

16.0 Material Assets – Utilities

16.1. Introduction

This Chapter provides a description of the existing material assets utilities and an analysis of the likely significant impacts associated with both the construction and operational phases of the development of the National Maternity Hospital at St. Vincent's University Hospital campus.

The proposed development comprises the development of the National Maternity Hospital at St. Vincent's University Hospital campus, Elm Park, Dublin 4. The proposed new National Maternity Hospital building will be located at the eastern side of the hospital campus and comprises the construction of a building that rises to 5 and 6 storeys above ground level, with one partial basement level, plus additional ancillary plant areas at the roof level. The proposed development also includes an extension to the existing multi-storey car park at the north of the campus. The proposed development will be constructed in a sequential manner that allows for the continual operation of the hospital campus and, as such, includes the phased demolition of existing buildings at St. Vincent's University Hospital campus to facilitate clearing the site for the proposed development and the construction of temporary accommodation to facilitate construction sequencing (including a single storey temporary canteen, catering staff changing facilities, household services store and carpenters workshop). The full detail of the nature and extent of the proposed development is set out in Chapter 2 of this EIS and the Draft Construction Management Plan is appended to same.

This Chapter describes the material assets in the form of existing utilities that could potentially be impacted by the development of The National Maternity Hospital at St Vincent's University Hospital campus.

Material assets are defined in the 'Guidelines on the Information to be Contained in Environmental Impact Statements' (EPA, 2002) as:

"Resources that are valued and that are intrinsic to specific places are called 'material assets'. They may be of either human or natural origin and the value may arise for economic or cultural reasons".

Economic assets of human origin i.e. utilities are considered in this Chapter, with the exception of water supply and drainage which are addressed in Chapter 8 of this EIS 'Hydrology'.

The purpose of this Chapter is to assess the impacts of the proposed utilities on the existing utility network which includes the following infrastructure:

- Natural Gas;
- Oil (Class D);
- Medical Gases;
- Electricity;
- Telecommunications;

The development of the National Maternity Hospital at St. Vincent's University Hospital campus has been designed to minimise energy consumption and carbon emissions. The building services design has been developed to deliver a building which will reach exemplary standards of energy efficiency. Further information is provided in relation to energy in the Energy Statement which forms part of the Planning Application.

16.2. Methodology

The methodology is based on the proposed development and construction strategy as described in Chapter 2 of this EIS 'Description of the Development', with Draft Construction Management Plan appended to same, see Appendix 2.1.

In summary, the proposed development will be constructed on a phased basis starting with the construction of Phase 1, which will facilitate the replacement of the existing St. Vincent's University Hospital accommodation to be demolished on the proposed development site. The functions accommodated in buildings, proposed to be demolished, will be relocated to other areas of the existing St Vincent's University Hospital campus on a temporary basis.

Figure 16.1: Site Sequencing for Main Construction Works



A site-specific, topographical, utilities and building survey has been undertaken on St Vincent's University Hospital campus which encompasses utility provider information. Survey information has been issued to the Project Team and has been used to inform the design.

In addition, slit trench locations have been agreed to determine the presence of any utilities which were not traceable with the survey equipment. The final detail is being concluded with St Vincent's University Hospital at present but will consist of a number of localised excavations, approximately 1.5m deep, to validate the survey information and to identify the presence of any utilities which were not traceable during the survey works.

The proposed development will connect to the existing infrastructure networks. These connections, or tie-in points, have been considered in terms of capacity, condition, downtime during construction, reliance on temporary supplies etc.

Significance level of impacts have been developed in accordance with the requirements of the following EPA guidance documents:

- Guidelines on Information to be contained in Environmental Impact Statements (EPA, 2002), and taking regard of the revised draft guidelines published in 2015; and
- Advice Notes on Current Practice in the preparation of Environmental Impact Statements (EPA, 2003), and taking regard of the revised draft advices notes published in 2015.

16.2.1. Receiving Environment

16.2.2. Natural Gas

Gas Networks Ireland [GNI] is the statutory body responsible for the provision of natural gas to the campus. There are three connections from the external gas network into the campus. The primary supply is facilitated by an Above Ground Installation [AGI] which is located at the north-east of the campus, adjacent to Carew House. The campus gas distribution network is served from this installation, which supplies various buildings on the St. Vincent's University Hospital campus including the existing Energy Centre. A separate gas supply to the St. Vincent's Private Hospital is also facilitated from this AGI.

A separate natural gas supply enters the site off the Merrion Road and feeds a meter position adjacent to the Nurse Education Centre.

A significant distribution route for gas within the campus runs east west along a roof mounted service rack above the Canteen which serves the Clinical Services Building and adjacent buildings.

16.2.3. Oil

Oil is required on campus for two functions:

- Oil supply for standby generation; and
- Alternative fuel for the dual fuel heating boilers.

The existing oil storage facility includes three tanks within a bunded compound, with only one tank currently in use. The compound is located to the rear of Carew House and serves the existing Energy Centre boilers and electricity generators on the campus.

The oil distribution network consists of below ground pipework from the oil tanks to the Energy Centre and is then primarily suspended pipework on accessible racks to serve the various boilers and generator locations around the campus.

16.2.4. Medical Gases – Oxygen Storage

At present there are two bulk oxygen tanks on the campus. The main tank is located adjacent to the Breast Check Clinic and a backup tank is located adjacent to the Dermatology Unit within the waste marshalling yard.

16.2.5. Medical Gases – Nitrogen Storage

At present there is one liquid nitrogen tank on the campus. This tank is located to the east of the existing Dermatology Unit within the waste marshalling yard.

16.2.6. Electrical Services

Electricity Supply Board Networks [ESBN] is the existing electrical network provider with two feeds entering the campus. ESBN provides a supply from a sub-station in Donnybrook (forward feed) and secondary supply from a sub-station adjacent to University College Dublin, Belfield (back feed) and this level of resilience will be maintained post construction.

These resilient supplies enter a 10kV ESNB sub-station which is located to the east of the existing waste marshalling yard. This substation provides separate supplies to both St. Vincent's University Hospital and St. Vincent's Private Hospital, with a current maximum import capacity is 3.0MVA for the St. Vincent's University Hospital and 1.3MVA for the St Vincent's Private Hospital respectively.

The St. Vincent's University Hospital campus medium voltage intake switch room is located directly behind the ESNB substation. Existing low voltage electrical switchgear is located within the existing Energy Centre which services a number of buildings on the campus.

16.2.7. Telecommunications

There are a number of existing telecommunications supplies to the campus (Virgin Media, Eircom, etc.) with communications 'hubs' located within a number of buildings on the campus.

16.3. Characteristics of the Proposed Development

All proposed works are limited to within the existing campus boundary and the scope has been influenced by the following key principles:

- Minimise interruption to this fully operational campus through design and planning.
- Minimise risk of infection through early aspergillus protection works and general good practice dust control measures throughout the construction.
- Minimise environmental impact through low energy strategies within the design.

16.3.1. Natural Gas

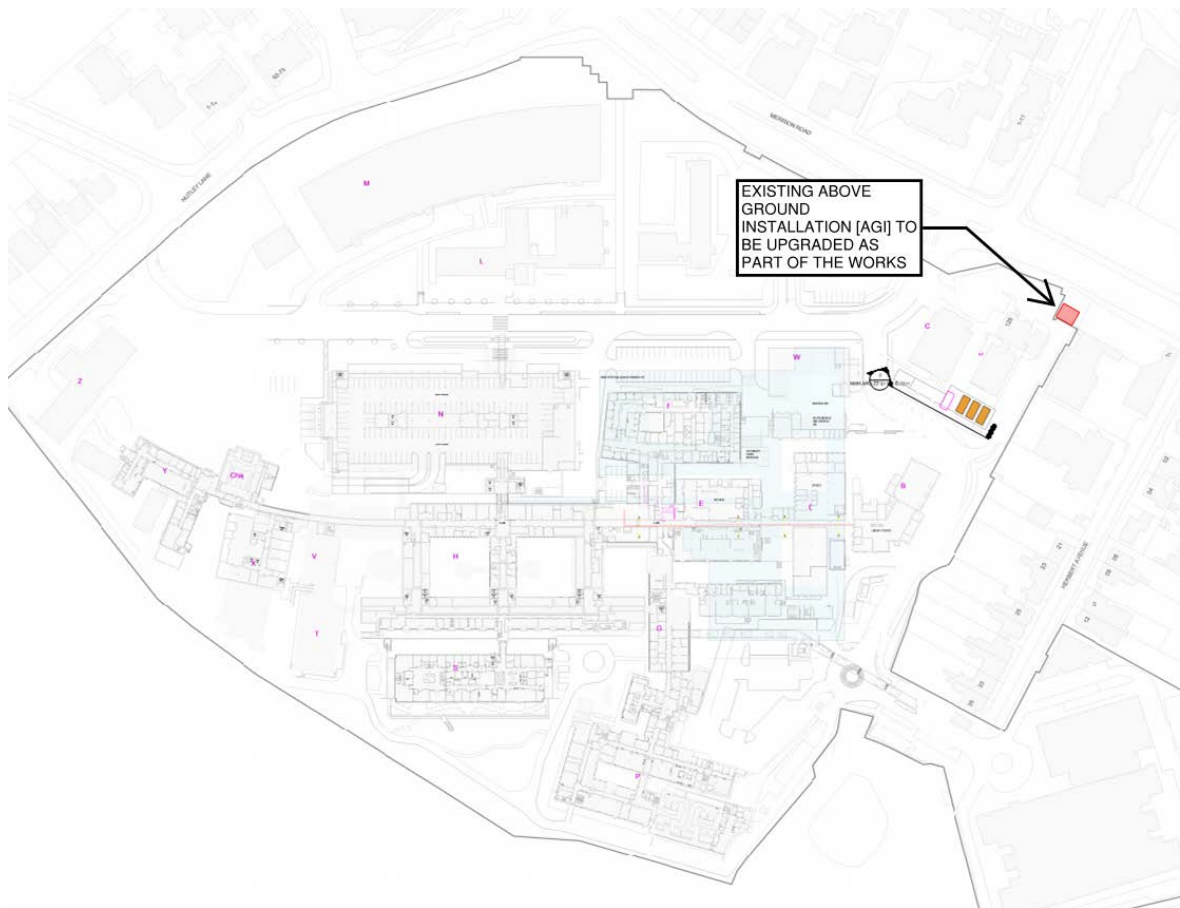
An increase in gas consumption is anticipated to serve the proposed development bringing the anticipated peak gas consumption from 8,834kW to 13,205kW and as such, upgrades to the existing infrastructure will be required.

The proposal includes the provision of a new supply gas pipe from the utility AGI on Merrion Road to the new Energy Centre, in the basement of the proposed Maternity Hospital building. This new supply will serve the new boiler plant to feed the new buildings.

Temporary gas supplies will be required to the temporary accommodation on the campus, including the Canteen and Carpenters Workshop.

Discussions have taken place with GNI to establish the interfaces between Utility and Client infrastructure and to validate that the GNI can satisfy the project requirements in relation to expected consumption loads, future capacity and programme. The consultations to date include a site visit between Arup and GNI which took place on 7th January 2016 to discuss the proposed development. GNI has confirmed that the loads required are available from their network and an application for the increased gas requirement was submitted in October 2015. Proposed modifications to the existing AGI, will satisfy the increased demand. The changeover from the old to the new supply will involve minimal down time, and therefore minimal reliance on back up oil (no more than a week).

Figure 16.2: Natural Gas AGI

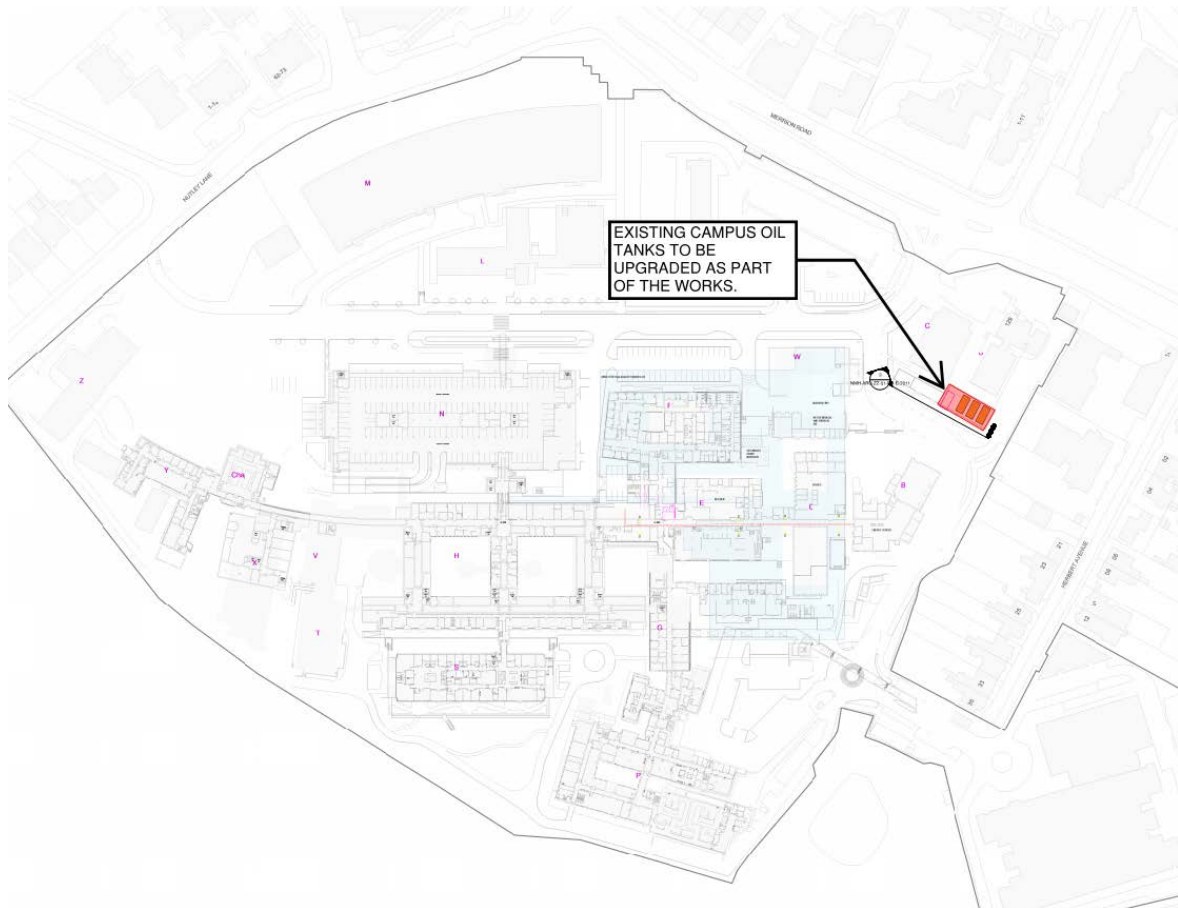


16.3.2. Oil

The proposed development will be provided with resilience in terms of power supply using stand-by generators, which will increase the campus demand for oil. The existing 3 No. vertical oil storage tanks will be removed and replaced with three new oil storage tanks to

provide additional capacity. The new installation will provide an improvement in the standard of storage in line with the requirements of BS 5410:2013.

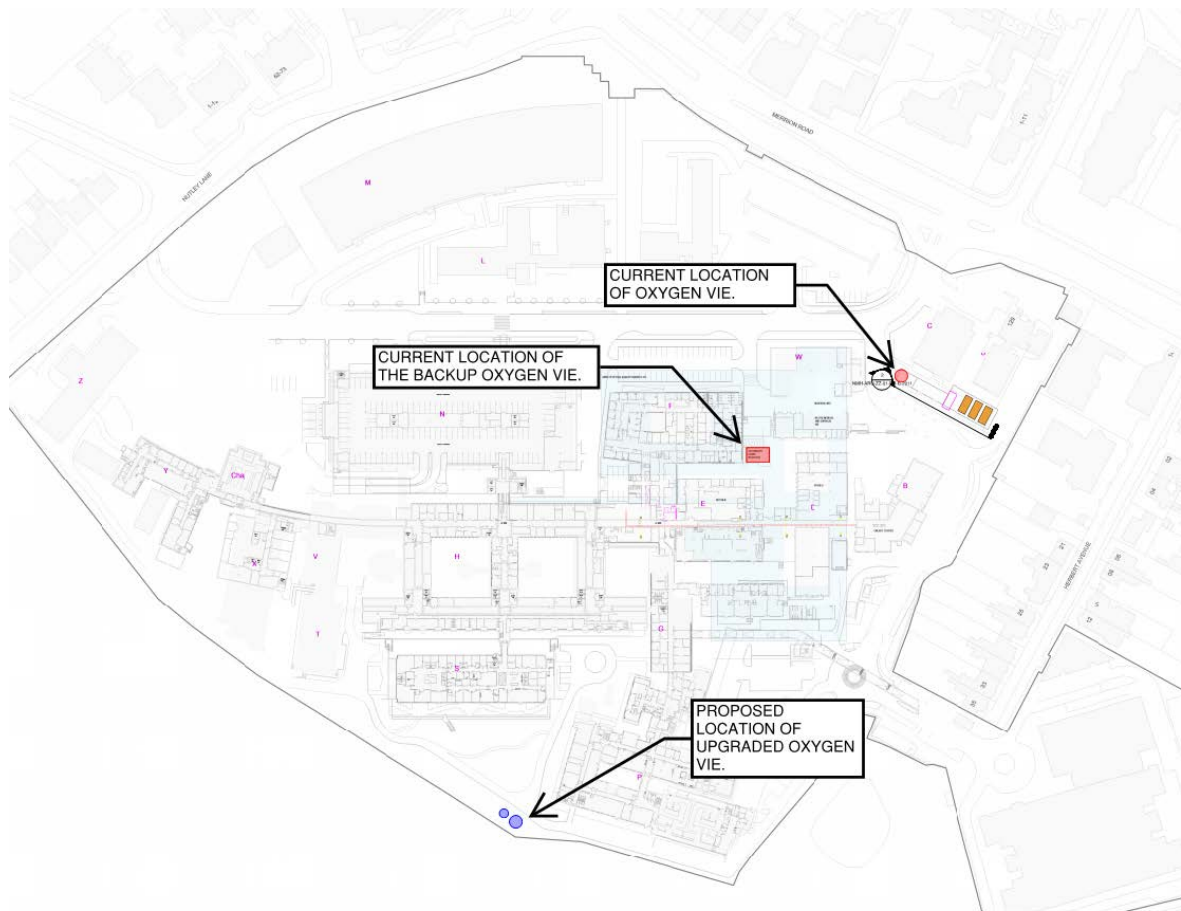
Figure 16.3: Oil Storage



16.3.3. Medical Gases – Oxygen Storage

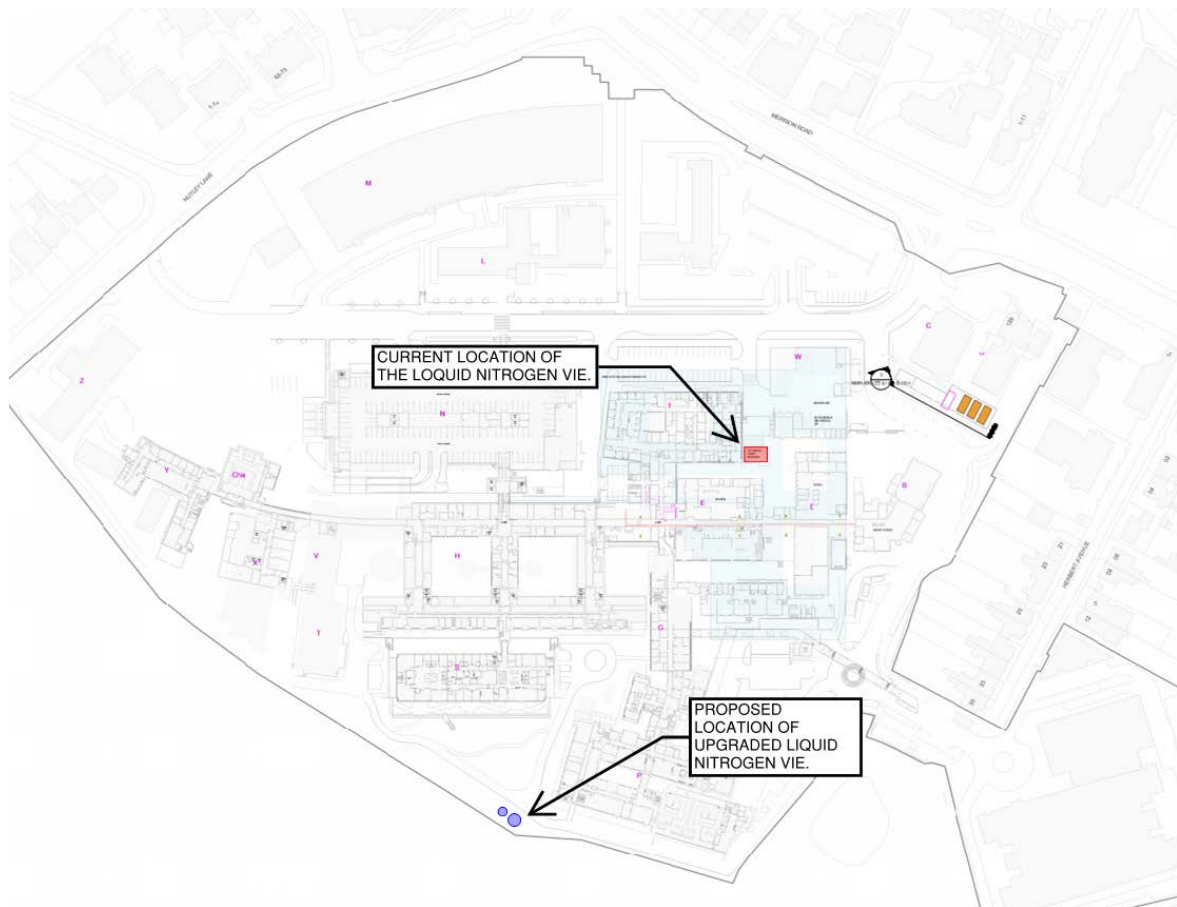
To facilitate the location of the new ESNB substation, the existing bulk oxygen storage tank shall be relocated from its current location to the southern boundary road away from residential areas. As the secondary storage tank, adjacent to the Dermatology Unit, is on the proposed development site, this too shall be relocated to the rear of the campus. The tertiary back up via bottles feeding a manifold will also be located at this point. The new location for the primary, secondary and tertiary storage tanks has been determined in accordance with the required safety clearances specified by the utility provider (BOC).

Local improvements to the campus oxygen distribution network will be undertaken to facilitate connections from the new storage facilities into the existing campus distribution network prior to the decommissioning of the existing oxygen storage facility.

Figure 16.4: Medical Gases – Oxygen Storage

16.3.4. Medical Gases – Nitrogen Storage

The existing liquid nitrogen bulk storage tank adjacent to the Dermatology Unit shall be removed and a new liquid nitrogen bulk storage tank will be provided in the new service yard during the enabling works phase. The chosen location satisfies the required safe clearance distances which are less onerous than for oxygen.

Figure 16.5: Medical Gases – Nitrogen Storage

16.3.5. Electrical Services

The existing ESNB substation, located to the east of the waste marshalling yard, is within the proposed development site. It is proposed to re-locate this substation, along with the associated campus switchroom, to a new facility directly behind the Breast Check Clinic to reduce the risk of damage to this critical infrastructure during construction.

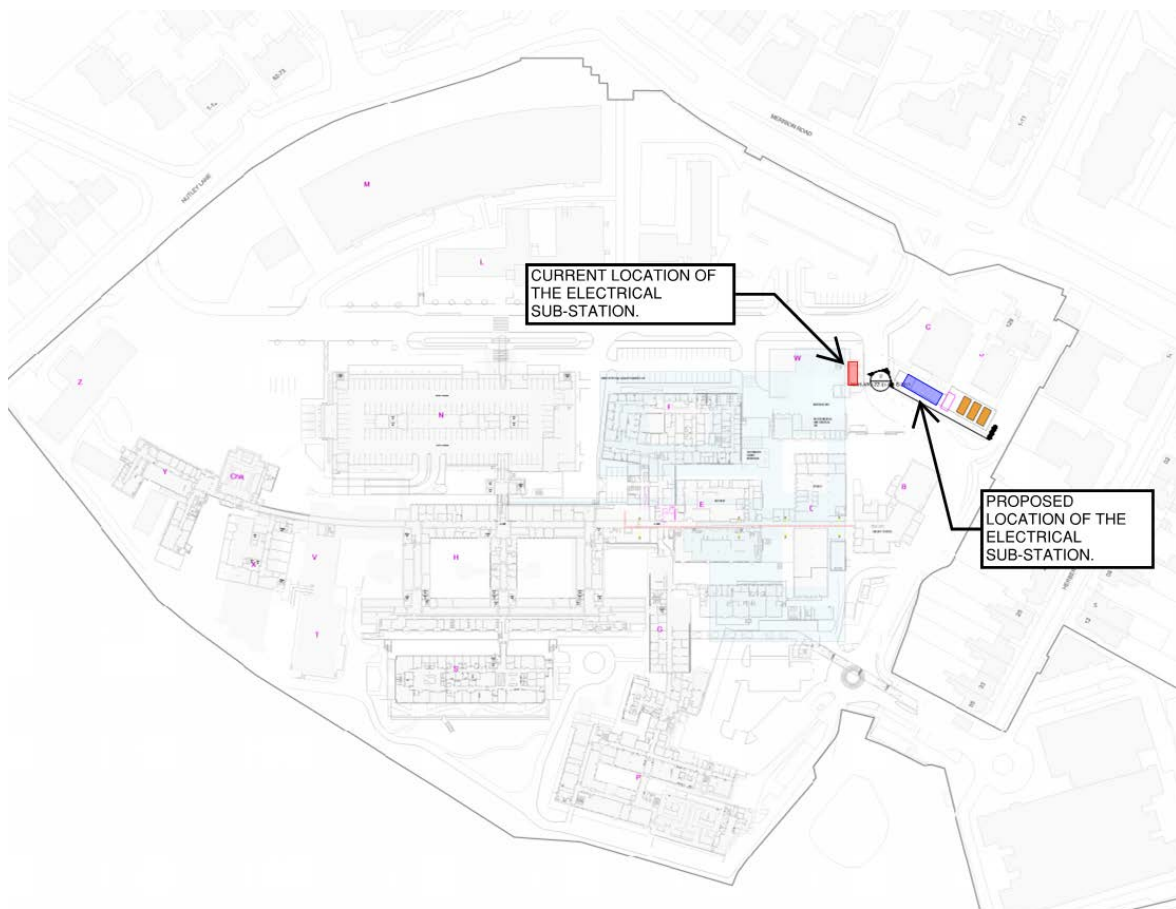
The proposed development is anticipated to require an increase in supply capacity. Discussions with ESNB have taken place to agree the proposed new location of the substation and the supply requirements. The consultations to date include a teleconference between Arup and ESNB which took place on 31ST January 2017 to discuss the proposed development. ESNB has confirmed that this increased level of supply is available currently without affecting the network.

A new main medium voltage switchboard will be housed in a switch room adjacent to the new ESNB supply point. From here, the existing network will be upgraded and a new 10kV

Medium Voltage ring network (as recommended in the current guidance HTM 06-01), will distribute power to a number of buildings, both existing and new throughout the campus. Standby generators will be used for a short period of time to supply the campus while the existing supply is disconnected and the new supply is connected and activated.

New distribution equipment to supply the hospital buildings on campus will be provided in the basement of the proposed Maternity Hospital building.

Figure 16.6: Electrical Services



16.3.6. Telecommunications

Existing telecommunications services supply the campus currently and these will be retained and upgraded to provide services to the National Maternity Hospital development.

16.4. Potential Impact of the Proposed Development

16.4.1. Construction Phase

16.4.1.1. Natural Gas

The Gas Networks Ireland AGI at Merrion Road will be upgraded as part of the proposed development. Controlled supply interruptions will be required as part of the changeover from existing to new supplies which will impact on the campus including the St Vincent's Private Hospital. There is no impact to supply envisaged outside of the campus.

The installation of new natural gas pipelines will involve construction activity within the campus, primarily during the enabling works phase.

16.4.1.2. Oil

Controlled supply outages will be required as part of the changeover from existing to new supplies. As the oil is a backup fuel only, it is not anticipated that there will be any impact on the campus in the short time frame required to change over from existing to the new. This will not impact on St Vincent's Private Hospital or outside of the campus.

As a result of the proposed works there will be a minor increase in oil consumption associated with the temporary use of boilers and generators during change-overs to new infrastructure.

The installation of a new oil store and associated pipelines will involve construction activity within the campus, primarily during the enabling works phase.

16.4.1.3. Medical Gases – Oxygen Storage

Controlled supply outages will be required as part of the changeover from existing to new supplies and will impact on the campus. This will not impact on St Vincent's Private Hospital or outside of the campus.

The installation of a new bulk oxygen store and associated pipelines will involve construction activity within the campus, primarily during the enabling works phase.

16.4.1.4. Medical Gases – Nitrogen Storage

Controlled supply outages will be required as part of the changeover from existing to new supplies and will require a planned interruption to supply which will impact on the campus operations. This will not impact on St Vincent's Private Hospital or outside of the campus.

The installation of new bulk liquid nitrogen store and will involve construction activity within the campus, primarily during the enabling works phase.

16.4.1.5. Electrical Services

Medium Voltage Power

Controlled power outages will be required as part of the changeover from existing to new supplies and these will impact on the campus including on St Vincent's Private Hospital. There is no impact envisaged outside of the campus. The works will be managed by ESNB who will liaise in advance with any customers who may be impacted by the works.

ESNB cables feeding the existing substation will be diverted to the new substation location. Discussions have been held with ESNB to agree the proposed supply strategy.

The construction of the new ESNB substation will have an impact on the site, as will the installation of new ducts and cables to the new location.

16.4.1.6. Telecommunications

The installation of new telecommunications lines will not require supply outages within the existing systems.

The installation of new cabling will involve construction activity within the campus, namely digging of trenches.

16.4.2. Operational Phase

16.4.2.1. Natural Gas

As a result of the works there will be an increase in consumption of natural gas due to demand from the new development with increased load on the network on and off campus. There is no impact envisaged on or off campus from this increase in supply during the operational phase.

16.4.2.2. Oil

As the oil is a backup fuel only, there is no impact envisaged on or off the campus during the operational stage.

16.4.2.3. Medical Gases – Oxygen Storage

Increase in consumption of liquid oxygen gas due to the new development. There is no impact envisaged on or off campus from this increase in supply during the operational phase.

16.4.2.4. Medical Gases – Nitrogen Storage

Increase in consumption of liquid nitrogen due to the new development. There is no impact envisaged on or off campus from this increase in supply during the operational phase.

16.4.2.5. Electrical Services

As a result of the works there will be an increase in consumption of electrical power due to the new development with an increased load on the network on and off Campus. There is no impact envisaged on or off campus from this increase in demand/supply during the operational phase. This has been discussed and agreed with ESNB.

16.4.2.6. Telecommunications

There will be an increase in data traffic to/from the new development. There is no impact envisaged on or off campus from this increase in demand/supply during the operational phase.

16.5. Mitigation Measures

16.5.1. Construction Phase

16.5.1.1. Natural Gas

The design has been developed to remove or reduce the potential impacts listed above as follows:

- Works will be planned and implemented on a phased basis to minimise impact on the campus, the risk of infection and/or the risk of interruption to supply.

- GNI will carry out all works on the gas supply network (i.e. works upstream of the gas meters / gas skids) in a controlled manner to avoid loss of service to residential customers.
- The existing gas supply to the Energy Centre will be protected and kept live until such time that the new gas supply is available. The existing boilers are dual fuel and can run on oil to provide an alternative source of heating when natural gas is unavailable during the brief, planned supply interruption during construction works. This may require the operation of boilers, using oil supply, for short durations during the change-over of the gas supply to the upgraded AGI, located adjacent to Carew House.
- All natural gas works will be designed and constructed in accordance with I.S. 820, I.S. 329, I.S. 265 and Bord Gais Networks '*Industrial Commercial Guidelines for Designers/Builders*'.
- All work in the vicinity of gas transmission network will be completed in compliance with the Bord Gais Networks document '*Code of Practice 2011 – Working in the Vicinity of the Transmission Network*'.
- Interruption to gas supply to St Vincent's Private Hospital has been assessed and St Vincent's Private Hospital have a backup oil supply with dual fuel burners on their boiler plant which will minimise the impact to their facility.

16.5.1.2. Oil

The design has been developed to remove or reduce the potential impacts listed above as follows:

- Works will be planned and implemented on a phased basis to minimise impact on the campus, the risk of infection and the risk of interruption to supply.
- A phased approach to the works has been developed with the utility provider to provide the new storage tanks at the new location in advance of removal of the existing. This will minimise downtime to the site.

16.5.1.3. Medical Gases – Oxygen Storage

The design has been developed to remove or reduce the potential impacts listed above as follows:

- Works will be planned and implemented on a phased basis to minimise impact on the campus, the risk of infection and the risk of interruption to supply.

- A phased approach to the works has been developed with the utility provider to provide the new storage vessel at the new location in advance of removal of the existing. This will minimise downtime to the site.

16.5.1.4. Medical Gases – Nitrogen Storage

The design has been developed to remove or reduce the potential impacts listed above as follows:

- Works will be planned and implemented on a phased basis to minimise impact on the campus, the risk of infection and the risk of interruption to supply.
- A phased approach to the works has been developed with the utility provider to provide the new storage vessel at the new location in advance of removal of the existing. This will minimise downtime to the site.

16.5.1.5. Electricity

The design has been developed to remove or reduce the potential impacts listed above as follows:

- Works will be planned and implemented on a phased basis to minimise the impact on the campus, the risk of infection and the risk of interruption to supply. The new facility will be constructed and fully fitted out prior to any interruption to service or change-over of supply from the existing substation to the proposed new substation.
- ESBN will relocate the existing supplies on the site to the new substation location. They will agree road opening licences, operational times etc. with Dublin City Council and St. Vincent's University Hospital.
- All of the work will be carried out by authorised personnel who have expertise in the required works.
- ESBN will liaise with residents who may be affected by the works to keep their customers fully informed of any short term shut downs which may be required and other such planned shut downs.
- Standby mains power, in the form of temporary generators, will be provided to both St. Vincent's University Hospital and St Vincent's Private Hospital within their existing services compound to ensure availability of primary and stand-by power supplies during construction. During the short period of connections associated with the changeover, the campus power will be temporarily provided by the existing campus stand-by generators.

16.5.1.6. Telecommunications

The design has been developed to remove or reduce the potential impacts listed above as follows:

- The relevant utility provider will be required agree road opening licences, operational times etc. with Dublin City Council and St Vincent's University Hospital.
- All works will be carried out by authorised personnel who have expertise in the required works. This will minimise disruption to surrounding areas.

16.5.2. Operational Phase

16.5.2.1. Natural Gas

The building design incorporates the best of passive and active low energy design strategies to minimise the consumption required by the development. BREEAM excellent and Building Energy Rating A3 targets will deliver a low energy, sustainable development with renewable energy integrated to further reduce import of gas as a fuel. Metering of gas usage and thermal energy will provide the facilities team with the tools to identify and implement further reductions in consumption.

GNI has completed a load assessment for the predicted increase in gas consumption to ensure the existing natural gas supply network is appropriately upgraded. This will ensure that the network and the supply to the campus have sufficient capacity to meet the increased demand without impacting on the gas supply to other customers in the area.

16.5.2.2. Oil

No operational impacts are envisaged for oil. The oil is a standby fuel and usage will be minimal in general related to testing of standby generators.

16.5.2.3. Medical Gases – Oxygen Storage

The intent of the design team is not to minimise the provision of liquid oxygen to the building but rather to ensure that oxygen is available to all required areas in order to deliver the highest quality of service. The utility provider has worked with Arup to assess the predicted consumption and ensure the existing liquid oxygen supply network is appropriately upgraded to ensure that the supply to the campus has sufficient capacity to meet the increased demand.

16.5.2.4. Medical Gases – Nitrogen Storage

The intent of the design team is not to minimise the provision of liquid nitrogen to the building but rather to ensure that nitrogen is available to all required areas in order to deliver the highest quality of service. The utility provider has worked with Arup to assess the predicted consumption and ensure the existing liquid nitrogen supply network is appropriately upgraded to ensure that the supply to the campus has sufficient capacity to meet the increased demand.

16.5.2.5. Electrical Services

Use of passive and active low energy design strategies to meet the BREEAM Excellent and Building Energy Rating A3 targets include low energy lighting design, lighting controls, selection of low energy equipment and extensive metering of power usage all of which will help to minimise the power consumption of the development.

ESBN has completed a load assessment for the predicted increase in consumption to ensure the existing power supply network is appropriately upgraded. This will ensure that the network and the supply to the campus have sufficient capacity to meet the increased demand without impacting on the electricity supply to other customers in the area.

16.5.2.6. Telecommunications

The design intent is not to minimise the provision of telecommunications within the development but rather to increase it to a level in which to deliver the highest possible service and future proof the building for the coming years.

16.6. Predicted Impact of the Proposed Development

16.6.1. Construction Phase

16.6.1.1. Natural Gas

The mitigation measures outlined above result in the residual impacts to the natural gas supply on or off campus being not significant.

16.6.1.2. Oil

The mitigation measures outlined above result in the residual impacts to the oil supply on the campus being not significant.

16.6.1.3. Medical Gases – Oxygen Storage

The mitigation measures outlined above result the residual impacts to the oxygen supply on the campus being not significant.

16.6.1.4. Medical Gases – Nitrogen Storage

The mitigation measures outlined above result in the residual impacts to the liquid nitrogen supply on the campus being not significant.

16.6.1.5. Electrical Services

The mitigation measures outlined above result in the residual impacts to the electrical supply on or off campus being not significant.

16.6.1.6. Communications

The mitigation measures outlined above result in the residual impacts to the communications networks on or off campus being not significant.

16.6.2. Operational Phase

16.6.2.1. Natural Gas

The low energy approach to design has minimised demand and this, coupled with confirmation of available capacity in the network, will result in the residual operational impact on the network, on or off campus, being not significant.

16.6.2.2. Oil

Oil is a standby fuel. The residual operational impact on the campus is not significant.

16.6.2.3. Medical Gases – Oxygen Storage

The high quality level of provision coupled with appropriate level of upgrade to infrastructure will result in the residual operational impact on the campus being not significant.

16.6.2.4. Medical Gases – Nitrogen Storage

The high quality level of provision coupled with appropriate level of upgrade to infrastructure will result in the residual operational impact on the campus being not significant.

16.6.2.5. Electrical Services

The low energy approach to design has minimised demand and this, coupled with confirmation of available capacity in the network, will result in the residual operational impact on the network, on or off campus, being not significant.

16.6.2.6. Telecommunications

The high quality level of provision coupled with appropriate level of upgrade to infrastructure will result in the residual operational impact on the network, on or off campus, being not significant.

16.6.3. 'Do Nothing' Scenario

16.6.3.1. Natural Gas

In terms of the "Do Nothing" scenario there would be no change to the existing configuration of the natural gas network. In this scenario the current gas supply to the campus would not be capable of supporting the increased load associated with the proposed development.

16.6.3.2. Oil

In terms of the "Do Nothing" scenario there would be no change to the existing configuration of the oil storage capacity on the campus. In this scenario the current oil storage would not be capable of supporting the increased load associated with the proposed development.

16.6.3.3. Medical Gases – Oxygen Storage

In terms of the "Do Nothing" scenario there would be no change to the existing configuration of the oxygen storage capacity on the campus. In this scenario the current oxygen storage would not be capable of supporting the increased load associated with the proposed development. In addition, without relocating the oxygen storage it would

also not be possible to provide the new electricity substation on the appropriate location on the campus.

16.6.3.4. Medical Gases – Nitrogen Storage

In terms of the “Do Nothing” scenario there would be no change to the existing configuration of the liquid nitrogen storage capacity on the campus. In this scenario the current storage would not be capable of supporting the increased load associated with the proposed development. In addition, without relocating the nitrogen storage it would also not be possible to undertake the construction of the proposed development.

16.6.3.5. Electrical Services

In terms of the “Do Nothing” scenario there would be no change to the existing configuration of the electrical substation. In this scenario the current substation would not be capable of supporting the increased load associated with the proposed development. In addition, without relocating the substation it would also not be possible to undertake the construction of the proposed development.

16.6.3.6. Telecommunications

In terms of the “Do Nothing” scenario there would be no change to the existing configuration of the communications network. In this scenario the current network would not be capable of supporting the increased load associated with the proposed development.

16.7. Monitoring

16.7.1.1. Natural Gas

All natural gas pipework will be installed and pressure tested in accordance with I.S. 820 and GNI guidelines. A non-domestic certificate of conformance will be required from the Contractor prior to gas being switched on. Gas detection systems will be provided where appropriate and will be linked to the Building Management System [BMS] and Fire Detection System to shut off the gas supply if required. Gas usage will be metered and monitored.

16.7.1.2. Oil

The oil tank installation and associated pipework and controls will be tested in accordance with the Oil Firing Technical Association Guidelines and British Standard BS 5410. Oil consumption will be monitored through the BMS. Appropriate leak detection will be provided in the bund area and on the underground pipework.

16.7.1.3. Medical Gases – Oxygen Storage

Oxygen tanks and pipework will be installed and tested in accordance with Health Technical Memorandum 02-01 and BSEN 737 Medical Gas Pipelines.

16.7.1.4. Medical Gases – Nitrogen Storage

Nitrogen tank and pipework will be installed and tested in accordance with Health Technical Memorandum 02-01 and BSEN 737 Medical Gas Pipelines.

16.7.1.5. Electrical Services

ESBN will test and commission their installations and will monitor and maintain the substation equipment and network cabling post installation. All supplies will be metered to allow the new loads on the network to be monitored in use.

16.7.1.6. Telecommunications

The network provider will test and commission their installations and will monitor and maintain the equipment and network cabling post installation.

16.8. Reinstatement

The diversion of existing utilities and installation of new utilities will involve construction works on the campus. The majority of these works will take place during the enabling works phase. Works will be carried out by the both the Utility Provider and Contractor. Any impact on roads or footpaths, on or off campus, will be fully reinstated on completion of the installation by those responsible for carrying out the works.

16.9. Cumulative Impacts

Proposed developments in the vicinity of the St. Vincent's University Hospital campus include expansions at RTE, RDS Lands and the AIB Bank Centre. In addition to these

proposed developments, construction has commenced on the extension to Frascatti Shopping Centre and there is ongoing development of the UCD campus. Elm Park Business campus, which is associated with the Elm Park residential development on Rock Road, south of the site, is largely completed but a significant proportion has not been occupied.

Through ongoing contact with utility providers such as ESB, Gas Networks Ireland and Irish Water, it is understood that the required maximum import capacity will remain available to the St. Vincent's Hospital campus to support the development of the new National Maternity Hospital on the campus grounds.