A303 Sparkford to Ilchester Dualling Scheme TR010036

6.3 Environmental Statement

Appendix 4.3 Road Drainage and the Water Environment Assessment Summary

APFP Regulation 5(2)(a)
Planning Act 2008
Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009
July 2018

Volume 6.0

Infrastructure Planning

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

A303 Sparkford to Ilchester Dualling Scheme

Development Consent Order 201[X]

6.3 Environmental Statement
Appendix 4.3 Road Drainage and the Water Environment Assessment Summary

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Regulation Number:	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference:	TR010036
Application Document Reference:	6.3
Author:	A303 Sparkford to Ilchester Dualling Scheme Project Team, Highways England

Version	Date	Status of Version
Rev 0	July 2018	Application Issue

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1 Road Drainage and the Water Environment Assessment Summary

1.1 Introduction

1.1.1 An assessment of the likely significant effects of the proposed A303 Sparkford to Ilchester Dualling scheme (hereafter referred to as 'the scheme') on drainage and the water environment (with the exception of groundwater effects as a result of potential contaminants which has been assessed as part of Chapter 9 Geology and Soils of Volume 6.1) has been scoped out of this Environmental Statement (ES).

1.1.2 This technical appendix has been prepared to provide a summary of the consultation undertaken to date to reach the conclusion of no likely significant effects for drainage and the water environment, the legislative and policy framework, the baseline conditions and the potential impacts, with reference to assessment work that has been undertaken to date contained within other supporting technical appendices. This appendix considers surface water and groundwater (with the exception of groundwater effects as a result of potential contaminants which has been assessed as part of Chapter 9 Geology and Soils of Volume 6.1), water resources and flood risk.

1.1.3 This appendix should be read in conjunction with the following technical appendices:

- Highways Agency Water Risk Assessment Tool (HAWRAT) (appendix 4.4, Volume 6.3)
- Water Framework Directive (WFD) screening and scoping assessment (appendix 4.5, Volume 6.3)
- Flood Risk Assessment (FRA) (appendix 4.6, Volume 6.3)
- Drainage Strategy Report (appendix 4.7, Volume 6.3)

1.2 Consultation

1.2.1 A meeting was held with the Environment Agency on the 4 July 2017 to discuss the proposed scheme in relation to aquatic ecology, flood risk and the WFD. Discussion was held relating to the assessment methodology, mitigation proposals and to confirm the Environment Agency's requirements.

1.2.2 A further meeting was held with the Environment Agency and Somerset County Council on the 7 December 2017, at which the scope of the on-going assessment was discussed. It was agreed that the assessment of the effects on water would be scoped out of the ES with the suggestion that the ES should include a sign-posting chapter to guide the reader to the WFD, FRA, HAWRAT and Drainage Strategy Report.

1.2.3 An ***Environmental Impact Assessment (EIA) Scoping Report (Document Reference: HE551507-MMSJV-EGN-000-RP-LP-0014)*** was submitted to the Planning Inspectorate in November 2017. A Scoping Opinion from the Planning Inspectorate was returned in early January 2018, in which it was recommended

that the Road Drainage and Water Environment assessment be scoped in to the ES (Appendix 4.1, Volume 6.3). However, further consultation was undertaken with the Environment Agency during early 2018, and they agreed that the water environment could be scoped out of the ES with a sign-posting chapter included which referenced the WFD, FRA, HAWRAT and Drainage Strategy Report). The Environment Agency's acceptance of this approach was confirmed by letter on 22 May 2018 (see appendix A). A schedule of responses to the Scoping Opinion is contained within Appendix 4.2 of Volume 6.3.

1.3 Legislative and policy framework

European legislation

Water Framework Directive 2000

1.3.1 The key EU legislation covering the water environment which has a bearing on this scheme is the WFD[1], which establishes a framework for the management of water resources throughout the European Union. The WFD is translated into UK law through the *Water Environment (Water Framework Directive) (England and Wales) Regulations 2017*[2].

1.3.2 The key objectives of the WFD are to:

- Prevent deterioration, enhance and restore bodies of surface water, achieve good chemical and ecological status of such water and reduce pollution from discharges and emissions of hazardous substances.
- Protect, enhance and restore all bodies of groundwater, achieve good chemical and quantitative status of groundwater, prevent the pollution and deterioration of groundwater, and ensure a balance between groundwater abstraction and replenishment.
- Preserve protected areas.

National legislation

Environmental Permitting Regulations 2010

1.3.3 The *Environmental Permitting Regulations (EPR) 2010* aim to protect groundwater and surface waters from pollution by controlling the inputs of potentially harmful and polluting substances. The Regulations implement the WFD and the *Groundwater Daughter Directive 2006*. The EPR replace those parts of the *Water Resources Act (WRA) 1991* that relate to the regulation of discharges to controlled waters (including groundwater).

Highways Act 1980

1.3.4 Under the *Highways Act 1980* (Section 100), Highways England has the right to discharge runoff from highways into inland and tidal waters, or groundwaters

[1] Water Framework Directive 2000/60/EC
[2] Water Environment (Water Framework Directive) (England and Wales) Regulations 2017, 2017/407

(controlled waters as defined under the *Water Resources Act 1991)* but is subject to the requirement not to pollute controlled waters.

Water Resources Act 1991

1.3.5 Section 93 of the *WRA 1991* provides for the establishment of groundwater protection zones. The requirements of Section 93 are implemented and set out in the Environment Agency's *Groundwater Protection Guides*[3] covering: requirements, permissions, risk assessments and controls (previously covered in GP3). Source Protection Zones (SPZs) are defined for groundwater supplies used for human consumption. The Environment Agency's position statement relating to the use of sustainable drainage systems can be found within these guides.

Land Drainage Act 1991

1.3.6 The *Land Drainage Act 1991* is also relevant to manage flood risk for any works within 8 metres of ordinary watercourses.

National policy

National Policy Statement for National Networks

1.3.7 The *National Policy Statement for National Networks* (NPSNN)[4] 2014 states that applications for schemes in Flood Zones 2 and 3 should be accompanied by a FRA. In addition, applications for schemes that are located within Flood Zone 1 and are 1 hectare in area or greater, or subject to other sources of flooding (local watercourses, surface water, groundwater or reservoirs), or where the Environment Agency has notified the Local Planning Authority (LPA) that there are critical drainage problems, should also be accompanied by an FRA. For projects which may be affected by, or may add to flood risk, sufficiently early pre-application discussions should be sought between the applicant and the Environment Agency, and, where relevant, other flood risk management bodies (Paragraph 5.96 of the NPSNN). Surface water flood issues should also be understood and then taken account of (Paragraph 5.97 of the NPSNN).

National Planning Policy Framework

1.3.8 The *National Planning Policy Framework* (NPPF)[5] 2012 applies to this scheme under Chapter 10 ("*Meeting the challenge of climate change, flooding and coastal change*") and the supporting technical guidance, in relation to flood risk.

[3] Environment Agency and Department for Environment Food and Rural Affairs (2017) Groundwater Protection [online] available at https://www.gov.uk/government/collections/groundwater-protection (last accessed June 2018).
[4] Department for Transport (2014), National Policy Statement for National Networks [online] available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/387223/npsnn-web.pdf (last accessed June 2018).
[5] Communities and Local Government (2012). National Planning Policy Framework [online] available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf (last accessed June 2018).

It states that where development is located in areas which are vulnerable to flooding, care should be taken to ensure that risks can be managed. The NPPF also requires a Sustainable Drainage Systems (SuDS) Approving Body to be established within the Lead Flood Authority under the Floods and Water Management Act. This body must approve the proposals for drainage systems in new developments and re-developments before construction begins.

Local policy

South Somerset District Council Local Plan

1.3.9 South Somerset District Council's *Local Plan*[6] contains criteria for flood risk and water management to be adhered to for all new developments. To summarise, they indicate that new developments should safeguard and conserve water resources, reduce and manage impacts on flood risk and incorporate mitigation and adapting techniques into the design in respect of climate change (Policy EQ1).

1.3.10 Policy EQ7 (Pollution Control), in line with the NPPF, aims to avoid and minimise impacts on the water environment due to new development.

1.4 Baseline conditions

1.4.1 The study area for baseline conditions encompasses surface water features and human health receptors (taken to be drinking water abstractions in the context of this chapter) within a 1 kilometre radius around the new A303 scheme. This 1 kilometre radius is based on the HAWRAT methodology and guidance[7], which considers any protected areas for conservation located within 1 kilometre of outfall discharges to be 'at risk', with a higher standard of protection against pollution incidents is required.

1.4.2 The 1 kilometre study area was also extended where there are sensitive features (for example protected areas) that may be affected by contaminants transported downstream of the works via surface waters or groundwaters, and therefore these features would be included in the assessment as appropriate. This approach ensures that potential impacts beyond the scheme red line boundary are sufficiently identified. This is shown on the water constraints plan contained in appendix B.

1.4.3 Information to assist with the existing baseline has been collected from the following sources:

[6] South Somerset District Council (March 2015) South Somerset Local Plan (2006-2028) [online] available at: https://www.southsomerset.gov.uk/media/707200/south_somerset_local_plan_2006-2028_adoption_version_march_2015.pdf

[7] Guidance on 1km study area used as part of HAWRAT outlined in DMRB HD45/09.

- River Basin Management Plan *South West River Basin District*[8]
- Environment Agency's *Catchment Data Explorer*[9]
- Environment Agency's published data[10]
- Flood Map for Planning[11]
- DEFRA's 'Magic' interactive map[12].

1.4.4 Baseline conditions described in this section should be reviewed in conjunction with the water environment constraints plan (appendix B).

Surface water

1.4.5 The land adjacent to the scheme is mainly used for arable cropping, interspersed with residential properties and farms. There is a network of drainage ditches and field drains, some of which are spring fed and some are partially culverted where they flow under the existing A303. This network forms tributaries of the River Cam to the south of the scheme, Park Brook to the west of the scheme and Dyke Brook to the north of the scheme.

1.4.6 The 'Cam – Lower' WFD waterbody (ID: GB108052015650) is located approximately 680 metres to the south of the scheme. It is not classified as an artificial or heavily modified water body (HMWB) and is currently rated as having 'Moderate' status, with the objective of achieving Good status by 2027.

1.4.7 The 'Yeo Ds Over Compton' WFD waterbody (ID: GB108052015682) is situated downstream of the 'Cam – Lower' and is located approximately 4.4 kilometres to the south-west of the scheme. It is classified as a HMWB and is currently rated as having 'Moderate' potential, with the objective of achieving Good potential by 2027.

1.4.8 To the south-west and to the north of the scheme, the drainage ditches discharge into Park Brook (1.2 kilometres downstream) and Dyke Brook (1.6 kilometres downstream). These ordinary watercourses are not classified as WFD waterbodies but are tributaries of the 'Cary - source to confluence with King Sedgemoor Drain' WFD waterbody (id: GB108052015140). The 'Cary - source to confluence with King Sedgemoor Drain' WFD waterbody is not designated as an artificial or HMWB and is currently rated as having 'Moderate' status with the objective of achieving Good status by 2027. The 'Cary - source

[8] Environment Agency (2015) RBMP, South West River Basin District. Available https://www.gov.uk/government/collections/river-basin-management-plans-2015
[9] Environment Agency (2018) Catchment Data Explorer. Available at http://environment.data.gov.uk/catchment-planning/
[10] Environment Agency published data available either as open data from http://www.data.gov.uk under an Open Government Licence, or under an Environment Agency Conditional Licence.
[11] Map for Planning. Available at https://flood-map-for-planning.service.gov.uk/
[12] Magic Interactive Mapping. Available at http://www.magic.defra.gov.uk

to confluence with King Sedgemoor Drain' WFD waterbody is designated as an aquatic Local Wildlife Site (LWS).

Groundwater

1.4.9 There is no underlying WFD groundwater body within the study area, likely due to unproductive strata in the area.

1.4.10 The nearest WFD groundwater bodies are the 'Tone and Somerset north streams' (ID: GB40802G806400) situated 3 kilometres north west of the scheme, and the 'Dyrham Formation – north of Yeovil Fragmented' (ID: GB40802G803700) situated 3 kilometres south east of the scheme.

1.4.11 The bedrock underlying the scheme is the Blue Lias Formation and Charmouth Mudstone Formation (undifferentiated); these bedrock deposits are classified as Secondary A Aquifers. In the vicinity of Camel Hill, the interbedded mudstone and limestone of the Westbury Formation and the Cotham Member of the Penarth Group are classed as Secondary B Aquifers.

1.4.12 Where there are overlying drift deposits present on the surface, they are classified as Secondary A Aquifers. There are some alluvium deposits situated north of the existing A303 carriageway (on the River Cary's floodplain) and an area of river terrace deposits to the south-west.

1.4.13 Groundwater vulnerability across the greater part of the area is classified as an 'Minor Aquifer Intermediate', with a small area of 'Minor Aquifer High' in the Camel Hill area, reflecting the differing geology there.

1.4.14 Soils within the study area comprise mainly loamy and clay soils, so the natural drainage system is to surface watercourses with impeded drainage to groundwater.

1.4.15 There are no Source Protection Zones (SPZ) within the study area. The closest is an SPZ 3.5 kilometres to the south-east of Sparkford.

Flood zones

1.4.16 There are areas to the north and south of the scheme classified as Flood Zones 3 and 2, mainly associated with the Dyke Brook and River Cam. These zones are defined as follows:

- Flood Zone 3 is land assessed as having a 1-in-100 or greater annual probability of river flooding (>1%)
- Flood Zone 2 is land having a 1-in-1000 or greater annual probability of river flooding (0.1%)

Protected zones and sites

1.4.17 The surface water to the north of the existing A303 is within a Nitrate Vulnerable Zone (NVZ). This is likely to be due to the nitrates contained in runoff from agricultural land that is causing, or could cause, pollution of the water environment.

1.4.18 The scheme is located within the Site of Special Scientific Interest (SSSI) Impact Risk Zone (IRZs) of several protected areas, including Sparkford Wood SSSI, Babcary Meadows SSSI, East Polden Grassland SSSI and Wet Moor SSSI. Sparkford Wood SSSI, Babcary Meadows SSSI and East Polden Grassland SSSI are not hydraulically linked to the scheme (as shown in the water constraints plan in appendix B) and they are therefore not considered further within assessment of the road drainage and water environment.

1.4.19 The Wet Moor SSSI is located 15.5 kilometres to the west of the scheme, via the Cam – Lower waterbody and is designated for birds, invertebrates, neutral grassland, rivers and streams, standing open water and canals. The Wet Moor SSSI forms part of the Somerset Levels & Moors Special Protection Area (SPA) and Ramsar site.

1.4.20 The King's Sedgemoor SSSI is located to the west of the scheme, 17.9 kilometres via Park Brook and 20 kilometres via Dyke Brook. It is designated for birds, invertebrates, otters, neutral grassland, standing open water and canals. The King's Sedgemoor SSSI include the Somerset Levels National Nature Reserve (NNR) and forms part of the Somerset Levels & Moors SPA and Ramsar site.

1.4.21 The LWSs located within the study area are shown on the environmental constrains plan in appendix B. With the exception of Hazlegrove Park, Yarcombe Wood and River Cary, they are either not water dependent or are not hydraulically linked with the scheme.

Licenced abstractions

1.4.22 There are no licenced surface or groundwater abstractions within the study area. Two licenced surface water abstractions are located in Ilchester (3 kilometres south west of scheme) and Charlton Adam (3.5 kilometres north west) but they are considered to be located close enough to be affected by the scheme.

Consented discharges

1.4.23 The active consented discharges within 1 kilometre of the scheme[13] are reported in Table 1.2.

Table 1.2: Existing water consented discharges within 1km of the scheme

Owner	Location	Grid reference	Approximate distance and direction from the scheme	Nature of discharge
Chartman Limited	Wakes Garage, A359 / A303, Sparkford, Somerset, BA22 7JE	ST6000025820	225m, south-east	Shop including garden centre / retail trade (not motor vehicle)
Wessex Water Services Ltd	Green Lane Pumping Station, Green Lane, Queen Camel, Somerset, BA22 7NP	ST5929424948	645m, south	Storm tank / combined sewer overflows on sewerage network (water company)
G P Spiller	Wales Farm, Queen Camel, Yeovil, Somerset, BA22 7PA	ST5849024640	780m, south	Farms (not house) / crop and animal rearing / plant nursery
Mr W J Down & Partners	Slocourt Farm, Urgashay, Yeovil, Somerset	ST5709024470	575m, south	Farms (not house) / crop and animal rearing / plant nursery
Wessex Water Services Limited	Frog Lane Pumping Station, West Camel, Somerset	ST5753024630	540m, south	Pumping station on sewerage network (water company)
D L & H L Board	Church Farm, Podimore, Yeovil, Somerset	ST5456024780	465m, south-west	Farms (not house) / crop and animal rearing/plant nursery
Wessex Water Services Ltd	Podimore Sewage Treatment Works	ST5443024700	630m, south-west	Waste water / sewage treatment works (water company)
Mr W J Quarterley	Sunnydene Farm, Urgashay, Yeovil	ST5697024560	360m, south	Farms (not house) / Crop + Animal Rearing / Plant Nursery
P Sherwin	Demelza Court, West Camel, Yeovil	ST5760024700	500m, south	Farms (not house) / Crop + Animal Rearing / Plant Nursery
Messers R	Lower Farm, West Camel, Yeovil	ST5670025900	900m, north	Farms (not house) / Crop +

[13] Environment Agency. Environmental Permitting Regulations [online] available at: https://environment.data.gov.uk/public-register/view/search-water-discharge-consents (last accessed March 2017)

Owner	Location	Grid reference	Approximate distance and direction from the scheme	Nature of discharge
Chapman and Sons				Animal Rearing / Plant Nursery
Mr R Dalton	West Camel Farm,	ST5810024700	650m, south	Farms (not house) / Crop + Animal Rearing / Plant Nursery
Brey Services / Ancala Water services	Eyewell House, Camel Hill, Queen Camel	ST5875025300	200m, south-west	Domestic Property (multiple)
Trustees of Fleet Air Amy Museum	Fleet Air Arm Museum, RNAS Yeovilton	ST5544024450	530m, south-west	Cultural / Zoo / Community Centre / Museum / Library / Archive
Little Chef Ltd.	The Little Chef, A303 Sparkford,	ST5930025600	10m, south-east	Domestic Property (multiple)
Wessex Water Services Limited	Mildmay Place, Queen Camel, Somerset	ST5961025020	670m. south-west	Stormtank / CSO on sewerage network

Contaminated land

1.4.24 No authorised landfills are present within the study area.

1.4.1 Two historic landfills are located within 250 metres of the new A303 alignment:

- Land Adjacent to Hazlegrove Park, which accepted inert and household waste from June 1989 to June 1990. The route crosses the southern boundary of the landfill at approximately chainage 5,650 – 5,900 metres, now open farm land.
- Camel Hill Quarry, which accepted inert and industrial waste from 29 November 1989 to 5 June 1992, which is located approximately 90 metres to the south of the scheme red line boundary at the approximate chainage. 5,050 metres, now heavily wooded land.

1.4.2 These historic landfills may present a contamination risk during construction and operation; reference should be made to Chapter 9 Geology and Soils of Volume 6.1 for detailed information.

1.4.3 None of the landfills identified within the study are hydraulically linked to the scheme (as shown in the water constraints plan in appendix B).

1.5 Potential impacts

1.5.1 The following potential impacts from the scheme have been identified for both the construction and operational stages.

Construction

- Mobilisation of sediment and other contaminants.
- Pollution incidents caused by spillage of fuels, lubricants, hydraulic fluids or other chemicals.

Operation

- Routine runoff from the scheme is likely to contain a range of potential pollutants including combustion products, metals, lubricants and other particulate contaminants with the potential to adversely affect the water environment (surface waters and groundwater), and consequently adversely impact aquatic habitats.
- Risk of spillage (caused by vehicle collision, especially involving heavy goods vehicles (HGVs)) which may lead to an acute pollution incident and the potential to adversely affect the water environment (surface waters and groundwater), and also adversely impact aquatic habitats.
- Increases or changes to flood risk and local drainage.

1.6 Design, mitigation and enhancement measures

1.6.1 Conventional drainage systems to reduce pollution have been incorporated as part of the drainage strategy (drainage design has incorporated conventional pollutant treatment methods, as described in HD33, DMRB 4.2). The incorporation of a fully SuDS-based drainage system is required as part of the NPPF.

1.6.2 The Drainage Strategy Report (Appendix 4.7, Volume 6.3) describes the proposed drainage systems incorporated into the drainage design to reduce pollution from soluble and sediment bound pollutants. The proposed system comprises a multi-stage treatment process, including filter surface/subsurface drains, wet retention ponds and manually operated penstock devices.

1.6.3 A flood risk assessment has been completed alongside the drainage design to ensure that potential impacts on flood levels are understood and avoided.

1.6.4 Construction activities would be managed by best practice construction measures to be included within the full Construction Environmental Management Plan (CEMP) for the scheme in accordance with CIRIA Guidelines. Guidance on best practice in relation to pollution prevention and

water management is set out in CIRIA's 'Environmental good practice on site'[14], CIRIA's 'Control of water pollution from linear construction projects; Technical Guidance'[15] and the Environment Agency's 'Protect groundwater and prevent groundwater pollution'[16]. This best practice has been included within an ***Outline Environmental Management Plan (OEMP)*** **(*document reference TR010036/APP/6.7*)** which would be developed into the CEMP by the appointed contractor.

1.7 Assessment of Road Drainage and Water Environment undertaken to date

1.7.1 As the scheme would not directly affect any watercourses (due to its location along the ridge of Camel Hill) and with the inclusion of the measures to control indirect effects (SuDs within the drainage design), it was considered that the road drainage and water environment topic could be scoped out of the ES. To provide further evidence of the likely absence of significant adverse impacts on the water environment as a result of the scheme, the following assessments have been appended to the ES (in accordance with DMRB guidance, and to support the DCO application): a HAWRAT – Methods A and B assessment, a Flood Risk Assessment and a WFD 3-stage assessment (screening, scoping and impact assessment).

1.7.2 Table 1.3 details the assessments that have been undertaken in relation to the water environment and Table 1.4 summarises the findings from the completed assessments.

Table 1.3: Assessment reporting for road drainage and the water environment

Detailed assessment undertaken	Impacts on the water environment	Guidance reference	Summary of assessment method
HAWRAT – Methods A and B (Appendix 4,4, Volume 6.3)	Effects of routine runoff on surface water	DMRB Vol.11, Sec3, Part 10, HD45/09	HAWRAT Method A/B assessment considers the effect of routine runoff on the water environment by determining if the runoff quality exceeds toxicity thresholds for soluble and sediment bound pollutants.
HAWRAT – Method D (Appendix 4.4, Volume 6.3)	Pollution impacts from accidental spillages	DMRB Vol.11, Sec3, Part 10, HD45/09	HAWRAT method D considers the effect of accidental spillage incidents on the water environment by determining spillage risk
Flood Risk Assessment (Appendix 4.6, Volume 6.3)	Assessing flood impacts	DMRB Vol.11, Sec3, Part 10, HD45/09	The FRA identifies existing flood risk in the study area, and assesses whether the proposed scheme would increase / decrease the existing risk (ensuring no net loss of flood plain storage or

[14] Audus, Charles and Evans (2010) *Environmental Good Practice on Site* (Third Edition) (C692).
[15] Murnane, Heap and Swain (2006) *Control of water pollution from linear construction projects; Technical Guidance.*
[16] Environment Agency (2017) https://www.gov.uk/government/publications/protect-groundwater-and-prevent-groundwater-pollution/protect-groundwater-and-prevent-groundwater-pollution accessed April 2018.

Detailed assessment undertaken	Impacts on the water environment	Guidance reference	Summary of assessment method
			impeding of water flows). The FRA must comply with Appendix C of Planning Policy Statement 25.
Water Framework Directive 3-stage assessment (screening, scoping and impact assessment) (Appendix 4.5, Volume 6.3)	Assessing risk to Water Framework Directive (WFD) waterbodies	Advice Note Eighteen: The Water Framework Directive[17]	The WFD assessment determines whether there are any activities associated with the scheme which may pose a risk to the status / objectives of a WFD waterbody. The assessment considers individual aspects of the scheme and their potential impact on the quality elements of WFD waterbodies.

Table 1.4 Summary of findings from detailed assessment reporting for RDWE

Assessment method	Summary of findings	Outcomes
HAWRAT assessment (Methods A/B and D) (Appendix 4.4, Volume 6.3)	The findings from the Method A / B (assessment of impacts from routine runoff) concluded that the runoff specific thresholds (RSTs) for soluble and sediment related pollutants would not be breached by routine runoff from the scheme for any of the 4 proposed outfalls, because of the extensive pollution reduction methods (multi-stage SuDs drainage treatment) included as part of the scheme design. Concentrations of contaminants in routine runoff were also found to be lower than the corresponding Environmental Quality Standards (EQSs) which are used as part of the WFD. The findings from the Method D (assessment of spillage risk) showed that without consideration of the proposed pollution reduction methods there would there would be no discharge from the scheme with a serious spillage risk more frequent than 1% (1 in 100 year return period). With inclusion of the proposed pollution reduction methods, the risk of spillage was even lower.	The scheme 'passed' the HAWRAT assessment for both routine runoff and accidental spillages (with the inclusion of SuDs pollution control measures) therefore no further assessment considered to be required.
Water Framework Directive (WFD) Assessment (Appendix 4.5, Volume 6.3)	As there are no proposed activities as part of the scheme which require works within or physical modifications to waterbodies. The only aspect of the scheme considered to have the potential to affect WFD waterbodies was routine surface runoff or accidental spillage incidents on the carriageway entering the drainage system. The WFD Stage 1 screening assessment found potential impact pathways between the scheme and 3 WFD waterbodies, via the 4 proposed outfalls from which routine runoff or accidental spillages could discharge into adjacent ditches, which drain into ordinary watercourses and then into the WFD waterbodies. Potential impact pathways between the proposed scheme and water dependent protected areas/designated sites, including local wildlife sites, and 2 SSSI's.	Following WFD Stages 1 and 2, which determined the scheme presents a very low risk to WFD status / objectives and to associated water dependent protected areas, all waterbodies were scoped out from further assessment. As such, a detailed impact assessment (Stage 3 WFD impact assessment) is not required.

[17] The Planning Inspectorate (2017) The Water Framework Directive Advice Note Eighteen [online] available at: https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2017/06/advice_note_18.pdf (last accessed April 2018).

Assessment method	Summary of findings	Outcomes
	The WFD Stage 2 scoping assessment concluded that despite the presence of potential impact pathways, the comprehensive drainage design (multi-stage SuDs drainage treatment) would ensure the level of contaminated runoff that reaches watercourses would be negligible and would not affect water quality to any significant extent. Similarly, given the distance that the protected areas/designated sites are situated along the drainage network from the scheme (at least 15km), it was not anticipated that contaminants could feasibly reach the designations in such quantities that any adverse impacts to the designations would occur.	
Flood Risk Assessment (Appendix 4.6, Volume 6.3)	The existing and the proposed A303 route are wholly located outside flood zones 2 and 3. The route is elevated above the fluvial floodplains and it is not expected that climate change would result in a fluvial flood risk to the scheme. The proposed drainage strategy would effectively manage surface water runoff from both the existing de-trunked A303 and the proposed dualling.	Through the successful implementation of the proposed drainage strategy, the flood risk assessment concludes that there would be an overall betterment to the baseline flood risk conditions.

1.8 Conclusions

1.8.1 The EIA Scoping Report concluded that there would be no significant effects on the drainage and the water environment and therefore this topic was scoped out of this ES. To support this conclusion, it has been agreed with the Environment Agency that evidence would be provided as appendices to the ES as follows:

- Highways Agency Water Risk Assessment Tool (HAWRAT) (Appendix 4.4, Volume 6.3)
- Water Framework Directive (WFD) screening and scoping assessment (Appendix 4.5, Volume 6.3)
- Flood Risk Assessment (FRA) (Appendix 4.6, Volume 6.3)
- Drainage Strategy Report (Appendix 4.7, Volume 6.3)

1.8.2 As shown in Table 1.4, the findings of the HAWRAT concludes that, with the inclusion of the SuDs pollution control measures as part of the scheme design, as specified in the Drainage Strategy Report (Appendix 4.7, Volume 6.3), routine runoff and accidental spillages would be controlled and the risk of pollution would be very low. In addition, the WFD Assessment concludes that there would be a very low risk to the WFD objectives of affected waterbodies and the Flood Risk Assessment concludes that flood risk would be bettered with the scheme in place.

1.8.3 Therefore, with the supporting evidence provided in the assessments described above, it is concluded that there are unlikely to be any significant effects on road drainage and the water environment as a result of the scheme. The

Environment Agency's acceptance of these conclusions was confirmed by letter on 22 May 2018 (see appendix A).

Appendix A: Environment Agency letter

Sophie Bennett
Mott MacDonald Sweco JV
Stoneham Place
Stoneham Lane
Southampton
Hampshire
SO50 9NW

Our ref: WX/2018/131402/02-L01
Your ref: TR010036-000004

Date: 22 May 2018

Dear Ms Bennett

PROPOSED DUALLING SCHEME A303 SPARKFORD TO ILCHESTER - SUBMISSION OF WFD SCREENING AND SCOPING ASSESSMENT HAWRAT ASSESSMENT AND FLOOD RISK ASSESSMENT (FRA)

Thank you for your consultation regarding the above.

WFD Screening and Scoping Assessment

The Agency accepts the approach to the assessment and concur that it is unlikely the scheme will affect the WFD status of the waterbodies identified. Any potential impact pathways can be mitigated by the measures included in the HAWRAT. Additionally, the Agency agrees that a Stage 3 WFD impact assessment is not necessary.

HAWRAT Assessment

The HAWRAT provides a thorough assessment of potential impacts of pollution from surface water run-off on the watercourses within the Zone of Impact and those within the wider catchment area. Where such impacts would result in a failure to meet ecological quality standards, mitigation measures in the form of SUDS and treatment systems are proposed to ensure that any run-off meets quality standards before it enters a watercourse. The Agency accepts this approach and has no objection to the proposed location of the treatment systems.

As previously discussed, the design of the ponds, drainage channels and ditches should include the provision of measures to maximise wildlife interest and habitat for the species noted in the Biodiversity section of the Preliminary Environmental Information Report.

FRA

The Agency can confirm that it has no additional observations or specific concerns regarding the submitted FRA.

With regard to the submitted schedule of scoping opinion comments/responses, the Agency is satisfied that the previously highlighted issues have been satisfactorily addressed.

Should you wish to discuss this matter further please contact the undersigned direct.

Yours sincerely

Dave Pring
Planning Specialist

Direct dial 02030 250153
Direct fax 01278 452985
Direct e-mail nwx.sp@environment-agency.gov.uk

End

Appendix B: Water environment constraints drawing

Great Breach and Copley Woods

East Polden Grasslands

Hurcott Farm

Kingweston Meadows

Brue - R Pitt to R Alham WFD (GB108052021183)

Cary - Source to conf with KSD WFD (GB10805201514)

Babcary Meadows

Craddock's Farm

East Grassland Pollen

Cary - source to confluence with KSD WFD Waterbody (GB108047008040)

Cary - source to confluence with KSD WFD Waterbody (GB108047008040)

Home Ground Pond

Maple House Meadow

Sparkford Wood

Cam upper WFD waterbody (GB108052015690)

Hazlegrove Park

Yarcombe Wood

Land Adjacent to Hazlegrove Park

Dyke Brook

Vale Farm Field

Ridge Copse

Wilford's Copse

Downhead Manor Farm

Cogberry Plantation

Parson's Steeple

Camel Hill Quarry

Cam tributary WFD Waterbody (GB108052015670)

Somsert Levels & Moors (SPA/RAMSAR) & Wet Moor (SSSI)

Park Brook

Camel Hill Transmitter Site

Sparkford Refuse Tip

Sparkford Hill Copse

Gason Lane Field

Cam lower WFD Waterbody (GB105033037570)

Hornsey Brook WFD Waterbody (GB108052015640)

Yeo downstream of Overcompton WFD Waterbody (GB108052015630)

Yeo downstream of Overcompton WFD Waterbody (GB108052015630)

Yeo downstream of Overcompton WFD Waterbody (GB108052015630)

Corton Denham Stream WFD (GB108052015620)

Holway Hill Quarry

Laycock Railway Cutting

Miller's Hill, Milborne Wick

KEY

- PROPOSED RED LINE BOUNDARY
- 1KM STUDY AREA
- WATERBODIES
- HISTORIC LANDFILLS
- LOCAL WILDLIFE SITES
- RAMSAR SITES
- SPECIAL PROTECTION AREAS
- SITES OF SPECIAL SCIENTIFIC INTEREST

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REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	JULY 2018	DCO SUBMISSION	ER	BM	ER

Project Title: A303 SPARKFORD TO ILCHESTER DUALLING

Drawing Title: WATER ENVIRONMENT CONSTRAINTS PLAN

Drawing Status: Published - DEFINITON

Suitability: A3

Scale	Designed	Drawn	Checked	Approved
NTS	ER	ER	BM	ER

Original Size	Date	Date	Date	Date
A1	JULY 2018	JULY 2018	JULY 2018	JULY 2018

Drawing Number: HE PIN | Originator | Volume | Location | Type | Role | Number
HE551507 - MMSJV - EBD - 000 DR LB 0058

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