AQUIND Limited

AQUIND INTERCONNECTOR

Environmental Statement – Volume 1 – Chapter 22 – Traffic and Transport

The Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 – Regulation 5(2)(a)

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

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22. TRAFFIC AND TRANSPORT

22.1. SCOPE OF THE ASSESSMENT

22.1.1. INTRODUCTION

22.1.1.1. This chapter provides an assessment of impacts associated with onshore Traffic and Transport as a result of the Proposed Development. Maritime transport is covered in Chapter 13 (Shipping, Navigation and Other Marine Users) of the Environmental Statement ('ES') Volume 1 (document reference 6.1.13).

22.1.1.2. The Proposed Development that forms the basis of this assessment is described in Chapter 3 (Description of the Proposed Development) of the ES Volume 1 (document reference 6.1.3).

22.1.1.3. This chapter covers the following:

- A review of relevant legislation and policy, both at the local and national level;
- A description of the methodology used for the assessment of the impacts on traffic, transport, and non-motorised users as a result of the Proposed Development;
- The assumptions and limitations of the assessment contained within this chapter;
- A description of the existing baseline in relation to traffic, transport and non-motorised users;
- A review of the Proposed Development from a transport and access perspective, including a description of embedded mitigation that forms part of the proposals;
- An assessment of the likely impacts on traffic, transport and non-motorised users as a result of the Proposed Development;
- An assessment of how the likely significant impacts can be mitigated and the residual impact of the Proposed Development after mitigations have been considered; and
- The cumulative impacts of other identified developments in combination with the Proposed Development.

22.1.1.4. Each of these points has been used to assess the: Onshore Cable Corridor, running from Eastney to Lovedean; and the proposed Converter Station at Lovedean. For the purposes of this assessment, the Onshore Cable Corridor includes the Landfall at Eastney, Hampshire.

22.1.1.5. This chapter assesses the impacts arising from the Onshore Components of the Proposed Development. References to the Order Limits and the Site in this chapter, any appendices to it and plans enclosed to it, is only in relation to the Order Limits and the Site as applicable to the Onshore Components as illustrated in Figure 3.9 of the ES Volume 2 (document reference 6.2.3.9).

22.1.1.6. Importantly it should be noted that the proposed works associated with the construction of the Onshore Cable Route are temporary in nature. Construction is only estimated to last a few weeks in any one location. Therefore, the predicted impacts will only arise for a short duration.

22.1.1.7. The design of the Onshore Cable Corridor has sought to minimise carriageway incursion where practically possible. Likewise, the programme of works will ensure that the most disruptive works do not occur at the same time and are scheduled in coordination with work embargoes and committed schemes, as stipulated by the relevant highway authority. Disruptive works (outlined in paragraph 22.4.7.4) refer to traffic management requirements that involve either:

- a road closure; or
- a closure of a general-purpose lane / shuttle working controlled by temporary traffic signals on major classified routes within the study area.

22.1.1.8. In the assessment that has been undertaken, the programme of works has not been included as part of the embedded mitigation. This means that the worst-case scenario has been assessed with all disruptive works transpiring simultaneously. Such an approach ensures that the impacts are robustly identified and quantified. The implementation of effective mitigation will ensure that the identified 'worst case' does not transpire.

22.1.2. STUDY AREA

22.1.2.1. The study area encompasses an approximate 5 km area around the Order Limits, incorporating Denmead, Southwick and Cosham to the west and the A3(M) corridor to the east, between Junction 1 (Horndean) and where it meets the A27 (Bedhampton). To provide a robust assessment the study area includes all of Portsea Island and motorway between M27 Junction 12 to the west and A27 junction with A3(M) to the east. This includes all construction traffic routes and roads which may be temporarily affected by traffic redistribution associated with construction of the Onshore Cable Route. The description of the study area provided within this chapter should be viewed alongside Figure 22.1 and has been agreed with Hampshire County Council ('HCC') and Portsmouth City Council ('PCC') as the respective local highway authorities.

22.1.2.2. The assessment reported within this chapter relates to vehicular traffic, pedestrians and cyclists. Where bridleways or byways are directly affected, consideration has also been given to equestrian users.

22.1.2.3. For ease of reference, plans showing the Onshore Cable Corridor and Converter Station have been split into 10 sections. These are shown in Figure 22.1, described in Chapter 3 (Description of the Proposed Development) and are explained in more detail below.

Section 1 – Lovedean (Converter Station Area)

22.1.2.4. The Converter Station will be located adjacent to the existing Lovedean Substation and accessed via Broadway Lane in the vicinity of the junction with Day Lane. This is shown on Plate 22.1 below.

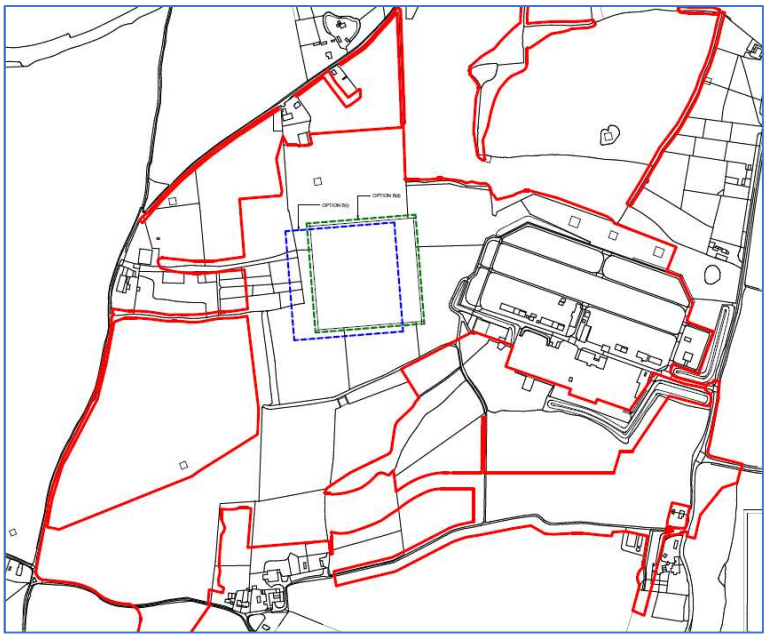

Plate 22.1 – Converter Station Parameter Plans (two location options, green and blue dash)

22.1.2.5. The impacts on traffic and transport associated with the construction and operation of the Converter Station will be confined to a small area as follows:

- The vicinity of the access junction;
- Roads used to access it from the Strategic Road Network (these are detailed in paragraph 22.4.6.9); and
- Adjacent Public Rights of Way.

22.1.2.6. Section 1 incorporates parts of Broadway Lane and Day Lane. The use of Broadway Lane will affect Footpaths 16 and 4 which cross the Converter Station Area between Little Denmead Farm in the west and Broadway Farm in the east. Consequently, these have been included within the study area. Although not directly affected by the Converter Station Area, Footpath 19 and 28 run east to west between Little Denmead Farm and Broadway Lane. Footpath 28 continues on the eastern side of Broadway Lane, linking into Lovedean Lane.

22.1.2.7. Additionally, on the B2149 Dell Piece West on the approach to the Junction 2 of the A3(M), Footpath 26a and Bridleway 24a access this link.

Section 2 – Anmore

22.1.2.8. In this section, the study area generally relates to construction traffic associated with the Converter Station and the Onshore Cable Corridor. Cable installation will not take place in highway land and instead will be situated in agricultural fields. The exception to this is where it will pass under Broadway Lane to the west of Little Denmead Farm as shown in Plate 22.2. This highways in this section are the responsibility of HCC.

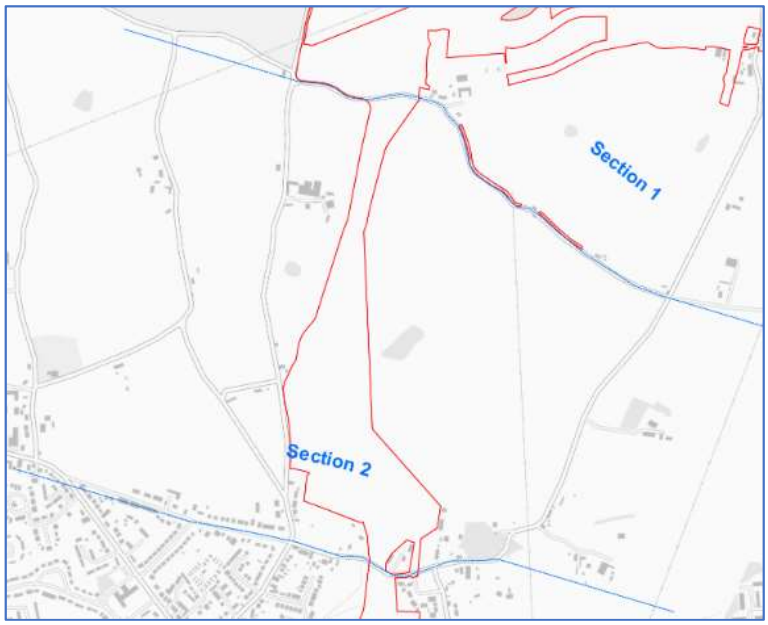

Plate 22.2 - Order Limits of Section 2

22.1.2.9. The Onshore Cable Corridor in this section will impact Footpath 13, which runs between Edney's Lane and Anmore Dell.

Section 3 – Denmead/Kings Pond Meadow

22.1.2.10. As part of the statutory consultation the following options were included for this Section:

- Option 3a – Crossing Anmore Road from north to south into Kings Pond Meadows between and proceeding to the B2150 Hambledon Road;

- Option 3b – along Anmore Road from adjacent to Clifton Crescent and proceeding via Kings Pond Meadows to B2150 Hambledon Road; and
- Option 3c – use of Anmore Road, Martin Avenue and Mill Road (one Cable Circuit along each) and along B2150 Hambledon Road.

22.1.2.11. Following on from statutory consultation, Option 3c has been discounted and Options 3a and 3b are included in the Application. The Onshore Cable Corridor will now run either directly across Anmore Road through Kings Pond Meadows, via Horizontal Directional Drilling ('HDD'), to B2150 Hambledon Road (Option 3a) or along Anmore Road, from adjacent to Clifton Crescent and proceed southwards onto the B2150 Hambledon Road through Kings Pond Meadows via HDD. The Order Limits within Section 3 is shown in Plate 22.3.

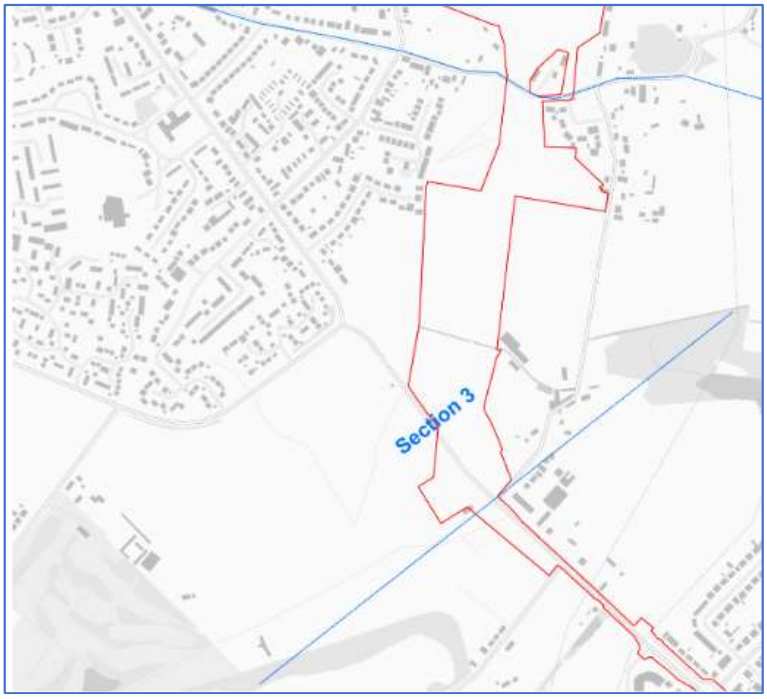

Plate 22.3 - Order Limits of Section 3

22.1.2.12. This section includes the following links that will be used by construction traffic or impacted by the cable installation and are assessed on that basis. All of the links are the responsibility of HCC:

- Soake Road;
- Anmore Road, between the junctions with Soake Road and Mill Road/Edney's Lane; and
- B2150 Hambledon Road.

Section 4 – Hambledon Road to Farlington Avenue

22.1.2.13. Section 4 relates only to the Onshore Cable Corridor, which is inclusive of the links listed below. These links will primarily be impacted by the installation of the Onshore Cables within the Onshore Cable Corridor and the associated traffic management, and may be affected by construction traffic relating to this element of the Proposed Development.

22.1.2.14. Within the HCC network this section includes the following highway links and PRoW:

- B2150 Hambledon Road, between the junction with Soake Road the junction with A3 Maurepas Way;
- A3 Maurepas Way, between the roundabouts with B1250 Hambledon Road and A3 London Road (this includes Footpath 11); and
- A3 London Road, between the roundabout with A3 Maurepas Way and a point approximately 20 m north of the junction with Christchurch Gardens (this includes Bridleway 15 and 17; and Footpaths 16, 18, 19 and 20).

22.1.2.15. The Order Limits within this section is shown on Plates 22.4 to 22.6 below, and all highways in this section are the responsibility of HCC.

Plate 22.4 - Order Limits of Section 4 – (1 of 4)

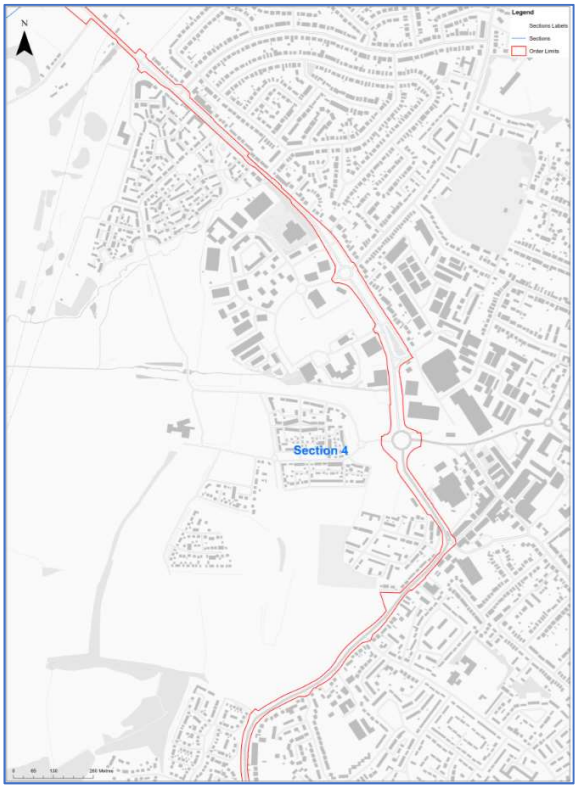

Plate 22.5 - Order Limits of Section 4 - (2 of 4)

Plate 22.6 - Order Limits of Section 4 - (3 of 4)

22.1.2.16. Within the jurisdiction of PCC this section includes the following highways links, as shown on Plate 22.7:

- A3 London Road, between a point approximately 20 m north of the junction with Christchurch Gardens and the B2177 Portsdown Hill Road;
- B2177 Portsdown Hill Road; and
- Farlington Avenue, between the junction with the B2177 Portsdown Hill and the junction with Burnham Road.

Plate 22.7 - Order Limits of Section 4 – (4 of 4)

Section 5 – Farlington

22.1.2.17. As part of the statutory consultation Section 5 included the following options, all of which are the responsibility of PCC:

- Option 5a – use of Farlington Avenue only;
- Option 5b – use of Farlington Water Works, accessed via either Burnham Road, Ainsdale Road, Blake Road or Evelegh Road; and

- Option 5c – use of Portsdown Hill Road, to avoid use of Farlington Avenue.

22.1.2.18. Following the statutory consultation, all options have been discounted, apart from the Evelegh Road access option of 5b and Option 5c. Option 5a is included as part of the Onshore Cable Corridor. Section 5 retains the use of Evelegh Road between Farlington Avenue and the eastern edge of Solent Infant School. This is to allow for the potential use of the undeveloped parcel of land associated with the Farlington Water Works, located between Evelegh Road and the A2030 Havant Road. This is shown on Plate 22.8 below.

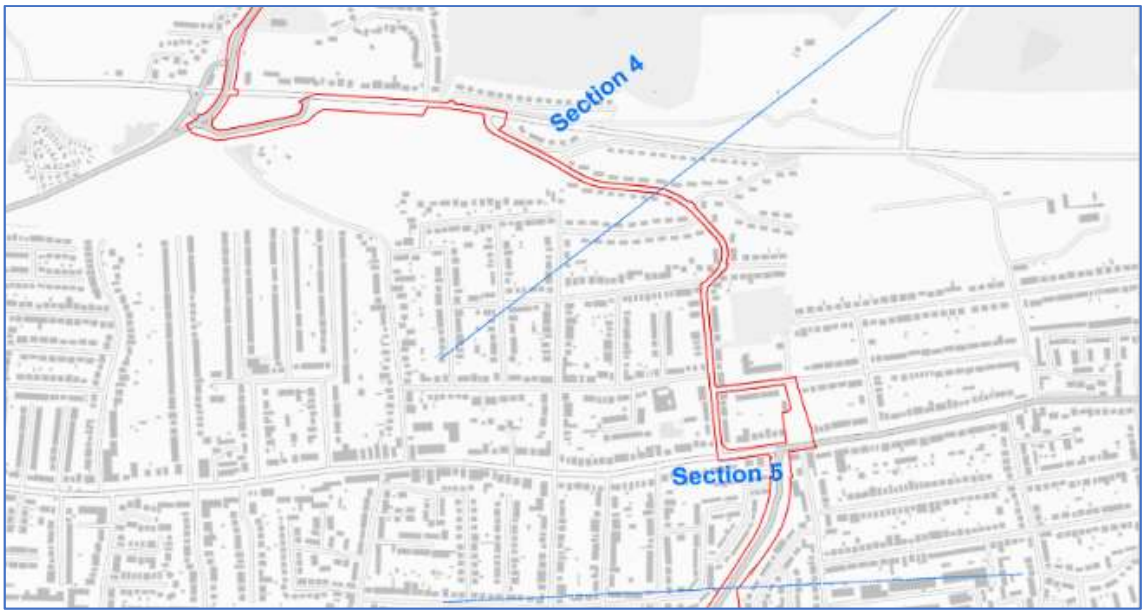

Plate 22.8 - Order Limits of Section 5

22.1.2.19. This section includes the part of the A2030 Havant Road and the A2030 Eastern Road, from the A2030 Havant Road junction with Farlington Avenue to a point on A2030 Eastern Road approximately 280 m south of A2030 Havant Road, opposite the northern boundary of open space known as Zetland Field.

22.1.2.20. All highway links within Section 5 come under the responsibility of PCC and will be affected by the construction of the Onshore Cable Route and by construction traffic relating to this element of the Proposed Development.

Section 6 – Zetland Field and Sainsbury's Car Park

22.1.2.21. The Onshore Cable Corridor in this section contains Zetland Field open space, the A2030 Eastern Road, up to a point before the bridge over the West Coastway Railway Line, Fitzherbert Road and the Sainsbury's Car park, as shown in Plate 22.9.

Plate 22.9 - Order Limits of Section 6

22.1.2.22. North of the Sainsbury's car park, there are two options for the routing of the Onshore Cables within the Onshore Cable Corridor, either along the highway, using the A2030 Eastern Road and Fitzherbert Road, or through the public open space, known as Zetland Field.

22.1.2.23. In the Sainsbury's car park, the Onshore Cable Corridor runs parallel to the A2030 Eastern Road, in the westernmost part of the car park.

22.1.2.24. The highway links within Section 6 come under the jurisdiction of PCC and will be affected by the construction of the Onshore Cable Route and by construction traffic relating to this element of the Proposed Development.

Section 7 – Farlington Junction to Airport Service Road

22.1.2.25. South of the Sainsbury's supermarket the Onshore Cable Corridor crosses under the West Coastway Railway Line via a trenchless method. The Onshore Cable Corridor then passes through Farlington Playing Fields before proceeding across to Portsea Island. Horizontal Directional Drilling ('HDD') will be used to cross under the A27 Havant Bypass and Langstone Harbour to reach Portsea Island. As a result, the A2030 Eastern Road between the access junction to Farlington Playing Fields and the A27 Havant Bypass will be impacted only by construction traffic associated with the cable installation process.

22.1.2.26. Within Section 7, the Onshore Cable Corridor will be off the public highway at least until a point approximately 125 m north of the junction with the A2030 Eastern Road and Airport Service Road. It should be noted that there is an option to continue the Onshore Cable Corridor off-carriageway until the A2030 Eastern Road / Airport Service Road junction.

22.1.2.27. The A2030 Eastern Road between the junction with A27 Havant Bypass and Airport Service Road will therefore be affected by a combination of construction traffic and the cable installation process. The Order Limits for Section 7 is shown on Plate 22.10 and 22.11. All the highway links contained within Section 7 are under the jurisdiction of PCC.

Plate 22.10 - Order Limits of Section 7 – (1 of 2)

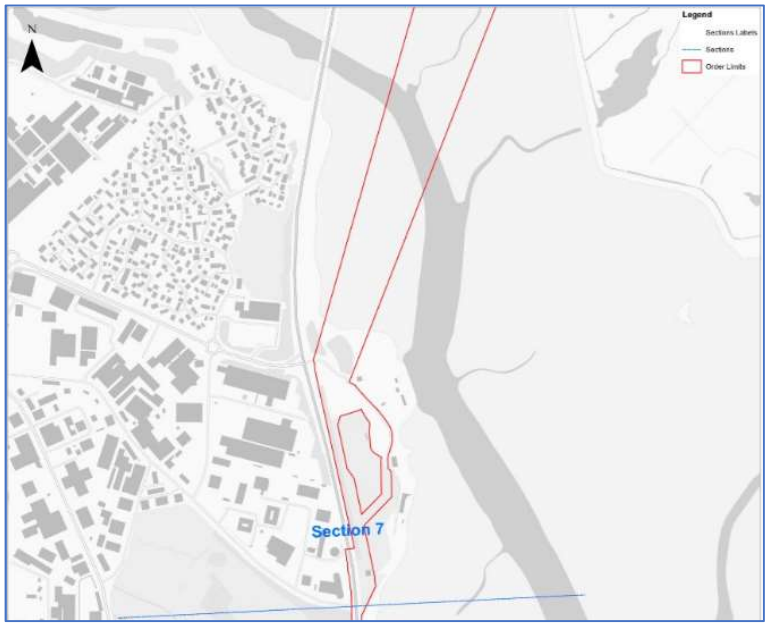

Plate 22.11 - Order Limits of Section 7 – (2 of 2)

22.1.2.28. The majority of the highway links contained within Section 7 of the Onshore Cable Corridor fall under the jurisdiction of PCC. It should be noted that whilst the Onshore Cable Corridor in Section 7 does encompass a section of A27 Havant Bypass, which falls under the jurisdiction of HE, as the Cable Route is anticipated to cross under this link. This means that A27 Havant Bypass is unlikely to be directly impacted by construction works.

Section 8 – Eastern Road (adjacent to Great Salterns Golf Course) to Moorings Way

22.1.2.29. As part of the statutory consultation Section 8 included the following options, with all highways under the jurisdiction of PCC:

- Option 8a – use of Eastern Road, from the junction with Airport Service Road to the junction of Tangier Road, exiting the carriageway between the junction with Tangier Road and 300 m south of it, and proceeding south through the centre of Milton Common towards the University of Portsmouth;
- Option 8b – use of the Eastern Road from the junction with Airport Service Road to the junction with Eastern Avenue and then along Eastern Avenue onto Moorings Way; or
- Option 8c – use of the Eastern Road to the junction as per Option 8b for one Cable Circuit, with the other running along the western edge of Milton Common from the junction with Tangier Road to just north of East Shore Way, and the other Cable Circuit continuing to and along Eastern Avenue onto Moorings Way.

22.1.2.30. All options utilise the Eastern Road between the junction with Airport Service Road and the northernmost end of Milton Common. The Order Limits for Section 8 is shown on Plate 22.12 and 22.13.

Plate 22.12 - Order Limits of Section 8 – (1 of 2)

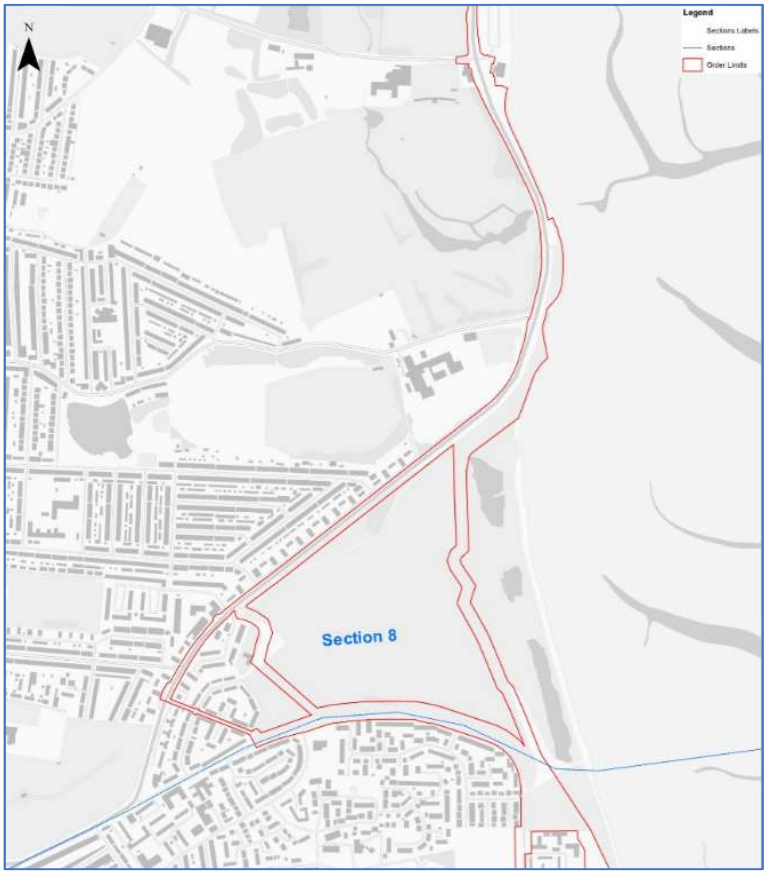

Plate 22.13 - Order Limits of Section 8 – (2 of 2)

22.1.2.31. The ability to route the Onshore Cable Route through Milton Common (Option 8a) is discussed in Chapter 3: Description of the Proposed, and in Chapter 18: Ground Conditions, with regard previous use of Milton Common and its suitability for the laying of the Onshore Cable Route.

Section 9 – Moorings Way to Bransbury Road

22.1.2.32. Section 9 includes two distinct route options that follow on from the potential end points in Section 8 as described above. The Onshore Cables will head southwards, either via:

- Moorings Way, The University of Portsmouth Langstone Campus grounds and Longshore Way; or
- Moorings Way, the Moorings Way to Furze Lane Bus Link, Furze Lane and Locksway Road.

22.1.2.33. At the point where Locksway Road and Longshore Way meet, the Onshore Cable Corridor will head into the southern car park of the Thatched House public house. HDD will be used to cross under both the Milton Locks Nature Reserve and the Milton and Eastney Allotments. Upon leaving the open space south of the allotments, the Onshore Cable Corridor includes the Kingsley Road between Yeo Court and Ironbridge Lane and the Yeo Court cul-de-sac to allow for entry onto Bransbury Park. The Order Limits for Section 9 is shown on Plate 22.14.

Plate 22.14 - Order Limits of Section 9

Section 10 – Eastney (Landfall)

22.1.2.34. Section 10 represents the southernmost section of the Onshore Cable Corridor. The study area for this section comprises the following highway links:

- Henderson Road from the junction with Bransbury Road to the junction with Fort Cumberland Road; and
- Fort Cumberland Road to the junction with Fraser Range access road, where the Onshore Cable Corridor enters the Landfall at Fort Cumberland car park.

22.1.2.35. All of the highway links within Section 10 come under the jurisdiction of PCC. Henderson Road and Fort Cumberland Road will be affected by the installation of the Onshore Cable Route and construction traffic accessing the Landfall at Fort Cumberland car park. The Order Limits for Section 10 is shown on Plate 22.15.

Plate 22.15 - Order Limits of Section 10

Wider Study Area

22.1.2.36. In addition to the Sections of the Onshore Cable Corridor and construction traffic route detailed above, the study area also includes roads which may be affected by traffic redistribution associated with its construction. These areas can be defined broadly by the Sections listed above as follows:

Sections 1 to 4

- **West of Waterlooville**: this covers the predominately rural area to the west of the Waterlooville and includes Denmead, Anmore and Furzeley Corner.
- **Waterlooville**: this encapsulates the urban area stretching across Horndean, Lovedean, Cowplain, Wecock Farm, the town centre, Stakes, Purbrook, Crookhorn and Widley.
- **East of Waterlooville**: this includes the A3(M) and some key roads / junctions that link the A3(M) with Havant and the wider strategic network. These include the B2149, the B2150 Hulbert Road, Purbrook Way, the B2177 and junctions 2,3,4 and 5 with the A3(M).

Section 5 and 6:

- **Cosham, Drayton and Farlington**: situated south of the administrative boundary with HCC and north of the A27 Havant Bypass / M27.

Sections 7 to 10

- **Portsea Island**: all links on the island of Portsea Island.

22.2. LEGISLATION, POLICY AND GUIDANCE

22.2.1.1. This assessment has taken into account the current legislation, policy and guidance relevant to transport. These are listed below.

22.2.2. LEGISLATION

Traffic Management Act 2004

22.2.2.1. Under this Act it is the duty of local traffic authorities to secure the expeditious flow of traffic both on their own network and that of other authorities. Additionally, this Act provided powers for the establishment or permit schemes by local highway authorities and also amended powers in the New Roads and Street Works Act 1991 with regard to the processes for the carrying out of street works.

22.2.3. PLANNING POLICY

National Policy

National Policy Statement for Energy

22.2.3.1. Published in July 2011 by the Department of Energy and Climate Change, The National Policy Statement for Energy (EN-1), sets out the overarching National Policy for major energy infrastructure within England and Wales to meet future demand, deliver on obligations to reduce greenhouse gas emissions and ensure a secure energy supply through a diverse range of energy sources.

22.2.3.1. Section 5.13 of EN-1 details the transport specific policies in relation to the delivery of new energy infrastructure. This identifies that mitigation should principally focus on demand management measures and a comprehensive Transport Assessment should be produced.

22.2.3.2. Where road transport is involved, Heavy Goods Vehicle ('HGV') movements should be fed along appropriate routes, and numbers should be controlled with appropriate provision on site to ensure that there is no overspill onto the public highway. Finally, EN-1 identifies that the applicant should work in coordination with local authorities and where appropriate, the police force in relation to their proposals.

National Planning Policy Framework, 2019

22.2.3.3. Published in February 2019, the NPPF provides national planning policies which seek to reduce the complexity and improve the accessibility of the planning system, whilst protecting the environment and encouraging growth in a sustainable manner.

22.2.3.4. The NPPF does not contain specific policies for Nationally Significant Infrastructure Projects (or major infrastructure projects) to be consented pursuant to the Planning Act 2008 (the 'Act'). These are to be determined in accordance with the Act, relevant national policy statements for major infrastructure (detailed above) and other matters that are relevant (which may include the NPPF).

22.2.3.5. The NPPF provides a guiding framework of the Government's planning policies for England and how these should be applied. As such, it is necessary to consider the relevant policies within the NPPF.

22.2.3.6. In the consideration of development proposals, any assessment should ensure that: sustainable transport options have been fully explored; access is safe and suitable for all users; and that any significant implications for capacity, congestion or safety can be cost effectively mitigated to an acceptable degree.

22.2.3.7. A refusal for development on highway grounds should only be given if it has been determined that there would be an unacceptable impact on road safety or the residual cumulative impacts on the wider road network would be severe.

22.2.3.8. What constitutes an unacceptable impact on road safety or a severe residual cumulative impact is not defined in the NPPF and is a matter for the decision maker to determine. Planning appeal decisions in relation to development and highway impacts indicate this is a high threshold which takes into account the transport context of the development proposals, and which may be met only where extreme, serious and/or very significant adverse impacts arise in respect of highway safety or on the road network.

22.2.3.9. Developments generating a significant quantity of movements should be required to produce a Travel Plan, with the application supported by a Transport Assessment or Transport Statement. So that the likely impacts of the proposal can be assessed.

Local Policy

Portsmouth City Council

The Portsmouth Plan, Portsmouth's Core Strategy, Portsmouth City Council, 2012

22.2.3.10. This document sets out a vision and 24 objectives for Portsmouth up to 2027, identifying broad locations for development, protection and change; and detailing the guiding policies for planning applications in the city.

22.2.3.11. Policy PCS17: "Transport" states that the council will work collaboratively with partners to deliver a sustainable and integrated transport network, that reduces the need to travel.

22.2.3.12. It is recognised that because there are only three roads linking Portsea Island with the mainland (the M275, the A3 and the A2030), the local road network is vulnerable to significant congestion, especially when abnormal incidents arise alongside routine peak time delays.

22.2.3.13. Additionally, seven challenges across the sub-region are identified, two of which are pertinent to the Proposed Development, these are as follows:

- Managing the existing transport network to ensure that journey time reliability is maintained and improved; and
- Mitigating the adverse impacts of transport activity on people, communities and habitats.

The Portsmouth Local Transport Plan 3, Portsmouth City Council, 2011

22.2.3.14. The pertinent points from this document are largely similar to those outlined in the Portsmouth Plan, as discussed above. Overall, the two documents can be viewed as commensurate with the latter feeding into the former.

New Portsmouth Local Plan

22.2.3.15. A new Local Plan is currently being developed to replace the existing policy documents. This updated Local Plan is intended to cover the period 2019-2036. It was scheduled to be published in the Summer of 2019, however this has been subsequently delayed.

22.2.3.16. From Monday 11 February 2019 until Monday 25 March 2019, a consultation was undertaken to receive comments regarding the evidence base that had been submitted in preparation for the new Local Plan. As part of this, a series of consultation documents were published. Those deemed relevant to this chapter are considered below.

Portsmouth City Local Plan Consultation Document, February 2019

22.2.3.17. Section 7 of the Consultation Document outlines the key transport issues facing the city. PCC is working with SYSTRA to produce a Transport Assessment to help inform the Local Plan. The purpose of this is to identify the current transport issues and options to mitigate these.

Hampshire County Council

Hampshire Local Transport Plan 2011-2031 (Revised 2013)

22.2.3.18. Hampshire's Transport Strategy as set out in this Local Transport Plan (LTP) will develop stronger and safer communities, maximise wellbeing and enhance quality of place.

22.2.3.19. The Local Transport Plan sets out a vision of how Hampshire's Transport Network will be developed over the 20year Plan period. Emphasis is on maximising efficiency of the existing network, and maintenance / management, rather than capital projects which centre on enlarging it.

22.2.3.20. There are 14 policy objectives, structured under five themes. The five themes are as follows:

- **Supporting the economy through resilient highways** – making the best of the existing network given current funding constraints and developing a 'whole-life cycle' approach to maintenance;
- **Management of traffic** – using measures such as Intelligent Transport Systems to enable users to better plan their journeys and improve journey time reliability/utilisation;
- **The role of public transport** – providing greater choice and reducing car dependency;
- **Quality of life and place** – ensuring transport better harmonises with its local environment; and

- **Transport and Growth Areas** – exploiting the opportunity that new development provides to enhance transport provision and the use of more sustainable modes.

Local Transport Plan 3, Strategy for South Hampshire, 2011

22.2.3.21. The Local Transport Plan 3 ('LTP') was produced for South Hampshire through a combined process involving HCC, PCC and Southampton City Council. The transport strategy for South Hampshire has taken into account national legislation, policy and guidance and a number of key sub-regional and local level plans and strategies.

22.2.3.22. The vision for South Hampshire is to create:

> *'A resilient, cost effective, fully-integrated sub-regional transport network, enabling economic growth whilst protecting and enhancing health, quality of life and environment.'*

Havant Borough Council

22.2.3.23. The Havant Adopted Local Plan comprises two documents:

- The Core Strategy (2011); and
- The Site Allocations Plan (2014).

22.2.3.24. It should be noted that despite the Emerging Local Plan 2036 (discussed below), the adopted Local Plan remains the overarching document for current planning policy in the Borough.

The Havant Borough Council Core Strategy Local Development Framework, 2011

22.2.3.25. This sets out the planning framework for the Borough up to 2026.

22.2.3.26. Policy CS9 stipulates that 6,300 new homes are required during the Local Plan period. In relation to the Proposed Development, 2,126 (or 31%) new dwellings would be delivered in the Waterlooville area, with 2,000 provided in the West of Waterlooville Major Development Area ('MDA').

The Havant Borough Council Draft Local Plan 2036

22.2.3.27. Published on 8 January 2018 for consultation, it establishes the vision for future development within the Borough and the framework through which it can be delivered.

22.2.3.28. On 30 January 2019, the Pre-Submission Havant Borough Local Plan 2036 was approved by the Full Council and was consulted on between 1 February 2019 and 18 March 2019. It is due to be submitted for formal examination to the Secretary of State in Quarter 4 of 2019. As of October 2019, this process is still on-going.

22.2.3.29. The draft Local Plan identifies 10 keys sites for development. Of these, KS9 Berewood and Wellington Park lie within the immediate vicinity of the Proposed Development. KS9 involves an urban extension to the west of Waterlooville comprising 3,000 dwellings.

Winchester City Council / East Hampshire District Council

22.2.3.30. The Proposed Development affects small portions of the boundaries of East Hampshire District Council and Winchester City Council. The affected areas are predominately rural in nature.

22.2.3.31. The Local Plans for the two respective authorities largely refer to developments that are outside the vicinity of the Proposed Development and reiterate what has already been discussed in the Havant Borough Council Draft Local Plan above.

22.2.3.32. However, East Hampshire District Council has produced a new Draft Local Plan to replace the 2014 Adopted Local Plan. Currently, this Draft Local Plan is undergoing a consultation period focussing on the 10 large development sites that have been proposed.

22.2.3.33. Of the 10 large development sites, only one is applicable to this chapter: Site 3 Extension to Land East of Horndean (Hazelton Farm). The proposal involves 1,000 new homes and associated community facilities on land situated south of Junction 2 of the A3(M), between the B2149 Dell Piece East and the A3(M). This site is relevant to the Proposed Development due to construction traffic route, which will use Junction 2 of the A3(M).

East Hampshire District Council Local Plan (Part 1), Joint Core Strategy, 2014.

22.2.3.34. This document sets out the adopted policy framework for shaping development up to 2028.

East Hampshire District Council Local Plan (Part 2), Housing and Employment Allocations, 2016

22.2.3.35. This outlines the parcels of land that have been allocated for development.

22.2.3.36. Of relevance to the Proposed Development, is parcel CF1 Land at Down Farm, Green Lane. This is situated north-east of the settlement of Clanfield, bordering Chalton Lane and the A3. It comprises 207 new residential dwellings. Most of these have been built and the development is now known as St James Place. Indicative timescales in the Local Plan stipulate a completion year of 2020.

The Winchester District Local Plan Part 1, Joint Core Strategy, 2013

22.2.3.37. This outlines the strategy for delivering 12,500 new dwellings and 20 hectares of employment land across the district.

22.2.3.38. Policy DS1 sets out the core principles. In relation to the Proposed Development, the nearest strategic allocation is that associated with the West of Waterlooville MDA. Primarily the principles largely reiterate those expressed in the Havant Local Plan, although there is the additional principle of applying a town centres first approach that reflects the size of the community and attracts footfall accordingly.

The Winchester District Local Plan Part 2: Development Management and Site Allocations, 2016

22.2.3.39. This sets out the allocations of land to help deliver the strategy in Part 1 of the Local Plan.

22.2.4. GUIDANCE

22.2.4.1. The assessment undertaken in this chapter is based upon the following relevant guidance documents:

- Guidelines for Environmental Assessments of Road Traffic (Institute of Environmental Assessment, 1993);
- Design Manual for Roads and Bridges Volume 11 Section 3 Part 8: Pedestrians, Cyclists, Equestrians and Community Effects (Department for Transport ('DfT'), 1993);
- Design Manual for Roads and Bridges Volume 11 Section 3 Part 9: Vehicle Travellers (DfT, 1993); and
- The assessment of traffic and transport within this chapter has been produced in accordance with the Planning Practice Guidance ('PPG') (DCLG, March 2014) entitled 'Travel Plans, Transport Assessments and Statements in Decision Taking'.

22.3. SCOPING OPINION AND CONSULTATION

22.3.1. SCOPING OPINION

22.3.1.1. As detailed within Chapter 4 (EIA Methodology) of the ES Volume 1 (document reference 6.1.4), a Scoping Opinion was received by the Applicant from PINS (on behalf of the SoS) on 7 December 2018 including formal responses from statutory consultees. A summary of the responses from PINS in relation to transport are shown below:

- The low number of staff employed at the Converter Station when operational means that the assessment of the operational stage can be scoped out of the ES;
- Further dialogue is required with the relevant local highway authorities to confirm the scope of the Transport Assessment;
- Impacts to the Strategic Road Network should be assessed; and
- Supporting figures should be provided within the ES.

22.3.1.2. Appendix 22.2 includes the responses to the PINS EIA Scoping Opinion.

22.3.2. CONSULTATION PRIOR TO STATUTORY CONSULTATION

22.3.2.1. Consultation is a key part of the DCO process, particularly in relation to highways and transport given the extent of the Onshore Cable Corridor that will be constructed within highway land. The following consultation was undertaken prior to completion of the PEIR:

- HCC: Written response dated 26 March 2018 requesting further information on the Proposed Development, followed by meetings on the 15 May 2018 and 22 May 2018 to provide general project updates / overview;
- PCC: Meetings on 21 May 2018 and 7 November 2018 to provide general project updates;
- Highways England: Meeting on 22 May 2018 to discuss the project in general.

22.3.2.2. Appendix 22.2 includes a summary of consultation undertaken and outcome of discussions for this topic.

22.3.3. STATUTORY CONSULTATION

22.3.3.1. Consultation responses in relation to the proposals presented at that time and on the PEIR were received from HCC and PCC on 29 April 2019. The key topics raised within these consultation responses are summarised below:

- Further description required of the Converter Station site access junction;
- Further information needed on traffic management proposals along the Onshore Cable Corridor;
- Additional information requested on how streetworks will be implemented in relation to New Roads and Street Works Act;
- Committed transport schemes should be fully considered along the A3 corridor;
- Additional assessment required of impact on pedestrians, cyclists and public transport users;
- Traffic analysis needs to consider the wider-scale impacts of construction of the Onshore Cable Route; and
- Construction programme should be discussed and agreed with HCC and PCC.

22.3.3.2. Appendix 22.2 includes the responses to the PEIR consultation in relation to this topic and how regard has been had to them.

22.3.4. POST PEIR CONSULTATION

22.3.4.1. A series of further meetings have been held with key stakeholders between consultation feedback on the PEIR and submission of the Application. Overall, these meetings aimed to provide responses to queries raised by consultees and agree the scope of the Transport Assessment, which has been used to inform this Chapter. The scope of the Transport Assessment ('TA'), Framework Traffic Management Strategy ('TMS') and Outline Construction Traffic Management Plan ('CTMP') respond to statutory consultation comments as required.

22.3.4.2. The following consultation was undertaken post PEIR consultation:

- Highways England: Meeting held on 31 May 2019 to provide general project update and discuss scope of Transport Assessment;
- HCC: Meeting held on 20 June 2019 to discuss Transport Assessment Scoping Note;
- PCC: Meeting held on 3 July 2019 to discuss Transport Assessment Scoping Note;
- HCC: Meeting on 5 July 2019 to discuss Sub-Regional Transport Model ('SRTM') Coding Note;
- Highways England: Meeting held on 11 July 2019 to discuss HDD methodology for installing Onshore Cable Corridor under the A27;
- PCC: Meeting to provide on 22 August 2019 to provide general update on traffic management strategy and results of SRTM modelling;
- First Group: Meeting on 22 August 2019 to discuss Proposed Development and Onshore Cable Corridor route through Furze Lane bus link;
- HCC: Meeting on 23 August 2019 to discuss initial results from SRTM modelling;
- PCC: Meeting on 10 September 2019 and 08 October 2019 to discuss traffic management strategy, CTMP and SRTM modelling results; and
- HCC: Meeting on 13 September 2019 and 2 October 2019 to discuss traffic management strategy, CTMP and SRTM modelling results.

22.3.4.3. Appendix 22.2 includes a summary of consultation undertaken and outcome of discussions.

22.3.4.4. Full details of consultation undertaken to date is presented within the Consultation Report (document reference 5.1).

22.3.5. ELEMENTS SCOPED OUT OF THE ASSESSMENT

22.3.5.1. As part of the consultation process, statutory consultees agreed that the Operational Stage of the Proposed Development was not likely to give rise to significant effects at the Scoping stage and has therefore not been considered within the ES. The elements are shown in Table 22.1.

Table 22.1 – Topics and Elements Scoped out of the Assessment

IMPACTS SCOPED OUT OF THE ASSESSMENT

Element Scoped Out	Justification
Operational Stage of Proposed Development	It is not anticipated that the Proposed Development will impact upon the current function of the highway network once operational. Some minor traffic increases may be experienced near the Converter Station but it is unlikely that this will extend beyond a few vehicle movements per month.

Construction Stage

22.3.5.2. Six areas of potential impact have been considered to have the potential to give rise to likely significant effects during construction of the Proposed Development as per the guidance stipulated in Guidelines for the Environmental Assessment of Road Traffic ('GEART'), which were also specified in the ES Scoping Note. Accordingly, the potential for impacts to arise in connection with the Proposed Development on the following potential areas of impact has been considered within the ES:

- Severance;
- Traffic Delay;
- Pedestrian and Cyclist Amenity;
- Fear and Intimidation;
- Accidents and Safety; and
- Hazardous and Dangerous/ Abnormal Loads.

Decommissioning Stage

22.3.5.3. When the Proposed Development is decommissioned, it is assumed that the onshore cable ducts will remain in situ, with limited works being undertaken to remove the cable via joint bays; and the Converter Station would be removed. It is therefore assumed that potential decommissioning impacts are likely to be similar to those for construction, although more limited along the Cable Corridor.

22.4. ASSESSMENT METHODOLOGY

22.4.1.1. This section describes the assessment methodology that has been employed to assess the impacts of the onshore elements of the Proposed Development in relation to traffic and transport. The assessment of transport within this Chapter has been undertaken in accordance with industry accepted methodologies and references including the Institute of Environmental Management and Assessment's ('IEMA'), GEART and Part 8/9 of the Design Manual for Roads and Bridges ('DMRB'): Volume 11 – Environmental Assessment.

22.4.2. BASELINE DATA COLLECTION

22.4.2.1. To provide an indication of baseline conditions a series of traffic surveys were completed across the study area during June 2018 and July and September 2019.

22.4.2.2. These have primarily focused on the road network surrounding the Converter Station Area and parts of the Onshore Cable Corridor, but also includes other locations within the study area identified as likely to be affected by the Proposed Development. In total 36 Automatic Traffic Count ('ATC') surveys were completed on links and 31 Manual Classified Count ('MCC') surveys at junctions as shown on Figure 22.2.

22.4.2.3. ATC surveys were completed over a 24hr seven-day period during June 2018 and July and September 2019 and recorded vehicle composition, speed and traffic flow in each direction. MCC surveys were completed between 07:00-10:00 and 16:00-19:00 and recorded vehicle turning movements, composition and queue lengths. All MCC surveys were completed on a neutral week weekday and during school terms in early July and September 2019. For the purpose of this chapter two-way traffic flows have been calculated for the following time-periods:

- AM Peak (08:00-09:00);
- PM Peak (17:00-18:00);
- 18-hr weekday average (06:00-24:00); and
- 24-hr seven-day average.

22.4.2.4. Highway boundary data has been obtained from HCC and PCC to confirm the extent of land classified as adopted highway and assist with defining the impacts associated with the installation of the Onshore Cables within the Onshore Cable Corridor.

22.4.2.5. Personal Injury Accident ('PIA') data has also been collected from Hampshire Constabulary for all links within the study area for the most recently available five-year period (01/01/2014 to 01/01/2019). This has been used to inform the accident analysis section of the assessment and identify if there are any cluster sites within the vicinity of the Converter Station or the Onshore Cable Corridor.

22.4.2.6. Ordnance Survey, GIS and aerial mapping has been used for the assessment of highway links within the study area, along with publicly available information on Public Rights of Way ('PRoW'), walking and cycling routes and public transport. In combination with this data, numerous site visits were undertaken between May 2018 and October 2019 to fully assess the study area.

22.4.3. ASSESSMENT SCOPE

22.4.3.1. This Chapter is based upon the findings of the Transport Assessment (Appendix 22.1 of the ES Volume 3) (document reference 6.3.22.1), the scope of which has been informed and agreed following detailed consultation with HCC, PCC and Highways England.

22.4.3.2. The construction traffic impacts of the onshore elements of the Proposed Development on the wider road network have been assessed within the TA using data derived from the Solent Sub-Regional Transport Model (SRTM). Use of the SRTM has allowed for an assessment of the Proposed Development to be completed across the study area for a future year scenario, including works on the Converter Station and Onshore Cable Corridor. Full details of the assumptions used within the SRTM, as agreed with HCC and PCC, are included within Section 10 of the TA.

22.4.3.3. The potential for impacts to arise in connection with the Proposed Development and the potential areas of impact has been assessed using traffic data obtained from the SRTM.

22.4.3.4. Other IEMA topics are covered elsewhere in the ES as follows:

- Visual impacts: Chapter 15 (Landscape and Visual Amenity) of the ES Volume 1 (document reference 6.1.15);
- Ecological impacts: Chapter 16 (Onshore Ecology) of the ES Volume 1 (document reference 6.1.16);
- Dust and dirt and air pollution: Chapter 23 (Air Quality) of the ES Volume 1 (document reference 6.1.23);
- Noise and vibration: Chapter 24 (Noise and Vibration) of the ES Volume 1 (document reference 6.1.24); and
- Heritage and conversation areas: Chapter 21 (Heritage and Archaeology) of the ES Volume 1 (document reference 6.1.21).

22.4.3.5. The peak construction year for the purpose of the assessment is taken as 2022,

during which the enabling work associated with the Converter Station is likely to take place. This is based upon the indicative construction programme for the Proposed Development as set-out in Table 22.2 below.

Table 22.2 – Indicative Onshore Construction Programme

Activity	Indicative Programme
Converter Station Construction	Q3 2021 – Q1 2024
Onshore HVDC Route Construction/ Cable Installation	Q3 2021 – Q3 2023
HDD and Landfall Construction (Onshore)	Q3 2021 – Q4 2023
Converter Station Commissioning	Q4 2023 – Q2 2024

22.4.3.6. As shown in **Table 22.2**, the peak construction year of 2022 includes construction of the Converter Station, the installation of the Onshore cables and Landfall construction. Full details of construction assumptions for the Converter Station and the Onshore Cable Route associated with this construction year, including derivation of construction traffic estimates, are included in Sections 22.4.6 and 22.4.7 of this Chapter.

22.4.3.7. Whilst the peak construction year is defined as 2022, the Construction Stage of the Proposed Development has been assessed using a 2026 future year scenario as this was the most appropriate model scenario available within the SRTM (others available were 2031, 2036 and 2041). The use of the 2026 future year scenario provides a robust assessment of the Proposed Development, given that traffic volumes in the model will be higher in 2026 than in the assessment peak construction year of 2022.

22.4.3.8. The SRTM 'Do-Minimum' ('DM') scenario represents 2026 traffic conditions with committed land-use and transport schemes included (without the Proposed Development). The 'Do-Something' ('DS') scenario is identical to the DM scenario other than the inclusion of the Proposed Development and the implementation of traffic management assumptions related to the Proposed Development.

22.4.3.9. In order to fully assess the impacts of the Proposed Development, two DS scenarios have been tested to replicate the lane closures in different directions on A2030 Eastern Road. This is more fully explained in Section 22.4.7 and full details of the assumptions used for the Proposed Development are detailed in Section 10 of the TA (Appendix 22.1).

22.4.3.10. An assessment of the impact of the Proposed Development is undertaken by comparing the 2026 DM scenario with the two 2026 DS Scenarios.

22.4.4. ASSESSMENT SCREENING PROCESS

22.4.4.1. The GEART suggests that to conduct a robust assessment, the "worst environmental impact that might reasonably be expected" needs to be considered. It is also suggested within the GEART that when assessing the environmental impacts of traffic, two broad "rules-of-thumb" be used to focus the extent of the assessment. The rules are as follows:

- "Rule 1: Include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%); and
- Rule 2: Include any other specifically sensitive areas where traffic flows have increased by 10% or more."

22.4.4.2. The exception to the rules listed above are links near sensitive receptors. In sensitive areas, GEART advises that an increase in traffic of 10% or greater, or a considerable change in vehicle mix, would warrant the inclusion of a link in the assessment. For the purposes of this assessment, a considerable change in vehicle mix is assumed to be a 10% or more increase in HGVs.

22.4.4.3. Furthermore, to provide a robust assessment, the entirety of the Onshore Cable Corridor has been included in the assessment of all predicted impacts regardless of the outcome of the filtering exercise identified above. This ensures that an assessment of impacts has been undertaken where a change in traffic flow may not be the main factor affecting a receptor, such as at locations where traffic management is required.

22.4.5. ASSESSMENT APPROACH

22.4.5.1. The following sections sets out the approach to assessing the impacts of the Proposed Development, and their likely significance.

22.4.5.2. The Applicant has prepared various strategy documents and plans designed to minimise the effects of the Proposed Development. These include the following:

- A Framework Traffic Management Strategy ('TMS') (Appended to Appendix 22.1 (Transport Assessment)) which provides details of traffic management measures to be deployed to facilitate construction of the Onshore Cable Route. The TMS includes details of temporary traffic signals, lane closure and road closure requirements and a programme that aims to minimise disruptions of the construction works through timing of works at key locations to avoid constraints such as school terms and major events.
- An Outline Construction Traffic Management Plan ('CTMP') (Appendix 22.1.F) of the ES Volume 3 (document reference 6.3.22.2) which provides an overarching plan of how construction traffic and site operations will be managed across the Onshore Components of the Proposed Development. The CTMP sets out the parameters within which contractors will be required to work, including hours of

operation, traffic routing, safe vehicular access and requirements to minimise traffic impacts.

22.4.5.3. Compliance with the above documents are to be secured through the Order, and they have therefore been considered predominantly as 'embedded mitigation'. The programme of works set out in the TMS has not been incorporated in embedded mitigation meaning that a worst-case scenario has been assessed. Such an approach was undertaken to provide a robust assessment of the impacts of the Proposed Development on the traffic and transport network. This reflects the use of the SRTM to assess the impacts of the construction stage, with the SRTM providing an assessment of typical peak periods during school term-times and outside of seasonal or other major events.

22.4.5.4. It should be noted that all predicted impacts are temporary in nature, particularly along the Onshore Cable Corridor where construction is estimated to last only a few weeks in any particular location, except for some of the HDDs. Therefore, while an effect of the Proposed Development may be considered significant this may only occur for a very short period of time. This aspect is further explained when detailing the significance of the impact predicted.

Severance

22.4.5.5. DMRB (Volume 11, Section 3, Part 8) defines severance as:

> *"…the separation of residents from facilities and services they use within their community caused by new or improved roads or by changes in traffic flows."*

22.4.5.6. Several factors are considered in determining the existing level of pedestrian severance. These include road width, traffic flow and composition, traffic speeds and the availability of pedestrian crossing facilities, all of which may be impacted by the cable installation or associated construction traffic. In accordance with the GEART, the following quantitative measurement of magnitude of change for severance has been applied:

- Traffic flow increase of under 30% - Negligible magnitude;
- Traffic flow increase of between 30% and 60% - Low magnitude;
- Traffic flow increase of between 60% and 90% - Medium magnitude; and
- Traffic flow increase of over 90% - High magnitude.

22.4.5.7. In accordance with guidance and where appropriate, relevant local factors are considered when assessing severance. For example, the presence of crossing facilities, type of road and volume/speed of traffic.

22.4.5.8. Furthermore, in this assessment a "Low" magnitude of change is defined as allowing users to maintain existing journey patterns, with some minor disruption. A "Medium" magnitude of change is defined as being likely to dissuade more vulnerable user

groups from making certain journeys. Lastly, a “High” magnitude of change is defined as being likely to deter users from making journeys to such an extent that they are willing to reorganise their journey patterns.

22.4.5.9. In assessing severance, reductions in traffic flow along the Onshore Cable Corridor has been excluded to provide a robust and realistic indication of predicted impacts.

Traffic Delay

22.4.5.10. GEART recommends that traffic delay is determined using software packages such as Junctions 9 (for roundabouts and priority junctions) or LinSig 3 (for traffic signal junctions). These packages model the operation of a junction, producing estimates of vehicles and delay, and allowing for a comparison between the future baseline (DM) and development (DS) scenarios.

22.4.5.11. An assessment of driver delay is provided within the TA for key junctions, defined during scoping discussions with HCC and PCC, and where shuttle working temporary traffic signals will be used along the Onshore Cable Corridor. The junctions assessed include those along the Onshore Cable Corridor and those across the study area that were shown to be impacted by the construction works by the SRTM modelling.

22.4.5.12. Along the Onshore Cable Corridor, traffic delay has also been assessed at locations where traffic management will be modelled within the SRTM, as described in Section 22.4.7, using LinSig 3 and traffic data from the 2026 DS scenarios to model temporary traffic arrangements. These have then been compared with the predicted operation of the existing junction layout in the 2026 DM scenario to estimate the impact of the Proposed Development.

22.4.5.13. At other junctions along the Onshore Cable Corridor and across the wider study area the predicted impact has been calculated by comparing the operation of the junction in the 2026 DM and DS scenarios. In total, this assessment has been completed for 31 junctions across the study area.

22.4.5.14. This assessment is summarised within this Chapter, with the magnitude of change determined using professional judgement based upon a number of factors. These include the location and operation of the junction, how long the junction will be affected by the Proposed Development and the difference between the DM and DS scenarios. In doing so, GEART has been taken into account, which states that delays are only likely to be significant when the traffic on the network is already at, or close to, capacity.

Public Transport

22.4.5.15. In respect to public transport, it has been assumed that for assessment purposes, where reported, that traffic delays apply equally to public transport. In Section 9, special consideration has been given to delays which are likely to be incurred by buses which will temporarily unable to travel via the Furze Lane bus link due to the construction of the Onshore Cable Route.

22.4.5.16. As is stated in the FTMS, during construction of the Onshore Cable Route some existing bus stops may need to be temporarily closed depending upon the exact location within the carriageway or footway. Where this is required, a temporary bus stop will be provided as close as practicable to the original location, taking into account highway safety of all road users.

Pedestrian and Cyclist Amenity

22.4.5.17. Pedestrian and cyclist amenity is defined within the GEART and DMRB as the 'relative pleasantness of a journey.' It is also noted within the GEART that, whilst pedestrian amenity includes aspects of fear and intimidation, it should be distinctly separate from the fear and intimidation assessment. A separate assessment is required as impacts on pedestrian amenity have a more holistic view, considering factors like noise and air pollution and the overall relationship between pedestrians and traffic.

22.4.5.18. The GEART guidance provides tentative thresholds for assessment and recommends professional judgement is used to determine the change in amenity. The tentative thresholds provided by GEART are as follows:

- Traffic flow (or HGV component of traffic flow) decrease of 50% or more - positive effect on pedestrian and cyclist amenity;
- Traffic flow (or HGV component of traffic flow) change of between -50% and +100% - negligible effect on pedestrian and cyclist amenity; and
- Traffic flow (or HGV component of traffic flow) increase of more than +100% - negative effect on pedestrian and cyclist amenity.

22.4.5.19. However, considering that the estimated traffic flow increases from the Proposed Development are generally less than 20%, the GEART thresholds would have indicated that there would have been a negligible impact on pedestrian and cyclist amenity. This would have underestimated the impact to pedestrians and cyclists, particularly during the construction of the Onshore Cable Route due to potential impacts on desire lines and journey times as a result of footway closures and additional crossings.

22.4.5.20. Therefore, in addition to the above thresholds, a more descriptive approach (in line with DMRB guidance), has been employed along the Onshore Cable Corridor to provide a robust assessment. This takes account of the specific contextual factors for each link, such as likely pedestrian and cycle usage and footway width, and has used professional judgement to give an overall assessment of the change of amenity to existing pedestrian/cycle routes and PRoW.

22.4.5.21. Taking this into account, the level of amenity is based on the nature of the link and traffic flow. For example, pedestrian amenity along a quite rural lane without footways could be rated as medium, whereas along a residential road the same absence of

footways would be classed as low.

22.4.5.22. The magnitude of change in respect of pedestrian and cycle amenity were identified using the criteria in Table 22.3.

Table 22.3 – Pedestrian and Cycle Amenity Magnitude Descriptors

Magnitude of Change	Description
Negligible	Limited impact on existing routes, for example through temporary narrowing of existing provision.
Low	Where there is an increase in traffic on roads that have provisions for Non-Motorised Users (NMUs) or where NMUs are required to use temporary crossing facilities, located away from existing provisions or short diversion routes.
Medium	Where a closure of a shared-use path or footway and a diversion onto the other side of the carriageway is required, resulting in a severance of desire lines and additional crossings of the road.
High	Constitutes a full closure of a route to pedestrians/cyclists and a circuitous detour

Fear and Intimidation

22.4.5.23. As previously noted, assessment of the impact of fear and intimidation is similar to that of pedestrian and cyclist amenity. However, the GEART guidance suggests that fear and intimidation assessments consider additional factors such as perceived protection from traffic.

22.4.5.24. The quantitative thresholds for determining the magnitude to change to fear and intimidation as set out in the GEART are reproduced below in Table 22.4 and will form the basis of this assessment.

Table 22.4 – Fear and Intimidation Magnitude of Impact

Magnitude of Change	Average Traffic Flow (18 hour) (vehicle per hour)	Total HGV Flow (18 hour)	Average Speed (18 hour) (mph)
High	More than 1800	More than 3000	More than 20
Medium	Between 1200 and 1800	Between 2000 and 3000	Between 15 and 20

Low	Between 600 and 1200	Between 1000 and 2000	Between 10 and 15
Negligible	Less than 600	Less than 1000	Less than 10

Source: Guidelines for Environmental Assessment of Road Traffic (1993, p37)

22.4.5.25. Again, in accordance with guidance, where appropriate relevant local factors have been considered in the assessment of the magnitude of change resulting from the Proposed Development.

22.4.5.26. In the assessment of Fear and Intimidation, traffic flow, HGV flow and average speed are compared between the 2026 DM and 2026 DS scenarios. Using the matrix above in Table 22.4, the flow and speed figures for the two scenarios have been used to identify the magnitude of change.

22.4.5.27. It should be noted that the worst-case magnitude has been reported. For example, if 'Average Traffic Flow; was 1,820 (High) but 'Total HGV Flow' was 2500 (Medium) and 'Average Speed' was between 15 and 20 (Medium), the magnitude of change would be determined as 'High'.

Accidents and Safety

22.4.5.28. The methodology used to assess accidents and safety has been split for links on the Onshore Cable Corridor and wider study area, as detailed below.

Onshore Cable Corridor

22.4.5.29. Analysis of PIA data for the past five years has been conducted on roads that form part of the Onshore Cable Corridor. This analysis has identified clusters of accidents within the study area which are likely to be vulnerable to changes in traffic flow or speed, or increased levels of HGV flow. The magnitude of impact has then been derived using professional judgement, based on how the implementation of traffic management may impact upon these trends.

Wider Study Area

22.4.5.30. For areas within the study area which do not form part of the Onshore Cable Corridor, the methodology set out within the Department for Transport's ('DfT') 'Cost and Benefit to Accidents – Light Touch' ('COBALT') guidance has been used. This analysis estimates the typical number of accidents on a link on the basis of the following factors:

- Type of road;
- Average speed;
- Accident rate; and
- Vehicle kilometres travelled along link per year.

22.4.5.31. The type of road was defined in accordance with the 'Link Types' set out in Table 5.5.1 of the COBALT User Guide.

22.4.5.32. Average speeds for the identified links in the wider study area for both the DM and DS scenarios were taken from the SRTM outputs. Average speeds from the SRTM were used for each of the assessed scenarios rather than designated speed limits. This approach was taken to ensure that the link speed used in the analysis would be reflective of traffic conditions in each of the respective scenarios.

22.4.5.33. The accident rate for each link was then taken from the COBALT 3 - Link Only: Accident Rates and Change Factors' table of the DfT Transport Analysis Guidance ('TAG') Data Book v1.12. Accident rates are attributed to links on the basis of road type and speed.

22.4.5.34. Vehicle kilometres travelled along each link per year in each of the assessed scenarios was approximated using the AADT values from each link and an annualization factor and the length of the link. Link lengths were taken directly from the SRTM.

22.4.5.35. The typical number of accidents over the length of each assessed links in the DM was then compared to each of the DS scenarios to determine how the anticipated changes in traffic flow and speed will impact upon the number of accidents which are likely to occur on each link. Links which experienced a decrease in typical number of accidents were not considered for further analysis. Furthermore, links which experienced an increase in the typical number of accidents per year of less than 0.1 were considered to have a negligible magnitude of change. Links which experienced an increase in typical number of accidents of over 0.1 per year were assessed qualitatively to determine the magnitude of impact.

Hazardous and Dangerous / Abnormal Loads

22.4.5.36. It is anticipated that the Proposed Development will not generate any hazardous or dangerous loads during construction or operation, and therefore this aspect has not been considered further. Accordingly, the assessment has focused on access by abnormal loads during the Construction Stage phases.

22.4.5.37. The UK Government's definition of an Abnormal Load is a vehicle that has either:

- A weight of more than 44,000 kilograms;
- An axle load of more than 10,000 kilograms for a single non-driving axle and 11,500 kilograms for a single driving axle;
- A width of more than 2.9 metres; and/or
- A rigid length of more than 18.65 metres'..

(*source: https://www.gov.uk/government/collections/abnormal-loads-forms-and-guidance*)

22.4.5.38. To assess the delivery of Transformers to the Converter Station, which are Abnormal Indivisible Loads ('AILs') a Route Access Survey has been completed by Collect & Sons Ltd haulage company, which is included in Appendix 5 of the CTMP (Environmental Statement - Volume 3 - Appendix 22.1.F). Given that the delivery port for transformers is yet to be confirmed, this study has been completed between the A3 (M) and Day Lane / Broadway Lane access to the Converter Station (Section 1).

22.4.5.39. The assessment of predicted impacts has been based on swept path analysis and determined whether vehicles can safely access the Converter Station Area. The magnitude of impact has been based upon professional judgement taking into account the ease with which vehicles can access the Converter Station (based on the swept path analysis) and the number and frequency of movements.

22.4.6. CONVERTER STATION CONSTRUCTION TRAFFIC ASSUMPTIONS

22.4.6.1. For the Converter Station, the peak in construction will occur during enabling works which is anticipated to commence in 2022 as described in Section 22.4.3. This will involve the piling of the foundations and building of the structure of the main buildings comprising the Converter Station.

22.4.6.2. The working hours for the construction of the Converter Station is assumed to be restricted to Monday to Friday 08:00-18:00 and Saturdays 08:00-13:00. Workers would be scheduled to arrive between 07:00-08:00 and depart between 18:00-19:00.

Peak Construction Traffic Movements

22.4.6.3. During peak construction, site establishment / enabling work and site preparation for main civil engineering work, it is anticipated there will be the following construction traffic movements to/from the Converter Station Area:

- 43 two-way HGV movements (86 in total) per day; and
- 150 two-way employee car movements (300 in total) per day.

22.4.6.4. The estimate of HGV movements is based upon the following construction assumptions:

- As details of the Converter Station buildings are still to be confirmed, principal quantities of materials have been used from the Western Link converter station project (Wester Link) to aid the calculation of required vehicle movements;
- A 500 mm thick pile mat will be used as working platform. In addition, 100 mm would be removed as contaminated land and replaced following construction works. A further 75 mm chipping layer would be added at completion;
- Any surplus cut and fill be utilised in reprofiling the landform, pond fill and screening where possible. Outstanding surplus will be suitable for off-site general or landscaping fill but will be transported off-site outside of the peak construction period;

- All other surplus material generated during construction works (foundation excavations, drain trenches, etc) and topsoil will be re-used on-site;
- Construction of the laydown area has been included and assumed to require a 400mm base of imported stone. A temporary haul road will be constructed around the perimeter of the Converter Station and towards the proposed landscaping area. The construction of the haul road is assumed to be 300mm DfT Type 1 crushed stone. A geotextile later will also be provided;
- Calculation of the reinforced concrete element of construction is based upon the used of ready-mixed concrete;
- A full Heras fence will be erected around the perimeter of the site prior to commencement of the works; and
- HGV movements within the Converter Station Area have been excluded from the calculations.

22.4.6.5. The following HGV assumptions have also been used:

- Where stone is transported, an HGV is assumed to have a capacity of 9 m^3 based on 2.2 tonnes/m^3;
- Where concrete is transported, an HGV is assumed to have a capacity of 6.1 m^3; and
- For delivery of precast concrete piles and structural steel elements each HGV (flatbed trailer) has a capacity of 19 tonnes (approximately 85% of capacity).

22.4.6.6. The HGV movements would occur over an eight-hour window between 09:00 and 17:00 in accordance with the hours of construction for the Converter Station and mainly avoiding the AM and PM peak periods (08:00-09:00 and 17:00-18:00). Overall the numbers would equate to approximately 10-11 HGVs per hour.

22.4.6.7. Based on the anticipated construction programme and methodology, it has been assumed that up to 150 construction workers will be involved in the building of the Convertor Station. For the purposes of providing a robust assessment, it has been assumed that each employee will use single-car occupancy as their method of travel to reach the Converter Station from their home as a worst case.

22.4.6.8. Consequently, the total number of employee cars specified above represents a worst-case scenario. However, there is potential for this to be lower as lift sharing opportunities arise owing to the nature of shift work. The Applicant has also committed to implementing a Construction Worker Travel Plan which will promote sustainable travel options where practical.

Construction Traffic Routing

22.4.6.9. The HGV and employee car trips have been applied to the following construction

traffic route, which is prescribed within the CTMP as the only permitted route to and from the Converter Station and shown on Figure 22.3:

- A3(M) Junction 2 – B2149 Dell Piece West – A3 Portsmouth Road – Lovedean Lane – Day Lane – Broadway Lane.

22.4.6.10. When traffic reaches the A3(M) it has been assumed that there is an equal split of movements to the north (towards the A3) and south (towards the A27).

22.4.7. ONSHORE CABLE CORRIDOR CONSTRUCTION TRAFFIC ASSUMPTIONS

22.4.7.1. The installation of the Onshore Cable Route will generate construction traffic movements which will impact upon the study area and may interact with construction traffic movements associated with the Converter Station. A site compound at the Converter Station will be established as a set-down area for materials and vehicles involved in the installation of the Onshore Cable Route.

22.4.7.2. Construction of the cable ducts for the Onshore Cable Route will be completed in 100m sections between the Landfall and the Converter Station.

22.4.7.3. Due to the length of the route, it is possible that several sections will be constructed simultaneously. It has been assumed that as a worst-case a maximum of six 100m sections will be under construction at any one time along the Onshore Cable Route.

22.4.7.4. In the SRTM modelling that has been undertaken to inform the TA (which has been used to carry out the EIA presented in this Chapter), the six sections of the Onshore Cable being constructed have been assumed to be located at the locations listed below to provide a robust assessment of the construction impacts (as agreed with HCC and PCC).

22.4.7.5. For Cable Corridor Section 6, the single Lane closure of the A2030 Eastern Road has been assessed within two separate DS scenarios (DS1 and DS2) to reflect that northbound and southbound closures will occur at different times in the construction programme. The DS1 scenario refers to the southbound Lane closure and the DS2 scenario refers to the northbound closure. In each of the DS1 and DS2 scenarios all other Cable Corridor Sections remain the same as below:

- **Cable Corridor Section 1 -** Shuttle working traffic signals on B2150 Hambledon Road between Soake Road and Closewood Road;
- **Cable Corridor Section 2 -** Temporary traffic signal operation of the B2150 Hambledon Road / A3 Maurepas Way / Houghton Avenue roundabout in Waterlooville;
- **Cable Corridor Section 3 -** Shuttle working traffic signals on the A3 London Road between Poppy Fields and the roundabout with Ladybridge Road;
- **Cable Corridor Section 4** - Single Lane closure on Havant Road between Farlington Avenue and the A2030 Eastern Road;

- **Cable Corridor Section 5 -** Single Lane closure on the A2030 Eastern Road between Airport Service Road and Burrfields Road, modelled as a southbound Lane closure in DS1 and northbound Lane closure in DS2; and
- **Cable Corridor Section 6 -** Shuttle working traffic signals on Henderson Road between Bransbury Road and Fort Cumberland Road.

22.4.7.6. Each 100m section will be assigned a cable gang which will consist of 6-8 construction workers. A ten hour working day will apply between the hours of 07:00 and 17:00. HDD locations will be subject to typical working hours between 07:00 and 19:00, except HDD-3 and HDD-4 where works may be undertaken for 24 hours. However, to provide a robust assessment of the impact of construction traffic on the local highway network, working hours have been assumed to be 07:00-17:00.

22.4.7.7. Each cable gang will generate the following construction traffic movements:

- Four two-way HGV movements (eight in total) per day; and
- Two two-way Light Goods Vehicle ('LGV') movements carrying personnel/equipment to site (4 in total) per day. This has been included as the means of transporting personnel to site.

22.4.7.8. Construction traffic HGVs would occur during a 9-hour period (07:00-08:00 and 09:00-17:00). This is in accordance with the hours of working for construction of the Onshore Cable Route. It has been assumed that there is the possibility that HGVs will arrive / depart continuously throughout the 9-hour period, equating to approximately 1 HGV movement per hour.

22.4.7.9. Construction traffic LGVs will only arrive at 07:00 and depart at 17:00. This is in accordance with the hours of operation for the cable gangs.

22.4.7.10. All construction vehicles associated with the Onshore Cable Route will travel from the site compound at the Lovedean Converter Station to the requisite Cable Corridor section.

22.4.7.11. All employees involved in the building of the Onshore Cable Route will initially travel to the site compound at Lovedean Converter Station, arriving between 06:00-07:00 and departing between 18:00-19:00 (outside of peak hours). Vehicle parking for employees will therefore be accommodated at the Lovedean Converter Station site compound. Employees for each cable gang will then be transported to the Cable Corridor sections via the LGVs specified above.

22.4.7.12. In total this will amount to 56 two-way car movements (112 car movements in total) based on eight employees for each of the six cable gangs plus eight employees for landfall with a car occupancy rate of 1.0. These assumptions reflect a worst-case scenario and the actual construction vehicle and employee vehicle movements will depend on the final design of the Onshore Cable Route and its Temporary Works.

22.4.7.13. A series of construction traffic routes have been assumed for travel between the site

compound at Lovedean Converter Station and the Cable Corridor sections, based upon use of the most suitable routes. These routes are as follows:

- **Cable Corridor Section 1:** Broadway Lane – Day Lane – Lovedean Lane – Milton Road – B2150 Hambledon Road;
- **Cable Corridor Section 2**: Broadway Lane – Day Lane – Lovedean Lane – Milton Road – B2150 Hambledon Road;
- **Cable Corridor Section 3:** Broadway Lane – Day Lane – Lovedean Lane – Milton Road – B2150 Hambledon Road – A3 Maurepas Way – A3 London Road;
- **Cable Corridor Section 4:** Broadway Lane – Day Lane – Lovedean Lane – A3 Portsmouth Road – B2149 Dell Piece West – A3(M) Junction 2 – A3(M) – A3(M) Junction 5 – A2030 Eastern Road;
- **Cable Corridor Section 5:** Broadway Lane – Day Lane – Lovedean Lane – A3 Portsmouth Road – B2149 Dell Piece West – A3(M) Junction 2 – A3(M) – A27 Havant Bypass – A2030 Eastern Road;
- **Cable Corridor Section 6 and 7:** Broadway Lane – Day Lane – Lovedean Lane – A3 Portsmouth Road – B2149 Dell Piece West – A3(M) Junction 2 – A3(M) – A27 Havant Bypass – A2030 Eastern Road – A2030 Velder Avenue – A288 Milton Road – A288 Eastney Road – Bransbury Road.

22.4.7.14. Joint Bays, where possible, will be positioned in highway verges, fields or car parks in order to avoid the need for traffic management. Typically, it would take approximately 20 working days to complete one Joint Bay location. This timescale includes the excavation, set-up, cable pulling, jointing, bonding connections, testing and reinstatement (i.e. site cleared and reinstated to its original state). For the purposes of assessment within this Chapter, it is assumed that the construction of Joint Bays will not take place at the same time as works on the Onshore Cable Corridor in the same immediate vicinity. Construction traffic numbers will however be similar to individual Onshore Cable Corridor sections, albeit with the requirement for a low-loader during the cable pulling process.

22.4.7.15. Within the Order Limits a number of potential Joint Bay locations have been included, all of which provide adequate space for construction works to take place without blocking the carriageway (including vehicle delivery / parking). The exact number and location of the Joint Bays will however be determined by the contractor, and for this assessment, within this Chapter, these are considered to result in the same predicted impact and significance of effect as the proposed traffic management requirements.

22.4.8. LANDFALL CONSTRUCTION TRAFFIC ASSUMPTIONS

22.4.8.1. The Landfall, located at Fort Cumberland car park south of Fort Cumberland Road in Eastney, forms the transitional area between the Onshore Cables and Marine

Cables. The Marine Cables will be pulled ashore and jointed to the Onshore Cables at this location at the Transition Joint Bays (TJBs). HDD has been identified as the most suitable cable installation method for the Landfall, as discussed in Chapter 3 (Description of the Proposed Development) of the ES Volume 1 (document reference 6.1.3).

22.4.8.2. Two Optical Regeneration Station(s) (ORS) are to be located within Fort Cumberland car park (one for each circuit). The compound for an ORS would have a maximum size of 18 m by 35 m. Within the compound there will be parking for up to two vehicles to facilitate maintenance of the ORS infrastructure.

22.4.8.3. To provide an assessment of the construction stage at the Landfall, the same construction traffic numbers have been applied as one section of the Onshore Cable Route installation (as described in Section 22.4.7). This is considered to be a robust assessment as assumes that all construction vehicles will travel to and from the Converter Station as is assumed for construction traffic associated with installation of the Onshore Cable Route.

22.4.9. SIGNIFICANCE CRITERIA

22.4.9.1. In determining the significance of a potential effect, the magnitude of impact arising from the Proposed Development is correlated with the sensitivity of the particular environmental attribute or process under consideration.

Magnitude

22.4.9.2. The magnitude relates to the level at which the receptor will be impacted, using the duration of the impact, timing, scale, size and frequency to determine the magnitude of the impact to each receptor. For those links that are not screened out of assessment, the criteria set out in Section 22.4.1 been used within this Chapter to determine the magnitude of impacts. Given all impacts relate to the Construction Stage it should be noted that these impacts are temporary rather than permanent, particularly along the Onshore Cable Corridor where they would occur in a single location for a limited duration.

Value/Sensitivity

22.4.9.3. As described within Chapter 4 (EIA Methodology), sensitivity is a means to measure how sensitive an affected receptor is to change. The sensitivity is assigned at the receptor level. This may be defined in terms of quality, value, rarity or importance, and be classed as negligible, low, medium, or high.

22.4.9.4. The sensitivity of an individual link can be defined by the type of user group that use it, with the vulnerability of the user affecting the sensitivity of the link. Within GEART the following groups of pedestrians / places are identified as being susceptible to changes in traffic conditions:

- People at home or at work;
- Children, elderly and disabled persons;
- Sensitive locations such as hospitals, churches, schools and historical buildings;
- Pedestrians and cyclists;
- Open spaces, recreational sites and shopping areas;
- Sites of ecological / nature conservation value; and
- Sites of tourist / visitor attraction.

vity to an increase in traffic.

Table 22.5 below shows a range of receptors and their sensitivity to an increase in traffic.

Table 22.5 – Sensitivity of Receptors

Receptor	Sensitivity
Schools, colleges, playgrounds, retirement homes, hospitals and GP surgeries, junctions operating over capacity	High
Congested junctions, shops / businesses, pedestrians / cyclists, public transport users, areas of ecological and nature conservation value, residential properties close to the carriageway.	Medium
Sites of tourist / visitor attraction, places of worship, residential areas setback for the highway with screening, junctions operating within capacity	Low
Those people and places located away from the affected highway link	Negligible

22.4.9.5. In assessing these categories, it should be noted that the type of road will directly affect the sensitivity of a link, with a dual-carriageway or distributor road likely to have a lower sensitivity than a residential road. The quantity and classification of each identified receptor on each link has been used to provide an overall sensitivity classification (negligible, low, medium or high).

22.4.9.6. A breakdown of links by sensitivity is provided in Appendix 22.3. For junctions included within the scope of the TA, the following methodology has been used to

categorise their sensitivity:

- Junctions approaching capacity or over capacity in either the AM or PM 2026 DM scenario have been categorised as having a Medium sensitivity rating as set-out in vity to an increase in traffic.
- **Table 22.5**; and
- All other junctions have been classified as having a Low sensitivity rating, on the basis that they are not predicted to experience congestion in the 2026 DM scenarios.

22.4.9.7. The theoretical baseline operation of the assessed junctions has been assessed using the relevant industry standard junction modelling software. This software is Junctions 9 for priority controlled junctions and LinSig for signal controlled junctions.

22.4.9.8. When considering the extent of baseline junction operation of a priority controlled junction, the level of traffic a junction can theoretically accommodate without incurring significant delays and / or congestion, the 'capacity', is compared to the level of traffic which is typically travelling through that junction. This relationship between capacity and traffic flow is assessed by the metric of 'Ratio of Flow to Capacity' (RFC). It is typically recognised that a maximum RFC value of 0.85 is desirable. If the RFC is greater than this, but below 1.00, this suggests that the traffic flow is approaching capacity and at risk of queues building. Where an RFC exceeds 1.00, the junction is exceeding theoretical capacity. Therefore, any priority junction or roundabout with an RFC of between 0.85 and 1 have been categorised as having a Medium sensitivity. Any junctions with an RFC below 0.85 have been categorised as having a Low sensitivity, and any junctions with an RFC of over 1 have been classified as having a High baseline sensitivity.

22.4.9.9. When assessing signal controlled junctions, a similar approach is undertaken using the metric of Practical Reserve Capacity (PRC), which is a measure of the total capacity (as a percentage) of a junction. When reviewing the PRC of a junction the following is considered:

- A positive figure above 10% indicates the junction operates with spare capacity
- A positive figure between 0 and 10% indicates that the junction is approaching capacity;
- A figure between 0 and -10% indicates that the junction is operating at or slightly over capacity; and
- A negative figure below -10% indicates that the junction cannot accommodate demand.

22.4.9.10. Taking this into account, all junctions with a PRC of 0% or less have been categorised as having a High sensitivity. Any junctions with a PRC of more than 10% has been categorised as having a Low sensitivity, and any junction with 0-10% PRC was classified as having a Medium sensitivity.

22.4.9.11. A summary of junction performance in the 2026 DM scenarios is provided in Section 22.5**Error! Reference source not found.**.

Significance

22.4.9.12. The overall significance will be assessed using the matrix shown in Table 22.6. Effects deemed to be significant are those which are described as 'major' and 'moderate/major'. In addition, 'moderate' effects can also be deemed as significant. Whether they do so shall be determined by a qualitative analysis of the specific impact to the environment and will be based on professional judgement.

Table 22.6 - Matrix for classifying the significance of effects

		Sensitivity of receptor/receiving environment to change			
		High	Medium	Low	Negligible
Magnitude of Change	High	Major	Major to Moderate	Moderate	Negligible
	Medium	Major to Moderate	Moderate	Minor to Moderate	Negligible
	Low	Moderate	Minor to Moderate	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

22.4.9.13. Whilst noting that all significant effects of the construction period will be temporary, full consideration has been given to potential mitigation measures which would be used to minimise the environmental effects of the Proposed Development.

ASSUMPTIONS AND LIMITATIONS

Assumptions

22.4.9.14. The SRTM contained a number of committed development sites within the study area and outside of it, which increase traffic flows and alter traffic patterns in the local area. The full list of relevant schemes has been included with Appendix 22.5 – Cumulative Effects Assessment, with a list of major schemes (those above 100 units) within the study area included below:

- Waterlooville MDA – 2114 dwellings (90% complete by 2026/27);

- Grainger development, London Road, Waterlooville – 436 dwellings (30% complete by 2026/27);
- Woodcroft Farm, Woodcroft Lane, Waterlooville – 288 dwellings (100% complete by 2026/27);
- Tipner Firing Range, Portsmouth – 600 dwellings (27% complete by 2026/27);
- Tipner Urban Priority Area – 1276 dwellings (46% complete by 2026/27);
- Brunel House, The Hard, Portsmouth – 153 dwellings (100% complete by 2026/27);
- Enterprise House, Isambard Brunel Road, Portsmouth – 124 dwellings (100% complete by 2026/27);
- Former Kingston Prison, Milton Road, Portsmouth – 230 dwellings (100% complete by 2026/27); and
- Former Dairy Site, Station Road, Portsmouth – 108 dwellings (100% complete by 2026/27.

22.4.9.15. The assessment of effects of the Proposed Development has been carried out by way of a comparison of the changes in traffic between the Do-Minimum and Do-Something scenarios.

22.4.9.16. Traffic generation estimates for the Proposed Development are based upon a number of assumptions as set out in Section 22.4.6 and 22.4.7, such as volume of materials, number of construction workers, construction programme and location of construction along the Onshore Cable Route. These assumptions may vary during the construction stage but is anticipated that the assessment is based upon a worst-case scenario, based on the following:

- All HGV estimates are based upon a Monday to Friday working and do not consider shorter Saturday working where the volume of arrival / departures would be approximately halved;
- No allowance has been made of construction workers using non-car modes or lift-sharing when traveling to and from the Converter Station; and
- The peak assessment year is based upon overlap of construction stage on the main aspects of Onshore Components of the Proposed Development.

22.4.9.17. The analysis of proposed traffic management along the Onshore Cable Corridor has not considered potential mitigation provided by the programming of works, which represents a worst-case assessment. Through programming of construction works to avoid overlap at sensitive locations and key events, the impacts of the Proposed Development are likely to be lower than reported, with the impacts of programming assessed and reported in the Residual Effects section of this Chapter.

Limitations

22.4.9.18. This chapter provides an assessment of the impacts of the outline design of the Proposed Development as it stands to-date. This will be refined during detailed design of the Proposed Development but the Chapter follows GEART in assessing the worst environmental impact that may be reasonably expected.

22.4.9.19. All assessment of traffic impacts of the Proposed Development has been completed using the SRTM, which provides an estimate of future traffic flows and conditions with and without construction of the Project. The SRTM has been developed by Systra in accordance with industry standards and validated against DMRB guidelines, with the Systra Model Development and Validation Report stating that that model calibration process did not reveal any significant shortcomings and is considered fit for purpose. The SRTM is a representation of future traffic conditions, which is unlikely to be 100% accurate due to a range of factors such as economic growth, evolving transport policy and technological advancements. Nonetheless it is the best available data source and uses industry standard best practice. Its use has also been agreed with HCC and PCC prior to commencement of traffic modelling.

22.4.9.20. Furthermore, this assessment is based on estimations with respect to the construction traffic to be generated by the Proposed Development. The specific number and type of vehicles used and the construction programme is likely to be dictated by third party contractors and thus may be subject to a level of variation.

22.4.9.21. Likewise, whilst the Traffic Management requirements on the Onshore Cable Corridor are based on engineering judgement, the individual methodologies employed by third party contractors is also subject to a degree of variation. However, all development will be located within the specified Onshore Cable Corridor.

22.5. BASELINE ENVIRONMENT

22.5.1.1. The baseline environment is described in Sections 22.5.2 and 22.5.4 and shown graphically on Figures 22.4 to 22.7.

22.5.2. HIGHWAY NETWORK IMPACTED BY CONVERTOR STATION CONSTRUCTION TRAFFIC

22.5.2.1. As detailed in Section 22.4.6 the construction traffic route for the Convertor Station from the SRN will be via: Junction 2 of the A3(M), the B2149 Dell Piece West, the A3 Portsmouth Road, Lovedean Lane, Day Lane and Broadway Lane.

22.5.2.2. Two PRoW join Broadway Lane in the vicinity of the proposed site access. These are Footpath 4 which joins Broadway Lane at Broadway Cottages and Footpath 28 which crosses Broadway Lane approximately 500 m south of Day Lane. Footpath 5 (part of the Monarch Way Long Distance Path PRoW route), adjoins Day Lane at the junction with Lovedean Lane.

22.5.2.3. South of Day Lane, Lovedean Lane is primarily urban providing access to residential

properties, terminating at the A3 Portsmouth Road. It is subject to a 30mph speed limit and street lighting is provided. Continuous footways are provided on either side of the carriageway from a point approximately 500 m south of Day Lane. Along Lovedean Lane there are the following public rights of way which could be affected:

- Footpath 5 which forms part of the Monarch's Way long distance path;
- Footpath 15;
- Footpath 3;
- Unrestricted Byway 47; and
- Footpath 31

22.5.2.4. The A3 Portsmouth incorporates a shared-used path along the western side of the carriageway and a northbound bus lane, providing a route for services 37x and The Star 8.

22.5.2.5. The B2149 Dell Piece West provides access to the A3 (M), a Morrisons supermarket and an adjacent industrial estate. At the point where it meets Junction 2 of the A3(M) Footpath 26a and Bridleway 24a join this link.

22.5.3. TRANSPORT NETWORK AFFECTED BY ONSHORE CABLE CORRIDOR

Section 1 – Lovedean (Converter Station Area)

22.5.3.1. Section 1 of the Onshore Cable Corridor is located entirely within private land and does not affect the local highway network. In terms of PRoW the Order Limits incorporates Footpaths 4 and 16 towards the southern perimeter of the proposed Converter Station.

Section 2 – Anmore

22.5.3.2. Section 2 of the Onshore Cable Corridor is predominately situated within agricultural fields and only affects one road. This is Broadway Lane east of Edney's Lane where the Onshore Cable Corridor crosses between fields. In terms of PRoW the Order Limits crosses Footpath 13.

Section 3 – Denmead/Kings Pond Meadow

22.5.3.3. Section 3 of the Onshore Cable Corridor is primarily located within agricultural fields and only affects Anmore Road as it crosses into Kings Pond. No PRoW are affected.

Section 4 – Hambledon Road to Farlington Road

22.5.3.4. A cycle route is provided along the B2150 Hambledon Road between Denmead and Waterlooville via a mixture of discontinuous shared-use paths on alternative sides of the carriageway and on-road sections along parallel service roads. The footway and shared-use paths are linked by signal controlled crossings.

22.5.3.5. Along the section of the B2150 Hambledon Road between Soake Road and Milton

Road, seven bus stops are present. However, no PRoW are affected by the Order Limits.

22.5.3.6. Between Milton Road and the A3 London Road, the B2150 Hambledon Road and the A3 Maurepas Way provide access into Wellington Park Retail Park and an ASDA Supermarket. The A3 Maurepas Way also provides access to Waterlooville Fire Station. A shared-use path is provided adjacent to the southern side of the carriageway and a footway is provided next to the northern side of the carriageway between the ASDA car park and the roundabout with the A3 London Road.

22.5.3.7. Footpath 11 joins the A3 Maurepas Way approximately 100 m north of the junction with London Road.

22.5.3.8. The A3 London Road incorporates a mixed provision of footways/shared use paths on either side of the carriageway linked by pedestrian crossings. Bus lanes are provided in both directions along the majority of the link. Cyclists are also permitted to use these (this corridor forms a cycle route between Waterlooville and Cosham). Intermittent sections of shared-use path are provided at various points, however these are relatively short in length.

22.5.3.9. Six PRoW join this link: Bridleway 15 200 m south of the A3 Maurepas Way; Bridleway 17 at the junction with Milk Lane; Footpath 16 and Footpath 18 at Poppy Fields; Footpath 19 opposite The Woodman Pub; and Footpath 20 circa 35m south of the junction with Park Road.

22.5.3.10. At the junction with the B2177 Portsdown Hill Road, Footpath 24 of the PCC network joins the link, connecting to Drayton Lane. However, along the B2177 Portsdown Hill Road itself no PRoW are affected by the Order Limits.

22.5.3.11. Farlington Avenue is provided with a southbound intermittent cycle lane and Footpath 6 of the PCC network joins the link near to Birkdale Avenue. Additionally, north of the junction with Birkdale Avenue, there is a traffic chicane that narrows the road to one traffic lane. Priority is given to northbound traffic.

Section 5 – Farlington

22.5.3.12. The southern part of Farlington Avenue is similar to the northern half, although narrower in width and subject to traffic calming (speed cushions and speed humps). There are also several residential driveways joining the link.

22.5.3.13. Situated on Evelegh Road is Solent Infant School and as such there is corresponding on-street parking during school arrival and departure periods. No PRoW are provided however.

22.5.3.14. Havant Road is a dual carriageway with two signal controlled junctions in close proximity between Farlington Avenue and the A2030 Eastern Road. No PRoW are affected.

22.5.3.15. The A2030 Eastern Road between Havant Road and Fitzherbert Road is provided with shared-use paths on both sides of the carriageway. These form part of National

Cycle Network ('NCN') Route 222. Footpaths 30 and 31 of the PCC network join this link, providing connections to Copsey Close/Nutbourne Road and Copsey Grove respectively.

Section 6 – Zetland Field and Sainsbury's Car Park

22.5.3.16. Fitzherbert Road provides access into a Sainsbury's supermarket car park. Within the Sainsbury's site, the access road also provides access to B&M Home Store and a Sainsbury's Petrol Filling Station. Footpath 33 crosses the southern end of Zetland Field and NCN Route 222 routes along Fitzherbert Road heading south onto the A2030 Eastern Road.

Section 7 – Farlington Junction to Airport Service Road

22.5.3.17. Section 7 is predominately in non-highway land via means of HDD. However, it does affect a 150m section of the A2030 Eastern Road north of the junction with Airport Service Road. Along this section of road, a shared-use path is provided on the eastern side of the carriageway which forms a part of NCN Route 222 and the junction with Airport Service Road is signal controlled. No PRoW are affected.

Section 8 – Eastern Road (adjacent to Great Salterns Golf Course) to Moorings Way

22.5.3.18. Along the part of the A2030 Eastern Road within Section 8, a shared-use path is provided on the eastern side of the carriageway until the junction with Moorings Way, where it switches to the opposite side of the carriageway. This forms part of NCN Route 222. On the southern part of the A2030 Eastern Road, bus stops are in place intermittently, serving route 13.

22.5.3.19. Mooring Way Infant School is located on Moorings Way and this road forms an on-road section of NCN Route 222. However, no PRoW are affected by the Order Limits in this section.

Section 9 Moorings Way to Bransbury Road

22.5.3.20. The Moorings Way to Furze Lane Bus Link is a bus only, single carriageway route with through access controlled by traffic signals and a rising bollard midway along the link. The link serves bus route 13 and forms an on-road section of NCN Route 222. Furze Lane and Locksway Road also form part of NCN Route 222.

22.5.3.21. No PRoW are affected in Section 9, although a cycle route does cross Bransbury Park from Kingsley Road to the junction with Henderson Road on Bransbury Road.

Section 10 – Eastney (Landfall)

22.5.3.22. Both Henderson Road and Fort Cumberland Road are served by bus routes 15 and 16 with intermittent bus stops in place. PRoW Footpath 101 gains access from Henderson Road, providing a connection with Halliday Crescent and there is an intermittent shared-use path on the norther side of Henderson Road. At the junction

with Fort Cumberland Road / Ferry Road, there is a Day Care Centre and two retail premises.

HIGHWAY NETWORK IMPACTED BY TRAFFIC REDISTRIBUTION

22.5.3.23. The impact of traffic management associated with the construction of the Onshore Cable Route is likely to give rise to traffic redistribution onto adjoining, parallel or nearby roads.

22.5.3.24. Roads within the study area that could be subject to traffic redistribution have been highlighted below at this stage to provide a baseline for assessment. These roads have been identified through a combination of desktop studies, site visit observations, consultation feedback from highway authorities, and professional judgement.

22.5.3.25. Roads have been grouped according to which highway authority they are under the jurisdiction of and which sections of the Onshore Cable Corridor they apply to.

Strategic Road Network (Highways England)

A3(M)

22.5.3.26. The A3(M) is a classified dual carriageway motorway consisting of four grade separated roundabout junctions. Junction 4 is a limited access junction.

A27 Havant Bypass (between Junction 12 of the M27 and the junction with the A3(M)

22.5.3.27. The A27 is a dual carriageway road, incorporating four grade separated junctions, including the junction with A2030 Eastern Road. The junction with Portsbridge Roundabout provide limited access, with only west bound exit from the A27 and east bound entry to the A27.

M275

22.5.3.28. The M275 is a classified dual carriageway motorway spur incorporating two grade separated roundabout junctions.

22.5.3.29. On the southbound carriageway between Junctions 1 and 2, the hard shoulder has been converted to a bus lane. The M275 is used by bus services associated with the Park and Ride site at Tipner.

Local Highway Network (HCC)

North of Waterlooville (Sections 1 and 2)

22.5.3.30. Section 1 and 2 of the wider study area consists of primarily rural roads similar to Day Lane and Broadway Lane. In terms of PRoW, Broadway Lane to the north of Day Lane incorporates a crossing of the Monarch's Way long distance path. This also links into Lovedean Lane at the junction with Day Lane. South of Day Lane, there is Footpaths 4 and 28. At the southern end of Anmore Lane, there is Bridleway 41. Lovedean Lane is adjoined by five footpaths and one byway.

Waterlooville (Sections 3 and 4)

22.5.3.31. **Furzeley Road** is an unclassified rural road predominately incorporating a single Lane. No cycling or public transport facilities are provided, however Footpath 3 joins Furzeley Road near the golf course.

22.5.3.32. **Belney Lane / Pigeon House Lane** are unclassified single lane rural roads. No public transport, cycle facilities or PRoW are provided.

22.5.3.33. **Sheepwash Lane** is an unclassified single lane rural road. No public transport or cycle facilities are provided, however Footpaths 2, 19, 21 and 24 join this road.

22.5.3.34. **Newlands Lane** is an unclassified road primarily with a single lane. No public transport or cycle facilities are provided, however footpaths 2, 22, 24, 25, 30 and 34 join this link.

22.5.3.35. **Purbrook Heath Road** (between Newlands Road and A3 London Road) is an unclassified road. No public transport or cycle facilities are provided, however Footpath 35 and 130 join this road.

Cosham and Farlington (Section 5 and Section 6)

22.5.3.36. **The A3 Southampton Road** (between M275 Junction 12 spur and Spur Road Roundabout) is a dual carriageway classified road. On-road cycle lanes are provided along both carriageways along with advanced stop lines for cyclists at junctions. There are Toucan crossing facilities and two grade separated pedestrian crossings. Footpath 27 and 28 also join this road.

22.5.3.37. **The A397 Northern Road** is a classified road in Cosham, which is part dual-carriageway and part single carriageway with a discontinuous bus lane in the southbound direction. A pedestrian footbridge and pedestrian / cycle crossings are provided. Between Vectis Way and Portsbridge Roundabout shared-use paths are provided on both sides of the carriageway. Footpaths 62 and 68 join this road. The road also includes a bus interchange which acts as Cosham's unofficial bus station.

22.5.3.38. **The A2030 Havant Road** is a classified road. An eastbound intermittent on-road cycle-lane is in place as is a signal controlled pedestrian crossing. No PRoW are provided. Bus services 21, 22 and 23 route along this road.

22.5.3.39. **The B2177 Bedhampton Hill** (between the A3(M) Junction 5 and the B2177 Portsdown Hill Road) is a classified road. No PRoW or cycling facilities are provided, however bus services 21, 23, 30 and 737 route along this road.

22.5.3.40. **Sea View Road** is an unclassified residential road. No public transport or cycling facilities are provided, nor are any PRoW.

22.5.3.41. **Portsdown Avenue** is an unclassified road. No public transport, cycle facilities or PRoW are provided.

22.5.3.42. **Solent Road** is an unclassified road. No public transport, cycle facilities or PRoW are provided.

22.5.3.43. **Grant Road / Woodfield Avenue / Beverley Grove** are unclassified roads subject to a 7.5T maximum weight restriction (except for loading). No public transport, cycle facilities or PRoW are provided.

22.5.3.44. **Gillman Road** is an unclassified road subject to a 7.5T maximum weight restriction (except loading). Between the B2177 Portsdown Hill Road and Woodfield Avenue, Gillman Road is a no-through road. It forms part of an on-road section of National Cycle Network Route 222. No public transport facilities or PRoW are provided.

22.5.3.45. **Rectory Avenue** is an unclassified road subject to a 7.5T maximum weight restriction (except for loading). No public transport, cycle facilities or PRoW are provided.

22.5.3.46. **Lower Drayton Lane** is an unclassified road. North of Central Road, Lower Drayton Lane is served by bus route 22. No PRoW are provided, although this road does form part of NCN 222.

22.5.3.47. **Station Road and South Road** are unclassified residential roads. No public transport, cycle facilities or PRoW are provided.

22.5.3.48. **Grove Road** is an unclassified road served by bus route 22. Footpath 34 joins this road and NCN Route 22 routes along this road.

22.5.3.49. **Lower Farlington Road / Fitzherbert Road** are unclassified roads served by bus route 22. On Lower Farlington Road there is a width restriction of 2.0m. Footpath 29 and Footpath 33 join Fitzherbert Road. This road also forms a section of NCN Route 222.

22.5.3.50. **Waterworks Road** is an unclassified road subject to a width restriction of 2.0m. No public transport, cycle facilities or PRoW are provided.

Portsea Island (Sections 7, 8, 9 and 10)

22.5.3.51. **The A3 Northern Parade / A3 Twyford Avenue / A3 Stamshaw Road** have been considered collectively as they form a corridor into central Portsmouth from Portsbridge roundabout to Junction 2 with the M275. Controlled crossing facilities are in place at various locations for non-motorised users. Cycling provisions are intermittent and involve a mixture of shared-use paths, on road cycle lanes and advanced stop lines. No PRoW are provided along this corridor. This corridor is also a route for four bus services (8 The Star, 18, 20 and 25).

22.5.3.52. **The A2047 London Road / A2047 Kingston Road / A2047 Fratton Road** have been considered collectively as they form a key cross-city route. Controlled crossing facilities are provided at various locations along the corridor. Cycling provisions involve an intermittent mixture of shared-use paths, on road cycle lanes and

advanced stop lines. Continuous footways are provided on both sides of the carriageway. Footpath 89 joins this corridor at the northern end. It is also a key bus route served by 6 bus services (3, 7 the Star, 7A, 7C, 23 and 700 Coastliner).

22.5.3.53. **The A288 Copnor Road / A288 Baffins Road / A288 Milton Road** have been considered collectively as they form a strategic corridor into Portsmouth from Portsbridge Roundabout in the north to the A2030 Eastern Road in the south. Controlled crossing facilities are in place at various points. Facilities for cyclists are largely limited to advanced stop lines and some intermittent on-road cycle lanes. Footpaths 87, 88 and 90 join this corridor at the northern end. Three bus services route along this corridor. These are services 2, 21 and 621.

22.5.3.54. **Norway Road / Anchorage Road / Williams Road / Robinson Way / Airport Service Road / Quartremaine Road / Dundas Lane / Burrfields Road** have been considered collectively because they possess similar attributes and all serve the large industrial estate to the south of Anchorage Park, accommodating HGV movements. On Anchorage Road east of Sywell Crescent / Robinson Way, there is a 7.5 Tonne maximum weight restriction with local access only permitted and part of the road forms a route for bus services 21 and 621. Along Dundas Lane a shared-use path is provided on the eastern side of the carriageway and bus service 17 passes through. No PRoW are provided in this area.

22.5.3.55. **A2030 Winston Churchill Avenue / A2030 Victoria Road North / A2030 Goldsmith Avenue** provide an important cross-city link between the A3 Anglesea Road and the A288 Milton Road served by 5 bus routes (1, 2, 2A, 13 and 25). The offside lanes for each carriageway on the A2030 Winston Churchill Avenue have been designated as bus Lanes (which cyclists are also permitted to use) and there is a bus priority measure on the westbound approach to the roundabout with Isambard Brunel Road. Along the A2030 Goldsmith Avenue intermittent on-road cycle lanes are provided alongside advanced stop-lines at junctions. At-grade crossing facilities are provided at various points along the corridor alongside a single grade separated crossing. No PRoW are provided along this corridor.

22.5.3.56. **Gladys Avenue** is an unclassified road subject to a 7.5T weight restriction. No PRoW or public transport / cycle facilities are provided.

22.5.3.57. **Stubbington Avenue** is an unclassified road subject to a 7.5T weight restriction. No PRoW or public transport / cycle facilities are provided.

22.5.3.58. **New Road** is an unclassified road subject to a 7.5T maximum weight restriction except for loading. No PRoW or public transport / cycle facilities are provided.

22.5.3.59. **Tangier Road** is an unclassified road subject to a 7.5T maximum weight restriction except for loading. In this section on-road cycle lanes are present. No PRoW are

provided although the route is served by bus routes 2A and 14.

22.5.3.60. **Hayling Avenue** is an unclassified residential road. No PRoW or public transport / cycle facilities are provided.

22.5.3.61. **The A2030 Lake Road / B2152 Lake Road / St Mary's Road / Langstone Road** have been considered collectively as they form a cross-city corridor spanning from the section of the A3 at the bottom of the M275 to the A2030 Eastern Road via the A2047 Fratton Road and A288 Milton Road. The first three roads are provided with signal controlled crossing facilities at various points. On Langstone Road there is a 7.5 tonne maximum weight restriction except for loading. No PRoW are provided.

22.5.3.62. **The A3 Mile End Road / A3 Commercial Road / A3 Hope Street / A3 Marketway / A3 Alfred Road / A3 Anglesea Road** form the route from the end of the M275 into Central Portsmouth and Southsea, linking up with the A2030 Winston Churchill Avenue. All are classified dual carriageway roads. As such, they are a key bus corridor. All are classified dual carriageway roads. On the western side of the carriageway the footway is shared-use. This forms an off-carriageway part of National Cycle Network Route 22. Signal controlled crossing facilities are provided at various locations. No PRoW are provided.

22.5.3.63. **The A2030 Velder Avenue** is a classified road. No PRoW or public transport facilities are provided although there is a shared-use path in place on the northern side of the carriageway.

The A288 Eastney Road is a classified road served by four bus routes (1, 2, 2A and 17). PRoW Footpaths 99 and 46 gain access from this link, providing connections with Locksway Road and Perth Road respectively.

22.5.4. HIGHWAY NETWORK CAPACITY

22.5.4.1. This section of the report outlines the Baseline scenario for the operation of the highway network within the study area, based upon the 2026 DM scenario. Turning count data has been obtained from the SRTM to undertake local junction capacity assessments for the 2026 Baseline, which excludes any elements of the Proposed Development. These baseline junction modelling results therefore represent a robust estimate of the likely future situation, taking into account growth in traffic flows and committed developments, that will occur without the Proposed Development.

22.5.4.2. Table 22.8 provides a summary of junction modelling results for junctions included on the Onshore Cable Corridor.

Table 22.7 - Baseline Junction Modelling for the Onshore Cable Corridor

Junction	Section	Future Baseline Junction Modelling Results		Resultant Baseline Sensitivity
		AM Peak	PM peak	
B2150 Hambledon Road / Milton Road / Elettra Avenue Roundabout	4	Within Capacity	Approaching Capacity	Medium
B2150 Hambledon Road / Aston Road Traffic Signal Junction	4	Within Capacity	Within Capacity	Low
B2150 Hambledon Road / A3 Maurepas Way / Houghton Avenue Roundabout	4	Within Capacity	Within Capacity	Low
A3 Maurepas Way / A3 London Road / Rockville Drive (Forest End Roundabout)	4	Over Capacity	Over Capacity	High
A3 London Road / Ladybridge Road Roundabout	4	Approaching Capacity	Over Capacity	High
A2030 Eastern Road / Grove Road and A2030 Eastern Road / Fitzherbert Road Traffic Signal Junction	6	Within Capacity	Within Capacity	Low
A2030 Eastern Road / Anchorage Road Traffic Signal Junction	7	Within Capacity	Within Capacity	Low
A2030 Eastern Road / Airport Service Road Traffic Signal Junction	8	Within Capacity	Within Capacity	Low
A2030 Eastern Road / Burrfields Road Traffic Signal Junction	8	Approaching Capacity	Approaching Capacity	Medium
A2030 Eastern Road / Tangier Road Traffic Signal Junction	8	Within Capacity	Within Capacity	Low
A2030 Eastern Road / Hayling Avenue Priority T-Junction	8	Over Capacity	Over Capacity	High

22.5.4.4. As can be seen in the results set out in Table 22.7, in the AM peak, two of the 10 assessed junctions were forecast to operate over capacity, two were approaching capacity and six were within capacity in the Baseline scenario. In the PM peak of the Baseline scenario, three junctions were forecast to operate over capacity, two were approaching capacity and five were forecast to operate within theoretical capacity.

22.5.4.5. Table 22.8 provides a summary of modelling results for junctions included within the

wider study area.

Table 22.8 - Baseline Junction Modelling for Wider Study Area

Junction	Section	Future Baseline Junction Modelling Results		Resultant Baseline Sensitivity
		AM Peak	PM peak	
A3 (M), Junction 2	1	Approaching Capacity	Approaching Capacity	Medium
Dell Piece West / A3 Portsmouth Road / Catherington Lane	1	Over Capacity	Approaching Capacity	High
A3 (M), Junction 3	4	Approaching Capacity	Over Capacity	High
Hulbert Road Roundabout	4	Within Capacity	Within Capacity	Low
Hulbert Road / Frendstaple Road / Tempest Avenue	4	Within Capacity	Approaching Capacity	Medium
Rockville Drive / Stakes Hill Road Traffic Signal Junction	4	Within Capacity	Within Capacity	Low
Stakes Hill Road / Frendstaple Road Roundabout	4	Within Capacity	Within Capacity	Low
Stakes Road / Stakes Hill Road / Purbrook Way / Crookhorn Lane Roundabout	4	Over Capacity	Within Capacity	High
Purbrook Way / College Road Priority Junction	4	Within Capacity	Within Capacity	Low
B2177 Portsdown Hill Road / Maylands Road / B2177 Bedhampton Road / B2177 Bedhampton Hill Roundabout	5	Within Capacity	Approaching Capacity	Medium
A3 Southampton Road / A3 London Road / Spur Road / Havant Road Roundabout	5	Within Capacity	Within Capacity	Low
Portsbridge Roundabout	6	Approaching Capacity	Approaching Capacity	Medium
Norway Road / Copnor Road Traffic Signal Junction	7	Within Capacity	Within Capacity	Low
Stubbington Avenue / A2047 / Gladys Avenue / Angerstein Road Roundabout	7	Within Capacity	Within Capacity	Low
Copnor Road / Burrfields Road Traffic Signal Junction	7	Over Capacity	Within Capacity	High

Junction	Section	Future Baseline Junction Modelling Results		Resultant Baseline Sensitivity
		AM Peak	PM peak	
Burrfields Road / Moneyfield Avenue / Dundas Lane Roundabout	7	Within Capacity	Within Capacity	Low
Milton Road / St. Mary's Road Roundabout	8	Over Capacity	Over Capacity	High
A2030 Velder Avenue / Milton Road Traffic Signal Junction	9	Over Capacity	Over Capacity	High
A3 Mile End Road / Church Street / Hope Street / Commercial Road Signalised Roundabout	8	Over Capacity	Over Capacity	High

22.5.4.6. As can be seen in the results presented in Table 22.8, of the 19 additional junctions assessed across the wider study area that do not form part of the Onshore Cable Corridor, six are anticipated to be over capacity in the AM peak in the Baseline scenario. Three junctions are anticipated to be approaching capacity in this scenario, and ten are forecast to be operating within theoretical capacity.

22.5.4.7. In the PM peak of the Baseline scenario, it is forecast that four of the assessed junctions will be operating over their theoretical capacity, five anticipated to be approaching capacity and the remaining tens are anticipated to be within capacity.

22.5.5. PUBLIC TRANSPORT

22.5.5.1. Due to the length of the Onshore Cable Corridor the study area includes a number of existing bus routes which may be affected by the Proposed Development. These services are summarised in Table 22.9 below.

Table 22.9 – Public Transport Service along Onshore Cable Corridor

Service	Peak Frequency	OCC Conflict
7 – City Centre to Wecock Farm	Every 12 minutes	Portsdown Hill Road, A3 Maurepas Way, Hambledon Road
8 – Clarence Pier to Clanfield	Every 15 minutes	London Road
13 – Portsmouth City Centre to Baffins	Once per hour	A2030 Eastern Road, Moorings Way, Furze Lane, Locksway Road
15 – Portsmouth City Centre to Fort Cumberland	Once per hour	Fort Cumberland Road
16 – Portsmouth The Hard to Fort Cumberland	Every 30 minutes	Fort Cumberland Road
20 – Havant to Portsmouth (The Hard)	Every 30 minutes	Portsdown Hill Road
21 – Havant to Portsmouth (The Hard)	Every 10 minutes	A2030 Eastern Road
22 – Highbury to Farlington	Every 70 minutes	Fitzherbert Road, A2030 Eastern Road, A2030 Havant Road
23 – Leigh Park to Southsea	Every 10 minutes	Havant Road
37 – Havant to Petersfield	Once per hour	A3 Maurepas Way
39 – Havant to Wecock Farm	Every 12 minutes	A3 London Road, A3 Maurepas Way, Hambledon Road
D1 and D2 – Waterlooville to Hambledon	Once per hour	A3 Maurepas Way, Hambledon Road

22.5.6. FUTURE BASELINE

22.5.6.1. As the Baseline Scenario is based upon a future year of 2026 (to reflect the SRTM DM and DS scenarios) it has not been necessary to complete a Future Bassline assessment. The use of the 2026 scenarios provides a robust assessment of a future year which is beyond the likely construction year of the Proposed Development using the most appropriate SRTM data that is available. This provides a suitable basis for assessment of the temporary and short-term impacts associated with the construction stage of the Proposed Development.

Walking, Cycling and Public Transport Network

22.5.6.2. It is anticipated that in the future baseline, pedestrian, cycle, equestrian and public transport provision will remain unchanged from that set out in the Baseline Environment.

22.6. PREDICTED IMPACTS

22.6.1. INTRODUCTION

22.6.1.1. This section provides an assessment of the impacts of the Proposed Development on traffic and transport, in respect of the Proposed Development, as well as the resultant traffic redistribution across the wider study area in connection with the construction of the Onshore Cable Route within the Onshore Cable Corridor. This assessment makes use of the data and methodology described in Section 22.4 of this Chapter.

22.6.1.2. It should be noted that in the assessment, the traffic and transport impacts of the construction of the Converter Station Area, the Onshore Cable Corridor and the Landfall overlap. This is because it is anticipated that some parts of the Onshore Cable Route installation will take place at the same time as peak construction of the Converter Station Area/Landfall; meaning that the associated construction traffic generated by each, will occur during the same period. Such an approach, is considered to provide a robust assessment.

22.6.1.3. To aid the assessment, links and junctions across the wider study area (i.e. not on the Onshore Cable Corridor) have been included in the most relevant Section of the Onshore Cable Corridor.

22.6.1.4. In addition to the assessment set out in this section, Appendix 22.4 contains detailed impact tables for each of the Sections of the study area, including all relevant data and / or SRTM outputs.

22.6.2. DEFINING THE SCOPE OF ASSESSMENT

22.6.2.1. A total of 2,431 links were assessed using outputs from the SRTM. Construction traffic numbers have been added to appropriate links as per the assumptions outlined

in Sections 22.4.6 and 22.4.7. These links form the extent of the highway network covered by the SRTM and are all located within a 5km study area surrounding the Proposed Development.

22.6.2.2. The scope of links taken forward for further assessment was based upon GEART, as detailed in Section 22.4. Using this methodology, a total of 274 links had an increase in traffic flow (or number of HGVs) of 30% or more when comparing the DM with and DS scenarios or had an increase in traffic of 10-30% where there were sensitive receptors. These links equate to a total of 120 unique roads within the study area. Also taken forward for further assessment were links that fell within the Onshore Cable Corridor, this equated to 101 additional links, which when consolidated formed an additional 21 roads to be taken forward for further assessment.

22.6.2.3. Using this methodology, further assessment has been undertaken for each section of the Proposed Development. It should be noted that each section can contain links which are directly affected by construction works, indirectly affected by traffic redistribution or the routing of construction traffic. This is detailed for each link in the relevant section below.

22.6.2.4. A further technical assessment of the peak operational impact of the scheme has been carried out and is included in the TA (Appendix 22.1). Whilst there are commonalities between the study areas for each form of assessment, the scope of work required in each result in different geographical areas of interest.

22.6.3. EMBEDDED MITIGATION

22.6.3.1. As is set out in in Paragraph 22.4.5.3, the Outline CTMP and the traffic management proposals set out in the FTMS form the embedded mitigation for the Proposed Development. As such, this embedded mitigation has been taken into account when classifying the magnitude of change in this assessment and is consequently accounted for in the level of impact which has been determined.

22.6.3.2. The embedded mitigation included within this assessment is as follows:

- **Contained within the CTMP:** Construction traffic routing and timing; and
- **Contained within the FTMS:** Type of traffic management proposals for the Onshore Cable Corridor, applicable to all transport users.

22.6.4. LINK BASED SENSITIVE RECEPTORS

22.6.4.1. All links within the study area have been assigned a sensitivity using the methodology included in Section 22.4.8. This sensitivity has been taken into account when determining the significance of effect of the temporary works associated with the construction of the Proposed Development in the relevant DS scenarios.

22.6.5. SECTION 1 – LOVEDEAN (CONVERTOR STATION AREA)

22.6.5.1. This section sets out the predicted impacts on roads within Section 1. The proposed access junction for the Converter Station incorporates an upgrade of Broadway Lane and Day Lane junction including a construction of a haul road and temporary holding area. The proposed access to the Converter Station for construction and operation will be taken from Broadway Lane and Day Lane, with associated highway improvements in the vicinity of the junction of these two highways.

22.6.5.2. The proposed access junction introduces a gated highway link between Day Lane east of the existing bend and Broadway Lane south of the existing bend. This will provide a managed facility for vehicles entering the site during the construction period with vehicle movements across Broadway Lane able to be marshalled. This link also provides for abnormal load movements and would be retained as a permanent feature (unadopted) to allow future access with such vehicles should it be required. General verge / vegetation clearance will be required on all sides of Broadway Lane to ensure visibility splay requirements are met, with all required land falling within the proposed Order Limit. The triangle of land remaining between the existing Broadway Lane / Day Lane junction and link road will be cleared of vegetation / hedgerow. Further information on the proposed access junction is included in the Transport Assessment (Appendix 22.1).

22.6.5.3. The increase in traffic along the prescribed route between the site compound and the SRN (as detailed in 22.4.6.9), is partly attributable to traffic associated with the construction stage (Convertor Station and Onshore Cable Corridor). In total, 412 vehicle movements are construction workers travelling to or from the Converter Station. This amounts to 300 car movements for the Convertor Station (150 two-way movements); and 112 private car movements for the cable gangs along the Onshore Cable Corridor and the gang at Landfall (56 two-way movements) as defined in Section 22.4. These figures are a worst-case scenario and are only expected to occur during peak construction.

Severance

Converter Station

22.6.5.4. Lovedean Lane is predicted to experience an increase in Severance from low to **Medium** as a consequence of increase traffic associated with the Proposed Development. This link has a **High** baseline sensitivity rating as a result of its residential nature and location of Tesco Express and proximity to Woodcroft Primary School. This results in a **Major to Moderate adverse effect** of a temporary and medium-basis. This effect is considered **Significant**, although should only occur for during the peak construction period of the Proposed Development.

22.6.5.5. Owing to its location, it is anticipated that construction of the Converter Station access junction will result in a **Negligible** impact on Severance Broadway Lane and Day Lane, leading to a **Negligible adverse effect** of a temporary and short-term basis. This effect is considered to be **Not Significant**.

Onshore Cable Corridor

22.6.5.6. The construction of the Onshore Cable Route does not impact any highways within Section 1, and therefore no impacts of Severance have been identified.

Traffic Delay

Converter Station / Onshore Cable Corridor

22.6.5.7. No junctions within the scope of the assessment for Traffic Delay are included within Section 1.

22.6.5.8. Construction of the Converter Station access junction may need to be facilitated by shuttle working traffic signals. Given the predicted traffic flows on Broadway Lane and Day Lane it is predicted that such signals would operate within capacity, leading to minor delays to vehicles using this route, categorised as a **Low** magnitude of change. Broadway Lane has a **Medium** sensitivity, resulting in a **Minor to Moderate adverse effect** of a temporary and short-term nature. Day Lane has a **Low** sensitivity resulting in a **Minor** adverse effect on a temporary and short-term basis. These effects are considered to be **Not Significant**.

Wider Study Area

22.6.5.9. On the wider network the impact of the Proposed Development is summarised as follows:

A3 (M) Junction 2

22.6.5.10. The junction is of a **Medium** sensitivity and the increase in delay on the A3 (M) off-

slips is considered to represent a **Medium** magnitude of impact leading to a **Moderate adverse effect** of a temporary and short-term nature. This effect is considered **Significant**.

Dell Piece West / A3 Portsmouth Road / Catherington Lane traffic signal junction

22.6.5.11. The junction is of a **High** sensitivity and the increase in delay is considered to represent a **Low** adverse magnitude of impact leading to a **Moderate adverse effect** of a temporary and short-term nature. This effect is considered to be **Significant**.

Pedestrian and Cycle Amenity

Converter Station

22.6.5.12. PRoW Footpath 4 and 16, which pass through the Converter Station Area within the Order Limits, will be temporarily stopped up for the duration of works in this area. The temporary stopping up of this footpath is likely to represent a **High** magnitude of impact on this **Medium** sensitivity link, resulting in a **Moderate adverse effect** for users of a temporary and medium-term nature. This effect is considered **Significant**. However, to the south, there is an alternate route for walkers via PRoW 19 and 28.

22.6.5.13. Works related to construction of the Converter Station access junction will impact upon pedestrian and cycle amenity, although pedestrian and cycle access through the works will be maintained where practicable. However, given the potential for a temporary stopping up of the highway, this constitutes a **High** magnitude of impact. As Broadway Lane has a **Medium** sensitivity, resulting in a **Major to Moderate adverse effect** of a temporary and short-term nature. Day Lane has a **Low** sensitivity resulting in a **Moderate** adverse effect on a temporary and short-term basis. This effect is considered to be **Significant**.

Onshore Cable Corridor and Wider Study Area

22.6.5.14. Section 1 does not include any pedestrian or cycle links that form part of the Onshore Cable Corridor. There were also no such links in the wider study area which saw a change in a pedestrian and cyclist amenity, and thus it is anticipated that there will be a **Negligible adverse effect** for pedestrians and cyclist amenity of a temporary and short-term nature in Section 1. This effect is considered to be **Not Significant**.

Fear and Intimidation

Converter Station / Onshore Cable Corridor / Wider Study Area

22.6.5.15. The assessment has not identified any links within Section 1 where there was a change in Fear and Intimidation. As such is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary nature. This effect is considered to be **Not Significant.**

Accidents and Safety

Converter Station and Onshore Cable Corridor

22.6.5.16. The accident data described in paragraph **Error! Reference source not found.** showed only one accident had been recorded on Day Lane in the last five year period and no accidents have been recorded on Broadway Lane in the vicinity of the proposed Converter Station access. The reported accident took place at the junction with Lovedean Lane resulted in a slight injury accident to a car driver. The impact of the Proposed Development is considered to be **Negligible adverse** effect of a temporary and short-term nature. This effect is considered to be **Not Significant.**

Wider Study Area

22.6.5.17. All of the links identified for further assessment within Section 1 in the wider Study Area experienced increases in typical number of accidents of less than 0.1 and thus the impact of the Proposed Development was considered to be **Negligible adverse effect** of a temporary nature. This effect is considered to be **Not Significant.**

Abnormal Loads Assessment

22.6.5.18. It is anticipated that the construction stage of the Proposed Development will generate some abnormal loads movements to and from the Converter Station associated with the import of transformers. These deliveries will be completed using specialist vehicles.

22.6.5.19. The Route Access Survey included within the CTMP noted the following overall requirements to facilitate delivery of the transformers:

- A police escort and pilot car will be required to assist with traffic control for the entire delivery route;
- Tree pruning will be required at numerous locations to ensure that a clear envelope is present for the vehicle to pass;
- Along the delivery route, street furniture and signage will be to be temporarily removed to allow a suitable minimum envelope.

22.6.5.20. In terms of specific requirements, the study identified the following temporary highway amendments as being required to facilitate delivery of the transformers:

- A3(M) Junction 2 Off-Slip: Pruning of vegetation will be required to allow vehicle to make left turn onto Dell Piece West.
- Dell Piece West / A3 Portsmouth Road / Catherington Lane traffic signal junction: Street furniture will need to be temporarily removed to allow oversail of the A3 Portsmouth Road central reservation. The delivery vehicle will also need to use the northbound approach of the A3 Portsmouth Road to complete the left turn form B2159 Dell Piece West.
- A3 Portsmouth Road / Lovedean Lane priority junction: The footway on eastern side of A3 Portsmouth Road will need to be strengthened to facilitate overrunning. Street furniture will also need to be removed on the northern corner of Lovedean Lane to allow oversail of the corner.
- Lovedean Lane / Milton Road priority junction: The bollards on the existing splitter island will need to be removed to allow oversail of the corner.
- Lovedean Lane / Day Lane priority junction: Street furniture will need to be temporarily removed on the southern corner of Day Lane and the trailer will mount the eastern highway verge of Lovedean Lane when turning into Day Lane.
- Day Lane: Some tree / hedge pruning will be required.

22.6.5.21. In total seven transformers will need to be delivered to the Converter Station during the construction stage. Given the size of AIL, at least five working days' notice will be provided to each relevant highway authority and two working days' notice will be provided to the police. The deliveries will also take place under police escort. Each delivery is also likely to take place over separate weekends, it also may happen during the night time. This approach is in line with the guidance set out in the HE document entitled *'Aide Memoire for notification requirements for the movement of Abnormal Indivisible Loads or vehicles by road when not complying with The Road Vehicles (Construction and Use) Regulations 1986'*.

22.6.5.22. Based on this assessment, the predicted impacts on the proposed delivery route are as follows:

- A3(M): This link has a **Negligible** sensitivity and the magnitude of impact is also considered **Negligible**. This leads to a **Negligible** adverse effect on a temporary and short-term basis. This is considered to be **Not Significant**.
- Dell Piece West / A3 Portsmouth Road / Catherington Lane traffic signal junction: This link has a **Medium** sensitivity and the magnitude of impact is considered to be **Negligible**. This results in a **Negligible adverse effect** on a temporary and short-term basis. This is considered to be **Not Significant**.
- A3 Portsmouth Road / Lovedean Lane priority junction: This junction is considered to have a **Medium** sensitivity and the magnitude of impact is considered to be **Low**. This results in a **Minor to Moderate adverse effect** on a temporary and short-term basis. This is considered to be **Not Significant**.
- Lovedean Lane / Milton Road priority junction: Lovedean Lane has a **High** sensitivity but the magnitude of impact is categorised as **Negligible**. This results in a **Negligible** adverse effect on a temporary and short-term basis. This is considered to be **Not Significant**.
- Lovedean Lane / Day Lane priority junction: Lovedean Lane has a high sensitivity but the magnitude of impact is categorised as **Negligible**. This results in a **Negligible** adverse effect on a temporary and short-term basis. This is considered to be **Not Significant**.
- Day Lane: This link has a **Low** sensitivity and the magnitude of impact is categorised as negligible, which results in a **Negligible** adverse effect on a temporary and short-term basis. This is considered to be **Not Significant**.

22.6.6. SECTION 2 – ANMORE

22.6.6.1. There were eight roads within Section 2 which met the criteria to be taken forward for further assessment. The section further details the predicted impacts of the Proposed Development on these roads.

Severance

Converter Station

22.6.6.2. As with Section 1 Lovedean Lane is predicted to experience an increase in Severance from low to **Medium** and has a **High** sensitivity rating as a result of its residential nature and location of Tesco Express and proximity to Woodcroft Primary School. This results in a **Major to Moderate adverse effect** of a temporary and medium-basis. This effect is considered **Significant** although should only occur for during the peak construction period of the Proposed Development.

Onshore Cable Corridor

22.6.6.3. Section 2 includes only Broadway Lane, which is a rural lane with few trip attractors. It therefore unlikely that the Proposed Development will significantly impact upon Severance, resulting in a **Negligible adverse effect** of a temporary nature and long-term nature. This effect is considered to be **Not Significant**.

Wider Study Area

22.6.6.4. No links included within the wider area are predicted to experience an increase in Severance as a result of the Proposed Development. As such is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary nature. This effect is considered to be **Not Significant**.

Traffic Delay

22.6.6.5. There are no junctions for assessment within Section 2 on the Onshore Cable Corridor or the wider study area, and there will be no traffic management requiring shuttle working traffic signals. This can therefore be defined as a **Negligible adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant**.

Pedestrian and Cycle Amenity

Onshore Cable Corridor and Wider Study Area

22.6.6.6. PRoW Footpath 13 will be temporarily stopped up during works for the Onshore Cable Corridor, which will cross the route of the PRoW. During the construction works a temporary diversion will be installed around the edge of the construction zone and be in place for 1-2 weeks per circuit. Given the nature of the diversion route for this footpath the magnitude of impact has been categorised as **Low** on a **Medium** sensitivity link, resulting in a **Minor to Moderate adverse effect** for users of a temporary and short-term nature. This is considered to be **Not Significant**.

22.6.6.7. The Onshore Cable Corridor and wider study area in Section 2 does not include any on-carriageway areas that feature footways or cycleways, and thus it is anticipated that there will be a **Negligible adverse effect** for pedestrians and cyclist amenity in this respect. This effect is considered to be **Not Significant**.

Fear and Intimidation

Converter Station

22.6.6.8. Only one link, Lovedean Lane, was identified as experiencing a change in Fear and Intimidation along the construction traffic route to / from the Converter Station.

22.6.6.9. As a result of the increase in total HGV flow the level of Fear and Intimidation on Lovedean Lane rose from negligible to **High**. This link is deemed to have **High**

sensitivity and as such the significance of effect equates to a **Major adverse effect** of a temporary and medium-term nature. This effect is considered to be **Significant** although should only occur during the peak construction period of the Proposed Development.

Onshore Cable Corridor

22.6.6.10. The assessment has not identified any links within Section 2 where there was a change in Fear and Intimidation in connection with the construction of the Onshore Cable. As such is it considered there will be a **Negligible adverse effect** of a temporary nature and short-term nature. This effect is considered to be **Not Significant**.

Wider Study Area

Milton Road (between Lovedean Lane and Eagle Avenue)

22.6.6.11. As a result of the increase in total HGV flow the level of Fear and Intimidation increases from **Negligible** to **Large**. This link is deemed to have **High** sensitivity. Given the **Large** magnitude of impact and the **High** sensitivity, the significance of effect equates to a **Major Adverse Effect** of a temporary and short-term nature. This effect is considered to be **Significant**.

Accidents and Safety

Onshore Cable Corridor and Wider Study Area

22.6.6.12. The majority of the Onshore Cable Corridor contained within Section 2 is off-carriageway. The only on-carriageway link contained within this section is Broadway Lane. No accidents occurred in the last five years on this link.

22.6.6.13. Furthermore, in the wider study area, all of the links identified for further assessment experienced increases in typical number of accidents of less than 0.1.

22.6.6.14. As such, in both the Onshore Cable Corridor and the wider study area, the impact of the Proposed Development was considered to be **Negligible adverse effect** of a temporary nature. This effect is considered to be **Not Significant**.

Silvester Road

22.6.6.15. This is a **Medium** sensitivity link which experiences a **Low** magnitude of impact based on the maximum change in AADT of 43%. Silvester Road is a residential road with no dedicated pedestrian crossings present, indicating a relatively low existing desire for pedestrians to cross this road. This again suggests that the impacts of the increase in traffic flow on Severance are likely to be **Minor adverse effects** of a temporary and short-term nature. This effect is considered to be **Not Significant**.

22.6.7. SECTION 3 – DENMEAD / KING POND MEADOW

22.6.7.1. Section 3 includes only links that are part of the Onshore Cable Corridor or wider study area. Those which have been identified as needing further assessment are described below.

Severance

Onshore Cable Corridor

22.6.7.2. Within Section 3 the Onshore Cable Corridor incorporates Anmore Road and B2150 Hambledon Road.

Anmore Road

22.6.7.3. As set-out in the FTMS, full closure of Anmore Road will be required to install the Onshore Cables but access by pedestrians and cyclists will be retained at all times. This is considered to result in a **Medium** level of Severance on the basis that journeys will be less attractive and some users may be dissuaded from making journeys on foot. The sensitivity of Anmore Road is **Medium**, resulting in a **Moderate adverse effect** of a temporary and short-term basis. The road closure on Anmore Road will be in place for between one day and two weeks per circuit (depending on which option is used), and this effect is considered to be **Significant.**

B2150 Hambledon Road

22.6.7.4. While the Onshore Cable Corridor uses B2150 Hambledon Road within Section 3, the provision of a footway only on the northern side of the carriageway suggests that there is little demand for crossing of the carriageway. Additionally, a temporary diversion route will be provided adjacent to the construction zone if the existing shared-use path is used for installation of either Cable Circuit. As the level of Severance is categorised as **Low** with B2150 Hambledon Road has a **Medium** sensitivity rating. This leads to a **Minor to Moderate adverse effect** of a temporary and short-term nature, lasting for approximately two weeks per circuit. This is considered to be **Not Significant.**

Traffic Delay

Onshore Cable Corridor

22.6.7.5. No junctions within the scope of the assessment for Traffic Delay are included within Section 3. Traffic management in the form of shuttle working traffic signals will be required on the B2150 Hambledon Road within this Section. These signals are estimated to operate within capacity, leading to an average delay per vehicle of approximately 60 seconds.

22.6.7.6. B2150 Hambledon Road is of a **Medium** sensitivity, and the increase in delay is considered to represent a **Medium** adverse impact leading to a **Moderate** effect of a

temporary and short-term nature. This effect is considered to be a **Significant**.

Wider Study Area

22.6.7.7. No junctions were identified for assessment within the wider study area. Therefore, it is considered that the Proposed Development will have a **Negligible adverse effect** of a temporary and short-term nature.

Pedestrian and Cycle Amenity

Onshore Cable Corridor

22.6.7.8. Anmore Road has a **Medium** baseline sensitivity. In line with the TMS, full closure of this link will be required to install the Onshore Cables but access by pedestrians and cyclists will be retained at all times. No PRoW are affected. This is likely to result in a **Low** magnitude of impact on Pedestrian and Cycle Amenity on this link, resulting in a **Minor to Moderate adverse effect** for users on a temporary and short-term basis. This effect is considered to be **Not Significant**.

Wider Study Area

22.6.7.9. The assessment did not identify any links within Section 3 in the wider Study Area where there was a change in Pedestrian and Cycle Amenity. As such is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary nature. This effect is considered to be **Not Significant**.

Fear and Intimidation

Onshore Cable Corridor / Wider Study Area

22.6.7.10. Further assessment did not identify any links within Section 3 of the Onshore Cable Corridor or wider study area where there was a change in Fear and Intimidation. As such is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant**.

Accidents and Safety

Onshore Cable Corridor

22.6.7.11. Section 3 of the Onshore Cable Corridor contains two highway links, Anmore Road and B2150 Hambledon Road. No accidents took place on Anmore Road within the Order Limits, and thus this link was not considered for further assessment on the basis of Accidents and Safety.

22.6.7.12. Two accidents took place in the last five years on the section of B2150 Hambledon Road contained within Section 3, both of which were slight in severity. The limited number and severity of accidents seen on this link the last five years suggest that it is unlikely to be vulnerable to changes in traffic patterns. The sensitive receptor in

this Section is Denmead Infant School. This receptor is outside of the immediate vicinity of the Onshore Cable Corridor, and it is not anticipated that the traffic management associated with the Cable Corridor will have a considerable impact of accident rate or safety at this receptor. As such is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary nature. This effect is considered to be **Not Significant**.

Wider Study Area

22.6.7.13. One link in the wider study area saw an increase in typical accidents of over 0.1, this link was Closewood Road. Closewood Road saw a maximum increase in typical number of accidents of 0.16 in the DS scenario when compared to the DM. Due to the rural nature of the link, and the absence of any sensitive receptors in the vicinity, there is likely to be a very low number of vulnerable users on this link. This alongside the relatively low increase in number of accidents means that the magnitude of change in Accidents and Safety on this link is likely to be **Negligible adverse effect** of a temporary and short-term nature**.** This effect is considered to be **Not Significant**.

22.6.8. SECTION 4 – HAMBLEDON ROAD TO FARLINGTON AVENUE

22.6.8.1. This section details the predicted impact of the Proposed Development on links within Section 4.

22.6.8.2. The temporary increases in traffic across the wider study area within Section 4 reflect the Traffic Management locations modelled within the SRTM as a worst-case assumption and while some degree of traffic redistribution will occur during the Cable installation it is unlikely to be as high as predicted. For example, the increases in traffic to the east of A3 London Road are a direct result of traffic redistributing away from the temporary traffic signals which are located at the A3 London Road / Ladybridge Road roundabout in the DS scenarios. As shown within the FTMS, it is anticipated that construction work through this junction will take approximately one week only per circuit, while shuttle working traffic signals further north of this location will be required for a further five weeks per circuit only. This short-term nature of impacts has therefore been taken into account when determining the significance of effect.

Severance

Onshore Cable Corridor

22.6.8.3. No links within Section 4 have been identified as experiencing an increase in Severance as a result of the Proposed Development. This reflects proposals contained within the FTMS with any temporary closures of pedestrian crossing facilities being mitigated through provision of alternative facilities.

22.6.8.4. As such is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant**.

Wider Study Area

22.6.8.5. Nine links were identified as having a change in the level of Severance, as described below.

Closewood Road, Denmead

22.6.8.6. This is a **Medium** sensitivity link due to the presence of residential properties and is predicted to experience a **Medium** level of Severance due to the increase in traffic predicted along this link and lack of footways. As such it is anticipated that there will be a **Moderate adverse effect** of a temporary and short-term nature. This effect is considered to be **Significant**. However, it should be noted that Closewood Road is rural in nature with few trip attractors, pedestrian footways or crossing facilities, which suggests that there will be a low volume of pedestrian trips. It should also be noted that the predicted level of increased traffic is only likely to occur when shuttle working traffic signals are in place on B2150 Hambledon Road north of the junction with Closewood Road, which would be approximately 2-3 weeks per circuit.

Cunningham Road, Waterlooville

22.6.8.7. This is a **Low** sensitivity link with the level of Severance predicted to increase from Low to **Medium** on the basis that some people are likely to be dissuaded from making some journeys on foot. This results in a **Minor to moderate adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant**.

Frendstaple Road, Waterlooville

22.6.8.8. This is a **Low** sensitivity link with the level of Severance predicted to increase from Low to **Medium** on the basis that pedestrian journeys may be longer or less attractive due to the temporary increase in traffic flow. This results in a **Minor to Moderate adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant**.

22.6.8.9. This temporary increase in traffic flow on Frendstaple Road is likely to be a result of the combined construction works at the A3 Maurepas Way / B2150 Hambledon Road roundabout and the A3 London Road / Ladybridge Road roundabout, both of which require implantation of temporary traffic signals. The construction work at the A3 Maurepas Way / B2150 Hambledon Road roundabout will take 1-2 weeks per circuit while construction at or in the vicinity of A3 London Road / Ladybridge Road roundabout will take six weeks only.

Furzeley Road, Denmead

22.6.8.10. This is a **Low** sensitivity link with the level of Severance predicted to increase from Low to **Medium** on the basis that pedestrian journeys may be longer or less attractive due to the temporary increase in traffic flow. Taking this into account, the increase in traffic flow on this road is considered to be a **Minor to Moderate adverse effect**. This effect is considered to be **Not Significant**.

22.6.8.11. Furzeley Road is rural in nature with no footways or pedestrian crossings provision. It is anticipated that this would lead to a relatively low existing demand for pedestrian crossings on this road. It should also be noted that the predicted level of increased traffic is only likely to occur when shuttle working traffic signals are in place on B2150 Hambledon Road north of the junction with Closewood Road, which would be approximately 2-3 weeks per circuit.

Elizabeth Road/Woodlands Grove/Westbrook Grove, Waterlooville

22.6.8.12. This is a **High** sensitivity link with the level of Severance predicted to increase from Low to **Medium** on the basis that pedestrian journeys may be longer or less attractive due to the temporary increase in traffic flow. This can be considered to be a **Major to Moderate adverse effect** of a temporary and short-term nature. This effect is considered to be **Significant,** although it should be noted that the presence of crossings means that the ability of pedestrians to cross this link will be maintained.

Hurstville Drive, Waterlooville

22.6.8.13. This is a **Medium** sensitivity link with the level of Severance predicted to increase from Low to **Medium** on the basis that pedestrian journeys may be longer or less attractive due to the temporary increase in traffic flow. This results in a **Moderate adverse effect** of a temporary and short-term nature. This effect is considered to be **Significant**. Although it should be noted that due to the temporary traffic flow increases being mainly associated with the construction works at A3 Maurepas Way / B2150 Hambledon Road roundabout, where it is predicted that construction will take 1-2 weeks per circuit.

Mill Road, Waterlooville

22.6.8.14. This is a **High** sensitivity link with the level of Severance predicted to increase from Low to **Medium** on the basis that pedestrian journeys may be longer or less attractive due to the temporary increase in traffic flow. Mill Road is primarily residential in nature but also serves Mill Hill Primary School. As such it is anticipated that there will be **Major to Moderate adverse effect** of a temporary and short-term nature on this road. This effect is considered to be **Significant** despite the short term nature of the construction works that lead to the increase in traffic flow

Park Avenue, Waterlooville

22.6.8.15. This is a **High** sensitivity link with the level of Severance predicted to increase from Low to **Medium** on the basis that pedestrian journeys may be longer or less attractive due to the temporary increase in traffic flow. This increase in traffic flow, alongside the presence of Purbrook Park School on this road means that the Proposed Development is likely to result in a **Major to Moderate adverse effect** of a temporary and short-term nature. This effect is considered to be **Significant**.

Stakes Hill Road, Waterlooville

22.6.8.16. This is a **High** sensitivity link with the level of Severance predicted to increase from Low to **Medium** on the basis that pedestrian journeys may be longer or less attractive due to the temporary increase in traffic flow. This results in a **Major to Moderate adverse effect** of a temporary and short-term nature. This effect is considered to be **Significant** due to the high link sensitivity.

Traffic Delay

Onshore Cable Corridor

22.6.8.17. A summary of impacts to junctions within the Onshore Cable Corridor in Section 4 is included below. Two of the five junctions in Section 4 are considered to have a **High** sensitivity rating, one with **Medium** sensitivity and the remaining two junctions were considered to have a **Low** sensitivity:

B2150 Hambledon Road / Milton Road / Elettra Avenue roundabout

22.6.8.18. This junction is considered to have a **Medium** baseline sensitivity. The decrease in delays due to traffic redistribution is considered a **Medium** beneficial magnitude of impact leading to a **Moderate beneficial** effect of temporary and short-term basis. This effect is considered to be **Significant**.

B2150 Hambledon Road / Ashton Road traffic signals

22.6.8.19. This junction is considered to have a **Low** baseline sensitivity. This junction experiences a **High** magnitude of impact due to the increase in delays on the B2150 Hambledon Road northern approach. This results in a **Moderate adverse effect** on a temporary basis. This effect is considered to be **Significant**.

B2150 Hambledon Road / A3 Maurepas Way / Houghton Avenue roundabout

22.6.8.20. This junction is considered to have a **Low** baseline sensitivity. This junction is modelled with temporary traffic signals in the DS scenario, leading to an increase in Traffic Delay on all approaches. This is considered a **High** magnitude of impact, leading to a **Moderate** adverse effect on a temporary basis. This effect is considered to be **Significant**.

A3 Maurepas Way / A3 London Road / Rockville Drive

22.6.8.21. This junction is considered to have a **High** baseline sensitivity. Due to traffic redistribution away from the Onshore Cable Corridor, this junction experiences a decrease in Traffic Delay, which has been categorised as a **Low** magnitude of impact. This results in a **Moderate beneficial** effect on a temporary basis. This effect is considered to be **Significant**.

A3 London Road / Ladybridge Road

22.6.8.22. This junction is considered to have a **High** baseline sensitivity. This junction is modelled with temporary traffic signals in the DS scenario, leading to an increase in Traffic Delay on all approaches. This is considered a **High** magnitude of impact, leading to a **Major adverse** effect on a temporary basis. This effect is considered to be **Significant**.

Shuttle Working Traffic Signals

22.6.8.23. In addition to the above junctions a number of shuttle working traffic signal locations have been assessed along the Onshore Cable Corridor, based upon where they will be required as part of the TMS. Based upon the LinSIG modelling, each of these locations will experience a **Medium** magnitude of impact and a **Moderate adverse** effect on a temporary basis.

22.6.8.24. For information, the estimated duration of impact per circuit is listed below:

- B2150 Hambledon Road (13 weeks per circuit, reduced to 8 weeks for one circuit if alternative options are used) This effect is considered to be **Significant** given the period of time the signals will be in place;
- A3 London Road south of Forest Road roundabout (1-2 weeks per circuit). This effect is considered to be **Significant**:
- A3 London Road north of Ladybridge roundabout (4-5 weeks per circuit). This effect is considered to be **Significant**; and

- A3 London Road south of Ladybridge roundabout (4 weeks per circuit). This effect is considered to be **Significant**.

22.6.8.25. In all cases where shuttle working traffic signals have been assessed, the average delay time per vehicle was approximately 60 seconds or less.

Wider Study Area

22.6.8.26. Away from the Onshore Cable Corridor, the following junctions have been identified as experiencing a **Negligible** magnitude of impact, leading to a **Negligible** significance of adverse effect on a temporary basis:

- A3 (M) Junction 3;
- A3 Maurepas Way / A3 London Road / B2150 Hulbert Road;
- Hulbert Road / Frendstaple Road / Tempest Avenue;
- Rockville Drive/Stakes Hill Road; and
- Stakes Hill Road / Frendstaple Road.

22.6.8.27. The following junctions located away from the Onshore Cable Corridor have experienced a significance of effect above **Negligible**:

Stakes Road/Stake Hill Road / Purbrook Way / Crookhorn Lane

22.6.8.28. As this junction has a **High** baseline sensitivity, the increase in traffic due to redistribution away from the Onshore Cable Corridor exacerbates queuing on Stakes Road in the DS scenario. This leads to a **High** magnitude of impact and a **Major** adverse effect on a temporary basis. This effect is considered to be **Significant**.

Purbrook Way / College Road

22.6.8.29. This junction has a **Low** baseline sensitivity. It is anticipated that traffic redistribution of traffic away from the Onshore Cable Corridor leads to an increase in delay of 30-40 seconds per vehicle on College Road, which is categorised as a **Medium** magnitude of impact. This is a **Moderate** adverse effect on a temporary and short-term basis. This effect is considered to be **Significant**.

Pedestrian and Cycle Amenity

Onshore Cable Corridor

22.6.8.30. The northern termination of Footpath 24 is contained within the Order Limits within Section 4 south A3 London Road and Portsdown Hill Road. This means that, whilst unlikely, there remains scope for a temporary stopping up of this PRoW to be required to facilitate construction of the Onshore Cable Route. Users of this PRoW are likely to be pedestrian, and as such it has been determined that this link has a **Medium**

baseline sensitivity. Should the temporary suspension of this footpath be required, this would represent a **Low** magnitude of change on the basis that pedestrians will be able to pass directly adjacent to the construction works. Consequently, this results in a **Minor to Moderate adverse effect** of a temporary and short-term nature. This is effect is considered to be **Not Significant**.

22.6.8.31. It is anticipated that for the remainder Section 4, pedestrian amenity will be unchanged by construction works in the Onshore Cable Corridor, taking account of the FTMS proposals to ensure that pedestrian routes are maintained wherever possible. As such that the impact will be **Negligible adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant**. Access to Bridleways 15 and 17 and Footpaths 11m 16, 18 and 19 will be retained at all times.

22.6.8.32. Cycle amenity in Section 4 is likely to see a **Moderate adverse** impact of a temporary and short-term nature where construction of the Onshore Cable Route requires temporary closure of bus and Cycle lanes, or where bus / Cycle lanes are temporarily suspended to allow for use by general traffic. This is because it will require cyclists to share road-space with general traffic when passing the construction zone. This effect is considered to be **Significant**, however it should be noted that this situation will only occur when passing the 100m construction zone.

Wider Study Area

22.6.8.33. In the wider study area relevant to Section 4 six links experience an increase in traffic flow of more than 100%. These are as follows:

Closewood Road, Denmead

22.6.8.34. Across the two DS scenarios, the worst-case proportional increase in traffic flow was 239%. A **Medium** sensitivity has been determined as the link due to the presence of residential properties. Given the **High** magnitude of impact and **Medium** sensitivity, the significance of effect equates to **a Major to Moderate adverse effect** of a temporary and shot term nature. This effect is considered to be **Significant** despite the predicted increase in traffic flows only likely to occur for a 2-3 week period per circuit.

Shaftesbury Avenue, Waterlooville

22.6.8.35. Across the two DS scenarios, the worst-case proportional increase in traffic flow was 200%. This is likely to negatively impact upon Pedestrian and Cycle Amenity, with the magnitude of impact determined as **Medium** given that the link has a good footway provision. Given the **Medium** sensitivity of this link, the significance of effect equates to a **Moderate adverse effect** of a temporary and short-term nature. This effect is considered to be **Significant**. Although it should be noted that predicted traffic flow increases should only occur for up to six weeks per circuit.

Westbrook Grove, Waterlooville

22.6.8.36. Across the two DS scenarios, the worst-case proportional increase in traffic flow was 104%. This is likely to negatively impact upon Pedestrian and Cycle Amenity with the magnitude of impact determined as **Medium** due to good quality footway provision. A **High** sensitivity has been determined due to its proximity to Purbrook Infant School and Purbrook Junior School and Westbrook Grove's residential nature. As a result, it can be determined that there is a **Major to Moderate adverse effect** of a temporary and short-term nature. This effect is considered to be **Significant** due to the high sensitivity of the link. It should be noted however that the predicted level of increased traffic is only likely to occur for six weeks per circuit.

Park Avenue, Waterlooville

22.6.8.37. Across the two DS scenarios, the worst-case proportional increase in traffic flow was 109%. This is likely to negatively impact upon Pedestrian and Cycle Amenity with the magnitude of impact determined as **Medium** due to good existing footway provision. A **High** sensitivity has been determined for Park Avenue, leading to a **Major to Moderate adverse effect** of a temporary and short-term nature. This is considered to be a **Significant** effect due to the high sensitivity of the link. It should be noted however that the predicted level of increased traffic is only likely to occur for six weeks per circuit.

Mill Road, Waterlooville

22.6.8.38. Across the two DS scenarios, the worst-case proportional increase in traffic flow was 223%. This is likely to negatively impact upon Pedestrian and Cycle Amenity with the magnitude of impact determined as **Medium** due to good quality footway provision. A **High** sensitivity has been determined due to the presence of Mill Hill Primary School on this link, leading to a **Major to Moderate adverse effect** of a temporary and short-term nature. This is considered to be a **Significant** effect due to the high sensitivity of the link. It should be noted however that the predicted level of increased traffic is only likely to occur for six weeks per circuit.

Widley Walk, Waterlooville

22.6.8.39. Across the two DS scenarios, the worst-case proportional increase in traffic flow was 125%. This is likely to negatively impact upon Pedestrian and Cycle Amenity. The magnitude of change has been determined as **High** due to the lack of provision for non-motorised users. However, given Widley Walk is a rural lane, it is anticipated that pedestrian and cycle usage would be low with the link sensitivity is determined as **Negligible** on that basis. As such it can be determined that the Proposed Development will have a **Negligible adverse effect** on a temporary and short-term basis. This effect is considered to be **Not Significant**.

Fear and Intimidation

Onshore Cable Corridor

22.6.8.40. In Section 4, only one link experiences a change in Fear and Intimidation along the Onshore Cable Corridor.

B2150 Hambledon Road (between Soake Road and Closewood Road)

22.6.8.41. On B2150 Hambledon Road the level of Fear and Intimidation reduced as a result of the reduction in traffic speed relating to the proposed Traffic Management. Given the **Low** magnitude and the **Low** sensitivity, the significance of effect equates to a **Minor beneficial effect** of a temporary and short-term nature. This effect is considered to be **Not Significant**.

Wider Study Area

22.6.8.42. Five links experience a change in Fear and Intimidation for the DS Scenarios when compared to the DM. These are as follows:

Stakes Hill Road (between Hurstville Drive and Elizabeth Road)

22.6.8.43. As a result of increased traffic flows the level of Fear and Intimidation increases from negligible to **Low**. A **High** sensitivity has been determined based on the cluster of education facilities on the northern and southern side of the carriageway. This incorporates a clustering of sensitive receptors that can attract High levels of footfall.

22.6.8.44. Given the small magnitude of change and the High sensitivity, the significance of effect equates to a **Moderate adverse effect** of a temporary and short-term nature. This effect is considered to be **Significant** as the user groups which are likely to characterise a large amount of the pedestrian traffic on this link is likely to be school children attending the educational facilities on the link.

Elizabeth Road / Woodlands Grove / Westbrook Grove

22.6.8.45. As a result of the construction of the Onshore Cables the average speed decreases on Elizabeth Road as a function of the increases in traffic flows. This decrease in the speed of traffic leads to a magnitude of Fear and Intimidation of **Low.** A **High** sensitivity has been determined based on the location of Purbrook Junior and Infant School on the northern side of the carriageway. This incorporates a clustering of sensitive receptors that can attract high levels of footfall.

22.6.8.46. Given the small magnitude of change and the High sensitivity, the significance of effect equates to a **Moderate adverse effect** of a temporary and short-term nature. This effect is considered to be **Significant** due to the high sensitivity of the link. It should be noted however that the predicted level of increased traffic is only likely to occur for six weeks per circuit.

Mill Road (between Cunningham Road and Elizabeth Road)

22.6.8.47. As a result of the construction of the Onshore Cables the average speed decreases on Mill Road as a function of the increases traffic flows. This decrease in speed of traffic leads to a magnitude of Fear and Intimidation of **Low.** A **High** sensitivity has been determined based on the location of Mill Hill Primary School on the northern side of the carriageway. This incorporates a clustering of sensitive receptors that can attract high levels of footfall.

22.6.8.48. Given the small magnitude of change and the **High** sensitivity, the significance of effect equates to a **Moderate adverse effect** of a temporary and short-term nature. This effect is considered to be **Significant** due to the high sensitivity of the link. It should be noted however that the predicted level of increased traffic is only likely to occur for six weeks per circuit.

Purbrook Way (between Stakes Hill Road and College Road)

22.6.8.49. The magnitude of Fear and Intimidation on Purbrook Way has been categorised as **High** due to the increase in traffic flow in the DS scenarios. A **High** sensitivity has been determined based on the Crookhorn College being present to the north of the carriageway and Riverside School to the south. Given the large magnitude of change and the High sensitivity, the significance of effect equates to a **Major adverse effect** of a temporary and short-term nature. This effect is considered to be **Significant**. It should be noted however that the predicted level of increased traffic is only likely to occur for six weeks per circuit.

Accidents and Safety

Onshore Cable Corridor

22.6.8.50. The Onshore Cable Corridor in Section 4 is inclusive of approximately 6.5 km of carriageway. A total of 65 slight, 15 severe and one fatal accidents, where recorded for the Onshore Cable Corridor in this Section in the last five years. The majority of these accidents are attributable to driver error and thus it is anticipated that the traffic management associated with the Onshore Cable Corridor will have a **Negligible adverse effect** on Accidents and Safety in this section of a temporary and short-term nature. This effect is considered to be **Not Significant**.

Wider Study Area

22.6.8.51. A total of 17 links were identified as experiencing an increase of more than 0.1 in the typical number of accidents within Section 4, as a result of the proposed development. The links that experience this greater level of predicted accidents are summarised below:

- Closewood Road;

- Newlands Road;
- Park Avenue;
- Pigeon House Lane;
- Pitymoor Lane; and
- Stakes Hill Road.

22.6.8.52. The predicted increase on these links is primarily a function of increased traffic flows, and as such it is anticipated that the Proposed Development will have a **Minor adverse effect** on these links of a temporary and short-term nature. This effect is considered to be **Not Significant**.

22.6.9. SECTION 5 – FARLINGTON

22.6.9.1. This section details the predicted impact of links within Section 5, which includes one option with both Cables being installed on Farlington Avenue and another option for one Cable being installed within Evelegh Road and Portsmouth Water land between Evelegh Road and Havant Road. Installation of each Cable within Farlington Avenue will require a temporary road closure between Sea View Road and Havant Road.

Severance

Onshore Cable Corridor

22.6.9.2. Only one link has been identified as having a change in Severance as a consequence of the installation of the Onshore Cables, detailed below.

Farlington Avenue

22.6.9.3. This is a **High** sensitivity link, which is considered to have a Negligible baseline severance level. This link experiences a decrease in traffic flow as a result of the Proposed Development, however the impact of the proposed traffic management on this link is likely to give some limited hinderance to the movement of pedestrians, increasing the Severance to **Low** as a result of the Proposed Development. This represents a **Moderate adverse effect** of a temporary and short-term nature. This is considered to be a **Significant** effect given the high sensitivity of the link and use of Farlington Avenue by school children.

22.6.9.4. The construction period for Farlington Avenue will be approximately 11 weeks per circuit, reduced to 9 weeks if one circuit is installed within the Evelegh Road and the Portsmouth Water land.

Evelegh Road

22.6.9.5. This is a **High** sensitivity link which is anticipated to experience a **High** magnitude of change, based on the maximum increase in AADT of 199%, when construction is taking place the Farlington Avenue / Havant Road / Eastern Road junction as

assessed within the SRTM. It is predicted that this traffic flow increase would also occur during construction works on Farlington Avenue south of the junction with Evelegh Road and that this increase in traffic may dissuade some vulnerable users from making certain journeys. This results in a **Major adverse effect** of a temporary and short-term nature. This is considered to be a **Significant** effect due to the use of Evelegh Road by school children. The construction works at the Farlington Avenue / Havant Road / Eastern Road junction will take approximately one week per circuit should both be installed within Farlington Avenue. Construction work on Farlington Avenue south of the junction with Evelegh Road will take 2 weeks per circuit.

22.6.9.6. If one cable circuit is installed within Evelegh Road, this will also lead to an impact on severance. However, as the road will be closed to traffic during construction of the Cable route it is estimated that the Proposed Development will result in a **Negligible adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant**. Construction works along Evelegh Road will take approximately two weeks.

Wider Study Area

The wider study area within Section 5 is affected by traffic distributing away from construction works at the Farlington Avenue / Havant Road / Eastern Road junction. Works through this junction will take one week per circuit. Farlington Avenue / Havant Road / Eastern Road junction. The required road closure on Farlington Avenue will take approximately four weeks per circuit.

Gilman Road

22.6.9.7. This is a **Medium** sensitivity link due to the presence of residential properties at its southern end. However for the majority the link is narrow lane with no footways or pedestrian crossing present, which indicates an existing low level of pedestrian movement. The Proposed Development therefore results in a **Negligible** level of Severance which results in a **Minor adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant**.

Station Road

22.6.9.8. This is a **Medium** sensitivity link, residential in nature with no dedicated pedestrian crossing facilities or amenities present. It is predicted that the Proposed Development will increase the level of Severance to **Low** on the basis that the increased volume of traffic is result in some hinderance to movement. **Minor to Moderate adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant** as the ability of pedestrians to cross this link is likely to remain largely unchanged.

Traffic Delay

Onshore Cable Corridor

22.6.9.9. One junction within Section 5 forms part of the Onshore Cable Corridor, these are as follows:

A2030 / Farlington Avenue / A2030 Eastern Road / Havant Road

22.6.9.10. This junction has been modelled with restricted right turns form Havant Road as reflected TMS proposals at this location. This leads to an increase in delay on Farlington Avenue, which is considered a **Low** magnitude of impact. As the junction has a **Medium** sensitivity this leads to a **Minor to Moderate adverse effect** on a temporary and short-term basis. This effect is considered to be **Not Significant** given the construction works at this junction will take approximately one week per circuit.

Farlington Avenue Shuttle Working Traffic Signals

22.6.9.11. One location of shuttle working traffic signals has been assessed along the Onshore Cable Corridor, on Farlington Avenue (**High** sensitivity). Based upon the LinSig modelling, this link will experience a **Low** magnitude of impact based on average delays of 20-45 seconds per vehicle. This leads to a **Moderate adverse effect** on a temporary basis and short-term. This effect is considered to be **Significant** given that shuttle working traffic signals will be required for four weeks per circuit.

B2177 Portsdown Hill Shuttle Working Traffic Signals

22.6.9.12. Traffic redistribution away from the Onshore Cable Corridor leads to an increase in delay of 50-130 seconds per vehicle on B2177 Portsdown Hill Road, which is categorised as a **Medium** magnitude of impact. B2177 Portsdown Hill Road has a **Low** baseline sensitivity. This is a **Moderate adverse effect** on a temporary basis. This effect is considered to be **Significant**.

22.6.9.13. In addition to the traffic redistribution on links, two junctions in the wider study area were taken forward for further assessment in Section 5, these are as follows.

Wider Study Area

22.6.9.14. Traffic redistribution within Section 5 is primarily related to the modelled construction works at the Farlington Avenue / Havant Road / Eastern Road traffic signal junction. In viewing the predicted impacts it should be noted that the construction works at this junction will take approximately 1 week per circuit. It should also be noted however that a similar level of impact would be anticipated to result from the closure of Farlington Avenue, which will take approximately four weeks per circuit.

A3 Southampton Road / A3 London Road / Spur Road / Havant Road Roundabout

22.6.9.15. The A3 Southampton Road / A3 London Road / Spur Road / Havant Road junction has a **Low** baseline sensitivity. And has been identified as experiencing a **Negligible**

magnitude of impact, leading to a **Negligible adverse effect** on a temporary and short-term basis. This effect is considered to be **Not Significant**.

B2177 Portsdown Hill Road / Maylands Road / B2177 Bedhampton Road / Bedhampton Hill Roundabout

22.6.9.16. The B2177 Portsdown Hill Road/Maylands Road / B2177 Bedhampton Road / B2177 Bedhampton Hill junction has a **Medium** baseline sensitivity. This junction has been identified as experiencing a **Negligible adverse effect** on a temporary and short-term basis, this effect is considered to be **Not Significant**.

Pedestrian and Cycle Amenity

Onshore Cable Corridor

Farlington Avenue and Evelegh Road has been categorised has having a **High** sensitivity due its proximity to Solent Infant School and Solent Junior School. During the construction works, pedestrian routes will be maintained wherever possible but some temporary crossing facilities may be required, categorised as a **Low** magnitude of change. This results in a **Moderate adverse effect** of a temporary and short-term nature. This is considered to be **Significant** due to the sensitivity of the link.

For the remainder of links within Section 5, Pedestrian and Cycle Amenity will be unchanged by construction works in the Onshore Cable Corridor, taking account of the FTMS proposals to ensure that pedestrian routes are maintained wherever possible. As such that the impact will be **Negligible adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant**.

Wider Study Area

Pedestrian and Cycle Amenity is not significantly impacted by the Proposed Development across the wider study area. As such the impact is considered to be a **Negligible adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant**.

Fear and Intimidation

Onshore Cable Corridor / Wider Study Area

22.6.9.17. Further assessment did not identify any links within Section 5 of the Onshore Cable Corridor or wider Study Area where there was a change in Fear and Intimidation. As such is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant**.

Accidents and Safety

Onshore Cable Corridor / Wider Study Area

22.6.9.18. The Onshore Cable Corridor in Section 5 is inclusive of approximately 1km of carriageway. A total of three slight, no severe and no fatal accidents, were recorded for the Onshore Cable Corridor in this Section in the last five years. The majority of these accidents are attributable to driver error and thus it is anticipated that the traffic management associated with the Onshore Cable Corridor will have a **Negligible adverse effect** on Accidents and Safety in this section. This effect is considered to be **Not Significant**.

22.6.9.19. Furthermore, all of the links contained within Section 5 in the wider Study Area experienced increases in typical number of accidents of less than 0.1 and thus the effect of the Proposed Development on the wider study area was considered to be **Negligible adverse effect**. This effect is considered to be **Not Significant**.

22.6.10. SECTION 6 – ZETLAND FIELD AND SAINSBURY'S CAR PARK

22.6.10.1. There were 12 links identified for further assessment in Section 6 of the Study Area. The predicted impacts on links within Section 6 are described within this section. While the majority of this section includes the A2030 Eastern Road, there is also an option to install at least one Cable circuit within Zetland Field.

Severance

Onshore Cable Corridor / Wider Study Area

22.6.10.2. No links within Section 6 have been identified as experiencing an increase in Severance as a result of the Proposed Development. As such is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary nature. This is considered to be a **Not Significant** effect.

Traffic Delay

Onshore Cable Corridor

22.6.10.3. Within the Onshore Cable Corridor, the A2030 Eastern Road / Grove Road / A2030 Eastern Road / Fitzherbert Road junction has a **Low** baseline sensitivity and has been identified as experiencing a **Negligible** magnitude of impact, leading to a **Negligible adverse effect** on a temporary basis and short-term basis. This effect is considered to be **Not Significant.**

22.6.10.4. Traffic flows along the A2030 Eastern Road within Section 6 are constrained by the traffic signals junction to the north and south, at the junction with Havant Road and the junction with Fitzherbert Road, which will limit the impacts of lane closures

associated with installation of the Onshore Cable Route. The Eastern Road in this location has been categorised as having a **Low** sensitivity rating and the Proposed Development has been predicted to lead to a **Medium** magnitude of impact on traffic delay. This leads to a **Minor to Moderate adverse effect** of a temporary and short-term nature. This is considered to be **Not Significant**.

22.6.10.5. If Zetland Field is used for both circuits the impact on A2030 Eastern Road will be **Minor to Moderate adverse effect** of a temporary and short-term nature. This is also considered to be **Not Significant**.

Wider Study Area

22.6.10.6. Away from the Onshore Cable Corridor, the following junction was identified for further assessment:

A27 Western Road / A3 London Road / A397 Northern Road / M27 (Portsbridge Roundabout)

22.6.10.7. This junction has a **Medium** baseline sensitivity. This junction operates over capacity in the DM and DS scenarios but Traffic Delay is increased by up to 30 seconds per vehicle as a result of the Proposed Development, which is categorised as a **Medium** impact and a **Moderate adverse effect** of a temporary and short-term nature. This effect is considered to be **Significant**.

Pedestrian and Cycle Amenity

Onshore Cable Corridor

22.6.10.8. Along A2030 Eastern Road (**Low** sensitivity), it has been predicted that the Proposed Development may require temporary narrowing of the existing shared-use path during construction. This is categorised as a **Negligible** magnitude of change and a **Negligible adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant**.

22.6.10.9. If the Zetland Field option is used for the installation of the Onshore Cables a temporary closure of Footpath 33 may be required to facilitate construction where the PROW meets Fitzherbert Road. During this period access to Zetland Road will still be possible via Fitzherbert Road and Waterworks Road, a diversion length of approximately 600 m. Footpath 33 is considered to be of a **Medium** sensitivity and the magnitude of change is categorised as **High** due to the closure of the PRoW, leading to a **Major to Moderate adverse effect** of a temporary and short-term basis. This is considered to be **Significant**, although it should be noted that this closure will be required for a few days only.

Wider Study Area

22.6.10.10. The assessment did not identify any links within the wider Study Area relevant to Section 6 where there was a change in Pedestrian and Cycle Amenity. As such is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary and short-term nature. This is considered to be a **Not Significant** effect.

Fear and Intimidation

22.6.10.11. The assessment did not identify any links within Section 6 of the Onshore Cable Corridor or wider study area where there was a change in Fear and Intimidation. As such is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary nature. This effect is considered to be **Not Significant**.

Accidents and Safety

Onshore Cable Corridor

22.6.10.12. The Onshore Cable Corridor in Section 6 is inclusive of approximately 1 km of carriageway. A total of three slight, no severe and no fatal accidents, were recorded for the Onshore Cable Corridor in this Section in the last five years. The majority of these accidents are attributable to driver error and thus it is anticipated that the traffic management associated with the Onshore Cable Corridor will have a **Negligible adverse impact** on Accidents and Safety in this section. This effect is considered to be **Not Significant**.

Wider Study Area

22.6.10.13. All of the links contained within Section 6 in the wider Study Area experienced increases in typical number of accidents of less than 0.1 and thus the impact of the Proposed Development was considered to be **Negligible adverse effect**. This effect is considered to be **Not Significant**.

22.6.11. SECTION 7 – FARLINGTON JUNCTION TO AIRPORT SERVICE ROAD

22.6.11.1. This section provided a summary of Predicted Impacts on the nine roads within Section 7 of the Study Area which met the criteria to be taken forward for further assessment. While the majority of the Order Limits within Section 7 contains non-highway land a number of locations have been considered as a result of traffic redistribution away from the Onshore Cable Corridor.

Severance

Onshore Cable Corridor

22.6.11.2. No links within Section 7 have been identified as experiencing an increase in Severance as a result of the Proposed Development. As such is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant**.

Wider Study Area

22.6.11.3. Dundas Lane (**High** sensitivity) is anticipated to experience an increase in Severance as result of the Proposed Development due to the increase in traffic flows on this link. The magnitude of impact has been categorised as **Medium** on the basis that the increase in traffic flow will make pedestrian journeys less attractive, which results in a **Major to Moderate adverse effect** on a temporary and short-term basis. This effect is considered to be **Significant**.

Traffic Delay

Onshore Cable Corridor

22.6.11.4. Within the Onshore Cable Corridor the A2030 Eastern Road / Anchorage Road experiences an increase in Traffic Delay on the Anchorage Road and Eastern Road right turn, but a decrease in delay on other approaches due to traffic redistribution. This junction has a **Low** baseline sensitivity. This is considered a **Low** magnitude of impact and a **Minor to Moderate** adverse effect on a temporary basis. This effect is considered to be **Not Significant**.

Wider Study Area

22.6.11.5. Away from the Onshore Cable Corridor, four junctions in Section 7 of the wider study area were taken forward for further assessment. All predicted impacts at junctions within Section 7 are a result of traffic redistributing away from the Onshore Cable Corridor and specifically the lane closure modelled within the SRTM on the A2030 Eastern Road.

Norway Road / Copnor Road

22.6.11.6. The Norway Road / Copnor Road traffic signal junction (**Low** sensitivity) has been identified as experiencing a **Negligible** magnitude of impact, leading to a **Negligible adverse effect** on a temporary and short-term basis. This effect has therefore been considered to be **Not Significant**.

Copnor Road / Burrfields Road

22.6.11.7. Delay time per vehicle increases by up to 60 seconds on Copnor Road North due to traffic redistribution away from the Cable Corridor, which has been classified as a **Medium** magnitude of impact. This junction has a **High** baseline sensitivity. These factors together lead to a **Moderate to Major adverse effect** of a temporary and short-term basis. This effect is considered to be **Significant**.

Stubbington Avenue / A2047 Gladys Avenue / Angerstein Road Roundabout

22.6.11.8. This junction, which has been categorised as having a **Low** sensitivity, has been identified as experiencing a **Negligible** magnitude of impact, leading to a **Negligible** adverse effect on a temporary and short-term basis. This effect has therefore been considered to be **Not Significant**.

Burrfields Road / Moneyfield Avenue/Dundas Lane

22.6.11.9. This junction, which has been categorised as having a **Low** sensitivity, has been identified as experiencing a **Negligible** magnitude of impact, leading to a **Negligible** adverse effect on a temporary and short-term basis. This effect has therefore been considered to be **Not Significant**.

Pedestrian and Cycle Amenity

Onshore Cable Corridor

22.6.11.10. The impact of construction of the Onshore Cable Route in Section 7 is likely to have a negligible adverse effect upon Pedestrian and Cycle Amenity. It is not anticipated that any temporary closure or narrowing of footways or cycleways will be required as the Onshore Cable Corridor in Section 7 falls predominately off-carriageway. As such is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant**.

Wider Study Area

22.6.11.11. There were two links identified in the wider study area identified as being affected by changes in Pedestrian and Cycle Amenity as a result of temporary redistribution of traffic.

Airport Service Road (between Dundas Lane and A2030 Eastern Road)

22.6.11.12. Across the two DS scenarios, the worst-case proportional increase in traffic flow was 217%. The magnitude of change has been determined as **Low** as verges on this link allow for relatively good separation between pedestrians and vehicular traffic, and as such it is not anticipated that increased vehicle flows alone will negatively impact upon Pedestrian and Cycle Amenity in a considerable way.

22.6.11.13. A **Low** sensitivity has been determined as the link is situated in an industrial estate with limited receptors. The significance of effect equates to a **Minor adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant**.

Dundas Lane between (Airport Service Road and Quartremaine Road)

22.6.11.14. Across the two DS scenarios, the worst-case proportional increase in traffic flow was 316% due to traffic redistributing away from the Eastern Road. Dundas Lane has been categorised has having a **High** sensitivity due to the location of Admiral Lord Nelson School on this link, the magnitude of change categorised as **Low** due to the increase in traffic on the link, as defined in Section 22.4. The magnitude of change has been classified as low as whilst this link saw a considerable increase in traffic in the DS scenario when compared with the DM, this is due to the already low traffic flow in the DM. This link saw a two-way 24 hour AADT increase from 616 PCU in the DM, to a maximum of 2,559 PCU in the DS, which equates to approximately one additional vehicle per minute. The existing pedestrian provision of Dundas Lane is also of a good quality with a signalised pedestrian crossing provided. This effect equates to a **Moderate adverse effect** of a temporary and short-term nature. This effect is considered to be **Significant** due to the sensitivity of the link.

Fear and Intimidation

22.6.11.15. The assessment did not identify any links within Section 7 within the Onshore Cable Corridor or wider study area where there was a change in Fear and Intimidation. As such is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant**.

Accidents and Safety

Onshore Cable Corridor

22.6.11.16. The Onshore Cable Corridor in Section 7 is inclusive of approximately 0.5 km of carriageway. A total of two slight, no severe and no fatal accidents, were recorded for the Onshore Cable Corridor in this Section in the last five years. The majority of these accidents are attributable to driver error and thus it is anticipated that the traffic management associated with the Onshore Cable Corridor will have a **Negligible adverse effect** of a temporary and short-term nature on Accidents and Safety in this section. This effect is considered to be **Not Significant**.

Wider Study Area

22.6.11.17. All of the links contained in the wider Study Area relevant to Section 7 experienced increases in typical number of accidents of less than 0.1 and thus the effect of the Proposed Development was considered to be **Negligible adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant**.

22.6.12. SECTION 8 – EASTERN ROAD (ADJACENT TO GREAT SALTERNS GOLF COURSE) TO MOORINGS WAY

22.6.12.1. This section provides a summary of links within Section 8 of the Study Area that have been taken forward for further assessment. The predicted impacts of the Proposed Development on these links is further detailed as follows.

22.6.12.2. It should be noted that, as set out in paragraph 22.1.2.25, there are several options included within the Order Limits for the Cable Route within Section 8. As such, it should be noted that the likely impacts of the Proposed Development will differ dependent on which of these routing options are used.

Severance

Onshore Cable Corridor / Wider Study Area

22.6.12.3. No links within Section 8 were identified as experiencing an increase in Severance as a result of the Proposed Development either within the Onshore Cable Corridor or the wider study area. As such, is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary nature. This effect is considered to be **Not Significant**.

Traffic Delay

Onshore Cable Corridor

22.6.12.4. A summary of impacts to junctions within the Onshore Cable Corridor within Section 8 is included below. The following three junctions experience an increase in delay on some approaches but a decrease on others due to the redistribution of traffic, which

generally balances the operation of the junction between the DM and DS scenarios:

- A2030 Eastern Road / Airport Service Road, which has a **Low** baseline sensitivity has a **Medium** magnitude of change resulting in a **Minor to Moderate adverse effect** of a temporary and short-term basis. This is considered to be **Not Significant**;
- A2030 Eastern Road / Burrfields Road, which has a **Medium** baseline sensitivity has a **Medium** magnitude of change resulting in a **Moderate adverse effect** of a temporary and short-term basis. This is considered to be **Significant**; and
- A2030 Eastern Road / Tangier Road, which has a **Low** baseline sensitivity has a **Medium** magnitude of change resulting in a **Moderate adverse effect** of a temporary and short-term basis. This is considered to be **Significant**.

22.6.12.5. A2030 Eastern Road between Airport Service Road and Tangier Road will require a lane closure to facilitate construction of the Cable Route which will impact upon traffic delays. This section of the A2030 Eastern Road has a **Medium** sensitivity, with the **Magnitude of change** categorised as **High.** This leads to a **Major to Moderate adverse** effect on a temporary and short-term basis. This is considered to be **Significant**.

22.6.12.6. It should be noted that the impact on traffic delay in Section 8 to the south the junction with Tangier Road will be largely dependent the option taken forward for cable routing by the relevant contractor. The predicted impacts of each option are set out below:

Option 8a – Both Cables in Milton Common

22.6.12.7. This option would see the Construction Corridor being entirely off-carriageway, contained wholly in Milton Common. As such, this option has been identified as experiencing a **Negligible** magnitude of impact, leading to a **Negligible adverse effect** on a temporary and short-term basis. This effect is considered to be **Not Significant**.

Option 8b – One Cable in Milton Common

22.6.12.8. This option would see the Construction Corridor being partially accommodated on-carriageway along the Eastern Road (**Medium** sensitivity), requiring a Lane closure, and partially accommodated in Milton Common. As such, this option has been identified as experiencing a **High** magnitude of impact, leading to a **Major to Moderate** significance of effect on a temporary and short-term basis. This effect is considered to be **Significant**.

Option 8c – Both Cables in A2030 Eastern Road

22.6.12.9. This option would see the Construction Corridor accommodated for entirely within A2030 Eastern Road between the junction Tangier Road and the junction with Eastern Avenue. This option will see Lane closures on both the southbound and

northbound carriageways, albeit at separate points in time. This option has been identified as experiencing a **High** magnitude of impact, leading to a **Major to Moderate** significance of effect on a temporary basis. This effect is considered to be **Significant**.

Wider Study Area

22.6.12.10. Away from the Onshore Cable Corridor, the junctions discussed below were taken forward for further assessment. The predicted impacts are a result of traffic redistribution away from the Cable Corridor and specifically the distribution away from the lane closures modelled within the SRTM. Use of options 8a or 8b would therefore reduce the time period of the Predicted Impacts.

A3 Mile End Road / Church Street / Hope Street / Commercial Road: On Church Street

22.6.12.11. This junction has a **High** baseline sensitivity. Average delay per vehicle is increased by up to 65 seconds and on A3 Mile End Road it increases by up to 50 seconds due to traffic redistribution. This has been classified as a **Medium** magnitude of impact and a **Moderate to Major adverse effect** on of a temporary and short-term basis. This effect is considered to be **Significant**.

Milton Road / St Marys Road

22.6.12.12. This junction has a **High** baseline sensitivity. It been identified as experiencing a **Negligible** magnitude of impact, leading to a **Negligible** significance of effect on a temporary basis. This effect is considered to be **Not Significant** as it is unlikely to have a noticeable impact on traffic delay.

Pedestrian and Cycle Amenity

Onshore Cable Corridor

22.6.12.13. On A2030 Eastern Road between Airport Service Road and Tangier Road the installation of the Onshore Cable will require the temporary suspension of the shared-use path which runs adjacent to the A2030 Eastern Road. In such instances, a diversion route for the shared-use path will be provided directly adjacent to construction zone as outlined within the FTMS. Eastern Road has a **Medium** sensitivity and the impact has been categorised as **Low** magnitude of change owing to the fact that the diversion route will be short. This results in a **Minor to Moderate adverse effect** on the pedestrian and cycle amenity, which will be temporary and short term in nature. This is considered to be a **Not Significant** effect.

Option 8a – Both Cables in Milton Common and Option 8b – One Cable in Milton Common

22.6.12.14. It is possible that, should Option 8a or 8b be utilised, the installation of the Onshore Cable will require the temporary suspension of the shared-use path which passes along the north of Milton Common adjacent to the A2030 Eastern Road. In such instances, a diversion route for the shared-use path will be provided directly adjacent to construction zone as outlined within the FTMS. Eastern Road has a **Medium** sensitivity and the impact has been categorised as **Low** magnitude of change owing to the fact that the diversion route will be short. This results in a **Minor to Moderate adverse effect** on the pedestrian and cycle amenity, which will be temporary and short term in nature. This effect is considered to be **Not Significant**.

Option 8c – Both Cables in A2030 Eastern Road

22.6.12.15. This option would see the Construction Corridor being entirely on-carriageway, contained wholly in A2030 Eastern Road. As such, this option has been identified as experiencing a **Negligible** magnitude of impact to pedestrian and cycle amenity, leading to a **Negligible** significance of effect on a temporary short-term basis. This effect is considered to be **Not Significant**.

Wider Study Area

22.6.12.16. Further assessment did not identify any links within Section 8 of the wider Study Area where there was a change in Pedestrian and Cycle Amenity, thus the impact of the Proposed Development was considered to be **Negligible adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant.**

Fear and Intimidation

22.6.12.17. Further assessment did not identify any links within Section 8 of the Onshore Cable Corridor or wider Study Area where there was a change in Fear and Intimidation. As such is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary nature. This effect is considered to be **Not Significant.**

Accidents and Safety

Onshore Cable Corridor

22.6.12.18. The Onshore Cable Corridor in Section 8 is inclusive of approximately 2.7 km of carriageway. A total of 37 slight, five severe and three fatal accidents, were recorded for the Onshore Cable Corridor in this Section in the last five years. The majority of these accidents are attributable to driver error and thus it is anticipated that the traffic management associated with the Onshore Cable Corridor will have a **Negligible adverse effect** on Accidents and Safety in this section of a temporary and short-term nature. This effect is considered to be **Not Significant.**

Wider Study Area

22.6.12.19. Dundas Lane has been identified as having an increase in typical number of accidents by more than 0.1 per year as a result of the Proposed Development, due to the volume of traffic diverting away from the Eastern Road. Dundas Lane has been categorised as having a High sensitivity and the magnitude of change has been determined as **Low**. This is on the of basis of Dundas Lane being having a 30mph speed limit with street lighting, a good footway provision and limited number of junctions. As such this is a **Moderate adverse effect** of a temporary and short-term nature. This effect is considered to be **Significant**. The duration for which this road is anticipated to experience increased traffic flow is likely to be dependent upon the cable routing option taken forward for the Eastern Road, which will range from 5 weeks to19 weeks per circuit

22.6.13. SECTION 9 – MOORINGS WAY TO BRANSBURY ROAD

22.6.13.1. There are six roads in Section 9 of the Study Area which met the criteria to be taken forward for further assessment. The predicted impacts on these links are further detail as follows where appropriate. In viewing these impacts it should be noted that the use of Moorings Way is only required when Option 8b or 8c is utilised, with 8a negating the use of this entirely.

22.6.13.2. In addition, the use of Furze Lane and Furze Lane bus link will not be required if the Cables are installed within the Portsmouth University playing fields.

Severance

Onshore Cable Corridor / Wider Study Area

22.6.13.3. No links within Section 9 were identified as experiencing an increase in Severance as a result of the Proposed Development in the Onshore Cable Corridor or wider study area. As such is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary nature. This effect is considered to be **Not Significant.**

Traffic Delay

Onshore Cable Corridor

22.6.13.4. No junctions were identified for assessment within Section 9 of the Onshore Cable Corridor. However, a number of shuttle working traffic signal locations have been assessed along the cable route, based upon where they will be required as part of the TMS. These locations are:

Moorings Ways

22.6.13.5. On this link the average delay per vehicle is approximately 30 seconds. The link is of **High** sensitivity due to the location of Moorings Infant School but the delay has been categorised as a **Low** magnitude of impact, leading to a **Moderate adverse effect** of a temporary and short-term. This is considered to be **Significant**, although it should be noted that the traffic delay per vehicle is low.

22.6.13.6. If construction makes use of Milton Common the only traffic delay on Moorings Way will be a result of construction traffic. As such this is considered to be a **Negligible** magnitude of change, resulting in a **Negligible adverse effect** of a temporary and short-term basis.

22.6.13.7. Construction along Moorings Way will take approximately eight weeks per circuit.

Locksway Road / Longshore Way / Kingsley Road

22.6.13.8. The Cable Route will use either Locksway Road or Longshore Way depending on if the Furze Lane or Portsmouth University option is used. Kingsley Road will be used when the Cable Route passes between the allotments and Bransbury Park.

22.6.13.9. On either link the average delay per vehicle is predicted to be approximately 30 seconds. Each link has a **Medium** sensitivity rating but the delay has been categorised as a **Low** magnitude of impact, leading to a **Minor to Moderate adverse effect** of a temporary basis. This effect is considered to be **Not Significant**.

22.6.13.10. Construction within these links will take following time period:

- Locksway Road: 1 week per circuit;
- Longshore Way: 2 weeks per circuit; and
- Kingsley Road: 1 day to 2 weeks per circuit.

Public Transport

22.6.13.11. Public Transport is anticipated to see an impact outside of that experienced by general traffic in Section 9 due to the temporary suspension of Furze Lane bus link. As such, its predicted impacts have been considered independently in this Section. As bus users have been categorised having a **Medium** sensitivity as per Section 22.4. Taking note of this, it is anticipated that the temporary suspension of Furze Lane bus link will result in a **Medium** magnitude of change. This together equates to a **Moderate** adverse effect which is temporary and short term in nature. This effect is considered to be **Significant.**

Wider Study Area

22.6.13.12. The only junction included within the wider study area relevant to Section 9 is the A2030 Velder Avenue / Milton Road traffic signal junction. This junction has a **High** baseline sensitivity. Traffic Delay increases at this junction by less than 30 seconds per vehicle, which is considered to be a **Negligible** magnitude of impact and a **Negligible adverse effect** on a temporary basis. This effect is considered to be **Not Significant.**

Pedestrian and Cycle Amenity

Onshore Cable Corridor

22.6.13.13. It is anticipated that for the entirety of Section 9, pedestrian amenity will be relatively unchanged by construction works in the Onshore Cable Corridor, leading to a **Negligible adverse effect**. This effect is considered to be **Not Significant.**

22.6.13.14. Cycle amenity in Section 9 is only predicted to change on the Furze Lane bus link (**Medium** sensitivity) as a result of the Proposed Development, which will need to be temporarily closed to facilitate construction of the Cable Route. During these closures, cyclists will be able to use the existing footway along the bus link to bypass the construction works. This is categorised as a **Low** magnitude of change, leading to a **Minor to Moderate adverse effect** of a temporary and short-term nature. This is considered to be **Not Significant**.

22.6.13.15. Construction on the Furze Lane bus link will take approximately three weeks.

Wider Study Area

22.6.13.16. The assessment did not identify any links within Section 9 of the wider study area where there was a change in Pedestrian and Cycle Amenity. As such is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary nature and short-term. This effect is considered to be **Not Significant.**

Fear and Intimidation

22.6.13.17. Further assessment did not identify any links within Section 9 of the Onshore Cable Corridor or wider study area where there was a change in Fear and Intimidation. As such is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary and short-term nature.

Accidents and Safety

Onshore Cable Corridor

22.6.13.18. The Onshore Cable Corridor in Section 9 is inclusive of approximately 1.5 km of carriageway. There were no recorded accidents for the Onshore Cable Corridor in this Section in the last five years and thus the effect of the Proposed Development was considered to be **Negligible adverse effect** of a temporary and short-term nature.

Wider Study Area

22.6.13.19. All of the links contained within Section 9 in the wider study area experienced increases in typical number of accidents of less than 0.1 and thus the effect of the Proposed Development was considered to be **Negligible adverse effect** of a temporary and short-term nature.

22.6.14. SECTION 10 – EASTNEY (LANDFALL)

22.6.14.1. This section provides a summary of Predicated Impacts within Section 10 of the Study Area, which also includes Landfall.

Severance

Onshore Cable Corridor / Wider Study Area

22.6.14.2. No links within Section 10 have been identified as experiencing an increase in Severance as a result of the Proposed Development. As such is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant.**

Landfall

22.6.14.3. It is not anticipated that construction of the Landfall will increase Severance. As such is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary and medium-term nature. This effect is considered to be **Not Significant.**

Traffic Delay

Onshore Cable Corridor

22.6.14.4. There are no junctions included within Section 10 of the Onshore Cable Corridor, but one shuttle working traffic signal location has been assessed on Henderson Road, which is categorised as having a **Medium** sensitivity. The average delay per vehicle of 20-40 seconds has been categorised as a **Low** impact and a **Minor to Moderate adverse** effect of a temporary basis on a temporary and short term basis. This effect is considered to be **Not Significant.**

22.6.14.5. Construction along Henderson Road will take approximately 3 weeks per circuit and on Fort Cumberland Road it will take 4 weeks per circuit.

Wider Study Area

22.6.14.6. No junctions were identified within the wider study area as requiring further assessment. As such is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary nature. This effect is considered to be **Not Significant**.

Landfall

22.6.14.7. It is not anticipated that construction activities in connection with the Landfall will have any impact on traffic delay. As such is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary and medium-term nature. This effect is considered to be **Not Significant**.

Pedestrian and Cycle Amenity

Onshore Cable Corridor

22.6.14.8. It is noted anticipated that the Proposed Development will require any temporary closure or narrowing of footways or cycleways within Section 10. As such is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant**.

Wider Study Area

22.6.14.9. The assessment did not identify any links within Section 10 of the wider study area where there was a change in Pedestrian and Cycle Amenity. As such is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant**.

Landfall

22.6.14.10. It is noted anticipated that the Proposed Development will require any temporary closure or narrowing of footways or cycleways at the Landfall. As such it is considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant**.

Fear and Intimidation

Onshore Cable Corridor

22.6.14.11. Further assessment did not identify any links within Section 10 of the Onshore Cable Corridor where there was a change in Fear and Intimidation. As such is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant.**

Wider Study Area

22.6.14.12. In Section 10 of the wider study area, one link experienced a change in Fear and Intimidation for the DS Scenarios when compared to the DM.

Henderson Road (between Bransbury Road and Halliday Crescent)

22.6.14.13. As a result in the reduction in average speed on Henderson Road that is anticipated to occur due to implementation of traffic management, the magnitude of Fear and Intimidation decreased from large to **Negligible**. As Henderson Road has been classified as having **low** sensitivity, this effect is thought to represent a **Negligible beneficial effect** of a temporary and short-term nature. This effect is considered to be **Not Significant.**

Landfall

22.6.14.14. It is not anticipated that the Landfall will result in a change in Fear and Intimidation. As such is it considered that the Proposed Development will result in a **Negligible adverse effect** of a temporary and medium-term nature. This effect is considered to be **Not Significant.**

Accidents and Safety

Onshore Cable Corridor

22.6.14.15. The Onshore Cable Corridor in Section 10 is inclusive of approximately 0.7 km of carriageway. There were no recorded accidents for the Onshore Cable Corridor in this Section in the last five years. As such it has been determined that the Proposed Development will have **Negligible adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant.**

Wider Study Area / Landfall

22.6.14.16. All of the links contained within Section 10 in the wider study area experienced increases in typical number of accidents of less than 0.1 and thus the impact of the Proposed Development was considered to be **Negligible adverse effect** of a temporary and short-term nature. This effect is considered to be **Not Significant.**

22.6.15. DECOMMISSIONING

22.6.15.1. With regards to the Decommissioning Stage of the Proposed Development, it is assumed that the onshore cable ducts will remain in situ, with limited works being undertaken to remove the Onshore Cables via the Joint Bays. The Converter Station however would be removed.

22.6.15.2. Overall, it has been considered that these decommissioning activities will give rise to similar impacts and significant effects as those associated with the construction stage.

22.6.15.3. With respect to the Convertor Station, impacts are expected to be very similar. For the Onshore Cable Corridor, the impacts are anticipated to a lesser degree owing to a shorter duration for the decommissioning works. Despite this, traffic management requirements along the Onshore Cable Corridor are likely to remain similar given the need to provide space for decommissioning activities to take place.

22.6.15.4. Therefore, to avoid duplication of analysis, the Predicted Impacts detailed above are also considered applicable for the Decommissioning Stage as a worst-case assessment.

22.7. CUMULATIVE EFFECTS

22.7.1. CONSTRUCTION STAGE

Cumulative Effects

22.7.1.1. Cumulative traffic effects of the Proposed Development have been considered.

22.7.1.2. The zone of influence for the ‘other developments’ has been identified as 5km from the Onshore Order Limits for both the construction and operational stage cumulative effects assessment.

22.7.1.3. The Stage 1 & 2 cumulative effects assessment is shown in Appendix 22.5.

22.7.1.4. The cumulative effects assessment has identified any other developments for consideration in Stage 3 & 4 either during the construction or operational stage. This reflects the use of the SRTM 2026 DM and DS scenarios. The 2026 scenario includes significant committed developments, as is discussed in Paragraph 22.4.9.14 and therefore all assessments within this ES chapter inherently include cumulative effects.

22.7.1.5. A full list of the committed developments included within the SRTM is included in the Cumulative Effect Assessment Matrix included in Appendix 22.3.

22.7.2. OPERATIONAL STAGE

Cumulative Effects

22.7.2.1. It is not envisaged that there will be any cumulative effects of the operational stage of the Converter Station or Cable Corridor with the committed developments defined above.

22.7.3. DECOMISSIONING STAGE

Cumulative Effects

Given the assumptions stipulated in Section 22.6.15, the cumulative traffic effects of the Proposed Development during the Decommissioning Stage are considered to be similar to those attributed to the Construction Stage.

22.8. PROPOSED MITIGATION AND ENHANCEMENT

22.8.1.1. Further to the embedded mitigation put forward within the TMS and CTMP, there are several additional mitigation measures proposed to further minimise the adverse effects of the Proposed Development. These additional mitigation measures are further detailed in this section.

22.8.2. TRAFFIC MANAGEMENT PROGRAMME

22.8.2.1. It is anticipated that construction of the Cable Route within the Onshore Cable Corridor will be scheduled to avoid unnecessarily exacerbating any adverse effects. Examples of this include prohibiting construction works during the school terms in particular locations and avoiding major events in the vicinity of the Onshore Cable Corridor, as is set out in Chapter 3 (Description of the Proposed Development) of the ES Volume 1 (document reference 6.1.3). Public activities and events that are planned in proximity to the Converter Station Area and Onshore Cable Corridor, including but not limited to the following have been taken into consideration within the FTMS programme:

- School term time;
- Football season;
- Coastal Waterside Marathon;
- Great South Run;
- South Central Festival; and
- Victorious Festival.

22.8.2.2. Further to this indicative programme, consideration has been given with the FTMS to the construction programme for each individual section of the Onshore Cable. This considers the constraints listed above and links between nearby sections of the Onshore Cable Corridor, where for example multiple construction zones in the same area should be avoided. Works due to be undertaken in traffic sensitive locations will be scheduled at an appropriate time in accordance with the programme information provided in the FTMS for these roads.

22.8.2.3. Prohibiting of concurrent works which are likely to impact the same road users will minimise the impact of the Proposed Development on journey times and reduce the redistribution of traffic away from the Onshore Cable Corridor.

22.8.2.4. This strategic scheduling of works will aim to avoid the combination of works assessed within the SRTM or a similar scenario from occurring. This suggests that the analysis undertaken in this Chapter represents an over-estimate of the likely significant effects and in turn is a robust analysis, with actual impacts of the Proposed Development likely being lesser than those presented as a result of this additional mitigation.

22.8.3. CONSTRUCTION WORKER TRAVEL PLAN

22.8.3.1. A Construction Worker Travel Plan ('CWTP') will be implemented for workers at the Converter Station during the construction stage. The CWTP is intended to promote sustainable travel amongst construction workers, and will use a package of measures such as Travel Information Notice Boards, promotional events and shuttle buses to and from key transport hubs to discourage the use of single occupancy cars for workers traveling to and from the Converter Station construction site.

22.8.3.2. The implementation of the CWTP will aim to reduce the number of construction workers travelling to and from the site by car to levels below that assessed within this Chapter.

22.9. RESIDUAL EFFECTS

22.9.1.1. This section sets out the residual effects identified from the Proposed Development following the mitigation set out above. The following table provides a summary of the non-negligible effects, along with mitigation and residual impact where 'Significant'. A key to acronyms used can be found below the table.

22.9.1.2. Where additional mitigation comprising programming optimisation is proposed all works will seek to be scheduled at an appropriate time in accordance with the programme information provided in the FTMS. Whilst a number of sections cannot be subject to construction works simultaneously with works on other sections, as described in the FTMS, the construction period is sufficient to ensure that all works can be delivered subject to these restrictions.

Table 22.10 – Summary of Effects Table for Traffic and Transport

Effects	Receptor	Significance and Nature of Effects Prior to mitigation	Summary of Mitigation / Enhancement	Significance and Nature of Residual Effects following Mitigation / Enhancement
Section 1				
Severance	Lovedean Lane	Major to Moderate -/T/D/MT Significant	Severance may be reduced through the implementation of the CWTP which will reduce the number of vehicular trips made to and from the Converter Station Area.	Major to Moderate -/T/D/MT Significant
Traffic Delay	Broadway Lane Day Lane	Minor to Moderate -/T/D/ST Not Significant	N/A	Minor to Moderate -/T/D/ST Not Significant
	A3 (M) Junction 2	Moderate -/T/D/ST Significant	Traffic delay on the wider network can be mitigated by scheduling of the works	Minor to Moderate -/T/D/ST

			to avoid multiple construction locations in the same area. This will reduce cumulative effects of traffic redistribution across the wider study area. Additionally, ongoing dialogue with the highway authority during construction works will help to dynamically adjust programming according to the prevailing conditions on site.	Not Significant
	Dell Piece West / A3 Portsmouth Rd / Catherington Lane junction	Moderate -/T/D/ST Not Significant		Minor to Moderate -/T/D/ST Not Significant
Pedestrian and Cycle Amenity	PROW Footpath 4	Moderate -/T/D/MT Significant	The nature of the construction works in this area mean this effect is difficult to mitigate. Given the duration of the temporary stopping up order (the length of the construction period) the effect will not reduce following mitigation. However, an alternative footpath route does exist to	Moderate -/T/D/MT Significant

			the south (via PRoW Footpaths 19 and 28).	
	Broadway Lane	Major to Moderate -/T/D/ST Significant	Pedestrian and cycle access through the works will be maintained where practicable as defined within the FTMS.	Major to Moderate -/T/D/ST Significant
	Day Lane	Moderate -/T/D/ST Significant		Minor to Moderate -/T/D/ST Not Significant
Fear and Intimidation	All links in Section 1 of the Onshore Cable Corridor	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant
	All links in Section 1 of the Wider Study area	Negligible -/T/I/ST Not Significant	N/A	Negligible -/T/I/ST Not Significant
Accidents and Safety	All links in Section 1 of the Onshore Cable Corridor	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant
	All links in Section 1 of the Wider Study area	Negligible -/T/I/ST	N/A	Negligible -/T/I/ST

		Not Significant		Not Significant
Abnormal Loads	Construction Access Route to/ from Converter Station	Minor to Moderate -/T/D/ST Not Significant	Deliveries will take place under police escort, with each delivery likely to take place over separate weekends. Pruning of vegetation will be required, in addition to temporary relocation of street furniture and signage as identified by the Route Access Survey.	Minor to Moderate -/T/D/ST Not Significant
Section 2				
Severance	Lovedean Lane	Major to Moderate -/T/D/ST Significant	Severance may be reduced through the implementation of the CWTP which will reduce the number of vehicular trips made to and from the Converter Station Area. Additionally, ongoing dialogue with the highway authority during construction works will help to dynamically adjust	Moderate -/T/D/ST Significant

			programming according to the prevailing conditions on site.	
Traffic Delay	All links in Section 2 of the Onshore Cable Corridor	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant
	All links in Section 2 of the Wider Study area	Negligible -/T/I/ST Not Significant	N/A	Negligible -/T/I/ST Not Significant
Pedestrian and Cycle Amenity	PRoW Footpath 13	Minor to Moderate -/T/D/ST Not Significant	This footpath will be temporarily diverted for 1-2 weeks as the Onshore Cable Corridor works progress in this area. Access will be retained for Footpath users throughout the works.	Minor to Moderate -/T/D/ST Not Significant
Fear and Intimidation	Lovedean Lane	Major -/T/D/ST Significant	Vehicle movements subject to CTMP along these roads.	Major -/T/D/ST Significant
	Milton Road	Major -/T/D/ST		Major

		Significant		-/T/D/ST Significant
Accidents and Safety	Silvester Road	Minor -/T/I/ST Not Significant	N/A	Minor -/T/I/ST Not Significant
Section 3				
Severance	Anmore Road	Moderate -/T/D/ST Significant	Pedestrian facilities to be provided as per FTMS.	Moderate -/T/D/ST Significant
	B2150 Hambledon Road	Minor to Moderate -/T/D/ST Not Significant		Minor to Moderate -/T/D/ST Not Significant
Traffic Delay	B2150 Hambledon Road	Moderate -/T/D/ST Significant	Traffic management in the form of shuttle working traffic signals will be required on the B2150 Hambledon Road within this Section. These signals are estimated to operate within capacity, leading to an average delay per	Moderate -/T/D/ST Significant

			vehicle of approximately 60 seconds.	
Pedestrian and Cycle Amenity	Anmore Road	Minor to Moderate -/T/D/ST Not Significant	A full closure of Anmore Road may be required. The aim is for pedestrian access to be retained during the works. If a full closure is required the duration is expected to be relatively short (a couple of days).	Minor to Moderate -/T/D/ST Not Significant
Fear and Intimidation	N/A	Negligible -/T/I/ST Not Significant	N/A	Negligible -/T/I/ST Not Significant
Accidents and Safety	N/A	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant
Section 4 – Option 1 (Construction works during school holidays)				
Severance	Cunningham Road, Waterlooville	Minor to Moderate -/T/I/ST	N/A	Minor to Moderate -/T/I/ST

	Frendstaple Road, Waterlooville Furzeley Road, Waterlooville	Not Significant		Not Significant
	Hurstville Drive, Waterlooville	Moderate -/T/I/ST Significant	Severance can be mitigated by scheduling the works on A3 London Road at an appropriate time in accordance with the programme information provided in the FTMS for this road. Additionally, ongoing dialogue with the highway authority during construction works will help to dynamically adjust programming according to the prevailing conditions on site.	Minor to Moderate -/T/I/ST Not Significant
	Elizabeth Road/Woodlands Grove/Westbrook Grove, Waterlooville	Major to Moderate -/T/I/ST Significant		Moderate -/T/I/ST Significant
	Closewood Road, Denmead	Moderate -/T/I/ST Significant		Minor to Moderate -/T/I/ST Not Significant
	Mill Road, Waterlooville Park Avenue, Waterlooville Stakes Hill Road, Waterlooville	Major to Moderate -/T/I/ST Significant		Moderate -/T/I/ST Significant

Traffic Delay	B2150 Hambledon Road / Ashton Road traffic signals B2150 Hambledon Road / A3 Maurepas Way / Houghton Avenue roundabout	Moderate -/T/D/ST Significant	Scheduling the works on A3 London Road at an appropriate time in accordance with the programme information provided in the FTMS. Avoiding multiple construction locations in the same area will reduce cumulative effects of traffic redistribution across the wider study area.	Minor to Moderate -/T/D/ST Not Significant
	B2150 Hambledon Road / Milton Road / Elettra Avenue roundabout A3 Maurepas Way / A3 London Road / Rockville Drive	Moderate +/T/D/ST Significant	N/A	Moderate +/T/D/ST Significant
	A3 London Road / Ladybridge Road	Major -/T/D/ST Significant	Scheduling the works on A3 London Road at an appropriate time in accordance with the	Major to Moderate -/T/D/ST Significant

	Stakes Road/Stake Hill Road / Purbrook Way/Crookhorn Lane	Major -/T/I/ST Significant	programme information provided in the FTMS. Avoiding multiple construction locations in the same area will reduce cumulative effects of traffic redistribution across the wider study area.	Major to Moderate -/T/I/ST Significant
	Purbrook Way / College Road	Moderate -/T/I/ST Significant		Minor to Moderate -/T/I/ST Not Significant
Pedestrian and Cycle Amenity	Stakes Hill Road, Waterlooville estbrook Grove, Waterlooville Park Avenue, Waterlooville Mill Road, Waterlooville	Major to moderate -/T/I/ST Significant	Scheduling the works on A3 London Road at an appropriate time in accordance with the programme information provided in the FTMS for this road. Ongoing dialogue with HCC during construction to identify any specific programming requirements.	Moderate -/T/I/ST Significant
	Closewood Road, Denmead	Major to moderate -/T/I/ST Significant	Temporary impact however limited opportunity for further mitigation.	Major to moderate -/T/I/ST Significant

	Bus and Cycle Lanes within Section 4 Onshore Cable Corridor	Moderate -/T/D/ST Significant	Temporary closure of cycle lanes / bus lanes or suspension of bus lanes will be of a short duration at any one time not exceeding 100m as embedded within the FTMS.	Moderate -/T/D/ST Significant
	Shaftesbury Avenue, Waterlooville	Moderate -/T/I/ST Significant	Scheduling the works on A3 London Road at an appropriate time in accordance with the programme information provided in the FTMS for this road. Ongoing dialogue with HCC during construction to identify any specific programming requirements.	Minor to Moderate -/T/I/ST Not Significant
	Footpath 24 South of Link between A3 London Road and Portsdown Hill Road	Minor to Moderate -/T/D/ST Not Significant	N/A	Minor -/T/D/ST Not Significant

Fear and Intimidation	B2150 Hambledon Road, Waterlooville	Minor +/T/D/ST Not Significant	N/A	Minor +/T/D/ST Not Significant
	Stakes Hill Road, Waterlooville Elizabeth Road, Waterlooville Mill Road, Waterlooville Westbrook Grove, Waterlooville	Moderate -/T/I/ST Significant	Scheduling the works on A3 London Road at an appropriate time in accordance with the programme information provided in the FTMS for this road. Ongoing dialogue with HCC during construction to identify any specific programming requirements.	Minor to Moderate -/T/I/ST Not Significant
	Purbrook Way, Waterlooville	Major -/T/I/ST Significant		Major to Moderate -/T/I/ST Significant
Accidents and Safety	Closewood Road Newlands Road Park Avenue Pigeon House Lane Pitymoor Lane Stakes Hill Road	Minor -/T/I/ST Not Significant	N/A	Minor -/T/I/ST Not Significant

Section 4 - Option 2 (Construction works during school term-time)				
Severance	Cunningham Road, Waterlooville Frendstaple Road, Waterlooville Furzeley Road, Waterlooville	Minor to Moderate -/T/I/ST Not Significant	N/A	Minor to Moderate -/T/I/ST Not Significant
	Hurstville Drive, Waterlooville	Moderate -/T/I/ST Significant	N/A	Moderate -/T/I/ST Significant
	Elizabeth Road/Woodlands Grove/Westbrook Grove, Waterlooville	Major to Moderate -/T/I/ST Significant	N/A	Major to Moderate -/T/I/ST Significant
	Closewood Road, Denmead	Moderate -/T/I/ST Significant	N/A	Moderate -/T/I/ST Significant
	Mill Road, Waterlooville	Major to Moderate	N/AN/A	Major to Moderate

	Park Avenue, Waterlooville Stakes Hill Road, Waterlooville	-/T/I/ST Significant		-/T/I/ST Significant
Traffic Delay	B2150 Hambledon Road / Ashton Road traffic signals B2150 Hambledon Road / A3 Maurepas Way / Houghton Avenue roundabout Purbrook Way / College Road	Moderate -/T/D/ST Significant	Avoiding multiple construction locations in the same area may reduce cumulative effects of traffic redistribution across the wider study area. Ongoing dialogue with the highway authority during construction works will help to dynamically adjust programming according to the prevailing conditions on site.	Moderate -/T/D/ST Significant
	B2150 Hambledon Road / Milton Road / Elettra Avenue roundabout A3 Maurepas Way / A3 London Road / Rockville Drive	Moderate +/T/D/ST Significant	N/A	Moderate +/T/D/ST Significant

	A3 London Road / Ladybridge Road	Major -/T/D/ST Significant	Avoiding multiple construction locations in the same area may reduce cumulative effects of traffic redistribution across the wider study area. Ongoing dialogue with the highway authority during construction works will help to dynamically adjust programming according to the prevailing conditions on site.	Major -/T/D/ST Significant -/T/D/ST
	Stakes Road/Stake Hill Road / Purbrook Way/Crookhorn Lane	Major -/T/I/ST Significant		Major -/T/I/ST Significant
Pedestrian and Cycle Amenity	Westbrook Grove, Waterlooville Park Avenue, Waterlooville Mill Road, Waterlooville	Major to moderate -/T/I/ST Significant	Avoiding multiple construction locations in the same area may reduce cumulative effects of traffic redistribution across the wider study area. Ongoing dialogue with the highway authority during construction works will help to dynamically adjust programming according to the prevailing conditions on site.	Major to Moderate -/T/I/ST Significant

	Closewood Road, Denmead	Major to moderate -/T/I/ST Significant	Temporary impact however limited opportunity for further mitigation.	Major to moderate -/T/I/ST Significant
	Bus and Cycle Lanes within Section 4 Onshore Cable Corridor	Moderate -/T/D/ST Significant	Temporary closure of cycle lanes / bus lanes or suspension of bus lanes will be of a short duration at any one time not exceeding 100m as embedded within the FTMS.	Moderate -/T/D/ST Significant
	Shaftesbury Avenue, Waterlooville	Moderate -/T/I/ST Significant	Avoiding multiple construction locations in the same area may reduce cumulative effects of traffic redistribution across the wider study area. Ongoing dialogue with the highway authority during construction works will help to dynamically adjust programming according to the prevailing conditions on site..	Moderate -/T/I/ST Significant

Fear and Intimidation	B2150 Hambledon Road, Waterlooville	Minor +/T/D/ST Not Significant	N/A	Minor +/T/D/ST Not Significant
	Stakes Hill Road, Waterlooville Elizabeth Road, Waterlooville Mill Road, Waterlooville Westbrook Grove, Waterlooville	Moderate -/T/I/ST Significant	Scheduling the works on A3 London Road at an appropriate time in accordance with the programme information provided in the FTMS for this road. Ongoing dialogue with HCC during construction to identify any specific programming requirements.	Moderate -/T/I/ST Significant
	Purbrook Way, Waterlooville	Major -/T/I/ST Significant		Major -/T/I/ST Significant
Accidents and Safety	Closewood Road Newlands Road Park Avenue Pigeon House Lane Pitymoor Lane Stakes Hill Road	Minor -/T/I/ST Not Significant	N/A	Minor -/T/I/ST Not Significant

Section 5				
Severance	Farlington Avenue	Moderate -/T/D/ST Significant	Severance can be mitigated by programming works at an appropriate time in accordance with the programme information provided in the FTMS for this road. Additionally, ongoing dialogue with the highway authority during construction works will help to dynamically adjust programming according to the prevailing conditions on site.	Minor to Moderate -/T/D/ST Not Significant
	Station Road	Minor to Moderate -T/I/ST Not Significant	N/A	Minor to Moderate -T/I/ST Not Significant
	Gilman Road	Minor -T/I/ST Not Significant	N/A	Minor -T/I/ST Not Significant

	Evelegh Road	Major -/T/D/ST Significant	Severance can be mitigated by programming works at an appropriate time in accordance with the programme information provided in the FTMS for this road. Additionally, ongoing dialogue with the highway authority during construction works will help to dynamically adjust programming according to the prevailing conditions on site.	Minor to Moderate -/T/D/ST Not Significant
Traffic Delay	A2030 / Farlington Avenue / A2030 Eastern Road / Havant Road	Minor to Moderate -/T/D/ST Not Significant	N/A	Minor to Moderate -/T/D/ST Not Significant
	Portsdown Hill Road Farlington Avenue	Moderate -/T/D/ST Significant	Ongoing dialogue with the highway authority during construction works will help to dynamically adjust programming according to the prevailing conditions on site.	Moderate -/T/D/ST Significant

	A3 Southampton Road / A3 London Road / Spur Road / Havant Road Roundabout B2177 Portsdown Hill Road / Maylands Road / B2177 Bedhampton Road / Bedhampton Hill Roundabout	Negligible -/T/I/ST Not Significant	N/A	Negligible -/T/I/ST Not Significant
Pedestrian and Cycle Amenity	Farlington Avenue Evelegh Road	Moderate -/T/D/ST Significant	Scheduling of works at an appropriate time in accordance with the programme information provided in the FTMS for this road. Ongoing dialogue with HCC during construction to identify any specific programming requirements.	Minor to Moderate -/T/D/ST Not Significant
	All remaining links of Onshore Cable Corridor within Section 5	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant

	Wider Study Area of Section 5	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant
Fear and Intimidation	All links in Section 5 of the Onshore Cable Corridor	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant
	All links in Section 5 of the Wider Study area	Negligible -/T/I/ST Not Significant	N/A	Negligible -/T/I/ST Not Significant
Accidents and Safety	All links in Section 5 of the Onshore Cable Corridor	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant
	All links in Section 5 of the Wider Study area	Negligible -/T/I/ST Not Significant	N/A	Negligible -/T/I/ST Not Significant
Section 6				
Severance	All links in Section 6 of the Onshore Cable Corridor	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant

	All links in Section 6 of the Wider Study area	Negligible -/T/I/ST Not Significant	N/A	Negligible -/T/I/ST Not Significant
Traffic Delay	A2030 Eastern Road / Grove Road / A2030 Eastern Road / Fitzherbert Road junction	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant
	A2030 Eastern Road between junctions with Havant Road and Fitzherbert Road	Minor to Moderate -/T/D/ST Not Significant	N/A	Minor to Moderate -/T/D/ST Not Significant
	A27 Western Road / A3 London Road / A397 Northern Road / M27 (Portsbridge Roundabout)	Moderate -/T/I/ST Significant	Scheduling the works on A2030 Eastern Road at an appropriate time in accordance with the programme information provided in the FTMS.	Moderate -/T/I/ST Significant
Pedestrian and Cycle Amenity	A2030 Eastern Road	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant

	Footpath 33 (for Zetland Field option)	Major to Moderate -/T/D/ST Significant	This closure will be required for a few days only. Scheduling of works at an appropriate time in accordance with the programme information provided in the FTMS. Ongoing dialogue with HCC during construction to identify any specific programming requirements.	Major to Moderate -/T/D/ST Significant
	Wider Study Area of Section 6	Negligible -/T/I/ST Not Significant	N/A	Negligible -/T/I/ST Not Significant
Fear and Intimidation	All links in Section 6 of the Onshore Cable Corridor	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant
	All links in Section 6 of the Wider Study area	Negligible -/T/I/ST Not Significant	N/A	Negligible -/T/I/ST Not Significant

Accidents and Safety	All links in Section 6 of the Onshore Cable Corridor	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant
	All links in Section 6 of the Wider Study area	Negligible -/T/I/ST Not Significant	N/A	Negligible -/T/I/ST Not Significant
Section 7				
Severance	Onshore Cable Corridor of Section 7	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant
	Dundas Lane	Major to Moderate -/T/I/ST Significant	Severance can be mitigated by programming works on A2030 Eastern Road at an appropriate time in accordance with the programme information provided in the FTMS. Additionally, ongoing dialogue with the highway authority during construction works will help to dynamically adjust	Major to Moderate -/T/I/ST Significant

			programming according to the prevailing conditions on site.	
Traffic Delay	A2030 Eastern Road / Anchorage Road	Minor to Moderate -/T/D/ST Not Significant	Scheduling of works on A2030 Eastern Road at an appropriate time in accordance with the programme information provided in the FTMS.	Minor to Moderate -/T/D/ST Not Significant
	Norway Road / Copnor Road Stubbington Avenue / A2047 Gladys Avenue / Angerstein Road Roundabout Burrfields Road / Moneyfield Avenue/Dundas Lane	Negligible -/T/I/ST Not Significant	N/A	Negligible -/T/I/ST Not Significant
	Copnor Road / Burrfields Road	Major to Moderate -/T/I/ST Significant	Scheduling of works on A2030 Eastern Road at an appropriate time in accordance with the programme information provided in the FTMS for this road.	Moderate -/T/I/ST Significant

			Ongoing dialogue with HCC during construction to identify any specific programming requirements.	
Pedestrian and Cycle Amenity	Onshore Cable Corridor	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant
	Airport Service Road	Minor -/T/I/ST Not Significant	N/A	Minor -/T/I/ST Not Significant
	Dundas Lane	Moderate -/T/I/ST Significant	Scheduling of works at an appropriate time in accordance with the programme information provided in the FTMS for this road. Ongoing dialogue with HCC during construction to identify any specific programming requirements.	Moderate -/T/I/ST Significant

Fear and Intimidation	All links in Section 7 of the Onshore Cable Corridor	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant
	All links in Section 7 of the Wider Study area	Negligible -/T/I/ST Not Significant	N/A	Negligible -/T/I/ST Not Significant
Accidents and Safety	All links in Section 7 of the Onshore Cable Corridor	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant
	All links in Section 7 of the Wider Study area	Negligible -/T/I/ST Not Significant	N/A	Negligible -/T/I/ST Not Significant
Section 8				
Severance	All links in Section 8 of the Onshore Cable Corridor	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant
	All links in Section 8 of the Wider Study area	Negligible -/T/I/ST Not Significant	N/A	Negligible -/T/I/ST Not Significant

Traffic Delay	A2030 Eastern Road / Airport Service Road Junction	Minor to Moderate -/T/D/ST Not Significant	N/A	Minor -/T/D/ST Not Significant
	A2030 Eastern Road / Burrfields Road Junction A2030 Eastern Road / Tangier Road Junction	Moderate -/T/D/ST Significant	Programming of works in accordance with PCC work embargoes, at an appropriate time in accordance with the programme information provided in the FTMS for this road. Avoiding multiple construction locations in the same area to limit the potential for traffic redistribution.	Moderate -/T/D/ST Significant
	A2030 Eastern Road between Airport Service Road and Tangier Road	Major to Moderate -/T/D/ST Significant		Major to Moderate -/T/D/ST Significant
	Onshore Cable Corridor Option 8a	Negligible -/T/D/ST Not significant	N/A	Negligible -/T/D/ST Not Significant
	Onshore Cable Corridor Option 8b	Major to Moderate	Programming of works in accordance with PCC work	Major to Moderate

	Onshore Cable Corridor Option 8c	-/T/D/ST Significant	embargoes, at an appropriate time in accordance with the programme information provided in the FTMS for this road. Avoiding multiple construction locations in the same area to limit the potential for traffic redistribution.	-/T/D/ST Significant
	A3 Mile End Road/Church Street / Hope Street / Commercial Road	Major to Moderate -/T/I/ST Significant		Major to Moderate -/T/I/ST Significant
	Milton Road / St Marys Road	Negligible -/T/I/ST Not Significant	N/A	Negligible -/T/I/ST Not Significant
Pedestrian and Cycle Amenity	A2030 Eastern Road between Airport Service Road and Tangier Road	Minor to Moderate -/T/D/ST Not Significant	N/A	Minor to Moderate -/T/D/ST Not Significant
	Option 8a and 8b of the Onshore Cable Corridor	Minor to Moderate -/T/D/ST Not Significant	N/A	Minor -/T/D/ST Not Significant
	Option 8c of the Onshore Cable Corridor	Negligible -/T/D/ST	N/A	Negligible -/T/D/ST

		Not Significant		Not Significant
	Wider Study Area of Section 8	Negligible -/T/I/ST Not Significant	N/A	Negligible -/T/I/ST Not Significant
Fear and Intimidation	All links in Section 8 of the Onshore Cable Corridor	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant
	All links in Section 8 of the Wider Study area	Negligible -/T/I/ST Not Significant	N/A	Negligible -/T/I/ST Not Significant
Accidents and Safety	Onshore Cable Corridor in Section 8	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant
	Dundas Lane	Moderate -/T/I/ST Significant	Scheduling of works on A2030 Eastern Road at an appropriate time in accordance with the programme information provided in the FTMS for this road.	Moderate -/T/I/ST Significant

Section 9				
Severance	All links in Section 9 of the Onshore Cable Corridor	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant
	All links in Section 9 of the Wider Study area	Negligible -/T/I/ST Not Significant	N/A	Negligible -/T/I/ST Not Significant
Traffic Delay	Moorings Way	Moderate -/T/D/ST Significant	Programming of works in accordance with PCC work embargoes, at an appropriate time in accordance with the programme information provided in the FTMS for this road. Avoiding multiple construction locations in the same area.	Moderate -/T/D/ST Significant
	Locksway Road, Longshore Way, Kingsley Road	Minor to Moderate -/T/D/ST Not Significant	N/A	Minor to Moderate -/T/D/ST Not Significant

	A2030 Velder Avenue / Milton Road traffic signal junction	Negligible -/T/I/ST Not Significant	N/A	Negligible -/T/I/ST Not Significant
	Furze Lane bus link	Moderate -/T/D/ST Significant	A shuttle service routing along Moorings Way and Locksway Road will connect to existing Service 13 which continues along Milton Road.	Minor to Moderate -/T/D/ST Not Significant
Pedestrian and Cycle Amenity	All Pedestrian links in Section 9	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant
	NCN 222 on-road section of the Moorings Way to Furze Lane Bus Link	Minor to Moderate -/T/D/ST Not Significant	Temporarily route cyclists along the adjacent footway. This would retain access for cyclists and avoid a circuitous detour.	Minor to Moderate -/T/D/ST Not Significant
Fear and Intimidation	All links in Section 9 of the Onshore Cable Corridor	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant

	All links in Section 9 of the Wider Study area	Negligible -/T/I/ST Not Significant	N/A	Negligible -/T/I/ST Not Significant
Accidents and Safety	All links in Section 9 of the Onshore Cable Corridor	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant
	All links in Section 9 of the Wider Study area	Negligible -/T/I/ST Not Significant	N/A	Negligible -/T/I/ST Not Significant
Section 10				
Severance	All links in Section 10 of the Onshore Cable Corridor	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant
	All links in Section 10 of the Wider Study area	Negligible -/T/I/ST Not Significant	N/A	Negligible -/T/I/ST Not Significant
Traffic Delay	Henderson Road	Minor to Moderate -/T/D/ST Not Significant	N/A	Minor to Moderate -/T/D/ST Not Significant

	Wider Study Area and Landfall of Section 10	Negligible -/T/I/ST Not Significant	N/A	Negligible -/T/I/ST Not Significant
Pedestrian and Cycle Amenity	All links in Section 10 of the Onshore Cable Corridor	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant
	All links in Section 10 of the Wider Study area	Negligible -/T/I/ST Not Significant	N/A	Negligible -/T/I/ST Not Significant
Fear and Intimidation	Onshore Cable Corridor in Section 10	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant
	Henderson Road (between Bransbury Road and Halliday Crescent)	Negligible +/T/I/ST Not Significant	N/A	Negligible +/T/I/ST Not Significant
	Landfall of Section 10	Negligible -/T/I/MT Not Significant	N/A	Negligible -/T/I/MT Not Significant

Accidents and Safety	All links in Section 10 of the Onshore Cable Corridor	Negligible -/T/D/ST Not Significant	N/A	Negligible -/T/D/ST Not Significant
	All links in Section 10 of the Wider Study area	Negligible -/T/I/ST Not Significant	N/A	Negligible -/T/I/ST Not Significant

Key to table:

+ / - = Beneficial or Adverse P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable

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