APPENDICES





Appendices

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APPENDIX A:

O’Mahony Pike Architects - St. Ita’s Site Options Appraisal (2010)





Appendix A - O'Mahony Pike Architects - St. Ita's Site Options Appraisal (2010)

CONTENTS

O'Mahony Pike Architects have been asked to prepare a site suitability assessment of the St. Ita's lands, Portrane for the relocation of the Central Mental Hospital. These initial studies will be developed into a detailed site strategy over the coming weeks.

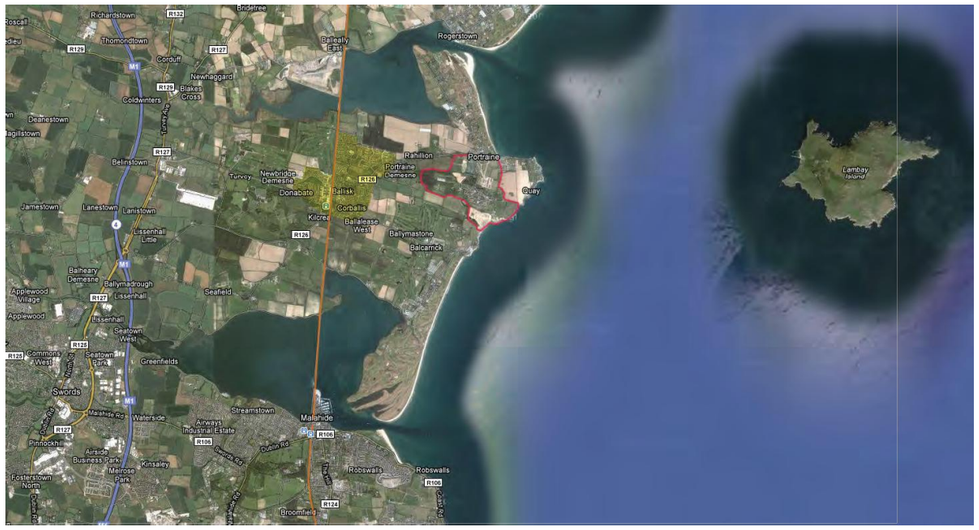
We have prepared an overview of the issues and developed a series of criteria for review with the HSE to determine the preferred location for the CMH facility within the overall campus.

Contents:

To inform the review we have considered the following :

1.0

Appendix A - O'Mahony Pike Architects - St. Ita's Site Options Appraisal (2010



PORTRANE IN CONTEXT TO M1, DART LINE, DONABATE AND COASTLINE

ST. ITA'S PORTRANE HOSPITAL COMPLEX

INTRODUCTION

The subject land of St. Ita's Hospital Demesne, Portrane comprise approximately 111Ha, which is located on the coastline of the Donabate peninsula with the Rogerstown Estuary to the north and the Malahide Estuary to the south.

Portrane is a unique settlement located on the north eastern area of the Donabate Peninsula approximately 3km east of Donabate Town on the R126 which is serviced by a rail link and 13km from Dublin City centre.
The peninsula is composed of three distinct areas: Portrane Village, St. Ita's Hospital Demesne and the Burrow.
The Demesce of St. Ita's Hospital extends south from Portrane Sea Road, across to a woodlands boundary to the west and beyond to the shoreline to the east and south.

St. Itas has been a mental health hospital since its inception in the early 20th century. The impressive collection of Victorian red brick buildings dominate the penninsula and are visible across the Malahide Estuary over 4km away. The existing institutional complex is extensive and accommodates a large number of protected structures and attractive buildings in an woodland and coastal landscape. Many building elements within the complex are landmark structures, visible over long distances from the coastline particularly to the south. There are exceptional coastal views from this slightly elevated site and the design of any development should retain these vistas where possible.

The complex expanded in recent decade with the construction of various buildings and uses built in the 950-70's. The structures are distributed through out the lands without coherence and many are currently in a state of repair or dereliction. The proposed CMH facility required approximately 20acre of land, which must integrate with the existing complex and create a greater cohesiveness within the lands.

The purpose of this study is to analysis the lands, assess the opportunities and constraints and identify possible locations for the CMH.

Further assessment of the specific sites has been undertaken and our recommendations proposed in response to the specific requirements of an CMH, the objectives of the ACA and with a view to realizing and protecting the sites future potential.

INTRODUCTION TO ST. ITAS

Appendix A - O'Mahony Pike Architects - St. Ita's Site Options Appraisal (2010

SITE ANALYSIS

Site analysis

We have prepared an evaluation of the lands in St. Itas to understand the potential for locating the Central Mental Hospital within the complex, keeping in mind the suitability of sites within the complex for other future uses.

a. ZONING

The lands are within the administrative jurisdiction of Fingal County Council (FCC). Within the Fingal Development Plan 2005-2011, the lands are zoned an Architectural Conservation Area (ACA) with the objective HA; " To protect and improve high amenity areas". The northern section of the ACA to the village is designated objective RS: To provide residential development and to protect and improve residential amenity." The adjoining area to the west of the lands is designated objective GB: "To protect and provide for a green belt to demarcate the urban and rural area and provide for agriculture and amenity in a manner that protects the physical and visual amenity of the area."

The Fingal Development Plan identifies the important heritage character of St. Itas Hospital, Portrane, which comprises of a series of Victorian buildings in an extensive woodlands demesne landscape with several landmark structures, which are visible over long distances.

"The site is an exceptional site, which in the event of it no longer being required by the Health Board for its needs could be reused to provide for future housing, amenity and other ancillary needs within the County. There is a need to examine options regarding the optimal reuse and refurbishment of the complex of buildings within the demesne setting, to ensure the future sustainable use of this important and unique resource within the County."

Through consultation with FCC planning and conservation department, we have an understanding of their aspirations for the lands of St, Itas, Location the CMH in this part of Dublin and retaining a hospital uses on the campus would be welcomed by the authority. The specific planning aspirations for the site would include:

- to create a sustainable future use for the complex
- to protect the landscape woodland and coastal setting
- to protect and revitalize the historic structure of St. Itas Hospital to conserve them into the future
- to create a village centre for Portrane, which would provide residential and recreational uses for the expanding population of the peninsula.

b. CONSERVATION

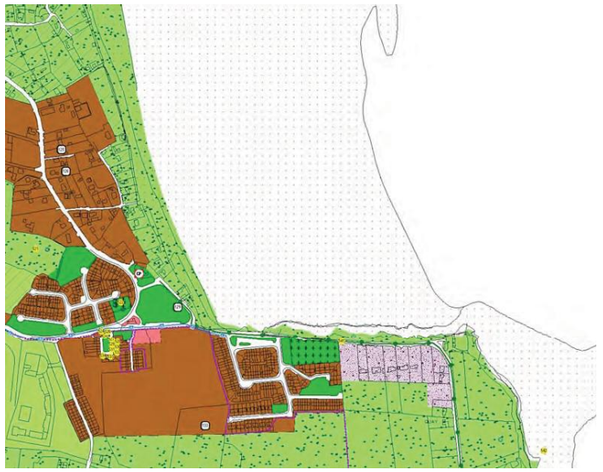
Planning legislation allows a Planning Authority to include objectives in the County Development plan to preserve the character of places, which are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest or value. Such places are known as ACAs.

Most structures in an ACA area important in how they contribute to the character of the area, therefore it is the external appearance of structures and the appearance of the open space which are protected in an ACA.

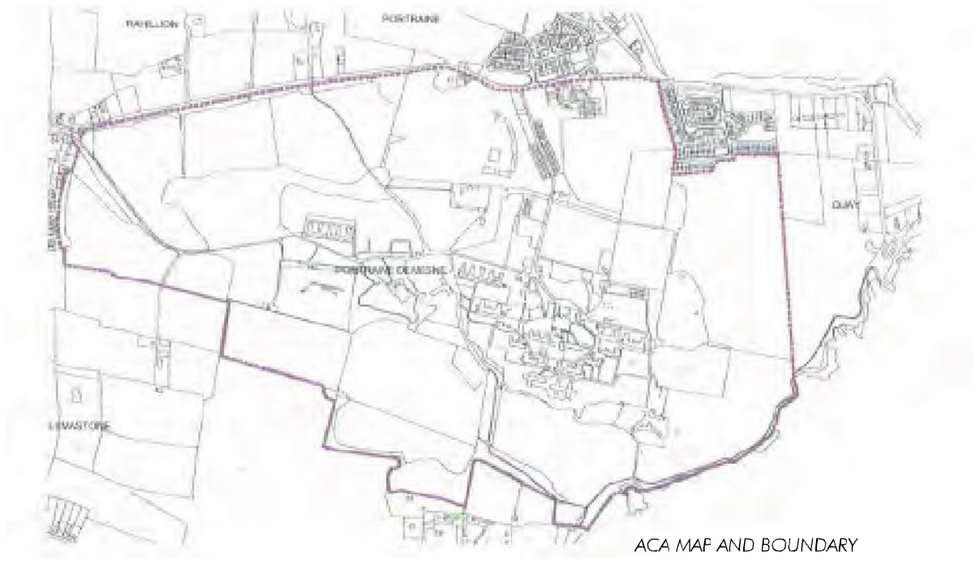
Alternations, extensions or new builds within an ACA are no prevented, however the designation seeks to insure through the planning process that any new development responds to the character of the area and should be carried out in consultation with the planning department and conservation officer in FCC.

During our consultation with the conservation office in FCC, they fortunately release a draft report of the Statement of Character prepared specifically for the ACA. We have taken this draft statement into consideration within our appraisal of the site, which has informed each specific site constraints and opportunities.

The ACA is currently divided into three ownerships. The western side f the demesne (including the historic access avenue to the Portrane Demense) is owned by Fingal County Council and the football pitches are leased to St. Patrick's GAA club. The core of the ACA forms St. Ita's Hospital and is managed by the HSE. Red and Grey Square, together with several residential houses along the main drive to the hospital have been sold by the HSE and are now in private ownership, with common areas taken in charge by FCC.

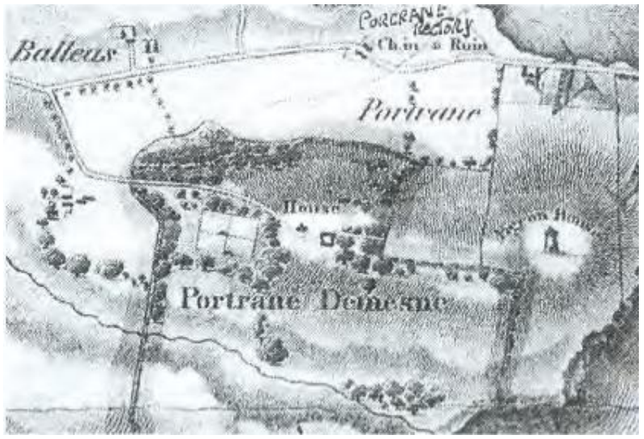


ZONING MAP TO PORTRANE VILLAGE



ACA MAP AND BOUNDARY

Appendix A - O'Mahony Pike Architects - St. Ita's Site Options Appraisal (2010



DUNCANS OSMAP 1821

HOSPITAL COMPLEX BUILDINGS

Site analysis

The western side of the demesne retained the most significant elements of the historic Portrane House and Demesne prior to the construction of the hospital. The fist addition OS MAP (1821) of Portrane demesne, shows Portrane House in a parkland setting with a swath of woodlands surrounding the house, outbuildings and walled garden. The house, associated stables and outbuildings was demolished in c 1950, however the tree lined avenue, woodlands and walled garden continue to serve as a tangible reminder of its existence. This area of the site forms an important part of an the social history of the demesne, the production of food being integral to the sustenance of Portrane House and later St. Ita's Hospital.

St Ita's Hospital is the focal point of the ACA, being centrally located and approached directly from the main entrance avenue to the north The numerous hospital buildings and residential house are located to the north of the hospital. Individual structures such as the water tower, round tower, agricultural building and remains of the walled garden are all interspersed throughout the woodland demesnes in more periphery locations.

The prominence of the hospital ius asserted by its elevated position overlooking the demesne and the sloping terrain is a defining feature of the ACA. Importantly the demesne is characterised by its open space and setting onto which the buildings are laid; a strategy which should be continued for any further developments in the demesne.

The hospital is a large, almost symmetrical complex comprising of blocks in an octagonal plan layout with corridors what enclose courtyards. The buildings are of red brick with cast concrete dressing and slate roofs of high architectural quality. The clock tower, directly to the rear of the administrative / reception buildings is an important landmark within the complex.

During the 20th centaury the hospital operated effectively as a self sustaining small town. Services within the hospital included a bakery, butcher, laundry, cobbler, a fire station, two churches and a morgue. Food was produced from the surrounding 300acres of farmland as a form of occupational therapy for the patients.

The southern demesne remains largely underdeveloped with the topography gently sloping towards the sea. A small waste water treatment plant is well screened from view in this area, Remote from the main hospital complex are two further hospital buildings the isolation hospital.Other recorded protected structures include a church and St. Kenny's well.

This southern coastline provides some of the most spectacular views from the ACA towards Lambay Island and across the Malahide and Howth.

The northern demesne is dominated by residential uses. The main entrance to the north is lined by residential houses, some of which are in private ownership, Also accessed from this road to the west are two further houses and a barn which contribute to the agricultural character of the ACA.. To the east of the drive along the sea Road are the Red and Grey Squares and lands currently zoned residential under the FCC development plan.

Theses lands are also defined towards the eastern demesne by two landmark structure the round tower (monument 1844) and a water tower, which provide optical views with regards to height and massing when viewed from differing vantage points.

c. USES:

Today the hospital is used by the HSE as a mental health complex providing acute and continued care beds for Psychiatric Services. There is a need to examine options regarding the optimal reuse and refurbishment of the complex of buildings within the demesne setting, to ensure its longevity.

Some of the building constructed in the 1950/60's are currently unoccupied and/or derelict and we have taken this into considereation within our studies.

Residential uses to the north of the demesne and the area zoned for residential within the ACA has been considered unsuitable for the CMH due to the requirements of the new facility and also those of the existing community of Portrane.

d. LANDSCAPE

The lands Character Assessment (LCA) of St. Ita's Hospital included in the Fingal Development Plan characterizes the setting as Coastal Landscape Character Area: the demesne character is defined by the woodlands and the proximity to the coast, Portrane is also significant because of its raised elevation overlooking the sea.

Appendix A - O'Mahony Pike Architects - St. Ita's Site Options Appraisal (2010

SITE ANALYSIS

Site analysis

E. AMENITY AND MOVEMENT

A number of sport facilities use the hospital, including a bowling green handball alley and St. Itas AFC soccer pitch which is located to the east of the demesne, while St Patrick's GAA pitches are to the west of the main entrance drive outside the site.

The public enjoy access along the coastline which forms part of the Fingal objectives for green routes across the county. Access is also enjoyed across of the woodlands setting through the historic avenue to the demesne, currently in the ownership of FCC. It is important to note that the demesnes lands are fully accessible in keeping with the original parklands concept. Security of each facility is dealt with within the form, boundaries and layout of the buildings themselves on the site. This allows for an open secure and amenable setting for the entire Dememse and the Portrane/ Donabate community as a whole.

F. VIEWS

The natural beauty of the demesne and its elegant buildings affords many picturesque views within the ACA. Important views and vistas include:

- southerly view towards the hospital from the coastline
- views from the hospital buildings overlooking the coastline
- landmark towers which provide focal points within the ACA
- two entrance avenues to the demesne form the west and north

G TRANSPORT:

The site is approximately 3kms east of the the M1 and Donabate town and connected by a good quality road. Public transport access is of equal quality and includes the dart / train station in nearby Donabate and a Dublin Bus service directly to the hospital Campus from Swords.

There is also a coastal amenity link which provides a cycleway and pedestrian route as an alternate way to bring people to the site.

H SERVICES:

Water Supply:

The water supply network in the area is adequate in terms of pressure and capacity to service the lands if developed. Pressure and flow testing of existing mains should be carried out prior to any Planning Application. Buildings at height (3 stories or greater) may require boosting. Pressure boosting will be in accordance with Fingal County Councils requirements and water conservation measures should be implemented in accordance with the relevant bylaws of Fingal County Council.

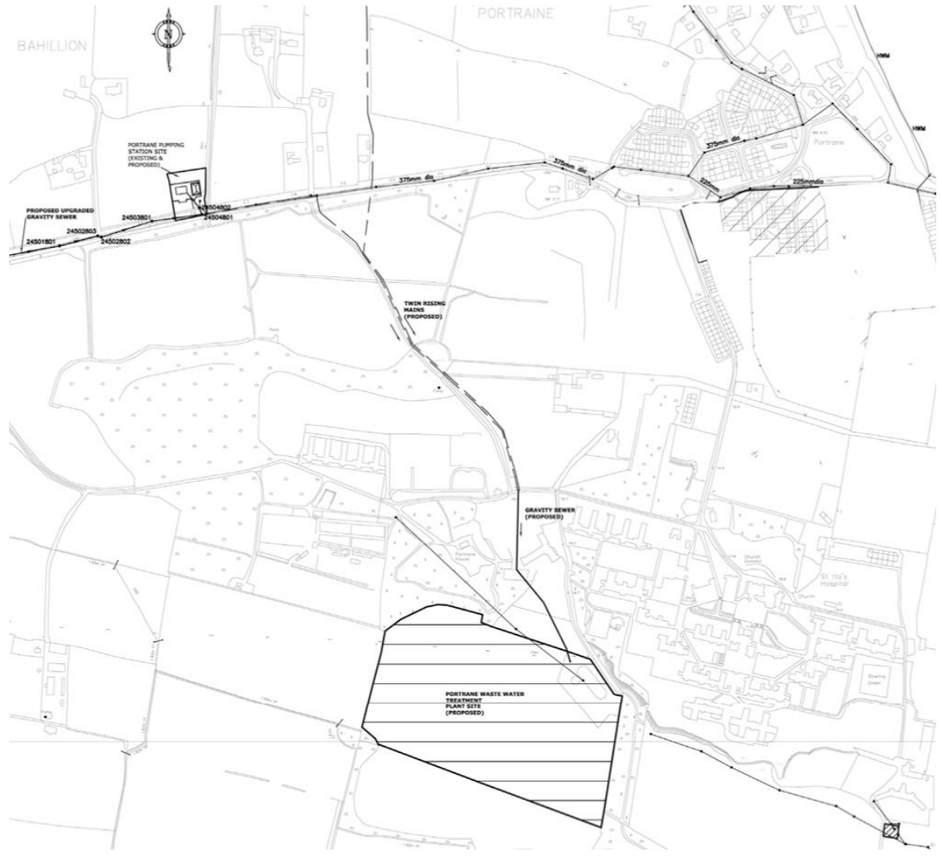
Foul Effluent Disposal:

Existing Waste Water Treatment facilities in Portrane/Donabate are inadequate for future development.

The existing foul sewer network in the R126 drains to an existing pump station which is located approximately 1.0km from the St Ita's Site on the Donabate/Portrane Road. This pump station is to be replaced under the Portrane/Donabate/Rush/ Lusk Waste Water Treatment Scheme.

There are proposals for the provision of a new Waste Water Treatment Plant in Portrane to cater for the Portrane / Donabate / Rush / Lusk area. It is anticipated at this stage that the Waste Water Treatment Plant should be operational by late 2012. This may put a delay on the delivery of the facility should this timeline be extended, however the current delivery date should be acceptable given the probably timline for the planning and construction of the facility.

Preliminary modeling analysis prepared by JB Barry Engineers indicated that there was sufficient capacity in the existing pipework located adjacent to the site in the R126 to cater for future development. Prior to any Planning Application the existing network will be subject to a detailed analysis and design. Connection points to this network would need to be determined prior to Planning Application stage.



SERVICES MAP CURTESY OF JB BARRY ENGINEERS

Appendix A - O'Mahony Pike Architects - St. Ita's Site Options Appraisal (2010

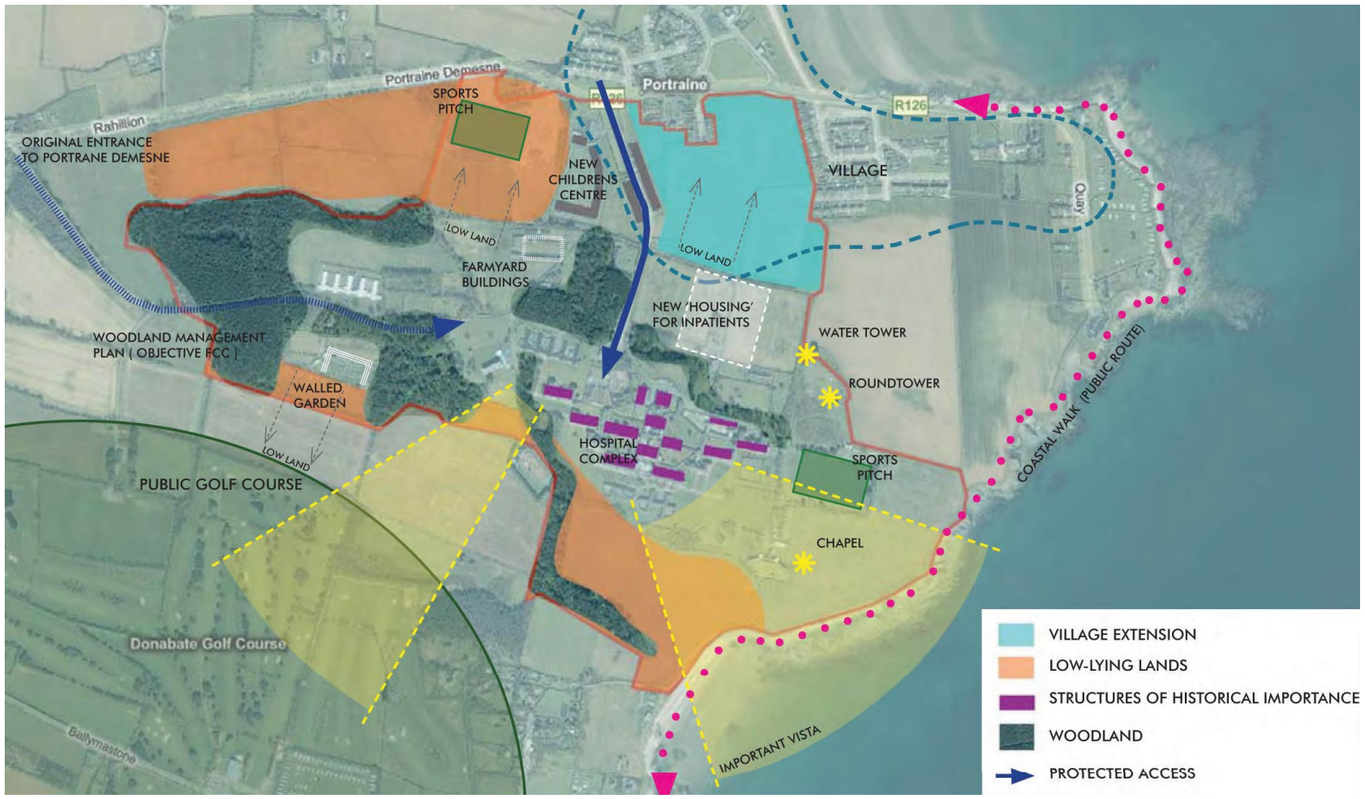
SITE ANALYSIS

WOODLANDS AVENUE

VIEW FROM SEA ROAD

VIEW TOWARDS HOSPITAL FROM PORTRANE VILLAGE GREEN

OPEN FIELDS



SITE ANALYSIS

HOSPITAL BUILDINGS

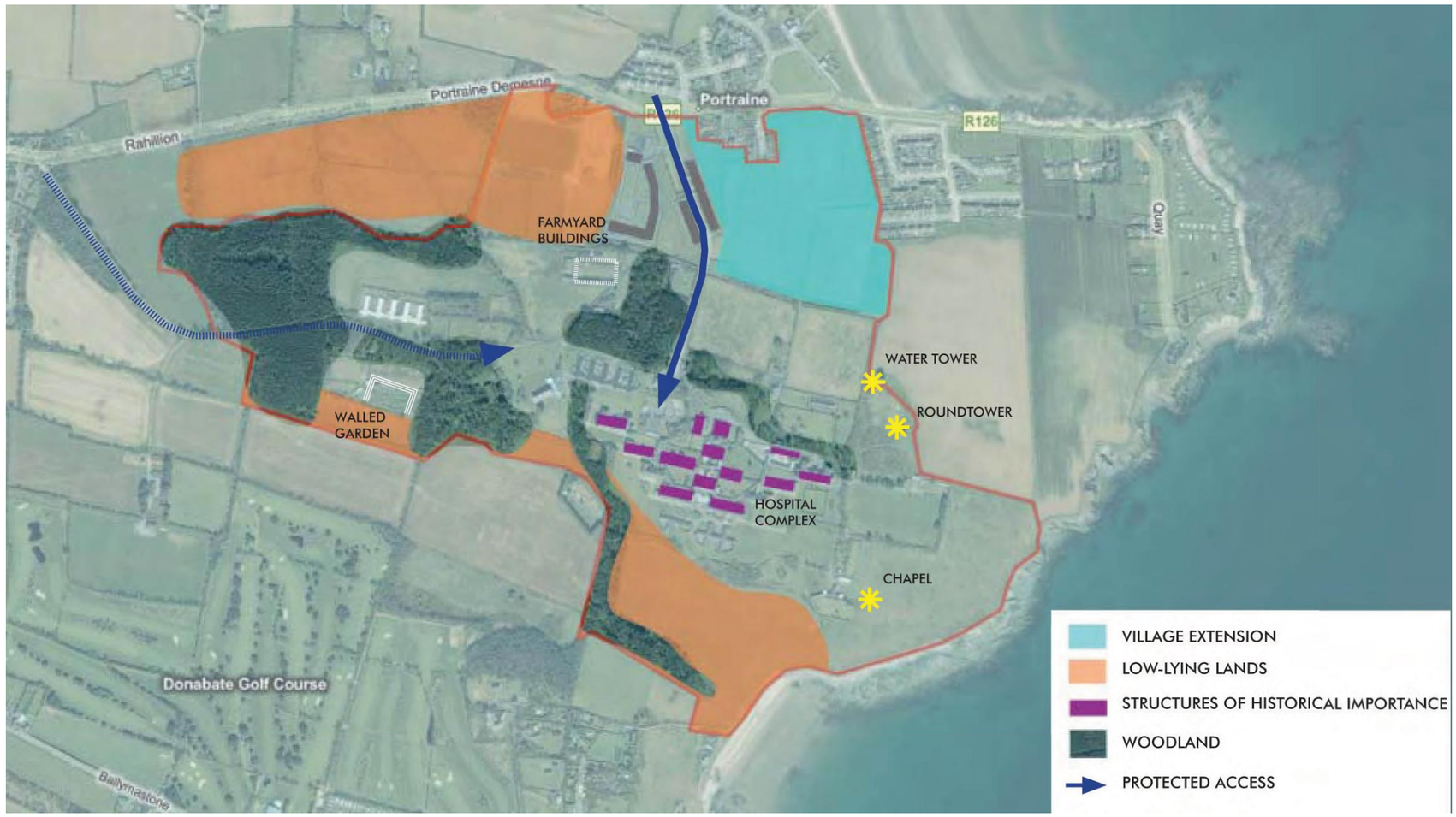
WALLED GARDEN

VISTAS TO COASTLINE FROM ST ITAS

Site Appraisal for St. Ita's, Portrane Demense for HSE *Page 7* 2.0

Appendix A - O'Mahony Pike Architects - St. Ita's Site Options Appraisal (2010

CHARACTER AREAS OF THE SITE



CHARACTER AREAS OF THE SITE

3.0 *Page* 8 - **Site Appraisal for St. Ita's, Portrane Demense for HSE**

Appendix A - O'Mahony Pike Architects - St. Ita's Site Options Appraisal (2010

CHARACTER AREAS OF THE SITE

The site is comprised of a many features generating specific character to the historic Portrane Demense. The nature of these distinct character areas helps inform the appropriate uses and therefore the potential location of the hospital.

a. Historic Structures
The high architectural merit of the hospital extends throughout the ACA from the hospital complex, itself, to picturesque cottages, red brick houses and towers which create landmarks within the coastal skyline.

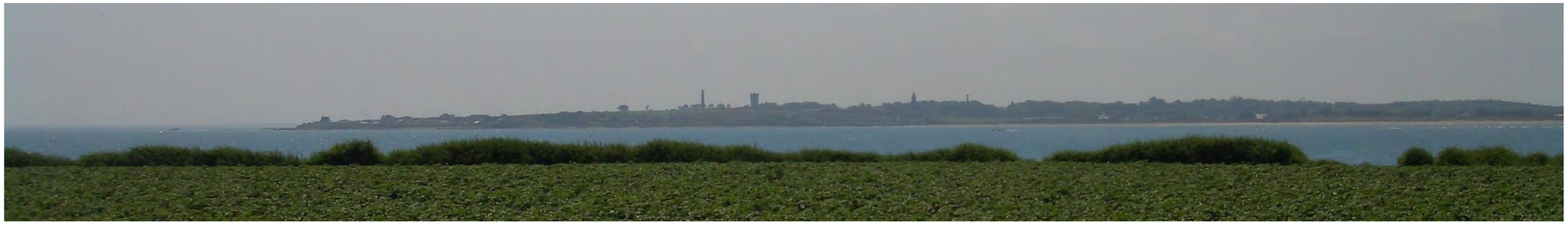
b. Coastal
The Coastal areas protect important views in to the site of the cluster of protected structures from as far away as Malahide. It also captures views to of the site of the coastal amenity.

c. Woodland
The Woodland areas are mature which offer the opportunity for screening of the development to encourage the privacy required and create natural green enclosures to the secured parts of the site.

d. Village extension
The expansion of the village into the campus brings residential uses which may continue to bring added economic value to the site over time.

e. Access routes
The existing routes into the site have distinct character and will help inform the organisation of the site. One is the formal historic access to the original Portrane House from the west and the other the current drive from the village towards to complex from the R126.

f. Low lying lands
Low lying lands to the north of the village are prone to flooding as identified by the OPW. Likewise low lying lands identified to the south drop 3m below the level of the hosiptal complex of buildings and currently experieince some water logging, particularly along the coast.



Appendix A - O'Mahony Pike Architects - St. Ita's Site Options Appraisal (2010

REQUIREMENTS OF THE ICMH

C. REQUIREMENTS OF THE CENTRAL MENTAL HOSPITAL

LOCATION ISSUES

The Portrane location will support the north county Dublin area and beyond. It is well serviced by road and rail infrastructure along the Dublin - Belfast metropolitan corridor.

SITE SPECIFIC ISSUES

- The need to provide a sense of place and setting.
- Provision of security both through natural topography and a sense of enclosure
- Sufficient campus space to accommodate a standalone facility of this size and nature.
- Sufficient natural amenities to provide for a restorative setting for the care of the patients.

BRIEF ISSUES

The brief calls a distinct hierarchy of spaces, organised in a progressive or 'route' manner.
This means that people arriving to the area, whether visitor, patient or staff is very clear on how to proceed from bus stop or car to the reception and beyond.

CENTRAL MENTAL FACILITY

The Central Mental Facility brief requires an approximately 120 bed facility to a total area of approximately 5,000 m2. It needs to be self-sufficient in accommodating the security, catering and services for the all patients, staff and visitors on site. The entire enclosure will require about 20 acres including the servicing, parking and amenity spaces required to support it.

The components of the brief are divided into areas that have particular use, relationship to the outside and privacy or secure nature to them.

- Public space - enclosed by building façade / landscaped areas with parking areas
- 'Front of house' – Specialist Reception – Clear access for staff / public / patients
- Accommodation areas – higher security – private
- Accommodation areas – lower security – private
- Activity areas – lower security - therapy / gym / canteen etc – adjacent to outside
- Medical areas – private
- Staff and administration areas – private
- Storage / Maintenance - private
- External secure enclosed service areas - privately accessible
- External Amenity areas – privately accessible
- External Amenity areas – secure but accessible to all those invited through reception.

4.0 *Page* 10 - **Site Appraisal for St. Ita's, Portrane Demense for HSE**

Appendix A - O'Mahony Pike Architects - St. Ita's Site Options Appraisal (2010

SITES IDENTIFIED

CRITERIA FOR SELECTION OF THE SPECIFIC SITE

Through our site analysis we have identified 5 potential site locations for further appraisal. We have set out to compare the locations for the facility based on a series of criteria:
All criteria have an underlying sustainability agenda whether through the efficient use of land or the passive solar organisation of the building forms.

EFFICIENCY
The outlined brief issued by the HSE suggests a site area of approximately 20 acres with a facility building encompassing 5,000sqm. This shows that at least 60% of the lands will be open space (public or private amenity) and will also be used for servicing the facility.

ACCESS
Clear access routes to and from the site.
Possible secondary access routes will be noted which could accommodate a secure route or for servicing.
Fire tender access should be accommodated easily.

TOPOGRAPHY
The sites topography will be assessed,
The location depth and fall across the site assessed in terms of impact to services, construction, access and drainage/ flooding.

ORIENTATION
The south facing nature of the site together with the elevated topography means that there is a great potential to capture light and use the existing landscape to shelter the site from onshore winds etc.

PLANNING OBJECTIVES OF THE ACA
Consideration will be given to the conservation issued within the ACA as outlined in our previous section.

PUBLIC /PRIVATE AMENITY
The site will be assessed in terms of possible private and security issues. The site should balance a sense of security within the lands allowing privacy to the hospital residences and providing the continued public amenity and wellbeing within the Portrane Demense.

FUTURE PROOFING AND REALISING THE SITES POTENTIAL
Each appraisal has taken into account the easy 'unlocking' of these parcels of lands, The sites identified allow for the uses on the site to continue but also future proof the demesne i.e. that the CMH would not adversely affect the commercial or functional viability of the demesne in the future for other hospital or administrative uses.

THERAPEUTIC VALUE
Each site selected will have a therapeutic benefit in terms of setting and landscape.

CRITERIA FOR SELECTION

Appendix A - O'Mahony Pike Architects - St. Ita's Site Options Appraisal (2010

PREFERRED LOCATIONS

6.0 *Page* 12 - **Site Appraisal for St. Ita's, Portrane Demense for HSE**

Appendix A - O'Mahony Pike Architects - St. Ita's Site Options Appraisal (2010

IDENTIFICATION OF A PREFERRED SITES

PREFERRED LOCATIONS

Site A

Site A is located to the west of the demesne nestled within a woodland setting. The redline boundary identifies an area of 20 acres

There is an existing and derelict building on the site dating back to the 1960s, which has not been outlined with any architectural merit in the draft Statement of Character for the ACA.

The site is predominantly flat to the south and falls gradually towards the north. The site is surrounded to the south, west and north by a swath of trees, which would provide shelter, privacy and a visual amenity.

A building form of 2-3 stories could be achieved at this location due to the enclosing elements, which allow for a greater efficient in building layout, construction and servicing.

Locating the CMH at this location would also maintain the entire eastern demesne in its current function and allow for the future expansion of the use across the lands.

The site is currently approached from the main entrance to St. Itas Hospital from the east however two secondary alternative access points maybe available fro secure access, fire tender access or to form a 1 way system for the facility.

Appendix A - O'Mahony Pike Architects - St. Ita's Site Options Appraisal (2010

PREFERRED LOCATIONS

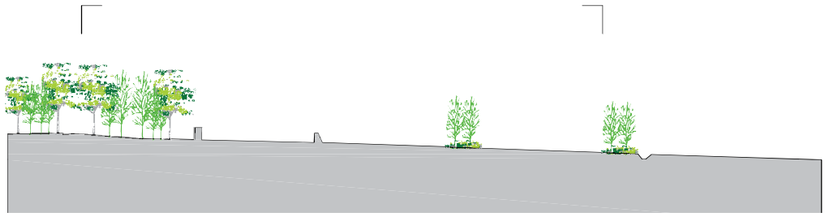
IDENTIFICATION OF A PREFERRED SITES

Site B is located to the west of the St Ita's building complex. The redline boundary identifies an area of 20 acres which contains the existing nurses residences (in a dilapidated condition and of no architectural merit), House 100 (a two storey house again of no architectural merit) and the walled garden of Portrane House to the west (identified in blue).

The walled garden is the most historic structure on the site and may form part of an amenity area for patients and staff alike. The open nature of the site to the south and its proximity to the historic hospital buildings complex would constrain the scale and form of a facility.

The site is easily accessible from the main entrance to the north and again a secondary secure access maybe accommodated from the west with agreement with FCC.

The site is predominantly a flat site but falls away to the south adjacent to the walled garden area. The site is enclosed to the west by the woodland, which provides shelter and privacy to the site. The lands are orientated to the south allowing for good solar gain and an aspect over the Donabate Golf Club.



6.0 *Page* 14 -**Site Appraisal for St. Ita's, Portrane Demense for HSE**

Appendix A - O'Mahony Pike Architects - St. Ita's Site Options Appraisal (2010

PREFERRED LOCATIONS

IDENTIFICATION OF A PREFERRED SITES

Site C is located to the south of the demesne. The lands are approximately 3-4m below the plateau of the hospital complex and share a boundary with the coastline.

There are no structures on the site and its often used for agricultural purposes. The waste water treatment plant is located to the north western corner of the site along its entrance avenue. The lands are flat and subject to some water logging. Drainage maybe an issue for this site due to its low-lying nature.
The site is bound to the west and south by a triple line of trees which provide the site with shelter from the south westerly winds but the eastern boundary is open to the coastline with only a 2m high wall for protection. The northern boundary is formed by a sharp incline towards the hospital site.

This site would provide a secluded and private environment for the CMH. Access is limited with an existing narrow and winding access from the Hospital complex, which is not ideal for servicing.

Main constraints across this site would be the retention to the vista to and from the hospital complex across the site towards the coastline as identified in the ACA. The heights and scale of the facility could be constrained to the benefit of the existing protected structures and their vistas.

Appendix A - O'Mahony Pike Architects - St. Ita's Site Options Appraisal (2010

PREFERRED LOCATIONS

IDENTIFICATION OF A PREFERRED SITES

Site D is located to the east of the demesne and are in part in use as a football ground for St. Ita's football club. The boundary identified is 20 acres and the round tower and water tower landmarks are contained within this boundary.

An alternative boundary is also identified in the attached drawings; however this area is further restrained by numerous vistas to and from the coastline to the landmark buildings. The site is bound to the west by a double line of trees and the hospital buildings. The sites close proximity to the historic structures together with its current community and amenity use would constrain development on these lands.

The site would afford excellent views across the coast, which would be a therapeutic gain for patients. Access to the site would be incorporated into the existing road network. A secondary access for security would not be possible from this location. Services could also connect back to existing services network.

6.0 *Page 16* -**Site Appraisal for St. Ita's, Portrane Demense for HSE**

Appendix A - O'Mahony Pike Architects - St. Ita's Site Options Appraisal (2010

IDENTIFICATION OF A PREFERRED SITES

Site E is the existing hospital buildings. These buildings have been identified as a probable site location due to their under use and prime location.

The buildings are under utilized currently, with only ground floors under use in most buildings. The structures appear to be in very good condition and with a refurbishment plan, the building could be returned to full use.

Access and vistas currently experienced by the complex could be enjoyed by patients and staff alike into the future.

Security and the delivery of defined facilities within the brief may not be able to be accommodated within the complex. The building could alternatively be used for administrative, educational or rehabilitation uses in the future.

They're extraordinary location and amenity next to the coastline should be exploited into the future.

PREFERRED LOCATIONS

Appendix A - O'Mahony Pike Architects - St. Ita's Site Options Appraisal (2010

PREFERRED LOCATIONS

IDENTIFICATION OF A PREFERRED SITES

Village Expansion

These lands encompasses the lands to the north of the demesnes. These lands encompass residential zoned lands, new accommodation facilities built by the HSE, football pitches and a children's institutional building.

The location of the CMH in this area is deemed inappropriate and unsuitable due to the existing uses and proposed uses of the Fingal Development Plan.

Vistas to and from this site from the Portrane and Rush would also need to be retained and considered in any future development.

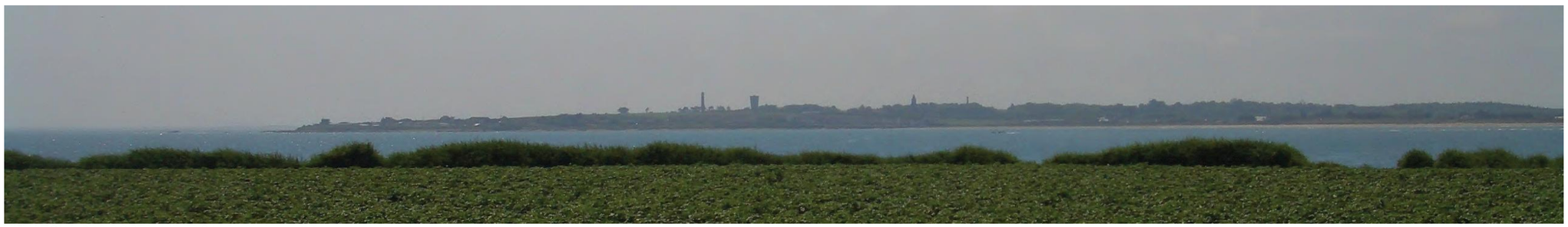
VIEW FROM PORTRANE VILLAGE GREEN

6.0 *Page* 18 -**Site Appraisal for St. Ita's, Portrane Demense for HSE**

Appendix A - O'Mahony Pike Architects - St. Ita's Site Options Appraisal (2010

VIEW OF ST ITAS COMPLEX BUILDINGS

VIEW TOWARDS SITE A: PREFERRED SITE



VIEW TOWARDS PORTRANE FROM RUSH VILLAGE

CONCLUSION & RECOMMENDATIONS

In conclusion, Portrane Demense offers an exceptional opportunity for the relocation of the CMH. The subject lands are currently in use by the HSE, which allows for the continuation of this use although the site is zoned for amenity use.

The expansive woodland setting releases a series of interesting and possible site locations, which could be appropriate for the CMH.

Site A in our opinion meets the objectives and criteria of both the HSE brief for the new facility and those of the Fingals objectives for the site. Our recommendation would be to consider this site further as its allows for a sense of enclosure and security, whilst not intruding on existing use, vistas and amenity currently experienced within the demesne.

Site A is most suitable in terms of efficiency of land use, access options, servicing, security, topography, ease of planning and build ability, which would also future proof the flexibility of use to the east of the demesne.

CONCLUSION

APPENDIX B:

O’Mahony Pike Architects - St. Ita’s Site Strategy Report (2010)





Appendix B - O'Mahony Pike Architects - St. Ita's Site Strategy Report (2010)

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SITE STRATEGY REPORT
at ST. ITA'S, PORTRANE, CO. DUBLIN

for the H.S.E.

12th May 2010

Appendix B - O'Mahony Pike Architects - St. Ita's Site Strategy Report (2010)

O'Mahony Pike Architects & Urban Designers in joint venture with Stantec Architecture were asked to prepare an appraisal of HSE lands at St. Ita's Campus, Portrane, Co. Dublin. The expansive woodland setting of the lands released an exceptional opportunity for the possible location of a National Forensic Mental Health Campus (NFMHC).

Within this document we have prepared an overview of the objectives and criteria reviewed within our approach to the appraisal of the lands in the context of the ACA and the lands coastal setting, which determined the preferred location for the NFMHC facility within the overall campus

Following this appaisal we have now prepared a Detailed Site Strategy of the preferred site within the St. Itas Campus, for the possible relocation of the National Forensic Mental Health Facility. This site has been assessed in its response to the specific requirements of the HSE for the facility whilst also meeting the objectives of Fingal CoCo.

CONTENTS

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Appendix B - O'Mahony Pike Architects - St. Ita's Site Strategy Report (2010)

1.0 *Page 2 -* **Detailed Site Strategy for a NFMHC at St. Ita's, Portrane**

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Appendix B - O'Mahony Pike Architects - St. Ita's Site Strategy Report (2010)

PORTRANE IN CONTEXT TO M1, DART LINE, DONABATE AND COASTLINE

ST. ITA'S PORTRANE HOSPITAL COMPLEX

INTRODUCTION

The subject land of St. Ita's Hospital Demesne, Portrane comprise approximately 111Ha, which is located on the coastline of the Donabate peninsula with the Rogerstown Estuary to the north and the Malahide Estuary to the south.

Portrane is a unique settlement located on the north eastern area of the Donabate Peninsula approximately 3km east of Donabate Town on the R126 which is serviced by a rail link and 13km from Dublin City centre. The peninsula is composed of three distinct areas: Portrane Village, St. Ita's Hospital Demesne and the Burrow. The Demesce of St. Ita's Hospital extends south from Portrane Sea Road, across to a woodlands boundary to the west and beyond to the shoreline to the east and south.

St. Itas has been a mental health hospital since its inception in the early 20th century. The impressive collection of Victorian red brick buildings dominate the penninsula and are visible across the Malahide Estuary over 4km away. The existing institutional complex is extensive and accommodates a large number of protected structures and attractive buildings in an woodland and coastal landscape. Many building elements within the complex are landmark structures, visible over long distances from the coastline particularly to the south. There are exceptional coastal views from this slightly elevated site and the design of any development should retain these vistas where possible.

The complex expanded in recent decade with the construction of various buildings and uses built in the 1950-1990's. The structures are distributed through out the lands without coherence and many are currently in a state of repair or dereliction. The proposed National Forensic Mental Health facility must integrate with the existing complex and create a greater cohesiveness within the lands, whilst also meeting the objectives set down by Fingal County Council for the lands and its environs.

Appendix B - O'Mahony Pike Architects - St. Ita's Site Strategy Report (2010)

ANALYSIS OF LANDS

ANALYSIS OF LANDS

We have prepared an evaluation of the lands in St. Itas to understand the potential for locating the Central Mental Hospital within the complex, keeping in mind the suitability of sites within the complex for other future uses.

A. ZONING

The lands are within the administrative jurisdiction of Fingal County Council (FCC). Within the Fingal Development Plan 2005-2011, the lands are zoned an Architectural Conservation Area (ACA) with the objective HA; " To protect and improve high amenity areas". The northern section of the ACA to the village is designated objective RS: To provide residential development and to protect and improve residential amenity."
The adjoining area to the west of the lands is designated objective GB: "To protect and provide for a green belt to demarcate the urban and rural area and provide for agriculture and amenity in a manner that protects the physical and visual amenity of the area."

The Fingal Development Plan identifies the important heritage character of St. Itas Hospital, Portrane, which comprises of a series of Victorian buildings in an extensive woodlands demesne landscape with several landmark structures, which are visible over long distances.
"The site is an exceptional site, which in the event of it no longer being required by the Health Board for its needs could be reused to provide for future housing, amenity and other ancillary needs within the County. There is a need to examine options regarding the optimal reuse and refurbishment of the complex of buildings within the demesne setting, to ensure the future sustainable use of this important and unique resource within the County."

Through consultation with FCC planning and conservation department, we have an understanding of their aspirations for the lands of St, Itas. The location of a Mental Health Campus in this part of Dublin and retaining a hospital uses on the campus would be welcomed by the authority. The specific planning aspirations for the site would include:

- to create a sustainable future use for the complex
- to protect the landscape woodland and coastal setting
- to protect and revitalize the historic structure of St. Itas Hospital to conserve them into the future
- to create a village centre for Portrane, which would provide residential and recreational uses for the expanding population of the peninsula.

B. CONSERVATION

Planning legislation allows a Planning Authority to include objectives in the County Development plan to preserve the character of places, which are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest or value. Such places are known as ACAs.
Most structures in an ACA area important in how they contribute to the character of the area, therefore it is the external appearance of structures and the appearance of the open space which are protected in an ACA. Alternations, extensions or new builds within an ACA are no prevented, however the designation seeks to insure through the planning process that any new development responds to the character of the area and should be carried out in consultation with the planning department and conservation officer in FCC.
During our consultation with the conservation office in FCC, they fortunately release a draft report of the Statement of Character prepared specifically for the ACA. We have taken this draft statement into consideration within our appraisal of the site, which has informed each specific site constraints and opportunities.

The ACA is currently divided into three ownerships. The western side f the demesne (including the historic access avenue to the Portrane Demense) is owned by Fingal County Council and the football pitches are leased to St. Patrick's GAA club. The core of the ACA forms St. Ita's Hospital and is managed by the HSE. Red and Grey Square, together with several residential houses along the main drive to the hospital have been sold by the HSE and are now in private ownership, with common areas taken in charge by FCC.

Zoning Map to Portrane VIllage: Fingal Development Plan 2005-2011

ACA Map and boundary: Fingal Development Plan 2005-2011

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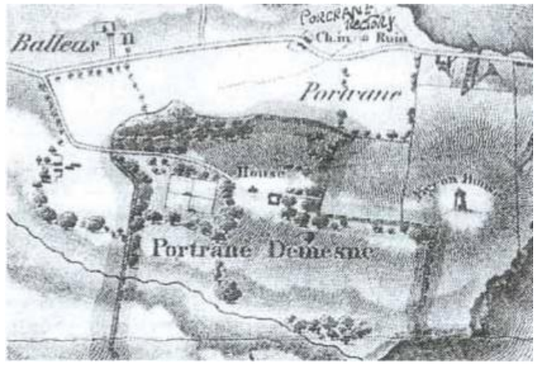
Appendix B - O'Mahony Pike Architects - St. Ita's Site Strategy Report (2010)



Duncans OSMAP 1821

Hospital complex buildings

View towards hospital from Portrane village green

The western side of the demesne retained the most significant elements of the historic Portrane House and Demesne prior to the construction of the hospital. The fist addition OS MAP (1821) of Portrane demesne, shows Portrane House in a parkland setting with a swath of woodlands surrounding the house, outbuildings and walled garden. The house, associated stables and outbuildings was demolished in c 1950, however the tree lined avenue, woodlands and walled garden continue to serve as a tangible reminder of its existence. This area of the site forms an important part of an the social history of the demesne, the production of food being integral to the sustenance of Portrane House and later St. Ita's Hospital.

St Ita's Hospital is the focal point of the ACA, being centrally located and approached directly from the main entrance avenue to the north The numerous hospital buildings and residential house are located to the north of the hospital. Individual structures such as the water tower, round tower, agricultural building and remains of the walled garden are all interspersed throughout the woodland demesnes in more periphery locations.
The prominence of the hospital ius asserted by its elevated position overlooking the demesne and the sloping terrain is a defining feature of the ACA. Importantly the demesne is characterised by its open space and setting onto which the buildings are laid; a strategy which should be continued for any further developments in the demesne.
The hospital is a large, almost symmetrical complex comprising of blocks in an octagonal plan layout with corridors what enclose courtyards. The buildings are of red brick with cast concrete dressing and slate roofs of high architectural quality. The clock tower, directly to the rear of the administrative / reception buildings is an important landmark within the complex.

During the 20th centaury the hospital operated effectively as a self sustaining small town. Services within the hospital included a bakery, butcher, laundry, cobbler, a fire station, two churches and a morgue. Food was produced from the surrounding 300acres of farmland as a form of occupational therapy for the patients.

The southern demesne remains largely underdeveloped with the topography gently sloping towards the sea. A small waste water treatment plant is well screened from view in this area, Remote from the main hospital complex are two further hospital buildings the isolation hospital.Other recorded protected structures include a church and St. Kenny's well.
This southern coastline provides some of the most spectacular views from the ACA towards Lambay Island and across the Malahide and Howth.
The northern demesne is dominated by residential uses. The main entrance to the north is lined by residential houses, some of which are in private ownership, Also accessed from this road to the west are two further houses and a barn which contribute to the agricultural character of the ACA.. To the east of the drive along the sea Road are the Red and Grey Squares and lands currently zoned residential under the FCC development plan.
Theses lands are also defined towards the eastern demesne by two landmark structure the round tower (monument 1844) and a water tower, which provide optical views with regards to height and massing when viewed from differing vantage points.

C. USES

Today the hospital is used by the HSE as a mental health complex providing acute and continued care beds for Psychiatric Services. There is a need to examine options regarding the optimal reuse and refurbishment of the complex of buildings within the demesne setting, to ensure its longevity.
Some of the building constructed in the 1950/60's are currently unoccupied and/or derelict and we have taken this into considereation within our studies.
Residential uses to the north of the demesne and the area zoned for residential within the ACA has been considered unsuitable for the CMH due to the requirements of the new facility and also those of the existing community of Portrane.

Appendix B - O'Mahony Pike Architects - St. Ita's Site Strategy Report (2010)

ANALYSIS OF LANDS

D. AMENITY AND MOVEMENT

A number of sport facilities use the hospital, including a bowling green handball alley and St. Itas AFC soccer pitch which is located to the east of the demesne, while St Patrick's GAA pitches are to the west of the main entrance drive outside the site.

The public enjoy access along the coastline which forms part of the Fingal objectives for green routes across the county. Access is also enjoyed across of the woodlands setting through the historic avenue to the demesne, currently in the ownership of FCC. It is important to note that the demesnes lands are fully accessible in keeping with the original parklands concept. Security of each facility is dealt with within the form, boundaries and layout of the buildings themselves on the site. This allows for an open secure and amenable setting for the entire Dememse and the Portrane/ Donabate community as a whole.

E TRANSPORT

The site is approximately 3kms east of the the M1 and Donabate town and connected by a good quality road. Public transport access is of equal quality and includes the dart / train station in nearby Donabate and a Dublin Bus service directly to the hospital Campus from Swords.
There is also a coastal amenity link which provides a cycleway and pedestrian route as an alternate way to bring people to the site.

F SERVICES

WATER SUPPLY

The water supply network in the area is adequate in terms of pressure and capacity to service the lands if developed. Pressure and flow testing of existing mains should be carried out prior to any Planning Application. Buildings at height (3 stories or greater) may require boosting. Pressure boosting will be in accordance with Fingal County Councils requirements and water conservation measures should be implemented in accordance with the relevant bylaws of Fingal County Council.

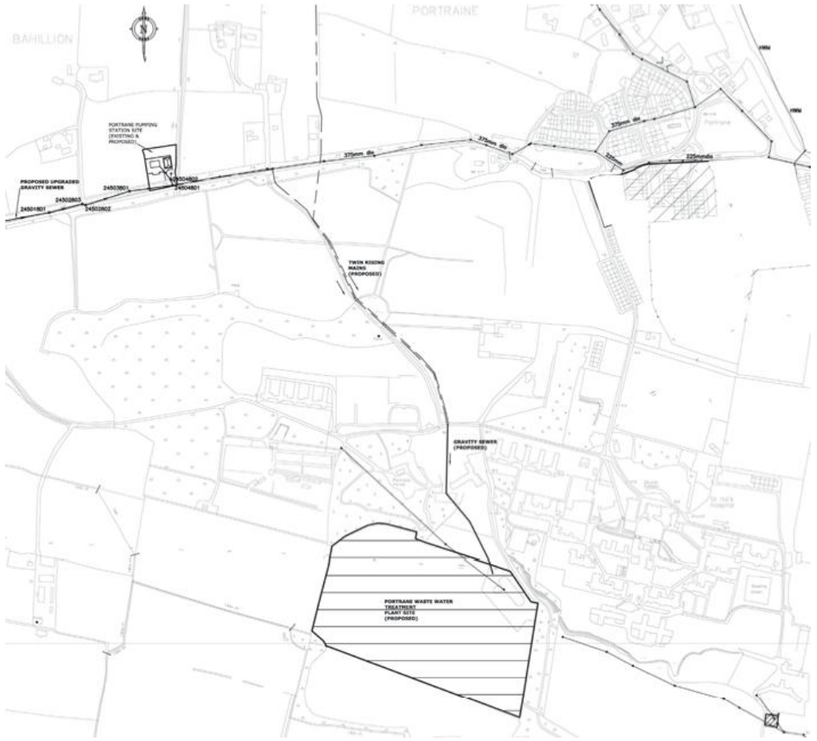
FOUL EFFLUENT DISPOSAL

Existing Waste Water Treatment facilities in Portrane/Donabate are inadequate for future development.
The existing foul sewer network in the R126 drains to an existing pump station which is located approximately 1.0km from the St Ita's Site on the Donabate/Portrane Road. This pump station is to be replaced under the Portrane/Donabate/Rush/Lusk Waste Water Treatment Scheme.
There are proposals for the provision of a new Waste Water Treatment Plant in Portrane to cater for the Portrane / Donabate / Rush / Lusk area. It is anticipated at this stage that the Waste Water Treatment Plant should be operational by late 2012. This may put a delay on the delivery of the facility should this timeline be extended, however the current delivery date should be acceptable given the probably timline for the planning and construction of the facility.

Preliminary modeling analysis prepared by JB Barry Engineers indicated that there was sufficient capacity in the existing pipework located adjacent to the site in the R126 to cater for future development. Prior to any Planning Application the existing network will be subject to a detailed analysis and design. Connection points to this network would need to be determined prior to Planning Application stage.

Bus services connecting with Donabate Station

M1 Access



Waste Water Services Plan curtesy of JB Barry Engineers

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Woodlands avenue

View from Donabate to Portrane Road

G VIEWS

The natural beauty of the demesne and its elegant buildings affords many picturesque views within the ACA.

Important views and vistas include:

- southerly view towards the hospital from the coastline
- views from the hospital buildings overlooking the coastline
- landmark towers which provide focal points within the ACA
- two entrance avenues to the demesne form the west and north

H LANDSCAPE

The lands Character Assessment (LCA) of St. Ita's Hospital included in the Fingal Development Plan characterizes the setting as Coastal Landscape Character Area: the demesne character is defined by the woodlands and the proximity to the coast, Portrane is also significant because of its raised elevation overlooking the sea.

Open meadow

Analysis of St. Itas Lands

Hospital Buildings

Walled garden

View to coastline from St Itas

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CHARACTER AREAS OF LANDS

CHARACTER AREAS OF THE SITE

The site is comprised of a many features generating specific character to the historic Portrane Demense. The nature of these distinct character areas helps inform the appropriate uses and therefore the potential location of the hospital.

A. HISTORIC STRUCTURES

The high architectural merit of the hospital extends throughout the ACA from the hospital complex, itself, to picturesque cottages, red brick houses and towers which create landmarks within the coastal skyline.

B. COASTAL

The Coastal areas protect important views in to the site of the cluster of protected structures from as far away as Malahide. It also captures views to of the site of the coastal amenity.

C. WOODLAND

The Woodland areas are mature which offer the opportunity for screening of the development to encourage the privacy required and create natural green enclosures to the secured parts of the site.

D. VILLAGE EXTENSION

The expansion of the village into the campus brings residential uses which may continue to bring added economic value to the site over time.

E. ACCESS ROUTES

The existing routes into the site have distinct character and will help inform the organisation of the site. One is the formal historic access to the original Portrane House from the west and the other the current drive from the village towards to complex from the R126.

F. LOW LYING LANDS

Low lying lands to the north of the village are prone to flooding as identified by the OPW. Likewise low lying lands identified to the south drop 3m below the level of the hosiptal complex of buildings and currently experieince some water logging, particularly along the coast.

Character Areas of the lands

Appendix B - O'Mahony Pike Architects - St. Ita's Site Strategy Report (2010)

CRITERIA OF THE NATIONAL FORENSIC MENTAL HEALTH CAMPUS

EFFICIENCY
In reponse to the outlined brief issued by the HSE and further disucssion a suggested site area encompassing 40 acres was sought. The National Forensic Mental Health Campus facility in outline will encompasses the requirements and support facilities for approximately 170 bed unit. This will result in at least 70% of the 40 acre site available for active and passive amenities (public and private) and which can also be used for servicing the facility.

ACCESS
Clear access routes to and from the site.
Possible secondary access routes will be noted which could accommodate a secure route or for servicing.
Fire tender access should be accommodated easily.

TOPOGRAPHY
The sites topography was assessed,
The location depth and fall across the site assessed in terms of impact to services, construction, access and drainage/ flooding.

ORIENTATION
The south facing nature of the site together with the elevated topography means that there is a great potential to capture light and use the existing landscape to shelter the site from onshore winds etc.

PLANNING OBJECTIVES OF THE ACA
Consideration must be given to the conservation issued within the ACA as outline in our previous section.

PUBLIC /PRIVATE AMENITY
The site will be assessed in terms of possible private and security issues. The site should balance a sense of security within the lands allowing privacy to the hospital residences and providing the continued public amenity and wellbeing within the Portrane Demesne.

FUTURE PROOFING AND REALISING THE SITES POTENTIAL
The site identified allows for the uses on the site to continue but also future proof the demesne i.e. that the CMH would not adversely affect the commercial or functional viability of the demesne in the future for other hospital or administrative uses.

THERAPEUTIC VALUE
The future site should have therapeutic benefit in terms of setting and landscape.

Portrane Coastline

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Gradual Slope to Northern Boundary

Terracing to Southern Slope

LEGEND

1. Protected Woodland
2. Existing Derelict Building
3. Historical Walled Garden
4. Existing Occupied Residence
   St. Itas Compus Boundary
   Site Boundary Selected for CMH

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DETAIL SITE STRATEGY

Following the appraisal of HSE lands at St. Itas Hospital Campus, five potential locations were presented. Through our analysis and discussions with the HSE, a specific area comprising two of the site locations together was identified for a potential Forensic Mental Health facility.

Within this detail strategic assessment of the specific site, we embarked to deal with the specific requirements of a NFMHC and those of the HSE for the facility and to respond with the objectives of the ACA of Fingal County Council with a view protecting the sites natural heritage and realising its full future potential in the context of the St. Itas campus.

This strategic site assessment for the preferred site location entails:

A. Site Selection
B. Site Analysis
C. Responding to Protected Woodlands and the ACA
D. Infrastructural Issues
E. Design Requirements of the NFMHC

A. SITE SELECTION

The selected site is located to the western section of the St. Ita's Hospital Campus and encompasses an area of approximately 40acres. The site is bound by dense woodland to the west and a further narrow area of woodland in the heart of the site which naturally divides the site.

The selected site has 4no existing structures of note; a walled garden area, a 1960s derelict single storey building, a detached two storey house (House 100) and a 1970s four storey residential block to the east.

Appendix B - O'Mahony Pike Architects - St. Ita's Site Strategy Report (2010)

DETAIL SITE STRATEGY

B SITE ANALYSIS

PROTECTED STRUCTURES

The redline boundary identifies an area of approximately 40 acres which contains the existing nurses residences (in a dilapidated condition and of no architectural merit), House 100 (a two storey house again of no architectural merit) and the walled garden of Portrane House to the west (identified in blue) and a large single storey derelict buildings on the site dating back to the 1960s. Within this specific site only the walled garden area has been outlined with any architectural merit in the draft Statement of Character for the ACA issued by Fingal CoCo.

ORIENTATION & TOPOGRAPHY

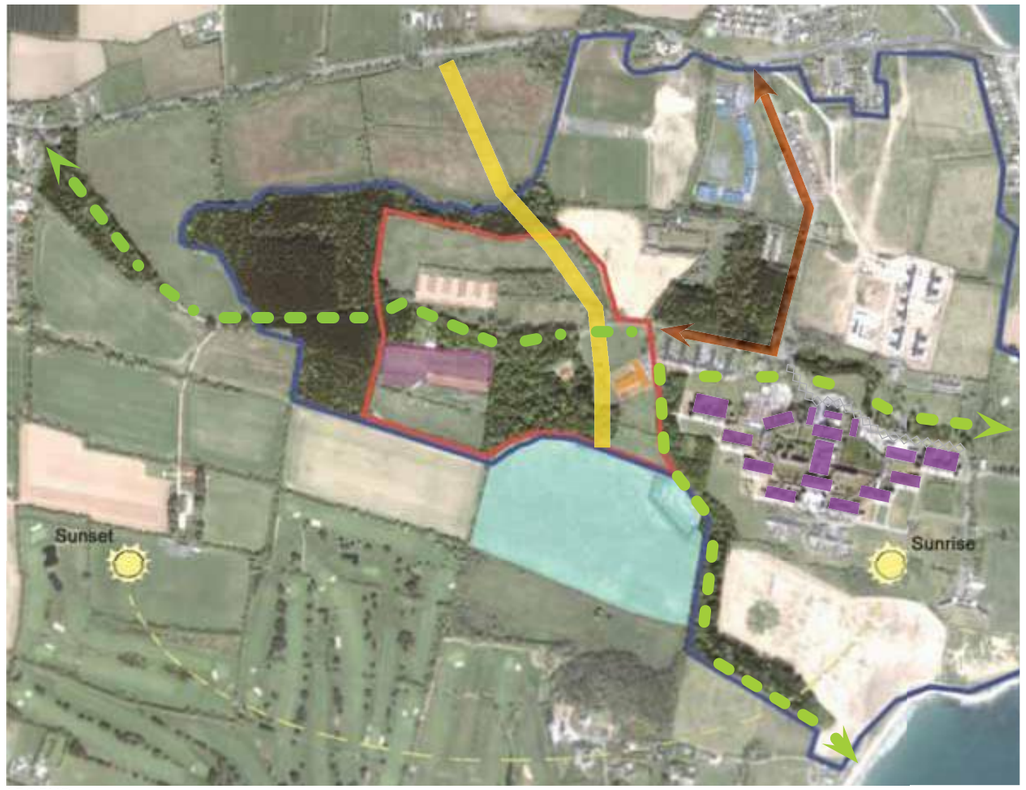
The site is predominantly flat and falls gently towards the northern boundary of trees. To the south the lands terrace down from the historic walled garden area. The site is enclosed to the west and north by dense woodland, which provides shelter, visual amenity and privacy to the site. A further woodland area divides the site from east and west creates a natural visual separation from the Victorian building complex of St. Itas to the east. The lands orientation allows for good solar gain, shelter from northern and north-eastern winds and has an aspect over the Donabate golf course.

Wastewater Treatment Plant

A future Waste Water Treatment Plant for Donabate, Portrane and Rush is located to the south of the site, outside the ownership of the HSE.
It is assumed that this plant may cause a negative visual and sensory impact for the areas along the boundaries of the site due to low frequency pumping and discharged impurities.
An agreed wayleave to serve the waste waster treatment plant runs across the site south to north, connecting the plant with to the estuary beyond. This wayleave will not visually impact the lands however no structures can be built on the wayleave and access for maintenance must be possible along its alignment.

VEHICULAR AND PEDESTRIAN ACCESS

Vehicular access is currently provided from the main entrance to the north east. A secondary vehicular road exists from east to west following the original alignment of the avenue to Portrane House, the first structure built on the Portrane Demense. Egress from the west of the site is closed to vehicles but open to pedestrians.
The entire site of St. Itas is publicly accessible from the original western gateway of the Portrane Demesne, from the main hospital entrance to the north and from the coastline to the south east. It is an objective of the Fingal Development Plan to retain this amenity link through the parkland setting of the St. Itas campus. Any design proposals must take cognisance of their response.



LEGEND

- Existing Vehicular Access
- Existing Pedestrian Routes
- Derelict Existing 1960s Building (to be demolished)
- Wayleave to Treatment Plant
- WasteWater Treatment Plant (under construction)
- Existing Protected Structures
- Currently Occupied Residences

Existing buildings on site to be demolished.

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5.0 *Page* 12 - **Detailed Site Strategy for a NFMHC at St. Ita's, Portrane**

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LEGEND

1. Protected Woodland
   Potential Pedestrian Routes
2. Existing Derelict Building
   Protected Victorian Structures
3. Historical Walled Garden.
   Derelict 1960s Building

Extent of Protected Woodland from the Portrane Road

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C. RESPONDING TO PROTECTED WOODLAND AND A.C.A.

Working with existing features:
It is proposed to use the protected Woodland area as an enclosing device to identify the public and private realms of the site. Maintaining links are to the east, where the aspiration for the coastal walk is accommodated.

The current development plan aspires to protect and improve high amenity areas and to provide a clear amenity pedestrian route through the site from east to west as part of the overall amenity zoning for the site.

The schematic suggests providing for two alternative routes to the south of the primary facility, linking into some of the existing paths through the Woodland and to the west linking from the road past the possible wetland amenity directly south to the coast.

This is turn will aid the management and maintenance of the Woodland which is a requirement of the Local Authority.

Existing Woodland Walk

Protected Walled Garden

St Itas Victorian Buildings

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DETAIL SITE STRATEGY

D. INFRASTRUCTURAL ISSUES

Working with existing features:
It is proposed to use the protected Woodland area as an enclosing device to identify the public and private realms of the site. Maintaining links are to the east, where the aspiration for the coastal walk is accommodated.

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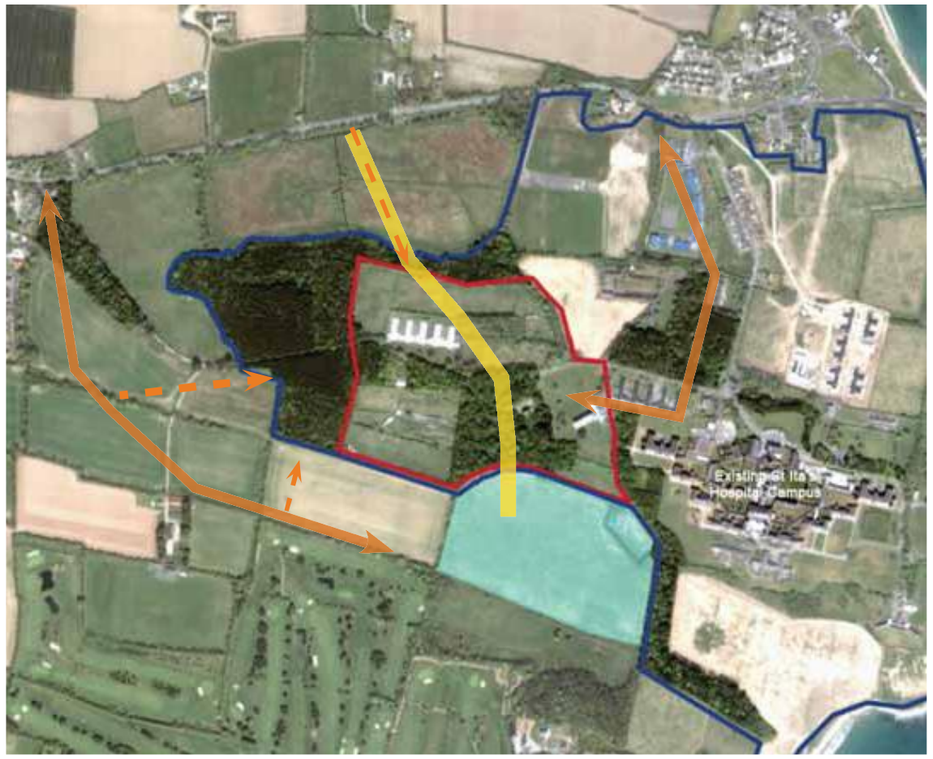

Site Services and Access points

Water Tower on campus

LEGEND

- Existing Vehicular Routes
- Potential Additional Vehicular Access
- Wayleave to Treatment Plant
- WasteWater Treatment Plant (under construction)

New Construction Access Road For Waste Water Plant

Existing Vehicular Entrance from Portrane Village

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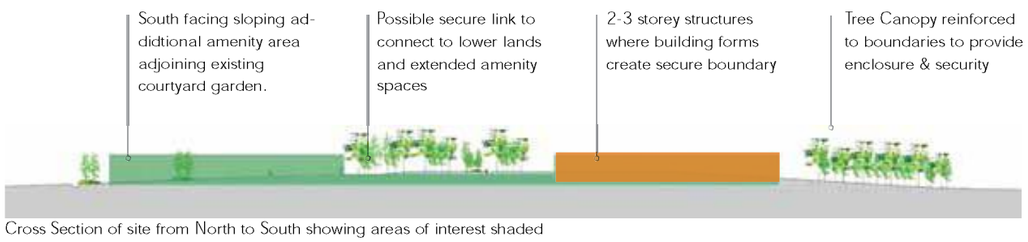
5.0 *Page* 14 - **Detailed Site Strategy for a NFMHC at St. Ita's, Portrane**

Appendix B - O'Mahony Pike Architects - St. Ita's Site Strategy Report (2010)

Building Zone to northern section



Cross Section of site from North to South showing areas of interest shaded

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DETAIL SITE STRATEGY

E DESIGN REQUIREMENTS OF THE NATIONAL FORENSIC MENTAL HEALTH CAMPUS

The NFMHC brief requires an approximately 170 bed facility to a total area of approximately 20,000 m2. It needs to be self-sufficient in accommodating the security, catering and services for the all patients, staff and visitors on site. The entire enclosure will require about 20 acres including the servicing, parking and amenity spaces required to support it.

The components of the brief are divided into areas that have particular use, relationship to the outside and privacy or secure nature to them.

- Public space - enclosed by building façade / landscaped areas with parking areas
- 'Front of house' – Specialist Reception – Clear access for staff / public / patients
- Accommodation areas – higher and lower security – private
- Activity areas – lower security - therapy / gym / canteen etc – adjacent to outside
- Medical areas – private
- Staff and administration areas – private
- Storage / Maintenance - private
- External secure enclosed service areas - privately accessible
- External Amenity areas – secure but accessible to all those invited through reception.

ORGANISATIONAL REQUIREMENTS AND DEPENDENCIES :
The uses are proposed to be organised in a clear structure, taking consideration of the dependencies between uses, the operational needs of the care of clients etc. It uses the most efficient layout for sharing services etc.

Due to these enclosing elements a building form of 2-3 stories could be achieved at this location, which allows for greater efficiency in building layout, construction and servicing.

SECURITY:
A clear distinction is provided between secure private zones and clear public realm. An access is proposed from the eastern boundary using the existing entranceway. The buildings themselves will be used to generate enclosure to secure areas rather than walled or fences areas.

ACCESS:
There is the potential for 4 possible access/entrances to the site adding to the options.
Connections can be made either above ground or below ground by using the ridge line between them.

AMENITY:
Potential reuse and protection of the historic walled garden are suggested as part of their incorporation into the proposed facility with the opportunities for their reinstatement as formal or working gardens for patients

Appendix B - O'Mahony Pike Architects - St. Ita's Site Strategy Report (2010)

SUSTAINABILITY & ADAPTABLE USES

SUSTAINABILTY & ADAPTABLE USES

ENVIRONMENTAL AND SUSTAINABILITY
Passive solar considerations have and will continue to be taken into account through the development of the site strategy.
Hydrological issues will require a clear SUDS strategy for the site linked to any drainage proposals.

Ecology issues relate to the protection of possible Bat habitats on the site which will need to be resolved in the short term.

PHASING AND TIME ISSUES
Potential future expansion of the facility is being considered in both movement through the site and expansion of accommodation.

COST CONSIDERATIONS
The site is one of the most 'developable' parts of the overall lands which will make it cheaper to locate here, from a servicing and access point of view.
Exploiting the levels may make is more efficient. Access for construction has already been established through the start up of the waste treatment project.

ADAPTABLE USES
Potential for use of the site as a Headquarter building for mental health and the value that can bring to the HSE
Allowing the benefit of this rebranding to benefit both the HSE and St. Itas

The potential for revenue generation through retaining a commercial kitchen or food production on site. This food can be provided to the facility itself and possibly to other HSE satellite kitchens.

The potential for private residential to provide revenue to St. Itas by extending the residential from the village into the site and providing a robust edge to the county wide coastal route.

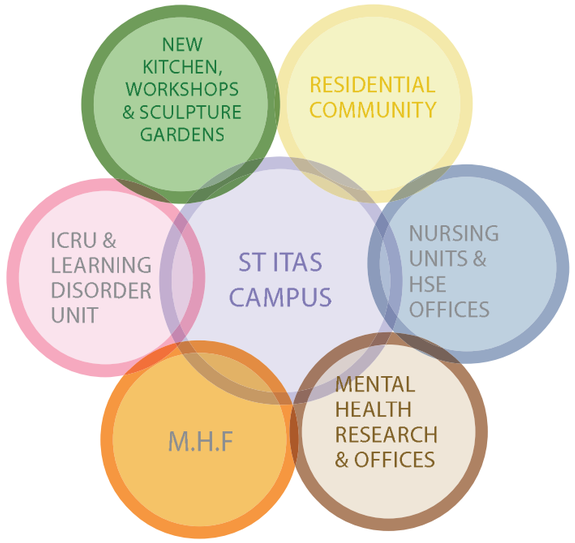
Exploiting the access and the provision of the new waste treatment plant, the timeline issues associated with it.
The potential of a conference and research facility based in St Itas on the proximity to the airport and the reuse of the existing protected structures

Identifications of potential planning gain to the HSE / St Itas through:

A) Amenity use for locals on site in the garden, farm, workshops.

B) Extension of the coastal route through the site with a secured edge

C) Re-use of existing protected structures to provide theraputic and workshop uses.



Organogram of potential uses for St. Itas Campus

Exisint Building Stock

Therapeutic Workshops

Artist Studios

MAHONY PIKE
Architecture / Urban Design / Sustainability
Stantec

6.0 *Page* 16 - **Detailed Site Strategy for a NFMHC at St. Ita's, Portrane**

Appendix B - O'Mahony Pike Architects - St. Ita's Site Strategy Report (2010)

Potential organisation of uses in response to a Development Vision

DEVELOPMENT VISION

There are substantial opportunities on and about the overall campus which will impact on the preferred site. This potential and how it should interact needs to be fully explored.

This is the starting point for an overall Masterplan for the 110 acre site, which could be required by the submission to the Fingal draft development 2011-2017 plan, Fingal County Council Planning Department or the client.

As indicated here these additional facilities all need to be properly studied so that their interaction both within the campus and externally with the surrounding community can be properly planned.

The Campus strategy needs to include both commercial and economic considerations and the realising of a new vision, use and ethos for St Itas.

Adaptive Re-use of the existing buildings stock:

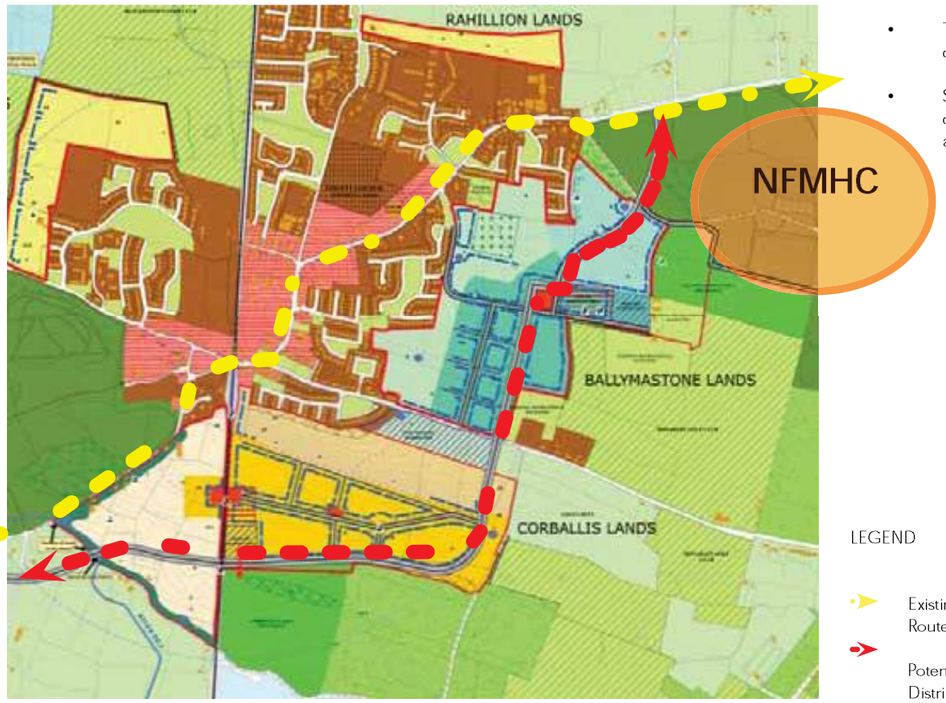
A view on the appropriate re-use of the existing buildings should be taken following the study of their capcity and organistion and further to the publication of the Conservation report by FCC.
The efficiencies of the buildings for use is based on the gross to nett floor areas and the operational costs from both servicing, energy usage and security constriants of existing structures.

View towards St. Itas, Portrane from Rush village

Appendix B - O'Mahony Pike Architects - St. Ita's Site Strategy Report (2010)

Appendix B - O'Mahony Pike Architects - St. Ita's Site Strategy Report (2010)

Bus services connecting with Donabate Station



Extract from the Fingal Co Co Donabate Local Area Plan showing proposed distributor road routing

TRANSPORT ADDENDUM

The site is approximately 3kms east of the the M1 and Donabate town and connected by a good quality road. Public transport access is of equal quality and includes the dart / train station in nearby Donabate and a Dublin Bus service directly to the hospital Campus from Swords.
There is also a coastal amenity link which provides a cycleway and pedestrian route as an alternate way to bring people to the site.

Trransport access to the site will take place using the current raod networkhowever there are future proposals to acomodate access to Portrane we would advise that:

- A traffic count, modal split and a transport report will be required to be undertaken as part of any application process should the project proceed further.
- The proposed new distributor as shown on the Donabate Local area plan will eventually be the main accommodation route for traffic to the new National Forensic Mental Health Campus.
- The current bridge crossing and road alignment at Donabate Station has been recently upgraded to cater for footpaths and roadways. There are no plans to do any further works to the bridge and road.
- Should the proposed distributor road not be in place by the time the NFMHC project proceed, the current bridge crossing and road alignment should be sufficient to cater for the proposed facility, although there may be an increase in queuing at the bridge at certain times.

New Road Bridge over Railway at Donabate Station

TRANSPORT ACCESS ADDENDUM

APPENDIX C:

Ecology Survey (2013)





Appendix C - Ecology Survey (2013)

ST ITA'S HOSPITAL, PORTRANE, COUNTY DUBLIN

Feasibility Study - Ecology Report

MAY 2013

Presented by

CARRIG CONSERVATION INTERNATIONAL LIMITED

In association with

FAITH WILSON ECOLOGICAL CONSULTANT

CARRIG
BUILDING FABRIC CONSULTANTS

22 Wicklow Street, Dublin 2, Ireland T: +353 16715777 E: peter@carrig.ie I: www.carrig.ie
Carrig UK, 70 Cowcross Street, London, EC1M 6EL, England

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St. Ita's, Portrane, Co. Dublin
Feasibility Study - Ecology

1. INTRODUCTION

1.1 Background

Faith Wilson Ecological Consultant was commissioned by the Health Service Executive (HSE) to prepare an ecological report for a feasibility study for the development of a new National Forensic Mental Hospital within the grounds of St. Ita's Mental Hospital at Portrane, Co. Dublin (Grid Reference O 25 50). The report built on a number of other surveys commissioned in the grounds of St. Ita's Hospital by the heritage and biodiversity officers of Fingal County Council and a bat survey of the site commissioned by the HSE. The main study area is outlined in blue on Figure 1.1 below and several sites are being considered for the development within these grounds (labelled Sites A – E and outlined in red). The aim of this ecological assessment was to identify and rank each of the proposed sites in terms of their ecological sensitivity.

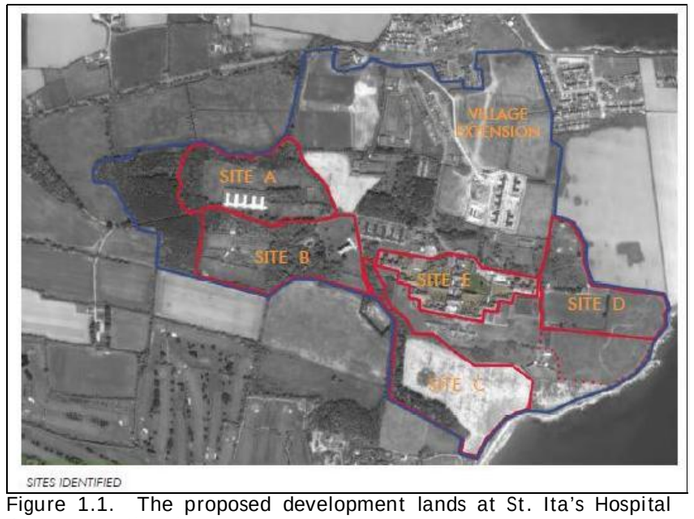

Figure 1.1. The proposed development lands at St. Ita's Hospital Portrane, outlined in blue.

2. DESKTOP RESEARCH & METHODOLOGY

2.1 Desk Study

A desk study was carried out to collate the available information on the ecological environment potentially impacted by the proposed development at Portrane. The National Parks and Wildlife Service (NPWS) of the Department of Arts, Heritage and the Gaeltacht (DAHG) database of designated conservation areas and NPWS records of rare and protected plant species were checked with regard to the location of the land at Portrane.

The demesne has been the subject of a number of studies commissioned by Fingal County Council, which were reviewed. These include:

- Keeley, B. (2005). A Mammal Assessment of the Grounds of St. Ita's Portrane.
- Keeley, B. (2006). A Mammal of the Forestry and Woodland at St. Ita's, Portrane.
- Keeley, B. (2006). A Mammal Assessment of Fingal Woodland including sites at Balbriggan, Gormanstown, Portrane, Howth, Malahide and Santry.
- Merne, O. and Roe, J. (2006). Ecological Study of the Countryside Habitats in Co. Fingal. Phase III – Woodland Birds.
- McCourt, S. and Kelly, D. (2008). Fingal Woodland Flora Survey.
- Keeley, B. (2011). A Mammal Assessment of the Proposed Donabate Distributor Road.

Information on protected species of fauna and flora listed for protection under Annex II of the EU Habitats Directive (92/43/EEC), Annex I of the Birds Directive (79/409/EEC) and the Wildlife (Amendment) Act (2000) was also sought from NPWS and published sources. Recent, high resolution, colour aerial photographs were also used to identify potential habitats.

2.2 Nature Conservation Designations

International and National Conservation Designations

The lands owned by the HSE at Portrane are not currently designated for any nature conservation purposes under national or international legislation but a number of Natura 2000 sites (SAC/SPA) and a proposed NHA (pNHA) adjoin the site.

Appendix C - Ecology Survey (2013)

SACs are habitats of international significance that have been identified by NPWS and submitted for designation to the EU. SAC is a statutory designation, which has a legal basis under the EU Habitats Directive (92/43/EEC) as transposed into Irish law through the European Communities (Natural Habitats) Regulations, 1997. The main implication of this designation is that any project likely to have a significant adverse impact on the integrity of the SAC may only be carried out for "*imperative reasons of overriding public interest, including those of a social or economic nature*".

SPA is a statutory designation, which has a legal basis under the EU Birds Directive (79/409/EEC). The primary objective of SPAs is to maintain or enhance the favourable conservation status of the birds for which the SPAs have been designated.

Proposed NHAs are also habitats or sites of interest to wildlife that have been identified by NPWS. These sites become NHAs once they have been formally advertised and land owners have been notified of their designation. NHAs are protected under the Wildlife (Amendment) Act, 2000, from the date they are formally proposed. NHA is a statutory designation according to the Wildlife (Amended) Act, 2000 and requires consultation with NPWS if any development impacts on a pNHA.

NHAs are considered to be of national importance, while SACs and SPAs are of international importance for nature conservation.

The lands adjoin the boundaries of a number of designated sites for nature conservation. These include:

- Portraine Shore pNHA (Site Code: 001215), which adjoins the site boundary to the east,
- Rogerstown Estuary SAC (Site Code: 000208), which adjoins the site boundary and is located to the north of the site,
- Rogerstown Estuary SPA (Site Code: 004015), which adjoins the site boundary and is located to the east and north of the site,
- Rogerstown Estuary pNHA (Site Code: 000208), which adjoins the site boundary and is located to the north of the site.

A number of other Natura 2000 designated sites also occur within a 10km radius of the site. These and the sites listed above are summarised in Table 2.3.1 below and include;

- Malahide Estuary SAC (Site Code: 000205)
- Malahide Estuary SPA (Site Code: 004025)
- Lambay Island SAC (Site Code: 000204)
- Lambay Island SPA (Site Code: 004069)
- Baldoyle Bay SAC (Site Code: 000199)

- Baldoyle Bay SPA (Site Code: 004016)

Some of these and a number of other sites in the area are also designated as proposed Natural Heritage Areas:

- Lambay Island pNHA (Site Code: 000204),
- Malahide Estuary pNHA (Site Code: 000205),
- Feltrim Hill pNHA (Site Code: 001218),
- Sluice River Marsh pNHA (Site Code: 001763),
- Baldoyle Bay pNHA (Site Code: 000199),
- Loughshinny Coast pNHA (Site Code: 002000).

Table 2.3.1. Designated Nature Conservation Sites within a 10km radius of the HSE lands at Portrane.

Site Code	Site Name and Designation	Approximate distance from St. Ita's	Conservation Interest (summarised from site synopsis) *Priority Habitats are indicated with an asterisk*
000208	Rogerstown Estuary SAC	Adjoins site boundary to the N	• (1130) Estuaries • (1140) Mudflats and sandflats not covered by seawater at low tide • (1310) *Salicornia* and other annuals colonizing mud and sand • (1410) Mediterranean salt meadows (*Juncetalia maritimi*) • (1330) Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) • (2130) Fixed coastal dunes with herbaceous vegetation (grey dunes)* • (2120) Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) • Hairy violet (*Viola hirta*) • Meadow barley (*Hordeum secalinum*) • Green veined orchid (*Orchis morio*)
004015	Rogerstown Estuary SPA	Adjoins site boundary to the N	• Greylag Goose (*Anser anser*) [A043] • Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] • Shelduck (*Tadorna tadorna*) [A048] • Shoveler (*Anas clypeata*) [A056] • Oystercatcher (*Haematopus ostralegus*) [A130] • Ringed Plover (*Charadrius hiaticula*) [A137] • Grey Plover (*Pluvialis squatarola*) [A141]

Appendix C - Ecology Survey (2013)

Site Code	Site Name and Designation	Approximate distance from St. Ita's	Conservation Interest (summarised from site synopsis) *Priority Habitats are indicated with an asterisk*
			• Knot (*Calidris canutus*) [A143] • Dunlin (*Calidris alpina*) [A149] • Black-tailed Godwit (*Limosa limosa*) [A156] • Redshank (*Tringa totanus*) [A162] • Wetlands & Waterbirds [A999]
000208	Rogerstown Estuary pNHA	Adjoins site boundary to the N	• as for the SAC
001215	Portraine Shore pNHA	Adjoins the site boundary to the E	• rocky shore, with some intertidal sands • geological interest
000205	Malahide Estuary SAC	0.5km S	• (1140) Mudflats and sandflats not covered by seawater at low tide • (1310) *Salicornia* and other annuals colonizing mud and sand • (1320) Spartina swards (*Spartinion maritimae*) • (1410) Mediterranean salt meadows (*Juncetalia maritimi*) • (1330) Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) • (2130) Fixed coastal dunes with herbaceous vegetation (grey dunes)* • (2120) Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes)
004025	Malahide Estuary SPA	1.9km S	• Great Crested Grebe (*Podiceps cristatus*) [A005] • Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] • Shelduck (*Tadorna tadorna*) [A048] • Pintail (*Anas acuta*) [A054] • Goldeneye (*Bucephala clangula*) [A067] • Red-breasted Merganser (*Mergus serrator*) [A069] • Oystercatcher (*Haematopus ostralegus*) [A130] • Golden Plover (*Pluvialis apricaria*) [A140] • Grey Plover (*Pluvialis squatarola*) [A141] • Knot (*Calidris canutus*) [A143] • Dunlin (*Calidris alpina*) [A149] • Black-tailed Godwit (*Limosa limosa*) [A156]

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Site Code	Site Name and Designation	Approximate distance from St. Ita's	Conservation Interest (summarised from site synopsis) *Priority Habitats are indicated with an asterisk*
			• Bar-tailed Godwit (*Limosa lapponica*) [A157] • Redshank (*Tringa totanus*) [A162] • Wetlands & Waterbirds [A999]
000204	Lambay Island SAC	4.1km E	• (1230) Vegetated sea cliffs of the Atlantic and Baltic coasts • (1364) *Halichoerus grypus*
004069	Lambay Island SPA	4.1km E	• Fulmar (*Fulmarus glacialis*) [A009] • Cormorant (*Phalacrocorax carbo*) [A017] • Shag (*Phalacrocorax aristotelis*) [A018] • Greylag Goose (*Anser anser*) [A043] • Lesser Black-backed Gull (*Larus fuscus*) [A183] • Herring Gull (*Larus argentatus*) [A184] • Kittiwake (*Rissa tridactyla*) [A188] • Guillemot (*Uria aalge*) [A199] • Razorbill (*Alca torda*) [A200] • Puffin (*Fratercula arctica*) [A204]
004016	Baldoyle Bay SPA	7km S	• Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] • Shelduck (*Tadorna tadorna*) [A048] • Ringed Plover (*Charadrius hiaticula*) [A137] • Golden Plover (*Pluvialis apricaria*) [A140] • Grey Plover (*Pluvialis squatarola*) [A141] • Bar-tailed Godwit (*Limosa lapponica*) [A157] • Wetlands & Waterbirds [A999] • Statutory Nature Reserve • RAMSAR site
000199	Baldoyle Bay SAC	7.3km S	• (1140) Mudflats and sandflats not covered by seawater at low tide • (1410) Mediterranean salt meadows (*Juncetalia maritimi*) • (1330) Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) • (1310) *Salicornia* and other annuals colonizing mud and sand • Borrer's saltmarsh (*Puccinellia fasciculata*) • Meadow barley (*Hordeum secalinum*)

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Appendix C - Ecology Survey (2013)

Site Code	Site Name and Designation	Approximate distance from St. Ita's	Conservation Interest (summarised from site synopsis) *Priority Habitats are indicated with an asterisk*
004122	Skerries Islands SPA	8.5km N	• Cormorant (*Phalacrocorax carbo*) [A017] • Shag (*Phalacrocorax aristotelis*) [A018] • Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] • Purple Sandpiper (*Calidris maritima*) [A148] • Turnstone (*Arenaria interpres*) [A169] • Herring Gull (*Larus argentatus*) [A184]
004014	Rockabill SPA	9km N	• Purple Sandpiper (*Calidris maritima*) [A148] • Roseate Tern (*Sterna dougallii*) [A192] • Common Tern (*Sterna hirundo*) [A193] • Arctic Tern (*Sterna paradisaea*) [A194]

Local Nature Conservation Designations

The wooded areas within the Portrane Demesne are listed as a 'Nature Development Area' (NDA) in the Fingal County Council County Development Plan.

2.3 Faunal Interest

Badger
The main interest in the site for non-volant mammals is for badger (*Meles meles*) – an active sett is present in the north-western corner of the site as was previously documented by Keeley (2005, 2006 and 2011) and badger activity was noted throughout this part of the woodlands (pers. obs.) as well as foraging on open lawn areas elsewhere in the hospital grounds.

Badgers are common and widespread in Ireland, and are found in all lowland habitats where the soil is dry and not subject to flooding (Hayden and Harrington, 2000). Badgers are social animals that live in complex underground tunnel systems called setts. Badger territories may vary in size from about 60-200 ha (Smal, 1995).

Badgers and their setts legally are protected under the provisions of the Wildlife Act, 1976, and the Wildlife Amendment Act, 2000. It is an offence to intentionally kill or injure a protected species or to wilfully interfere with or destroy the breeding site or resting place of a protected wild animal. It is standard best practice to ensure that mitigation measures are taken to limit impacts on badgers and badger populations during developments.

The removal of badgers from affected setts and subsequent destruction of these setts must be conducted under licence by experienced badger experts or other suitably qualified personnel. The National Parks and Wildlife Service (NPWS) of the Department of the Environment, Heritage and Local Government grant licences to the experts undertaking the badger operations and not to the developer or contractor. An application for a wildlife licence should be submitted to the NPWS with the relevant ecological information from the detailed badger survey. At least three weeks is normally required to process a licence application, but early discussions with NPWS can expedite the procedure. Conditions are usually attached to each wildlife licence granted in respect of badgers. It is normal practice to impose seasonal constraints e.g. that breeding setts are not interfered with or disturbed during the badger breeding season (December to June inclusive). No active sett should be interfered with or disturbed during the breeding season as any sett category may contain cubs. Closure of setts during the breeding season requires monitoring to demonstrate no sett activity occurs.

Other mammals
Rabbit (*Oryctolagus cuniculus*) burrows were also frequently recorded and hare (*Lepus timidus hibernicus*) has been recorded in the past. Fox (*Vulpes vulpes*) was observed during the site visit and smaller mammals such as wood mouse (*Apodemus sylvaticus*), brown rat (*Rattus norvegicus*), hedgehog (*Erinaceus europaeus*), and stoat (*Mustela erminea hibernicus*) are also expected/confirmed. Although there is an ongoing rodent control programme in place around the grounds of the hospital the house mouse (*Mus musculus*) would also be expected. Grey squirrel (*Sciurus carolinensis*) is recorded from Newbridge Demesne and extensive grey squirrel damage was noted during the current and tree survey of the woodlands at St. Ita's (Morgan (2013)).

2.4 Bat Interest

Consultation with Bat Conservation Ireland has identified that several species of bats have been recorded within the 10km square (O25) in which the site is located. These include:

- Common pipistrelle (*Pipistrellus pipistrellus*),
- Soprano pipistrelle (*Pipistrellus pygmaeus*),

Appendix C - Ecology Survey (2013)

- Nathusius pipistrelle (*Pipistrellus nathusii*),
- Daubenton's bat (*Myotis daubentonii*),
- Leisler's bat (*Nyctalus leisleri*),
- Brown long-eared bat (*Plecotus auritus*),
- Whiskered bat (*Myotis mystacinus*),
- Natterer's bat (*Myotis nattereri*),
- Several unidentified *Myotis* species, and
- an unidentified pipistrelle species (*Pipistrellus* sp.).

A detailed bat survey of the proposed development site was completed by Dr. Tina Aughney in 2012. This survey confirmed the following roosts from within the study area;

- Brown long-eared bat – maternity roost
- Soprano pipistrelle – maternity roost
- Common pipistrelle – satellite roost
- Various night roosts

The survey confirmed the following species of bats from the general hospital grounds using a combination of passive recording and dawn and dusk detector surveys:

- Leisler's bats,
- Common pipistrelle,
- Brown long-eared bats,
- Natterer's bats,
- *Myotis* species,
- *S*oprano pipistrelle

A number of potential roosts in trees were also recorded within the site as illustrated on Figure 2.3 below.

Other known roosts nearby include a roost of an unidentified bat species from a private residence on the Portrane Road in the village of Donabate and a roost of unidentified pipistrelle bats from a hay barn and a disuse building at Turvey. A good variety of species have been recorded from the grounds of Newbridge House which is across the road from the site (these include Leisler's bat, common and soprano pipistrelle and brown long-eared bat). Observations of other species from the general area include soprano pipistrelle and an unidentified *Myotis* sp. from Turvey, and Leisler's bat, common and soprano pipistrelles and brown long-eared bat at Portrane village.

Figure 2.3 Potential bat roosts in trees in the proposed development area.

2.5 Breeding Birds

The breeding birds of St. Ita's Demesne were the subject of a detailed survey in 2006 by Oscar Merne and Julie Roe. Thirty six species of breeding birds were confirmed within the site most of which were associated with the woodlands. One of the main species of note from grassland areas was skylark, while species such as pied wagtail and swallow were associated with the buildings on the site. Long eared owl is also a possibility at the site.

2.6 Botanical Interest

The 10km square in which the site is located (O25) contains a number of historical and more recent records of rare and scare botanical species – namely Hairy Violet (*Viola hirta*), Red Hemp Nettle (*Galeopsis*

angustifolia), Round Prickly Headed Poppy (*Papaver hybridum*), Basil Thyme (*Acinos arvensis*), Meadow Barley (*Hordeum secalinum*) and Oyster Plant (*Mertensia maritima*). None of these have been recorded within the boundaries of the proposed site but dedicated surveys will be conducted for the most likely of these species at the most appropriate time of year.

The woodlands at Portrane were the subject of a botanical study commissioned by Fingal County Council (Mc Court, S. & D. Kelly (2008)). They noted the exotic trees which dominate much of the woodlands (beech, sycamore, horse chestnut, turkey oak, sweet chestnut, Monterey cypress, lime and a variety of conifers) along with ash and pedunculate oak. The woodland understorey is mostly planted with cotoneaster, yew, Japanese privet, spotted laurel, cherry laurel, cabbage palm, New Zealand broadleaf and snowberry. The presence of Wych elm, holly and elder was also noted.

2.7 Invasive Species

Mc Court and Kelly (2008) also reported the presence of several invasive species in the demesne including Japanese knotweed which is frequent in the lower slopes of the old walled garden and occasional in the woodlands, Montbretia and three-cornered garlic. Winter heliotrope which is very dominant was also noted during the current survey.

2.8 Tree Survey

A tree survey was commissioned by the HSE in 2013. This survey focused on the trees within the area proposed for the new NFMHS and those recorded on the woodland edge. The poor species composition and structure of the woodlands arising from lack of tree and woodland management was noted. The apple orchard within the old walled garden was also surveyed as part of this survey and requires skilled pruning and labour if they are to be restored. It is possible that some of these specimens might be old Irish varieties of apple of heritage and conservation value (Faith Wilson, pers. obs.).

The site would appear to be wooded for over 200 years as evidenced by the various historic maps for the area presented below.

Figure 2.8. Extract from Duncan's 1821 map of County Dublin, showing landscape features at Portrane Demesne, including raised walkway through the woods.

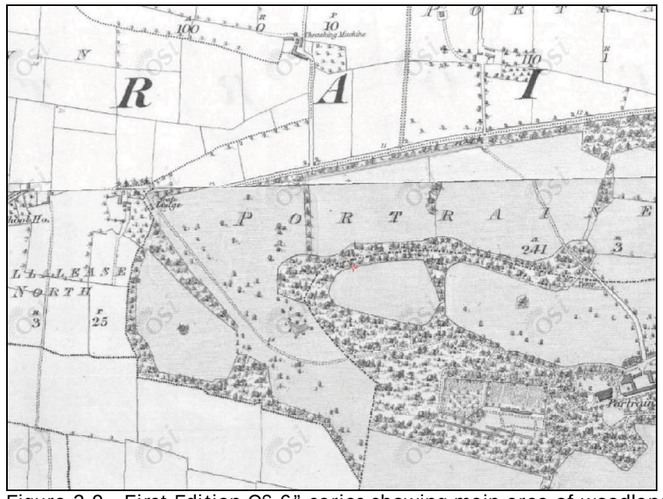

Figure 2.9. First Edition OS 6" series showing main area of woodland currently extant.

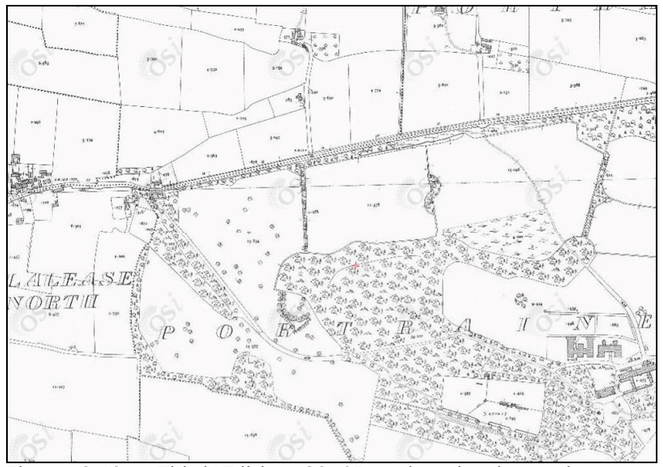

Figure 2.10. Third Edition OS 6" series showing main area of woodland currently extant.

3. FIELD SURVEY

3.1 Description of the site, its environs and habitats

The HSE site was visited over several days in February and March 2013 when the site, its margins and any areas of intact habitat were examined by Faith Wilson. The main features of interest within the site from an ecological perspective are the woodlands and some areas of grassland may also be of interest if they were not too intensively farmed in the past but these will be the subject of a more detailed botanical survey later in the year when the flora has developed.

The principal habitats present within the demesne at Portrane (described according to Fossitt (2000)) are:

- BL1 Stonewalls and other stoneworks
- BL2 Earthen banks
- BL3 Buildings and other artificial surfaces
- BC2 Horticultural land
- BC3 Tilled land
- BC4 Flower beds and borders
- FW4 Drainage ditch
- GA1 Improved agricultural grassland
- GA2 Amenity grassland
- GS2 Dry meadows and grassy verges
- GS4 Wet grassland
- WD1 Mixed broadleaved woodland
- WD4 Conifer plantation
- WD5 Scattered trees and parkland
- WL1 Hedgerows
- WL2 Treelines
- WS1 Scrub
- WS3 Ornamental/non-native shrubs

The coastline adjoining St. Ita's has been mapped by Fingal County Council with the following habitats:

- CD2 Marram dunes
- CS1 Rocky sea cliffs
- LR2 Moderately exposed rocky shores
- LS1 Shingle and gravel shores
- LR5 Sea caves

The dominant habitats within each of the proposed sites is summarised below in Table 3.1.

Appendix C - Ecology Survey (2013)

Table 3.1. Principal habitats present in each of the proposed sites for the NFHMS and evaluation of their importance for nature conservation and biodiversity – see Appendix I for site rating methodology.

Site Code	Site description/habitats	Rating
A	This site is dominated by a field of improved agricultural grassland and is bounded by mixed broadleaved woodland to the west, south and north, and a treeline on an earthen bank with a drainage ditch to the east. Earthen banks and drains are also a feature of the woodlands along the northern part of the site and drain to an area of wet grassland to the north. A small copse of woodland adjoining an old paddock is located within this site. The southern part of the site contains a number of specimen trees of high quality with potential for roosting bats.	C – woodlands D – other habitats
B	This site contains the old walled garden with its orchard and a large block of mixed broadleaved woodland which forms the central link between the woodland to the west and the remainder of the site to the east. A large block of woodland between the walled garden and the former site of Portrane House is also present and contained some good mature specimens of oak, ash and beech as well as other species. The fruit trees in the orchard may be of heritage value. Areas of mown grassland and specimen trees surround the nurse's residence. Japanese knotweed is an issue along the deep drainage ditch/water feature at this site.	C
C	This low lying site is sheltered from the west and south by a triple treeline and shelterbelt of pines, Monterey cypress, ash and sycamore on an earthen bank with deep drainage ditches. The majority of the site is dominated by a tilled field which appears poorly drained. Scrub has developed on the embankment in front of the main hospital buildings and adjoining the shelterbelt. This site adjoins the coastal habitats included within the boundary of the Portraine Shore pNHA.	D – wooded shelter belts only.
D	This is principally an open exposed area of amenity grassland used by St. Ita's football club. The playing grounds are surrounded by a tall stone wall with a scattered treeline of pines. A number of built structures including a hand ball alley, a water tower and a round tower are located within the area. Japanese knotweed was noted here. A small area of semi-natural sycamore woodland has become established in an old quarry below the round tower.	D – Woodlands E – Other habitats
E	This site includes the main hospital buildings and adjoining grounds of amenity grassland, ornamental shrubs, parking areas and planted trees at St. Ita's. The main interest in this area is for roosting bats in the buildings.	E

4. IDENTIFICATION OF PREFERRED SITE FROM AN ECOLOGICAL PERSPECTIVE

The identification of the preferred location of the site for the new NFMHS at St. Ita's has been assessed using the following factors:

- reduction of habitat area
- disturbance to key species
- habitat or species fragmentation
- reduction in species density
- changes in key indicators of conservation value

These are summarised below in Table 4.1 and an overall preference rating is given for each of the sites from the perspective of ecology (note that some site options are rated equally).

Appendix C - Ecology Survey (2013)

Table 4.1. Likely direct, indirect or secondary impacts rated as high (H), medium (M) or low (L) of the project on habitats and species of conservation value within each of the proposed sites

Impact	Site A	Site B	Site C	Site D	Site E
Ecological Rating	C/D	C	D	D/E	E
Reduction of habitat area	M - potential loss to areas of woodland habitats	M - risk to woodland habitats	L	M - potential loss to areas of woodland habitats	L
Disturbance to key species	M - potential loss of bat roosts in trees and buildings	M - potential loss of bat roosts in trees	L	L	M - potential loss of bat roosts in buildings which have not been surveyed
Habitat or species fragmentation	M - potential loss of connectivity through the site	M - potential loss of connectivity through the site	L	L	L
Reduction in species density	M - potential loss of foraging area for local badger population and for bats	M - potential loss of foraging area for local badger population and for bats	L	L	M - potential impacts on bats
Changes in key indicators of conservation value	M - potential loss of woodlands and habitat for a variety of species	M - potential loss of woodlands and habitat for a variety of species	L	L	L
Preference from the perspective of ecology	**3**	**3**	**1**	**2**	**2**

5. CONCLUSIONS

Although it is recognised that there are ecological issues with all the proposed sites, Site A is emerging as the preferred option due to findings of the visual assessment, architectural heritage assessment and clinical assessment of the sites.

The potential impacts on biodiversity at this site and the 'Nature Development Area' can be mitigated for with careful and considerate design and planning which ensures that impacts on trees and woodlands in this area are avoided and connectivity between this site and the remainder of the demesne is preserved and enhanced.

A considered and well implemented woodland management plan for the entire demesne which not only addresses the heath, stability and stand quality of the woodlands but also the biodiversity value in terms of ground flora, control and eradication of invasive species would significantly ameliorate any impacts of the proposed NFMHS.

It is recommended that this is approached using close to nature woodland management techniques whereby the exotic trees and conifer woodlands are over time slowly replaced with native species using natural regeneration and other techniques to ensure that woodland continues to provide cover and habitat for a variety of key faunal species. This coupled with the possibility of the creation of a new area of native woodland established on lands owned by Fingal County Council to the west of the site could restore connectivity of the Portrane woodlands with those closer to Donabate village. Funding for such woodland establishment is currently available from the Forest Service and could be availed of.

A management and restoration plan for the walled garden should also be considered and potential heritage value of the apple trees therein be investigated.

A demesne wide biodiversity plan which addresses mowing regimes of grassland to benefit insects, breeding skylark and flora, and additional planting proposals and other wildlife friendly measures such as the erection of bat and bird breeding boxes should also be considered.

Appendix C - Ecology Survey (2013)

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7. APPENDIX I. EVALUATION OF SITES FOR FLORA, FAUNA AND FISHERIES

Rating	Importance of Ecological Sites	Importance of Fisheries Waters
A	Internationally important Sites designated (or qualifying for designation) as SAC* or SPA* under the EU Habitats or Birds Directives. Undesignated sites containing good examples of Annex I priority habitats under the EU Habitats Directive.	Internationally important Sites designated (or qualifying for designation) as SAC* for salmonids or Annex II species under the EU Habitats Directives. Major salmon river fisheries. Major salmonid (salmon, trout or char) lake fisheries.
B	Nationally important Sites or waters designated or proposed as an NHA* or statutory Nature Reserves. Undesignated sites containing good examples of Annex I habitats (under EU Habitats Directive). Undesignated sites containing significant numbers of resident or regularly occurring populations of Annex II species under the EU Habitats Directive or Annex I species under the EU Birds Directive or species protected under the Wildlife (Amendment) Act 2000.	Nationally important Major trout river fisheries. Water bodies with major amenity fishery value. Commercially important coarse fisheries.
C	High value, locally important Sites containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or significant populations of locally rare species. Sites containing any resident or regularly occurring populations of Annex II species under the EU Habitats Directive or Annex I species under the EU Birds Directive.	High value, locally important Small water bodies with known salmonid populations or with good potential salmonid habitat. Large water bodies with some coarse fisheries value.
D	Moderate value, locally important Sites containing some semi-natural habitat or locally important for wildlife.	Moderate value, locally important Small water bodies with some coarse fisheries value or some potential salmonid habitat. Any water body with unpolluted water (Q-value rating 4-5).
E	Low value, locally important Artificial or highly modified habitats with low species diversity and low wildlife value.	Low value, locally important Water bodies with no current fisheries value and no significant potential fisheries value.
F	Unknown Value Sites of possible ecological value which require further investigation at the optimum season to establish importance.	Unknown Value Sites of possible fisheries value requiring further survey.

*SAC = *Special Area of Conservation*
SPA= *Special Protection Area*
NHA= Natural Heritage Area

Appendix C - Ecology Survey (2013)

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8. APPENDIX II: CRITERIA FOR ASSESSING IMPACT SIGNIFICANCE ON TERRESTRIAL SITES.

Site category* ► Impact level ▼	A sites Internationally important	B sites Nationally important	C Sites High value, locally important	D sites Moderate value, locally important	E sites Low value, locally important
Severe negative	Any permanent impacts	Permanent impacts on a large part of a site			
Major negative	Temporary impacts on a large part of a site	Permanent impacts on a small part of a site	Permanent impacts on a large part of a site		
Moderate negative	Temporary impacts on a small part of a site	Temporary impacts on a large part of a site	Permanent impacts on a small part of a site	Permanent impacts on a large part of a site	
Minor negative		Temporary impacts on a small part of a site	Temporary impacts on a large part of a site	Permanent impacts on a small part of a site	Permanent impacts on a large part of a site
Neutral	No impacts	No impacts	No impacts	No impacts	Permanent impacts on a small part of a site
Minor positive				Permanent beneficial impacts on a small part of a site	Permanent beneficial impacts on a large part of a site
Moderate positive			Permanent beneficial impacts on a small part of a site	Permanent beneficial impacts on a large part of a site	
Major positive		Permanent beneficial impacts on a small part of a site	Permanent beneficial impacts on a large part of a site		

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APPENDIX D:

Bat Survey (2012)





Appendix D - Bat Survey (2012)

BAT ECO SERVICES

Feasibility Study: Bats

St. Ita's Hospital,

Portrane, County Dublin

Dr Tina Aughney

2013

Report prepared for:

HSE Estates, Sir Patrick Dun's Hospital, Lower Grand Canal St, Dublin 2

&

RPS, Consulting Engineers, West Pier, Business Campus, Dun Laoghaire, County Dublin

ULEX HOUSE, DRUMHEEL, LISDUFF, VIRGINIA, COUNTY CAVAN
+353 86 4049468 info@batecoservices.comwww.batecoservices.com

SUMMARY

A bat survey was completed prior to a Feasibility Study. As a consequence, this report was requested to allocate bat usage evidence gathered in 2012 according to the five proposed sites being investigated by the Feasibility Study in 2013.

St. Ita's Hospital is located on the coastal side of Portrane village, north County Dublin and is comprised of a 111 ha area. A bat survey was requested in 2012 to determine the bat usage of the 16 ha Campus Boundary, buildings located in this proposed development site and general bat usage of the 111 ha hospital site as all bat species are protected under Irish and EU legislation.

Name:	St. Ita's Hospital, Portrane, County Dublin.
Description:	Large array of 19th, 20th& 21stcentury buildings with slate, tiled and flat pitch roofs, some with large attic spaces.
Bat species present:	Brown long-eared bat – maternity roost Soprano pipistrelle – maternity roost Common pipistrelle – satellite roost Various night roosts
Bat survey by:	Dr Tina Aughney
Survey Dates:	27th-31stAugust 2012.
Proposed development:	New National Forensic Mental Hospital within the grounds of St. Ita's Hospital.

Appendix D - Bat Survey (2012)

1. Introduction

The Health Service Executive (HSE) commissioned a Feasibility Study for the development of a new National Forensic Mental Hospital within the grounds of St. Ita's Mental Hospital at Portrane, Co. Dublin (Grid Reference O2550) in 2013. St. Ita's Hospital is comprised of a large number of buildings, associated infrastructure and large tracts of treelines, woodland, hedgerows, pasture and parkland.

The entire hospital grounds are comprised of 111 ha. The Bat Survey remit in 2012 was to concentrate the bat survey with aproposed 16ha Campus Boundaryarea located to the west of the main hospital buildings. Consequently, the entire area was briefly surveyed for bats with a more concentrated effort in and around the 16 ha Campus Boundary. Adjacent buildings to this Campus Boundary were also surveyed at night-time to determine the roosting sites of bat species recorded foraging and commuting within the proposed Campus Boundary.Due to time constraints (and some health and safety issues), it was not possible to undertake a daytime inspection of all of the buildings located on the hospital grounds. This 2012 bat survey was primarily completedby night-time bat detector field work. Only buildings within the 16ha site were inspected during the daytime for bat usage.

For the Feasibility Study, there is a focused on five sites as shown in Figure 1. The main study area is outlined in blue on the map and five sites being considered for the development within these grounds are shown in red. The aim of the Feasibility Study is to assess these five sites in terms of their bat ecological sensitivity, with reference to the bat usage data collated by the 2012 bat survey.

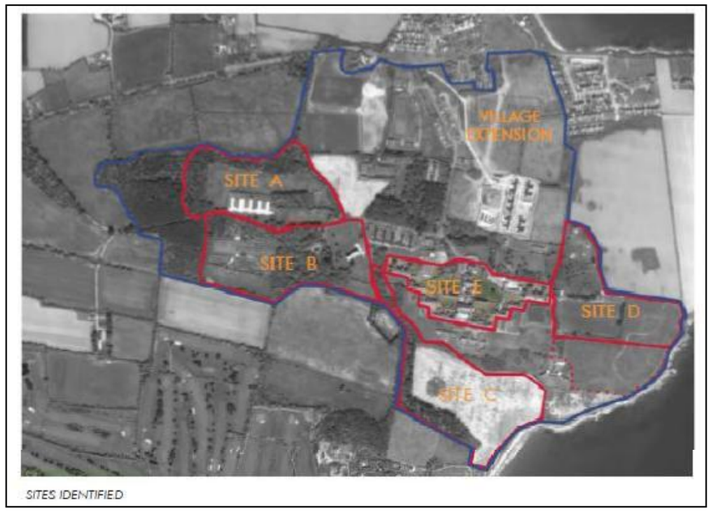

Figure 1: The proposed development lands at St. Ita's Hospital Portrane, outlined in blue.

Site A and Site B generally corresponds to the 16 ha Campus boundary where there is a large amount of bat survey data collated from the 2012 bat survey. There is limited data for the remaining three sites. For this report, the bat evidence will be presented as per original bat survey report. However, additional labelling (in bold/italics) will be provided to information on which site (Site A to Site E) the bat evidence was recorded in. This data will then be summarised in a separate chapter.

The following buildings are located within the proposed 16 ha Campus Boundary***(This area corresponds to Site A and Site B of the Feasibility Study)***:

Plate 1: Modern flat roof building located within the Campus Boundary: Nursing School***(Located in Site B)***.

Plate 2: Modern tiled roof house located within the Campus Boundary and adjacent to Protected Woodland***(Located in Site B)***.

Plate 3: Derelict corrugated iron roof shed located within the Campus Boundary and along the road that leads to the house in Plate 2***(Located on the boundary of Site A and Site B)***.
Plate 4: View of a second unused modern flat roof building located within the Campus Boundary***(Located in Site A)***.

Additional sheds and buildings are located in the old walled garden area but much of these are in poor condition. A much larger complex of buildings are located outside the Campus Boundary and consist of much older buildings mixed with modern houses and units:

Appendix D - Bat Survey (2012)

Plate 5: 19th Century red brick, slate roof building located to NE of Campus Boundary***(Not located within any of the sites investigated by the Feasibility Study)***.
Plate 6: 19th Century agricultural buildings (courtyard) located NE of Campus Boundary***(Not located within any of the sites investigated by the Feasibility Study)***.
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Plate 7, 8 and 9: 19th Century red brick, slate roof buildings located to east of Campus Boundary. These photographs represent the main buildings of St. Ita's Hospital***(All located within Site E)***.

1.1 Site description

St. Ita's Hospital is located on the coastal side of Portrane village, north County Dublin. There is a large complex of well-connected linear landscape habitats (treelines and hedgerows), woodlands and agricultural fieldson the grounds of St. Ita's Hospital.

This report presents the results of a site visit by Dr Tina Aughney on 27th – 31stAugust 2012 during which the on-site buildings were inspected, where possible, and a night-time bat detector survey was undertaken of the entire 111 ha site with a concentration on the 16 ha Campus Boundary***(Site A and Site B)***. This is a baseline survey due to the large survey area and due to the fact that not every building was inspected during the daytime. A daytime walkabout of the proposed development site and some adjacent treelines were inspected for the presence of mature trees in relation to their potential as Potential Bat Roosts (PBRs) was undertaken as part of this baseline survey.

2. Survey Methodology

Survey of bat fauna was carried out by means of search of buildings on-site (where possible) and the general environs of the proposed development area. Presence of bats is indicated principally by their signs, such as staining, lack of spider webs, feeding signs or droppings - though direct observations are also occasionally made. The nature and type of habitats present are also indicative of the species likely to be present.

This bat survey consists of the following elements:

- assessment of habitat survey maps to determine suitable foraging, roosting and commuting areas for bats

- collation of known bat records from the Bat Conservation Ireland database

- bat surveys to determine bat species roosting, commuting and foraging in vicinity of the proposed road route

The bat survey was carried on 27th-31stAugust 2012. Weather conditions on the survey date werevaried with light winds and mild temperatures at the beginning of the evening while turningcooler during the night with occasional rain showers.

A Passive Monitoring System of bat detection was also deployed for this survey scheme (i.e. a bat detector is left in the field, there is no observer present and bats which pass near enough to the monitoring unit are recorded and their calls are stored for later analysis). The bat detector is effectively used as a bat activity data logger. This results in a far greater sampling effort over a shorter period of time. Bat detectors are employed as the ultrasonic calls produced by bats cannot be heard by human hearing.

Bat surveying was completed using the Frequency Division AnaBat Detector System (AnaBat SD1 Flash Card Bat Detector). Frequency Division is a technique used to convert the inaudible bat echolocation calls to audible sounds. The AnaBat unit also uses Zero-Crossing Analysis (ZCA) to make the real-time recorded calls visible for display purposes. It is these sonograms (2-d sound pictures) that are digitally stored on the CF card and downloaded for analysis. Each time a bat is detected, an individual time-stamped (date and time to the second) file is recorded.

Two units were deployed for the survey with units located at different sites over the course of the bat survey. Units were located on trees within the 16 ha Campus Boundary ***(Site A and site B)*** and on trees adjacent to the Campus Boundary.

Appendix D - Bat Survey (2012)

Plate 10and 11: AnaBat Unit erected on tree (Close up and distant shot).

Bats are identified by their ultrasonic calls. This detector system records bat ultrasonic calls on a continuous basis and stores the information onto an internal CF card. Each detector was set to record from 20:00 hrs to 06:00 hrs. Data was then downloaded and analysed using Analook (sound software for the AnaBat system). Each time-stamped AnaBat file was analysed and the species of bat recorded was noted as a bat pass. Some files may have recorded more than one species. In this instance, a bat pass is noted for each species (e.g. two species identified in a time-stamped file which corresponded to one soprano pipistrelle bat pass and one common pipistrelle bat pass). However, in the light of two individuals of the same species being recorded in the same time-stamped file, only one bat pass was noted for this time-stamped file.

To support the Passive Monitoring Programme, dusk survey was also completed using a bat detector (Pettersson 240x Time Expansion and Heterodyne Bat Detector). Dusk surveys weregenerally completed during the hours of 7.30 p.m.to 00:00 a.m. while Dawn surveys wereundertaken from 4.30 a.m. to 6.30 a.m., unless otherwise stated in the report.

2.1 Survey Constraints

This survey was undertaken inside the preferred summer months of May to mid-September. There were some survey constraintsdue to poor weather conditions on occasional times during survey but survey results are considered by the author as sufficient to make an assessment of bat activity of the proposed development area.

3. Bat Assessment

This baseline bat ecology assessment was completed using data collated from a number of summer bat surveys (Passive Monitoring System and Dusk& Dawn bat surveys) and a database search of the Bat Conservation Ireland database.

Weather conditions:

Survey Date	Dusk Survey	Dawn Survey
27/8/2012 & 28/8/2012	Overcast, 15^{o}C, Calm and dry. Some occasional heavy rain showers	Clear sky, 12^{o}C, Calm and dry. Some occasional heavy rain showers
29/8/2012 & 30/8/2012	Overcast, 16^{o}C, light breeze and dry. Some occasional heavy rain showers (Full moon)	Overcast, 14^{o}C, Calm and dry. Some occasional heavy rain showers
30/8/2012 & 31/8/2012	Overcast, 16^{o}C, Calm and dry. Some occasional heavy rain showers	Clear sky, 12^{o}C, Calm and dry. Some occasional heavy rain showers

3.1 Dusk & Dawn Bat Survey Results: Summary

Bat activity was recorded during all surveys. The passive monitoring system using AnaBat units recorded the following species: Leisler's bats, common pipistrelle, brown long-eared bats, *Myotis*species and soprano pipistrelle.

The Dusk and Dawn walkabout bat detector surveys recorded the same set of species: Leisler's bats, common pipistrelle, brown long-eared bats, Natterer's bats, *Myotis*species and soprano pipistrelle. These results will be presented in more detail below.

Dusk Survey 27th August 2012

Surveying was concentrated around the 2-storey building within the 16 ha Campus Boundary (Plate 2) and derelict shed (Plate 3). ***These buildingsare located in Site B.***No bats were detected emerging from these two buildings. Soprano pipistrelles were recorded foraging around the 2-storey building from 7.00 p.m. to 8.12 p.m. Soprano pipistrelles and common pipistrelles were recorded commuting and feeding along the road way leading from these buildings to the main buildings of the hospital (See Map 1).

Dawn Survey 28th August 2012

Dawn survey was concentrated around the Nursing School (Plate 1). ***This building is located in Site B.*** No bat roosts were detected in this building. Continuous soprano bat activity was recorded around conifer trees located west of this building (and east of the 2-storey building, Plate 2, See Map 1).

Appendix D - Bat Survey (2012)

Plate 12and 13: Mature trees located adjacent to Nursing School (Site B).

Map 1: Bat commuting routes and foraging areas recorded during walkabout bat surveys: Dusk Survey 27th August 2012 & Dawn Survey 28th August 2012. Red = soprano pipistrelle; Blue = common pipistrelle.

Dusk Survey 29th August 2012

Dusk survey was concentrated around the Agricultural buildings (Plate 6, Grid reference O2502150547) and 2-storey 19thcentury red brick building (Plate 5). ***Both of these buildings are <u>not located</u> within any of the proposed five sites for consideration by the Feasibility Study.***

Two maternity roosts were recorded within the agricultural building: brown long-eared bat roost (two exit points, >22 individuals) and soprano pipistrelle roost (four exit points, >18 individuals). All of these individuals commuted to the rear of the buildings and followed mature tree lines up towards the protected woodland and additional habitats within the 16 ha Campus Boundary***(Leading to both Site A and Site B of the Feasibility Study).***

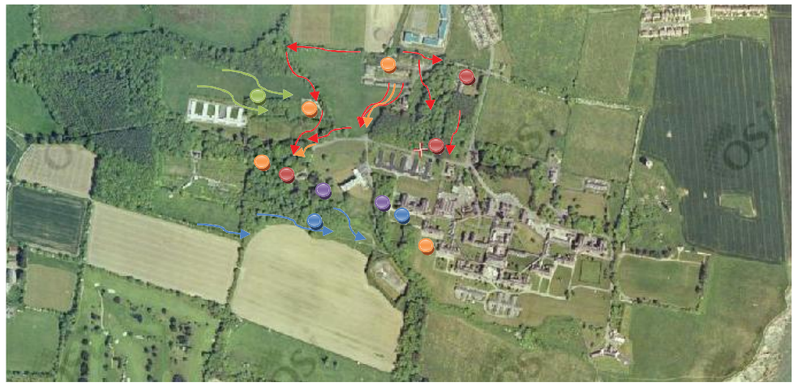
<u>NOTE:</u>*The total number of individuals counted is a minimum number as the surveyor continuously moved around the building to locate roosts. The total number of brown long-eared bats is considered to be close to the total number of bats potentially roosting in the building as the surveyor concentrated more on counting this species as it is a bat species often difficult to record foraging and more easily recorded when emerging from a roost. The total number of soprano pipistrelles counted is considered to be an underestimate of the potential number of bats roosting in this building as this species tends to roost in very high numbers and the majority of the bats emerge to the rear of the building while the surveyor concentrated on brown long-eared bats that were primarily emerging from open doorways into the courtyard of the agricultural buildings.*

Soprano pipistrelle and common pipistrelle bats were recorded foraging around the 2-storey 19th century red brick building (Plate 5) but no bats were detected emerging from this building. In addition, these two species were also recorded foraging along treelines and roadways from the entrance to the hospital towards the main building and along the tracks from the main buildings towards the 16 ha Campus Boundary***(Along the roadway that leads to Site A and Site B)***.

From 10:00 p.m. to 2 a.m., the entire hospital grounds were walked to record bat activity (See Map 2):

1. Track between agricultural buildings and main hospital***(Adjacent and around Site A, Site B and Site E)*****:** soprano pipistrelles
2. Road to sewage treatment plant (outer boundary of hospital grounds): common pipistrelles***(south of Site B and west of Site C).***
3. Track leading from 2-storey tiled roof building (Plate 2) to modern flat roof building (Plate 4): Leisler's bats***(covering sections of both Site A and Site B)***.
4. Rear of main hospital building: common pipistrelles, brown long-eared bats and Natterer's bats.A large amount of common pipistrelle social calls were recorded in section of main hospital close to the Nursing School. Brown long-eared bat social calls were also recorded in the courtyard garden to rear of main buildings***(Within Site E)***.
5. Roadway leading from main hospital grounds to entrance to hospital: soprano pipistrelle bat activity***(North of Site E and within Site E)***.
6. Woodland tracts in protected woodland habitat: Natterer's bat, brown long-eared bat and soprano pipistrelle***(Within Site B)***.

Appendix D - Bat Survey (2012)



Map 2: Bat commuting routes and foraging areas recorded during walkabout bat surveys: Dusk Survey 29th August 2012. Circles indicate foraging individuals and Arrows indicate commuting bats. Red = soprano pipistrelle; Orange = brown long-eared bat; Blue = common pipistrelle; Green = Leisler's bat; Purple = Natterer's bat.

Plate 14: Agricultural buildings (rear view – showing 4 recorded exit points. More exits points within court yard of building). NB: emerging bats commuted in direction of arrow to mature tree line which was followed up towards woodland***(Woodland located in Site A and Site B)***.

Plate 15: Agricultural buildings (courtyard view – showing 3 recorded exit points. Red circle indicates principal roosting areas***(These buildings are not located within any of the sites for consideration by the Feasibility Study)***.

Dawn Survey 30th August 2012

During the Dawn Survey, which was concentrated around the modern flat roof building located within the Campus Boundary (Plate 4)***(Within Site A)***, one brown long-eared bat, two common pipistrelles and one soprano pipistrelle bat were recorded emerging from the building and commuting back to main roosting sites. This building provides vital night roosts for bats during inclement weather (See Map 3).

In addition (See Map 3):

1. Roadway adjacent to occupied and unoccupied cottages: common pipistrelle and soprano pipistrelle***(Main roadway leading to the main hospital buildings of Site E)***.
2. Security building: soprano pipistrelle***(North of Site E)***.
3. Rear of main building adjacent to Nursing School: brown long-eared bat, Natterer's bat, common pipistrelle and soprano pipistrelle***(Within Site E)***.
4. 19th century red brick two-storey and adjacent treeline: brown long-eared bats***(This area is not within any of the areas considered by the Feasibility Study)***.
5. Open grassland area between 2-storey tile roof building and modern flat roof building: Leisler's bats***(Within Site A)***.

Appendix D - Bat Survey (2012)

Plate 16 & 17:Modern flat roofed building within Campus Boundary***(Located in Site A)*** – showing recorded exit points which tended to be sections of windows that were open to allow bat access.

Map 3: Bat commuting routes and foraging areas recorded during walkabout bat surveys: Dawn Survey 30th August 2012. Circles indicate foraging individuals and Arrows indicate commuting bats. Red = soprano pipistrelle; Orange = brown long-eared bat; Blue = common pipistrelle; Green = Leisler's bat; Purple = Natterer's bat.

Dusk Survey 30th August 2012

Dusk surveying was concentrated to the rear of the main buildings where a large amount of common pipistrelle activity was recorded on previous survey nights. A common pipistrelle roost (>10 individuals) is located in these buildings (See Map 4). Additional common pipistrelles, Natterer's bats and brown long-eared bats were recorded commuting from unknown roosts towards the protected woodland site.***(All of this area surveyed is within Site E).***

Dawn Survey 31st August 2012

The dawn survey was also concentrated to the rear of the main buildings again in order to try to determine where additional bats are roosting. However, due to the large array of buildings, this proved impossible during this baseline bat survey.***(All of this area surveyed is within Site E).***

Map 4: Bat commuting routes and foraging areas recorded during walkabout bat surveys: Dusk Survey 30th August 2012 and Dawn Survey 31st August 2012. Circles indicate foraging individuals and Arrows indicate commuting bats. Red = soprano pipistrelle; Orange = brown long-eared bat; Blue = common pipistrelle; Green = Leisler's bat; Purple = Natterer's bat.

In summary, three maternity roosts were recorded with additional satellite and night roosts for three species of bats. A large array of activity was recorded throughout the hospital 111 ha site. However, the greater concentration of treelines and woodland within the 16 ha ***(Site A and Site B)*** and adjacent fields meant that a much greater amount of bat activity was recorded here.

Appendix D - Bat Survey (2012)

3.2Passive Bat Survey Records

Two AnaBat SDI units were located on-site over the course of the survey. Results are presented as bar charts to indicate the number of bats passes of each species identified on an hourly basis on each of the three nights of surveillance.

Survey Date	AnaBat A	AnaBat B
27/8/2012 & 28/8/2012	Tract between main building and Nursing School O2490050317 ***Red Circle Map 5***	Adjacent to entrance to walled garden O2488550446 ***Blue Circle Map 5***
29/8/2012 & 30/8/2012	Within protected woodland O2464050380 ***Orange Circle Map 5***	Along treeline between agricultural building and modern flat roof building O2472450497 ***GreenCircle Map 5***
30/8/2012 & 31/8/2012	Adjacent to modern flat roof building beside open grassland area ***Purple Circle Map 5***	Open area in woodland leading down to sewage treatment plant ***Light Blue Circle Map 5***

Map 5: Location of AnaBat Units during Passive Monitoring.

AnaBatA 27/8/12 to 28/8/12

To the rear of the main hospital buildings ***(This refers to building located within Site E)*** there are continuous hedgerows and treelines. A tract leads from this area to the Nursing School***(Located in Site B)***, with an additional tract leading down to the sewage treatment plant. Due to the array of treelined tracts, this area would be considered a good commuting habitat for bats. The AnaBat unit was located here to determine potential commuting bats from potential roosts in the main hospital buildings towards the Campus Boundary***(Site A and Site B)***.

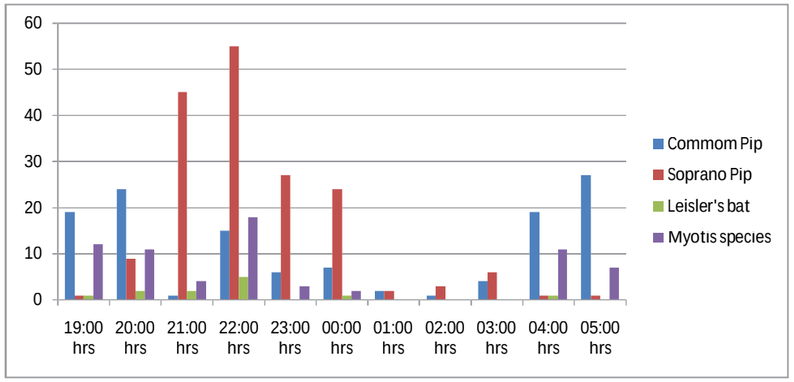


Figure 1: AnaBatUnit A located along woodland tract between the main hospital buildings and Nursing School (27/8/12 to 28/8/12).

Continuous common pipistrelle bat activity was recorded throughout the survey night at this location and maybe due to common pipistrelle bats roosting in the main hospital buildings and commuting along the tracts in vicinity of AnaBat unit. A large number of soprano pipistrelle bat passes were recorded between 21:00 – 00:00 hrs and reflects foraging individuals along the treelined tract. Additional bats were records: Leisler's bats and *Myotis*species (not always possible to identify to species level).

AnaBat B 27/8/12 to 28/10/12

This unit was located to the side of the gate entrance to the walled garden. The walled garden is accessible from the woodland. So there are numerous treeline tracts that lead from the woodland to the walled garden. The walled garden itself is primarily open grassland currently grazed by horses.

Appendix D - Bat Survey (2012)

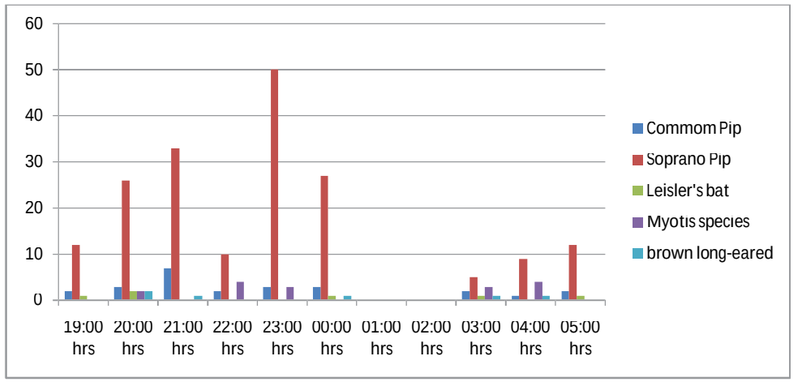


Figure 2: AnaBatUnit B located adjacent to walled garden (27/8/12 to 28/8/12).

There was a large amount of soprano pipistrelle passes recorded throughout the night with a much smaller level of bat activity for all other species recorded. However, there was a consistent recording of *Myotis*bats and brown long-eared bat passes for much of the night reflecting the woodland habitat adjacent to the walled garden.

AnaBatA 29/8/12 to 30/8/12

This AnaBat unit was located within the protected woodland. This woodland is comprised of immature conifer and deciduous trees, with large mature trees interspersed in the area. An extensive array of woodland tracts are present connecting the woodland with a large tract of conifer plantation, extensive mature treelines and hedgerows present both within the grounds of St. Ita's and surrounding landscape.

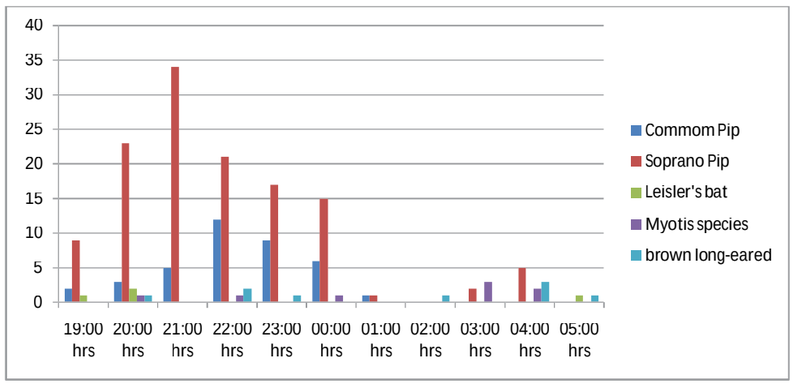


Figure 3: AnaBatUnit A located within protected woodland (29/8/12 to 30/8/12).

A large number of soprano pipistrelle bat passes were recorded between 21:00 – 00:00 hrs and reflects foraging individuals along the treelined tract with a peak in activity at 21:00 hrs which coincides with a heavy rain shower. Bats were recorded in the woodland on foot also at this time and may have been seeking shelter within the woodland. Additional bats were recorded: brown long-eared bats and *Myotis*species (not always possible to identify to species level) with the odd Leisler's bat pass recorded.

AnaBat B 29/8/12 to 30/8/12

This unit was located along the main treeline that connects the agricultural buildings with the modern flat roof building (disused). Both brown long-eared bats and soprano pipistrelles were recorded roosting within the agricultural buildings and were recorded flying along this treeline towards the protected woodland.

The activity levels of these two species reflect that this flight path along the treeline is used by the bats for safe commuting between the two named locations. Additional bat species were also recorded: *Myotis*species, common pipstrelles and Leisler's bats. The higher level of Leisler's bats recorded at this site compared to the three locations above is more reflective of the open fields adjacent to the treeline which is this species preferred foraging habitats.

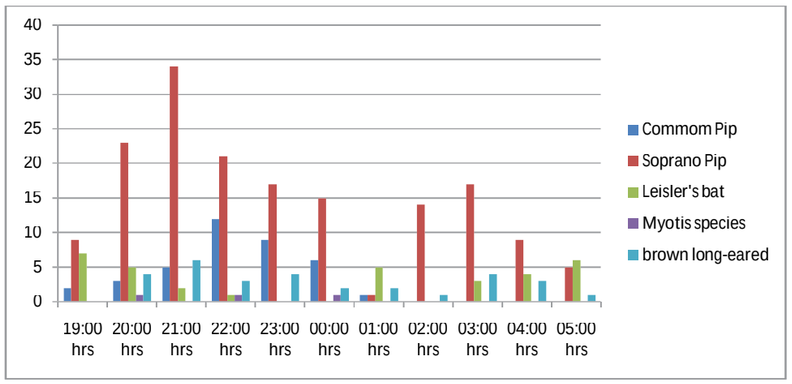


Figure 4: AnaBatUnit B located along treeline between the agricultural buildings and disused modern flat roof building located within Campus Boundary (29/8/12 to 30/8/12).

AnaBatA30/8/12 to 31/8/12

The unit was located on a tree adjacent to the disused modern flat roof building and adjacent to the woodland edge and open grassland where Leisler's bats were recorded foraging during Dusk and Dawn surveys. This was also reflected in the number of Leisler's bat passes recorded on the AnaBat unit. There was also continuous common pipistrelle,

Appendix D - Bat Survey (2012)

soprano pipistrelle and brown long-eared bat passes recorded reflecting that this building is used as a night roost by these bat species.

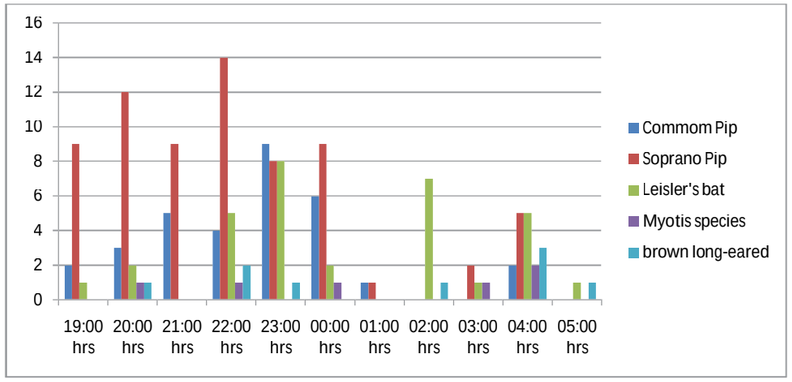


Figure 5: AnaBatUnit A located adjacent disused modern flat roof building located within Campus Boundary (30/8/12 to 31/8/12).

AnaBat B 30/8/12 to 31/8/12

The unit was located within the woodland clearing between the sewage treatment plant and the Nursing School. A much reduced species list (three species of bats) was recorded at this point with higher levels of Leisler's bats reflecting the more open nature of the site. While continuous bat activity was recorded, the number of bat passes is much lower compared to other survey locations. No brown long-eared bats or *Myotis*species were recorded.

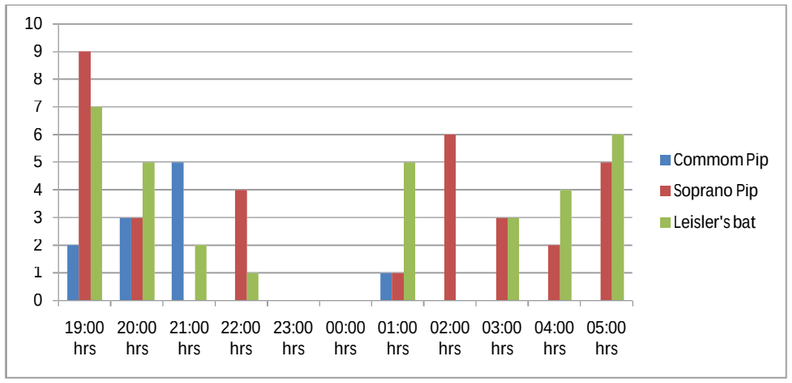


Figure 6: AnaBatUnit B located within a clearing of woodland adjacent to the sewage treatment plant (30/8/12 to 31/8/12).

3.3 Potential Bat Roosts (PBRs) in Trees

There are a large number of trees deemed as potential bats roosts on the grounds of St. Ita's. A brief daytime inspection of the 16 ha Campus Boundary ***(Site A and Site B)*** and some adjacent treelines identified at least 26 large mature trees deemed suitable as Potential Bat Roosts (PBRs). Such trees are an essential component for healthy bat populations. A more detailed survey of trees would be required when the exact details of the proposed developed is made to determine which trees may be removed in preparation for the proposed development.

Map 6: Location of Potential Bat Roosts (PBRs) within the 16 ha Campus Boundary***(Site A and Site B)*** and adjacent treelines.

A Tree Survey was completed in December 2012 and January 2013 by Independent Tree Survey. During this survey, trees were labelled. However, due to the large number of trees labelled, it is not possible to decipher from the maps what numbers would correspond to PBRs marked above. Consequently, it is recommended to undertake a visit to collate this information at a later date when a decision has been made on where the proposed development will take place.

Appendix D - Bat Survey (2012)

3.4 Bat Conservation Ireland Database Records

A database search was completed for the 1km and 10km radius search of the grid reference O2490050300. Within the 1km radius there was no bats records are currently on the database. Within 10km radius, there are details with regards to four roosts (*Pipistrellus*species and brown long-eared bat), one transect of Daubenton's bat records from the All Ireland Daubenton's batWaterways Monitoring Scheme (Bridge north of Killeek on the Ward River O1493146484) and three transects from car-based bat monitoring scheme for the 30km sample square O04 (soprano pipistrelle, common pipistrelle, *Pipistrellus*species andLeisler's bat) are on the database (search completed on 24.10.2012). In addition, 32 Ad Hoc observations are also on the database for Daubenton's bats, Leisler's bats, common pipistrelle, soprano pipistrelle, brown long-eared bat, whiskered bat and Natterer's bat.

3.5 Feasibility Survey

Site A

The modern flat-roof building located within this area is used a satellite roosts for three species of bats: soprano pipistrelle, common pipistrelle and brown long-eared bats. The treeline and wooded area around this building is used extensively as commuting and foraging areas for four species of bat: soprano pipistrelle, Leisler's bat, common pipistrelle and brown long-eared bats. This area also provides commuting routes for individuals from roosts located in the agricultural buildings to feeding areas in both Site A and Site B.

Site A is a valuable site for bat usage. It's commuting and foraging importance is greater than its importance as a roosting site. Its roosting importance is likely to be of Medium Importance for individual bats during inclement weather conditions.

Site B

There is an array of buildings located in Site B, none of which were recorded as roosting sites for bats. However, there was extensive evidence collated with regards to commuting and foraging for five species of bats: soprano pipistrelle, Leisler's bat, Natterer's bat, common pipistrelle and brown long-eared bats.

Site B is a valuable site for bat usage. It's commuting and foraging importance is greater than its importance as a roosting site.

Site C

Little bat usage data was recorded within this area primarily due to the fact that little surveying was undertaken within this site. The large treelines in the west and south western boundaries of the site are likely to be important commuting and foraging areas.

Site D

Little bat usage data was recorded within this area primarily due to the fact that little surveying was undertaken within this site. Some soprano pipistrelle bat activity was recorded. However, in general this site has potentially the least importance for bats compared the four other proposed sites.

Site E

This site is comprised of a large array of red brick Victorian buildings. At least three species of bat roost in these buildings but due to the vast number of attic spaces available as well as numerous crevices, the number of roosts likely to be present would be greater than recorded. This site would be considered as potentially the most important site for roosting bats and its location close to Site B and Site A means that there are good foraging and commuting habitats close by.

Appendix D - Bat Survey (2012)

4. Potential Impacts of proposed works on Bat Fauna

The following bat species have been recorded during this bat survey: common pipistrelle, brown long-eared bat, Natterer's bat, soprano pipistrelle andLeisler's bats.

In summary, any proposed development will need to consider the following:

a. Bats and their bat roosts are protected by Irish (Wildlife Act 1976 and 2000 Amendment) which make it an offence to wilfully interfere with or destroy the breeding or resting place of these species. All species of bats are listed in Schedule 5 of the 1976 Act and therefore are subject to the provisions of Section 23.

b. The EU Habitats Regulations Directive 1992 seeks to protect rare and vulnerable species, including all species of bats. All ten species of bat are protected with the lesser horseshoe bat listed as an Annex II species while all other bats (commonly known as vesper bats) are listed as Annex IV species.

c. Local Planning Authorities are required to give consideration to nature conservation interests under the guidance of the SEA Directive 2001/42/EC. This directive states that the protected status afforded to bats means that planning authorities must consider their presence in order to reduce the impact of developments through mitigation measures.

d. The National Biodiversity Plan confers general responsibilities on all participants in the development process to take into account of protected species. "*The overall objective is to secure the conservation, and where possible the enhancement, and sustainable use of biological diversity in Ireland and contribute to conservation and sustainable use of biodiversity globally*".

NPWS Conservation Status Assessment report for each of the species recorded is presented in a summary below the species list:

Leisler's bat *Nyctalusleisleri*(Species Code 1331)
Common pipistrelle *Pipistrelluspipistrellus*(Species Code 1309)
Soprano pipistrelle *Pipistrelluspygmaeus*(Species Code 5009)
Natterer's bat *Myotisnattereri*(Species Code 1322)
Brown long-eared bats *Plecotusauritus*(Species Code 1326)

All Irish bat species are given a Favourable Status in Republic of Ireland. The Irish Leisler's bat population is of International Importance. The principal pressures on Irish bat species are as follows:

- urbanized areas (e.g. light pollution)
- bridge/viaduct repairs
- pesticides usage
- removal of hedges, scrub, forestry
- water pollution

- other pollution and human impacts (e.g. renovation of dwellings with roosts)
- infillings of ditches, dykes, ponds, pools and marshes
- management of aquatic and bank vegetation for drainage purposes
- abandonment of pastoral systems
- speleology and vandalism
- communication routes: roads
- forestry management

As this survey is a Baseline Bat Survey and until the location of the proposed development site is decided, a detailed of potential impacts on local bat populations is not possible and thereforemitigation measures cannot be provided at this time. However the principal concerns related to bats in view of any potential proposed works are:

- Loss of the batroosts recorded within buildings that may be removed through the development of the Campus Boundary site.
- Loss of the bat roosts in mature trees located within and adjacent to the Campus Boundary site that may be removed.
- Loss of the treelines and hedgerows connecting roosts outside the Campus Boundary to principal foraging areas and night roosts.
- Loss of the bat foraging habitats that may be removed through the development of the Campus Boundary site.
- Increased lighting levels along commuting routes and within foraging habitats
- Increased noise and human activity along commuting routes and within foraging habitats within an area that is relatively left wild for number of years.

.

Therefore, for future bat assessment, the report will draw on guidelines already available in Europe and will use the following documents:

- *A conservation plan for Irish vesper bats, Irish Wildlife Manual No. 20 National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.*
- *Bat Mitigation Guidelines for Ireland. Irish Wildlife Manuals, No. 25. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.*
- *National Biodiversity Plan. Department of Arts, Heritage, Gealtacht and the Islands.*
- *The status of EU protected habitats and species in Ireland: Conservation status in Ireland of habitats and species listed in the European Council Directive on the Conservation of Habitats, Flora and Fauna 92/43/EEC. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government.*

All bat species recorded during this bat survey are Annex IV species under the EU Habitats Directive and all have a Favourable Status in Ireland. The maternity roost of brown long-eared bats recorded in the agricultural building is of local importance. The high level of bat activity for five species of bat also reflects the importance of this 111 ha site for local bat populations.

Appendix D - Bat Survey (2012)

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Appendices

Bat ecology – general

The bat is the only mammal that is capable of true flight. There are over 1,100 species worldwide, representing almost a quarter of all mammal species. There are 47 species in Europe - in Ireland, ten species of bat are currently known to exist, which are classified into two families, the Rhinolophidae (Horseshoe bats) and the Vespertilionidae (Common bats).

Prey

All the European bat species feed exclusively on insects. A Pipistrelle, weighing only 4 to 8 grammes, will eat up to 3000 insects every night, ensuring a build-up of fat in the bat's body to allow it to survive the winter deep in hibernation.

Breeding and longevity

Irish bats can produce one young per year but, more usually, only one young is born every two years (Boyd &Stebbings, 1989). This slow rate of reproduction inhibits repopulation in areas of rapid decline. Although bats have been known to live for twenty or more years, this is rare as most die in their first and the average lifespan, in the wild, is four years.

Threats

All bat species are in decline as they face many threats to their highly developed and specialised lifestyles. Many bats succumb to poisons used as woodworm treatments within their roosting sites (Racey& Swift, 1986). Agricultural intensification, with the loss of hedgerows, treelines, woodlands and species-rich grasslands have impacted bat species also. Habitual roosting or hibernation sites in caves, mines, trees and disused buildings are also often lost to development. Summer roosts are prone to disturbance from vandals. Agricultural pesticides accumulate in their prey, reaching lethal doses (Jefferies, 1972). Chemical treatments in cattle production sterilise dung thus ensuring that no insects can breed within it to be fed upon by bats. Likewise, river pollution, from agricultural runoff, reduces the abundance of aquatic insects. Road building, with the resultant loss of foraging and roosting sites is a significant cause in the reduction of bat populations across Europe.

Extinction

As recently as 1992, the greater mouse-eared bat *Myotismyotis* became the first mammal to become extinct in Britain since the wolf in the 18th century.

Appendix D - Bat Survey (2012)

Description of bat species known or expected on site

Common pipistrelle*Pipistrelluspipistrellus*

This species was only recently separated from its sibling, the soprano or brown pipistrelle*P. pygmaeus*, which is detailed below (Barratt *et al*, 1997). The common pipistrelle's echolocation calls peak at 45 kHz. The species forages along linear landscape features such as hedgerows and treelines as well as within woodland.

Soprano pipistrelle*Pipistrelluspygmaeus*

The soprano pipistrelle's echolocation calls peak at 55 kHz, which distinguishes it readily from the common pipistrelle on detector. The pipistrelles are the smallest and most often seen of our bats, flying at head height and taking small prey such as midges and small moths. Summer roost sites are usually in buildings but tree holes and heavy ivy are also used. Roost numbers can exceed 1,500 animals in mid-summer.

Leisler's bat *Nyctalusleisleri*

This species is Ireland's largest bat, with a wingspan of up to 320mm; it is also the third most common bat, preferring to roost in buildings, although it is sometimes found in trees and bat boxes. It is the earliest bat to emerge in the evening, flying fast and high with occasional steep dives to ground level, feeding on moths, caddis-flies and beetles. The echolocation calls are sometimes audible to the human ear being around 15 kHz at their lowest. The audible chatter from their roost on hot summer days is sometimes an aid to location. This species is uncommon in Europe and as Ireland holds the largest national population the species is considered as Near Threatened here.

Brown long-eared bat*Plecotusauritus*

This species of bat is a 'gleaner', hunting amongst the foliage of trees and shrubs, and hovering briefly to pick a moth or spider off a leaf, which it then takes to a sheltered perch to consume. They often land on the ground to capture their prey. Using its nose to emit its echolocation, the long-eared bat 'whispers' its calls so that the insects, upon which it preys, cannot hear its approach (and hence, it needs oversize ears to hear the returning echoes). As this is a whispering species, it is extremely difficult to monitor in the field as it is seldom heard on a bat detector. Furthermore, keeping within the foliage, as it does, it is easily overlooked.

Natterer's bat *Myotisnattereri*

This species has a slow to medium flight, usually over trees but sometimes over water. They follow hedges and treelines to their feeding sites, consuming flies, moths and caddis-flies. Natterer's bats are frequently recorded in hibernation sites in winter but there are few records of summer roosts. Those that are known are usually in old stone buildings but they have been found in trees and bat boxes.The status of the Natterer's bat has not been determined but it is classed as *Threatened* and is listed in the *Irish Red Data Book* (Whilde, A 1993).

List of Irish bat species and adjudged status on site

Bats		Status on site
Chiroptera[1]		
Common Pipistrelle[2]	*Pipistrellus pipistrellus*	Present
Soprano Pipistrelle	*Pipistrellus pygmaeus*	Present
Nathusius' Pipistrelle	*Pipistrellus nathusii*	Absent
Brown Long-eared	*Plecotus auritus*	Present
Leisler's	*Nyctalus leisleri*	Present
Lesser Horseshoe	*Rhinolophushipposideros*	Absent
Whiskered	*Myotismystacinus*	Absent
Natterer's	*Myotisnattereri*	Present
Daubenton's	*Myotisdaubentonii*	Absent
Brandt's	*Myotisbrandtii*	Absent

[1] Bat distribution records from O'Sullivan (1994) and Richardson (2000).

[2] Two common species of pipistrelle bat are present in Ireland, recent taxonomic revision. The species are identified by the frequency they use for echolocation (46Hz [Common] and 55Hz [Soprano]), and both occur in similar habitats. Roosts occur in buildings and trees.

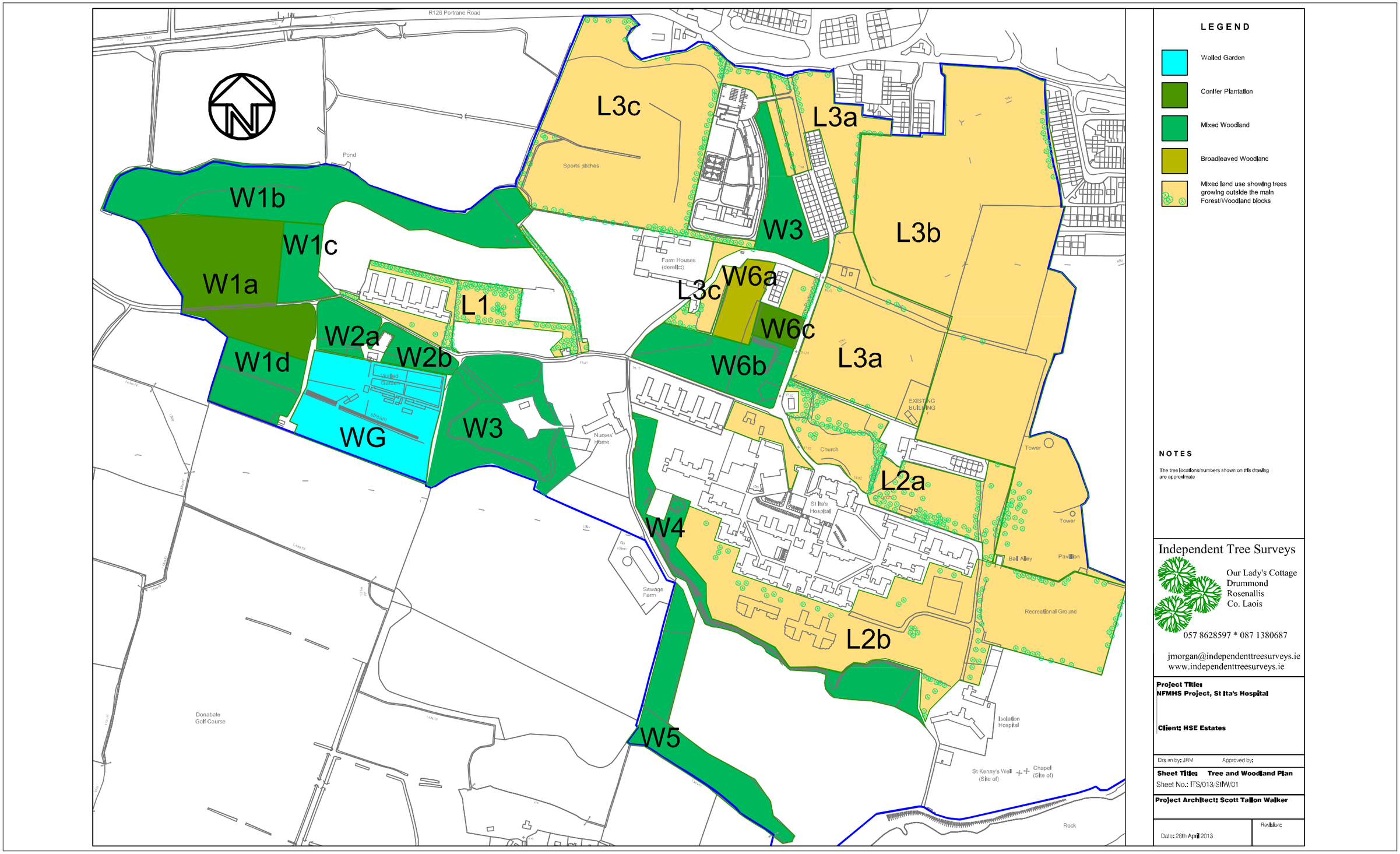
APPENDIX E:

Tree Survey and Report (2013)





Appendix E.1 - Tree Survey (2013)



Appendix E.2 - Tree Review (2013)

Independent Tree Surveys

Tree and Woodland Review

St Ita's Hospital Demense
Portrane
Donabate
County Dublin

March 2013

Independent Tree Surveys
Our Lady's Cottage
Drummond, Rosenallis
County Laois
Tel: 057 8628597
Mob: 087 1380687
www.independenttreesurveys.ie

Report Prepared by

John Morgan
BSc (Hons) Tech Cert (Arbor A) M Abor A

March 2013

www.independenttreesurveys.ie

Appendix E.2 - Tree Review (2013)

Table of Contents

Introduction

This report contains a broad review of the tree population of St Ita's Demesne and is designed to be incorporated into a baseline Flora and Fauna Chapter for an Environmental Impact Statement in support of a planned redevelopment of the property.

The report concerns the 111 Hectares of land that lies within the present boundaries of St Ita's Hospital Demesne, Portrane, Donabate, County Dublin; this land was formerly included in a larger holding know as Portrane Demesne, centred around Portrane House (now demolished).

Site History

The property had been developed into a country residence in early Georgian times with the main house being constructed in the 1730's. The demesne was occupied and managed privately until being taken on by the state to allow the construction of a new mental health hospital known as St Ita's in 1896.

The hospital was a very large and ambitious project and required the redevelopment of large areas of the original demesne, further building continued into the twentieth century. The hospital became akin to a small town with a population of over 1600 patients at its peak, large parts of the remaining demesne were managed to provide fresh produce to the hospital kitchens.

By the latter part of the twentieth century attitudes to mental health and the types of treatments available had changed considerably and the population of the hospital dwindled; today most of the old hospital is empty and many of the buildings are derelict. New, purpose built buildings have been constructed north of the old hospital and a number of old staff cottages are still occupied.

There is a large tree population on the property made up of woodlands, tree clusters, hedges and individual trees; the composition and distribution of this tree population reflects the previous land use and history of the demesne over the last 300 years; from Georgian residence to Mental Hospital through to the present day.

Planning Designations

The vast majority of the Demesne is zoned as a High Amenity Area in the Fingal County Development Plan 2011-2017; with the zoning objective being to *protect and enhance the high amenity areas*. The Local Objective is to *protect and preserve trees, woodlands and hedgerows*.

Appendix E.2 - Tree Review (2013)

A section of open ground and housing east of the main entrance into the Demesne from Portrane Road is zoned *R2 Existing Residential.*

Rogerstown Estuary *Special Protected Area* is located to the north and east of the property. The coastline of the Demesne - 'Portraine Shore' is designated as a *Proposed National Heritage Area* by the National Parks and Wildlife Services.

Methodology

Field work for the study was carried out between December 2012 and February 2013. Woodlands and groups of trees similar in composition or character were assessed and described collectively; the locations of these woodland areas and groups of trees are shown on the site map.

The following field data was collected:

Woodland or Tree Type

Conifer Plantation	Forest of coniferous tree species - usually planted as a timber crop
Mixed Woodland	Woodland containing a mixture of broadleaved and coniferous tree species
Broadleaved Woodland	Woodland of broadleaved (deciduous) trees – usually of mixed species
Landscape/Amenity Trees	Trees or groups of trees outside woodland and forest blocks
Walled Garden	Trees planted and managed for fruit production

Species

Tree species present in the main canopy layer

Tree and shrub species making up the woodland under-storey (where present)

Dominant ground flora species (where appropriate)

Tree Size

The approximate stem diameter range of the trees within the woodland – in mm at 1.5m from ground level (diameter at breast height – *dbh*)

The approximate height range of the trees or woodland – in metres

Tree Age Class

NP	Newly Planted	Within 3 years of establishment
SM	Semi-Mature	Established tree, not yet fully grown
M	Mature	Full or near full grown tree
LM	Late Mature	Older specimen in full maturity
OM	Over Mature	Reached full maturity but now declining through natural causes
Vet	Veteran	Notable on account of large size, old age, ecological importance

Appendix E.2 - Tree Review (2013)

Tree Physiological and Structural Condition

Good:	No obvious defects visible, vigour and form of tree good.
Fair:	Tree in average condition for its age and the environment.
Poor:	Tree shows signs of ill health/structural defect
Bad:	Tree in seriously bad health/major structural problem

Comments

Comments/further details are made where appropriate

Review Findings

Woodland W1. Large Woodland area at the western edge of the property containing the following woodland sub-compartments:

Woodland Compartment W1a - Conifer Plantation

Woodland area dominated by Sitka Spruce (*Picea sitchensis*) with some occasional slender, etiolated Ash (*Fraxinus excelsior*), and Sycamore (*Acer pseudoplatanus*) stems within the plantation. There are numerous mature broadleaved trees growing along the western perimeter/edge of the block – these are mostly Ash and Sycamores with very thick Ivy (*Hedera helix*) growth on the stems and into the tree crowns, most of these trees have a leaning form out over the field.
.
The Spruce trees are now semi-mature and mature in age and are mostly 100-300mm dbh (occasional larger stems to 450mm); they are approximately 15-18m in height.

There is a very sparse under-storey of small Elder (*Sambucus nigra*) bushes, and a ground flora dominated by Ivy.

Comments

The Spruce crop was planted at 1.8 m spacing and has not been thinned; it is now overstocked and contains many dead and suppressed stems amongst many good straight trees. The stand is very dark and relatively low in biodiversity. There are numerous smaller wind-thrown stems – mostly already dead. The stand would benefit from forest thinning operations to reduce the density of stems that would in turn allow the remaining trees to develop into better quality stems. The woodland is fairly well drained on gently sloping ground.

1840s Ordnance Survey maps show part of this area as open land surrounded by woods; by 1913 the open ground had been planted up and the area recorded as continuous woodland.

The southern section of the plantation contains many large old tree stumps; these are likely to be the remnants of older broadleaved woodland that was then overplanted with Spruce.

Camp fire sites and litter indicate the woodland has been used for anti-social activity in recent times. No evidence of any recent forest management operations was observed.

Appendix E.2 - Tree Review (2013)

Photo 1 Heavily shaded interior of the Sitka Spruce plantation W1a

Woodland Compartment W1b – Mixed Woodland

This area contains a mixture of tree species – with the density of Sitka Spruce trees much less than the monoculture in compartment W1a. There is a sizeable percentage of broadleaves; mainly Ash and Sycamore, with some multi-stem Sweet Chestnut (*Castanea sativa*) coppice stools regenerating from some large old stumps. There are a number of mature Beech trees (*Fagus sylvatica*) to 800mm dbh along the northern edge of the wood and. some Wild Cherry (*Prunus avium*) along southern boundary.

Increased light levels have allowed the development of an under-storey of Sycamore, Ash, Elder, Hazel (*Corylus avellana*) and occasional Holly (*Ilex aquifolium*) in places as well as a more diverse ground flora (Ivy, herbs, ferns).

Woodland age class is mainly semi-mature and early mature inside the block, with more mature specimens of Ash, Sycamore and Beech at the woodland edge. There are a number of Spruce trees in variable condition; some now dead and wind-thrown. In eastern half of the compartment the Spruce trees become locally more numerous forming clusters (mostly 150-250mm dbh, occasional 450mm).

Comments

Many Ash and Sycamore trees are growing as multi-stemmed coppice stools; indicating that the woodland was cut a number of years ago, many of the Sycamores have been badly damaged by Grey Squirrels (*Sciurus carolinensis*) in the past. Bacterial Canker disease (*Pseudomonas savastanoi* pv. *fraxini*) and *Armillaria spp.*fungi are affecting a number of the Ash trees. Thick Ivy growth is a problem for a significant proportion of the mature trees.

The woodland follows the north-western edge of the Demesne; sloping down to a drainage ditch that forms the demesne boundary. Drainage is poor in places with extensive run off from the ground to the south; the soil is very wet at the eastern end of the woodland.

Ordnance Survey maps indicate that this area has been covered by woodland since at least 1843. The current structure and composition of the wood are indicative of older mixed broadleaved woodland having been felled and overplanted with Spruce a number of years ago.

There was no evidence of any recent management activity having taken place; the woodland would benefit from selective thinning to re-space the trees and from Ivy severance to some of the trees being smothered by excessive climber growth. A large number of woodland edge trees have excessive outward growth or a leaning form; many of these stems would benefit from thinning out and/or remedial pruning.

Photo 2 Western edge of woodland W1b viewed from the south – note the dense Ivy cover in many trees

Woodland Compartment W1c – Mixed Woodland

Mixed species woodland compartment made up of Sitka Spruce, Ash, Sycamore, Beech and Cherry with small numbers of Wych Elm (*Ulmus glabra*), Pedunculate Oak (*Quercus robur*) and Silver Fir (*Abies alba*).

Hazel, Wych Elm, Elder, young Sycamore and Ash make up the woodland under-storey, with small amounts of Cherry Laurel (*Prunus laurocerasus*) also present.

The stand has a much lower density of stems per hectare than plantation to the west and contains an older age class range (mostly mature with some early mature). The trees are also taller trees, with some 20-22m in height.

Some of the Spruce trees are up to 500mm dbh, with the Ash, Beech and Sycamore mostly in the 250-300mm range; most of the bigger trees are located along the eastern edge of the woodland

Appendix E.2 - Tree Review (2013)

Comments

The woodland occupies an area of fairly level ground with reasonable drainage that is recorded as being woodland since at least 1843.

Many stems are covered with thick Ivy and Grey Squirrels have caused some significant damage to the semi-mature Beech and Sycamore trees within the compartment.

Many of the trees growing at the eastern edge of the woodland are leaning out over the field as they compete for light; these trees should be thinned or pruned back as part of on going management work.

There has been some wind-throw of Spruce and Ash in particular and overall the stand is of comparatively little commercial value.

There was no evidence of any recent management activity having taken place; the woodland would benefit from selective thinning to re-space the trees and from Ivy severance to some of the trees being smothered by excessive climber growth.

Photo 3 Interior of woodland W1c showing recent wind-throw of Sitka Spruce

Woodland Compartment W1d – Mixed Woodland

Southern section of the main woodland block made up of mixed conifers - Sitka Spruce, Silver Fir, and broadleaves - Ash, Beech, Pedunculate Oak, Turkey Oak (*Quercus cerris*), Horse Chestnut (*Aesculus hippocastanum*) and Poplar (*populus spp*.)

Some large mature trees with taller Spruce 20-25m tall and 500mm dbh, mixed with mature Silver Fir (600mm dbh) and mature broadleaves.

The conifers are more numerous in the eastern part of the wood with some younger Spruce stems along the southern edge; broadleaved trees are more dominant in the south-western portion of the compartment with some larger mature trees along western boundary including one Horse chestnut of 900mm dbh. Stem density is also higher in the eastern half of the compartment with trees in stiff competition for light; especially along the woodland edge.

Woodland under-storey includes Cherry Laurel in the central part of the wood along with young and semi-mature Holly, Ash, Oaks, Beech and Sycamore. A ground flora has developed where light levels permit with extensive areas of Three Cornered Garlic (*Allium triquetrum*) present.

Comments

There has been extensive Grey Squirrel damage to the semi-mature Beech and Sycamore trees, and bacterial canker is also a problem for many Ash stems. Thick Ivy growth is especially prevalent in the eastern part of the wood.

The woodland has a broadly southern aspect, gently sloping down from the north with the ground becoming fairly level in the southern half; drainage is good on the sloping ground with the soil becoming wetter as the ground levels out. Old Ordnance Survey maps indicate that this has been woodland since at least 1843.

There was no evidence of any recent management activity having taken place; the woodland would benefit from some selective thinning to re-space the trees, removal of the invasive plants and from Ivy severance to some of the trees being smothered by excessive climber growth.

Camp fires and litter indicate that the area near the old machinery shed has been regularly used for anti-social activities including vandalism to woodland trees.

Appendix E.2 - Tree Review (2013)

Photo 3 Western end of W1d showing wide spacing of trees and *Allium triquetrum* ground flora

Woodland W2 - Mixed Woodland.

Wooded area north of the old walled garden containing a mixture of mainly – Sitka Spruce, Beech, Ash, Sycamore, Pedunculate Oak and Turkey Oak but also including a smaller number of Yew (*Taxus baccata*), Horse Chestnut, Sweet Chestnut, Monterey Cypress (*Cupressus macrocarpa*), Wych Elm and Silver Birch (*Betula pendula*) trees.

Woodland Compartment W2a Mixed Woodland

The western section of the wood comprises mainly of densely stocked semi-mature coppice stools of Ash and Sycamore mixed with semi-mature Sitka Spruce (150-300mm dbh). There are occasional semi-mature Oaks and Beech spread through the wood and one large mature Monterey Cypress in the south western corner. Ground flora is limited, with Ivy dominant.

Many stems are covered in thick Ivy and are now heavily suppressed; there are numerous dead and fallen stems throughout the wood. Bacterial canker is widespread on the Ash trees and most Sycamores have been damaged by Grey Squirrels.

The eastern half of the compartment is mostly mixed broadleaved woodland made up of mature and semi-mature Beech (two mature trees of 600mm dbh), Sycamore, Ash, Pedunculate Oak and Turkey Oak (with one Silver Fir) of variable quality.

There is comparatively little under-storey with some semi-mature Holly, and the ground layer is dominated by Ivy and Snowberry (*Symphoricarpos albus)*

Comments

The woodland would benefit greatly from a comprehensive selective thinning regime and work to control Ivy on trees that are to be retained. Trees with excessive outward growth or stems that are leaning out from the woodland edge should be thinned out or pruned back to help prevent wind-throw.

The woodland is on relatively flat, well drained ground. Old Ordnance Survey maps indicate that this has been woodland since at least 1843.

Photo 4 Western end of W2a with dense stocking of Ash and Sycamore coppice and Sitka Spruce plantation

Woodland Compartment W2b Mixed Broadleaved Woodland

Mixed broadleaved woodland with several large (22m + tall) late mature specimens of Pedunculate Oak (500-900mm dbh) and Beech (to 1000mm dbh) set within younger secondary woodland of mainly Beech, Ash and Sycamore with some Pedunculate Oak and Turkey Oak. Most of the younger semi-mature and early mature trees are between 15-17m in height

The under-storey contains a small number of Yews, some Holly, Elm and numerous younger coppice stools of Ash and Sycamore – particularly along the southern edge of the wood.

Parts of the western end of the woodland contains overgrown remnants of ornamental shrubs and hedging plants including *Griselinia littoralis*, *Cotoneaster x watereri, Lonicera nitida, Ligustrum lucidum* and *Garrya elliptica*.

The ground layer is dominated by Ivy and Snowberry (*Symphoricarpos albus).*

Appendix E.2 - Tree Review (2013)

Comments

There has been considerable damage done by Grey squirrels and some Ash trees are being affected by bacterial canker, however Ivy growth is not quite as extensive as in other areas of the demesne but still remains a problem for many trees; especially along the northern edge of the wood. Numerous trees along this edge have unbalanced crown shapes and/or leaning form due to group competition and should be thinned out or pruned back.

Many of the older trees are in decline with several of the bigger Beech trees in very poor condition, some of the old Oaks may benefit from increased light levels created by thinning out the younger trees around them (*halo thinning*). Selective thinning of other parts of the stand will also help improve the quality of the woodland.

The woodland is on relatively flat, well drained ground. Old Ordnance Survey maps indicate that this has been woodland since at least 1843.

Photo 5 Southern end of W2b showing semi-mature Beech, Ash and Sycamore along access track

Walled Garden WG

The old walled garden has been left unmanaged and neglected for a number of years and has become overgrown with brambles, self-sown trees (Cherry, Ash, Wych Elm and Sycamore) and invasive weeds such as Japanese Knotweed (*Fallopia japonica*). There are occasional remnants of ornamental planting scattered throughout the garden with some *Eucalyptus*, Lawson Cypress (*Chamaecyparis lawsoniana*) and various shrubs (including a Privet hedge along the western boundary) present.

The garden is gently sloping to the south down to the drainage ditch that runs west to east across the plot; drainage seems good on the sloping ground, becoming poorer as it levels out.

There are some remnant areas of Apple (*Malus domestica*) orchard within the garden – mostly in the central-eastern part, with a small number of other trees in the western half. These Apple trees are mostly in poor condition and many are smothered by climber and bramble growth.

The southern boundary of the garden is formed by an overgrown hedge-line of Sycamore, Ash, Hawthorn and Cherry; numerous Cherry suckers are spreading out into the field.

Early maps show the area south of the drainage ditch to be woodland, this was later cleared to expand the garden area, it is now scrub grassland that is becoming overgrown with mixed undergrowth (mainly Bramble *Rubus fruticosus*).

Woodland W3 - Mixed Woodland.

This is a substantial area of mature woodland east of the old walled garden; the woodland largely surrounds the now empty staff accommodation house which itself sits on the site of the original Portrane House (now demolished).

The woods contain a mixture of mature trees including Sycamore, Beech (some large late mature 700-900mm dbh specimens), mature and over mature Monterey Cypress (up to 25m tall), *Eucalyptus*, Horse Chestnut (one specimen 1200mm dbh), Sweet Chestnut, Lucombe Oak (*Quercus x hispanica* 'Lucombeana'), Yew, Common Lime (*Tilia x europea*), Pedunculate Oak, Turkey Oak, Sitka Spruce and Austrian Pine (*Pinus nigra*).

There is an extensive under-storey containing mature and over mature Cabbage Palm (*Cordyline australis*), Elder, *Cotoneaster spp.*, *Griselinia littoralis*, Cherry Laurel, Holly, Cherry Plum (*Prunus cerasifera* var *pissardii*), *Ligustrum lucidum*, *Aucuba Japonica* and *Lonicera nitada.*

Appendix E.2 - Tree Review (2013)

Allium triquetrum dominates the ground layer where light levels are highest with Ivy dominant in the darker conditions present in the northern part of the wood.

Comments

Parts of the wood are shown as gardens surrounding the original Portrane House on the 1840s maps, with a mixture of open space and trees. The present species composition of the woods, with a wide variety of exotic tree and shrub species is consistent with it being the overgrown remains of the old Georgian and Victorian gardens.

The woodland is fairly flat over the northern third, with the southern two thirds gently sloping down southwards to the southern boundary of the demesne.

There does not appear to have been much management activity within the wood in recent times and it has largely been left untouched. Some of the bigger trees have suffered storm damage (Monterey Cypress trees in particular), areas have become overstocked and there is very thick Ivy on many trees. Many woodland edge trees have grown out in search of light and are now poorly formed and unstable. Many of the older shrubs making up the under-storey have become overgrown and unstable; with some of the *Cotoneaster* and *Griselinia* bushes now suffering branch breakage.

Despite the lack of maintenance the woodland is an important landscape feature, it is however of comparatively limited conservation value as it is comprised mostly of non-native tree and shrub species – relatively small numbers of Ash, Wych Elm, Pedunculate Oak being the only native trees conspicuous in the main canopy layer. Sycamore is the dominant canopy tree, with some good examples scattered through the woodland, many of the semi-mature Sycamore (and Beech) trees however have been badly damaged by Grey Squirrels.

An underground pipeline has been routed through the south-eastern corner of the wood and has entailed the removal of a swathe of vegetation; the operation has damaged some trees adjacent to the pipeline.

Pathways through the woods are used by members of the public for recreational walking and access.

The woods would benefit from maintenance work to fell or prune defective individual trees and from wider thinning operations to reduce stocking rates where necessary and to create gaps and rides to improve the potential of the wood for wildlife and natural regeneration of native species trees. This work should be part of woodland plan based on clear management objectives.

Photo 6 showing the interior of the north-western part of Woodland W3 and *Allium triquetrum* ground cover

Landscape and Amenity Trees L1

This area includes the unmanaged clusters of mainly broadleaved trees to the north and east of the derelict accommodation block situated north of the walled garden.

The area contains a belt of mature trees - mainly Sycamore and Ash (plus a small number of Oak and Lime); these trees are in mostly poor condition with numerous broken branches, fallen stems and very dense Ivy growth into the tree crowns. Bacterial canker has badly affected many of the Ash trees. Tree heights range mostly between16-22m with stem diameters of around 300-850mm at 1.5m.

The southern part of the area contains a small number of poor quality, semi-mature Ash, Sycamore and Elm trees mixed with lines of over-mature *Cotoneaster* bushes (that seem likely to have once been managed as hedges) and other exotic trees and shrubs (*Juglans regia*, *Lonicera nitada* and *Ligustrum lucidum*). The area is now mostly overgrown and neglected with Bramble, Ivy and others growing unchecked.

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A mixed species shelterbelt has been established immediately north of the derelict accommodation block in more recent times (within the last 15 years or so), this is comprised mostly of Field Maple (*Acer campestre*) Lime, Silver Birch and Larch (*Larix spp*) with some Leyland Cypress, Lawson Cypress,and Hazel (*Corylus avellana*). The planting has received little maintenance in recent years and is now overstocked with many trees requiring formative or remedial pruning work or removal.

The eastern part of the area contains a group of mature trees in variable condition; they are mostly Sycamore and Beech with some Poplar and Ash. The stand is mostly between 16-19m in height and 400-700 mm dbh and includes some good quality specimens of Beech and Sycamore. Collectively the trees form an attractive landscape feature; unfortunately the area has been used for some years as a dumping ground for green waste.

The original driveway that runs from the main Portrane Road (R126) south towards the site of the old Portrane House has long been disused and is now impassable having become overgrown with mature and semi-mature Ash and Sycamore (with occasional Elm, Elder and other shrubs) that once formed the hedges along the lane. Most of these trees are now suppressed by thick Ivy and bacterial canker.

Comments

This area seems to have been almost completely abandoned over recent times and has become heavily overgrown; it does however still contain some reasonably healthy mature trees that do contribute to the local landscape.

Many of the mature trees within the area would benefit from Ivy cutting and from remedial pruning work, several trees are being constricted by old metal tree guards that need removal. There are numerous dead and diseased stems amongst the tree population that should be felled as part of appropriate management works..

The dumping of green waste and other rubbish hinders remedial work operations, is unsightly and is helping to spread invasive species; this practice should be stopped and green waste should be properly composted in an appropriate facility for re-use on the hospital campus.

Woodland W4 – Mixed Woodland

This is a narrow belt of mixed species woodland between the lane and grassed areas at the south-western edge of the old hospital campus.

The woodland is made up of mature and semi-mature trees, mostly Sycamore (of 200-400mm dbh) but also including Ash, Turkey Oak, Holm Oak (*Quercus ilex*), Scots pine (*Pinus sylvestris*) and Beech in reasonable condition. The south eastern end of the wood contains some older Sycamores, many of which are covered with very thick Ivy growth and one notable large Turkey Oak (1200mm dbh).

The Under storey contains young and semi-mature Beech, Holly, Sycamore, Ash, Elm and Elder.

Many of the trees are growing on the sloping banks created by earthworks undertaken during the landscaping of the old hospital grounds; these banks continue around the southern margins of the hospital campus and are covered by increasingly patchy scrub woodland of windswept semi-mature and mature sycamores amongst occasional Wych Elm, Ash, thick brambles, and Ivy covered Hawthorn and Elder bushes.

Collectively the trees function as a wind-break and provide good landscape and amenity value. The western and central parts of the wood would benefit from some thinning to reduce the stocking density and to remove poor quality individuals and Ivy cutting on some of the worst affected stems.

Woodland W5 – Mixed Woodland

W5 is a shelterbelt of mature and semi-mature trees that runs south and then south east along the southern edge of the demesne towards the coastline.

The northern end the wood is a mixture of species - mainly Beech (200-350mm dbh) with some Sycamore, Sitka Spruce and Ash (200-350mm dbh) of mostly semi-mature and early mature age class on the western side of the belt whilst the eastern side is dominated by a line of large mature Monterey Cypress trees 500-900mm dbh and 20-24m tall.

Further south the shelterbelt becomes more diverse with some mature Oak, Ash, Sitka Spruce, Beech and Sycamore trees present, as the shelterbelt becomes orientated towards the south east the large mature Monterey Cypress trees are located on both sides of the woodland.

The far south-eastern end of the wood is comprised of poor quality Sycamore scrub that has been badly damaged by Grey squirrels and exposure to the sea winds.

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Comments

A significant number of the Monterey Cypress trees have been storm damaged with some individual stems wind-thrown and others with significant branch breakage in the tree crowns, one tree was noted to have been snapped in half by recent high winds.

There appears to have been no significant management work carried out in recent years and the trees would benefit from thinning and remedial pruning work to improve the quality of the stand.

Much of the shelterbelt is shown as woodland on the 1840s maps and the woodland remains a significant landscape feature in the area.

There is a path running through the wood down to the coast; this has potential to be improved as part of any development of the amenity infrastructure of the locality.

Woodland W6 – Mixed Woodland

Mixed woodland block west of the main access route into the hospital campus from Portrane Road; the wood contains areas dominated by broadleaved trees, areas of mixed broadleaves and conifers and a stand of pure Spruce plantation.

Woodland Compartment W6a Mixed Broadleaved Woodland

Broadleaved woodland of mixed Sycamore, Ash and Beech mostly between 17-18m in height, stem diameters are generally 300-600mm dbh. The trees are mainly mature and early mature with some young natural regeneration present along with numerous Elder bushes in the under-storey. Ground flora includes Ivy, *Allium triquetrum* and ferns.

There has been no recent management and many trees are covered with thick Ivy, there are numerous fallen stems and branches throughout the woodland.

Woodland Compartment W6b Mixed Broadleaved and Coniferous Woodland

This part of Woodland W6 becomes more mixed with mature Sitka Spruce (up to 20m tall and 200-350mm dbh) scattered amongst the broadleaved trees and then becoming locally more numerous in southern and western areas of the wood; stand density has become too high in some of these areas. There are several large mature Monterey cypress trees at the south-eastern and far western edges of the wood, as well as a cluster of larger (multi-stemmed) Sycamore trees around 18-19m tall in the south east corner.

There is thick Ivy on trees throughout the stand and there has been significant Grey Squirrel damage to the younger Beech and Sycamore trees.

Woodland Compartment W6c Conifer Plantation

Plantation block of Sitka Spruce in the north-eastern portion of wood W6

Dense plantation of early mature Spruce trees (between 150-250 mm dbh); the stand has not been thinned and is now heavily overstocked with numerous dead, fallen and suppressed stems present throughout the plantation. The dense, closed canopy has prevented the development of virtually any significant ground flora inside the stand.

Comments

Woodland W6 is a significant landscape feature within the locality and is highly visible from the main Portrane Road and the access roads into the hospital.

The tree species mix is almost all exotic (Ash being the only notable native species present), consequently the conservation value of the wood is limited but it does still provide a useful habitat for some wildlife.

The woodland does not appear to have been actively managed for some time and much of the wood is in clear need of thinning and other management work to help improve the quality and stability of the tree crop.

Photo 7 Southern edge of Woodland 6

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Landscape and Amenity Trees L2

L2a - Landscaped area north of the main Hospital buildings.

The amenity grounds immediately north of the main hospital buildings are managed as grass lawn with numerous mature trees established in clusters and rows; the most prominent of these is the row of mature Monterey Cypress trees planted opposite the main entrance to the hospital. The Cypress trees are tall (22-24m high) and large (400-1200mm dbh) and are in variable condition; many trees have storm damaged branches and some smaller stems are dead standing. Some other trees are mixed into the Cypress row; including Beech, Ash (one in very poor condition), Sycamore, Lime and Austrian Pine.

Photo 8 Parkland north of the main hospital buildings

There is a cluster of mature broadleaves (Sycamore, Ash and Beech) to the north of the Cypress trees; these trees around 15-18m tall, appear to be in fair condition and have good landscape and amenity value. More mature Sycamore, Scots Pine, Austrian Pine, Beech and Ash are growing around building and in grass verges north-east of the hospital; these are in variable condition and make up an attractive landscape feature framing the access route to the hospital entrance.

There is linear planting (orientated north-south) of mature and early mature Oak (*Quercus robur*)and Scots Pine from the eastern end of the row of Cypresses; these trees are in variable condition, 150-450 mm dbh and are 15-18m in height. The nearby cluster of mature Sycamore and mixed Scots/Austrian Pines are in mostly poor condition - many have significant dieback of their upper crowns. Semi-mature Sycamores form a scrub hedgerow with along with some mature Poplars alongside the small lane to the old cottages.

The grassy area immediately north of the eastern-most hospital buildings contains a mixture of mature trees (Sycamore, Pedunculate Oak, Austrian Pine and Beech) on a fairly wide spacing; some of the trees are in poor condition (two of the Oaks in particular) but as a group they do form a valuable landscape feature see below.

Photo 9 Parkland north of the main hospital viewed from the east

L2b - Landscaped grounds east and south of the main Hospital buildings.

A line of mature Turkey Oak and Sycamore trees follow along the eastern side of driveway around the old hospital buildings; the trees are generally in fair condition and have good landscape value. Mature Austrian Pine trees are established in the borders around the football pitches; these seem to be in fair condition and are of moderately good landscape value.

There are a number of trees planted as individuals and groups on grassland to the south of the main hospital buildings; this includes some Alder (*Alnus cordata*), *Sorbus spp.*, Poplar and Cherry of comparatively low value.

Comments

The grounds of the main hospital are actively managed with the lawns cut and hedges trimmed on a regular basis, the mature trees however, do not appear to have had any specialist maintenance work carried out in recent times. The mature trees add greatly to

Appendix E.2 - Tree Review (2013)

the character and landscape value of the campus and they would benefit from a well planned program of remedial works to remove damaged branches, dead stems etc.

Photo 10 Mature Austrian Pines around the sports pitches

Landscape and Amenity Trees L3

L3a – Entrance drive into the Demesne

A double row of mature sycamore trees line the entrance drive into the demesne from Portrane Road; the trees are between 10-14m tall and form an attractive feature, they are in variable condition with some significant basal decay apparent in several stems.

The land adjacent to the entrance drive contains a series of comparatively low value scrub hedges and tree lines marking field and property boundaries; these are comprised mainly of Sycamore, Poplar, Elder and some Alder and are mostly unmanaged.

Photo 9 Mature Sycamores lining the main entrance way into the St Ita's Demesne

L3b – Eastern edges of the Demesne

There are small areas of scrub (mainly Sycamore) woodland at the eastern margins of the property; close to the Round Tower Memorial and bordering the housing estate in the north-eastern corner of the property.

Woodland W7 - Mixed Plantation Woodland

Land between the main entrance drive and recent new development has been planted with a mixture of Scots Pine, Hazel and Silver birch, the plantation is now fairly well established (2-4m tall) but does require maintenance to control weed competition and carry out formative pruning etc.

Appendix E.2 - Tree Review (2013)

Summary

St Ita's Demesne contains a large tree population, the majority of which is located in woodlands and forest plantations in the western half of the Demesne. Much of the land currently covered by forest is shown as woodland on Ordnance Survey maps dating from the 1840s.

Most of the landscape and amenity trees are found growing close to the main hospital buildings, on and around open grassed areas.

The tree species found in the woods and across the rest of the Demesne are nearly all exotic or non-native in origin; the dominant species are Sitka Spruce, Sycamore and Beech with Monterey Cypress, Austrian Pine, Horse chestnut, Sweet Chestnut, Silver Fir, Eucalyptus, Turkey Oak and others also found. Some of these species (notably Beech and Sycamore) have become naturalised and have been regenerating naturally where site conditions allow.

The woods contain only a small number of native species; with Ash being the only native tree present in substantial numbers. Other natives found in much smaller numbers include Hawthorn, Pedunculate Oak, Scots Pine, Silver Birch, Hazel, Holly, Wych Elm and Yew.

Most of the trees are in either the early mature or mature age class bracket, with relatively few late and over-mature trees present. This age class structure reflects the way in which the property has been managed over the last century or so; much of the woodlands have been felled and replanted during this period and other areas have been left to evolve from managed gardens into unmanaged secondary woodland.

There has been little or no active management of the woodland areas in recent times and most have now become heavily overstocked. Ivy growth has been allowed to become a real hindrance to tree growth and stability over much of the Demesne and Grey Squirrels have caused huge amounts of damage to much of the Beech and Sycamore population.

There seems to have been little maintenance of the landscape and amenity trees either; with many trees require remedial work, no professional pruning work was observed and there was no sign of previous survey work (old tree tags etc.) having been done. Maintenance work appears to have been concentrated on shrub/hedge management and grass mowing, with some ad hoc tree cutting only as needed. There has been very little tree planting work carried out over recent years.

The woodlands and amenity trees on the Demesne would benefit greatly from management operations such as:

Extensive thinning works to reduce the density of stems within the woods and forest compartments; this work should combine selective and systematic thinning methods to remove poorer quality stems and to boost the growth and stability of the remaining trees.

A program of professional remedial works including: the felling of all dangerous individual trees, pruning works to the more valuable trees retained on the site and Ivy severance where needed.

A planting scheme to establish new trees on the Demesne, especially around the main hospital campus and entrance drive areas.

Other works could include: the rehabilitation or removal of assorted old garden shrubs/hedges (*Cotoneaster, Griselinia, Ligustrum etc.*), professional removal of invasive species (such as Japanese Knotweed) from the site and proper processing and composting of green waste generated on the site.

Work operations such as those listed above should be detailed in a full tree and woodland management plan for the property; this plan should be drawn up by qualified professionals and be based on a set of clear objectives as decided upon by the principal stakeholders. The objectives could include: To increase the wildlife and conservation value of the demesne, develop the commercial forests to generate revenue from timber sales, maintain the present area of land under woodland into perpetuity, and convert the woodlands to native species woodland for example.

APPENDIX F:

Woodland Management Strategy (2013)