

16. SUMMARY AND CONCLUSIONS

Introduction

- 16.1 This chapter summarises the mitigation measures and residual effects identified in each of the technical assessments included in the ES, which has been prepared to accompany an outline planning application for the proposed residential led, mixed-use development of up to 1,500 residential dwellings, a care home, up to 9,000 sqm of employment floorspace, a local centre including retail / commercial and community / leisure floorspace, land for a two-form entry primary school, public open space, allotments, new sports pitches and associated facilities, drainage, parking and associated access, infrastructure, landscape and ancillary works at Ford Airfield, Arun.
- 16.2 The Development has been subject to an iterative design process. As this process progressed measures have been incorporated into the development parameters in order to avoid, reduce or offset significant environmental effects. Where this has not been possible, further mitigation measures have been proposed and are set out in Table 16.1 below along with the residual effects of the Development following mitigation.

Table 16.1: Significance Table

Stage	Effect	Mitigation	Residual Significance
Population and Human Health			
Construction	Effects on Population and Housing	None required	Negligible
	Effects on Employment		Moderate Beneficial
Completed Development	Effects on Population and Housing	None required	Moderate Beneficial
	Effects on Local Expenditure		Moderate Beneficial
	Effects on Employment		Moderate Beneficial
	Effects on Primary Healthcare		Minor Beneficial
	Effects on Wider Human Health	No mitigation required as all measures designed into the detail of the Development	Minor Beneficial
	Effects on Primary Education	None required	Minor Beneficial
	Effects on Secondary Education		Negligible once the additional secondary school is delivered
Landscape and Visual Effects			
Landscape character			
	LCA 29 – North of Yapton Coastal Plain- effects	Tree planting along western, northern, eastern and south-eastern boundaries. Setting	Major-Moderate, Adverse

Stage	Effect	Mitigation	Residual Significance
	within Site and adjacent boundaries	back for development edge from Yapton Road and Horsemere Green Lane.	
	LCA 29 – North of Yapton Coastal Plain- effects on fields adjacent to Site to west		Major-Moderate to Moderate, Adverse
	LCA 29 – North of Yapton Coastal Plain- effects on character area		Moderate, Adverse
	LCA 30 – Bilsham Coastal Plain- effects on fields southeast of Yapton		Minor-Negligible, Adverse
	LCA 30 – Bilsham Coastal Plain- effects on character area		Negligible, Neutral
	LCA 31 – Climping Lower Coastal Plain-effects in fields immediately adjacent to southwest of Site		Moderate-Minor Adverse
	LCA 31 – Climping Lower Coastal Plain- effects beyond immediate fields up to A259 in southwest		Minor-Negligible, Adverse
	LCA 31 – Climping Lower Coastal Plain- effects on character area		Negligible, Neutral
Visual Effects			
Visual receptor groups			
	Users of public rights of way through former airfield-effects on views	Tree planting along western, northern, eastern and south-eastern boundaries. Setting back of Development edge from Yapton Road and Horsemere Green Lane.	Major Adverse
	Residents of, and visitors to, adjacent streets to Site in Burndell- effects on views		Major-Moderate Adverse
	Residents of, and visitors to Horsemere Green Lane- effects on views until planting matures		Major to Major-Moderate Adverse
	Residents of, and visitors to Horsemere Green Lane- effects on views		Major to Major-Moderate, Neutral
	Residents of, and		Major to Major-

Stage	Effect	Mitigation	Residual Significance
	visitors to, adjacent streets in Ford-effects on views until planting matures		Moderate, Adverse
	Residents of, and visitors to, adjacent streets in Ford-effects on views		Major to Major-Moderate, Neutral
	Residents of, and visitors to Yapton and users of public footpaths and local roads north and south of village-effects on views until planting matures		Moderate, Adverse
	Residents of, and visitors to Yapton and users of public footpaths and local roads north and south of village- effects on views		Moderate-Minor, Neutral
	Residents and users of footpaths and local roads east of the Site-effects on views		Negligible, Neutral
	Users and visitors to South Downs foothills and National Park-effects on views		Minor to Negligible Neutral
Key routes			
	National cycle route 2- effects on views	Tree planting along western, northern, eastern and south-eastern boundaries. Setting back of Development edge from Yapton Road and Horsemere Green Lane.	Minor Adverse
	West Coastway Railway Line-effects on views until planting matures		Moderate-Minor, Adverse
	West Coastway Railway Line-effects on views		Minor, Neutral
	A259- effects on views		Minor Adverse
Designated Landscapes			
	South Downs National Park-effects on views		
Archaeology and Built Heritage			
Construction	Non-Designated Heritage Assets	A programme of archaeological evaluation trenching followed by mitigation excavation and	Minor Beneficial

Stage	Effect	Mitigation	Residual Significance
		recording will be implemented. The scope of these works will be agreed with the LPA’s archaeological advisor	
	Designated Heritage Assets	None required	
Completed Development	Non-Designated Heritage Assets	None required	Negligible
	Designated Heritage Assets		Negligible
Biodiversity			
Construction	Habitat - Loss of woodland and hedgerow habitats	New native species tree and hedgerow planting and creation of areas of diverse grassland.	Minor Beneficial
	Habitat- Accidental damage of woodland and hedgerow habitats	Protection of retained woodland and hedgerows using Heras-type fencing, and pollution control measures.	Negligible
	Bats – Loss of roosting habitat	Installation of bat boxes and bat roost units.	Minor beneficial
	Bats – Killing and injury	Sectional felling of suitable trees under the supervision of an ecologist.	Negligible
	Bats – Loss of foraging and commuting habitat	New native species tree and hedgerow planting, creating foraging and commuting corridors across the Site.	Minor Beneficial
	Bats – Disturbance of bat roosts	Suitable buffer to be maintained around retained trees with suitability for roosting bats.	Negligible
	Badger – Isolation and loss of foraging habitat	Creation of areas of diverse grassland and scrub suitable for badger foraging. Creation of green corridors across the Site.	Negligible
	Badger – Killing or injury through trapping in excavations	Deep excavations to be covered overnight or a timber ramp inserted to allow trapped animals to escape.	Negligible
	Brown hare – Isolation and loss of foraging habitat	N/A	Minor adverse
	Brown hare – Killing or injury through trapping in excavations	Deep excavations to be covered overnight or a timber ramp inserted to allow trapped animals to escape.	Negligible
	European hedgehog – Isolation and loss of foraging habitat	New native species hedgerow planting and creation of areas of diverse grassland. Creation of green corridors. Gaps under garden fences to allow animals to pass through garden habitat.	Negligible
	European hedgehog – Killing or injury through trapping in excavations	Deep excavations to be covered overnight or a timber ramp inserted to allow trapped animals to escape.	Negligible
	Harvest mouse – Isolation and loss of habitat	N/A	Minor adverse
	Harvest mouse – Killing and injury	Site to be kept clear of vegetation following final crop harvest to deter harvest mouse from colonising the construction area.	Negligible

Stage	Effect	Mitigation	Residual Significance
	Birds – Loss of nesting habitat	New native species tree, hedgerow and scrub planting and creation of areas of diverse grassland.	Minor Beneficial - negligible
	Birds – Killing of individuals	Destruction of habitat suitable for nesting birds undertaken outside the bird nesting season, or active nests left with a suitable buffer until nesting ends.	Negligible
	Birds – Disturbance of active nests		Negligible
	Reptiles – Loss of habitat	Creation of areas of diverse grassland and scrub. Creation of green corridors. Creation of wildlife friendly attenuation basins.	Negligible
	Reptiles – Killing and injury of individuals	Translocation exercise, clearance of suitable habitat under supervision of a suitably qualified ecologist.	Negligible
	Amphibians – Loss of habitat	Creation of areas of diverse grassland and scrub. Creation of green corridors. Creation of wildlife friendly attenuation basins.	Minor Beneficial
	Amphibians – Killing and injury of individuals	Translocation exercise, clearance of suitable habitat under supervision of a suitably qualified ecologist.	Negligible
	Invertebrates – Loss of habitat	N/A	Negligible
Completed Development	Designated Sites – Disturbance of adjacent Bewick's swan habitat functionally linked to the Arun Valley SPA through increased human activity	Implementation of screening measures	Negligible
	Habitats – Damage and degradation through insensitive management, trampling, pet fouling etc.	Sensitive management measures detailed and secured. Planting of thorny scrub around significant areas of natural habitat to deter informal entry.	Negligible
	Bats – Disturbance through new external lighting	Sensitive lighting strategy designed and secured.	Negligible
	Bats – Loss of roosting habitat through insensitive management	Sensitive management measures detailed and secured.	Negligible
	Bats – Killing and injury through pet predation	N/A	Negligible
	Badger – Disturbance through new external lighting	Sensitive lighting strategy designed and secured.	Negligible
	Brown hare – Disturbance through new external lighting		Negligible

Stage	Effect	Mitigation	Residual Significance
	European hedgehog - Disturbance through new external lighting		Negligible
	European hedgehog – Killing and injury through pet predation	N/A	Negligible
	Harvest mouse – Killing and injury through pet predation	Encourage use of bells and CatBibs™, protection of 'wildlife areas' from pet access, creation of new habitat to increase carrying capacity for harvest mouse.	Negligible
	Birds - Disturbance through new external lighting	Sensitive lighting strategy designed and secured.	Negligible
	Birds – Killing and injury through pet predation	Encourage use of bells and CatBibs™, protection of 'wildlife areas' from pet access.	Negligible
	Reptiles – Loss of habitat through insensitive management	Sensitive management measures detailed and secured.	Negligible
	Reptiles - Killing and injury through insensitive management and pet predation	Encourage use of bells and CatBibs™, protection of 'wildlife areas' from pet access, creation of new habitat to increase carrying capacity for reptiles.	Negligible
	Amphibians – Loss of habitat through insensitive management	Sensitive management measures detailed and secured.	Negligible
	Amphibians - Killing and injury through insensitive management and pet predation	Encourage use of bells and CatBibs™, protection of 'wildlife areas' from pet access, creation of new habitat to increase carrying capacity for amphibians.	Negligible
	Invertebrates – Disturbance through new external lighting	Sensitive lighting strategy designed and secured.	Negligible
Transport and Access			
Construction	Yapton Road North of Oystercatcher junction - Community Severance	Construction Traffic Management Plan, Travel Plan, Highway Works	Negligible
	Yapton Road North of Oystercatcher junction - Pedestrian and Driver Delay		Minor Adverse
	Yapton Road North of Oystercatcher junction - Accidents and Safety		Minor Adverse
	Yapton Road North of		Negligible

Stage	Effect	Mitigation	Residual Significance
	Oystercatcher junction - Fear and Intimidation		
	Church Lane South of Horsemere Green Lane - Community Severance		Negligible
	Church Lane South of Horsemere Green Lane - Pedestrian and Driver Delay		Minor Adverse
	Church Lane South of Horsemere Green Lane - Accidents and Safety		Negligible
	Church Lane South of Horsemere Green Lane - Fear and Intimidation		Negligible
Completed Development	B2233 Yapton Road West of North End Road - Community Severance	Travel Plan, Highway Works	Negligible
	B2233 Yapton Road West of North End Road - Pedestrian and Driver Delay		Minor Beneficial
	B2233 Yapton Road West of North End Road - Accidents and Safety		Minor Adverse
	B2233 Yapton Road West of North End Road - Fear and Intimidation	Travel Plan	Negligible
	Yapton Road North of Oystercatcher junction - Community Severance	Travel Plan, Highway Works	Negligible
	Yapton Road North of Oystercatcher junction - Pedestrian and Driver Delay		Minor Beneficial
	Yapton Road North of Oystercatcher junction - Accidents and Safety		Minor Adverse
	Yapton Road	Travel Plan	Negligible

Stage	Effect	Mitigation	Residual Significance
	North of Oystercatcher junction - Fear and Intimidation		
	Church Lane South of Horsemere Green Lane - Community Severance	Travel Plan, Highway Works	Negligible
	Church Lane South of Horsemere Green Lane - Pedestrian and Driver Delay		Minor Adverse
	Church Lane South of Horsemere Green Lane - Accidents and Safety		Minor Adverse
	Church Lane South of Horsemere Green Lane - Fear and Intimidation	Travel Plan	Negligible
Air Quality and Odour			
Construction	Dust	Described in Dust management plan	Negligible
	Traffic		Negligible
	Odour		Negligible
Completed Development	Dust	None required	Negligible
	Traffic	None required however mitigation already embedded within the Development	Negligible
	Odour	Not required	Negligible
Noise and Vibration			
Construction	Construction Noise	Good management of construction noise and mitigation measures as specified in Para 12.71 of chapter 12.	Negligible
	Construction Vibration	Good management of construction vibration if impact piling method is required	Negligible
Completed Development	Traffic Noise	None required	Minor Adverse to Negligible
	Commercial Noise	Site layout (subject to detailed design) and implementation of mitigation measures as specified in Para 12.74 of chapter 12.	Minor Adverse to Negligible
Agricultural Land			
Construction	Loss of Grade 2 agricultural land	Management of soils during construction, inclusion of community allotment	Major adverse
	Loss of Subgrade 3a agricultural land		Minor adverse
Completed Development	No additional land take		
Water Resources and Flood Risk			
Construction	Fluvial and Tidal	None required.	Negligible
	Surface Water	Effective site management and phasing of works. Diversion	Minor Adverse

Stage	Effect	Mitigation	Residual Significance
		existing and temporary of flow paths to areas of lesser risk and adequate attenuation.	
	Foul Water Sewerage System	Accurately trace and locate existing rising mains at the Site. Communicate locations to Site personnel. Protect the mains as required.	Minor Adverse
	Groundwater	None required.	Negligible
	Water Quality	Undertake desilting on site. Effective site management to store and control potential pollutants.	Minor Adverse
Completed Development	Fluvial and Tidal	None required.	Negligible
	Surface Water	Finished Site levels to be flood routed so that any escape of water or exceedance flow sheds to lower risk areas of green corridors and open space. Provision of Sustainable Drainage Systems (SuDS) to convey, treat and store surface water on site.	Negligible
	Foul Water Sewerage System	General maintenance of on site pumping stations to be carried out.	Negligible
	Groundwater	None required.	Negligible
	Water Quality	SuDS will be provided to remove pollutants at source.	Minor Adverse
	Ground Conditions		
Construction	Health effects during construction on construction workers, neighbours, residents and built environment from contamination.	Construction works will be managed through industry standard working practices (e.g PPE, HSE risk assessments), CoCP and CEMP.	Negligible
	Mobilisation of sediment during piling operations that may impact on Principal Aquifer	Piling into underlying principal aquifer: Any impact on the aquifer will be very localised and temporary. There are no groundwater abstractions for drinking water purposes within 2km of the Site.	Negligible
	Risk of encountering unexploded ordnance during site investigation and construction works	UXO engineer required during excavations and to clear pile positions.	Negligible
	Releases of fuel and chemicals from storage and use during construction works.	Construction works will be managed through industry standard working practices (e.g PPE, HSE risk assessments), CoCP and CEMP.	Negligible
Completed Development	Health effects to future Site users	The site investigation has identified some localised	Negligible

Stage	Effect	Mitigation	Residual Significance
	including residential and works as well as flora from contamination within an inert landfill.	contamination associated with an inert landfill. This would be mitigated through the adoption of simple techniques such as a clean cover system or fencing. This will be confirmed in a remediation strategy developed for the Site.	
	Health effects on future Site users including residential, workers and neighbours, flora and fauna and built environment from contamination in areas not investigated.	Further investigation will be carried out fully characterised the ground conditions in areas of the Site that could not be accessed during the site investigation. However, the results show that the majority of the Site is free from contamination.	Minor adverse

Interactive Effects

- 16.3 Regulation 4 (2) states that an ES must include a description of the aspects of the environment likely to be significantly affected by the Development and the interrelationship between these effects. There is no published methodology for determining the significance of interactive or synergistic effects. Combining effects with respect to one environmental discipline with another has to be qualitative and is necessarily based on judgment. Therefore, a matrix system has been used to indicate where such effects would likely occur for the construction and operational phases, highlighting where effects occur to a common receptor. The findings of this exercise are set out in Table 16.2 below.

Table 16.2 Interactive Effects

Effect	Local Population	Users of the Local Road Network	Ecology
Construction Phase			
Views of vehicles and machinery being used during the demolition and construction period	*		
Disruption to users of the local road network		*	
Demolition and Construction Noise (plant and machinery)	*		
Construction Dust	*		*
Creation of Construction employment	*		
Operational Phase			
Views of the Development	*		
Effects to the Highway network	*	*	

Effect	Local Population	Users of the Local Road Network	Ecology
Operational road and plant emissions	*		*
Noise from traffic associated with the operation of the Development	*		
New Habitat Creation			*

*indicates where an effect may occur.