

SURREY LOCAL FLOOD RISK MANAGEMENT STRATEGY

ANNEXE C – HABITAT REGULATIONS ASSESSMENT



SURREY

Surrey Local Flood Risk Management Strategy 2016

Habitat Regulations Assessment

Report on the assessment of the Surrey Local Flood Risk Management Strategy 2016 in respect of the requirements of the Conservation of Habitats & Species Regulations 2010 (as amended)

August 2016



SURREY

Statement of Purpose

This Habitat Regulations screening report has been prepared by Surrey County Council's in-house environmental assessment service, which comprises of a single officer within the County Council's Minerals & Waste Planning service. Minerals & Waste Planning is located within the Environment & Infrastructure Directorate.

The Flood Risk Management Strategy & Partnerships Team has commissioned the report, and the Habitat Regulations screening assessment of which it forms the final output, as part of the local flood risk management strategy preparation process.

The report evaluates the extent to which the new local flood risk management strategy has the potential to give rise to 'likely significant effects' on Special Protection Areas, Special Areas of Conservation and Ramsar Sites in Surrey and the surrounding area. The report is prepared in response to the requirements set out in the Conservation of Habitats & Species Regulations 2010 (Statutory Instrument 2010 No.490) (as amended).

Statement of Limitations

This report has been prepared for the sole use of Surrey County Council's Flood Risk Management Strategy & Partnerships Team ("Client"). No other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by the County Council's environmental assessment service.

The preparation of this report was undertaken between July 2016 and August 2016, and is based on the information available to the County Council's environmental assessment service during that period of time. The scope of this report is accordingly factually limited by these circumstances.

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Executive Summary

- ES.1 Articles 6(3) and 6(4) of the EU Habitats Directive (Directive 92/43/EEC) require that prior to their adoption plans and programmes be assessed in respect of their capacity to give rise to significant adverse impacts on the features of qualifying interest (e.g. particular habitats or species) of sites that have been designated for protection under the European Union (EU) Habitats Directive or Wild Birds Directive (Directive 79/4069/EEC as codified by Directive 2009/147/EC). Those requirements are implemented in the UK via Regulation 61 of the Conservation of Habitats & Species Regulations 2010 (Statutory Instrument 2010 No.490), as amended by the Conservation of Habitats & Species Amendment Regulations 2012 (Statutory Instrument 2012 No.1927). The categories of sites to which the requirement for ‘appropriate assessment’ applies in the UK includes:
- Special Areas of Conservation (SACs) – designated for habitats, species or a combination of habitats and species under the provisions of the EU Habitats Directive;
 - Special Protection Areas (SPAs) – designated for the presence of populations of wild birds under the provisions of the EU Wild Birds Directive;
 - Ramsar Sites – designated as wetlands of international importance under the 1971 Ramsar Convention.
- ES.2 The Surrey Local Flood Risk Management Strategy (LFRMS) 2016 has been prepared by Surrey County Council in fulfilment of part of the council’s responsibilities as Lead Local Flood Authority (LLFA) for the county under the provisions of the Flood & Water Management Act 2010. The strategy addresses flood risk management challenges associated with surface water, groundwater and non-main rivers. The geographical extent of the Habitat Regulations Assessment (HRA) for the Surrey LFRMS 2016 was defined in line with guidance from Natural England, which advised that the assessment, “...*should consider the potential implications of the Strategy for all relevant European sites. It should be noted that simply looking at all sites within a certain radius of the county is not sufficient, as hydrological links may be further away (e.g. via river, stream or groundwater). The HRA should consider whether there is a potential impact pathway with each European site and, if there is, consider the impact on the site’s conservation objectives.*”.
- ES.3 The potential for areas of land within Surrey to be linked hydrologically to SACs, SPAs and Ramsar Sites that are located at considerable geographical distance from the county was considered during the initial screening phase of the assessment (see Part 2 of the main report). That process identified a number of SACs, SPAs and Ramsar Sites, including some located in other parts of the South East region, that were considered to be ‘at risk’ of potential adverse effects as a consequence of the implementation of new flood risk management schemes.

- ES.4 For the ‘at risk’ SACs, SPAs and Ramsar Sites, which included all those located within the county of Surrey, a further phase of detailed assessment was undertaken, to determine whether the Surrey LFRMS 2016 was likely to give rise to significant adverse effects on the integrity of the protected sites (see Part 3 of the main report). The SACs, SPAs and Ramsar Sites addressed in detail include:
- Mole Gap to Reigate Escarpment SAC (located in Surrey)
 - Richmond Park SAC (located in Greater London)
 - Thursley, Ash, Pirbright & Chobham SAC (located in Surrey)
 - Wimbledon Common SAC (located in Greater London)
 - South West London Waterbodies SPA and Ramsar Site (located in Berkshire, Greater London & Surrey)
 - Thames Basin Heaths SPA (located in Berkshire, Hampshire and Surrey)
 - Thursley, Hankley & Frensham Commons (Wealden Heaths Phase I) SPA (located in Surrey)
 - Thursley & Ockley Bog Ramsar Site (located in Surrey)
- ES.5 Based on the information available about the objectives of the Surrey LFRMS 2016, and the schemes proposed in the 2016/17 Action Plan for the strategy, and taking account of the likely implications of a range of other plans and programmes for the integrity of the protected sites, it has been possible to conclude that the Surrey LFRMS 2016 is not likely to give rise to significant adverse impacts on any of the SACs, SPAs or Ramsar Sites listed above.
- ES.6 The conclusion of no significant impact that has been reached with reference to the Surrey LFRMS 2016, is strategic in nature, and applies only to the strategy. The individual schemes that will be implemented by Surrey County Council and partners, in line with the objectives of the Surrey LFRMS 2016, will still be required to undergo ‘appropriate assessment’ where relevant at the project development and consenting stage in line with the requirements of the Conservation of Habitats & Species Regulations 2010 (as amended). Based on the findings of this assessment, it is recommended that the following schemes listed in the 2016/17 Action Plan for the Surrey LFRMS 2016 be examined again at the project stage with reference to the identified protected sites.

Scheme	SAC, SPA or Ramsar Site
Wav154 – Cramhurst Lane (Merryacres), Cramhurst – Improved system – Physical works (NGR 494059 141001)	Thursley, Ash, Pirbright & Chobham SAC Thursley, Hankley & Frensham Commons (Wealden Heaths Phase I) SPA

Part 1: Introduction to the Habitat Regulations Assessment

1.1 Introduction & legal context

- 1.1 The requirement for plans and programmes to be assessed in respect of their capacity to give rise to adverse impacts on the features of qualifying interest (e.g. particular habitats or species) of sites that have been designated for protection under the European Union (EU) Habitats Directive¹ or Wild Birds Directive², derives from Articles 6(3) and 6(4) of the Habitats Directive³.

“3. Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.

4. If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.”

- 1.2 The requirement for ‘appropriate assessment’ of plans and programmes prior to their adoption or implementation has been transposed into UK domestic legislation via Regulation 61 of the Conservation of Habitats & Species Regulations 2010 (Statutory Instrument 2010 No.490), as amended by the Conservation of Habitats & Species Amendment Regulations 2012 (Statutory Instrument 2012 No.1927).

¹ Commission of the European Communities, 1992. *Directive on the Conservation of Natural Habitats & Wild Flora & Fauna* (92/43/EEC). Official Journal of the European Communities: Brussels.

² Commission of the European Communities, 2009. *Directive on the Conservation of Wild Birds* (2009/147/EC). Official Journal of the European Communities: Brussels. Directive 2009/147/EC is the codified version of the original Directive 79/4069/EEC adopted by the EU in 1979.

³ The text of Article 6(3) of the Habitats Directive states that, “Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.”

- 1.3 As a matter of policy in the UK, the same level of protection afforded to sites designated under either the EU Wild Birds Directive (Special Protection Areas or SPAs) or the EU Habitats Directive (Special Areas of Conservation or SACs) is extended to sites (Ramsar Sites) designated under the Ramsar Convention on Wetlands of International Importance⁴.

1.2 The need for & approach to the Habitats Regulations Assessment

- 1.4 Article 6(3) of the Habitats Directive specifies three key questions that need to be asked of the proposed plan prior to any decision being made as to whether or not it should proceed.

- **Question 1: Is the plan directly connected with or necessary to the management of the SPA or SAC?**

If the answer to this question is 'yes' then the plan may proceed with no further assessment. If the answer to this question is 'no' then some level of further assessment is required. In the case of the Surrey Local Flood Risk Management Strategy (LFRMS) the answer to this question is 'no' for any SPA or SAC located in Surrey or the adjoining administrative areas.

- **Question 2: Is the plan likely to have a significant effect on the SPA or SAC, in view of the site's conservation objectives, either alone or in combination with other plans or projects?**

If the answer to this question is 'no' then the plan may proceed with no further assessment. If the answer to this question is 'yes' or 'possibly' then further assessment is required in order to determine whether the likely significant effects would have an adverse impact on the integrity of the SPA or SAC concerned. In the case of the Surrey LFRMS the answer to this question is 'possibly' for any SPA or SAC located in Surrey or the adjoining administrative areas.

- **Question 3: Can it be ascertained that the plan will not adversely affect the integrity of the SPA or SAC concerned?**

If the answer to this question is 'yes' then the plan may proceed. If the answer to this question is 'no' then the plan may not proceed, unless in line with Article 6(4) imperative reasons of overriding public importance can be demonstrated and appropriate compensatory measures be put in place to protect the overall integrity and coherence of the SPA or SAC concerned.

⁴ UNESCO, 1971. *Convention on Wetlands of International Importance especially as Waterfowl Habitat*. Agreed at Ramsar, Iran, on 2 February 1971.

1.5 The relevant legislation does not specify any particular procedure to be followed when assessing the implications of a plan for the integrity of sites of European nature conservation importance. Methodological guidance⁵ on appropriate assessment produced by the EU identifies four key stages of the process:

- **Stage One: Screening:** identifies the likely impacts of a project or plan upon a SPA or SAC, alone or in combination with other projects or plans, and considers whether those impacts are likely to be significant;
- **Stage Two: Appropriate assessment:** considers the impact of the project or plan on the integrity of the SPA or SAC, alone or in combination with other projects or plans, with respect to the SPA or SAC's structure and function and its conservation objectives. Where there are adverse impacts, an assessment should also be made of the potential mitigation of those impacts;
- **Stage Three: Assessment of alternative solutions:** examines alternative ways of achieving the objectives of the project or plan that would avoid adverse impacts on the integrity of the SPA or SAC;
- **Stage Four: Assessment where no alternative solutions exist & where adverse impacts remain:** assesses compensatory measures where, in light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed.

1.3 Determining the geographical scope of the Habitats Regulations Assessment

1.6 The first task to be addressed in the Habitat Regulations Assessment (HRA) for the Surrey LFRMS 2016 involved the identification of the sites of European and international nature conservation importance that could be affected by flood risk management schemes carried out under the auspices of the strategy. The geographical extent of the Surrey LFRMS is defined by the borders of the county of Surrey, however, given that the strategy is fundamentally concerned with the management of the movement of water there is scope for the impacts of works carried out under the strategy to be observed considerably further afield than the county boundary.

⁵ European Commission - Environment DG, November 2001. *Assessment of plans & projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) & (4) of the Habitats Directive 92/43/EEC*. Prepared for the Commission by the Impacts Assessment Unit, School of Planning, Oxford Brookes University.

- 1.7 Advice given by Natural England in 2012 on the area that needed to be covered by the HRA for the first version of the Surrey LFRMS stated that the assessment, “...*should consider the potential implications of the Strategy for all relevant European sites. It should be noted that simply looking at all sites within a certain radius of the county is not sufficient, as hydrological links may be further away (e.g. via river, stream or groundwater). The HRA should consider whether there is a potential impact pathway with each European site and, if there is, consider the impact on the site’s conservation objectives.*”⁶. That advice has been followed in the preparation of the HRA for the 2016 version of the Surrey LFRMS.
- 1.8 In order to take account of Natural England’s advice the screening process (see Part 2 of this report) commenced with a review of all of the land-based SACs, SPAs and Ramsar Sites located in the south east of England (see Table 1-A). Maritime designations have been excluded, based on Surrey’s status as a non-coastal county. The relationship of each SAC, SPA and Ramsar Site to surface water bodies and their drainage catchments was established as part of the initial screening exercise (see Part 2 of this report).

Table 1-A: SACs, SPAs & Ramsar Sites covered by the Surrey LFRMS 2016 Habitat Regulations Assessment

Special Areas of Conservation (SACs)		
Arun Valley	Kingley Vale	Salisbury Plain
Ashdown Forest	Lewes Downs	Sandwich Bay
Blean Complex	Lydden to Temple & Ewell Downs	Shortheath Common
Butser Hill	Mole Gap to Reigate Escarpment	Singleton & Cocking Tunnels
Castle Hill	Mottisfont Bats	Solent & Isle of Wight Lagoons
Dover to Kingsdown Cliffs	North Downs Woodlands	Stodmarsh
Duncton to Bignor Escarpment	Parkgate Down	The Mens
Dungeness	Peter’s Pit	The New Forest
East Hampshire Hangers	Pevensey Levels	Thursley, Ash, Pirbright & Chobham
Ebernoe Common	Queendown Warren	Wimbledon Common
Emer Bog	Richmond Park	Windsor Forest & Great Park
Folkestone to Etchinghill Escarpment	River Avon	Woolmer Forest
Hastings Cliffs	River Itchen	Wye & Crundale Downs
Kennet & Lambourn Floodplains	River Lambourn	
Kennet Valley Alderwoods	Rook Clift	

⁶ Personal communication from Heather Twizzell, Lead Adviser Land Use Operations, Natural England, dated 30 November 2012.

Special Protection Areas (SPAs)		
Arun Valley	Porton Down	The Swale
Ashdown Forest	Salisbury Plain	Thursley, Hankley & Frensham Commons (Wealden Heaths Phase I)
Avon Valley	South West London	
Dungeness to Pett Levels	Waterbodies	
Lee Valley	Stodmarsh	Wealden Heaths Phase II
New Forest	Thames Basin Heaths	

Ramsar Sites		
Arun Valley	New Forest	The Swale
Avon Valley	South West London	Thursley & Ockley Bog
Dungeness to Pett Levels	Waterbodies	
Lee Valley	Stodmarsh	

- 1.9 Having identified the SACs, SPAs and Ramsar Sites for which there is a credible impact pathway with respect to the types of infrastructure works that could reasonably be expected to be brought forward under the Surrey LFRMS 2016, the HRA report then provides a more detailed assessment of the risks for each of the potentially affected sites (see Part 3 of this report).

1.4 The Surrey Local Flood Risk Management Strategy 2016: an overview

- 1.10 The Surrey LFRMS 2016 sets part of the strategic context, alongside other plans and programmes, such as Environment Agency Catchment Flood Management Plans (CFMPs) and River Basin Management Plans (RBMPs), Local Plans and Surface Water Management Plans (SWMPs), within which a range of schemes intended to manage the causes and consequences of ground and surface water flooding in Surrey will be brought forward. The strategy sets out a series of objectives for the management of ground and surface water flood risk, and identifies a range of schemes (an annual action plan) that will be pursued by Surrey County Council, as Lead Local Flood Authority (LLFA) over the 2016/17 period. Further action plans will be prepared on an annual basis.
- 1.11 The refreshed Surrey LFRMS envisages a range of activities being undertaken to address the causes and consequences of flooding, including:
- Studies and surveys to investigate the causes of flooding, and identify ways in which the risks associated with such events might be better managed;

- Initiatives intended to enable the flood risk management authorities who operate within Surrey, including the Environment Agency, local authorities and internal drainage boards, to improve co-ordination and to develop effective partnership approaches to flood risk management;
- Physical measures (e.g. flood prevention or avoidance works such as, sustainable drainage systems, temporary flood retention bunds, changes in land management practices, etc.) intended to improve the management of flood waters and reduce the risks that flooding presents to communities;
- Non-physical measures (e.g. planning policies, information campaigns, etc.) intended to change behaviour and practice to address the causes of flooding, and to improve community capacity to cope with flood events.

1.12 A summary of the schemes listed in the 2016/17 Action Plan for the Surrey LFRMS 2016, including a brief description of the proposed works, and the identity of the surface waterbody catchment in which each would be located, is provided in Table 1-B.

Table 1-B: Schemes listed in the 2016/17 Action Plan for the Surrey LFRMS 2016

Wetspot ID, Scheme Name & Town	Works description & type	Grid Reference	Relevant Surface Waterbody
Guildford			
Gui005 - Woodbridge Road, Guildford	Pipe lining works - Physical works	499012 150654	EA WB No. GB106039017630 - Wey (Shalford to River Thames confluence at Weybridge)
Gui078 - Station Road, Gomshall	New culvert / design work & new lagoon / lagoon design - Physical works	508524 147873	EA WB No. GB106039017840 - Tillingbourne
Gui154 - A31 Hogs Back, Guildford	New grips - Physical works	493156 148367	EA WB No. GB106039017820 - Wey (Tilford to Shalford)
Gui161 - Wharf Road, Guildford	New pipe system - Physical works	499419 150151	EA WB No. GB106039017630 - Wey (Shalford to River Thames confluence at Weybridge)
Mole Valley			
MV021 - A24 Mickleham Bypass, Leatherhead	New swales & grips - Physical works	517059 153680	EA WB No. GB106039017621 - Mole (Horley to Hersham)
MV071 – Dorking Road / Broderick Grove, Bookham	Borehole soakaways & new gullies / Detailed design - Physical works	513453 154268	EA WB No. GB106039017600 - Downside Ditches & Bookham Brook
MV097 - Bookham Flood Alleviation Scheme (FAS) (Lower Road), Bookham	Business case development of scheme options	512829 154442	EA WB No. GB106039017600 - Downside Ditches & Bookham Brook
MV102 - Brockham FAS (Tynedale Road j/w Middle Street), Brockham	Business case development of scheme options	520028 148200	EA WB No. GB106039017570 - Tanners Brook (Holmewood to River Mole confluence at Brockham)

Wetspot ID, Scheme Name & Town	Works description & type	Grid Reference	Relevant Surface Waterbody
Mole Valley (continued)			
MV104 - Wonham Lane, Betchworth	New main carrier - Physical works	521622 149887	EA WB No. GB106039017621 - Mole (Horley to Hersham)
MVxx - Horsham Road / Walliswood Green, Dorking	New culvert & head walls - Physical works	511958 138353	EA WB No. GB106039017790 - Ock
Reigate & Banstead			
Rei006 - Outwood Lane/Holly Lane, Chipstead	Swales & drainage works / drainage lagoon - Physical works	527501 158326	EA WB No. GB106039023460 - Wandle (Croydon to Wandsworth) & River Graveney
Rei008 - Holly Lane/Garratts Lane (formerly Bolters Lane), Banstead	Pipe lining works - Physical works	525259 159453	EA WB No. GB106039023460 - Wandle (Croydon to Wandsworth) & River Graveney
Rei065/Rei072 - Reigate Road / Brighton Road, Burgh Heath, Banstead	Investigation / Design	524112 157868 (Rei065) 524172 157557 (Rei072)	EA WB No. GB106039023460 - Wandle (Croydon to Wandsworth) & River Graveney
Rei024/Rei025/Rei030/Rei063/Rei072/Rei074 - A217 Brighton Road, Banstead	Filter drains / Unknown construction / Investigations / Design Work	524230;157804 (Rei024) 524051;156804 (Rei025) 524154;155696 (Rei030) 524738;159169 (Rei063) 524170;157546 (Rei072) 524047;156216 (Rei074)	EA WB No. GB106039023460 (Rei024, Rei025, Rei030, Rei072, Rei074) - Wandle (Croydon to Wandsworth) & River Graveney EA WB No. GB106039022850 (Rei063) - Beverley Brook (Motspur Park to Thames) & Pyl Brook at West Barnes
Runnymede			
Run002 - Scotland Bridge Road, West Byfleet	New grill in Rive Ditch - Physical works	504497 161796	EA WB No. GB106039017910 - Wey Navigation (Pyrford Reach) EA WB No. GB106039017020 - Addlestone Bourne (Mill / Hale to Chertsey Bourne)
Run079 - South Avenue, Egham	Investigation / Design	502362 170505	EA WB No. GB106039017060 - The Moat at Egham
Surrey Heath			
SH027 - Lightwater Bypass, Lightwater	Investigation / Design	493239 162337	EA WB No. GB106039017930 - Hale / Mill Bourne (Bagshot to Addlestone Bourne confluence near Chobham)
Tandridge			
Tan043 - A25 East Hill, Oxted	Investigation	539603 152594	EA WB No. GB106040018630 - Upper Eden
Tan045 - Tandridge Lane, Crowhurst Lane End	Box culvert- Physical works	537823 148134	EA WB No. GB106040018350 - Middle Eden

Wetspot ID, Scheme Name & Town	Works description & type	Grid Reference	Relevant Surface Waterbody
Tandridge (continued)			
Tan064 - Caterham Bourne FAS (Downsway), Whyteleafe	Large scale study & flood modelling	533845 158952	EA WB No. GB106039023460 - Wandle (Croydon to Wandsworth) & River Graveney
Tan114 - Smallfield & Burstow FAS (Plough Road, Smallfield), Smallfield	Business case development of scheme options	531801 143105	EA WB No. GB106039017520 - Burstow Stream
Tan118 - Woldingham Road, Caterham	New culvert- Physical works	534732 157166	EA WB No. GB106039023460 - Wandle (Croydon to Wandsworth) & River Graveney
Tan145 - A22 Eastbourne Road, South Godstone	Minor works (culvert failure) / design - Physical works	536374 149895	EA WB No. GB106040018640 - Gibbs Brook
Waverley			
Wav078 - Upper Hale Road (Parkside), Farnham	Investigation / Design	484138 148990	EA WB No. GB106039017830 - North Wey (Alton to Tilford)
Wav140 - Alfold FAS (Clapper Meadow), Alfold	Business case development of scheme options	504086 135036	EA WB No. GB106039017810 - Cranleigh Waters
Wav154 - Cramhurst Lane (Merryacres), Cramhurst	Improved system - Physical works	494059 141001	EA WB No. GB106039017790 - Ock
Woking			
Wok084 - Rive Catchment Modelling (Boundary Road), Woking	Large scale study & flood modelling	501557 159535	EA WB No. GB106039017910 - Wey Navigation (Pyrford Reach)

Part 2: Initial Screening of SACs, SPAs & Ramsar Sites

2.1 Methodology for the initial screening assessment

- 2.1 The first stage of the assessment determined which of the SACs, SPAs and Ramsar Sites located across the south east of England would need to be assessed in some level of detail with respect to the potential impacts of the implementation of the Surrey LFRMS 2016. To inform that process, details of the extent of the designations, their geographic locations and the reasons for their designation were compiled. Information on the features (habitats or species) for which the SACs, SPAs and Ramsar Sites were designated was obtained from the Joint Nature Conservation Commission (JNCC) website. Details of the extent and location of the designations was obtained from the UK Government's Multi-Agency Geographic Information for the Countryside (Magic) website.
- 2.2 The extent to which the SACs, SPAs and Ramsar Sites are likely to be linked to the surface water regime in Surrey was investigated to inform the initial screening assessment. The drainage catchments defined for surface waterbodies by the Environment Agency's RBMPs for the Thames and the South East river basin districts were used as the basis for that evaluation (see the Environment Agency's on-line resource, the Catchment Data Explorer (<http://environment.data.gov.uk/catchment-planning/>) for further details). The relevant surface water drainage catchments have been identified for each SAC, SPA and Ramsar Site, and the extent to which those catchments are downstream of catchments located within Surrey.
- 2.3 The criteria that have been applied in determining whether or not a particular SAC, SPA or Ramsar Site requires further assessment as part of the HRA for the Surrey LFRMS 2016 are as follows.
- 2.3.1 **Selection criteria 1: Is the SAC, SPA or Ramsar Site partly or wholly located within the boundaries of the county of Surrey?**
- If the answer to this question is 'yes' for a given SAC, SPA or Ramsar Site it is classed as being potentially at risk from adverse impacts as a consequence of flood risk management works being carried out under the auspices of the Surrey LFRMS 2016.
- 2.3.2 **Selection criteria 2: Is the SAC, SPA or Ramsar Site partly or wholly located within a surface water drainage catchment that is partly or wholly located within Surrey, or that is downstream of a catchment that is partly or wholly within Surrey?**

If the answer to this question is 'yes' for a given SAC, SPA or Ramsar Site it is classed as being potentially at risk from adverse impacts as a consequence of flood risk management works being carried out under the auspices of the Surrey LFRMS 2016.

2.3.3 **Selection criteria 3: Are any of the schemes identified in the 2016/17 Action Plan for the Surrey LFRMS 2016 located within a surface water drainage catchment shared with the SAC, SPA or Ramsar Site?**

If the answer to this question is 'yes' for a given SAC, SPA or Ramsar Site it is classed as being potentially at risk from adverse impacts as a consequence of flood risk management works being carried out under the auspices of the Surrey LFRMS, and further assessment is required.

- 2.4 The schemes listed in the 2016/17 Action Plan for the Surrey LFRMS 2016 are small in scale, and comprise entirely of programmes of work, or study, investigation and design, that are concerned with addressing known areas of surface water flooding that affect the county's highways network. Given the scale and type of schemes that would be brought forward under the strategy, which would not involve activities such as abstraction, aquifer recharge, or excavation, it was concluded that the strategy would not significantly affect underlying groundwater resources, and consequently consideration of groundwater bodies has been scoped out of the assessment.

2.2 Findings of the initial screening assessment

- 2.5 The initial screening assessment (see Table 2-A) identified four SACs that require further assessment (see Part 3), including two that are partially or wholly located within Surrey (denoted in bold type).

2.5.1 **Mole Gap to Reigate Escarpment SAC** – located in Surrey, designated for stable xerothermophilous formations with *Buxus sempervirens* on rock slopes (*Berberidion* p.p.), the presence of semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (important orchid sites), the presence of *Taxus baccata* woods of the British Isles, the presence of European dry heaths, the presence of *Asperulo-Fagetum* beech forests, the presence of great crested newts *Triturus cristatus*, and the presence of Bechstein's bat *Myotis bechsteinii*.

2.5.2 Richmond Park SAC – located in Greater London, designated for the presence of the stag beetle *Lucanus cervus*.

2.5.3 **Thursley, Ash, Pirbright & Chobham SAC** – located in Surrey, designated for the presence of Northern Atlantic wet heaths with *Erica tetralix*, the presence of

European dry heaths, and the presence of depressions on peat substrates of the *Rhynchosporion*.

- 2.5.4 Wimbledon Common SAC – located in Greater London, designated for the presence of Northern Atlantic wet heaths with *Erica tetralix*, the presence of European dry heaths, and the presence of the stag beetle *Lucanus cervus*.

Table 2-A: Initial Screening – Special Areas of Conservation (SACs)

SAC, location, area, constituent Sites of Special Scientific Interest (SSSIs) & reasons for designation	Surface Water Catchments	SSSIs in Surrey?	SW catchment in Surrey?	Immediate upstream catchments in Surrey?	LFRMS Schemes in SW Catchment
Arun Valley West Sussex, 487.5 hectares. Amberley Wild Brooks SSSI, Pulborough Brooks SSSI, Waltham Brooks SSSI. Designated for the presence of the Little whirlpool ram's-horn snail	South East - Arun & Western Streams: Pulborough Brooks (EA WB No. GB107041013040); ARUN - Lower Arun TraC (EA WB No. GB540704105000); River Stor (EA WB No. GB107041012100)	No	No	No	None – no further assessment required
Ashdown Forest East Sussex, 2,729.0 hectares. Ashdown Forest SSSI. Designated for the presence of Northern Atlantic wet heaths with <i>Erica tetralix</i> , European dry heaths, & the great crested newt	South East - Adur & Ouse: Shortbridge Stream (EA WB No. GB107041012980) Thames - Upper Medway: Pippingford Brook (EA WB No. GB106040018360); Medway at Weir Wood (EA WB No. GB106040018070)	No	No	No	None – no further assessment required
Blean Complex Kent, 520.6 hectares. Church Woods, Blean SSSI, East Blean Woods SSSI, Ellenden Wood SSSI. Designated for the presence of sub-Atlantic & medio-European oak or oak-hornbeam forests of the <i>Carpinion betuli</i>	South East - Stour - Oyster Coast Brooks: Swalcliffe Brook (EA WB No. GB107040019630); South East - Stour - Stour Marshes: Sarre Penn & River Wantsum (EA WB No. GB107040019620) South East - Stour - Lower Stour: Whitehall Dyke at Harbledown (EA WB No. GB107040019560) Thames - North Kent - White Drain & Lakes: White Drain (EA WB No. GB106040018560)	No	No	No	None – no further assessment required
Butser Hill Hampshire, 238.7 hectares. Butser Hill SSSI. Designated for the presence of semi-natural dry grasslands & scrubland facies: on calcareous substrates (<i>Festuco-Brometalia</i>), <i>Taxus baccata</i> (yew) woods of the British Isles	South East - Arun & Western Streams - Western Rother: Stanbridge Stream (EA WB No. 107041012790) South East - East Hampshire - East Hampshire Rivers: Lavant (Hants) (EA WB No. GB107042016420; Meon (EA WB No, GB107042016640)	No	No	No	None – no further assessment required
Castle Hill East Sussex, 114.7 hectares. Castle Hill SSSI. Designated for the presence of the Early gentian	South East TraC - Lower Ouse (EA WB No. GB540704104900)	No	No	No	None – no further assessment required

SAC, location, area, constituent SSSIs & reasons for designation	Surface Water Catchments	SSSIs in Surrey?	SW catchment in Surrey?	Immediate upstream catchments in Surrey?	LFRMS Schemes in SW Catchment
Dover to Kingsdown Cliffs Kent, 183.9 hectares. Dover to Kingsdown Cliffs SSSI. Designated for the presence of vegetated sea cliffs of the Atlantic & Baltic coasts, semi-natural dry grasslands & scrubland facies: on calcareous substrates (<i>Festuco-Brometalia</i>) (important orchid sites)	None	No	No	No	None – no further assessment required
Duncton to Bignor Escarpment West Sussex, 214.5 hectares. Duncton to Bignor Escarpment SSSI. Designated for the presence of <i>Asperulo-Fagetum</i> beech forests (on neutral to rich soils)	South East - Arun & Western Streams - South East TraC: ARUN (Lower Arun TraC) (EA WB No. GB540704105000) South East - Arun & Western Streams - Western Rother: Western Rother (EA WB No. GB107041012810)	No	No	No	None – no further assessment required
Dungeness East Sussex & Kent, 3,223.6 hectares. Dungeness, Romney Marsh & Rye Bay SSSI. Designated for the presence of annual vegetation of drift lines, perennial vegetation of stony banks (coastal shingle vegetation outside the reach of waves), & the great crested newt	South East - Rother - Romney Marsh South: Dengermarsh Sewer (EA WB No. GB107040013450); White Kemp & Jury's Gut Sewer (EA WB No. GB107040013470) South East - Rother - Brede & Tillingham: Brede (EA WB No. GB107040013550)	No	No	No	None – no further assessment required
East Hampshire Hangers Hampshire, 569.7 hectares. Coombe Wood & the Lythe SSSI, Noar Hill SSSI, Selborne Common SSSI, Upper Greensand Hangers: Empshott to Hawkley SSSI, Upper Greensand Hangers: Wyck to Wheatley SSSI, Wealden Edge Hangers SSSI, & Wick Wood & Worldham Hangers SSSI. Designated for the presence of semi-natural dry grasslands & scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (important orchid sites), <i>Asperulo-Fagetum</i> beech forests (on neutral to rich soils), <i>Tilio-Acerion</i> forests of slopes, screes & ravines (on base-rich soils associated with rocky slopes), <i>Taxus baccata</i> woods (yew) of the British Isles, & the Early gentian	South East - Arun & Western Streams - Western Rother: Western Rother (Upstream Petersfield) (EA WB No. GB107041012840); Thames - Wey & Tributaries - Wey: Oakhanger Stream (EA WB No. GB106039017710); Slea (Kingsley to Sleaford) (EA WB No. GB106039017750)	No	No	No	None – no further assessment required
Ebernoe Common West Sussex, 234.9 hectares. Ebernoe Common SSSI. Designated for the presence of Atlantic acidophilous beech forests with <i>Ilex</i> & sometimes also <i>Taxus</i> in the shrublayer (<i>Quercion roboretiae</i> or <i>Ilici-Fagenion</i>) (on acid soils), the Barbastelle bat, & the Bechstein's bat	South East - Arun & Western Streams - Upper Arun: Kird (EA WB No. GB107041012300)	No	No	No	None – no further assessment required

SAC, location, area, constituent SSSIs & reasons for designation	Surface Water Catchments	SSSIs in Surrey?	SW catchment in Surrey?	Immediate upstream catchments in Surrey?	LFRMS Schemes in SW Catchment
Emer Bog Hampshire, covers 37.5 hectares. Composed of the Baddesley Common SSSI. Designated for the presence of transition mires & quaking bogs	South East - Test & Itchen - Lower Test & Southampton Streams: Tadburn Lake (EA WB No. GB107042016490)	No	No	No	None – no further assessment required
Folkestone to Etchinghill Escarpment Kent, 181.9 hectares. Folkestone to Etchinghill Escarpment SSSI. Designated for the presence of semi-natural dry grasslands & scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (important orchid sites)	None	No	No	No	None – no further assessment required
Hastings Cliffs East Sussex, 183.7 hectares. Hastings Cliffs to Pett Beach SSSI. Designated for the presence of vegetated sea cliffs of the Atlantic & Baltic coasts	None	No	No	No	None – no further assessment required
Kennet & Lambourn Floodplains Berkshire & Wiltshire, 114.5 hectares. Boxford Water Meadows SSSI, Chilton Foliat Meadows SSSI, Kennet & Lambourn Floodplain SSSI, & Thatcham Reed Beds SSSI. Designated for the presence of the Desmoulin's whorl snail	Thames - Kennet & Tributaries - Kennet: Middle Kennet (Marlborough to Hungerford) (EA WB No. GB106039023173); Middle Kennet (Hungerford to Newbury) (EA WB No. GB106039023174)	No	No	No	None – no further assessment required
Kennet Valley Alderwoods Berkshire, covers 56.8 hectares. Composed of the Kennet Valley Alderwoods SSSI. Designated for the presence of alluvial forests with <i>Alnus glutinosa</i> & <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>) (Alder woodland)	Thames - Kennet & Tributaries - Kennet: Middle Kennet (Hungerford to Newbury) (EA WB No. GB106039023174)	No	No	No	None – no further assessment required
Kingley Vale West Sussex, 208.1 hectares. Kingley Vale SSSI. Designated for the presence of semi-natural dry grasslands & scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>), <i>Taxus baccata</i> (yew) woods of the British Isles	South East - Arun & Western Streams - Western Streams: Ems (EA WB No. GB107041012370); Lavant (Sussex) (EA WB No. GB107041006520); Bosham Stream (EA WB No. GB107041012350)	No	No	No	None – no further assessment required
Lewes Downs East Sussex, 146.9 hectares. Lewes Downs SSSI. Designated for the presence of semi-natural dry grasslands & scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (important orchid sites)	South East TraC - Lower Ouse Catchment (EA WB No. GB540704104900); South East - Adur & Ouse - Upper Ouse: Glynde Reach (EA WB No. GB107041012510)	No	No	No	None – no further assessment required

SAC, location, area, constituent SSSIs & reasons for designation	Surface Water Catchments	SSSIs in Surrey?	SW catchment in Surrey?	Immediate upstream catchments in Surrey?	LFRMS Schemes in SW Catchment
Lydden to Temple & Ewell Downs Kent, 61.7 hectares. Lydden & Temple Ewell Downs SSSI. Designated for the presence of semi-natural dry grasslands & scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (important orchid sites)	South East - Stour - Dour: Upper Dour (EA WB No. GB107040019490)	No	No	No	None – no further assessment required
Mole Gap to Reigate Escarpment Surrey, 887.7 hectares. Mole Gap to Reigate Escarpment SSSI; Designated for the presence of European dry heaths, stable xerothermophilous formations with <i>Buxus sempervirens</i> (natural box scrub) on rock slopes (<i>Berberidion</i> p.p.), semi-natural dry grasslands & scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (important orchid sites), <i>Asperulo-Fagetum</i> beech forests (on neutral to rich soils), <i>Taxus baccata</i> (yew) woods of the British Isles, the great crested newt, & the Bechstein's bat	Thames - Mole - Lower Mole & Rythe: Mole (Horley to Hersham) (EA WB No. GB106039017621)	Yes	Yes	Yes	Scheme MV021 (EA WB No. GB106039017621) Scheme MV104 (EA WB No. GB106039017621) Further assessment required – see Part 3
Mottisfont Bats Hampshire, 196.9 hectares. Mottisfont Bats SSSI. Designated for the presence of the Barbastelle bat	South East - Test & Itchen - Lower Test & Southampton Streams: Dun (EA WB No. GB107042022640); South East - Test & Itchen - Upper & Middle Test: Test (confluence Anton to Confluence Dun) (EA WB No. GB107042022670)	No	No	No	None – no further assessment required
North Downs Woodlands Kent, 287.6 hectares. Halling to Trottscliffe Escarpment SSSI & Wouldham to Detling Escarpment SSSI. Designated for the presence of semi-natural dry grasslands & scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>), <i>Asperulo-Fagetum</i> beech forests (on neutral to rich soils), <i>Taxus baccata</i> (yew) woods of the British Isles	Thames - Thames TraC - Medway Swale Estuary: Medway (EA WB No. GB530604002300)	No	No	No	None – no further assessment required

SAC, location, area, constituent SSSIs & reasons for designation	Surface Water Catchments	SSSIs in Surrey?	SW catchment in Surrey?	Immediate upstream catchments in Surrey?	LFRMS Schemes in SW Catchment
<p>New Forest</p> <p>Hampshire, 29,262.4 hectares. Lymington River SSSI & The New Forest SSSI. Designated for the presence of oligotrophic waters containing very few minerals of sandy plains, oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> &/or of the <i>Isoëto-Nanojuncetea</i>, Northern Atlantic wet heaths with <i>Erica tetralix</i>, European dry heaths, <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils, transition mires & quaking bogs, depressions on peat substrates of the <i>Rhynchosporion</i>, alkaline fens, Atlantic acidophilous beech forests with <i>Ilex</i> & sometimes also <i>Taxus</i> in the shrublayer (<i>Quercion robur-petraeae</i> or <i>Ilici-Fagenion</i>), <i>Asperulo-Fagetum</i> beech forests (on neutral to rich soils), old acidophilous oak woods with <i>Quercus robur</i> on sandy plains, bog woodland, alluvial forests with <i>Alnus glutinosa</i> & <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) (Alder woodland), the Southern damselfly, the Stag beetle, & the Great crested newt</p>	South East - New Forest Management Catchment	No	No	No	None – no further assessment required
<p>Parkgate Down</p> <p>Kent, 6.9 hectares. Parkgate Down SSSI. Designated for the presence of semi-natural dry grasslands & scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (important orchid sites)</p>	South East - Stour - Little Stour & Wingham: Nailbourne & Little Stour (EA WB No. GB107040019590)	No	No	No	None – no further assessment required
<p>Peter's Pit</p> <p>Kent, 28.3 hectares. Peter's Pit SSSI. Designated for the presence of the great crested newt</p>	Thames - Thames TraC - Medway Swale Estuary: Medway (EA WB No. GB530604002300)	No	No	No	None – no further assessment required
<p>Pevensey Levels</p> <p>East Sussex, 3,585.4 hectares. Pevensey Levels SSSI. Designated for the presence of the Little whirlpool ram's-horn snail</p>	South East - Cuckmere & Pevensey Levels - Pevensey: Waller Haven between Windmill Hill & Coast (EA WB No. GB107041012460); Pevensey Haven (EA WB No. GB107041006670); Hurst Haven at Hailsham (EA WB No. GB107041012500); Horse Eye Sewer (EA WB No. GB107041012420)	No	No	No	None – no further assessment required

SAC, location, area, constituent SSSIs & reasons for designation	Surface Water Catchments	SSSIs in Surrey?	SW catchment in Surrey?	Immediate upstream catchments in Surrey?	LFRMS Schemes in SW Catchment
Queendown Warren Kent, 14.3 hectares. Queendown Warren SSSI. Designated for the presence of semi-natural dry grasslands & scrubland facies: on calcareous substrates (<i>Festuco-Brometalia</i>) (important orchid sites)	Thames - Thames TraC - Medway Swale Estuary: Medway (EA WB No. GB530604002300)	No	No	No	None – no further assessment required
Richmond Park Greater London, 846.7 hectares. Richmond Park SSSI. Designated for the presence of the Stag beetle	Thames - London - Beverley Brook - Beverley Brook (Motspur Park to Thames) & Pyl Brook at West Barnes (EA WA No. GB106039022850); Thames - London - Land area part of management catchment draining to the Tidal Thames	No	Yes	No	Scheme Rei063 (EA WB No. GB106039022850) Further assessment required – see Part 3
River Avon Dorset, Hampshire & Wiltshire, 498.2 hectares. River Avon System SSSI & Avon Valley (Bickton to Christchurch) SSSI. Designated for the presence of water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> & <i>Callitriche-Batrachion</i> vegetation, the Desmoulin's whorl snail, the Sea lamprey, the Brook lamprey, the Atlantic salmon, & the Bullhead	South West - Avon (Hampshire) Management Catchment	No	No	No	None – no further assessment required
River Itchen Hampshire, 309.3 hectares. River Itchen SSSI. Designated for the presence of water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> & <i>Callitriche-Batrachion</i> vegetation, the Southern damselfly, the White-clawed (or Atlantic stream) crayfish, the Brook lamprey, the Atlantic salmon, the Bullhead, & the Otter	South East - Test & Itchen Management Catchment	No	No	No	None – no further assessment required
River Lambourn Berkshire, 27.3 hectares. River Lambourn SSSI. Designated for the presence of water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> & <i>Callitriche-Batrachion</i> vegetation, the Brook lamprey, & the Bullhead	Thames - Kennet & Tributaries - Kennet: Lambourn (Source to Newbury) (EA WB No. GB106039023220)	No	No	No	None – no further assessment required
Rook Clift West Sussex, 10.8 hectares. Rook Clift SSSI. Designated for the presence of <i>Tilio-Acerion</i> forests of slopes, scree & ravines (on base-rich soils associated with rocky slopes)	South East - Arun & Western Streams - Western Rother: Minsted Stream (EA WB No. GB107041012760)	No	No	No	None – no further assessment required

SAC, location, area, constituent SSSIs & reasons for designation	Surface Water Catchments	SSSIs in Surrey?	SW catchment in Surrey?	Immediate upstream catchments in Surrey?	LFRMS Schemes in SW Catchment
Salisbury Plain Hampshire & Wiltshire, 21,438.1 hectares. Porton Down SSSI & Salisbury Plain SSSI. Designated for the presence of <i>Juniperus communis</i> formations on heaths or calcareous grasslands, semi-natural dry grasslands & scrubland facies: on calcareous substrates (<i>Festuco-Brometalia</i>) (important orchid sites), & the Marsh fritillary butterfly	South West - Avon (Hampshire) Management Catchment	No	No	No	None – no further assessment required
Sandwich Bay Kent, 1,137.9 hectares. Sandwich Bay to Hacklinge Marshes SSSI. Designated for the presence of embryonic shifting dunes, shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes"), Fixed dunes with herbaceous vegetation ("grey dunes"), Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (<i>Salicion arenariae</i>), Humid dune slacks	South East - South East TraC - East Kent Coast Operational Catchment	No	No	No	None – no further assessment required
Shortheath Common Hampshire, 58.9 hectares. Shortheath Common SSSI. Designated for the presence of European dry heaths, transition mires & quaking bogs, bog woodland	Thames - Wey & Tributaries - Wey: Oakhanger Stream (EA WB No. GB106039017710)	No	No	No	None – no further assessment required
Singleton & Cocking Tunnels West Sussex, 2.45 hectares. Singleton & Cocking Tunnels SSSI. Designated for the presence of the Barbastelle bat, & the Bechstein's bat	South East - Arun & Western Streams - Western Streams: Lavant (Sussex) (EA WB No. GB107041006520)	No	No	No	None – no further assessment required
Solent & Isle of Wight Lagoons Hampshire & Isle of Wight, 36.2 hectares. Gilkicker Lagoon SSSI & Hurst Castle & Lymington River Estuary SSSI. Designated for the presence of coastal lagoons	South East - South East TraC - East Hampshire TraCs: Langstone Harbour (EA WB No. GB580705130000) South East - South East TraC - Solent: Solent (EA WB No. GB650705150000)	No	No	No	None – no further assessment required
Stodmarsh Kent, 564.6 hectares. Stodmarsh SSSI. Designated for the presence of the Desmoulin's whorl snail	South East - Stour - Lower Stour: Great Stour between A2 & West Stourmouth (EA WB No. GB107040019743); Lampen Stream (EA WB No. GB107040019790)	No	No	No	None – no further assessment required

SAC, location, area, constituent SSSIs & reasons for designation	Surface Water Catchments	SSSIs in Surrey?	SW catchment in Surrey?	Immediate upstream catchments in Surrey?	LFRMS Schemes in SW Catchment
<p>The Mens</p> <p>West Sussex, 203.3 hectares. The Mens SSSI. Designated for the presence of Atlantic acidophilous beech forests with <i>Ilex</i> & sometimes also <i>Taxus</i> in the shrublayer (<i>Quercion robur-petraeae</i> or <i>Illici-Fagenion</i>) (on acid soils), & the Barbastelle bat</p>	<p>South East - Arun & Western Streams - Upper Arun: Kird (EA WB No. GB107041012300); Arun (upstream Pallingham) (EA WB No. GB107041017590)</p>	No	No	Yes	None – no further assessment required
<p>Thursley, Ash, Pirbright & Chobham</p> <p>Surrey, 5,138.0 hectares. Ash to Brookwood Heaths SSSI, Chobham Common SSSI, Colony Bog & Bagshot Heath SSSI & Thursley, Hankley & Frensham Commons SSSI. Designated for the presence of Northern Atlantic wet heaths with <i>Erica tetralix</i>, European dry heaths, depressions on peat substrates of the <i>Rhynchosporion</i></p>	<p>Thames - Wey & Tributaries - Wey: Clasford Brook & Wood Street Brook (EA WB No. GB106039017850); Hoe Stream (Normandy to Pirbright) (EA WB No. GB106039017870); Hoe Stream (Pirbright to River Wey confluence at Woking) (EA WB No. GB106039017900); Hale/Mill Bourne (Bagshot to Addlestone Bourne confluence near Chobham) (EA WB No. GB106039017930); Chertsey Bourne (Virginia Water to Chertsey) (EA WB No. GB106039017070); Wey Navigation (Pyrford Reach) (EA WB No. GB106039017910); Addlestone Bourne (West End to Hale/Mill Bourne confluence at Mimbridge) (EA WB No. GB106039017920); Royal Brook (EA WB No. GB106039017760); Truxford Brook (EA WB No. GB106039017770); Wey (Tilford to Shalford) (EA WB No. GB106039017820); South Wey (River Slea confluence to Tilford) (EA WB No. GB106039017780); Ock (EA WB No. GB106039017790)</p> <p>Thames - Loddon & Tributaries - Loddon: Blackwater (Aldershot to Cove Brook confluence at Hawley) (EA WB No. GB106039017180)</p>	Yes	Yes	Yes	<p>Scheme Run002 (EA WB No. GB106039017910)</p> <p>Scheme SH027 (EA WB No. GB106039017930)</p> <p>Scheme Wok084 (WA WB No. GB106039017910)</p> <p>Scheme Gui154 (EA WB No. GB106039017820)</p> <p>Scheme Wav154 (EA WB No. GB106039017790)</p> <p>Further assessment required – see Part 3</p>
<p>Wimbledon Common</p> <p>Greater London, 348.3 hectares. Wimbledon Common SSSI. Designated for the presence of Northern Atlantic wet heaths with <i>Erica tetralix</i>, European dry heaths, & the Stag beetle</p>	<p>Thames - London - Beverley Brook - Beverley Brook (Motspur Park to Thames) & Pyl Brook at West Barnes (EA WB No. GB106039022850);</p>	No	Yes	No	<p>Scheme Rei063 (EA WB No. GB106039022850)</p> <p>Further assessment required – see Part 3</p>

SAC, location, area, constituent SSSIs & reasons for designation	Surface Water Catchments	SSSIs in Surrey?	SW catchment in Surrey?	Immediate upstream catchments in Surrey?	LFRMS Schemes in SW Catchment
Windsor Forest & Great Park Berkshire & Surrey, 1,687.3 hectares. Windsor Forest & Great Park SSSI. Designated for the presence of Atlantic acidophilous beech forests with <i>Ilex</i> & sometimes also <i>Taxus</i> in the shrublayer (<i>Quercion robur-petraeae</i> or <i>Illici-Fagenion</i>) (on acid soils), old acidophilous oak woods with <i>Quercus robur</i> on sandy plains, & the Violet click beetle	Thames - Wey & Tributaries - Wey: Chertsey Bourne (Virginia Water to Chertsey) (EA WB No. GB106039017070); Chertsey Bourne (Sunningdale to Virginia Water) (EA WB No. GB106039017040); Chertsey Bourne (Ascot to Virginia Water) (EA WB No. GB106039017050); Thames - Maidenhead & Sunbury - Lower Thames: Thames (Cookham to Egham) (EA WB No. GB106039023231)	Yes	Yes	Yes	None – no further assessment required
Woolmer Forest Hampshire & West Sussex, 666.7 hectares. Woolmer Forest SSSI. Designated for the presence of natural dystrophic lakes & ponds, Northern Atlantic wet heaths with <i>Erica tetralix</i> , European dry heaths, transition mires & quaking bogs, depressions on peat substrates of the <i>Rhynchosporion</i>	Thames - Wey & Tributaries - Wey: Hollywater & Deadwater at Bordon (EA WB No.106039017690)	No	No	No	None – no further assessment required
Wye & Crundale Downs Kent, 112.2 hectares. Wye & Crundale Downs SSSI. Designated for the presence of semi-natural dry grasslands & scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (important orchid sites)	South East - Stour - Lower Stour: Great Stour between A2 & West Stourmouth (EA WB No. GB107040019743)	No	No	No	None – no further assessment required

2.6 The initial screening assessment (see Table 2-B) identified three SPAs that require further assessment, of which all are partially or wholly located within Surrey.

2.6.1 South West London Waterbodies SPA – located in Surrey, the Royal Borough of Windsor & Maidenhead, and Greater London, designated for the presence over-winter of the gadwall and the Northern shoveler,

2.6.2 Thames Basin Heaths SPA – located in Surrey, Hampshire and the borough of Bracknell Forest, designated for the presence of breeding populations of the Dartford warbler, the woodlark and the European nightjar.

2.6.3 Thursley, Hankley & Frensham Commons (Wealden Heaths Phase I) SPA – located in Surrey, designated for the presence of breeding populations of the Dartford warbler, the woodlark and the European nightjar.

Table 2-B: Initial Screening – Special Protection Areas (SPAs)

SPA, location, area, constituent SSSIs & reasons for designation	Surface Water Catchments	SSSIs in Surrey?	SW catchment in Surrey?	Immediate upstream catchments in Surrey?	LFRMS Schemes in SW Catchment
Arun Valley West Sussex, 528.5 hectares. Amberley Wild Brooks SSSI, Pulborough Brooks SSSI, Waltham Brooks SSSI. Designated for the presence of a non-breeding population of the Bewick's swan, & an outstanding waterbird assemblage	South East - Arun & Western Streams: Pulborough Brooks (EA WB No. GB107041013040); ARUN - Lower Arun TraC (EA WB No. GB540704105000); River Stor (EA WB No. GB107041012100)	No	No	No	None – no further assessment required
Ashdown Forest East Sussex, 3,207.1 hectares. Ashdown Forest SSSI. Designated for the presence of breeding populations of the European nightjar, & the Dartford warbler	South East - Adur & Ouse: Shortbridge Stream (EA WB No. GB107041012980) Thames - Upper Medway: Pippingford Brook (EA WB No. GB106040018360); Medway at Weir Wood (EA WB No. GB106040018070)	No	No	No	None – no further assessment required
Avon Valley Dorset & Hampshire, 1,385.1 hectares. Avon Valley (Bickton to Christchurch) SSSI & Avon Valley System SSSI. Designated for the presence of non-breeding populations of the Bewick's swan, & the Gadwall	South West - Avon (Hampshire) Management Catchment	No	No	No	None – no further assessment required
Dungeness to Pett Levels East Sussex & Kent, 1,474.1 hectares. Dungeness, Romney Marsh & Rye Bay SSSI. Designated for the presence of breeding populations of the Mediterranean gull, the Common tern, the Little tern, & non-breeding populations of the Bewick's swan, & the Northern shoveler	South East - Rother - Romney Marsh South: Dengermarsh Sewer (EA WB No. GB107040013450); White Kemp & Jury's Gut Sewer (EA WB No. GB107040013470) South East - Rother - Brede & Tillingham: Brede (EA WB No. GB107040013550)	No	No	No	None – no further assessment required
Lee Valley Essex, Greater London & Hertfordshire, 447.9 hectares. Amwell Quarry SSSI, Rye Meads SSSI, Turnford & Cheshunt Pits SSSI & Walthamstow Reservoirs SSSI. Designated for the presence of non-breeding populations of the Great bittern, the Gadwall, & the Northern shoveler	Thames - Upper Lee - Upper Lee: Lee Navigation (Hertford to Fieldes Weir) (EA WB No. GB106038033240); Stort & Navigation, Harlow to Lee (EA WB No. GB106038033282) Thames - London - Lower Lee Rivers & Lakes: Small River Lee (& tributaries) (EA WB No. GB106038033200); Lee Navigation (Fieldes Weir to Enfield Lock) (EA WB No. GB106038077851); Lee (Tottenham Locks to Bow Locks/Three Mills Lock) (EA WB No. GB106038077852); Lea Navigation Enfield Lock to Tottenham Lock (EA WB No. GB106038027950)	No	No	No	None – no further assessment required

SPA, location, area, constituent SSSIs & reasons for designation	Surface Water Catchments	SSSIs in Surrey?	SW catchment in Surrey?	Immediate upstream catchments in Surrey?	LFRMS Schemes in SW Catchment
New Forest Hampshire, 28,002.2 hectares. Lymington River SSSI & The New Forest SSSI. Designated for the presence of breeding populations of the European honey-buzzard, the Eurasian hobby, the European nightjar, the Woodlark, the Dartford warbler, the Wood warbler, and a non-breeding population of the Hen harrier	South East - New Forest Management Catchment	No	No	No	None – no further assessment required
Porton Down Hampshire & Wiltshire, 1,237.0 hectares. Porton Down SSSI. Designated for the presence of a breeding population of the Stone-curlew	South West - Avon (Hampshire) Management Catchment	No	No	No	None – no further assessment required
Salisbury Plain Wiltshire, 19,688.9 hectares. Salisbury Plain SSSI. Designated for the presence of a non-breeding population of the Hen harrier, & breeding populations of the Eurasian hobby, the Common quail, & the Stone-curlew	South West - Avon (Hampshire) Management Catchment	No	No	No	None – no further assessment required
South West London Waterbodies Berkshire, Greater London & Surrey, 828.1 hectares. Kempton Park Reservoirs SSSI, Knight & Bessborough Reservoirs SSSI, Staines Moor SSSI, Thorpe Park No 1 Gravel Pit SSSI, Wraybury & Hythe End Gravel Pits SSSI, Wraybury No 1 Gravel Pit SSSI & Wraybury Reservoir SSSI. Designated for the presence of non-breeding populations of the Gadwall, & the Northern shoveler	Thames - London -Crane Rivers & Lakes - Port Lane Brook (EA WB No. GB106039023451) Thames - Maidenhead & Sunbury - Lower Thames: Thames (Egham to Teddington) (EA WB No. GB106039023232); Thames (Cookham to Egham) (EA WB No. GB106039023231) Thames- Colne - Colne: Colne (confluence with Chess to River Thames) (EA WB No. GB106039023090); Surrey Ash (EA WB No. GB106039023480); Horton Brook (EA WB No. GB106039023040) Thames - Wey & Tributaries - Wey: Moat at Egham (EA WB No. GB106039017060)	Yes	Yes	Yes	Scheme Run079 (EA WB No. GB106039017060) Further assessment required – see Part 3
Stodmarsh Kent, 481.3 hectares. Stodmarsh SSSI. Designated for the presence of non-breeding populations of the Great bittern, the Gadwall, the Northern shoveler, the Hen harrier, a breeding population of the Gadwall, the waterbird assemblage, & the breeding bird assemblage	South East - Stour - Lower Stour: Great Stour between A2 & West Stourmouth (EA WB No. GB107040019743); Lampen Stream (EA WB No. GB107040019790)	No	No	No	None – no further assessment required

SPA, location, area, constituent SSSIs & reasons for designation	Surface Water Catchments	SSSIs in Surrey?	SW catchment in Surrey?	Immediate upstream catchments in Surrey?	LFRMS Schemes in SW Catchment
<p>Thames Basin Heaths</p> <p>Berkshire, Hampshire & Surrey, 8,274.7 hectares. Ash to Brookwood Heaths SSSI, Bourley & Long Valley SSSI, Bramshill SSSI, Broadmoor to Bagshot Woods & Heaths SSSI, Castle Bottom to Yateley & Hawley Commons SSSI, Chobham Common SSSI, Colony Bog & Bagshot Heath SSSI, Eelmoor Marsh SSSI, Hazeley Heath SSSI, Horsell Common SSSI, Ockham & Wisley Commons SSSI, Sandhurst to Owlsmoor Bogs & Heaths SSSI, Whitmoor Common SSSI. Designated for the presence of breeding populations of the European nightjar, the Woodlark, & the Dartford warbler</p>	<p>Thames - Wey & Tributaries - Wey: Clasford Brook & Wood Street Brook (EA WB No. GB106039017850); Hoe Stream (Normandy to Pirbright) (EA WB No. GB106039017870); Hoe Stream (Pirbright to River Wey confluence at Woking) (EA WB No. GB106039017900); Hale/Mill Bourne (Bagshot to Addlestone Bourne confluence near Chobham) (EA WB No. GB106039017930); Chertsey Bourne (Virginia Water to Chertsey) (EA WB No. GB106039017070); Wey Navigation (Pyrford Reach) (EA WB No. GB106039017910); Addlestone Bourne (West End to Hale/Mill Bourne confluence at Mimbridge) (EA WB No. GB106039017920); Addlestone Bourne (Mill/Hale to Chertsey Bourne) (EA WB No. GB106039017020); Wey (Shalford to River Thames confluence at Weybridge) (EA WB No. GB106039017630);</p> <p>Thames - Mole - Lower Mole & Rythe: Mole (Horley to Hersham) (EA WB No. GB106039017621)</p> <p>Thames - Loddon & Tributaries - Loddon: Blackwater (Aldershot to Cove Brook confluence at Hawley) (EA WB No. GB106039017180); Fleet Brook (EA WB No. GB106039017120); Cove Brook (EA WB No. GB106039017130); Blackwater (Hawley to Whitewater confluence at Bramshill) (EA WB No. GB106039017290); Hart (Elvetham to Hartley Wintney) (EA WB No. GB106039017170)</p>	Yes	Yes	Yes	<p>Scheme Gui005 (EA WB No. GB106039017630); Scheme Gui161 (EA WB No. GB106039017630); Scheme MV021 (EA WB No. GB106039017621); Scheme MV104 (EA WB No. GB106039017621) Scheme Run002 (EA WB No. GB106039017020) Scheme SH027 (EA WB No. GB106039017930); Scheme Wok084 (EA WB No. GB106039017910)</p> <p>Further assessment required – see Part 3</p>
<p>Thursley, Hankley & Frensham Commons (Wealden Heaths Phase I)</p> <p>Surrey, 1,869.9 hectares. Thursley, Hankley & Frensham Commons SSSI. Designated for the presence of breeding populations of the European nightjar, the Woodlark, & the Dartford warbler</p>	<p>Thames - Wey & Tributaries - Wey: Royal Brook (EA WB No. GB106039017760); Truxford Brook (EA WB No. GB106039017770); Wey (Tilford to Shalford) (EA WB No. GB106039017820); South Wey (River Slea confluence to Tilford) (EA WB No. GB106039017780); Ock (EA WB No. GB106039017790)</p>	Yes	Yes	Yes	<p>Scheme Gui154 (EA WB No. GB106039017820)</p> <p>Scheme Wav154 (EA WB No. GB106039017790)</p> <p>Further assessment required – see Part 3</p>

SPA, location, area, constituent SSSIs & reasons for designation	Surface Water Catchments	SSSIs in Surrey?	SW catchment in Surrey?	Immediate upstream catchments in Surrey?	LFRMS Schemes in SW Catchment
Wealden Heaths Phase II Hampshire, Surrey & West Sussex, 2,053.8 hectares. Bramshott & Ludshott Commons SSSI, Broxhead & Kingsley Commons SSSI, Devil's Punch Bowl SSSI & Woolmer Forest SSSI. Designated for the presence of breeding populations of the European nightjar, the Woodlark, & the Dartford warbler	Thames - Wey & Tributaries - Wey: South Wey (Bordon to River Slea confluence) (EA WB No. GB106039017720); South Wey (Haslemere to Bordon) (EA WB No. GB106039017700); Slea (Kingsley to Sleaford) (EA WB No. GB106039017750); South Wey (Haslemere to Bordon) (EA WB No. GB106039017700); Truxford Brook (EA WB No. GB106039017770); Hollywater & Deadwater at Bordon (EA WB No.106039017690)	Yes	Yes	Yes	None – no further assessment required

2.7 The initial screening assessment (see Table 2-C) identified two Ramsar Sites that require further assessment, both are partially or wholly located within Surrey.

2.7.1 South West London Waterbodies Ramsar Site – located in Surrey, the Royal Borough of Windsor & Maidenhead, and Greater London, designated for internationally important numbers of wintering Gadwall and Shoveler.

2.7.2 Thursley & Ockley Bog Ramsar Site – located in Surrey, designated for its rare wetland invertebrate species, including notable breeding dragonflies, for its assemblage of rare reptile species, and for the presence of breeding populations of the woodlark and the European nightjar.

Table 2-C: Initial Screening – Ramsar Sites

Ramsar Site, location, area, constituent SSSIs & reasons for designation	Surface Water Catchments	SSSIs in Surrey?	SW catchment in Surrey?	Immediate upstream catchments in Surrey?	LFRMS Schemes in SW Catchment
Arun Valley West Sussex, 528.62 hectares. Amberley Wild Brooks SSSI, Pulborough Brooks SSSI, Waltham Brooks SSSI. Designated under Ramsar Criterion 2 for the presence of 7 wetland invertebrate spp listed as 'threatened' in the British Red Data Book, under Ramsar Criterion 3 for the diverse & rich flora of the ditches intersecting the site, & under Ramsar Criterion 5 for the internationally important assemblages of wintering waterfowl.	South East - Arun & Western Streams Catchment: Pulborough Brooks (EA WB No.GB107041013040); ARUN (Lower Arun TraC) (EA WB No. GB540704105000); River Stor (EA WB No. GB107041012100)	No	No	No	None – no further assessment required

Ramsar Site, location, area, constituent SSSIs & reasons for designation	Surface Water Catchments	SSSIs in Surrey?	SW catchment in Surrey?	Immediate upstream catchments in Surrey?	LFRMS Schemes in SW Catchment
<p>Avon Valley</p> <p>Dorset & Hampshire, 1,385.10 hectares. Avon Valley (Bickton to Christchurch) SSSI, & Avon Valley System SSSI. Designated under Ramsar Criterion 1 for the range of chalk river habitats present (fen, mire, lowland wet grassland & small areas of woodland), under Ramsar Criterion 2 for the diverse assemblage of wetland flora & fauna, & under Ramsar Criterion 6 for the presence of wintering populations of Gadwall of international importance.</p>	South West - Avon (Hampshire) Management Catchment	No	No	No	None – no further assessment required
<p>Dungeness to Pett Levels</p> <p>East Sussex & Kent, 3,223.56 hectares. Dungeness, Romney Marsh & Rye Bay SSSI.</p> <p>Proposed Ramsar Site</p>	<p>South East -Rother - Romney Marsh South: Dengermarsh Sewer (EA WB No. GB107040013450); White Kemp & Jury's Gut Sewer (EA WB No. GB107040013470</p> <p>South East - Rother - Brede & Tillingham: Brede (EA WB No. GB107040013550)</p>	No	No	No	None – no further assessment required
<p>Lee Valley</p> <p>Essex, Greater London & Hertfordshire, 447.87 hectares. Amwell Quarry SSSI, Rye Meads SSSI, Turnford & Cheshunt Pits SSSI & Walthamstow Reservoirs SSSI. Designated under Ramsar Criterion 2 for the presence of a nationally 'scarce' plant spp (whorled water-milfoil <i>Myriophyllum verticillatum</i>) & a 'rare' or 'vulnerable' invertebrate (<i>Micronecta minutissima</i> (a water-boatman), & under Ramsar Criterion 6 for the presence of internationally important populations of Northern shoveler in spring/autumn, & of internationally important populations of Gadwall in winter</p>	<p>Thames - Upper Lee - Upper Lee: Lee Navigation (Hertford to Fieldes Weir) (EA WB No. GB106038033240); Stort & Navigation, Harlow to Lee (EA WB No. GB106038033282)</p> <p>Thames - London - Lower Lee Rivers & Lakes: Small River Lee (& tributaries) (EA WB No. GB106038033200); Lea Navigation (Fieldes Weir to Enfield Lock) (EA WB No. GB106038077851); Lee (Tottenham Locks to Bow Locks/Three Mills Lock) (EA WB No. GB106038077852); Lea Navigation Enfield Lock to Tottenham Lock (EA WB No. GB106038027950)</p>	No	No	No	None – no further assessment required
<p>New Forest</p> <p>Hampshire, 28,002.8 hectares. Lymington River SSSI & The New Forest SSSI. Designated under Ramsar criterion 1 for the valley mires & wet heaths found throughout the site, under Ramsar criterion 2 for the diverse assemblage of wetland plants & animals including several nationally rare species, & under Ramsar criterion 3 for the high ecological quality mire habits, & for the important invertebrate fauna (rare & scare wetland species)</p>	South East - New Forest Management Catchment	No	No	No	None – no further assessment required

Ramsar Site, location, area, constituent SSSIs & reasons for designation	Surface Water Catchments	SSSIs in Surrey?	SW catchment in Surrey?	Immediate upstream catchments in Surrey?	LFRMS Schemes in SW Catchment
Pevensey Levels East Sussex, 3,577.7 hectares. Pevensey Levels SSSI. Designated under Ramsar Criterion 2 for an outstanding assemblage of wetland plants & invertebrates including many British Red Data Book spp, & under Ramsar Criterion 3: for supporting 68% of aquatic vascular plant spp in GB, the assemblage of freshwater molluscs, the assemblage of aquatic beetles Coleoptera & the assemblage of dragonflies Odonata.	South East - Cuckmere & Pevensey Levels - Pevensey: Waller Haven between Windmill Hill & Coast (EA WB No. GB107041012460); Pevensey Haven (EA WB No. GB107041006670); Hurst Haven at Hailsham (EA WB No. GB107041012500); Horse Eye Sewer (EA WB No. GB107041012420)	No	No	No	None – no further assessment required
South West London Waterbodies Berkshire, Greater London & Surrey, 828.1 hectares. Kempton Park Reservoirs SSSI, Knight & Bessborough Reservoirs SSSI, Staines Moor SSSI, Thorpe Park No 1 Gravel Pit SSSI, Wraysbury & Hythe End Gravel Pits SSSI, Wraysbury No 1 Gravel Pit SSSI, Wraysbury Reservoir SSSI. Designated under Ramsar Criterion 6 for the presence of internationally important populations of Northern shoveler in spring/autumn, & of Gadwall in winter.	Thames - London -Crane Rivers & Lakes - Port Lane Brook (EA WB No. GB106039023451) Thames - Maidenhead & Sunbury - Lower Thames: Thames (Egham to Teddington) (EA WB No. GB106039023232); Thames (Cookham to Egham) (EA WB No. GB106039023231) Thames- Colne - Colne: Colne (confluence with Chess to River Thames) (EA WB No. GB106039023090); Surrey Ash (EA WB No. GB106039023480); Horton Brook (EA WB No. GB106039023040) Thames - Wey & Tributaries - Wey: Moat at Egham (EA WB No. GB106039017060)	Yes	Yes	Yes	Scheme Run079 (EA WB No. GB106039017060) Further assessment required – see Part 3
Stodmarsh Kent, 481.3 hectares. Stodmarsh SSSI. Designated under Ramsar criterion 2 for the presence of 6 British Red Data Book wetland invertebrates, 2 nationally rare plants, 5 nationally scarce species, & a diverse assemblage of rare wetland birds, including Gadwall Breeding), Gadwall in spring/autumn, & in winter Great bittern, Northern shoveler, & Hen harrier	South East - Stour - Lower Stour: Great Stour between A2 & West Stourmouth (EA WB No. GB107040019743); Lampen Stream (EA WB No. GB107040019790)	No	No	No	None – no further assessment required
Thursley & Ockley Bog Surrey, 265.2 hectares. Thursley, Hankley & Frensham Commons SSSI. Designated under Ramsar criterion 2 for the community of rare wetland invertebrate species including notable numbers of breeding dragonflies, & under Ramsar criterion 3 for the presence of all six native reptile species, & for the nationally important breeding populations of European nightjar & woodlark.	Thames - Wey & Tributaries - Wey: Royal Brook (EA WB No. GB106039017760); Truxford Brook (EA WB No. GB106039017770); 'Wey (Tilford to Shalford) (EA WB No. GB106039017820)	Yes	Yes	Yes	Scheme Gui154 (EA WB No. GB106039017820) Further assessment required – see Part 3

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3.1 Introduction to the detailed screening assessment

- 3.1 The purpose of this section of the HRA report is to provide an account of the assessment undertaken in respect of the SACs, SPAs and Ramsar Sites identified as being ‘at risk’ of significant environmental effects by the initial screening stage (the conservation objectives for the affected designated sites are presented in Appendix A to this report). An assessment has also been undertaken of the extent to which the stated objectives of the Surrey LFRMS 2016 have the potential to give rise to circumstances that could, in theory, lead to adverse impacts on the integrity of an SAC, SPA or Ramsar Site.
- 3.2 The development of new flood management facilities may involve the creation of features such as dams, detention basins and drainage channels that would require changes to the established land use in the affected areas, with implications for the ecological integrity & biodiversity of those locations, and consequently of any SACs, SPAs or Ramsar Sites located within or adjacent to those areas. Impacts on SACs, SPAs or Ramsar Sites arising as a consequence of the creation of new flood management facilities would need to be fully assessed at the project stage, and may result in proposed schemes having to be substantially re-designed to safeguard the protected habitats and/or species. Opportunities to contribute to biodiversity gain, through the creation or enhancement of habitats that support the SAC, SPA or Ramsar Site designation should be sought wherever feasible in the design of flood management facilities.
- 3.3 Thorough surveying of any areas potentially affected, both directly and indirectly, by the construction of new flood risk management facilities should be completed at an early stage in the design of schemes. Opportunities to create habitat favourable to a wide range of species, including those protected by European and domestic legislation, should be incorporated into the design of flood risk management schemes wherever feasible and appropriate. An appropriate mitigation plan should form part of the construction scheme, to ensure that species are not exposed to unnecessary stress as a consequence of disturbance, and works should not be undertaken during the most sensitive times of the year (e.g. breeding seasons, moulting seasons, etc.).
- 3.4 The construction and operation of new flood management facilities may result in changes in the dispersal of pollutants, which could affect habitats and species as a consequence of exposure to damaging substances. Schemes should include measures to minimise the risk of pollution dispersal. The implementation of new flood management schemes could present a range of risks to water quality (surface water and groundwaters) during the

construction and operational phases, including risks associated with changes in sediment loading, and in exposure to sources of contamination – schemes should be designed to contribute to realising the improvements in water quality required under the Water Framework Directive so as to safeguard ecosystems and biodiversity.

3.2 Review of the objectives of the Surrey LFRMS 2016

- 3.5 The assessment of the potential for SACs, SPAs or Ramsar Sites to experience significant environmental effects as a consequence of actions taken in response to the stated objectives of the Surrey LFRMS 2016 is based on the extent to which the resulting actions would lead to changes in the physical environment, such as the construction of new flood defences.
- 3.6 The findings of the assessment for the strategy's objectives are recorded in the following sections (3.2.1 to 3.2.8) of this report. Objectives 2, 4, 6 and 7 were identified as having the potential to give rise to activities that could lead to changes in the physical environment, which dependent on the nature of the works and their location could have implications for the integrity of SACs, SPAs or Ramsar Sites.

3.2.1 Screening assessment for Objective 1 of the Surrey LFRMS 2016

- 3.7 Details of the first of the objectives that have been selected for the refreshed Surrey LFRMS, and the actions that would be taken in pursuit of that objective, are given in Table 3-A.

Table 3-A: Objective 1 of the refreshed Surrey LFRMS

Objective 1:	Our understanding of local & strategic flood risk will be improved through clear data management & sharing between risk management authorities
Action 1(a):	Improving current modelling & data management processes
Action 1(b):	Modelling & data analysis including assessment of risk & assessment of data accuracy, & using the resulting score to drive improvement plans & scheme prioritisation
Action 1(c):	Communicating, gathering & sharing data with risk management authorities & the public
Action 1(d):	Exploring opportunities for data improvement through the planning process

- 3.8 Implementation of the objective is focused on the provision of information and the facilitation of information sharing. The actions could be expected to contribute to improved understanding of the county's hydrological and hydrogeological cycles, and consequently of the risks of flooding to which communities may be exposed, and may lead to improved and more effective flood risk management over the longer term.

- 3.9 None of the actions proposed under Objective 1 would involve the development and implementation of any physical works. It is therefore concluded that Objective 1 of the strategy would not affect the integrity of any designated SPAs, SACs or Ramsar Sites.

3.2.2 Screening assessment for Objective 2 of the Surrey LFRMS

- 3.10 Details of the second of the objectives that have been selected for the refreshed Surrey LFRMS, and the actions that would be taken in pursuit of that objective, are given in Table 3-B.

Table 3-B: Objective 2 of the refreshed Surrey LFRMS

Objective 2:	Risk management authorities will reduce flood risk by delivering an effective maintenance regime for drainage assets & managing of our estates across the county in an environmentally sustainable manner
Action 2(a):	Preparing best practice material for internal officer & engineer use
Action 2(b):	Promoting best practice & statutory duties through a programme of briefings & worked examples with partner risk management authorities
Action 2(c):	Writing design works standards for Surrey County Council highways & developers
Action 2(d):	Improving and updating records of our drainage assets
Action 2(e):	Retro-fitting SuDS on our own drainage assets where appropriate

- 3.11 Implementation of the objective is primarily focused on the effective maintenance of the County Council's drainage assets and estates, and would include the development and implementation of good practice standards, procedures and guidance, and the delivery of programmes of physical works.
- 3.12 Some of the actions proposed under Objective 2 would involve the development and implementation of physical works. Dependent on the location of any works undertaken, implementation of Objective 2 could result in activities being carried out that could affect the integrity of designated SPAs or SACs.

3.2.3 Screening assessment for Objective 3 of the Surrey LFRMS

- 3.13 Details of the third of the objectives that have been selected for the refreshed Surrey LFRMS, and the actions that would be taken in pursuit of that objective, are given in Table 3-C.

Table 3-C: Objective 3 of the refreshed Surrey LFRMS

Objective 3:	We will agree with partners who the risk management authorities in Surrey are, jointly define their responsibilities & establish clear lines of communication with them to support the delivery of partnership-based flood alleviation projects
Action 3(a):	Defining the roles of risk management authorities with our partners
Action 3(b):	Refining the partnership roles of the Surrey Flood Risk Partnership Board & working group
Action 3(c):	Developing a plan for strategic & operational communications between internal & external partners
Action 3(d):	Reviewing opportunities for future devolution of powers & budget to risk management authorities, & updating the strategy to exploit these opportunities

- 3.14 Implementation of the objective is focused on the development and ongoing facilitation of partnerships. No capital works would be involved and therefore no significant environmental impacts would be expected to arise. The actions could be expected to contribute to improved understanding of the county's hydrological and hydrogeological cycles, and consequently of the risks of flooding to which communities may be exposed, and may lead to improved and more effective flood risk management over the longer term.
- 3.15 None of the actions proposed under Objective 3 would involve the development and implementation of any physical works. It is therefore concluded that Objective 3 of the strategy would not affect the integrity of any designated SPAs, SACs or Ramsar Sites.

3.2.4 Screening assessment for Objective 4 of the Surrey LFRMS

- 3.16 Details of the fourth of the objectives that have been selected for the refreshed Surrey LFRMS, and the actions that would be taken in pursuit of that objective, are given in Table 3-D.

Table 3-D: Objective 4 of the refreshed Surrey LFRMS

Objective 4:	Private owners will be made aware of their riparian responsibilities to maintain drainage assets & watercourses. We will support, promote & enforce these responsibilities
Action 4(a):	Establishing enforcement principles, policy & processes
Action 4(b):	Developing & maintaining a riparian asset register & an associated maintenance & improvement policy for this register

Action 4(c):	Promoting standards & enforcement processes to the public, Members & risk management authorities, & encouraging implementation of this on a community-wide basis
Action 4(d):	Preparing public facing materials that state & explain these policies & processes
Action 4(e):	Implementing internal promotion of standards & policies across risk management authorities

3.17 Implementation of the objective is concerned with raising the awareness of private owners of drainage assets and watercourses of their responsibilities for ongoing management and maintenance. The focus of the work to be pursued under the auspices of the strategy would be on the dissemination of information, although some capital works could be delivered under this objective, particularly in instances where enforcement action has to be taken.

3.18 Some of the actions proposed under Objective 4 could involve the development and implementation of physical works. Dependent on the location of any works undertaken, implementation of Objective 4 could result in activities being carried out that could affect the integrity of designated SPAs or SACs.

3.2.5 Screening assessment for Objective 5 of the Surrey LFRMS

3.19 Details of the fifth of the objectives that have been selected for the refreshed Surrey LFRMS, and the actions that would be taken in pursuit of that objective, are given in Table 3-E.

Table 3-E: Objective 5 of the refreshed Surrey LFRMS

Objective 5:	The residents of Surrey will be supported to improve community resilience. Local people will be empowered to reduce the risk of flooding on both an individual & community level on a long term basis
Action 5(a):	Assessing & prioritising local flood action groups on the basis of available data
Action 5(b):	Using the local knowledge of community groups to inform the priorities of the Surrey Flood Risk Partnership Board
Action 5(c):	Encouraging communities to set up Flood Action Groups
Action 5(d):	Developing engagement methods & material to include training of staff & improvement of public facing materials
Action 5(e):	Promoting resilience planning as a core tool for community groups & supporting them with response & recovery following a flood event

- 3.20 Implementation of the objective is concerned with supporting communities to enable them to address flood risks and develop improved resilience at the local level. The focus of the work would be the dissemination of information and enabling the formation of community action groups, with no capital works would be delivered under this objective.
- 3.21 None of the actions proposed under Objective 5 would involve the development and implementation of any physical works. It is therefore concluded that Objective 5 of the strategy would not affect the integrity of any designated SPAs, SACs or Ramsar Sites.

3.2.6 Screening assessment for Objective 6 of the Surrey LFRMS

- 3.22 Details of the sixth of the objectives that have been selected for the refreshed Surrey LFRMS, and the actions that would be taken in pursuit of that objective, are given in Table 3-F.

Table 3-F: Objective 6 of the refreshed Surrey LFRMS

Objective 6:	We will reduce the risk of flooding from new & existing development through local planning policy & processes
Action 6(a):	Using our statutory consultee role on surface water drainage to advise local planning authorities if new major developments are following national standards, local planning policy & current best practice
Action 6(b):	Clearly setting out the expectations of Surrey County Council in sustainable drainage systems (SuDS) consultations & providing pre-application advice when requested
Action 6(c):	Using development opportunities to reduce flood risk where appropriate
Action 6(d):	Influencing local planning policies on flood risk & drainage
Action 6(e):	Establishing a programme of advising & briefing planning officers, Members & developers on the benefits of SuDS
Action 6(f):	Investigating & introducing the use of SuDS across Surrey County Council schemes, including highways, & on our own estate
Action 6(g)	Identifying opportunities for retrofitting SuDS across Surrey, targeting high priority areas in partnership with other authorities

- 3.23 Implementation of the objective is focused on the provision of information and the promotion of best practice in land use planning with reference to the management of the flood risks that can arise from new development. The actions could be expected to contribute to improved understanding of the county's hydrological and hydrogeological cycles, and consequently of the risks of flooding to which communities may be exposed, and may lead to improved and more effective flood risk management over the longer term. The focus of the work would be on the dissemination and sharing of information, although some capital works could be delivered under this objective.

- 3.24 Some of the actions proposed under Objective 6 could involve the development and implementation of physical works. Dependent on the location of any works undertaken, implementation of Objective 6 could result in activities being carried out that could affect the integrity of designated SPAs, SACs or Ramsar Sites.

3.2.7 Screening assessment for Objective 7 of the Surrey LFRMS

- 3.25 Details of the seventh of the objectives that have been selected for the refreshed Surrey LFRMS, and the actions that would be taken in pursuit of that objective, are given in Table 3-G.

Table 3-G: Objective 7 of the refreshed Surrey LFRMS

Objective 7:	We will reduce flood risk from local sources via a programme of capital works, which will be integrated with the activities of other Risk Management Authorities
Action 7(a):	Aligning Surrey County Council's programme with Regional Flood & Coastal Committee/Environment Agency/Local Enterprise Partnership programmes of work & having the programme scrutinised by the Surrey Flood Risk Partnership Board
Action 7(b):	Identifying & recording funding opportunities & limitations/risks for projects
Action 7(c):	Establishing best practice for risk management authorities for integrating flood risk reduction into capital schemes on the highway & other infrastructure
Action 7(d):	Identifying new & innovative delivery methods for flood alleviation schemes & exploring opportunities with other sectors to enhance economic growth & wellbeing
Action 7(e):	Ensuring all flood alleviation schemes have an agreed maintenance plan on completion to better ensure the long-term effectiveness of the asset.

- 3.26 Implementation of the objective is primarily focused on the management of flood risk through a programme of capital works, to be funded and delivered by a range of different partners.
- 3.27 The actions proposed under Objective 7 would involve the development and implementation of physical works. Dependent on the location of any works undertaken, implementation of Objective 7 could result in activities being carried out that could affect the integrity of designated SPAs, SACs or Ramsar Sites.

3.2.8 Screening assessment for Objective 8 of the Surrey LFRMS

- 3.28 Details of the eighth of the objectives that have been selected for the refreshed Surrey LFRMS, and the actions that would be taken in pursuit of that objective, are given in Table 3-H.

Table 3-H: Objective 8 of the refreshed Surrey LFRMS

Objective 8:	We will investigate significant flooding incidents in order to feedback recommendations to reduce flood risk
Action 8(a):	Reviewing our Section 19 investigation procedures to set direction & influence work programmes resulting from these investigations' recommendations
Action 8(b):	Using new evidence & data obtained from Section 19 investigations to support wider infrastructure & community projects
Action 8(c):	Establishing a clear set of goals & deliverables for Section 19 investigations & using these as an opportunity to learn lessons & collate feedback on the effectiveness of flood mitigation methods

3.29 Implementation of the objective is concerned with the investigation of flooding incidents, and the use of the intelligence gained from those investigations. The focus of the work would be on the acquisition and use of knowledge, and no capital works would be delivered under this objective. The actions could be expected to contribute to improved understanding of the county's hydrological and hydrogeological cycles, and consequently of the risks of flooding to which communities may be exposed, and may lead to improved and more effective flood risk management over the longer term.

3.30 None of the actions proposed under Objective 8 would involve the development and implementation of any physical works. It is therefore concluded that Objective 8 of the strategy would not affect the integrity of any designated SPAs, SACs or Ramsar Sites.

3.3 Detailed screening assessment for the 'at risk' SACs, SPAs & Ramsar Sites

3.31 The detailed screening assessment for the four SACs, three SPAs and two Ramsar Sites identified as being potentially 'at risk' as a consequence of new flood risk management works is presented in Table 3-I (SACs), Table 3-J (SPAs) and Table 3-K (Ramsar Sites), in this section of the report.

3.32 The assessment is based on an analysis of the extent to which the SSSIs of which the SACs, SPAs and Ramsar Sites are composed fall within, or are hydrologically linked to, the same surface water drainage catchments as the schemes listed in the 2016/17 Action Plan for the Surrey LFRMS would be located. The assessment is based on the assumption that the risk of a flood risk management scheme giving rise to adverse impacts on the integrity of an SAC, SPA or Ramsar Site is likely to be greatest where there is a credible physical linkage between the designated site and the area that would be affected by the implementation of any new flood management facilities.

- 3.33 A summary of the schemes listed in the 2016/17 Action Plan for the Surrey LFRMS 2016, including information about the surface water drainage catchments within which they are located and the SSSIs that are located in the same catchments is provided in Table 1-B in Part 1 of this report.

Table 3-I: Special Areas of Conservation – Detailed Screening Assessment

SAC, location, area, & constituent SSSIs	Surface Water Catchments & LFRMS Schemes located within those catchments	Risk Assessment
Mole Gap to Reigate Escarpment Surrey, 887.7 hectares Mole Gap to Reigate Escarpment SSSI	<p>Thames - Mole - Lower Mole & Rythe: Mole (Horley to Hersham) (EA WB No. GB106039017621).</p> <p>The surface water catchment is composed of land located wholly or partially within Surrey.</p> <p>Scheme MV021 (EA WB No. GB106039017621).</p> <p>Scheme MV104 (EA WB No. GB106039017621).</p>	<p><u>Scheme MV021</u> would be located within 0.1 kilometres of the SAC, & <u>scheme MV104</u> would be located some 2.7 kilometres to the south of the SAC.</p> <p><u>Scheme MV021</u> has been implemented, & involved on-line improvements to the existing highway (A24) that have left the nearby SAC unaffected.</p> <p><u>Scheme MV104</u> is separated from the SAC by sufficient distance to leave the ecological integrity of the SAC unaffected by the proposed programme of works.</p>
Richmond Park Greater London, 846.7 hectares Richmond Park SSSI	<p>Thames - London - Beverley Brook - Beverley Brook (Motspur Park to Thames) & Pyl Brook at West Barnes (EA WA No. GB106039022850); Thames - London - Land area part of management catchment draining to the Tidal Thames</p> <p>One of the surface water catchments is composed of land located wholly or partially within Surrey.</p> <p>Scheme Rei063 (EA WB No. GB106039022850).</p>	<p><u>Scheme Rei063</u> would be located some 12.5 kilometres to the south east of the SAC. Given the geographic separation of the area of land that would be affected by the proposed scheme, & taking account of the scale & type of works that would be involved, it is concluded that the ecological integrity of the SAC would not be adversely affected.</p>
Thursley, Ash, Pirbright & Chobham Surrey, 5,138.0 hectares Ash to Brookwood Heaths SSSI	<p>Thames - Wey & Tributaries - Wey: Clasford Brook & Wood Street Brook (EA WB No. GB106039017850); Hoe Stream (Normandy to Pirbright) (EA WB No. GB106039017870); Hoe Stream (Pirbright to River Wey confluence at Woking) (EA WB No. GB106039017900); Thames - Loddon & Tributaries - Loddon: Blackwater (Aldershot to Cove Brook confluence at Hawley) (EA WB No. GB106039017180).</p> <p>The surface water catchments are composed of land located wholly or partially within Surrey.</p> <p>None of the schemes identified in the Surrey LFRMS 2016 are located within the same surface water catchments as the SSSI.</p>	<p>No further assessment required, as none of the schemes listed in the 2016/17 Action Plan are located within the same surface water catchments as the SSSI.</p>

SAC, location, area, & constituent SSSIs	Surface Water Catchments & LFRMS Schemes located within those catchments	Risk Assessment
Thursley, Ash, Pirbright & Chobham Surrey, 5,138.0 hectares Chobham Common SSSI	<p>Thames - Wey & Tributaries - Wey: Hale/Mill Bourne (Bagshot to Addlestone Bourne confluence near Chobham) (EA WB No. GB106039017930); Chertsey Bourne (Virginia Water to Chertsey) (EA WB No. GB106039017070).</p> <p>The surface water catchments are composed of land located wholly or partially within Surrey.</p> <p>Scheme SH027 (EA WB No. GB106039017930).</p>	<p><u>Scheme SH027</u> would be located some 2.9 kilometres to the south west of the SAC component. The scheme is concerned with the undertaking of investigations & design work, & would not involve the implementation of any physical works, & would therefore not result in any impacts on the integrity of the SSSI, or the SAC.</p>
Thursley, Ash, Pirbright & Chobham Surrey, 5,138.0 hectares Colony Bog & Bagshot Heath SSSI	<p>Thames - Wey & Tributaries - Wey: Wey Navigation (Pyrford Reach) (EA WB No. GB106039017910); Addlestone Bourne (West End to Hale/Mill Bourne confluence at Mimbridge) (EA WB No. GB106039017920); Hale/Mill Bourne (Bagshot to Addlestone Bourne confluence near Chobham) (EA WB No. GB106039017930).</p> <p>The surface water catchments are composed of land located wholly or partially within Surrey.</p> <p>Scheme Run002 (EA WB No. GB106039017910).</p> <p>Scheme SH027 (EA WB No. GB106039017930).</p> <p>Scheme Wok084 (EA WB No. GB106039017910).</p>	<p><u>Scheme Run002</u> would be located some 9.9 kilometres to the east of the SAC component, <u>scheme SH027</u> would be located some 0.5 kilometres to the north of the SAC component, & <u>scheme Wok084</u> would be located some 6.6 kilometres to the east of the SAC component. <u>Scheme Run002</u> is the only one that would involve physical works, with schemes SH027 & Wok084 being concerned with investigations, studies & design works. The distance separating scheme Run002 from the SAC component is such that it can be concluded that implementation of the scheme would not adversely affect the integrity of the SSSI, & therefore the SAC.</p> <p><u>Scheme SH027</u> & <u>scheme Wok084</u> are concerned with the undertaking of investigations & studies, & the production of designs for schemes that may be implemented in the future, in the case of scheme SH027 its proximity to the SAC component would need to be taken into account in the design of any future physical works.</p>
Thursley, Ash, Pirbright & Chobham Surrey, 5,138.0 hectares Thursley, Hankley & Frensham Commons SSSI	<p>Thames - Wey & Tributaries - Wey: Royal Brook (EA WB No. GB106039017760); Truxford Brook (EA WB No. GB106039017770); Wey (Tilford to Shalford) (EA WB No. GB106039017820); South Wey (River Slea confluence to Tilford) (EA WB No. GB106039017780); Ock (EA WB No. GB106039017790).</p> <p>The surface water catchments are composed of land located wholly or partially within Surrey.</p> <p>Scheme Gui154 (EA WB No. GB106039017820).</p> <p>Scheme Wav154 (EA WB No. GB106039017790).</p>	<p><u>Scheme Gui154</u> would be located some 5.1 kilometres to the north of the SAC, & is located downstream from the SAC within the Wey (Tilford to Shalford) (EA WB No. GB106039017820) catchment. Scheme Gui154 would not affect the ecological integrity of the SAC.</p> <p><u>Scheme Wav154</u> is located within 0.01 kilometres of the SAC, & is located within the catchment of the 'Ock' (EA WB No. GB106039017790), which encompasses the adjoining part of the SAC. Scheme Wav154 would involve the implementation of improvements to the highway drainage system that services Cramhurst Lane at its junction with Merryacres in Cramhurst, & could involve physical works within the boundaries of the SAC.</p>

SAC, location, area, & constituent SSSIs	Surface Water Catchments & LFRMS Schemes located within those catchments	Risk Assessment
Wimbledon Common Greater London, 348.3 hectares Wimbledon Common SSSI	Thames - London - Beverley Brook - Beverley Brook (Motspur Park to Thames) & Pyl Brook at West Barnes (EA WB No. GB106039022850) The surface water catchment is composed of land located wholly or partially within Surrey Scheme Rei063 (EA WB No. GB106039022850)	<u>Scheme Rei063</u> would be located some 11.6 kilometres to the south east of the SAC. Given the geographic separation of the area of land that would be affected by the proposed scheme, and taking account of the scale and type of works that would be involved, it is concluded that the ecological integrity of the SAC would not be adversely affected.

3.34 For the at risk SACs, the detailed screening assessment has concluded that three, the Mole Gap to Reigate Escarpment SAC, the Richmond Park SAC and the Wimbledon Common SAC, would not be effected by the implementation of the schemes listed in the 2016/17 Action Plan for the Surrey LFRMS. For the Thursley, Ash, Pirbright & Chobham SAC further assessment (see section 3.4 of this report) needs to be made of the risks that the scheme proposed for the settlement of Cramhurst (Scheme Wav154) in the borough of Waverley may present to the Thursley, Hankley & Frensham Commons SSSI component of the SAC.

Table 3-J: Special Protection Areas – Detailed Screening Assessment

SPA, location, area, & constituent SSSIs	Surface Water Catchments & LFRMS Schemes located within those catchments	Risk Assessment
South West London Waterbodies Berkshire, Greater London & Surrey, 828.1 hectares Kempton Park Reservoirs SSSI	Thames - London - Crane Rivers & Lakes - Port Lane Brook (EA WB No. GB106039023451) The surface water catchments are composed of land located wholly or partially within Surrey None of the schemes identified in the Surrey LFRMS 2016 are located within the same surface water catchments as the SSSI	No further assessment required, as none of the schemes listed in the 2016/17 Action Plan are located within the same surface water catchments as the SSSI.
South West London Waterbodies Berkshire, Greater London & Surrey, 828.1 hectares Knight & Bessborough Reservoirs SSSI	Thames - Maidenhead & Sunbury - Lower Thames: Thames (Egham to Teddington) (EA WB No. GB106039023232) The surface water catchments are composed of land located wholly or partially within Surrey None of the schemes identified in the Surrey LFRMS 2016 are located within the same surface water catchments as the SSSI	No further assessment required, as none of the schemes listed in the 2016/17 Action Plan are located within the same surface water catchments as the SSSI.

SPA, location, area, & constituent SSSIs	Surface Water Catchments & LFRMS Schemes located within those catchments	Risk Assessment
<p>South West London Waterbodies Berkshire, Greater London & Surrey, 828.1 hectares</p> <p>Staines Moor SSSI</p>	<p>Thames- Colne - Colne: Colne (confluence with Chess to River Thames) (EA WB No. GB106039023090); Surrey Ash (EA WB No. GB106039023480)</p> <p>The surface water catchments are composed of land located wholly or partially within Surrey</p> <p>None of the schemes identified in the Surrey LFRMS 2016 are located within the same surface water catchments as the SSSI</p>	<p>No further assessment required, as none of the schemes listed in the 2016/17 Action Plan are located within the same surface water catchments as the SSSI.</p>
<p>South West London Waterbodies Berkshire, Greater London & Surrey, 828.1 hectares</p> <p>Thorpe Park No.1 Gravel Pit SSSI</p>	<p>Thames - Wey & Tributaries - Wey: Moat at Egham (EA WB No. GB106039017060)</p> <p>The surface water catchment is composed of land located wholly or partially within Surrey</p> <p>Scheme Run079 (EA WB No. GB106039017060)</p>	<p>Scheme Run079 would be located some 1.8km to the north of the closest component of the South West London Waterbodies SPA (Thorpe Park No.1 Gravel Pit SSSI), & is located upstream from the SPA within the catchment of the 'Moat at Egham' (EA WB No. GB106039017060). Given the geographic separation of the site of scheme Run079 from the SPA component, & taking account of the fact that the scheme is concerned with the investigation of highways flooding, & the design of a suitable flood alleviation scheme, but not the delivery of the latter, it is concluded that the ecological integrity of the SPA would not be affected by the scheme. It is however recommended that any flood alleviation scheme designed take account of the need to include pollution prevention measures capable of safeguarding the water quality of the Thorpe Park No.1 Gravel Pit SSSI.</p>
<p>South West London Waterbodies Berkshire, Greater London & Surrey, 828.1 hectares</p> <p>Wraysbury & Hythe End Gravel Pits SSSI</p>	<p>Thames - Maidenhead & Sunbury - Lower Thames: Thames (Cookham to Egham) (EA WB No. GB106039023231); Thames - Colne - Colne: Horton Brook (EA WB No. GB106039023040)</p> <p>The surface water catchments are composed of land located wholly or partially within Surrey</p> <p>None of the schemes identified in the Surrey LFRMS 2016 are located within the same surface water catchments as the SSSI</p>	<p>No further assessment required, as none of the schemes listed in the 2016/17 Action Plan are located within the same surface water catchments as the SSSI.</p>

SPA, location, area, & constituent SSSIs	Surface Water Catchments & LFRMS Schemes located within those catchments	Risk Assessment
<p>South West London Waterbodies</p> <p>Berkshire, Greater London & Surrey, 828.1 hectares</p> <p>Wraysbury No.1 Gravel Pit SSSI</p>	<p>Thames - Maidenhead & Sunbury - Lower Thames: Thames (Cookham to Egham) (EA WB No. GB106039023231)</p> <p>The surface water catchments are composed of land located wholly or partially within Surrey</p> <p>None of the schemes identified in the Surrey LFRMS 2016 are located within the same surface water catchments as the SSSI</p>	<p>No further assessment required, as none of the schemes listed in the 2016/17 Action Plan are located within the same surface water catchments as the SSSI.</p>
<p>South West London Waterbodies</p> <p>Berkshire, Greater London & Surrey, 828.1 hectares</p> <p>Wraysbury Reservoir SSSI</p>	<p>Thames- Colne - Colne: Colne (confluence with Chess to River Thames) (EA WB No. GB106039023090); Thames - Maidenhead & Sunbury - Lower Thames: Thames (Cookham to Egham) (EA WB No. GB106039023231)</p> <p>The surface water catchments are composed of land located wholly or partially within Surrey</p> <p>None of the schemes identified in the Surrey LFRMS 2016 are located within the same surface water catchments as the SSSI</p>	<p>No further assessment required, as none of the schemes listed in the 2016/17 Action Plan are located within the same surface water catchments as the SSSI.</p>
<p>Thames Basin Heaths</p> <p>Berkshire, Hampshire & Surrey, 8,274.7 hectares.</p> <p>Ash to Brookwood Heaths SSSI</p>	<p>Thames - Wey & Tributaries - Wey: Clasford Brook & Wood Street Brook (EA WB No. GB106039017850); Hoe Stream (Normandy to Pirbright) (EA WB No. GB106039017870); Hoe Stream (Pirbright to River Wey confluence at Woking) (EA WB No. GB106039017900)</p> <p>Thames - Loddon & Tributaries - Loddon: Blackwater (Aldershot to Cove Brook confluence at Hawley) (EA WB No. GB106039017180)</p> <p>The surface water catchments are composed of land located wholly or partially within Surrey</p> <p>None of the schemes identified in the Surrey LFRMS 2016 are located within the same surface water catchments as the SSSI</p>	<p>No further assessment required, as none of the schemes listed in the 2016/17 Action Plan are located within the same surface water catchments as the SSSI.</p>

SPA, location, area, & constituent SSSIs	Surface Water Catchments & LFRMS Schemes located within those catchments	Risk Assessment
Thames Basin Heaths Berkshire, Hampshire & Surrey, 8,274.7 hectares. Bourley & Long Valley SSSI	<p>Thames - Loddon & Tributaries - Loddon: Blackwater (Aldershot to Cover Brook confluence at Hawley) (EA WB No. GB106039017180); Fleet Brook (EA WB No. GB106039017120); Cove Brook (EA WB No. GB106039017130)</p> <p>The surface water catchments are composed of land located wholly or partially within Surrey</p> <p>None of the schemes identified in the Surrey LFRMS 2016 are located within the same surface water catchments as the SSSI</p>	<p>No further assessment required, as none of the schemes listed in the 2016/17 Action Plan are located within the same surface water catchments as the SSSI.</p>
Thames Basin Heaths Berkshire, Hampshire & Surrey, 8,274.7 hectares. Bramshill SSSI	<p>Thames - Loddon & Tributaries - Loddon: Blackwater (Hawley to Whitewater confluence at Bramshill) (EA WB No. GB106039017290); Hart (Elvetham to Hartley Wintney) (EA WB No. GB106039017170)</p> <p>The surface water catchments are composed of land located wholly or partially within Surrey</p> <p>None of the schemes identified in the Surrey LFRMS 2016 are located within the same surface water catchments as the SSSI</p>	<p>No further assessment required, as none of the schemes listed in the 2016/17 Action Plan are located within the same surface water catchments as the SSSI.</p>
Thames Basin Heaths Berkshire, Hampshire & Surrey, 8,274.7 hectares. Broadmoor to Bagshot Woods & Heaths SSSI	<p>Thames - Loddon & Tributaries - Loddon: Blackwater (Hawley to Whitewater confluence at Bramshill) (EA WB No. GB106039017290); Hale/Mill Bourne (Bagshot to Addlestone Bourne confluence near Chobham) (EA WB No. GB106039017930)</p> <p>The surface water catchments are composed of land located wholly or partially within Surrey</p> <p>Scheme SH027 (EA WB No. GB 106039017930)</p>	<p>Scheme SH027 would be located some 2.5 kilometres to the south east of the SPA component. The scheme is concerned with the undertaking of investigations and design work, & would not involve the implementation of any physical works, & would therefore not result in any impacts on the integrity of the SSSI, or the SPA.</p>

SPA, location, area, & constituent SSSIs	Surface Water Catchments & LFRMS Schemes located within those catchments	Risk Assessment
<p>Thames Basin Heaths Berkshire, Hampshire & Surrey, 8,274.7 hectares.</p> <p>Castle Bottom to Yateley & Hawley Commons SSSI</p>	<p>Thames - Loddon & Tributaries - Loddon: Blackwater (Hawley to Whitewater confluence at Bramshill) (EA WB No. GB106039017290); Fleet Brook (EA WB No. GB106039017120); Cove Brook (EA WB No. GB106039017130)</p> <p>The surface water catchments are composed of land located wholly or partially within Surrey</p> <p>None of the schemes identified in the Surrey LFRMS 2016 are located within the same surface water catchments as the SSSI</p>	<p>No further assessment required, as none of the schemes listed in the 2016/17 Action Plan are located within the same surface water catchments as the SSSI.</p>
<p>Thames Basin Heaths Berkshire, Hampshire & Surrey, 8,274.7 hectares.</p> <p>Chobham Common SSSI</p>	<p>Thames - Wey & Tributaries - Wey: Hale/Mill Bourne (Bagshot to Addlestone Bourne confluence near Chobham) (EA WB No. GB106039017930); Chertsey Bourne (Virginia Water to Chertsey) (EA WB No. GB106039017070)</p> <p>The surface water catchments are composed of land located wholly or partially within Surrey</p> <p>Scheme SH027 (EA WB No. GB 106039017930)</p>	<p>Scheme SH027 would be located some 2.9 kilometres to the south west of the SPA component. The scheme is concerned with the undertaking of investigations and design work, & would not involve the implementation of any physical works, & would therefore not result in any impacts on the integrity of the SSSI, or the SPA.</p>
<p>Thames Basin Heaths Berkshire, Hampshire & Surrey, 8,274.7 hectares.</p> <p>Colony Bog & Bagshot Heath SSSI</p>	<p>Thames - Wey & Tributaries - Wey: Wey Navigation (Pyrford Reach) (EA WB No. GB106039017910); Addlestone Bourne (West End to Hale/Mill Bourne confluence at Mimbridge) (EA WB No. GB106039017920); Hale/Mill Bourne (Bagshot to Addlestone Bourne confluence near Chobham) (EA WB No. GB106039017930)</p> <p>The surface water catchments are composed of land located wholly or partially within Surrey</p> <p>Scheme Run002 (EA WB No. GB106039017910); Scheme SH027 (EA WB No. GB106039017930); Scheme Wok084 (EA WB No. GB106039017910)</p>	<p>Scheme Run002 would be located some 9.9 kilometres to the east of the SPA component, scheme SH027 would be located some 0.5 kilometres to the north of the SPA component, & scheme Wok084 would be located some 6.6 kilometres to the east of the SPA component. Scheme Run002 is the only one that would involve physical works, with schemes SH027 & Wok084 being concerned with investigations, studies & design works. The distance separating scheme Run002 from the SPA component is such that it can be concluded that implementation of the scheme would not adversely affect the integrity of the SSSI, & therefore the SPA. Scheme SH027 & scheme Wok084 are concerned with the undertaking of investigations & studies, & the production of designs for schemes that may be implemented in the future, in the case of scheme SH027 its proximity to the SPA component would need to be taken into account in the design of any future physical works.</p>

SPA, location, area, & constituent SSSIs	Surface Water Catchments & LFRMS Schemes located within those catchments	Risk Assessment
Thames Basin Heaths Berkshire, Hampshire & Surrey, 8,274.7 hectares. Eelmoor Marsh SSSI	Thames - Loddon & Tributaries - Loddon: Cove Brook (EA WB No. GB106039017130) The surface water catchments are composed of land located wholly or partially within Surrey None of the schemes identified in the Surrey LFRMS 2016 are located within the same surface water catchments as the SSSI	No further assessment required, as none of the schemes listed in the 2016/17 Action Plan are located within the same surface water catchments as the SSSI.
Thames Basin Heaths Berkshire, Hampshire & Surrey, 8,274.7 hectares. Hazeley Heath SSSI	Thames - Loddon & Tributaries - Loddon: Hart (Elvetham to Hartley Wintney) (EA WB No. GB106039017170) The surface water catchment is composed wholly of land located outside of Surrey None of the schemes identified in the Surrey LFRMS 2016 are located within the same surface water catchments as the SSSI	No further assessment required, as none of the schemes listed in the 2016/17 Action Plan are located within the same surface water catchments as the SSSI.
Thames Basin Heaths Berkshire, Hampshire & Surrey, 8,274.7 hectares. Horsell Common SSSI	Thames - Wey & Tributaries - Wey: Addlestone Bourne (West End to Hale/Mill Bourne confluence at Mimbridge) (EA WB No. GB106039017920); Addlestone Bourne (Mill/Hale to Chertsey Bourne) (EA WB No. GB106039017020) The surface water catchments are composed of land located wholly or partially within Surrey Scheme Run002 (EA WB No. GB106039017020)	Scheme Run002 would be located some 3.0 kilometres to the north east of the SPA component, & lies downstream of the SPA component within the catchment of surface waterbody No. GB106039017020. Given the geographical separation of the location of the proposed scheme from the SPA component, & the fact that the affected area of land is located downstream from the SSSI, & taking account of the scale & type of works proposed, it is concluded that the integrity of the SSSI, & therefore the SPA, would not be affected by the implementation of the scheme.
Thames Basin Heaths Berkshire, Hampshire & Surrey, 8,274.7 hectares. Ockham & Wisley Commons SSSI	Thames - Wey & Tributaries - Wey: Wey (Shalford to River Thames confluence at Weybridge) (EA WB No. GB106039017630); Thames - Mole - Lower Mole & Rythe: Mole (Horley to Hersham) (EA WB No. GB106039017621) The surface water catchments are composed of land located wholly or partially within Surrey Scheme Gui005 (EA WB No. GB106039017630); Scheme Gui161 (EA WB No. GB106039017630); MV021 (17621); MV104 (17621)	Scheme Gui005 would be located some 10.8 kilometres to the south west of the SPA component, Scheme Gui161 would be located some 10.9 kilometres to the south west of the SPA component, Scheme MV021 would be located some 8.8 kilometres to the south east of the SPA component, & scheme MV104 would be located some 15.2 kilometres to the south east of the SPA component. Given the geographical separation of the four schemes from the SSSI, and taking account of the scale & type of works proposed or implemented, it is concluded that the ecological integrity of the SSSI, & therefore the SPA, would not be adversely affected by the schemes.

SPA, location, area, & constituent SSSIs	Surface Water Catchments & LFRMS Schemes located within those catchments	Risk Assessment
Thames Basin Heaths Berkshire, Hampshire & Surrey, 8,274.7 hectares. Sandhurst to Owlsmoor Bogs & Heaths SSSI	<p>Thames - Loddon & Tributaries - Loddon: Blackwater (Hawley to Whitewater confluence at Bramshill) (EA WB No. GB106039017290)</p> <p>The surface water catchments are composed of land located wholly or partially within Surrey</p> <p>None of the schemes identified in the Surrey LFRMS 2016 are located within the same surface water catchments as the SSSI</p>	<p>No further assessment required, as none of the schemes listed in the 2016/17 Action Plan are located within the same surface water catchments as the SSSI.</p>
Thames Basin Heaths Berkshire, Hampshire & Surrey, 8,274.7 hectares. Whitmoor Common SSSI	<p>Thames - Wey & Tributaries - Wey: Wey (Shalford to River Thames confluence at Weybridge) (EA WB No. GB106039017630); Hoe Stream (Pirbright to River Wey confluence at Woking) (EA WB No. GB106039017900).</p> <p>The surface water catchments are composed of land located wholly or partially within Surrey.</p> <p>Scheme Gui005 (EA WB No. GB106039017630); Scheme Gui161 (EA WB No. GB106039017630)</p>	<p>Scheme Gui005 would be located some 2.2 kilometres to south of the SPA component, and scheme Gui161 would be located some 2.8 kilometres to the south of the SPA component. Whilst both schemes would be located within a surface water catchment that also contains part of the Whitmoor Common SSSI, the SSSI is located to the north of the River Wey and the two schemes would be located to the south of the river. Given the geographical relationship of the two schemes to both the SSSI and the surface water drainage catchment, and taking account of the scale and type of works proposed, it is concluded that the integrity of the SSSI, and therefore the SPA, would not be affected by the implementation of either scheme.</p>
Thursley, Hankley & Frensham Commons (Wealden Heaths Phase I) Surrey, 1,869.9 hectares. Thursley, Hankley & Frensham Commons SSSI.	<p>Thames - Wey & Tributaries - Wey: Royal Brook (EA WB No. GB106039017760); Truxford Brook (EA WB No. GB106039017770); Wey (Tilford to Shalford) (EA WB No. GB106039017820); South Wey (River Sleas confluence to Tilford) (EA WB No. GB106039017780); Ock (EA WB No. GB106039017790)</p> <p>The surface water catchment is composed of land located wholly or partially within Surrey</p> <p>Scheme Gui154 (EA WB No. GB106039017820)</p> <p>Scheme Wav154 (EA WB No. GB106039017790)</p>	<p>Scheme Gui154 would be located some 5.1 kilometres to the north of the SPA, and is located downstream from the SPA within the Wey (Tilford to Shalford) (EA WB No. GB106039017820) catchment. Scheme Gui154 would not affect the ecological integrity of the SPA.</p> <p>Scheme Wav154 is located within 0.01 kilometres of the SPA, and is located within the catchment of the 'Ock' (EA WB No. GB106039017790), which encompasses the adjoining part of the SPA. Scheme Wav154 would involve the implementation of improvements to the highway drainage system that services Cramhurst Lane at its junction with Merryacres in Cramhurst, and could involve physical works within the boundaries of the SPA.</p>

SPA, location, area, & constituent SSSIs	Surface Water Catchments & LFRMS Schemes located within those catchments	Risk Assessment
Wealden Heaths Phase II Hampshire, Surrey & West Sussex, 2,053.8 hectares. Bramshott & Ludshott Commons SSSI	Thames - Wey & Tributaries - Wey: South Wey (Bordon to River Slea confluence) (EA WB No. GB106039017720); South Wey (Haslemere to Bordon) (EA WB No. GB106039017700) The surface water catchments are composed of land located wholly or partially within Surrey None of the schemes identified in the Surrey LFRMS 2016 are located within the same surface water catchments as the SSSI	No further assessment required, as none of the schemes listed in the 2016/17 Action Plan are located within the same surface water catchments as the SSSI.
Wealden Heaths Phase II Hampshire, Surrey & West Sussex, 2,053.8 hectares. Broxhead & Kingsley Commons SSSI	Thames - Wey & Tributaries - Wey: South Wey (Bordon to River Slea confluence) (EA WB No. GB106039017720); Slea (Kingsley to Sleaford) (EA WB No. GB106039017750) The surface water catchments are composed of land located wholly or partially within Surrey None of the schemes identified in the Surrey LFRMS 2016 are located within the same surface water catchments as the SSSI	No further assessment required, as none of the schemes listed in the 2016/17 Action Plan are located within the same surface water catchments as the SSSI.
Wealden Heaths Phase II Hampshire, Surrey & West Sussex, 2,053.8 hectares. Devil's Punch Bowl SSSI	Thames - Wey & Tributaries - Wey: South Wey (Haslemere to Bordon) (EA WB No. GB106039017700); Truxford Brook (EA WB No. GB106039017770) The surface water catchments are composed of land located wholly or partially within Surrey None of the schemes identified in the Surrey LFRMS 2016 are located within the same surface water catchments as the SSSI	No further assessment required, as none of the schemes listed in the 2016/17 Action Plan are located within the same surface water catchments as the SSSI.
Wealden Heaths Phase II Hampshire, Surrey & West Sussex, 2,053.8 hectares. Woolmer Forest SSSI	Thames - Wey & Tributaries - Wey: Hollywater & Deadwater at Bordon (EA WB No.106039017690) The surface water catchment is composed wholly of land located outside of Surrey None of the schemes identified in the Surrey LFRMS 2016 are located within the same surface water catchments as the SSSI	No further assessment required, as none of the schemes listed in the 2016/17 Action Plan are located within the same surface water catchments as the SSSI.

- 3.35 For the at risk SPAs, the detailed screening assessment has concluded that three, the South West London Waterbodies SPA, the Thames Basin Heaths SPA and the Wealden Heaths Phase II SPA, would not be effected by the implementation of the schemes listed in the 2016/17 Action Plan for the Surrey LFRMS. For the Thursley, Hankley & Frensham Commons (Wealden Heaths Phase I) SPA further assessment (see section 3.4 of this report) needs to be made of the risks that the scheme proposed for the settlement of Cramhurst (Scheme Wav154) in the borough of Waverley may present to the SPA.

Table 3-K: Ramsar Sites – Detailed Assessment

Ramsar Site, location, area, & constituent SSSIs	Surface Water Catchments & LFRMS Schemes located within those catchments	Risk Assessment
South West London Waterbodies Berkshire, Greater London & Surrey, 828.1 hectares Kempton Park Reservoirs SSSI	<p>Thames - London -Crane Rivers & Lakes - Port Lane Brook (EA WB No. GB106039023451)</p> <p>The surface water catchments are composed of land located wholly or partially within Surrey</p> <p>None of the schemes identified in the Surrey LFRMS 2016 are located within the same surface water catchments as the SSSI</p>	No further assessment required, as none of the schemes listed in the 2016/17 Action Plan are located within the same surface water catchments as the SSSI.
South West London Waterbodies Berkshire, Greater London & Surrey, 828.1 hectares Knight & Bessborough Reservoirs SSSI	<p>Thames - Maidenhead & Sunbury - Lower Thames: Thames (Egham to Teddington) (EA WB No. GB106039023232)</p> <p>The surface water catchments are composed of land located wholly or partially within Surrey</p> <p>None of the schemes identified in the Surrey LFRMS 2016 are located within the same surface water catchments as the SSSI</p>	No further assessment required, as none of the schemes listed in the 2016/17 Action Plan are located within the same surface water catchments as the SSSI.
South West London Waterbodies Berkshire, Greater London & Surrey, 828.1 hectares Staines Moor SSSI	<p>Thames- Colne - Colne: Colne (confluence with Chess to River Thames) (EA WB No. GB106039023090); Surrey Ash (EA WB No. GB106039023480)</p> <p>The surface water catchments are composed of land located wholly or partially within Surrey</p> <p>None of the schemes identified in the Surrey LFRMS 2016 are located within the same surface water catchments as the SSSI</p>	No further assessment required, as none of the schemes listed in the 2016/17 Action Plan are located within the same surface water catchments as the SSSI.

Ramsar Site, location, area, & constituent SSSIs	Surface Water Catchments & LFRMS Schemes located within those catchments	Risk Assessment
<p>South West London Waterbodies Berkshire, Greater London & Surrey, 828.1 hectares</p> <p>Thorpe Park No.1 Gravel Pit SSSI</p>	<p>Thames - Wey & Tributaries - Wey: Moat at Egham (EA WB No. GB106039017060)</p> <p>The surface water catchment is composed of land located wholly or partially within Surrey</p> <p>Scheme Run079 (EA WB No. GB106039017060)</p>	<p>Scheme Run079 would be located some 1.8 kilometres to the north of the closest component of the South West London Waterbodies Ramsar Site (Thorpe Park No.1 Gravel Pit SSSI), and is located upstream from the Ramsar Site within the catchment of the 'Moat at Egham' (EA WB No. GB106039017060). Given the geographic separation of the site of scheme Run079 from the Ramsar Site component, and taking account of the fact that the scheme is concerned with the investigation of highways flooding, and the design of a suitable flood alleviation scheme, but not the delivery of the latter, it is concluded that the ecological integrity of the Ramsar Site would not be affected by the scheme. It is however recommended that any flood alleviation scheme designed take account of the need to include pollution prevention measures capable of safeguarding the water quality of the Thorpe Park No.1 Gravel Pit SSSI.</p>
<p>South West London Waterbodies Berkshire, Greater London & Surrey, 828.1 hectares</p> <p>Wraysbury & Hythe End Gravel Pits SSSI</p>	<p>Thames - Maidenhead & Sunbury - Lower Thames: Thames (Cookham to Egham) (EA WB No. GB106039023231); Thames - Colne - Colne: Horton Brook (EA WB No. GB106039023040)</p> <p>The surface water catchments are composed of land located wholly or partially within Surrey</p> <p>None of the schemes identified in the Surrey LFRMS 2016 are located within the same surface water catchments as the SSSI</p>	<p>No further assessment required, as none of the schemes listed in the 2016/17 Action Plan are located within the same surface water catchments as the SSSI.</p>
<p>South West London Waterbodies Berkshire, Greater London & Surrey, 828.1 hectares</p> <p>Wraysbury No.1 Gravel Pit SSSI</p>	<p>Thames - Maidenhead & Sunbury - Lower Thames: Thames (Cookham to Egham) (EA WB No. GB106039023231)</p> <p>The surface water catchments are composed of land located wholly or partially within Surrey</p> <p>None of the schemes identified in the Surrey LFRMS 2016 are located within the same surface water catchments as the SSSI</p>	<p>No further assessment required, as none of the schemes listed in the 2016/17 Action Plan are located within the same surface water catchments as the SSSI.</p>

Ramsar Site, location, area, & constituent SSSIs	Surface Water Catchments & LFRMS Schemes located within those catchments	Risk Assessment
South West London Waterbodies Berkshire, Greater London & Surrey, 828.1 hectares Wraysbury Reservoir SSSI	<p>Thames- Colne - Colne: Colne (confluence with Chess to River Thames) (EA WB No. GB106039023090); Thames - Maidenhead & Sunbury - Lower Thames: Thames (Cookham to Egham) (EA WB No. GB106039023231)</p> <p>The surface water catchments are composed of land located wholly or partially within Surrey</p> <p>None of the schemes identified in the Surrey LFRMS 2016 are located within the same surface water catchments as the SSSI</p>	<p>No further assessment required, as none of the schemes listed in the 2016/17 Action Plan are located within the same surface water catchments as the SSSI.</p>
Thursley & Ockley Bog Surrey, 265.2 hectares. Part of the Thursley, Hankley & Frensham Commons SSSI.	<p>Thames - Wey & Tributaries - Wey: Royal Brook (EA WB No. GB106039017760); Truxford Brook (EA WB No. GB106039017770); 'Wey (Tilford to Shalford) (EA WB No. GB106039017820)</p> <p>The surface water catchment is composed of land located wholly or partially within Surrey</p> <p>Scheme Gui154 (EA WB No. GB106039017820)</p>	<p>Scheme Gui154 would be located some 6.4 kilometres to the north of the Thursley & Ockley Bog Ramsar Site, and is located downstream of the Ramsar Site within the catchment of the 'Wey (Tilford to Shalford) (EA WB No. GB106039017820). Given the geographic distance that separates the site of scheme Gui154 from the Ramsar Site, and taking account of the fact that the site of the works is downstream of the Ramsar Site, it is concluded that the ecological integrity of the Ramsar Site could not be affected by the scheme.</p>

- 3.36 For the at risk Ramsar Sites, the detailed screening assessment has concluded that both, the South West London Waterbodies Ramsar Site and the Thursley & Ockley Bogs Ramsar Site, would not be effected by the implementation of the schemes listed in the 2016/17 Action Plan for the Surrey LFRMS.

3.4 Further assessment for the Thursley, Ash, Pirbright & Chobham SAC & for the Thursley, Hankley & Frensham Commons (Wealden Heaths Phase I) SPA

- 3.37 The 2016/17 Action Plan for the Surrey LFRMS 2016 includes one scheme (Wav154 – Cramhurst Lane (Merryacres), Cramhurst) that is concerned with addressing an area of highway flooding that is located adjacent to part of the Thursley, Hankley & Frensham Commons SSSI, which is also covered by SAC and SPA designations. The area of highway affected by flooding that would be addressed under the proposed scheme is adjacent to unit 30 of the SSSI, which was recorded as exhibiting 'unfavourable – recovering' condition,

when condition was last assessed by Natural England in 2010. The dominant habitat of the unit is 'lowland, broadleaved, mixed & yew woodland', the recorded condition assessment made the following observations on the unit.

"This unit has some very small areas of relict heath but was recorded as holding good quality woodland and scrub at time of designation so was assessed for this habitat. Mainly native species in woodland with good understory and ground flora - stitchwort and bluebells. HLS [Higher Level Scheme] agreement is to be amended to include areas of scrub management to restore thickets beneficial to nightingale and possibly turtle dove. Small area of heathland remains and a new area is being created where a car park was removed, exposing mineral soil. If no heather regeneration in 2 years, reseedling will be necessary."

- 3.38 Works to address surface water flooding on Cramhurst Lane at the junction with Merryacres had been previously proposed by the LLFA in December 2014 (see Figure 3-A), at which time the scheme would have involved the following works (description provided by Surrey County Council's contractor, Atkins).

"The work ... involves the construction of a new concrete structure in the existing ditch (within the National Trust land of Witley Common) immediately adjacent to Cramhurst Lane (ref attached Plan and Photo, which is looking east towards the road).

This structure is a necessary requirement to prevent the ditch from collapsing and blocking the exit pipeline and to house a trash screen to prevent tree and leaf debris running in to and blocking the new pipe system. We will also be taking advantage of redirecting a road gully discharge away from the ditch and in to the piped system.

This structure has yet to be designed but is unlikely to be larger than about 2.0m x 2.5m x 1.0m depth within the existing ditch (the size being governed by a required minimum screen size and providing a safe standing position for operatives cleaning the screens adjacent to the existing road).

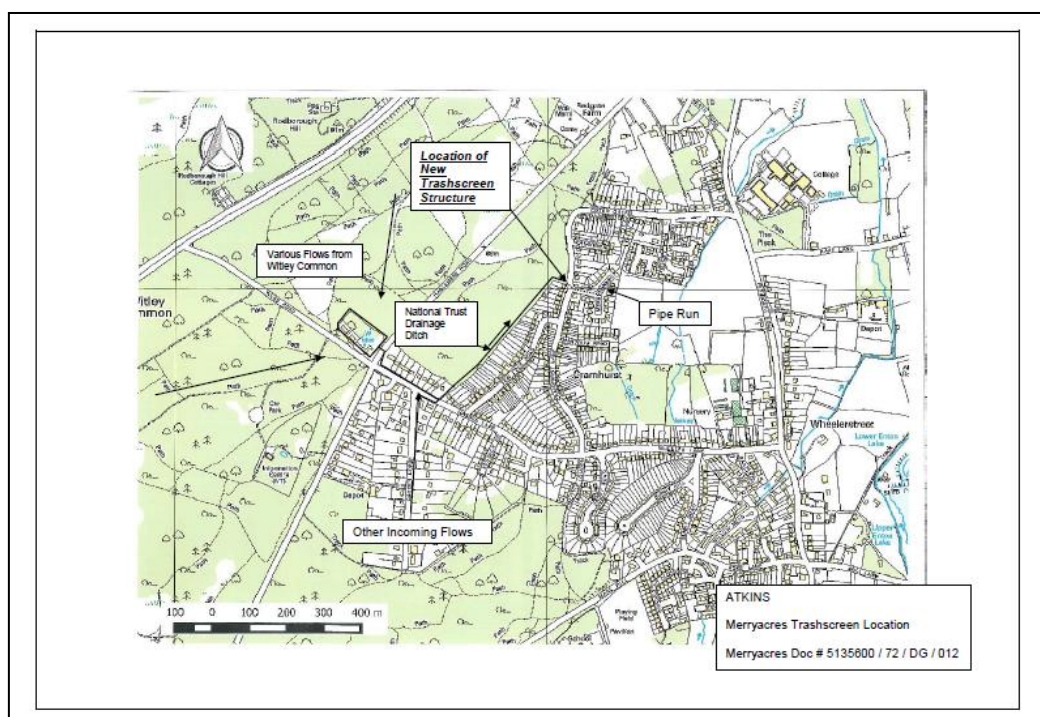
The existing wider situation is that existing open ditches and pipe culverts receive storm drainage water from Witley Common, Webb Road, Gasden Copse, Gasden Lane and other adjacent roads. This water then runs along an open ditch that runs through the National Trust land (behind the houses that front on to Yew Tree Road) round to Cramhurst Lane from where it passes in to a piped drainage system.

This piped system then crosses Cramhurst Lane, passes between the opposite houses and round in to Merryacres and away in a further pipe running under Merryacres.

It is at this interchange from ditch to pipe that out of bank flooding on to and along the road occurs, due to the volume of incoming water involved and the inadequacy of the downstream pipe system.

To reduce this flooding our work will need to involve constructing a new pipeline across Cramhurst Lane and connecting it with existing drainage in the middle of Merryacres and, to prevent blockage of this existing system, we need to construct this new concrete structure at the end of the National Trust ditch."

Figure 3-A: Works previously proposed at Cramhurst Lane, Cramhurst (December 2014)



3.39 The advice of Natural England was sought in December 2014 by Atkins, with reference to the implications of the proposed works for the SSSI, SPA and SAC designations. The following advice was provided by Graham Stevens (Land Management Advisor, Thames Valley Team) in January 2015.

“Thanks for the information. I am satisfied that the proposed work is of a relatively minor scale and is unlikely to have direct adverse impacts on any of the features of special nature conservation interest in the part of the SSSI. However, I would advise that the following aspects are considered to allow Surrey County Council to demonstrate that the work will have no adverse impacts on designated interest features associated with the SSSI and SPA:

- *Whether any aspect of the work will result in loss of extent of heathland or mire habitat (this appears to be unlikely in this part of the site);*
- *Whether the work will have impacts on hydrology which may result in degradation or loss of wet heath or mire habitat (I think that this is unlikely);*
- *Whether the work has the potential to disturb ground nesting birds of special interest, i.e. nightjar, woodlark, Dartford warbler (unlikely in this part of the site although I would advise checking with the National Trust). In any case, if the work is timed to be complete by the end of March the risk of disturbance of nesting birds is much reduced.”*

3.40 Implementation of the scheme did not proceed in 2015, and it has now been included in the strategy Action Plan for 2016/17. Detailed information about the latest version of the proposed scheme is not currently available, but assuming that any scheme now brought forward would be similar to that previously considered, and taking account of the advice

previously given by Natural England, the likely extent of the works, and the condition of the area of the SSSI that would be affected, it is concluded that implementation of the strategy would not result in significant adverse effects on the integrity of the Thursley, Ash, Pirbright & Chobham SAC or of the Thursley, Hankley & Frensham Commons (Wealden Heaths Phase I) SPA. That conclusion is reached on the basis that the advice provided by Natural England in January 2015 would be followed during the detailed design of the scheme, and that the required information would be compiled and provided to Natural England, in advance of any works commencing.

3.5 Consideration of cumulative & in-combination effects

- 3.41 Any schemes developed within Surrey over the duration of the Surrey LFRMS 2016 to address surface water flooding that would be located in the same catchments of any surface watercourses that also host an SAC, SPA or Ramsar Site could, in combination with other activities, give rise to changes in the water environment that could present risks to the ecological integrity of the SAC, SPA or Ramsar Site. However, the potential for the Surrey LFRMS 2016 to contribute, alongside other strategies, plans and projects, to significant impacts on the ecological integrity of any SAC, SPA or Ramsar Site is limited.
- 3.42 The types and scales of schemes listed in the Surrey LFRMS Action Plan 2016/17 focus on relatively small geographical areas, and are concerned with addressing localised surface water flooding issues on the highways network. Any adverse impacts (e.g. siltation, emissions of dust, etc.) that might reasonably be expected to arise during the construction or operational phases of the proposed flood alleviation schemes would be localised in terms of their extent, and temporary in the case of construction effects, and periodic in the case of operational effects depending on the incidence of significant rainfall events. Consequently it is concluded that schemes of the types and scales that would be brought forward under the strategy would not contribute to likely significant effects on any of the potentially affected SACs, SPAs or Ramsar Sites.

3.6 Recommendations for risk avoidance or mitigation

- 3.43 The primary means of ensuring that implementation of the Surrey LFRMS does not present risks to the ecological integrity of any SAC, SPA or Ramsar Site is through the continued application of the HRA regime to the ongoing development and implementation of the strategy, in terms of both annual Action Plan preparation, and the implementation of physical or structural flood risk management schemes.

- 3.44 All future Action Plans developed under the auspices of the Surrey LFRMS will need to be assessed in respect of the requirements of Regulation 61 of the Conservation of Habitats & Species Regulations 2010 (as amended), prior to their adoption and implementation.
- 3.45 All individual schemes should be subject to project level HRA where appropriate, and prior to the commencement of any works, as required by regulation 61 of the Conservation of Habitats & Species Regulations 2010 (as amended).
- 3.46 Where it is intended that flood risk management or land drainage improvement works be carried out under permitted development rights, the provisions of Regulations 73 to 76 of the Conservation of Habitats & Species Regulations 2010 (as amended) should be followed prior to the commencement of any works.

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Surrey Local Flood Risk Management Strategy 2016: Habitat Regulations Assessment

Appendix A:

Conservation Objectives for the ‘At Risk’ SACs &SPAs

August 2016

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SAC or SPA	Mole Gap to Reigate Escarpment SAC
Conservation Objectives	<p>“With regard to the natural habitats &/or species for which the site has been designated (“the Qualifying Features”): Avoid the deterioration of the qualifying natural habitats & the habitats of qualifying species, & the significant disturbance of those qualifying species, ensuring the integrity of the site is maintained & the site makes a full contribution to achieving Favourable Conservation Status of each of the qualifying features. Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> • The extent & distribution of qualifying natural habitats & habitats of qualifying species; • The structure & function (including typical species) of qualifying natural habitats & habitats of qualifying species; • The supporting processes on which qualifying natural habitats & habitats of qualifying species rely; • The populations of qualifying species; • The distribution of qualifying species within the site.
Qualifying Features	<ul style="list-style-type: none"> • H4030. European dry heaths • H5110. Stable xerothermophilous formations with <i>Buxus sempervirens</i> on rock slopes (<i>Berberidion p.p.</i>); Natural box scrub • H6210. Semi-natural dry grasslands & scrubland facies: on calcareous substrates (<i>Festuco-Brometalia</i>) (important orchid sites); Dry grasslands & scrublands on chalk or limestone (important orchid sites)* • H9130. <i>Asperulo-Fagetum</i> beech forests; Beech forests on neutral to rich soils • H91J0. <i>Taxus baccata</i> woods of the British Isles; Yew-dominated woodland* • S1166. <i>Triturus cristatus</i>; Great crested newt • S1323. <i>Myotis bechsteinii</i>; Bechstein’s bat”

SAC or SPA	Richmond Park SAC
Conservation Objectives	<p>With regard to the natural habitats &/or species for which the site has been designated (“the Qualifying Features”): Avoid the deterioration of the qualifying natural habitats & the habitats of qualifying species, & the significant disturbance of those qualifying species, ensuring the integrity of the site is maintained & the site makes a full contribution to achieving Favourable Conservation Status of each of the qualifying features. Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> • The extent & distribution of qualifying natural habitats & habitats of qualifying species; • The structure & function (including typical species) of qualifying natural habitats & habitats of qualifying species; • The supporting processes on which qualifying natural habitats & habitats of qualifying species rely; • The populations of qualifying species; • The distribution of qualifying species within the site.
Qualifying Features	<ul style="list-style-type: none"> • S1083. <i>Lucanus cervus</i>; Stag beetle

SAC or SPA	Thursley, Ash, Pirbright & Chobham SAC
Conservation Objectives	<p>With regard to the natural habitats &/or species for which the site has been designated ("the Qualifying Features"): Avoid the deterioration of the qualifying natural habitats & the habitats of qualifying species, & the significant disturbance of those qualifying species, ensuring the integrity of the site is maintained & the site makes a full contribution to achieving Favourable Conservation Status of each of the qualifying features. Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> • The extent & distribution of qualifying natural habitats & habitats of qualifying species; • The structure & function (including typical species) of qualifying natural habitats & habitats of qualifying species; • The supporting processes on which qualifying natural habitats & habitats of qualifying species rely; • The populations of qualifying species; • The distribution of qualifying species within the site.
Qualifying Features	<ul style="list-style-type: none"> • H4010. Northern Atlantic wet heaths with <i>Erica tetralix</i>; Wet heathland with cross-leaved heath • H4030. European dry heaths • H7150. Depressions on peat substrates of the <i>Rhynchosporion</i>

SAC or SPA	Wimbledon Common SAC
Conservation Objectives	<p>With regard to the natural habitats &/or species for which the site has been designated ("the Qualifying Features"): Avoid the deterioration of the qualifying natural habitats & the habitats of qualifying species, & the significant disturbance of those qualifying species, ensuring the integrity of the site is maintained & the site makes a full contribution to achieving Favourable Conservation Status of each of the qualifying features. Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> • The extent & distribution of qualifying natural habitats & habitats of qualifying species; • The structure & function (including typical species) of qualifying natural habitats & habitats of qualifying species; • The supporting processes on which qualifying natural habitats & habitats of qualifying species rely; • The populations of qualifying species; • The distribution of qualifying species within the site.
Qualifying Features	<ul style="list-style-type: none"> • H4010. Northern Atlantic wet heaths with <i>Erica tetralix</i>; Wet heathland with cross-leaved heath • H4030. European dry heaths • S1083. <i>Lucanus cervus</i>; Stag beetle

SAC or SPA	South West London Waterbodies SPA
Conservation Objectives	<p>With regard to the individual species &/or assemblage of species for which the site has been classified ("the Qualifying Features"): Avoid the deterioration of the habitats of the qualifying features, & the significant disturbance of the qualifying features, ensuring the integrity of the site is maintained & the site makes a full contribution to achieving the aims of the Birds Directive. Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> • The extent & distribution of the habitats of the qualifying features; • The structure & function of the habitats of the qualifying features; • The supporting processes on which the habitats of the qualifying features rely; • The populations of the qualifying features; • The distribution of the qualifying features within the site.

SAC or SPA	South West London Waterbodies SPA
Qualifying Features	<ul style="list-style-type: none"> • A051 <i>Anas strepera</i>; Gadwall (Non-breeding) • A056 <i>Anas clypeata</i>; Northern shoveler (Non-breeding)

SAC or SPA	Thames Basin Heaths SPA
Conservation Objectives	<p>“With regard to the individual species &/or assemblage of species for which the site has been classified (“the Qualifying Features” listed below): Avoid the deterioration of the habitats of the qualifying features, & the significant disturbance of the qualifying features, ensuring the integrity of the site is maintained & the site makes a full contribution to achieving the aims of the Birds Directive. Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> • The extent & distribution of the habitats of the qualifying features; • The structure & function of the habitats of the qualifying features; • The supporting processes on which the habitats of the qualifying features rely; • The populations of the qualifying features; • The distribution of the qualifying features within the site.
Qualifying Features	<ul style="list-style-type: none"> • A224 <i>Caprimulgus europaeus</i>; European nightjar (Breeding) • A246 <i>Lullula arborea</i>; Woodlark (Breeding) • A302 <i>Sylvia undata</i>; Dartford warbler (Breeding)

SAC or SPA	Thursley, Hankley & Frensham Commons (Wealden Heaths Phase I) SPA
Conservation Objectives	<p>With regard to the individual species &/or assemblage of species for which the site has been classified (“the Qualifying Features” listed below): Avoid the deterioration of the habitats of the qualifying features, & the significant disturbance of the qualifying features, ensuring the integrity of the site is maintained & the site makes a full contribution to achieving the aims of the Birds Directive. Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> • The extent & distribution of the habitats of the qualifying features; • The structure & function of the habitats of the qualifying features; • The supporting processes on which the habitats of the qualifying features rely; • The populations of the qualifying features; • The distribution of the qualifying features within the site.
Qualifying Features	<ul style="list-style-type: none"> • A224 <i>Caprimulgus europaeus</i>; European nightjar (Breeding) • A246 <i>Lullula arborea</i>; Woodlark (Breeding) • A302 <i>Sylvia undata</i>; Dartford warbler (Breeding)

