River Thames Scheme

Protecting our communities
Securing our economy
Enhancing our Thames

Preliminary Environmental Information Report

Volume 4
Appendix 7.9

Biodiversity Summary Tables for Likely Significant and Non-Significant Environmental Effects

Biodiversity Summary Tables

1 Potential Likely Significant Construction Effects

Table 1: Potential Likely Significant Construction Effects

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
South West London Waterbodies Special Protection Area (SPA) and Ramsar Site (excluding supporting sites)	Flow Control Structures; Priority areas for habitat creation, enhancement or mitigation; Areas of enhanced public connection	General construction activities (land); General construction activities (water); Movement of construction vehicles, equipment and operatives (on site); Dewatering / over-pumping of waterbodies; Tree/vegetation removal; Habitat improvements and planting	Negative Potential temporary and/or permanent negative effects from spread of Invasive Non-Native Species (INNS) reducing habitat quality and effects on water quality from sediment mobilisation. Potential temporary (short-term) negative effects from loss and fragmentation of habitat, noise, vibration, changes in air quality, causing displacement of species from construction activities. Potential temporary negative effects of nutrient deposition from road traffic on sensitive ecological receptors <200m of roads due to construction.	SPA/Ramsar mitigation; Aquatic INNS Management Plan; Aquatic Pathogen Management Plan; Investigate use of alternative piling methods that reduce noise and vibration where practicable Precise mitigation to be determined by HRA but is likely to include measures such as seasonal restrictions; buffers; lake edge shallowing; habitat enhancement; construction noise barriers/screens; timed sheet piling; restricted lighting; avoidance of direct impacts.
Wraysbury Reservoir Site of Special Scientific Interest (SSSI) (part of the Southwest London Waterbodies (SWLW) SPA and Ramsar site)	Priority areas for habitat creation, enhancement or mitigation	General construction activities (land); Movement of construction vehicles, equipment and operatives (on site)	Negative Potential temporary (short-term) negative effects to the SSSI, terrestrial and aquatic habitats and/or species, from noise, vibration, lighting and changes in air quality from construction activities.	Investigate use of alternative piling methods that reduce noise and vibration where practicable.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Thorpe Park No. 1 Gravel Pit SSSI (part of SWLW SPA and Ramsar site)	Flow Control Structures; Runnymede Channel; Temporary materials processing sites; Temporary material storage sites; Construction compounds	General construction activities (land); Movement of construction vehicles, equipment and operatives (on site); Tree/vegetation removal; Material excavation (contaminated); Material excavation (natural ground); Processing / placement of hazardous waste; Processing / placement of non-hazardous waste; Sheet piling; Creation/use of construction compounds; Use of materials processing sites; Temporary changes in land levels; Use of excavated material on-site; Temporary stockpiling of materials; General construction activities (water)	Negative Potential temporary and/or permanent negative effects from spread of INNS, habitat loss and changes in water quality. Potential temporary (short-term) effects from changes in air quality, noise, vibration and lighting. Potential temporary negative effects of nutrient deposition from road traffic on sensitive ecological receptors <200m of roads due to construction.	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan Existing ground investigation data currently being processed to create detailed ground model. Ongoing ground investigations to aid with development of secondary mitigation in order to refine magnitude of impacts and reduce significance on receptor.
Thorpe Hay Meadow SSSI Dumsey Meadow SSSI	New green open spaces; Construction compounds; Temporary materials processing sites; Runnymede Channel; Spelthorne Channel	General construction activities (land); Movement of construction vehicles, equipment and operatives (on site); Material excavation (contaminated); Material excavation (natural ground); Processing / placement of hazardous waste; Processing / placement of non-hazardous waste; Sheet piling; Creation/use of construction compounds; Use of materials processing sites; Temporary changes in land levels; Use of excavated material on-site; Temporary stockpiling of materials	Negative Potential temporary (short-term) negative indirect effects to the SSSI habitats and/or species from disturbance or displacement from noise, vibration, lighting and changes in air quality from construction activities. Potential temporary negative effects of nutrient deposition from road traffic on sensitive ecological receptors <200m of roads due to construction.	No secondary mitigation has been able to be identified at this Preliminary Environmental Information Report (PEIR) stage. The need for mitigation will be considered further as design and assessment work continues to progress as part of the Environmental Impact Assessment (EIA), and any secondary mitigation developed will be reported in the Environmental Statement.
Wraysbury & Hythe End Gravel Pits SSSI (part of SWLW SPA and Ramsar site)	Priority areas for habitat creation, enhancement or mitigation;	General construction activities (land) Movement of construction vehicles, equipment and operatives (off site);	Negative Potential temporary (short-term) negative effects to the SSSI habitats and/or species from disturbance or displacement from noise, vibration, lighting and changes in air quality from construction activities.	No secondary mitigation has been able to be identified at this PEIR stage. The need for mitigation will be considered further as design and assessment work continues to progress as part of the EIA, and any secondary mitigation developed will be reported in the Environmental Statement.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Bushy Park and Home Park SSSI	Molesey Weir	General construction activities (water); General construction activities (land)	Negative Potential temporary (short-term) negative effects to the SSSI habitats and/or species from disturbance or displacement from noise, vibration, lighting and changes in air quality from construction activities.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at Environmental Statement (ES) stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant.
Ham Lands Local Nature Reserve (LNR)	Teddington Weir; Construction compounds	General construction activities (land); Dewatering / over-pumping of waterbodies; Creation/use of construction compounds; General construction activities (water)	Negative Potential temporary (short-term) negative effects to the LNR habitats and/or species through habitat loss, lighting, noise and vibration and changes in air quality from construction activities.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant.
River Thames (and towpath) - Spelthorne Local Wildlife Site (LWS)	Runnymede Channel; Spelthorne Channel; Bed lowering downstream of Desborough Cut; Beasley's Ait fish passage; Chertsey Weir fish passage	General construction activities (water); General construction activities (land); Movement of construction vehicles, equipment and operatives (on site); Bed lowering; Tree/vegetation removal; Processing / placement of hazardous waste; Processing / placement of non-hazardous waste; Construction of road bridges	Negative Potential temporary and/or permanent negative effects to the LWS terrestrial and aquatic habitats and/or species from vegetation loss, the spread of INNS and changes in water quality, hydromorphology, flow regime/sediment processes Potential temporary (short-term) negative effects from noise and vibration and changes in air quality from construction activities.	Aquatic Pathogens Management Plan; Aquatic INNS Management Plan.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
River Thames and Tidal Tributaries LWS	Molesey Weir; Teddington Weir; Sunbury Weir; Construction compounds	General construction activities (water); General construction activities (land); Movement of construction vehicles, equipment and operatives (on site); Tree/vegetation removal; Processing / placement of hazardous waste; Processing / placement of non-hazardous waste; Construction of road bridges	Negative Potential temporary and/or permanent negative effects to the LWS terrestrial and aquatic habitats and/or species from vegetation loss, the spread of INNS and changes in water quality, hydromorphology, flow regime/sediment processes. Potential temporary (short-term) negative effects from noise and vibration and changes in air quality from construction activities.	Aquatic Pathogen Management Plan; Aquatic INNS Management Plan.
Ham Lands LWS	Teddington Weir; Construction compounds	General construction activities (land); Tree/vegetation removal; Dewatering / over-pumping of waterbodies; use of temporary wharfs and mobile pontoons; Temporary stockpiling of materials; General construction activities (water); Processing / placement of hazardous waste; Processing / placement of non-hazardous waste	Negative Potential temporary (short-term) negative effects to the LWS habitats and/or species from lighting, noise and vibration and changes in air quality from construction activities.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant.
Abbey Lake Complex Site of Nature Conservation Interest (SNCI) (supporting waterbody to SWLW SPA and Ramsar site)	New blue open spaces; Runnymede Channel; Construction compounds; Flow Control Structures; Permanent maintenance compounds; Areas of enhanced public connection; Temporary material storage sites; Priority areas for habitat creation, enhancement or mitigation	General construction activities (water); General construction activities (land); Material excavation (contaminated); Material excavation (natural ground); Tree/vegetation removal; Habitat improvements and planting; Movement of construction vehicles, equipment and operatives (on site); Processing / placement of hazardous waste; Processing / placement of non-hazardous waste	Negative Potential temporary and/or permanent negative effects to the site and/or species from vegetation clearance, spread of INNS, changes in water quality, hydromorphology, sediment dynamics, flow characteristics, morphology and residence times. Potential temporary (short-term) negative effects from lighting, noise and vibration and changes in air quality from construction activities. Potential temporary negative effects of nutrient deposition from road traffic on sensitive ecological receptors <200m of roads due to construction.	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Chertsey Bourne at Abbey Lake Complex SNCI (supporting waterbody to SWLW SPA and Ramsar site)	Runnymede Channel; New blue open spaces; Priority areas for habitat creation, enhancement or mitigation; Areas of enhanced public connection	General construction activities (land); Material excavation (contaminated); Material excavation (natural ground); General construction activities (water); Movement of construction vehicles, equipment and operatives (off site); Tree/vegetation removal; Habitat improvements and planting; Movement of construction vehicles, equipment and operatives (on site)	Negative Potential temporary and/or permanent negative effects to the site and/or species from construction such as vegetation clearance, spread of INNS/pathogens, changes in water quality, hydromorphology, sediment dynamics, flow characteristics, morphology and residence times. Potential temporary (short-term) negative effects from lighting, noise and vibration and changes in air quality from construction activities. Potential temporary negative effects of nutrient deposition from road traffic on sensitive ecological receptors <200m of roads due to construction.	Aquatic Pathogen Management Plan; Aquatic INNS Management Plan.
Ferris Meadows SNCI (supporting waterbody to SWLW SPA and Ramsar site) Littleton Lake SNCI (supporting waterbody to SWLW SPA and Ramsar site)	Spelthorne Channel; Flow Control Structures; Temporary materials processing sites; Construction compounds; Areas of enhanced public connection; New blue open spaces; Temporary material storage sites; Permanent maintenance compounds; Priority areas for habitat creation, enhancement or mitigation	General construction activities (land); General construction activities (water); Movement of construction vehicles, equipment and operatives (on site); Creation/use of construction compounds; Temporary stockpiling of materials; Habitat improvements and planting; Use of materials processing sites; Tree/vegetation removal; Processing / placement of non-hazardous waste; Construction of road bridges	Negative Potential temporary and/or permanent negative effects to the site and/or species from construction such as vegetation clearance, spread of INNS/pathogens, changes in water quality, hydromorphology, sediment dynamics, flow characteristics, morphology and residence times. Potential temporary (short-term) negative effects from lighting, noise and vibration and changes in air quality from construction activities. Potential temporary negative effects of nutrient deposition from road traffic on sensitive ecological receptors <200m of roads due to construction.	Aquatic Pathogen Management Plan; Aquatic INNS Management Plan.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Sheepwalk Lake SNCI (supporting waterbody to SWLW SPA and Ramsar site) Shepperton Quarry SNCI (supporting waterbody to SWLW SPA and Ramsar site)	Priority areas for habitat creation, enhancement or mitigation; Spelthorne Channel; Areas of enhanced public connection	General construction activities (land); General construction activities (water); Movement of construction vehicles, equipment and operatives (on site); Habitat improvements and planting; Tree/vegetation removal; Processing / placement of non-hazardous waste; Construction of road bridges	Negative Potential temporary and/or permanent negative effects to the site and/or species from construction such as vegetation clearance, spread of INNS/pathogens, changes in water quality, hydromorphology, sediment dynamics, flow characteristics, morphology and residence times. Potential temporary (short-term) negative effects from lighting, noise and vibration and changes in air quality from construction activities. Potential temporary negative effects of nutrient deposition from road traffic on sensitive ecological receptors <200m of roads due to construction.	Aquatic Pathogen Management Plan; Aquatic INNS Management Plan.
Wraysbury Reservoir SNCI (part of SWLW SPA and Ramsar site)	Priority areas for habitat creation, enhancement or mitigation	General construction activities (land); Movement of construction vehicles, equipment and operatives (on site); Habitat improvements and planting; Processing / placement of non-hazardous waste	Negative Potential temporary and/or permanent negative effects to the site and/or species from construction such as vegetation clearance, spread of INNS/pathogens, changes in water quality, hydromorphology, sediment dynamics, flow characteristics, morphology and residence times. Potential temporary (short-term) negative effects from lighting, noise, vibration, lighting and changes in air quality from construction activities. Potential temporary negative effects of nutrient deposition from road traffic on sensitive ecological receptors <200m of roads due to construction.	Aquatic INNS Management Plan.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Charlton Quarry SNCI	Construction compounds; New green open spaces; Areas of enhanced public connection; Temporary materials processing sites; New Landforms; Spelthorne Channel; Road realignments	General construction activities (land); Movement of construction vehicles, equipment and operatives (on site); Creation/use of construction compounds; Use of materials processing sites; Tree/vegetation removal; Habitat improvements and planting; Movement of construction vehicles, equipment and operatives (off site); Processing / placement of hazardous waste; Processing / placement of non-hazardous waste; Construction of road bridges	Negative Potential temporary and/or permanent negative effects to the site and/or species from construction such as vegetation clearance, spread of INNS/pathogens, changes in water quality, hydromorphology, sediment dynamics, flow characteristics, morphology and residence times. Potential temporary (short-term) negative effects from noise and vibration and changes in air quality from construction activities. Potential temporary negative effects of nutrient deposition from road traffic on sensitive ecological receptors <200m of roads due to construction.	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan.
Laleham Burway Golf Course SNCI	Priority areas for habitat creation, enhancement or mitigation; Areas of enhanced public connection; New green open spaces; New Landforms	General construction activities (land); Movement of construction vehicles, equipment and operatives (on site); Habitat improvements and planting; Movement of construction vehicles, equipment and operatives (off site); Processing / placement of non-hazardous waste; Construction of road bridges	Negative Potential temporary and/or permanent negative effects on the habitats and/or species present during construction due to vegetation clearance, habitat loss, severance and fragmentation. Potential temporary (short-term) negative effects from noise, vibration lighting and changes in air quality from construction activities. Potential temporary negative effects of nutrient deposition from road traffic on sensitive ecological receptors <200m of roads due to construction.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Desborough Island SNCI	Priority areas for habitat creation, enhancement or mitigation; Areas of enhanced public connection; New Landforms; New pedestrian / cycle bridges crossing River Thames at Chertsey and Desborough	General construction activities (land); Movement of construction vehicles, equipment and operatives (on site); Habitat improvements and planting; Tree/vegetation removal; Processing / placement of hazardous waste; Processing / placement of non-hazardous waste; Construction of road bridges	Negative Potential temporary and/or permanent negative effects on the habitats and/or species present during construction due to vegetation clearance, habitat loss, severance and fragmentation. Potential temporary (short-term) negative effects from noise, vibration lighting and changes in air quality from construction activities.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant.
River Thames – Runnymede SNCI River Thames - Elmbridge SNCI	All project components; Molesey Weir; Sunbury Weir; Bed lowering downstream of Desborough Cut	General construction activities (land); General construction activities (water); Movement of construction vehicles, equipment and operatives (on site); Processing / placement of hazardous waste; Processing / placement of non-hazardous waste; Construction of road bridges	Negative Potential temporary and/or permanent negative effects due to spread of INNS, changes in water quality, hydromorphology, flow regime/sediment processes, river bed/banks disturbance, damage to/loss of riparian habitats. Potential temporary (short-term) negative effects from noise, vibration, lighting, and changes in air quality from construction activities.	Aquatic Pathogen Management Plan; Aquatic INNS Management Plan
Lakes (some are part of/supporting SWLW and Ramsar site)	Runnymede Channel; Spelthorne Channel; Priority areas for habitat creation, enhancement or mitigation; New blue open spaces	General construction activities (land); General construction activities (water); Movement of construction vehicles, equipment and operatives (on site); Bed lowering; Aquatic INNS/pathogen management; Dewatering / over-pumping of waterbodies; Tree/vegetation removal; Movement of construction vehicles, equipment and operatives (off site); Processing / placement of non-hazardous waste; Construction of road bridges	Negative Potential temporary and/or permanent negative effects to lakes from INNS spread, changes to water quality, hydromorphology, flow regime or sediment processes during construction, dewatering during construction, damage to/loss of marginal habitats.	Aquatic Pathogen Management Plan; Aquatic INNS Management Plan.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Watercourses	Runnymede Channel; Spelthorne Channel; Abbey Meads Floodway; Bed lowering downstream of Desborough Cut; Flood embankments and Erosion prevention; Sunbury Weir; Molesey Weir; Teddington Weir; Chertsey Weir fish passage; Abbey River watercourse improvements; Temporary wharfs (River Thames); New blue open spaces; Flow Control Structures; Beasley's Ait fish passage	General construction activities (water); Bed lowering; Dewatering / over-pumping of waterbodies; Sheet piling; Tree/vegetation removal; Aquatic INNS/pathogen management; Construction of new pedestrian / cycle bridges at Chertsey and Desborough; Movement of construction vehicles, equipment and operatives (off site); Processing / placement of non-hazardous waste; Construction of road bridges	Negative Potential temporary and/or permanent negative effects to all watercourses including Mead Lake Ditch due to spread of INNS, changes in water quality, hydromorphology, flow regime/sediment processes, river bed/banks disturbance, damage to/loss of riparian habitats.	Aquatic Pathogen Management Plan; Aquatic INNS Management Plan.
Open Mosaic on Previously Developed Land	Spelthorne Channel; Priority areas for habitat creation, enhancement or mitigation; New green open spaces; Areas of enhanced public connection; Construction compounds; Temporary material storage sites	General construction activities (land); Habitat improvements and planting; Movement of construction vehicles, equipment and operatives (on site); Creation/use of construction compounds; Tree/vegetation removal; Movement of construction vehicles, equipment and operatives (off site); Processing / placement of hazardous waste; Processing / placement of non-hazardous waste; Construction of road bridges	Negative Potential temporary and/or permanent negative effects on the habitat during construction due to vegetation clearance and, habitat severance/ fragmentation/ loss.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant.
Hedgerows	All project components	General construction activities (land); Use of materials processing sites; Creation/use of construction compounds; Tree/vegetation removal; Habitat improvements and planting; Movement of construction vehicles, equipment and operatives (off site); Processing / placement of hazardous waste; Processing / placement of non-hazardous waste; Construction of road bridges	Negative Potential temporary and/or permanent negative effects on the habitat during construction due to vegetation clearance, habitat and severance/ fragmentation/ loss.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant.
Other Habitat of Principal Importance (HPI) (Priority Habitats) – Ponds and Reedbeds	All project components	General construction activities (land); Habitat improvements and planting; Use of materials processing sites; Creation/use of construction compounds; Tree/vegetation removal; Processing / placement of hazardous waste; Processing / placement of non-hazardous waste; Construction of road bridges	Negative Potential temporary and/or permanent negative effects on the habitat during construction due to vegetation clearance, habitat severance/fragmentation/loss, changes in water quality and INNS spread.	Aquatic Pathogen Management Plan; Aquatic INNS Management Plan.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Woodland (including ancient woodland)	All project components	General construction activities (land); Creation/use of construction compounds; Tree/vegetation removal; Habitat improvements and planting; Construction of road bridges	Negative Potential temporary and/or permanent negative effects on the habitat during construction due to vegetation clearance and habitat severance/ fragmentation/ loss.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant.
Trees (including veteran trees)	All project components	General construction activities (land); Creation/use of construction compounds; Tree/vegetation removal; Temporary stockpiling of materials; Habitat improvements and planting; Construction of road bridges	Negative Potential temporary and/or permanent negative effects on trees, during construction due to vegetation removal, works to and removal of trees.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant.
Neutral grassland	All project components	General construction activities (land); Habitat improvements and planting; Use of materials processing sites; Creation/use of construction compounds; Tree/vegetation removal; Movement of construction vehicles, equipment and operatives (on site); Construction of road bridges	Negative Potential temporary and/or permanent negative effects on the habitat during construction due to vegetation clearance and habitat severance/ fragmentation/ loss.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Otter	All project components	Demolition of buildings ; General construction activities (land); General construction activities (water); Movement of construction vehicles, equipment and operatives (on site); Bed lowering; Dewatering / over-pumping of waterbodies; Aquatic INNS/pathogen management; Sheet piling; Creation/use of construction compounds; Use of materials processing sites; Tree/vegetation removal; Construction of road bridges; Habitat improvements and planting; Construction of new pedestrian / cycle bridges at Chertsey and Desborough	Negative Potential temporary (short-term) and/or permanent negative effects include direct injury/death of otter and abandonment of cubs, reduction in availability of suitable habitat, habitat severance/fragmentation. Potential temporary negative effects include disturbance and displacement due to noise, vibration, lighting and movement of vessels.	Otter mitigation: Investigate use of alternative piling methods that reduce noise and vibration where practicable. Licence for otter likely to be required for the disturbance or destruction of holts/places of refuge. Measures could include artificial holts, restricted artificial lighting, exclusion fencing, new road underpasses, dry pipes where access through culverts severed.
Bats	All project components	General construction activities (land); General construction activities (water); Movement of construction vehicles, equipment and operatives (on site); Bed lowering; Creation/use of construction compounds; Tree/vegetation removal; Construction of road bridges; use of temporary wharfs and mobile pontoons; Habitat improvements and planting; Demolition of buildings	Negative Potential temporary and/or permanent negative effects including direct injury/death, loss of roost locations, reduction in availability of foraging and commuting habitat, habitat severance and fragmentation. Potential temporary (short-term) indirect negative effects from disturbance and displacement due to noise, vibration and lighting.	Bat mitigation: Investigate use of alternative piling methods that reduce noise and vibration where practicable. Licences are likely to be required for bats-measures could include restricted artificial light; timing of works outside key periods; provision of compensatory roosts sites; bat bridges installed to reduce effects on commuting and foraging bats.
Badger	All project components	Demolition of buildings ; General construction activities (land); General construction activities (water); Movement of construction vehicles, equipment and operatives (on site); Bed lowering; Sheet piling; Creation/use of construction compounds; Use of materials processing sites; Tree/vegetation removal; Construction of road bridges; Habitat improvements and planting	Negative Potential temporary and/or permanent negative effects include direct injury/death of badger, reduction in availability of suitable habitat, habitat severance/fragmentation. Potential temporary (short-term) negative effects include disturbance and displacement due to noise, vibration and lighting.	Badger mitigation: Investigate use of alternative piling methods that reduce noise and vibration where practicable. A badger licence is likely to be required (only Jul-Nov) for closures of setts, creation of compensatory setts; sett closures to avoid breeding season; restricted artificial light; installation of road underpasses and dry pipes to provide alternative means of dispersal.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Schedule 1 birds and Non schedule 1 birds	All project components	General construction activities (land); General construction activities (water); Movement of construction vehicles, equipment and operatives (on site); Bed lowering; Tree/vegetation removal; Construction of road bridges; use of temporary wharfs and mobile pontoons; Habitat improvements and planting; Demolition of buildings; Construction of new pedestrian / cycle bridges at Chertsey and Desborough; Creation/use of construction compounds;	Negative Potential temporary and/or permanent negative effects including direct injury/death, loss of nest locations, habitat destruction, severance and fragmentation. Potential temporary negative effects including disturbance to species, resting and breeding sites and displacement of species due to noise, vibration, lighting, and movement of vessels.	Bird mitigation: Investigate use of alternative piling methods that reduce noise and vibration where practicable. Restrictions to works within buffers of habitats; timing of works outside of key periods; pre-construction checks; noise barriers/screens and provision of bird nest boxes; habitat enhancements/creation.
Amphibians	All project components	Material excavation (contaminated); General construction activities (land); Material excavation (natural ground); Movement of construction vehicles, equipment and operatives (on site); Creation/use of construction compounds; Use of materials processing sites; Tree/vegetation removal; Temporary stockpiling of materials; Habitat improvements and planting; General construction activities (water)	Negative Potential temporary and/or permanent negative effects include direct injury/death, reduction in availability of suitable habitat such as refugia and habitat severance/fragmentation. Potential temporary (short-term) negative effects from disturbance and displacement due to noise, vibration and lighting.	Amphibian mitigation: Investigate use of alternative piling methods that reduce noise and vibration where practicable. Mitigation measures will include sensitive timing of construction activities, appropriate use of artificial lighting and potentially amphibian exclusion and translocation techniques.
Invertebrates (terrestrial and aquatic)	All project components	Material excavation (contaminated); General construction activities (land); Material excavation (natural ground); Movement of construction vehicles, equipment and operatives (on site); Creation/use of construction compounds; Use of materials processing sites; Tree/vegetation removal; Temporary stockpiling of materials; Habitat improvements and planting; Aquatic INNS/pathogen management; Dewatering / over-pumping of waterbodies; Sheet piling; use of temporary wharfs and mobile pontoons; Construction of road bridges; Bed lowering;	Negative Potential temporary and/or permanent negative effects include injury/death of species, habitat severance and vegetation clearance, INNS treatment/spread, effects on water quality, hydromorphology, sediment. Potential temporary (short-term) negative effects include disturbance and displacement due to noise, vibration, lighting and movement of vessels.	Invertebrate mitigation: Aquatic Pathogen Management Plan; Aquatic INNS Management Plan; Investigate use of alternative piling methods that reduce noise and vibration where practicable. Mitigation measures will include sensitive timing of construction activities; appropriate use of artificial lighting; provision of compensatory sites for invertebrates.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Reptiles	All project components	General construction activities (land); Creation/use of construction compounds; Use of materials processing sites; Tree/vegetation removal; Temporary stockpiling of materials; Habitat improvements and planting; Construction of road bridges	Negative Potential temporary and/or permanent negative effects on reptiles due to direct injury/death, vegetation clearance, reduction in availability of suitable habitat, habitat severance/fragmentation.	Reptile mitigation: compensatory habitat creation (e.g. compost heaps close to water) for grass snakes; enhancement of existing terrestrial habitats; timed vegetation clearance to avoid peak breeding and hibernation seasons in accordance with sensitive clearance methods, possible exclusion and translocation.
Water vole	All project components	General construction activities (water); General construction activities (land); Movement of construction vehicles, equipment and operatives (on site); Sheet piling; Creation/use of construction compounds; Use of materials processing sites; Tree/vegetation removal; Bed lowering; General construction activities (water); Habitat improvements and planting	Negative Potential temporary and/or permanent negative effects including direct injury/death, loss of burrows, reduction in foraging habitat, habitat severance and fragmentation, disturbance and displacement due to water quality changes and hydromorphological effects. Potential temporary (short-term) negative effects from noise, vibration, lighting and movement of vessels.	Water vole mitigation: Investigate use of alternative piling methods that reduce noise and vibration where practicable A licence would be required if water vole are found. Mitigation measures would include sensitive timing of construction activities including lighting and potentially displacement or exclusion and translocation techniques.
Notable plant species	All project components	General construction activities (land); Use of materials processing sites; Creation/use of construction compounds; Tree/vegetation removal; Movement of construction vehicles, equipment and operatives (off site); Processing / placement of hazardous waste; Processing / placement of non-hazardous waste; Construction of road bridges	Negative Potential temporary and/or permanent negative effects from habitat loss/fragmentation on the plants from construction activities such as vegetation clearance and changes in air quality.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Fish and eel	Bed lowering downstream of Desborough Cut; Abbey River watercourse improvements; Flow Control Structures; Sunbury Weir; Teddington Weir; Chertsey Weir fish passage; Beasley's Ait fish passage; Temporary wharfs (River Thames); New blue open spaces; New pedestrian / cycle bridges crossing River Thames at Chertsey and Desborough; Runnymede Channel; Spelthorne Channel; Molesey Weir	General construction activities (water); General construction activities (land); Bed lowering; Dewatering / over-pumping of waterbodies; Tree/vegetation removal; Movement of construction vehicles, equipment and operatives (on site); Processing / placement of non-hazardous waste; Aquatic INNS/pathogen management; Habitat improvements and planting	Negative Potential temporary and/or permanent negative effects from disturbance (e.g to spawning/migration), injury/death from pathogen exposure, spread/ treatment of INNS/pathogens, impingement and entrainment, changes in water quality, hydromorphology, flow regime, sediment and habitat damage/severance/loss. Potential temporary (short-term) negative indirect effects from noise, vibration, lighting and movement of vessels.	Fish and eel mitigation: Aquatic Pathogen Management Plan; INNS Management Plan; Investigate use of alternative piling methods that reduce noise and vibration where practicable Mitigation measures will include construction seasonal restrictions for migratory periods; use of artificial lighting will be restricted to control light spill.
All receptors	Off-site car parks for construction workers	Establishment and use of off-site car parks including associated traffic movements	Potential impacts during construction on all receptors.	No further mitigation identified. The selection and design of these car parks is yet to be undertaken, at which point the need for and nature of any secondary mitigation will be considered.

2 Potential Likely Significant Operational Effects

Table 2: Potential Likely Significant Operational Effects

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
South West London Waterbodies SPA and Ramsar Site (excluding supporting sites)	Areas of enhanced public connection	Use of publicly accessible areas	Negative Providing enhanced public connection along the embankment that borders St Ann's Lake could result in increased permanent sensory disturbance and displacement and therefore have a negative effect. Potential permanent negative effects of nutrient deposition from road traffic on sensitive ecological receptors <200m of roads due to the provision of operational project components.	SPA/Ramsar mitigation: Precise mitigation to be determined by HRA but might include measures such as seasonal restrictions; buffers; noise barriers/screens; restricted lighting; avoidance of direct impacts.
Thorpe Park No. 1 Gravel Pit SSSI (part of SWLW SPA and Ramsar site)	Areas of enhanced public connection; Runnymede Channel; New Landforms; Flow Control Structures	Existence of the flood channel and other components; Channel maintenance to restore design profile; Placed material on landfill areas; New landforms	Negative and Positive Potential permanent negative effects from disturbance to sites and species due to increased public access. Potential permanent positive effects of reduced flood risk of nearby contaminated land. Potential permanent negative effects of nutrient deposition from road traffic on sensitive ecological receptors <200m of roads due to the provision of operational project components.	No secondary mitigation has been able to be identified at this PEIR stage. The need for mitigation will be considered further as design and assessment work continues to progress as part of the EIA, and any secondary mitigation developed will be reported in the Environmental Statement.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Thorpe Hay Meadow SSSI	All project components	Existence of the flood channel and other components; Channel maintenance to restore design profile; New landforms; Placed material on landfill areas	Negative / Positive Potential permanent negative effects of nutrient deposition from road traffic on sensitive ecological receptors <200m of roads due to the provision of operational project components. Lower groundwater levels will reduce the incidence of flooding leading to a potential permanent positive effect. There is also a potential for a negative effect on the SSSI due to the lowering of groundwater levels.	No secondary mitigation has been able to be identified at this PEIR stage. The need for mitigation will be considered further as design and assessment work continues to progress as part of the EIA, and any secondary mitigation developed will be reported in the Environmental Statement.
Dumsey Meadow SSSI Staines Moor SSSI, Wraysbury & Hythe End Gravel Pits SSSI (part of SWLW SPA and Ramsar site), Langham Pond SSSI	All project components	Existence of the flood channel and other components;	Negative Change in frequency and depth of floods and groundwater levels could lead to temporary and/or permanent negative changes in habitat quality. Reduced flood risk of contaminated land has the potential to result in a permanent positive effect. Potential permanent negative effects of nutrient deposition from road traffic on sensitive ecological receptors <200m of roads due to the provision of operational project components.	No secondary mitigation has been able to be identified at this PEIR stage. The need for mitigation will be considered further as design and assessment work continues to progress as part of the EIA, and any secondary mitigation developed will be reported in the Environmental Statement.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Ferris Meadows SNCI (supporting waterbody to SWLW SPA and Ramsar site) Littleton Lake SNCI (supporting waterbody to SWLW SPA and Ramsar site) Sheepwalk Lake SNCI (supporting waterbody to SWLW SPA and Ramsar site) Shepperton Quarry SNCI (supporting waterbody to SWLW SPA and Ramsar site)	All project components Spelthorne Channel	Existence of the flood channel and other components; Introduction of augmented flow; Operation during flood events; New/enhanced habitat (aquatic); Channel maintenance to restore design profile	Negative and Positive The Spelthorne Channel will run through the SNCIs. Permanent negative effects on the SNCIs include flow changes, sediment distribution, the spread of INNS/pathogens, disturbance and water quality changes. Permanent positive effects from net gain in biodiversity via provision of enhanced or new habitats. Potential permanent negative effects of nutrient deposition from road traffic on sensitive ecological receptors <200m of roads due to the provision of operational project components.	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan.
Wraysbury Reservoir SNCI (part of SWLW SPA and Ramsar site)	All project components; Priority areas for habitat creation, enhancement or mitigation	Existence of the flood channel and other components	Negative and Positive Permanent positive effects from net gain in biodiversity via provision of enhanced or new habitats. Potential permanent negative effects from changes in flooding patterns altering the habitats present. Potential permanent negative effects of nutrient deposition from road traffic on sensitive ecological receptors <200m of roads due to the provision of operational project components.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Abbey Lake Complex SNCI (supporting waterbody to SWLW SPA and Ramsar site) Chertsey Bourne at Abbey Lake Complex SNCI (supporting waterbody to SWLW SPA and Ramsar site)	Runnymede Channel; All project components; New blue open spaces	Existence of the flood channel and other components; Introduction of augmented flow; Operation during flood events; New/enhanced habitat (aquatic); Navigable channel; Channel maintenance to restore design profile	Negative and Positive The Runnymede Channel will run through these SNCIs. Potential permanent negative effects on the SNCI include flow changes, sediment distribution, the spread of INNS/pathogens, increased disturbance and water quality changes. There will be a permanent positive effect from the design due to habitat enhancement. Potential permanent negative effects of nutrient deposition from road traffic on sensitive ecological receptors <200m of roads due to the provision of operational project components.	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan.
Laleham Burway Golf Course SNCI	All project components; Priority areas for habitat creation, enhancement or mitigation; Areas of enhanced public connection	Existence of the flood channel and other components; L&GI provision; New/enhanced habitat (terrestrial); Use of publicly accessible areas	Negative and Positive Potential permanent negative effects from changes in flooding patterns altering the habitats which are present and increased disturbance to habitats through increased public access could occur. Permanent positive effects from net gain in biodiversity via provision of enhanced or new habitats. Potential permanent negative effects of nutrient deposition from road traffic on sensitive ecological receptors <200m of roads due to the provision of operational project components.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Charlton Quarry SNCI Desborough Island SNCI	Priority areas for habitat creation, enhancement or mitigation; Areas of enhanced public connection; Spelthorne Channel; New green open spaces	Existence of the flood channel and other components; L&GI provision; New/enhanced habitat (terrestrial); Use of publicly accessible areas	Negative and Positive Potential permanent negative effects from changes in flooding patterns altering the habitats which are present and increased disturbance to habitats through increased public access could occur. Permanent positive effects from net gain in biodiversity via provision of enhanced or new habitats. Potential permanent negative effects of nutrient deposition from road traffic on sensitive ecological receptors <200m of roads due to the provision of operational project components.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant.
43 SNCIs, 35 LWSs and 9 LNRs that are outside the PEIR Boundary but within a 2km buffer of the PEIR Boundary or the extent of the 1 in 100 year floodplain affected by the RTS, whichever is greater.	All project components	Existence of the flood channel and other components	Negative Potential permanent negative effects from changes in flooding patterns altering the habitats present and effects from changes in air quality from road traffic due to operational project components.	No secondary mitigation has been able to be identified at this PEIR stage. The need for mitigation will be considered further as design and assessment work continues to progress as part of the EIA, and any secondary mitigation developed will be reported in the Environmental Statement..
Wraysbury No. 1 Gravel Pit SSSI (part of SWLW SPA and Ramsar site), Penton Hook Island SNCI, Chertsey Water Works Well Field SNCI, Ham Lands LWS, Syon Park SSSI	All project components	Existence of the flood channel and other components	Negative Potential permanent negative effects from changes in flooding patterns altering the habitats present. Potential permanent effects from increased nutrient deposition from road traffic due to operational project components.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Lakes (some are part of/supporting SWLW and Ramsar site)	Runnymede Channel; Spelthorne Channel; Flow Control Structures; New blue open spaces; Priority areas for habitat creation, enhancement or mitigation	Introduction of augmented flow; Existence of the flood channel and other components; Fish passage; New/enhanced habitat (aquatic); Navigable channel; Operation during flood events; Use of flow control structures; Channel maintenance to restore design profile	Negative and Positive Potential permanent negative effects from changes to the flow, nutrient levels and hydromorphology, residence times, and INNS/pathogen spread due to flow and navigation in flood channel. Permanent positive effects from improvements to lake habitats from reprofiling and from the net gain in biodiversity proposed.	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan; SPA / Ramsar mitigation. Precise mitigation to be determined by HRA but could include measures such as seasonal restrictions; buffers; lake edge shallowing; habitat enhancement; construction noise barriers/screens; timed sheet piling; restricted lighting; avoidance of direct impacts.
Watercourses	Runnymede Channel; Spelthorne Channel; Flow Control Structures; Abbey Meads Floodway; Flood embankments and Erosion prevention; Bed lowering downstream of Desborough Cut; Sunbury Weir; Molesey Weir; Teddington Weir; Priority areas for habitat creation, enhancement or mitigation; Chertsey Weir fish passage; Beasley's Ait fish passage; Abbey River watercourse improvements; New blue open spaces;	Introduction of augmented flow; Existence of the flood channel and other components; Fish passage; New/enhanced habitat (aquatic); Navigable channel; Operation during flood events; Use of flow control structures; Channel maintenance to restore design profile	Negative and Positive Potential permanent negative effects to all watercourses including Mead Lake Ditch, from changes to the flow, nutrient levels and hydromorphology and INNS/pathogen spread due to flow and navigation in flood channel. Permanent positive effects from improvements to habitats from the net gain in biodiversity proposed.	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan.
Hedgerows Woodland (including ancient woodland) Neutral grassland Other Habitat of Principal Importance (HPI) (Priority Habitat) – Ponds and Reedbeds	Runnymede Channel; Spelthorne Channel; Priority areas for habitat creation, enhancement or mitigation	Existence of the flood channel and other components; New/enhanced habitat (terrestrial) ; New/enhanced habitat (aquatic)	Positive Permanent positive effects from net gain in biodiversity via provision of enhanced or new habitats.	No secondary mitigation required as the effect is positive.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Otter Badger Bats Reptiles Amphibians Invertebrates (terrestrial and aquatic) Water vole Notable plant species Trees (including veteran trees)	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (terrestrial); New/enhanced habitat (aquatic)	Positive Permanent positive effects from net gain in biodiversity via provision of enhanced or new habitats.	No secondary mitigation required as the effect is positive.
Schedule 1 birds and non-schedule 1 birds	All project components	Existence of the flood channel and other components; New/enhanced habitat (terrestrial); New/enhanced habitat (aquatic)	Negative and Positive Potential permanent negative effects due to changes flooding regime affecting habitats and changes in lake levels once the project is operational. Permanent positive effects from net gain in biodiversity via provision of enhanced or new habitats.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant.
Fish and eel	Runnymede Channel; Spelthorne Channel; Abbey Meads Floodway; Flow control Structures; Sunbury Weir; Molesey Weir; Teddington Weir; Priority areas for habitat creation, enhancement or mitigation; Chertsey Weir fish passage; Beasley's Ait fish passage; Abbey River watercourse improvements;	Existence of the flood channel and other components; Operation during flood events; Navigable channel; Introduction of augmented flow; Fish passage; New/enhanced habitat (aquatic)	Negative and Positive Potential permanent negative effects from water quality and flow changes, habitat damage/disturbance from operational activities; the downstream displacement of species, potential for fish mortality within the flood channel and higher levels of predation; changes in sediment processes within the existing lakes and the River Thames (including the potential for habitat / coarse sediment losses in the sections of the River Thames between the intakes and outtakes of the new channels), spread/escape of INNS/pathogens, changes in flood plain connectivity. Potential permanent positive effects from improved fish passage and net gain in biodiversity via provision of enhanced or new habitats.	Aquatic Pathogen Management Plan; Aquatic INNS Management Plan.

3 Non-Significant Construction Effects

Table 3: Non-Significant Construction Effects

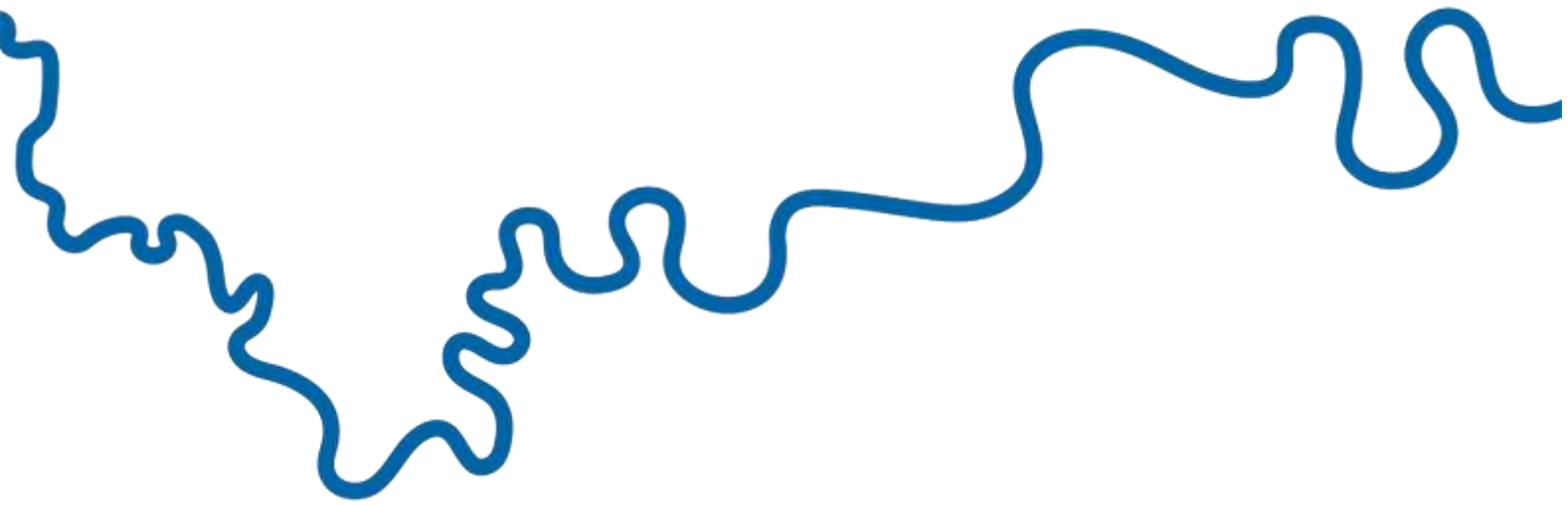
Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Chertsey Meads LNR	Runnymede Channel; Spelthorne Channel; Temporary materials processing sites; Temporary material storage sites; Construction compounds	Material excavation (contaminated); Material excavation (natural ground); Processing / placement of hazardous waste; Processing / placement of non-hazardous waste; Sheet piling; Creation/use of construction compounds; Use of materials processing sites; Temporary changes in land levels; Use of excavated material on-site; Temporary stockpiling of materials	Negative Potential temporary (short-term) disturbance to designated site species from construction activities. The magnitude of effect at the receptor is expected to be below the relevant threshold for significant effects.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required
Chertsey Water Works Well Field SNCI	Runnymede Channel; Temporary material storage sites	General construction activities (land); Movement of construction vehicles, equipment and operatives (on site); Habitat improvements and planting; Tree/vegetation removal	Negative Potential temporary (short-term) negative effects to habitats and plant species due to habitat loss, changes in air quality from construction activities. Area of likely impact is likely to be small.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Penton Hook Island SNCI	Runnymede Channel	General construction activities (water)	Negative Construction works to enhance the habitats immediately downstream of three weirs on the River Thames in the reach bypassed by the flood channel (at Penton Hook, Chertsey and Shepperton) will lead to temporary (short-term) negative effects to habitats and species of this SNCI from the spread of INNS, changes in water quality, changes in air quality from construction activities. Area of likely impact is likely to be small.	Aquatic INNS Management Plan
43 SNCIs, 35 LWSs and 9 LNRs that are outside the PEIR Boundary but within a 2km buffer of the PEIR Boundary or the extent of the 1 in 100year floodplain affected by the RTS, whichever is greater.	All project components	Movement of construction vehicles, equipment and operatives (off site)	Negative Potential temporary (short-term) negative effects on the sites from changes in air quality due to off-site construction traffic routes. Sites are beyond the PEIR boundary so it is considered unlikely that effects from increased traffic movements will be significant.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Other terrestrial habitats (excluding HPIs)	All project components	General construction activities (land); Habitat improvements and planting; Use of materials processing sites; Creation/use of construction compounds; Tree/vegetation removal; Processing / placement of hazardous waste; Processing / placement of non-hazardous waste	Negative Potential negative effects due to vegetation clearance, works to and removal of trees, INNS spread, changes in air quality, habitat severance and fragmentation. Effects will be not significant as these habitats have a negligible sensitivity as they are not HPIs, therefore any effect experienced by the receptor will not be significant according to the EcIA methods proposed.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required

4 Non-Significant Operational Effects

Table 4: Non-Significant Operational Effects

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Richmond Park SAC, NNR and SSSI Windsor Forest and Great Park SAC and SSSI Bushy Park and Home Park SSSI Ham Lands LNR	All project components	Existence of the flood channel and other components	Negative Potential permanent negative effects from changes in flooding patterns altering the habitats present. The habitats/species of these sites are not reliant on regular flooding and the changes in flood regime at this location with the RTS in operation are very small.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
River Thames (and towpath) - Spelthorne LWS	Bed lowering downstream of Desborough Cut; Runnymede Channel; Spelthorne Channel	Existence of the flood channel and other components; Channel maintenance to restore design profile	Negative Potential temporary and/or permanent negative effects from dredging or other possible management activities to reinstate the design profile of the flood channel leading to the degradation of LWS. The effect is likely to be non-significant as only a small area of the LWS will be affected.	No mitigation is considered necessary to reduce negative effects to an acceptable level.
Other terrestrial habitats (excluding HPIs)	Runnymede Channel; Spelthorne Channel; Priority areas for habitat creation, enhancement or mitigation	Existence of the flood channel and other components; New/enhanced habitat (terrestrial); New/enhanced habitat (aquatic)	Negative and Positive Change from terrestrial to aquatic habitat leading to potential permanent negative effects on terrestrial habitats and due to habitat loss and fragmentation. Potential permanent positive effect due to habitat enhancement and net gain in biodiversity proposed. Effects will be not significant as these habitats have a negligible sensitivity as they are not HPIs, therefore any effect experienced by the receptor will not be significant according to the Ecological Impact Assessment (EcIA) methods proposed.	No mitigation is considered necessary to reduce negative effects to an acceptable level.



SURREY COUNTY COUNCIL

Environment Agency

The River Thames Scheme represents a new landscape-based approach to creating healthier, more resilient and more sustainable communities by reducing the risk of flooding and creating high quality natural environments.

River Thames
Scheme