

16 MATERIAL ASSETS (UTILITIES)

16.1 INTRODUCTION

This chapter of the EIAR comprises of an assessment of the likely significant effects of the proposed development of surface water, water supply, foul drainage, and utility services in the vicinity of the site as well as identifying proposed mitigation measure to avoid, reduce, remedy or minimise any effects.

The material assets considered in this chapter of the EIAR includes Surface Water Drainage, Foul Drainage, Water Supply, Power, Gas and Telecommunications.

Refer to Chapter 3 (Description of Development) for a detailed site and development description.

16.2 ASSESSMENT METHODOLOGY

As part of assessing the likely impact of the proposed development, surface water runoff, foul drainage and water usage calculations were carried out in accordance with the following guidelines:

- Greater Dublin Strategic Drainage Study (GDSDS).
- Method outlined in Uisce Éireann's Code of Practice for Wastewater Infrastructure.
- Method outlined in Uisce Éireann's Code of Practice for Water Infrastructure.
- CIRA SuDS manual
- Nature-based Solutions to the Management of Rainwater and Surface Water Runoff in Urban Areas – Best Practice Interim Guidance Document

Assessment of the likely impact of the proposed development on existing material assets in the vicinity of the site included:

- Review of Irish Water utility plans (surface water drainage, foul drainage and water supply).
- Consultation with Uisce Éireann's and Louth County Council.
- Review of ESB Networks Utility Plans.
- Review of Gas Networks Ireland Service Plans.
- Review of Eir E-Maps.

There were no difficulties encountered in compiling and assessing the data for this section of the EIAR.

16.3 RECEIVING ENVIRONMENT

16.3.1 Proposed development

16.3.1.1 Surface Water Drainage

The proposed site services layout plan for the proposed development can be found on DBFL drawing 240102-X-05-Z00-DTM-DR-DBFL-CE-1300 is included in **Appendix 16.1**,

The Cunnicar River is located to the North west of the site and the Castletown River is located in the south of the site, and these will act as the main discharge points for the development's surface water network system.

16.3.1.2 Foul Drainage

The proposed site services layout plan for the proposed development can be found on DBFL drawing 240102-X-05-Z00-DTM-DR-DBFL-CE-1300 is included in **Appendix 16.1**, showing the location of existing foul water drainage services in the vicinity of the site. The Northern Part of the site will drain to the on-site pumping station which will connect into the existing foul line to the northeast of the site and then drain via gravity to the Boyle O'Reilly Pumping Station. The Southern portion of the site will drain to the existing manhole at the southwestern boundary via gravity and then ultimately into the Boyle O'Reilly Pumping Station.

Foul drainage from the PS will discharge to the Boyle O Reilly wastewater pumping station located to the east of the site. This pumping station ultimately discharges to the Dundalk wastewater treatment plant that is located to the east of the site where effluent is treated prior to discharge to the sea.

16.3.1.3 Water Supply

The proposed site services layout plan for the proposed development can be found on DBFL drawing 240102-X-05-Z00-DTM-DR-DBFL-CE-1300 included in **Appendix 16.1**, showing the location of existing public watermain services in the vicinity of the site.

The water supply point for the proposed development is in the northeast of the site and it is a 315mm watermain that is existing. An on-site booster pump is to be installed to deliver a minimum of 15m pressure to the site.

16.3.1.4 Power

An ESB Networks plan is included in **Appendix 16.2** showing the location of existing electrical services in the vicinity of the site.

There are overhead powerlines running through the site from north to south on the western side of the site.

16.3.1.5 Gas

Gas Networks Ireland plans are included in **Appendix 16.3** showing the location of gas services in the vicinity of the site. There are no records of additional gas services passing through the site

16.3.1.6 Telecommunications and Broadband

EIR network plans are included in **Appendix 16.4** telecommunications infrastructure in the vicinity of the site. EIR have Lines surrounding the site, no EIR lines cross the site.

16.3.2 Cumulative Development

There are a number of sites within the vicinity of our proposed development which will contribute cumulatively to existing utilities in this area.

Please see the table 16-1 below of all known planning permissions/applications in the area and figure 16-1 of their location.

LOCATION	LCC REG. REF. / ABP REF.	DATE	DESCRIPTION / SUMMARY
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FARNDREG / MOUNT AVENUE / HEADFORD	18156 / ABP 303188	—	Demolition of 995 sqm industrial unit; construction of 88-bed nursing home with support facilities.
	18943	18 Jan 2019	80 dwellings (50 houses, 30 apartments, 1–3 storeys).
	20210	19 Oct 2020	47 dwellings (mix of detached, semi-detached, incl. 4 bungalows, 1–2 storeys).
	20211	19 Oct 2020	67 dwellings (mix of houses and apartment/duplex units).
	2360190	11 Aug 2023	Revisions to 25 dwellings in “Hearthfield” (Ref. 18/943 / ABP 303628-19).
	2460240	19 Sept 2024	Revisions to phases 2 & 3 of “Hearthfield” (Ref. 20210).
MOUNT AVENUE	211173	11 Jan 2022	93 residential units and all associated works.
	2460792	28 Jul 2025 (FI)	63 houses (2–3 storeys, semi-detached/terraced).
MILL ROAD	18985	31 May 2019	Demolition of commercial units; construction of 7 dwellings (3 semi-detached pairs + 1 detached).
CASTLETOWN CROSS / CASTLEBLAYNEY RD	2360406	12 Jan 2024	Two-storey dwelling , new site entrance and site works.
	20861	03 Dec 2020	Dormer-style dwelling and associated site works (2 Castletown Cross).
	20711	05 Nov 2020	Dormer-style dwelling and associated site works (Castletown Cross, Newtownbalregan).

Table 16-1 summary of known planning grants/applications in the vicinity of the development



Figure 16-1 Map location of all known planning grants/applications

16.4 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

This section will describe the overall proposal and those characteristics of the proposal that impact upon this aspect of the environment. This will include the description of construction, commissioning and operation of the scheme.

16.4.1 Proposed development

16.4.1.1 Surface Water Drainage

A proposed site services layout plan is shown in DBFL Consulting Engineers drawing 240102-X-05-Z00-DTM-DR-DBFL-CE-1300 is included in **Appendix 16.1**, showing the location of existing surface water drainage services in the vicinity of the site.

The site has an overall area of approximately 38.89 Ha. The site is bound by the Cú Chulainn's Castle, existing farmland and some existing houses to the north and south of the site.

The site is predominantly greenfield and slopes from Cú Chulainn's Castle which is on the east of

the site. It is proposed to outfall the attenuated surface water to the existing Cunnigar River and the Castletown River, located to the north and south of the site respectively.

The proposed storm-water proposals and drainage design for the development is generally, a standard gully and pipe-work collection system, nature-based SuDS features with an attenuated outfall and associated attenuation storage

Proposed surface water drains have been designed in accordance with the Greater Dublin Strategic Drainage Study (GSDS) and BS EN 752: 2008 Drain and Sewer Systems Outside Buildings.

Surface water calculations are based on an allowable outflow / greenfield runoff rate for the northern portion is 27.0 l/sec and 29.0 l/sec for the southern portion resulting in a total attenuation volume of 7906m³, as determined in Chapter 8 (Water).

The proposed surface water drainage networks will collect surface water runoff from the site via a piped network. Attenuation of surface water will be provided in 10 nr underground attenuation systems and 4 nr above ground attenuation basins to provide approximately 7906m³, of storage and promote infiltration, this is broke up into two catchments the northern being 4102m³ and the southern being a total of 3804m³. A non-return valve will be provided at outlet locations to prevent flood waters from entering the surface water drainage network.

16.4.1.2 Foul Water Drainage

A proposed site services layout plan is shown on DBFL drawing 240102-X-05-Z00-DTM-DR-DBFL-CE-1300 included in **Appendix 16.1**. As outlined by the Confirmation of Feasibility (COF) received from Uisce Éireann, approximately 670m of new 375mm ID sewer is to be laid to the junction of Bellewbridge and Castletown Road plus an additional 700m³ of storage at Boyle O'Reilly PS delivered in conjunction with Uisce Éireann. This development of 1058 units will ultimately be treated at the Dundalk wastewater treatment plant prior to discharge.

This foul sewer has been designed in accordance with the principles and methods as set out in the Irish Water Code of Practice, IS EN752 (2017), IS EN12056: Part 2 (2000).

16.4.1.3 Water Supply

The proposed watermain layout plan for the proposed development can be found on DBFL drawing 240102-X-93-Z00-DTM-DR-DBFL-CE-1310. It is proposed to provide a 315mm watermain that runs along the link road and ties into the existing watermain connection on the Mount Avenue Road. This distributes into 225mm, 180mm, and 125mm pipes throughout the site.

This watermain has been designed in accordance with the principles and methods as set out in the Irish Water Code of Practice for water supply.

16.4.1.4 Power

An ESB Networks plan is included in **Appendix 16.2** showing the location of existing electrical services in the vicinity of the site. No records of any EIR cables passing through the site. There are overhead powerlines running through the site from northwestern boundary to south.

16.4.1.5 Gas

A Gas Networks Ireland (GNI) plan is included in **Appendix 16.3** showing the location of existing

gas infrastructure in the vicinity of the site.

There are no records of any gas lines being found in the vicinity of the site

16.4.1.6 Telecommunications

Eir plans are included in **Appendix 16.4** which indicates existing telecommunications infrastructure in the vicinity of the site.

16.4.2 Cumulative Development

No significant cumulative impacts on utilities are anticipated during the construction or operation phases.

16.5 POTENTIAL IMPACT OF THE PROPOSED DEVELOPMENT

An analysis of the predicted impacts of the proposed development on the services and utilities during and after the construction phase, as per Annex IV of Directive 2014/52/EU, EPA Guidance notes (2017) and Appendix C of the IGI EIS Preparation Guidelines (IGI 2013), is presented in the following section.

The impact assessment was undertaken using the following considerations:

- **Quality of an Impact:** Described as being Positive, Neutral or Negative.
- **Significance of an Impact:** The significance of each impact was considered as having either an Imperceptible/Not Significant, Slight, Moderate, Significant/Very Significant or Profound impact.
- **Duration of Impacts:** The duration of each impact was considered to be either brief, temporary, short-term, medium-term, long-term or a permanent impact. Brief construction impacts are considered to last a day or so, Temporary impacts last less than one year. Short-term impacts are seen as impacts lasting one to seven years. Medium-term impacts are impacts lasting seven to 15 years. Long-term impacts are impacts lasting 15 to 60 years and Permanent impacts are impacts lasting over 60 years.

16.5.1 Proposed Development

16.5.1.1 Construction Stage

The lands comprising the proposed development are in the ownership of the applicant. There are no known rights of way across the proposed development site. Potential impacts that may arise during the construction phase include:

- Contamination of surface water runoff due to construction activities.
- Improper discharge of foul drainage from contractor's compound.
- Cross contamination of potable water supply to construction compound.
- Damage to existing underground and over-ground infrastructure and possible contamination of the existing systems with construction related materials.
- Diversion of existing ESB lines may lead to loss of connectivity to and / or interruption of supply from the electrical grid.

- Potential loss of connection and/or interruption to the Gas Networks Ireland; and
- Potential loss of connection and/or interruption to the telecommunications infrastructure while carrying out works to provide service connections.

Without the consideration of mitigation measures the construction phase of the proposed development will likely have a neutral, short-term, moderate impact.

16.5.1.2 Operational Stage

Potential operational phase effects on the water infrastructure are noted below:

- Increased impermeable surface area will reduce local ground water recharge.
- Accidental hydrocarbon leaks and subsequent discharge into piped surface water drainage network (e.g., along roads and in driveway areas).
- Contamination of surface water runoff from foul sewer leaks.

Demand from the proposed development during the operational phase is not predicted to impact on the existing wastewater, watermain, power, gas and telecoms network.

Without the consideration of mitigation measures the operational phase of the proposed development will likely have a neutral, permanent, slight impact.

16.5.2 Human Health

From the perspective of the end user of the networks the risks to human health include:

- Contamination of potable water supply. Further consideration of this risk is provided in Chapter 8 of this report.
- Gas leaks or explosions. The installation of services is tightly monitored and controlled by Gas Networks Ireland to ensure the protection of human health. Therefore, the risk of effect on human health is not considered significant.
- Loss of supply of utilities. This is a managed process that is the responsibility of the individual utility supplier and emergency plans will be in place. The effect is therefore considered brief and not significant.

16.5.3 Unplanned Events

The following accidents & disasters involving built services during the construction phase could potentially give rise to a serious incident putting people at risk:

- Excavation works coming into contact with live electricity lines.
- Excavation works causing damage and leaks to gas mains.

A site-specific Construction and Environmental Management Plan (CEMP) will be developed and implemented during the construction phase to mitigate the risks associated with accidents and disasters. The following accidents & disasters involving built services during the operation phase could potentially give rise to a serious incident putting end users at risk:

- Gas explosions.
- Damaged overhead / underground power lines.

- Severe Storms.

16.5.4 Cumulative Impacts

The proposed surface water drainage infrastructure has been designed in accordance with the relevant guidelines. Any other future development in the vicinity of the site would have to be similarly designed in relation to permitted surface water discharge, surface water attenuation and SuDS, therefore, no potential cumulative impacts are anticipated in relation to surface water drainage and flooding.

No potential cumulative impacts are anticipated in relation to wastewater as the proposed sewer design has been designed in accordance with the requirements of Uisce Éireann's Code of practice for wastewater.

No potential cumulative impacts are anticipated in relation to water supply as the proposed watermain network has been designed in accordance with the requirements of Uisce Éireann's code of practice for water infrastructure.

Without the consideration of mitigation measures the construction phase of the proposed development will likely have a neutral, short-term, slight cumulative impact.

Without the consideration of mitigation measures the operational phase of the proposed development will likely have a neutral, permanent, imperceptible cumulative impact.

16.6 MITIGATION MEASURES (AMELIORATIVE, REMEDIAL OR REDUCTIVE MEASURES)

16.6.1 Construction Stage

Please refer to section 8.6 – Water for mitigation measures associated with the surface water treatment.

Mitigation measures proposed in relation to the drainage and water infrastructure include the following:

- A site-specific Construction and Environmental Management Plan (CEMP) will be developed and implemented during the construction phase. Site inductions will include reference to the procedures and best practice as outlined in the CEMP.
- Surface water runoff from areas stripped of topsoil and surface water collected in excavations will be directed to on-site settlement ponds where measures will be implemented to capture and treat sediment laden runoff prior to discharge of surface water at a controlled rate.
- The construction compound will include adequate staff welfare facilities including foul drainage and potable water supply. Foul drainage discharge from the construction compound will be tankered off site to a licensed facility until a connection to the public foul drainage network has been established.
- The construction compound's potable water supply shall be located where it is protected from contamination by any construction activities or materials.

Relocation of existing ESB infrastructure will be fully coordinated with ESB Networks to ensure interruption to the existing power network is minimized (e.g. agreeing power outage to facilitate relocation of cables). Ducting and / or poles along proposed relocated routes (to be agreed with ESB) will be constructed and ready for rerouting of cables in advance of decommissioning of existing medium and high voltage power lines to minimize outage durations.

As there are no gas networks running through the site relocation will not be necessary.

Character of potential impact	Mitigation measure
Construction Phase	
Damage to existing utilities	Contractor to prepare Method Statement detailing the proposals for works in the vicinity of existing utilities (method statement to be agreed with Project Supervisor Design Process (PSDP)).
Contamination of surface water runoff due to construction activities	Surface water runoff from areas stripped of topsoil and surface water collected in excavations will be directed to on-site settlement ponds where measures will be implemented to capture and treat sediment laden runoff prior to discharge of surface water at a controlled rate.
Improper discharge of foul drainage from contractor's compound	Foul drainage discharge from the construction compound will be transported off site to a licensed facility until a connection to the public foul drainage network has been established.
Cross contamination of potable water supply to construction compound	The construction compound's potable water supply shall be located where it is protected from contamination by any construction activities or materials.
Damage to existing underground and overground infrastructure and possible contamination of the existing systems with construction related materials.	A site-specific Construction & Environmental Management Plan will be developed and implemented during the construction phase. Please refer to DBFL Construction & Environmental Management Plan which has been attached in Appendix 16.5 .
Potential loss of connection to the Gas Networks Ireland and Telecommunications infrastructure while carrying out works to provide service connections	Connections to the existing gas and telecommunications networks will be coordinated with the relevant utility provider and carried out by approved contractors.

Table 16-2 Potential impacts and mitigation measures during Construction Phase

16.6.2 Operational Stage

Please refer to section 8.6 – Water for mitigation measures associated with the surface water treatment.

All new foul drainage pipes will be pressure tested and will be subject to an internal CCTV survey in order to identify any possible defects prior to being made operational.

No additional mitigation measures are proposed in relation to water supply; however water conservation measures such as dual flush water cisterns and low flow taps will be included in the design.

On completion of the construction phase no further mitigation measures are proposed in relation to the electrical, gas and telecommunications infrastructure

Character of potential impact	Mitigation measure
Operational Phase	
Increased impermeable surface area will reduce local ground water recharge and potentially increase surface water runoff	Please refer to Chapter 8 – Water for mitigation measures associated with the surface water treatment.
Accidental hydrocarbon leaks and subsequent discharge into piped surface water drainage network (e.g. along roads and in driveway areas).	Please refer to Chapter 8 – Water for mitigation measures associated with the surface water treatment.
Contamination of surface water runoff from foul sewer leaks.	All new foul drainage lines will be pressure tested and will be subject to a CCTV survey in order to identify any possible defects prior to being made operational.

Table 16-3 Potential impacts and mitigation measures during Operational Phase

16.7 RESIDUAL IMPACT OF THE PROPOSED DEVELOPMENT

This section describes the impacts arising once mitigation measures are fully implemented.

16.7.1 Proposed Development

16.7.1.1 Construction Stage

Implementation of the measures specified in 16.6 will ensure that the potential impacts of the proposed development on water supply, drainage and utilities do not occur during the construction phase and that any residual impacts will be moderate, short term and will have a neutral effect on the proposed development.

16.7.1.2 Operational Stage

As surface water drainage, foul water drainage and watermain design has been carried out in accordance with the relevant guidelines, there are no predicted residual impacts on the drainage and water supply arising from the operational phase.

All utilities ducting and diversion will be carried out as per the supplier standards and instructions, therefore the residual impacts are expected to be permanent but imperceptible from the operational phase and will have a neutral impact on the development.

16.7.1.3 Worst Case Scenario

Contamination of potable water supply. This risk is not considered significant as water The following accidents & disasters involving built services during construction could potentially give rise to a serious incident putting people at risk:

- Excavation works coming into contact with live electricity lines.
- Excavation works causing damage and leaks to gas mains.
- Excavation works causing damage to wastewater pipelines and resulting in contamination of the surrounding ground and surface water network.
- Accidental spills of fuels, oils, and construction material could contaminate the watercourse.
- Employee and public safety. Working in or near river flows poses risks of worker injury or accidents, including the potential for accidental drowning

A site-specific CEMP will be developed and implemented during the construction phase to mitigate the risks associated with accidents and disasters.

The following accidents & disasters involving built services during operation could potentially give rise to a serious incident putting end users at risk:

- Gas explosions. The installation of services is tightly monitored and controlled by Gas Networks Ireland to ensure the protection of human health. The probability of this event occurring is unlikely. Therefore, the risk of effect on human health is not considered significant.
- Quality is tightly monitored by Irish Water. The probability of this event occurring is unlikely. Further consideration is given to this in Chapter 8 of this report.

16.7.2 Cumulative

16.7.2.1 Construction Stage

Implementation of the measures specified in 16.6 will ensure that the potential cumulative impacts on water supply, drainage and utilities do not occur during the construction phase and that any residual impacts will be moderate, short term and will have a neutral effect on the proposed development.

16.7.2.2 Operational Stage

As surface water drainage, foul water drainage and watermain design has been carried out in accordance with the relevant guidelines, there are no predicted cumulative residual impacts on the drainage and water supply arising from the operational phase.

All utilities ducting and diversion will be carried out as per the supplier standards and instructions, therefore the residual impacts are expected to be permanent but imperceptible from the operational phase and will have a neutral impact.

16.7.2.3 Worst Case Impact

The proposed surface water drainage infrastructure has been designed in accordance with the relevant guidelines. Any other future development in the vicinity of the site would have to be similarly designed in relation to permitted surface water discharge, surface water attenuation and SuDS,

therefore, no potential cumulative impacts are anticipated in relation to surface water drainage and flooding.

No potential cumulative impacts are anticipated in relation to wastewater as the proposed orbital sewer has been designed in accordance with the requirements of Uisce Éireann's Code of practice for wastewater.

No potential cumulative impacts are anticipated in relation to water supply as the proposed watermain network has been designed in accordance with the requirements of Uisce Éireann's code of practice for water infrastructure.

Without the consideration of mitigation measures the construction phase of the proposed development will likely have a neutral, short-term, slight cumulative impact.

Without the consideration of mitigation measures the operational phase of the proposed development will likely have a neutral, permanent, imperceptible cumulative impact.

16.8 MONITORING

How the works and the mitigation measures proposed will be monitored.

Please refer to section 8.6 – Chapter 8 – Water for the proposed monitoring in relation to the surface water.

No specific monitoring is proposed in relation to the remaining material assets infrastructure.

16.9 REINSTATEMENT

No reinstatement requirements have been identified in relation to the construction or operational phase of the proposed development.

16.10 DIFFICULTIES ENCOUNTERED

There were no difficulties encountered in compiling and assessing the data for this section of the EIAR.