

Sustainability Blueprint

Bognor Regis Golf Club

Produced by: GEO Foundation on behalf
of Hallam Land Management

For Planning

Date: January 2022

Version: 1.0

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FOREWORD

Properly designed, constructed and operated, new golf courses can provide multiple positive benefits to local environments and wider communities. Those benefits can be complex and often interconnected but provide the opportunity to enhance quality of life and enrich landscapes and ecosystems. All over the world, ethical and environmental issues are directly influencing consumer choices. Golf businesses that proactively engage with these issues are better placed for success and to embrace the challenge.

Sustainability was part of golf in the beginning and it must be part of golf in the future, creating golf courses that respect their surroundings and honour the natural environment.

EXECUTIVE SUMMARY

Please note that the existing course at Bognor Regis Golf Club is referred to as Lidsey Green or Site A in the material supporting the planning application. The development of land south of Grevatt's Lane (referred to as Site B) into a full golf facility would see a number of multiplier benefits brought to the local area. There would be an overall increase in biodiversity across the site, introducing areas of native and climate resistant species. Existing habitats, such as the rife and wooded areas, would be conserved and enhanced allowing them to positively contribute to the environment while better supporting local ecosystems and communities.

Sustainable principles are being embedded across the project - where possible bulk construction materials would look to be sourced locally, reducing transportation burden. Water systems on site would be engineered to reduce overall demand; adopt a nature-led approach to the drainage on the golf course; and recapture surface and greywater water for irrigation and maintenance purposes. The club would also look to renewable energy to power their operations.

A key part of the club's future vision is a connection to the local community and this development presents an opportunity to give back to that community. An improved sports facility would be delivered with structured access ways into the sports for more people. An improvement to the public right of way on site can be achieved to enhance this and make it more easily accessible for all. Providing intern and apprentice type schemes for locals as well as looking to the local population for a staff base are all actions the Club are keen to pursue.

It is envisioned that the development of Site B would be able to achieve international sustainability certifications from Building Research Establishment (BRE) and GEO Foundation for Sustainable Golf - creating a unique area for recreation in the area while having a positive impact on the local environment.

Key highlights being aimed for include:

- ✦ Increase the overall net habitat / biodiversity levels by more than 10% across the property from 2020 levels.
- ✦ Proposing improvements to a section of the PROW that passes through the site and provision of a new footpath connecting that PROW to a new pedestrian / cycle crossing on the A259, which will allow connections to the PROW on the north side of the road.
- ✦ Reducing overall water demand and maximising the use of re-captured water from on site. This would involve capturing course run off, surface and rainwater run off, and greywater from the clubhouse, maintenance buildings and washdown areas.

1. INTRODUCTION

This Sustainability Blueprint (SBP) has been prepared by GEO Foundation (GEO), on behalf of the applicant, Hallam Land Management (HLM) in support of a full planning application for a new golf course on land south of Grevatt's Lane (Site B) to Arun District Council.

The SBP intends to present a concise summary of the proposed sustainability outcomes generated by the project. It aims to outline the practical ways in which this proposed golf course facility would benefit local communities, individuals, and the environment.

The SBP also forms the key milestone report, for Bognor Regis Golf Club (the Golf Club) on the process of aiming to receive the *GEO Certified® Development* mark.

The *GEO Certified® Development* mark is the international sustainability certification system for golf design and construction. It represents the highest available standard of sustainable design and construction for the golf industry and is overseen by the International Social and Environmental Labelling Alliance (ISEAL).¹

For more information about the sustainable golf certification please see Appendix A.²

¹ <http://www.isealliance.org/about-us>

² <http://sustainable.golf/development>

2. PROJECT OVERVIEW

SUMMARY

The Golf Club and HLM are working in partnership to secure the long-term future of the Golf Club through relocation to a benchmark new venue that would be facilitated by the redevelopment of the existing course for new homes and parkland.

The proposed development comprises the laying out of an 18 hole 72 par golf course, a 9 hole golf course, practice greens and a driving range, including a buggy compound; 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; the laying of parking, new roads and paths; new landscape planting; surface water drainage basins and water storage reservoirs; and other earthworks and infrastructure.

The proposed golf course elements are:

- » 18 hole par 72 golf course
- » 9 hole golf course
- » Practice greens
- » Driving range

The project team includes:

- | | |
|--------------------------|---|
| » Project Owner: | Hallam Land Management and Bognor Regis Golf Club |
| » Golf Course Architect: | European Golf Design (Gary Johnston) |
| » Irrigation Design | Irritech |
| » Planners: | LRM Planning |
| » Civil Engineer: | WSP |
| » Architect: | Noviun |
| » Landscape Architect | Urban Wilderness |
| » Ecology: | FPCR |
| » Transport: | RPS |
| » Agricultural Land: | Kernon Countryside Consultant |

SITE INTRODUCTION

The purpose of this 'Project Overview' section of the report is to provide a brief overview of the context of Site B with respect to the main factors potentially influencing sustainability. The Site B information is drawn primarily from the baseline studies undertaken.

SITE B CONTEXT

Site B is located close to the south coast of England near to the large port city of Portsmouth and approximately 2 hours travel South West of London. It is very well connected by cycle and car infrastructure as well as local public transport connections. National Cycle Route two runs across the top of the site along the A259³. The nearest international airport is Gatwick Airport and the nearest train station is located in Bognor Regis with direct trains to London Victoria station.

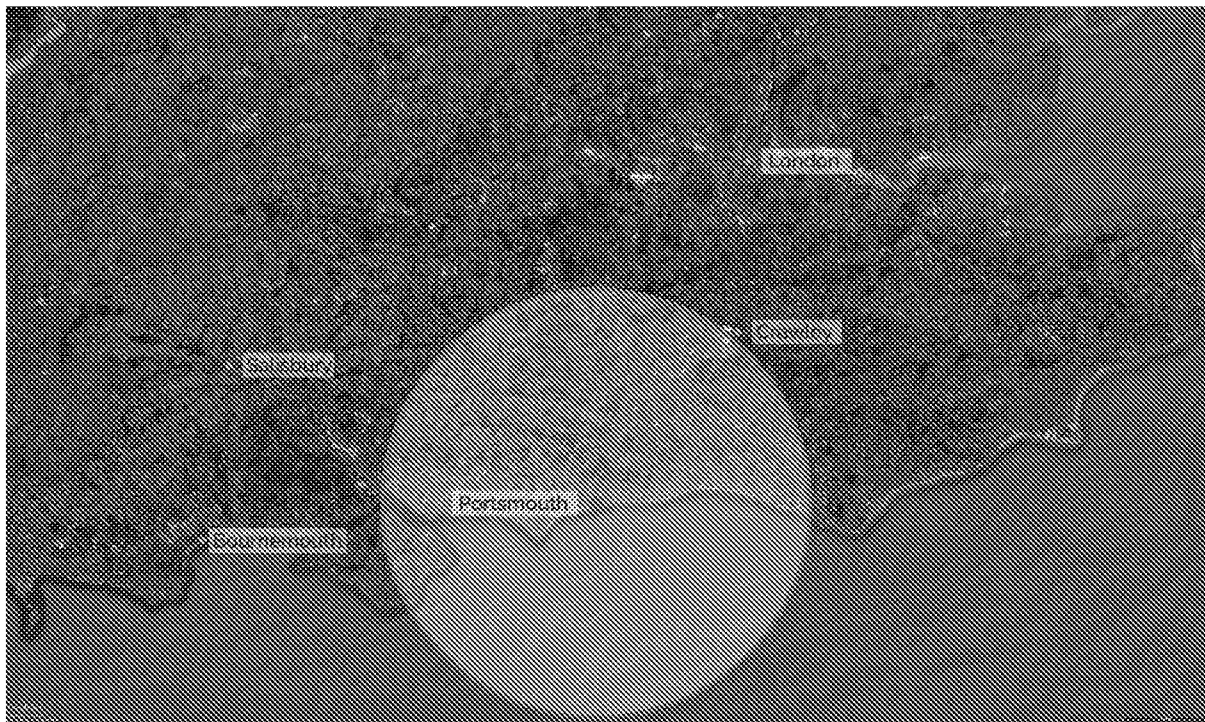


Figure 1: Context Map (Source: Google Earth)

³ <https://explore.osmaps.com/en/?lat=50.791066&lon=-0.608475&zoom=13.0150>

Socio Economic context

In 2020 the estimated population of Bognor Regis was recorded as 70,236 with a population density of 4,244/Km⁴. Bognor Regis is home to one of the Butlins resorts which would draw in a large number of tourists each year – approximately 75% coming from the South East of England⁵. Agriculture and tourism are the two prominent industries in the local area. There are currently approximately 43 golf courses active in the West Sussex area⁶, Bognor Regis Golf Club is the one of only a few golf courses in the local area. This proposed course would be a replacement for the existing Bognor Regis Golf Club on Site A.

Environmental context

Refer to *Environmental Statement* for more detailed information on Site B.

There is a strong emphasis on agriculture within the area, a number of arable fields surround Site B. The local area boasts a warm/temperate climate with temperatures averaging around 11.0 °C and 928mm of rainfall per year. November is the wettest month with approximately 117mm of rainfall on average while May is the driest with 54mm. Temperatures vary throughout the year with average lows of 5.5°C in February and average highs of 17.1°C in July⁷.

There are six statutory sites of international importance located within a 15km radius of Site B. These sites include Solent and Dorset Coast SPA located 0.5km southwest, Pagham Harbour Ramsar/SPA/SSSI 10.6km southwest, Duncton to Bognor Escarpment SAC 11.5km north, Arun Valley Ramsar/SPA/SAC 12.2km north, Chichester and Langstone Harbours Ramsar/SPA/SSSI 14.5km north-west and Solent Maritime SAC 14.5km north-west.

There is one Local Wildlife Site (LWS), Elmer Rocks LWS, located 410m south within a 1km search radius of Site B. This site is designated for supporting vegetated shingle, an internationally rare habitat. The intertidal area supports a diverse community including intertidal sand and eight 'Rock islands' constructed in the early 1990s in the mid-tide zone to form a coastal defence against the eroding coastline. The rock islands have provided a habitat type that is very rare, if not unique, in West Sussex. The area of trees on the west and south of Site B are classified as TPOs⁸.

⁴ https://www.citypopulation.de/en/uk/southeastengland/west_sussex/E34004154__bognor_regis/

⁵ <https://coastalwestsussex.org.uk/wp-content/uploads/2017/10/CWS-Visitor-Survey-report-1.pdf>

⁶ https://www.golfshake.com/course/Europe/United_Kingdom/England/South_East/West_Sussex/

⁷ <https://en.climate-data.org/europe/united-kingdom/england/bognor-regis-9121/>

⁸ https://arun.cloud.cadcorp.com/Webmap/Map.aspx?mapName=Public_TPO

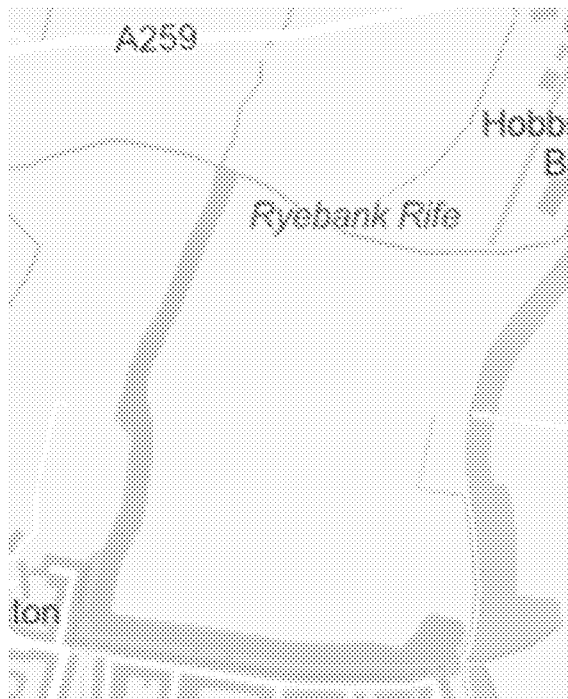


Figure 2: TPO map of Site B (Source Arun District Council)

SITE B DESCRIPTION

Site B covers an area of approximately 73.7ha and is located to the south of Grevatt's Lane at the eastern edge of the Bognor Regis urban area. The site is primarily used for agricultural (arable) purposes and is generally flat. The site comprises three field parcels and the boundaries comprise a variety of woodland, hedgerows and trees. Ryebank Rife separates the northern and southern fields.



Figure 3: Site Map (Source: Google Earth)

Beyond the woodland at the southern boundary lies the northern edge of Ancton and residential properties located there. Grevatt's Lane (A259) forms the northern boundary. Access to the site is from Grevatt's Lane and a private road leading to the eastern boundary which is an agricultural access. To the west and east are agricultural fields, whilst there is a small industrial complex, Baird's Business Park, to the north east.

Topography and Drainage

As described, the site is predominantly flat and slightly slopes from Northwest to Southeast with some shallow depressions across the site (a high of +4m Above Ordinance Datum (AOD) to a low of +2m (AOD)). The majority of Site B comprises of a mix of grade 2, 3a and 3b quality soils⁹. Around half of Site B (mainly southern section) is made up of freely draining, slightly acidic, loamy soils while the majority of the land is loamy soils with naturally elevated groundwater levels close to the surface¹⁰.

Ryebank Rife (a small river) runs directly through the site, acting as a natural separation and annexing the top section of the site. This part of the Rife was not free flowing, slightly obstructed in places by overgrown vegetation and appeared to contain standing ground water. There are two drainage ditches run along the east and west borders of the site coming from the Ryebank Rife.

⁹ Bognor Regis Golf Course Environmental Statement, Agriculture & Soils, Section 14.4

¹⁰ <http://www.landis.org.uk/soilscapes/>



Figure 4: Eastern boundary ditch (top) and Ryebank Rife (bottom) (Source: Author)

The water on the eastern boundary appeared to be flowing at a slow rate, at roughly halfway down Site B this split into two, one ditch remaining on site and ending at the residential area, the second outwith the site and continuing its route to the sea. Surface water run-off runs primarily towards the eastern tributary due to the very slight slope of the site. WSP have undertaken extensive flood modelling and the extent of areas subject to flood risk are shown at Figure 5 below.

Figure 4 - 1 in 100 year plus climate change baseline flood depths (m)

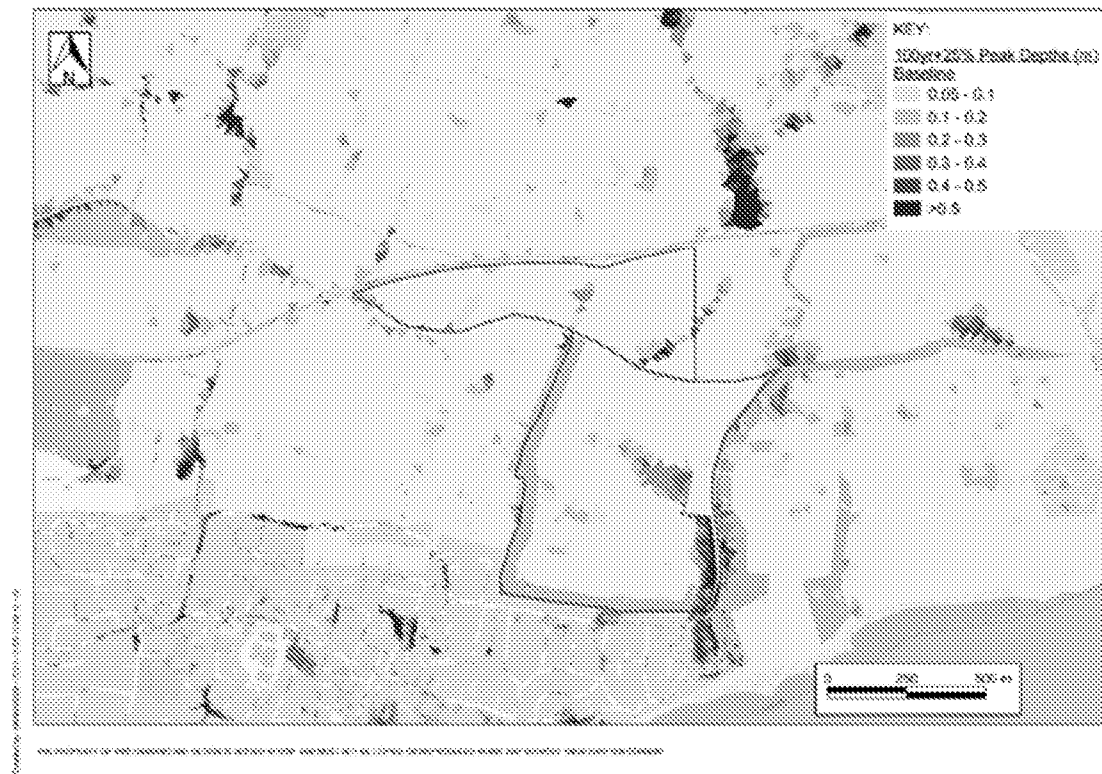


Figure 5: Flood mapping (Source: Client)





Figure 6: Public Right of Way (top left) and Ancton Woods (top right). Typical views to the north (bottom left) and mixed boundary tree belt along western edge (bottom right) (Source: Author)

There are some good views stretching north while standing at the southernmost portion of the site. A public right of way (PROW) runs along the western edge of Site B. The flattish nature of Site B presents itself favourably for the promotion of walking golf.

Vegetation

The existing land use of Site B provides low value in biodiversity terms with the majority of Site B dominated by arable crops. The existing hedgerows and tree belts likely provide habitat and forage ground for bat and avifauna species (including Daubenton's Bat *Myotis daubentonii* and Natter's Bat *Myotis nattereri*)¹¹.

All the watercourses within Site B's boundary have steep sided banks and appear to be densely vegetated with little diversity in that vegetation as seen in Figure 4. This dense vegetation along the watercourses also appears to be having a detrimental effect on the health of the aquatic habitat within those watercourses throughout Site B.

The Ryebank Rife itself is lined with a mix of trees while the drainage ditches are lined with low lying scrub vegetation. The tree survey by FPCR indicates the tree group along the majority of the western boundary is of 'High Quality' in accordance with BS 5837:2012 - this group does contain some undesirable species such as Lawson Cypress (*Chamaecyparis lawsonian*) and the same tree species can be seen in the line of trees identified as H1. The remaining tree groups are identified and 'Low' or 'Moderate' Quality.

The line of trees (H1) that intersects the southern field, is fairly dense at points and contains a mix of young tree species and appears to be fairly recently established. Site B is flanked by a thin mature wooded area along the south (Ancton Woods), west and east boundaries.

¹¹ Environmental Statement

However, this land is also dominated by arable crop cover and has a low mixed hedgerow that encloses it on the northern boundary towards the A259 and a mix of tree and hedgerow planting to the southern boundary.



Figure 7: Typical view of the Northwestern portion of the site (Source: Author)

PROPOSAL DESCRIPTION

The proposed development comprises the laying out of an 18 hole 72 par golf course, a 9 hole golf course, practice greens and a driving range, including a buggy compound; 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; the laying of parking, new roads and paths; new landscape planting; surface water drainage basins and water storage reservoirs; and other earthworks and infrastructure.

The proposed golf course elements are:

- ✦ 18-hole par 72 golf course
- ✦ 9-hole golf course
- ✦ Practice greens
- ✦ Driving range

The proposals indicate a significant increase in the amount of rough grassland habitat, aquatic habitat, hedgerows, trees and marginal wetland/ditch habitats. One aim of the proposals is to significantly increase the overall biodiversity gains at the Site by at least 10%. Further details of this are provided in the ecological appraisal and biodiversity net gain calculations supporting the application.

The proposed scheme also aims to integrate local community benefits and improvements such as upgrades to the public right of way and its connectivity, inclusion of interpretation signage to raise awareness of the local environment and enhanced connections to the national cycle pathway network.

The proposed contemporary golf facilities are intended to present an inclusive and accessible environment for people of all golfing and physical abilities and are designed to act as a pathway into the sport as well as presenting a challenge for experienced players.

The golf architect for the development has stated the following:

'Our vision for the site is to create a development that delivers a sporting, recreational and cultural asset for the region, with a sustainable, enduring future, recognising the heritage of Bognor Regis Golf Club while providing a facility fit for purpose for this century.'

HLM are committed to delivering a sustainable development that responds to current conditions, and anticipates future conditions, with the overall aim of providing a high quality environment for sporting, recreational and cultural use.

The master plan has been landscape led in order to sensitively integrate the development within the environment in which it will sit. The Green Infrastructure will retain as much of the existing features of the site as possible, while still allowing a logical and operationally sound facility.

Given the arable nature of the land, there is little existing vegetation internal to the site with the exception of that associated with the Ryebank Rife. While limited disturbance to the vegetation is necessary to allow a cohesive routing of the proposed golf course, this disturbance will be mitigated through additional planting and enhancement of that existing. In addition, the resulting golf course under an agreed Management Plan will significantly enhance diversity, habitat creation and the overall landscape quality of the land.

The development, also referred to as 'the site' or 'the golf course', will reflect the highest quality of design, construction and maintenance found in the area, while responding to the necessity to create a sustainable course for the 21st century, whether sustainability is measured as a factor of environment, resource (including water) usage, carbon reduction, and economic performance.

Design Principles and Sustainability Measures

- ✦ Support local economic growth and employment, both during construction and operation;
- ✦ Create a landscape and sporting facility in which healthy, active lifestyles can be pursued;

- *Identify ways and means to improve resilience and adaptability to long term climate changes;*
- *Maximise biodiversity value;*
- *Integrate the scheme into its surroundings ensuring that the character of the development is appropriate to the wider context of the setting;'*

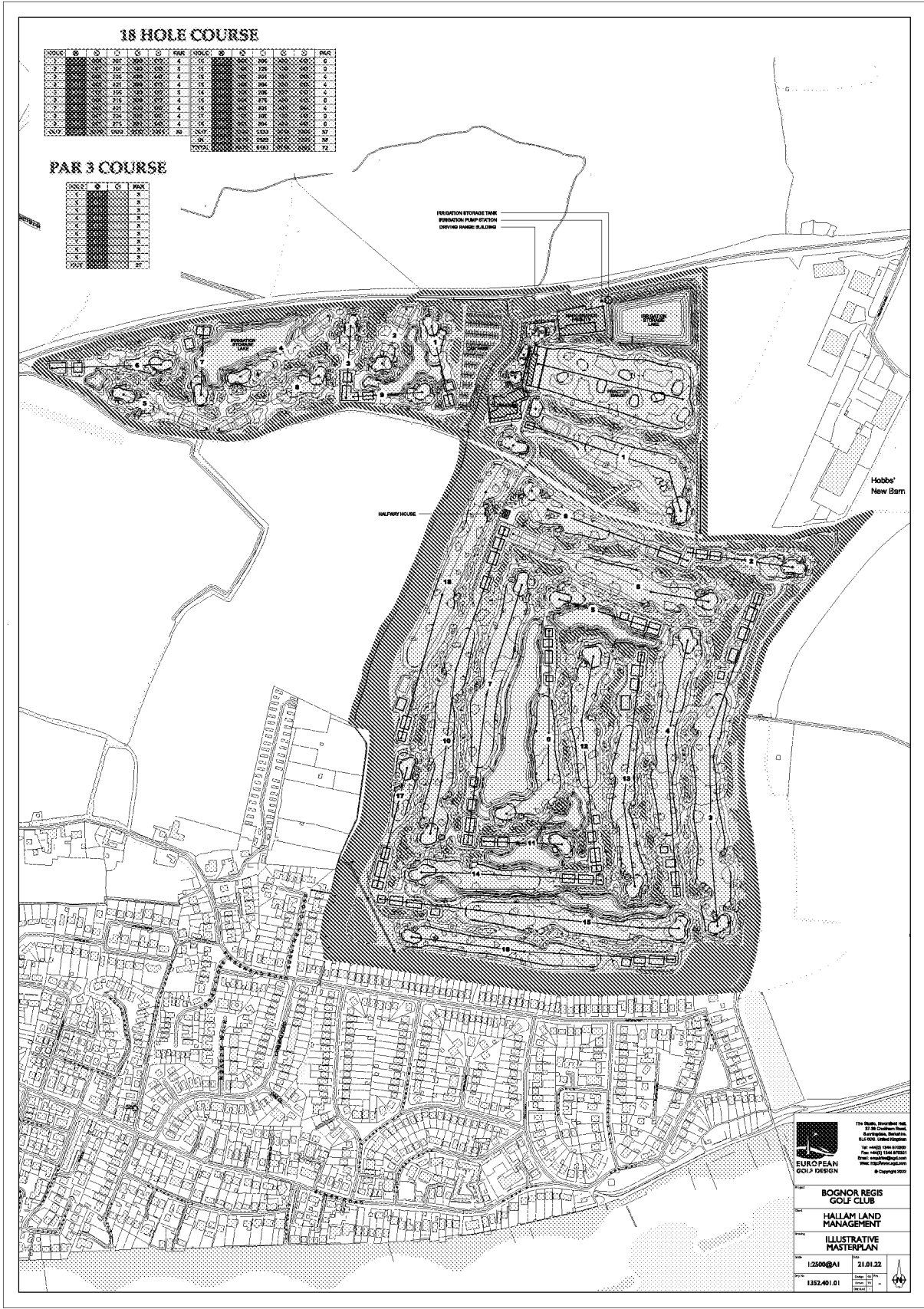


Figure 8: Illustrative Golf Plan (Source: Client)

BUILDING STATEMENTS

All buildings built on Site B would be done so in a sustainable manner, they would be built to BREEAM standards with a goal of achieving at least a 'Very Good' score. This means they would be within the top 25% of BREEAM rated buildings.

To achieve this rating a number of sustainable measures and techniques would be implemented including the following. Principle contractors would hold ISO 14001 or equivalent, energy use consumptions would be monitored through construction and energy efficient systems and controls would be used throughout the buildings.

It is the intention here to create a welcoming clubhouse environment and all its facilities would be fully accessible and appealing to both members and non-members especially local residents. Ensuring that there is a strong connection between the golf club and the local community is an important factor for the Golf Club and the clubhouse can become the hub of this connection.

The sustainability credentials of the golf maintenance facility proposed on Site B is covered by the certification from the GEO Foundation for Sustainable Golf. This would remain in line with the goals of the entire development. Greywater recycling facilities would be installed to reduce the requirement for fresh water being pumped to the facility. The same methodology would be used in washdown areas here, a 'closed-loop' type system would see the wash water cleaned and reused.

By establishing micro-renewables in a sensible fashion, this technology can be used to power the entire maintenance facility or certain activities carried out here (e.g., charging golf carts and maintenance vehicles). The likes of Solar P.V. panels can be installed on the roof of the facility meaning no further land area would be needed for this type of infrastructure.

All buildings here are designed to fit in with character of the surrounding landscape while also providing adequate space and conditions for all activities it would be used for while using local materials wherever possible.

3. SUSTAINABILITY ROADMAP

The proposed sustainability targets for Site B are detailed within the 'Sustainability Roadmap' section, this intends to ensure that the scheme at Site B is designed and subsequently built to the highest sustainability standards. The proposed targets are set against the widely understood agenda of nature based targets, resource efficiencies, climate action and community activity - also acting as a guide for Site B towards the aim of achieving *GEO Certified® Development* status.

SUSTAINABILITY VISION

The proposal's sustainability vision is focused on a benchmark golf facility that can contribute to the environmental restoration of the agricultural land while also provide a nationally revered contemporary golf facility close to the original location of Bognor Regis Golf Club. The proposals should make significant biodiversity contributions and help the proposed golf course become a demonstrator for sustainable golf design and, in time, long-term conservation land management practices.

CLIENT PHILOSOPHY

HLM recognise the importance of the natural environment and significance of factoring it into their development plans/designs.

'...it is essential that an area's natural and historic environment is retained and that good design principles are employed throughout.' (Source HLM Website)

NARRATIVE ROADMAP



There is a real opportunity on Site B to have a significant and positive impact on the site and surround's biodiversity levels. As the site is currently used as arable agricultural land there is a distinct lack of biodiversity. The proposals provide the chance to introduce a wide variety of native flora and fauna back to the area utilising several new habitat types such as new native woodland, contiguous patches of rough grassland, marginal wetland, linear hedgerows and ditches, and native scrub areas.

Existing watercourses/drains on site can be improved through the sensitive re-vegetation of their banks, which currently negatively impact the water flow and health of these aquatic environments.

Comprehensive tree management and planting plans could not only see a of large numbers of native trees brought onto site and established, but also the enhancement of the existing wooded areas. This proactive woodland management also gives the opportunity to remove non-native or diseased species such as *Fagus sylvatica* and *Cupressus x leylandii*.

The nature goals will aim to be delivered by:

- Aiming to increase the overall net habitat / biodiversity levels by at least 10% across the property. It is intended that Biodiversity Net Gain should continue to grow over the years. Further details of this are provided in the ecological appraisal supporting application.
- Significantly increase the number of open water areas, ditches and marginal wetland habitats on the site.
- Proposing a proactive woodland management plan existing woodland area that aims to enhance and increase woodland areas and removing diseased trees and certain problem species.



Water is a core consideration for the proposals on Site B and the designs proposed promote a nature based solution both to the drainage of the surface water and to the reuse and recapture of water for any required irrigation purposes. Elements of the proposed surface water drainage system include open water ditches, swales, raingardens, open water retention and detention areas, and wetland marginal habitats. This approach should also result in a lower than typical amount of plastic pipe required to drain the golf holes - reducing overall impact of the water management proposals.

In a bid to reduce the volume of potable water used on site there are a number of techniques being implemented to reuse water. The irrigation system on site can be fed primarily by harvested rainwater runoff coming from the course as well as hardstanding areas such as the car park and maintenance area. Greywater recycling in the clubhouse and maintenance facilities would further reduce potable water use. Vehicle washdown areas should be either on a closed loop system or feed into the rainwater harvesting reservoir. This hierarchy of water sources would help control the water use on site.

Given the experience of the Golf Club, long term resource efficiencies are targeted during the design stage to propose a golf facility with the lowest possible resource use in energy, water and waste areas. The proposed infrastructure of the facility is contemporary and utilises the latest technologies and knowledge to reduce the Golf Club's construction and future operational resource use.

There is an intention to ensure that where possible the majority of the materials used are sourced locally. The fact there are good transport links to the site and a course has been built in the area before help contribute to this goal. Where possible, recycled materials will be used throughout the golf course whether that be recycled gravel below the turfgrass or signage from the timber of removed trees. This approach will further contribute to the sustainable procurement ideal.

Other resource efficient measures are also proposed, including EV charging points to be used by staff and the public giving these spaces priority locations to encourage the use of EV further. Installation of Solar PV panels and other micro renewables are proposed can help generate the power to be used for the proposed all-electric golf carts for example. There is also the intention to incorporate some electric/hybrid vehicles into the maintenance fleet where the appropriate kit is available and viable.

The new development on Site B gives an opportunity to integrate a modern approach to waste management, this would primarily encourage a reduction in the waste generation by users and would involve the likes of raising awareness of waste reduction measures and employing segregated waste

bins around the course as well as ensuring 100% of the green waste generated is handled, stored and reused on site.

The Golf Club have the intention to register with the OnCourse® sustainable golf system as part of their long term sustainability commitment. This will drive continual improvement across the development.

The resource goals will aim to be delivered by:

- Proposals for a nature led solution to Site B drainage proposals such as open water ditches, swales, raingardens, open water retention and detention areas, wetland and marginal habitats.
- 100% of construction materials needed for the golf course construction could be sourced from local suppliers within 150KM of site wherever possible.
- Minimise the area of intensively managed turfgrass surfaces to be restricted across the golf holes.
- Explore the procurement of electric or hybrid powered maintenance machinery and golf cart fleet to provide more than 10% of the fleet to be powered in these ways.



The proposal aims to secure improvements to the PROW at the site. The enhancements proposed to the environment and land management should result in an improvement in environmental quality, pathway condition and improved year-round accessibility of the site compared to current conditions and safer pedestrian access across the A259.

It is the intention to improve the connectivity in the local area. There is potential to significantly enhance a stretch of the existing right of way and improve the surfacing to make it safer and more accessible for a wider range of users. This would also make a stronger and better connection to the proposed clubhouse location for more than just road users. To further enhance the quality of the right of way, interpretation boards could be installed which look to raise environmental awareness as well educate on local cultural heritage.

The Golf Club's proposed lay out and the inclusion of a 9-hole golf course would give a good gateway into the sport for younger generations as well as first time and older golfers. It is also the intention of the Golf Club, with such a high quality proposed new golf facility, to build relationships with local

schools and community groups, giving them golf access to areas of the site and possibly creating a golf school or learning centre/initiative affiliated with the Golf Club.

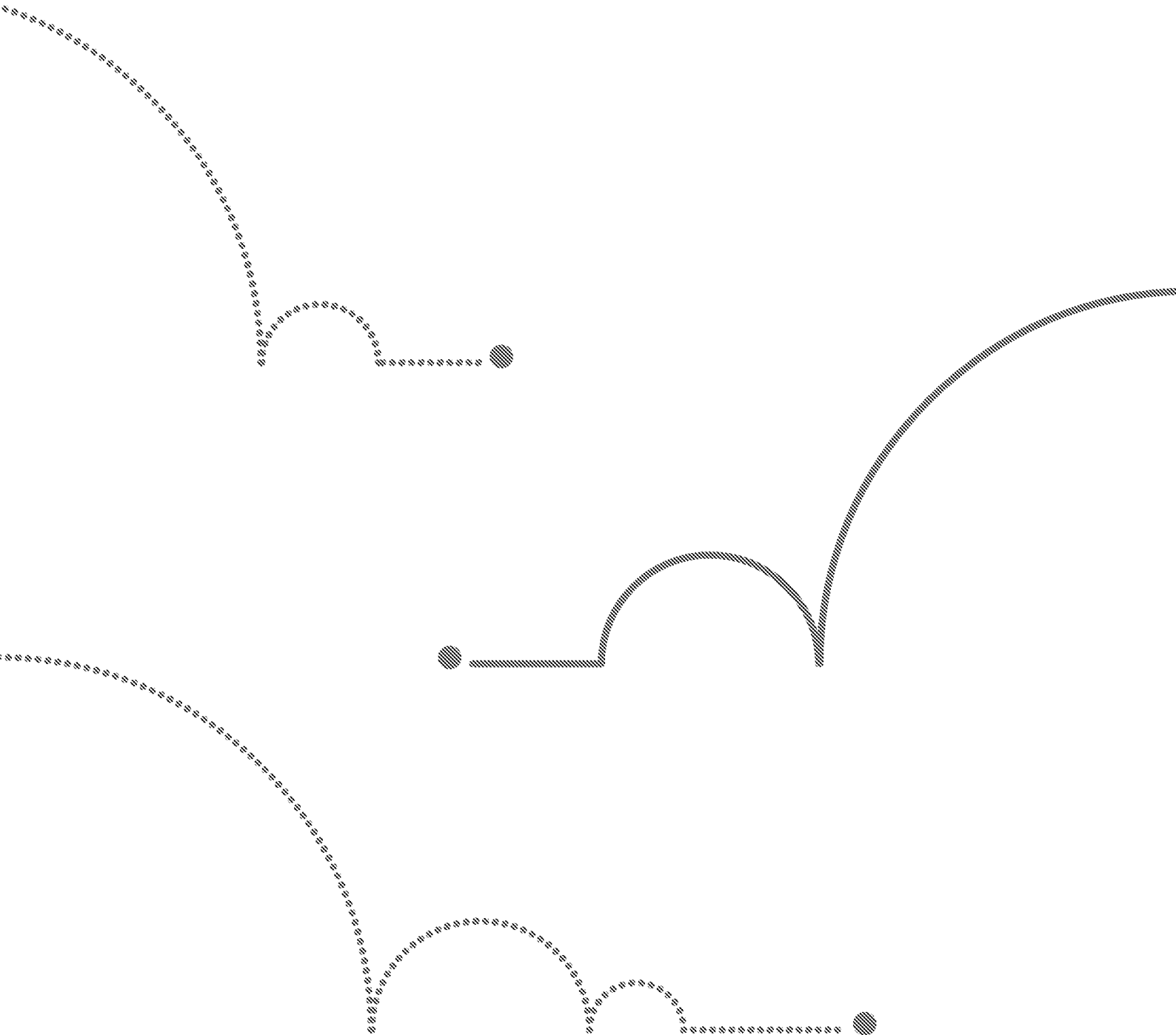
In terms of future staffing, the Golf Club would create a seasonal internship programme for greenkeeping staff aimed at both school leavers and older people alike. Initiatives like this would provide valuable training to those involved and potentially lead to permanent work placement at the Golf Club or another similar specialist sector, it is likely that these internships would be promoted to the local community initially. The course at Site B has the potential to increase employment further in the area by increasing the number of green staff as well as pro shop staff from the existing club.

A future goal of the Golf Club may be to try and attract future local, regional or national golf tournaments. Site B has the potential quality to host national level par 3 tournaments, while the 18-hole course could host more local and regional elite amateur competitions.

The community goals will specifically be delivered by:

- Proposing improvements to a section of the PROW that passes through the site and provision of a new footpath connecting that PROW to a new pedestrian / cycle crossing on the A259, which will allow connections to the PROW on the north side of the road.
- Exploring the enhancement of the pathway along the western border of the site to include interpretation signage describing local species, the golf course and any cultural items of interest.
- Plan for proactive recruitment of locally based staff and establishment of a staff progression scheme within the golf maintenance team to promote intern and apprenticeship placements.

TABULAR ROADMAP



THEME	Target Code	PROJECT TARGETS	SUPPORTING DOCUMENTATION
NATURE	N1	Aim to increase the overall net habitat / biodiversity levels across the property by at least 10%. It is intended that Biodiversity Net Gain should continue to grow over the years. Over 10 hectares of new tree and shrub areas is intended to be planted.	Environmental Statement
	N2	Look to enhance the environmental quality and health indicators of all the existing open water and watercourses on Site B.	Drainage Plan Environmental Statement
	N3	Significantly increase the number of open water areas, ditches and marginal wetland habitats on the site.	Landscape Plan Environmental Statement
	N4	Attempts would be made to create wildlife corridors connecting varying habitats across the site creating contiguous habitat patches.	Environmental Statement
	N5	The scheme aims to encourage pollinator species e.g. bees, butterflies to be attracted by using a mix of pollinator preferred plant species in the plant and seed mixes where appropriate.	Habitat management plan Landscape Plan
	N6	It can be a goal of the scheme to enhance the quality of existing woodland habitats on Site B by planting primarily native species and selectively thinning and removing diseased trees where needed.	Woodland management plan.
	N7	Propose a long-term monitoring plan for the water environment with regular checks of water quality indicators in all open water bodies and at outfalls from the site ensuring that quality does not drop below baseline standards set pre-construction could be established.	Environmental Statement

THEME	Target Code	PROJECT TARGETS	SUPPORTING DOCUMENTATION
	N8	Propose a long-term robust monitoring plan of the flora and fauna species found on site – targeting a year-on-year increase in populations and relative health of the habitats for example increased bat population.	Environmental Statement
RESOURCES	R1	Intention to implement a nature-based solution to main site drainage proposals such as open water ditches, swales, open water retention and detention areas, wetland and marginal habitats.	Drainage Plan Environmental Statement
	R2	Recapture surface water across the property to be directed towards water bodies initially to create retention ponds that overflow (by pump) to the irrigation storage pool.	Drainage Plan Environmental Statement
	R3	Ensure no overall net increase in green field run off rates from the site and no net increase in flood risk as a result of drainage and site grading proposals.	Drainage Plan Grading Plan
	R4	Propose the integration of micro scale re-capture and re-use of rainwater at the maintenance facility for wash down of maintenance equipment purposes.	Maintenance Facility designs
	R5	Explore the potential to supplement any irrigation water demand through the capture of greywater and rainwater within the building and external hard landscape designs.	Building designs Landscape plan
	R6	There would be an intended commitment to the long term sustainable operations of the golf course with minimal fertilizer, pesticide and herbicide applications – recorded online through use of OnCourse® sustainable management web application.	Sustainability Blueprint

THEME	Target Code	PROJECT TARGETS	SUPPORTING DOCUMENTATION
	R7	The maintenance vehicles shall contain a proportion of electric or hybrid powered vehicles.	Sustainability Blueprint
	R8	100% of golf carts can be powered by electric.	Sustainability Blueprint
	R9	Propose the use of minimal use of gravels for greens, tees and drainage construction on site and aim to maximise the amount of gravel from recycled sources.	Design and Access Statement
	R10	The intention is to balance the cut and fill operation on-site to result in zero material or the site.	Grading Plan
	R11	Efforts shall be made to establish an onsite turf nursery to improve future resilience to supply chain and allow on-site training, learning and testing of equipment, staff and turf species.	Golf Plan
	R12	Look to establish an onsite 'green waste' composting facility to be able to compost 100% of the landscape green waste generated through typical maintenance practices of the golf course and surrounding landscape.	Waste management plan
	R13	Put in place a comprehensive Construction Waste Management Plan with the aim of minimising waste generated during construction going to a landfill site. Wherever possible the waste management hierarchy of reduce, reuse or recycle before landfill would be implemented.	Environmental Statement
	R14	Electric charging points as well as cycle parking provision for members, the public and staff could be put in place. The carpark can be futureproofed to facilitate for changes.	Landscape plan

THEME	Target Code	PROJECT TARGETS	SUPPORTING DOCUMENTATION
	R15	Minimise the area of intensively managed turfgrass surfaces to be restricted across the golf holes.	Grassing plan
	R16	An irrigation plan could be established to ensure that the minimal amount of water is used on site and areas are only watered when required.	Irrigation plan
	R17	A tree transplant policy could be adopted to target the reuse and translocation of as many of the existing trees to be removed as possible. This would be subject to timing constraints and there is a percentage of transplants that would not be successful.	Tree management plan.
	R18	Achieve a 'very good' standard of BREEAM assessment for the clubhouse building on site.	Planning Statement and Design and Access Statement
	R19	Explore the potential for using micro renewables onto all maintenance buildings. This can be used to power the fleet.	Building designs
COMMUNITES	C1	Enhance the pathway along the western border of the site to improve surface quality and include interpretation signage describing local species, the golf course and any cultural items of interest.	Design and Access Statement
	C2	Proposing improvements to a section of the PROW that passes through the site and provision of a new footpath connecting that PROW to a new pedestrian / cycle crossing on the A259, which will allow connections to the PROW on the north side of the road.	Transport plan Landscape plan

THEME	Target Code	PROJECT TARGETS	SUPPORTING DOCUMENTATION
	C3	National Cycle Route Two to be better connected to the proposed access to Site B, and this could form part of multi-modal transport promotion for both staff and visitors.	Landscape plan Transport plan
	C3	Agreements with local schools and community groups would aim to allow access to the new facilities, introducing the sport to new audiences.	Sustainability Blueprint
	C4	Plan for proactive recruitment of locally based staff and establishment of a staff progression scheme within the golf maintenance team to promote intern and apprenticeship placements.	Sustainability Blueprint
	C5	There is the opportunity to create a diverse golf offering to accommodate all levels, ages and abilities of player and encourage an atmosphere of total inclusion at the facility.	Design and Access Statement

VERIFIER CONCLUSIONS

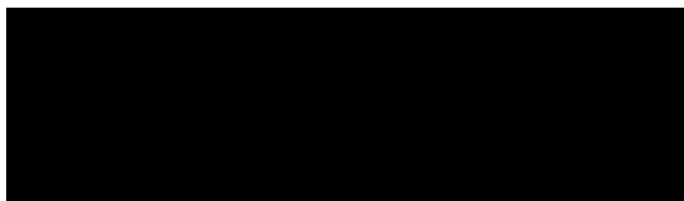
I have had the opportunity to review the Sustainability Blueprint in conjunction with the supporting information, including the Environmental Statement (ES) prepared by Hallam Land Management, and have the following points for consideration.

- A robust and comprehensive process of investigation, evaluation, iterative design, incorporation of appropriate environmental measures to avoid, minimise and mitigate/compensate predicted environmental effects has been completed. This is in accordance with relevant legislation and policy and is documented in the ES. This process adds a greater level of rigour, scrutiny and legal regulation in comparison to other golf course development projects not subject to Environmental Impact Assessment and therefore should provide additional reassurance and accountability.
- Based on the information reviewed in the ES, the Site B selection, course design and construction approach (when compared to other more sensitive alternative locations, should they be available for this development) is deemed to be appropriate. If the project is delivered in accordance with the information set out in, and the findings of the ES, alongside the forthcoming planning determination process and associated planning conditions, legal obligations and all associated permits and licences, is predicted to result in acceptable non-significant negative effects and a range of positive effects.
- The Environment Act 2021 has also introduced further mechanisms and targets for minimum environmental protection and quality, alongside existing legislation, policy and best practice, which includes the use of the Defra 3 biodiversity metric to support the design, quantification and deliverability of Biodiversity Net Gain (BNG). Ongoing monitoring against this standard is proposed.
- In my independent view, the Sustainability Blueprint sets out a robust, tried and tested framework and project specific standards to inform, develop, measure and hold accountable the design, construction and operation of the Bognor Regis Golf Club project.
- The project is clearly aligned with the Sustainability Targets set out include blueprint, demonstrating multiple environmental and community benefits including to nature, resources, and community with 32 specific measurable Targets set across these themes,

which are underpinned by the ES, the outcome of the planning process and legislative framework.

- It is considered that the key opportunities and benefits (which relate to the Targets) include those to biodiversity (including construction supervision, measurable BNG gains, introduction of woodland management and extent, new water bodies, new species rich grassland and features for fauna), a landscape led design that will complement the local area, restoring features currently absent and respecting existing sensitive view points, likely improvements in water quality through having a stable vegetated surface, use of a suitable sustainable drainage treatment train, reduction in on and off-site flood risk, consideration of climate change and implementation of resilience measures, sustainable design and operation (including buildings, reuse / efficiency in use of water, use of renewables and electric buggies and equipment, waste and resource minimisation and recycling/reuse), opportunities for employment, skill development and education that at least replace those associated with the current land use, the economic multiplier benefits from a quality golf club operation, new pedestrian connectivity and improvements to existing Public Rights of Way, and the new opportunity for sport, recreational and associated health and wellbeing opportunities for the local community and wider population, which includes greater access to golf for all ages.

Considering all of the above, and noting the forthcoming robust and interactive process associated with considering and determining the planning application and the requirements of the associated planning policies and legislation, including those associated with Environmental Impact Assessment and protection of the natural and built environment, I recommend that the Bognor Regis Golf Club project should progress on OnCourse® Development Programme towards *GEO Certified® Development* status.



MATTHEW JOHNS BSc MSc CEnv MCIEEM FGS

Independent Verifier for the Bognor Regis Golf Club Project

LIMITATIONS

The content of the Sustainability Blueprint V1 is drawn from information contained within exiting project documentation and surveys carried out by consultants hired by HLM. It reflects information correct at the time of writing, it is possible that new information will become available after the completion of this report. This new information would be incorporated into future revisions of this report or in the subsequent stages of the certification reporting.

APPENDICES

A: GEO CERTIFIED[®] DEVELOPMENT

B: CERTIFICATION CRITERIA¹²

C: UNITED NATION'S SUSTAINABLE DEVELOPMENT GOALS

D: ECOSYSTEM SERVICES

E: ARUN DISTRICT COUNCIL DESIGN GUIDE PROJECT RELATED TARGETS

¹² To be read in conjunction with the "Sustainable Golf Development – Voluntary Sustainability Standard, Second Edition".

A: GEO CERTIFIED® DEVELOPMENT



The GEO Certified® Development mark distinguishes the world's most sustainable golf developments. It gives credible recognition to projects which demonstrate leadership from local through to global level in all three pillars of sustainability; environment, society, and economy.

The process is assessed against a set of Internationally recognised Voluntary Sustainability Standards which are overseen by the International Social and Environmental Labelling (ISEAL) Alliance.¹³ GEO also set ambitious and project specific sustainability targets for each development, whether or not the club reach these targets also contributes toward achieving the certification.

The project is independently verified at key milestones corresponding to the following stages of golf development:

1. Design
2. Construction
3. Completion

This Sustainability Blueprint V1 report corresponds to the design stage of the certification process. For more details of the certification system, its process and assurance model visit <https://sustainable.golf/about/>

Bognor Regis Golf Club formally registered in the OnCourse® Developments programme in October 2021.

¹³ <https://sustainable.golf/about/certifiability/standards/development-standard/>

B: CERTIFICATION CRITERIA

Below is an excerpt of the design stage related criteria from the Internationally recognised Voluntary Sustainability Standards for golf developments. The full version can be found at

<https://sustainable.golf/about/credibility/standards/development-standards/>

Design Stage:



Nature

Criterion	Objective	Detailed Performance Requirements
DN1B	Develop clear understanding of species, habitats, hydrology and geomorphology	Study in detail ecology, hydrology, designations, soils, geology and geomorphology of the site. Any invasive species to be identified and managed appropriately. ¹⁴
DN2B	Ensure golf course and landscape design typology is clearly compatible with site and surroundings	Avoid predetermined artificial or enforced design styles.
DN3B	Protect the most valuable landscape, cultural and ecological features	Avoid ecological hot spots and sensitive landscape zones. Retain existing valuable and/or protected trees, habitats and cultural sites.
DN4B	Use native or locally important species in landscaping designs, and drought-tolerant varieties if applicable	Landscape planting to maximise native, naturalised, locally adapted and important species (exceptions for some sites where aesthetic or cultural heritage issues are relevant, or for garden areas).
DN5B	Ensure that any topographic changes protect and enhance landscape character	Ensure no degradation to existing landscape character. ¹⁵
DN6B	Consider whether open water is appropriate	Provide clear justification for any open water in desert/arid locations.
DN7B	Minimise pollution from maintenance facility	Plan early how to integrate best practice pollution control measures into maintenance facility design.

¹⁴ National or regional advice should be sought for the appropriate course of action to handle invasive species.

¹⁵ The design and impact of associated infrastructure such as roads are not subject to this criterion.

DN8B	Plan an ecologically rich landscape ¹⁶	Maximise the integration of native habitats and ecology in the design. ¹⁷
DN9B	Maximise habitat patch sizes and connectivity	Internal habitat patches to be large enough for identified key species. Link internal patches, maximise habitat size, and create connections to wider landscape habitats.
DN10B	Adopt a 'natural systems' approach to water management, considering water quality and habitat creation	Utilise natural soakaways, attenuation areas, swales and turfgrass biofilters. Incorporate vegetative buffer zones into design. ¹⁸ Allow seasonal flooding where possible. Demonstrate that water table control does not adversely impact upon the quality of surrounding water and habitats. ¹⁹
DN11B	Naturalise any water features as far as possible	Create diverse, living lakes and wetlands suitable to the site, maximising ecological value as far as practical. ²⁰
DN12B	Minimise visual intrusion of bunkers, tees and green complexes on visually sensitive sites	No significant adverse impacts on visual amenity of key receptors or viewpoints.
DN13I	Consider the visual impact of core golf buildings	Avoid prominent or highly exposed positions and breaking skylines. External materials to be in keeping with geographical region.
DN14I	Use permeable surfaces	Hard surfaces on the golf course property, such as cart paths, to be made of permeable materials.
DN15I	Minimise the extent of intensively managed turfgrass areas	Minimum area of the site within the development boundary to become intensively managed turfgrass.
DN16I	Increase ecological interest of the external skin of the core golf buildings	Utilise ecological building techniques such as green roofs, green walls and insect housing.
DN17I	Minimise the visual impact of signage and furniture	Maximise the use of local sustainably sourced materials and position to integrate with the surroundings.

¹⁶ A landscape with healthy interacting living organisms existing in plentiful quantities.

¹⁷ Endemic species are classed as native in this context.

¹⁸ Where circumstances dictate that the inclusion of these water management measures will have a detrimental effect on other connected items such as historical landscape setting, downstream watershed management and increased soil damage, inclusion of such measures may not be warranted.

¹⁹ Water quality indicators to be in line with the International Technical Committee on Water Quality (ISO/TC 147)

²⁰ When the naturalisation of water bodies will have a detrimental effect on other connected items such as historical landscape setting, downstream watershed management and increased soil damage, the inclusion of such measures may not be warranted.

Design Stage



Resources

Criterion	Objective	Detailed Performance Requirements
DR1B	Ensure responsible use of site and surrounding water resources, including watershed	Undertake and analyse baseline surveys to ensure informed water resource decisions and implement recommendations, particularly on water sourcing.
DR2B	Seek opportunities to minimise energy use in design	Design to minimise energy use and demonstrate how this is achieved.
DR3B	Minimise impact on key hydrological and flood zones on site if applicable	Avoid these areas for built development and net positive fill.
DR4B	Minimise volume of earthwork	Design a course which does not require excessive earthworks in order to minimise fuel use during construction.
DR5B	Maximise irrigation water efficiency	When needed, install irrigation systems and technologies, such as weather stations, to deliver the correct amount of water most efficiently to the smallest possible area. Restrict irrigation only to genuine priority areas with flexibility in the system to control application areas. Identify ways golf course irrigation water can come from recycled or 'off grid' sources. ²¹
DR6B	Use local materials	Minimise the average total distance construction materials will travel. Give preference to onsite or locally, responsibly and sustainably sourced materials where feasible.
DR7B	Select best-adapted turf species and cultivars for the local environmental conditions and to minimise long-term resource requirements	Maximum stress, disease, temperature and drought-resistant species to be selected where possible.

²¹ The quality and potential impact of using recycled water on the local environment must be assessed before utilising recycled water sources as irrigation water sources.

		Select grass species with moderate maintenance requirements such as mowing and top dressing rates. Consider these long-term maintenance impacts, budgets and the final quality of the playing surface in the decision-making process.
DR8B	Optimise location of core golf buildings to benefit from natural heating, cooling and lighting	Analyse the location and aspect of core golf buildings.
DR9B	Reduce fuel use in maintenance	Consider ease of maintenance access and mowing regimes to avoid excessive fuel use. Consider the use of electric- or hybrid- powered maintenance machinery.
DR10B	Maximise the energy efficiency of drainage design	Justify the use of piped drains in light of criterion DN10B.
DR11B	Maximise the energy efficiency of irrigation system	Design irrigation system to maximise benefits of topography, soil type and climatic conditions. Design irrigation system to optimise use of pipe and wire. Consideration to be given to use of recycled HDPE or an equivalent high-quality pipe material.
DR12B	Minimise fuel use in buggies	Design a golf course that can be walked where climate and terrain permit. Use electric- or hybrid-powered buggies if they are required.
DR13I	Use recycled materials and materials with recycled content	Maximise the integration of recycled material into the supply chain. Where available, maximise use of certified products and materials equal to ISEAL Alliance standards.
DR14I	Manage precipitation onsite ²²	Define the amount of precipitation to be retained and released from the site. Optimise the water management design to benefit the entire watershed.
DR15I	Consider development as 'net zero energy'	Assess the potential of onsite or local renewables such as solar panels.

²² Ensure a full understanding of the watershed and consider any potential detrimental effects on other connected items such as downstream watershed management and increased soil damage.

		Assess the feasibility of exporting onsite-generated energy back to the national grid. Integrate either or both where possible.
DR16i	Integrate re-use and re-cycling of water around core golf buildings	Where possible, utilise harvested rainwater for greywater for golf and landscape irrigation as well as cart and machinery wash down. ²³
DR17i	Achieve an appropriate sustainability certification for the non-golf buildings within the property	Undertake an appropriate sustainability certification from the relevant authority/organisation for all non-golf buildings on the property.

²³ Use of harvested rainwater must be in accordance with relevant legislation.

Design Stage



Community

Criterion	Sustainability Objective	Detailed Performance Requirements
DC1B	Define supply chain of products and materials	Identify key opportunities and challenges in materials supply and demonstrate how they can be addressed.
DC2B	Undertake local consultation	Consult with local community and advertise to raise local awareness. Encourage input through meetings/ open days, in writing, by phone and via email.
DC3B	Protect cultural heritage	Design to protect and/or incorporate features of historical and cultural significance if any.
DC4B	Ensure principles of 'Access for All' are implemented	Proactively consider all requirements for accessible core golf buildings to meet the access needs of disabled people.
DC5B	Incorporate public access where appropriate	Maintain an appropriate type of community access to all or part of the property, or mitigate any detrimental affects to the existing situation.
DC6B	Justify transport impact	Minimise the demands placed on the community's transportation network through development both in construction and long-term. Promote future multi-modal transport methods as part of wider sustainable travel networks.
DC7I	Undertake local engagement	Engage with, listen and respond to local opinion. Encourage input through meetings/ open days, in writing, by phone and via email and give transparent feedback on how identified issues have been addressed.

DC8I	Promote ethically and environmentally led procurement	Define policy for procurement of products and services. Suppliers and contractors to conform with Ethical Trading Initiative's base code or equivalent.
DC9I	Promote community integration and awareness	Establish ways in which the development can contribute to local communities, for example, promoting publicly accessible outdoor facilities onsite or events programmes to help raise awareness of sustainability issues, such as local ecology, cultural heritage and renewable energy.
DC10I	Incorporate educational values	Design in educational opportunities such as placements, open days (i.e. pre- and post-construction) and onsite classroom facilities etc.
DC11I	Promote and improve community health and well-being	Incorporate opportunities for non-golf-related health and well-being activities appropriate and proportional to site conditions, project scope and location.

C: UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

SUSTAINABLE DEVELOPMENT GOALS

The targets proposed in the Sustainability Roadmap for the Golf Club have been assessed below against and related to the global Sustainable Development Goals (SDGs) as well as the recognised ecosystem services (Appendix D).²⁴ It is envisaged that the Golf Club's proposed targets will be in line with the following SDGs – (6, 12, 14 and 15). See detail below of the specific SDG targets aimed to be contributed towards by the Golf Club.

- **6.4** - By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.
- **6.5** - By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.
- **6.6** - By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.
- **12.5** - By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.
- **14.1** - By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.
- **15.1** - By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.
- **15.2** - By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.
- **15.5** - Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.

²⁴ <https://sdgs.un.org/goals>

D: ECOSYSTEM SERVICES

It is envisaged that some of the Golf Club's targets detailed in this report will fall in line with notable Ecosystem Services (ES). ES sections that these targets will meet as well as possible indicators are detailed in the table below. The section and class nomenclature have been taken from the European Environment Agency's and The Economics of Ecosystems and Biodiversity's definitions of Ecosystem Services.²⁵

Section	ES classes	Indicator
Provisioning (Biotic)	Genetic materials	This would be demonstrated by establishing an on-site nursery and growing own turf materials.
Regulation & maintenance (Biotic)	Water treatment (water purification)	Water quality testing policy would be in place to observe water quality at inflow and outflow.
	Regulation of water flows	This would be achieved by introducing new water bodies and supporting the management and improving the environmental quality adjacent to the existing ones.
	Pollination	The increase in area cover of pollinator attractor plant species on site.
	Biological control	- The overall increase in pollinator species and LBAP species. - Having an active invasive species plan and recording treatments.
Cultural (Biotic)	Recreation & Ecotourism	- Provide enhanced on site recreational uses. - Increase in people's outdoor time and use of site.
Provisioning (Abiotic)	Water	Using recaptured surface water in irrigation systems/irrigation holding pools.
	No equivalent	Total area of open space on site.

²⁵ <https://www.eea.europa.eu/signals/signals-2021/infographics/what-are-ecosystem-services>

Regulation & maintenance (Abiotic)	No equivalent	Increase in pools and check dams within new waterways on site.
Cultural (Abiotic)	No equivalent	The expected lifespan of the course being created.

E: ARUN DISTRICT COUNCIL DESIGN GUIDE PROJECT RELATED TARGETS

Throughout the development of this project the contents of the Arun District Guide Supplementary Planning Document have been closely considered. There are many aspects of the guide which are applicable to the development at Site B. The proposals have been designed in a way that intends to fit seamlessly into the surrounding landscape while providing an outdoor space for recreation which would also benefit the local communities.

The works would improve the quality and diversity of the natural environment across the site while protecting features of importance. Materials used in construction and operation would aim to be sourced in a sustainable fashion wherever possible and resources such as water would be managed in a sensible way to maximise reuse and reduce demand. It should be noted that all designs and plans throughout the process have been informed by experts in their fields.

