Fawley Waterside Access and Nature Conservation Plan

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1 Introduction

The former Fawley Power Station is located in an environmentally sensitive location that is adjacent to the internationally designated sites of the Solent (SPA, SAC and Ramsar site) and close to the New Forest (SPA, SAC and Ramsar site). Proposals for the redevelopment of the Power Station have the potential to have adverse impacts on these sites due to the effects of increased recreation use. These potential impacts will be assessed through a Habitats Regulations Assessment (HRA) undertaken by the Competent Authorities. To enable this assessment to reach a conclusion of no adverse effect on these sites, it is necessary to provide alternative recreation land of sufficient extent and quality to divert recreation pressure arising from the new development away from the internationally important wildlife sites.

1.1 Bird use of the Solent coast

To design recreation mitigation for the Solent it is important to understand how the Solent coast is used by the internationally important bird populations it attracts. These change constantly throughout the year and through the changing states of the tide, but in general they comprise two main groups of birds.

In winter, the Solent coast attracts large numbers of wading birds, ducks, geese and other wetland birds that are collectively referred to as waterfowl or water birds. These birds are migratory and mostly breed at high latitudes from Greenland and Iceland east through Scandinavia to northern Russia. They migrate to the coasts of western Europe during the late summer and autumn. The Solent attracts an internationally important assemblage of wintering waterfowl that is important both for the total number of birds and the diversity of species that comprise the assemblage. In addition, the Solent and Southampton Water SPA attracts internationally important numbers of four individual species of waterfowl; Dark bellied brent geese, Teal, Black-tailed godwit and Ringed plover. Although the greatest numbers of birds are present in the Solent during the mid-winter months, the autumn and spring are also important for birds passing through the Solent on migration to wintering and breeding grounds. The Solent provides a vital stop-over for these passage migrants at these times of year when the turn-over of birds present on the Solent's coast can be very high. The wintering and passage migrant waterfowl feed over large areas of intertidal flat at low tide as well as freshwater marshes, grassland and arable fields around the coast. At high tide, wading birds have to move from the intertidal flats to undisturbed roost sites above the high tide level. These high water roost sites include natural shingle islands and saltmarshes as well as artificial structures such as sea walls, jetties and pontoons or farmland near to the coast. These high water roosts are particularly vulnerable to disturbance as birds are concentrated in large numbers in confined locations and once disturbed they may have to fly considerable distances to find an alternative safe roost site. Whilst spread across the intertidal, feeding waders are generally less vulnerable to disturbance. Birds feeding on the mixed sediment and sand flats are more likely to be disturbed as these are accessible to walkers and dogs at low water. By contrast, birds feeding on mudflats are less vulnerable to disturbance to walkers and dog walkers other than where footpaths and walking routes pass close to the top of the intertidal zone or where they occur in confined tidal creeks at the head of estuaries. Even in these locations, wading birds and wildfowl become habituated to the movement of walkers and even dogs as long as they remain on defined paths and sea walls along the shoreline and are visible to the birds for a long distance.

The second important group of birds are those listed on Annex 1 of the EU Birds Directive that visit the Solent to breed in spring and summer. The Solent is internationally important for five species of Annex 1 birds at these times of year; Common tern, Sandwich tern, Little tern, Roseate tern and Mediterranean gull. This group of birds nest on sand and shingle beaches, spits and islands and associated saltmarshes. The terns feed mostly on small fish by diving from a hovering flight. The Mediterranean gulls have a much more varied diet and feed both around the coast and coastal fields, farmland and marshes. During the late summer, large flocks of terns congregate in the Solent as the southerly migration of returning and young birds takes place. These large flocks are particularly common over shallow sand banks and estuary entrances where tidal currents concentrate shoals of small fish. The limited number of nesting sites for the Annex 1 birds are obviously very vulnerable to disturbance but are mostly located in protected areas of the coast away from any normal public access. In a few places, terns have attempted to nest in more publicly accessible locations, such as Hamble Point, Newtown Harbour entrance and Hurst Spit, where the levels of disturbance from walkers and people landing from boats prevents successful breeding. In other locations,

such as the islands in Normandy Lagoon at Lymington, terns and other nesting coastal birds breed in close proximity to the publicly accessible sea wall but are protected from disturbance by the presence of a wide water-filled ditch and dog-proof fencing.

1.2 Disturbance to the New Forest

The New Forest SPA is internationally important for a group of Annex 1 listed birds that breed on the heathlands of the Forest. This group of birds are similar to other heathland SPA in southern England, including the Thames Basin Heaths, Wealden Heaths and Dorset Heaths and include the Nightjar, Dartford warbler and Woodlark. They nest either on the ground or in low scrub and are particularly vulnerable to disturbance, trampling and predation from walkers and their dogs. Natural England has developed a policy to protect this group of birds from increased recreation pressure arising from new housing development that relies upon the provision of alternative natural greenspace. This has been termed Suitable Alternative Natural Greenspace (SANG) or Recreation Mitigation Land. The main features of this land are:-

- It has a natural character offering a similar recreation experience to the New Forest
- It is accessible to the new residents of the development without the need to use a car
- Dogs are able to run off-lead as they are currently within the New Forest
- They are sufficiently large and connected to provide continuous circular walks of varying length including walks of at least 45 minutes duration or 2.4 km (the average distance of dog walkers identified from visitor surveys).

Guidance on other features of SANG (Recreation Mitigation Land) have been provided by Natural England and the New Forest District Council.

The quantum of land provided to mitigate recreation impacts on the New Forest has been agreed with Natural England on the basis of predicted number of new residents in the proposed housing development. This is based on the density of recreation users of the Thames Basin Heaths of 12 hectares/1000 head of population and was formulated during the South East Plan Examination in Public (2007). We consider this to be the minimum requirement to achieve long-term mitigation of recreation impacts on the New Forest.

An assumption is also made that the SANG (Recreation Mitigation Land) will provide sufficient mitigation to offset recreation impacts on other habitats and species for which the New Forest is designated as SAC and Ramsar site.

1.3 Recreation mitigation land and nature conservation management

The development of Fawley Waterside proposes an integrated approach to the provision of green infrastructure. This will have a number of elements with differing management objectives.

Provision for coastal and countryside recreation will be provided through areas of designated SANG (Recreation Mitigation Land), the provision and maintenance of a comprehensive network of footpaths, cycle routes and bridleways and linkages with areas of Access Land (CROW Act, 2000). These will be integrated with areas managed primarily for nature conservation which will include the creation, maintenance and restoration of a wide range of important wildlife habitats including saline lagoon, intertidal saltmarsh, coastal grazing marsh, heathland, acid grassland, neutral grassland, wetlands, scrub and woodland.

Predicted climate change and consequent sea level rise will have profound changes on nature conservation and coastal habitats in particular. Measures are proposed through the Fawley Waterside development to make the coastline and countryside in the vicinity of the development more resilient to the effects of climate change. This will include the creation of bigger, better and more connected wildlife habitats and provision for coastal re-adjustment and set-back in the face of sea level rise.

The New Forest is remarkable in preserving a medieval agricultural system based on the exercise of common rights to graze livestock on the unenclosed New Forest. The extensive grazing system that this produces has created and conserves the outstanding mosaic of internationally important wildlife habitats and their associated species that occur within the Forest. These show uninterrupted transition and

variations at a landscape scale that are unparalleled in lowland Britain. The conservation of the system of common grazing is fundamental to the conservation of these habitats. This is dependent on the provision of sufficient better quality enclosed grassland (fields) to which New Forest stock can be moved or where fodder (hay and silage) can be grown to supplement their feed in winter. Traditionally, this back up land was associated with individual commoner's dwellings or small-holdings. The pattern of grazing that resulted from stock being depastured on the Forest from these individual holdings created the pattern of greens, lawns and heavily grazed and trampled grasslands close to settlements.

The Fawley Waterside development has been designed to support the common grazing of the New Forest and extend the extensively grazed landscape it creates from the Crown Lands of the New Forest perambulation to the coast.

1.4 Recreation mitigation plan

The recreation mitigation plan comprises four elements as follows:-

- Suitable Accessible Natural Greenspace (SANGS) and Informal Open Space
- Drove ways linking areas of accessible greenspace
- Existing areas of CROW Access Land
- Coastal access

These areas will be linked with an extensive network of existing and new footpaths, cycle routes and bridleways.

2 Suitable Accessible Natural Greenspace (SANG) provision

Natural England have agreed a standard rate of SANG provision of 8 ha/1000 head of population is applicable to the proposed development and will be designed to offset recreational impacts to the New Forest European sites. The SANG will form a landscape that is attractive to recreational walkers and dog walkers and will be located in close proximity to the proposed development. It will include a diversity of natural habitat types typical of the New Forest landscape and will provide an easily accessible recreational resource as an alternative to the New Forest.

The following table identifies the areas of SANGS and informal open space required to meet the standard targets making a total of 36 ha.

Number of residential units	SANGS	Informal Open Space	Total
1530	28.8 ha	7.2 ha	36.0 ha

Based on assumed 2.4 people/house

The SANG will form an accessible area of open countryside that provides an attractive alternative recreational resource to the Crown Lands of the New Forest. This must be immediately accessible to the new residents of Fawley Waterside. The landscape of the SANG will contain a range of natural habitats including grasslands, scrub, woodland, open water and wetland. These will be managed to form a natural landscape in which sub-urban intrusions and the paraphernalia of urban parks will be restricted to a minimum. Like the Crown Lands of the New Forest, grazing livestock will be a consistent feature of the SANG. This is considered essential to managing the rural landscape character of the SANGS and is fundamental to the ethos of the new development. Areas of informal greenspace will be provided within the development area where livestock will not be present, but these are not considered as components of the SANG.

A number of options have been considered to identify the best configuration of SANG. Three linked areas of SANG are proposed, each with a distinctive character and phasing of provision.

The overall distribution of proposed SANG is shown in Figure 1.

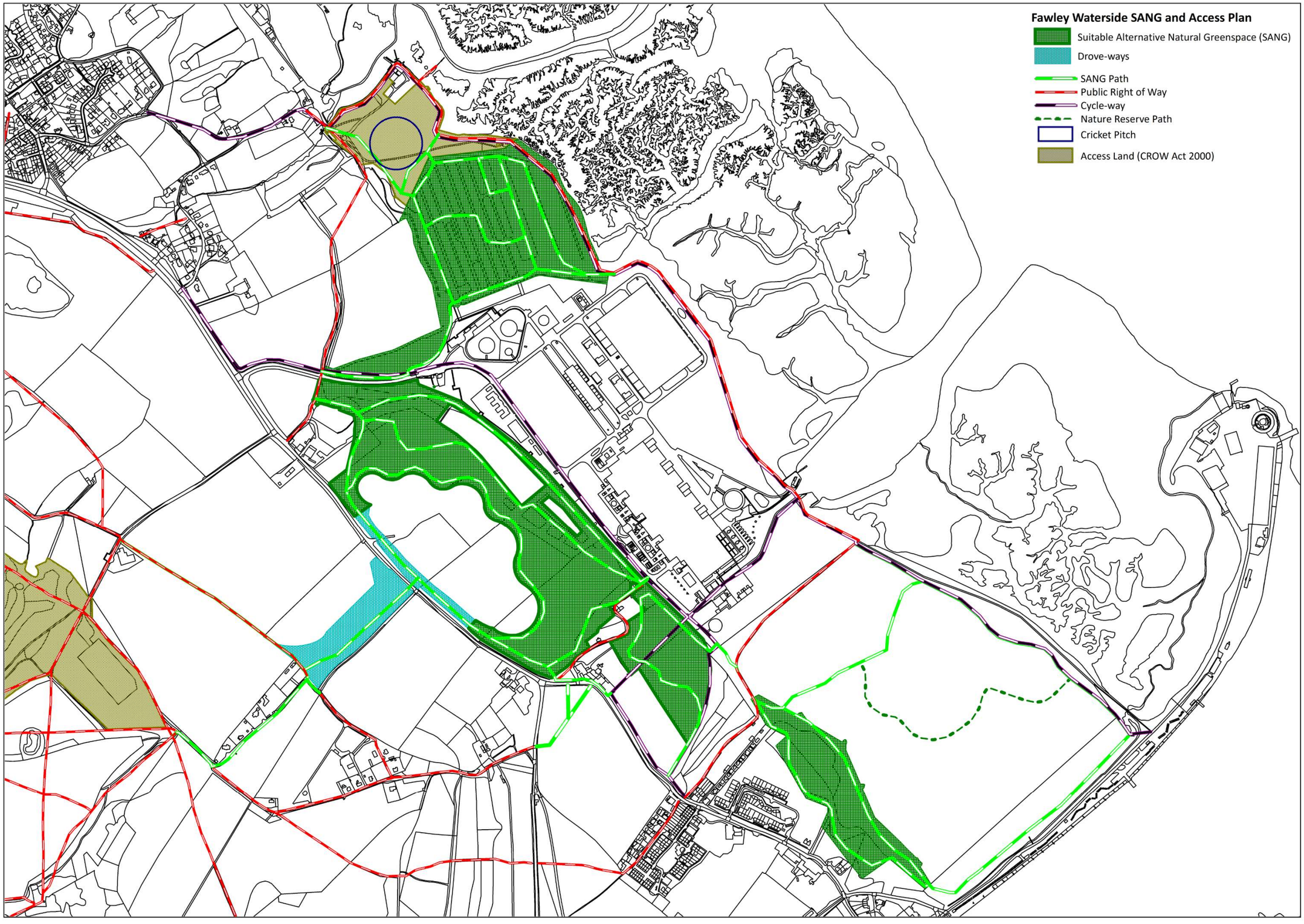

Figure 1: Fawley Waterside SANG and Access Plan

2.1.1 Exxon Laydown SANG

This is an area of secondary woodland, scrub and grassland that has developed on the post industrial land to the north of power station known as the Exxon Laydown Land. This extends to an area of 14.39 ha and links with Access Land of Ashlett Green, Ashlett Creek and footpaths to Fawley village to the north and with the coastal path to Calshot to the south. The location and proposed habitats within the SANG area shown in figure 1.

2.1.1.1 Exxon Laydown SANG area

The Exxon land provides SANG for 1,662 people (13.3/8*1000) or approximately 693 dwellings. This takes account of a 10% reduction in effective SANG area to allow for nature conservation management. It links with the adjacent Ashlett Green Access Land (5.32 ha) making a total area of accessible greenspace of almost 20 ha within the management control of Fawley Waterside and the Cadland Estate.

2.1.1.2 Current visitor use

Visitor surveys were undertaken in 2017 to record current recreational use of Ashlett Green and the Exxon Laydown Land. A survey point was located on the public footpath along the coastline at the south-east corner of Ashlett Green. The survey found that the area is used almost entirely by local people with 90% of visitors travelling less than 5 miles. There was a even split between those arriving by car/van (55%) and on foot (45%). The reason for visiting was mostly for dog walking (70% gave this as the main reason for visiting). Other reasons for visiting included for peace and quiet (25%), to enjoy nature and wildlife (20%) and bird watching (20%). Visitors used the area throughout the year with no specific seasonal preference and visits were made equally between week days and weekends. Visitors use the area regularly with 55% recorded making daily visits and 30% weekly visits. Visits were spread quite evenly across the day between 07:00 and 18:00 with peak visitor numbers between 13:00 and 15:00 (35%). Most visits were for between 46 and 50 minutes (40%) with a mean visitor time of all visits of 58 minutes. Visitors were asked what route they were walking. 60% of visitors simply walked around Ashlett Green (the Ashlett Green loop). 30% of visitors walked along the coast to Calshot via the Swing Bridge and back. 10% of visitors took different routes (undefined). No visitors reported walking around the Exxon Laydown Land (the Exxon Loop). Although it is apparent that some people do walk around the Exxon Laydown Land this was not reflected in the results of the visitor survey.

2.1.1.3 Prediction of future use

The visitor survey recorded a total of 33 visitors to this site over a period of 8 hours (1 day). Interviews were conducted with 20 of these, of which 12 (60%) lived within 1.5km[1] of the survey point, giving an estimated 19.8 visitors per day. The current population within 1.5km of the survey point is 971 giving a daily visitor frequency of 2.04% (19.8/971).

Assuming new residents of Fawley Waterside visit the Exxon Laydown land and Ashlett Creek at a similar proportion and frequency to the current local residents (within 1.5km of the survey point) and with a household occupancy rate of 2.4 people, it can estimated that there would be 75 additional visitors per day from the new development. Combining this with the current number of visitors/day gives a total of 108 visitors/day or 3.3 times the current number of visitors.

2.1.1.4 Land use and nature conservation value

The Exxon Laydown Land is extensively grazed by a small number of ponies that range across from Ashlett Green and also graze the coastal saltmarshes and coastal grassland between Ashlett Creek and the entrance channel to the Power Station (Fawley Waterside harbour). This system of grazing will be perpetuated in the future. The Exxon Laydown Land is currently of nature conservation value, although it has no formal designation. The grassland glades and patches of vegetation that have developed over old concrete hard-standings are of considerable nature conservation interest and support a diverse flora including luxuriant growths of lichens and mats of xerophytic plants such as *Sedum* sp. The mixed scrub that currently dominates the area also attracts a range of nesting birds including a small population of

[1] This is the furthest distance of the proposed Fawley Waterside development to the survey point

Nightingale (two birds were recorded singing in spring 2018). Concern has been expressed over the compatibility of the Nightingales and public access. However, we believe that with appropriate management to create dense and impenetrable scrub the Nightingales can be retained alongside public access. Following discussion with the Hampshire and Isle of Wight Wildlife Trust a 10% reduction in the available SANG allocation has been made to allow for the creation of these dense and inaccessible areas of the SANG giving an effective SANG area of 13.3 ha.

2.1.1.5 Future management

Future management of the Exxon Laydown Land will aim to manage the scrub habitat in a form that is suitable for nesting Nightingale. This will require a programme of regular coppicing to create a patchwork of scrub of varying age across the entire area. Some areas of scrub will also be removed to increase the extent of open grassland and glade habitat. The concrete hard-standing, built during the construction of the Power Station, provides a convenient footpath network which will be largely retained. These and other elements of the post-industrial landscape add to the character of the site and reflect its history. However, there will be opportunities to remove some areas of concrete hardstanding to restore areas of natural grassland and create a more varied landscape setting with longer views and vistas.

The scrub fringe along the coast will be retained to deter public access to the intertidal saltmarshes and locations of uncommon upper saltmarsh specialist plants. However, opportunities will be taken to create vistas over Southampton Water from the coastal path.

It is proposed that an informal cricket pitch is created on Ashlett Green. This would be of similar character to a typical New Forest grazed cricket pitch extending to an area of about 1.2 ha. Some scrub removal would be required to create the cricket pitch.

Figure 2: Exxon SANG and Access plan

Figure 3: Exxon SANG proposed habitat distribution (see figure 9 for key)

2.1.2 Fawley SANG

The proposed Fawley SANG links Ashlett Creek to the north with Calshot Village to the south. It consists of a combination of mineral workings and agricultural land, mostly in arable cultivation.

The proposal is to restore the mineral workings to create a landscape ridge running down the western side of the former power station giving views across the surrounding landscape to the coast. A series of ponds will be formed around the foot of the ridge to the west, whilst the Fawley stream will flow along its eastern side, separating the SANG from the built development. The ancient woodland of Chambers Copse will be embedded within the SANGS and maintained free from public access as a woodland nature reserve. New native woodland will be created strengthening the existing woodland corridor and increasing the area of woodland and scrub within the SANG. Also retained within the SANGS will be the quarry lake, although it is not included in the SANG area calculation. This is a reed fringed lake on the edge of SANGS that attracts a range of wetland birds. To the south, the SANG will also incorporate areas of existing arable farmland which will be largely planted with new native woodland. Most of the new woodland will be managed to create wood pasture and parkland habitats that will mature in time to resemble those of the New Forest.

Fawley SANG and Access plan is shown in figure 4 and distribution of proposed habitats in figure 5.

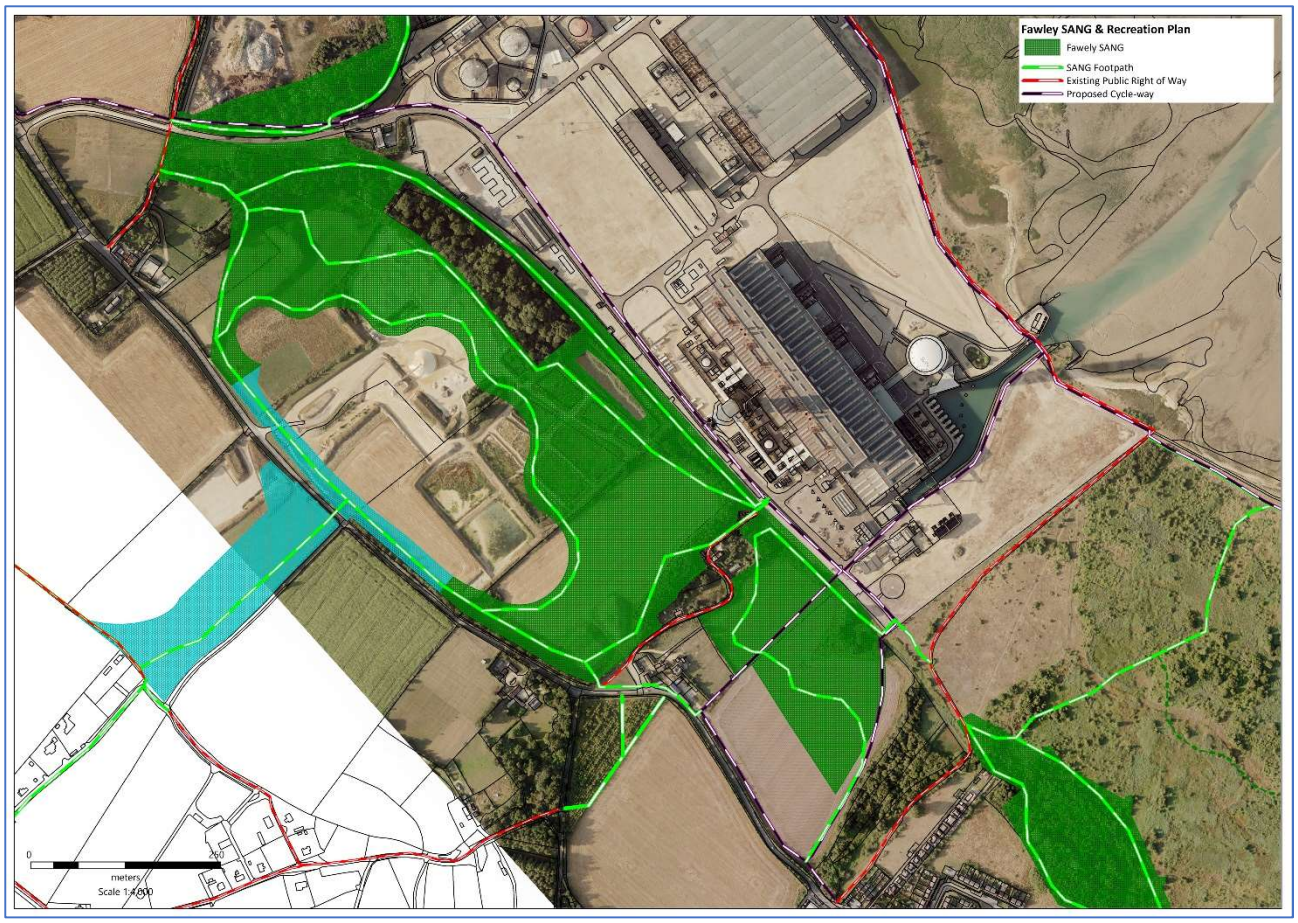

Figure 4: Fawley SANG and Access plan

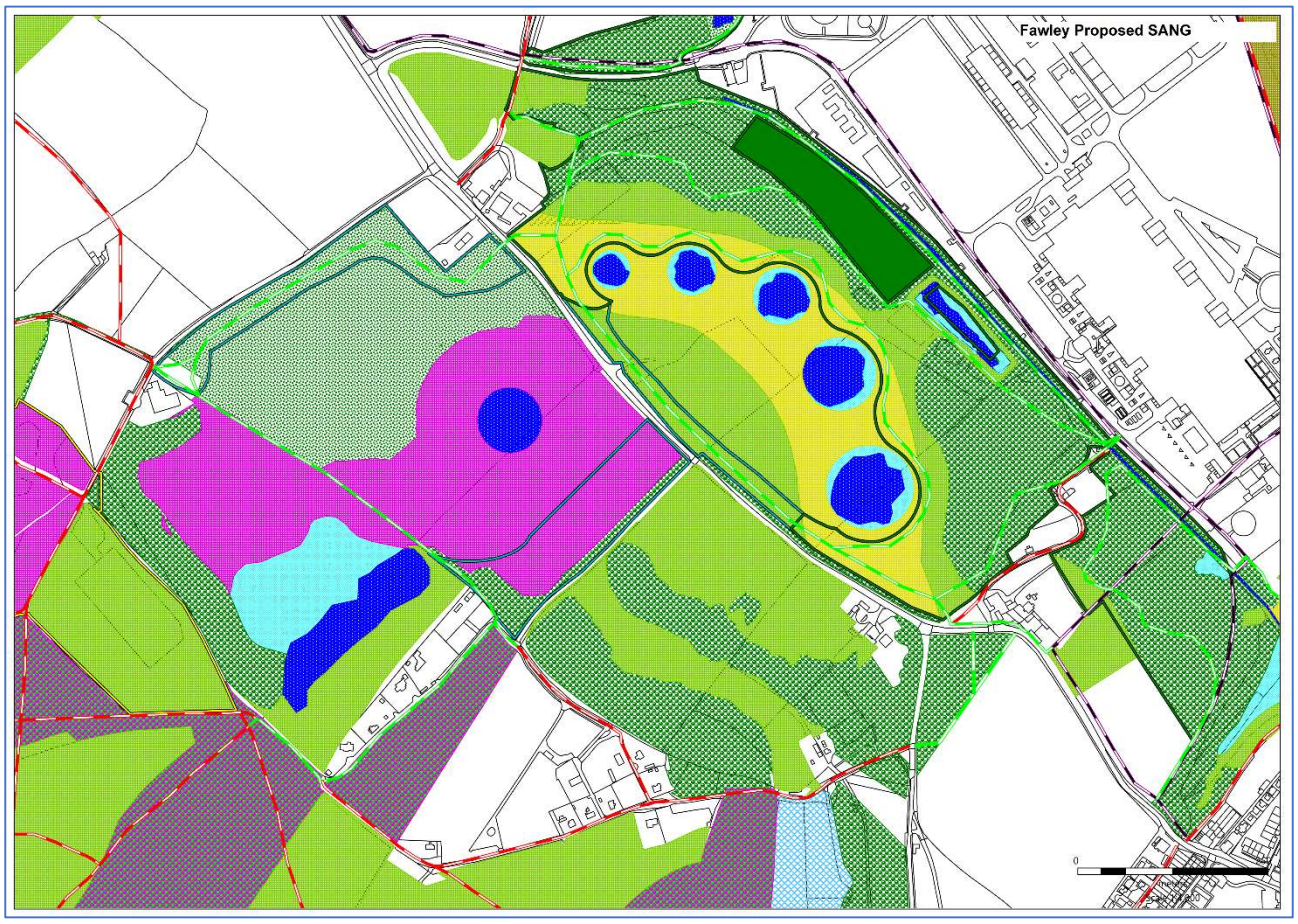

Figure 5: Fawley SANG proposed habitat distribution (see figure 9 for key)

2.1.2.1 Fawley SANG area

When complete, the Fawley SANG will extend to an area of just over 21 ha. This will provide SANG for the equivalent of 1,107 dwellings.

2.1.2.2 Current visitor use

There is an existing public footpath that crosses the proposed SANG through the hamlet of Ower. This reaches a dead-end at the power station boundary. A second public footpath links the southern end of the proposed SANG with Calshot Village to the west and the coast to the west. The use of this footpath was included in the 2017 visitor survey. Only 14 people were recorded using this footpath during 8 hours of the survey of which 8 completed the visitor survey questionnaire. Visits were spread across the day with most visiting in afternoon (13:00-15:00). 88% of those questioned lived locally, most of these used this footpath weekly (63%) or daily (25%). There was no difference in seasonal use with visitors using this footpath equally throughout the year. 75% of people interviewed walked to the site and 25% arrived by car or van. Dog walking was given as the main reason for visiting this footpath (50% of visitors) with other reasons given as walking (50%) and to enjoy nature and wildlife (25%). Most visitors questioned walked a loop around Tom Tiddlers Ground and back (38%) with equal numbers walking the coastal path north to Ashlett and back (25%) or a circular route around Tom Tiddlers Ground and Calshot village (25%).

2.1.2.3 Prediction of visitor use

Given the lack of current visitor use to this area it is difficult to accurately predict likely future use. The visitor survey undertaken in the autumn of found only a small number of visitors using the Solent View Valley footpath. However, taking this limited amount of data it can be predicted that the footpath is used by 12.4 local people per day or 5,110 people/year. The local population (within 1.5km of the survey point) is 535 so that 2.33% of the local population use the footpath each day. The development of Fawley Waterside would increase the population within 1.5km of the footpath to 3,696. If they walk this footpath with a similar pattern to the current population it would be used by an additional 86 people/day giving a total daily use of 98 people or an increase of almost 8 times.

2.1.2.4 Land use and nature conservation value

The restoration of the mineral workings and conversion of arable fields to create the new landscape will be undertaken progressively in advance of the phases of housing construction. Work on the initial phase of SANG provision could start in 2019 with the following phases implemented as they are needed, as illustrated in figure 6.

Phase 1: (from 2019) 4.69 ha of SANG to be established outside of the quarry workings along the Fawley Stream corridor to include existing woodland and grassland. 2.7 ha of SANG to be created by restoration of the old settlement lagoons to the south of the mineral workings. In addition 3.8 ha of acid grassland, woodland and scrub to be created in this area of the mineral workings. (cumulative SANG total = 7.39 ha)

Phase 2: (from 2021) 4.5 ha of SANG created by conversion of arable fields north of Ower Farm and an additional area of semi-natural grassland of 0.6 ha. (Cumulative SANG total = 12.2 ha)

Phase 3: (from 2022) Complete restoration of far western side of the mineral workings to create wetland and grassland habitats around retained fishing lake. Drove way established to link across mineral workings between SANG and Badminston Common (Access Land).

Phase 3: (from 2022) 4.0 ha of SANG created on arable fields south of Ower Farm

Phase 5: Final restoration of mineral workings to create 5.75 ha of SANG. (cumulative SANG total = 21 ha)

This SANGS has been referred to as the Fawley SANGS and extends to an area of 21.3 ha. Its formation will require an alteration to the planning consent for the existing mineral workings. 21.3 ha of SANGS will provide mitigation for 2,656 people or approximately 1,107 dwellings.

The SANG will comprise a mix of woodland, grassland, open water and wetland habitats. Most of the woodland will be managed as wood pasture and parkland with grazing livestock and open grassland glades and clearings. The retained reed fringed lake and the Fawley Stream will add additional wetland habitats to the SANG.

Just outside of the SANG will be the series of reed lined circular ponds within the mineral workings. These will grade into areas of open acid grassland and parkland to the west.

2.1.2.5 Fawley SANG area phasing

Phase 1 of the SANG creation will be undertaken during 2019. This will include management of the existing woodland and wetland habitats along the eastern boundary of the SANG and the first phase of quarry restoration in the area of the former settlement lagoons. This will create an area of 7.4 ha of SANG together with 3.8 ha of semi-natural habitat outside of the proposed SANG.

Phase 2 will be undertaken in 2021 and will involve the establishment of 4.5 ha of SANG and 0.6 ha of semi-natural habitat outside of the SANG on the existing arable field to the north of Ower Farm.

Phase 3 will involve the creation of the restoration of the quarry to the east of the road to create the access link or drove-way to Badminston Common (CROW Access Land). It will also involve completion of the restoration of the partially restored mineral workings around the fishing lake forming a total area of 15.5 ha of restored wildlife habitat.

Phase 4 will be the final phase of mineral working restoration and SANG creation. This will be undertaken as the mineral workings are restored and will provide an additional area of 5.24 ha of SANG within the restored mineral workings. There would also be the creation of 21 ha of semi-natural habitats within the mineral workings comprising a mix of grassland, heathland, scrub and wetland.

2.1.2.6 Future management

The SANG and surrounding semi-natural habitats will all be managed under the same management organisation to deliver the range of recreation, landscape and nature conservation objectives. Extensive livestock grazing will underpin the management of most of the habitats ranging from grassland and heathland to wetlands and woodlands. The woodland corridor that runs from Calshot to Ashlett will be managed to maintain and enhance its value for bats but will also assist in the movement of migrant birds and other wildlife through the landscape. Chambers Copse will be managed solely for nature conservation and will not be included within the SANG. However, the local community will be involved in its management, for example through participation in annual coppicing and thinning, propagation and planting of trees and shrubs and recording of wildlife.

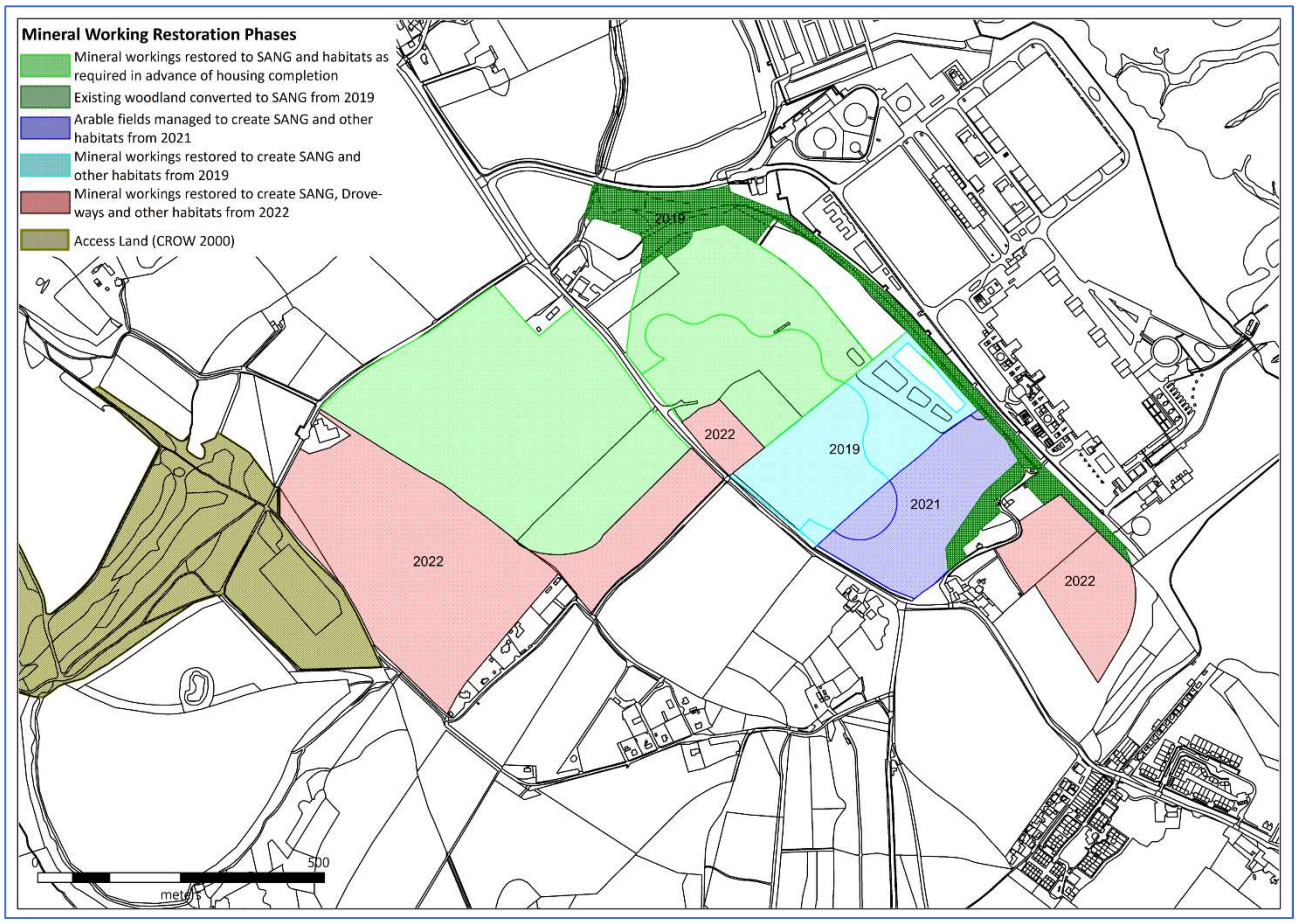

Figure 6: Phasing of mineral working restoration, SANG provision and habitat creation

2.1.3 Tom Tiddlers SANG

Extending along the Fawley stream to the south is a mixed area of habitats comprising areas of willow scrub and wet woodland, reed bed and former grazing marsh. These are typical habitats in the New Forest and provide a contrasting accessible landscape to Fawley SANGS and Exxon Laydown SANGS. The valley runs along the western side of Tom Tiddlers Ground all the way to the coast at Calshot and provides an important coastal link from Calshot village and the new development at Fawley Waterside. A public footpath leads from the SANG along the Solent View Valley SINC – a former coastal valley now cut-off from the sea but still retaining areas of brackish marsh, reed beds, wet woodland and semi-natural neutral grassland.

Tom Tiddlers SANG and Access plan is shown in figure 6 and distribution of proposed habitats in figure 7.

2.1.3.1 Tom Tiddlers SANG area

The area of Solent View Valley has been removed from this SANG leaving an area of 5.7 ha. Although relatively narrow, this SANG is mostly over 100m wide and is well able to accommodate a circular route of 1.36km. It links with the Fawley SANG to the north, the coast paths around Calshot Spit and the eastern side of Tom Tiddlers Ground and the public footpath along Solent View Valley to the west. Tom Tiddlers SANG provides sufficient mitigation for up to 713 people or 297 dwellings.

2.1.3.2 Current visitor use

There is currently no public access to this area of Tom Tiddlers Ground.

2.1.3.3 Predicted future use

It is anticipated that this SANG will be well used forming part of a circular walking route from the Fawley Waterside development around the proposed Tom Tiddlers coastal nature reserve and Calshot Spit. It will also form part of the larger circular route around the entire development area between Ashlett Creek and the Solent shore.

Figure 7: Tom Tiddlers SANG and Access Plan

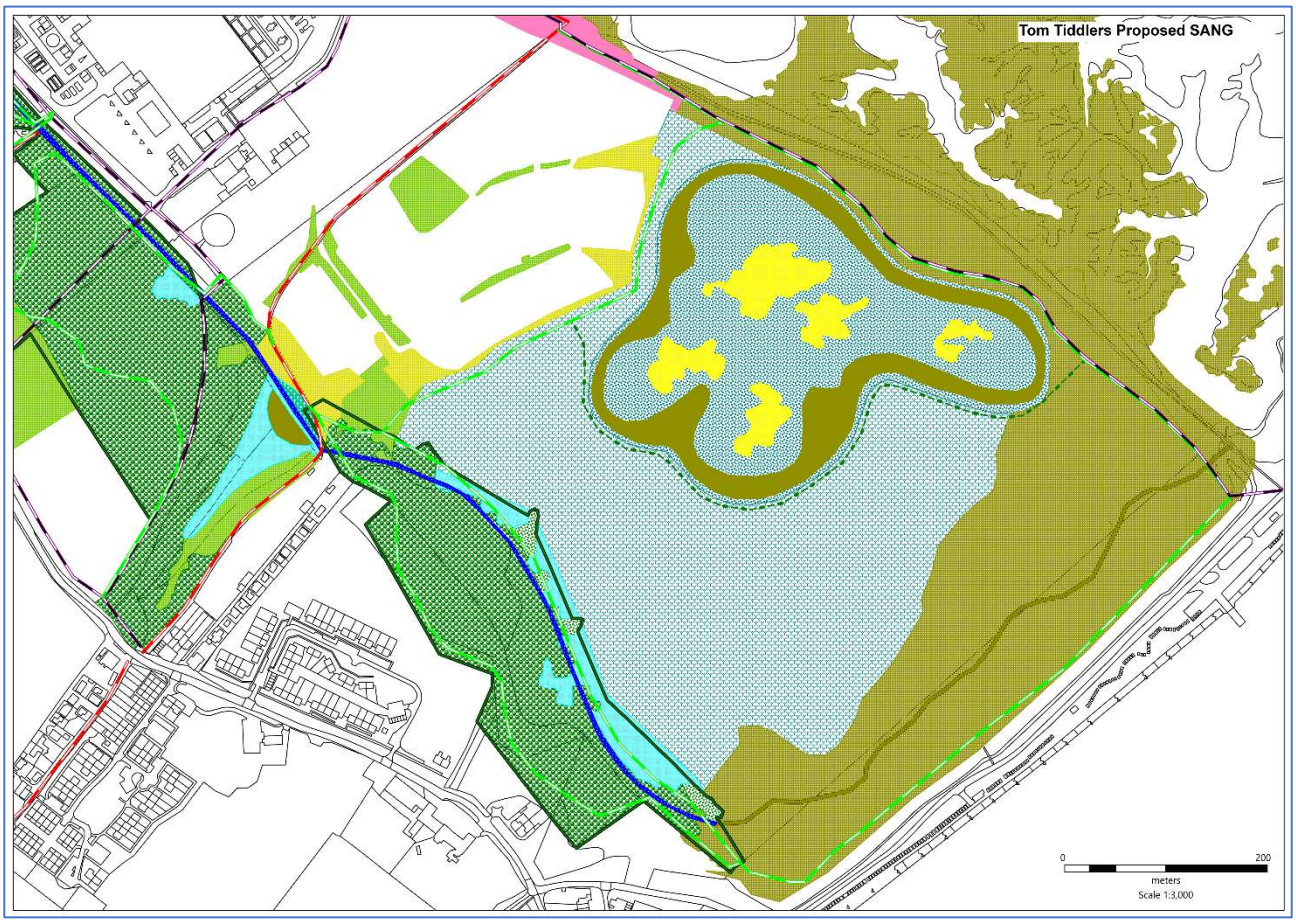

Figure 8: Tom Tiddlers SANG proposed habitat distribution (see figure 9 for key)

2.1.3.4 Land-use and nature conservation value

The wet woodland and scrub habitats on the western side of Tom Tiddlers SINC forms part of a woodland corridor that links Ashlett Creek with Calshot Spit. These are used by feeding and commuting bats and are a valuable habitat for passage migrant birds arriving on the south coast after crossing the crossing the English Channel. The main features of nature conservation interest are found in the wetlands of Tom Tiddlers Ground to the east of the SANG. A fringe of reed bed and open scattered scrub will be retained along the edge of the SANG. This habitat is used by a diversity of birds including Cetti's warbler, Reed bunting, Whitethroat and Reed warbler. Beyond the reed and scrub fringe the remainder of Tom Tiddlers Ground will be fenced and grazed and transformed into a coastal grazing marsh of attraction to many wildfowl and wading birds from the Solent and Southampton Water. The SANG will provide views of the grazing marshes and the birds they attract without causing disturbance.

2.1.3.5 Future management

Access to this SANGS will be facilitated through the provision of board walks to give views across reed fringed ditches to the adjacent Tom Tiddlers SINC. A programme of rotational coppicing and scrub management will be undertaken within the SANG to maintain a diversity of scrub age structure and create vistas and views across the adjacent grazing marsh. Reed beds and tall grassland glades within the SANG will be managed by periodic mowing and cutting.

2.2 Wildlife habitats within SANG

The total area of SANGS would extend to an area of some 40 ha comprising the following habitat types:-

Woodland and scrub	26 ha
Grasslands	13 ha
Grazing marsh	1 ha

Areas of reed bed, swamp and open water have been removed from the SANG area calculation but are an intrinsic and attractive component of this landscape.

2.3 Phasing of SANG provision

SANG will be delivered over the period of the development as the mineral workings are progressively restored. Table 1 shows that the initial phases of SANG provision will be completed by 2021, delivering 31 ha of SANG. This will be sufficient to mitigate the construction of 1614 dwellings and exceeds the SANG requirement for the development of the proposed 1530 dwellings at Fawley Waterside. The proposal is to create a total 40 ha of SANG, this will exceed the minimum SANG requirement by 30% (12.2 ha).

It is the intention that all 40 ha of SANG will be managed as semi-natural habitat. In addition, a further 41 ha of semi-natural habitats will be created from the former mineral workings and arable farmland creating a total area of 81 ha of semi-natural wildlife habitat.

SANG	YEAR	Habitat Created Outside SANG	SANG Area	Cumulative SANG	Cumulative no. dwellings
Fawley Phase 1	2020		4.75		
Fawley Phase 1	2020	3.8	2.73	7.48	390
Exxon Laydown	2020		13.30	20.78	1082
Tom Tiddlers	2020		5.70	26.48	1379
Fawley Phase 2	2021	0.6	4.50	30.98	1614
Fawley Phase 3	2022	15.47			
Fawley Phase 3	2022		4.03	35.01	1823
Fawley Phase 4a	As required		5.24	40.25	2096
Fawley Phase 4b	As required	4.87			
Fawley Phase 4c	As required	16.25			
Total		40.99			

Table 1: Phasing of SANG delivery and creation of wildlife habitats within the restored mineral workings

3 Drove-ways

The SANGS will be set within and form part of a wider and much larger accessible landscape providing an attractive alternative destination to the Crown Lands of the New Forest. To increase their effectiveness and create a cohesive and extensive accessible New Forest landscape, a network of Drove-ways will be created that link the SANG with existing areas of Access Land and the public rights of way network.

These broad pathways will be approximately 30m in width and designed like traditional drove roads that form links between extensively grazed and publicly accessible heathland and downland landscapes. The Drove-ways will pass through and provide visual access to the newly created landforms, heathland, grassland, scrub and ponds within the restored mineral workings. They will be predominantly grass surfaced and natural in appearance, although often with a central gravel vehicle track. It is felt important that open public access is confined to these drove-ways where they cross potentially ecologically sensitive habitats.

The proposed Drove-ways will extend to an area of 6.1 hectares.

A further planning application will be required to amend existing mineral restoration plans to enable the creation of these Drove-ways.

4 Existing Public Rights of Way

The Cadland Estate and land owned and managed by Fawley Waterside is crossed by a dense network of public rights of way extending to 28 km (17.1 miles). This extensive network of footpaths and bridleways knit together the SANG and other areas of accessible land and link these to the urban areas of the new development and adjacent settlements of Fawley, Calshot and Blackfield. Management and maintenance of this extensive network of public rights of way will continue to be the responsibility of the Cadland Estate and Fawley Waterside.

5 CROW Access Land

A large area of the Cadland Estate is currently open to public access in accordance with the CROW Act (2000). Most of this area is situated on the former mineral workings of Fields Heath, Badminston Common and Toms Down. These have been variously restored to create a complex of grassland, scrub and secondary woodland habitats. Some of the CROW Access Land is also designated as SINC, SSSI and is within the North Solent NNR and contains areas of heathland and populations of heathland nesting birds including Dartford warbler and Nightjar. Future public access to the CROW Access land will require wardening to manage the potentially conflicting objectives of public access and nature conservation. An area of 80 ha of existing CROW Access land will link with the SANGs and areas of Informal Open Space. This includes the 5 ha of CROW Access Land at Ashlett Green that extends to the north of the Exxon Laydown Land and the former common lands of Fields Heath, Toms Down, Badminston Common and Stanswood Common.

The landscape of the Access Land is typically New Forest comprising areas of grazed grassland ‘lawns’, heathlands, scrub and woodland. The transitions to the wetlands of the Bourne Valley add to the New Forest landscape of the area. Extensive livestock grazing is a feature of parts of this area, but plans are to extend this to much of this landscape to restore an landscape scale pastoral landscape.

Visitor survey undertaken during 2017 has shown the relatively light use of the Access Land by the public. Further modelling is required to estimate potential increased levels of use following development.

Natural England have permitted Access Land to be included within SANG calculations using the Bracknell Forest formula for discounting the area of available SANG against current use. This approach has not been taken by Fawley Waterside as it is not felt that public access should take the priority for management of these areas.

5.1.1 Summary of access areas

SANG	40 ha
Drove ways	6 ha
Existing CROW Access Land	80 ha
Total	**126 ha[2]**

Taken as a whole, the combination of SANGS, linking Drove-ways and existing CROW Access Land provide 128 ha (308 acres) of contiguous open access land.

6 Coastal Access

Coastal habitats and the internationally important bird populations they attract can be vulnerable to disturbance from recreation. Birds feeding at low water on mixed sediment and sand shores are particularly vulnerable to disturbance as these areas of intertidal are accessible to people and dogs a low water. By contrast soft mud intertidal areas are inaccessible to most people at low water and waterfowl are generally much less vulnerable to disturbance whilst feeding on this type of intertidal. Saltmarshes attract feeding birds to muddy creek channels and to an extent the vegetated marsh surface, but densities of feeding waterfowl in the saltmarshes of the Solent tend to be lower than on adjacent open intertidal areas. However, at high water saltmarshes can play an important role in providing high water roosts for wading birds and resting areas of wildfowl. Deposits of shingle and shell, known as chernier banks, are particularly important at high water in providing high water wader roosts. Other high water roosts are provided by the wide shingle beaches and artificial structures such as jetties, pontoons and sea walls. These high water roosts are very vulnerable to recreation disturbance, both by walkers and dogs on the shore and from water-borne activities such as kayaks, wind surfers and kite surfers. The coastline fronting the former Fawley power station comprises extensive areas of intertidal mudflat and saltmarsh with well developed chernier banks. The shingle beaches and coastal grasslands on Calshot Spit provide temporary high water roosts although these are heavily disturbed by dog walkers and other recreational activity. The mixed sediment intertidal to the south of Calshot Spit is used by a range of feeding waterfowl at low water but these are also disturbed by current levels of recreational use.

Proposals for the development of Fawley Waterside have incorporated a range of coastal habitats designed to attract feeding, roosting and breeding birds from the adjacent SPA and Ramsar site. These new habitats will provide important functionally linked habitat for the SPA and Ramsar bird populations but will also be vulnerable to disturbance.

To mitigate impacts on coastal habitats and bird populations from increased recreational use of the coast, a coastal access and recreation management and mitigation plan is proposed. This will comprise the following elements.

1 Provision of coastal access paths and a cycle-way with inland loops to create a series of walking and cycling routes of varying length. These will link coastal attractions at Ashlett Creek to the north with the new Fawley Waterside development and Calshot Spit. They have been designed to deter access to the sensitive features of the coast whilst providing maximum access to it.

2 The new development will fund the employment of a warden/ranger team to manage public access and recreational use of the coastal zone. It is the intention that the warden/ranger team would work closely with the County Council, Natural England NNR staff and the Solent Disturbance Mitigation Partnership to manage both terrestrial and waterborne recreational activities.

3 Provision of education and interpretation information on coastal wildlife and birds and engagement of the local community in the conservation of coastal wildlife.

[2] Rounded to nearest hectare

4 Provision of water filled ditches and fencing to protect vulnerable coastal wildlife habitats from disturbance – particularly the saline lagoon and associated coastal grazing marshes on Tom Tiddlers Ground.

This new and improved coastal access will act to mitigate disturbance to the SPA and Ramsar site from increased use of the coastal frontage of Fawley and from residents of the new development visiting other coastal sites in the Solent.

Visitor survey data has been obtained for the use of the coastal path fronting the former Power Station and will be analysed to predict potential increased levels of public access along this shoreline. This will identify the likely increase in walkers using the coast path between Fawley and Calshot and the ability of the new and improved coastal access at Fawley to prevent any net increase in recreation disturbance to the SPA and Ramsar site.

Access to other areas

Land within the quarry that is not included within the proposed SANG will be restored to create sculptured landforms including an amphitheatre, ponds and landscape ridge. Management for nature conservation will take priority in these areas. The plan is to create a variety of wildlife habitats including heathland, grassland, woodland, scrub, parkland, reedbed and open water. This landscape will be visually appealing and visible from numerous vantage points within the SANG and associated network of drove ways and footpaths. Public access will be permitted to these areas under controlled conditions, to maximise management for nature conservation, but might include organised community events and public performances. This landscape will also provide back-up grazing to New Forest livestock and help support commoning in the New Forest.

7 Nature conservation plan

The redevelopment of Fawley Power station offers the opportunity for landscape scale creation, restoration and long term management of extensive areas of important wildlife habitat, extending from Toms Down and Fields Heath in the west to Calshot in the east – a distance of over 2.25 miles and an area of almost 400 hectares (960 acres). It is a landscape of varied topography and wildlife habitat that extends and harmonises with the common grazed landscapes of the New Forest.

Many elements of this landscape are already in place, including areas of former and restored heathland, woodlands, wetlands and coastal marshes. However, these elements of the landscape are fragmented and lack coherence. Former and active mineral workings, forestry plantations, agriculture and post industrial land uses disrupt the landscape continuity.

The heathlands, grasslands, woodlands and coastal marshes in this area were once maintained by the movement of commoners livestock through this landscape. Restoration of an extensively grazed landscape is a key feature of these proposals. The Cadland Estate operates its own herd of cattle and ponies that will be used to graze this landscape as well as support the communing economy of the New Forest. Set within this extensive grazing system there will also be areas of enclosed landscape where hay can be grown and livestock can be moved from the common grazing. In the New Forest, this enclosed land is typically referred to as back-up grazing and is a key feature in maintaining the common grazing of the New Forest. Areas of the Cadland Estate will continue to be used by New Forest commoners and in particular work with the Verderers to provide grazing for the New Forest stallions.

These proposals accord with the New Forest National Park Action Plan for Biodiversity and will provide important functionally linked habitat for the internationally important bird populations of the coast and New Forest.

The current landscape includes many features of high nature conservation value including the nationally important wetlands and associated heathlands of the Bourne Valley within the North Solent SSSI and NNR together with eight areas of County importance, designated as Sites of Importance for Nature Conservation (SINC). The integration of these sites into the wider landscape will provide opportunities for species to spread, for habitats to be restored and provide long-term sustainable management underpinned by extensive livestock grazing.

The creation of this new landscape provides opportunities for significantly enhanced public access. This would utilise and link existing areas of Access Land (established through the CROW Act, 2001), provide new areas of open access land and link these with drove-ways and the existing extensive network of Public Rights of Way (PROW).

The distribution of proposed new, restored and maintained habitats is shown in Figure 9.

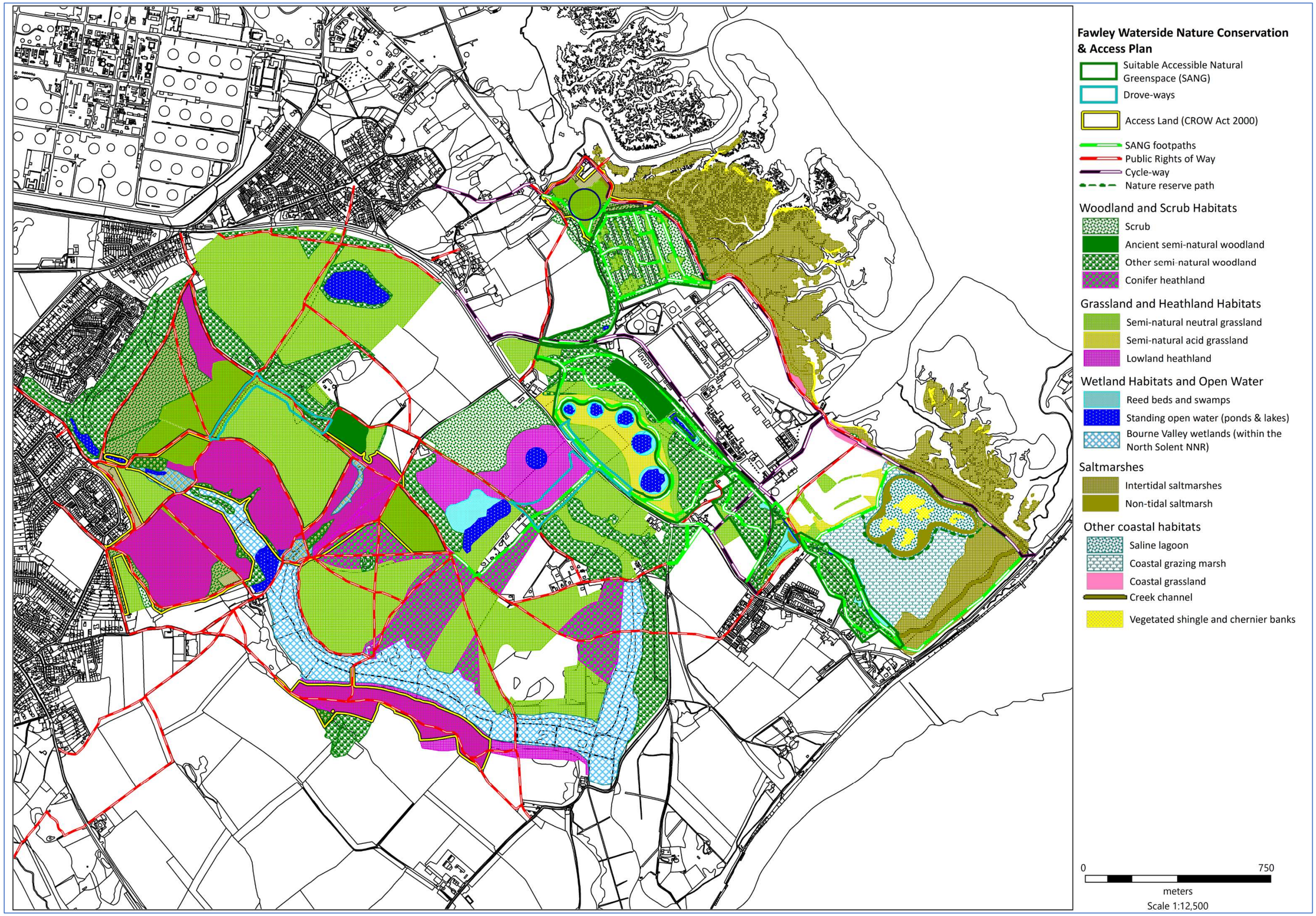

Figure 9: Fawley Waterside and Cadland Estate Nature Conservation and Access Plan

8 Features of the landscape

8.1 Coastal grazing marsh and saltmarsh

Saltmarshes are a priority habitat type and a feature for which the Solent Maritime SAC has been designated. Saltmarsh habitats are composed of a number of different vegetation types ranging from upper saltmarshes to mid and low level saltmarshes. The Solent Maritime SAC has been selected for its representation of three saltmarsh habitat types listed on Annex 1 of the EU Habitats Directive.

The saltmarshes fronting Fawley Power Station have declined in extent over the last few decades and now occupy only about 75% of their former area. Losses have been from the outer edges of the saltmarsh were the Cord grass *Spartina anglica* dominates the vegetation. The upper edges of the saltmarsh are much more species rich and include a number of uncommon plant species. To the north of the Fawley dock, the upper saltmarsh zone is grazed by ponies which maintains this diverse flora. To the south of the dock, the outer seaward edge of Tom Tiddlers Ground is ungrazed and has been colonised by dense and rather species poor Sea couch grass *Elytrigia atherica* saltmarsh. The Sea couch grass saltmarsh is not a feature of the SAC but can be restored to saltmarsh for which the SAC has been designated with the restoration of livestock grazing. A fundamental feature of the nature conservation management proposals is to maintain and restore extensive grazing to the coastal frontage of the proposed new development.

Sea level rise and *Spartina* die-back have resulted in losses of saltmarsh around the Solent, whilst coast defence schemes will result in further losses due to coastal squeeze. There is a significant opportunity to create saltmarsh associated with the development of Fawley Power Station. This would be achieved through the excavation of Tom Tiddlers Ground to restore parts of the former coastline that was lost at the time the Power Station was constructed. This could be linked with the creek and saline ditch that flows along the north side of Calshot spit. The new saltmarsh and coastal salt meadow would extend northwards to form a buffer to the eastern side of Tom Tiddlers Ground and front of the Power Station. This would be grazed with the existing saltmarsh and so extend the species rich upper saltmarsh zone inland. The restored saltmarsh on the eastern side of Tom Tiddlers Ground would be able to respond naturally to sea level rise offsetting saltmarsh losses due to coastal squeeze, sea level rise and *Spartina* die-back seen throughout the Solent.

Coastal grazing marshes were created by the reclamation of saltmarsh to provide agriculturally more productive grasslands. They are by definition an historic landscape feature and with continued sea level rise and the need to set-back the sea defences, they will become ever more threatened. Following the construction of the Power Station, the saline sediments used to infill Tom Tiddlers Ground developed many features of coastal grazing marshes with saline ponds, marshes, reed beds and grasslands. However, lack of management and natural succession has resulted in a significant loss of ecological diversity on Tom Tiddlers Ground as bramble and other scrub has slowly colonised and displaced the more diverse coastal grassland and wetland habitats and salts have been washed from the deposited soils. Restoration of grazing to the remaining areas of Tom Tiddlers Ground will reverse the process of succession and allow a coastal grazing marsh habitat to be restored.

The area of scrub would be reduced to create a more open coastal habitat of attraction to wintering waterfowl from the SPA and a diverse coastal grassland in summer. The reduction in scrub extent will result in the loss of scrub and reed nesting birds from Tom Tiddlers Ground, but management of other scrub habitats in the area, including those at Ashlett Creek, Fields Heath and Badminston Common should provide good alternative habitat. In addition, proposals for the restoration of former mineral workings include the creation of an extensive new area of scrub habitat.

The proposals also include plans for a large saline lagoon with fringing saltmarsh and shingle islands extending over 8 ha and linked with the saltmarsh and coastal grazing marshes habitats on Tom Tiddlers Ground. This would be formed by excavating the infilled saltmarsh back to the old sea wall that once separated the grazing marshes from the intertidal. Saline lagoons are a priority habitat of international importance and a feature of the Solent Maritime SAC. They also provide important habitat for many

breeding and wintering SPA birds including nesting terns, gulls and waders, feeding habitat for wintering and passage migrant birds and a secure high water roost site for many wading birds. The new and restored coastal habitats on Tom Tiddlers Ground will be managed primarily as a nature reserve with public access encouraged and managed where this is compatible with nature conservation objectives.

8.2 Heathland and acid grassland

Lowland heathland is a priority habitat type and a feature for which the New Forest has been designated a Natura 2000 site (SPA and SAC). The New Forest contains a range of different heathland vegetation types and two heathland habitat types listed on Annex 1 of the EU Habitats Directive (European dry heaths, Northern Atlantic wet heath).

The New Forest heathlands provide important habitat for a number of breeding birds including the Dartford warbler, Nightjar and Woodlark for which it has been classified as a SPA in accordance with the EU Birds Directive.

The former Common lands around Fawley and Calshot include Fields Heath, Badminston Common and Toms Down. These occupy the gravel plateau between intervening valleys. Relict areas of heathland remain or have been restored from previous gravel extraction. Other areas have been planted with mostly conifer trees or converted to grassland.

There are opportunities to create and restore further areas of heathland as operations in the currently active mineral workings are completed. In other places, there are opportunities to gradually reduce conifer woodland to re-create heathland.

The current restoration plans for the mineral workings are to be reviewed to provide biodiversity gains and public access.

Acid grassland is an integral component of the heathland landscape. In the New Forest, acid grasslands within the heathlands are referred to as 'lawns' and provide the grassland forage upon which the commoners livestock concentrate their grazing. Acid grassland can be rich in a number of specialist plant species including many lichens that are dependent upon the dry and seasonally parched environment. There are opportunities to restore and re-create areas of acid grassland integrated with the heathland both on previously worked mineral workings and as existing gravel workings are restored. This will offset losses of acid grassland from Tom Tiddlers Ground due to the development.

Neutral grasslands or meadows occur on less freely draining and deeper soils and can form a mosaic with heathland and acid grassland. However, neutral grasslands typically develop on enclosed fields and may be managed as hay meadow or pasture. Fertility and grass production in these grasslands is naturally higher than in acid grasslands. Botanical species diversity can be high in neutral grasslands and includes a number of typical but rapidly declining meadow species.

8.3 Wetlands of the Bourne Valley

The wetlands of the Bourne Valley are within the North Solent National Nature Reserve. They comprise a mix of wetland types including wet woodlands, reed beds, mires and fens with areas of open water and rush pasture. This is an ecologically rich area with many specialist plants and animals. These wetlands also provide another ecological corridor through the landscape linking the coast of Stanswood Bay with Blackfield and Fawley. These corridors are important for migrant birds arriving in spring and departing in autumn. Capturing and ringing birds along these routes has revealed a remarkable diversity of migrant birds using these landscape corridors. Radio tracking of bats has also revealed the importance of the Valley as a habitat for the movement of bats through the landscape as well as providing breeding roosts for some species.

8.4 Woodlands and scrub

Most of the woodland in this area is recent secondary woodland composed of a mix of broadleaved and conifer trees including pedunculate oak, birch, grey willow, Corsican and Scots Pine. The woodland is particularly important in providing ecological links and corridors through the landscape. In addition, heathy

glades and clearings in the conifer woodland provide habitats for nesting Nightjar. Much of the conifer dominated woodland on Spratsdown and Badminston Common has been designated as SINC due to its current and potential value as heathland habitat.

Chambers Copse is a remarkable strip of ancient semi-natural coastal woodland trapped between Fawley Power Station and the adjacent mineral workings. It is an oak and ash woodland with a typical wet woodland flora, but also includes a solitary Wild service tree, an uncommon tree that is a feature of the Solent's coastal ancient woodlands. Chambers Copse has value to woodland bats and links to the north and south with other areas of native, but not ancient, woodland creating an important landscape corridor that runs between the villages of Calshot and Ashlett. This feature is used by bats moving through the landscape and is thought to provide roost sites in which they breed.

There is much opportunity for creating and enhancing more woodland within this area. The woodland corridor that runs from Ashlett to Calshot will be extended with new areas of woodland to strengthen and improve the ecological connectivity as well as create more open areas of parkland and wood pasture on the mineral workings and agricultural fields to the west of the Power Station.

There is also a small patch of ancient woodland on the edge of Fields Heath know as Fishers Croft Copse. This is designated a SINC and like Chambers Copse has a history of coppice management. It is surrounded by stout wood banks constructed to protect the regenerating woodland from browsing livestock and deer. Chambers Copse and Fishers Croft Copse will be maintained free of grazing and managed as ungrazed ancient woodlands.

Scrub is young woodland and provides a vitally important habitat for many species. On heathland, gorse scrub is fundamental to the rare Dartford warbler providing winter food and shelter and summer nesting habitat. Gorse scrub is also used by many other nesting birds such as Yellow-hammer, Linnet and Stonechat. Wet scrub composed mostly of willows develops along the river valleys were it provides important food for migrant birds and habitat for many insects. Areas of dense thorn, hazel and birch scrub provide habitat for other nesting birds and insects. Of particular importance in this area is the population of breeding Nightingales as well as Willow warbler that utilise this mixed scrub habitat.

Nightingale numbers have declined in the UK by over 50% in last 25 year and they are now a Red listed species. In Hampshire, the Nightingale is confined to about five population clusters; Botley Wood and Whitely Pasture, Lower Test Valley, Yately/Fleet, Portsmouth and Hayling Island and the area between Lepe and Calshot. The Lepe to Calshot population is therefore one of the few remaining strongholds for Nightingales in Hampshire, with birds recorded in 2016 and 2017 from Fields Heath and Tom Tiddlers Ground and from Badminston Common and Ashlett Creek in the last couple of years. A survey undertaken in 2018 found Nightingales to be present on Fields Heath and on the Exxon Laydown Land north of the Power Station, but absent from Tom Tiddlers Ground.

All scrub habitats need regular management to maintain their ecological value. If left unmanaged scrub will develop into woodland and will lose its value for the specialist scrub dependant wildlife. In traditionally managed woodland, scrub habitats were once maintained by regular coppicing of the woodland understorey. On heathland, scrub habitat is maintained by winter burning and cutting. In the absence of management, species such as Dartford warbler and Nightingale will decline and eventually disappear from scrub areas.

8.5 Target species

8.5.1 Coastal habitats

The proposed Tom Tiddlers lagoon would be designed to provide nesting habitat for Annex 1 birds, in particular Little tern, Common tern and Mediterranean gull. In addition, islands in the lagoon and the associated grazing marsh will provide undisturbed habitat for wintering wildfowl and waders, in particular Dark-bellied Brent geese, Wigeon, Teal, Redshank, Oystercatcher, Dunlin and Ringed plover. The importance of providing new un-disturbed high water roosts has been identified through both the Solent

Recreation Mitigation Project and the Wader and Brent Goose Strategy in offsetting the effects of disturbance on wintering birds.

Saline lagoons are also important for a number of rare and specialist invertebrates in particular Insensible shrimp *Gammarus insensibilis*, Starlet anemone *Nematostella vectensis* and Lagoon cockle *Cerastoderma glauca*. These are all likely to colonise the lagoon providing salinity and nutrient levels are properly managed.

The coastal edge is also important for a number of uncommon plants, in particular the Marsh sow-thistle *Sonchus palustris*, a nationally scarce species that is a feature of the Fawley coastline. The coastal fringe, Tom Tiddlers and Solent View Valley are also important for a number of other nationally scarce species in particular; Divided sedge *Carex divisa*, a species that is a feature of the upper saltmarshes of the Solent and three coastal species of grass; *Puccinellia fasciculata, Puccinellia rupestris* and *Polypogon monspeliensis*. The coastal grassland is also important for two county scarce species; the diminutive Rue-leaved saxifrage *Saxifraga tridactylites* found in the short grazed coastal grassland to the east of the Power Station and the much taller Great lettuce *Lactuca virosa* in one of its few Hampshire locations.

8.5.2 Heathland and grassland habitats

The heathlands and former gravel workings from Fields Heath to Sprats Down are important for heathland birds listed on Annex 1 of the EU Birds Directive, in particular the migratory Nightjar and resident Dartford warbler. Plans to increase and enhance the extent of these habitats will benefit both these species that are a feature of the New Forest SPA.

Heathland and associated acid grassland are also important for several scarce plants species in particular the nationally scarce Mossy Stonecrop *Crassula tillaea* and county scarce Yellow bartsia *Parentucellia viscosa*.

The heathlands are also important for uncommon insects, for example the heathland specialist Grayling and Silver-studded blue butterflies. Both are Priority Species referred to under Section 41 of the NERC Act (2006).

9 Sea level rise and coast defence compensation

The effects of sea level rise have been assessed by the Environment Agency in the North Solent Shoreline Management Plan (SMP). This has been used to determine the effects of agreed coast defence policy on protected habitats in the Solent. It concludes that sea level rise and consequent coastal squeeze (loss of intertidal area between low water and a static high water mark resulting from a 'hold the line' policy) will result in the loss of the following areas of habitat within the Solent and Southampton Water SPA:-

Saltmarsh	187 ha
Coastal grazing marsh	39 ha
Freshwater habitats	4 ha
Landward feeding/high tide roost sites	1 ha
Seaward feeding/high tide roost sites	3 ha

The SMP policy for the coastline fronting the power station between Ashlett and Calshot is 'Hold the Line'.

The SMP requires the provision of replacement habitat to compensate for losses of intertidal habitat from the Hold the Line policy. The Environment Agency is implementing a number of schemes to create these compensatory habitats through the Regional Habitat Creation Programme (RHCP). They have yet to identify sufficient habitat to fully offset the effects of sea level rise on the SPA.

The proposal for the creation of saltmarsh, coastal grazing marsh and saline lagoon habitat at Fawley would help offset the effects of coastal squeeze on this section of coastline, will ensure the development of the

Fawley site will be resilient to changes in sea level in future and could contribute to the compensatory habitat requirements for the RHCP. The following areas of coastal habitats will be created at Fawley.

	Area to be created	% requirement for coastal squeeze compensation arising from the North Solent SMP
Saltmarsh	15 ha	8%
Coastal grazing marsh	14 ha	36%
Saline lagoon	7 ha	-
Shingle islands	1.1 ha	-

10 An extensively grazed landscape

The extensively grazed landscape of the New Forest has a long history of gradual erosion, but this has been significantly accelerated in the last 50 years with the fencing of the Perambulation and installation of cattle grids. This was recorded by Cox and Reeves in 2000[3] who estimated that some 2,000 hectares of extensively grazed landscape was lost from the Forest during the fencing of the Perambulation in the 1960s. This report is still well regarded and remains a core publication of the New Forest Association (Friends of the New Forest)[4]. It identifies the losses from the commons adjacent to the Crown Lands and those more dispersed commons such as Badminston Common and Fields Heath. This report also records the losses of coastal grazing land from the New Forest from the Beaulieu River estuary east to Calshot and from Calshot north to Hythe. Looking to the future, the report also identifies the potential to restore extensive common grazing of the New Forest including the dispersed commons and coastal grazing between Calshot and Fawely.

The re-development of the Fawley Power Station provides an opportunity to reverse some of these losses and implement many of the recommendations made by Cox and Reeves in 2000. It would enable the restoration of an area of extensively grazed landscape extending from the heathlands of Fields Heath and Spratsdown in the west to Tom Tiddlers Ground and the Calshot Marshes in the east. This extensive area covers almost 400 hectares (960 acres) and represents a major extension and restoration of the grazed landscape of the New Forest. It comprises a variety of existing wildlife habitats some of which are within the North Solent SSSI and NNR, others are designated SINC and large areas have no existing nature conservation designation or are within the active Fawley Quarry. The grazing area is not all habitat creation but allows the stitching together of existing, restored and recreated habitats to form a much larger mosaic or network of wildlife habitats at a landscape scale. The nature conservation value of this landscape will be far greater than the sum or its parts and will collectively provide a much more ecologically robust and resilient area through which species will be able to disperse, migrate and recolonise. Grazing animals would be the architects of such a landscape acting to arrest ecological succession and diversify habitat structure and composition by the combined effects of grazing, trampling, dunging and physical impact on the environment. This extensively grazed landscape would comprise a mix of heathlands, acid and neutral semi-natural grasslands, rush pasture, fen and swamp, scrub, woodland, saltmarsh and coastal grassland. It would be supported by enclosed fields where livestock can be confined when necessary for stock management and where hay can be produced for fodder.

As the grazing area will not be part of the New Forest grazing, administered by the Verderers, it will be possible to control the type of livestock used to graze the area as well as the stocking rate and grazing period. This will allow fine control of grazing and browsing pressure to respond to seasonal changes and successional changes in the vegetation.

11 Habitat areas

The nature conservation plan will combine restoration and management of existing wildlife habitats with the creation of new habitats. Some of the existing habitats are included within designated wildlife sites, either SINC, SSSI or NNR, others have no formal nature conservation designation. The following table identifies the relative areas of habitats to be maintained, restored and created. The habitats listed are broad in description and there will be scope to alter the relative areas of some of these, for example, the relative mix of acid grassland, heathland and scrub. There is also likely to be significant variation within individual habitat types, for example, the heathland may range from dry heath to humid and wet heath depending upon soil types.

The plan is to restore and recreate an extensive area of agriculturally unimproved grassland. This will vary in type from dry acid grassland through neutral grassland to wet rush pasture. The relative area of each of

[3] Cox, J & Reeves, R. (2000). A Review of the Loss of Commonable Grazing Land in the New Forest. A report to the Commoners Defence Association, New Forest Association and Hampshire and Isle of Wight Wildlife Trust.

[4] http://newforestassociation.org/wp-content/uploads/2016/10/NF_Grass_Final_Report.pdf

these grassland types will be dependent upon soil types which will in turn depend on management, drainage and relative proportions of underlying clay, sand and gravel.

The area of reedbed is also difficult to determine and will be dependent upon water level management and levels of grazing. This will be particularly the case on Tom Tiddlers Ground where the extent of reedbed and reed fen currently has considerable variation ranging from short open reed grassland to dense tall reed swamp. These differences reflect ground and water levels and extent of seasonal flooding. In future, water levels, cutting and grazing pressure will be adjusted to manage the extent and composition of reed bed, fen and wet grassland within the coastal grazing marsh habitat. The areas of calculated reed bed are therefore minimum areas in ungrazed wetlands and swamps where grazing livestock will be excluded.

	Created	Maintained and restored	North Solent SSSI/NNR	SINC	Total
Acid and neutral grassland	30.52	54.38	0	26.88	111.78
Heathland	20.92	0	37.61	24.39	82.92
Conifer heathland	0	0	0	28.28	28.28
Broadleaved woodland	22.18	28.52	0	11.93	62.63
Scrub	6.05	22.11	0	2.16	30.32
Reedbed and swamp	3.15	0	0	1.32	4.47
Coastal grazing marsh	12.58	0	0	12.58	12.58
Saline lagoon	5.9	0	0	5.9	5.9
Vegetated shingle[5]	1.14	0	0	1.14	1.14
Saltmarsh[6]	0	15.03	0	15.03	15.03
Open water	1.47	4.98	1.27	0	7.72
Wetlands within the NNR[7]	0	0	35.13	0	35.13
Total habitats	**103**	**126**	**74**	**130**	**398**
Grazed Habitat					**377**

Table 1: Areas of habitats within the nature conservation management plan including areas within the North Solent SSSI/NNR and eight designated SINC (Tom Tiddlers Ground, Solent View Valley, Spratsdown Plantation, Badminston Common and Plantation, Tom Down and Fields Heath North West, Fishers Croft Copse and Chambers Copse). Also included is the area of habitat within the extensively grazed New Forest landscape and areas of habitat to be created, either from within Fawley Quarry or as a result of habitat changes in Tom Tiddlers Ground. Total areas are rounded to the nearest hectare. A conversion to acres is provided in Appendix 1.

11.1.1 Habitat lost to development

The total area of almost 400 hectares (988 acres) of wildlife habitat to be created, restored and managed will offset habitat losses due to the development of Fawley, in particular the loss of some 8.74 ha of habitat due to the encroachment of development onto Tom Tiddlers Ground SINC. The habitat areas lost by the development are listed in Table 2.

Vegetation Type	Current Area	Area lost	Area of SINC habitat remaining	% of SINC Loss
Acid grassland	3.5	3.266	0.234	93.30%
Neutral grassland	1.3	0.456	0.844	35.08%
Scrub woodland	12.65	2.062	10.588	16.30%
Bramble	8.6	0.627	7.973	7.29%
Reedbed	15.63	2.282	13.348	14.60%
Saltmarsh	2.58	0.042	2.538	1.63%
Salt swamp	0.44	0.005	0.435	1.14%
Total	**44.94**	**8.74**	**36.20**	**19.45%**

Table 2: Habitat areas (ha) lost to development within Tom Tiddlers Ground SINC

11.1.2 Existing habitat management

As mentioned, the extensive grazing area incorporates significant areas that are currently being maintained, restored or created for nature conservation by the Cadland Estate. Some of these have been managed with funding from Natural England through the Higher Level Stewardship Scheme. However, this scheme is due to expire and future funding is not yet secure. It is important that these areas are taken into account in the audit of nature conservation benefits arising from the proposed development. Table 3 lists

[5] Created from existing habitat within Tom Tiddlers SINC
[6] Restored from rank couch grass saltmarsh or created from other habitat within Tom Tiddlers SINC
[7] Includes a complex of fen, swamp, wet grassland, scrub and wet woodland

areas of habitat that have been managed within the Higher Level Stewardship Scheme that are within the proposed extensive grazing area. This includes land within the North Solent NNR and associated SINC.

HLS Code	HLS Option	Area (Ha)
HO1	Heathland maintenance	58.53
HO2	Heathland restoration	1.02
HO3	Restore forestry to heathland	4.58
HO4	Heathland creation	14.36
HC16	Scrub restoration	11.59
HK6	Grassland maintenance	6.53
HK7	Grassland restoration	9.39
HC7	Woodland maintenance	5.72
Total area		**111.73**

Table 3: Habitat areas in landscape grazing area within Cadland Estate Higher Level Stewardship Scheme

11.1.3 Habitats created within Fawley Quarry

The currently consented quarry restoration scheme proposes returning a significant area of the quarry (26 ha) to agricultural land together with areas of nature conservation habitats in the form of lakes and ponds, wetland, acid grassland and woodland. The currently consented areas of habitat within the quarry is compared with those now being proposed in Table 4. It includes a significant increase in the area of typical New Forest habitats such as acid grassland, heathland, woodland and scrub and a reduction in the areas of open water and wetland habitat.

	Area in current restoration scheme	Proposed habitat in revised restoration scheme
Agriculture	26.15	None
Acid Grass	10.60	19.84
Heathland	None	12.23
Lakes & Ponds	6.93	3.08
Wetland	6.83	2.82
Woodland	3.06	9.47
Scrub	None	5.84
Grand Total	**53.57**	**53.28**

Table 4: Habitat areas in the current and proposed quarry restoration scheme