8.604	9.500	42.140	9.500	8.604	9.500	42.160	9.500	8.604	9.507	42.140	9.501		8.604	9.522	42.160	9.515		1.34U
1.34B	6.195	12.083	42.140	9.500	5.579	12.583	42.160	9.500	6.218	12.067	42.140	9.501		5.632	12.543	42.160	9.515		1.34B
1.335B	6.195	12.083	42.114	9.500	5.579	12.583	42.145	9.500	6.218	12.067	42.114	9.504		5.632	12.543	42.145	9.515		1.335B
Sp27U	3.607	9.500	42.140	9.500	4.777	9.583	42.160	9.500	3.611	9.513	42.140	9.501		4.779	9.519	42.160	9.515		Sp27U
Sp27D	3.607	9.500	42.114	9.500	4.777	9.583	42.145	9.500	3.611	9.513	42.114	9.504		4.779	9.519	42.145	9.515		Sp27D
1.335D	8.604	9.500	42.114	9.500	8.604	9.500	42.145	9.500	8.604	9.507	42.114	9.504		8.604	9.522	42.145	9.515		1.335D
1.33	8.603	9.750	41.720	9.917	8.597	9.750	41.749	10.000	8.604	9.769	41.720	9.913		8.598	9.785	41.749	10.047		1.33
1.32	8.546	9.833	41.543	10.167	8.533	9.917	41.575	10.333	8.554	9.918	41.544	10.236		8.535	9.986	41.576	10.300		1.32
1.319B	4.736	6.500	41.543	10.167	4.423	6.333	41.575	10.333	5.415	6.000	41.544	10.236		4.771	6.463	41.576	10.300		1.319B
1.315B	4.736	6.500	41.541	10.167	4.423	6.333	41.574	10.333	5.415	6.000	41.542	10.250		4.771	6.463	41.574	10.294		1.315B
Sp25U	7.698	9.917	41.543	10.167	7.837	10.167	41.575	10.333	7.714	9.967	41.544	10.236		7.845	10.053	41.576	10.300		Sp25U
Sp25D	7.698	9.917	41.541	10.167	7.837	10.167	41.574	10.333	7.714	9.967	41.542	10.250		7.845	10.053	41.574	10.294		Sp25D
1.315	8.545	9.833	41.541	10.167	8.531	9.917	41.574	10.333	8.554	9.918	41.542	10.250		8.535	10.013	41.574	10.294		1.315
1.31	8.502	10.000	41.530	10.250	8.486	10.167	41.566	10.333	8.513	10.103	41.531	10.260		8.493	10.158	41.566	10.306		1.31
1.29	8.500	10.167	41.202	10.000	8.485	10.250	41.233	10.083	8.506	10.194	41.201	10.061		8.489	10.289	41.233	10.111		1.29
1.28U	8.510	10.250	41.006	9.750	8.497	10.250	41.016	9.750	8.520	10.274	41.004	9.742		8.503	10.285	41.015	9.758		1.28U
NBrad	3.267	8.333	41.006	9.750	3.267	8.333	41.016	9.750	3.267	8.254	41.004	9.742	-0.002	3.267	8.254	41.015	9.758	-0.001	NBrad
1.28D	11.301	9.750	41.006	9.750	11.262	9.750	41.016	9.750	11.305	9.692	41.004	9.742	-0.002	11.263	9.753	41.015	9.758	-0.001	1.28D
INT1	11.301	9.750	40.999	9.750	11.263	9.750	41.008	9.750	11.305	9.717	40.997	9.726	-0.002	11.262	9.754	41.007	9.757	-0.001	INT1
INT2	11.303	9.833	40.986	9.750	11.264	9.750	40.994	9.750	11.304	9.719	40.984	9.733	-0.002	11.262	9.758	40.993	9.763	-0.001	INT2
INT3	11.305	9.833	40.971	9.750	11.264	9.750	40.978	9.750	11.304	9.719	40.970	9.728	-0.001	11.261	9.757	40.977	9.761	-0.001	INT3
1.27U	11.306	9.833	40.917	9.750	11.264	9.750	40.918	9.750	11.303	9.729	40.912	9.722	-0.005	11.261	9.764	40.915	9.749	-0.003	1.27U
S99BU	3.254	5.500	40.917	9.750	2.954	4.000	40.918	9.750	2.401	6.029	40.912	9.722	-0.005	2.529	6.000	40.915	9.749	-0.003	S99BU
S99BD	3.254	5.500	40.859	9.750	2.954	4.000	40.870	9.833	2.401	6.029	40.836	9.768	-0.023	2.529	6.000	40.853	9.808	-0.017	S99BD
Sp99U	9.377	9.750	40.917	9.750	9.486	9.833	40.918	9.750	9.094	9.736	40.912	9.722	-0.005	9.268	9.764	40.915	9.749	-0.003	Sp99U
Sp99D	9.377	9.750	40.859	9.750	9.486	9.833	40.870	9.833	9.094	9.736	40.836	9.768	-0.023	9.268	9.764	40.853	9.808	-0.017	Sp99D
1.27D	11.306	9.833	40.859	9.750	11.264	9.750	40.870	9.833	11.303	9.729	40.836	9.768	-0.023	11.261	9.764	40.853	9.808	-0.017	1.27D
1.267	11.313	9.833	40.755	9.833	11.265	9.750	40.772	9.917	11.301	9.742	40.643	9.922	-0.112	11.259	9.797	40.677	9.960	-0.095	1.267
1.266	11.312	9.833	40.714	9.833	11.264	9.750	40.734	9.917	11.300	9.739	40.630	9.936	-0.084	11.256	9.800	40.660	9.983	-0.074	1.266
1.264	11.303	9.833	40.590	10.000	11.253	9.750	40.627	10.000	11.289	9.814	40.566	10.013	-0.024	11.244	9.856	40.604	10.017	-0.023	1.264
1.2631	11.299	9.833	40.573	10.000	11.248	9.917	40.611	10.000	11.286	9.836	40.549	10.035	-0.024	11.241	9.904	40.589	10.015	-0.022	1.2631
CBrin									11.812	9.836	40.549	10.035		11.782	9.904	40.589	10.015		CBrin
CvLin									0.058	6.310	40.549	10.035		0.226	14.164	40.589	10.015		CvLin
CvLup									0.058	6.310	40.557	10.035		0.226	14.164	40.596	10.015		CvLup
CvRin									0.135	6.375	40.549	10.035		0.151	14.206	40.589	10.015		CvRin
CvRup									0.135	6.375	40.557	10.035		0.151	14.206	40.596	10.015		CvRup
CBrout									11.812	9.836	40.553	10.033		11.782	9.904	40.593	10.014		CBrout
CvLdn									0.107	6.440	40.561	10.033		0.255	14.106	40.599	10.014		CvLdn
CvLout									0.107	6.440	40.553	10.033		0.255	14.106	40.593	10.014		CvLout
CvRdn									0.199	6.376	40.561	10.035		0.262	14.207	40.598	10.013		CvRdn
CvRout									0.199	6.376	40.553	10.033		0.262	14.207	40.593	10.014		CvRout
1.261	11.291	9.833	40.552	10.000	11.243	9.917	40.593	10.000	11.285	9.836	40.553	10.033	0.001	11.241	9.904	40.593	10.014	0.000	1.261
1.26U	11.287	9.833	40.549	10.000	11.241	9.917	40.589	10.000	11.281	9.829	40.549	10.033	0.000	11.238	9.915	40.589	10.015	0.000	1.26U
NStream	1.644	8.750	40.549	10.000	1.644	8.750	40.589	10.000	1.644	8.750	40.549	10.033	0.000	1.644	8.750	40.589	10.015	0.000	NStream
1.26D	12.694	9.583	40.549	10.000	12.629	9.667	40.589	10.000	12.690	9.544	40.549	10.033	0.000	12.626.					

Output data from file D:\TEIGNCONSULT\PROJECTS\447 - SOUTHWICK COURT
Selected output data from time (hr):
Using results directly from mmm file: D:\Teignconsult\Projects\447 - Southwick Court
JBA bed gradient & hydrology applied

TROWBRIDGE\ISIS2\

Trowbridge\ISIS2\

A-X1000yrCC					A-X1000yrCC+10% manning				A-P1000yrCC-BR20m					A-P1000yrCC+10% manning									
Label	Max Flow	Time (hr)	Max Stage	Time (hr)	Max Flow	Time (hr)	Max Stage	Time (hr)	Max Flow	Time (hr)	Max Stage	Time (hr)	Diff	Max Flow	Time (hr)	Max Stage	Time (hr)	Diff	Label	Max Flow	Time (hr)	Max Stage	Time (hr)
1.34	15.094	9.500	42.294	9.750	15.093	9.583	42.326	9.500	15.095	9.501	42.294	9.775		15.095	9.501	42.326	9.531		1.34	15.094	9.500	42.293	9.750
1.34U	15.094	9.500	42.293	9.750	15.093	9.583	42.325	9.500	15.095	9.510	42.293	9.775		15.095	9.510	42.324	9.531		1.34U	15.094	9.500	42.293	9.750
1.34B	6.374	14.250	42.293	9.750	5.681	14.583	42.325	9.500	9.618	7.013	42.293	9.775		7.187	6.001	42.324	9.531		1.34B	6.374	14.250	42.293	9.750
1.335B	6.374	14.250	42.282	9.750	5.681	14.583	42.316	9.500	9.597	7.013	42.281	9.775		7.379	6.001	42.316	9.519		1.335B	6.374	14.250	42.282	9.750
Sp27U	11.823	9.750	42.293	9.750	12.229	9.583	42.325	9.500	11.820	9.742	42.293	9.775		12.248	9.524	42.324	9.531		Sp27U	11.823	9.750	42.282	9.750
Sp27D	11.823	9.750	42.282	9.750	12.229	9.583	42.316	9.500	11.820	9.742	42.281	9.775		12.248	9.524	42.316	9.519		Sp27D	11.823	9.750	42.282	9.750
1.335D	15.094	9.500	42.282	9.750	15.093	9.583	42.316	9.500	15.095	9.510	42.281	9.775		15.095	9.510	42.316	9.519		1.335D	15.094	9.500	42.282	9.750
1.33	15.029	9.750	41.969	10.250	15.046	9.750	42.013	10.167	15.026	9.775	41.970	10.229		15.044	9.756	42.014	10.197		1.33	15.029	9.750	41.969	10.250
1.32	14.859	9.917	41.854	10.333	14.875	10.000	41.895	10.333	14.862	9.968	41.854	10.361		14.883	9.928	41.897	10.357		1.32	14.859	9.917	41.854	10.333
1.319B	4.940	5.333	41.854	10.333	4.595	5.250	41.895	10.333	7.722	7.113	41.854	10.361		5.912	6.114	41.897	10.357		1.319B	4.940	5.333	41.854	10.333
1.315B	4.940	5.333	41.854	10.333	4.595	5.250	41.895	10.417	7.722	7.113	41.854	10.361		5.912	6.114	41.897	10.363		1.315B	4.940	5.333	41.854	10.333
Sp25U	14.421	10.083	41.854	10.333	14.459	10.000	41.895	10.333	14.408	10.071	41.854	10.361		14.465	9.928	41.897	10.357		Sp25U	14.421	10.083	41.854	10.333
Sp25D	14.421	10.083	41.854	10.333	14.459	10.000	41.895	10.417	14.408	10.071	41.854	10.361		14.465	9.928	41.897	10.363		Sp25D	14.421	10.083	41.854	10.333
1.315	14.860	10.000	41.854	10.333	14.875	10.000	41.895	10.417	14.862	9.968	41.854	10.361		14.883	9.928	41.897	10.363		1.315	14.860	10.000	41.854	10.333
1.31	14.789	10.250	41.851	10.333	14.796	10.167	41.893	10.417	14.794	10.213	41.851	10.360		14.804	10.272	41.895	10.356		1.31	14.789	10.250	41.851	10.333
1.29	14.787	10.333	41.388	10.083	14.789	10.333	41.433	10.083	14.785	10.325	41.387	10.164		14.798	10.322	41.431	10.156		1.29	14.787	10.333	41.388	10.083
1.28U	14.808	10.333	41.140	9.750	14.812	10.333	41.158	9.750	14.808	10.407	41.139	9.817		14.821	10.408	41.153	9.818		1.28U	14.808	10.333	41.140	9.750
NBrad	5.643	8.333	41.140	9.750	5.643	8.333	41.158	9.750	5.643	8.253	41.139	9.817	-0.001	5.643	8.253	41.153	9.818	-0.005	NBrad	5.643	8.333	41.140	9.750
1.28D	19.548	9.750	41.140	9.750	19.557	9.833	41.158	9.750	19.524	9.788	41.139	9.817	-0.001	19.547	9.768	41.153	9.818	-0.005	1.28D	19.548	9.750	41.140	9.750
INT1	19.547	9.750	41.130	9.750	19.557	9.833	41.147	9.750	19.523	9.790	41.129	9.819	-0.001	19.547	9.769	41.141	9.817	-0.006	INT1	19.547	9.750	41.130	9.750
INT2	19.547	9.750	41.112	9.750	19.558	9.833	41.128	9.750	19.523	9.822	41.111	9.793	-0.001	19.545	9.804	41.121	9.813	-0.007	INT2	19.547	9.750	41.112	9.750
INT3	19.547	9.750	41.094	9.750	19.558	9.833	41.110	9.750	19.522	9.822	41.093	9.824	-0.001	19.545	9.819	41.102	9.821	-0.008	INT3	19.547	9.750	41.094	9.750
1.27U	19.547	9.750	41.032	9.750	19.558	9.833	41.049	9.750	19.521	9.824	41.030	9.790	-0.002	19.545	9.824	41.033	9.821	-0.016	1.27U	19.547	9.750	41.032	9.750
S99BU	3.278	4.583	41.032	9.750	2.952	4.000	41.049	9.750	2.852	7.100	41.030	9.790	-0.002	2.796	6.000	41.033	9.821	-0.016	S99BU	3.278	4.583	41.032	9.750
S99BD	3.278	4.583	40.972	9.833	2.952	4.000	41.009	9.833	2.852	7.100	40.957	9.806	-0.015	2.796	6.000	40.979	9.821	-0.030	S99BD	3.278	4.583	40.972	9.833
Sp99U	17.562	9.833	41.032	9.750	17.961	9.833	41.049	9.750	17.357	9.824	41.030	9.790	-0.002	17.667	9.821	41.033	9.821	-0.016	Sp99U	17.562	9.833	41.032	9.750
Sp99D	17.562	9.833	40.972	9.833	17.961	9.833	41.009	9.833	17.357	9.824	40.957	9.806	-0.015	17.667	9.821	40.979	9.821	-0.030	Sp99D	17.562	9.833	40.972	9.833
1.27D	19.547	9.750	40.972	9.833	19.558	9.833	41.009	9.833	19.521	9.824	40.957	9.806	-0.015	19.545	9.824	40.979	9.821	-0.030	1.27D	19.547	9.750	40.972	9.833
1.267	19.548	9.750	40.903	9.750	19.558	9.833	40.939	9.833	19.523	9.843	40.847	9.811	-0.056	19.550	9.822	40.889	9.824	-0.050	1.267	19.548	9.750	40.903	9.750
1.266	19.546	9.750	40.878	9.750	19.558	9.833	40.917	9.833	19.523	9.842	40.840	9.821	-0.038	19.555	9.883	40.881	9.822	-0.036	1.266	19.546	9.750	40.878	9.750
1.264	19.541	9.750	40.825	9.750	19.559	9.833	40.868	9.750	19.526	9.863	40.815	9.817	-0.010	19.561	9.917	40.857	9.828	-0.011	1.264	19.541	9.750	40.825	9.750
1.2631	19.541	9.833	40.820	9.750	19.559	9.833	40.862	9.750	19.527	9.864	40.807	9.815	-0.013	19.574	9.915	40.849	9.826	-0.013	1.2631	19.541	9.833	40.820	9.750
CBrin									21.600	9.864	40.807	9.815		21.867	9.922	40.849	9.826		CBrin				
CvLin									0.181	7.186	40.807	9.815		0.291	6.000	40.849	9.826		CvLin				
CvLup									0.181	7.186	40.814	9.815		0.291	6.000	40.855	9.826		CvLup				
CvRin									0.093	7.185	40.807	9.815		0.299	6.000	40.849	9.826		CvRin				
CvRup									0.093	7.185	40.814	9.815		0.299	6.000	40.855	9.826		CvRup				
CBrout									21.600	9.864	40.811	9.814		21.867	9.922	40.853	9.835		CBrout				
CvLdn									0.276	7.185	40.822	9.843		0.259	6.001	40.862	9.851		CvLdn				
CvLout									0.276	7.185	40.811	9.814		0.259	6.001	40.853	9.835		CvLout				
CvRdn									0.381	7.183	40.819	9.829		0.258	6.001	40.860	9.835		CvRdn				
CvRout									0.381	7.183	40.811	9.814		0.258	6.001	40.853	9.835		CvRout				
1.261	19.545	9.917	40.811	9.750	19.563	9.917	40.854	9.750	19.527	9.864	40.811	9.814	0.000	19.596	9.935	40.853	9.835	-0.001	1.261	19.545	9.917	40.811	9.750
1.26U	19.547	9.917	40.811	9.750	19.566	9.917	40.853	9.750	19.529	9.929	40.809	9.828	-0.002	19.578	9.914	40.851	9.836	-0.002	1.26U	19.547	9.917	40.811	9.750
NStream	2.813	8.500	40.811	9.750	2.813	8.583	40.853	9.750	2.813	8.501	40.809	9.828	-0.002	2.813	8.501	40.851	9.836	-0.002	NStream	2.813	8.500	40.811	9.750
1.26D	21.918	9.667	40.811	9.750	21.933	9.583	40.853	9.750	21.885	9.606	40.809	9.828	-0.002	21.929	9.633	40.851	9.836	-0.002	1.26D	21.918	9.667	40.811	9.750
1.254	21.909	9.667	40.765	9.833	21.918	9.667	40.808	9.833	21.871	9.644	40.764	9.858	-0.001	21.904	9.689	40.806	9.878	-0.002	1.254	21.909	9.667	40.765	9.833
1.25	21.890	9.667	40.703	9.833	21.898	9.750	40.739	9.833	21.855	9.732	40.702	9.894	-0.001	21.879	9.750	40.737	9.900	-0.002	1.25	21.890	9.667	40.703	9.833
1.24	21.873	9.750	40.666	9.833	21.882	9.750	40.699	9.833	21.837	9.790	40.665	9.915	-0.001	21.865	9.829	40.697	9.938	-0.002	1.24	21.873	9.750	40.666	9.833
1.23U	21.861	9.833	40.518	10.000	21.874	9.917	40.534	9.833	21.807	9.850	40.518	10.047	0.000	21.836	9.910	40.530	10.106	-0.004	1.23U	21.861	9.833	40.518	10.000
UStudley	2.526	12.500	40.518	10.000	2.526	12.500	40.534	9.833	2.526	12.500	40.518	10.047	0.000	2.526	12.500	40.530	10.106	-0.004	UStudley	2.526	12.500	40.518	10.000

Appendix M4

Model outputs 20CC – Existing & Proposed outputs

Output data from file D:\TEIGNCONSULT\PROJECTS\447 - SOUTHWICK COURT TROWBRIDGE\ISIS2\A-X20CC\A-X20CC.ZZN
Selected output data from time (hr): 4 to time (hr): 15
Using results directly from mmm file: D:\Teignconsult\Projects\447 - Southwick Court Trowbridge\ISIS2\A-X20CC\A-X20CC.mmm

Label	Max Flow	Time (hr)m	Max Stage	Time (hr)m	Max Fr	Time (hr)m	Max Veloci	Time (hr)m	Max Mode	Time (hr)m	Max State	Time (hr)m	Min Flow	Time (hr)m	Min Stage	Time (hr)m	Min Fr	Time (hr)m	Min Velocil	Time (hr)m	Min Mode	Time (hr)m	Min State	Time (hr)m	Mean Flow	Mean Stag	Mean Fr	Mean Velo	Mean Mod	Mean State
1.34	5.824	9.500	42.027	9.583	0.598	9.583	0.993	8.417	-9999.99	-9999.99	0	4	0.928	4	41.206	4	0.174	4.25	0.395	4.167	-9999.99	-9999.99	0	4	3.92	41.862	0.31	0.775	-9999.99	0
1.34U	5.824	9.500	42.025	9.583	0.594	9.583	0.999	8.417	-9999.99	-9999.99	0	4	0.826	4	41.195	4	0.174	4.25	0.395	4.167	-9999.99	-9999.99	0	4	3.919	41.86	0.308	0.777	-9999.99	0
1.34B	5.711	9.250	42.025	9.583	0.324	9.083	1.057	9.25	-9999.99	-9999.99	0	4	0.826	4	41.195	4	0	9.167	0.41	4.167	-9999.99	-9999.99	0	4	3.906	41.86	0.218	0.802	-9999.99	0
1.335B	5.711	9.250	41.992	9.583	0.326	9.083	1.058	9.083	-9999.99	-9999.99	0	4	0.64	4	41.166	4	0	9.333	0.405	4.167	-9999.99	-9999.99	0	4	3.904	41.85	0.241	0.8	-9999.99	0
Sp27U	0.140	9.583	42.025	9.583	0.246	4	0.412	4	-9999.99	-9999.99	0	4	0	4	41.195	4	0.246	4	0.412	4	-9999.99	-9999.99	0	4	0.014	41.86	0.246	0.412	-9999.99	0
Sp27D	0.140	9.583	41.992	9.583	0	4	0	4	-9999.99	-9999.99	0	4	0	4	41.166	4	0	4	0	4	-9999.99	-9999.99	0	4	0.014	41.85	0	0	-9999.99	0
1.335D	5.824	9.500	41.992	9.583	0.453	9.583	1.005	9.917	-9999.99	-9999.99	0	4	0.64	4	41.166	4	0.158	4.167	0.375	4.167	-9999.99	-9999.99	0	4	3.918	41.85	0.269	0.769	-9999.99	0
1.33	5.824	9.667	41.639	9.667	0.495	7.333	0.793	6.25	-9999.99	-9999.99	0	4	0.64	4	40.982	4	0.305	4.25	0.542	4.667	-9999.99	-9999.99	0	4	3.911	41.512	0.456	0.709	-9999.99	0
1.32	5.814	9.667	41.413	10.000	0.82	8.333	0.857	7.583	-9999.99	-9999.99	0	4	0.395	4.083	40.769	4	0.052	4.083	0.128	4.083	-9999.99	-9999.99	0	4	3.906	41.271	0.414	0.561	-9999.99	0
1.319B	4.557	7.833	41.413	10.000	0.238	5.75	1.189	7.833	-9999.99	-9999.99	0	4	0.395	4.083	40.769	4	0	4.417	0.139	4.083	-9999.99	-9999.99	0	4	3.063	41.271	0.017	0.802	-9999.99	0
1.315B	4.557	7.833	41.394	10.083	0.236	5.75	1.189	7.833	-9999.99	-9999.99	0	4	0.385	4.083	40.754	4	0	4.417	0.133	4.083	-9999.99	-9999.99	0	4	3.064	41.243	0.017	0.802	-9999.99	0
Sp25U	3.166	10.000	41.413	10.000	0.094	4	0.204	4	-9999.99	-9999.99	0	4	0	4	40.769	4	0.094	4	0.204	4	-9999.99	-9999.99	0	4	0.843	41.271	0.094	0.204	-9999.99	0
Sp25D	3.166	10.000	41.394	10.083	0.107	4	0.224	4	-9999.99	-9999.99	0	4	0	4	40.754	4	0.107	4	0.224	4	-9999.99	-9999.99	0	4	0.843	41.243	0.107	0.224	-9999.99	0
1.315	5.814	9.667	41.394	10.083	0.745	9.083	0.788	8.167	-9999.99	-9999.99	0	4	0.385	4.083	40.754	4	0.058	4.083	0.13	4.083	-9999.99	-9999.99	0	4	3.907	41.243	0.418	0.588	-9999.99	0
1.31	5.793	9.917	41.375	10.083	0.147	5.5	0.162	5.5	-9999.99	-9999.99	0	4	-0.046	4.083	40.77	4	-0.006	4.083	-0.008	4.083	-9999.99	-9999.99	0	4	3.892	41.234	0.076	0.108	-9999.99	0
1.29	5.789	10.083	41.103	9.917	0.78	4.75	0.912	10.167	-9999.99	-9999.99	0	4	0.048	4.083	40.508	4.083	0.392	4.083	0.314	4.083	-9999.99	-9999.99	0	4	3.862	40.971	0.473	0.793	-9999.99	0
1.28U	5.800	10.167	40.927	9.667	0.186	4	0.242	4	-9999.99	-9999.99	0	4	0.045	4.25	40.092	4.25	0.032	4.25	0.029	4.25	-9999.99	-9999.99	0	4	3.847	40.779	0.095	0.14	-9999.99	0
NBrad	2.238	8.333	40.927	9.667	0	4	0	4	-9999.99	-9999.99	0	4	0.157	15	40.092	4.25	0	4	0	4	-9999.99	-9999.99	0	4	1.298	40.779	0	0	-9999.99	0
1.28D	7.755	9.583	40.927	9.667	0.425	4.25	0.393	4	-9999.99	-9999.99	0	4	0.573	4.167	40.092	4.25	0.116	12.333	0.164	14.083	-9999.99	-9999.99	0	4	5.145	40.779	0.141	0.202	-9999.99	0
INT1	7.755	9.583	40.921	9.667	0.405	4.25	0.426	4.25	-9999.99	-9999.99	0	4	0.587	4.25	40.037	4.25	0.128	13.917	0.186	14.333	-9999.99	-9999.99	0	4	5.138	40.772	0.151	0.231	-9999.99	0
INT2	7.754	9.583	40.911	9.667	0.398	4.25	0.533	4	-9999.99	-9999.99	0	4	0.583	4.25	39.989	4.25	0.173	14.167	0.252	5.417	-9999.99	-9999.99	0	4	5.137	40.761	0.203	0.315	-9999.99	0
INT3	7.754	9.583	40.900	9.667	0.408	4.25	0.657	4.917	-9999.99	-9999.99	0	4	0.582	4.25	39.962	4.25	0.247	5.417	0.344	5.417	-9999.99	-9999.99	0	4	5.135	40.75	0.279	0.42	-9999.99	0
1.27U	7.754	9.583	40.848	9.667	0.995	15	1.552	5.333	-9999.99	-9999.99	0	4	0.582	4.25	39.925	4.25	0.395	4.25	0.698	13.917	-9999.99	-9999.99	0	4	5.135	40.692	0.619	0.846	-9999.99	0
S99BU	3.244	6.333	40.848	9.667	0.516	4	1.707	6.25	-9999.99	-9999.99	0	4	0.582	4.25	39.925	4.25	0	5.083	0.804	4.25	-9999.99	-9999.99	0	4	2.118	40.692	0.046	1.16	-9999.99	0
S99BD	3.244	6.333	40.792	9.667	0.687	4	1.707	6.25	-9999.99	-9999.99	0	4	0.581	4.25	39.852	4.25	0	5.5	0.975	4.25	-9999.99	-9999.99	0	4	2.118	40.615	0.077	1.175	-9999.99	0
Sp99U	5.859	9.667	40.848	9.667	0.468	4	0.984	4	-9999.99	-9999.99	0	4	0	4	39.925	4.25	0.468	4	0.984	4	-9999.99	-9999.99	0	4	3.017	40.692	0.468	0.984	-9999.99	0
Sp99D	5.859	9.667	40.792	9.667	0.751	4	1.314	4	-9999.99	-9999.99	0	4	0	4	39.852	4.25	0.751	4	1.314	4	-9999.99	-9999.99	0	4	3.017	40.615	0.751	1.314	-9999.99	0
1.27D	7.754	9.583	40.792	9.667	1.111	14.583	2.189	6.333	-9999.99	-9999.99	0	4	0.581	4.25	39.852	4.25	0.473	4.083	0.91	4.25	-9999.99	-9999.99	0	4	5.135	40.615	0.783	1.173	-9999.99	0
1.267	7.754	9.583	40.693	9.667	0.716	13.75	0.846	14.75	-9999.99	-9999.99	0	4	0.581	4.25	39.821	4.25	0.196	4.25	0.381	6.333	-9999.99	-9999.99	0	4	5.134	40.547	0.418	0.536	-9999.99	0
1.266	7.753	9.583	40.652	9.750	1.202	6.667	1.216	14.5	-9999.99	-9999.99	0	4	0.581	4.25	39.792	4.25	0.315	4.25	0.619	9.833	-9999.99	-9999.99	0	4	5.133	40.494	0.686	0.836	-9999.99	0
1.264	7.752	9.833	40.494	9.750	1.476	7.75	1.472	7.167	-9999.99	-9999.99	0	4	0.585	4.25	39.628	4.25	0.44	4.75	0.766	9.833	-9999.99	-9999.99	0	4	5.132	40.314	0.842	1.082	-9999.99	0
1.2631	7.753	9.833	40.451	9.667	1.27	7.417	1.27	7.417	-9999.99	-9999.99	0	4	0.588	4.25	39.612	4.25	0.243	4.083	0.488	4.25	-9999.99	-9999.99	0	4	5.133	40.28	0.674	0.851	-9999.99	0
1.261	7.754	9.833	40.386	9.667	1.119	12.917	1.937	9	-9999.99	-9999.99	0	4	0.594	4.25	39.588	4.25	0.24	4.25	0.49	4.25	-9999.99	-9999.99	0	4	5.135	40.207	0.641	1.064	-9999.99	0
1.26U	7.755	9.833	40.382	9.667	1.089	13.833	1.21	14.75	-9999.99	-9999.99	0	4	0.597	4.25	39.562	4.25	0.338	9.583	0.396	8.917	-9999.99	-9999.99	0	4	5.135	40.208	0.515	0.662	-9999.99	0
NStream	1.115	8.750	40.382	9.667	0	4	0	4	-9999.99	-9999.99	0	4	0.017	13.583	39.562	4.25	0	4	0	4	-9999.99	-9999.99	0	4	0.562	40.208	0	0	-9999.99	0
1.26D	8.734	9.500	40.382	9.667	1.148	6.417	1.296	5.5	-9999.99	-9999.99	0	4	0.814	4.25	39.562	4.25	0.381	9.75	0.448	9.833	-9999.99	-9999.99	0	4	5.697	40.208	0.569	0.736	-9999.99	0
1.254	8.728	9.583	40.284	9.750	0.503	4.833	0.816	4.833	-9999.99	-9999.99	0	4	0.825	4.333	39.419	4.333	0.3	4.25	0.428	13.833	-9999.99	-9999.99	0	4	5.692	40.099	0.349	0.51	-9999.99	0
1.25	8.700	9.667	40.128	10.000	0.753	6.833	1.06	5.083	-9999.99	-9999.99	0	4	0.815	4.333	39.081	4.333	0.318	10.167	0.444	10.333	-9999.99	-9999.99	0	4	5.68	39.855	0.47	0.677	-9999.99	0
1.24	8.663	9.833	40.049	10.000	0.524	6.833	0.879	5.083	-9999.99	-9999.99	0	4	0.82	4.333	38.802	4.333	0.213	10.167	0.369	10.333	-9999.99	-9999.99	0	4	5.675	39.693	0.327	0.565	-9999.99	0
1.23U	8.635	9.917	39.799	10.167	0.318	8.75	1.089	8.75	-9999.99	-9999.99	0	4	0.835	4.417	38.605	4.417	0.224	4.417	0.468	4.417	-9999.99	-9999.99	0	4	5.655	39.445	0.288	0.903	-9999.99	0
UStudley	1.045	12.250	39.799	10.167	0	4	0	4	-9999.99	-9999.99	0	4	0.024	4	38.605	4.417	0	4	0	4	-9999.99	-9999.								

Output data from file D:\TEIGNCONSULT\PROJECTS\447 - SOUTHWICK COURT TROWBRIDGE\ISIS2\A-X20CC\A-X20CC-R.ZZN
Selected output data from time (hr): 4 to time (hr): 15
Using results directly from mmm file: D:\Teignconsult\Projects\447 - Southwick Court Trowbridge\ISIS2\A-X20CC\A-X20CC-R.mmm

Label	Max Flow	Time (hr)m	Max Stage	Time (hr)m	Max Fr	Time (hr)m	Max Veloci	Time (hr)m	Max Mode	Time (hr)m	Max State	Time (hr)m	Min Flow	Time (hr)m	Min Stage	Time (hr)m	Min Fr	Time (hr)m	Min Veloci	Time (hr)m	Min Mode	Time (hr)m	Min State	Time (hr)m	Mean Flow	Mean Stag	Mean Fr	Mean Velo	Mean Mod	Mean State
1.34	5.824	9.500	42.058	9.500	0.759	9.5	0.897	8.083	-9999.99	-9999.99	0	4	0.93	4	41.376	4	0.152	4.083	0.352	4.083	-9999.99	-9999.99	0	4	3.92	41.897	0.358	0.719	-9999.99	0
1.34U	5.824	9.500	42.055	9.500	0.744	9.5	0.902	8.083	-9999.99	-9999.99	0	4	0.985	4.083	41.385	4	0.153	4.083	0.352	4.083	-9999.99	-9999.99	0	4	3.921	41.896	0.353	0.724	-9999.99	0
1.34B	5.399	9.750	42.055	9.500	0.293	8.167	1	9.75	-9999.99	-9999.99	0	4	0.984	4.083	41.385	4	0	8.25	0.361	4.083	-9999.99	-9999.99	0	4	3.842	41.896	0.159	0.77	-9999.99	0
1.335B	5.399	9.750	42.025	9.583	0.293	8.167	1	9.75	-9999.99	-9999.99	0	4	0.987	4.083	41.397	4	0	8.333	0.358	4.083	-9999.99	-9999.99	0	4	3.843	41.883	0.167	0.769	-9999.99	0
Sp27U	0.430	9.583	42.055	9.500	0.246	4	0.412	4	-9999.99	-9999.99	0	4	0	4	41.385	4	0.246	4	0.412	4	-9999.99	-9999.99	0	4	0.079	41.896	0.246	0.412	-9999.99	0
Sp27D	0.430	9.583	42.025	9.583	0	4	0	4	-9999.99	-9999.99	0	4	0	4	41.397	4	0	4	0	4	-9999.99	-9999.99	0	4	0.079	41.883	0	0	-9999.99	0
1.335D	5.824	9.500	42.025	9.583	0.555	9.583	0.926	9.75	-9999.99	-9999.99	0	4	0.987	4.083	41.397	4	0.139	4.083	0.336	4.083	-9999.99	-9999.99	0	4	3.922	41.883	0.298	0.731	-9999.99	0
1.33	5.825	9.667	41.657	9.750	0.453	7	0.72	6	-9999.99	-9999.99	0	4	0.91	4.083	41.148	4.083	0.281	4.167	0.505	4.5	-9999.99	-9999.99	0	4	3.917	41.538	0.415	0.649	-9999.99	0
1.32	5.808	9.833	41.432	10.083	0.768	8	0.797	7.25	-9999.99	-9999.99	0	4	0.731	4.083	40.892	4	0.083	4.083	0.214	4.083	-9999.99	-9999.99	0	4	3.915	41.294	0.385	0.498	-9999.99	0
1.319B	4.272	7.500	41.432	10.083	0.218	5.583	1.116	7.5	-9999.99	-9999.99	0	4	0.731	4.083	40.892	4	0	4.417	0.23	4.083	-9999.99	-9999.99	0	4	2.589	41.294	0.015	0.678	-9999.99	0
1.315B	4.272	7.500	41.425	10.083	0.21	5.5	1.116	7.5	-9999.99	-9999.99	0	4	0.725	4.083	40.887	4	0	4.333	0.225	4.083	-9999.99	-9999.99	0	4	2.588	41.274	0.012	0.677	-9999.99	0
Sp25U	4.238	10.000	41.432	10.083	0.094	4	0.204	4	-9999.99	-9999.99	0	4	0	4	40.892	4	0.094	4	0.204	4	-9999.99	-9999.99	0	4	1.327	41.294	0.094	0.204	-9999.99	0
Sp25D	4.238	10.000	41.425	10.083	0.107	4	0.224	4	-9999.99	-9999.99	0	4	0	4	40.887	4	0.107	4	0.224	4	-9999.99	-9999.99	0	4	1.327	41.274	0.107	0.224	-9999.99	0
1.315	5.808	9.750	41.425	10.083	0.69	8.5	0.72	7.75	-9999.99	-9999.99	0	4	0.725	4.083	40.887	4	0.093	4.083	0.217	4.083	-9999.99	-9999.99	0	4	3.915	41.274	0.392	0.506	-9999.99	0
1.31	5.784	9.917	41.402	10.167	0.168	4	0.224	4	-9999.99	-9999.99	0	4	0.392	4.083	40.869	4	0.034	4.5	0.04	4.417	-9999.99	-9999.99	0	4	3.902	41.258	0.068	0.101	-9999.99	0
1.29	5.780	10.083	41.127	9.917	0.691	4.667	0.86	10.25	-9999.99	-9999.99	0	4	0.298	4.25	40.626	4.25	0.382	6.917	0.421	4.083	-9999.99	-9999.99	0	4	3.873	40.999	0.432	0.745	-9999.99	0
1.28U	5.792	10.167	40.936	9.667	0.128	15	0.183	4	-9999.99	-9999.99	0	4	0.33	4.333	40.194	4.417	0.067	4.083	0.099	5.75	-9999.99	-9999.99	0	4	3.858	40.802	0.089	0.134	-9999.99	0
NBrad	2.238	8.333	40.936	9.667	0	4	0	4	-9999.99	-9999.99	0	4	0.157	15	40.194	4.417	0	4	0	4	-9999.99	-9999.99	0	4	1.298	40.802	0	0	-9999.99	0
1.28D	7.730	9.583	40.936	9.667	0.226	4.417	0.301	4.583	-9999.99	-9999.99	0	4	0.914	4.333	40.194	4.417	0.11	12.583	0.157	14	-9999.99	-9999.99	0	4	5.156	40.802	0.123	0.186	-9999.99	0
INT1	7.730	9.667	40.930	9.667	0.215	4.417	0.327	4.5	-9999.99	-9999.99	0	4	0.927	4.333	40.171	4.417	0.123	13.083	0.177	14.75	-9999.99	-9999.99	0	4	5.153	40.796	0.135	0.216	-9999.99	0
INT2	7.730	9.667	40.919	9.667	0.27	4.917	0.447	4	-9999.99	-9999.99	0	4	0.937	4.333	40.145	4.417	0.166	14.417	0.242	14.75	-9999.99	-9999.99	0	4	5.149	40.786	0.186	0.296	-9999.99	0
INT3	7.729	9.667	40.907	9.667	0.355	4.917	0.64	4	-9999.99	-9999.99	0	4	0.94	4.333	40.122	4.417	0.236	5.75	0.332	5.75	-9999.99	-9999.99	0	4	5.147	40.775	0.26	0.397	-9999.99	0
1.27U	7.730	9.667	40.851	9.667	0.783	5.333	1.374	4.917	-9999.99	-9999.99	0	4	0.94	4.417	40.066	4.417	0.401	4.25	0.676	14.333	-9999.99	-9999.99	0	4	5.146	40.717	0.587	0.796	-9999.99	0
S99BU	2.673	5.333	40.851	9.667	0.485	4	1.412	5.333	-9999.99	-9999.99	0	4	0.94	4.417	40.066	4.417	0	5	0.907	9.25	-9999.99	-9999.99	0	4	1.933	40.717	0.04	1.048	-9999.99	0
S99BD	2.673	5.333	40.805	9.750	0.529	4	1.412	5.333	-9999.99	-9999.99	0	4	0.94	4.417	40.022	4.417	0	5.167	0.907	9.25	-9999.99	-9999.99	0	4	1.933	40.657	0.05	1.054	-9999.99	0
Sp99U	5.998	9.667	40.851	9.667	0.468	4	0.984	4	-9999.99	-9999.99	0	4	0	4	40.066	4.417	0.468	4	0.984	4	-9999.99	-9999.99	0	4	3.213	40.717	0.468	0.984	-9999.99	0
Sp99D	5.998	9.667	40.805	9.750	0.751	4	1.314	4	-9999.99	-9999.99	0	4	0	4	40.022	4.417	0.751	4	1.314	4	-9999.99	-9999.99	0	4	3.213	40.657	0.751	1.314	-9999.99	0
1.27D	7.729	9.667	40.805	9.750	1.016	14.917	1.652	5.667	-9999.99	-9999.99	0	4	0.94	4.417	40.022	4.417	0.419	4.25	0.906	6.833	-9999.99	-9999.99	0	4	5.146	40.657	0.746	1.031	-9999.99	0
1.267	7.730	9.667	40.711	9.750	0.64	14.167	0.771	14.833	-9999.99	-9999.99	0	4	0.94	4.417	39.983	4.417	0.213	4.25	0.35	6.833	-9999.99	-9999.99	0	4	5.142	40.583	0.369	0.477	-9999.99	0
1.266	7.730	9.750	40.676	9.750	1.068	6.333	1.091	14.833	-9999.99	-9999.99	0	4	0.939	4.417	39.939	4.417	0.321	4.25	0.529	6.75	-9999.99	-9999.99	0	4	5.145	40.535	0.591	0.717	-9999.99	0
1.264	7.731	9.750	40.507	9.750	1.215	7.167	1.325	6.833	-9999.99	-9999.99	0	4	0.94	4.417	39.801	4.417	0.359	4.167	0.693	9	-9999.99	-9999.99	0	4	5.146	40.36	0.747	0.905	-9999.99	0
1.2631	7.730	9.750	40.473	9.750	0.977	6.833	0.995	6.583	-9999.99	-9999.99	0	4	0.94	4.417	39.789	4.417	0.217	4.25	0.5	4.417	-9999.99	-9999.99	0	4	5.143	40.328	0.566	0.695	-9999.99	0
1.261	7.733	9.750	40.417	9.667	1.015	13.333	1.562	7.667	-9999.99	-9999.99	0	4	0.94	4.417	39.761	4.417	0.249	4.417	0.56	4.417	-9999.99	-9999.99	0	4	5.147	40.263	0.579	0.837	-9999.99	0
1.26U	7.731	9.750	40.411	9.583	0.992	14.167	1.046	14.417	-9999.99	-9999.99	0	4	0.941	4.417	39.727	4.417	0.269	9.583	0.343	9.583	-9999.99	-9999.99	0	4	5.152	40.251	0.441	0.56	-9999.99	0
NStream	1.115	8.750	40.411	9.583	0	4	0	4	-9999.99	-9999.99	0	4	0.017	13.583	39.727	4.417	0	4	0	4	-9999.99	-9999.99	0	4	0.562	40.251	0	0	-9999.99	0
1.26D	8.712	9.500	40.411	9.583	1.075	6.167	1.143	6.083	-9999.99	-9999.99	0	4	1.19	4.417	39.727	4.417	0.304	9.583	0.386	10.167	-9999.99	-9999.99	0	4	5.714	40.251	0.486	0.621	-9999.99	0
1.254	8.739	9.583	40.318	9.833	0.516	4.75	0.719	4.667	-9999.99	-9999.99	0	4	1.192	4.417	39.545	4.417	0.285	13.667	0.399	13.667	-9999.99	-9999.99	0	4	5.709	40.14	0.319	0.466	-9999.99	0
1.25	8.671	9.750	40.174	10.083	0.685	6.583	0.953	5	-9999.99	-9999.99	0	4	1.204	4.5	39.2	4.5	0.255	10.25	0.382	10.417	-9999.99	-9999.99	0	4	5.7	39.909	0.41	0.592	-9999.99	0
1.24	8.675	9.583	40.105	10.167	0.473	6.667	0.817	4	-9999.99	-9999.99	0	4	1.207	4.5	38.937	4.5	0.179	10.333	0.325	10.75	-9999.99	-9999.99	0	4	5.699	39.753	0.293	0.507	-9999.99	0
1.23U	8.571	10.083	39.854	10.250	0.303	8.5	1.054	9.5	-9999.99	-9999.99	0	4	1.222	4.583	38.707	4.583	0.239	14.417	0.547	4.583	-9999.99	-9999.99	0	4	5.685	39.487	0.278	0.881	-9999.99	0
UStudley	1.045	12.250	39.854	10.250	0	4	0	4	-9999.99	-9999.99	0	4	0.024	4	38.707	4.583	0	4	0	4	-9999.9									

Output data from file D:\TEIGNCONSULT\PROJECTS\447 - SOUTHWICK COURT TROWBRIDGE\ISIS2\A-P20CC\A-P20CC-BR20M.ZZN
Selected output data from time (hr): 6 to time (hr): 12 **Model unstable outside 8.22hrs and 11.04hrs due to flood relief culverts invert level**
Using results directly from mmm file: D:\Teignconsult\Projects\447 - Southwick Court Trowbridge\ISIS2\A-P20CC\A-P20CC-BR20m.mmm

Label	Max Flow	Time (hr)m	Max Stage	Time (hr)m	Max Fr	Time (hr)m	Max Velocil	Time (hr)m	Max Mode	Time (hr)m	Max State	Time (hr)m	Min Flow	Time (hr)m	Min Stage	Time (hr)m	Min Fr	Time (hr)m	Min Velocil	Time (hr)m	Min Mode	Time (hr)m	Min State	Time (hr)m	Mean Flow	Mean Stag	Mean Fr	Mean Velo	Mean Mod	Mean State
1.34	5.824	9.501	42.027	9.503	0.598	9.503	0.992	8.399	-9999.99	-9999.99	0	6	2.827	6	41.795	6.149	0.18	6.003	0.552	6.003	-9999.99	-9999.99	0	6	4.95	41.958	0.386	0.907	-9999.99	0
1.34U	5.829	9.331	42.026	9.501	0.594	9.503	0.998	8.396	-9999.99	-9999.99	0	6	2.762	6.001	41.794	6.149	0.18	6.003	0.549	6.001	-9999.99	-9999.99	0	6	4.95	41.957	0.382	0.909	-9999.99	0
1.34B	5.748	9.929	42.026	9.501	0.325	9.121	1.065	9.311	-9999.99	-9999.99	0	6	2.762	6.001	41.794	6.149	0	9.122	0.556	6.001	-9999.99	-9999.99	0	6	4.925	41.957	0.215	0.947	-9999.99	0
1.335B	5.757	9.929	41.992	9.501	0.327	9.929	1.067	9.311	-9999.99	-9999.99	0	6	2.589	6.001	41.787	6.149	0	9.289	0.519	6.001	-9999.99	-9999.99	0	6	4.925	41.943	0.264	0.948	-9999.99	0
Sp27U	0.140	9.510	42.026	9.501	0.246	6	0.412	6	-9999.99	-9999.99	0	6	0	6	41.794	6.149	0.246	6	0.412	6	-9999.99	-9999.99	0	6	0.025	41.957	0.246	0.412	-9999.99	0
Sp27D	0.140	9.510	41.992	9.501	0	6	0	6	-9999.99	-9999.99	0	6	0	6	41.787	6.149	0	6	0	6	-9999.99	-9999.99	0	6	0.025	41.943	0	0	-9999.99	0
1.335D	5.837	9.929	41.992	9.501	0.453	9.506	1.009	9.328	-9999.99	-9999.99	0	6	2.589	6.001	41.787	6.149	0.158	6.001	0.502	6.001	-9999.99	-9999.99	0	6	4.95	41.943	0.322	0.912	-9999.99	0
1.33	6.212	6.001	41.639	9.928	0.57	6.003	0.832	6.001	-9999.99	-9999.99	0	6	3.03	6.178	41.486	6.283	0.411	6.149	0.614	6.032	-9999.99	-9999.99	0	6	4.954	41.603	0.481	0.72	-9999.99	0
1.32	5.838	9.929	41.414	9.960	0.876	6.004	0.936	6	-9999.99	-9999.99	0	6	3.095	6.197	41.23	6.539	0.202	6.146	0.407	10.185	-9999.99	-9999.99	0	6	4.952	41.361	0.532	0.564	-9999.99	0
1.319B	5.157	6.004	41.414	9.960	0	6	1.346	6.004	-9999.99	-9999.99	0	6	2.581	10.174	41.23	6.539	0	6	0.673	10.154	-9999.99	-9999.99	0	6	3.441	41.361	0	0.898	-9999.99	0
1.315B	5.157	6.004	41.395	10.071	0	6	1.346	6.004	-9999.99	-9999.99	0	6	2.581	10.174	41.197	6.586	0	6	0.673	10.154	-9999.99	-9999.99	0	6	3.441	41.326	0	0.898	-9999.99	0
Sp25U	3.230	9.929	41.414	9.960	0.094	6	0.204	6	-9999.99	-9999.99	0	6	0	6.151	41.23	6.539	0.094	6	0.204	6	-9999.99	-9999.99	0	6	1.511	41.361	0.094	0.204	-9999.99	0
Sp25D	3.230	9.929	41.395	10.071	0.107	6	0.224	6	-9999.99	-9999.99	0	6	0	6.151	41.197	6.586	0.107	6	0.224	6	-9999.99	-9999.99	0	6	1.511	41.326	0.107	0.224	-9999.99	0
1.315	5.838	9.929	41.395	10.071	0.745	9.125	0.872	6.003	-9999.99	-9999.99	0	6	3.095	6.197	41.197	6.586	0.26	6.176	0.495	10.183	-9999.99	-9999.99	0	6	4.952	41.326	0.555	0.628	-9999.99	0
1.31	5.903	6.018	41.376	10.125	0.092	6.018	0.146	6.018	-9999.99	-9999.99	0	6	1.292	6.003	41.191	6.614	0.022	6.003	0.033	6.003	-9999.99	-9999.99	0	6	4.934	41.315	0.063	0.107	-9999.99	0
1.29	5.815	9.957	41.102	9.935	0.477	9.963	0.917	9.963	-9999.99	-9999.99	0	6	3.461	6.631	40.982	6.628	0.39	6	0.718	6.006	-9999.99	-9999.99	0	6	4.921	41.063	0.453	0.846	-9999.99	0
1.28U	6.242	6.000	40.924	9.642	0.108	6	0.174	6	-9999.99	-9999.99	0	6	3.449	6.744	40.839	6.66	0.065	6.022	0.103	6.022	-9999.99	-9999.99	0	6	4.926	40.894	0.087	0.139	-9999.99	0
NBrad	2.238	8.253	40.924	9.642	0	6	0	6	-9999.99	-9999.99	0	6	1.049	12	40.839	6.66	0	6	0	6	-9999.99	-9999.99	0	6	1.835	40.894	0	0	-9999.99	0
1.28D	7.759	9.622	40.924	9.642	0.133	6	0.214	6	-9999.99	-9999.99	0	6	4.997	6.022	40.839	6.66	0.091	6.022	0.144	6.022	-9999.99	-9999.99	0	6	6.761	40.894	0.12	0.192	-9999.99	0
INT1	7.759	9.621	40.919	9.656	0.144	6.01	0.242	9.621	-9999.99	-9999.99	0	6	5.203	6.625	40.835	6.668	0.113	6.022	0.187	6.024	-9999.99	-9999.99	0	6	6.764	40.889	0.137	0.227	-9999.99	0
INT2	7.757	9.624	40.909	9.650	0.206	6.01	0.331	9.624	-9999.99	-9999.99	0	6	5.203	6.647	40.826	6.667	0.182	6.022	0.285	6.567	-9999.99	-9999.99	0	6	6.766	40.88	0.197	0.314	-9999.99	0
INT3	7.757	9.653	40.897	9.663	0.282	6.007	0.429	9.643	-9999.99	-9999.99	0	6	5.196	6.646	40.816	6.679	0.266	6.021	0.385	6.646	-9999.99	-9999.99	0	6	6.767	40.869	0.276	0.413	-9999.99	0
1.27U	7.757	9.661	40.840	9.643	0.688	6.028	0.832	6.003	-9999.99	-9999.99	0	6	5.203	6.665	40.761	6.657	0.645	6.665	0.781	6.564	-9999.99	-9999.99	0	6	6.768	40.811	0.658	0.804	-9999.99	0
S99BU	2.495	6.000	40.840	9.643	0	6	1.318	6	-9999.99	-9999.99	0	6	2.165	6.026	40.761	6.657	0	6	1.143	6.028	-9999.99	-9999.99	0	6	2.324	40.811	0	1.227	-9999.99	0
S99BD	2.495	6.000	40.761	9.704	0	6	1.318	6	-9999.99	-9999.99	0	6	2.165	6.026	40.665	6.722	0	6	1.143	6.028	-9999.99	-9999.99	0	6	2.324	40.727	0	1.227	-9999.99	0
Sp99U	5.500	9.682	40.840	9.643	0.468	6	0.984	6	-9999.99	-9999.99	0	6	2.79	6.685	40.761	6.657	0.468	6	0.984	6	-9999.99	-9999.99	0	6	4.444	40.811	0.468	0.984	-9999.99	0
Sp99D	5.500	9.682	40.761	9.704	0.751	6	1.314	6	-9999.99	-9999.99	0	6	2.79	6.685	40.665	6.722	0.751	6	1.314	6	-9999.99	-9999.99	0	6	4.444	40.727	0.751	1.314	-9999.99	0
1.27D	7.757	9.661	40.761	9.704	1.013	6	1.245	6	-9999.99	-9999.99	0	6	5.203	6.665	40.665	6.722	0.886	6.325	1.097	6.029	-9999.99	-9999.99	0	6	6.768	40.727	0.935	1.149	-9999.99	0
1.267	7.756	9.706	40.585	9.694	1.064	6.854	0.909	6.854	-9999.99	-9999.99	0	6	5.149	6.722	40.527	6.644	0.85	10.465	0.753	6.038	-9999.99	-9999.99	0	6	6.769	40.568	0.899	0.794	-9999.99	0
1.266	7.757	9.700	40.554	10.343	0.722	7.115	0.607	6.739	-9999.99	-9999.99	0	6	5.083	6.686	40.49	6.739	0.487	6.003	0.474	6	-9999.99	-9999.99	0	6	6.769	40.535	0.549	0.534	-9999.99	0
1.264	7.758	9.732	40.431	9.596	1.125	6.686	0.93	6.686	-9999.99	-9999.99	0	6	5.088	6.739	40.341	6.724	0.66	9.556	0.57	6.011	-9999.99	-9999.99	0	6	6.775	40.396	0.833	0.707	-9999.99	0
1.2631	7.760	9.739	40.385	9.593	1.616	11.924	1.331	7.224	-9999.99	-9999.99	0	6	5.091	6.658	40.291	6.753	0.642	6.754	0.653	6.007	-9999.99	-9999.99	0	6	6.777	40.347	1.074	0.949	-9999.99	0
CBrin	8.056	9.739	40.385	9.593	0.258	6	0.336	6	-9999.99	-9999.99	0	6	4.838	6.664	40.291	6.753	0.258	6	0.336	6	-9999.99	-9999.99	0	6	6.948	40.347	0.258	0.336	-9999.99	0
CvLin	0.369	6.704	40.385	9.593	55509128	11.253	0.336	6	-9999.99	-9999.99	0	6	-0.492	7.228	40.291	6.753	0	11.503	0.336	6	-9999.99	-9999.99	0	6	-0.099	40.347	47131.37	0.336	-9999.99	0
CvLup	0.369	6.704	40.408	9.600	0.185	6.743	0.306	6.475	-9999.99	-9999.99	0	6	-0.492	7.228	40.275	6.703	-0.595	6.618	-0.917	6.618	-9999.99	-9999.99	0	6	-0.099	40.377	-0.057	-0.096	-9999.99	0
CvRin	0.303	6.664	40.385	9.593	33161110	6.361	0.336	6	-9999.99	-9999.99	0	6	-0.441	6.817	40.291	6.753	0	11.064	0.336	6	-9999.99	-9999.99	0	6	-0.072	40.347	32231.35	0.336	-9999.99	0
CvRup	0.303	6.664	40.408	9.600	0.243	6.832	0.378	6.832	-9999.99	-9999.99	0	6	-0.441	6.817	40.279	6.85	-0.388	6.817	-0.611	6.817	-9999.99	-9999.99	0	6	-0.072	40.375	-0.055	-0.088	-9999.99	0
CBROUT	8.056	9.739	40.397	9.601	0.258	6	0.336	6	-9999.99	-9999.99	0	6	4.838	6.664	40.314	6.657	0.258	6	0.336	6	-9999.99	-9999.99	0	6	6.948	40.363	0.258	0.336	-9999.99	0
CvLdn	0.301	6.701	40.412	9.600	0.234	6.7	0.382	6.7	-9999.99	-9999.99	1	6	-0.641	7.29	40.316	6.657	-0.413	7.289	-0.692	7.289	-9999.99	-9999.99	1	6	-0.098	40.379	-0.059	-0.099	-9999.99	1
CvLout	0.301	6.701	40.397	9.601	0.595	6	0.556	6	-9999.99	-9999.99	0	6	-0.641	7.29	40.314	6.657	0.595	6	0.556	6	-9999.99	-9999.99	0	6	-0.098	40.363	0.595	0.556	-9999.99	0
CvRdn	0.334	6.846	40.411	9.600	0.266	6.844	0.42	6.844	-																					

Output data from file D:\TEIGNCONSULT\PROJECTS\447 - SOUTHWICK COURT TROWBRIDGE\ISIS2\A-P20CC\A-P20CC-BR20M-R.ZZN
Selected output data from time (hr): 6 to time (hr): 12 **Model unstable outside 7.54hrs and 12.00hrs due to flood relief culverts invert level**
Using results directly from mmm file: D:\Teignconsult\Projects\447 - Southwick Court Trowbridge\ISIS2\A-P20CCA-P20CC-BR20m-R.mmm

Label	Max Flow	Time (hr)ṡ	Max Stage	Time (hr)ṡ	Max Fr	Time (hr)ṡ	Max Velocity	Time (hr)ṡ	Max Mode	Time (hr)ṡ	Max State	Time (hr)ṡ	Min Flow	Time (hr)ṡ	Min Stage	Time (hr)ṡ	Min Fr	Time (hr)ṡ	Min Velocity	Time (hr)ṡ	Min Mode	Time (hr)ṡ	Min State	Time (hr)ṡ	Mean Flow	Mean Stag	Mean Fr	Mean Velo	Mean Mod	Mean State
1.34	5.824	9.501	42.058	9.536	0.759	9.536	0.898	8.243	-9999.99	-9999.99	0	6	2.825	6	41.828	6.146	0.172	6.001	0.516	6	-9999.99	-9999.99	0	6	4.95	41.996	0.485	0.824	-9999.99	0
1.34U	5.824	9.528	42.055	9.526	0.743	9.526	0.902	8.243	-9999.99	-9999.99	0	6	2.434	6	41.827	6.146	0.148	6	0.461	6	-9999.99	-9999.99	0	6	4.95	41.993	0.475	0.832	-9999.99	0
1.34B	5.398	9.743	42.055	9.526	0.295	8.243	0.999	9.743	-9999.99	-9999.99	0	6	2.434	6	41.827	6.146	0	8.244	0.468	6	-9999.99	-9999.99	0	6	4.804	41.993	0.121	0.909	-9999.99	0
1.335B	5.398	9.743	42.025	9.525	0.295	8.243	0.999	9.743	-9999.99	-9999.99	0	6	1.569	6	41.822	6.146	0	8.246	0.316	6	-9999.99	-9999.99	0	6	4.804	41.974	0.132	0.909	-9999.99	0
Sp27U	0.427	9.539	42.055	9.526	0.246	6	0.412	6	-9999.99	-9999.99	0	6	0	6	41.827	6.146	0.246	6	0.412	6	-9999.99	-9999.99	0	6	0.146	41.993	0.246	0.412	-9999.99	0
Sp27D	0.427	9.539	42.025	9.525	0	6	0	6	-9999.99	-9999.99	0	6	0	6	41.822	6.146	0	6	0	6	-9999.99	-9999.99	0	6	0.146	41.974	0	0	-9999.99	0
1.335D	5.824	9.528	42.025	9.525	0.554	9.527	0.926	9.743	-9999.99	-9999.99	0	6	1.569	6	41.822	6.146	0.097	6	0.305	6	-9999.99	-9999.99	0	6	4.95	41.974	0.385	0.859	-9999.99	0
1.33	5.827	9.764	41.657	9.762	0.472	6	0.684	6	-9999.99	-9999.99	0	6	2.685	6.001	41.514	6.247	0.299	6.001	0.435	6.001	-9999.99	-9999.99	0	6	4.946	41.623	0.435	0.659	-9999.99	0
1.32	6.782	6.001	41.432	10.111	1.064	6.001	0.884	6.002	-9999.99	-9999.99	0	6	3.075	6.187	41.259	6.504	0.197	6.138	0.335	10.344	-9999.99	-9999.99	0	6	4.941	41.383	0.463	0.48	-9999.99	0
1.319B	5.72	6.001	41.432	10.111	0	6	1.49	6.001	-9999.99	-9999.99	0	6	1.529	10.292	41.259	6.504	0	6	0.399	10.293	-9999.99	-9999.99	0	6	2.658	41.383	0	0.693	-9999.99	0
1.315B	5.72	6.001	41.425	10.167	0	6	1.49	6.001	-9999.99	-9999.99	0	6	1.529	10.292	41.228	6.554	0	6	0.399	10.293	-9999.99	-9999.99	0	6	2.658	41.36	0	0.693	-9999.99	0
Sp25U	4.255	10.068	41.432	10.111	0.094	6	0.204	6	-9999.99	-9999.99	0	6	0	6.103	41.259	6.504	0.094	6	0.204	6	-9999.99	-9999.99	0	6	2.284	41.383	0.094	0.204	-9999.99	0
Sp25D	4.255	10.068	41.425	10.167	0.107	6	0.224	6	-9999.99	-9999.99	0	6	0	6.103	41.228	6.554	0.107	6	0.224	6	-9999.99	-9999.99	0	6	2.284	41.36	0.107	0.224	-9999.99	0
1.315	6.782	6.001	41.425	10.167	0.691	8.552	1.09	6.001	-9999.99	-9999.99	0	6	3.075	6.187	41.228	6.554	0.254	6.173	0.357	10.291	-9999.99	-9999.99	0	6	4.941	41.36	0.485	0.507	-9999.99	0
1.31	6.5	6.013	41.403	10.205	0.103	6.013	0.162	6.013	-9999.99	-9999.99	0	6	-0.768	6.001	41.216	6.553	-0.013	6.001	-0.02	6.001	-9999.99	-9999.99	0	6	4.916	41.341	0.056	0.099	-9999.99	0
1.29	5.782	10.153	41.127	9.943	0.44	10.479	0.862	10.298	-9999.99	-9999.99	0	6	2.95	6.002	41.003	6.583	0.3	6.002	0.549	6.002	-9999.99	-9999.99	0	6	4.893	41.086	0.417	0.794	-9999.99	0
1.28U	6.017	6.003	40.934	9.691	0.101	6.003	0.164	6.003	-9999.99	-9999.99	0	6	2.654	6.018	40.846	6.624	0.049	6.018	0.078	6.018	-9999.99	-9999.99	0	6	4.891	40.905	0.083	0.134	-9999.99	0
NBrad	2.238	8.251	40.934	9.691	0	6	0	6	-9999.99	-9999.99	0	6	1.049	12	40.846	6.624	0	6	0	6	-9999.99	-9999.99	0	6	1.835	40.905	0	0	-9999.99	0
1.28D	7.733	9.69	40.934	9.691	0.125	6.004	0.203	6.003	-9999.99	-9999.99	0	6	4.085	6.018	40.846	6.624	0.076	6.018	0.119	6.018	-9999.99	-9999.99	0	6	6.726	40.905	0.115	0.185	-9999.99	0
INT1	7.732	9.692	40.928	9.693	0.145	6.006	0.242	6.006	-9999.99	-9999.99	0	6	4.561	6.019	40.841	6.619	0.096	6.018	0.157	6.018	-9999.99	-9999.99	0	6	6.728	40.898	0.132	0.221	-9999.99	0
INT2	7.731	9.747	40.917	9.751	0.211	6.008	0.337	6.008	-9999.99	-9999.99	0	6	5.063	6.623	40.832	6.617	0.162	6.018	0.254	6.018	-9999.99	-9999.99	0	6	6.729	40.886	0.189	0.304	-9999.99	0
INT3	7.73	9.746	40.905	9.748	0.282	6.007	0.424	6.008	-9999.99	-9999.99	0	6	5.072	6.619	40.821	6.606	0.244	6.018	0.363	6.018	-9999.99	-9999.99	0	6	6.73	40.877	0.264	0.399	-9999.99	0
1.27U	7.729	9.751	40.845	9.749	0.669	6.002	0.81	6.002	-9999.99	-9999.99	0	6	5.092	6.619	40.764	6.614	0.624	6.606	0.754	6.606	-9999.99	-9999.99	0	6	6.73	40.817	0.637	0.782	-9999.99	0
S99BU	2.283	6.001	40.845	9.749	0	6	1.207	6.001	-9999.99	-9999.99	0	6	2.004	9.782	40.764	6.614	0	6	1.059	9.776	-9999.99	-9999.99	0	6	2.115	40.817	0	1.117	-9999.99	0
S99BD	2.283	6.001	40.783	9.775	0	6	1.207	6.001	-9999.99	-9999.99	0	6	2.004	9.782	40.681	6.621	0	6	1.059	9.776	-9999.99	-9999.99	0	6	2.115	40.747	0	1.117	-9999.99	0
Sp99U	5.723	9.749	40.845	9.749	0.468	6	0.984	6	-9999.99	-9999.99	0	6	2.873	6.614	40.764	6.614	0.468	6	0.984	6	-9999.99	-9999.99	0	6	4.616	40.817	0.468	0.984	-9999.99	0
Sp99D	5.723	9.749	40.783	9.775	0.751	6	1.314	6	-9999.99	-9999.99	0	6	2.873	6.614	40.681	6.621	0.751	6	1.314	6	-9999.99	-9999.99	0	6	4.616	40.747	0.751	1.314	-9999.99	0
1.27D	7.729	9.751	40.783	9.775	0.914	6	1.121	6	-9999.99	-9999.99	0	6	5.092	6.619	40.681	6.621	0.771	6.944	0.953	6.944	-9999.99	-9999.99	0	6	6.73	40.747	0.87	1.062	-9999.99	0
1.267	7.736	9.776	40.594	9.783	1.055	6.944	0.898	6.944	-9999.99	-9999.99	0	6	5.072	6.619	40.53	6.944	0.776	7.251	0.675	7.251	-9999.99	-9999.99	0	6	6.731	40.576	0.819	0.733	-9999.99	0
1.266	7.754	9.783	40.567	9.782	0.649	6.939	0.561	6.939	-9999.99	-9999.99	0	6	4.671	6.944	40.506	6.656	0.386	6.944	0.369	6.944	-9999.99	-9999.99	0	6	6.731	40.55	0.477	0.477	-9999.99	0
1.264	7.75	9.782	40.461	9.783	1.114	6.944	0.929	6.944	-9999.99	-9999.99	0	6	4.794	6.656	40.35	6.944	0.464	9.783	0.48	9.783	-9999.99	-9999.99	0	6	6.733	40.427	0.608	0.554	-9999.99	0
1.2631	7.756	9.783	40.416	9.782	1.527	6.942	1.258	6.942	-9999.99	-9999.99	0	6	4.722	6.937	40.304	6.746	0.639	9.539	0.587	6.002	-9999.99	-9999.99	0	6	6.734	40.375	0.84	0.736	-9999.99	0
CBrin	8.099	9.783	40.416	9.782	0.258	6	0.336	6	-9999.99	-9999.99	0	6	4.829	6.943	40.304	6.746	0.258	6	0.336	6	-9999.99	-9999.99	0	6	6.975	40.375	0.258	0.336	-9999.99	0
CvLin	0.559	6.837	40.416	9.782	22171458	7.409	0.336	6	-9999.99	-9999.99	0	6	-0.649	6.838	40.304	6.746	0	6.521	0.336	6	-9999.99	-9999.99	0	6	-0.145	40.375	13545.6	0.336	-9999.99	0
CvLup	0.559	6.837	40.431	9.782	0.44	6.406	0.731	6.406	-9999.99	-9999.99	0	6	-0.649	6.838	40.308	6.627	-0.44	6.838	-0.729	6.838	-9999.99	-9999.99	0	6	-0.145	40.397	-0.076	-0.129	-9999.99	0
CvRin	0.587	6.826	40.416	9.782	34421356	6.669	0.336	6	-9999.99	-9999.99	0	6	-0.627	7.008	40.304	6.746	0	6.971	0.336	6	-9999.99	-9999.99	0	6	-0.096	40.375	11606.19	0.336	-9999.99	0
CvRup	0.587	6.826	40.431	9.782	0.503	7.072	0.792	7.072	-9999.99	-9999.99	0	6	-0.627	7.008	40.304	6.746	-0.548	7.008	-0.859	7.008	-9999.99	-9999.99	0	6	-0.096	40.397	-0.068	-0.11	-9999.99	0
CBrout	8.099	9.783	40.424	9.782	0.258	6	0.336	6	-9999.99	-9999.99	0	6	4.829	6.943	40.319	6.943	0.258	6	0.336	6	-9999.99	-9999.99	0	6	6.975	40.388	0.258	0.336	-9999.99	0
CvLdn	0.459	6.838	40.436	9.782	0.321	6.838	0.53	6.838	-9999.99	-9999.99	1	6	-0.813	6.837	40.313	7.081	-0.609	6.406	-1.023	6.406	-9999.99	-9999.99	1	6	-0.144	40.4	-0.085	-0.145	-9999.99	1
CvLout	0.459	6.838	40.424	9.782	0.595	6	0.556	6	-9999.99	-9999.99	0	6	-0.813	6.837	40.319	6.943	0.595	6	0.556	6	-9999.99	-9999.99	0	6	-0.144	40.388	0.595	0.556	-9999.99	0
CvRdn	0.431	6.826	40.435	9.782	0.351	6.406	0.555</																							

Appendix M5

Model outputs 100CC – Existing & Proposed outputs

Output data from file D:\TEIGNCONSULT\PROJECTS\447 - SOUTHWICK COURT TROWBRIDGE\ISIS2\A-X100CC\A-X100CC.ZZN
Selected output data from time (hr): 4 to time (hr): 15
Using results directly from mmm file: D:\Teignconsult\Projects\447 - Southwick Court Trowbridge\ISIS2\A-X100CC\A-X100CC.mmm

Label	Max Flow	Time (hr)mx1	Max Stage	Time (hr)mx2	Max Fr	Time (hr)mx	Max Velocity	Time (hr)mx	Max Mode	Time (hr)mx	Max State	Time (hr)mx	Min Flow	Time (hr)mn	Min Stage	Time (hr)mn	Min Fr	Time (hr)mn	Min Velocity	Time (hr)mn	Min Mode	Time (hr)mn	Min State	Time (hr)mn	Mean Flow	Mean Stage	Mean Fr	Mean Velocity	Mean Mode	Mean State
1.34	8.604	9.500	42.142	9.500	0.938	12	1.005	6.917	-9999.99	-9999.99	0	4	1.307	4	41.587	4.167	0.123	4	0.333	4	-9999.99	-9999.99	0	4	5.765	41.992	0.499	0.749	-9999.99	0
1.34U	8.604	9.500	42.140	9.500	0.932	12	1.011	6.917	-9999.99	-9999.99	0	4	1.386	4.083	41.586	4.167	0.152	4	0.406	4.083	-9999.99	-9999.99	0	4	5.768	41.99	0.502	0.757	-9999.99	0
1.34B	6.195	12.083	42.140	9.500	0.328	6.917	1.147	12.083	-9999.99	-9999.99	0	4	1.386	4.083	41.586	4.167	0	7	0.413	4.083	-9999.99	-9999.99	0	4	4.664	41.99	0.115	0.901	-9999.99	0
1.335B	6.195	12.083	42.114	9.500	0.332	12.75	1.147	12.083	-9999.99	-9999.99	0	4	1.387	4.083	41.583	4.167	0	7.083	0.409	4.083	-9999.99	-9999.99	0	4	4.67	41.97	0.125	0.901	-9999.99	0
Sp27U	3.607	9.500	42.140	9.500	0.246	4	0.412	4	-9999.99	-9999.99	0	4	0	4	41.586	4.167	0.246	4	0.412	4	-9999.99	-9999.99	0	4	1.103	41.99	0.246	0.412	-9999.99	0
Sp27D	3.607	9.500	42.114	9.500	0	4	0	4	-9999.99	-9999.99	0	4	0	4	41.583	4.167	0	4	0	4	-9999.99	-9999.99	0	4	1.103	41.97	0	0	-9999.99	0
1.335D	8.604	9.500	42.114	9.500	0.946	11.583	1.084	12	-9999.99	-9999.99	0	4	1.387	4.083	41.583	4.167	0.148	4.083	0.39	4.083	-9999.99	-9999.99	0	4	5.773	41.97	0.512	0.825	-9999.99	0
1.33	8.603	9.750	41.720	9.917	0.503	6.167	0.804	9	-9999.99	-9999.99	0	4	1.457	4.167	41.262	4.25	0.395	4.083	0.642	4.083	-9999.99	-9999.99	0	4	5.769	41.604	0.473	0.75	-9999.99	0
1.32	8.546	9.833	41.543	10.167	0.846	6.833	0.881	6.333	-9999.99	-9999.99	0	4	1.503	4.167	41.022	4.417	0.141	4.167	0.222	10.417	-9999.99	-9999.99	0	4	5.767	41.38	0.362	0.437	-9999.99	0
1.319B	4.736	6.500	41.543	10.167	0.245	5.083	1.235	6.5	-9999.99	-9999.99	0	4	0.808	10.333	41.022	4.417	0	4	0.214	10.333	-9999.99	-9999.99	0	4	2.134	41.38	0.019	0.559	-9999.99	0
1.315B	4.736	6.500	41.541	10.167	0.243	5.083	1.235	6.5	-9999.99	-9999.99	0	4	0.808	10.333	41.019	4.417	0	4	0.214	10.333	-9999.99	-9999.99	0	4	2.134	41.363	0.019	0.559	-9999.99	0
Sp25U	7.698	9.917	41.543	10.167	0.094	4	0.204	4	-9999.99	-9999.99	0	4	0	4	41.022	4.417	0.094	4	0.204	4	-9999.99	-9999.99	0	4	3.634	41.38	0.094	0.204	-9999.99	0
Sp25D	7.698	9.917	41.541	10.167	0.107	4	0.224	4	-9999.99	-9999.99	0	4	0	4	41.019	4.417	0.107	4	0.224	4	-9999.99	-9999.99	0	4	3.634	41.363	0.107	0.224	-9999.99	0
1.315	8.545	9.833	41.541	10.167	0.777	7.25	0.818	6.75	-9999.99	-9999.99	0	4	1.504	4.167	41.019	4.417	0.163	4.167	0.217	10.417	-9999.99	-9999.99	0	4	5.767	41.363	0.363	0.446	-9999.99	0
1.31	8.502	10.000	41.530	10.250	0.17	5	0.186	5	-9999.99	-9999.99	0	4	1.635	4.333	41.011	4.417	0.049	11	0.096	14.083	-9999.99	-9999.99	0	4	5.764	41.351	0.07	0.116	-9999.99	0
1.29	8.500	10.167	41.202	10.000	0.529	10.583	1.082	10.417	-9999.99	-9999.99	0	4	1.708	4.417	40.793	4.5	0.419	6.167	0.656	4	-9999.99	-9999.99	0	4	5.738	41.076	0.485	0.91	-9999.99	0
1.28U	8.510	10.250	41.006	9.750	0.127	5	0.183	10.75	-9999.99	-9999.99	0	4	1.419	4.5	40.629	4.5	0.069	4.5	0.106	5.583	-9999.99	-9999.99	0	4	5.728	40.898	0.096	0.155	-9999.99	0
NBrad	3.267	8.333	41.006	9.750	0	4	0	4	-9999.99	-9999.99	0	4	0.215	15	40.629	4.5	0	4	0	4	-9999.99	-9999.99	0	4	1.888	40.898	0	0	-9999.99	0
1.28D	11.301	9.750	41.006	9.750	0.191	5	0.24	9.75	-9999.99	-9999.99	0	4	2.361	4.5	40.629	4.5	0.115	4.5	0.167	15	-9999.99	-9999.99	0	4	7.616	40.898	0.128	0.208	-9999.99	0
INT1	11.301	9.750	40.999	9.750	0.199	4.5	0.288	9.75	-9999.99	-9999.99	0	4	2.642	4.583	40.624	4.5	0.126	15	0.185	15	-9999.99	-9999.99	0	4	7.622	40.892	0.147	0.244	-9999.99	0
INT2	11.303	9.833	40.986	9.750	0.252	4.417	0.389	9.75	-9999.99	-9999.99	0	4	2.549	4.5	40.614	4.5	0.177	14.917	0.264	14.917	-9999.99	-9999.99	0	4	7.61	40.882	0.203	0.332	-9999.99	0
INT3	11.305	9.833	40.971	9.750	0.364	4.417	0.516	4.417	-9999.99	-9999.99	0	4	2.492	4.5	40.599	4.5	0.257	14.917	0.363	4.917	-9999.99	-9999.99	0	4	7.612	40.87	0.282	0.436	-9999.99	0
1.27U	11.306	9.833	40.917	9.750	1.061	4.417	1.555	4.917	-9999.99	-9999.99	0	4	2.52	4.5	40.459	4.5	0.507	4.5	0.71	5.583	-9999.99	-9999.99	0	4	7.611	40.812	0.626	0.847	-9999.99	0
S99BU	3.254	5.500	40.917	9.750	0	4	1.718	5.5	-9999.99	-9999.99	0	4	1.851	11.5	40.459	4.5	0	4	0.985	12.583	-9999.99	-9999.99	0	4	2.118	40.812	0	1.119	-9999.99	0
S99BD	3.254	5.500	40.859	9.750	0.559	4.917	1.718	5.5	-9999.99	-9999.99	0	4	1.851	11.5	40.378	4.5	0	4	0.985	12.583	-9999.99	-9999.99	0	4	2.118	40.741	0.025	1.121	-9999.99	0
Sp99U	9.377	9.750	40.917	9.750	0.468	4	0.984	4	-9999.99	-9999.99	0	4	0	4.5	40.459	4.5	0.468	4	0.984	4	-9999.99	-9999.99	0	4	5.493	40.812	0.468	0.984	-9999.99	0
Sp99D	9.377	9.750	40.859	9.750	0.751	4	1.314	4	-9999.99	-9999.99	0	4	0	4.5	40.378	4.5	0.751	4	1.314	4	-9999.99	-9999.99	0	4	5.493	40.741	0.751	1.314	-9999.99	0
1.27D	11.306	9.833	40.859	9.750	0.913	7	2.197	5.5	-9999.99	-9999.99	0	4	2.521	4.5	40.378	4.5	0.557	4.5	1.008	13.5	-9999.99	-9999.99	0	4	7.611	40.741	0.806	1.149	-9999.99	0
1.267	11.313	9.833	40.755	9.833	0.7	5.25	0.863	5	-9999.99	-9999.99	0	4	2.545	4.5	40.362	4.583	0.263	7	0.322	7	-9999.99	-9999.99	0	4	7.588	40.659	0.405	0.527	-9999.99	0
1.266	11.312	9.833	40.714	9.833	1.163	5.833	1.28	5	-9999.99	-9999.99	0	4	2.559	4.5	40.289	4.583	0.462	4.5	0.549	7	-9999.99	-9999.99	0	4	7.6	40.611	0.636	0.758	-9999.99	0
1.264	11.303	9.833	40.590	10.000	1.459	6.5	1.464	6.167	-9999.99	-9999.99	0	4	2.552	4.5	40.118	4.583	0.449	4.5	0.598	10.167	-9999.99	-9999.99	0	4	7.605	40.448	0.754	0.912	-9999.99	0
1.2631	11.299	9.833	40.573	10.000	1.245	6.333	1.255	6.25	-9999.99	-9999.99	0	4	2.55	4.5	40.11	4.583	0.311	4.5	0.48	10.167	-9999.99	-9999.99	0	4	7.599	40.419	0.592	0.724	-9999.99	0
1.261	11.291	9.833	40.552	10.000	1.145	14.167	1.931	6.917	-9999.99	-9999.99	0	4	2.582	4.583	40.061	4.583	0.304	10.083	0.424	10.167	-9999.99	-9999.99	0	4	7.6	40.367	0.547	0.805	-9999.99	0
1.26U	11.287	9.833	40.549	10.000	1.157	15	1.166	4	-9999.99	-9999.99	0	4	2.582	4.583	40.016	4.583	0.176	10.167	0.294	10.25	-9999.99	-9999.99	0	4	7.599	40.364	0.404	0.51	-9999.99	0
NStream	1.644	8.750	40.549	10.000	0	4	0	4	-9999.99	-9999.99	0	4	0.003	13.583	40.016	4.583	0	4	0	4	-9999.99	-9999.99	0	4	0.82	40.364	0	0	-9999.99	0
1.26D	12.694	9.583	40.549	10.000	1.165	5.583	1.313	5	-9999.99	-9999.99	0	4	2.998	4.583	40.016	4.583	0.196	10.333	0.326	10.583	-9999.99	-9999.99	0	4	8.419	40.364	0.442	0.565	-9999.99	0
1.254	12.660	9.667	40.496	10.083	0.41	4	0.55	4	-9999.99	-9999.99	0	4	3.02	4.583	39.905	4.667	0.244	10.667	0.44	14.833	-9999.99	-9999.99	0	4	8.421	40.278	0.312	0.481	-9999.99	0
1.25	12.596	9.750	40.421	10.167	0.76	5.917	1.007	4	-9999.99	-9999.99	0	4	3.065	4.667	39.564	4.75	0.162	10.5	0.316	10.833	-9999.99	-9999.99	0	4	8.412	40.104	0.352	0.529	-9999.99	0
1.24	12.538	9.917	40.387	10.250	0.524	6	0.886	4	-9999.99	-9999.99	0	4	3.094	4.667	39.331	4.75	0.139	10.833	0.295	11.833	-9999.99	-9999.99	0	4	8.408	39.999	0.254	0.459	-9999.99	0
1.23U	12.475	10.083	40.222	10.333	0.5	8.583	1.177	7.833	-9999.99	-9999.99	0	4	2.962	4	39.037	4	0.244	14.583	0.79	15	-9999.99	-9999.99	0	4	8.384	39.769	0.363	0.948	-9999.99	0
UStudley	1.496	12.333	40.222	10.333	0	4	0	4	-9999.99	-9999.99	0	4	0.017	4.083	39.037	4	0	4	0	4	-9999.99	-99								

Output data from file D:\TEIGNCONSULT\PROJECTS\447 - SOUTHWICK COURT TROWBRIDGE\ISIS2\A-X100CC\A-X100CC-R.ZZN
Selected output data from time (hr): 4 to time (hr): 15
Using results directly from mmm file: D:\Teignconsult\Projects\447 - Southwick Court Trowbridge\ISIS2\A-X100CC\A-X100CC-R.mmm

Label	Max Flow	Time (hr)mx1	Max Stage	Time (hr)mx2	Max Fr	Time (hr)rr	Max Veloc	Time (hr)rr	Max Mode	Time (hr)rr	Max State	Time (hr)rr	Min Flow	Time (hr)rr	Min Stage	Time (hr)rr	Min Fr	Time (hr)rr	Min Veloci	Time (hr)rr	Min Mode	Time (hr)rr	Min State	Time (hr)rr	Mean Flow	Mean Stag	Mean Fr	Mean Velo	Mean Mod	Mean State
1.34	8.604	9.500	42.163	9.500	0.848	12.5	0.902	13.417	-9999.99	-9999.99	0	4	1.307	4	41.615	4.167	0.123	4	0.333	4	-9999.99	-9999.99	0	4	5.765	42.018	0.477	0.677	-9999.99	0
1.34U	8.604	9.500	42.160	9.500	0.866	12.417	0.907	13.417	-9999.99	-9999.99	0	4	1.386	4.083	41.614	4.167	0.151	4.083	0.39	4.083	-9999.99	-9999.99	0	4	5.768	42.016	0.481	0.684	-9999.99	0
1.34B	5.579	12.583	42.160	9.500	0.293	6.583	1.033	12.583	-9999.99	-9999.99	0	4	1.386	4.083	41.614	4.167	0	6.667	0.397	4.083	-9999.99	-9999.99	0	4	4.174	42.016	0.091	0.8	-9999.99	0
1.335B	5.579	12.583	42.145	9.500	0.297	6.667	1.033	12.583	-9999.99	-9999.99	0	4	1.388	4.083	41.611	4.167	0	6.75	0.393	4.083	-9999.99	-9999.99	0	4	4.179	42	0.096	0.8	-9999.99	0
Sp27U	4.777	9.583	42.160	9.500	0.246	4	0.412	4	-9999.99	-9999.99	0	4	0	4	41.614	4.167	0.246	4	0.412	4	-9999.99	-9999.99	0	4	1.594	42.016	0.246	0.412	-9999.99	0
Sp27D	4.777	9.583	42.145	9.500	0	4	0	4	-9999.99	-9999.99	0	4	0	4	41.611	4.167	0	4	0	4	-9999.99	-9999.99	0	4	1.594	42	0	0	-9999.99	0
1.335D	8.604	9.500	42.145	9.500	0.863	12.167	0.974	12.5	-9999.99	-9999.99	0	4	1.388	4.083	41.611	4.167	0.14	4.083	0.376	4.083	-9999.99	-9999.99	0	4	5.773	42	0.482	0.731	-9999.99	0
1.33	8.597	9.750	41.749	10.000	0.459	5.917	0.757	4	-9999.99	-9999.99	0	4	1.449	4.167	41.284	4.167	0.362	4.083	0.597	4.083	-9999.99	-9999.99	0	4	5.767	41.629	0.424	0.683	-9999.99	0
1.32	8.533	9.917	41.575	10.333	0.794	6.667	0.821	6.167	-9999.99	-9999.99	0	4	1.485	4.167	41.034	4.417	0.137	4.167	0.183	10.583	-9999.99	-9999.99	0	4	5.766	41.406	0.316	0.378	-9999.99	0
1.319B	4.423	6.333	41.575	10.333	0.221	4.917	1.153	6.333	-9999.99	-9999.99	0	4	0.675	10.167	41.034	4.417	0	4	0.174	10.167	-9999.99	-9999.99	0	4	1.809	41.406	0.015	0.474	-9999.99	0
1.315B	4.423	6.333	41.574	10.333	0.218	4.917	1.153	6.333	-9999.99	-9999.99	0	4	0.674	10.167	41.031	4.417	0	4	0.175	10.417	-9999.99	-9999.99	0	4	1.81	41.394	0.014	0.474	-9999.99	0
Sp25U	7.837	10.167	41.575	10.333	0.094	4	0.204	4	-9999.99	-9999.99	0	4	0	4	41.034	4.417	0.094	4	0.204	4	-9999.99	-9999.99	0	4	3.957	41.406	0.094	0.204	-9999.99	0
Sp25D	7.837	10.167	41.574	10.333	0.107	4	0.224	4	-9999.99	-9999.99	0	4	0	4	41.031	4.417	0.107	4	0.224	4	-9999.99	-9999.99	0	4	3.957	41.394	0.107	0.224	-9999.99	0
1.315	8.531	9.917	41.574	10.333	0.722	7	0.745	6.5	-9999.99	-9999.99	0	4	1.486	4.167	41.031	4.417	0.159	4.167	0.179	10.583	-9999.99	-9999.99	0	4	5.766	41.394	0.314	0.381	-9999.99	0
1.31	8.486	10.167	41.566	10.333	0.155	4	0.165	4	-9999.99	-9999.99	0	4	1.638	4.333	41.019	4.417	0.045	10.833	0.087	14.5	-9999.99	-9999.99	0	4	5.749	41.379	0.063	0.107	-9999.99	0
1.29	8.485	10.250	41.233	10.083	0.488	10.667	1.018	10.5	-9999.99	-9999.99	0	4	1.705	4.5	40.824	4.583	0.38	6	0.592	4.333	-9999.99	-9999.99	0	4	5.72	41.102	0.443	0.851	-9999.99	0
1.28U	8.497	10.250	41.016	9.750	0.109	14.75	0.179	10.917	-9999.99	-9999.99	0	4	1.735	4.667	40.666	4.667	0.069	6.167	0.099	5.417	-9999.99	-9999.99	0	4	5.704	40.909	0.091	0.149	-9999.99	0
NBrad	3.267	8.333	41.016	9.750	0	4	0	4	-9999.99	-9999.99	0	4	0.215	15	40.666	4.667	0	4	0	4	-9999.99	-9999.99	0	4	1.889	40.909	0	0	-9999.99	0
1.28D	11.262	9.750	41.016	9.750	0.162	4.833	0.233	9.667	-9999.99	-9999.99	0	4	2.722	4.5	40.666	4.667	0.11	14	0.157	15	-9999.99	-9999.99	0	4	7.592	40.909	0.123	0.2	-9999.99	0
INT1	11.263	9.750	41.008	9.750	0.166	4.667	0.28	9.667	-9999.99	-9999.99	0	4	2.76	4.5	40.661	4.667	0.121	15	0.181	15	-9999.99	-9999.99	0	4	7.596	40.903	0.139	0.235	-9999.99	0
INT2	11.264	9.750	40.994	9.750	0.211	9.667	0.379	9.667	-9999.99	-9999.99	0	4	2.779	4.583	40.651	4.667	0.162	14.833	0.244	14.833	-9999.99	-9999.99	0	4	7.587	40.892	0.194	0.32	-9999.99	0
INT3	11.264	9.750	40.978	9.750	0.298	4.667	0.485	9.667	-9999.99	-9999.99	0	4	2.781	4.667	40.639	4.667	0.239	5.167	0.336	5.167	-9999.99	-9999.99	0	4	7.59	40.879	0.27	0.42	-9999.99	0
1.27U	11.264	9.750	40.918	9.750	0.85	4.667	1.09	4.667	-9999.99	-9999.99	0	4	2.78	4.667	40.588	4.667	0.552	5.333	0.682	5.417	-9999.99	-9999.99	0	4	7.588	40.822	0.616	0.799	-9999.99	0
S99BU	2.954	4.000	40.918	9.750	0	4	1.56	4	-9999.99	-9999.99	0	4	1.677	12.167	40.588	4.667	0	4	0.888	12.917	-9999.99	-9999.99	0	4	1.923	40.822	0	1.016	-9999.99	0
S99BD	2.954	4.000	40.870	9.833	0	4	1.56	4	-9999.99	-9999.99	0	4	1.677	12.167	40.478	4.667	0	4	0.888	12.917	-9999.99	-9999.99	0	4	1.923	40.764	0	1.016	-9999.99	0
Sp99U	9.486	9.833	40.918	9.750	0.468	4	0.984	4	-9999.99	-9999.99	0	4	0.122	4.667	40.588	4.667	0.468	4	0.984	4	-9999.99	-9999.99	0	4	5.665	40.822	0.468	0.984	-9999.99	0
Sp99D	9.486	9.833	40.870	9.833	0.751	4	1.314	4	-9999.99	-9999.99	0	4	0.122	4.667	40.478	4.667	0.751	4	1.314	4	-9999.99	-9999.99	0	4	5.665	40.764	0.751	1.314	-9999.99	0
1.27D	11.264	9.750	40.870	9.833	0.889	5.167	1.812	4	-9999.99	-9999.99	0	4	2.78	4.667	40.478	4.667	0.528	4.583	0.862	14.833	-9999.99	-9999.99	0	4	7.588	40.764	0.754	1.042	-9999.99	0
1.267	11.265	9.750	40.772	9.917	0.649	5.25	0.825	4	-9999.99	-9999.99	0	4	2.78	4.667	40.436	4.667	0.276	4.667	0.363	15	-9999.99	-9999.99	0	4	7.588	40.679	0.354	0.48	-9999.99	0
1.266	11.264	9.750	40.734	9.917	1.028	5.583	1.224	4	-9999.99	-9999.99	0	4	2.78	4.667	40.369	4.667	0.454	9.917	0.483	5.917	-9999.99	-9999.99	0	4	7.583	40.636	0.545	0.657	-9999.99	0
1.264	11.253	9.750	40.627	10.000	1.206	6.083	1.303	14.833	-9999.99	-9999.99	0	4	2.78	4.667	40.192	4.583	0.392	10.083	0.5	10.167	-9999.99	-9999.99	0	4	7.587	40.48	0.638	0.765	-9999.99	0
1.2631	11.248	9.917	40.611	10.000	0.988	5.833	1.015	5.917	-9999.99	-9999.99	0	4	2.78	4.667	40.176	4.583	0.293	10.083	0.411	10.167	-9999.99	-9999.99	0	4	7.579	40.452	0.492	0.605	-9999.99	0
1.261	11.243	9.917	40.593	10.000	1.01	14.583	1.59	6.5	-9999.99	-9999.99	0	4	2.78	4.667	40.122	4.583	0.241	10.083	0.364	10.167	-9999.99	-9999.99	0	4	7.587	40.405	0.461	0.666	-9999.99	0
1.26U	11.241	9.917	40.589	10.000	0.892	15	1.147	4	-9999.99	-9999.99	0	4	2.779	4.667	40.069	4	0.148	10.167	0.261	10.25	-9999.99	-9999.99	0	4	7.587	40.398	0.325	0.434	-9999.99	0
NStream	1.644	8.750	40.589	10.000	0	4	0	4	-9999.99	-9999.99	0	4	0.003	13.583	40.069	4	0	4	0	4	-9999.99	-9999.99	0	4	0.82	40.398	0	0	-9999.99	0
1.26D	12.629	9.667	40.589	10.000	0.916	5.5	1.237	4	-9999.99	-9999.99	0	4	3.201	4.5	40.069	4	0.165	10.333	0.288	10.833	-9999.99	-9999.99	0	4	8.407	40.398	0.358	0.482	-9999.99	0
1.254	12.602	9.750	40.539	10.083	0.406	4	0.547	4	-9999.99	-9999.99	0	4	3.201	4.5	39.966	4.083	0.215	10.917	0.375	14.833	-9999.99	-9999.99	0	4	8.394	40.315	0.276	0.438	-9999.99	0
1.25	12.545	9.833	40.466	10.167	0.679	5.75	0.992	4	-9999.99	-9999.99	0	4	3.186	4.083	39.585	4	0.142	10.667	0.285	11.167	-9999.99	-9999.99	0	4	8.383	40.15	0.302	0.463	-9999.99	0
1.24	12.504	10.000	40.431	10.167	0.491	5.833	0.884	4	-9999.99	-9999.99	0	4	3.139	4.083	39.344	4	0.127	11.167	0.274	12.25	-9999.99	-9999.99	0	4	8.363	40.046	0.226	0.414	-9999.99	0
1.23U	12.458	10.083	40.267	10.250	0.468	8.417	1.109	7.5	-9999.99	-9999.99	0	4	2.947	4	39.039	4	0.232	15	0.739	10.417	-9999.99	-9999.99	0	4	8.343	39.81	0.354	0.882	-9999.99	0
UStudley	1.496	12.333	40.267	10.250	0	4	0	4	-9999.99	-9999.99	0	4																		

Output data from file D:\TEIGNCONSULT\PROJECTS\447 - SOUTHWICK COURT TROWBRIDGE\ISIS2\A-P100CCA-P100CC-BR20M.ZZN
Selected output data from time (hr): 6 to time (hr): 13 **Model unstable outside 6.67hrs and 13.12hrs due to flood relief culverts invert level**
Using results directly from mmm file: D:\Teignconsult\Projects\447 - Southwick Court Trowbridge\ISIS2\A-P100CCA-P100CC-BR20m.mmm

Label	Max Flow	Time (hr)mx1	Max Stage	Time (hr)mx2	Max Fr	Time (hr)m	Max Veloc	Time (hr)m	Max Mode	Time (hr)m	Max State	Time (hr)m	Min Flow	Time (hr)m	Min Stage	Time (hr)m	Min Fr	Time (hr)m	Min Veloc	Time (hr)m	Min Mode	Time (hr)m	Min State	Time (hr)m	Mean Flow	Mean Stag	Mean Fr	Mean Velo	Mean Mod	Mean State
1.34	8.604	9.501	42.142	9.503	0.948	11.979	1.004	12.954	-9999.99	-9999.99	0	6	4.131	6	41.859	6.003	0.271	6	0.648	9.332	-9999.99	-9999.99	0	6	7.147	42.081	0.648	0.774	-9999.99	0
1.34U	8.604	9.507	42.140	9.501	0.951	11.963	1.011	12.953	-9999.99	-9999.99	0	6	4.034	6	41.857	6.003	0.268	6	0.657	9.332	-9999.99	-9999.99	0	6	7.147	42.079	0.652	0.784	-9999.99	0
1.34B	6.218	12.067	42.140	9.501	0.327	6.967	1.151	12.068	-9999.99	-9999.99	0	6	4.034	6	41.857	6.003	0	6.968	0.821	6	-9999.99	-9999.99	0	6	5.405	42.079	0.044	1.006	-9999.99	0
1.335B	6.218	12.067	42.114	9.504	0.336	12.693	1.151	12.068	-9999.99	-9999.99	0	6	3.73	6	41.85	6.003	0	6.996	0.78	6	-9999.99	-9999.99	0	6	5.405	42.05	0.057	1.007	-9999.99	0
Sp27U	3.611	9.513	42.140	9.501	0.246	6	0.412	6	-9999.99	-9999.99	0	6	0	6	41.857	6.003	0.246	6	0.412	6	-9999.99	-9999.99	0	6	1.742	42.079	0.246	0.412	-9999.99	0
Sp27D	3.611	9.513	42.114	9.504	0	6	0	6	-9999.99	-9999.99	0	6	0	6	41.85	6.003	0	6	0	6	-9999.99	-9999.99	0	6	1.742	42.05	0	0	-9999.99	0
1.335D	8.604	9.507	42.114	9.504	0.95	11.594	1.085	12.024	-9999.99	-9999.99	0	6	3.73	6	41.85	6.003	0.243	6	0.753	6	-9999.99	-9999.99	0	6	7.147	42.05	0.679	0.901	-9999.99	0
1.33	8.604	9.769	41.720	9.913	0.501	7.888	0.804	9.033	-9999.99	-9999.99	0	6	2.686	6.001	41.571	6	0.304	6.001	0.445	6.001	-9999.99	-9999.99	0	6	7.136	41.677	0.48	0.764	-9999.99	0
1.32	8.554	9.918	41.544	10.236	0.973	6.001	0.89	6.007	-9999.99	-9999.99	0	6	4.017	6.039	41.324	6.058	0.219	10.317	0.221	10.463	-9999.99	-9999.99	0	6	7.119	41.473	0.386	0.345	-9999.99	0
1.319B	5.415	6.000	41.544	10.236	0	6	1.417	6	-9999.99	-9999.99	0	6	0.812	10.192	41.324	6.058	0	6	0.211	10.292	-9999.99	-9999.99	0	6	1.711	41.473	0	0.446	-9999.99	0
1.315B	5.415	6.000	41.542	10.250	0	6	1.417	6	-9999.99	-9999.99	0	6	0.812	10.192	41.269	6.015	0	6	0.211	10.292	-9999.99	-9999.99	0	6	1.711	41.46	0	0.446	-9999.99	0
Sp25U	7.714	9.967	41.544	10.236	0.094	6	0.204	6	-9999.99	-9999.99	0	6	0.002	6.067	41.324	6.058	0.094	6	0.204	6	-9999.99	-9999.99	0	6	5.408	41.473	0.094	0.204	-9999.99	0
Sp25D	7.714	9.967	41.542	10.250	0.107	6	0.224	6	-9999.99	-9999.99	0	6	0.002	6.067	41.269	6.015	0.107	6	0.224	6	-9999.99	-9999.99	0	6	5.408	41.46	0.107	0.224	-9999.99	0
1.315	8.554	9.918	41.542	10.250	0.776	7.233	0.976	6.001	-9999.99	-9999.99	0	6	4.017	6.039	41.269	6.015	0.213	10.317	0.216	10.464	-9999.99	-9999.99	0	6	7.119	41.46	0.366	0.366	-9999.99	0
1.31	8.513	10.103	41.531	10.260	0.1	6.004	0.159	6.004	-9999.99	-9999.99	0	6	3.371	6.025	41.27	6.146	0.049	11.039	0.082	6.025	-9999.99	-9999.99	0	6	7.082	41.446	0.054	0.11	-9999.99	0
1.29	8.506	10.194	41.201	10.061	0.53	10.636	1.084	10.414	-9999.99	-9999.99	0	6	3.996	6.003	41.036	6	0.403	6.003	0.737	6.003	-9999.99	-9999.99	0	6	7.049	41.15	0.497	0.988	-9999.99	0
1.28U	8.520	10.274	41.004	9.742	0.105	12.954	0.184	10.778	-9999.99	-9999.99	0	6	3.079	6.007	40.887	6.171	0.056	6.007	0.089	6.007	-9999.99	-9999.99	0	6	7.037	40.964	0.094	0.164	-9999.99	0
NBrad	3.267	8.254	41.004	9.742	0	6	0	6	-9999.99	-9999.99	0	6	0.912	13	40.887	6.171	0	6	0	6	-9999.99	-9999.99	0	6	2.467	40.964	0	0	-9999.99	0
1.28D	11.305	9.692	41.004	9.742	0.131	6.024	0.241	9.694	-9999.99	-9999.99	0	6	5.152	6.007	40.887	6.171	0.094	6.007	0.149	6.007	-9999.99	-9999.99	0	6	9.504	40.964	0.127	0.221	-9999.99	0
INT1	11.305	9.717	40.997	9.726	0.156	9.667	0.289	9.688	-9999.99	-9999.99	0	6	5.465	6.003	40.88	6.014	0.112	6.003	0.185	6.003	-9999.99	-9999.99	0	6	9.503	40.958	0.149	0.265	-9999.99	0
INT2	11.304	9.719	40.984	9.733	0.219	9.71	0.39	9.71	-9999.99	-9999.99	0	6	5.98	6.004	40.869	6.015	0.177	6.003	0.281	6.003	-9999.99	-9999.99	0	6	9.502	40.946	0.21	0.36	-9999.99	0
INT3	11.304	9.719	40.970	9.728	0.298	9.663	0.5	9.711	-9999.99	-9999.99	0	6	6.258	6.014	40.858	6.017	0.26	6	0.392	6.003	-9999.99	-9999.99	0	6	9.502	40.933	0.287	0.464	-9999.99	0
1.27U	11.303	9.729	40.912	9.722	0.68	6.007	0.849	9.707	-9999.99	-9999.99	0	6	6.298	6.017	40.799	6.015	0.615	9.769	0.793	6.028	-9999.99	-9999.99	0	6	9.502	40.876	0.629	0.828	-9999.99	0
S99BU	2.401	6.029	40.912	9.722	0	6	1.267	6.029	-9999.99	-9999.99	0	6	2.191	6.007	40.799	6.015	0	6	1.156	6.007	-9999.99	-9999.99	0	6	2.23	40.876	0	1.178	-9999.99	0
S99BD	2.401	6.029	40.836	9.768	0	6	1.267	6.029	-9999.99	-9999.99	0	6	2.191	6.007	40.718	6.208	0	6	1.156	6.007	-9999.99	-9999.99	0	6	2.23	40.799	0	1.178	-9999.99	0
Sp99U	9.094	9.736	40.912	9.722	0.468	6	0.984	6	-9999.99	-9999.99	0	6	4.018	6.018	40.799	6.015	0.468	6	0.984	6	-9999.99	-9999.99	0	6	7.271	40.876	0.468	0.984	-9999.99	0
Sp99D	9.094	9.736	40.836	9.768	0.751	6	1.314	6	-9999.99	-9999.99	0	6	4.018	6.018	40.718	6.208	0.751	6	1.314	6	-9999.99	-9999.99	0	6	7.271	40.799	0.751	1.314	-9999.99	0
1.27D	11.303	9.729	40.836	9.768	0.99	7.742	1.198	9.151	-9999.99	-9999.99	0	6	6.298	6.017	40.718	6.208	0.895	6.013	1.101	6.007	-9999.99	-9999.99	0	6	9.502	40.799	0.967	1.18	-9999.99	0
1.267	11.301	9.742	40.643	9.922	0.907	6.001	0.805	6.001	-9999.99	-9999.99	0	6	6.395	6.022	40.564	6.283	0.707	10.046	0.754	6.021	-9999.99	-9999.99	0	6	9.501	40.612	0.793	0.782	-9999.99	0
1.266	11.300	9.739	40.630	9.936	0.56	6.333	0.548	7.163	-9999.99	-9999.99	0	6	6.355	6.283	40.532	6.282	0.402	10.114	0.491	6.019	-9999.99	-9999.99	0	6	9.501	40.59	0.465	0.521	-9999.99	0
1.264	11.289	9.814	40.566	10.013	0.911	6.592	0.741	6.335	-9999.99	-9999.99	0	6	6.384	6.333	40.388	6.283	0.29	10.094	0.415	10.264	-9999.99	-9999.99	0	6	9.5	40.497	0.457	0.503	-9999.99	0
1.2631	11.286	9.836	40.549	10.035	1.129	6.282	0.962	6.282	-9999.99	-9999.99	0	6	6.412	6.303	40.338	6.282	0.325	10.133	0.466	10.243	-9999.99	-9999.99	0	6	9.5	40.466	0.561	0.602	-9999.99	0
CBrin	11.812	9.836	40.549	10.035	0.258	6	0.336	6	-9999.99	-9999.99	0	6	6.445	6.279	40.338	6.282	0.258	6	0.336	6	-9999.99	-9999.99	0	6	9.897	40.466	0.258	0.336	-9999.99	0
CvLin	0.058	6.310	40.549	10.035	5776998	6.399	0.336	6	-9999.99	-9999.99	0	6	-0.305	9.839	40.338	6.282	0	6.208	0.336	6	-9999.99	-9999.99	0	6	-0.231	40.466	5222.342	0.336	-9999.99	0
CvLup	0.058	6.310	40.557	10.035	0.102	6.333	0.17	6.333	-9999.99	-9999.99	0	6	-0.305	9.839	40.34	6.278	-0.123	6.325	-0.206	6.325	-9999.99	-9999.99	0	6	-0.231	40.481	-0.095	-0.165	-9999.99	0
CvRin	0.135	6.375	40.549	10.035	35714636	6.601	0.336	6	-9999.99	-9999.99	0	6	-0.222	9.91	40.338	6.282	0	6.219	0.336	6	-9999.99	-9999.99	0	6	-0.167	40.466	12769.22	0.336	-9999.99	0
CvRup	0.135	6.375	40.557	10.035	0.106	6.378	0.167	6.378	-9999.99	-9999.99	0	6	-0.222	9.91	40.34	6.329	-0.138	6.289	-0.218	6.289	-9999.99	-9999.99	0	6	-0.167	40.48	-0.084	-0.14	-9999.99	0
CBrout	11.812	9.836	40.553	10.033	0.258	6	0.336	6	-9999.99	-9999.99	0	6	6.445	6.279	40.353	6.282	0.258	6	0.336	6	-9999.99	-9999.99	0	6	9.897	40.474	0.258	0.336	-9999.99	0
CvLdn	0.107	6.440	40.561	10.033	0.074	6.253	0.123	6.253	-9999.99	-9999.99	1	6	-0.306	9.771	40.356	6.304	-0.163	6.364	-0.273	6.364	-9999.99	-9999.99	1	6	-0.231	40.485	-0.094	-0.163	-9999.99	1
CvLout	0.107	6.440	40.553	10.033	0.595	6	0.556	6	-9999.99	-9999.99	0	6	-0.306	9.771	40.353	6.282	0.595	6	0.556	6	-9999.99	-9999.99	0	6	-0.231	40.474	0.595	0.556	-9999.99	0
CvRdn	0.199	6.376	40.561	10.035	0.142	6.37																								

Output data from file D:\TEIGNCONSULT\PROJECTS\447 - SOUTHWICK COURT TROWBRIDGE\ISIS2\A-P100CCA-P100CC-BR20M-R.ZZN
Selected output data from time (hr): 6 to time (hr): 15 **Model unstable outside 6.62hrs and 13.60hrs due to flood relief culverts invert level**
Using results directly from mmm file: D:\Teignconsult\Projects\447 - Southwick Court Trowbridge\ISIS2\A-P100CCA-P100CC-BR20m-R.mmm

Label	Max Flow	Time (hr)m x1	Max Stage	Time (hr)m x2	Max Fr	Time (hr)m	Max Veloc	Time (hr)m	Max Mode	Time (hr)m	Max State	Time (hr)m	Min Flow	Time (hr)m	Min Stage	Time (hr)m	Min Fr	Time (hr)m	Min	Velocit	Time (hr)m	Min Mode	Time (hr)m	Min State	Time (hr)m	Mean Flow	Mean Stag	Mean Fr	Mean Velo	Mean Mod	Mean State
1.34	8.604	9.501	42.163	9.507	0.867	12.454	0.911	13.324	-9999.99	-9999.99	0	6	2.962	15	41.832	15	0.219	15	0.578	9.36	-9999.99	-9999.99	0	6	6.504	42.071	0.549	0.7	-9999.99	0	
1.34U	8.604	9.522	42.160	9.515	0.871	12.431	0.917	13.322	-9999.99	-9999.99	0	6	2.962	15	41.832	15	0.219	15	0.587	9.314	-9999.99	-9999.99	0	6	6.504	42.068	0.553	0.708	-9999.99	0	
1.34B	5.632	12.543	42.160	9.515	0.296	13.321	1.043	12.553	-9999.99	-9999.99	0	6	2.962	15	41.832	15	0	6.078	0.65	15	-9999.99	-9999.99	0	6	4.544	42.068	0.056	0.852	-9999.99	0	
1.335B	5.632	12.543	42.145	9.515	0.302	13.172	1.043	12.553	-9999.99	-9999.99	0	6	2.963	15	41.826	15	0	6.075	0.647	15	-9999.99	-9999.99	0	6	4.544	42.049	0.062	0.852	-9999.99	0	
Sp27U	4.779	9.519	42.160	9.515	0.246	6	0.412	6	-9999.99	-9999.99	0	6	0	6	41.832	15	0.246	6	0.412	6	-9999.99	-9999.99	0	6	1.96	42.068	0.246	0.412	-9999.99	0	
Sp27D	4.779	9.519	42.145	9.515	0	6	0	6	-9999.99	-9999.99	0	6	0	6	41.826	15	0	6	0	6	-9999.99	-9999.99	0	6	1.96	42.049	0	0	-9999.99	0	
1.335D	8.604	9.522	42.145	9.515	0.867	12.147	0.976	12.458	-9999.99	-9999.99	0	6	2.963	15	41.826	15	0.205	15	0.624	15	-9999.99	-9999.99	0	6	6.504	42.049	0.556	0.77	-9999.99	0	
1.33	8.598	9.785	41.749	10.047	0.499	6.121	0.813	6.035	-9999.99	-9999.99	0	6	1.527	6.001	41.327	6.001	0.328	6.001	0.549	6.001	-9999.99	-9999.99	0	6	6.5	41.678	0.427	0.685	-9999.99	0	
1.32	8.535	9.986	41.576	10.300	0.809	6.76	0.915	6.439	-9999.99	-9999.99	0	6	1.474	6.01	41.061	6.008	0.137	6.01	0.183	10.517	-9999.99	-9999.99	0	6	6.501	41.466	0.334	0.338	-9999.99	0	
1.319B	4.771	6.463	41.576	10.300	0.284	6.001	1.245	6.463	-9999.99	-9999.99	0	6	0.664	10.781	41.061	6.008	0	6	0.173	10.564	-9999.99	-9999.99	0	6	1.664	41.466	0.001	0.434	-9999.99	0	
1.315B	4.771	6.463	41.574	10.294	0.287	6	1.245	6.463	-9999.99	-9999.99	0	6	0.664	10.781	41.059	6.011	0	6.036	0.173	10.564	-9999.99	-9999.99	0	6	1.664	41.454	0.001	0.434	-9999.99	0	
Sp25U	7.845	10.053	41.576	10.300	0.094	6	0.204	6	-9999.99	-9999.99	0	6	0	6	41.061	6.008	0.094	6	0.204	6	-9999.99	-9999.99	0	6	4.838	41.466	0.094	0.204	-9999.99	0	
Sp25D	7.845	10.053	41.574	10.294	0.107	6	0.224	6	-9999.99	-9999.99	0	6	0	6	41.059	6.011	0.107	6	0.224	6	-9999.99	-9999.99	0	6	4.838	41.454	0.107	0.224	-9999.99	0	
1.315	8.535	10.013	41.574	10.294	0.729	7.039	0.842	6.136	-9999.99	-9999.99	0	6	1.474	6.01	41.059	6.011	0.159	6.01	0.179	10.617	-9999.99	-9999.99	0	6	6.501	41.454	0.326	0.347	-9999.99	0	
1.31	8.493	10.158	41.566	10.306	0.179	6.058	0.194	6.058	-9999.99	-9999.99	0	6	1.705	6.019	41.046	6.019	0.045	10.963	0.087	14.542	-9999.99	-9999.99	0	6	6.475	41.439	0.053	0.103	-9999.99	0	
1.29	8.489	10.289	41.233	10.111	0.489	10.564	1.019	10.407	-9999.99	-9999.99	0	6	1.64	6.003	40.861	6.004	0.327	6.003	0.499	6.003	-9999.99	-9999.99	0	6	6.44	41.146	0.453	0.899	-9999.99	0	
1.28U	8.503	10.285	41.015	9.758	0.112	15	0.179	10.921	-9999.99	-9999.99	0	6	0.976	6.013	40.732	6	0.041	6.013	0.051	6.013	-9999.99	-9999.99	0	6	6.423	40.943	0.092	0.156	-9999.99	0	
NBrad	3.267	8.254	41.015	9.758	0	6	0	6	-9999.99	-9999.99	0	6	0.215	15	40.732	6	0	6	0	6	-9999.99	-9999.99	0	6	2.029	40.943	0	0	-9999.99	0	
1.28D	11.263	9.753	41.015	9.758	0.163	6.029	0.234	9.754	-9999.99	-9999.99	0	6	3.053	6.013	40.732	6	0.111	13.943	0.16	6.013	-9999.99	-9999.99	0	6	8.452	40.943	0.121	0.205	-9999.99	0	
INT1	11.262	9.754	41.007	9.757	0.157	6.029	0.281	9.744	-9999.99	-9999.99	0	6	3.012	6.017	40.727	6	0.123	14.239	0.173	6.017	-9999.99	-9999.99	0	6	8.449	40.936	0.14	0.244	-9999.99	0	
INT2	11.262	9.758	40.993	9.763	0.212	9.744	0.381	9.758	-9999.99	-9999.99	0	6	3.051	6.018	40.72	6.004	0.163	6.017	0.236	6.017	-9999.99	-9999.99	0	6	8.447	40.924	0.198	0.333	-9999.99	0	
INT3	11.261	9.757	40.977	9.761	0.288	9.746	0.488	9.747	-9999.99	-9999.99	0	6	3.147	6.018	40.711	6.006	0.238	6.017	0.334	6.017	-9999.99	-9999.99	0	6	8.446	40.911	0.273	0.433	-9999.99	0	
1.27U	11.261	9.764	40.915	9.749	0.656	6.611	0.835	9.764	-9999.99	-9999.99	0	6	3.207	6.007	40.66	6	0.583	14.933	0.715	14.932	-9999.99	-9999.99	0	6	8.445	40.851	0.615	0.798	-9999.99	0	
S99BU	2.529	6.000	40.915	9.749	0	6	1.335	6	-9999.99	-9999.99	0	6	1.976	11.082	40.66	6	0	6	1.044	11.081	-9999.99	-9999.99	0	6	2.068	40.851	0	1.092	-9999.99	0	
S99BD	2.529	6.000	40.853	9.808	0	6	1.335	6	-9999.99	-9999.99	0	6	1.976	11.082	40.562	6	0	6	1.044	11.081	-9999.99	-9999.99	0	6	2.068	40.785	0	1.092	-9999.99	0	
Sp99U	9.268	9.764	40.915	9.749	0.468	6	0.984	6	-9999.99	-9999.99	0	6	0.77	6.001	40.66	6	0.468	6	0.984	6	-9999.99	-9999.99	0	6	6.378	40.851	0.468	0.984	-9999.99	0	
Sp99D	9.268	9.764	40.853	9.808	0.751	6	1.314	6	-9999.99	-9999.99	0	6	0.77	6.001	40.562	6	0.751	6	1.314	6	-9999.99	-9999.99	0	6	6.378	40.785	0.751	1.314	-9999.99	0	
1.27D	11.261	9.764	40.853	9.808	1.137	6.022	1.557	6	-9999.99	-9999.99	0	6	3.207	6.007	40.562	6	0.744	6.463	0.918	6.464	-9999.99	-9999.99	0	6	8.445	40.785	0.871	1.079	-9999.99	0	
1.267	11.259	9.797	40.677	9.960	0.994	14.986	0.984	6.258	-9999.99	-9999.99	0	6	3.135	6.003	40.422	6	0.313	6.003	0.36	6.457	-9999.99	-9999.99	0	6	8.444	40.611	0.693	0.705	-9999.99	0	
1.266	11.256	9.800	40.660	9.983	0.691	6.011	0.635	6.011	-9999.99	-9999.99	0	6	3.149	6.025	40.414	6.011	0.203	6.451	0.238	6.451	-9999.99	-9999.99	0	6	8.443	40.59	0.411	0.461	-9999.99	0	
1.264	11.244	9.856	40.604	10.017	1.647	6.457	1.576	6.451	-9999.99	-9999.99	0	6	2.981	6.013	40.163	6	0.23	10.104	0.36	10.224	-9999.99	-9999.99	0	6	8.439	40.489	0.436	0.51	-9999.99	0	
1.2631	11.241	9.904	40.589	10.015	1.615	6.464	1.434	6.463	-9999.99	-9999.99	0	6	2.956	6.01	40.151	6	0.257	10.103	0.406	10.278	-9999.99	-9999.99	0	6	8.439	40.452	0.514	0.633	-9999.99	0	
CBrin	11.782	9.904	40.589	10.015	0.258	6	0.336	6	-9999.99	-9999.99	0	6	3.16	6.01	40.151	6	0.258	6	0.336	6	-9999.99	-9999.99	0	6	8.84	40.452	0.258	0.336	-9999.99	0	
CvLin	0.226	14.164	40.589	10.015	30214230	14.039	0.336	6	-9999.99	-9999.99	0	6	-0.462	6.449	40.151	6	0	14.124	0.336	6	-9999.99	-9999.99	0	6	-0.234	40.452	13264.09	0.336	-9999.99	0	
CvLup	0.226	14.164	40.596	10.015	0.083	14.136	0.138	14.136	-9999.99	-9999.99	0	6	-0.462	6.449	40.191	6	-0.385	6.449	-0.625	6.449	-9999.99	-9999.99	0	6	-0.234	40.47	-0.105	-0.18	-9999.99	0	
CvRin	0.151	14.206	40.589	10.015	27105636	6.488	0.336	6	-9999.99	-9999.99	0	6	-0.378	14.133	40.151	6	0	13.701	0.336	6	-9999.99	-9999.99	0	6	-0.167	40.452	7883.496	0.336	-9999.99	0	
CvRup	0.151	14.206	40.596	10.015	0.137	14.125	0.216	14.125	-9999.99	-9999.99	0	6	-0.378	14.133	40.191	6	-0.369	6.45	-0.565	6.45	-9999.99	-9999.99	0	6	-0.167	40.47	-0.092	-0.15	-9999.99	0	
CBrout	11.782	9.904	40.593	10.014	0.258	6	0.336	6	-9999.99	-9999.99	0	6	3.16	6.01	40.153	6	0.258	6	0.336	6	-9999.99	-9999.99	0	6	8.84	40.461	0.258	0.336	-9999.99	0	
CvLdn	0.255	14.106	40.599	10.014	0.191	14.106	0.314	14.106	-9999.99	-9999.99	1	6	-0.516	6.45	40.208	6.001	-0.352	6.45	-0.585	6.45	-9999.99	-9999.99	1	6	-0.234	40.476	-0.103	-0.176	-9999.99	1	
CvLout	0.255	14.106	40.593	10.014	0.595	6	0.556	6	-9999.99	-9999.99	0	6	-0.516	6.45	40.153	6	0.595	6	0.556	6	-9999.99	-9999.99	0	6	-0.234	40.461	0.595	0.556	-9999.99	0	
CvRdn	0.262	14.207	40.598	10.013	0.208	14.207	0.329	14.207	-9999.99</																						

Appendix M6

Model outputs 1000CC – Existing & Proposed outputs

Output data from file D:\TEIGNCONSULT\PROJECTS\447 - SOUTHWICK COURT TROWBRIDGE\ISIS2\A-X1000CC\A-X1000CC.ZZN
Selected output data from time (hr): 4 to time (hr): 15
Using results directly from mmm file: D:\Teignconsult\Projects\447 - Southwick Court Trowbridge\ISIS2\A-X1000CC\A-X1000CC.mmm

Label	Max Flow	Time (hr)mx1	Max Stage	Time (hr)mx2	Max Fr	Time (hr)mx Max Velocity	Time (hr)mx Max Mode	Time (hr)mx Max State	Time (hr)mx Min Flow	Time (hr)mn Min Stage	Time (hr)mn Min Fr	Time (hr)mn Min Velocity	Time (hr)mn Min Mode	Time (hr)mn Min State	Time (hr)mn Mean Flow	Mean Stage	Mean Fr	Mean Velocity	Mean Mode	Mean State										
1.34	15.094	9.500	42.294	9.750	0.95	14.167	1.055	14.667	-9999.99	-9999.99	0	4	2.181	4	41.742	4.083	0.186	4	0.519	4	-9999.99	-9999.99	0	4	10.072	42.149	0.505	0.659	-9999.99	0
1.34U	15.094	9.500	42.293	9.750	0.943	14.167	1.062	14.667	-9999.99	-9999.99	0	4	2.284	4	41.741	4.083	0.193	4	0.532	10.083	-9999.99	-9999.99	0	4	10.073	42.147	0.509	0.665	-9999.99	0
1.34B	6.374	14.250	42.293	9.750	0.341	14.667	1.18	14.25	-9999.99	-9999.99	0	4	2.284	4	41.741	4.083	0	5.583	0.549	4	-9999.99	-9999.99	0	4	4.146	42.147	0.048	0.779	-9999.99	0
1.335B	6.374	14.250	42.282	9.750	0.353	14.5	1.18	14.25	-9999.99	-9999.99	0	4	2.324	4.083	41.737	4.083	0	5.667	0.562	4.083	-9999.99	-9999.99	0	4	4.147	42.13	0.056	0.779	-9999.99	0
Sp27U	11.823	9.750	42.293	9.750	0.246	4	0.412	4	-9999.99	-9999.99	0	4	0	4	41.741	4.083	0.246	4	0.412	4	-9999.99	-9999.99	0	4	5.927	42.147	0.246	0.412	-9999.99	0
Sp27D	11.823	9.750	42.282	9.750	0	4	0	4	-9999.99	-9999.99	0	4	0	4	41.737	4.083	0	4	0	4	-9999.99	-9999.99	0	4	5.927	42.13	0	0	-9999.99	0
1.335D	15.094	9.500	42.282	9.750	0.957	13.917	1.124	14.25	-9999.99	-9999.99	0	4	2.324	4.083	41.737	4.083	0.187	4.083	0.54	4.083	-9999.99	-9999.99	0	4	10.074	42.13	0.527	0.716	-9999.99	0
1.33	15.029	9.750	41.969	10.250	0.512	5.083	0.855	7.25	-9999.99	-9999.99	0	4	2.3	4.083	41.364	4.083	0.362	11.167	0.694	15	-9999.99	-9999.99	0	4	10.057	41.777	0.43	0.76	-9999.99	0
1.32	14.859	9.917	41.854	10.333	0.879	5.583	0.916	5.25	-9999.99	-9999.99	0	4	2.303	4.083	41.101	4.167	0.066	10.667	0.125	10.917	-9999.99	-9999.99	0	4	10.05	41.606	0.197	0.272	-9999.99	0
1.319B	4.940	5.333	41.854	10.333	0	4	1.289	5.333	-9999.99	-9999.99	0	4	0.43	10.917	41.101	4.167	0	4	0.114	10.667	-9999.99	-9999.99	0	4	1.219	41.606	0	0.318	-9999.99	0
1.315B	4.940	5.333	41.854	10.333	0	4	1.289	5.333	-9999.99	-9999.99	0	4	0.43	10.083	41.085	4.167	0	4	0.114	10.667	-9999.99	-9999.99	0	4	1.22	41.598	0	0.318	-9999.99	0
Sp25U	14.421	10.083	41.854	10.333	0.094	4	0.204	4	-9999.99	-9999.99	0	4	0	4	41.101	4.167	0.094	4	0.204	4	-9999.99	-9999.99	0	4	8.83	41.606	0.094	0.204	-9999.99	0
Sp25D	14.421	10.083	41.854	10.333	0.107	4	0.224	4	-9999.99	-9999.99	0	4	0	4	41.085	4.167	0.107	4	0.224	4	-9999.99	-9999.99	0	4	8.83	41.598	0.107	0.224	-9999.99	0
1.315	14.860	10.000	41.854	10.333	0.796	5.75	0.857	5.583	-9999.99	-9999.99	0	4	2.303	4.083	41.085	4.167	0.064	10.667	0.124	10.917	-9999.99	-9999.99	0	4	10.05	41.598	0.2	0.275	-9999.99	0
1.31	14.789	10.250	41.851	10.333	0.149	4	0.157	4	-9999.99	-9999.99	0	4	2.364	4.083	41.077	4.167	0.044	11.25	0.099	15	-9999.99	-9999.99	0	4	10.003	41.59	0.057	0.119	-9999.99	0
1.29	14.787	10.333	41.388	10.083	0.623	10.667	1.382	10.583	-9999.99	-9999.99	0	4	2.3	4	40.867	4	0.417	5.083	0.685	4	-9999.99	-9999.99	0	4	9.94	41.23	0.546	1.134	-9999.99	0
1.28U	14.808	10.333	41.140	9.750	0.118	13	0.241	10.917	-9999.99	-9999.99	0	4	2.161	4	40.713	4	0.071	5.167	0.103	4.75	-9999.99	-9999.99	0	4	9.904	41.021	0.102	0.192	-9999.99	0
NBrad	5.643	8.333	41.140	9.750	0	4	0	4	-9999.99	-9999.99	0	4	0.35	15	40.713	4	0	4	0	4	-9999.99	-9999.99	0	4	3.253	41.021	0	0	-9999.99	0
1.28D	19.548	9.750	41.140	9.750	0.154	4.083	0.313	9.833	-9999.99	-9999.99	0	4	3.287	4	40.713	4	0.117	15	0.179	4.75	-9999.99	-9999.99	0	4	13.157	41.021	0.137	0.256	-9999.99	0
INT1	19.547	9.750	41.130	9.750	0.18	10.083	0.377	9.833	-9999.99	-9999.99	0	4	3.418	4.083	40.71	4	0.132	5.083	0.197	4.667	-9999.99	-9999.99	0	4	13.15	41.014	0.162	0.307	-9999.99	0
INT2	19.547	9.750	41.112	9.750	0.25	10.083	0.493	10.083	-9999.99	-9999.99	0	4	3.298	4	40.7	4	0.176	4.667	0.261	4.667	-9999.99	-9999.99	0	4	13.143	40.999	0.225	0.41	-9999.99	0
INT3	19.547	9.750	41.094	9.750	0.326	10.083	0.604	10.083	-9999.99	-9999.99	0	4	3.376	4	40.692	4	0.246	4.75	0.348	4.75	-9999.99	-9999.99	0	4	13.139	40.985	0.302	0.517	-9999.99	0
1.27U	19.547	9.750	41.032	9.750	0.775	4	0.984	4	-9999.99	-9999.99	0	4	3.329	4	40.623	4	0.569	8.583	0.706	4.75	-9999.99	-9999.99	0	4	13.138	40.927	0.599	0.874	-9999.99	0
S99BU	3.278	4.583	41.032	9.750	0	4	1.724	4.583	-9999.99	-9999.99	0	4	1.837	14.75	40.623	4	0	4	0.962	14.333	-9999.99	-9999.99	0	4	2.032	40.927	0	1.073	-9999.99	0
S99BD	3.278	4.583	40.972	9.833	0	4	1.724	4.583	-9999.99	-9999.99	0	4	1.837	14.75	40.485	4	0	4	0.962	14.333	-9999.99	-9999.99	0	4	2.032	40.861	0	1.073	-9999.99	0
Sp99U	17.562	9.833	41.032	9.750	0.468	4	0.984	4	-9999.99	-9999.99	0	4	0.363	4	40.623	4	0.468	4	0.984	4	-9999.99	-9999.99	0	4	11.106	40.927	0.468	0.984	-9999.99	0
Sp99D	17.562	9.833	40.972	9.833	0.751	4	1.314	4	-9999.99	-9999.99	0	4	0.363	4	40.485	4	0.751	4	1.314	4	-9999.99	-9999.99	0	4	11.106	40.861	0.751	1.314	-9999.99	0
1.27D	19.547	9.750	40.972	9.833	0.856	4.917	2.187	4.583	-9999.99	-9999.99	0	4	3.329	4	40.485	4	0.626	4	0.976	4.75	-9999.99	-9999.99	0	4	13.138	40.861	0.796	1.151	-9999.99	0
1.267	19.548	9.750	40.903	9.750	0.733	4.25	0.838	4	-9999.99	-9999.99	0	4	3.318	4	40.475	4	0.315	9.75	0.401	4.583	-9999.99	-9999.99	0	4	13.139	40.779	0.377	0.528	-9999.99	0
1.266	19.546	9.750	40.878	9.750	1.431	4.75	1.336	4.75	-9999.99	-9999.99	0	4	3.333	4	40.393	4	0.367	9.75	0.594	9.5	-9999.99	-9999.99	0	4	13.136	40.74	0.509	0.681	-9999.99	0
1.264	19.541	9.750	40.825	9.750	1.414	5.333	1.468	4.833	-9999.99	-9999.99	0	4	3.308	4	40.199	4	0.25	9.75	0.454	9.5	-9999.99	-9999.99	0	4	13.12	40.63	0.489	0.672	-9999.99	0
1.2631	19.541	9.833	40.820	9.750	1.239	5.25	1.248	5.167	-9999.99	-9999.99	0	4	3.33	4	40.184	4	0.201	9.75	0.379	9.167	-9999.99	-9999.99	0	4	13.117	40.613	0.39	0.548	-9999.99	0
1.261	19.545	9.917	40.811	9.750	0.807	15	1.937	5.667	-9999.99	-9999.99	0	4	3.285	4	40.13	4	0.172	9.5	0.343	8.917	-9999.99	-9999.99	0	4	13.115	40.582	0.329	0.564	-9999.99	0
1.26U	19.547	9.917	40.811	9.750	0.935	4.667	1.14	4	-9999.99	-9999.99	0	4	3.333	4	40.072	4	0.123	9.5	0.267	8.583	-9999.99	-9999.99	0	4	13.111	40.586	0.228	0.364	-9999.99	0
NStream	2.813	8.500	40.811	9.750	0	4	0	4	-9999.99	-9999.99	0	4	0.003	13.583	40.072	4	0	4	0	4	-9999.99	-9999.99	0	4	1.388	40.586	0	0	-9999.99	0
1.26D	21.918	9.667	40.811	9.750	1.13	4.667	1.302	4.583	-9999.99	-9999.99	0	4	3.776	4	40.072	4	0.138	10.417	0.284	12.75	-9999.99	-9999.99	0	4	14.5	40.586	0.257	0.407	-9999.99	0
1.254	21.909	9.667	40.765	9.833	0.402	4	0.561	6.167	-9999.99	-9999.99	0	4	3.781	4.083	39.974	4	0.211	12.75	0.408	14.083	-9999.99	-9999.99	0	4	14.484	40.525	0.26	0.483	-9999.99	0
1.25	21.890	9.667	40.703	9.833	0.772	5	1.029	4	-9999.99	-9999.99	0	4	3.387	4	39.588	4	0.135	12.75	0.281	13.417	-9999.99	-9999.99	0	4	14.439	40.413	0.234	0.419	-9999.99	0
1.24	21.873	9.750	40.666	9.833	0.521	5	0.867	4	-9999.99	-9999.99	0	4	3.344	4	39.342	4	0.128	13.917	0.275	14.083	-9999.99	-9999.99	0	4	14.389	40.345	0.197	0.405	-9999.99	0
1.23U	21.861	9.833	40.518	10.000	0.521	7.167	1.209	6.333	-9999.99	-9999.99	0	4	3.054	4	39.041	4	0.304	15	0.617	12.417	-9999.99	-9999.99	0	4	14.311	40.159	0.391	0.788	-9999.99	0
UStudley	2.526	12.500	40.518	10.000	0	4	0	4	-9999.99	-9999.99	0	4	-0.013	4.5	39.041	4	0	4	0	4	-9999.99	-9999.99	0	4	1.37	40.159	0	0	-9999.99	0
1.23D	23.801	10.000	40.518	10.																										

Output data from file D:\TEIGNCONSULT\PROJECTS\447 - SOUTHWICK COURT
Selected output data from time (hr): 4 to time (hr): 15
Using results directly from mmm file: D:\Teignconsult\Projects\447 - Southwick Court

TROWBRIDGE\ISIS2\A-X1000CC\A-X1000CC-R.ZZN
Trowbridge\ISIS2\A-X1000CC\A-X1000CC-R.mmm

Label	Max Flow	Time (hr)mx1	Max Stage	Time (hr)mx2	Max Fr	Time (hr)mx Max Velocity	Time (hr)mx Max Mode	Time (hr)mx Max State	Time (hr)mx Min Flow	Time (hr)mn Min Stage	Time (hr)mn Min Fr	Time (hr)mn Min Velocity	Time (hr)mn Min Mode	Time (hr)mn Min State	Time (hr)mn Mean Flow	Mean Stage	Mean Fr	Mean Velocity	Mean Mode	Mean State										
1.34	15.093	9.583	42.326	9.500	0.877	14.417	0.952	14.917	-9999.99	-9999.99	0	4	2.181	4	41.747	4	0.186	4	0.462	9.333	-9999.99	-9999.99	0	4	10.073	42.178	0.453	0.581	-9999.99	0
1.34U	15.093	9.583	42.325	9.500	0.871	14.417	0.958	14.917	-9999.99	-9999.99	0	4	2.283	4	41.752	4	0.189	4.083	0.464	9.333	-9999.99	-9999.99	0	4	10.074	42.176	0.457	0.586	-9999.99	0
1.34B	5.681	14.583	42.325	9.500	0.307	14.917	1.052	14.583	-9999.99	-9999.99	0	4	2.283	4	41.752	4	0	5.333	0.518	11.083	-9999.99	-9999.99	0	4	3.6	42.176	0.032	0.673	-9999.99	0
1.335B	5.681	14.583	42.316	9.500	0.311	14.833	1.052	14.583	-9999.99	-9999.99	0	4	2.323	4.083	41.76	4	0	5.333	0.518	11.083	-9999.99	-9999.99	0	4	3.601	42.163	0.034	0.673	-9999.99	0
Sp27U	12.229	9.583	42.325	9.500	0.246	4	0.412	4	-9999.99	-9999.99	0	4	0	4	41.752	4	0.246	4	0.412	4	-9999.99	-9999.99	0	4	6.474	42.176	0.246	0.412	-9999.99	0
Sp27D	12.229	9.583	42.316	9.500	0	4	0	4	-9999.99	-9999.99	0	4	0	4	41.76	4	0	4	0	4	-9999.99	-9999.99	0	4	6.474	42.163	0	0	-9999.99	0
1.335D	15.093	9.583	42.316	9.500	0.88	14.25	1.001	14.5	-9999.99	-9999.99	0	4	2.323	4.083	41.76	4	0.176	4.083	0.478	9.333	-9999.99	-9999.99	0	4	10.075	42.163	0.465	0.621	-9999.99	0
1.33	15.046	9.750	42.013	10.167	0.467	4.917	0.779	7.167	-9999.99	-9999.99	0	4	2.253	4.083	41.382	4	0.322	11.083	0.625	15	-9999.99	-9999.99	0	4	10.054	41.814	0.381	0.69	-9999.99	0
1.32	14.875	10.000	41.895	10.333	0.813	5.417	0.866	5.167	-9999.99	-9999.99	0	4	2.237	4.083	41.105	4.083	0.057	10.75	0.108	13.583	-9999.99	-9999.99	0	4	10.01	41.64	0.171	0.242	-9999.99	0
1.319B	4.595	5.250	41.895	10.333	0	4	1.199	5.25	-9999.99	-9999.99	0	4	0.328	13.583	41.105	4.083	0	4	0.086	13.583	-9999.99	-9999.99	0	4	1.075	41.64	0	0.28	-9999.99	0
1.315B	4.595	5.250	41.895	10.417	0	4	1.199	5.25	-9999.99	-9999.99	0	4	0.334	13.583	41.091	4.083	0	4	0.088	13.583	-9999.99	-9999.99	0	4	1.076	41.634	0	0.28	-9999.99	0
Sp25U	14.459	10.000	41.895	10.333	0.094	4	0.204	4	-9999.99	-9999.99	0	4	0	4	41.105	4.083	0.094	4	0.204	4	-9999.99	-9999.99	0	4	8.935	41.64	0.094	0.204	-9999.99	0
Sp25D	14.459	10.000	41.895	10.417	0.107	4	0.224	4	-9999.99	-9999.99	0	4	0	4	41.091	4.083	0.107	4	0.224	4	-9999.99	-9999.99	0	4	8.935	41.634	0.107	0.224	-9999.99	0
1.315	14.875	10.000	41.895	10.417	0.751	5.667	0.781	5.417	-9999.99	-9999.99	0	4	2.237	4.083	41.091	4.083	0.056	10.75	0.106	13.583	-9999.99	-9999.99	0	4	10.011	41.634	0.172	0.242	-9999.99	0
1.31	14.796	10.167	41.893	10.417	0.148	4	0.157	4	-9999.99	-9999.99	0	4	2.229	4.083	41.077	4	0.035	13.583	0.088	13.583	-9999.99	-9999.99	0	4	9.955	41.625	0.052	0.112	-9999.99	0
1.29	14.789	10.333	41.433	10.083	0.578	10.667	1.292	10.833	-9999.99	-9999.99	0	4	2.168	4.167	40.868	4	0.379	5	0.62	4.333	-9999.99	-9999.99	0	4	9.901	41.265	0.503	1.06	-9999.99	0
1.28U	14.812	10.333	41.158	9.750	0.115	13.583	0.234	10.917	-9999.99	-9999.99	0	4	1.917	4.167	40.712	4	0.066	5.167	0.098	4.5	-9999.99	-9999.99	0	4	9.865	41.034	0.097	0.185	-9999.99	0
NBrad	5.643	8.333	41.158	9.750	0	4	0	4	-9999.99	-9999.99	0	4	0.35	15	40.712	4	0	4	0	4	-9999.99	-9999.99	0	4	3.254	41.034	0	0	-9999.99	0
1.28D	19.557	9.833	41.158	9.750	0.154	4	0.303	9.833	-9999.99	-9999.99	0	4	3.193	4.167	40.712	4	0.113	15	0.168	4.5	-9999.99	-9999.99	0	4	13.119	41.034	0.131	0.249	-9999.99	0
INT1	19.557	9.833	41.147	9.750	0.172	10.167	0.364	10	-9999.99	-9999.99	0	4	3.149	4.167	40.711	4	0.125	5	0.184	4.167	-9999.99	-9999.99	0	4	13.109	41.025	0.155	0.298	-9999.99	0
INT2	19.558	9.833	41.128	9.750	0.239	10.333	0.475	10	-9999.99	-9999.99	0	4	3.09	4.167	40.7	4	0.168	4.167	0.243	4.167	-9999.99	-9999.99	0	4	13.1	41.01	0.216	0.397	-9999.99	0
INT3	19.558	9.833	41.110	9.750	0.311	10.5	0.581	10.167	-9999.99	-9999.99	0	4	3.083	4.167	40.692	4	0.237	4.167	0.332	4.167	-9999.99	-9999.99	0	4	13.097	40.994	0.29	0.501	-9999.99	0
1.27U	19.558	9.833	41.049	9.750	0.776	4	0.987	4	-9999.99	-9999.99	0	4	3.094	4.167	40.622	4	0.534	9.333	0.68	4.5	-9999.99	-9999.99	0	4	13.095	40.934	0.574	0.844	-9999.99	0
S99BU	2.952	4.000	41.049	9.750	0	4	1.559	4	-9999.99	-9999.99	0	4	1.533	10.917	40.622	4	0	4	0.81	11	-9999.99	-9999.99	0	4	1.738	40.934	0	0.918	-9999.99	0
S99BD	2.952	4.000	41.009	9.833	0	4	1.559	4	-9999.99	-9999.99	0	4	1.533	10.917	40.488	4	0	4	0.81	11	-9999.99	-9999.99	0	4	1.738	40.887	0	0.918	-9999.99	0
Sp99U	17.961	9.833	41.049	9.750	0.468	4	0.984	4	-9999.99	-9999.99	0	4	0.36	4	40.622	4	0.468	4	0.984	4	-9999.99	-9999.99	0	4	11.357	40.934	0.468	0.984	-9999.99	0
Sp99D	17.961	9.833	41.009	9.833	0.751	4	1.314	4	-9999.99	-9999.99	0	4	0.36	4	40.488	4	0.751	4	1.314	4	-9999.99	-9999.99	0	4	11.357	40.887	0.751	1.314	-9999.99	0
1.27D	19.558	9.833	41.009	9.833	0.902	4.167	1.809	4	-9999.99	-9999.99	0	4	3.094	4.167	40.488	4	0.559	4.083	0.924	5	-9999.99	-9999.99	0	4	13.095	40.887	0.724	1.024	-9999.99	0
1.267	19.558	9.833	40.939	9.833	0.625	4.333	0.832	4	-9999.99	-9999.99	0	4	3.083	4.167	40.472	4	0.271	9.667	0.347	5	-9999.99	-9999.99	0	4	13.086	40.802	0.331	0.482	-9999.99	0
1.266	19.558	9.833	40.917	9.833	1.042	4.667	1.215	4	-9999.99	-9999.99	0	4	3.071	4.167	40.395	4	0.31	9.667	0.528	9.333	-9999.99	-9999.99	0	4	13.084	40.768	0.436	0.6	-9999.99	0
1.264	19.559	9.833	40.868	9.750	1.204	5.083	1.364	5	-9999.99	-9999.99	0	4	3.058	4.167	40.198	4	0.215	9.667	0.408	9.333	-9999.99	-9999.99	0	4	13.076	40.664	0.413	0.577	-9999.99	0
1.2631	19.559	9.833	40.862	9.750	1	5	0.998	4.833	-9999.99	-9999.99	0	4	3.055	4.167	40.185	4	0.174	9.583	0.343	9	-9999.99	-9999.99	0	4	13.072	40.648	0.328	0.47	-9999.99	0
1.261	19.563	9.917	40.854	9.750	0.774	5.417	1.545	5.333	-9999.99	-9999.99	0	4	3.053	4.167	40.128	4	0.151	9.333	0.311	8.667	-9999.99	-9999.99	0	4	13.067	40.622	0.275	0.472	-9999.99	0
1.26U	19.566	9.917	40.853	9.750	0.816	4.583	1.121	4	-9999.99	-9999.99	0	4	3.052	4.167	40.074	4	0.11	9.333	0.246	8.667	-9999.99	-9999.99	0	4	13.063	40.621	0.195	0.322	-9999.99	0
NStream	2.813	8.583	40.853	9.750	0	4	0	4	-9999.99	-9999.99	0	4	0.003	13.583	40.074	4	0	4	0	4	-9999.99	-9999.99	0	4	1.389	40.621	0	0	-9999.99	0
1.26D	21.933	9.583	40.853	9.750	0.962	4.583	1.272	4	-9999.99	-9999.99	0	4	3.563	4.167	40.074	4	0.124	10.417	0.261	13.167	-9999.99	-9999.99	0	4	14.452	40.621	0.22	0.361	-9999.99	0
1.254	21.918	9.667	40.808	9.833	0.398	4	0.537	4	-9999.99	-9999.99	0	4	3.496	4.083	39.972	4	0.194	13	0.375	14.417	-9999.99	-9999.99	0	4	14.422	40.56	0.235	0.45	-9999.99	0
1.25	21.898	9.750	40.739	9.833	0.676	4.833	1.014	4	-9999.99	-9999.99	0	4	3.317	4.083	39.59	4	0.125	13	0.262	13.583	-9999.99	-9999.99	0	4	14.366	40.447	0.211	0.385	-9999.99	0
1.24	21.882	9.750	40.699	9.833	0.49	4.917	0.866	4	-9999.99	-9999.99	0	4	3.222	4.083	39.34	4	0.118	13.583	0.257	14.417	-9999.99	-9999.99	0	4	14.3	40.377	0.182	0.379	-9999.99	0
1.23U	21.874	9.917	40.534	9.833	0.497	7.083	1.123	6.167	-9999.99	-9999.99	0	4	3.038	4	39.043	4	0.292	5.25	0.591	12.917	-9999.99	-9999.99	0	4	14.21	40.18	0.375	0.74	-9999.99	0
UStudley	2.526	12.500	40.534	9.833	0	4	0	4	-9999.99	-9999.99	0	4	-0.013	4.5	39.043	4	0	4	0	4	-9999.99	-9999.99	0	4	1.369	40.18	0	0	-9999.99	0
1.23D																														

Output data from file D:\TEIGNCONSULT\PROJECTS\447 - SOUTHWICK COURT TROWBRIDGE\ISIS2\A-P100CC\A-P1000CC-BR20M.ZZN
Selected output data from time (hr): 7 to time (hr): 15 **Model unstable outside 7.21hrs and 15.00hrs due to flood relief culverts invert level**
Using results directly from mmm file: D:\Teignconsult\Projects\447 - Southwick Court Trowbridge\ISIS2\A-P100CC\A-P1000CC-BR20m.mmm

Label	Max Flow	Time (hr)mx1	Max Stage	Time (hr)mx2	Max Fr	Time (hr)rr	Max Veloc	Time (hr)rr	Max Mode	Time (hr)rr	Max State	Time (hr)rr	Min Flow	Time (hr)rr	Min Stage	Time (hr)rr	Min Fr	Time (hr)rr	Min Velocii	Time (hr)rr	Min Mode	Time (hr)rr	Min State	Time (hr)rr	Mean Flow	Mean Stag	Mean Fr	Mean Velo	Mean Mod	Mean State
1.34	15.095	9.501	42.294	9.775	1.395	7.014	1.602	7	-9999.99	-9999.99	0	7	5.114	15	41.957	15	0.314	15	0.526	7.419	-9999.99	-9999.99	0	7	11.715	42.207	0.522	0.63	-9999.99	0
1.34U	15.095	9.510	42.293	9.775	1.41	7.008	1.535	7.01	-9999.99	-9999.99	0	7	5.114	15	41.955	15	0.315	15	0.53	7.418	-9999.99	-9999.99	0	7	11.715	42.205	0.527	0.636	-9999.99	0
1.34B	9.618	7.013	42.293	9.775	0.345	14.617	1.778	7.013	-9999.99	-9999.99	0	7	3.229	7.417	41.955	15	0	7	0.598	7.415	-9999.99	-9999.99	0	7	4.081	42.205	0.016	0.757	-9999.99	0
1.335B	9.597	7.013	42.281	9.775	0.547	7.011	1.775	7.013	-9999.99	-9999.99	0	7	3.229	7.417	41.944	15	0	7.001	0.598	7.415	-9999.99	-9999.99	0	7	4.081	42.188	0.024	0.757	-9999.99	0
Sp27U	11.820	9.742	42.293	9.775	0.246	7	0.412	7	-9999.99	-9999.99	0	7	0	14.883	41.955	15	0.246	7	0.412	7	-9999.99	-9999.99	0	7	7.634	42.205	0.246	0.412	-9999.99	0
Sp27D	11.820	9.742	42.281	9.775	0	7	0	7	-9999.99	-9999.99	0	7	0	14.883	41.944	15	0	7	0	7	-9999.99	-9999.99	0	7	7.634	42.188	0	0	-9999.99	0
1.335D	15.095	9.510	42.281	9.775	1.328	7.026	1.847	7.01	-9999.99	-9999.99	0	7	5.115	15	41.944	15	0.298	15	0.553	7.418	-9999.99	-9999.99	0	7	11.715	42.188	0.554	0.692	-9999.99	0
1.33	15.026	9.775	41.970	10.229	0.754	7.004	1.227	7.004	-9999.99	-9999.99	0	7	-0.807	7.001	41.171	7.001	-0.246	7.001	-0.446	7.001	-9999.99	-9999.99	0	7	11.679	41.844	0.413	0.758	-9999.99	0
1.32	14.862	9.968	41.854	10.361	1.308	7.115	1.398	7.107	-9999.99	-9999.99	0	7	-1.351	7.008	41.028	7.006	-0.133	7.008	-0.359	7.008	-9999.99	-9999.99	0	7	11.674	41.697	0.147	0.189	-9999.99	0
1.319B	7.722	7.113	41.854	10.361	0.217	7.017	2.015	7.113	-9999.99	-9999.99	0	7	-1.351	7.008	41.028	7.006	-0.145	7.008	-0.382	7.008	-9999.99	-9999.99	0	7	0.786	41.697	0	0.205	-9999.99	0
1.315B	7.722	7.113	41.854	10.361	0.451	7	2.015	7.113	-9999.99	-9999.99	0	7	-1.339	7.008	41.028	7.01	-0.141	7.008	-0.373	7.008	-9999.99	-9999.99	0	7	0.786	41.693	0	0.205	-9999.99	0
Sp25U	14.408	10.071	41.854	10.361	0.094	7	0.204	7	-9999.99	-9999.99	0	7	0	7	41.028	7.006	0.094	7	0.204	7	-9999.99	-9999.99	0	7	10.889	41.697	0.094	0.204	-9999.99	0
Sp25D	14.408	10.071	41.854	10.361	0.107	7	0.224	7	-9999.99	-9999.99	0	7	0	7	41.028	7.01	0.107	7	0.224	7	-9999.99	-9999.99	0	7	10.889	41.693	0.107	0.224	-9999.99	0
1.315	14.862	9.968	41.854	10.361	1.225	7.213	1.517	7.113	-9999.99	-9999.99	0	7	-1.339	7.008	41.028	7.01	-0.151	7.008	-0.357	7.008	-9999.99	-9999.99	0	7	11.674	41.693	0.146	0.198	-9999.99	0
1.31	14.794	10.213	41.851	10.360	0.302	7.047	0.329	7.047	-9999.99	-9999.99	0	7	0.145	7.017	41.006	7.017	0.012	7.017	0.013	7	-9999.99	-9999.99	0	7	11.604	41.686	0.05	0.119	-9999.99	0
1.29	14.785	10.325	41.387	10.164	0.673	7	1.383	10.56	-9999.99	-9999.99	0	7	0.431	7.003	40.844	7.004	0.093	7.003	0.138	7.003	-9999.99	-9999.99	0	7	11.527	41.287	0.576	1.23	-9999.99	0
1.28U	14.808	10.407	41.139	9.817	0.118	12.886	0.241	10.857	-9999.99	-9999.99	0	7	-1.903	7.013	40.739	7.013	-0.076	7.013	-0.097	7.013	-9999.99	-9999.99	0	7	11.484	41.061	0.107	0.21	-9999.99	0
NBrad	5.643	8.253	41.139	9.817	0	7	0	7	-9999.99	-9999.99	0	7	0.35	15	40.739	7.013	0	7	0	7	-9999.99	-9999.99	0	7	3.407	41.061	0	0	-9999.99	0
1.28D	19.524	9.788	41.139	9.817	0.25	7.004	0.325	7.004	-9999.99	-9999.99	0	7	2.932	7.013	40.739	7.013	0.108	7.043	0.148	7.043	-9999.99	-9999.99	0	7	14.891	41.061	0.139	0.272	-9999.99	0
INT1	19.523	9.790	41.129	9.819	0.227	7.026	0.378	9.79	-9999.99	-9999.99	0	7	2.549	7.017	40.724	7	0.099	7.017	0.139	7.017	-9999.99	-9999.99	0	7	14.88	41.052	0.167	0.328	-9999.99	0
INT2	19.523	9.822	41.111	9.793	0.262	7.026	0.494	9.822	-9999.99	-9999.99	0	7	2.73	7.017	40.717	7.001	0.136	7.017	0.199	7.017	-9999.99	-9999.99	0	7	14.872	41.037	0.234	0.436	-9999.99	0
INT3	19.522	9.822	41.093	9.824	0.327	9.814	0.605	9.814	-9999.99	-9999.99	0	7	3.218	7.003	40.709	7.003	0.231	7.017	0.324	7.017	-9999.99	-9999.99	0	7	14.869	41.021	0.311	0.546	-9999.99	0
1.27U	19.521	9.824	41.030	9.790	0.691	7.101	0.959	9.847	-9999.99	-9999.99	0	7	3.354	7.004	40.657	7.004	0.579	9.693	0.718	7.01	-9999.99	-9999.99	0	7	14.867	40.961	0.597	0.899	-9999.99	0
S99BU	2.852	7.100	41.030	9.790	0	7	1.508	7.1	-9999.99	-9999.99	0	7	2.023	7.197	40.657	7.004	0	7	1.064	7.197	-9999.99	-9999.99	0	7	2.191	40.961	0	1.157	-9999.99	0
S99BD	2.852	7.100	40.957	9.806	0	7	1.508	7.1	-9999.99	-9999.99	0	7	2.023	7.197	40.554	7.004	0	7	1.064	7.197	-9999.99	-9999.99	0	7	2.191	40.886	0	1.157	-9999.99	0
Sp99U	17.357	9.824	41.030	9.790	0.468	7	0.984	7	-9999.99	-9999.99	0	7	0.767	7.004	40.657	7.004	0.468	7	0.984	7	-9999.99	-9999.99	0	7	12.675	40.961	0.468	0.984	-9999.99	0
Sp99D	17.357	9.824	40.957	9.806	0.751	7	1.314	7	-9999.99	-9999.99	0	7	0.767	7.004	40.554	7.004	0.751	7	1.314	7	-9999.99	-9999.99	0	7	12.675	40.886	0.751	1.314	-9999.99	0
1.27D	19.521	9.824	40.957	9.806	1.288	7.05	1.663	7.05	-9999.99	-9999.99	0	7	3.354	7.004	40.554	7.004	0.816	9.896	1.017	7.194	-9999.99	-9999.99	0	7	14.867	40.886	0.886	1.204	-9999.99	0
1.267	19.523	9.843	40.847	9.811	1.049	7.1	1.352	7.04	-9999.99	-9999.99	0	7	3.216	7.007	40.418	7.046	0.319	7.007	0.411	7.19	-9999.99	-9999.99	0	7	14.862	40.735	0.526	0.671	-9999.99	0
1.266	19.523	9.842	40.840	9.821	1.006	7.015	0.901	7.015	-9999.99	-9999.99	0	7	2.957	7.103	40.392	7.007	0.194	7.185	0.231	7.103	-9999.99	-9999.99	0	7	14.858	40.723	0.325	0.463	-9999.99	0
1.264	19.526	9.863	40.815	9.817	2.176	7.19	1.811	7.19	-9999.99	-9999.99	0	7	3.258	7.004	40.159	7.001	0.169	9.683	0.355	9.111	-9999.99	-9999.99	0	7	14.845	40.669	0.268	0.429	-9999.99	0
1.2631	19.527	9.864	40.807	9.815	1.702	7.196	1.373	7.196	-9999.99	-9999.99	0	7	3.195	7.004	40.146	7	0.193	9.644	0.41	8.99	-9999.99	-9999.99	0	7	14.842	40.653	0.31	0.483	-9999.99	0
CBrin	21.600	9.864	40.807	9.815	0.258	7	0.336	7	-9999.99	-9999.99	0	7	3.404	7.001	40.146	7	0.258	7	0.336	7	-9999.99	-9999.99	0	7	15.901	40.653	0.258	0.336	-9999.99	0
CvLin	0.181	7.186	40.807	9.815	2852.418	7.235	0.336	7	-9999.99	-9999.99	0	7	-1.202	9.868	40.146	7	0	7.203	0.336	7	-9999.99	-9999.99	0	7	-0.606	40.653	81.005	0.336	-9999.99	0
CvLup	0.181	7.186	40.814	9.815	0.098	7.196	0.164	7.196	-9999.99	-9999.99	0	7	-1.202	9.868	40.19	7	-0.61	7.185	-0.998	7.185	-9999.99	-9999.99	0	7	-0.606	40.663	-0.122	-0.219	-9999.99	0
CvRin	0.093	7.185	40.807	9.815	7283.059	7.235	0.336	7	-9999.99	-9999.99	0	7	-0.872	9.872	40.146	7	0	7.203	0.336	7	-9999.99	-9999.99	0	7	-0.453	40.653	151.559	0.336	-9999.99	0
CvRup	0.093	7.185	40.814	9.815	0.436	7.185	0.666	7.185	-9999.99	-9999.99	0	7	-0.872	9.872	40.19	7	-0.589	7.183	-0.908	7.183	-9999.99	-9999.99	0	7	-0.453	40.663	-0.103	-0.178	-9999.99	0
CBrouT	21.600	9.864	40.811	9.814	0.258	7	0.336	7	-9999.99	-9999.99	0	7	3.404	7.001	40.147	7	0.258	7	0.336	7	-9999.99	-9999.99	0	7	15.901	40.658	0.258	0.336	-9999.99	0
CvLdn	0.276	7.185	40.822	9.843	0.277	7.185	0.449	7.185	-9999.99	-9999.99	1	7	-1.202	9.867	40.211	7	-0.465	7.183	-0.788	7.183	-9999.99	-9999.99	1	7	-0.606	40.669	-0.119	-0.216	-9999.99	1
CvLout	0.276	7.185	40.811	9.814	0.595	7	0.556	7	-9999.99	-9999.99	0	7	-1.202	9.867	40.147	7	0.595	7	0.556	7	-9999.99	-9999.99	0	7	-0.606	40.658	0.595	0.556	-9999.99	0
CvRdn	0.381	7.183	40.819																											

Output data from file D:\TEIGNCONSULT\PROJECTS\447 - SOUTHWICK COURT TROWBRIDGE\ISIS2\A-P100CC\A-P1000CC-BR20M-R.ZZN
Selected output data from time (hr): 6 to time (hr): 15 **Model unstable outside 6.05hrs and 15.00hrs due to flood relief culverts invert level**
Using results directly from mmm file: D:\Teignconsult\Projects\447 - Southwick Court Trowbridge\ISIS2\A-P100CC\A-P1000CC-BR20m-R.mmm

Label	Max Flow	Time (hr)mx1	Max Stage	Time (hr)mx2	Max Fr	Time (hr)rr	Max Veloc	Time (hr)rr	Max Mode	Time (hr)rr	Max State	Time (hr)rr	Min Flow	Time (hr)rr	Min Stage	Time (hr)rr	Min Fr	Time (hr)rr	Min Veloc	Time (hr)rr	Min Mode	Time (hr)rr	Min State	Time (hr)rr	Mean Flow	Mean Stag	Mean Fr	Mean Velo	Mean Mod	Mean State
1.34	15.095	9.501	42.326	9.531	0.991	6.008	1.253	6	-9999.99	-9999.99	0	6	5.114	15	41.977	15	0.354	9.293	0.465	9.183	-9999.99	-9999.99	0	6	11.38	42.229	0.468	0.55	-9999.99	0
1.34U	15.095	9.510	42.324	9.531	0.989	6.01	1.212	6	-9999.99	-9999.99	0	6	5.114	15	41.975	15	0.342	9.183	0.467	9.183	-9999.99	-9999.99	0	6	11.38	42.227	0.472	0.556	-9999.99	0
1.34B	7.187	6.001	42.324	9.531	0.394	6	1.331	6.001	-9999.99	-9999.99	0	6	2.84	9.197	41.975	15	0	6.001	0.526	9.199	-9999.99	-9999.99	0	6	3.518	42.227	0.005	0.652	-9999.99	0
1.335B	7.379	6.001	42.316	9.519	0.424	6.001	1.376	6.001	-9999.99	-9999.99	0	6	2.84	9.197	41.952	6	0	6.004	0.526	9.199	-9999.99	-9999.99	0	6	3.518	42.213	0.009	0.652	-9999.99	0
Sp27U	12.248	9.524	42.324	9.531	0.246	6	0.412	6	-9999.99	-9999.99	0	6	0	15	41.975	15	0.246	6	0.412	6	-9999.99	-9999.99	0	6	7.861	42.227	0.246	0.412	-9999.99	0
Sp27D	12.248	9.524	42.316	9.519	0	6	0	6	-9999.99	-9999.99	0	6	0	15	41.952	6	0	6	0	6	-9999.99	-9999.99	0	6	7.861	42.213	0	0	-9999.99	0
1.335D	15.095	9.510	42.316	9.519	0.949	6.047	1.31	6.001	-9999.99	-9999.99	0	6	5.115	15	41.952	6	0.289	15	0.482	9.183	-9999.99	-9999.99	0	6	11.38	42.213	0.489	0.594	-9999.99	0
1.33	15.044	9.756	42.014	10.197	0.511	6.025	0.787	7.05	-9999.99	-9999.99	0	6	2.052	6.001	41.459	6	0.295	6.001	0.508	6.001	-9999.99	-9999.99	0	6	11.356	41.872	0.369	0.69	-9999.99	0
1.32	14.883	9.928	41.897	10.357	1.005	6.138	1.078	6.001	-9999.99	-9999.99	0	6	2.56	6.011	41.192	6.008	0.057	10.678	0.113	11.056	-9999.99	-9999.99	0	6	11.337	41.72	0.132	0.172	-9999.99	0
1.319B	5.912	6.114	41.897	10.357	0	6	1.542	6.114	-9999.99	-9999.99	0	6	0.405	10.979	41.192	6.008	0	6	0.106	10.979	-9999.99	-9999.99	0	6	0.713	41.72	0	0.186	-9999.99	0
1.315B	5.912	6.114	41.897	10.363	0	6	1.542	6.114	-9999.99	-9999.99	0	6	0.405	10.979	41.163	6	0	6	0.106	10.979	-9999.99	-9999.99	0	6	0.713	41.717	0	0.186	-9999.99	0
Sp25U	14.465	9.928	41.897	10.357	0.094	6	0.204	6	-9999.99	-9999.99	0	6	0	6	41.192	6.008	0.094	6	0.204	6	-9999.99	-9999.99	0	6	10.624	41.72	0.094	0.204	-9999.99	0
Sp25D	14.465	9.928	41.897	10.363	0.107	6	0.224	6	-9999.99	-9999.99	0	6	0	6	41.163	6	0.107	6	0.224	6	-9999.99	-9999.99	0	6	10.624	41.717	0.107	0.224	-9999.99	0
1.315	14.883	9.928	41.897	10.363	0.901	6.229	1.059	6	-9999.99	-9999.99	0	6	2.56	6.011	41.163	6	0.056	10.678	0.112	11.204	-9999.99	-9999.99	0	6	11.337	41.717	0.131	0.176	-9999.99	0
1.31	14.804	10.272	41.895	10.356	0.107	6.054	0.146	6.122	-9999.99	-9999.99	0	6	1.877	6.001	41.164	6.024	0.041	11.763	0.07	6.001	-9999.99	-9999.99	0	6	11.272	41.71	0.045	0.111	-9999.99	0
1.29	14.798	10.322	41.431	10.156	0.578	10.5	1.292	10.663	-9999.99	-9999.99	0	6	2.589	6.003	40.986	6.007	0.305	6.003	0.537	6.003	-9999.99	-9999.99	0	6	11.218	41.318	0.525	1.136	-9999.99	0
1.28U	14.821	10.408	41.153	9.818	0.114	12.801	0.235	10.819	-9999.99	-9999.99	0	6	2.058	6.013	40.858	6.001	0.042	6.013	0.064	6.013	-9999.99	-9999.99	0	6	11.196	41.071	0.102	0.201	-9999.99	0
NBrad	5.643	8.253	41.153	9.818	0	6	0	6	-9999.99	-9999.99	0	6	0.35	15	40.858	6.001	0	6	0	6	-9999.99	-9999.99	0	6	3.497	41.071	0	0	-9999.99	0
1.28D	19.547	9.768	41.153	9.818	0.145	6.004	0.306	9.768	-9999.99	-9999.99	0	6	5.639	6.013	40.858	6.001	0.112	6.229	0.176	6.013	-9999.99	-9999.99	0	6	14.693	41.071	0.133	0.264	-9999.99	0
INT1	19.547	9.769	41.141	9.817	0.175	9.769	0.368	9.769	-9999.99	-9999.99	0	6	5.584	6.017	40.852	6.001	0.128	6.017	0.205	6.017	-9999.99	-9999.99	0	6	14.689	41.061	0.161	0.318	-9999.99	0
INT2	19.545	9.804	41.121	9.813	0.243	9.804	0.482	9.804	-9999.99	-9999.99	0	6	5.519	6.017	40.842	6	0.182	6.017	0.282	6.017	-9999.99	-9999.99	0	6	14.687	41.045	0.225	0.424	-9999.99	0
INT3	19.545	9.819	41.102	9.821	0.317	9.847	0.591	9.847	-9999.99	-9999.99	0	6	5.559	6.018	40.835	6.006	0.262	6.347	0.384	6.017	-9999.99	-9999.99	0	6	14.686	41.028	0.301	0.531	-9999.99	0
1.27U	19.545	9.824	41.033	9.821	0.723	6.347	0.949	9.833	-9999.99	-9999.99	0	6	5.604	6.019	40.764	6	0.57	9.754	0.783	14.999	-9999.99	-9999.99	0	6	14.685	40.962	0.589	0.886	-9999.99	0
S99BU	2.796	6.000	41.033	9.821	0	6	1.477	6	-9999.99	-9999.99	0	6	1.877	9.885	40.764	6	0	6	0.991	9.885	-9999.99	-9999.99	0	6	1.979	40.962	0	1.045	-9999.99	0
S99BD	2.796	6.000	40.979	9.821	0	6	1.477	6	-9999.99	-9999.99	0	6	1.877	9.915	40.639	6	0	6	0.991	9.915	-9999.99	-9999.99	0	6	1.979	40.901	0	1.045	-9999.99	0
Sp99U	17.667	9.821	41.033	9.821	0.468	6	0.984	6	-9999.99	-9999.99	0	6	2.91	6.007	40.764	6	0.468	6	0.984	6	-9999.99	-9999.99	0	6	12.706	40.962	0.468	0.984	-9999.99	0
Sp99D	17.667	9.821	40.979	9.821	0.751	6	1.314	6	-9999.99	-9999.99	0	6	2.91	6.007	40.639	6	0.751	6	1.314	6	-9999.99	-9999.99	0	6	12.706	40.901	0.751	1.314	-9999.99	0
1.27D	19.545	9.824	40.979	9.821	1.217	6.347	1.532	6	-9999.99	-9999.99	0	6	5.604	6.019	40.639	6	0.732	9.885	1.063	14.997	-9999.99	-9999.99	0	6	14.685	40.901	0.811	1.121	-9999.99	0
1.267	19.550	9.822	40.889	9.824	1.589	6.346	2.088	6.344	-9999.99	-9999.99	0	6	5.173	6.007	40.403	6.001	0.299	9.806	0.508	9.751	-9999.99	-9999.99	0	6	14.681	40.76	0.443	0.63	-9999.99	0
1.266	19.555	9.883	40.881	9.822	0.647	6	0.686	6	-9999.99	-9999.99	0	6	3.771	6.346	40.494	6	0.199	9.792	0.276	6.346	-9999.99	-9999.99	0	6	14.678	40.751	0.28	0.417	-9999.99	0
1.264	19.561	9.917	40.857	9.828	0.924	6.001	0.777	6.001	-9999.99	-9999.99	0	6	4.607	6.008	40.36	6.011	0.149	9.686	0.325	8.757	-9999.99	-9999.99	0	6	14.668	40.704	0.224	0.364	-9999.99	0
1.2631	19.574	9.915	40.849	9.826	1.663	6	1.35	6	-9999.99	-9999.99	0	6	4.609	6.011	40.307	6	0.172	9.506	0.375	8.608	-9999.99	-9999.99	0	6	14.665	40.689	0.263	0.422	-9999.99	0
CBrin	21.867	9.922	40.849	9.826	0.258	6	0.336	6	-9999.99	-9999.99	0	6	4.55	6.011	40.307	6	0.258	6	0.336	6	-9999.99	-9999.99	0	6	15.854	40.689	0.258	0.336	-9999.99	0
CvLin	0.291	6.000	40.849	9.826	1024672	6.083	0.336	6	-9999.99	-9999.99	0	6	-1.237	9.935	40.307	6	0	6.008	0.336	6	-9999.99	-9999.99	0	6	-0.659	40.689	2209.909	0.336	-9999.99	0
CvLup	0.291	6.000	40.855	9.826	0.078	6.003	0.129	6.003	-9999.99	-9999.99	0	6	-1.237	9.935	40.32	6.01	-0.15	11.228	-0.293	10.55	-9999.99	-9999.99	0	6	-0.659	40.697	-0.113	-0.21	-9999.99	0
CvRin	0.299	6.000	40.849	9.826	185995.4	6	0.336	6	-9999.99	-9999.99	0	6	-1.092	9.867	40.307	6	0	6.036	0.336	6	-9999.99	-9999.99	0	6	-0.531	40.689	239.546	0.336	-9999.99	0
CvRup	0.299	6.000	40.855	9.826	0.086	6.004	0.133	6.004	-9999.99	-9999.99	0	6	-1.092	9.867	40.32	6.019	-0.146	6.349	-0.272	9.906	-9999.99	-9999.99	0	6	-0.531	40.697	-0.1	-0.18	-9999.99	0
CBrouT	21.867	9.922	40.853	9.835	0.258	6	0.336	6	-9999.99	-9999.99	0	6	4.55	6.011	40.325	6	0.258	6	0.336	6	-9999.99	-9999.99	0	6	15.854	40.694	0.258	0.336	-9999.99	0
CvLdn	0.259	6.001	40.862	9.851	0.188	6.001	0.31	6.001	-9999.99	-9999.99	1	6	-1.226	9.921	40.332	6.008	-0.154	6.347	-0.29	10.214	-9999.99	-9999.99	1	6	-0.659	40.701	-0.112	-0.208	-9999.99	1
CvLout	0.259	6.001	40.853	9.835	0.595	6	0.556	6	-9999.99	-9999.99	0	6	-1.226	9.921	40.325	6	0.595	6	0.556	6	-9999.99	-9999.99	0	6	-0.659	40.694	0.595	0.556	-9999.99	0
CvRdn	0.258	6.001	40.860	9.835	0.201	6.001	0.319	6.001	-9999.99	-9999.99	1	6																		

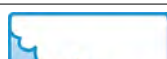
APPENDIX 3

Surface Water Drainage Proposals

1. MicroDrainage outputs for:
 - (i) West catchment simulations
 - (ii) Merged North & Southeast catchment Simulations

3(i) West catchment

1. Simulation outputs West network - 30 minute summer 100yrCC40% storm
2. Simulation outputs West network – Critical storm 960 minute winter 100yrCC40% storm

TeignConsult		Page 1
9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	West Highway CKDS to Swale & Pond surcharged outfal Critical Storm 30min summer	
Date 22/07/22 15:34	Designed by NAS	
File West network Surch Out 30 min	Checked by	
XP Solutions	Network 2017.1.2	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	100	PIMP (%)	100
M5-60 (mm)	20.400	Add Flow / Climate Change (%)	0
Ratio R	0.383	Minimum Backdrop Height (m)	0.000
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Inverts

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.057	4-8	0.203

Total Area Contributing (ha) = 0.260

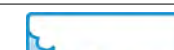
Total Pipe Volume (m³) = 471.745

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
1.000	308.770	0.620	498.0	0.207	4.00	0.0	0.600	\/	-24	Pipe/Conduit
1.001	3.260	0.125	26.1	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit
2.000	15.470	0.595	26.0	0.053	4.00	0.0	0.600	o	225	Pipe/Conduit
1.002	5.320	0.155	34.3	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit
1.003	4.230	0.030	141.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit
1.004	16.010	0.080	200.1	0.000	0.00	0.0	0.600	\/	-22	Pipe/Conduit
1.005	43.360	0.290	149.5	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	50.00	6.95	41.500	0.207	0.0	0.0	0.0	1.74	2407.4	28.0
1.001	50.00	6.97	40.880	0.207	0.0	0.0	0.0	3.09	218.5	28.0
2.000	50.00	4.10	41.350	0.053	0.0	0.0	0.0	2.58	102.4	7.2
1.002	50.00	7.01	40.755	0.260	0.0	0.0	0.0	2.69	190.3	35.2
1.003	50.00	7.06	40.100	0.260	0.0	0.0	0.0	1.32	93.5	35.2
1.004	50.00	7.14	40.070	0.260	0.0	0.0	0.0	3.18	8026.3	35.2
1.005	50.00	7.71	39.990	0.260	0.0	0.0	0.0	1.28	90.7	35.2

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9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	West Highway CKDS to Swale & Pond surcharged outfall Critical Storm 30min summer	
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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
1	42.000	0.500	Junction		1.000	41.500	-24				
2	42.000	1.120	Junction	0	1.001	40.880	300	1.000	40.880	-24	
3	42.400	1.050	Open Manhole	1200	2.000	41.350	225				
4	41.200	0.445	Open Manhole	1200	1.002	40.755	300	1.001	40.755	300	
								2.000	40.755	225	
5	40.900	0.800	Open Manhole		1.003	40.100	300	1.002	40.600	300	500
6	40.500	0.430	Junction		1.004	40.070	-22	1.003	40.070	300	
7	40.420	0.430	Junction	0	1.005	39.990	300	1.004	39.990	-22	
Lambrok	40.200	0.500	Open Manhole	0		OUTFALL		1.005	39.700	300	

TeignConsult		Page 3
9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	West Highway CKDS to Swale & Pond surcharged outfal Critical Storm 30min summer	
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File West network Surch Out 30 min	Checked by	
XP Solutions	Network 2017.1.2	

PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	\/	-24	1	42.000	41.500	-0.100	Junction	
1.001	o	300	2	42.000	40.880	0.820	Junction	
2.000	o	225	3	42.400	41.350	0.825	Open Manhole	1200
1.002	o	300	4	41.200	40.755	0.145	Open Manhole	1200
1.003	o	300	5	40.900	40.100	0.500	Open Manhole	1200
1.004	\/	-22	6	40.500	40.070	-0.170	Junction	
1.005	o	300	7	40.420	39.990	0.130	Junction	

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	308.770	498.0	2	42.000	40.880	0.520	Junction	
1.001	3.260	26.1	4	41.200	40.755	0.145	Open Manhole	1200
2.000	15.470	26.0	4	41.200	40.755	0.220	Open Manhole	1200
1.002	5.320	34.3	5	40.900	40.600	0.000	Open Manhole	1200
1.003	4.230	141.0	6	40.500	40.070	0.130	Junction	
1.004	16.010	200.1	7	40.420	39.990	-0.170	Junction	
1.005	43.360	149.5	Lambrok	40.200	39.700	0.200	Open Manhole	0

Surcharged Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
------------------------	-----------------	-----------------	-----------------	------------------------	-------------	-----------

1.005 Lambrok 40.200 39.700 0.000 0 0

Datum (m) 39.300 Offset (mins) 0

Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)
15	0.000	180	0.580	345	1.090	510	1.250	675	1.230	840	1.070	1005	0.690
30	0.050	195	0.640	360	1.100	525	1.260	690	1.230	855	1.050	1020	0.640
45	0.110	210	0.690	375	1.140	540	1.260	705	1.220	870	1.040	1035	0.590
60	0.160	225	0.740	390	1.170	555	1.270	720	1.210	885	1.040	1050	0.540
75	0.210	240	0.790	405	1.200	570	1.270	735	1.210	900	1.030	1065	0.500
90	0.260	255	0.850	420	1.210	585	1.260	750	1.190	915	0.990	1080	0.450
105	0.320	270	0.900	435	1.210	600	1.260	765	1.170	930	0.940	1095	0.400
120	0.370	285	0.950	450	1.220	615	1.250	780	1.150	945	0.890	1110	0.350
135	0.420	300	1.010	465	1.230	630	1.250	795	1.130	960	0.840	1125	0.310
150	0.480	315	1.060	480	1.240	645	1.240	810	1.110	975	0.790	1140	0.270
165	0.530	330	1.080	495	1.240	660	1.240	825	1.080	990	0.740	1155	0.240

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9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	West Highway CKDS to Swale & Pond surcharged outfal Critical Storm 30min summer	
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XP Solutions	Network 2017.1.2	

Simulation Criteria for Storm

Volumetric Runoff Coeff	0.750	Foul Sewage per hectare (l/s)	0.000
Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	45.000
Hot Start (mins)	0	MADD Factor * 10m ³ /ha Storage	0.000
Hot Start Level (mm)	0	Run Time (mins)	60
Manhole Headloss Coeff (Global)	0.500	Output Interval (mins)	1
Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0			
Number of Online Controls 1 Number of Storage Structures 1			

Synthetic Rainfall Details

Rainfall Model	FEH	Summer Storms	Yes
Return Period (years)	100	Winter Storms	No
FEH Rainfall Version	2013	Cv (Summer)	0.750
Site Location	GB 384550 156050 ST 84550 56050	Cv (Winter)	0.840
Data Type	Catchment	Storm Duration (mins)	30

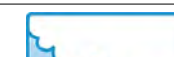
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9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	West Highway CKDS to Swale & Pond surcharged outfal Critical Storm 30min summer	
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Online Controls for Storm

Crown Vortex Valve® Manhole: 6, DS/PN: 1.004, Volume (m³): 0.3

Design Head (m) 0.620 Vortex Valve® Type R1 SW Only Invert Level (m) 40.070
Design Flow (l/s) 1.8 Diameter (mm) 62

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.8	0.800	2.0	2.000	3.2	4.000	4.5	7.000	6.0
0.200	1.0	1.000	2.3	2.200	3.4	4.500	4.8	7.500	6.2
0.300	1.2	1.200	2.5	2.400	3.5	5.000	5.1	8.000	6.4
0.400	1.4	1.400	2.7	2.600	3.7	5.500	5.3	8.500	6.6
0.500	1.6	1.600	2.9	3.000	3.9	6.000	5.6	9.000	6.8
0.600	1.8	1.800	3.1	3.500	4.3	6.500	5.8	9.500	7.0

TeignConsult		Page 6
9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	West Highway CKDS to Swale & Pond surcharged outfall Critical Storm 30min summer	
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XP Solutions	Network 2017.1.2	

Storage Structures for Storm

Tank or Pond Manhole: 5, DS/PN: 1.003

Invert Level (m) 40.100

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	420.2	0.600	584.1	1.200	0.0	1.800	0.0	2.400	0.0
0.100	445.9	0.700	613.6	1.300	0.0	1.900	0.0	2.500	0.0
0.200	472.2	0.800	643.7	1.400	0.0	2.000	0.0		
0.300	499.2	0.900	674.4	1.500	0.0	2.100	0.0		
0.400	526.9	1.000	0.0	1.600	0.0	2.200	0.0		
0.500	555.2	1.100	0.0	1.700	0.0	2.300	0.0		

TeignConsult		Page 7
9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	West Highway CKDS to Swale & Pond surcharged outfal Critical Storm 30min summer	
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Summary of Results for 30 minute 100 year Summer (Storm)

Margin for Flood Risk Warning (mm) 300.0 DVD Status OFF
 Analysis Timestep Fine Inertia Status OFF
 DTS Status ON

PN	US/MH Name	Water	Surcharged	Flooded	Pipe		Status
		Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	
1.000	1	41.649	-0.451	0.000	0.04	100.4	OK
1.001	2	41.105	-0.075	0.000	0.91	80.8	OK*
2.000	3	41.443	-0.132	0.000	0.36	32.4	OK
1.002	4	41.001	-0.054	0.000	1.00	98.2	FLOOD RISK
1.003	5	40.304	-0.096	0.000	0.03	1.9	OK
1.004	6	40.325	-0.345	0.000	0.00	1.1	FLOOD RISK*
1.005	7	40.007	-0.283	0.000	0.01	1.1	OK*

TeignConsult		Page 1
9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	West Highway CKDS to Swale & Pond surcharged outfal Critical Storm 960min winter	
Date 22/07/22 15:36	Designed by NAS	
File West network Surch Out 960	Checked by	
XP Solutions	Network 2017.1.2	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	100	PIMP (%)	100
M5-60 (mm)	20.400	Add Flow / Climate Change (%)	0
Ratio R	0.383	Minimum Backdrop Height (m)	0.000
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Inverts

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.057	4-8	0.203

Total Area Contributing (ha) = 0.260

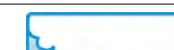
Total Pipe Volume (m³) = 471.745

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
1.000	308.770	0.620	498.0	0.207	4.00	0.0	0.600	\	-24	Pipe/Conduit
1.001	3.260	0.125	26.1	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit
2.000	15.470	0.595	26.0	0.053	4.00	0.0	0.600	o	225	Pipe/Conduit
1.002	5.320	0.155	34.3	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit
1.003	4.230	0.030	141.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit
1.004	16.010	0.080	200.1	0.000	0.00	0.0	0.600	\	-22	Pipe/Conduit
1.005	43.360	0.290	149.5	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	50.00	6.95	41.500	0.207	0.0	0.0	0.0	1.74	2407.4	28.0
1.001	50.00	6.97	40.880	0.207	0.0	0.0	0.0	3.09	218.5	28.0
2.000	50.00	4.10	41.350	0.053	0.0	0.0	0.0	2.58	102.4	7.2
1.002	50.00	7.01	40.755	0.260	0.0	0.0	0.0	2.69	190.3	35.2
1.003	50.00	7.06	40.100	0.260	0.0	0.0	0.0	1.32	93.5	35.2
1.004	50.00	7.14	40.070	0.260	0.0	0.0	0.0	3.18	8026.3	35.2
1.005	50.00	7.71	39.990	0.260	0.0	0.0	0.0	1.28	90.7	35.2

TeignConsult		Page 2
9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	West Highway CKDS to Swale & Pond surcharged outfall Critical Storm 960min winter	
Date 22/07/22 15:36 File West network Surch Out 960	Designed by NAS Checked by	
XP Solutions	Network 2017.1.2	

Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
1	42.000	0.500	Junction		1.000	41.500	-24				
2	42.000	1.120	Junction	0	1.001	40.880	300	1.000	40.880	-24	
3	42.400	1.050	Open Manhole	1200	2.000	41.350	225				
4	41.200	0.445	Open Manhole	1200	1.002	40.755	300	1.001	40.755	300	
								2.000	40.755	225	
5	40.900	0.800	Open Manhole		1.003	40.100	300	1.002	40.600	300	500
6	40.500	0.430	Junction		1.004	40.070	-22	1.003	40.070	300	
7	40.420	0.430	Junction	0	1.005	39.990	300	1.004	39.990	-22	
Lambrok	40.200	0.500	Open Manhole	0		OUTFALL		1.005	39.700	300	

TeignConsult		Page 3
9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	West Highway CKDS to Swale & Pond surcharged outfall Critical Storm 960min winter	
Date 22/07/22 15:36	Designed by NAS	
File West network Surch Out 960	Checked by	
XP Solutions	Network 2017.1.2	

PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	\/	-24	1	42.000	41.500	-0.100	Junction	
1.001	o	300	2	42.000	40.880	0.820	Junction	
2.000	o	225	3	42.400	41.350	0.825	Open Manhole	1200
1.002	o	300	4	41.200	40.755	0.145	Open Manhole	1200
1.003	o	300	5	40.900	40.100	0.500	Open Manhole	1200
1.004	\/	-22	6	40.500	40.070	-0.170	Junction	
1.005	o	300	7	40.420	39.990	0.130	Junction	

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	308.770	498.0	2	42.000	40.880	0.520	Junction	
1.001	3.260	26.1	4	41.200	40.755	0.145	Open Manhole	1200
2.000	15.470	26.0	4	41.200	40.755	0.220	Open Manhole	1200
1.002	5.320	34.3	5	40.900	40.600	0.000	Open Manhole	1200
1.003	4.230	141.0	6	40.500	40.070	0.130	Junction	
1.004	16.010	200.1	7	40.420	39.990	-0.170	Junction	
1.005	43.360	149.5	Lambrok	40.200	39.700	0.200	Open Manhole	0

Surcharged Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
---------------------	--------------	--------------	--------------	------------------	----------	--------

1.005 Lambrok 40.200 39.700 0.000 0 0

Datum (m) 39.300 Offset (mins) 0

Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)
15	0.000	180	0.580	345	1.090	510	1.250	675	1.230	840	1.070	1005	0.690
30	0.050	195	0.640	360	1.100	525	1.260	690	1.230	855	1.050	1020	0.640
45	0.110	210	0.690	375	1.140	540	1.260	705	1.220	870	1.040	1035	0.590
60	0.160	225	0.740	390	1.170	555	1.270	720	1.210	885	1.040	1050	0.540
75	0.210	240	0.790	405	1.200	570	1.270	735	1.210	900	1.030	1065	0.500
90	0.260	255	0.850	420	1.210	585	1.260	750	1.190	915	0.990	1080	0.450
105	0.320	270	0.900	435	1.210	600	1.260	765	1.170	930	0.940	1095	0.400
120	0.370	285	0.950	450	1.220	615	1.250	780	1.150	945	0.890	1110	0.350
135	0.420	300	1.010	465	1.230	630	1.250	795	1.130	960	0.840	1125	0.310
150	0.480	315	1.060	480	1.240	645	1.240	810	1.110	975	0.790	1140	0.270
165	0.530	330	1.080	495	1.240	660	1.240	825	1.080	990	0.740	1155	0.240

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9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	West Highway CKDS to Swale & Pond surcharged outfall Critical Storm 960min winter	
Date 22/07/22 15:36	Designed by NAS	
File West network Surch Out 960	Checked by	
XP Solutions	Network 2017.1.2	

Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Foul Sewage per hectare (l/s)	0.000
Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	45.000
Hot Start (mins)	0	MADD Factor * 10m ³ /ha Storage	0.000
Hot Start Level (mm)	0	Run Time (mins)	1920
Manhole Headloss Coeff (Global)	0.500	Output Interval (mins)	16
Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0			
Number of Online Controls 1 Number of Storage Structures 1			

Synthetic Rainfall Details

Rainfall Model	FEH	Summer Storms	No
Return Period (years)	100	Winter Storms	Yes
FEH Rainfall Version	2013	Cv (Summer)	0.750
Site Location	GB 384550 156050 ST 84550 56050	Cv (Winter)	0.840
Data Type	Catchment	Storm Duration (mins)	960

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9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	West Highway CKDS to Swale & Pond surcharged outfall Critical Storm 960min winter	
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Online Controls for Storm

Crown Vortex Valve® Manhole: 6, DS/PN: 1.004, Volume (m³): 0.3

Design Head (m) 0.620 Vortex Valve® Type R1 SW Only Invert Level (m) 40.070
Design Flow (l/s) 1.8 Diameter (mm) 62

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.8	0.800	2.0	2.000	3.2	4.000	4.5	7.000	6.0
0.200	1.0	1.000	2.3	2.200	3.4	4.500	4.8	7.500	6.2
0.300	1.2	1.200	2.5	2.400	3.5	5.000	5.1	8.000	6.4
0.400	1.4	1.400	2.7	2.600	3.7	5.500	5.3	8.500	6.6
0.500	1.6	1.600	2.9	3.000	3.9	6.000	5.6	9.000	6.8
0.600	1.8	1.800	3.1	3.500	4.3	6.500	5.8	9.500	7.0

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9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	West Highway CKDS to Swale & Pond surcharged outfal Critical Storm 960min winter	
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Storage Structures for Storm

Tank or Pond Manhole: 5, DS/PN: 1.003

Invert Level (m) 40.100

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	420.2	0.600	584.1	1.200	0.0	1.800	0.0	2.400	0.0
0.100	445.9	0.700	613.6	1.300	0.0	1.900	0.0	2.500	0.0
0.200	472.2	0.800	643.7	1.400	0.0	2.000	0.0		
0.300	499.2	0.900	674.4	1.500	0.0	2.100	0.0		
0.400	526.9	1.000	0.0	1.600	0.0	2.200	0.0		
0.500	555.2	1.100	0.0	1.700	0.0	2.300	0.0		

TeignConsult		Page 7
9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	West Highway CKDS to Swale & Pond surcharged outfal Critical Storm 960min winter	
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XP Solutions	Network 2017.1.2	

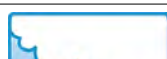
Summary of Results for 960 minute 100 year Winter (Storm)

Margin for Flood Risk Warning (mm) 300.0 DVD Status OFF
 Analysis Timestep Fine Inertia Status OFF
 DTS Status ON

PN	US/MH Name	Water			Surcharged		Flooded		Pipe Flow (l/s)	Status
		Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Volume (m³)	Flow / Cap.		
1.000	1	41.528	-0.572	0.000	0.00	9.9			9.9	OK
1.001	2	40.946	-0.234	0.000	0.11	9.9			9.9	OK*
2.000	3	41.375	-0.200	0.000	0.03	2.5			2.5	OK
1.002	4	40.825	-0.230	0.000	0.13	12.4			12.4	OK
1.003	5	40.557	0.157	0.000	0.27	15.8			15.8	SURCHARGED
1.004	6	40.557	-0.113	56.892	0.00	1.6			1.6	FLOOD
1.005	7	40.422	0.132	1.554	0.05	4.5			4.5	FLOOD

3(ii) Merged North & Southeast catchment simulations

1. Simulation outputs North, South & East network – 30 minute summer 100yrCC40% storm with surcharged outfall
2. Simulation outputs North, South & East network – Critical storm 960 minute winter 100yrCC40% storm with surcharged outfall

TeignConsult		Page 1
9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	N & S & E catchment areas inc SW flood risk areas of 0.660ha to pond and surcharged outfall	
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STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FEH Rainfall Model	
Return Period (years)	100
FEH Rainfall Version	2013
Site Location GB 384550 156050 ST 84550 56050	
Data Type	Catchment
Maximum Rainfall (mm/hr)	50
Maximum Time of Concentration (mins)	30
Foul Sewage (l/s/ha)	0.000
Volumetric Runoff Coeff.	0.750
PIMP (%)	100
Add Flow / Climate Change (%)	0
Minimum Backdrop Height (m)	0.000
Maximum Backdrop Height (m)	1.500
Min Design Depth for Optimisation (m)	1.200
Min Vel for Auto Design only (m/s)	1.00
Min Slope for Optimisation (1:X)	500

Designed with Level Inverts

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	1.530	4-8	3.019	8-12	0.057

Total Area Contributing (ha) = 4.606

Total Pipe Volume (m³) = 3762.290

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
1.000	31.490	0.210	150.0	0.070	5.00	0.0	0.600	o	150	Pipe/Conduit
1.001	38.550	0.200	192.8	0.073	0.00	0.0	0.600	\	-25	Pipe/Conduit
2.000	28.090	0.280	100.3	0.041	5.00	0.0	0.600	o	150	Pipe/Conduit
1.002	34.930	0.410	85.2	0.064	0.00	0.0	0.600	o	225	Pipe/Conduit

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	50.00	5.64	42.310	0.070	0.0	0.0	0.0	0.82	14.5	9.5
1.001	50.00	5.78	42.100	0.143	0.0	0.0	0.0	4.74	20464.5	19.4
2.000	50.00	5.47	42.280	0.041	0.0	0.0	0.0	1.00	17.7	5.6
1.002	50.00	6.19	41.900	0.248	0.0	0.0	0.0	1.42	56.4	33.6

TeignConsult		Page 2
9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	N & S & E catchment areas inc SW flood risk areas of 0.660ha to pond and surcharged outfall	
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File N&SE 30Min summer Surcharge	Checked by	
XP Solutions	Network 2017.1.2	

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
3.000	27.190	0.700	38.8	0.139	5.00	0.0	0.600	o	225	Pipe/Conduit
1.003	10.620	0.080	132.8	0.024	0.00	0.0	0.600	o	300	Pipe/Conduit
1.004	23.440	0.090	260.4	0.000	0.00	0.0	0.600	\	-25	Pipe/Conduit
4.000	21.150	0.200	105.8	0.049	5.00	0.0	0.600	o	150	Pipe/Conduit
1.005	23.560	0.100	235.6	0.000	0.00	0.0	0.600	\	-25	Pipe/Conduit
1.006	23.840	0.100	238.4	0.000	0.00	0.0	0.600	\	-25	Pipe/Conduit
5.000	43.380	0.290	149.6	0.040	5.00	0.0	0.600	o	150	Pipe/Conduit
6.000	43.050	0.290	148.4	0.067	5.00	0.0	0.600	o	225	Pipe/Conduit
5.001	40.470	0.170	238.1	0.065	0.00	0.0	0.600	\	-25	Pipe/Conduit
5.002	8.610	0.070	123.0	0.104	0.00	0.0	0.600	\	-25	Pipe/Conduit
5.003	18.000	0.200	90.0	0.054	0.00	0.0	0.600	\	-25	Pipe/Conduit
7.000	32.730	0.380	86.1	0.088	5.00	0.0	0.600	o	225	Pipe/Conduit
5.004	11.970	0.080	149.6	0.025	0.00	0.0	0.600	o	300	Pipe/Conduit
5.005	44.000	0.150	293.3	0.188	0.00	0.0	0.600	\	-25	Pipe/Conduit
5.006	4.030	0.030	134.3	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit
8.000	32.880	0.340	96.7	0.098	5.00	0.0	0.600	o	225	Pipe/Conduit

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
3.000	50.00	5.22	42.190	0.139	0.0	0.0	0.0	2.11	83.7	18.8
1.003	50.00	6.32	41.490	0.411	0.0	0.0	0.0	1.36	96.3	55.7
1.004	50.00	6.41	41.410	0.411	0.0	0.0	0.0	4.07	17597.3	55.7
4.000	50.00	5.36	42.550	0.049	0.0	0.0	0.0	0.98	17.3	6.6
1.005	50.00	6.51	41.320	0.460	0.0	0.0	0.0	4.28	18504.8	62.3
1.006	50.00	6.60	41.220	0.460	0.0	0.0	0.0	4.26	18395.5	62.3
5.000	50.00	5.88	42.000	0.040	0.0	0.0	0.0	0.82	14.5	5.4
6.000	50.00	5.67	42.000	0.067	0.0	0.0	0.0	1.07	42.6	9.1
5.001	50.00	6.04	41.710	0.172	0.0	0.0	0.0	4.26	18408.7	23.3
5.002	50.00	6.06	41.540	0.276	0.0	0.0	0.0	5.93	25632.3	37.4
5.003	50.00	6.11	41.470	0.330	0.0	0.0	0.0	6.94	29975.0	44.7
7.000	50.00	5.39	41.650	0.088	0.0	0.0	0.0	1.41	56.1	11.9
5.004	50.00	6.26	41.270	0.443	0.0	0.0	0.0	1.28	90.7	60.0
5.005	50.00	6.45	41.190	0.631	0.0	0.0	0.0	3.84	16578.3	85.4
5.006	50.00	6.50	41.040	0.631	0.0	0.0	0.0	1.56	172.5	85.4
8.000	50.00	5.41	41.350	0.098	0.0	0.0	0.0	1.33	52.9	13.3

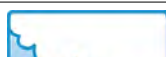
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9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	N & S & E catchment areas inc SW flood risk areas of 0.660ha to pond and surcharged outfall	
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XP Solutions	Network 2017.1.2	

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
5.007	4.890	0.030	163.0	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit
5.008	23.730	0.080	296.6	0.006	0.00	0.0	0.600	\	-25	Pipe/Conduit
9.000	24.540	0.390	62.9	0.073	5.00	0.0	0.600	o	225	Pipe/Conduit
9.001	24.510	0.190	129.0	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit
10.000	26.150	0.180	145.3	0.029	5.00	0.0	0.600	o	150	Pipe/Conduit
11.000	38.940	0.480	81.1	0.070	5.00	0.0	0.600	o	225	Pipe/Conduit
9.002	74.590	0.460	162.2	0.180	0.00	0.0	0.600	o	375	Pipe/Conduit
12.000	33.290	0.230	144.7	0.087	5.00	0.0	0.600	o	225	Pipe/Conduit
13.000	37.210	0.790	47.1	0.031	5.00	0.0	0.600	o	225	Pipe/Conduit
9.003	4.080	0.030	136.0	0.046	0.00	0.0	0.600	o	375	Pipe/Conduit
9.004	11.200	0.040	280.0	0.000	0.00	0.0	0.600	\	-25	Pipe/Conduit
14.000	65.530	0.220	297.9	0.322	5.00	0.0	0.600	\	-27	Pipe/Conduit
14.001	18.730	0.900	20.8	0.075	0.00	0.0	0.600	\	-25	Pipe/Conduit
14.002	8.670	0.080	108.4	0.000	0.00	0.0	0.600	\	-25	Pipe/Conduit
14.003	10.720	0.040	268.0	0.000	0.00	0.0	0.600	\	-25	Pipe/Conduit
15.000	17.740	0.200	88.7	0.075	5.00	0.0	0.600	\	-26	Pipe/Conduit

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	I.Area (ha)	Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
5.007	50.00	6.56	41.010	0.729	0.0	0.0	0.0	1.42	156.4	98.7
5.008	50.00	6.66	40.980	0.735	0.0	0.0	0.0	3.82	16485.7	99.5
9.000	50.00	5.25	42.050	0.073	0.0	0.0	0.0	1.65	65.7	9.9
9.001	50.00	5.60	41.660	0.073	0.0	0.0	0.0	1.15	45.7	9.9
10.000	50.00	5.52	41.650	0.029	0.0	0.0	0.0	0.83	14.7	3.9
11.000	50.00	5.45	41.950	0.070	0.0	0.0	0.0	1.45	57.8	9.5
9.002	50.00	6.48	41.470	0.352	0.0	0.0	0.0	1.42	156.9	47.7
12.000	50.00	5.51	41.240	0.087	0.0	0.0	0.0	1.08	43.1	11.8
13.000	50.00	5.32	41.800	0.031	0.0	0.0	0.0	1.91	76.0	4.2
9.003	50.00	6.52	41.010	0.516	0.0	0.0	0.0	1.55	171.4	69.9
9.004	50.00	6.57	40.980	0.516	0.0	0.0	0.0	3.93	16969.7	69.9
14.000	50.00	5.41	42.920	0.322	0.0	0.0	0.0	2.63	3318.5	43.6
14.001	50.00	5.44	42.700	0.397	0.0	0.0	0.0	14.44	62396.9	53.8
14.002	50.00	5.46	41.800	0.397	0.0	0.0	0.0	6.32	27310.9	53.8
14.003	50.00	5.50	41.720	0.397	0.0	0.0	0.0	4.02	17346.7	53.8
15.000	50.00	5.07	42.900	0.075	0.0	0.0	0.0	4.19	6047.7	10.2

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
14.004	16.850	0.100	168.5	0.000	0.00	0.0	0.600	\	-25	Pipe/Conduit
16.000	36.710	0.775	47.4	0.069	5.00	0.0	0.600	o	225	Pipe/Conduit
14.005	17.820	0.070	254.6	0.053	0.00	0.0	0.600	\	-25	Pipe/Conduit
14.006	34.790	0.220	158.1	0.091	0.00	0.0	0.600	\	-25	Pipe/Conduit
14.007	20.370	0.080	254.6	0.057	0.00	0.0	0.600	\	-25	Pipe/Conduit
14.008	7.290	0.050	145.8	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit
17.000	42.790	0.890	48.1	0.121	5.00	0.0	0.600	o	225	Pipe/Conduit
14.009	7.370	0.030	245.7	0.000	0.00	0.0	0.600	\	-25	Pipe/Conduit
18.000	63.240	0.850	74.4	0.218	5.00	0.0	0.600	\	-25	Pipe/Conduit
18.001	26.980	0.180	149.9	0.062	0.00	0.0	0.600	o	375	Pipe/Conduit
19.000	37.580	0.740	50.8	0.077	5.00	0.0	0.600	o	225	Pipe/Conduit
18.002	31.450	0.210	149.8	0.117	0.00	0.0	0.600	o	375	Pipe/Conduit
18.003	29.090	0.460	63.2	0.084	0.00	0.0	0.600	\	-25	Pipe/Conduit
18.004	14.870	0.100	148.7	0.036	0.00	0.0	0.600	o	375	Pipe/Conduit
20.000	46.910	0.450	104.2	0.219	5.00	0.0	0.600	o	300	Pipe/Conduit
20.001	45.570	0.160	284.8	0.040	0.00	0.0	0.600	\	-25	Pipe/Conduit
20.002	4.120	0.030	137.3	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
14.004	50.00	5.56	41.680	0.472	0.0	0.0	0.0	5.07	21891.6	63.9
16.000	50.00	5.32	42.355	0.069	0.0	0.0	0.0	1.91	75.8	9.3
14.005	50.00	5.63	41.580	0.594	0.0	0.0	0.0	4.12	17799.8	80.4
14.006	50.00	5.74	41.510	0.685	0.0	0.0	0.0	5.23	22599.4	92.8
14.007	50.00	5.82	41.290	0.742	0.0	0.0	0.0	4.12	17797.9	100.5
14.008	50.00	5.91	41.210	0.742	0.0	0.0	0.0	1.50	165.5	100.5
17.000	50.00	5.38	42.050	0.121	0.0	0.0	0.0	1.89	75.2	16.4
14.009	50.00	5.93	41.160	0.863	0.0	0.0	0.0	4.19	18120.6	116.9
18.000	50.00	5.14	44.000	0.218	0.0	0.0	0.0	7.63	32973.8	29.5
18.001	50.00	5.44	42.650	0.280	0.0	0.0	0.0	1.48	163.2	37.9
19.000	50.00	5.34	43.210	0.077	0.0	0.0	0.0	1.84	73.2	10.4
18.002	50.00	5.80	42.470	0.474	0.0	0.0	0.0	1.48	163.3	64.2
18.003	50.00	5.86	42.260	0.558	0.0	0.0	0.0	8.28	35770.2	75.6
18.004	50.00	6.02	41.500	0.594	0.0	0.0	0.0	1.48	163.9	80.4
20.000	50.00	5.51	43.650	0.219	0.0	0.0	0.0	1.54	108.8	29.7
20.001	50.00	5.70	43.200	0.259	0.0	0.0	0.0	3.89	16825.3	35.1
20.002	50.00	5.75	43.040	0.259	0.0	0.0	0.0	1.34	94.7	35.1

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9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	N & S & E catchment areas inc SW flood risk areas of 0.660ha to pond and surcharged outfall	
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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
21.000	49.590	1.340	37.0	0.125	5.00	0.0	0.600	o	225	Pipe/Conduit
20.003	32.290	0.220	146.8	0.022	0.00	0.0	0.600	o	300	Pipe/Conduit
20.004	68.420	1.390	49.2	0.067	0.00	0.0	0.600	\	-25	Pipe/Conduit
18.005	62.150	0.270	230.2	0.000	0.00	0.0	0.600	\	-25	Pipe/Conduit
14.010	6.320	0.030	210.7	0.000	0.00	0.0	0.600	\	-25	Pipe/Conduit
1.007	120.000	0.800	150.0	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit
1.008	26.850	0.030	895.0	0.000	0.00	0.0	0.600	\	-25	Pipe/Conduit
22.000	52.330	0.350	149.5	0.082	5.00	0.0	0.600	o	150	Pipe/Conduit
22.001	31.610	0.210	150.5	0.048	0.00	0.0	0.600	o	300	Pipe/Conduit
23.000	37.170	0.250	148.7	0.067	5.00	0.0	0.600	o	300	Pipe/Conduit
22.002	63.730	0.430	148.2	0.190	0.00	0.0	0.600	o	375	Pipe/Conduit
24.000	40.380	0.270	149.6	0.054	5.00	0.0	0.600	o	225	Pipe/Conduit
24.001	45.210	0.330	137.0	0.151	0.00	0.0	0.600	\	-25	Pipe/Conduit
24.002	33.140	0.250	132.6	0.088	0.00	0.0	0.600	o	300	Pipe/Conduit
25.000	18.680	0.500	37.4	0.093	5.00	0.0	0.600	\	-26	Pipe/Conduit
25.001	13.420	0.880	15.3	0.010	0.00	0.0	0.600	o	150	Pipe/Conduit

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
21.000	50.00	5.38	44.350	0.125	0.0	0.0	0.0	2.16	85.8	16.9
20.003	50.00	6.17	43.010	0.406	0.0	0.0	0.0	1.30	91.6	55.0
20.004	50.00	6.29	42.790	0.473	0.0	0.0	0.0	9.39	40551.9	64.1
18.005	50.00	6.53	41.400	1.067	0.0	0.0	0.0	4.33	18721.9	144.5
14.010	50.00	6.55	41.130	1.930	0.0	0.0	0.0	4.53	19572.5	261.3
1.007	50.00	7.67	40.400	3.641	0.0	0.0	0.0	1.99	561.6	493.0
1.008	50.00	7.87	39.600	3.641	0.0	0.0	0.0	2.19	9467.2	493.0
22.000	50.00	6.06	41.350	0.082	0.0	0.0	0.0	0.82	14.5	11.1
22.001	50.00	6.48	41.000	0.130	0.0	0.0	0.0	1.28	90.4	17.6
23.000	50.00	5.48	41.040	0.067	0.0	0.0	0.0	1.29	91.0	9.1
22.002	50.00	7.19	40.790	0.387	0.0	0.0	0.0	1.49	164.1	52.4
24.000	50.00	5.63	41.650	0.054	0.0	0.0	0.0	1.07	42.4	7.3
24.001	50.00	5.76	41.380	0.205	0.0	0.0	0.0	5.62	24284.4	27.8
24.002	50.00	6.17	41.050	0.293	0.0	0.0	0.0	1.36	96.4	39.7
25.000	50.00	5.05	43.100	0.093	0.0	0.0	0.0	6.47	9328.8	12.6
25.001	50.00	5.13	42.600	0.103	0.0	0.0	0.0	2.59	45.8	13.9

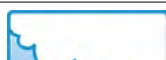
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9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	N & S & E catchment areas inc SW flood risk areas of 0.660ha to pond and surcharged outfall	
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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
24.003	53.930	0.440	122.6	0.165	0.00	0.0	0.600	o	300	Pipe/Conduit
22.003	9.950	0.070	142.1	0.017	0.00	0.0	0.600	o	375	Pipe/Conduit
22.004	2.360	0.055	42.9	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit
1.009	77.860	0.070	1112.3	0.000	0.00	0.0	0.600	\/	-25	Pipe/Conduit

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
24.003	50.00	6.80	40.800	0.561	0.0	0.0	0.0	1.42	100.3	76.0
22.003	50.00	7.30	40.360	0.965	0.0	0.0	0.0	1.52	167.6	130.7
22.004	50.00	7.31	39.650	0.965	0.0	0.0	0.0	2.77	306.3	130.7
1.009	50.00	8.53	39.570	4.606	0.0	0.0	0.0	1.96	8486.7	623.7

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
1	43.360	1.050	Junction		1.000	42.310	150				
2	43.300	1.200	Junction		1.001	42.100	-25	1.000	42.100	150	
3	43.330	1.050	Open Manhole		2.000	42.280	150				
4	43.100	1.200	Junction	0	1.002	41.900	225	1.001	41.900	-25	
								2.000	42.000	150	25
5	43.620	1.430	Open Manhole	1200	3.000	42.190	225				
5	43.200	1.710	Open Manhole		1.003	41.490	300	1.002	41.490	225	
								3.000	41.490	225	
7	43.200	1.790	Junction		1.004	41.410	-25	1.003	41.410	300	
8	43.600	1.050	Open Manhole		4.000	42.550	150				
9	43.150	1.830	Junction		1.005	41.320	-25	1.004	41.320	-25	
								4.000	42.350	150	
10	42.900	1.680	Junction		1.006	41.220	-25	1.005	41.220	-25	
11	43.350	1.350	Open Manhole		5.000	42.000	150				
12	43.350	1.350	Open Manhole		6.000	42.000	225				
13	43.250	1.540	Junction		5.001	41.710	-25	5.000	41.710	150	
								6.000	41.710	225	
14	42.900	1.360	Junction		5.002	41.540	-25	5.001	41.540	-25	
15	42.970	1.500	Junction		5.003	41.470	-25	5.002	41.470	-25	
16	43.000	1.350	Open Manhole		7.000	41.650	225				
17	42.850	1.580	Junction	0	5.004	41.270	300	5.003	41.270	-25	
								7.000	41.270	225	
18	42.800	1.610	Open Manhole		5.005	41.190	-25	5.004	41.190	300	
19	42.620	1.580	Junction	0	5.006	41.040	375	5.005	41.040	-25	
20	42.700	1.350	Open Manhole	1200	8.000	41.350	225				
21	42.600	1.590	Open Manhole		5.007	41.010	375	5.006	41.010	375	
								8.000	41.010	225	
22	42.530	1.550	Junction		5.008	40.980	-25	5.007	40.980	375	
23	43.400	1.350	Open Manhole	1200	9.000	42.050	225				
24	43.200	1.540	Open Manhole	1200	9.001	41.660	225	9.000	41.660	225	
25	43.000	1.350	Open Manhole	1200	10.000	41.650	150				
26	43.300	1.350	Open Manhole	1200	11.000	41.950	225				
27	43.150	1.680	Open Manhole	1350	9.002	41.470	375	9.001	41.470	225	
								10.000	41.470	150	
								11.000	41.470	225	
28	42.550	1.310	Open Manhole	1200	12.000	41.240	225				
29	43.150	1.350	Open Manhole	1200	13.000	41.800	225				
30	42.850	1.840	Open Manhole		9.003	41.010	375	9.002	41.010	375	
								12.000	41.010	225	
								13.000	41.010	225	
31	42.800	1.820	Junction		9.004	40.980	-25	9.003	40.980	375	
32	43.520	0.600	Junction		14.000	42.920	-27				
33	43.600	0.900	Junction		14.001	42.700	-25	14.000	42.700	-27	
34	43.600	1.800	Junction		14.002	41.800	-25	14.001	41.800	-25	

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
35	43.550	1.830	Junction		14.003	41.720	-25	14.002	41.720	-25	
36	43.500	0.600	Junction		15.000	42.900	-26				
37	43.350	1.670	Junction		14.004	41.680	-25	14.003	41.680	-25	
								15.000	42.700	-26	
38	43.780	1.425	Open Manhole		16.000	42.355	225				
39	43.500	1.920	Junction		14.005	41.580	-25	14.004	41.580	-25	
								16.000	41.580	225	
40	43.500	1.990	Junction		14.006	41.510	-25	14.005	41.510	-25	
41	43.500	2.210	Junction		14.007	41.290	-25	14.006	41.290	-25	
42	43.200	1.990	Junction		14.008	41.210	375	14.007	41.210	-25	
43	43.400	1.350	Open Manhole		17.000	42.050	225				
44	43.100	1.940	Junction		14.009	41.160	-25	14.008	41.160	375	
								17.000	41.160	225	
45	44.600	0.600	Junction		18.000	44.000	-25				
46	44.150	1.500	Junction	0	18.001	42.650	375	18.000	43.150	-25	1925
47	44.360	1.150	Open Manhole	1200	19.000	43.210	225				
48	43.850	1.380	Open Manhole		18.002	42.470	375	18.001	42.470	375	
								19.000	42.470	225	
49	43.850	1.590	Junction		18.003	42.260	-25	18.002	42.260	375	
50	43.800	2.300	Junction		18.004	41.500	375	18.003	41.800	-25	1725
52	45.100	1.450	Open Manhole		20.000	43.650	300				
53	44.700	1.500	Junction		20.001	43.200	-25	20.000	43.200	300	
54	45.000	1.960	Junction	0	20.002	43.040	300	20.001	43.040	-25	
55	45.700	1.350	Open Manhole	1200	21.000	44.350	225				
56	45.100	2.090	Open Manhole		20.003	43.010	300	20.002	43.010	300	
								21.000	43.010	225	
57	44.750	1.960	Junction		20.004	42.790	-25	20.003	42.790	300	
57	43.600	2.200	Junction		18.005	41.400	-25	18.004	41.400	375	
								20.004	41.400	-25	
58	43.150	2.020	Junction		14.010	41.130	-25	14.009	41.130	-25	
								18.005	41.130	-25	
59	42.200	1.800	Junction		1.007	40.400	600	1.006	41.120	-25	1920
								5.008	40.900	-25	1700
								9.004	40.940	-25	1740
								14.010	41.100	-25	1900
60	43.000	3.400	Junction		1.008	39.600	-25	1.007	39.600	600	
1	42.200	0.850	Junction	0	22.000	41.350	150				
2	42.450	1.450	Open Manhole	1200	22.001	41.000	300	22.000	41.000	150	
3	42.350	1.310	Open Manhole	1200	23.000	41.040	300				
4	43.000	2.210	Open Manhole	1350	22.002	40.790	375	22.001	40.790	300	
								23.000	40.790	300	
5	43.000	1.350	Open Manhole		24.000	41.650	225				
6	42.500	1.120	Junction		24.001	41.380	-25	24.000	41.380	225	
7	42.600	1.550	Junction	0	24.002	41.050	300	24.001	41.050	-25	

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
8	43.900	0.800	Junction		25.000	43.100	-26				
9	43.500	0.900	Junction	0	25.001	42.600	150	25.000	42.600	-26	
10	43.320	2.520	Open Manhole	1200	24.003	40.800	300	24.002	40.800	300	
								25.001	41.720	150	770
11	42.100	1.740	Open Manhole	1350	22.003	40.360	375	22.002	40.360	375	
								24.003	40.360	300	
12	41.800	2.150	Open Manhole		22.004	39.650	375	22.003	40.290	375	640
61	41.500	1.930	Junction	0	1.009	39.570	-25	1.008	39.570	-25	
								22.004	39.595	375	
Lambrok	40.100	0.600	Open Manhole	0		OUTFALL		1.009	39.500	-25	

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	o	150	1	43.360	42.310	0.900	Junction	
1.001	\/	-25	2	43.300	42.100	-0.600	Junction	
2.000	o	150	3	43.330	42.280	0.900	Open Manhole	1200
1.002	o	225	4	43.100	41.900	0.975	Junction	
3.000	o	225	5	43.620	42.190	1.205	Open Manhole	1200
1.003	o	300	5	43.200	41.490	1.410	Open Manhole	1200
1.004	\/	-25	7	43.200	41.410	-0.010	Junction	
4.000	o	150	8	43.600	42.550	0.900	Open Manhole	1200
1.005	\/	-25	9	43.150	41.320	0.030	Junction	
1.006	\/	-25	10	42.900	41.220	-0.120	Junction	
5.000	o	150	11	43.350	42.000	1.200	Open Manhole	1200
6.000	o	225	12	43.350	42.000	1.125	Open Manhole	1200
5.001	\/	-25	13	43.250	41.710	-0.260	Junction	
5.002	\/	-25	14	42.900	41.540	-0.440	Junction	
5.003	\/	-25	15	42.970	41.470	-0.300	Junction	

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	31.490	150.0	2	43.300	42.100	1.050	Junction	
1.001	38.550	192.8	4	43.100	41.900	-0.600	Junction	
2.000	28.090	100.3	4	43.100	42.000	0.950	Junction	
1.002	34.930	85.2	5	43.200	41.490	1.485	Open Manhole	1200
3.000	27.190	38.8	5	43.200	41.490	1.485	Open Manhole	1200
1.003	10.620	132.8	7	43.200	41.410	1.490	Junction	
1.004	23.440	260.4	9	43.150	41.320	0.030	Junction	
4.000	21.150	105.8	9	43.150	42.350	0.650	Junction	
1.005	23.560	235.6	10	42.900	41.220	-0.120	Junction	
1.006	23.840	238.4	59	42.200	41.120	-0.720	Junction	
5.000	43.380	149.6	13	43.250	41.710	1.390	Junction	
6.000	43.050	148.4	13	43.250	41.710	1.315	Junction	
5.001	40.470	238.1	14	42.900	41.540	-0.440	Junction	
5.002	8.610	123.0	15	42.970	41.470	-0.300	Junction	
5.003	18.000	90.0	17	42.850	41.270	-0.220	Junction	

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
7.000	o	225	16	43.000	41.650	1.125	Open Manhole	1200
5.004	o	300	17	42.850	41.270	1.280	Junction	
5.005	\/	-25	18	42.800	41.190	-0.190	Open Manhole	10000
5.006	o	375	19	42.620	41.040	1.205	Junction	
8.000	o	225	20	42.700	41.350	1.125	Open Manhole	1200
5.007	o	375	21	42.600	41.010	1.215	Open Manhole	1350
5.008	\/	-25	22	42.530	40.980	-0.250	Junction	
9.000	o	225	23	43.400	42.050	1.125	Open Manhole	1200
9.001	o	225	24	43.200	41.660	1.315	Open Manhole	1200
10.000	o	150	25	43.000	41.650	1.200	Open Manhole	1200
11.000	o	225	26	43.300	41.950	1.125	Open Manhole	1200
9.002	o	375	27	43.150	41.470	1.305	Open Manhole	1350
12.000	o	225	28	42.550	41.240	1.085	Open Manhole	1200
13.000	o	225	29	43.150	41.800	1.125	Open Manhole	1200
9.003	o	375	30	42.850	41.010	1.465	Open Manhole	1350

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
7.000	32.730	86.1	17	42.850	41.270	1.355	Junction	
5.004	11.970	149.6	18	42.800	41.190	1.310	Open Manhole	10000
5.005	44.000	293.3	19	42.620	41.040	-0.220	Junction	
5.006	4.030	134.3	21	42.600	41.010	1.215	Open Manhole	1350
8.000	32.880	96.7	21	42.600	41.010	1.365	Open Manhole	1350
5.007	4.890	163.0	22	42.530	40.980	1.175	Junction	
5.008	23.730	296.6	59	42.200	40.900	-0.500	Junction	
9.000	24.540	62.9	24	43.200	41.660	1.315	Open Manhole	1200
9.001	24.510	129.0	27	43.150	41.470	1.455	Open Manhole	1350
10.000	26.150	145.3	27	43.150	41.470	1.530	Open Manhole	1350
11.000	38.940	81.1	27	43.150	41.470	1.455	Open Manhole	1350
9.002	74.590	162.2	30	42.850	41.010	1.465	Open Manhole	1350
12.000	33.290	144.7	30	42.850	41.010	1.615	Open Manhole	1350
13.000	37.210	47.1	30	42.850	41.010	1.615	Open Manhole	1350
9.003	4.080	136.0	31	42.800	40.980	1.445	Junction	

TeignConsult		Page 12
9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	N & S & E catchment areas inc SW flood risk areas of 0.660ha to pond and surcharged outfall	
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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
9.004	\/	-25	31	42.800	40.980	0.020	Junction	
14.000	\/	-27	32	43.520	42.920	-0.300	Junction	
14.001	\/	-25	33	43.600	42.700	-0.900	Junction	
14.002	\/	-25	34	43.600	41.800	0.000	Junction	
14.003	\/	-25	35	43.550	41.720	0.030	Junction	
15.000	\/	-26	36	43.500	42.900	0.000	Junction	
14.004	\/	-25	37	43.350	41.680	-0.130	Junction	
16.000	o	225	38	43.780	42.355	1.200	Open Manhole	1200
14.005	\/	-25	39	43.500	41.580	0.120	Junction	
14.006	\/	-25	40	43.500	41.510	0.190	Junction	
14.007	\/	-25	41	43.500	41.290	0.410	Junction	
14.008	o	375	42	43.200	41.210	1.615	Junction	
17.000	o	225	43	43.400	42.050	1.125	Open Manhole	1200
14.009	\/	-25	44	43.100	41.160	0.140	Junction	
18.000	\/	-25	45	44.600	44.000	-1.200	Junction	
18.001	o	375	46	44.150	42.650	1.125	Junction	

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
9.004	11.200	280.0	59	42.200	40.940	-0.540	Junction	
14.000	65.530	297.9	33	43.600	42.700	0.000	Junction	
14.001	18.730	20.8	34	43.600	41.800	0.000	Junction	
14.002	8.670	108.4	35	43.550	41.720	0.030	Junction	
14.003	10.720	268.0	37	43.350	41.680	-0.130	Junction	
15.000	17.740	88.7	37	43.350	42.700	0.050	Junction	
14.004	16.850	168.5	39	43.500	41.580	0.120	Junction	
16.000	36.710	47.4	39	43.500	41.580	1.695	Junction	
14.005	17.820	254.6	40	43.500	41.510	0.190	Junction	
14.006	34.790	158.1	41	43.500	41.290	0.410	Junction	
14.007	20.370	254.6	42	43.200	41.210	0.190	Junction	
14.008	7.290	145.8	44	43.100	41.160	1.565	Junction	
17.000	42.790	48.1	44	43.100	41.160	1.715	Junction	
14.009	7.370	245.7	58	43.150	41.130	0.220	Junction	
18.000	63.240	74.4	46	44.150	43.150	-0.800	Junction	
18.001	26.980	149.9	48	43.850	42.470	1.005	Open Manhole	1350

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XP Solutions	Network 2017.1.2	

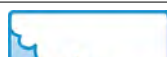
PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
19.000	o	225	47	44.360	43.210	0.925	Open Manhole	1200
18.002	o	375	48	43.850	42.470	1.005	Open Manhole	1350
18.003	\/	-25	49	43.850	42.260	-0.210	Junction	
18.004	o	375	50	43.800	41.500	1.925	Junction	
20.000	o	300	52	45.100	43.650	1.150	Open Manhole	1200
20.001	\/	-25	53	44.700	43.200	-0.300	Junction	
20.002	o	300	54	45.000	43.040	1.660	Junction	
21.000	o	225	55	45.700	44.350	1.125	Open Manhole	1200
20.003	o	300	56	45.100	43.010	1.790	Open Manhole	1200
20.004	\/	-25	57	44.750	42.790	0.160	Junction	
18.005	\/	-25	57	43.600	41.400	0.400	Junction	
14.010	\/	-25	58	43.150	41.130	0.220	Junction	
1.007	o	600	59	42.200	40.400	1.200	Junction	
1.008	\/	-25	60	43.000	39.600	1.600	Junction	
22.000	o	150	1	42.200	41.350	0.700	Junction	
22.001	o	300	2	42.450	41.000	1.150	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
19.000	37.580	50.8	48	43.850	42.470	1.155	Open Manhole	1350
18.002	31.450	149.8	49	43.850	42.260	1.215	Junction	
18.003	29.090	63.2	50	43.800	41.800	0.200	Junction	
18.004	14.870	148.7	57	43.600	41.400	1.825	Junction	
20.000	46.910	104.2	53	44.700	43.200	1.200	Junction	
20.001	45.570	284.8	54	45.000	43.040	0.160	Junction	
20.002	4.120	137.3	56	45.100	43.010	1.790	Open Manhole	1200
21.000	49.590	37.0	56	45.100	43.010	1.865	Open Manhole	1200
20.003	32.290	146.8	57	44.750	42.790	1.660	Junction	
20.004	68.420	49.2	57	43.600	41.400	0.400	Junction	
18.005	62.150	230.2	58	43.150	41.130	0.220	Junction	
14.010	6.320	210.7	59	42.200	41.100	-0.700	Junction	
1.007	120.000	150.0	60	43.000	39.600	2.800	Junction	
1.008	26.850	895.0	61	41.500	39.570	0.130	Junction	
22.000	52.330	149.5	2	42.450	41.000	1.300	Open Manhole	1200
22.001	31.610	150.5	4	43.000	40.790	1.910	Open Manhole	1350

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9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	N & S & E catchment areas inc SW flood risk areas of 0.660ha to pond and surcharged outfall	
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PIPELINE SCHEDULES for Storm

Upstream Manhole

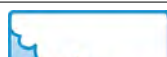
PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
23.000	o	300	3	42.350	41.040	1.010	Open Manhole	1200
22.002	o	375	4	43.000	40.790	1.835	Open Manhole	1350
24.000	o	225	5	43.000	41.650	1.125	Open Manhole	1200
24.001	\/	-25	6	42.500	41.380	-0.680	Junction	
24.002	o	300	7	42.600	41.050	1.250	Junction	
25.000	\/	-26	8	43.900	43.100	0.200	Junction	
25.001	o	150	9	43.500	42.600	0.750	Junction	
24.003	o	300	10	43.320	40.800	2.220	Open Manhole	1200
22.003	o	375	11	42.100	40.360	1.365	Open Manhole	1350
22.004	o	375	12	41.800	39.650	1.775	Open Manhole	1350
1.009	\/	-25	61	41.500	39.570	0.130	Junction	

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
23.000	37.170	148.7	4	43.000	40.790	1.910	Open Manhole	1350
22.002	63.730	148.2	11	42.100	40.360	1.365	Open Manhole	1350
24.000	40.380	149.6	6	42.500	41.380	0.895	Junction	
24.001	45.210	137.0	7	42.600	41.050	-0.250	Junction	
24.002	33.140	132.6	10	43.320	40.800	2.220	Open Manhole	1200
25.000	18.680	37.4	9	43.500	42.600	0.300	Junction	
25.001	13.420	15.3	10	43.320	41.720	1.450	Open Manhole	1200
24.003	53.930	122.6	11	42.100	40.360	1.440	Open Manhole	1350
22.003	9.950	142.1	12	41.800	40.290	1.135	Open Manhole	1350
22.004	2.360	42.9	61	41.500	39.595	1.530	Junction	
1.009	77.860	1112.3	Lambrok	40.100	39.500	-1.200	Open Manhole	0

Surcharged Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
1.009	Lambrok	40.100	39.500	39.500	0	0
Datum (m) 39.500 Offset (mins) 0						

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Surcharged Outfall Details for Storm

Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)
15	0.000	180	0.580	345	1.090	510	1.250	675	1.230	840	1.070	1005	0.690	1170	0.210
30	0.050	195	0.640	360	1.100	525	1.260	690	1.230	855	1.050	1020	0.640	1185	0.170
45	0.110	210	0.690	375	1.140	540	1.260	705	1.220	870	1.040	1035	0.590	1200	0.130
60	0.160	225	0.740	390	1.170	555	1.270	720	1.210	885	1.040	1050	0.540	1215	0.090
75	0.210	240	0.790	405	1.200	570	1.270	735	1.210	900	1.030	1065	0.500	1230	0.050
90	0.260	255	0.850	420	1.210	585	1.260	750	1.190	915	0.990	1080	0.450	1245	0.000
105	0.320	270	0.900	435	1.210	600	1.260	765	1.170	930	0.940	1095	0.400		
120	0.370	285	0.950	450	1.220	615	1.250	780	1.150	945	0.890	1110	0.350		
135	0.420	300	1.010	465	1.230	630	1.250	795	1.130	960	0.840	1125	0.310		
150	0.480	315	1.060	480	1.240	645	1.240	810	1.110	975	0.790	1140	0.270		
165	0.530	330	1.080	495	1.240	660	1.240	825	1.080	990	0.740	1155	0.240		

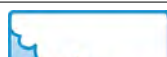
Simulation Criteria for Storm

Volumetric Runoff Coeff 0.750 Foul Sewage per hectare (l/s) 0.000
 Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 45.000
 Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 0.000
 Hot Start Level (mm) 0 Run Time (mins) 60
 Manhole Headloss Coeff (Global) 0.500 Output Interval (mins) 1

 Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
 Number of Online Controls 2 Number of Storage Structures 2

Synthetic Rainfall Details

Rainfall Model FEH Summer Storms Yes
 Return Period (years) 100 Winter Storms No
 FEH Rainfall Version 2013 Cv (Summer) 0.750
 Site Location GB 384550 156050 ST 84550 56050 Cv (Winter) 0.840
 Data Type Catchment Storm Duration (mins) 30

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Online Controls for Storm

Crown Vortex Valve® Manhole: 59, DS/PN: 1.007, Volume (m³): 281.2

Design Head (m) 1.350 Vortex Valve® Type R3 SW Only Invert Level (m) 40.400
Design Flow (l/s) 17.0 Diameter (mm) 116

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.6	0.800	13.0	2.000	20.5	4.000	29.0	7.000	38.4
0.200	6.5	1.000	14.5	2.200	21.5	4.500	30.8	7.500	39.7
0.300	7.9	1.200	15.9	2.400	22.5	5.000	32.4	8.000	41.0
0.400	9.2	1.400	17.2	2.600	23.4	5.500	34.0	8.500	42.3
0.500	10.3	1.600	18.4	3.000	25.1	6.000	35.5	9.000	43.5
0.600	11.2	1.800	19.5	3.500	27.1	6.500	37.0	9.500	44.7

Crown Vortex Valve® Manhole: 12, DS/PN: 22.004, Volume (m³): 4.0

Design Head (m) 1.350 Vortex Valve® Type R3 SW Only Invert Level (m) 39.650
Design Flow (l/s) 17.0 Diameter (mm) 116

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.6	0.800	13.0	2.000	20.5	4.000	29.0	7.000	38.4
0.200	6.5	1.000	14.5	2.200	21.5	4.500	30.8	7.500	39.7
0.300	7.9	1.200	15.9	2.400	22.5	5.000	32.4	8.000	41.0
0.400	9.2	1.400	17.2	2.600	23.4	5.500	34.0	8.500	42.3
0.500	10.3	1.600	18.4	3.000	25.1	6.000	35.5	9.000	43.5
0.600	11.2	1.800	19.5	3.500	27.1	6.500	37.0	9.500	44.7

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XP Solutions	Network 2017.1.2	

Storage Structures for Storm

Tank or Pond Manhole: 59, DS/PN: 1.007

Invert Level (m) 40.400

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	1339.5	1.200	2778.6	2.400	0.0	3.600	0.0	4.800	0.0
0.200	1566.0	1.400	3037.2	2.600	0.0	3.800	0.0	5.000	0.0
0.400	1797.8	1.600	3301.1	2.800	0.0	4.000	0.0		
0.600	2035.0	1.800	3570.4	3.000	0.0	4.200	0.0		
0.800	2277.6	2.000	0.0	3.200	0.0	4.400	0.0		
1.000	2525.4	2.200	0.0	3.400	0.0	4.600	0.0		

Tank or Pond Manhole: 12, DS/PN: 22.004

Invert Level (m) 39.650

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	507.2	1.100	871.2	2.400	0.0	3.600	0.0	4.800	0.0
0.100	546.3	1.300	943.0	2.600	0.0	3.800	0.0	5.000	0.0
0.300	606.7	1.500	1017.1	2.800	0.0	4.000	0.0		
0.500	669.5	1.600	1054.9	3.000	0.0	4.200	0.0		
0.700	734.4	2.000	0.0	3.200	0.0	4.400	0.0		
0.900	801.7	2.200	0.0	3.400	0.0	4.600	0.0		

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Summary of Results for 30 minute 100 year Summer (Storm)

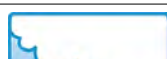
Margin for Flood Risk Warning (mm) 300.0 DVD Status OFF
 Analysis Timestep Fine Inertia Status OFF
 DTS Status ON

PN	US/MH Name	Water Surcharged Flooded			Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
		Level (m)	Depth (m)	Volume (m³)				
1.000	1	42.460	0.000	0.000	2.45	35.4	SURCHARGED*	
1.001	2	42.604	-1.296	0.000	0.00	73.7	OK	
2.000	3	42.959	0.529	0.000	1.23	20.9	SURCHARGED	
1.002	4	42.604	0.479	0.000	1.32	74.3	SURCHARGED*	
3.000	5	42.769	0.354	0.000	1.01	78.0	SURCHARGED	
1.003	5	42.048	0.258	0.000	2.09	147.9	SURCHARGED	
1.004	7	41.553	-1.657	0.000	0.01	147.8	OK	
4.000	8	43.066	0.366	0.000	1.67	27.2	SURCHARGED	
1.005	9	41.478	-1.642	0.000	0.01	174.6	OK	
1.006	10	41.380	-1.640	0.000	0.01	174.1	OK	
5.000	11	42.626	0.476	0.000	1.45	20.4	SURCHARGED	
6.000	12	42.218	-0.007	0.000	0.92	37.3	OK	
5.001	13	42.037	-1.473	0.000	0.01	85.5	OK	
5.002	14	42.036	-1.304	0.000	0.01	98.8	OK	
5.003	15	42.036	-1.234	0.000	0.01	117.4	OK	
7.000	16	42.291	0.416	0.000	0.91	48.0	SURCHARGED	
5.004	17	42.035	0.465	0.000	2.04	144.4	SURCHARGED*	
5.005	18	41.732	-1.258	0.000	0.02	172.4	OK	
5.006	19	41.728	0.313	0.000	1.54	164.7	SURCHARGED*	
8.000	20	41.950	0.375	0.000	1.10	54.7	SURCHARGED	
5.007	21	41.565	0.180	0.000	1.97	186.7	SURCHARGED	
5.008	22	41.165	-1.615	0.000	0.01	188.2	OK	
9.000	23	42.775	0.500	0.000	0.64	38.8	SURCHARGED	
9.001	24	42.620	0.735	0.000	0.96	40.6	SURCHARGED	
10.000	25	42.651	0.851	0.000	1.13	15.9	SURCHARGED	
11.000	26	42.703	0.528	0.000	0.68	37.5	SURCHARGED	
9.002	27	42.487	0.642	0.000	1.18	175.0	SURCHARGED	
12.000	28	42.104	0.639	0.000	1.15	46.8	SURCHARGED	
13.000	29	41.875	-0.150	0.000	0.25	17.7	OK	
9.003	30	41.782	0.397	0.000	2.67	260.5	SURCHARGED	
9.004	31	41.190	-1.590	0.000	0.02	259.4	OK	
14.000	32	43.111	-0.709	0.000	0.06	184.1	OK	
14.001	33	42.762	-1.738	0.000	0.01	228.4	OK	
14.002	34	42.051	-1.549	0.000	0.02	226.6	OK	
14.003	35	42.050	-1.470	0.000	0.01	221.2	OK	
15.000	36	42.944	-0.556	0.000	0.01	42.9	OK	
14.004	37	42.048	-1.432	0.000	0.02	255.6	OK	
16.000	38	42.474	-0.106	0.000	0.55	39.4	OK	
14.005	39	42.045	-1.335	0.000	0.02	302.6	OK	
14.006	40	42.043	-1.267	0.000	0.02	328.8	OK	
14.007	41	42.040	-1.050	0.000	0.02	300.0	OK	
14.008	42	42.039	0.454	0.000	2.64	283.0	SURCHARGED*	
17.000	43	42.293	0.018	0.000	0.95	68.2	SURCHARGED	
14.009	44	41.486	-1.474	0.000	0.02	335.0	OK	
18.000	45	44.063	-1.737	0.000	0.01	124.6	OK	
18.001	46	43.431	0.406	0.000	0.94	153.1	SURCHARGED*	
19.000	47	43.568	0.133	0.000	0.61	42.4	SURCHARGED	
18.002	48	43.280	0.435	0.000	1.75	254.2	SURCHARGED	
18.003	49	42.414	-1.646	0.000	0.02	298.1	OK	
18.004	50	42.338	0.463	0.000	2.41	298.0	SURCHARGED*	
20.000	52	44.289	0.339	0.000	1.19	121.1	SURCHARGED	
20.001	53	43.750	-1.250	0.000	0.01	133.1	OK	
20.002	54	43.749	0.409	0.000	1.59	97.3	SURCHARGED*	

TeignConsult		Page 19
9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	N & S & E catchment areas inc SW flood risk areas of 0.660ha to pond and surcharged outfall	
Date 22/07/22 15:39	Designed by NAS	
File N&SE 30Min summer Surcharge	Checked by	
XP Solutions	Network 2017.1.2	

Summary of Results for 30 minute 100 year Summer (Storm)

PN	US/MH Name	Water		Surcharged		Flooded		Pipe		Status
		Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Flow (l/s)			
21.000	55	44.586	0.011	0.000	0.85		70.1		SURCHARGED	
20.003	56	43.668	0.358	0.000	1.62		135.3		SURCHARGED	
20.004	57	42.859	-1.731	0.000	0.01		164.2		OK	
18.005	57	41.668	-1.532	0.000	0.03		459.2		OK	
14.010	58	41.479	-1.451	0.000	0.05		792.4		OK	
1.007	59	41.132	0.132	0.000	0.02		12.4		SURCHARGED*	
1.008	60	39.704	-1.696	0.000	0.00		12.4		OK	
22.000	1	41.500	0.000	0.000	2.58		37.4		SURCHARGED*	
22.001	2	42.097	0.797	0.000	0.70		57.9		SURCHARGED	
23.000	3	42.046	0.706	0.000	0.44		36.6		SURCHARGED	
22.002	4	41.999	0.834	0.000	1.22		187.8		SURCHARGED	
24.000	5	42.173	0.298	0.000	0.68		27.5		SURCHARGED	
24.001	6	42.111	-1.069	0.000	0.01		111.7		OK	
24.002	7	42.111	0.761	0.000	1.05		101.0		SURCHARGED*	
25.000	8	43.135	-0.565	0.000	0.01		53.2		OK	
25.001	9	42.915	0.165	0.000	1.03		47.0		SURCHARGED*	
24.003	10	42.038	0.938	0.000	1.41		133.4		SURCHARGED	
22.003	11	41.299	0.564	0.000	2.94		314.8		SURCHARGED	
22.004	12	40.207	0.182	0.000	0.10		10.3		SURCHARGED	
1.009	61	39.699	-1.671	0.000	0.00		22.7		OK	

TeignConsult		Page 1
9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	N & S & E catchment areas inc SW flood risk areas of 0.660ha to pond and surcharged outfall	
Date 22/07/22 15:44	Designed by NAS	
File N&SE 960Min Winter Surcharge	Checked by	
XP Solutions	Network 2017.1.2	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FEH Rainfall Model	
Return Period (years)	100
FEH Rainfall Version	2013
Site Location GB 384550 156050 ST 84550 56050	
Data Type	Catchment
Maximum Rainfall (mm/hr)	50
Maximum Time of Concentration (mins)	30
Foul Sewage (l/s/ha)	0.000
Volumetric Runoff Coeff.	0.750
PIMP (%)	100
Add Flow / Climate Change (%)	0
Minimum Backdrop Height (m)	0.000
Maximum Backdrop Height (m)	1.500
Min Design Depth for Optimisation (m)	1.200
Min Vel for Auto Design only (m/s)	1.00
Min Slope for Optimisation (1:X)	500

Designed with Level Inverts

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	1.530	4-8	3.019	8-12	0.057

Total Area Contributing (ha) = 4.606

Total Pipe Volume (m³) = 3762.290

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
1.000	31.490	0.210	150.0	0.070	5.00	0.0	0.600	o	150	Pipe/Conduit
1.001	38.550	0.200	192.8	0.073	0.00	0.0	0.600	\	-25	Pipe/Conduit
2.000	28.090	0.280	100.3	0.041	5.00	0.0	0.600	o	150	Pipe/Conduit
1.002	34.930	0.410	85.2	0.064	0.00	0.0	0.600	o	225	Pipe/Conduit

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	50.00	5.64	42.310	0.070	0.0	0.0	0.0	0.82	14.5	9.5
1.001	50.00	5.78	42.100	0.143	0.0	0.0	0.0	4.74	20464.5	19.4
2.000	50.00	5.47	42.280	0.041	0.0	0.0	0.0	1.00	17.7	5.6
1.002	50.00	6.19	41.900	0.248	0.0	0.0	0.0	1.42	56.4	33.6

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9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	N & S & E catchment areas inc SW flood risk areas of 0.660ha to pond and surcharged outfall	
Date 22/07/22 15:44	Designed by NAS	
File N&SE 960Min Winter Surcharge	Checked by	
XP Solutions	Network 2017.1.2	

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
3.000	27.190	0.700	38.8	0.139	5.00	0.0	0.600	o	225	Pipe/Conduit
1.003	10.620	0.080	132.8	0.024	0.00	0.0	0.600	o	300	Pipe/Conduit
1.004	23.440	0.090	260.4	0.000	0.00	0.0	0.600	\	-25	Pipe/Conduit
4.000	21.150	0.200	105.8	0.049	5.00	0.0	0.600	o	150	Pipe/Conduit
1.005	23.560	0.100	235.6	0.000	0.00	0.0	0.600	\	-25	Pipe/Conduit
1.006	23.840	0.100	238.4	0.000	0.00	0.0	0.600	\	-25	Pipe/Conduit
5.000	43.380	0.290	149.6	0.040	5.00	0.0	0.600	o	150	Pipe/Conduit
6.000	43.050	0.290	148.4	0.067	5.00	0.0	0.600	o	225	Pipe/Conduit
5.001	40.470	0.170	238.1	0.065	0.00	0.0	0.600	\	-25	Pipe/Conduit
5.002	8.610	0.070	123.0	0.104	0.00	0.0	0.600	\	-25	Pipe/Conduit
5.003	18.000	0.200	90.0	0.054	0.00	0.0	0.600	\	-25	Pipe/Conduit
7.000	32.730	0.380	86.1	0.088	5.00	0.0	0.600	o	225	Pipe/Conduit
5.004	11.970	0.080	149.6	0.025	0.00	0.0	0.600	o	300	Pipe/Conduit
5.005	44.000	0.150	293.3	0.188	0.00	0.0	0.600	\	-25	Pipe/Conduit
5.006	4.030	0.030	134.3	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit
8.000	32.880	0.340	96.7	0.098	5.00	0.0	0.600	o	225	Pipe/Conduit

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
3.000	50.00	5.22	42.190	0.139	0.0	0.0	0.0	2.11	83.7	18.8
1.003	50.00	6.32	41.490	0.411	0.0	0.0	0.0	1.36	96.3	55.7
1.004	50.00	6.41	41.410	0.411	0.0	0.0	0.0	4.07	17597.3	55.7
4.000	50.00	5.36	42.550	0.049	0.0	0.0	0.0	0.98	17.3	6.6
1.005	50.00	6.51	41.320	0.460	0.0	0.0	0.0	4.28	18504.8	62.3
1.006	50.00	6.60	41.220	0.460	0.0	0.0	0.0	4.26	18395.5	62.3
5.000	50.00	5.88	42.000	0.040	0.0	0.0	0.0	0.82	14.5	5.4
6.000	50.00	5.67	42.000	0.067	0.0	0.0	0.0	1.07	42.6	9.1
5.001	50.00	6.04	41.710	0.172	0.0	0.0	0.0	4.26	18408.7	23.3
5.002	50.00	6.06	41.540	0.276	0.0	0.0	0.0	5.93	25632.3	37.4
5.003	50.00	6.11	41.470	0.330	0.0	0.0	0.0	6.94	29975.0	44.7
7.000	50.00	5.39	41.650	0.088	0.0	0.0	0.0	1.41	56.1	11.9
5.004	50.00	6.26	41.270	0.443	0.0	0.0	0.0	1.28	90.7	60.0
5.005	50.00	6.45	41.190	0.631	0.0	0.0	0.0	3.84	16578.3	85.4
5.006	50.00	6.50	41.040	0.631	0.0	0.0	0.0	1.56	172.5	85.4
8.000	50.00	5.41	41.350	0.098	0.0	0.0	0.0	1.33	52.9	13.3

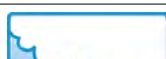
TeignConsult		Page 3
9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	N & S & E catchment areas inc SW flood risk areas of 0.660ha to pond and surcharged outfall	
Date 22/07/22 15:44	Designed by NAS	
File N&SE 960Min Winter Surcharge	Checked by	
XP Solutions	Network 2017.1.2	

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
5.007	4.890	0.030	163.0	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit
5.008	23.730	0.080	296.6	0.006	0.00	0.0	0.600	\	-25	Pipe/Conduit
9.000	24.540	0.390	62.9	0.073	5.00	0.0	0.600	o	225	Pipe/Conduit
9.001	24.510	0.190	129.0	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit
10.000	26.150	0.180	145.3	0.029	5.00	0.0	0.600	o	150	Pipe/Conduit
11.000	38.940	0.480	81.1	0.070	5.00	0.0	0.600	o	225	Pipe/Conduit
9.002	74.590	0.460	162.2	0.180	0.00	0.0	0.600	o	375	Pipe/Conduit
12.000	33.290	0.230	144.7	0.087	5.00	0.0	0.600	o	225	Pipe/Conduit
13.000	37.210	0.790	47.1	0.031	5.00	0.0	0.600	o	225	Pipe/Conduit
9.003	4.080	0.030	136.0	0.046	0.00	0.0	0.600	o	375	Pipe/Conduit
9.004	11.200	0.040	280.0	0.000	0.00	0.0	0.600	\	-25	Pipe/Conduit
14.000	65.530	0.220	297.9	0.322	5.00	0.0	0.600	\	-27	Pipe/Conduit
14.001	18.730	0.900	20.8	0.075	0.00	0.0	0.600	\	-25	Pipe/Conduit
14.002	8.670	0.080	108.4	0.000	0.00	0.0	0.600	\	-25	Pipe/Conduit
14.003	10.720	0.040	268.0	0.000	0.00	0.0	0.600	\	-25	Pipe/Conduit
15.000	17.740	0.200	88.7	0.075	5.00	0.0	0.600	\	-26	Pipe/Conduit

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
5.007	50.00	6.56	41.010	0.729	0.0	0.0	0.0	1.42	156.4	98.7
5.008	50.00	6.66	40.980	0.735	0.0	0.0	0.0	3.82	16485.7	99.5
9.000	50.00	5.25	42.050	0.073	0.0	0.0	0.0	1.65	65.7	9.9
9.001	50.00	5.60	41.660	0.073	0.0	0.0	0.0	1.15	45.7	9.9
10.000	50.00	5.52	41.650	0.029	0.0	0.0	0.0	0.83	14.7	3.9
11.000	50.00	5.45	41.950	0.070	0.0	0.0	0.0	1.45	57.8	9.5
9.002	50.00	6.48	41.470	0.352	0.0	0.0	0.0	1.42	156.9	47.7
12.000	50.00	5.51	41.240	0.087	0.0	0.0	0.0	1.08	43.1	11.8
13.000	50.00	5.32	41.800	0.031	0.0	0.0	0.0	1.91	76.0	4.2
9.003	50.00	6.52	41.010	0.516	0.0	0.0	0.0	1.55	171.4	69.9
9.004	50.00	6.57	40.980	0.516	0.0	0.0	0.0	3.93	16969.7	69.9
14.000	50.00	5.41	42.920	0.322	0.0	0.0	0.0	2.63	3318.5	43.6
14.001	50.00	5.44	42.700	0.397	0.0	0.0	0.0	14.44	62396.9	53.8
14.002	50.00	5.46	41.800	0.397	0.0	0.0	0.0	6.32	27310.9	53.8
14.003	50.00	5.50	41.720	0.397	0.0	0.0	0.0	4.02	17346.7	53.8
15.000	50.00	5.07	42.900	0.075	0.0	0.0	0.0	4.19	6047.7	10.2

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9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	N & S & E catchment areas inc SW flood risk areas of 0.660ha to pond and surcharged outfall	
Date 22/07/22 15:44	Designed by NAS	
File N&SE 960Min Winter Surcharge	Checked by	
XP Solutions	Network 2017.1.2	

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
14.004	16.850	0.100	168.5	0.000	0.00	0.0	0.600	\	-25	Pipe/Conduit
16.000	36.710	0.775	47.4	0.069	5.00	0.0	0.600	o	225	Pipe/Conduit
14.005	17.820	0.070	254.6	0.053	0.00	0.0	0.600	\	-25	Pipe/Conduit
14.006	34.790	0.220	158.1	0.091	0.00	0.0	0.600	\	-25	Pipe/Conduit
14.007	20.370	0.080	254.6	0.057	0.00	0.0	0.600	\	-25	Pipe/Conduit
14.008	7.290	0.050	145.8	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit
17.000	42.790	0.890	48.1	0.121	5.00	0.0	0.600	o	225	Pipe/Conduit
14.009	7.370	0.030	245.7	0.000	0.00	0.0	0.600	\	-25	Pipe/Conduit
18.000	63.240	0.850	74.4	0.218	5.00	0.0	0.600	\	-25	Pipe/Conduit
18.001	26.980	0.180	149.9	0.062	0.00	0.0	0.600	o	375	Pipe/Conduit
19.000	37.580	0.740	50.8	0.077	5.00	0.0	0.600	o	225	Pipe/Conduit
18.002	31.450	0.210	149.8	0.117	0.00	0.0	0.600	o	375	Pipe/Conduit
18.003	29.090	0.460	63.2	0.084	0.00	0.0	0.600	\	-25	Pipe/Conduit
18.004	14.870	0.100	148.7	0.036	0.00	0.0	0.600	o	375	Pipe/Conduit
20.000	46.910	0.450	104.2	0.219	5.00	0.0	0.600	o	300	Pipe/Conduit
20.001	45.570	0.160	284.8	0.040	0.00	0.0	0.600	\	-25	Pipe/Conduit
20.002	4.120	0.030	137.3	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
14.004	50.00	5.56	41.680	0.472	0.0	0.0	0.0	5.07	21891.6	63.9
16.000	50.00	5.32	42.355	0.069	0.0	0.0	0.0	1.91	75.8	9.3
14.005	50.00	5.63	41.580	0.594	0.0	0.0	0.0	4.12	17799.8	80.4
14.006	50.00	5.74	41.510	0.685	0.0	0.0	0.0	5.23	22599.4	92.8
14.007	50.00	5.82	41.290	0.742	0.0	0.0	0.0	4.12	17797.9	100.5
14.008	50.00	5.91	41.210	0.742	0.0	0.0	0.0	1.50	165.5	100.5
17.000	50.00	5.38	42.050	0.121	0.0	0.0	0.0	1.89	75.2	16.4
14.009	50.00	5.93	41.160	0.863	0.0	0.0	0.0	4.19	18120.6	116.9
18.000	50.00	5.14	44.000	0.218	0.0	0.0	0.0	7.63	32973.8	29.5
18.001	50.00	5.44	42.650	0.280	0.0	0.0	0.0	1.48	163.2	37.9
19.000	50.00	5.34	43.210	0.077	0.0	0.0	0.0	1.84	73.2	10.4
18.002	50.00	5.80	42.470	0.474	0.0	0.0	0.0	1.48	163.3	64.2
18.003	50.00	5.86	42.260	0.558	0.0	0.0	0.0	8.28	35770.2	75.6
18.004	50.00	6.02	41.500	0.594	0.0	0.0	0.0	1.48	163.9	80.4
20.000	50.00	5.51	43.650	0.219	0.0	0.0	0.0	1.54	108.8	29.7
20.001	50.00	5.70	43.200	0.259	0.0	0.0	0.0	3.89	16825.3	35.1
20.002	50.00	5.75	43.040	0.259	0.0	0.0	0.0	1.34	94.7	35.1

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9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	N & S & E catchment areas inc SW flood risk areas of 0.660ha to pond and surcharged outfall	
Date 22/07/22 15:44	Designed by NAS	
File N&SE 960Min Winter Surcharge	Checked by	
XP Solutions	Network 2017.1.2	

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
21.000	49.590	1.340	37.0	0.125	5.00	0.0	0.600	o	225	Pipe/Conduit
20.003	32.290	0.220	146.8	0.022	0.00	0.0	0.600	o	300	Pipe/Conduit
20.004	68.420	1.390	49.2	0.067	0.00	0.0	0.600	\	-25	Pipe/Conduit
18.005	62.150	0.270	230.2	0.000	0.00	0.0	0.600	\	-25	Pipe/Conduit
14.010	6.320	0.030	210.7	0.000	0.00	0.0	0.600	\	-25	Pipe/Conduit
1.007	120.000	0.800	150.0	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit
1.008	26.850	0.030	895.0	0.000	0.00	0.0	0.600	\	-25	Pipe/Conduit
22.000	52.330	0.350	149.5	0.082	5.00	0.0	0.600	o	150	Pipe/Conduit
22.001	31.610	0.210	150.5	0.048	0.00	0.0	0.600	o	300	Pipe/Conduit
23.000	37.170	0.250	148.7	0.067	5.00	0.0	0.600	o	300	Pipe/Conduit
22.002	63.730	0.430	148.2	0.190	0.00	0.0	0.600	o	375	Pipe/Conduit
24.000	40.380	0.270	149.6	0.054	5.00	0.0	0.600	o	225	Pipe/Conduit
24.001	45.210	0.330	137.0	0.151	0.00	0.0	0.600	\	-25	Pipe/Conduit
24.002	33.140	0.250	132.6	0.088	0.00	0.0	0.600	o	300	Pipe/Conduit
25.000	18.680	0.500	37.4	0.093	5.00	0.0	0.600	\	-26	Pipe/Conduit
25.001	13.420	0.880	15.3	0.010	0.00	0.0	0.600	o	150	Pipe/Conduit

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
21.000	50.00	5.38	44.350	0.125	0.0	0.0	0.0	2.16	85.8	16.9
20.003	50.00	6.17	43.010	0.406	0.0	0.0	0.0	1.30	91.6	55.0
20.004	50.00	6.29	42.790	0.473	0.0	0.0	0.0	9.39	40551.9	64.1
18.005	50.00	6.53	41.400	1.067	0.0	0.0	0.0	4.33	18721.9	144.5
14.010	50.00	6.55	41.130	1.930	0.0	0.0	0.0	4.53	19572.5	261.3
1.007	50.00	7.67	40.400	3.641	0.0	0.0	0.0	1.99	561.6	493.0
1.008	50.00	7.87	39.600	3.641	0.0	0.0	0.0	2.19	9467.2	493.0
22.000	50.00	6.06	41.350	0.082	0.0	0.0	0.0	0.82	14.5	11.1
22.001	50.00	6.48	41.000	0.130	0.0	0.0	0.0	1.28	90.4	17.6
23.000	50.00	5.48	41.040	0.067	0.0	0.0	0.0	1.29	91.0	9.1
22.002	50.00	7.19	40.790	0.387	0.0	0.0	0.0	1.49	164.1	52.4
24.000	50.00	5.63	41.650	0.054	0.0	0.0	0.0	1.07	42.4	7.3
24.001	50.00	5.76	41.380	0.205	0.0	0.0	0.0	5.62	24284.4	27.8
24.002	50.00	6.17	41.050	0.293	0.0	0.0	0.0	1.36	96.4	39.7
25.000	50.00	5.05	43.100	0.093	0.0	0.0	0.0	6.47	9328.8	12.6
25.001	50.00	5.13	42.600	0.103	0.0	0.0	0.0	2.59	45.8	13.9

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
24.003	53.930	0.440	122.6	0.165	0.00	0.0	0.600	o	300	Pipe/Conduit
22.003	9.950	0.070	142.1	0.017	0.00	0.0	0.600	o	375	Pipe/Conduit
22.004	2.360	0.055	42.9	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit
1.009	77.860	0.070	1112.3	0.000	0.00	0.0	0.600	\/	-25	Pipe/Conduit

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
24.003	50.00	6.80	40.800	0.561	0.0	0.0	0.0	1.42	100.3	76.0
22.003	50.00	7.30	40.360	0.965	0.0	0.0	0.0	1.52	167.6	130.7
22.004	50.00	7.31	39.650	0.965	0.0	0.0	0.0	2.77	306.3	130.7
1.009	50.00	8.53	39.570	4.606	0.0	0.0	0.0	1.96	8486.7	623.7

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
1	43.360	1.050	Junction		1.000	42.310	150				
2	43.300	1.200	Junction		1.001	42.100	-25	1.000	42.100	150	
3	43.330	1.050	Open Manhole		2.000	42.280	150				
4	43.100	1.200	Junction	0	1.002	41.900	225	1.001	41.900	-25	
								2.000	42.000	150	25
5	43.620	1.430	Open Manhole	1200	3.000	42.190	225				
5	43.200	1.710	Open Manhole		1.003	41.490	300	1.002	41.490	225	
								3.000	41.490	225	
7	43.200	1.790	Junction		1.004	41.410	-25	1.003	41.410	300	
8	43.600	1.050	Open Manhole		4.000	42.550	150				
9	43.150	1.830	Junction		1.005	41.320	-25	1.004	41.320	-25	
								4.000	42.350	150	
10	42.900	1.680	Junction		1.006	41.220	-25	1.005	41.220	-25	
11	43.350	1.350	Open Manhole		5.000	42.000	150				
12	43.350	1.350	Open Manhole		6.000	42.000	225				
13	43.250	1.540	Junction		5.001	41.710	-25	5.000	41.710	150	
								6.000	41.710	225	
14	42.900	1.360	Junction		5.002	41.540	-25	5.001	41.540	-25	
15	42.970	1.500	Junction		5.003	41.470	-25	5.002	41.470	-25	
16	43.000	1.350	Open Manhole		7.000	41.650	225				
17	42.850	1.580	Junction		5.004	41.270	300	5.003	41.270	-25	
								7.000	41.270	225	
18	42.800	1.610	Junction		5.005	41.190	-25	5.004	41.190	300	
19	42.620	1.580	Junction	0	5.006	41.040	375	5.005	41.040	-25	
20	42.700	1.350	Open Manhole	1200	8.000	41.350	225				
21	42.600	1.590	Open Manhole		5.007	41.010	375	5.006	41.010	375	
								8.000	41.010	225	
22	42.530	1.550	Junction		5.008	40.980	-25	5.007	40.980	375	
23	43.400	1.350	Open Manhole	1200	9.000	42.050	225				
24	43.200	1.540	Open Manhole	1200	9.001	41.660	225	9.000	41.660	225	
25	43.000	1.350	Open Manhole	1200	10.000	41.650	150				
26	43.300	1.350	Open Manhole	1200	11.000	41.950	225				
27	43.150	1.680	Open Manhole	1350	9.002	41.470	375	9.001	41.470	225	
								10.000	41.470	150	
								11.000	41.470	225	
28	42.550	1.310	Open Manhole	1200	12.000	41.240	225				
29	43.150	1.350	Open Manhole	1200	13.000	41.800	225				
30	42.850	1.840	Open Manhole		9.003	41.010	375	9.002	41.010	375	
								12.000	41.010	225	
								13.000	41.010	225	
31	42.800	1.820	Junction		9.004	40.980	-25	9.003	40.980	375	
32	43.520	0.600	Junction		14.000	42.920	-27				
33	43.600	0.900	Junction		14.001	42.700	-25	14.000	42.700	-27	
34	43.600	1.800	Junction		14.002	41.800	-25	14.001	41.800	-25	

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
35	43.550	1.830	Junction		14.003	41.720	-25	14.002	41.720	-25	
36	43.500	0.600	Junction		15.000	42.900	-26				
37	43.350	1.670	Junction		14.004	41.680	-25	14.003	41.680	-25	
								15.000	42.700	-26	
38	43.780	1.425	Open Manhole		16.000	42.355	225				
39	43.500	1.920	Junction		14.005	41.580	-25	14.004	41.580	-25	
								16.000	41.580	225	
40	43.500	1.990	Junction		14.006	41.510	-25	14.005	41.510	-25	
41	43.500	2.210	Junction		14.007	41.290	-25	14.006	41.290	-25	
42	43.200	1.990	Junction		14.008	41.210	375	14.007	41.210	-25	
43	43.400	1.350	Open Manhole		17.000	42.050	225				
44	43.100	1.940	Junction		14.009	41.160	-25	14.008	41.160	375	
								17.000	41.160	225	
45	44.600	0.600	Junction		18.000	44.000	-25				
46	44.150	1.500	Junction	0	18.001	42.650	375	18.000	43.150	-25	1925
47	44.360	1.150	Open Manhole	1200	19.000	43.210	225				
48	43.850	1.380	Open Manhole		18.002	42.470	375	18.001	42.470	375	
								19.000	42.470	225	
49	43.850	1.590	Junction		18.003	42.260	-25	18.002	42.260	375	
50	43.800	2.300	Junction		18.004	41.500	375	18.003	41.800	-25	1725
52	45.100	1.450	Open Manhole		20.000	43.650	300				
53	44.700	1.500	Junction		20.001	43.200	-25	20.000	43.200	300	
54	45.000	1.960	Junction	0	20.002	43.040	300	20.001	43.040	-25	
55	45.700	1.350	Open Manhole	1200	21.000	44.350	225				
56	45.100	2.090	Open Manhole		20.003	43.010	300	20.002	43.010	300	
								21.000	43.010	225	
57	44.750	1.960	Junction		20.004	42.790	-25	20.003	42.790	300	
57	43.600	2.200	Junction		18.005	41.400	-25	18.004	41.400	375	
								20.004	41.400	-25	
58	43.150	2.020	Junction		14.010	41.130	-25	14.009	41.130	-25	
								18.005	41.130	-25	
59	42.200	1.800	Junction		1.007	40.400	600	1.006	41.120	-25	1920
								5.008	40.900	-25	1700
								9.004	40.940	-25	1740
								14.010	41.100	-25	1900
60	43.000	3.400	Junction		1.008	39.600	-25	1.007	39.600	600	
1	42.200	0.850	Junction	0	22.000	41.350	150				
2	42.450	1.450	Open Manhole	1200	22.001	41.000	300	22.000	41.000	150	
3	42.350	1.310	Open Manhole	1200	23.000	41.040	300				
4	43.000	2.210	Open Manhole	1350	22.002	40.790	375	22.001	40.790	300	
								23.000	40.790	300	
5	43.000	1.350	Open Manhole		24.000	41.650	225				
6	42.500	1.120	Junction		24.001	41.380	-25	24.000	41.380	225	
7	42.600	1.550	Junction	0	24.002	41.050	300	24.001	41.050	-25	

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
8	43.900	0.800	Junction		25.000	43.100	-26				
9	43.500	0.900	Junction	0	25.001	42.600	150	25.000	42.600	-26	
10	43.320	2.520	Open Manhole	1200	24.003	40.800	300	24.002	40.800	300	
								25.001	41.720	150	770
11	42.100	1.740	Open Manhole	1350	22.003	40.360	375	22.002	40.360	375	
								24.003	40.360	300	
12	41.800	2.150	Open Manhole		22.004	39.650	375	22.003	40.290	375	640
61	41.500	1.930	Junction	0	1.009	39.570	-25	1.008	39.570	-25	
								22.004	39.595	375	
Lambrok	40.100	0.600	Open Manhole	0		OUTFALL		1.009	39.500	-25	

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	o	150	1	43.360	42.310	0.900	Junction	
1.001	\/	-25	2	43.300	42.100	-0.600	Junction	
2.000	o	150	3	43.330	42.280	0.900	Open Manhole	1200
1.002	o	225	4	43.100	41.900	0.975	Junction	
3.000	o	225	5	43.620	42.190	1.205	Open Manhole	1200
1.003	o	300	5	43.200	41.490	1.410	Open Manhole	1200
1.004	\/	-25	7	43.200	41.410	-0.010	Junction	
4.000	o	150	8	43.600	42.550	0.900	Open Manhole	1200
1.005	\/	-25	9	43.150	41.320	0.030	Junction	
1.006	\/	-25	10	42.900	41.220	-0.120	Junction	
5.000	o	150	11	43.350	42.000	1.200	Open Manhole	1200
6.000	o	225	12	43.350	42.000	1.125	Open Manhole	1200
5.001	\/	-25	13	43.250	41.710	-0.260	Junction	
5.002	\/	-25	14	42.900	41.540	-0.440	Junction	
5.003	\/	-25	15	42.970	41.470	-0.300	Junction	

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	31.490	150.0	2	43.300	42.100	1.050	Junction	
1.001	38.550	192.8	4	43.100	41.900	-0.600	Junction	
2.000	28.090	100.3	4	43.100	42.000	0.950	Junction	
1.002	34.930	85.2	5	43.200	41.490	1.485	Open Manhole	1200
3.000	27.190	38.8	5	43.200	41.490	1.485	Open Manhole	1200
1.003	10.620	132.8	7	43.200	41.410	1.490	Junction	
1.004	23.440	260.4	9	43.150	41.320	0.030	Junction	
4.000	21.150	105.8	9	43.150	42.350	0.650	Junction	
1.005	23.560	235.6	10	42.900	41.220	-0.120	Junction	
1.006	23.840	238.4	59	42.200	41.120	-0.720	Junction	
5.000	43.380	149.6	13	43.250	41.710	1.390	Junction	
6.000	43.050	148.4	13	43.250	41.710	1.315	Junction	
5.001	40.470	238.1	14	42.900	41.540	-0.440	Junction	
5.002	8.610	123.0	15	42.970	41.470	-0.300	Junction	
5.003	18.000	90.0	17	42.850	41.270	-0.220	Junction	

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
7.000	o	225	16	43.000	41.650	1.125	Open Manhole	1200
5.004	o	300	17	42.850	41.270	1.280	Junction	
5.005	\/	-25	18	42.800	41.190	-0.190	Junction	
5.006	o	375	19	42.620	41.040	1.205	Junction	
8.000	o	225	20	42.700	41.350	1.125	Open Manhole	1200
5.007	o	375	21	42.600	41.010	1.215	Open Manhole	1350
5.008	\/	-25	22	42.530	40.980	-0.250	Junction	
9.000	o	225	23	43.400	42.050	1.125	Open Manhole	1200
9.001	o	225	24	43.200	41.660	1.315	Open Manhole	1200
10.000	o	150	25	43.000	41.650	1.200	Open Manhole	1200
11.000	o	225	26	43.300	41.950	1.125	Open Manhole	1200
9.002	o	375	27	43.150	41.470	1.305	Open Manhole	1350
12.000	o	225	28	42.550	41.240	1.085	Open Manhole	1200
13.000	o	225	29	43.150	41.800	1.125	Open Manhole	1200
9.003	o	375	30	42.850	41.010	1.465	Open Manhole	1350

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
7.000	32.730	86.1	17	42.850	41.270	1.355	Junction	
5.004	11.970	149.6	18	42.800	41.190	1.310	Junction	
5.005	44.000	293.3	19	42.620	41.040	-0.220	Junction	
5.006	4.030	134.3	21	42.600	41.010	1.215	Open Manhole	1350
8.000	32.880	96.7	21	42.600	41.010	1.365	Open Manhole	1350
5.007	4.890	163.0	22	42.530	40.980	1.175	Junction	
5.008	23.730	296.6	59	42.200	40.900	-0.500	Junction	
9.000	24.540	62.9	24	43.200	41.660	1.315	Open Manhole	1200
9.001	24.510	129.0	27	43.150	41.470	1.455	Open Manhole	1350
10.000	26.150	145.3	27	43.150	41.470	1.530	Open Manhole	1350
11.000	38.940	81.1	27	43.150	41.470	1.455	Open Manhole	1350
9.002	74.590	162.2	30	42.850	41.010	1.465	Open Manhole	1350
12.000	33.290	144.7	30	42.850	41.010	1.615	Open Manhole	1350
13.000	37.210	47.1	30	42.850	41.010	1.615	Open Manhole	1350
9.003	4.080	136.0	31	42.800	40.980	1.445	Junction	

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
9.004	\/	-25	31	42.800	40.980	0.020	Junction	
14.000	\/	-27	32	43.520	42.920	-0.300	Junction	
14.001	\/	-25	33	43.600	42.700	-0.900	Junction	
14.002	\/	-25	34	43.600	41.800	0.000	Junction	
14.003	\/	-25	35	43.550	41.720	0.030	Junction	
15.000	\/	-26	36	43.500	42.900	0.000	Junction	
14.004	\/	-25	37	43.350	41.680	-0.130	Junction	
16.000	o	225	38	43.780	42.355	1.200	Open Manhole	1200
14.005	\/	-25	39	43.500	41.580	0.120	Junction	
14.006	\/	-25	40	43.500	41.510	0.190	Junction	
14.007	\/	-25	41	43.500	41.290	0.410	Junction	
14.008	o	375	42	43.200	41.210	1.615	Junction	
17.000	o	225	43	43.400	42.050	1.125	Open Manhole	1200
14.009	\/	-25	44	43.100	41.160	0.140	Junction	
18.000	\/	-25	45	44.600	44.000	-1.200	Junction	
18.001	o	375	46	44.150	42.650	1.125	Junction	

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
9.004	11.200	280.0	59	42.200	40.940	-0.540	Junction	
14.000	65.530	297.9	33	43.600	42.700	0.000	Junction	
14.001	18.730	20.8	34	43.600	41.800	0.000	Junction	
14.002	8.670	108.4	35	43.550	41.720	0.030	Junction	
14.003	10.720	268.0	37	43.350	41.680	-0.130	Junction	
15.000	17.740	88.7	37	43.350	42.700	0.050	Junction	
14.004	16.850	168.5	39	43.500	41.580	0.120	Junction	
16.000	36.710	47.4	39	43.500	41.580	1.695	Junction	
14.005	17.820	254.6	40	43.500	41.510	0.190	Junction	
14.006	34.790	158.1	41	43.500	41.290	0.410	Junction	
14.007	20.370	254.6	42	43.200	41.210	0.190	Junction	
14.008	7.290	145.8	44	43.100	41.160	1.565	Junction	
17.000	42.790	48.1	44	43.100	41.160	1.715	Junction	
14.009	7.370	245.7	58	43.150	41.130	0.220	Junction	
18.000	63.240	74.4	46	44.150	43.150	-0.800	Junction	
18.001	26.980	149.9	48	43.850	42.470	1.005	Open Manhole	1350

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9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	N & S & E catchment areas inc SW flood risk areas of 0.660ha to pond and surcharged outfall	
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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
19.000	o	225	47	44.360	43.210	0.925	Open Manhole	1200
18.002	o	375	48	43.850	42.470	1.005	Open Manhole	1350
18.003	\/	-25	49	43.850	42.260	-0.210	Junction	
18.004	o	375	50	43.800	41.500	1.925	Junction	
20.000	o	300	52	45.100	43.650	1.150	Open Manhole	1200
20.001	\/	-25	53	44.700	43.200	-0.300	Junction	
20.002	o	300	54	45.000	43.040	1.660	Junction	
21.000	o	225	55	45.700	44.350	1.125	Open Manhole	1200
20.003	o	300	56	45.100	43.010	1.790	Open Manhole	1200
20.004	\/	-25	57	44.750	42.790	0.160	Junction	
18.005	\/	-25	57	43.600	41.400	0.400	Junction	
14.010	\/	-25	58	43.150	41.130	0.220	Junction	
1.007	o	600	59	42.200	40.400	1.200	Junction	
1.008	\/	-25	60	43.000	39.600	1.600	Junction	
22.000	o	150	1	42.200	41.350	0.700	Junction	
22.001	o	300	2	42.450	41.000	1.150	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
19.000	37.580	50.8	48	43.850	42.470	1.155	Open Manhole	1350
18.002	31.450	149.8	49	43.850	42.260	1.215	Junction	
18.003	29.090	63.2	50	43.800	41.800	0.200	Junction	
18.004	14.870	148.7	57	43.600	41.400	1.825	Junction	
20.000	46.910	104.2	53	44.700	43.200	1.200	Junction	
20.001	45.570	284.8	54	45.000	43.040	0.160	Junction	
20.002	4.120	137.3	56	45.100	43.010	1.790	Open Manhole	1200
21.000	49.590	37.0	56	45.100	43.010	1.865	Open Manhole	1200
20.003	32.290	146.8	57	44.750	42.790	1.660	Junction	
20.004	68.420	49.2	57	43.600	41.400	0.400	Junction	
18.005	62.150	230.2	58	43.150	41.130	0.220	Junction	
14.010	6.320	210.7	59	42.200	41.100	-0.700	Junction	
1.007	120.000	150.0	60	43.000	39.600	2.800	Junction	
1.008	26.850	895.0	61	41.500	39.570	0.130	Junction	
22.000	52.330	149.5	2	42.450	41.000	1.300	Open Manhole	1200
22.001	31.610	150.5	4	43.000	40.790	1.910	Open Manhole	1350

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9 Higher Kingsdown Road Teignmouth Devon TQ14 9AT	N & S & E catchment areas inc SW flood risk areas of 0.660ha to pond and surcharged outfall	
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PIPELINE SCHEDULES for Storm

Upstream Manhole

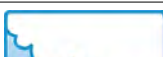
PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
23.000	o	300	3	42.350	41.040	1.010	Open Manhole	1200
22.002	o	375	4	43.000	40.790	1.835	Open Manhole	1350
24.000	o	225	5	43.000	41.650	1.125	Open Manhole	1200
24.001	\/	-25	6	42.500	41.380	-0.680	Junction	
24.002	o	300	7	42.600	41.050	1.250	Junction	
25.000	\/	-26	8	43.900	43.100	0.200	Junction	
25.001	o	150	9	43.500	42.600	0.750	Junction	
24.003	o	300	10	43.320	40.800	2.220	Open Manhole	1200
22.003	o	375	11	42.100	40.360	1.365	Open Manhole	1350
22.004	o	375	12	41.800	39.650	1.775	Open Manhole	1350
1.009	\/	-25	61	41.500	39.570	0.130	Junction	

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
23.000	37.170	148.7	4	43.000	40.790	1.910	Open Manhole	1350
22.002	63.730	148.2	11	42.100	40.360	1.365	Open Manhole	1350
24.000	40.380	149.6	6	42.500	41.380	0.895	Junction	
24.001	45.210	137.0	7	42.600	41.050	-0.250	Junction	
24.002	33.140	132.6	10	43.320	40.800	2.220	Open Manhole	1200
25.000	18.680	37.4	9	43.500	42.600	0.300	Junction	
25.001	13.420	15.3	10	43.320	41.720	1.450	Open Manhole	1200
24.003	53.930	122.6	11	42.100	40.360	1.440	Open Manhole	1350
22.003	9.950	142.1	12	41.800	40.290	1.135	Open Manhole	1350
22.004	2.360	42.9	61	41.500	39.595	1.530	Junction	
1.009	77.860	1112.3	Lambrok	40.100	39.500	-1.200	Open Manhole	0

Surcharged Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
1.009	Lambrok	40.100	39.500	39.500	0	0
Datum (m) 39.500 Offset (mins) 0						

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Surcharged Outfall Details for Storm

Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)
15	0.000	180	0.580	345	1.090	510	1.250	675	1.230	840	1.070	1005	0.690	1170	0.210
30	0.050	195	0.640	360	1.100	525	1.260	690	1.230	855	1.050	1020	0.640	1185	0.170
45	0.110	210	0.690	375	1.140	540	1.260	705	1.220	870	1.040	1035	0.590	1200	0.130
60	0.160	225	0.740	390	1.170	555	1.270	720	1.210	885	1.040	1050	0.540	1215	0.090
75	0.210	240	0.790	405	1.200	570	1.270	735	1.210	900	1.030	1065	0.500	1230	0.050
90	0.260	255	0.850	420	1.210	585	1.260	750	1.190	915	0.990	1080	0.450	1245	0.000
105	0.320	270	0.900	435	1.210	600	1.260	765	1.170	930	0.940	1095	0.400		
120	0.370	285	0.950	450	1.220	615	1.250	780	1.150	945	0.890	1110	0.350		
135	0.420	300	1.010	465	1.230	630	1.250	795	1.130	960	0.840	1125	0.310		
150	0.480	315	1.060	480	1.240	645	1.240	810	1.110	975	0.790	1140	0.270		
165	0.530	330	1.080	495	1.240	660	1.240	825	1.080	990	0.740	1155	0.240		

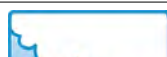
Simulation Criteria for Storm

Volumetric Runoff Coeff 0.840 Foul Sewage per hectare (l/s) 0.000
 Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 45.000
 Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 0.000
 Hot Start Level (mm) 0 Run Time (mins) 1920
 Manhole Headloss Coeff (Global) 0.500 Output Interval (mins) 16

 Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
 Number of Online Controls 2 Number of Storage Structures 2

Synthetic Rainfall Details

Rainfall Model FEH Summer Storms No
 Return Period (years) 100 Winter Storms Yes
 FEH Rainfall Version 2013 Cv (Summer) 0.750
 Site Location GB 384550 156050 ST 84550 56050 Cv (Winter) 0.840
 Data Type Catchment Storm Duration (mins) 960

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XP Solutions	Network 2017.1.2	

Online Controls for Storm

Crown Vortex Valve® Manhole: 59, DS/PN: 1.007, Volume (m³): 281.2

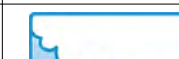
Design Head (m) 1.350 Vortex Valve® Type R3 SW Only Invert Level (m) 40.400
Design Flow (l/s) 17.0 Diameter (mm) 116

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.6	0.800	13.0	2.000	20.5	4.000	29.0	7.000	38.4
0.200	6.5	1.000	14.5	2.200	21.5	4.500	30.8	7.500	39.7
0.300	7.9	1.200	15.9	2.400	22.5	5.000	32.4	8.000	41.0
0.400	9.2	1.400	17.2	2.600	23.4	5.500	34.0	8.500	42.3
0.500	10.3	1.600	18.4	3.000	25.1	6.000	35.5	9.000	43.5
0.600	11.2	1.800	19.5	3.500	27.1	6.500	37.0	9.500	44.7

Crown Vortex Valve® Manhole: 12, DS/PN: 22.004, Volume (m³): 4.0

Design Head (m) 1.350 Vortex Valve® Type R3 SW Only Invert Level (m) 39.650
Design Flow (l/s) 17.0 Diameter (mm) 116

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.6	0.800	13.0	2.000	20.5	4.000	29.0	7.000	38.4
0.200	6.5	1.000	14.5	2.200	21.5	4.500	30.8	7.500	39.7
0.300	7.9	1.200	15.9	2.400	22.5	5.000	32.4	8.000	41.0
0.400	9.2	1.400	17.2	2.600	23.4	5.500	34.0	8.500	42.3
0.500	10.3	1.600	18.4	3.000	25.1	6.000	35.5	9.000	43.5
0.600	11.2	1.800	19.5	3.500	27.1	6.500	37.0	9.500	44.7

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XP Solutions	Network 2017.1.2	

Storage Structures for Storm

Tank or Pond Manhole: 59, DS/PN: 1.007

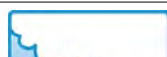
Invert Level (m) 40.400

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	1339.5	1.200	2778.6	2.400	0.0	3.600	0.0	4.800	0.0
0.200	1566.0	1.400	3037.2	2.600	0.0	3.800	0.0	5.000	0.0
0.400	1797.8	1.600	3301.1	2.800	0.0	4.000	0.0		
0.600	2035.0	1.800	3570.4	3.000	0.0	4.200	0.0		
0.800	2277.6	2.000	0.0	3.200	0.0	4.400	0.0		
1.000	2525.4	2.200	0.0	3.400	0.0	4.600	0.0		

Tank or Pond Manhole: 12, DS/PN: 22.004

Invert Level (m) 39.650

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	507.2	1.100	871.2	2.400	0.0	3.600	0.0	4.800	0.0
0.100	546.3	1.300	943.0	2.600	0.0	3.800	0.0	5.000	0.0
0.300	606.7	1.500	1017.1	2.800	0.0	4.000	0.0		
0.500	669.5	1.600	1054.9	3.000	0.0	4.200	0.0		
0.700	734.4	2.000	0.0	3.200	0.0	4.400	0.0		
0.900	801.7	2.200	0.0	3.400	0.0	4.600	0.0		

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Summary of Results for 960 minute 100 year Winter (Storm)

Margin for Flood Risk Warning (mm) 300.0 DVD Status OFF
Analysis Timestep Fine Inertia Status OFF
DTS Status ON

PN	US/MH Name	Water Surcharged Flooded			Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
		Level (m)	Depth (m)	Volume (m³)				
1.000	1	42.359	-0.101	0.000	0.23		3.3	OK*
1.001	2	42.106	-1.794	0.000	0.00		6.8	OK
2.000	3	42.314	-0.116	0.000	0.12		2.0	OK
1.002	4	41.969	-0.156	0.000	0.21		11.8	OK*
3.000	5	42.234	-0.181	0.000	0.09		6.6	OK
1.003	5	41.829	0.039	0.000	0.28		19.6	SURCHARGED
1.004	7	41.827	-1.383	0.000	0.00		19.6	OK
4.000	8	42.588	-0.112	0.000	0.14		2.3	OK
1.005	9	41.827	-1.293	0.000	0.00		21.8	OK
1.006	10	41.828	-1.192	0.000	0.00		21.5	OK
5.000	11	42.036	-0.114	0.000	0.14		1.9	OK
6.000	12	42.042	-0.183	0.000	0.08		3.2	OK
5.001	13	41.828	-1.682	0.000	0.00		8.2	OK
5.002	14	41.828	-1.512	0.000	0.00		13.1	OK
5.003	15	41.828	-1.442	0.000	0.00		15.7	OK
7.000	16	41.830	-0.045	0.000	0.08		4.2	OK
5.004	17	41.828	0.258	0.000	0.30		21.0	SURCHARGED*
5.005	18	41.826	-1.164	0.000	0.00		29.7	OK
5.006	19	41.826	0.411	0.000	0.26		27.8	SURCHARGED*
8.000	20	41.828	0.253	0.000	0.09		4.7	SURCHARGED
5.007	21	41.826	0.441	0.000	0.34		32.1	SURCHARGED
5.008	22	41.828	-0.952	0.000	0.00		32.2	OK
9.000	23	42.085	-0.190	0.000	0.06		3.5	OK
9.001	24	41.832	-0.053	0.000	0.08		3.5	OK
10.000	25	41.832	0.032	0.000	0.10		1.4	SURCHARGED
11.000	26	41.986	-0.189	0.000	0.06		3.3	OK
9.002	27	41.831	-0.014	0.000	0.11		16.8	OK
12.000	28	41.830	0.365	0.000	0.10		4.1	SURCHARGED
13.000	29	41.828	-0.197	0.000	0.02		1.5	OK
9.003	30	41.828	0.443	0.000	0.24		23.1	SURCHARGED
9.004	31	41.827	-0.953	0.000	0.00		23.0	OK
14.000	32	42.950	-0.870	0.000	0.00		15.3	OK
14.001	33	42.705	-1.795	0.000	0.00		18.9	OK
14.002	34	41.828	-1.772	0.000	0.00		18.9	OK
14.003	35	41.828	-1.692	0.000	0.00		18.9	OK
15.000	36	42.904	-0.596	0.000	0.00		3.6	OK
14.004	37	41.828	-1.652	0.000	0.00		22.5	OK
16.000	38	42.386	-0.194	0.000	0.05		3.3	OK
14.005	39	41.829	-1.551	0.000	0.00		28.3	OK
14.006	40	41.829	-1.481	0.000	0.00		32.6	OK
14.007	41	41.829	-1.261	0.000	0.00		35.2	OK
14.008	42	41.829	0.244	0.000	0.33		35.1	SURCHARGED*
17.000	43	42.092	-0.183	0.000	0.08		5.8	OK
14.009	44	41.828	-1.132	0.000	0.00		40.6	OK
18.000	45	44.005	-1.795	0.000	0.00		10.4	OK
18.001	46	42.721	-0.304	0.000	0.08		13.3	OK*
19.000	47	43.243	-0.192	0.000	0.05		3.7	OK
18.002	48	42.568	-0.277	0.000	0.16		22.6	OK
18.003	49	42.272	-1.788	0.000	0.00		26.6	OK
18.004	50	41.829	-0.046	0.000	0.23		28.3	OK*
20.000	52	43.714	-0.236	0.000	0.10		10.4	OK
20.001	53	43.216	-1.784	0.000	0.00		12.3	OK
20.002	54	43.131	-0.209	0.000	0.20		12.3	OK*

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XP Solutions	Network 2017.1.2	

Summary of Results for 960 minute 100 year Winter (Storm)

PN	US/MH Name	Water		Surcharged		Flooded		Pipe		Status
		Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Flow (l/s)			
21.000	55	44.390	-0.185	0.000	0.07		6.0		OK	
20.003	56	43.107	-0.203	0.000	0.23		19.3		OK	
20.004	57	42.799	-1.791	0.000	0.00		22.5		OK	
18.005	57	41.827	-1.373	0.000	0.00		50.7		OK	
14.010	58	41.828	-1.102	0.000	0.01		89.7		OK	
1.007	59	41.828	0.828	0.000	0.03		17.3		SURCHARGED*	
1.008	60	40.770	-0.630	0.000	0.00		18.4		OK	
22.000	1	41.403	-0.097	0.000	0.27		3.9		OK*	
22.001	2	41.054	-0.246	0.000	0.08		6.2		OK	
23.000	3	41.077	-0.263	0.000	0.04		3.2		OK	
22.002	4	41.011	-0.154	0.000	0.12		18.4		OK	
24.000	5	41.687	-0.188	0.000	0.06		2.6		OK	
24.001	6	41.387	-1.793	0.000	0.00		9.8		OK	
24.002	7	41.126	-0.224	0.000	0.14		14.0		OK*	
25.000	8	43.103	-0.597	0.000	0.00		4.4		OK	
25.001	9	42.633	-0.117	0.000	0.11		4.9		OK*	
24.003	10	41.016	-0.084	0.000	0.28		26.7		OK	
22.003	11	41.007	0.272	0.000	0.42		44.7		SURCHARGED	
22.004	12	41.004	0.979	0.000	0.14		15.0		SURCHARGED	
1.009	61	40.770	-0.600	0.000	0.00		34.4		OK	