



Preliminary Environmental Information Report

Volume 4 Appendix 18.3

Water Environment Summary Tables for Likely Significant and
Non-Significant Environmental Effects

Water Environment Summary Tables

1 Potential Likely Significant Construction Effects

Table 1: Potential Likely Significant Construction Effects Summary Table

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Main Rivers (Water quality; high) Wraysbury River; Mead Lake Ditch; River Thames - Egham to Teddington; River Mole	Spelthorne Channel; Runnymede Channel	Use of excavated material on-site; Movement of construction vehicles, equipment and operatives (on site); Aquatic INNS/pathogen management	Negative Potential release of water or sediment into waterbody containing pollutants, contaminants or sediment potentially decreasing water quality (chemicals or physico-elements) a small amount temporarily (short-term). INNS management leads to a small change in channel bed/banks structure potentially reducing river condition a small amount temporarily (short-term).	Water quality monitoring (during construction) and subsequent remedial activities where these are required Primary mitigation applied. Proposed tertiary mitigation includes silt traps; Use of impermeable bases, bunds, and temporary covering of exposed material.
Main Rivers (Water quality; high) Mead Lake Ditch; River Thames - Egham to Teddington	Runnymede Channel; Bed lowering downstream of Desborough Cut	Material excavation (contaminated); Bed lowering	Negative Potential release of water or sediment into waterbody containing pollutants, contaminants or sediment potentially decreasing water quality (chemicals or physico-elements) a small amount temporarily (short-term).	Water quality monitoring (during construction) and subsequent remedial activities where these are required Proposed tertiary mitigation includes silt traps; Use of impermeable bases, bunds, and temporary covering of exposed material.
Main Rivers (Water quality; high) River Thames - Egham to Teddington	Temporary materials processing sites; Temporary wharfs (River Thames)	Temporary stockpiling of materials; use of temporary wharfs and mobile pontoons	Negative Potential release of water or sediment into waterbody containing pollutants, contaminants or sediment potentially decreasing water quality (chemicals or physico-elements) a small amount temporarily (short-term) due to run off from temporary structures or change in land drainage as a result of compaction at stockpiles leading to further run off.	Water quality monitoring (during construction) and subsequent remedial activities where these are required Proposed tertiary mitigation includes silt traps; Use of impermeable bases, bunds, and temporary covering of exposed material.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Main Rivers (Water supply; very high) River Thames - Egham to Teddington	Priority areas for habitat creation, enhancement or mitigation; Runnymede Channel; Spelthorne Channel; Bed lowering downstream of Desborough Cut; Temporary materials processing sites; Temporary wharfs (River Thames)	General construction activities (water); Dewatering / over-pumping of waterbodies; Use of excavated material on-site; Movement of construction vehicles, equipment and operatives (on site); Material excavation (contaminated); Aquatic INNS/pathogen management; Bed lowering; Temporary stockpiling of materials; use of temporary wharfs and mobile pontoons	Negative Potential hydromorphological change resulting in a small increase in turbidity/sediment such as from run-off and leaching from placed materials or drainage changes as a result of ground compaction at stockpiles which would be temporary (long-term). Potential water quality change resulting in poorer quality water available for abstraction which would be temporary (long-term).	Water quality monitoring (during construction) and subsequent remedial activities where these are required Risk assessments are considered to be part of/provide information for the materials management plan. Further mitigation if required will be identified within these risk assessments and secured within the construction environment management plan. Proposed tertiary mitigation includes: - Silt management on construction sites - Biosecurity management - Treatment of contaminated water at water treatment plan - Surface water management plan - Pollution incident control plan.
Main Rivers (Hydromorphology; moderate) River Thames - Egham to Teddington	Temporary wharfs (River Thames); Bed lowering downstream of Desborough Cut	use of temporary wharfs and mobile pontoons; Bed lowering	Negative Wharfs require bank reinforcement leading to localised removal of riparian vegetation and also Wharfs will require penetration of the river bed which will have small effect to bed structure, however this is restricted to a small area and temporary (medium-term). Wharfs and bed lowering potentially may result in fine sediment spillage leading to excess deposition locally leading to change in channel structure and potential reduction in river condition temporarily (medium-term).	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. Hydrogeological risk assessment will determine if there are any changes to flow which would result in changes to erosion/deposition. Construction Environmental Management Plan may include protection of bed/ banks locally from scour and ensure return of bed back to existing condition.
Main Rivers (Surface Water Dependent Habitat) (High) River Thames - Egham to Teddington	Temporary wharfs (River Thames); Temporary materials processing sites; Runnymede Channel; Spelthorne Channel; Bed lowering downstream of Desborough Cut; Priority areas for habitat creation, enhancement or mitigation	Use of excavated material on-site; Movement of construction vehicles, equipment and operatives (on site); Material excavation (contaminated); Aquatic INNS/pathogen management; Temporary stockpiling of materials; use of temporary wharfs and mobile pontoons; Bed lowering	Negative Potential for alteration of water quality and hydromorphological characteristics which supports a water dependent habitat leading to potential decline which would be temporary (long-term).	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan There will be monitoring for the spread and implementation of any required treatment measures to avoid colonisation. These are to be identified and developed as required.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Main Rivers (Recreation; high) River Thames - Egham to Teddington	Priority areas for habitat creation, enhancement or mitigation; Runnymede Channel; Temporary wharfs (River Thames)	Use of excavated material on-site; Movement of construction vehicles, equipment and operatives (on site); Material excavation (contaminated); use of temporary wharfs and mobile pontoons	Negative Potentially a small temporary (short-term) hydromorphological change resulting in increased turbidity/sediment such as from run-off and leaching from placed materials or alteration to flow regime. Potentially a small temporary (short-term) water quality change resulting in poorer quality for in water activities. Wharfs will be a small obstruction to navigation temporarily (short-term).	Water quality monitoring (during construction) and subsequent remedial activities where these are required Mitigation the same as for water quality and hydromorphology.
Main Rivers (Water quality; high) River Thames - Cookham to Egham	Temporary wharfs (River Thames)	use of temporary wharfs and mobile pontoons	Negative Potential release of water or sediment into waterbody potentially containing pollutants, contaminants or sediment decreasing water quality (chemicals or physico-elements) a small amount temporarily (long-term).	Water quality monitoring (during construction) and subsequent remedial activities where these are required Proposed tertiary mitigation considered as part of Construction Environmental Management Plan e.g. silt traps, infiltration swale, reedbeds, oil interceptors.
Main Rivers (Water quality; high) River Thames - Cookham to Egham; River Colne; River Ash	Runnymede Channel; Spelthorne Channel	Movement of construction vehicles, equipment and operatives (on site)	Negative Potential release of water or sediment into waterbody containing pollutants, contaminants or sediment potentially decreasing water quality (chemicals or physico-elements) a small amount temporarily (short-term).	Water quality monitoring (during construction) and subsequent remedial activities where these are required Proposed tertiary mitigation includes silt traps; Use of impermeable bases, bunds, and temporary covering of exposed material.
Main Rivers (Water supply; high) River Thames - Cookham to Egham	Temporary wharfs (River Thames); Runnymede Channel; Spelthorne Channel	Movement of construction vehicles, equipment and operatives (on site); use of temporary wharfs and mobile pontoons	Negative Run off containing contaminated or silt laden materials leading to potentially a small temporary (short-term) hydromorphological change resulting in increased turbidity/sediment and water quality change resulting in potentially a small temporary (short-term) poorer quality for abstraction.	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. Proposed tertiary mitigation includes use of silt traps or other alternatives to prevent or capture sediments or pollutant leakage into watercourse would be included with the Construction Environmental Management Plan.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Main Rivers (Recreation; high) River Thames - Cookham to Egham	Temporary wharfs (River Thames); Runnymede Channel; Spelthorne Channel	Movement of construction vehicles, equipment and operatives (on site); use of temporary wharfs and mobile pontoons	Negative Potentially a small temporary (short-term) hydromorphological change resulting in increased turbidity/sediment or flow regime. Potentially a small temporary (short-term) water quality change resulting in poorer quality for in water activities. Wharfs will be a small obstruction to navigation temporarily (short-term).	Water quality monitoring (during construction) and subsequent remedial activities where these are required Mitigation the same as for water quality and hydromorphology.
Main Rivers (Water quality; high) Mead Lake Ditch; The Moat; Chertsey Bourne	Priority areas for habitat creation, enhancement or mitigation; Runnymede Channel; Temporary materials processing sites	Aquatic INNS/pathogen management; Temporary stockpiling of materials	Negative Potential release of water or sediment into waterbody containing pollutants, contaminants or sediment potentially decreasing water quality (chemicals or physico-elements) a small amount temporarily (short-term). INNS management leads to a small change in channel bed/banks structure potentially reducing river condition temporarily (short-term). A potentially small change in land drainage temporarily (short-term) as a result of compaction at stockpiles leading to further run off.	Water quality monitoring (during construction) and subsequent remedial activities where these are required Proposed tertiary mitigation includes silt traps; Use of impermeable bases, bunds, and temporary covering of exposed material.
Main Rivers (Hydromorphology; moderate) Mead Lake Ditch	Runnymede Channel	Bed lowering	Negative Bed lowering potentially resulting in a medium change to structure of watercourse resulting in permanent hydromorphological change to flow dynamics and sediment processes. Potential release of sediment leading to deposition downstream permanently changing bed structure.	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. Primary mitigation is embedded within the design of the Runnymede channel which includes new areas of bed, replacing any lost and also includes additional enhancements to provide additional habitat. The design of the channel in addition to augmented flow will provide flow to enable hydromorphological processes.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Main Rivers (Water supply; high) Abbey River	Priority areas for habitat creation, enhancement or mitigation; Spelthorne Channel; Temporary materials processing sites	Aquatic INNS/pathogen management; Movement of construction vehicles, equipment and operatives (on site); Use of excavated material on-site; Material excavation (contaminated); Bed lowering; Temporary stockpiling of materials	Negative Excavation/bed lowering on Abbey River or run off containing contaminated or silt laden materials leading to potentially a small temporary (short-term) hydromorphological change resulting in increased turbidity/sediment and water quality change resulting in potentially a small temporary (short-term) poorer quality for abstraction.	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. Proposed tertiary mitigation includes use of silt traps or other alternatives to prevent or capture sediments or pollutant leakage into watercourse would be included with the Construction Environmental Management Plan.
Main Rivers (Recreation; high) Abbey River	Runnymede Channel; Temporary materials processing sites; Priority areas for habitat creation, enhancement or mitigation	Movement of construction vehicles, equipment and operatives (on site); Material excavation (contaminated); Bed lowering; Temporary stockpiling of materials; Aquatic INNS/pathogen management; Use of excavated material on-site	Negative Potentially a small temporary (short-term) hydromorphological change resulting in increased turbidity/sediment such as from run-off and leaching from placed materials or alteration to flow regime Potentially a small temporary (short-term) water quality change resulting in poorer quality for in water activities. INNS management leads to a small change in channel bed/banks structure potentially temporarily (short-term) reducing river condition.	Water quality monitoring (during construction) and subsequent remedial activities where these are required Mitigation the same as for water quality and hydromorphology.
Main Rivers (Surface Water Dependent Habitat) (very High) The Moat; Chertsey Bourne	Runnymede Channel; Spelthorne Channel; Priority areas for habitat creation, enhancement or mitigation; Temporary materials processing sites	Aquatic INNS/pathogen management; Temporary stockpiling of materials	Negative Ground compaction at stockpiles potentially leading to further sediment laden run off from stockpiles entering water body or during INNS management leads to potential a small change in bed/banks structure reducing condition or flows which support habitat/species temporarily (short-term). Stockpile run off or INNS management leads to a small potential decline in water quality temporarily (short-term).	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan Proposed tertiary mitigation includes use of silt traps or other alternatives to prevent or capture sediments or pollutant leakage into watercourse would be included with the Construction environment Management Plan.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Main Rivers (Recreation; high) Chertsey Bourne	Temporary materials processing sites	Temporary stockpiling of materials	Negative Potentially a small temporary (short-term) hydromorphological change resulting in increased turbidity/sediment or flow regime. Potentially a small temporary (short-term) water quality change resulting in poorer quality for in water activities.	Water quality monitoring (during construction) and subsequent remedial activities where these are required Mitigation the same as for water quality and hydromorphology.
Ordinary Watercourses (Water supply; high) Burway Ditch	Priority areas for habitat creation, enhancement or mitigation; Runnymede Channel; Temporary materials processing sites	Use of excavated material on-site; Aquatic INNS/pathogen management; Temporary stockpiling of materials	Negative Excavated or run off material from use of contaminated materials potentially leading to a small alteration of water quality, quantity and hydromorphological characteristics temporarily (short-term) which supports a water dependent habitat. INNS management leads to a small change in channel bed/banks structure potentially reducing river condition temporarily (short-term).	Water quality monitoring (during construction) and subsequent remedial activities where these are required Mitigation the same as for water quality and hydromorphology. Further mitigation if required is yet to be identified.
Main Rivers (Water supply; high) The Chap	Priority areas for habitat creation, enhancement or mitigation; Spelthorne Channel	Aquatic INNS/pathogen management; Use of excavated material on-site; Material excavation (contaminated)	Negative Excavation or run off material containing contaminated or silt laden materials leading to potentially a small temporary (short-term) hydromorphological change resulting in increased turbidity/sediment and water quality change resulting in potentially a small temporary (short-term) poorer quality for abstraction.	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. Proposed tertiary mitigation includes use of silt traps or other alternatives to prevent or capture sediments or pollutant leakage into watercourse would be included with the Construction Environmental Management Plan.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Main Rivers (Recreation; high) The Chap	Priority areas for habitat creation, enhancement or mitigation; Spelthorne Channel	Use of excavated material on-site; Material excavation (contaminated)	Negative Potentially a small temporary (short-term) hydromorphological change resulting in increased turbidity/sediment such as from run-off and leaching from placed materials or alteration to flow regime Potentially a small temporary (short-term) water quality change resulting in poorer quality for in water activities.	Water quality monitoring (during construction) and subsequent remedial activities where these are required Mitigation the same as for water quality and hydromorphology.
Main Rivers (Water quality; high) Colne Brook	Priority areas for habitat creation, enhancement or mitigation; Runnymede Channel; Spelthorne Channel	Use of excavated material on-site; Movement of construction vehicles, equipment and operatives (on site)	Negative Potential release of water or sediment into waterbody containing pollutants, contaminants or sediment potentially decreasing water quality (chemicals or physico-elements) a small amount temporarily (short-term).	Water quality monitoring (during construction) and subsequent remedial activities where these are required Proposed tertiary mitigation includes silt traps; Use of impermeable bases, bunds, and temporary covering of exposed material.
Main Rivers (Surface Water Dependent Habitat) (very High) Colne Brook; Bonehead Ditch; Wraysbury River	Priority areas for habitat creation, enhancement or mitigation; Spelthorne Channel; Runnymede Channel	Use of excavated material on-site; Movement of construction vehicles, equipment and operatives (on site)	Negative Potential small temporary (short-term) alteration of water quality and hydromorphological characteristics which supports a water dependent habitat.	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. Proposed tertiary mitigation includes use of silt traps or other alternatives to prevent or capture sediments or pollutant leakage into watercourse would be included with the Construction Environmental Management Plan.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Main Rivers (Water supply; high) County Ditch	Priority areas for habitat creation, enhancement or mitigation	Aquatic INNS/pathogen management; Movement of construction vehicles, equipment and operatives (on site); Use of excavated material on-site	Negative Run off containing contaminated or silt laden materials leading to potentially a small temporary (short-term) hydromorphological change resulting in increased turbidity/sediment and water quality change resulting in potentially a small temporary (short-term) poorer quality for abstraction.	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. Proposed tertiary mitigation includes use of silt traps or other alternatives to prevent or capture sediments or pollutant leakage into watercourse would be included with the Construction Environmental Management Plan.
Main Rivers (Recreation; high) County Ditch; River Mole	Priority areas for habitat creation, enhancement or mitigation; Runnymede Channel; Spelthorne Channel	Use of excavated material on-site; Movement of construction vehicles, equipment and operatives (on site)	Negative Potentially a small temporary (short-term) hydromorphological change resulting in increased turbidity/sediment or flow regime. Potentially a small temporary (short-term) water quality change resulting in poorer quality for in water activities	Water quality monitoring (during construction) and subsequent remedial activities where these are required Mitigation the same as for water quality and hydromorphology.
Main Rivers (Surface Water Dependent Habitat) (very High) River Colne; River Ash	Runnymede Channel; Spelthorne Channel	Movement of construction vehicles, equipment and operatives (on site)	Negative Potential small temporary (short-term) alteration of water quality and hydromorphological characteristics which supports a water dependent habitat.	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. Proposed tertiary mitigation includes use of silt traps or other alternatives to prevent or capture sediments or pollutant leakage into watercourse would be included with the Construction environment Management Plan.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Main Rivers (Surface Water Dependent Habitat) (very High) Wraysbury River	Runnymede Channel; Spelthorne Channel; Priority areas for habitat creation, enhancement or mitigation	Aquatic INNS/pathogen management	Negative INNS management leads to a change in bed/banks structure potentially reducing condition or flows a small amount temporarily (short-term) which support habitat/species; INNS management leads to potentially small decline in water quality temporarily (short-term).	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan; Water quality monitoring (during construction) and subsequent remedial activities where these are required
Ordinary Watercourses (Water supply; high) Engine River	Priority areas for habitat creation, enhancement or mitigation	Use of excavated material on-site	Negative Potential run off from material use containing contaminants or sediment laden which may have a small effect to hydromorphology or water quality available for abstraction temporarily (short-term).	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. Proposed tertiary mitigation includes use of silt traps or other alternatives to prevent or capture sediments or pollutant leakage into watercourse would be included with the Construction environment Management Plan.
Main Rivers (Recreation; high) River Ash	Spelthorne Channel; Runnymede Channel	Movement of construction vehicles, equipment and operatives (on site)	Negative Potentially a small temporary (short-term) hydromorphological change resulting in increased turbidity/sediment or flow regime. Potentially a small temporary (short-term) water quality change resulting in poorer quality for in water activities.	Water quality monitoring (during construction) and subsequent remedial activities where these are required Mitigation the same as for water quality and hydromorphology.
Main Rivers (Hydromorphology; high) River Mole	Priority areas for habitat creation, enhancement or mitigation	Aquatic INNS/pathogen management	Negative INNS management leads to a small change in channel bed/banks structure potentially reducing river condition temporarily (short-term).	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan There will be monitoring for the spread and implementation of any required treatment measures to avoid colonisation. These are to be identified and developed as required.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Chobham Bagshot Beds Aquifer Chobham Bagshot Beds	Runnymede Channel; Spelthorne Channel	Material excavation (contaminated)	Negative Potential localised temporary (short-term) migration of contaminated water into the groundwater body resulting in aquifer contamination which will be a small effect. Potential creation of new pathways or barriers for the migration of groundwater resulting in small, localised and temporary (short-term) alteration of groundwater levels.	Water quality monitoring (during construction) and subsequent remedial activities where these are required Ground investigation will aid with development of secondary mitigation. Further mitigation to be determined pending Hydrogeological Risk Assessment.
Chobham Bagshot Beds Aquifer Chobham Bagshot Beds	Runnymede Channel; Spelthorne Channel	Sheet piling	Negative Potential creation of new pathways or barriers for the migration of groundwater resulting in small, localised and temporary (short-term) alteration of groundwater levels. These new/altered pathways leading to potential localised temporary (short-term) migration of contaminated water into the groundwater body resulting in aquifer contamination which will be a small effect.	Water quality monitoring (during construction) and subsequent remedial activities where these are required Ground investigation results will aid with development of secondary mitigation. Further mitigation to be determined pending Hydrogeological Risk Assessment.
Chobham Bagshot Beds Aquifer: Groundwater Dependent Habitat (Very high) Dumsey Meadow SSSI	Runnymede Channel; Spelthorne Channel	Sheet piling	Negative Potential temporary (short-term) small risk of migration of contaminated water into GWDTEs from sheet piling creating a new pathway or excavated materials containing contaminants leading to small risk of migration into GWDTE through groundwater. Potential temporary (short-term) small loss of groundwater supply to GWDTEs due to sheet piling altering or creating a barrier for groundwater flows.	Water quality monitoring (during construction) and subsequent remedial activities where these are required Ground investigations including land fill investigation and sediment sampling to aid with development of secondary mitigation. Further mitigation to be determined pending Hydrogeological Risk Assessment

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Chobham Bagshot Beds Aquifer: Groundwater Dependent Habitat (Very high) Dumsey Meadow SSSI	Runnymede Channel; Spelthorne Channel	Material excavation (contaminated)	Negative Potential temporary (short-term) small risk of migration of contaminated water into GWDTEs from excavations creating a new pathway or excavated materials containing contaminants leading to small risk of migration into GWDTE through groundwater. Potential temporary (short-term) small loss of groundwater supply to GWDTEs due to excavations altering or creating a barrier for groundwater flows.	Water quality monitoring (during construction) and subsequent remedial activities where these are required Ground investigations including land fill investigation and sediment sampling to aid with development of secondary mitigation. Further mitigation to be determined pending Hydrogeological Risk Assessment.
Lower Thames Gravels Aquifer Lower Thames Gravels	Runnymede Channel; Spelthorne Channel	Material excavation (contaminated)	Negative Potential localised temporary (long-term) migration of contaminated water into the groundwater body resulting in aquifer contamination which will be a small effect. Potential creation of new pathways or barriers for the migration of groundwater (including lateral movements) resulting in small, localised and temporary (long-term) alteration of groundwater levels.	Water quality monitoring (during construction) and subsequent remedial activities where these are required Ground investigation results will aid with development of secondary mitigation. Ground investigations will include: GI, site survey, detailed assessment. Further focused groundwater study of the coupled surface water and groundwater dynamic model output will provide further assessment of effects which will be included in the Environmental Statement. Further mitigation to be determined pending Hydrogeological Risk Assessment.
Lower Thames Gravels Aquifer Lower Thames Gravels	Runnymede Channel; Spelthorne Channel	Sheet piling	Negative Potential localised temporary (long-term) migration of contaminated water into the groundwater body resulting in aquifer contamination which will be a small effect. Potential creation of new pathways or barriers for the migration of groundwater (including lateral movements) resulting in small, localised and temporary (long-term) alteration of groundwater levels.	Water quality monitoring (during construction) and subsequent remedial activities where these are required Ground investigation results will aid with development of secondary mitigation. Ground investigations will include: GI, site survey, detailed assessment. Further focused groundwater study of the coupled surface water and groundwater dynamic model outputs will provide further assessment of effects which will be included in the Environmental Statement. Further mitigation to be determined pending Hydrogeological Risk Assessment.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Lower Thames Gravels Aquifer: Groundwater Dependent Habitat (Very High) Staines Moor SSSI; Thorpe Hay Meadows SSSI; Wraysbury and Hythe End Gravel Pits SSSI Langham Pond SSSI	Runnymede Channel; Spelthorne Channel	Sheet piling	Negative Potential temporary (short-term) small risk of migration of contaminated water into GWDTEs from sheet piling creating a new pathway or excavated materials containing contaminants leading to small risk of migration into GWDTE through groundwater. Potential temporary (short-term) small loss of groundwater supply to GWDTEs due to sheet piling altering or creating a barrier for groundwater flows.	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. Ground investigation results will aid with development of secondary mitigation. Ground investigations will include: GI, site survey, detailed assessment. Further focused groundwater study of The coupled surface water and groundwater dynamic model outputs will provide further assessment of effects which will be included in the Environmental Statement.
Lower Thames Gravels Aquifer: Groundwater Dependent Habitat (Very High) Staines Moor SSSI; Thorpe Hay Meadows SSSI; Wraysbury and Hythe End Gravel Pits SSSI Langham Pond SSSI	Runnymede Channel; Spelthorne Channel	Material excavation (contaminated)	Negative Potential temporary (short-term) small risk of migration of contaminated water into GWDTEs from excavated materials containing contaminants leading to small risk of migration into GWDTE through groundwater.	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. Ground investigation will aid with development of secondary mitigation. Ground investigations will include: GI, site survey, detailed assessment. Further focused groundwater study of the coupled surface water and groundwater dynamic model outputs will provide further assessment of effects which will be included in the Environmental Statement..
All receptors TBC	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 temporarily (short-term).	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 Summary Table

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Main Rivers (Water quality; high) River Thames - Egham to Teddington	Chertsey Weir fish passage; Beasley's Ait fish passage; Sunbury Weir; Molesey Weir; Teddington Weir; Runnymede Channel; Spelthorne Channel	Fish passage ; New/enhanced habitat (aquatic)	Positive The installation of multi-species fish passes (primary mitigation) at five locations represents an permanent improvement in fish passage from the baseline. It is also possible that the works may lead to the creation of new weir pools due to capacity improvements at Teddington and Sunbury set away from the existing weirs so potential for new erosional and deposition features to establish. Potential for within class improvement to WFD elements	No secondary mitigation required as the effect is positive.
Main Rivers (Water quality; high) River Thames - Egham to Teddington	Runnymede Channel; Spelthorne Channel; Flow Control Structures	Existence of the flood channel and other components; Introduction of augmented flow	Negative Mixing of water and sediment into water body from other (previously not connected) water bodies containing pollutants, contaminants or sediment potentially leading to a medium permanent decrease in water quality (chemicals or physico-elements). Loss of water creating a depleted reach potentially permanently affecting water quality.	Water quality monitoring (during operation) and subsequent remedial activities where these are required Additional monitoring as part of on-going management of augmented flow.
Main Rivers (Water supply; very high) River Thames - Egham to Teddington	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components; Introduction of augmented flow	Negative Entry of River Thames water into previously unconnected waterbodies potentially permanently altering water quality and subsequent discharge back into River Thames further downstream leading to potentially permanently altering water quality chemicals and physico-chem elements. Potentially permanently reduced volume of water available for abstraction within depleted reach.	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. Discussions with Thames and Affinity Water will form part of the design of the drought/low flow scenario assessment and will include consideration of turbidity. We will commit to further secondary mitigation if monitoring suggests it is needed/necessary and thus identify and implement redial actions.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Main Rivers (Water supply; very high) River Thames - Egham to Teddington	Runnymede Channel; Spelthorne Channel	Introduction of augmented flow	Negative Creation of a depleted reach potentially permanently reducing water supply and quality for potable abstraction into reservoirs.	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. Ongoing modelling studies and consultation with Water Companies to aid with assessment of effects and development of secondary mitigation.
Main Rivers (Hydromorphology; moderate) River Thames - Egham to Teddington	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Introduction of augmented flow; Existence of the flood channel and other components	Negative Reduction in flow creating a depleted reach within the water body leading to a potential large permanent change to structure of the bed due to change in flows altering erosion and deposition patterns.	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. Further engagement with Water Companies and further modelling work undertaken to identify and develop any further mitigations which may include weir pool enhancements and macrophyte planting.
Main Rivers (Surface Water Dependent Habitat) (High) River Thames - Egham to Teddington	Sunbury Weir; Molesey Weir; Teddington Weir; Bed lowering downstream of Desborough Cut; Flow Control Structures; Chertsey Weir fish passage; Runnymede Channel; Spelthorne Channel	Existence of the flood channel and other components	Negative Potential small permanent alteration of water quality, quantity and hydromorphological characteristics which supports a water dependent habitat. Creation of a depleted reach.	Water quality monitoring (during operation) and subsequent remedial activities where these are required Ongoing investigations to aid with development of secondary mitigation in order to refine magnitude of impacts and reduce significance on receptor.
Main Rivers (Surface Water Dependent Habitat) (High) River Thames - Egham to Teddington	Runnymede Channel	New/enhanced habitat (aquatic)	Positive Provision of habitat improvement leading to potentially permanent small water quality and hydromorphology improvements in surface water dependent habitats leading to potential within class improvement to WFD elements	No secondary mitigation required as the effect is positive.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Main Rivers (Recreation; High) River Thames - Egham to Teddington	Chertsey Weir fish passage; Molesey Weir; Spelthorne Channel; Sunbury Weir; Teddington Weir	Fish passage	Positive Potential small benefit for recreation as a result of improved fish movement within main rivers	No secondary mitigation required as the effect is positive.
Main Rivers (Recreation; high) River Thames - Egham to Teddington	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components; Introduction of augmented flow	Negative A potentially medium permanent alteration of water quality, quantity and hydromorphological characteristics (creating a depleted reach) as a result of the augmentation flow affecting use.	Water quality monitoring (during operation) and subsequent remedial activities where these are required Primary mitigation applied. Additional monitoring as part of on-going management of augmented flow.
Main Rivers (Water quality; high) Mead Lake Ditch	Runnymede Channel; Spelthorne Channel; Flow Control Structures	Existence of the flood channel and other components	Negative Mixing of water and sediment into water body from other (previously not connected) water bodies containing pollutants, contaminants or sediment potentially leading to a medium permanent decrease in water quality (chemicals or physico-elements).	Water quality monitoring (during operation) and subsequent remedial activities where these are required Additional monitoring as part of on-going management of augmented flow.
Main Rivers (Water quality; high) Mead Lake Ditch	Spelthorne Channel; Runnymede Channel	Channel maintenance to restore design profile	Negative Mixing of water and sediment into water body from excavations containing pollutants, contaminants or sediment potentially leading to a small temporary (short-term) decrease in water quality (chemicals or physico-elements)	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. Proposed tertiary mitigation includes use of silt traps or other alternatives to prevent or capture sediments or pollutant leakage into watercourse would be included within the Construction Environmental Management Plan.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Main Rivers (Hydromorphology; moderate) Mead Lake Ditch	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Negative Large section of watercourse lost to Runnymede Channel resulting in large potential permanent loss of natural bed/banks, morphological features, sediment processes, flow regime.	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.
Main Rivers (Surface Water Dependent Habitat) (Moderate) Mead Lake Ditch; Abbey River; Pool End Ditch	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Negative A potentially medium permanent alteration of water quality, quantity and hydromorphological characteristics which supports a water dependent habitat.	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. Ground investigation results will aid with development of secondary mitigation.
Main Rivers (Recreation; low) Mead Lake Ditch	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Positive A potentially large permanent alteration of water quality, quantity and hydromorphological characteristics as a result of the augmentation flow affecting use	No secondary mitigation required as the effect is positive.
Main Rivers (Water quality; moderate) Abbey River	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components; Introduction of augmented flow	Negative Entry of River Thames water into previously unconnected waterbodies potentially permanently altering water quality may have a medium effect. Connection to groundwater is likely to permanently change within the Abbey River due to alterations to the flow regime as a result of the project and modification to the existing channel at the channel intersection. However in the vicinity of the Abbey River, changes to groundwater flows will predominantly be a result of the operation of the flood channel.	Water quality monitoring (during operation) and subsequent remedial activities where these are required Abbey river improvements. Focused groundwater study of the coupled surface water and groundwater dynamic model outputs will provide further assessment of effects which will be included in the Environmental Statement.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Main Rivers (Water quality; moderate) Abbey River; Pool End Ditch	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic)	Positive Direct Potential small permanent benefit to water quality elements from habitat improvement resulting in within class improvement to WFD elements	No secondary mitigation required as the effect is positive.
Main Rivers (Water supply; high) Abbey River	Flow Control Structures; Runnymede Channel; Spelthorne Channel	Existence of the flood channel and other components	Negative A potentially small permanent alteration of water quality, quantity and hydromorphological characteristics as a result of the augmentation flow	Water quality monitoring (during operation) and subsequent remedial activities where these are required Mitigation will be the same as for hydromorphology and water quality.
Main Rivers (Hydromorphology; moderate) Abbey River	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Negative Abbey River severed by Runnymede Channel resulting in flow control which would potentially permanently reduce natural dynamic flow changes leading to medium change in sediment characteristics and channel morphology features.	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. The Abbey river improvements specific detailed design is to be confirmed as further site survey is completed and design develops.
Main Rivers (Recreation; high) Abbey River	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Negative A potentially medium permanent alteration of water quality, quantity and hydromorphological characteristics as a result of the augmentation flow affecting use	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
Ordinary Watercourses (Water supply; high) Burway Ditch	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components; Introduction of augmented flow	Negative Entry of River Thames water into previously unconnected waterbodies potentially permanently altering water quality and subsequent discharge back into River Thames further downstream leading to potentially permanently altering water quality chemicals and physico-chem elements is expected to be a small.	Water quality monitoring (during operation) and subsequent remedial activities where these are required Burway ditch is part of Abbey River catchment. Abbey river improvement will provide some mitigation, any further is to be determined pending geomorphological reconnaissance survey.
Ordinary Watercourses (Hydromorphology; moderate) Burway Ditch	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Negative Burway Ditch is severed and incorporated into Runnymede Channel resulting in a permanent potentially medium loss of morphological features, natural bed/banks, riparian zone. Permanent loss of river condition but no likely loss of wfd quality.	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. Burway ditch is part of Abbey River catchment. Abbey river improvement will provide some mitigation, any further is to be determined pending geomorphological reconnaissance survey which will be embedded into the design.
Main Rivers (Water quality; moderate) Pool End Ditch	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components; Introduction of augmented flow	Negative Entry of River Thames water into previously unconnected waterbodies potentially permanently altering water quality and subsequent discharge back into River Thames further downstream leading to potentially permanently altering water quality chemicals and physico-chem elements is expected to have a large effect.	Water quality monitoring (during operation) and subsequent remedial activities where these are required Riparian enhancements in pool end ditch.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Still Waters (Water quality; very high) Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake)	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to a potentially large permanent changing lake chemistry and quality.	Water quality monitoring (during operation) and subsequent remedial activities where these are required Design of in-channel habitat and riparian zones will continue to be developed as part of the EIA. The need for this mitigation will be considered as the design and assessment work continues to progress as part of the EIA, and any secondary mitigation developed will be reported in the Environmental Statement. The need for any further specific mitigation will be considered as water quality monitoring at operational stage progresses.
Still Waters (Water quality; very high) Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake)	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic); New/enhanced habitat (terrestrial)	Positive Habitat enhancement works leading to permanent within (WFD element) class improvements in water quality	No secondary mitigation required as the effect is positive.
Still Waters (Hydromorphology; very high) Lake South of Green Lane; Lake South of Norlands Lane 1; Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake); Abbey 2; Littleton East	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with lake water containing sediment and introduction of new flow leading to a potentially large permanent change in residence times, flow characteristics, water levels, structure and substrate of lake bed.	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.
Still Waters (Hydromorphology; very high) Lake South of Green Lane; Lake South of Norlands Lane 1; Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake); Abbey 2	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic); New/enhanced habitat (terrestrial)	Positive Habitat enhancement works leading to large scale permanent enhancements / improvements to existing hydromorphology features or lake processes, but may require ongoing management.	No secondary mitigation required as the effect is positive.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Still Waters (Surface Water Dependent Habitat; Very high) Lake South of Green Lane; Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake); Littleton East; Sheepwalk West 2; Ferry Lane Lake	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Augmented flow leading to mixing of River Thames water with the lake water which may contain sediment, pollutants, and nutrients leading to a large permanent change in lake chemistry, quality, turbidity and morphology potentially resulting in a large permanent change in residence time, water quality and hydromorphology. Operation in flood events may exacerbate this influx of pollutants.	Water quality monitoring (during operation) and subsequent remedial activities where these are required Design of in-channel habitat and riparian zones will continue to be developed as part of the EIA. The need for this mitigation will be considered as the design and assessment work continues to progress as part of the EIA, and any secondary mitigation developed will be reported in the Environmental Statement. The need for any further specific mitigation will be considered as water quality monitoring at operational stage progresses.
Still Waters (Surface Water Dependent Habitat; Very high) Lake South of Green Lane; Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake)	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic); New/enhanced habitat (terrestrial)	Positive Habitat enhancement works leading to permanent large scale enhancements / improvements to water quality and existing hydromorphology features or lake processes, but may require ongoing management.	No secondary mitigation required as the effect is positive.
Still Waters (Recreation; high) Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake); Littleton North; Sheepwalk West 2; Ferry Lane Lake	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to a potentially large permanent change in lake chemistry, quality, turbidity and morphology leading to a large permanent change for recreational users or availability for use. Weed/algal/ growth changes which could specifically affect in water usage.	Water quality monitoring (during operation) and subsequent remedial activities where these are required Design of in-channel habitat and riparian zones will continue to be developed as part of the EIA. The need for this mitigation will be considered as the design and assessment work continues to progress as part of the EIA, and any secondary mitigation developed will be reported in the Environmental Statement. The need for any further specific mitigation will be considered as water quality monitoring at operational stage progresses.
Still Waters (Recreation; high) Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake); Abbey 2; Littleton North; Sheepwalk West 2; Ferry Lane Lake	Sunbury Weir; Teddington Weir; Molesey Weir; Flow Control Structures	Fish passage	Positive Fish passage enabling permanent freer movement of fish resulting in increased areas for use/enabling greater use	No secondary mitigation required as the effect is positive.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Still Waters (Hydromorphology; very high) Abbey 1; Littleton South; Sheepwalk East (F)	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with lake water containing sediment and introduction of new flow leading to a potentially medium permanent change in residence times, flow characteristics, water levels, structure and substrate of lake bed.	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.
Still Waters (Surface Water Dependent Habitat; Very high) Abbey 1	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Augmented flow leading to mixing of River Thames water with the lake water which may contain sediment, pollutants, and nutrients leading to a medium permanent change in lake chemistry, quality, turbidity and morphology potentially resulting in a medium permanent change in residence time, water quality and hydromorphology. Operation in flood events may exacerbate this influx of pollutants.	Water quality monitoring (during operation) and subsequent remedial activities where these are required Design of in-channel habitat and riparian zones will continue to be developed as part of the EIA. The need for this mitigation will be considered as the design and assessment work continues to progress as part of the EIA, and any secondary mitigation developed will be reported in the Environmental Statement. The need for any further specific mitigation will be considered as water quality monitoring at operational stage progresses.
Still Waters (Water quality; moderate) Lake South of Green Lane; Lake South of Norlands Lane 1; Abbey 2; Littleton North; Littleton East; Sheepwalk West 2; Ferry Lane Lake	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to a potentially large permanent changing lake chemistry and quality.	Water quality monitoring (during operation) and subsequent remedial activities where these are required Design of in-channel habitat and riparian zones will continue to be developed as part of the EIA. The need for this mitigation will be considered as the design and assessment work continues to progress as part of the EIA, and any secondary mitigation developed will be reported in the Environmental Statement. The need for any further specific mitigation will be considered as water quality monitoring at operational stage progresses.
Still Waters (Water quality; moderate) Lake South of Green Lane; Lake South of Norlands Lane 1; Abbey 2; Littleton North; Littleton East; Sheepwalk West 2; Ferry Lane Lake	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic); New/enhanced habitat (terrestrial)	Positive Habitat enhancement works leading to permanent within (WFD element) class improvements in water quality	No secondary mitigation required as the effect is positive.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Still Waters (Water Supply; Moderate) Abbey 2; Penton Hook Marina; Littleton North; Littleton South; Littleton East; Sheepwalk East (F); Sheepwalk West 1; Sheepwalk West 2; Sheepwalk West 3; Ferry Lane Lake	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to a potentially small permanent changing lake chemistry, quality or turbidity leading to a very small change in deployable output	Water quality monitoring (during operation) and subsequent remedial activities where these are required Effects are still to be determined. Further mitigation will be developed where required.
Still Waters (Surface Water Dependent Habitat; Moderate) Lake South of Norlands Lane 1; Abbey 2; Littleton North	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic); New/enhanced habitat (terrestrial)	Positive Habitat enhancement works leading to permanent large scale enhancements / improvements to water quality and existing hydromorphology features or lake processes, but may require ongoing management.	No secondary mitigation required as the effect is positive.
Still Waters (Recreation; Very High) Abbey 2; Littleton East	Sunbury Weir; Teddington Weir; Molesey Weir; Flow Control Structures	Fish passage	Positive Fish passage enabling freer movement of fish resulting in increased areas for use/enabling greater use	No secondary mitigation required as the effect is positive.
Still Waters (Hydromorphology; high) Littleton North; Sheepwalk West 2; Ferry Lane Lake	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with lake water containing sediment and introduction of new flow leading to a potentially large permanent change in residence times, flow characteristics, water levels, structure and substrate of lake bed.	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.
Still Waters (Hydromorphology; high) Littleton North	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic); New/enhanced habitat (terrestrial)	Positive Habitat enhancement works leading to large scale permanent enhancements / improvements to existing hydromorphology features or lake processes, but may require ongoing management.	No secondary mitigation required as the effect is positive.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Still Waters (Surface Water Dependent Habitat; Moderate) Lake South of Norlands Lane 1; Abbey 2; Littleton North	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Augmented flow leading to mixing of River Thames water with the lake water which may contain sediment, pollutants, and nutrients leading to a large permanent change in lake chemistry, quality, turbidity and morphology potentially resulting in a large permanent change in residence time, water quality and hydromorphology. Operation in flood events may exacerbate this influx of pollutants.	Water quality monitoring (during operation) and subsequent remedial activities where these are required Design of in-channel habitat and riparian zones will continue to be developed as part of the EIA. The need for this mitigation will be considered as the design and assessment work continues to progress as part of the EIA, and any secondary mitigation developed will be reported in the Environmental Statement. The need for any further specific mitigation will be considered as water quality monitoring at operational stage progresses.
Still Waters (Hydromorphology; very high) Littleton East	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic); New/enhanced habitat (terrestrial)	Positive Habitat enhancement works leading to localised / small scale permanent improvements in hydromorphology features or lake processes	No secondary mitigation required as the effect is positive.
Still Waters (Surface Water Dependent Habitat; Very high) Littleton East	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic); New/enhanced habitat (terrestrial)	Positive Habitat enhancement works leading to permanent small scale enhancements / improvements to existing hydromorphology features or lake processes, but may require ongoing management alongside minimal improvement in water quality	No secondary mitigation required as the effect is positive.
Still Waters (Water quality; moderate) Sheepwalk East (F); Sheepwalk West 1; Sheepwalk West 3	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to a potentially medium permanent changing lake chemistry and quality.	Water quality monitoring (during operation) and subsequent remedial activities where these are required Design of in-channel habitat and riparian zones will continue to be developed as part of the EIA. The need for this mitigation will be considered as the design and assessment work continues to progress as part of the EIA, and any secondary mitigation developed will be reported in the Environmental Statement. The need for any further specific mitigation will be considered as water quality monitoring at operational stage progresses.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Still Waters (Surface Water Dependent Habitat; Very high) Littleton South; Sheepwalk East (F); Sheepwalk West 1; Sheepwalk West 3	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Augmented flow leading to mixing of River Thames water with the lake water which may contain sediment, pollutants, and nutrients leading to a small permanent change in lake chemistry, quality, turbidity and morphology potentially resulting in a small permanent change in residence time, water quality and hydromorphology. Operation in flood events may exacerbate this influx of pollutants.	Water quality monitoring (during operation) and subsequent remedial activities where these are required Design of in-channel habitat and riparian zones will continue to be developed as part of the EIA. The need for this mitigation will be considered as the design and assessment work continues to progress as part of the EIA, and any secondary mitigation developed will be reported in the Environmental Statement. The need for any further specific mitigation will be considered as water quality monitoring at operational stage progresses.
Still Waters (Recreation; high) Littleton South; Sheepwalk East (F); Sheepwalk West 1; Sheepwalk West 3	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to a potentially small permanent change in lake chemistry, quality, turbidity and morphology leading to a small permanent change for recreational users or availability for use. Weed/algal/ growth changes which could specifically affect in water usage.	Water quality monitoring (during operation) and subsequent remedial activities where these are required Design of in-channel habitat and riparian zones will continue to be developed as part of the EIA. The need for this mitigation will be considered as the design and assessment work continues to progress as part of the EIA, and any secondary mitigation developed will be reported in the Environmental Statement. The need for any further specific mitigation will be considered as water quality monitoring at operational stage progresses.
Still Waters (Hydromorphology; high) Sheepwalk West 1; Sheepwalk West 3	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with lake water containing sediment and introduction of new flow leading to a potentially medium permanent change in residence times, flow characteristics, water levels, structure and substrate of lake bed.	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
Still Waters (Recreation; Very High) Littleton East	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to a potentially large permanent change in lake chemistry, quality, turbidity and morphology leading to a large permanent change for recreational users or availability for use. Weed/algal/ growth changes which could specifically affect in water usage.	Water quality monitoring (during operation) and subsequent remedial activities where these are required Design of in-channel habitat and riparian zones will continue to be developed as part of the EIA. The need for this mitigation will be considered as the design and assessment work continues to progress as part of the EIA, and any secondary mitigation developed will be reported in the Environmental Statement. The need for any further specific mitigation will be considered as water quality monitoring at operational stage progresses.
Still Waters (Hydromorphology; very high) Penton Hook Marina; Ferry Lane Lake 2; Ferry Lane Lake 3	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with lake water containing sediment and introduction of new flow leading to a potentially small permanent change in residence times, flow characteristics, water levels, structure and substrate of lake bed.	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.
Still Waters (Recreation; low) Lake South of Green Lane; Lake South of Norlands Lane 1; Sheepwalk West 2	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to a potentially large permanent change in lake chemistry, quality, turbidity and morphology leading to a large permanent change for recreational users or availability for use. Weed/algal/ growth changes which could specifically affect in water usage.	Water quality monitoring (during operation) and subsequent remedial activities where these are required Design of in-channel habitat and riparian zones will continue to be developed as part of the EIA. The need for this mitigation will be considered as the design and assessment work continues to progress as part of the EIA, and any secondary mitigation developed will be reported in the Environmental Statement. The need for any further specific mitigation will be considered as water quality monitoring at operational stage progresses.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Still Waters (Water quality; very high) Queen Mary Reservoir (supplied by the Laleham Intake); Queen Elizabeth 2 Storage Reservoir; Knight Reservoir; Bessborough Reservoir	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to a potentially small permanent changing lake chemistry and quality.	Water quality monitoring (during operation) and subsequent remedial activities where these are required Design of in-channel habitat and riparian zones will continue to be developed as part of the EIA. The need for this mitigation will be considered as the design and assessment work continues to progress as part of the EIA, and any secondary mitigation developed will be reported in the Environmental Statement. The need for any further specific mitigation will be considered as water quality monitoring at operational stage progresses.
Still Waters (Water quality; very high) Queen Mary Reservoir (supplied by the Laleham Intake)	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Creation of a depleted reach within the River Thames leading to a small permanent reduced quantity, leading to potentially small adverse effects on sediment processes and dissolved oxygen resulting in a potentially small decline in water quality.	Water quality monitoring (during operation) and subsequent remedial activities where these are required Design of in-channel habitat and riparian zones will continue to be developed as part of the EIA. The need for this mitigation will be considered as the design and assessment work continues to progress as part of the EIA, and any secondary mitigation developed will be reported in the Environmental Statement. The need for any further specific mitigation will be considered as water quality monitoring at operational stage progresses.
Still Waters (Water Supply; high) Queen Mary Reservoir (supplied by the Laleham Intake)	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to a potentially large permanent change in lake chemistry, quality or turbidity leading to change in deployable output	Water quality monitoring (during operation) and subsequent remedial activities where these are required Effects are still to be determined. Further mitigation will be developed where required

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Still Waters (Water Supply; high) Queen Mary Reservoir (supplied by the Laleham Intake)	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Creation of a depleted reach within the River Thames leading to a potentially large permanent decline in water quality and quantity. Likely potential large permanent loss to deployable output of water supply without further intervention from operator.	Water quality monitoring (during operation) and subsequent remedial activities where these are required Effects are still to be determined. Further mitigation will be developed where required
Still Waters (Hydromorphology; very high) Queen Mary Reservoir (supplied by the Laleham Intake)	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Creation of a depleted reach within the River Thames potentially leading to reduced quantity leading to permanent effects on sediment processes resulting in no decline in hydromorphology. Effect is greater during periods of drought or low flows.	Water quality monitoring (during operation) and subsequent remedial activities where these are required Where required, further operational design will be undertaken to mitigate impacts during drought / low flows following additional environmental modelling and monitoring.
Still Waters (Recreation; Very High) Penton Hook Marina	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to a potentially small permanent change in lake chemistry, quality, turbidity and morphology leading to a small change for recreational users or availability for use. Weed/algae/ growth changes which could specifically affect in water usage.	Water quality monitoring (during operation) and subsequent remedial activities where these are required Design of in-channel habitat and riparian zones will continue to be developed as part of the EIA. The need for this mitigation will be considered as the design and assessment work continues to progress as part of the EIA, and any secondary mitigation developed will be reported in the Environmental Statement. The need for any further specific mitigation will be considered as water quality monitoring at operational stage progresses.
Still Waters (Water Quality; Very High) Island Barn Reservoir	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow	Negative Mixing of river and lake water potentially leading to a risk of transfer of INNS and pathogens resulting in a permanent effect on biodiversity quality elements under the WFD.	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan There will be monitoring for the spread and implementation of any required treatment measures to avoid colonisation. These are to be identified and developed as required.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Chobham Bagshot Beds Aquifer Chobham Bagshot Beds	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Negative Potentially a small permanent reduction of water available for public water supply, particularly in droughts / lower flows. Potentially a small permanent turbidity effects on the water quality at abstractive points. During periods of low flows on the Thames the augmentation flow will be adapted to minimise effects from droughts on public water supply. Potential contamination via newly created/alterd pathways at sheet piling. Potential drawdown of groundwater due to presence of new channels.	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. Discussions with Thames and Affinity Water will form part of the design of the drought/low flow scenario assessment and will include consideration of turbidity. Hydrogeological Risk Assessment will also identify requirement for further mitigation.
Chobham Bagshot Beds Aquifer: Groundwater Dependent Habitat (Very high) Dumsey Meadow SSSI	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Positive At Dumsey Meadow, flooding from the River Thames will only occur at 1 in 20yr, rather than 1 in 2yr events. This may result in potentially a permanently reduced risk of groundwater contamination due to the reduced risk of flooding. Groundwater levels may also be lowered permanently a small amount due to reduced risk of flooding at the site.	No secondary mitigation required as effect is positive. Full determination of effects will be possible following on-going site monitoring.
Lower Thames Gravels Aquifer Lower Thames Gravels	Sunbury Weir; Molesey Weir; Teddington Weir; Flow Control Structures; Runnymede Channel; Spelthorne Channel	Existence of the flood channel and other components	Negative Potential for permanent migration of contaminants into aquifer through existing SW/GW connections within lakes which are to become online as part of Runnymede and Spelthorne channel leading to a small permanent change in water quality. Potential permanent saline intrusion at Teddington Weir leading to a small permanent change in water quality. Potential contamination via newly created/alterd pathways at sheet piling. Potential drawdown of groundwater into the new channels.	Water quality monitoring (during operation) and subsequent remedial activities where these are required Ground investigation results will aid with development of secondary mitigation. Further mitigation to be determined pending Hydrogeological Risk Assessment

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Lower Thames Gravels Aquifer: Groundwater Dependent Habitat (Very High) Staines Moor SSSI; Thorpe Hay Meadows SSSI; Wraysbury and Hythe End Gravel Pits SSSI Langham Pond SSSI	Runnymede Channel; Spelthorne Channel; Flow Control Structures	Existence of the flood channel and other components	Negative Potential permanent migration of contaminated water into GWDTEs leading to a small permanent decline in water quality. Potential small permanent loss of groundwater supply to GWDTEs. Potential contamination via newly created/altered pathways at sheet piling.	Water quality monitoring (during operation) and subsequent remedial activities where these are required Site ecological surveys and ground investigations including soil/sediment investigation as part of a Hydrogeological Risk Assessment to aid with assessment of effects and development of secondary mitigation.
Chobham and Bagshot Beds Aquifer: Groundwater Dependent Habitat (Very high) Dumsey Meadow SSSI	Runnymede Channel; Spelthorne Channel; Flow Control Structures	Existence of the flood channel and other components	Negative At Dumsey Meadow, groundwater levels may be permanently lowered due to reduced risk of flooding at the site. Flooding from the River Thames will only occur at 1 in 20yr events, rather than 1 in 2yr events permanently reducing water supply to site.	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. Ground investigation results will aid with development of secondary mitigation.
Transitional Waters (Water Quality) Thames Middle; Thames Upper	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow	Negative Mixing of river and lake water leading to a risk of transfer of INNS and pathogens potentially resulting in a permanent effect on biodiversity quality elements under the WFD.	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan There will be monitoring for the spread and implementation of any required treatment measures to avoid colonisation. These are to be identified and developed as required.
Transitional Waters (Surface water dependent biodiversity) Thames Middle; Thames Upper	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow	Negative Mixing of river and lake water leading to a risk of transfer of INNS and pathogens potentially resulting in a permanent effect on water quality supplying and supporting the water dependent habitats.	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan There will be monitoring for the spread and implementation of any required treatment measures to avoid colonisation. These are to be identified and developed as required.

3 Non-Significant Construction Effects

Table 3: Non-Significant Construction Effects Summary Table

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Main Rivers (Hydromorphology; moderate) River Thames - Egham to Teddington	Runnymede Channel; Temporary materials processing sites	Aquatic INNS/pathogen management; Dewatering / over-pumping of waterbodies; Temporary stockpiling of materials; Demolition of buildings	Negative INNS management leads to a small change in channel bed/banks structure potentially reducing river condition temporarily (short-term). Overpumping resulting in a small change to erosion/deposition features potentially reducing river condition temporarily (short-term). Ground compaction at stockpiles potentially leading to sediment laden runoff from stockpiles enters water body affecting morphology temporarily (short-term) which will be small and localised.	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan There will be monitoring for the spread and implementation of any required treatment measures to avoid colonisation. These are to be identified and developed as required.
Main Rivers (Recreation; high) County Ditch; The Chap; Chertsey Bourne; River Thames - Egham to Teddington; River Mole	Runnymede Channel; Spelthorne Channel; Priority areas for habitat creation, enhancement or mitigation	Aquatic INNS/pathogen management	Negative Potentially a small temporary (short-term) hydromorphological change resulting in increased turbidity/sediment or flow regime. Potentially a small temporary (short-term) water quality change resulting in poorer quality for in water activities. Potentially a small temporary (short-term) reduced water quantity available navigation/recreational use.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Recreation; high) River Thames - Egham to Teddington	Bed lowering downstream of Desborough Cut; Temporary materials processing sites	Bed lowering; Temporary stockpiling of materials	Negative Potentially a small temporary (short-term) hydromorphological change resulting in increased turbidity/sediment or flow regime. Potentially a small temporary (short-term) water quality change resulting in poorer quality for in water activities.	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
Main Rivers (Hydromorphology; low) River Thames - Cookham to Egham	Temporary wharfs (River Thames)	use of temporary wharfs and mobile pontoons	Negative Fine sediment spillage potentially leading to localised excess deposition on the channel bed from mobile pontoons/barges temporarily and locally reducing river condition. Potential flow changes around structure leading to localised changes in erosion and deposition leading to morphological change reducing river condition temporarily (medium-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Surface Water Dependent Habitat) (Moderate) River Thames - Cookham to Egham	Temporary wharfs (River Thames)	use of temporary wharfs and mobile pontoons	Negative Potential release of water or sediment into waterbody containing pollutants, contaminants or sediment decreasing water quality (chemicals or physico-elements) and hydromorphology temporarily (short-term) a small amount.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Water supply; moderate) Named Water Mead Lake Ditch	Priority areas for habitat creation, enhancement or mitigation; Spelthorne Channel; Temporary materials processing sites	Aquatic INNS/pathogen management; Movement of construction vehicles, equipment and operatives (on site); Use of excavated material on-site; Material excavation (contaminated); Bed lowering; Temporary stockpiling of materials	Negative Excavation or changes to drainage due to ground compaction at stockpiles leading to run off containing contaminated or silt laden materials leading to potentially a small temporary (short-term) hydromorphological change resulting in increased turbidity/sediment and water quality change resulting in potentially a small temporary (short-term) poorer quality for abstraction.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Hydromorphology; moderate) Mead Lake Ditch	Runnymede Channel; Temporary materials processing sites	Aquatic INNS/pathogen management; Dewatering / over-pumping of waterbodies; Temporary stockpiling of materials	Negative INNS management leads to a small change in channel bed/banks structure potentially reducing river condition temporarily (short-term). Over-pumping resulting in a small change to erosion/deposition features potentially reducing river condition temporarily (short-term). Ground compaction at stockpiles potentially leading to sediment laden run off from stockpiles entering watercourse potentially changing bed structure temporarily (short-term).	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan There will be monitoring for the spread and implementation of any required treatment measures to avoid colonisation. These are to be identified and developed as required.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Main Rivers (Surface Water Dependent Habitat) (Moderate) County Ditch; Mead Lake Ditch; Abbey River; The Chap; River Mole	Runnymede Channel; Spelthorne Channel; Priority areas for habitat creation, enhancement or mitigation	Use of excavated material on-site; Aquatic INNS/pathogen management	Negative A small potential alteration of water quality, quantity and hydromorphological characteristics which supports a water dependent habitat. INNS management leads to a small change in channel bed/banks structure potentially reducing river condition temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Surface Water Dependent Habitat) (Moderate) County Ditch; River Thames - Cookham to Egham; Mead Lake Ditch; Abbey River; River Mole	Runnymede Channel; Spelthorne Channel	Movement of construction vehicles, equipment and operatives (on site)	Negative A small potential alteration of water quality and hydromorphological characteristics which supports a water dependent habitat temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Surface Water Dependent Habitat) (Moderate) Mead Lake Ditch; Abbey River; The Chap	Runnymede Channel; Spelthorne Channel	Material excavation (contaminated)	Negative Excavation within landfill releasing contaminants (leachate) into the watercourse leading to a small potential decline in water quality temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Surface Water Dependent Habitat) (Moderate) Mead Lake Ditch	Runnymede Channel; Spelthorne Channel	Bed lowering	Negative Sediment and contaminants from bed/bank excavations potentially leading to small potential increased turbidity and presence of contaminants causing a small potential decline of water quality temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Recreation; low) Colne Brook; Bonehead Ditch; Wraysbury River; Mead Lake Ditch	Priority areas for habitat creation, enhancement or mitigation; Runnymede Channel; Spelthorne Channel	Use of excavated material on-site; Movement of construction vehicles, equipment and operatives (on site)	Negative Potentially a small temporary (short-term) hydromorphological change resulting in increased turbidity/sediment such as from run-off and leaching from placed materials or alteration to flow regime. Potentially a small temporary (short-term) water quality change resulting in poorer quality for in water activities.	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
Main Rivers (Recreation; low) Wraysbury River; Mead Lake Ditch; The Moat	Runnymede Channel	Aquatic INNS/pathogen management	Negative Potentially a small temporary (short-term) hydromorphological change resulting in increased turbidity/sediment or flow regime. Potentially a small temporary (short-term) water quality change resulting in poorer quality for in water activities. Potentially a small temporary (short-term) reduced water quantity available recreational use. INNS management leads to a small change in channel bed/banks structure temporarily (short-term) reducing river condition.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Recreation; low) Mead Lake Ditch	Runnymede Channel	Bed lowering; Material excavation (contaminated)	Negative Potentially a small temporary (short-term) hydromorphological change resulting in increased turbidity/sediment or flow regime. Potentially a small temporary (short-term) water quality change resulting in poorer quality for in water activities.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Recreation; low) Mead Lake Ditch; The Moat	Temporary materials processing sites	Temporary stockpiling of materials	Negative Potentially a small temporary (short-term) hydromorphological change resulting in increased turbidity/sediment or flow regime. Potentially a small temporary (short-term) water quality change resulting in poorer quality for in water activities.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Water quality; moderate) Abbey River	Priority areas for habitat creation, enhancement or mitigation; Runnymede Channel; Temporary materials processing sites	Use of excavated material on-site; Movement of construction vehicles, equipment and operatives (on site); Material excavation (contaminated); Aquatic INNS/pathogen management; Bed lowering; Temporary stockpiling of materials	Negative Potential release of water or sediment into waterbody containing pollutants, contaminants or sediment potentially decreasing water quality (chemicals or physico-elements) a small amount temporarily (short-term). INNS management leads to a small change in channel bed/banks structure potentially reducing river condition temporarily (short-term).	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
Main Rivers (Hydromorphology; moderate) Abbey River	Runnymede Channel; Temporary materials processing sites	Aquatic INNS/pathogen management; Dewatering / over-pumping of waterbodies; Temporary stockpiling of materials; Bed lowering	Negative INNS management leads to a small change in channel bed/banks structure potentially reducing river condition temporarily (short-term). Overpumping resulting in a small change to erosion/deposition features potentially reducing river condition temporarily (short-term). Ground compaction at stockpiles potentially leading to sediment laden runoff from stockpiles and bed/bank lowering entering water body potentially affecting morphology temporarily (short-term) which will be small and localised.	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan There will be monitoring for the spread and implementation of any required treatment measures to avoid colonisation. These are to be identified and developed as required.
Main Rivers (Surface Water Dependent Habitat) (Moderate) Abbey River	Temporary materials processing sites	Temporary stockpiling of materials	Negative Ground compaction at stockpiles potentially leading to further sediment laden run off from stockpiles entering water body leading to a small potential decline in water quality from increased turbidity and pollutant presence temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Water supply; moderate) The Moat; Chertsey Bourne	Runnymede Channel; Priority areas for habitat creation, enhancement or mitigation; Temporary materials processing sites	Aquatic INNS/pathogen management; Temporary stockpiling of materials	Negative Excavation or changes to drainage due to ground compaction at stockpiles leading to run off containing contaminated or silt laden materials leading to potentially a small temporary (short-term) hydromorphological change resulting in increased turbidity/sediment and water quality change resulting in potentially a small temporary (short-term) poorer quality for abstraction.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Hydromorphology; moderate) Chertsey Bourne	Temporary materials processing sites; Runnymede Channel	Aquatic INNS/pathogen management; Temporary stockpiling of materials	Negative INNS management leads to a small change in channel bed/banks structure potentially reducing river condition temporarily (short-term). Ground compaction at stockpiles potentially leading to sediment laden run off from stockpiles potentially entering watercourse changing bed structure temporarily (short-term).	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan There will be monitoring for the spread and implementation of any required treatment measures to avoid colonisation. These are to be identified and developed as required.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Main Rivers (Hydromorphology; moderate) Chertsey Bourne	Flow Control Structures; Flood embankments and Erosion prevention	Bed lowering	Neutral Bank lowering between Chertsey Bourne and St Ann's will alter profile of channel only at bank full stage, therefore no overall effect. Potential temporary release of sediment during construction however this is above normal water level, and therefore there will be no effect.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Surface Water Dependent Habitat) (very High) Chertsey Bourne	Runnymede Channel; Spelthorne Channel	Bed lowering	Neutral Sediment and contaminants from bed/bank excavations potentially leading to a small potential increased turbidity and presence of contaminants causing a small potential hydromorphological change and a small potential decline of water quality temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required. Additional use of silt traps or other alternatives to prevent or capture sediments or pollutant leakage into watercourse would be included with the Construction Environmental Management Plan.
Ordinary Watercourses (Water quality; low) Burway Ditch	Priority areas for habitat creation, enhancement or mitigation; Runnymede Channel; Temporary materials processing sites	Use of excavated material on-site; Aquatic INNS/pathogen management; Temporary stockpiling of materials	Negative Potential run off from material use containing contaminants or changes to run off due to ground compaction at stockpiles leading to further sediment laden run off which may potentially affect physico-chemical qualities of water body temporarily (short term). INNS management may lead to a small change in channel bed/banks structure potentially reducing river condition temporarily (short-term).	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
Ordinary Watercourses (Hydromorphology; moderate) Burway Ditch	Runnymede Channel; Temporary materials processing sites	Aquatic INNS/pathogen management; Dewatering / over-pumping of waterbodies; Temporary stockpiling of materials; Bed lowering	Negative INNS management leads to a small change in channel bed/banks structure potentially reducing river condition temporarily (short-term). Overpumping resulting in a small change to erosion/deposition features potentially reducing river condition temporarily (short-term). Ground compaction at stockpiles potentially leading to sediment laden runoff from stockpiles enters water body affecting morphology temporarily (short-term) which will be small and localised.	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan There will be monitoring for the spread and implementation of any required treatment measures to avoid colonisation. These are to be identified and developed as required.
Ordinary Watercourses (Surface Water Dependent Habitat; Moderate) Burway Ditch	Temporary materials processing sites; Runnymede Channel; Spelthorne Channel; Priority areas for habitat creation, enhancement or mitigation	Use of excavated material on-site; Aquatic INNS/pathogen management; Temporary stockpiling of materials	Negative Potential for alteration of water quality and hydromorphological characteristics which supports a water dependent habitat leading to potential decline which would be temporary (long-term).	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan There will be monitoring for the spread and implementation of any required treatment measures to avoid colonisation. These are to be identified and developed as required.
Ordinary Watercourses (Recreation; low) Burway Ditch	Priority areas for habitat creation, enhancement or mitigation; Temporary materials processing sites	Use of excavated material on-site; Temporary stockpiling of materials	Negative Hydromorphological change resulting in a small potential temporary (short term) increased turbidity/sediment or a small flow regime change. Potential small water quality change resulting in poorer quality for in water activities temporarily (short term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Hydromorphology; moderate) The Moat	Temporary materials processing sites; Runnymede Channel	Aquatic INNS/pathogen management; Temporary stockpiling of materials	Negative INNS management leads to a small change in channel bed/banks structure potentially reducing river condition temporarily (short-term). Ground compaction at stockpiles potentially leading to sediment laden runoff from stockpiles entering watercourse changing bed structure temporarily (short-term).	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan There will be monitoring for the spread and implementation of any required treatment measures to avoid colonisation. These are to be identified and developed as required.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Main Rivers (Water quality; low) County Ditch; Bonehead Ditch; The Chap	Priority areas for habitat creation, enhancement or mitigation; Runnymede Channel	Use of excavated material on-site; Movement of construction vehicles, equipment and operatives (on site); Aquatic INNS/pathogen management; Material excavation (contaminated)	Negative Potential release of water or sediment into waterbody containing pollutants, contaminants or sediment potentially decreasing water quality (chemicals or physico-elements) a small amount temporarily (short-term). INNS management leads to a small change in channel bed/banks structure potentially reducing river condition temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Hydromorphology; low) The Chap	Temporary materials processing sites; Spelthorne Channel	Aquatic INNS/pathogen management; Bed lowering	Negative INNS management leads to a small change in channel bed/banks structure potentially reducing river condition temporarily (short-term). Sediment laden runoff from bed/bank lowering and HCA construction entering water body potentially affecting morphology temporarily (short-term).	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan There will be monitoring for the spread and implementation of any required treatment measures to avoid colonisation. These are to be identified and developed as required.
Main Rivers (Water supply; moderate) Colne Brook; Bonehead Ditch; Wraysbury River	Priority areas for habitat creation, enhancement or mitigation; Spelthorne Channel; Runnymede Channel	Use of excavated material on-site; Movement of construction vehicles, equipment and operatives (on site)	Negative Excavation/bed lowering on Abbey River or run off containing contaminated or silt laden materials leading to potentially a small temporary (short-term) hydromorphological change resulting in increased turbidity/sediment and water quality change resulting in potentially a small temporary (short-term) poorer quality for abstraction.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Hydromorphology; moderate) County Ditch	Priority areas for habitat creation, enhancement or mitigation	Aquatic INNS/pathogen management	Negative INNS management leads to a small change in channel bed/banks structure potentially reducing river condition temporarily (short-term).	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan There will be monitoring for the spread and implementation of any required treatment measures to avoid colonisation. These are to be identified and developed as required.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Main Rivers (Water supply; moderate) River Colne; River Ash	Spelthorne Channel; Runnymede Channel	Movement of construction vehicles, equipment and operatives (on site)	Negative Run off containing contaminated or silt laden materials leading to potentially a small temporary (short-term) hydromorphological change resulting in increased turbidity/sediment and water quality change resulting in potentially a small temporary (short-term) poorer quality for abstraction.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Recreation; low) River Colne	Spelthorne Channel; Runnymede Channel	Movement of construction vehicles, equipment and operatives (on site)	Negative Potentially a small temporary (short-term) hydromorphological change resulting in increased turbidity/sediment or flow regime. Potentially a small temporary (short-term) water quality change resulting in poorer quality for in water activities.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Water supply; moderate) Wraysbury River; River Mole	Priority areas for habitat creation, enhancement or mitigation; Runnymede Channel; Spelthorne Channel	Aquatic INNS/pathogen management; Movement of construction vehicles, equipment and operatives (on site); Use of excavated material on-site	Negative Excavation or changes to drainage due to ground compaction at stockpiles leading to run off containing contaminated or silt laden materials leading to potentially a small temporary (short-term) hydromorphological change resulting in increased turbidity/sediment and water quality change resulting in potentially a small temporary (short-term) poorer quality for abstraction.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Hydromorphology; moderate) Wraysbury River	Priority areas for habitat creation, enhancement or mitigation	Aquatic INNS/pathogen management	Negative INNS management leads to a small change in channel bed/banks structure potentially reducing river condition temporarily (short-term).	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan There will be monitoring for the spread and implementation of any required treatment measures to avoid colonisation. These are to be identified and developed as required.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Ordinary Watercourses (Water quality; moderate) Engine River	Priority areas for habitat creation, enhancement or mitigation	Use of excavated material on-site	Negative Potential run off from material use containing contaminants or sediment laden which may potentially affect physico-chemical qualities of water body. This will be temporary (short-term) and a small effect.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Ordinary Watercourses (Surface Water Dependent Habitat; Moderate) Engine River	Priority areas for habitat creation, enhancement or mitigation	Use of excavated material on-site	Negative Potential run off from use of contaminated materials potentially leading to alteration of water quality, quantity and hydromorphological characteristics which supports a water dependent habitat leading to potential decline which would be temporary (long-term)..	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Ordinary Watercourses (Recreation; low) Engine River	Runnymede Channel; Spelthorne Channel	Use of excavated material on-site	Negative Hydromorphological change resulting in a small potential temporary (short-term) increased turbidity/sediment such as from run-off and leaching from placed materials or changes to flow regime. Potential small water quality change resulting in poorer quality for in water activities temporarily (short term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Ordinary Watercourses (Water quality; low) (all those named Drain #)	Priority areas for habitat creation, enhancement or mitigation; Temporary materials processing sites; Spelthorne Channel	Use of excavated material on-site; Aquatic INNS/pathogen management; Temporary stockpiling of materials; Movement of construction vehicles, equipment and operatives (on site); Bed lowering	Negative Potential run off from material use or excavations potentially containing contaminants or changes to run off due to ground compaction at stockpiles leading to further sediment laden run off which may potentially affect physico-chemical qualities of water body a small amount temporarily (short-term). INNS management leads to a small change in channel bed/banks structure potentially reducing river condition temporarily (short-term).	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
Ordinary Watercourses (Water supply; moderate) (all those named Drain #)	Priority areas for habitat creation, enhancement or mitigation; Temporary materials processing sites; Runnymede Channel; Spelthorne Channel	Aquatic INNS/pathogen management; Movement of construction vehicles, equipment and operatives (on site); Use of excavated material on-site; Temporary stockpiling of materials	Negative Excavation or run off material containing contaminated or silt laden materials potentially leading to a small hydromorphological change resulting in increased turbidity/sediment and a potential small water quality change resulting in poorer quality water available for abstraction which would be temporary (short-term). INNS management leads to a small change in channel bed/banks structure potentially reducing river condition temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Ordinary Watercourses (Hydromorphology; low) (all those named Drain #)	Runnymede Channel; Temporary materials processing sites; Spelthorne Channel	Aquatic INNS/pathogen management; Temporary stockpiling of materials; Bed lowering	Negative INNS management leads to a small change in channel bed/banks structure potentially reducing river condition temporarily (short-term). Ground compaction at stockpiles leading to sediment laden runoff from stockpiles enters water body affecting morphology temporarily (short-term) which will be small and localised.	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan There will be monitoring for the spread and implementation of any required treatment measures to avoid colonisation. These are to be identified and developed as required.
Ordinary Watercourses (Surface Water Dependent Habitat; Moderate) (all those named Drain #)	Priority areas for habitat creation, enhancement or mitigation; Runnymede Channel; Spelthorne Channel; Temporary materials processing sites	Use of excavated material on-site; Movement of construction vehicles, equipment and operatives (on site); Aquatic INNS/pathogen management; Temporary stockpiling of materials	Negative Contaminated or silt laden run off leading to a small potential alteration of water quality, quantity and hydromorphological characteristics which supports a water dependent habitat temporarily (short-term). INNS management leads to a small change in channel bed/banks structure temporarily (short-term) reducing river condition.	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
Ordinary Watercourses (Recreation; low) (all those named Drain #)	Priority areas for habitat creation, enhancement or mitigation; Runnymede Channel; Spelthorne Channel	Use of excavated material on-site; Movement of construction vehicles, equipment and operatives (on site)	Negative Potentially a small temporary (short-term) hydromorphological change resulting in increased turbidity/sediment such as from run-off and leaching from placed materials or alteration to flow regime. Potentially a small temporary (short-term) water quality change resulting in poorer quality for in water activities.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Ordinary Watercourses (Recreation; low) (all those named Drain #)	Runnymede Channel; Spelthorne Channel; Temporary materials processing sites	Temporary stockpiling of materials; Aquatic INNS/pathogen management	Negative Potentially a small temporary (short-term) hydromorphological change resulting in increased turbidity/sediment or flow regime due to change in land drainage as a result of compaction at stockpiles leading to further run off. Potentially a small temporary (short-term) water quality change resulting in poorer quality for in water activities INNS management leads to a small change in channel bed/banks structure potentially reducing river condition temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water quality; very high) Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake)	Priority areas for habitat creation, enhancement or mitigation	Use of excavated material on-site	Negative Use of excavated materials which is potentially contaminated resulting in contaminated or polluted run off potentially entering water body leading to a small water quality decline temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water quality; very high) Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake)	Runnymede Channel; Spelthorne Channel	Movement of construction vehicles, equipment and operatives (on site)	Negative Potential spillage of hazardous waste which is contaminated resulting in contaminated or polluted run off potentially entering water body leading to a small water quality decline temporarily (short-term).	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
Still Waters (Water quality; very high) Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake)	Runnymede Channel; Spelthorne Channel	Material excavation (contaminated)	Negative Excavation within landfill resulting in release of contaminated or polluted run off entering water body potentially leading to a small water quality decline temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water quality; very high) Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake)	Runnymede Channel; Spelthorne Channel; Priority areas for habitat creation, enhancement or mitigation	Aquatic INNS/pathogen management	Negative INNS management potentially leads to a small temporary (short-term) decline in lake water quality due to nearby release of chemicals or contaminated sediments or disturbance of soils leading to run off entry to lake.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water quality; very high) Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake)	Runnymede Channel; Spelthorne Channel	Bed lowering	Negative Sediment and contaminants from bed/bank excavations potentially leading to increased turbidity and presence of contaminants potentially causing a small temporary (short-term) decline of water quality.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water Supply; Moderate) Blenheim Lake; Lake South of Green Lane; Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake)	Priority areas for habitat creation, enhancement or mitigation	Use of excavated material on-site	Negative Use of excavated materials which is potentially contaminated resulting in contaminated or polluted run off entering water body potentially leading to a small water quality decline temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water Supply; Moderate) Egham Hythe Pond; Meadlake; Lake South of Green Lane; Lake South of Norlands Lane 1; Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake)	Runnymede Channel; Spelthorne Channel	Movement of construction vehicles, equipment and operatives (on site)	Negative Potential spillage of hazardous waste which is contaminated resulting in contaminated or polluted run off entering water body potentially leading to a small water quality decline temporarily (short-term).	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
Still Waters (Water Supply; Moderate) Lake South of Green Lane; Lake South of Norlands Lane 1; Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake)	Runnymede Channel; Spelthorne Channel	Material excavation (contaminated)	Negative Excavation within landfill resulting in release of contaminated or polluted runoff entering water body potentially leading to a small water quality decline temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water Supply; Moderate) Blenheim Lake; Meadlake; Lake South of Green Lane; Lake South of Norlands Lane 1; Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake)	Runnymede Channel; Spelthorne Channel; Priority areas for habitat creation, enhancement or mitigation	Aquatic INNS/pathogen management	Negative INNS management leads to potential small temporary (short-term) decline in lake water quality due to release of chemicals or contaminated sediments or disturbance of banks/bed.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water Supply; Moderate) Lake South of Green Lane; Lake South of Norlands Lane 1; Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake)	Runnymede Channel; Spelthorne Channel	Bed lowering	Negative Sediment and contaminants from bed/bank excavations potentially leading to increased turbidity and presence of contaminants causing potential small hydromorphological change and potential small decline of water quality temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water Supply; Moderate) Lake South of Green Lane; Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake)	Runnymede Channel	Dewatering / over-pumping of waterbodies	Negative Long term over-pumping leading to a potentially small reduction in water quantity for supply use temporarily (long-term) and/or potentially small reduction in water quality and decline in quality temporarily (long-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Hydromorphology; very high) Blenheim Lake; Hythe End East; Meadlake; Lake South of Green Lane; Lake South of Norlands Lane 1; Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake); Abbey 1; Abbey 2; Littleton South; Littleton East; Sheepwalk East (F); Ferry Lane Lake 1; Ferry Lane Lake 2; Ferry Lane Lake 3	Runnymede Channel; Spelthorne Channel; Priority areas for habitat creation, enhancement or mitigation	Aquatic INNS/pathogen management	Negative INNS management potentially leads to a small temporary (short-term) change in lake bed/banks structure reducing condition.	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
Still Waters (Hydromorphology; very high) Lake South of Green Lane; Lake South of Norlands Lane 1; Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake); Abbey 2; Littleton East; Sheepwalk East (F); Ferry Lane Lake 3	Runnymede Channel; Spelthorne Channel	Bed lowering	Negative Sediment and contaminants from bed/bank excavations potentially leading to increased turbidity causing a small decrease in hydromorphological processes temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Hydromorphology; very high) Lake South of Green Lane; Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake)	Runnymede Channel	Dewatering / over-pumping of waterbodies	Negative Long term over-pumping potentially leading to a small reduction in water quantity altering erosion and deposition processes and potentially leading to a small loss of morphological features temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Surface Water Dependent Habitat; Very high) Hythe End East; Lake South of Green Lane; Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake); Abbey 1	Priority areas for habitat creation, enhancement or mitigation	Use of excavated material on-site	Negative Use of excavated materials which is potentially contaminated resulting in contaminated or polluted run off potentially entering water body leading to a small water quality decline temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Surface Water Dependent Habitat; Very high) Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake); Abbey 1; Littleton North; Littleton East; Sheepwalk East (F); Sheepwalk West 1; Sheepwalk West 2; Sheepwalk West 3; Ferry Lane Lake	Runnymede Channel; Spelthorne Channel	Movement of construction vehicles, equipment and operatives (on site)	Negative Potential spillage of hazardous waste which is contaminated resulting in contaminated or polluted run off potentially entering water body leading to a small water quality decline temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Surface Water Dependent Habitat; Very high) Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake); Littleton East; Ferry Lane Lake	Runnymede Channel; Spelthorne Channel	Material excavation (contaminated)	Negative Excavation within landfill resulting in release of contaminated or polluted run off entering water body potentially leading to a small water quality decline temporarily (short-term).	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
Still Waters (Surface Water Dependent Habitat; Very high) Hythe End East; Lake South of Green Lane; Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake); Abbey 1; Littleton South; Littleton East; Sheepwalk East (F); Sheepwalk West 1; Sheepwalk West 2; Sheepwalk West 3; Ferry Lane Lake	Runnymede Channel; Spelthorne Channel; Priority areas for habitat creation, enhancement or mitigation	Aquatic INNS/pathogen management	Negative INNS management leads to a change in lake bed/banks structure potentially reducing condition or space to support habitats temporarily (short-term). INNS management leads to a potential small decline in lake water quality due to release of chemicals or contaminated sediments or disturbance of banks/bed temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Surface Water Dependent Habitat; Very high) Lake South of Green Lane; Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake); Littleton East; Sheepwalk East (F); Sheepwalk West 1; Sheepwalk West 2; Sheepwalk West 3	Runnymede Channel; Spelthorne Channel	Bed lowering	Negative Sediment and contaminants from bed/bank excavations potentially leading to increased turbidity and presence of contaminants causing potential small hydromorphological change and potential small decline of water quality temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Surface Water Dependent Habitat; Very high) Lake South of Green Lane; Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake)	Runnymede Channel	Dewatering / over-pumping of waterbodies	Negative Long term over-pumping leading to a potentially small reduction in water quantity temporarily (long-term) and/or potentially small reduction in water quality and decline in quality temporarily (long-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Recreation; high) Blenheim Lake; Hythe End East; Lake South of Green Lane; Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake); Abbey 1; Ferry Lane Lake 1; Ferry Lane Lake 2;	Priority areas for habitat creation, enhancement or mitigation	Use of excavated material on-site	Negative Use of excavated materials which is potentially contaminated resulting in contaminated or polluted run off entering water body leading to potential small water quality decline for recreational users temporarily (short-term).	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
Still Waters (Recreation; high) Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake); Littleton North; Sheepwalk East (F); Sheepwalk West 1; Sheepwalk West 2; Sheepwalk West 3; Ferry Lane Lake	Runnymede Channel; Spelthorne Channel	Movement of construction vehicles, equipment and operatives (on site)	Negative Potential spillage of hazardous waste which is contaminated resulting in contaminated or polluted run off entering water body temporarily (short-term). Small potential risk for fish kills, bed/bank disturbance and increased turbidity leading to a potential small overall water quality decline temporarily (short-term) for recreational use.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Recreation; high) Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake)	Runnymede Channel; Spelthorne Channel	Material excavation (contaminated)	Negative Excavation within landfill resulting in release of contaminated or polluted run off entering water body leading to potentially small, temporary (short-term) water quality decline for recreational use.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Recreation; high) Blenheim Lake; Hythe End East; Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake) Littleton North; Littleton South; Sheepwalk East (F); Sheepwalk West 1; Sheepwalk West 2; Sheepwalk West 3; Ferry Lane Lake	Runnymede Channel; Spelthorne Channel; Priority areas for habitat creation, enhancement or mitigation	Aquatic INNS/pathogen management	Negative INNS management leads to a change in lake bed/banks structure potentially reducing condition temporarily (short-term). INNS management leads to a potential small decline in lake water quality due to release of chemicals or contaminated sediments or disturbance of banks/bed temporarily (short-term).	Aquatic INNS Management Plan; Aquatic Pathogen Management Plan There will be monitoring for the spread and implementation of any required treatment measures to avoid colonisation. These are to be identified and developed as required.
Still Waters (Recreation; high) Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake); Littleton North; Sheepwalk East (F); Sheepwalk West 1; Sheepwalk West 2; Sheepwalk West 3	Runnymede Channel; Spelthorne Channel	Bed lowering	Negative Sediment and contaminants from bed/bank excavations may potentially lead to a small increase in turbidity and may have presence of contaminants which potentially lead to small hydromorphological change and small decline of water quality, resulting in a decline for recreational users temporarily (short-term).	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
Still Waters (Recreation; high) Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake); Sheepwalk East (F); Sheepwalk West 1; Sheepwalk West 2; Sheepwalk West 3	Runnymede Channel	Dewatering / over-pumping of waterbodies	Negative Long term over-pumping potentially leading to a small reduction in water quantity for navigational/recreational use and/or small reduction in water quality affecting in-river use temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water quality; moderate) Blenheim Lake; Hythe End East; Lake South of Green Lane; Abbey 1; Ferry Lane Lake 1; Ferry Lane Lake 2	Priority areas for habitat creation, enhancement or mitigation	Use of excavated material on-site	Negative Use of excavated materials which is potentially contaminated resulting in contaminated or polluted run off potentially entering water body leading to a small water quality decline temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water quality; moderate) Egham Hythe Pond; Meadlake; Lake South of Green Lane; Lake South of Norlands Lane 1; Abbey 1; Abbey 2; Littleton North; Littleton East; Sheepwalk East (F); Sheepwalk West 1; Sheepwalk West 2; Sheepwalk West 3; Ferry Lane Lake 1; Ferry Lane Lake 2; Ferry Lane Lake 3; Ferry Lane Lake	Runnymede Channel; Spelthorne Channel	Movement of construction vehicles, equipment and operatives (on site)	Negative Potential spillage of hazardous waste which is contaminated resulting in contaminated or polluted run off potentially entering water body leading to a small water quality decline temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water quality; moderate) Blenheim Lake; Hythe End East; Meadlake; Lake South of Green Lane; Lake South of Norlands Lane 1; Lake South of Norlands Lane 2; Abbey 1; Abbey 2; Littleton North; Littleton South; Littleton East; Sheepwalk East (F); Sheepwalk West 1; Sheepwalk West 2; Sheepwalk West 3; Ferry Lane Lake 1; Ferry Lane Lake 2; Ferry Lane Lake 3; Ferry Lane Lake	Runnymede Channel; Spelthorne Channel; Priority areas for habitat creation, enhancement or mitigation	Aquatic INNS/pathogen management	Negative INNS management potentially leads to a small temporary (short-term) decline in lake water quality due to nearby release of chemicals or contaminated sediments or disturbance of soils leading to run off entry to lake.	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
Still Waters (Water quality; moderate) Hythe End East; Abbey 1; Ferry Lane Lake 1; Ferry Lane Lake 2	Temporary materials processing sites	Temporary stockpiling of materials	Negative Ground compaction at stockpiles potentially leading to further sediment or contaminant laden run off from stockpiles entering water body potentially reducing water quality a small amount temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water Supply; high) Hythe End East; Abbey 1; Ferry Lane Lake 1; Ferry Lane Lake 2	Priority areas for habitat creation, enhancement or mitigation	Use of excavated material on-site	Negative Use of excavated materials which is potentially contaminated resulting in contaminated or polluted run off entering water body potentially leading to a small water quality decline temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water Supply; high) Abbey 1; Abbey 2; Littleton North; Littleton East; Sheepwalk East (F); Sheepwalk West 1; Sheepwalk West 2; Sheepwalk West 3; Ferry Lane Lake 1; Ferry Lane Lake 2; Ferry Lane Lake 3; Ferry Lane Lake	Runnymede Channel; Spelthorne Channel	Movement of construction vehicles, equipment and operatives (on site)	Negative Potential spillage of hazardous waste which is contaminated resulting in contaminated or polluted run off entering water body potentially leading to a small water quality decline temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water Supply; high) Hythe End East; Abbey 1; Abbey 2; Littleton North; Littleton South; Littleton East; Sheepwalk East (F); Sheepwalk West 1; Sheepwalk West 2; Sheepwalk West 3; Ferry Lane Lake 1; Ferry Lane Lake 2; Ferry Lane Lake 3; Ferry Lane Lake	Runnymede Channel; Spelthorne Channel; Priority areas for habitat creation, enhancement or mitigation	Aquatic INNS/pathogen management	Negative INNS management leads to potential small temporary (short-term) decline in lake water quality due to release of chemicals or contaminated sediments or disturbance of banks/bed.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Recreation; very high) Abbey 1	Priority areas for habitat creation, enhancement or mitigation	Use of excavated material on-site	Negative Use of excavated materials which is potentially contaminated resulting in contaminated or polluted run off entering water body leading to potentially a small water quality decline for recreational users temporarily (short-term).	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
Still Waters (Recreation; Very High) Egham Hythe Pond; Abbey 1; Abbey 2; Littleton East	Runnymede Channel; Spelthorne Channel	Movement of construction vehicles, equipment and operatives (on site)	Negative Potential spillage of hazardous waste which is contaminated resulting in contaminated or polluted run off entering water body. Small potential risk for fish kills, bed/bank disturbance and increased turbidity leading to an overall small water quality decline temporarily (short-term) for recreational use.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Recreation; Very High) Abbey 1; Abbey 2; Littleton East; Sheepwalk East (F)	Runnymede Channel; Spelthorne Channel; Priority areas for habitat creation, enhancement or mitigation	Aquatic INNS/pathogen management	Negative INNS management leads to a small change in lake bed/banks structure potentially reducing condition temporarily (short-term). INNS management leads to a small potential decline in lake water quality due to release of chemicals or contaminated sediments or disturbance of banks/bed temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water quality; moderate) Lake South of Green Lane; Lake South of Norlands Lane 1; Abbey 2; Littleton East; Ferry Lane Lake 1; Ferry Lane Lake 2; Ferry Lane Lake 3; Ferry Lane Lake	Runnymede Channel; Spelthorne Channel	Material excavation (contaminated)	Negative Excavation within landfill resulting in release of contaminated or polluted run off entering water body potentially leading to a small water quality decline temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water quality; moderate) Lake South of Green Lane; Lake South of Norlands Lane 1; Abbey 2; Littleton North; Littleton East; Sheepwalk East (F); Sheepwalk West 1; Sheepwalk West 2; Sheepwalk West 3; Ferry Lane Lake 3	Runnymede Channel; Spelthorne Channel	Bed lowering	Negative Sediment and contaminants from bed/bank excavations potentially leading to increased turbidity and presence of contaminants potentially causing a small temporary (short-term) decline of water quality.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water Supply; high) Abbey 2; Littleton East; Ferry Lane Lake 1; Ferry Lane Lake 2; Ferry Lane Lake 3; Ferry Lane Lake	Runnymede Channel; Spelthorne Channel	Material excavation (contaminated)	Negative Excavation within landfill resulting in release of contaminated or polluted run off entering water body potentially leading to a small water quality decline temporarily (short-term).	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
Still Waters (Water Supply; high) Abbey 2; Littleton North; Littleton East; Sheepwalk East (F); Sheepwalk West 1; Sheepwalk West 2; Sheepwalk West 3; Ferry Lane Lake 3	Runnymede Channel; Spelthorne Channel	Bed lowering	Negative Sediment and contaminants from bed/bank excavations potentially leading to increased turbidity and presence of contaminants causing potential small hydromorphological change and potential small decline of water quality temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Surface Water Dependent Habitat; Moderate) Lake South of Green Lane; Lake South of Norlands Lane 1; Abbey 2; Littleton East; Ferry Lane Lake 1; Ferry Lane Lake 2; Ferry Lane Lake 3	Runnymede Channel; Spelthorne Channel	Material excavation (contaminated)	Negative Excavation within landfill resulting in release of contaminated or polluted run off entering water body potentially leading to a small water quality decline temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Surface Water Dependent Habitat; Moderate) Blenheim Lake; Meadlake; Lake South of Norlands Lane 1; Abbey 2; Littleton North; Ferry Lane Lake 1; Ferry Lane Lake 2; Ferry Lane Lake 3	Runnymede Channel; Spelthorne Channel; Priority areas for habitat creation, enhancement or mitigation	Aquatic INNS/pathogen management	Negative INNS management leads to a change in lake bed/banks structure potentially reducing condition or space to support habitats temporarily (short-term). INNS management leads to a potential small decline in lake water quality due to release of chemicals or contaminated sediments or disturbance of banks/bed temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Surface Water Dependent Habitat; Moderate) Lake South of Norlands Lane 1; Abbey 2; Littleton North; Ferry Lane Lake 3	Runnymede Channel; Spelthorne Channel	Bed lowering	Negative Sediment and contaminants from bed/bank excavations potentially leading to increased turbidity and presence of contaminants causing potential small hydromorphological change and potential small decline of water quality temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Surface Water Dependent Habitat; Moderate) Egham Hythe Pond; Meadlake; Lake South of Green Lane; Lake South of Norlands Lane 1; Abbey 2; Ferry Lane Lake 1; Ferry Lane Lake 2; Ferry Lane Lake 3	Runnymede Channel; Spelthorne Channel	Movement of construction vehicles, equipment and operatives (on site)	Negative Potential spillage of hazardous waste which is contaminated resulting in contaminated or polluted run off potentially entering water body leading to a small water quality decline temporarily (short-term).	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
Still Waters (Recreation; Very High) Abbey 2; Littleton East	Runnymede Channel; Spelthorne Channel	Material excavation (contaminated)	Negative Excavation within landfill resulting in release of contaminated or polluted run off entering water body leading to a potentially small water quality decline for recreational use temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Recreation; Very High) Abbey 2; Littleton East	Runnymede Channel; Spelthorne Channel	Bed lowering	Negative Sediment and contaminants from bed/bank excavations potentially leading to increased turbidity and presence of contaminants causing a small potential hydromorphological change and a small potential decline of water quality, resulting in a decline for recreational users temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water quality; moderate) Egham Hythe Pond; Meadlake; Littleton North; Littleton South	Runnymede Channel	Dewatering / over-pumping of waterbodies	Negative Long term over-pumping leading to a potentially small reduction in water quantity temporarily (long-term) and/or potentially small reduction in water quality and decline in quality temporarily (long-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water Supply; high) Littleton North; Littleton South	Temporary materials processing sites	Temporary stockpiling of materials	Negative Ground compaction at stockpiles potentially leading to further sediment laden run off from stockpiles entering water body potentially changing bed structure or increasing turbidity and reducing water quality leading to a small potential decline of water quality temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Hydromorphology; high) Littleton North; Sheepwalk West 1; Sheepwalk West 2; Sheepwalk West 3; Ferry Lane Lake	Runnymede Channel; Spelthorne Channel; Priority areas for habitat creation, enhancement or mitigation	Aquatic INNS/pathogen management	Negative INNS management potentially leads to a small temporary (short-term) change in lake bed/banks structure reducing condition.	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
Still Waters (Hydromorphology; high) Littleton North; Sheepwalk West 1; Sheepwalk West 2; Sheepwalk West 3	Runnymede Channel; Spelthorne Channel	Bed lowering	Negative Sediment and contaminants from bed/bank excavations potentially leading to increased turbidity causing a small decrease in hydromorphological processes temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Hydromorphology; high) Littleton North	Temporary materials processing sites	Temporary stockpiling of materials	Negative Ground compaction at stockpiles potentially leading to further sediment laden run off from stockpiles entering water body potentially changing bed structure or increasing turbidity a small amount temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Surface Water Dependent Habitat; Moderate) Egham Hythe Pond; Meadlake; Littleton North	Temporary materials processing sites	Temporary stockpiling of materials	Negative Ground compaction at stockpiles potentially leading to further sediment laden run off from stockpiles entering water body potentially changing bed structure or increasing turbidity and reducing water quality leading to a small potential decline of water quality temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Recreation; high) Littleton North; Littleton South	Temporary materials processing sites	Temporary stockpiling of materials	Negative Ground compaction at stockpiles potentially leading to sediment laden run off from stockpiles entering water body potentially changing bed structure or potentially increasing turbidity and reducing water quality leading to a small temporary (short-term) loss for recreational users.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Recreation; Very High) Littleton East	Runnymede Channel	Dewatering / over-pumping of waterbodies	Negative Long term over-pumping leading to a potential small reduction in water quantity for navigational/recreational use and/or a potential small reduction in water quality affecting in-river use temporarily (long-term).	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
Still Waters (Hydromorphology; very high) Egham Hythe Pond; Meadlake; Littleton South	Temporary materials processing sites	Temporary stockpiling of materials	Negative Ground compaction at stockpiles potentially leading to further sediment laden run off from stockpiles entering water body potentially changing bed structure or increasing turbidity a small amount temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Surface Water Dependent Habitat; Very high) Littleton South	Temporary materials processing sites	Temporary stockpiling of materials	Negative Ground compaction at stockpiles potentially leading to further sediment laden run off from stockpiles entering water body potentially changing bed structure or increasing turbidity and reducing water quality leading to a small potential decline of water quality temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Surface Water Dependent Habitat; Moderate) Blenheim Lake; Ferry Lane Lake 1; Ferry Lane Lake 2	Priority areas for habitat creation, enhancement or mitigation	Use of excavated material on-site	Negative Use of excavated materials which is potentially contaminated resulting in contaminated or polluted run off potentially entering water body leading to a small water quality decline temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Recreation; low) Lake South of Green Lane; Ferry Lane Lake 1; Ferry Lane Lake 2	Priority areas for habitat creation, enhancement or mitigation	Use of excavated material on-site	Negative Use of excavated materials which is potentially contaminated resulting in contaminated or polluted run off entering water body leading to potentially a small water quality decline for recreational users temporarily (short-term).	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
Still Waters (Recreation; low) Meadlake; Lake South of Green Lane; Lake South of Norlands Lane 1; Ferry Lane Lake 1; Ferry Lane Lake 2; Ferry Lane Lake 3	Runnymede Channel; Spelthorne Channel	Movement of construction vehicles, equipment and operatives (on site)	Negative Potential spillage of hazardous waste which is contaminated resulting in contaminated or polluted run off entering water body. Small potential risk for fish kills, bed/bank disturbance and increased turbidity leading to an overall small water quality decline temporarily (short-term) for recreational use.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Recreation; low) Lake South of Green Lane; Lake South of Norlands Lane 1; Ferry Lane Lake 1; Ferry Lane Lake 2; Ferry Lane Lake 3	Runnymede Channel; Spelthorne Channel	Material excavation (contaminated)	Negative Excavation within landfill resulting in release of contaminated or polluted run- off entering water body leading to a potentially small water quality decline for recreational use temporarily (short- term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Recreation; low) Meadlake; Lake South of Green Lane; Lake South of Norlands Lane 1; Ferry Lane Lake 1; Ferry Lane Lake 2; Ferry Lane Lake 3	Runnymede Channel; Spelthorne Channel; Priority areas for habitat creation, enhancement or mitigation	Aquatic INNS/pathogen management	Negative INNS management leads to a small change in lake bed/banks structure potentially reducing condition temporarily (short-term). INNS management leads to a small potential decline in lake water quality due to release of chemicals or contaminated sediments or disturbance of banks/bed temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Recreation; low) Lake South of Green Lane; Lake South of Norlands Lane 1; Ferry Lane Lake 3	Runnymede Channel; Spelthorne Channel	Bed lowering	Negative Sediment and contaminants from bed/bank excavations potentially leading to increased turbidity and presence of contaminants causing a small potential hydromorphological change and a small potential decline of water quality, resulting in a decline for recreational users temporarily (short-term).	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
Still Waters (Water Supply; Moderate) Egham Hythe Pond; Meadlake	Temporary materials processing sites	Temporary stockpiling of materials	Negative Ground compaction at stockpiles potentially leading to further sediment laden run off from stockpiles entering water body potentially changing bed structure or increasing turbidity and reducing water quality leading to a small potential decline of water quality temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Recreation; low) Meadlake	Temporary materials processing sites	Temporary stockpiling of materials	Negative Ground compaction at stockpiles potentially leading to further sediment laden run off from stockpiles entering water body potentially changing bed structure or increasing turbidity a small amount temporarily (short-term), and a potential small reduction in water quality leading to loss for recreational users temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Recreation; low) Lake South of Green Lane	Runnymede Channel	Dewatering / over-pumping of waterbodies	Negative Long term over-pumping leading to a potential small reduction in water quantity for navigational/recreational use and/or a potential small reduction in water quality affecting in-river use temporarily (long-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Recreation; Very High) Egham Hythe Pond	Temporary materials processing sites	Temporary stockpiling of materials	Negative Ground compaction at stockpiles potentially leading to further sediment laden run off from stockpiles entering water body potentially changing bed structure or increasing turbidity a small amount temporarily (short-term), and a potential small reduction in water quality leading to loss for recreational users temporarily (short-term).	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
Still Waters (Water quality; Very High) Heron Lake	Runnymede Channel; Spelthorne Channel; Priority areas for habitat creation, enhancement or mitigation	Aquatic INNS/pathogen management	Negative INNS management leads to a potentially small temporary (short-term) decline in lake water quality due to nearby release of chemicals or contaminated sediments or disturbance of soils leading to run off entry to lake.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water supply; High) Heron Lake	Runnymede Channel; Spelthorne Channel; Priority areas for habitat creation, enhancement or mitigation	Aquatic INNS/pathogen management	Negative INNS management leads to a potentially small temporary (short-term) decline in lake water quality due to nearby release of chemicals or contaminated sediments or disturbance of soils leading to run off entry to lake.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Hydromorphology; very high) Heron Lake	Runnymede Channel; Spelthorne Channel; Priority areas for habitat creation, enhancement or mitigation	Aquatic INNS/pathogen management	Negative INNS management leads to potentially a small change in lake bed/banks structure reducing condition or space to support habitat/species temporarily (short-term).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Surface Water Dependent Habitat; Moderate) Heron Lake	Runnymede Channel; Spelthorne Channel; Priority areas for habitat creation, enhancement or mitigation	Aquatic INNS/pathogen management	Negative INNS management leads to a change in lake bed/banks structure potentially reducing condition or space to support habitat/species a small amount temporarily (short-term); INNS management leads to potentially a small decline in lake water quality temporarily (short-term) due to release of chemicals or contaminated sediments or disturbance of banks/bed.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Recreation; High) Heron Lake	Runnymede Channel; Spelthorne Channel; Priority areas for habitat creation, enhancement or mitigation	Aquatic INNS/pathogen management	Negative INNS management leads to a change in lake bed/banks structure potentially reducing condition or space a small amount temporarily (short-term); INNS management leads to potentially a small decline in lake water quality temporarily (short-term) due to release of chemicals or contaminated sediments or disturbance of banks/bed.	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
Chobham Bagshot Beds Aquifer Chobham Bagshot Beds	Priority areas for habitat creation, enhancement or mitigation; Bed lowering downstream of Desborough Cut; Temporary materials processing sites	Use of excavated material on-site; Bed lowering; Temporary stockpiling of materials	Negative Excavation, stockpiling or re-use of materials potentially leading to localised temporary (short-term) migration of contaminated water into the groundwater body resulting in aquifer contamination, and the activities potentially creating new pathways or barriers for the migration of groundwater resulting in localised temporary (short-term) alteration of groundwater levels which will be a small effect.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Chobham Bagshot Beds Aquifer: Groundwater Dependent Habitat (Very high) Dumsey Meadow SSSI	Priority areas for habitat creation, enhancement or mitigation; Bed lowering downstream of Desborough Cut; Temporary materials processing sites	Use of excavated material on-site; Bed lowering; Temporary stockpiling of materials	Negative Excavation, stockpiling or re-use of materials potentially leading to localised temporary (short-term) migration of contaminated water into the groundwater body resulting in contamination of connected GWDTEs, and the activities potentially creating new pathways or barriers for the migration of groundwater resulting in localised temporary (short-term) alteration of groundwater levels which will be a small effect.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Lower Thames Gravels Aquifer Lower Thames Gravels	Priority areas for habitat creation, enhancement or mitigation; Temporary materials processing sites	Use of excavated material on-site; Temporary stockpiling of materials	Negative Re-use of materials or stockpiling (such as a change in land drainage as a result of compaction at stockpiles leading to further run off) potentially leading to localised temporary (long-term) migration of contaminated water into the groundwater body resulting in aquifer contamination, and the activities potentially creating new pathways or barriers for the migration of groundwater resulting in localised temporary (long-term) alteration of groundwater levels which will be a small effect.	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
Lower Thames Gravels Aquifer: Groundwater Dependent Habitat (Very High) Staines Moor SSSI; Thorpe Hay Meadows SSSI; Wraysbury and Hythe End Gravel Pits SSSI Langham Pond SSSI	Priority areas for habitat creation, enhancement or mitigation; Temporary materials processing sites	Use of excavated material on-site; Temporary stockpiling of materials	Negative Potential temporary (short-term) small migration of contaminated water into GWDTEs from re-use of excavated materials containing contaminants or releasing contaminants or fine sediment. Change in land drainage as a result of compaction at stockpiles altering run off and leading to potentially limited infiltration to aquifer resulting in potentially small loss of groundwater supply to GWDTEs temporarily (short-term).	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 Summary Table

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Main Rivers (Water quality; high) River Thames - Egham to Teddington	Runnymede Channel; Spelthorne Channel	Channel maintenance to restore design profile	Negative Mixing of water and sediment into water body from excavations containing pollutants, contaminants or sediment potentially leading to a small temporary (short-term) decrease in water quality (chemicals or physico-elements)	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Water supply; very high) River Thames - Egham to Teddington	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic)	Neutral Habitat enhancement works	No mitigation is considered necessary to reduce negative effects to an acceptable level.
Main Rivers (Water supply; very high) River Thames - Egham to Teddington	Runnymede Channel; Spelthorne Channel	Channel maintenance to restore design profile	Negative Release of fine sediments potentially temporarily (short-term) reducing water quality and affecting flows and channel morphology leading to a small permanent reduction in quality for abstraction	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Water supply; very high) River Thames - Egham to Teddington	Sunbury Weir; Molesey Weir; Teddington Weir	Existence of the flood channel and other components	Neutral Changes to flow regime as a result of weir capacity improvement works will lead to no permanent reduction in water quantity for abstraction.	No mitigation is considered necessary to reduce negative effects to an acceptable level.
Main Rivers (Hydromorphology; moderate) River Thames - Egham to Teddington	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic)	Positive Habitat improvement works including hydromorphological improvements will be localised and therefore limited change to bed/bank structure and affect local sediment process permanently.	No secondary mitigation required as the effect is positive.
Main Rivers (Hydromorphology; moderate) River Thames - Egham to Teddington	New pedestrian / cycle bridges crossing River Thames at Chertsey and Desborough ; Sunbury Weir; Molesey Weir; Teddington Weir; Bed lowering downstream of Desborough Cut; Runnymede Channel; Spelthorne Channel; Flow Control Structures	Existence of the flood channel and other components; Channel maintenance to restore design profile	Negative Potentially small permanent change to structure of the bed by erosion and deposition due to changes in flow regime.	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
Main Rivers (Surface Water Dependent Habitat) (High) River Thames - Egham to Teddington	New pedestrian / cycle bridges crossing River Thames at Chertsey and Desborough ; Flow Control Structures; Spelthorne Channel; Runnymede Channel	Existence of the flood channel and other components; Channel maintenance to restore design profile	Negative Potential small permanent alteration of water quality, quantity and hydromorphological characteristics which supports a water dependent habitat.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Recreation; High) Abbey River; River Thames - Egham to Teddington	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic)	Neutral Provision of habitat improvement leading to water quality and hydromorphology improvement for recreational use	No mitigation is considered necessary to reduce negative effects to an acceptable level.
Main Rivers (Recreation; high) River Thames - Egham to Teddington	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Negative A potentially small permanent alteration of water quality, quantity and hydromorphological characteristics as a result of the augmentation flow affecting use	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Recreation; high) River Thames - Egham to Teddington	New pedestrian / cycle bridges crossing River Thames at Chertsey and Desborough ; Flow Control Structures; Spelthorne Channel; Runnymede Channel	Channel maintenance to restore design profile; Existence of the flood channel and other components	Neutral No permanent alteration of water quality, quantity and hydromorphological characteristics as a result of channel maintenance, new structures and weir capacity changes.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Hydromorphology; low) River Thames - Cookham to Egham	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Neutral Activities will not have any impact to flows or hydromorphology. The coupled surface water and groundwater dynamic model has demonstrated that there is no predicted impact.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Water supply; moderate) Mead Lake Ditch; The Moat; Chertsey Bourne; River Ash	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components; Introduction of augmented flow	Neutral Entry of River Thames water into previously unconnected waterbodies potentially permanently altering water quality and subsequent discharge back into River Thames further downstream leading to potentially permanently altering water quality chemicals and physico-chem elements is expected to have no effect.	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
Main Rivers (Water supply; moderate) Mead Lake Ditch; The Moat; Chertsey Bourne	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic); New/enhanced habitat (terrestrial)	Neutral Habitat enhancement works	No mitigation is considered necessary to reduce negative effects to an acceptable level.
Main Rivers (Water supply; moderate) Named Water Mead Lake Ditch	Runnymede Channel	Channel maintenance to restore design profile	Negative A potentially small permanent alteration of water quality, quantity and hydromorphological characteristics as a result of the channel maintenance releasing sediment into the water body	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Hydromorphology; moderate) Mead Lake Ditch	Spelthorne Channel; Runnymede Channel	Channel maintenance to restore design profile	Negative Maintenance to maintain channel profile will result in sediment release into the watercourse leading to potentially temporary (short-term) small, local downstream deposition smothering bed structure and increased turbidity altering sediment transport.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Hydromorphology; moderate) Mead Lake Ditch; Abbey River; Pool End Ditch	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic)	Positive Marginal planting, new marginal shelf, natural bank set at new slope/depth, new channel width resulting in potentially localised improvements in hydromorphology features or fluvial processes temporarily (long-term) that may require ongoing management to make permanent change.	No secondary mitigation required as the effect is positive.
Main Rivers (Surface Water Dependent Habitat) (Moderate) Mead Lake Ditch; Abbey River; Pool End Ditch	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic)	Positive Direct Provision of habitat improvement leading to potentially permanent small water quality and hydromorphology improvements in surface water dependent habitats leading to potential within class improvement to WFD elements	No secondary mitigation required as the effect is positive.
Main Rivers (Surface Water Dependent Habitat) (Moderate) Mead Lake Ditch	Spelthorne Channel; Runnymede Channel	Channel maintenance to restore design profile	Negative A potentially small permanent alteration of water quality, quantity and hydromorphological characteristics which supports a water dependent habitat.	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
Main Rivers (Recreation; Low) Mead Lake Ditch; Pool End Ditch	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic)	Neutral Provision of habitat improvement leading to water quality and hydromorphology improvement for recreational use	No mitigation is considered necessary to reduce negative effects to an acceptable level.
Main Rivers (Water supply; high) Abbey River; Pool End Ditch	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic)	Neutral Habitat enhancement works	No mitigation is considered necessary to reduce negative effects to an acceptable level.
Main Rivers (Water quality; high) The Moat; Chertsey Bourne; River Ash	Runnymede Channel; Spelthorne Channel; Flow Control Structures	Existence of the flood channel and other components	Neutral Mixing of water and sediment into water body from other water bodies containing pollutants, contaminants or sediment not expected to change water quality (chemicals or physico-elements)	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Hydromorphology; moderate) Chertsey Bourne	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Negative Volume of water in the Chertsey Bourne will be reduced when the overflow structure operates. As the change would only occur at around bankfull flow, only peak flow is taken. Therefore no effect under normal flow conditions. As the connection already exists, this will be a minimal permanent effect to hydromorphology.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Surface Water Dependent Habitat) (very High) The Moat; Chertsey Bourne; River Ash	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Negative Potential alteration of water quality, quantity and hydromorphological characteristics which supports a water dependent habitat will be minimal.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Surface Water Dependent Habitat) (very High) Chertsey Bourne	Chertsey Weir fish passage	Fish passage	Neutral Fish passage enabling freer movement of fish is expected to have no permanent effect	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Recreation; high) Chertsey Bourne; The Chap; River Ash	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Neutral No permanent alteration of water quality, quantity and hydromorphological characteristics as a result of the augmentation flow affecting use	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
Ordinary Watercourses (Water quality; low) Burway Ditch	Runnymede Channel	Existence of the flood channel and other components	Negative Channels now part of Runnymede with water quality permanently changed as water from the River Thames and upstream lakes replaces Burway Ditch water leading to a medium effect to water quality.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Ordinary Watercourses (Surface Water Dependent Habitat; Moderate) Burway Ditch	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Negative Potential small permanent alteration of water quality, quantity and hydromorphological characteristics which supports a water dependent habitat.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Ordinary Watercourses (Recreation; low) Burway Ditch	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components; Introduction of augmented flow	Positive Augmented flow would provide additional water quantity into Burway ditch which is normally dry. This additional water quantity would allow for more recreation/wet use of the water body permanently.	No secondary mitigation required as the effect is positive.
Main Rivers (Water supply; high) Pool End Ditch	Flow Control Structures; Runnymede Channel; Spelthorne Channel	Existence of the flood channel and other components	Negative A potentially small permanent alteration of water quality, quantity and hydromorphological characteristics as a result of the augmentation flow	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Hydromorphology; moderate) Pool End Ditch	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Neutral Potentially small permanent change to flow due to reduction in flood extent and depth resulting in out of bank flows at greater magnitude flood events resulting in no overall change to hydromorphology.	No mitigation is considered necessary to reduce negative effects to an acceptable level.
Main Rivers (Recreation; low) Pool End Ditch	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Negative A potentially medium permanent alteration of water quality, quantity and hydromorphological characteristics as a result of the augmentation flow affecting use	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
Main Rivers (Hydromorphology; moderate) The Moat	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Negative The flow control structure is formalising an existing flow pathway that occurs during flood conditions. The changes to hydromorphology with the operation of FCS9 are within the normal range of baseline conditions experienced by the waterbody. Therefore minimal change from baseline conditions in terms of sediment transport, channel morphology and natural fluvial processes long term (permanent).	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Recreation; low) The Moat	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Neutral No alteration of water quality, quantity and hydromorphological characteristics as a result of the augmentation flow affecting use	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Water quality; low) County Ditch; Bonehead Ditch; The Chap	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Introduction of augmented flow; Existence of the flood channel and other components	Neutral Potential permanent reduction in entry of River Thames water during flood events will have no effect on water quality	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Water supply; high) The Chap	Flow Control Structures; Runnymede Channel; Spelthorne Channel	Existence of the flood channel and other components	Neutral No permanent alteration of water quality, quantity and hydromorphological characteristics as a result of the augmentation flow	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Hydromorphology; low) The Chap	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Negative An upstream section of The Chap is severed by Spelthorne channel and not replaced resulting in a small localised permanent loss of bed and banks.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Surface Water Dependent Habitat) (Moderate) The Chap	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components; Introduction of augmented flow	Negative No alteration of water quality, quantity and hydromorphological characteristics which supports a water dependent habitat.	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
Ordinary Watercourses (Hydromorphology; high) Datchet Common Brook	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Negative A change in flood risk as a result of the project is expected, this effect will be temporary and infrequent (only during a 1 in 100-year flood event) and lead to a small permanent indirect effect to flow dynamics within the watercourse.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Ordinary Watercourses (Recreation; low) Datchet Common Brook	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Positive Potential permanent reduction in entry of River Thames water into Datchet Common Brook during flood events will have a small effect on hydromorphology and water quality for recreational use.	No secondary mitigation required as the effect is positive.
Main Rivers (Hydromorphology; low) New Cut	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Negative A change in flood risk as a result of the project is expected, this effect will be temporary and infrequent (only during a 1 in 100-year flood event) and lead to a small indirect effect to flow dynamics within the watercourse.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Hydromorphology; moderate) County Ditch	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Neutral A change in drainage and river banks/wider riparian zone within the habitat creation areas which will lead to potentially small permanent changes in erosion and depositional zones locally and sediment processes.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Hydromorphology; low) Sweep's Ditch	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Neutral Sweeps Ditch abstracts (pumped) from River Thames u/s of Runnymede and rejoins within the depleted reach. It is assumed management of this abstraction is maintained. Therefore no change anticipated to hydromorphology in Sweeps Ditch.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Hydromorphology; high) River Wey	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Neutral A change in flood risk as a result of the project is expected, this effect will be temporary and infrequent (only during a 1 in 100-year flood event) and not result in any change to hydromorphology.	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
Main Rivers (Hydromorphology; high) River Ash	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Negative A change in flood risk as a result of the project is expected, this effect will be temporary and infrequent (only during a 1 in 100-year flood event) and lead to a small indirect effect to flow dynamics within the watercourse.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Hydromorphology; high) River Mole	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Neutral A change in flood risk as a result of the project is expected, this effect will be temporary and infrequent (only during a 1 in 100-year flood event) and not result in any change to hydromorphology.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Main Rivers (Hydromorphology; high) Portlane Brook; Rythe; Hogsmill	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Neutral A change in flood risk as a result of the project is expected, this effect will be temporary and infrequent (only during a 1 in 100-year flood event) and not result in any change to hydromorphology.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Ordinary Watercourses (Hydromorphology; low) Longford River	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Neutral A change in flood risk as a result of the project is expected, this effect will be permanent and infrequent (only during a 1 in 100-year flood event)	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Ordinary Watercourses (Hydromorphology; low) (all those named Drain #)	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Existence of the flood channel and other components	Negative A change in flood risk as a result of the project is expected, this effect will be permanent and infrequent (only during a 1 in 100-year flood event)	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water Supply; Moderate) Lake South of Green Lane; Lake South of Norlands Lane 1; Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake)	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to a potentially small permanent changing lake chemistry, quality or turbidity leading to a very small change in deployable output	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
Still Waters (Water Supply; Moderate) Lake South of Green Lane; Lake South of Norlands Lane 1; Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake)	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic); New/enhanced habitat (terrestrial)	Neutral Habitat enhancement works leading to no permanent change and insufficient magnitude for improvements in hydromorphology or water quality	No mitigation is considered necessary to reduce negative effects to an acceptable level.
Still Waters (Recreation; high) Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake); Littleton South; Sheepwalk East (F)	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic); New/enhanced habitat (terrestrial)	Neutral Habitat enhancement works leading to no permanent change for improvements in hydromorphology	No mitigation is considered necessary to reduce negative effects to an acceptable level.
Still Waters (Recreation; High) Thorpe Park Lakes (Fleet Lake, Manor Lake, Abbey Lake, St Ann's Lake); Littleton North; Littleton South; Sheepwalk East; Sheepwalk West 1; Sheepwalk West 2; Sheepwalk West 3; Ferry Lane Lake	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic); New/enhanced habitat (terrestrial)	Neutral Habitat enhancement works leading to no permanent change and insufficient magnitude for improvements in hydromorphology or water quality for recreational use	No mitigation is considered necessary to reduce negative effects to an acceptable level.
Still Waters (Water quality; moderate) Blenheim Lake; Abbey 1	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Neutral Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to no permanent change in lake chemistry and quality.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Recreation; High) Blenheim Lake; Queen Mary Reservoir (supplied by the Laleham Intake)	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Neutral Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to no permanent change in lake chemistry, quality, turbidity and morphology leading to no permanent change for recreational users water quality or availability for use.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Recreation; Very High) Abbey 1	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Neutral Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to no permanent change in lake chemistry, quality, turbidity and morphology leading to no permanent change for recreational users or availability for use.	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
Still Waters (Water supply; High) Abbey 2; Littleton North; Littleton South; Littleton East; Sheepwalk East (F); Sheepwalk West 1; Sheepwalk West 2; Sheepwalk West 3; Black Ditch Pond; Ferry Lane Lake	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic); New/enhanced habitat (terrestrial)	Neutral Habitat enhancement works leading to no permanent change and insufficient magnitude for improvements in hydromorphology or water quality	No mitigation is considered necessary to reduce negative effects to an acceptable level.
Still Waters (Recreation; Very High) Abbey 2; Littleton East	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic); New/enhanced habitat (terrestrial)	Neutral Habitat enhancement works leading to no change and insufficient magnitude for improvements in hydromorphology	No mitigation is considered necessary to reduce negative effects to an acceptable level.
Still Waters (Recreation; Very High) Abbey 2; Littleton East	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic); New/enhanced habitat (terrestrial)	Neutral Habitat enhancement works leading to no change and insufficient magnitude for improvements in hydromorphology or water quality for recreational use	No mitigation is considered necessary to reduce negative effects to an acceptable level.
Still Waters (Hydromorphology; high) Littleton North; Sheepwalk West 1; Sheepwalk West 2; Sheepwalk West 3; Ferry Lane Lake	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic); New/enhanced habitat (terrestrial)	Neutral Habitat enhancement works leading to no permanent change and insufficient magnitude for improvements in hydromorphology	No mitigation is considered necessary to reduce negative effects to an acceptable level.
Still Waters (Water quality; moderate) Littleton East; Black Ditch Pond	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic); New/enhanced habitat (terrestrial)	Positive Habitat enhancement works do not result in a real or theoretical change in water quality	No secondary mitigation required as the effect is positive.
Still Waters (Water quality; moderate) Sheepwalk East (F); Sheepwalk West 1; Sheepwalk West 2; Sheepwalk West 3; Ferry Lane Lake	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic); New/enhanced habitat (terrestrial)	Positive Habitat enhancement works do not result in a real or theoretical change in water quality	No secondary mitigation required as the effect is positive.
Still Waters (Hydromorphology; very high) Littleton South; Sheepwalk East (F)	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic); New/enhanced habitat (terrestrial)	Positive Habitat enhancement works leading to minimal or no measurable change from baseline	No secondary mitigation required as the effect is positive.
Still Waters (Surface Water Dependent Habitat; Very high) Littleton South; Sheepwalk East (F); Sheepwalk West 1; Sheepwalk West 2; Sheepwalk West 3; Ferry Lane Lake	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic); New/enhanced habitat (terrestrial)	Positive Habitat enhancement works leading to minimal permanent change for improvements in water quality or hydromorphology	No secondary mitigation required as the effect is positive.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Still Waters (Hydromorphology; high) Sheepwalk West 1; Sheepwalk West 2; Sheepwalk West 3; Ferry Lane Lake	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic); New/enhanced habitat (terrestrial)	Positive Habitat enhancement works leading to minimal or no measurable change from baseline	No secondary mitigation required as the effect is positive.
Still Waters (Water quality; moderate) Hythe End East; The Moor Gravel Pit; Meadlake; Black Ditch Pond; Manor Farm Lake; Ferry Lane Lake 1	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to a potentially small permanent changing lake chemistry and quality.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water Supply; Moderate) Hythe End East; The Moor Gravel Pit; Black Ditch Pond; Manor Farm Lake; Ferry Lane Lake 1; Ferry Lane Lake 2; Ferry Lane Lake 3; Queen Elizabeth 2 Storage Reservoir; Knight Reservoir; Bessborough Reservoir	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to a potentially small permanent changing lake chemistry, quality or turbidity leading to a no change in deployable output	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Hydromorphology; very high) Blenheim Lake; Hythe End East; The Moor Gravel Pit ; Meadlake; Black Ditch Pond; Manor Farm Lake; Ferry Lane Lake 1	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with lake water containing sediment and introduction of new flow leading to a potentially small permanent change in residence times, flow characteristics, water levels, structure and substrate of lake bed.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Surface Water Dependent Habitat; Moderate) The Moor Gravel Pit; Meadlake; Manor Farm Lake; Ferry Lane Lake 1; Queen Elizabeth 2 Storage Reservoir	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Augmented flow leading to mixing of River Thames water with the lake water which may contain sediment, pollutants, and nutrients leading to a small permanent change in lake chemistry, quality, turbidity and morphology potentially resulting in a very small permanent change in residence time, water quality and hydromorphology. Operation in flood events may exacerbate this influx of pollutants.	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
Still Waters (Recreation; high) Hythe End East	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to a potentially small permanent change in lake chemistry, quality, turbidity and morphology leading to a small permanent change for recreational users or availability for use. Weed/algal/ growth changes which could specifically affect in water usage.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Recreation; low) Ferry Lane Lake 2; Ferry Lane Lake 3	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to potentially a small permanent change in lake chemistry, quality, turbidity and morphology leading to a small change for recreational users or availability for use. Weed/algal/ growth changes which could specifically affect in water usage.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Recreation; low) Meadlake; Black Ditch Pond; Manor Farm Lake; Ferry Lane Lake 1	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to a potentially small permanent change in lake chemistry, quality, turbidity and morphology leading to a small change for recreational users or availability for use. Weed/algal/ growth changes which could specifically affect in water usage.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water quality; moderate) Penton Hook Marina; Littleton South; Ferry Lane Lake 2; Ferry Lane Lake 3	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to a potentially small permanent changing lake chemistry and quality.	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
Still Waters (Surface Water Dependent Habitat; Moderate) Penton Hook Marina; Ferry Lane Lake 2; Ferry Lane Lake 3; Queen Mary Reservoir (supplied by the Laleham Intake)	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Augmented flow leading to mixing of River Thames water with the lake water which may contain sediment, pollutants, and nutrients leading to a small permanent change in lake chemistry, quality, turbidity and morphology potentially resulting in a small permanent change in residence time, water quality and hydromorphology. Operation in flood events may exacerbate this influx of pollutants.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water Supply; Moderate) Meadlake	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to a potentially small permanent changing lake chemistry, quality or turbidity leading to a no change in deployable output	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Recreation; low) Lake South of Green Lane; Lake South of Norlands Lane 1	Sunbury Weir; Teddington Weir; Molesey Weir; Flow Control Structures	Fish passage	Positive Fish passage enabling freer movement of fish resulting in increased areas for use/enabling greater use	No secondary mitigation required as the effect is positive.
Still Waters (Recreation; low) Lake South of Green Lane; Lake South of Norlands Lane 1; Black Ditch Pond	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic); New/enhanced habitat (terrestrial)	Neutral Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to no permanent change in lake chemistry, quality, turbidity and morphology leading to no permanent change for recreational users or availability for use.	No mitigation is considered necessary to reduce negative effects to an acceptable level.
Still Waters (Recreation; low) Lake South of Green Lane; Lake South of Norlands Lane 1; Black Ditch Pond	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic); New/enhanced habitat (terrestrial)	Neutral Habitat enhancement works leading to no change and insufficient magnitude for improvements in hydromorphology or water quality for recreational use	No mitigation is considered necessary to reduce negative effects to an acceptable level.

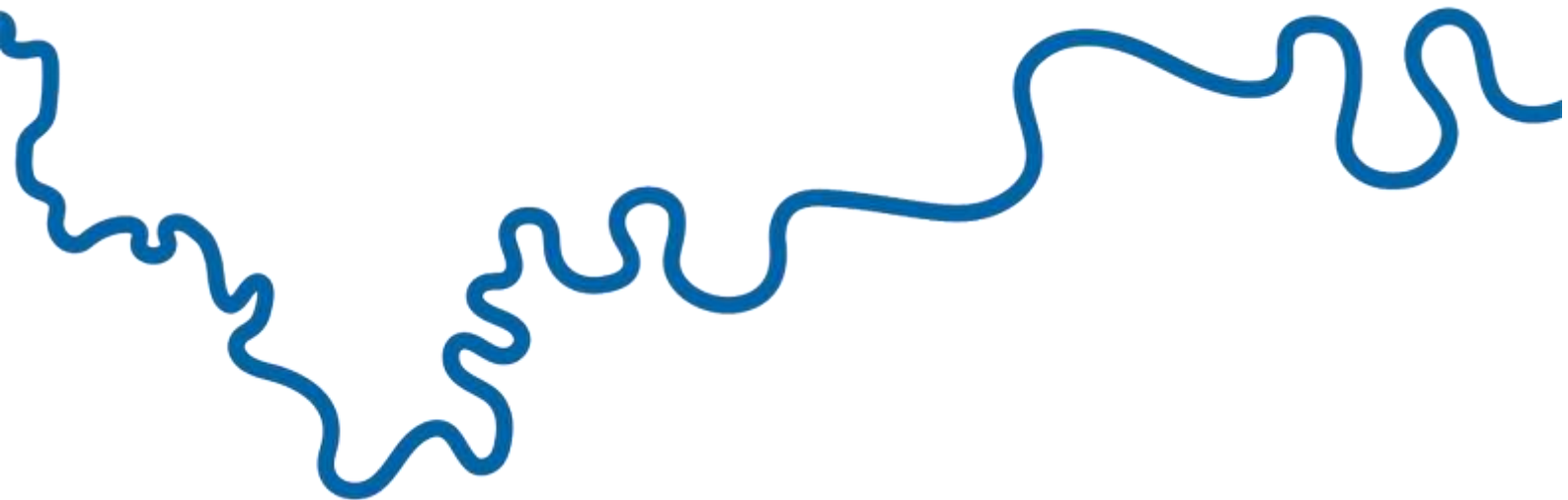
Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
Still Waters (Hydromorphology; very high) Queen Elizabeth 2 Storage Reservoir; Knight Reservoir; Bessborough Reservoir	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Neutral Mixing of river water with lake water containing sediment and introduction of new flow leading to no permanent change in residence times, flow characteristics, water levels, structure and substrate of lake bed.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Surface Water Dependent Habitat; Moderate) Queen Mary Reservoir (supplied by the Laleham Intake)	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Creation of a depleted reach within the River Thames potentially leading to a small decline in water quality and quantity which supports water dependent habitats.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Recreation; High) Queen Mary Reservoir (supplied by the Laleham Intake)	Spelthorne Channel; Runnymede Channel; Flow Control Structures	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Neutral Creation of a depleted reach within the River Thames leading to no permanent decline in water quality and quantity	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water Supply; Moderate) Blenheim Lake	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Neutral Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to no permanent change in lake chemistry, quality or turbidity leading to no permanent change in deployable output	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Surface Water Dependent Habitat; Very high) Hythe End East; Black Ditch Pond; Knight Reservoir; Bessborough Reservoir	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Augmented flow leading to mixing of River Thames water with the lake water which may contain sediment, pollutants, and nutrients leading to a small permanent change in lake chemistry, quality, turbidity and morphology potentially resulting in a very small permanent change in residence time, water quality and hydromorphology. Operation in flood events may exacerbate this influx of pollutants.	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
Still Waters (Recreation; Very High) The Moor Gravel Pit	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to a potentially small permanent change in lake chemistry, quality, turbidity and morphology leading to a small change for recreational users or availability for use. Weed/algal/growth changes which could specifically affect in water usage.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Recreation; low) Black Ditch Pond	Priority areas for habitat creation, enhancement or mitigation	New/enhanced habitat (aquatic); New/enhanced habitat (terrestrial)	Positive Habitat enhancement works leading to minimal permanent change for improvements in water quality or hydromorphology	No secondary mitigation required as the effect is positive.
Still Waters (Recreation; low) Queen Elizabeth 2 Storage Reservoir; Knight Reservoir; Bessborough Reservoir	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Neutral Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to no permanent change in lake chemistry, quality, turbidity and morphology leading to no permanent change for recreational users or availability for use.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water quality; Very High) Heron Lake	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients potentially leading to minimal permanent change in lake chemistry and quality.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water supply; High) Heron Lake	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients potentially leading to minimal permanent change in lake chemistry, quality or turbidity leading to no change in deployable output	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
Still Waters (Hydromorphology; very high) Heron Lake	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with lake water containing sediment and introduction of new flow leading to permanent minimal change in residence times, flow characteristics, water levels, structure and substrate of lake bed.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Surface Water Dependent Habitat; Moderate) Heron Lake	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients leading to minimal permanent change in lake chemistry, quality, turbidity and morphology potentially leading to change in water quality and hydromorphology.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Recreation; High) Heron Lake	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients potentially leading to minimal permanent change in lake chemistry, quality, turbidity and morphology leading to minimal permanent change for recreational users or availability for use.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water quality; Moderate) Lockwood Banbury	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients potentially leading to minimal permanent change in lake chemistry and quality.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Still Waters (Water supply; Moderate) Lockwood Banbury	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow; Operation during flood events; Existence of the flood channel and other components	Negative Mixing of river water with the lake water containing sediment, pollutants, and nutrients potentially leading to minimal permanent change in lake chemistry, quality or turbidity leading to no permanent change in deployable output	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
Still Waters (Surface water dependent biodiversity; moderate) Island Barn Reservoir	Spelthorne Channel; Runnymede Channel	Introduction of augmented flow	Negative Mixing of river and lake water leading to a risk of transfer of INNS and pathogens resulting in a potentially permanent effect on water quality supplying and supporting the water dependent habitats.	No mitigation is considered necessary to reduce negative effects to an acceptable level.
Chobham Bagshot Beds Aquifer Chobham Bagshot Beds	Priority areas for habitat creation, enhancement or mitigation; Runnymede Channel; Spelthorne Channel	Channel maintenance to restore design profile; New/enhanced habitat (terrestrial); L&GI provision; New landforms	Negative Compaction leading to potential permanent small changes to drainage/infiltration from material placement. Channel maintenance potentially releasing contaminants into aquifer through existing groundwater flow pathways will be a small permanent effect.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Chobham Bagshot Beds Aquifer: Groundwater Dependent Habitat (Very high) Dumsey Meadow SSSI	Priority areas for habitat creation, enhancement or mitigation; Runnymede Channel; Spelthorne Channel	Channel maintenance to restore design profile; New/enhanced habitat (terrestrial); L&GI provision; New landforms	Negative Compaction leading to potential permanent small changes to drainage/infiltration from material placement. Channel maintenance potentially releasing contaminants into aquifer through existing groundwater flow pathways will be a small permanent effect.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.
Lower Thames Gravels Aquifer Lower Thames Gravels	Priority areas for habitat creation, enhancement or mitigation; Spelthorne Channel; Runnymede Channel	New/enhanced habitat (terrestrial); Channel maintenance to restore design profile; L&GI provision; New landforms	Negative Compaction leading to potential permanent small changes to drainage/infiltration from material placement. Maintenance potentially releasing contaminants into aquifer through existing groundwater flow pathways will be a small permanent effect.	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
Lower Thames Gravels Aquifer: Groundwater Dependent Habitat (Very High) Staines Moor SSSI; Thorpe Hay Meadows SSSI; Wraysbury and Hythe End Gravel Pits SSSI Langham Pond SSSI	Priority areas for habitat creation, enhancement or mitigation; Runnymede Channel; Spelthorne Channel	Channel maintenance to restore design profile; New/enhanced habitat (terrestrial); L&GI provision; New landforms	Negative Compaction leading to potential permanent small changes to drainage/infiltration from material placement. Channel maintenance potentially releasing contaminants into aquifer through existing groundwater flow pathways will be a small permanent effect.	The identified primary and tertiary mitigation is sufficient in reducing this effect so that it is not significant. No secondary mitigation is required.



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.