

**TAG Water Environment Impacts Worksheet**

Description of study area/ summary of potential impacts	Key environmental resource	Features	Quality	Possible Measures	Assessment data availability	Scale	Rarity	Substitutability	Importance	Magnitude	Significance
Study area: 1 km buffer from the route alignment											
Potential Impacts:											
Potential for highway drainage to be routed to watercourse. This impact can likely be minimised through mitigation.  Potential for the new bridge structure to cause shading resulting in the simplification of the riparian zone. Crossing structures can cause a loss of bank structure and riparian vegetation due to abutments. Potential for change in flow and sediment transport dynamics in channel and across floodplain due to new piers/embankments. These impacts can likely either be	River Avon (Feature ID: MR09)  WFD reported reach: Avon (Brist) conf R Marden to conf Semington Bk (GB1090530274 40)	Water supply	Use of water supply (potable, industrial or agricultural)	Location and number of abstraction points	No abstraction licence information available at the time of reporting.	Regional	Commonplace	Replaceable	Low	Minor	Insignificant
				Volume of water abstracted	Indicator of quality not used in assessment.						
				Use of water (potable most important)							
		Chemical water quality	Existing chemical classification/status and objective under the WFD. Likelihood of a change in classification arising (+ve or -ve)	Existing chemical classification: Fail (2019) Chemical objective: Good (2015)  No information available to indicate direction of change							
		Transport and dilution of waste products	Presence of surface water discharge points	Location and number of discharge points	The Envirocheck report lists discharges into the River Avon associated with WWTW.	Regional	Commonplace	Replaceable	Low	Minor	Insignificant
				Volume of effluent discharged	No information available. Indicator of quality and measure not used in assessment.						
Contribution of discharge to total river flow	No information available. Indicator of quality and measure not used in assessment.										
Biodiversity	Biological water quality	Existing ecological classification/status and objective under the WFD. Likelihood of a change in classification arising (+ve or -ve)	Existing classification: Moderate (2019) Objective: Good (2027)  No information available to indicate direction of change	Regional	Commonplace	Replaceable	Low	Minor	Insignificant		
		Location and number of discharge points	No discharge consents information available at the time of reporting								
		Volume of effluent discharged	Indicator of quality and measures not used in assessment.								
Potential for highway drainage to be routed to watercourse. This impact can likely be minimised through mitigation.  Culverts will lead to a permanent loss of natural watercourse morphology, and processes and loss of in channel and riparian habitat at the culvert location, but can also alter natural processes such as erosion and sediment transport upstream and downstream. These impacts can likely either be	Unnamed drain (Feature ID: DR25)  WFD reported reach: No Within Avon (Brist) conf R Marden to conf Semington Bk (GB1090530274 40) waterbody	Water supply	Use of water supply (potable, industrial or agricultural)	Location and number of abstraction points	No abstraction licence information available at the time of reporting.	Local	Commonplace	Replaceable	Low	Minor	Insignificant
				Volume of water abstracted	Indicator of quality not used in assessment.						
				Use of water (potable most important)							
		Chemical water quality	Existing chemical classification/status and objective under the WFD. Likelihood of a change in classification arising (+ve or -ve)	Existing chemical classification: Fail (2019) Chemical objective: Good (2015)  No information available to indicate direction of change							
		Transport and dilution of waste products	Presence of surface water discharge points	Location and number of discharge points	No abstraction licence information available at the time of reporting.	Local	Commonplace	Replaceable	Low	Minor	Insignificant
				Volume of effluent discharged	Indicator of quality and measures not used in assessment.						
Contribution of discharge to total river flow	No information available. Indicator of quality and measure not used in assessment.										
Biodiversity	Biological water quality	Existing ecological classification/status and objective under the WFD. Likelihood of a change in classification arising (+ve or -ve)	Existing classification: Moderate (2019) Objective: Good (2027)  No information available to indicate direction of change	Local	Commonplace	Replaceable	Low	Minor	Insignificant		
		Location and number of discharge points	No abstraction licence information available at the time of reporting.								
		Volume of effluent discharged	Indicator of quality not used in assessment.								
Potential for highway drainage to be routed to watercourse. This impact can likely be minimised through mitigation.  Culverts will lead to a permanent loss of natural watercourse morphology, and processes and loss of in channel and riparian habitat at the culvert location, but can also alter natural processes such as erosion and sediment transport upstream and downstream. These impacts can likely either be	Unnamed drain (Feature ID: DR08) & unnamed watercourse (Feature ID: WC35)  WFD reported reach: No Within Clackers Bk - source to conf R Avon (Brist) (GB1090530219 40) waterbody	Water supply	Use of water supply (potable, industrial or agricultural)	Location and number of abstraction points	No abstraction licence information available at the time of reporting.	Local	Commonplace	Replaceable	Low	Minor	Insignificant
				Volume of water abstracted	Indicator of quality not used in assessment.						
				Use of water (potable most important)							
		Chemical water quality	Existing chemical classification/status and objective under the WFD. Likelihood of a change in classification arising (+ve or -ve)	Existing chemical classification: Fail (2019) Chemical objective: Good (2015)  No information available to indicate direction of change							
		Transport and dilution of waste products	Presence of surface water discharge points	Location and number of discharge points	No abstraction licence information available at the time of reporting.	Local	Commonplace	Replaceable	Low	Minor	Insignificant
				Volume of effluent discharged	Indicator of quality not used in assessment.						
Contribution of discharge to total river flow	No information available. Indicator of quality and measure not used in assessment.										
Biodiversity	Biological water quality	Existing ecological classification/status and objective under the WFD. Likelihood of a change in classification arising (+ve or -ve)	Existing classification: Poor (2019) Objective: Moderate (2021)  No information available to indicate direction of change	Local	Commonplace	Replaceable	Low	Minor	Insignificant		
		Location and number of discharge points	No abstraction licence information available at the time of reporting.								
		Volume of effluent discharged	Indicator of quality not used in assessment.								
Potential for highway drainage to be routed to watercourse. This impact can likely be minimised through mitigation.  Culverts will lead to a permanent loss of natural watercourse morphology, and processes and loss of in channel and riparian habitat at the culvert location, but can also alter natural processes such as erosion and sediment transport upstream and downstream. These impacts can likely either be	Unnamed watercourse (Feature ID: WC13)  WFD reported reach: No Within Forest Brook (GB1090530219 40) waterbody	Water supply	Use of water supply (potable, industrial or agricultural)	Location and number of abstraction points	No abstraction licence information available at the time of reporting.	Local	Commonplace	Replaceable	Low	Minor	Insignificant
				Volume of water abstracted	Indicator of quality not used in assessment.						
				Use of water (potable most important)							
		Chemical water quality	Existing chemical classification/status and objective under the WFD. Likelihood of a change in classification arising (+ve or -ve)	Existing chemical classification: Fail (2019) Chemical objective: Good (2015)  No information available to indicate direction of change							
		Transport and dilution of waste products	Presence of surface water discharge points	Location and number of discharge points	No abstraction licence information available at the time of reporting.	Local	Commonplace	Replaceable	Low	Minor	Insignificant
				Volume of effluent discharged	Indicator of quality not used in assessment.						
Contribution of discharge to total river flow	No information available. Indicator of quality and measure not used in assessment.										
Biodiversity	Biological water quality	Existing ecological classification/status and objective under the WFD. Likelihood of a change in classification arising (+ve or -ve)	Existing classification: Poor (2019) Objective: Good (2015)  No information available to indicate direction of change	Local	Commonplace	Replaceable	Low	Minor	Insignificant		
		Location and number of discharge points	No abstraction licence information available at the time of reporting.								
		Volume of effluent discharged	Indicator of quality not used in assessment.								
Potential for highway drainage to be routed to watercourse. This impact can likely be minimised through mitigation.  Potential for the new bridge structure to cause shading resulting in the simplification of the riparian zone. Crossing structures can cause a loss of bank structure and riparian vegetation due to abutments. Potential for change in flow and sediment transport dynamics in channel and across floodplain due	Unnamed watercourse (Feature ID: WC07)  WFD reported reach: No Clackers Bk - source to conf R Avon (Brist) (GB1090530219 20) waterbody	Water supply	Use of water supply (potable, industrial or agricultural)	Location and number of abstraction points	No abstraction licence information available at the time of reporting.	Local	Commonplace	Replaceable	Low	Minor	Insignificant
				Volume of water abstracted	Indicator of quality not used in assessment.						
				Use of water (potable most important)							
		Chemical water quality	Existing chemical classification/status and objective under the WFD. Likelihood of a change in classification arising (+ve or -ve)	Existing chemical classification: Fail (2019) Chemical objective: Good (2015)  No information available to indicate direction of change							
		Transport and dilution of waste products	Presence of surface water discharge points	Location and number of discharge points	No abstraction licence information available at the time of reporting.	Local	Commonplace	Replaceable	Low	Minor	Insignificant
				Volume of effluent discharged	Indicator of quality not used in assessment.						
Contribution of discharge to total river flow	No information available. Indicator of quality and measure not used in assessment.										
Biodiversity	Biological water quality	Existing ecological classification/status and objective under the WFD. Likelihood of a change in classification arising (+ve or -ve)	Existing classification: Poor (2019) Objective: Moderate (2021)  No information available to indicate direction of change	Local	Commonplace	Replaceable	Low	Minor	Insignificant		
		Location and number of discharge points	No abstraction licence information available at the time of reporting.								
		Volume of effluent discharged	Indicator of quality not used in assessment.								
Potential for highway drainage to be routed to watercourse. This impact can likely be minimised through mitigation.	Unnamed watercourse (Feature ID: WC39)	Water supply	Use of water supply (potable, industrial or agricultural)	Location and number of abstraction points	No abstraction licence information available at the time of reporting.	Local	Commonplace	Replaceable	Low	Minor	Insignificant
				Volume of water abstracted	Indicator of quality not used in assessment.						
				Use of water (potable most important)							
		Chemical water quality	Existing chemical classification/status and objective under the WFD.	Existing chemical classification: Fail (2019) Chemical objective: Good (2015)							

Potential for the new bridge structure to cause shading resulting in the simplification of the riparian zone. Crossing structures can cause a loss of bank structure and riparian vegetation due to abutments. Potential for change in flow and sediment transport dynamics in channel and across floodplain due	WFD reported reach: No Avon (Brist) conf R Marden to conf Semington Bk (GB1090530274 40) waterbody	Transport and dilution of waste products	Presence of surface water discharge points Contribution of discharge to total river flow	Likelihood of a change in classification arising (+ve or -ve)	No information available to indicate direction of change								
				Location and number of discharge points	Volume of effluent discharged	No abstraction licence information available at the time of reporting. Indicator of quality not used in assessment.							
				Proportion of flow made up by effluent at different times of the year	Existing ecological classification/status and objective under the WFD Likelihood of a change in classification arising (+ve or -ve)	Existing classification: Moderate (2019) Objective: Good (2027) No information available to indicate direction of change	Local	Commonplace	Replaceable	Low	Minor	Insignificant	
Potential for highway drainage to be routed to watercourse. This impact can likely be minimised through mitigation.  At waterbody scale these impact would not be significant.	Bydemill Brook (Feature ID: MR30)  WFD reported reach: Bydemill Bk - source to conf River Avon (GB1090530219 60)	Water supply	Use of water supply (potable, industrial or agricultural)	Location and number of abstraction points	No abstraction licence information available at the time of reporting. Indicator of quality not used in assessment.								
				Volume of water abstracted	Use of water (potable most important)								
				Existing chemical classification/status and objective under the WFD. Likelihood of a change in classification arising (+ve or -ve)	Existing chemical classification: Fail (2019) Chemical objective: Good (2015) No information available to indicate direction of change	Regional	Commonplace	Replaceable	Low	Minor	Insignificant		
		Transport and dilution of waste products	Presence of surface water discharge points Contribution of discharge to total river flow	Location and number of discharge points	The Envirocheck report lists discharges of treated effluent and storm overflow from WWTW.	Regional	Commonplace	Replaceable	Low	Minor	Insignificant		
				Volume of effluent discharged	Proportion of flow made up by effluent at different times of the year								
				Proportion of flow made up by effluent at different times of the year	Existing ecological classification/status and objective under the WFD Likelihood of a change in classification arising (+ve or -ve)	Existing classification: Moderate (2019) Objective: Good (2027) No information available to indicate direction of change	Regional	Commonplace	Replaceable	Low	Minor	Insignificant	
Biodiversity	Biological water quality	Existing ecological classification/status and objective under the WFD Likelihood of a change in classification arising (+ve or -ve)	Existing classification: Moderate (2019) Objective: Good (2027) No information available to indicate direction of change	Regional	Commonplace	Replaceable	Low	Minor	Insignificant				
		Location and number of abstraction points	No abstraction licence information available at the time of reporting. Indicator of quality not used in assessment.										
		Volume of water abstracted	Use of water (potable most important)										
Potential for highway drainage to be routed to watercourse. This impact can likely be minimised through mitigation.  Potential for the new bridge structure to cause shading resulting in the simplification of the riparian zone. Crossing structures can cause a loss of bank structure and riparian vegetation due to abutments. Potential for change in flow and sediment transport dynamics in channel and across floodplain.	Clackers Brook (Feature ID: MR39)  WFD reported reach: Clackers Bk - source to conf R Avon (Brist) (GB1090530219 20)	Water supply	Use of water supply (potable, industrial or agricultural)	Location and number of abstraction points	No abstraction licence information available at the time of reporting. Indicator of quality not used in assessment.								
				Volume of water abstracted	Use of water (potable most important)								
				Existing chemical classification/status and objective under the WFD. Likelihood of a change in classification arising (+ve or -ve)	Existing chemical classification: Fail (2019) Chemical objective: Good (2015) No information available to indicate direction of change	Regional	Commonplace	Replaceable	Low	Minor	Insignificant		
		Transport and dilution of waste products	Presence of surface water discharge points Contribution of discharge to total river flow	Location and number of discharge points	No discharge consents information available at the time of reporting. Indicator of quality and measures not used in assessment								
				Volume of effluent discharged	Proportion of flow made up by effluent at different times of the year								
				Proportion of flow made up by effluent at different times of the year	Existing ecological classification/status and objective under the WFD Likelihood of a change in classification arising (+ve or -ve)	Existing classification: Poor (2019) Objective: Moderate (2021) No information available to indicate direction of change	Regional	Commonplace	Replaceable	Low	Minor	Insignificant	
Biodiversity	Biological water quality	Existing ecological classification/status and objective under the WFD Likelihood of a change in classification arising (+ve or -ve)	Existing classification: Poor (2019) Objective: Moderate (2021) No information available to indicate direction of change	Regional	Commonplace	Replaceable	Low	Minor	Insignificant				
		Location and number of abstraction points	No abstraction licence information available at the time of reporting. Indicator of quality not used in assessment.										
		Volume of water abstracted	Use of water (potable most important)										
Potential for highway drainage to be routed to watercourse. This impact can likely be minimised through mitigation.  Potential for the new bridge structure to cause shading resulting in the simplification of the riparian zone. Crossing structures can cause a loss of bank structure and riparian vegetation due to abutments. Potential for change in flow and sediment transport dynamics in channel and across floodplain.	Forest Brook (Feature ID: MR06)  WFD reported reach: Forest Brook (GB1090530219 40)	Water supply	Use of water supply (potable, industrial or agricultural)	Location and number of abstraction points	No abstraction licence information available at the time of reporting. Indicator of quality not used in assessment.								
				Volume of water abstracted	Use of water (potable most important)								
				Existing chemical classification/status and objective under the WFD. Likelihood of a change in classification arising (+ve or -ve)	Existing chemical classification: Fail (2019) Chemical objective: Good (2015) No information available to indicate direction of change	Regional	Commonplace	Replaceable	Low	Minor	Insignificant		
		Transport and dilution of waste products	Presence of surface water discharge points Contribution of discharge to total river flow	Location and number of discharge points	The Envirocheck report lists final/treated effluent, not from a water company, as a discharge into Forest Brook.	Regional	Commonplace	Replaceable	Low	Minor	Insignificant		
				Volume of effluent discharged	Proportion of flow made up by effluent at different times of the year								
				Proportion of flow made up by effluent at different times of the year	Existing ecological classification/status and objective under the WFD Likelihood of a change in classification arising (+ve or -ve)	Existing classification: Poor (2019) Objective: Good (2015) No information available to indicate direction of change	Regional	Commonplace	Replaceable	Low	Minor	Insignificant	
Biodiversity	Biological water quality	Existing ecological classification/status and objective under the WFD Likelihood of a change in classification arising (+ve or -ve)	Existing classification: Poor (2019) Objective: Good (2015) No information available to indicate direction of change	Regional	Commonplace	Replaceable	Low	Minor	Insignificant				
		Location and number of abstraction points	No abstraction licence information available at the time of reporting. Indicator of quality not used in assessment.										
		Volume of water abstracted	Use of water (potable most important)										
Potential for highway drainage to be routed to watercourse. This impact can likely be minimised through mitigation.  At waterbody scale these impact would not be significant.	Semington Brook (Feature ID: MR11)  WFD reported reach: Semington Bk-Milebourne Str to conf R Avon (Brist) (GB1090530222 00)	Water supply	Use of water supply (potable, industrial or agricultural)	Location and number of abstraction points	The Envirocheck report lists agriculture/horticultural surface water abstractions from Semington Brook.	Regional	Commonplace	Replaceable	Low	Minor	Insignificant		
				Volume of water abstracted	Use of water (potable most important)								
				Existing chemical classification/status and objective under the WFD. Likelihood of a change in classification arising (+ve or -ve)	Existing chemical classification: Fail (2019) Chemical objective: Good (2015) No information available to indicate direction of change	Regional	Commonplace	Replaceable	Low	Minor	Insignificant		
		Transport and dilution of waste products	Presence of surface water discharge points Contribution of discharge to total river flow	Location and number of discharge points	The Envirocheck report lists a discharge cosent from a water company pumping station.	Regional	Commonplace	Replaceable	Low	Minor	Insignificant		
				Volume of effluent discharged	Proportion of flow made up by effluent at different times of the year								
				Proportion of flow made up by effluent at different times of the year	Existing ecological classification/status and objective under the WFD Likelihood of a change in classification arising (+ve or -ve)	Existing classification: Moderate (2019) Objective: Moderate (2015) No information available to indicate direction of change	Regional	Commonplace	Replaceable	Low	Minor	Insignificant	
Biodiversity	Biological water quality	Existing ecological classification/status and objective under the WFD Likelihood of a change in classification arising (+ve or -ve)	Existing classification: Moderate (2019) Objective: Moderate (2015) No information available to indicate direction of change	Regional	Commonplace	Replaceable	Low	Minor	Insignificant				
		Location and number of abstraction points	No abstraction licence information available at the time of reporting. Indicator of quality not used in assessment.										
		Volume of water abstracted	Use of water (potable most important)										
Potential for highway drainage to be routed to watercourse. This impact can likely be minimised through mitigation.  Potential for the new bridge structure to cause shading resulting in the simplification of the riparian zone. Crossing structures can cause a loss of bank structure and riparian vegetation due to abutments. Potential for change in flow and sediment transport dynamics in channel and across floodplain.	Frog Ditch (Feature ID: MR08)  WFD reported reach: No Within the Avon (Brist) conf R Marden to conf Semington Bk (GB1090530274 40) waterbody	Water supply	Use of water supply (potable, industrial or agricultural)	Location and number of abstraction points	No abstraction licence information available at the time of reporting. Indicator of quality not used in assessment.								
				Volume of water abstracted	Use of water (potable most important)								
				Existing chemical classification/status and objective under the WFD. Likelihood of a change in classification arising (+ve or -ve)	Existing classification: Fail (2019) Objective: Good (2015) No information available to indicate direction of change	Local	Commonplace	Replaceable	Low	Minor	Insignificant		
		Transport and dilution of waste products	Presence of surface water discharge points Contribution of discharge to total river flow	Location and number of discharge points	No discharge consents information available at the time of reporting. Indicator of quality and measures not used in assessment								
				Volume of effluent discharged	Proportion of flow made up by effluent at different times of the year								
				Proportion of flow made up by effluent at different times of the year	Existing ecological classification/status and objective under the WFD Likelihood of a change in classification arising (+ve or -ve)	Existing classification: Moderate (2019) Objective: Good (2027) No information available to indicate direction of change	Local	Commonplace	Replaceable	Low	Minor	Insignificant	
Biodiversity	Biological water quality	Existing ecological classification/status and objective under the WFD Likelihood of a change in classification arising (+ve or -ve)	Existing classification: Moderate (2019) Objective: Good (2027) No information available to indicate direction of change	Local	Commonplace	Replaceable	Low	Minor	Insignificant				
		Location and number of abstraction points	No abstraction licence information available at the time of reporting. Indicator of quality not used in assessment.										
		Volume of water abstracted	Use of water (potable most important)										
Potential for highway drainage to be routed to watercourse. This impact can likely be minimised through	Berryfield Brook (Feature ID: MR02)	Water supply	Use of water supply (potable, industrial or agricultural)	Location and number of abstraction points Volume of water abstracted Use of water (potable most important)	No abstraction licence information available at the time of reporting. Indicator of quality not used in assessment.								

mitigation. At waterbody scale these impact would not be significant.	Old Canal (Feature ID: CN01) Unnamed drains (Feature IDs: DR01, DR02, DR05, DR09, DR10, DR11, DR12, DR13, DR14, DR15, DR16, DR17, DR18, DR19, DR20, DR21, DR22, DR23, DR24) Unnamed watercourses (Feature IDs: WC02, WC05, WC16, WC20, WC21, WC22, WC23, WC24)  WFD reported reach: No Within Avon (Brist) conf R Marden to conf Semington Bk (GB1090530274 40) waterbody	Chemical water quality	Existing chemical classification/status and objective under the WFD.	Existing classification: Fail (2019) Objective: Good (2015)	Local	Commonplace	Replaceable	Low	Minor	Insignificant		
			Likelihood of a change in classification arising (+ve or -ve)	No information available to indicate direction of change								
			Transport and dilution of waste products	Presence of surface water discharge points Contribution of discharge to total river flow	Location and number of discharge points Volume of effluent discharged Proportion of flow made up by effluent at different times of the year	Trade effluent is listed in the Envirocheck report as a discharge consent into Berryfield Brook.	Local	Commonplace	Replaceable	Low	Minor	Insignificant
			Biodiversity	Biological water quality	Existing ecological classification/status and objective under the WFD Likelihood of a change in classification arising (+ve or -ve)	Existing classification: Moderate (2019) Objective: Good (2027) No information available to indicate direction of change	Local	Commonplace	Replaceable	Low	Minor	Insignificant
Potential for highway drainage to be routed to watercourse. This impact can likely be minimised through mitigation. At waterbody scale these impact would not be significant.	Unnamed drains (Feature IDs: DR29 and DR30) WFD reported reach: No Within Bydemill Bk - source to conf River Avon (Brist) (GB1090530219 60) waterbody	Water supply	Use of water supply (potable, industrial or agricultural)	Location and number of abstraction points Volume of water abstracted Use of water (potable most important)	No abstraction licence information available at the time of reporting. Indicator of quality not used in assessment.							
			Chemical water quality	Existing chemical classification/status and objective under the WFD. Likelihood of a change in classification arising (+ve or -ve)	Existing classification: Fail (2019) Objective: Good (2015) No information available to indicate direction of change	Local	Commonplace	Replaceable	Low	Minor	Insignificant	
			Transport and dilution of waste products	Presence of surface water discharge points Contribution of discharge to total river flow	Location and number of discharge points Volume of effluent discharged Proportion of flow made up by effluent at different times of the year	No discharge consents information available at the time of reporting Indicator of quality and measures not used in assessment						
			Biodiversity	Biological water quality	Existing ecological classification/status and objective under the WFD Likelihood of a change in classification arising (+ve or -ve)	Existing classification: Moderate (2019) Objective: Good (2027) No information available to indicate direction of change	Local	Commonplace	Replaceable	Low	Minor	Insignificant
Potential for highway drainage to be routed to watercourse. This impact can likely be minimised through mitigation. At waterbody scale these impact would not be significant.	Unnamed drains (Feature IDs: DR03, DR04, DR06, DR07, DR08, DR39) Unnamed watercourses (Feature IDs: WC17 and WC34) WFD reported reach: No Within Clackers Bk - source to conf R Avon (Brist) (GB1090530219 20) waterbody	Water supply	Use of water supply (potable, industrial or agricultural)	Location and number of abstraction points Volume of water abstracted Use of water (potable most important)	No abstraction licence information available at the time of reporting. Indicator of quality not used in assessment.							
			Chemical water quality	Existing chemical classification/status and objective under the WFD. Likelihood of a change in classification arising (+ve or -ve)	Existing classification: Fail (2019) Objective: Good (2015) No information available to indicate direction of change	Local	Commonplace	Replaceable	Low	Minor	Insignificant	
			Transport and dilution of waste products	Presence of surface water discharge points Contribution of discharge to total river flow	Location and number of discharge points Volume of effluent discharged Proportion of flow made up by effluent at different times of the year	A discharge consent is noted in the EnviroCheck report relating to a pumping station and final/treated effluent.	Local	Commonplace	Replaceable	Low	Minor	Insignificant
			Biodiversity	Biological water quality	Existing ecological classification/status and objective under the WFD Likelihood of a change in classification arising (+ve or -ve)	Existing classification: Poor (2019) Objective: Moderate (2021) No information available to indicate direction of change	Local	Commonplace	Replaceable	Low	Minor	Insignificant
Potential for highway drainage to be routed to watercourse. This impact can likely be minimised through mitigation. At waterbody scale these impact would not be significant.	Unnamed drains (Feature IDs: DR26, DR27, DR28) Forecast Brook (Feature ID: WC06) Unnamed watercourses (Feature IDs: WC25, WC26, WC27) WFD reported reach: No Within Forest Brook (GB1090530219 40) waterbody	Water supply	Use of water supply (potable, industrial or agricultural)	Location and number of abstraction points Volume of water abstracted Use of water (potable most important)	No abstraction licence information available at the time of reporting. Indicator of quality not used in assessment.							
			Chemical water quality	Existing chemical classification/status and objective under the WFD. Likelihood of a change in classification arising (+ve or -ve)	Existing chemical classification: Fail (2019) Chemical objective: Good (2015) No information available to indicate direction of change	Local	Commonplace	Replaceable	Low	Minor	Insignificant	
			Transport and dilution of waste products	Presence of surface water discharge points Contribution of discharge to total river flow	Location and number of discharge points Volume of effluent discharged Proportion of flow made up by effluent at different times of the year	No discharge consents information available at the time of reporting Indicator of quality and measures not used in assessment						
			Biodiversity	Biological water quality	Existing ecological classification/status and objective under the WFD	Existing chemical classification: Poor (2019) Chemical objective: Good (2015)	Local	Commonplace	Replaceable	Low	Minor	Insignificant
Potential for highway drainage to be routed to watercourse. This impact	Kennet and Avon Canal (Feature	Water supply	Use of water supply (potable, industrial or agricultural)	Location and number of abstraction points Volume of water abstracted	No abstraction licence information available at the time of reporting. Indicator of quality not used in assessment.							

can likely be minimised through mitigation.  At waterbody scale these impact would not be significant.	ID: CN02 Unnamed drains (Feature IDs: DR31, DR32, DR33, DR34, DR35, DR36, DR37, DR38, DR40, DR41, DR42, DR43, DR44, DR45, DR46, DR47) Semington Brook (Feature ID: WC11) Unnamed watercourses (Feature IDs: WC28, WC29, WC36, WC38, WC40)  WFD reported reach: No Within Forest Brook (GB1090530219 40) waterbody	Chemical water quality	Use of water (potable most important)		Local	Commonplace	Replaceable	Low	Minor	Insignificant		
			Existing chemical classification/status and objective under the WFD.	Existing chemical classification: Fail (2019) Chemical objective: Good (2015)								
			Likelihood of a change in classification arising (+ve or -ve)	No information available to indicate direction of change								
Transport and dilution of waste products	Presence of surface water discharge points	Location and number of discharge points	No discharge consents information available at the time of reporting									
		Volume of effluent discharged	Indicator of quality and measures not used in assessment									
Contribution of discharge to total river flow	Biological water quality	Proportion of flow made up by effluent at different times of the year	No discharge consents information available at the time of reporting									
			Indicator of quality and measures not used in assessment									
Presence of watercourses	Existing flood risk	Indicator of quality and measure used in floodplain resource so as to not duplicate scoring										
Potential for highway drainage to be routed to groundwater. This impact can likely be minimised through mitigation. Deep foundations potentially forming a barrier to groundwater flow and a pathway for pollution to enter aquifer.	Head groundwater (secondary undifferentiated aquifer)	Water supply	Use for water supply (potable, industrial or agricultural)	Location and number of abstraction points	No abstraction licence information available at the time of reporting.							
			Volume of water abstracted	Indicator of quality not used in assessment.								
			Use of water (potable most important)									
		Groundwater vulnerability	Location and grade of source protection zone	No Source Protection Zones. Measure not used in assessment.		Local	Rare	Replaceable	Low	Minor	Insignificant	
			Classification of aquifer vulnerability	Groundwater vulnerability classification: Low								
			Classification/status and objective under WFD	Not a WFD groundwaterbody. Measure not used in this assessment.								
		Transport and dilution of waste products	Presence of discharge points	Location and number of discharge points	There are 9 discharge consents of treated sewage effluent to land/soakaway across the study area related to domestic properties.		Local	Commonplace	Replaceable	Medium	Minor	Insignificant
				Volume of discharge	Discharges related to domestic properties therefore likely to be minor.							
		Value to the economy	Value of the uses of the groundwater (e.g. abstractions and discharges)	Value to local economy (e.g. employment, cost of alternatives, etc.)	Discharges related to domestic properties only.		Local	Commonplace	Replaceable	Low	Minor	Insignificant
		Biodiversity	Conservation value of areas fed by groundwater	Results of River Habitat Survey	River Habitat Surveys have not been undertaken at the time of reporting. Feature not used in assessment							
				Presence of designations (e.g. SSSI, NNR, LNR, SINCs)	Feature not used in assessment							
Presence of protected species or BAP species	Presence of protected species or BAP species not considered in the water environment assessment, refer to Biodiversity assessment. Feature not used in assessment.											
Presence of Groundwater Dependant Terrestrial Ecosystems under the WFD	Unknown at the time of reporting. Feature not used in assessment.											
Conveyance of flood flows	Flow routes	Location and importance of flow routes	Unknown at the time of reporting. Feature not used in assessment.									
		Charges in levels and recharge	Feature not used in assessment.									
Potential for highway drainage to be routed to groundwater. This impact can likely be minimised through mitigation. Deep foundations potentially forming a barrier to groundwater flow and a pathway for pollution to enter aquifer.	Alluvium groundwater (secondary A aquifer)	Water supply	Use for water supply (potable, industrial or agricultural)	Location and number of abstraction points	No abstraction licence information available at the time of reporting.							
			Volume of water abstracted	Indicator of quality not used in assessment.								
			Use of water (potable most important)									
		Groundwater vulnerability	Location and grade of source protection zone	No Source Protection Zones. Measure not used in assessment.		Local	Commonplace	Replaceable	Medium	Minor	Insignificant	
			Classification of aquifer vulnerability	Groundwater vulnerability classification: Medium-High								
			Classification/status and objective under WFD	Not a WFD groundwaterbody. Measure not used in this assessment.								
		Transport and dilution of waste products	Presence of discharge points	Location and number of discharge points	9 discharge consents of treated sewage effluent to land/soakaway across the study area related to domestic properties.		Local	Commonplace	Replaceable	Medium	Minor	Insignificant
				Volume of discharge	Discharges related to domestic properties.							
		Value to the economy	Value of the uses of the groundwater (e.g. abstractions and discharges)	Value to local economy (e.g. employment, cost of alternatives, etc.)	Discharges related to domestic properties only.		Local	Commonplace	Replaceable	Low	Minor	Insignificant
		Biodiversity	Conservation value of areas fed by groundwater	Results of River Habitat Survey	River Habitat Surveys have not been undertaken at the time of reporting. Feature not used in assessment							
				Presence of designations (e.g. SSSI, NNR, LNR, SINCs)	Feature not used in assessment							
Presence of protected species or BAP species	Presence of protected species or BAP species not considered in the water environment assessment, refer to Biodiversity assessment. Feature not used in assessment.											
Presence of Groundwater Dependant Terrestrial Ecosystems under the WFD	Unknown at the time of reporting. Feature not used in assessment.											
Conveyance of flood flows	Flow routes	Location and importance of flow routes	Unknown at the time of reporting. Feature not used in assessment.									
		Charges in levels and recharge	Feature not used in assessment.									
Potential for highway drainage to be routed to groundwater. This impact can likely be minimised	River Terrace Deposits (secondary A)	Water supply	Use for water supply (potable, industrial or agricultural)	Location and number of abstraction points	Envirocheck report lists a three abstractions for local agricultural use.		Local	Commonplace	Replaceable	Medium	Minor	Insignificant
			Volume of water abstracted									
			Use of water (potable most important)									

through mitigation. Deep foundations potentially forming a barrier to groundwater flow and a pathway for pollution to enter aquifer.	aquifer)	Groundwater vulnerability	Location and grade of source protection zone	No Source Protection Zones. Measure not used in assessment.							
			Classification of aquifer vulnerability	Groundwater vulnerability classification: Medium	Local	Commonplace	Replaceable	Medium	Minor	Insignificant	
		Transport and dilution of waste	Presence of discharge points	Location and number of discharge points	9 discharge consents of treated sewage effluent to land/soakaway	Local	Commonplace	Replaceable	Medium	Minor	Insignificant
				Volume of discharge	Discharges related to domestic properties.	Local	Commonplace	Replaceable	Medium	Minor	Insignificant
		Value to the economy	Value of the uses of the groundwater (e.g. abstractions and discharges)	Value to local economy (e.g. employment, cost of alternatives, etc.)	Discharges related to domestic properties only.	Local	Commonplace	Replaceable	Low	Minor	Insignificant
Biodiversity	Conservation value of areas fed by groundwater	Results of River Habitat Survey	River Habitat Surveys have not been undertaken at the time of reporting. Feature not used in assessment								
		Presence of designations (e.g. SSSI, NNR, LNR, SINCs)	Feature not used in assessment								
		Presence of protected species or BAP species	Presence of protected species or BAP species not considered in the water environment assessment, refer to Biodiversity assessment. Feature not used in assessment.								
		Presence of Groundwater Dependant Terrestrial Ecosystems under the WFD	Unknown at the time of reporting. Feature not used in assessment.								
Conveyance of flood flows	Flow routes	Location and importance of flow routes	Unknown at the time of reporting.								
		Groundwater levels	Charges in levels and recharge	Feature not used in assessment.							
Potential for highway drainage to be routed to groundwater. This impact can likely be minimised through mitigation. Deep foundations potentially forming a barrier to groundwater flow and a pathway for pollution to enter aquifer.	Combrash Formation Groundwater (secondary A aquifer)	Water supply	Use for water supply (potable, industrial or agricultural)	Location and number of abstraction points Volume of water abstracted Use of water (potable most important)	No abstraction licence information available at the time of reporting. Indicator of quality not used in assessment.						
			Groundwater vulnerability	Location and grade of source protection zone	No Source Protection Zones. Measure not used in assessment.						
				Classification of aquifer vulnerability	Groundwater vulnerability classification: High	Regional	Commonplace	Limited no substitution	Medium	Minor	Insignificant
		Classification/status and objective under WFD		Not a WFD groundwaterbody. Measure not used in this assessment.							
		Transport and dilution of waste	Presence of discharge points	Location and number of discharge points	9 discharge consents of treated sewage effluent to land/soakaway	Local	Commonplace	Replaceable	Medium	Minor	Insignificant
				Volume of discharge	Discharges related to domestic properties.	Local	Commonplace	Replaceable	Medium	Minor	Insignificant
		Value to the economy	Value of the uses of the groundwater (e.g. abstractions and discharges)	Value to local economy (e.g. employment, cost of alternatives, etc.)	Discharges related to domestic properties only.	Local	Commonplace	Replaceable	Low	Minor	Insignificant
		Biodiversity	Conservation value of areas fed by groundwater	Results of River Habitat Survey	River Habitat Surveys have not been undertaken at the time of reporting. Feature not used in assessment						
				Presence of designations (e.g. SSSI, NNR, LNR, SINCs)	Feature not used in assessment						
				Presence of protected species or BAP species	Presence of protected species or BAP species not considered in the water environment assessment, refer to Biodiversity assessment. Feature not used in assessment.						
				Presence of Groundwater Dependant Terrestrial Ecosystems under the WFD	Unknown at the time of reporting. Feature not used in assessment.						
Conveyance of flood flows	Flow routes	Location and importance of flow routes	Unknown at the time of reporting.								
		Groundwater levels	Charges in levels and recharge	Feature not used in assessment.							
Potential for highway drainage to be routed to groundwater. This impact can likely be minimised through mitigation. Deep foundations potentially forming a barrier to groundwater flow and a pathway for pollution to enter aquifer.	Hazlebury Bryan Formation Groundwater (secondary A aquifer). Part of the Corallian Limestone (Calne to Swindon) Groundwater body (GB40902G806100)	Water supply	Use for water supply (potable, industrial or agricultural)	Location and number of abstraction points Volume of water abstracted Use of water (potable most important)	No abstraction licence information available at the time of reporting. Indicator of quality not used in assessment.						
			Groundwater vulnerability	Location and grade of source protection zone	No Source Protection Zones. Measure not used in assessment.						
				Classification of aquifer vulnerability	Groundwater vulnerability classification: High	Regional	Rare	Limited no substitution	Medium	Minor	Insignificant
		Classification/status and objective under WFD		Existing classification (overall water body): Good (2019) Objective (overall water body): Good (2015)	Regional	Rare	Limited no substitution	Medium	Minor	Insignificant	
		Transport and dilution of waste	Presence of discharge points	Location and number of discharge points	9 discharge consents of treated sewage effluent to land/soakaway	Local	Commonplace	Replaceable	Medium	Minor	Insignificant
				Volume of discharge	Discharges related to domestic properties.	Local	Commonplace	Replaceable	Medium	Minor	Insignificant
		Value to the economy	Value of the uses of the groundwater (e.g. abstractions and discharges)	Value to local economy (e.g. employment, cost of alternatives, etc.)	Discharges related to domestic properties only.	Local	Commonplace	Replaceable	Low	Minor	Insignificant
		Biodiversity	Conservation value of areas fed by groundwater	Results of River Habitat Survey	River Habitat Surveys have not been undertaken at the time of reporting. Feature not used in assessment						
				Presence of designations (e.g. SSSI, NNR, LNR, SINCs)	Feature not used in assessment						
				Presence of protected species or BAP species	Presence of protected species or BAP species not considered in the water environment assessment, refer to Biodiversity assessment. Feature not used in assessment.						
				Presence of Groundwater Dependant Terrestrial Ecosystems under the WFD	Spye Park SSSI GWDE directly east associated with Corallian Limestone.	Local	Rare	Limited no substitution	Medium	Minor	Insignificant
Conveyance of flood flows	Flow routes	Location and importance of flow routes	Unknown at the time of reporting.								
		Groundwater levels	Charges in levels and recharge	Feature not used in assessment.							
Potential for highway drainage to be routed to groundwater. This impact can likely be minimised through mitigation. Deep foundations potentially forming a barrier to groundwater flow and a pathway for pollution to enter aquifer.	Kellaways Formation Groundwater and Oxford Clay Formation Groundwater (unproductive strata)	Water supply	Use for water supply (potable, industrial or agricultural)	Location and number of abstraction points Volume of water abstracted Use of water (potable most important)	No abstraction licence information available at the time of reporting. Indicator of quality not used in assessment. Geological unit unable to support a water supply						
			Groundwater vulnerability	Location and grade of source protection zone	No Source Protection Zones. Measure not used in assessment. Geological unit unable to support a water supply						
				Classification of aquifer vulnerability	Groundwater vulnerability classification: Medium-Low	Local	Commonplace	Replaceable	Low	Minor	Insignificant
		Transport and dilution of waste	Presence of discharge points	Location and number of discharge points	9 discharge consents of treated sewage effluent to land/soakaway	Local	Commonplace	Replaceable	Medium	Minor	Insignificant
				Volume of discharge	Discharges related to domestic properties.	Local	Commonplace	Replaceable	Medium	Minor	Insignificant



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**Reference Sources**

Melksham Bypass OBC; WC\_MBP-ATK-EWE-XX-FN-LW-000001; Preliminary Environmental Assessment Report  
DfT TAG Unit A3, May 2019 ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/825064/tag-unit-a3-environmental-impact-appraisal.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/825064/tag-unit-a3-environmental-impact-appraisal.pdf))

**Summary Assessment Score**

Neutral

**Qualitative Comments**

The Scheme will result in an increase in impermeable road area. This could potentially impact the water quality of a number of watercourses in the area. Sustainable drainage measures that attenuate flows can also be designed to remove suspended solids, dissolved copper and dissolved zinc and they are also effective for spillage control. The exact choice of system is dependent on the physical environment of the Scheme and needs to consider the availability of land, climate and rainfall characteristics, soil permeability and topography.

The Scheme crosses watercourses and floodplains which could potentially affect flood flow conveyance and storage, but this can be mitigated through design and inclusion of floodplain compensation where appropriate.

There are no predicted significant adverse effects for the Scheme. The highest individual assessment score is Low Significance. Applying water quality, groundwater, hydromorphology mitigation and flood risk mitigation will reduce the significance of effect to neutral. The significance of effects has been determined based on professional judgement, experience on similar Schemes, and the environmental data available at the time, however without further information on the Scheme design, and environmental surveys, there is a risk that unforeseen significant impacts could be present.