NON TECHNICAL SUMMARY
### Table of Contents

1. INTRODUCTION P.1
2. BACKGROUND P.2
3. THE DEVELOPMENT SITE P.3
4. THE DEVELOPMENT PROPOSAL AND THE PLANNING APPLICATION P.6
5. DEVELOPMENT CONSTRUCTION P.15
6. DEVELOPMENT OPERATION P.16
7. ENVIRONMENTAL IMPACT ASSESSMENT P.17
8. CONCLUSION P.27
1. INTRODUCTION

1.1 This document provides a non-technical summary of the Velindre Cancer Centre Environmental Statement. The summary briefly describes the proposed development site and proposed scheme, and then summarises the environmental assessments that are included in the Environmental Statement.

*Figure 1: Scheme visual.*
2. BACKGROUND

2.1 The provision of a new replacement cancer centre in South Wales is the central focus of the Welsh Government and NHS Wales strategy for Transforming Cancer Services, to help to address the predicted on-going increase in demand for cancer treatment over the next few decades. This context, and the relevant references, are set out in more detail in the Planning Statement which accompanies the planning application.

*Figure 2: Internal scheme visual.*
3. THE DEVELOPMENT SITE

3.1 The site is situated in the area of north Cardiff approximately 900 metres north-west of the centre of Whitchurch Village and 6 kilometres north of Cardiff City Centre. Coryton Interchange, which connects the M4, A470 and local highway network, is located approximately 400 metres north of the site. Prominent buildings and uses that are located adjacent to the site include Whitchurch Hospital to the south-east, the Hollybush Estate (residential), Coryton Primary School and Coryton Railway Station terminus to the north-east, Asda supermarket and Coryton House / Tŷ Coryton specialist school and residential home to the north and GE Healthcare (industrial) to the north-west.

Figure 3: Site location.

3.2 The site area is 14.5 hectares in total. This comprises 7.8 hectares of undeveloped land that will accommodate the new cancer centre plus land that would accommodate two permanent access routes and two temporary construction delivery routes. The main site area is undeveloped land in private ownership that was formerly grazed. The site is no longer grazed by horses, but is crossed by informal and formal footpaths. Part of the application site is covered by an extant planning permission for residential development.
3.3 The proposed access routes include land in the vicinity of the Asda supermarket, the Hollybush Estate, the local highway network and a former railway cutting, that is immediately adjacent to the main site area’s north-east boundary. The proposed temporary construction access routes include land in the Whitchurch Hospital site, the disused railway cutting and the green triangular field located between the former railway cutting and Park Road (A4054). The site is not currently accessible by vehicle from the highway network. Pendwyallt Road and Park Road located north-east and south-east of the site are the closest public roads to the site, and connect Whitchurch Village to the Coryton Interchange.

3.4 The main site is designated as the Whitchurch Green Fields Site of Importance for Nature Conservation. It was designated for its neutral grassland. The application site also includes part of the Glamorgan Canal Local Nature Reserve which surrounds the main site area in all directions, apart from to the south-east boundary adjacent to Whitchurch Hospital playing fields. The Glamorgan Canal / Long Wood Site of Special Scientific Interest is located to the south-west and north-west of the site. This was designated for its broad-leaf woodland. Heritage designations in the area include the Whitchurch Hospital Park and Garden (located to the south east) and Coryton House Historic Park and Garden (located to the north-east), which are both grade II listed in the Register of Landscape Parks and Gardens of Special Historic Interest in Wales. Figures that illustrate the site location and key features are referenced below.

*Figure 4: Ecology designations.*
Figure 5: Cultural heritage designations.
4. THE DEVELOPMENT PROPOSAL AND THE PLANNING APPLICATION

4.1 The proposed development consists of the new Velindre Cancer Centre and associated infrastructure that includes two permanent vehicle access routes, internal site road, a new pedestrian access from Park Road / Pendwyallt Road and Coryton Railway Station, vehicle parking areas, internal pedestrian routes, drainage infrastructure, energy centre, utilities and services, public realm and landscape treatments. The location for a Maggie's Centre is also included in the outline planning application. The site layout and further description on each of these components is provided below.

*Figure 6: Illustrative masterplan.*
The proposal is submitted for outline planning permission with all matters of detail reserved for future determination (access, appearance, landscape, layout, and scale). The submission includes illustrative site layout and landscape plans, parameters plans showing maximum development limits, and access proposals. The proposal is subject to Environmental Impact Assessment, the scope of which was agreed with Cardiff Council, plus a range of accompanying reports, which are not part of the Environmental Statement. The scope of the EIA is set out later below.

*Figure 7: Parameters plan.*
4.3 **Velindre Cancer Centre**

4.3.1 The new Velindre Cancer Centre will comprise a maximum 40,000 sq.m of gross internal floor area for Cancer health services (planning use classes: C2 Residential Institutions, and D1 Non-residential institutions). No surgical treatment would be undertaken at the centre, but the following critical services will be provided: radiotherapy; chemotherapy; pharmacy; inpatient beds; outpatients services; support services; and imaging. The new Centre would be designed with the needs of the patient at its core, reinforcing the reputation of the current Velindre Centre as a facility of excellence for cancer treatment.

4.3.2 A Centre for Learning, Research and Development forms an integral part of the proposal. The new Centre will aim to make Velindre an international focal point for research and development with an emphasis on expanding clinical trials and improving the translational research links between 'bench' and 'bed'. A key design feature of the Centre would be the provision of a patient hub at the core of the new Centre. The patient hub would be the main destination for patients and visitors to the centre, providing facilities that would enable patients to orientate themselves, register for appointments, wait for treatments and consultations and access key amenity facilities (including multi-faith facilities a cafe and restaurant).

The minimum and maximum parameters of the cancer centre are identified in the table below.

| Table 1: Minimum and maximum building parameters of the Velindre Cancer Centre. |
|---------------------------------|-----------------|-----------------|
| Height                         | Width           | Length          |
| 9m-19m                         | 100m-149m       | 180m-219m       |

4.4 **Energy Centre**

4.4.1 An Energy Centre would be provided on the site to provide a base load to the new Cancer Centre. The Energy Centre would be located away from the main Centre so that the height of its flue is minimised. The Energy Centre would consist of gas fired (CHP) boilers, that would also have the potential to run on oil. Diesel generators would also be provided in the Energy Centre for emergency use only. The total output from the Energy Centre would be 2MWp. The minimum and maximum parameters of the Energy Centre are identified in the table below.

| Table 2: Minimum and maximum building parameters of the Energy Centre. |
|-----------------|-----------------|-----------------|
| Height          | Width           | Length          |
| Main Building   | 5m-10m          | 12m-18m         | 15m-23m         |
| Flue            | 19m-23m         |                 |                 |
Figure 8: Internal scheme visual.
4.5 Maggie’s Centre

4.5.1 The Maggie’s Centre would offer free practical, emotional and social support to people with cancer and to their families and friends. The onsite centre would seek to replicate the success of Maggie’s South West Wales, which is based at Singleton Hospital in Swansea. The Maggie’s Centre would be located in the north-west corner of the site and would respond to the surrounding landscape context sympathetically in terms of scale, form and materials used. The minimum and maximum parameters of the Maggie’s Centre are identified in the table below.

<table>
<thead>
<tr>
<th>Height</th>
<th>Width</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>5m-10m</td>
<td>14m-22m</td>
<td>14m-22m</td>
</tr>
</tbody>
</table>

4.6 Access Routes

Vehicles

4.6.1 The main site access road is proposed to be provided from the north of the site via the existing roundabout on Longwood Drive. To facilitate the development it is proposed to upgrade the roundabout, in particular the existing arm that serves Asda, and the access road into Asda. The new access road would spur from the upgraded Asda access to cross the former railway cutting (including the surrounding woodland) via a three-span bridge and then enter the main site at its northern end. The access would provide for two-way vehicle movement and would also include a shared pedestrian and cycle lane. This would interface with pedestrian crossings that would be strategically located to provide access to Asda, the wider pedestrian and cyclist network in the local area. The maximum width of the access road, including the footpath and cycleway, would be 11.3m across the main site, with a total width of 11.6m (including parapets) at the main access bridge.

4.6.2 The proposed decked parking area would be directly accessed from this highway. The detailed design of the route will respond to the existing site levels and be subject to appropriate landscape treatment to help to assimilate it into the surrounding landscape. As the access road approaches the Velindre Cancer Centre it would split, with one arm into a drop off and turning area, and the other skirting around the north of the new Cancer Centre to provide access to its undercroft parking and service yard, and connecting to the emergency access.

4.6.3 The emergency access is proposed to be located on the site’s north-eastern boundary, and be accessed via the existing Hollybush Estate highway system. It would enter the site by crossing the former railway cutting (including the surrounding woodland) via a bridge. The carriageway would be 5.5m wide. As it
enters the site, the access would join with the main site access road as described above. The access would be closed to vehicles except for a very rare event of a major emergency and would therefore be gated to prevent uncontrolled use by vehicles and pedestrians. The structure and width would, however, allow it to be used as a bus exit if this became necessary in the future.

Figure 9: Vehicle access routes.

Pedestrian Routes

4.6.4 A public footpath follows the south-east boundary of the main site area from the main highway (A4054) to connect with the public path which follows outside the south-western boundary of the main site. This route formally remains as adopted highway and currently provides access to the main site area at the meeting of the north-east boundary and south-east boundary. It is proposed to use this route as a pedestrian and cycle access to the site. It is proposed to upgrade the route in terms of surfacing and lighting to enable safe use. Where the route enters the site it would connect to the proposed main site access and the pedestrian routes that interface with it. A new pedestrian route would also be created between the site and Coryton Railway Station. The route would be provided from the station to the site via the railway cutting and would connect to the existing adopted highway to enter the site as described above. The new pedestrian accesses are illustrated below.
4.6.5 Internal pedestrian routes will be provided within the site to connect the development components. The routes would also interface with the footpath network surrounding the site to ensure that walkers are able to pass through the site as they currently do. Routes connecting the key main development components would be designed to professional standards, while the routes connecting to pedestrian routes surrounding the site would be more natural in appearance to reflect the existing character of the routes.

4.7 Proposed Parking

4.7.1 A total of 879 parking spaces are required by the development to accommodate staff and patients. 500 of these spaces would be provided as undercroft and underground parking, and 367 spaces would be accommodated on the decked car park that would be accessible from the main site access. The remaining 12 would be surface parking spaces located adjacent to the Maggie’s Centre. The maximum parameters of the decked parking area are identified below.

<table>
<thead>
<tr>
<th>Height</th>
<th>Width</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>4m-5m</td>
<td>40m-50m</td>
<td>70m-80m</td>
</tr>
</tbody>
</table>

Table 4: Minimum and maximum building parameters of the decked car park.

4.8 Proposed Drainage Strategy

4.8.1 The surface water drainage strategy for the main site area would rely on a discharge to a Dŵr Cymru Welsh Water (DCWW) surface water sewer, which is located on the site’s south-eastern boundary. Flows into this sewer would be controlled to run off rates that have been agreed with DCWW. This arrangement has been confirmed with DCWW, but applies to surface water run off only and excludes land drainage. This prevents open and ground level SuDS features such as swales, ponds and detention basins from being used, as land drainage could otherwise enter the surface water sewer via these features. It is therefore necessary for the surface water sewer to consist of road gullies with carrier drains that connect to a closed buried cellular attenuation system with a vortex flow control to limit the flows. Elements of green infrastructure would still, however, be included in the drainage system. Measures would include green roofs; retention planters; and, tree pits. Due to the site topography a separate surface water drainage strategy is required for the main site access. As with the main development area the strategy would rely on discharge to a surface water sewer located in the former railway cutting.

4.8.2 The development’s foul water would drain to a combined DCWW sewer, which is located under the footpath leading from the site down to the Glamorganshire Canal. This arrangement has been confirmed with DCWW. Due to the steep nature of the pathway it is likely that the site would be able to drain by
gravity and a pumping station would not be required. However, if required the pumping station would not be large and could be buried to reduce visual impact.

4.9 **Proposed Landscape Strategy**

4.9.1 The purpose of the landscape strategy is to retain as much of the site’s landscape and ecological character as possible and to also provide the Velindre Cancer Centre and its patients with a high quality and tranquil environment. A 15m-landscape buffer zone would be incorporated along the south-west boundary adjacent to the Site of Special Scientific Interest. The landscape design will be ecology-led and seek to retain and restore as much of the existing grassland habitat (where possible) that characterises the site (the basis for the site being designated as a Site of Importance for Nature Conservation) and to provide wildflower planting to enhance biodiversity of the landscaped areas. Areas of grassland would be incorporated into the surrounds of the building, the parking areas and pedestrian footpaths, and be used to screen embankments used for the access road and parking areas. Appropriate tree planting will be applied alongside the grassland to create outdoor ‘pocket’ spaces that patients can use and further screen essential infrastructure. On the edges of the site, the emphasis would be placed on the better management of the scrub that frames the site. Where trees need to be removed to facilitate the access road, appropriate replacement tree planting would be undertaken to prevent gaps in the tree canopy exceeding 10m and maintain bat flight continuity. The landscape strategy also proposes continued and/or enhanced public access to open spaces around the site area.

4.9.2 Some invasive species are located on the edge of the site and in the surrounding area. As part of the development it is proposed to treat and remove this. It is also proposed to treat and remove, the invasive species located in the adjacent Site of Special Scientific Interest.
Figure 10: Development landscape strategy.
5. DEVELOPMENT CONSTRUCTION

5.1 A construction programme has not yet been defined for the development. However, it is assumed that the construction will be phased so that the vehicular access routes will be undertaken first for completion in 2019, and the remaining development would be delivered by 2022 when the new Velindre Cancer Centre would open. The exact number of construction vehicles is not known at this stage. However, based on similar developments it is considered that an annual average daily figure of 100 HGV deliveries is likely (200 two way movements), with some days where this number is exceeded. Based on a typical 10-hour working day this would equate to 20 HGVs an hour. Delivery of construction material to the site will be routed via the A470 and M4 Junction 32, not via Park Lane / Pendywallt Road. This would minimise potential impact on the surrounding road network. The numbers of construction personnel are aso not yet known, but it is anticipated that, as a maximum, there would be no more than 500 construction personnel on site at any time. It is also anticipated that the contractor would provide transport into the site for construction workers to minimise vehicle numbers and that deliveries would be scheduled to reduce peak flows and the maximum number of vehicle movements where possible.

5.2 Construction vehicles for the main project will access the site via the new main site access. However, in order to build the bridge element of this access, and also the bridge element of the secondary access, temporary construction access routes are required. In total, two temporary construction routes are proposed. The first is proposed to be via the existing Whitchurch Hospital site from the existing highway infrastructure. The second is proposed from Park Road via the green triangular piece of land and former railway cutting. These routes will be in place for approximately 6-9 months, and the volume of vehicles utilising them will be minimal as plant will remain in the construction area once delivered, and delivery movements to the site will be low (initially between 10-20 deliveries per day and then 2-3 deliveries per day). The works to facilitate these routes will be minimal, and where vegetation clearance is required it will be reinstated.

5.3 Typical construction hours on the site would be 08:00-18:00 Monday to Friday and 08:00-13:00 on Saturday, although night working would be required to build the bridge deck of the main site access. Extensions beyond these hours for specific activities would be agreed with Cardiff City Council and adjacent consultees would need to be notified. During the pre-enabling phase, works would be minimised during Asda's peak periods to reduce disruption.
6. DEVELOPMENT OPERATION

6.1 When the new centre opens in 2022 it is forecast that 698 patients will visit the Centre on a daily basis, and by 2032 this is expected to rise to 801 patients a day. The main hours of operation will be Monday to Friday, 07:30-17:00, however parts of the centre will remain open 24-hours a day since there will be a small number of inpatients accommodated over-night. There will be limited treatment taking place during weekends, but areas of the centre will remain active, for instance the inpatients area. The existing Velindre Cancer Centre has almost 900 staff working on site. To cater for future increases in patient numbers and health requirements this number is forecast to increase by around 10% by 2022 and a further 5% by 2032. Given the bespoke health use of the development it is anticipated that 95% of these numbers would access the site by private vehicle.
ENVIRONMENTAL IMPACT ASSESSMENT

Scope of the Environmental Statement

The Scope of the Environmental Statement was agreed with the City of Cardiff Council in November 2016. It was agreed that the Environmental Statement would consist of the following assessments:

- Assessment of Alternatives considered
- Ecology Assessment
- Transportation Assessment
- Air Quality Assessment
- Noise Assessment
- Landscape and Visual Impact Assessment
- Culture and Heritage Assessment
- Cumulative Impacts

A non-technical summary of the assessments undertaken in the Environmental Statement is provided below.

Assessment of Alternatives

The process of assessing alternatives was undertaken by Velindre National Health Service Trust using the Five Case Model as advocated by Central Government. The priority was for the use of land within the NHS estate, which was centrally located and strategically accessible. The alternative potential locations of Heath Hospital and University Hospital Llandough were discounted due to lack of space, plus operational and service disruption impact, and delivery risk. The preferred location was in the vicinity of the existing facility. Having assessed the potential fit of the project on two sites in the vicinity of the existing cancer centre, it was found that land to the north of Whitchurch Playing Fields, was found to be the preferred site. This was on the basis of both the spatial requirements for the project (including external space) and the potential overall environmental impacts.

A number of alternative means of access into the site were considered, and on balance it was considered that a route from the north would be optimal for operation of the facility, and to minimise transportation impact on the local network (with consequent positive impact on human health, noise and air quality). A number of alternative options for the access into the site from the Longwood Drive area were considered and evaluated. The route of lowest environmental impact was taken forward as the preferred route, via
the existing supermarket highway access from Coryton interchange. This then forms the parameters of the outline scheme, which has been assessed in the EIA.

7.3 Ecology Assessment

7.3.1 The Ecology Assessment identifies the ecological value of the development site and identifies the likely effect of the development on it and adjacent ecological designations. The Assessment is informed by a series of technical reports that are provided as appendices to the Assessment. The technical reports include an initial ecological appraisal that was undertaken to identify the broad ecological character of the site, and a series of reports that describe the findings of detailed surveys. The reports cover bats; dormice; breeding birds; reptiles; vegetation; invasive species; and, trees.

7.3.2 The Assessment identifies that the site comprises grassland fields, scrub and woodland areas. The Assessment notes that plant species within the grassland area include cocksfoot and Yorkshire fog, with creeping thistle, bramble, creeping bent, buttercup, hogweed, ragwort, ribwort plantain, sweet vernal grass, crested dogstail red clover, black medick and English oaks. The scrub area is mostly bracken; and, the woodland consists of cherry laurel, horse chestnut, sycamore, hazel, ash, holly, willow and bramble. Himalayan balsam is identified as being located in the north of the site and beyond its boundaries. As previously noted, the assessment identifies that the main site area is designated as a Site of Importance for Nature Conservation (SINC) (designated for its grassland) and the area where the main access is required to be provided is designated as a Local Nature Reserve (LNR) (designated for the broad-leaved woodland). The Assessment also identifies that the site is located adjacent to the Glamorgan Canal and Long Wood Site of Special Scientific Interest (SSSI).

7.3.3 With respect to individual species, the assessment identifies the following key findings: a medium number of foraging and commuting common bats and soprano pipistrelles during the bat active season and occasional foraging use by noctule, serotine, and myotis species; no recorded presence of dormice; 138 confirmed, probable, or possible breeding bird territories and 41 bird species (10 of which were confirmed as breeding; 16 considered to be probably breeding; and, 3 considered to be possibly breeding); and a good population of grass snake and a low population of adder.

7.3.4 The assessment identifies that, without mitigation, the development could result in considerable adverse impacts on the site ecology and the surrounding designations. To minimise potential impacts the assessment recommends mitigation. This includes incorporating a landscape and ecology buffer between the development site and the Site of Special Scientific Interest; providing suitable vegetation of native and locally appropriate species (that mimic the existing mosaic of habitats), together with enhancement planting to encourage insects, providing a food source for local bird and bat species;
providing compensatory habitat for local bird species; avoiding nesting birds; restricting lighting levels to low luminance and avoid lighting in areas used by bats for commuting; incorporating bat boxes into the development; relocating reptiles to suitable on and offsite areas; and, undertaking long-term management of the site habitat to maximise value for wildlife generally. Following the application of such measures, the assessment identifies that the development would have a number of impacts on the site ecology and adjacent designations as set out below.

7.3.5 The terms used in the assessment of impacts are:

- Medium impact - A permanent or long-term reversible impact on a site or species group;
- Low impact - A short term and reversible impact on a site or species group;
- Negligible impact - No impact or impact that is beneath perception;
- County level - Sites recognised by local authorities and viable areas of habitat, and species that are regionally important but not threatened or rare
- Local level - Habitats and species that enrich the local area;
- Site level - Habitats of low value or common species:

7.3.6 The residual impacts are found to be:

- SSSI - Low impact at a local level during construction and low impact at a site level during operation;
- LNR - Medium impact at a county level during construction and low impact at a county level during operation;
- SINC - High impact at a county level during construction and high impact at a local level during operation;
- Lowland meadow - Medium impact at a county level during construction and medium impact at a local level during operation
- Semi-natural woodland - Medium impact at a site level during construction and operation;
- Scrub - Negligible impact during construction and operation;
- Birds - Low impact at a site level during construction and low impact at a local level during operation;
- Bats - Low impact at a local level during construction and low impact at a site level during operation; and
- Reptiles - Medium impact at a local level during construction and site level during the operation.
7.4 Transportation Assessment

7.4.1 The Transportation Assessment identifies the likely traffic impact of the proposed development on the highway network during the construction and operation of the development. On the basis that vehicular access to the site would be from the north, via Longwood Drive and Asda, the assessment focuses on identifying the impact on the existing Longwood Drive roundabout that provides access to Asda, and the Longwood Drive / Coryton Gyratory three arm signalised junction. The assessment does not consider the transport impact of the development on local roads like Park Road and Pendwyallt Road, since the relocation of the Velindre Cancer Centre would result in localised re-routing, as traffic associated with the Centre that is travelling from the A470 North, M4 West and M4 East will no longer use Park Road, Pendwyallt Road or Velindre Road to access the site.

7.4.2 The Assessment identifies that, when the development opens in 2022, the existing Longwood Drive Roundabout would operate well within capacity, but would be above capacity with the development in place by 2032 without mitigation. To resolve potential congestion issues, the assessment recommends that the junction be re-designed to increase its capacity. Subject to the implementation of this, the assessment identifies that the junction would operate well within accepted capacity in 2022 and 2032. For the Longwood Drive / Coryton Gyratory signalised junction, the assessment identifies that congestion would occur on the network with, or without, the development by the design year 2032 during peak periods. No mitigation specific to the development is therefore proposed, as the responsible Highway Authority would undertake the upgrades deemed necessary. The assessment’s findings have been shared with Welsh Government Highways and accords with previous modelling work undertaken for Welsh Government in 2013.

7.4.3 The assessment states that, in respect of construction vehicles, given the scale of development proposed, there would be approximately 100 deliveries to the site per day (a combination of light and heavy goods vehicles) and less than 200 workers on the site during the majority of the construction programme. The exception to the latter would be during the fit-out of the Centre, when up to 500 workers would be on site. The junction upgrades to the Longwood Drive roundabout are proposed to be undertaken at the outset of the construction programme.

7.4.4 To further reduce the impact of construction vehicles, the assessment recommends that a Construction Traffic Management Plan should be prepared prior to the commencement of development. The Plan would identify lift-sharing initiatives for construction workers and identify specific routes and delivery times for large vehicles. The assessment does not assess the impact of the construction vehicles that would be required to access the site from the south, since the number of vehicles using these routes would be minimal (initially between 10-20 deliveries per day and then 2-3 deliveries per day) and large vehicles that
would utilise the access routes at the start and end of the bridge works would do so in accord with a traffic management scheme.

7.4.5 Overall, the Transport Assessment concludes that, subject to the implementation of the proposed mitigation, the impact of traffic accessing the proposed development during operation and construction will have negligible impact on the local road network.

7.4.6 The Assessment also undertakes an analysis of sustainable traffic infrastructure within the local area, and notes that subject to the implementation of the proposed pedestrian and cycling connection, the proposed development would be accessible by sustainable transport modes. The Assessment also sets out additional sustainable transport initiatives that would be implemented on the site through the operation of the Velindre Cancer Centre Travel Plan, which would be updated for the new development to encourage staff to travel to the site by sustainable transport modes.

7.5 Air Quality Assessment

7.5.1 The Air Quality Assessment identifies the likely air quality impact of the development during its construction and operation on nearby receptors including dwellings, schools and on the Glamorgan Canal / Long Wood SSSI (which was requested by Natural Resources Wales). The Assessment considers the potential air quality impact of the development on 55 receptors that are located adjacent to or nearby. These receptors include residences; schools; ecological designations; the Whitchurch Hospital; the local highway network; and the development site itself.

7.5.2 The assessment considers the air quality impact of the following activities associated with the development: construction; the change in traffic flows on the local road network as a result of the operation of the development; and the operation of the development’s proposed energy centre.

7.5.3 The assessment of the energy centre considers two scenarios. Scenario One is the anticipated normal operation of the energy centre, and is based on a 600kWe gas fired combined heat and power plant and two 2MW thermal input gas fired boilers. Scenario Two is an emergency situation that could be enacted if the technology identified in Scenario One temporarily fails. The technology considered in Scenario Two is a 2MW thermal input builder fired by oil and two 1125kVA short-term back up diesel generators fired by oil. Finally, the development considers the suitability of air quality levels on the site for future patients and staff.

7.5.4 The Assessment identifies that, if no mitigation was put in place during the construction phase, there would be a high risk of dust soiling during earthworks, a medium risk of dust soiling during the construction of the site buildings and infrastructure and medium risk from construction vehicles leaving
The assessment identifies that dust from these activities would pose a low risk to human health, as a result of the distance between the development site and human receptors (residences and schools), and a medium risk to ecology adjacent to the site. To address these risks the assessment recommends that the development be constructed in line with a management plan that sets out safeguarding measures to reduce the generation and spread of dust during construction activities. The assessment identifies that the effect of dust would not then be significant. The Assessment identifies that the increase in vehicle numbers associated with the development would have a negligible impact on local air quality levels, and no further mitigation is necessary. The Assessment also identifies that the operation of the energy centre (in both scenarios) would have a negligible impact on both human receptors and ecological receptors (including the Glamorgan Canal / Long Wood SSSI). No mitigation is therefore recommended.

The air quality assessment concludes that the air quality impact of the development on existing human and ecological receptors would be not significant, and that the air levels at the site would be well below local air quality objectives and therefore suitable for future users.

7.6 Noise Assessment

7.6.1 The Noise Assessment identifies the likely noise impact of the development on nearby human receptors. To do this the assessment identifies the existing noise levels at a series of noise sensitive receptors that are located adjacent to the development site. Receptors include the Hollybush Estate and Clos Coed Hir. The noise levels at these locations were identified through a combination of long-term and short-term noise surveys.

7.6.2 The construction assessment considers noise and vibration from the planned construction activities across the whole development area, since construction plant would be mobile. It is identified that construction noise would have the potential to result in significant effects on human receptors if works were being undertaken without mitigation at the site boundary closest to each of the receptors.

7.6.3 It recommends therefore that construction be undertaken in accord with a Construction Noise Management Plan, that would be part of a Construction Environment Management Plan, and which would identify a series of measures to reduce the environmental effects during the construction period and cover environmental and safety aspects affecting the interests of residents and the general public. Measures would include restricting working hours to day-time hours (08:00-18:00 Monday to Friday and 08:00-13:00 on Saturday), and utilising temporary noise barriers. Subject to the implementation of such measures, the assessment identifies that construction noise effects would not be significant. In respect of vibration from construction, the Assessment identifies that because of the distance between the proposed works and the receptors the vibration levels would not result in significant vibration levels at nearby human receptors. No mitigation would therefore be required, however, the Assessment does recommend that risk
assessments are undertaken prior to commencing construction activities that would result in significant vibration levels at source (like piling).

7.6.4 The operational assessment considers noise from permanent fixed plant (associated with the everyday operation of the hospital, such as boilers and air conditioning units) plus the change in traffic flows on surrounding roads. As the development’s plant would operate 24-hours per day, the night-time period (between 23:00 to 07:00) is the most sensitive period for noise from the plant. In order to satisfy Council noise level requirements, it is recommended that fixed plant should be designed so that noise levels received at noise sensitive receptors would not exceed representative night-time noise level for the area, which is 37db(A). Subject to appropriate design, the assessment identifies that noise levels from plant would conform to professional standards and would not result in significant effects. Design measures that could be developed to ensure the 37db(A) level include attenuating the Energy Centre and air conditioning units on the Velindre Cancer Centre.

7.6.5 In respect of changes in road traffic volume, the Assessment identifies that the increase in traffic on Longwood Drive would not result in any change in noise level at sensitive receptors and the effect would be negligible. Assessment is not undertaken beyond Longwood Drive, since the relocation of the Velindre Cancer Centre would result in a reduction in the number of vehicles using the local road network.

7.6.6 The Noise Assessment also identifies the likely noise impact of development on the adjacent SSSI, and proposes measures to minimise the impact where required. It identifies that noise levels from construction should not exceed 70db(A) at the boundary of the SSSI to prevent significant adverse effects on its wildlife and recreational users. No limitations are proposed in respect of vibration levels, since the distance between construction activities that would result in high vibration levels (like piling) would not be undertaken in close proximity to the SSSI. The Assessment also identifies that no significant effects would result from the operation of the development, as the new access road and fixed plant would be suitably distanced from the SSSI, and the fixed plant would be designed so that it does not exceed a precautionary 50db(A) threshold, which was adopted from professional guidance, at the SSSI boundary.

7.7 Landscape and Visual Impact Assessment

7.7.1 The Landscape and Visual Impact Assessment identifies the likely effects of the proposed development on the landscape of the site and the surrounding area, and also the visual amenity experienced on the site and the surrounding area. It identifies the existing landscape and visual character of the site and surrounding area, and undertakes a series of professional judgements in accordance with best professional practice. For the purposes of the assessment the surrounding area is set at within 1km of the site.
7.7.2 The existing landscape character of the site is identified as being urban fringe / semi rural landscape, and it is noted that the site is characterised by remnant pasture land that is enclosed by woodland. It also notes that while the site does not have features that make it of notable landscape quality, it does have the feel of being secluded (despite its close proximity to the M4, Coryton Interchange and the settlement of Whitchurch) and the informal and formal footpaths are used to access the site. It states that the site is visually disconnected from much of the surrounding local area by the dense woodland that surrounds it, but identifies that views into the site are provided from the footpath network surrounding the site; from the upper storeys of the Hollybush Estate tower blocks; and the upper floors of some of the properties in Clos Coed Hir.

7.7.3 The assessment identifies that the development would be likely have an adverse effect on the site's landscape character, and would change the site from being urban fringe / semi rural to mainly urban. The assessment recommends mitigation to reduce the adverse effect, but it is noted that while these would serve to provide partial mitigation, the effect on the site's landscape character would inevitably remain adverse. The assessment, does, however, note that the extent of the effects would be contained to the site by the dense woodland that surrounds the site and identifies that the landscape impact beyond the immediate site surroundings would likely be negligible.

7.7.4 Recommended landscape mitigation includes recreating areas of the existing grassland habitat in the site layout, engineering excavated material to create bunds that screen development, and the planting of an informal layout of large-growing, native trees to integrate the site with the adjacent Site of Special Scientific Interest and Local Nature Reserve.

7.7.5 The Assessment finds that the development would have the greatest adverse visual effect on existing views of the site from the footpath network on and adjacent to it, primarily due to the proximity of these routes to the proposed development, (and the consequent visibility of the site from them). The Assessment notes that the landscape mitigation proposed would serve to reduce the effect by assimilating the development into the surrounding landscape and incorporating landscape finishes that would partially retain the existing character of the view, but that overall the effect would remain adverse. The Assessment again notes that visual effects would be limited to the immediate site surroundings by the dense landscape surrounding the site, and that the visual impact beyond this area would be negligible. The exception to this would be views from the uppermost floors of the tower blocks on the Hollybush Estate and from the upper floor rooms in some of the properties on Clos Coed Hir, where the assessment identifies that moderate and slight adverse effects are likely to be experienced after the application of landscape mitigation. The assessment, does, however, note that views from these locations would be partial, and would be over, and through, dense woodland, which would serve to filter the view of the development.
7.7.6 The Assessment considers the likely cumulative impact of the development alongside the redevelopment of Whitchurch Hospital and identifies that the cumulative landscape and visual impact would be negligible.

7.8 Cultural Heritage Assessment

7.8.1 The Cultural Heritage Assessment identifies the likely impact of the proposed development on known and potential heritage assets within the development area and the immediate surrounding area. For the purposes of the assessment the surrounding areas is considered to be within 500m of the site boundary.

7.8.2 The Assessment identifies that there are no designated heritage assets within the proposed development area, but that there are two non-designated heritage assets. These are the disused Cardiff railway line and Cardiff tram line, which were built in the early 1900s and are situated within the woodland in the northern part of the development area. In the wider study area, the Assessment identifies that there are 11 designated assets. These include the grade II listed Coryton House and Gardens (located north of the development site), the grade II listed Whitchurch Hospital historic park and garden (located adjacent to the site’s southern boundary) and eight grade II listed buildings within the Whitchurch Hospital historic park and garden. Finally, the Assessment identifies that there are 10 non-designated heritage assets situated within the study area, the majority of which relate to the post-medieval industrial activities that took place in the surrounding area in the 18th-20th centuries.

7.8.3 With respect to the designated assets, the Assessment identifies that the development would have a slight adverse effect on the setting of the grade II listed Coryton House historic park and garden and the Whitchurch Hospital historic park and garden, and a negligible impact on the eight grade II listed buildings located on Whitchurch Hospital. With respect to undesignated assets the assessment identifies that there would be negligible impact on all assets with the exception of the Cardiff railway line and Cardiff tram line, which would be subject to a slight adverse impact. It identifies that there is low potential to encounter buried remains on the development site, but if unknown assets are encountered the impact would be slight adverse. To restrict the impact on heritage assets to negligible and slight adverse, the Assessment recommends mitigation measures. These include minimising the height of the main site building and height of the energy centre’s flue. The recommendation has informed the design of the development.
7.9 Cumulative Assessment

7.9.1 The Assessment considers the likely cumulative impact of the development alongside the redevelopment of Whitchurch Hospital and surrounding development areas. It is expected that the Whitchurch Hospital complex would be eventually developed, although this is unlikely to be fully in accord with the extant planning permission, and more likely to be as set out in the illustrative masterplan document. Any impacts of this later project would be appropriately considered in the context of the VCC development, and would need to be mitigated to an acceptable level of impact. Whilst it is difficult to make assumptions of impact, for a theoretical development scenario which does not have planning permission, it is found in the respective chapters of the ES that the various potential cumulative impacts would be minimal.
8. CONCLUSION

8.1 This Non-Technical Summary of the Velindre Cancer Centre Environmental Statement is provided to accompany the outline planning application for the development of the new facility and associated access and landscape works.

8.2 The new facility is a central part of the Welsh Government and Velindre National Health Trust strategy for transforming cancer services in South East Wales, to help to address the predicted on-going increase in demand and requirements for cancer treatment.

8.3 The EIA process, the component assessments, and supporting reports have clearly informed the project design and decision-making which has resulted in the proposed project parameters, illustrative layout, and broad mitigation proposals.

8.4 The environmental impact assessment found that, with suitable mitigation and controls, the environmental impacts of the proposal can be reduced to acceptable levels. The detailed design of the project will be required to take forward the required mitigation measures to ensure environmental impacts are kept to acceptable levels.