



LIDSEY GREEN

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Abbreviations

BMV	Best and Most Versatile
CEMP	Construction and Environmental Management Plan
GHG	Green House Gas
GI	Green Infrastructure
IAQM	Institute of Air Quality Management
IEMA	Institute of Environmental Management and Assessment
LEMP	Landscape and Ecological Management Plan
NERC	Natural Environmental and Rural Communities
NTS	Non Technical Summary
PROW	Public Right of Way
REGS	Hedgerow Regulations

1 INTRODUCTION

- 1.1 Hallam Land Management Limited will be submitting two planning applications to Arun District Council; the first for the construction of up to 480 new houses and associated open space on land at Bognor Regis Golf Club in Felpham and a second for the construction of a new golf course on land south of Grevatt's Lane (A259).

The Application Sites

- 1.2 There are two application sites, as shown on *Figure 1*. Site A is the existing Bognor Regis Golf Club. Site B is made up of number of agricultural fields located north of Elmer, Ancton, Middleton-on-Sea, at the eastern edge of the Bognor Regis urban area.



Figure 1: Site Plan

The Proposed Developments

- 1.3 Planning permission is sought for:
- A. The construction of a new golf course and facilities on land south of Grevatt's Lane (A259) to enable the relocation of Bognor Regis Golf Club
 - B. Redevelopment of the current Bognor Regis Golf Club for new housing and open space.
- 1.4 Together these two developments comprise a single project; they are inter-related and mutually dependent. The new golf course is required to be laid out to allow the relocation of the existing golf club and its redevelopment for housing – the new golf course will not be constructed unless the housing scheme is consented at the existing course. Neither proposed development would happen independently of the other.
- 1.5 The housing scheme at the existing golf course has been submitted as an outline planning application to establish the principle of development. Only details of the access from Golf Links Road is to be approved

at this stage. Other “reserved matters” – layout, landscaping, appearance and scale - are to be approved at a later date once the principle has been established.

- 1.6 The planning application for the new golf course is seeking full permission.
- 1.7 Parameter Plans have been prepared for each scheme that provide pictorial illustrations of the proposed development and establishes the parameters which are the basis for the Environmental Impact Assessment that has been undertaken.

The need for an Environmental Impact Assessment

- 1.8 An Environmental Impact Assessment is required because of the European Union Directive relating to the assessment of the effects of certain public and private developments on the environment. This has been implemented through The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations). The Regulations have been transposed into UK legislation after leaving the European Union.
- 1.9 To comply with the Regulations, an Environmental Statement has been prepared as part of Hallam’s planning application. This provides an assessment of the likely significant effects of the proposed development to help the District Council to reach a decision on granting planning permission.
- 1.10 The EIA Regulations require that a Non-Technical Summary (NTS) is provided alongside the Environmental Statement. This provides summary information about the site and its surroundings; the proposed development; the potential environmental effects of the proposed development; and the measures to mitigate the impacts through avoiding, reducing and/or compensating against the impacts.

The Environmental Impact Assessment Process

- 1.11 The Environmental Assessment has considered the following topics:
 - Social and Economic: population, employment and economic effects as well as local services such as schools and healthcare.
 - Landscape and Visual: changes to the landscape and visual effects.
 - Ecology and Nature Conservation: effects on the habitats and protected species.
 - Water Resources and Flood Risk: effects on surface water and water courses on-site through changes to water quality and quantity, including the drainage characteristics and flood risk.
 - Traffic and Transport: effects on drivers, pedestrians and cyclists.
 - Air Quality: effects of dust during construction and from vehicle emissions.
 - Noise: effects on existing and future residents from changes to the noise environment.
 - Ground Conditions: effects on the ground conditions.
 - Agriculture and Soil Resources: effects on agricultural land and soil.
 - Green House Gases: the extent to which the proposed development will emit Green House Gases emissions.
 - Climate Resilience: effects of climate change on the proposed development.
 - Materials and Waste: the consumption of material resources, and the generation and disposal of waste.
 - Archaeology and Cultural Heritage: effects on the below-ground archaeology and heritage assets.

Prediction of significant impacts

- 1.12 The assessment process follows a number of steps:

- a) An 'environmental baseline' is established for each of the above environmental topics which sets out the existing conditions. This identifies important features, known as environmental receptors or resources and gives them a value or sensitive depending on their nature.
 - b) The baseline is the basis against which the potential significant impacts are assessed.
 - c) The change or effect that the proposed development has on those environmental receptors is then considered; does the development have a negative or positive effect on individual receptors and if so how much of a change or effect.
 - d) Using the sensitivity or value of the receptor, and the size of the change or effect that the development has, allows the significance of that effect to be determined. A matrix is often used to determine this significance, but professional judgement is important too.
- 1.13 For example, if the proposed development had a very large effect on a very important feature, this would be said to cause a major effect. Smaller effects on a less important could feature would be less significant – the terms negligible, minor or moderate are used as a sliding scale.
- 1.14 Effects can be positive (known as 'beneficial') or negative (known as 'adverse'), temporary or permanent. Effects can last for a short term or be a permanent change and vary in their duration.

Mitigation and Enhancement

- 1.15 To avoid, reduce or compensate for potential negative effects, mitigation measures are used. These can be measures that are part of the scheme – termed "inherent" or measures that are standard or usual, with a high degree of certainty that they will be implemented. On some occasions, additional mitigation – termed actionable – will need to be developed to reduce the effects.
- 1.16 Measures that provide an enhancement can also feature within a scheme – these are positive measures designed to achieve improvements to the baseline, such as new habitat creation.

Cumulative Impacts

- 1.17 The Regulations require that an assessment of the project alongside other existing or approved projects is undertaken so that the potential cumulative effects can be established. One development might only have a small effect but when this small effect happens at the same time as other effects from another development, together the effect might be greater. For example, traffic from a number of developments may have a bigger impact on local roads than if it was just one project on its own. A number of existing and approved developments close to the application sites have therefore been considered.

2 THE APPLICATION SITES

Site A - The Existing Bognor Golf Course

- 2.1 Site A is shown at *Figure 1* and measures approximately 40 hectares in size. It currently comprises the existing Bognor Regis Golf Course and associated club house and car parking. Vehicular and pedestrian access is provided from Golf Links Road. The golf course comprises fairways, greens, bunkers, tee boxes, fairway trees with occasional drainage ditches. A practice green is also located close to the club house.
- 2.2 Site A is bounded by:
- North – agricultural fields and the A259;
 - East / Southeast – existing residential environs of Felpham and Downview Primary School;
 - South – open fields extending to the B2259, Arun Leisure Centre and Felpham Community College and further afield Felpham; and
 - West - Lidsey Rife, beyond which is the LEC Airfield, the Railway Line and beyond that are areas of commercial development.
- 2.3 A number of trees and hedgerows form part of the golf course layout and its boundaries. A Tree Preservation Order exists (ref: TPO/FP/1/07) which covers the eastern boundary of the golf course.
- 2.4 The Site is not part of, nor does it house any statutory designations.
- 2.5 Lidsey Rife is designated as a ‘*Biodiversity Opportunity Area*’ in the Arun Local Plan and a ‘*Local Green Space*’ in the Felpham Neighbourhood Plan. The Golf Course is also part of the ‘*Gap between Settlement*’ designation in the Local Plan. The northernmost part of the Site is situated with Yapton Neighbourhood Plan area but there are no specific designations that directly relate to the Site.
- 2.6 There is an area of flood zone 2 and 3 shown on the Environment Agency flood maps. This mapping is based on a high level model; whereas site-specific hydraulic modelling has been undertaken that shows the new housing will not be at risk of flooding during the 1 in 100 year plus climate change event.
- 2.7 There is an existing Public Right of Way (ref: 153) that crosses the site; it extends along the eastern boundary to the residential properties that adjoining the Site and across the golf course to the northwest.
- 2.8 Within the site, towards its southern boundary, there is an existing telecommunications tower.

Site B - Land to the south of Grevatt's Lane

- 2.9 Site B is also shown at *Figure 1* and measures approximately 73ha in size. It comprises three principal field parcels termed Western, Northern and Southern. It is located to the north of Elmer, Ancton, Middleton-on-Sea, at the eastern edge of the Bognor Regis urban area.
- 2.10 The land is primarily used for agricultural (arable) purposes and is generally flat. Its boundaries comprise a variety of woodland, hedgerows and trees. The woodlands adjoining the Site's western and southern boundaries are subject to Tree Preservation Orders (ref: TPO/M/2/91 and TPO/M/1/91).
- 2.11 Site B is bounded by:
- North – the Site adjoins the A259 Grevatt's Lane;
 - East – is agricultural land and a small industrial complex; Baird's Business Park;
 - South – the settlement of Ancton with residential properties situated along Ancton Way and Sunneymead Close but woodlands bound the Application Site; and
 - West - agricultural fields.

- 2.12 There is an existing Public Right of Way (PROW) within the woodland that adjoins the western boundary of the Site (ref: 165).
- 2.13 As with Site A, Site B is not part of, nor does it house any statutory designations. It is also situated in the “*Gap between Settlements*” designation shown in the Arun Local Plan.
- 2.14 There is one watercourse, the Ryebank Rife, which passes through the middle of the Site, and there are drainage ditches along the site’s boundaries.

3 THE PROPOSED DEVELOPMENTS

- 3.1 Two separate planning applications have been submitted to Arun District Council in respect of these development proposals.
- 3.2 The Housing Scheme (Site A) submitted as an outline planning application for:
Construction of up to 480 new homes (C3), the formation of a new means of access onto Golf Links Road, the creation of new surface water drainage, new landscaping and habitat creation, ground works and other infrastructure. The retention and re-purposing of the retained club house (F2).
- 3.3 The Golf Course Scheme (Site B) submitted as a full planning application for:
The laying out of an 18 hole par 4 golf course, a 9 hole par 3, practice greens and a driving range; the formation of a new access onto the A259; the construction of a club house with associated golf club facilities; the construction of a maintenance building and external area of hardstanding; parking, new roads and paths; new landscape planting, surface water drainage basins and water storage reservoir, and other earthworks and infrastructure.
- 3.4 The Illustrative Masterplan is set out at *Figure 2* for Site A, and the Parameters Plan for Site B is set out at *Figure 3*.



Figure 2: Illustrative Masterplan



4 POTENTIAL ENVIRONMENTAL IMPACTS

- 4.1 The individual environmental topic chapters within the ES assess the likely significant environmental effects of the proposed development. The findings are summarised in the following paragraphs.

Population and Human Health

- 4.2 The population and human health impacts arising from the overall project considers the following receptors: population, housing, economy, healthcare, education, community facilities and open space and are generally beneficial in nature. The effects are summarised as follows:
- 4.3 The development at Site A will provide new housing to meet forecast grow in the local population and to meet the identified housing need. Overall, it is considered the impact on population is a **direct, permanent, long-term, major beneficial effect**.
- 4.4 The employment of staff at the golf club will be transferred from Site A to B but is forecast to be greater than at present. During construction there will be employment on site, which is predicted at 25-30 FTE construction workers for the golf course with more workers constructing the golf club house, through a variety of skill levels. The increased population will provide additional expenditure in the local area. Overall, there will be a **direct, temporary and permanent, long-term, major beneficial impact**.
- 4.5 The additional housing on Site A will give rise to a higher demand on the local healthcare facilities capacity. When including financial contributions, if sought by the Arun Clinical Commissioning Group, there will be an overall **negligible effect**. The relocation of the golf course is not expected to give rise to any healthcare demands. However, there will be a beneficial impact on the development of the new golf course in promoting well-being and healthy lifestyles.
- 4.6 There will be an increased demand on education facilities from the new resident population at Site A. There is existing capacity in nurseries, primary and secondary schools in the local area. Should there be a need to improve the local education facilities to accommodate the increase in population then the Council's Community Infrastructure Levy will collect monies from the developer that can fund education projects. The overall impact on educational facilities is **negligible**.
- 4.7 The existing club house is being retained with the intention it will be repurposed for use as a community facility. This is a potential indirect benefit of the proposed development. Site B will host a new club house and associated facilities which would be available for community use. The increase in population from the development of Site A will lead to an increased expenditure and use of local services and facilities. Overall, there will be a **negligible effect**.
- 4.8 As the existing golf course is in private ownership there are limited opportunities for public access, restricted only to the use of the Public Right of Way. Site B currently comprises two agricultural fields equally with no public access. The relocation of the golf course and redevelopment of Site A will provide a substantial enhancement to the public open space in this area. This will be in line with policy requirements. Overall, there will be a **direct, permanent, long-term, major beneficial effect**.

Landscape and Visual

- 4.9 A Landscape and Visual Assessment has been prepared to assess the effects of the proposed development upon landscape features, landscape character, and visual amenity within the context of the Sites.

Impact on Landscape

Site A ~ Redevelopment of existing golf course

- 4.10 The development would result in small changes to the ground levels and the effect on landform is considered to be neutral. The introduction of sustainable urban drainage features includes new ditches and

ponds will have a slight beneficial effect on Site's drainage as a landscape feature.

- 4.11 Existing vegetation within the site includes belts of trees and shrubs along stretches of the site boundary and strong avenues of trees and shrubs characterise the body of the site. Vegetation would be predominantly retained, with improved management and supplemented with areas of new planting to add screening and define areas of public open space. As this planting matures there will be a **minor beneficial** effect on vegetation.
- 4.12 The development would result in a total change of land use from recreational golf course to a mix of residential use and public open space. The amount of built form on site would increase and become a prominent feature within. This will have a **moderate-minor adverse** effect on land use and built form.
- 4.13 The creation of proposed footpaths and roads within the site will significantly increase the amount of formal circulation, which will have a **negligible** effect only. In addition, the implementation of infrastructure such as utilities and services associated with the introduction of dwellings to the site would result in a **moderate-minor adverse effect**.
- 4.14 The existing sense of scale and enclosure is defined by the rows of mature trees and hedgerows along the site boundary and within the site interior. The majority of vegetation would be retained and the addition of new planting and development will strengthen the existing sense of enclosure and long internal views in the west and north of the site. Additionally, this will impact on local visual connections into the site, where the extent of visibility into the site as a setting for adjacent land will be reduced. The change to scale, enclosure and visual connection is considered to be **minor adverse**.
- 4.15 At a site level the whole landscape is being changed and would alter its character. The change from the recreational landscape of the golf course to a mix of residential and public open space would expand the existing character to the south and east of the site. Aspects of the site character such as the mature vegetation will be retained and strengthened through the development, whilst some openness would be lost. At a site level, the effects of the development are considered to be **moderate-minor adverse**.
- 4.16 The site represents a small area of local landscape character type SC9: Chichester to Yapton Coastal Plain and therefore has little influence over the overall character of that much larger area. Impacts on the local landscape character area are considered to be **minor adverse**.
- 4.17 The site represents a still smaller area of National Character Area 126 South Coast Plain and therefore has very little influence over the overall character of the area. Impacts on the National Character Area are considered to be **negligible**.

Site B – Relocation of golf course.

- 4.18 The development would result in changes to ground levels but overall the effect on landform is considered to be neutral. Through the introduction of SuDS the development would realise a slight beneficial effect on drainage.
- 4.19 Existing vegetation within the site consists of dense belts of mature native trees and shrubs along its boundaries, between field parcels and along Ryebank Rife. Existing vegetation will largely be retained with improved management and supplemented with extensive areas of new planting to add screening and define the structure of fairways within the development. A combination of the new landscaping maturing and the retention and enhancement of retained structural planting would result in a **moderate-minor beneficial** effect on vegetation.
- 4.20 The development would result in a total change to land use, substituting agricultural land for a recreational and sporting use. The change in land use is considered to be a **moderate-minor adverse** effect.
- 4.21 Presently, there is no built form or infrastructure on the site and therefore both landscape features will increase as a result of the proposed development. Three buildings will be created to support the function of the development as a golf course and vehicular access and car parking will be constructed to provide access. New built form will be designed to match the style of existing settlements. The anticipated effect is considered to be **moderate-minor adverse**.

- 4.22 The existing site is open and expansive internally, with strong belts of mature vegetation along the boundary lines. The open character of the site, characteristic of the local area, will change due to the introduction of various belts of vegetation to define the golf course structure within the site interior. The addition of new vegetation will alter the visual connection and experience of the site from the neighbouring landscape, particularly from the north, changing the shared agricultural character. The anticipated effect on scale and enclosure is considered to be moderate-minor adverse and the effect on visual connection is considered to be **negligible**.
- 4.23 At a site level the whole landscape is being developed and would largely change in character. The development would result in complete change from an agricultural, rural landscape to a recreational and sporting landscape, disconnecting the site from its shared character with land to the east, west and north. Aspects of the site character such as the belts of mature vegetation and Ryebank Rife will be retained and strengthened through the development. At a site level, the effects of the development are considered to be **minor adverse**.
- 4.24 The site represents a small area of local landscape character type SC9: Chichester to Yapton Coastal Plain and therefore has little influence over the overall character of the area. Impacts on the local landscape character area are considered to be **minor adverse**.
- 4.25 The site represents a still smaller area of NCA 126 South Coast Plain and therefore has very little influence over the overall character of the area. Impacts on the National Character Area are considered to be **negligible**.

Impact on Visual Amenity

Site A – Redevelopment of existing golf course

- 4.26 The site has a visual envelope, predominantly shaped by the existing urban edge of Felpham and South Bersted, the bridge associated with Felpham Relief Road and the substantial structural vegetation found within the site and the local context. Views experiencing the site and change are limited to receptors within the site and the vicinity of. These include houses defining the south and east site boundaries, Public Rights of Way running through and within close range of the site and the Felpham Relief Road, travelling parallel to the east.
- 4.27 A number of residents of Sutton Close, Golf Links Road, Mid Acre Close, Red Bar Crescent, Wellers Close and Bridger Close would experience **major-moderate adverse** effects, as housing is introduced to the rear of properties, replacing views of the golf club. A small number of residents on Downview Road may appreciate a **moderate-minor adverse** impact as a consequence of the new access. This would diminish to a negligible impact by year 15. The remaining residential receptors would receive no more than a **negligible impact** from the development.
- 4.28 A small number of roads would experience a minor adverse impact, resulting from the introduction of additional housing into the scene, including Downview Road, Stalham Way, Golf Links Way, Wellers Close, Bridger Close and Felpham Relief Road. Receptors on Downview Road would experience negligible change by year 15. Users of Whitfield Close and Marylands Crescent would appreciate **negligible impact** and the remaining roads within the study area would see no change from the development.
- 4.29 There is one **major adverse** impact, experienced by users of the PRoW FEL/153/6, running through the centre of the site. Users of this route will see the golf course setting replaced with a new residential extension. The connecting section of PRoW, YAP/153/4 would be **major-moderate adversely** impacted, as a single side of the route is substituted in the same fashion. Three PRoWs beyond the fringe of the site, BET/152/2, ALD/152/3 and FEL/154/2 would see **moderate-minor** adverse impacts, with the introduction of housing into the scene, at mid distance and filtered. The impacts for each would reduce to negligible, negligible and minor adverse, respectively, by year 15 with the maturing of intervening vegetation. The remaining PRoW receptors would experience no more than **minor adverse** impacts, with the majority of routes within the study area seeing either **negligible effect** or no change from the baseline.

Site B -- Relocation of Golf Course

- 4.30 The site has a visual envelope, predominantly shaped by the existing urban edge of Elmer and substantial belts of tree and structural planting, within the site, framing it, and within the local context. Views experiencing the site and change are limited to receptors within the site and the vicinity of. These include houses defining the southern boundary, PRoW running through and within close range of the site and Grevatt's Road travelling parallel to the north.
- 4.31 No residential receptor within the study area would experience more than a **negligible** effect from the development, including those aligning the southern boundary of the site upon Sunnymede Close and Acton Way, owing to the dense boundary vegetation defining the site.
- 4.32 Users of Grevatt's Lane would see a **minor adverse** impact from the development, resulting from the reconfiguration of the access road to the site and the framing of introduced elements within the interior. Users of Sunnymede Close, Ancton Way, The Layne, Arundel Way, Elm Drive, Alleyne Way, The Hard and Yapton Road would experience no change from the development. No additional receptor within the study area would be impacted.
- 4.33 Users of PRoW MOS/165/3 and MOS/165/1 would both experience **minor adverse** impacts from the development from the introduction of the clubhouse, which may be perceptible from the route. YAP/165/2 would see **major-moderate adverse** impact owing to the proximity of the new club house and the addition of associated golf facilities within a former agricultural setting.
- 4.34 CLI/1666/4 would initially experience a **moderate adverse** impact from the development, as views from the route allowed appreciation of the built form and infrastructure proposed to the site, alongside a diminishment to the planted boundary. Once the planted boundary has matured, the site will be screened in the main, reducing the impact of the development to **minor adverse**. There are no other PRoW receptors within the study area that would experience adverse impacts.

Ecology

- 4.35 An assessment has been undertaken to establish the likely significant effects of the Site in terms of ecology and biodiversity. The assessment has been informed by a comprehensive desk study and suite of ecological surveys.

Site A -- Redevelopment of existing golf course

- 4.36 The distance between the internationally designated sites and the Site will result in a **negligible** effect on the designated sites. This will also ensure that in combination effects are negligible. The large expanse of on-site Green Infrastructure (GI) will provide new residents with areas for recreation ensuring that impacts to the Brooks Local Nature Reserve will be also be **negligible**.
- 4.37 The intensively managed amenity grassland of the golf course is of negligible ecological value, of which the majority to the east will be lost to facilitate residential development. Habitats of higher ecological value such as the woodlands, ditches and small areas of the golf course 'roughs' where management was less intense will largely be retained. Where these habitats will be lost, compensatory planting of habitats of high ecological value, such as woodland, species-rich grassland and wildflower meadow, and creation of a new ditch network are proposed, which increase biodiversity and provide opportunities for the local fauna.
- 4.38 A Construction and Environmental Management Plan (CEMP) will ensure retained habitats are protected during the construction phase and the Landscape and Ecological Management Plan (LEMP) will ensure that all habitats sustain their optimal condition in perpetuity, so to ensure that biodiversity benefits meet local and national policies.
- 4.39 The retention, enhancement and creation of habitats throughout Site A will benefit a number of fauna species. The local bat population will benefit from increases in commuting, foraging and roosting resources, and the local bird population will benefit from increases in nesting opportunities. Reptiles and water vole will both benefit from enhancement and creation of new optimal habitat with the Green Infrastructure

(GI). These habitats will be specifically managed to meet the function requirements for these and other species, which will be detailed in a LEMP.

- 4.40 The habitats created will achieve a Biodiversity Net Gain that exceeds the 10% requirement under the current Environmental Act; these habitats will also benefit a number of protected and notable species, for which specific mitigation measures have been adopted where needed. These measures will result in an overall **minor beneficial direct effect** in the long-term at a Local level.

Site B ~ Relocation of Golf Course

- 4.41 There will be a negligible impact on international statutory designated sites and the non-statutory site, due to the recreational nature of the proposals, intervening distances and best practice measures incorporated. This will also ensure that in combination effects are **negligible**.
- 4.42 The woodland bordering the eastern, southern and western boundaries of the southern field is classified as a habitat of principal importance under the Natural Environmental and Rural Communities Act. It has been assessed as being of local level conservation value, and will be integrated within the GI. The root protection area of trees will be protected by high-visibility fencing. These measures will ensure that impacts are **negligible**.
- 4.43 The four hedgerows onsite are all classified habitats of principal importance under NERC and are of local value. One hedgerow (H4) qualified as 'important' under the Hedgerow Regulations (REGS). Hedgerow H2 will be lost to facilitate the proposed golf course. However, there will be extensive compensatory planting of native species rich scrub and trees which will increase biodiversity and provide opportunities for the local fauna.
- 4.44 The arable fields are of negligible ecological value, with exception to limited areas of diverse arable field margins which are of local value, both of these areas will be lost to facilitate the development. The GI within the proposed golf course will create a number of habitats which are currently absent or poorly represented, including waterbodies, additional woodland planting, diverse hedgerow networks, meadow grassland and wildflower margins. This is considered to provide an overall benefit to wildlife and compensate for the areas of habitat to be lost.
- 4.45 A CEMP will ensure retained habitats are protected during the construction phase and the LEMP will ensure that all habitats sustain their optimal condition in perpetuity, so to ensure that biodiversity benefits meet local and national policies.
- 4.46 Improvements to the habitat diversity within the Site will benefit a number of fauna species. The local bat populations will benefit from the increases in foraging and navigational opportunities, increased foraging and nesting opportunities for birds and reptiles will have large areas to colonise. These habitats will be specifically managed to meet the function requirements for these and other species, which will be detailed in a LEMP.
- 4.47 The habitats created will achieve a BNG that exceeds the 10% requirement under the current Environmental Act, these habitats will also benefit a number of protected and notable species, for which specific mitigation measures have been adopted where needed. These measures will lead to an overall **moderate beneficial** direct effect in the long-term at a Local level.
- 4.48 The cumulative effect of the Project is **minor-moderate beneficial** direct long-term at a Local Level.

Water Resources

Site A ~ Redevelopment of existing golf course

- 4.49 For Site A, a range of potential effects on the water environment have been considered, including changes in flood risk (on site and off-site), changes in the quantity and quality of water discharged from the site and the impact of the development on the local water supply network.
- 4.50 Considering the inherent and standard mitigation measures included there will be no increases in flood risk

at the site or in the surrounding area and there will be no increase in the quantity of water discharged from the site. There will also be no adverse change in the quality of the water discharged from the site to the water environment.

- 4.51 Portsmouth Water have confirmed that they have the capacity to supply the site with potable water.
- 4.52 Overall, the proposed development will have a **minor adverse effect**.

Site B -- Relocation of Golf Course

- 4.53 For site B, the same range of potential effects/impacts were identified as at site A, i.e. changes in flood risk, changes in the quantity and quality of water discharged and impacts on the water supply network.
- 4.54 As with Site A, considering the inherent and standard mitigation, there will be no adverse impacts on flood risk, or the quantity and quality of water discharged as a result of the development.
- 4.55 Given the nature and scale of the development at Site B, there is not expected to be a significant impact on the water supply network, given the irrigation hierarchy in place to obtain the water in the most sustainable manner.
- 4.56 Overall, the proposed development will have a **minor adverse effect**.
- 4.57 Considering the two sites together, the most important cumulative impact of the project is the impact on the local water supply network, however, this is reduced through the irrigation hierarchy.

Transport

- 4.58 The Proposed Development will increase traffic on the local highway network associated with vehicular trips to and from the development. To determine the effect of this a full audit of the highway network surrounding the site has been undertaken as part of a comprehensive Transport Assessment. As part of this work, the assessment of the distributed traffic has ensured locations that may be considered sensitive receptors are identified.
- 4.59 The assessment considers the effects on road users, pedestrians, cyclists and local residents and other sensitive locations such as schools, open spaces, historical buildings etc.

Site A - Redevelopment of existing golf course

- 4.60 The key elements reviewed include severance, driver and pedestrian delay and pedestrian/cycle amenity. The assessment under these criteria shows that in terms of severance, there will be **moderate** impacts on Downview Road, with all other impacts being **negligible** on all other routes
- 4.61 For Site A, there will be some increase in delays at the junctions assessed for vehicular traffic, but the impact on pedestrian delay and amenity is considered to be **negligible**.
- 4.62 To address the effects of the development, mitigation is proposed in the form of improvements to offsite junctions which will improve capacity and consequently will reduce journey times. Furthermore, the measures will also improve pedestrian crossing facilities.
- 4.63 Other measures include the upgrading of existing PROW routes to provide easy off-road walking and cycling access to local facilities. Hence, the overall conclusion is that the effect of both the construction traffic and traffic associated with the development of Site A is **minor-negligible adverse** and not significant

Site B -- Relocation of Golf Course

- 4.64 The key elements reviewed include severance, driver and pedestrian delay, and pedestrian and cycle amenity.
- 4.65 The assessment of Site B showed that the effects of this development would be local to the site, i.e. on Grevatt's Lane (Link 9). The magnitude of change for all users would be Minor to Negligible. However,

there would be a short-term beneficial impact on Downview Road through the removal of the existing Golf Club traffic. Following mitigation the magnitude of change is reduced to **negligible**.

- 4.66 The effect of severance associated with Site B is also demonstrated to be **negligible**.
- 4.67 Hence, the overall conclusion is that the effect of both the construction traffic and traffic associated with the development of Site A is **negligible**.
- 4.68 As has been demonstrated, Site B will see no material change to the effect on receptors and the benefit on Downview Road will be offset with the traffic movements associated with Site A. Therefore, the magnitude of change cumulatively with both Site A and Site B will be **moderate to negligible**.
- 4.69 Following mitigation this is reduced to minor to negligible. Therefore, the long term direct, permanent effect of the cumulative impacts is considered to be a **negligible** residual effect.

Air Quality

- 4.70 An air quality impact assessment has been carried out to assess both construction and operational impacts of the Proposed Development.
- 4.71 Impacts during construction at each site, such as dust generation and plant vehicle emissions, are predicted to be short-term and only relevant during the construction phase. The results of the risk assessment of construction dust impacts undertaken using the Institute of Air Quality Management (IAQM) dust guidance, indicates that before the implementation of mitigation and controls, the risk of dust impacts would be high. Implementation of the highly-recommended mitigation measures described in the IAQM construction dust guidance should reduce the residual dust effects to a level categorised as **negligible**.
- 4.72 Changes in road vehicle emissions from increased car travel are an important consideration during this operational phase of the project. Detailed atmospheric dispersion modelling for air quality has been undertaken for the first year in which the developments at both sites are expected to be fully operational, 2031. However, based on the changes in traffic flows and using the criteria adopted for this assessment together with professional judgement, the air quality effects are considered to be **negligible** and no additional mitigation is considered necessary.
- 4.73 Pollutant concentrations at the façades of the residential properties within Site A are predicted to be well within the relevant health-based air quality objectives and the site is considered to be suitable for its proposed use in the context of air quality.

Noise

- 4.74 The Proposed Development has the potential to change the Site's noise environment because of construction activities during that phase, activities within the Site and changes in traffic levels.
- 4.75 It has been found that adverse effects as a result of the operation of the proposed developments (Site A and B) are unlikely to occur.
- 4.76 During the construction phase it has been identified that **temporary adverse** noise effects may occur at the nearest Noise Sensitive Receptors and for short periods of time there could be some moderate (significant) effects. However, the inherent mitigation includes the use of best practicable means to control noise from construction and wherever practicable these effects will be mitigated and minimised.

Ground Conditions

- 4.77 A review of the ground conditions was undertaken to establish baseline conditions within the Site A and Site B and associated study areas, in order to assess potential impacts and identify significance of effects from the potential impacts (relevant to construction and operational phases of the Proposed Development).
- 4.78 A preliminary Conceptual Site Model has been produced which highlights potential risks to identified

receptors. The risks ranged from 'very low' to 'moderate'.

- 4.79 Mitigation measures include the requirement for ground investigations and subsequent monitoring, to characterise ground conditions both geotechnically and geo-environmentally. The geo-environmental characterisation will be in relation to potential sources of contamination and facilitate determination of the waste classification and the re-use potential of soils for input within the site's Materials Management Plan. A CEMP is also a requirement to outline management procedures during construction to prevent environmental pollution. Following these mitigation measures, the potential impacts to the identified receptors associated with ground conditions at Site A and Site B and their associated study areas, are considered to have **negligible** effects and therefore considered not significant.

Agriculture and Soils

- 4.80 An assessment of the likely significant effects of the proposed development on agricultural land, soil resources and farming circumstances has been undertaken. This has been informed by a detailed soil and Agricultural Land Classification Survey and discussions with the landowner and farmer.
- 4.81 Site A is "non-agricultural land" in the ALC methodology and no agricultural land is lost as a consequence.
- 4.82 Site B is mostly agricultural land, with 9.8 ha of woodland and non-agricultural land within the study area. Of the agricultural land involved, 1.7 ha is classified as Grade 2 (very good) and 21.1 ha is classified as Subgrade 3a (good). A further 11.9 ha has not been surveyed but is assumed to be of Best and Most Versatile (BMV) quality.
- 4.83 Due to the loss to agricultural use of up to 34.7 ha of BMV land this is a permanent **moderate adverse effect**. It may be that parts of the golf course could be returned to agricultural use in the future, if required, and that the impact is reversible. The land around Bognor Regis is generally of high quality and the majority of this site is the poorest quality available on the predictive ALC maps except for the areas generally affected by flooding.

Climate Change

- 4.84 IEMA guidance suggests that all Green House Gas (GHG) emissions are significant.
- 4.85 Based on professional judgement, the overall GHG emissions generated during the construction phase across both sites are anticipated to have a **minor significant** effect. Emissions during the operation across both sites of the Proposed Development are anticipated to have a **minor adverse** effect.
- 4.86 The mitigation proposed is expected to reduce GHG emissions from the development but it would not alter the significance of effects.

Material Assets and Waste

- 4.87 The impacts and effects of consuming materials, and generating and disposing of waste to landfill have been assessed. The assessment process used complies with the industry best practice document 'IEMA Guide to Materials & Waste EIA', and was conducted in accordance with professional judgement in the absence of quantitative data.
- 4.88 For Site A and Site B, the potential for adverse effects from materials consumed, and waste disposed of, was assessed to be **not significant**.

Archaeology and Cultural Heritage

- 4.89 An assessment has been undertaken to establish the likely significant effects of the proposed development in relation to the historic environment, which includes below ground archaeology and designated cultural heritage assets.

- 4.90 There are no designated heritage assets within the Application Sites. As such no designated assets will be directly impacted by the proposed development.
- 4.91 The assessment has identified and assessed the effects of the proposed developments on the following receptors on both Application Sites: potential geoarchaeological and paleoenvironmental evidence of Local Significance and low sensitivity and potential in situ prehistoric to Romano-British occupation evidence of Local – Regional Significance and low – moderate sensitivity.
- 4.92 Site preparation of the existing golf course and construction of the proposed residential development at Site A and construction of the proposed golf course at Site B has the potential to impact buried geoarchaeological and archaeological deposits within the Sites. The Magnitude of impact in relation to *Palaeolithic geoarchaeology* and paleoenvironmental evidence is considered Minor; the significance of this effect is considered **Minor – Negligible Adverse** for both Sites. The Magnitude of impact in relation to *prehistoric – Romano-British* occupation evidence is considered Minor – Moderate adverse; the significance of effect is considered **Minor – Moderate Adverse**.
- 4.93 The cumulative effect of the two developments has been assessed. The Application Sites are underlain by a Quaternary sequence of geoarchaeological interest which extends beyond the study site, with potential for geoarchaeological remains extending across large areas of Bognor Regis. Whilst it is recognised that there is potential for both developments to physically impact the same general Quaternary sequence, the extent of the area of interest, depth of the deposits and type of development impacts, the significance of the resource will remain largely unchanged. Cumulative effects are assessed as being **Negligible**, Not Significant in relation to the potential effect to geoarchaeological and paleoenvironmental evidence.
- 4.94 The potential for contemporary below ground archaeological remains to be located on both sites cannot be ruled out entirely. However, due to the c. 3km between the two sites the potential for highly related and contemporary material on both sites is relatively low. The staged phase of works on both sites has the potential to provide a synthesised, landscape approach which has the potential to contribute to the increased knowledge and understanding of the interactions between relative sea level, human activity, vegetation succession and climate in this area throughout Palaeolithic and early Holocene and settlement evolution through the prehistoric and Romano-British periods. While this does not reduce the overall cumulative effect, it offsets the negative effect for both sites; the cumulative effect for both Site and B is considered **Minor Adverse**.

Cumulative Effects

- 4.95 None of the assessments have identified any greater effects when the developments are considered together, or with other existing or approved projects. This is largely on account of the distance between the sites.
- 4.96 Whilst some individual receptors in some instances are subject to more than one environmental effect, when these combined effects are taken together, the accumulation is not considered to give rise a greater (i.e., more adverse) effect.

5 Conclusion

- 5.1 The assessment of the potential environmental effects of the proposed development has identified major beneficial effects from providing new housing to meet identified need. In a great many instances, the predicted environmental effects are negligible. There are a number of minor and moderate adverse effects on certain environmental receptors. Only in a small number of instances is the predicted effect considered to be major adverse. This demonstrates that development can proceed without causing an unacceptable impact on either the local or wider environments.
- 5.2 Through appropriate mitigation measures which are either inherent within the proposed development and shown on the parameter plans, or standard measures identified in the ES to be secured as part of the planning permission by means of planning condition or planning obligation, or actionable mitigation to be secured by the applicant in conjunction with others, the environmental effects of the proposed development at both Site A and Site B are minimised.
- 5.3 When considered alongside other existing or approved development, such is the relationship between the application sites and those others, and the nature of the receiving environments, the overall cumulative effects on identified environmental receptors or resources are not considered to be any greater.
- 5.4 For these reasons, the Environmental Statement concludes that the measured environmental consequences of the proposed development support the granting of outline permission.

Further information

- 5.5 Details of the planning application will be made available on the Arun District Council website.
- 5.6 Copies of the ES can be purchased from LRM Planning Limited, 22 Cathedral Road, Cardiff CF11 9LJ.