

# 14. Summary of residual effects and conclusions

In accordance with the scope identified in the PEIR for the Proposed Scheme (including consultation responses), this EIA has considered the potential impacts of the Proposed Scheme on sensitive receptors across the following topic areas:

- Water (Chapter 6)
- Flora and fauna (Chapter 7)
- Cultural heritage (Chapter 8)
- Landscape and visual amenity (Chapter 9)
- Population and health (Chapter 10)
- Noise and vibration (Chapter 11)

Cumulative effects with other plans and projects have also been considered within Chapter 12.

Table 14.1 provides a summary of the potential significant effects (i.e. moderate or substantial) identified through the assessment process across all topic areas, any additional mitigation required over and above the embedded mitigation described in Chapter 3 to minimise or avoid identified potential adverse effects, and any residual effects of the Proposed Scheme. Table 14.1 also links these mitigation measures to the measures listed within the EAP (see Appendix K).

As set out within the assessment methodology for the Proposed Scheme, only moderate or major residual effects are considered to be significant. With the additional mitigation in place, as shown in the topic specific chapters 6-12 and summarised in Table 14.1, the only significant (i.e. moderate or major) residual effect of the Proposed Scheme is a permanent moderate beneficial effect on the King's Sedgemoor Drain – Henley Sluice to Mouth WFD waterbody. This is as a result of WFD enhancements included within the Proposed Scheme (embayments, two stage channels and backwaters) which will improve aquatic and riparian habitats and flow diversity and also contribute to an improvement in water quality. The Proposed Scheme is considered likely to complement progress towards good ecological potential.

The Proposed Scheme will also make a beneficial contribution towards alleviation of flood risk as part of the full River Sowy and King's Sedgemoor Drain Enhancements Scheme (once implemented) alongside other measures identified and brought forward under the Somerset Levels and Moors 20 year Flood Action Plan.

The EAP (Appendix K) includes mitigation identified through chapters 6 to 12 to further reduce the severity of any adverse effects assessed as non-significant, which principally include temporary adverse effects (minor or negligible) to designated and non-designated habitats and LCAs, protected species (badger, bats, breeding birds and eels) and non-designated archaeological assets, as well as disturbance to agricultural land holdings and users of PRoW adjoining the proposed haulage routes.

The EAP is an iterative document and will be updated as the scheme's construction work methods and consenting processes are progressed to ensure that it captures

all relevant actions and any potential adverse effects of the Proposed Scheme will be minimised.

Table 14.1 Summary of residual effects

Receptor (sensitivity/value)	Nature of impact (magnitude)	Significance (pre-mitigation)	Mitigation	Residual effect	EAP ID for mitigation
Construction					
Water					
WFD water body (King's Sedgemoor Drain) (medium)	Increase in suspended sediments within water column; disturbance to marginal habitat; risk of reduced oxygen levels in-channel (medium, temporary)	Moderate adverse (significant)	Preparation and implementation of a SWMP and EERP  Compliance with best practice pollution prevention measures  Use of silt curtains/booms or DO monitoring in summer  Toolbox talks regarding water quality risks	Minor adverse (not significant)	A2-A7 B1-B8
Non-WFD water bodies (Langacre, and other rhynes) (medium)	Increase in suspended sediments within water column; disturbance to marginal habitat; risk of reduced oxygen levels in-channel (medium, temporary)	Moderate adverse (significant)	Preparation and implementation of a SWMP and EERP  Compliance with best practice pollution prevention measures  Use of silt curtains/booms or DO monitoring in summer	Minor adverse (not significant)	A2-A7 B1-B8

Receptor (sensitivity/value)	Nature of impact (magnitude)	Significance (pre-mitigation)	Mitigation	Residual effect	EAP ID for mitigation
			Toolbox talks regarding water quality risks		
Communities and infrastructure benefitting from flood risk protection from the full River Sowy and King's Sedgemoor Drain Enhancements Scheme (not defined, qualitative descriptive assessment only)	Construction – no change in flood risk	Not assessed (qualitative descriptive assessment only)	None identified	No change	A1
Flora and fauna					
Water vole (low)	Death/injury to animals, temporary habitat loss/indirect affects via temporary changes in water quality (medium).	Moderate adverse (significant)	Works under licence to include timing of works and displacement techniques.	Minor adverse (not significant)	B20, C3
Cultural heritage					
Prehistoric wooden trackway located approximately 670m to the south-east of Parchey Bridge (NHLE 1014430) (high)	Compression and rutting from plant movements (low, temporary). Compression from embankment and land raising (low, permanent)	Moderate adverse (significant)	<ul style="list-style-type: none"> <li>• Temporary matting for vehicle access</li> <li>• Archaeological monitoring of groundworks</li> </ul>	Negligible adverse (Not significant)	A11, A12, B21

Receptor (sensitivity/value)	Nature of impact (magnitude)	Significance (pre-mitigation)	Mitigation	Residual effect	EAP ID for mitigation
Previously unknown archaeological assets and deposits of paleoenvironmental and geoarchaeological interest (high – as a worst case)	Excavation for the embayments and two stage channels could result in the partial or complete removal of such remains (high, permanent)	Substantial (significant)	<ul style="list-style-type: none"> <li>Archaeological investigation and recording</li> <li>Archaeological excavation and recording if preservation <i>in-situ</i> not achievable</li> </ul>	Negligible adverse (Not significant)	A11, B24
Operation					
Water					
WFD water body (King's Sedgemoor Drain) (medium)	Overall improvement due to provision of WFD enhancement features (embayments, two stage channels and backwaters) (medium, permanent)	Moderate beneficial (significant)	N/A	Moderate beneficial (significant)	A1
Non-WFD water bodies (Langacre, and other rhynes) (medium)	Overall improvement due to provision of WFD enhancement features (embayments, two stage channels and backwaters) (medium, permanent)	Moderate beneficial (significant)	N/A	Moderate beneficial (significant)	A1, B28-33

Receptor (sensitivity/value)	Nature of impact (magnitude)	Significance (pre-mitigation)	Mitigation	Residual effect	EAP ID for mitigation
Communities and infrastructure benefitting from flood risk protection from the full River Sowy and King's Sedgemoor Drain Enhancements Scheme (not defined, qualitative descriptive assessment only)	Positive contribution towards flood risk alleviation in combination with other measures and future works	Not assessed (qualitative descriptive assessment only)	N/A	Not assessed (qualitative descriptive assessment only)	A1
Flora and fauna					
Somerset Levels and Moors SPA/Ramsar and Severn Estuary SPA/Ramsar (non-breeding bird qualifying features only) (high)	Loss of suitable foraging and roosting habitat will put additional pressure on qualifying wintering bird features to find alternative sites, including potential displacement outside of the Somerset Levels. Increase in energy requirements could lead to loss of condition and ultimately death if only sub-optimal sites, subject to disturbance	Substantial (significant)	MAP developed by the EA, NE and IDB, which includes the refurbishment of water level control structures within Moorlinch, West Moor and Egypt's Clyce prior to construction of the Proposed Scheme.  See Strategic level HRA AA (Stage 2) report in Appendix C for further information.	Negligible/ Minor beneficial (not significant)	B7, C4
King's Sedgemoor SSSI/Southlake Moor SSSI/Moorlinch SSSI/West Sedgemoor SSSI (non-breeding bird qualifying features only) (medium)		Major adverse (significant)		Negligible/Minor Beneficial (not significant)	

Receptor (sensitivity/value)	Nature of impact (magnitude)	Significance (pre-mitigation)	Mitigation	Residual effect	EAP ID for mitigation
Aller Moor LWS and Greylake RSPB Reserve LWS (non-breeding bird qualifying features only) (low)	are available. The impact will be permanent (high). Cumulative impact with Oath to Burrowbridge dredge (Parrett IDB)	Moderate adverse (significant)		Negligible/Minor beneficial (not significant)	
Landscape					
LCA 1: Peat Moor (medium)	Adverse impacts from extensive areas of bare ground, raised embankments and excavated WFD features (low, temporary)	Moderate-minor adverse (up to significant)	Seeding and planting. Planted WFD habitats will create beneficial impacts which will offset residual adverse impacts of raised embankments	Minor adverse (embankments) x Minor beneficial (WFD habitats) = Negligible (not significant)	A1, B28 to B35
Footpaths BW 8/6 and BW 36/5 (medium)	Adverse impacts from extensive areas of bare ground, raised embankments and excavated WFD features (low, temporary)	Moderate-minor adverse (up to significant)	Seeding and planting. Planted WFD habitats will create beneficial impacts which will offset residual adverse impacts of raised embankments	Minor adverse (embankments) x Minor beneficial (WFD habitats) = Negligible (not significant)	A1, B28 to B35