AQUIND Limited

AQUIND INTERCONNECTOR

Environmental Statement – Volume 3 – Appendix 22.2 Framework Construction Traffic Management Plan - Low Resolution Part 1

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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1. INTRODUCTION

1.1. OVERVIEW

1.1.1.1. This document sets out the proposed construction traffic arrangements and mitigation measures associated with the Onshore Components of the AQUIND Interconnector project. The terminology used in this document is consistent with that used in the Glossary (document reference 1.7) submitted alongside this Construction Traffic Management Plan ('CTMP'). For ease of reference, the Glossary terms relevant to this document are repeated below.

Table 1 - CTMP Glossary

Term	Definition
Abnormal Indivisible Load	An Abnormal Indivisible Load ('AIL') is a vehicle that has any of the following: a mass of more than 44,000 kilograms ('kg'), an axle load of more than 10,000 kg for a single non-driving axle and 11,500 kg for a single driving axle, a width of more than 2.9 m ('m'), a rigid length of more than 18.65 m.
HVAC Cable	The Cable designed to transfer power using High Voltage Alternating Current (HVAC) at a nominal voltage of 400 kV, which will connect Lovedean Substation to the Converter Station.
HVAC Cable Route	The final refined route for the HVAC Cable that lies within the HVAC Cable Corridor.
HVAC Cable Corridor	The area within which the HVAC Cable Route and all associated Temporary Works will be located.
Access Road	The permanent road that will be constructed to facilitate vehicular access to the Converter Station from the existing highway network.
AQUIND Interconnector	The Project.
Cable Joint	The components required to connect together two sections of Cable.
Cables	Insulated metallic electrical conductors used for the transfer of power.

Construction Environmental Management Plan (CEMP)	Document setting out methods to avoid, minimise and mitigate Impact on the environment and surrounding area and the protocols to be followed in implementing these measures in accordance with environmental commitments during the Construction Stage.
Converter Station	The fenced compound, adjacent to Lovedean Substation, comprising the necessary equipment to convert AC to Direct Current ('DC') and vice versa.
Converter Station Area	This is the area of land identified to accommodate: • the Converter Station and associated equipment; • the connection between the AC Cables and the National Electricity Transmission System ('NETS') at Lovedean Substation; • the AC Cable Corridor to accommodate the AC Cables and Fibre Optic Cable ('FOC') between the Converter Station and Lovedean Substation; • the High Voltage Direct Current ('HVDC') Cables and FOC corridor from the Converter Station southwards; • a Works Compound and Laydown Area; Access Road and associated haul roads; • surface water drainage and associated attenuation ponds; • landscape and ecology measures; • utilities such as potable water, electricity and telecom; • the compound comprising the Telecommunications Building(s) and associated equipment.
Development Consent Order (DCO)	A Development Consent Order ('DCO') is a statutory instrument made by the Secretary of State ('SoS')

	pursuant to the Planning Act 2008 (as amended) ('PA 2008')
Direct Current (DC)	A flow of continuous electrical current which flows in one direction.
Ducted Installation	An installation method where ducts are installed in the ground and cables are subsequently pulled into them.
Fibre Optic Cable	A telecommunications cable made from thin strands of glass fibre, which uses pulses of light to transfer data. Each Pole will have a FOC, which will be used to provide a dedicated communications link between the UK and French converter stations for the purposes of control, protection and monitoring of the Project. Capacity provided by strands that are not utilised for these functions will be available for third parties to purchase for other telecommunication purposes.
Fibre Optic Cable (FOC) Infrastructure	The physical infrastructure associated with the fibre optic telecommunication system. This includes: • Fibre Optic Cables; • up to two Optical Regeneration Stations (ORS) at the Landfall; • up to two Telecommunications Buildings in the vicinity of the Converter Station; • auxiliary power supply and fuel supply to buildings; • securely fenced compounds around buildings; access and parking to buildings.
Haul Road	A temporary road constructed for use during the Construction Stage.
Highway Boundary	The area which is adopted road, maintained at public expense.
Horizontal Directional Drilling (HDD)	A trenchless technology that involves drilling into the ground to create a bore with a generally horizontal profile, along a planned pathway.
HVDC Cable	The Cable designed to transfer power using High Voltage Direct Current (HVDC) at a nominal voltage

	of 320 kV. For the purpose of the Proposed Development, this comprises the Onshore Cable and the Marine Cable.
HVDC Cable Corridor	Comprises the Onshore Cable Corridor and the Marine Cable Corridor.
HVAC Cable Route	The final refined route for the HVAC Cable that lies within the HVAC Cable Corridor.
HVDC Circuit	One of two pairs of HVDC Cables, an associated Fibre Optic Cable (FOC), and any ancillaries, each of which will carry half of the specified rating.
Interconnector	An electrical system which provides the connection between electricity transmission systems, usually between areas over long distances or different frequencies.
Joint Bay (JB)	The location where sections of Cable are connected together. Each Joint Bay will be an excavation containing two joints for the HVDC Cables that form a HVDC Circuit and, at some locations, a joint for the Fibre Optic Cable (FOC) and / or equipment for testing the cable sheaths, to ensure the performance of the Cables.
Landfall	The Landfall is the area where the Onshore Cable Corridor and Marine Cable Corridor meet and includes the Transition Joint Bay (TJB), HDD compound and works where the Marine Cables come ashore, and the Optical Regenerations Stations (s) including their compounds and mitigations.
Laydown Area	Temporary area required during the Construction Stage of the Proposed Development for short-term storage of materials, which will be reinstated to its original state following demobilisation.
Lovedean Substation	The existing National Grid electrical substation located at Lovedean, Hampshire.
Marine Components	The Marine Components of the Proposed Development are all of that part below the Mean High Water Springs (MHWS).

Micro-Tunnelling	Driving tunnel sections, usually steel tubes or reinforced concrete section, in a straight line, between pits excavated on either side of the obstruction to be crossed. Hydraulic rams are used to drive the tunnel sections.
Mitigation Measures	Actions proposed to prevent, reduce and where possible, offset significant adverse Effects arising from the whole or specific elements of the Proposed Development.
Onshore Cable	The part of the HVDC Cable installed inland from the Mean High Water Springs (MHWS).
Onshore Cable Corridor	The area within which the Onshore Cable Route and all associated Temporary Works will be located. This runs landward from the Mean Low Water Springs (MLWS).
Onshore Cable Route	The final refined route for the Onshore Cable that lies within the Onshore Cable Corridor.
Onshore Components	The Onshore Components of the Proposed Development are all of that part landward from the Mean Low Water Springs (MLWS).
Operational Stage	The stage after which the Proposed Development is handed over by the relevant contractor and signed off as operational. It would remain in its Operational Stage until it is decommissioned.
Optical Regeneration Station(s) (ORS)	Structural unit housing telecommunication equipment for the Proposed Development and responsible for optical signal amplification purposes.
Order Limits	The limits shown on the Works Plans (document reference 2.4) within which the Authorised Development may be carried out.
Project	The Project comprises the Proposed Development, as well as the development proposed within French borders and the French Exclusive Economic Zone (EEZ) which do not fall within the remit of the Application.

Proposed Development	The development for which a Development Consent Order (DCO) is sought. This is equivalent to the Authorised Development that is set out in Schedule 1 of the draft Development Consent Order (dDCO) submitted with the Application (document reference 3.1).
Site	The land within the Order Limits that is shown on the Works Plans (document reference 2.4).
Telecommunications Building(s)	A building or buildings housing telecommunication equipment. For the Proposed Development, this / these will be contained within (a) dedicated building(s) within its / their own perimeter adjacent to the Converter Station perimeter.
Temporary Works	Those parts of the works that allow or enable construction of the Proposed Development and which do not remain in place at the completion of the works.
Transition Joint Bay (TJB)	The underground onshore point at which the HVDC Cable is jointed at the Landfall.
Trenching	The excavation and reinstatement of a narrow trench, typically 700 – 1,000 mm wide and 1,200 mm deep, into which the Cable ducts will be placed. The trench may be internally supported, and will be reinstated as per the original construction.
Trenchless	Any techniques for installing the HVDC Cable ducts and Fibre Optic Cable (FOC) ducts that does not require the excavation of a trench, enabling infrastructure and sensitive locations to be crossed with limited disruption. Examples include Horizontal Directional Drilling (HDD), whereby a hole is bored from, and exits at, ground level, and Micro-Tunnelling, auger boring and thrust boring, whereby a bore is drilled to and from excavated pits, using hydraulic ramming equipment.

1.2. BACKGROUND

1.2.1.1. AQUIND Interconnector is a proposed electricity interconnector between France and

the UK. The Project includes a new marine and onshore High Voltage Direct Current ('HVDC') power cable transmission link between Normandy in France and the south coast of England, converter stations in both England and France, and fibre optic data transmission cables.

1.2.1.2. With a net capacity of 2000 megawatts ('MW'), it will significantly increase the cross-border capacity between the UK and France, increasing competition and security of the electricity supply in each of the respective countries. To enhance the security of supply and availability of its power transfer capability, it is being designed as two independent pairs of cables, each with the net capacity of 1000 MW and a total transmission capacity of up to 2000 MW.

1.2.1.3. To date extensive consultation has been undertaken with the Highway Authorities and Highways England to mitigate concerns ahead of the submission of the Draft Development Consent Order ('dDCO') which this Framework CTMP (herein referred to as the CTMP) is part. For this reason, this document should be read in conjunction with the following documents:

- Chapter 3 (Description of the Proposed Development) of the ES Volume 1 (document reference 6.1.3);
- Appendix 22.1 (Transport Assessment) of the ES Volume 3 (document reference 6.3.22.1);
- Onshore Outline Construction Environmental Management Plan ('CEMP') (document reference 6.9);
- Appendix 6 (Traffic Management Strategy) of Appendix 22.1 (Transport Assessment); and
- Environmental Impact Assessment (document references 6.1 – 6.4).

1.3. SCOPE OF CTMP

1.3.1.1. This CTMP provides an overarching plan as to how the construction traffic and site operations will be managed across the extent of the Onshore Components of the Project. Individual CTMP documents will be provided to each contractor with further detail relating to their relevant work site locations. These will be prepared and agreed with the relevant Local Highway Authority ahead of works commencing. The Onshore Cable Corridor passes through a number of administrative boundaries which include Hampshire District Council ('EHDC'), Winchester City Council ('WCC'), Havant Borough Council ('HBC'), Hampshire County Council ('HCC') and Portsmouth City Council ('PCC'). HCC is the highways authority for the roads within the WCC, HBC and EHDC administrative areas and PCC, as a unitary authority, is highway authority for Portsmouth. The Onshore Cable Corridor crosses or runs adjacent to the A3(M) and the A27 which fall under Highways England's jurisdiction.

1.3.1.2. The CTMP sets out the parameters within which contractors will be required to work, including hours of operation, traffic routing, safe vehicular access and manoeuvring and minimising traffic impacts.

1.3.1.3. The individual CTMPs must contain details of:

- Vehicle routing plans;
- Proposed programme and duration;
- Number of construction personnel including travel arrangements and mitigation;
- Alterations to the highway to enable construction including temporary and permanent;
- Details of the number of construction and delivery vehicles using the public highway including abnormal and indivisible loads;
- Traffic management details;
- Compounds and laydown area details; and
- Highway condition surveys.

1.4. OBJECTIVES OF CTMP

1.4.1.1. The CTMP sets out the detailed measures that can be implemented to provide mitigation for the construction traffic associated with the Project. The CTMP has the primary objective of minimising impact and disruption to existing users of the public highway network and the surrounding community, forming the framework within which all contractors are expected to work. This can be achieved by:

- Minimising the number of vehicular trips required for the movement of material and people;
- Ensuring construction traffic trips and routes used are planned to be safe, efficient and timely;
- Ensuring the impact to residents, local sensitive receptors and the travelling public are minimised; and
- That the CTMP and the individual CTMPs are continuity monitored, reviewed and updated as necessary and improvements incorporated.

1.5. REPORT STRUCTURE

1.5.1.1. The following sections are included in this CTMP and will form, in part, the basis of the individual CTMPs submitted by contractors;

- Section 1 – Introduction – this section including scope and objectives;
- Section 2 – The Proposed Development – Onshore Cable Corridor, site

compounds and laydown areas, typical constriction vehicles, AILs and construction activities;

- Section 3 – Vehicular Movement Management – vehicle routing strategy, timing of movements, sensitive receptors, reducing impacts of Heavy Goods Vehicle ('HGVs'), local highway issues and constraints and section specific constraints, management of abnormal loads and construction HGV routes;
- Section 4 – Construction Workforce – descriptions of controls to mitigate the impact of construction staff traffic;
- Section 5 – Site Accesses/Haul Road – design, management and mitigation of permanent and temporary accesses points;
- Section 6 – Highway/Railway Crossings –agreement, management and advance notification of diversions and public rights of way;
- Section 7 – Required Highway Interventions – Interventions identified.
- Section 8 – Management of Road Safety – Existing collision records, highway condition and construction traffic assumptions; and
- Section 9 – Implementation and Monitoring – Implementation of the final CTMPs and Compliance and monitoring.

2. THE PROPOSED DEVELOPMENT

2.1. OVERVIEW

2.1.1.1. This section summarises the Onshore Components of the Construction Stage, construction techniques and indicative construction programme. The main construction activities for the Onshore Component includes the following:

- Landfall works including Optical Regeneration Station ('ORS') at Eastney;
- Onshore Cable Corridor approximate length of 120 km;
- Lovedean Converter Station Area;
- Horizontal Directional Drilling ('HDD') at;
  - Landfall UK-HDD-1;
  - Milton and Eastney Allotments UK-HDD-2;
  - Langstone Harbour UK-HDD-3;
  - Farlington Railway Crossing (Trenchless) UK-HDD-4;
  - Kings Pond UK-HDD-5; and
  - Milton Common UK-HDD-6.
- Substation works at Lovedean Substation;
- Cable jointing bays at intervals on the Onshore Cable Route;
- Permanent highway interventions;
- Permanent access from the highway; and
- Temporary construction haul roads and accesses from public highway.

2.1.1.2. These construction activities and the Order Limits for the Onshore Components of the Proposed Development are shown in Appendix 1.

2.2. CABLE CORRIDOR SECTIONS

2.2.1.1. The Onshore Cable Corridor has been sub divided into ten sections for ease of understanding, planning and consultation. The sections are as follows from the north at the site of the Converter Station in Lovedean to south where the cables make Landfall at Eastney;

- Section 1 – Lovedean (Converter Station Area);
- Section 2 – Anmore;

- Section 3 – Denmead/Kings Pond Meadow;
- Section 4 – Hambledon Road to Farlington Avenue;
- Section 5 – Farlington;
- Section 6 – Zetland Field & Sainsbury's Car Park;
- Section 7 – Farlington Junction to Airport Service Road;
- Section 8 – Eastern Road (adjacent to Great Salterns Golf Course) to Moorings Way;
- Section 9 – Moorings Way to Bransbury Road; and
- Section 10 – Eastney (Landfall).

2.2.1.2. Please refer to Figure 3.9 of the ES Volume 2 (document reference 6.2.3.9) for a plan of the cable corridor sections.

2.2.1.3. Below are brief descriptions of the works associated within the Onshore Cable Corridor (heading south from the Lovedean (Converter Station Area)), divided into appropriate sections, with details of the affected highway links.

2.2.2. SECTION 1 – LOVEDEAN (CONVERTER STATION AREA)

2.2.2.1. The existing Lovedean substation to the west of the village of Lovedean is to be extended for the siting of the new Converter Station. A new Access Road, proposed to act as the construction and permanent access, will be built from Broadway Lane across farmland to access the new Converter Station Area from the south. This road will also serve as the new permanent access to the Converter Station. The Onshore Cable Corridor will head south through farm land for approximately 800 m crossing the unnamed single-track road west of Denmead Farm and east of Edney's Lane (The Crossways) through to the next section.

2.2.3. SECTION 2 – ANMORE

2.2.3.1. This 1.2 km section of Onshore Cable Corridor will cross agricultural farm land between Broadway Lane in Section 1 to Anmore Road in the land bound by Edney's Lane in the west and Anmore Lane in the east. The Onshore Cable Corridor then crosses Anmore Road.

2.2.4. SECTION 3 – DENMEAD/ KINGS POND MEADOW

2.2.4.1. This section covers the Onshore Cable Corridor from Anmore Road east of Denmead to Hambledon Road via an off-road route via land known as Kings Pond Meadows. The section length is approximately 760 m.

2.2.5. SECTION 4 – HAMBLEDON ROAD TO FARLINGTON AVENUE

2.2.5.1. This section of the Onshore Cable Corridor passes from HCC into PCC. The Onshore Cable Corridor heads south for approximately 5.4 km through the HCC area following the B2150 Hambledon Road from Waterlooville and the A3 Maurepas Way/London Road through Purbrook and Widley to the highway boundary of HCC and PCC, which is north of B2177 Portsdown Hill Road.

2.2.5.2. The Onshore Cable Corridor within the PCC area is 1.2 km long and continues east along Portsdown Hill Road to Farlington Avenue as far as the junction with Burnham Road to contain a contractor lay-down area on land to the west of London Road north of Ladybridge Road.

2.2.6. SECTION 5 – FARLINGTON

2.2.6.1. This 1 km section leads the Onshore Cable Corridor south from the junction of Burhham Road on Farlington Road, to the junction with A2030 Havant Road and turning east to the A2030 Eastern Road and continuing south until Zetland Field.

2.2.7. SECTION 6 – ZETLAND FIELD & SAINSBURY'S CAR PARK

2.2.7.1. This 600 m section will leave the carriageway of Eastern Road and use Zetland Field to continue south to Fitzherbert Road which it will cross and enter the car park of the retail park and Sainsbury's supermarket. Following the western side of the car park, it will reach the south coast railway. A trenchless solution will be utilised for the Onshore Cable Route to pass under the railway embankment. This will require a compound for the launch/reception pit.

2.2.8. SECTION 7 – FARLINGTON JUNCTION TO AIRPORT SERVICE ROAD

2.2.8.1. After passing under the south coast railway into Farlington Playing Fields, the Onshore Cable Corridor will follow the eastern boundary of the Farlington Playing Fields where it will be required to pass under the A27 Havant Bypass (maintained by Highways England) where HDD will be utilised. South of the A27, the Onshore Cable Corridor will cross the mud flats of Langstone Harbour to reach Portsea Island re-joining the A2030 Eastern Road at the Kendall's Wharf opposite Anchorage Road where it will proceed south to Airport Service Road junction, a total section distance of approximately 2.3 km. There will be a contractor lay-down area for materials within this section.

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

2.2.9.1. This section has three potential routes for the Onshore Cable Corridor based on the possible connection points in section 9. The first route utilises the A2030 Eastern Road and the residential street of Eastern Avenue. The second crosses the western boundary of Milton Common from Eastern Road to Moorings Way. The third follows

the eastern boundary of Milton Common to reach Moorings Way. Milton Common is a former landfill site.

2.2.10. SECTION 9 – MOORINGS WAY TO BRANSBURY ROAD

2.2.10.1. From Moorings Way the Onshore Cable Corridor will lead from Moorings Way to head south through Furze Lane or through the sports grounds of University of Portsmouth where it will cross Locksway Road into the Thatched House public house car park and pass under the Milton and Eastney Allotments (through use of HDD). It will then enter Kingsley Road and passing into Bransbury Park via Yeo Court or via the access opposite Ironbridge Lane. The route will continue across Bransbury Park to join Henderson Road.

2.2.11. SECTION 10 – EASTNEY (LANDFALL)

2.2.11.1. This 650 m section of the Onshore Cable Corridor leads to the Landfall Temporary Joint Bays (TJB) and Optical Regeneration Station (ORS) building. After exiting Bransbury Park the Onshore Cable Corridor will travel east along Bransbury Road to Fort Cumberland Road and Henderson Road to the Fraser Range access road to the Landfall site, which is currently a car park with unmade ground. The car park will serve as a contractors compound and lay-down area for the construction of the optical regeneration station(s).

2.3. PERMANENT ACCESS POINTS

2.3.1.1. There will be two permanent accesses delivered by the completion of the Proposed Development The first will be at the Lovedean Converter Station from Broadway Lane in Denmead and the second to the ORS off Fort Cumberland Road.

2.3.2. SECTION 1 – LOVEDEAN (CONVERTER STATION AREA) ACCESS

2.3.2.1. A new junction will be created from Broadway Lane just south of junction with Day Lane as shown in Appendix 2. To facilitate construction there will be an upgrade of Broadway Lane and Day Lane junction including a construction of a haul road and temporary holding area. temporary holding area will be removed, and the land reinstated at the end of construction.

2.3.3. SECTION 10 – EASTNEY (LANDFALL)

2.3.3.1. A new formal access arrangement will be required for the ORS Building located in the public car park south of Fort Cumberland Road, and will be designed to appropriate standards and will follow all relevant visibility splay and tracking requirements and subject to a full Road Safety Audit prior to approval with PCC.

2.4. COMPOUND AND LAYDOWN AREAS

2.4.1.1. The primary contractor compound will be located at the Lovedean Converter Station Area. This compound will be accessed from Broadway Lane via a new junction to the Access Road which will also serve as a haul road during construction but becomes a permanent access to the Converter Station once construction is complete.

2.4.1.2. There will be satellite contractor's compounds along the Onshore Cable Corridor. These will be mainly utilised as laydown areas for materials and include staff welfare facilities and will be located at:

- Land adjacent to Kendall's Wharf and/or land south of the Langstone Harbour viewing car park; and
- The car park of Fort Cumberland Road (the site of the Landfall and the ORS).

2.4.1.3. To facilitate construction, laydown areas will be created to store materials such as cable ducting and arisings from the current work site. This will prevent double handling and additional vehicular trips. A generic layout for laydown areas is shown in Plate 1 below. The areas will be fenced from the public and vehicular access to them will be managed with arrangements detailed further in Section 5.

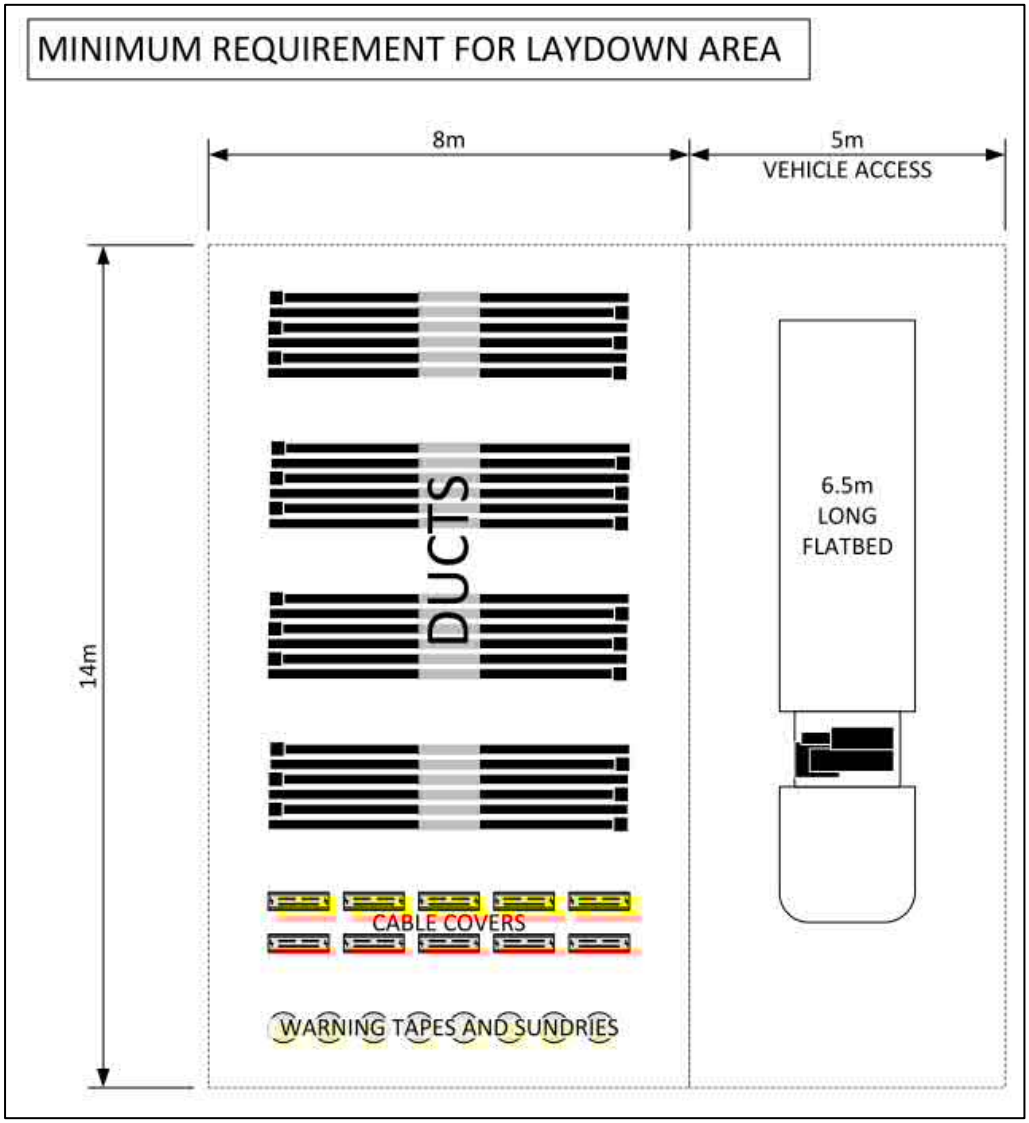


Plate 1 - Typical Laydown Area Dimensions

2.4.1.4. Welfare facilities, usually in the form of a mobile welfare unit, will be provided with each individual works area and therefore no additional facilities will be provided at laydown areas.

2.4.1.5. At JBs, a compound area of 20 m by 6 m will be required, which will include space of welfare facilities within the areas identified for winch/drum land-take shown in Plate 2.

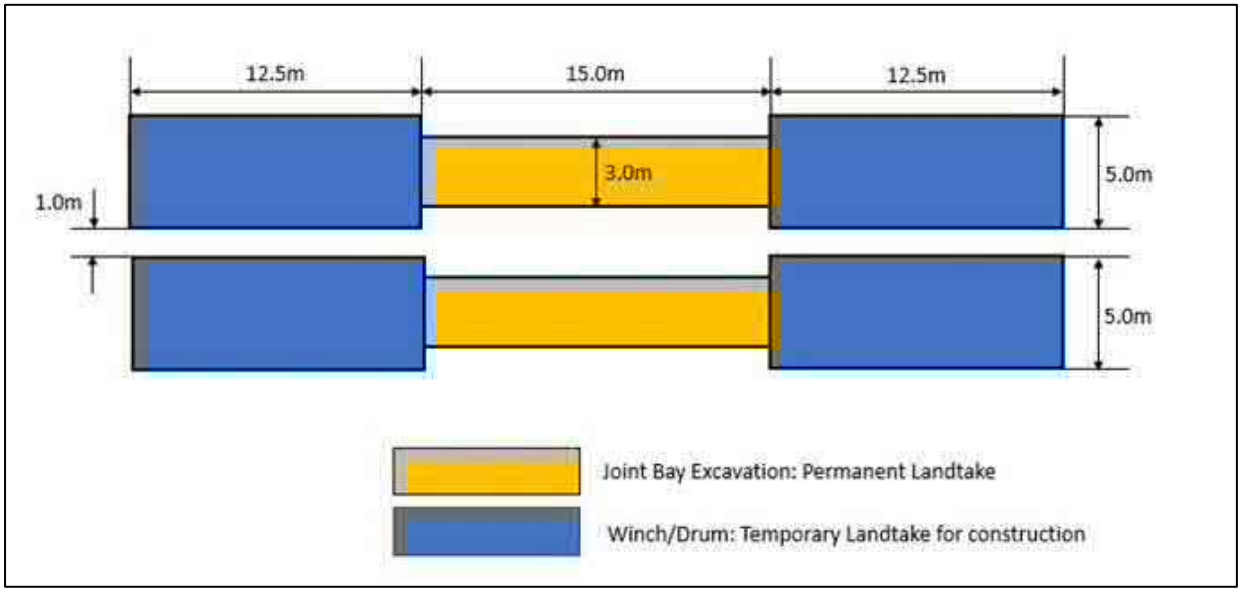


Plate 2 – Typical Compound Area for Joint Bay

2.5. INDICATIVE PROGRAMME

2.5.1.1. The indicative construction programme is anticipated to extend over three years, with further information provided within Chapter 3 (Description of the Proposed Development) of the Environmental Statement Volume 1 (document reference 6.1.3). This indicative programme is as shown in the table below. These timescales are subject to cable production, installation rates and environmental consideration. A Gantt chart of the proposed programme is provided in Appendix 3.

Table 2 - Indicative Construction Programme – Converter Station & Onshore Cable Corridor

Activity	Anticipated working hours per day	Anticipated working days per week
Converter Station Area Construction	10 hour shifts, 08:00 – 18:00	6 days*
Marine Cable Installation	24 hour shifts	7 days
Onshore Cable Installation ***(including HDD-2, HDD-5 and HDD-6)***	10 hour shifts, 07:00 – 17:00	6 days*
Landfall Installation ***(including HDD-1, TJB and ORS)***	12 hour shifts	7 days
HDD-3 and HDD-4 Installation	12 to 24 hour shifts	7 days

**Day 6 is Saturday working which is typically a 5-hour shift 08:00 to 13:00.*

2.5.1.2. Enabling works are indicatively anticipated to take place in quarter three of 2021 and last approximately 12 months through to the middle of 2022. These works would include site clearance, such as tree and hedge pruning and clearance, modifications to junctions and roads to accommodate construction activities and vehicles.

2.5.1.3. The construction of the Converter Station at Lovedean is anticipated to take approximately two and a half years from Q3 2021. The construction of the Landfall for the TJB, HDD works and ORS building is anticipated to last up to 18 months.

2.5.1.4. The installation of the Onshore Cable Route is anticipated to start in the third quarter of 2021 and continue for 27 months to Q3 2023.

2.5.1.5. The following wildlife events are to be taken into consideration in the phasing of enabling and construction works for the Converter Station Area and Onshore Cable Route:

- Badger breeding season from January to March;
- Bird breeding and nesting season from March to August;
- Plant growing season and winter wet season from August to November, at Kings Pond Meadow SINC and Denmead in Section 3; and
- Wintering bird season, from October to March.

2.5.1.6. Public activities and events that the Applicant has been aware of which are planned in proximity to the Converter Station Area and Onshore Cable Corridor, including but not limited to the following:

- School term times (as required);
- Football season;

- Coastal Waterside Marathon;
- Cowes Week;
- Great South Run;
- South Central Festival; and
- Victorious Festival.

2.5.1.7. Further to this indicative programme, consideration has been given with the Traffic Management Strategy to the construction programme or each individual section of the Onshore Cable Corridor. 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.

2.5.1.8. This programme will help mitigate the impacts of the construction works on the highway network.

2.6. SENSITIVE RECEPTORS

2.6.1.1. Identification of local sensitive receptors that would be negatively impacted by the construction of the Onshore Cable Route is a consideration of this Outline CTMP. Further mitigation measures may be developed in the detailed CTMPs in terms construction requirements and programme constraints. The identified sensitive receptors include:

- Schools, nurseries and places of learning;
- Hospitals, medical centres and doctor surgeries;
- Places of worship; and
- Leisure facilities.

2.6.1.2. The following table represents the first-pass at identifying the main receptors per section. Additional receptors may be identified by the construction contractors when further consultation with stakeholders and HCC and PCC is undertaken. A plan locating all the identified sensitive receptors is contained within Appendix 4.

Table 3– Identified Sensitive Receptors

Section	Location	Receptor
1	Broadway Lane, Day Lane	Campsite, pub
2	Broadway Lane	B&B
3	Anmore Road, Hambledon Road, Soake Road	Retail, pub, community centre, infant and junior school, care home

4	Hambledon Road, London Road, Portsdown Hill Road	Retail, industrial estates, pubs, schools, places of worship, care home, medical centre, guest house
5	Farlington Avenue, Solent Road, Evelegh Road	Pub, infant and junior school, Scout hut
6	Eastern Road	Retail
7	Eastern Road	Hotel, sports ground, retail, football club, sailing club, Victorious Music Festival (Farlington Playing Fields)
8	Eastern Road, Tangier Road, Burrfields Road, Moorings Way	Golf club, pub/restaurant, caravan park, hotel, retail, college, infant school, places of worship, cemetery
9	Milton Road, Bransbury Road, Longshore Way	Places of worship, community centre, park, retail, nurseries, junior schools, museum, adult day care, medical centre, university campus, pub/restaurants, sailing club, hospital
10	Henderson Road, Fort Cumberland Road, Ferry road	Museum, adult day care, holiday park, playground, marina, lifeboat station

2.7. CONSTRUCTION VEHICLES

2.7.1.1. The following section provides details of typical vehicles which are expected to be used during the construction of the Onshore Cable Route, Converter Station and Landfall works.

2.7.2. HEAVY GOODS VEHICLES FOR CONVERTER STATION WORKS

2.7.2.1. These are vehicles that will be utilised for the delivery of materials and equipment and removal of waste. These vehicles will be in the form of articulated and rigid vehicles. All vehicles will have engines with the minimum standard of Euro 6 for diesel and Euro 4 for petrol. This will ensure that vehicular emissions are minimised as much as possible during construction. These vehicles could include;

- Six axle articulated tractor and trailer units including low-loader trailers for the delivery of materials and plant with gross weights up to 44 tonnes;
- Ready-mix concrete in the form of four axle rigid vehicles up to 32 tonnes in gross weight
- Rigid four axle tipper trucks with and without loader cranes for delivery of bulk aggregates and waste removal. Lorries will be of low and high visibility cabs for cyclist safety;
- Six axle articulate tractor and modified trailer for cable drum delivery to jointing bays; and
- Rigid flatbed trucks for delivery of construction materials for offloading with loader crane or forklift truck.

2.7.3. LIGHT GOODS VEHICLES AND CARS FOR CONVERTER STATION WORKS

2.7.3.1. Vehicles such as cars, vans and Light Goods Vehicles ('LGVs') under 7.5 tonne in gross weight will be used during the construction process for the movement of staff, equipment and deliveries. The individual CTMPs will propose measures to reduce the number of movements as much as possible. Further details of possible measures to reduce movements are provided later in the report in Section 4.

2.7.4. CONSTRUCTION VEHICLES FOR DUCT INSTALLATION, JOINT-BAY CONSTRUCTION/BACK FILL & REINSTATEMENT

2.7.4.1. The following vehicles will be used for duct installation, joint bay construction and reinstatement works:

- Low loader for plant deliveries;
- Grab wagon for muck away/stone & deliveries;
- HGV with loader crane for material deliveries;

- Vacuum tanker for dewatering excessive amounts of ground water;
- Tarmac lorries; and
- Welfare vehicle.

2.7.5. CONSTRUCTION VEHICLES FOR CABLE INSTALLATION AND CABLE JOINTING

2.7.5.1. The following vehicles will be used for cable installation and cable jointing works:

- HGV with loader crane /low loader for plant deliveries;
- Low loader for cable deliveries;
- Welfare vehicle;
- Light vehicles, including security vehicle; and
- Vacuum tanker for dewatering excessive amounts of ground water.

2.7.6. CONSTRUCTION VEHICLES FOR HORIZONTAL DIRECTIONAL DRILLING

2.7.6.1. The following vehicles will be used for HDD works:

- Low loader for plant deliveries;
- HGV's for material deliveries, including water, fuel, bentonite etc;
- HGV with loader crane for moving equipment from pipe side to rig side, delivery of cabins, storage and welfare;
- Vacuum tanker for mud return;
- Water tankers;
- Grab wagon for muck away;
- 20t tipper for stone deliveries; and
- Light vehicles.

2.7.7. ABNORMAL INDIVISIBLE LOADS

2.7.7.1. The construction of cable route is likely to result in a number of abnormal loads, technically known as an AIL. A vehicle is considered abnormal when;

- It is over 2.9 m wide or the payload projects over 0.306 m from the vehicle side;
- If it is over 18.65 m rigid length or the payload projects over the rear by 0.305 m; or
- It if the gross weight is over 80 tonnes.

2.7.7.2. It is expected the number of AILs will be low and most construction activities will take place with standard vehicles. The AILs will be to the Lovedean Converter Station site

for the Converter Station Area works in this area.

2.7.7.3. Management of AILs will be the responsibility of the contractor appointed to undertake the works. The will comply with the statutory regulations in terms of consulting with the relevant highway authority, police and other stakeholders. The routing and timing of the AILs will be agreed and communicated to minimise impact to residents and other road users as appropriate.

2.7.7.4. Given the anticipated size of the AIL deliveries and the traffic management consequently required, it is expected that the deliveries would be undertaken overnight, require road closures, temporary adjustment of highway geometry and temporary removal of street furniture

2.7.7.5. The specialist abnormal load contractor, Collett, has developed the study titled Route Access Survey contained within Appendix 5. This addresses the requirements for the delivery of a large transformers to the Lovedean sub-station.

2.8. CONSTRUCTION ACTIVITIES

2.8.1.1. This section provides further detail on the different construction methods to be currently employed along the Onshore Cable Corridor. These methods are determined according to the complexity and constraints of the surrounding environment, and the type of infrastructure being installed.

2.8.2. OPEN CUT TRENCH

2.8.2.1. The majority of the Onshore Cable Route will be constructed utilising an open cut trench method. The cable ducts will be installed, and the trenches reinstated before the cables are pulled through the ducts and connected at jointing bays. The installation of ducts minimises the duration of trenching operations and allows highways to be reinstated more quickly. Plate 3 provides a typical cross-section of the works. The trenches will be in the region of 700 mm wide and be a minimum of five metres apart

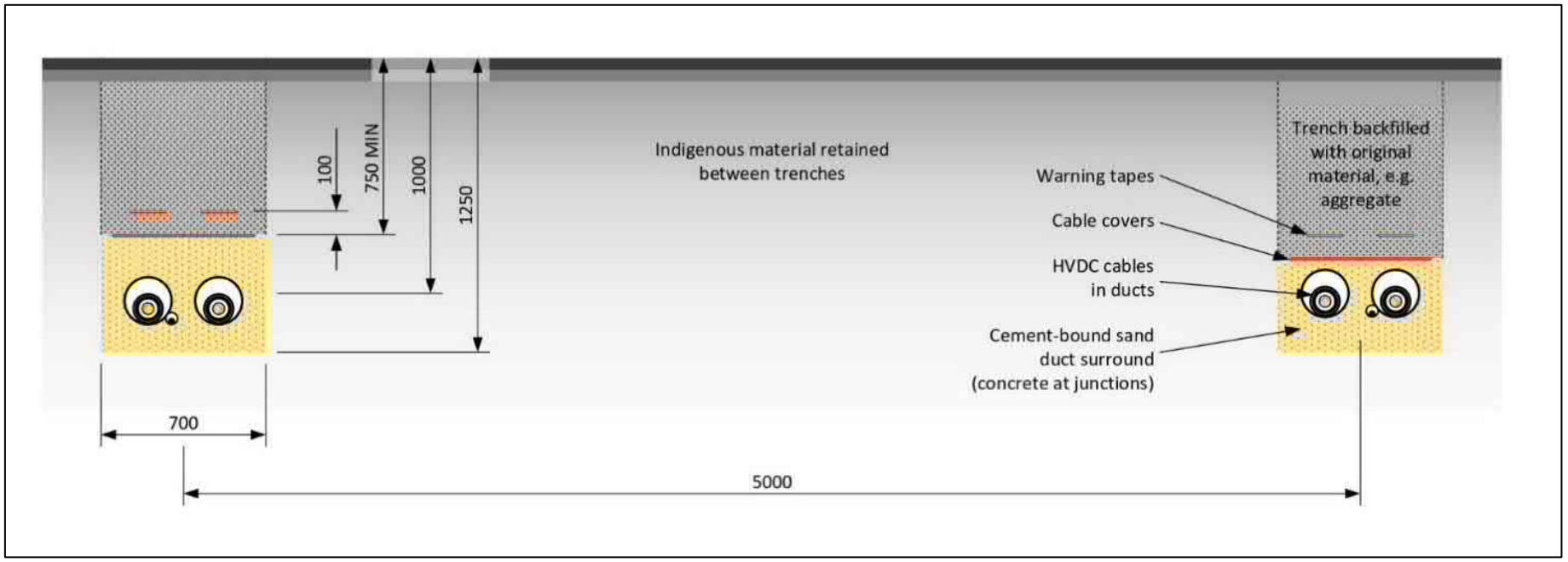


Plate 3 - Typical arrangement of HVDC and FOC cables in roads, verges and footpaths (all measurements in mm)

2.8.2.2. A significant proportion of the Onshore Cable Route will be within the public highway and typically one trench will be opened and reinstated before the second trench is opened in any particular section. In some locations the Onshore Cable Corridor may cross fields or open land. The width of the temporary construction corridor within these locations will include land necessary for temporary access and construction works. Typically, the width of the temporary construction corridor required through fields/open land is approximately 23 m (this includes a five metre haul road and safety clearance distance of one metre either side of this haul road) between safety barriers. This is shown in Plate 4.

2.8.2.3. The installation rate for cable ducts is approximately 18 m to 30 m per 10-hour day shift, on average, within urban areas and approximately 50 m per day in open country. These typical installation rates are per gang, per shift and are highly dependent upon the level of obstacles and utility services encountered within the road or constraints that need to be observed to minimise the impacts during the construction stage.

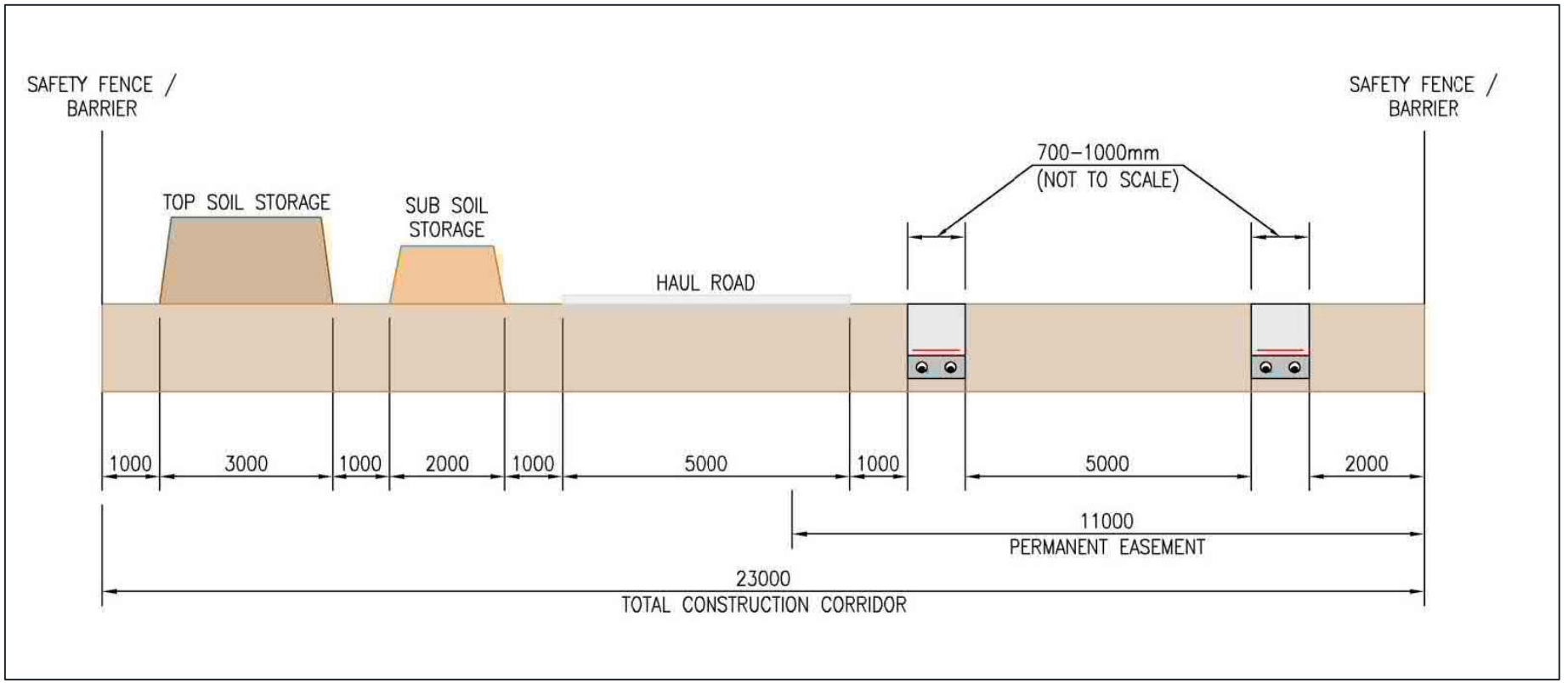


Plate 4 - Typical Onshore Cable Route Cross-Section within Fields or Open Land (all measurements in millimetres)

2.8.3. HORIZONTAL DIRECTIONAL DRILLING/TRENCHLESS

2.8.3.1. There are up to 6 locations along the Onshore Cable Corridor where the ducts will be installed by HDD or a similar Trenchless Technique. It allows cables to cross under certain constraints along the route namely water ways and environmentally sensitive areas. The method will also be used to bring the Marine Cables to the Landfall. It limits disturbance to the environment when compared with open trenching techniques. These locations are:

- HDD-1: Landfall at Eastney;
- HDD-2: Milton and Eastney Allotments (between north-east of Bransbury Park and Thatched House public house car park);
- HDD-3: Langstone Harbour crossing (between Kendall's Wharf and Farlington Playing Fields);
- HDD-4: Farlington Railway Crossing (between Farlington Playing Fields and southern extent of Sainsbury's car park);
- HDD-5: Kings Pond near Anmore (between Kings Pond Field and field north of Anmore Road); and
- HDD-6: Milton Common, crossing under the sea defence.

2.8.3.2. The HDD operations require a suitable space for the temporary construction area (including temporary access/egress routes), which will vary depending on the length and size of the HDD works. The HDD operations require a working area at the start and finish point to locate the drilling rig, water bowser/pump, generator, layout of ducts/pipes and other construction equipment. Adjacent land within the Order Limits (e.g. car parks, fields etc.) is proposed to be utilised to facilitate the HDD construction works.

2.8.3.3. For HDD-4, the expected Trenchless methodology is similar to the HDD and has been selected for the installation of the cable route under the railway north of Farlington Railway Crossing (HDD-4) from the playing fields. An alternative method of trenchless installation such as Micro-Tunnelling enables cables to be installed within ducts or pipes under a feature such as a railway with minimal impact on that feature, and is the preferred method of crossing railway infrastructure.

2.8.4. JOINT BAYS

2.8.4.1. At specifically intervals along the Onshore Cable Route JBs will be situated from which the operation of pulling the Cables and jointing of the Cables will take place. Plate 5 shows a typical schematic of a joint bay which will be in the region of 15 m by 3 m excavation per joint bay plus compound requirements. The operation will require a compound and laydown area for material and parking to be created and these have

typically been situated out of the public highway and will require temporary access from the highway. The completed JB will be 6 m by 3 m and be 1.85 m in depth.

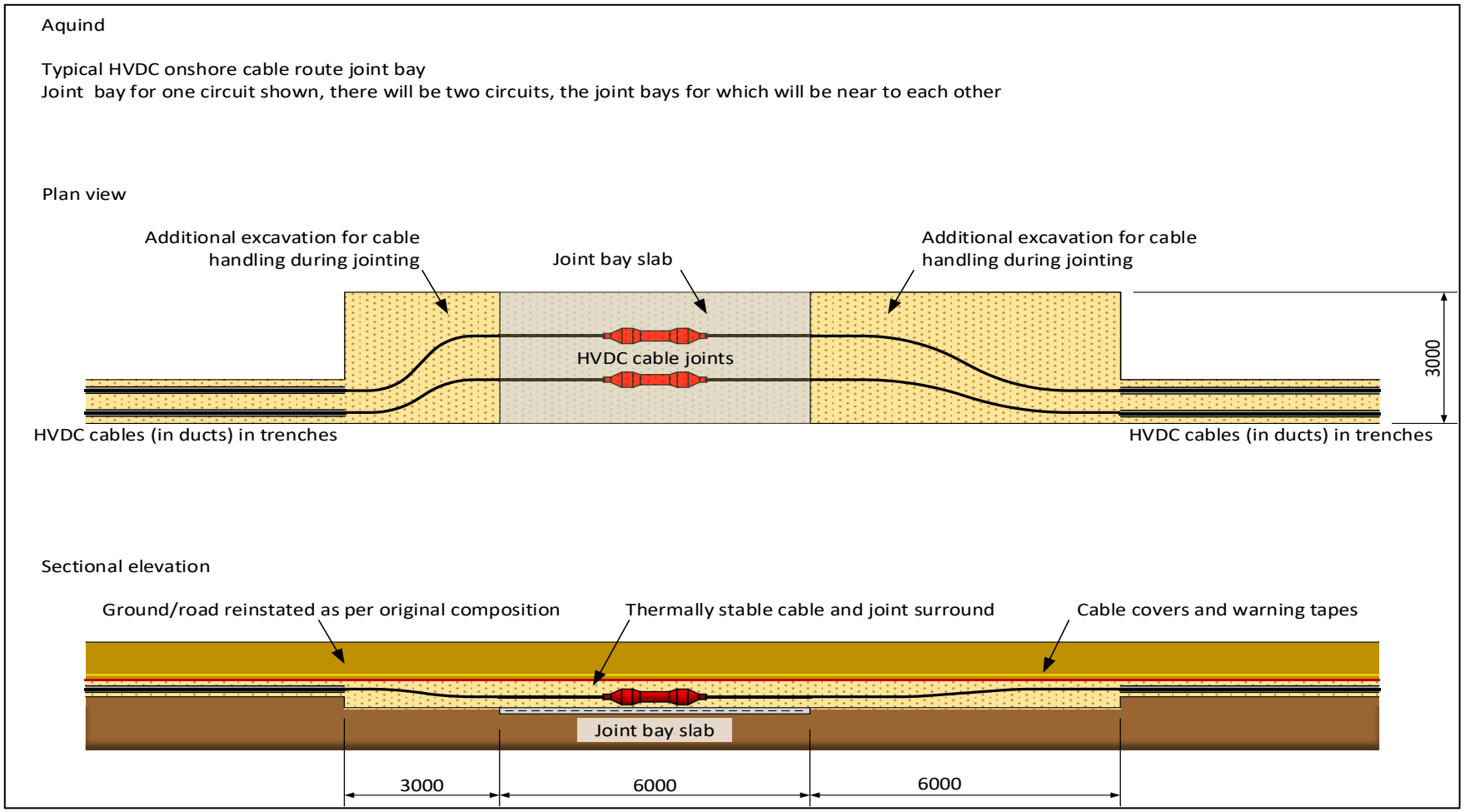


Plate 5 – Typical Schematic of Joint Bay (distances in millimetres)

3. VEHICULAR MOVEMENT MANAGEMENT

3.1. OVERVIEW

3.1.1.1. The CTMP purpose is to consider the construction phase only. This section discusses the vehicular access and route strategy for construction. The vehicular movement strategy for construction is based on a number of core principles:

- Ensuring a safe and efficient use of road space to provide access to the construction site;
- Minimising the number of vehicle movements and reducing impact as far as practical by proposing mitigation measures as required;
- Use the shortest routes to the construction sites as practical; and
- Avoiding residential areas and those near sensitive receptors such as schools etc.

3.1.1.2. The CTMP should also be ready in conjunction with the following transport reports completed for the Project:

- Appendix 6 (Framework Traffic Management Strategy) of Appendix 22.1 (Transport Assessment): This document provides details of the traffic management required to facilitate construction of the Onshore Cable Route within or adjacent to public highway. The Framework Traffic Management Strategy sets out the overarching principles and methodology to be used during the construction stage and will be developed by the contractor prior to commencement of each individual element of street works.
- Appendix 22.1 (Transport Assessment): This document provides an assessment of the impacts of the construction phase, both in relation to the Converter Station and Onshore Cable Route. It also provides details of proposed mitigation measures that will be provided as part of the Proposed Development.

3.2. VEHICLE ROUTING STRATEGY

3.2.1.1. Vehicular access to the construction works will follow three levels of road hierarchy.

- Level 1 Strategic Road Network – These are roads managed by Highways England being motorways and trunk roads which provide access to the construction sites from a wide catchment area to be distributed by the lower levels of road.
- Level 2 Primary and Local Road Networks – These being roads under the authority of Hampshire County Council and Portsmouth City Council, which provide access to most of the cable corridor.
- Level 3 Access Road – These will be temporary haul roads created by the construction contractors linking back to the Level 2 road network. These also may be existing privately owned roads utilised for the construction purposes.

3.3. WORKING HOURS

3.3.1.1. The working hours could be as shown in Table 4.

3.3.2. TIMING OF MOVEMENTS

3.3.2.1. HGV movements to the works sites will be as restricted as follows to reduce impact to the surrounding road network. The main compound for all construction works will be at the Converter Station.

3.3.2.2. For all sections of the Onshore Cable Corridor and all construction methods, additional restrictions on HGV movements will be considered to suit local sensitive receptors, such as schools.

3.3.2.3. The Contractor shall arrange for Vehicle Marshalls to direct construction traffic/HGV movements at the site entrances through to site compound areas. Flash cards should be issued to all HGV drivers and visitors entering the site and vehicles/deliveries will be provided with escorts through the site where required.

LOVEDEAN (CONVERTER STATION AREA)

3.3.2.4. General HGV movements will take place between 09:00 and 17:00 for HGVs relating to construction of the Converter Station, therefore avoiding the AM and PM peaks of 08:00-09:00 and 17:00-18:00. In addition, HGV trips will occur in relation to construction of the Onshore Cable Route to deliver equipment to each location, leaving the compound between 06:00 and 07:00 and arriving at the compound between 17:00 and 18:00.

3.3.3. EASTNEY (LANDFALL)

3.3.3.1. General HGV movements will take place between 09:00 and 17:00 for HGVs relating to construction of the ORS and Landfall, therefore avoiding the AM and PM peaks of 08:00-09:00 and 17:00-18:00

3.3.3.2. With regards to the HDD, once drilling plant and cabins have been delivered (a 2-3 day process) the Landfall construction site will only generate HGV movements associated with water, bentonite, fuel and removal of spoil. These movements however will be restricted to outside of the 08:00-09:00 and 17:00-18:00 peak traffic hours and 19:00-07:00 to avoid disturbance to nearby residential properties.

3.3.4. ONSHORE CABLE ROUTE

3.3.4.1. HGVs carrying equipment and material will arrive on-site at 07:00 to coincide with the start of the working day. General HGV movements will take place between 09:00-17:00 to avoid the peak traffic hours and 19:00 to 07:00 to avoid disturbance to nearby residential properties where the cable route corridor passes close to ones. However, equipment/material may also be transported away from each site at 17:00. HGV movements outside the normal hours may be required where 24-hour or weekend Onshore Cable Route works are undertaken.

3.3.5. HORIZONTAL DIRECTION DRILLING WORKS

3.3.5.1. These movements however will be restricted to outside of the 08:00-09:00 and 17:00-18:00 peak traffic hours and 19:00-07:00 to avoid disturbance to nearby residential properties. However, in areas that are not in close proximity to residential properties may require working between 10:00 and 7:00.

3.3.6. TRENCHLESS SOLUTION UNDER SOUTH COAST RAILWAY

3.3.6.1. The majority of HGV movements will occur Monday to Friday 09:00 to 17:00, avoiding the peak traffic hours of 08:00-09:00 and 17:00-18:00. There may be a requirement for some HGV movements outside of the time periods presented above to support 24 hour working. However, all endeavour will be made to avoid the hours of 19:00 to 07:00 to avoid disturbance to nearby residential properties

3.3.7. ISSUES AND CONSTRAINTS IDENTIFIED

3.3.7.1. There are a number of common issues that extend over the Onshore Cable Corridor and construction routes. Table 5 lists the common issues and constraints with the proposed mitigation, which have been mitigated as far as reasonably practicable through the planning and design process.

Table 4 - Common Issues and Constraints – Whole cable route

Issue/constraint	Mitigation stage	Proposed Mitigations
Narrow rural roads/no pedestrian footways/ unrestricted speed limit	Route planning	Routing strategy and signage to be agreed with HCC and PCC

Narrow residential streets with on-street parking	Route planning	Parking suspension, HGV routing strategy
Congestion and impact on strategic roads	Route planning, Framework Traffic Management Strategy and Construction Traffic Management Plan	Traffic capacity assessments. Vehicle movements restricted.
Geometry of junctions and roads not suitable and visibility constrained for proposed construction vehicles	Route planning and design stage	Interventions proposed and agreed with highway authority

Long diversion routes for closed roads	Route planning and design stage	Construction techniques to avoid road closures if possible. Advanced signage/warning

3.4. HGV ROUTES

3.4.1.1. An assessment has been made of potential vehicular routes to access the cable route and is detailed in the following sections below. These routes will be communicated to all hauliers and managed/enforced by the contractor. Drivers will be required to adhere to all existing restrictions such as weight and height restrictions. Temporary signage will be utilised by the contractor to direct construction traffic to compounds and site accesses. These will be agreed with the highway authorities.

3.4.1.2. A plan highlighting the construction access points is presented in Appendix 4.

3.4.2. SECTION 1 – LOVEDEAN (CONVERTER STATION AREA)

3.4.2.1. Construction traffic will use junction 2 of A3(M), B2149, A3 Portsmouth Road, Lovedean Lane and Day Lane.

3.4.2.2. No construction traffic (HGVs and constructions workers) will use the route from the south from Hambledon Road via Soake Road, Anmore Road and Anmore Lane.

3.4.2.3. There are no vehicular restrictions in this section other than geometric constraints along Day Lane and Broadway Lane. Day Lane and Broadway Lane are rural country lanes with a general width of 6.0 m or less. Each are bordered by hedgerow/grass verges without footways. Given its existing width, Day Lane will not be able to accommodate two-way HGV traffic and therefore vehicles exiting the Converter Station Area will be controlled to avoid meeting a vehicle travelling along Day Lane towards the site. This could be done using a combination of temporary traffic signals (near the access to the solar farm) and banksmen on either end. In some limited locations, the width of Day Lane may make it difficult for a car and HGV to pass. These locations are primarily where there is good forward visibility, while there is also an informal layby located within highway land adjacent to the Solar Farm access that will facilitate two-way flow of traffic.

3.4.3. SECTION 2 – ANMORE

3.4.3.1. Construction traffic within section 2 will travel directly from the Converter Station compound via the internal haul road and therefore HGV movements on highway will be limited to the assigned route to from the A3(M).

3.4.3.2. No construction traffic will use the route from the south from Hambledon Road via Soake Road, Anmore Road and Anmore Lane.

3.4.3.3. There are no vehicular restrictions in this section other than those mentioned in Section 1.

3.4.4. SECTION 3 – DENMEAD/KINGS POND MEADOWS

3.4.4.1. Construction traffic to/from Anmore Road will be routed either via the Converter Station compound and Broadway Lane/Anmore Lane or directly from junction 3 A3(M), Hulbert Road, A3 London Road, B2150 Hambledon Road and Mill Road.

3.4.4.2. No construction traffic will use routes along Soake Road. This will be managed and enforced by provision of route planning information by the contractor.

3.4.4.3. There are no vehicular restrictions in this section and no other geometric constraints have been identified beyond those discussed in Section 1.

3.4.5. SECTION 4 – HAMBLEDON ROAD TO FARLINGTON AVENUE

3.4.5.1. Given the length of this section, construction traffic will use different routes depending upon the location of the Onshore Cable Corridor construction works unless it is travelling to /from the Converter Station Area/Works Compound. All HGVs using the Converter Station Area/Works Compound will use Day Lane, Lovedean Lane, Milton Road and B2150 Hambledon Road to reach the relevant construction location.

3.4.5.2. Construction traffic not travelling via the Converter Station Area/Works Compound will use the following routes:

- B2150 Hambledon Road: Junction 3 A3(M), Hulbert Road and A3 London Road;
- A3 Maurepas Way/London Road north of Ladybridge Roundabout: Hambledon Road: Junction 3 A3(M), Hulbert Road and A3 London Road;
- A3 London Road south of Ladybridge roundabout: Junction 3 A3(M) Hulbert Road (eastern), Purbrook Way, Stake Road, Ladybridge Road and A3 London Road; and
- Portsdown Hill Road/Farlington Avenue: Junction 5 A3(M), Bedhampton Hill, B2177 Portsdown Hill Road, Farlington Avenue.

3.4.5.3. No construction traffic will use Frendstaple Road, Stakes Hill Road and Crookhorn Lane. This will be managed and enforced by provision of route planning information by the contractor.

3.4.5.4. Restrictions in this section include the ‘Access Only’ 7.5 tonne weight restriction on Farlington Avenue which will be required to be rescinded for the duration of the works on Farlington Avenue. This weight restriction has been implemented in conjunction with the existing traffic calming measures to reduce use of Farlington Avenue as a through-route.

3.4.6. SECTION 5 – FARLINGTON

3.4.6.1. Generally, construction traffic will use junction 5 A3(M), A2030 Havant Road, Farlington Road and A2030 Eastern Road or A27 junction with A2030 Eastern Road. Due to the carriageway width and central islands at the A2030 Havant Road/Farlington Avenue junction it may be necessary for low loader HGVs with cable drums to access Farlington Avenue from the northern end, using the A27 Portsbridge Roundabout, A397 Northern Road, A3 London Road and Portsdown Hill Road to gain access.

3.4.6.2. No construction traffic will use any surrounding residential roads. This will be managed and enforced by provision of route planning information by the contractor.

3.4.6.3. Restrictions in this section include the 'Access Only' 7.5 tonne weight restriction on Farlington Avenue which will be required to be rescinded for the duration of the works on Farlington Avenue.

3.4.7. SECTION 6 – ZETLAND FIELD & SAINSBURY'S CAR PARK

3.4.7.1. Construction traffic will use junction 5 A3(M), A2030 Havant Road, and A2030 Eastern Road or A27 junction with A2030 Eastern Road.

3.4.7.2. No construction traffic will use Lower Farlington Road or Fitzherbert Road. This will be managed and enforced by provision of route planning information by the contractor.

3.4.7.3. There are no vehicular restrictions in this section and no geometric constraints have been identified.

3.4.8. SECTION 7 – FARLINGTON JUNCTION TO AIRPORT SERVICE ROAD

3.4.8.1. Construction traffic will use the A27 junction with the A2030 Eastern Road northbound for the Farlington Playing Fields works and southbound for Portsea Island works.

3.4.8.2. No construction traffic will use the London Road, Copnor Road and Norway Road. This will be managed and enforced by provision of route planning information by the contractor.

3.4.8.3. There are no vehicular restrictions in this section and no geometric constraints have been identified.

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

3.4.9.1. Construction traffic will use the A27 junction with A2030 Eastern Road for access.

3.4.9.2. No construction traffic will use the section from Copnor Road to Milton Road. This will be managed by provision of route planning information by the contractor.

3.4.9.3. Restrictions in this section include the 5 tonne weight restriction on Eastern Avenue and Moorings Way which will be required to be rescinded for the duration of the works. This is an environmental weight restriction which restricts access between midnight and 07:00 and 19:00 to midnight Monday to Saturday and all day on Sunday. The impacts of lifting this restriction can therefore be mitigated by ensuring that access by construction vehicles follows these restrictions through the contractors CTMP

3.4.10. SECTION 9 – MOORINGS WAY TO BRANSBURY ROAD

3.4.10.1. Construction traffic will use A27 junction with A2030 Eastern Road, A288 Eastney Road, Milton Avenue, Moorings Way, Locksway Road, Kingsley Road, and Bransbury Road

3.4.10.2. No construction traffic will enter the 5 tonne restricted zone of Salterns Avenue residential area. Traffic will not use other residential side streets to travel north or south but will return to A88 Eastney Road or A2030 Milton Road. Construction traffic will leave Portsea Island via A2030 Eastern Road only.

3.4.10.3. There are no vehicular restrictions in this section other than geometric constraints associated with use of residential roads such as Locksway Road, Kingsley Road and Bransbury Road. These are generally 6.0-7.0 m in width with on-street parking on at least one-side of the carriageway. Taking this into account, the contractor will be required to use smaller construction vehicles and plant when accessing these roads.

3.4.11. SECTION 10 – EASTNEY (LANDFALL)

3.4.11.1. Construction traffic will use the A27 junction with A2030 Eastern Road, A288 Eastney Road and Bransbury Road, Henderson Road and Fort Cumberland Road

3.4.11.2. No construction traffic will use the section of Henderson Road to the roundabout with A288 Cromwell Road. This will be managed and enforced by provision of route planning information by the contractor.

3.4.11.3. There are no vehicular restrictions in this section, no geometric constraints have been identified other than removal of the existing height restriction gate at the existing public car park.

3.5. SECTION SPECIFIC CONSTRAINTS AND ISSUES

3.5.1.1. Table 6 details the specific constraints and issues identified at this stage of the project. The individual CTMPs will feature specific detailed including further mitigation that will be agreed with the highway authorities.

Table 5 - Cable Route Section Specific Issues and Constraints

Section	Description	Mitigation stage	Proposed mitigation
1	Geometry of Broadway Lane junction Day Lane	Design	Junction modification
2	Anmore Road open cut trench crossing	Design	Traffic management/diversions
2	Anmore Road access to haul roads narrow carriageway width	Design	Temporary junction design/traffic management/construction traffic marshalling
5	Farlington Road 7.5 tonne weight restriction	Construction	Suspension of weight restriction
6	Eastern Road Zetland Field access	Design	Left turn in left turn out junction
7	Eastern Road access Farlington sports fields	Design	No right turn out from car park to Eastern Road
8	Eastern Avenue 5 tonne vehicular weight restriction	Construction	Suspension of weight restriction
8	Furze Lane bus only road narrow carriageway	Construction	Bus route diversion
8	Ironbridge Lane/Tideway Gardens too narrow for rigid HGVs	Construction	Hand carting of materials from laydown area.

3.6. HGV IMPACT REDUCTION

3.6.1.1. The programme is being developed to minimise the overall impact on the road network, by taking account of seasonal peak traffic, events, the impact of reassigned traffic as a result of concurrent works as far as is practicable. The contractors will be required to minimise the impact of HGV construction traffic on the local community. Mitigation could include, where practicable, maximising loads to reduce vehicular trips, using local suppliers to reduce vehicular mileage, reusing bulk aggregate deliveries HGVs for waste spoil removal, consolidation of deliveries, smaller plant to minimise working widths.

3.6.1.2. Where sections of the highway have an insufficient width for construction, HGVs should pass without reversing or overrunning the verge or footways especially on the narrow rural roads and residential roads. HGV movements will be controlled and managed (e.g. one-way traffic routing) to ensure conflicts do not arise or are minimised wherever possible. Special measures will be detailed in the individual CTMPs to mitigate the impact to pedestrians on roads that do not have footways, especially the rural roads.

3.6.1.3. Wheel washing facilities will be provided where appropriate and the contractors will be required to ensure the public roads in the vicinity are monitored to ensure that they are not contaminated with debris that could become a hazard, and will be required to have road sweeping arrangements on call. Contractors will also be required to provide dust suppression from the works and movement of vehicles.

3.7. COMMUNICATION OF CONSTRUCTION TRAFFIC MOVEMENTS

3.7.1.1. A targeted strategy may be developed to inform the community and road users of up and coming works which could be undertaken through newsletters, road signage and websites (including providing updates to various travel apps/websites). Information could include;

- Duration of works;
- Timing of the works;
- Number of construction movements; and
- Complaint procedure.

3.8. CONSTRUCTION WORK SIGNAGE

3.8.1.1. A works signage strategy (including wayfinding across the project for staff) will be agreed by the construction contractors and the relevant authorities to communicate the construction vehicle routes to access the temporary accesses, laydown areas and compounds. The use of communications technology to ensure efficient staff movements will be explored.

4. CONSTRUCTION WORKFORCE

4.1. OVERVIEW

4.1.1.1. The Proposed Development is expected to have a maximum of 150 construction workers for Converter Station plus 50-60 construction workers for construction of the Onshore Cable Corridor at the peak construction year. It is anticipated that up to six construction gangs will be working concurrently along sections of the Onshore Cable Route, plus a construction gang a Landfall. Mitigating the number of vehicular trips generated by construction staff travelling to and from their place of work and between work site locations is a key objective of the CTMPs.

4.2. CONSTRUCTION WORKERS

4.2.1.1. It is anticipated that there will be six construction worker gangs working on the Onshore Cable Route at any one time, in addition to those at the Converter Station Area and Landfall.

4.2.1.2. Working hours for the installation of the Onshore Cable installation are Monday to Friday, 07.00-17.00 and Saturday typically 08:00 to 13:00; and for the construction of the Converter Station are 08.00 -18.00 Monday to Friday and Saturday morning typically between 08.00-13.00. There will be some working outside these hours, for example to undertake trenchless techniques on the Onshore Cable Route (12 to 24 hour shifts), reduce duration of works in some locations; accommodate delivery of abnormal loads and minimise traffic impacts or overnight to limit daytime disruption. Working hours for the Marine Cable installation will be 24 hours

4.2.1.3. The final working hours and associated traffic movements will be agreed with the planning authorities.

4.3. STAFF TRAVEL PLANNING STRATEGY

4.3.1.1. This CTMP provides a guide to enable the production of the individual CTMPs by the contractors. Measures to encourage the use of sustainable modes will be encouraged and promoted by the contractor in their individual CTMPs. Examples of potential mitigation and management measures;

- Minibuses could be provided to transport staff to sites as required from the main construction compound and collection from transport hubs (railways stations and bus terminals). Consolidating all trips to one location will aid the promotion of travel to work by sustainable models;

- Parking can be controlled and prevented at construction sites to ensure construction workers do not park inappropriately on surrounding roads causing nuisance to residents. This will be managed by the contractor;
- Information boards could be used at the construction compounds detailing public transport information to encourage travel and to hubs where collection by minibuses is possible;
- Provision could be proposed for secure cycle parking at construction compounds;
- Welfare facilities at work sites such as canteens will prevent the need to travel during the working day; and
- Measures to encourage sustainable travel should be used including car sharing/a specific ride share app for staff to use on the project.

4.3.1.2. A Framework Construction Worker Travel Plan is contained within Appendix 6.

4.4. STAFF COMMUNICATION STRATEGY

4.4.1. STAFF INDUCTION

4.4.1.1. The contractors will be encouraged to provide a comprehensive staff induction for staff associated with each phase of the works.

4.4.1.2. Development of an information pack that will be distributed to all contractors, sub-contractors, hauliers and any staff associated with the project will be promoted. This would provide key information including;

- Permitted construction vehicle routes;
- Site rule and site traffic management;
- Location of holding areas; and
- Contact information.

4.4.1.3. Construction vehicle recognition through the use of unique identification plates could be implemented. This could allow vehicles for the construction works to be more easily identified by site staff and members of the public to aid complaints procedure.

5. TEMPORARY SITE ACCESSES

5.1. OVERVIEW

5.1.1.1. Locations for site access to haul roads and compounds from the public highway are required. These will be designed to ensure they are safe and delay and impact to the public is minimised.

5.2. DESIGN, MANAGEMENT AND MITIGATION

5.2.1.1. Any site access will be designed based around the existing constraints including speed limit, highway width, restrictions, traffic flows and visibilities. In some cases where geometry and sight lines are limited it may be necessary to temporarily reduce the speed limit with a traffic regulation order. Each access will be designed to the appropriate design guidelines (DMRB, HCC/PCC design standards).

5.2.1.2. A general principle will be to ensure that all vehicles entering and exiting do so in forward gear, other than in exceptional circumstances, in which case any reversing required will only be undertaken with the aid of a banksman and vehicle warning equipment. Layouts will ensure that vehicles can be checked and rejected if necessary off the public highway or in an area that is demarcated from the public highway. All site accesses will be laid out to avoid vehicles queuing back on to the highway.

5.2.1.3. Some site accesses will segregate construction traffic while other, particularly, the main compounds, will allow access for private vehicles of the construction work force.

5.2.1.4. All designs and locations of site access will be agreed with the appropriate highway authority and a plan of the anticipated access is contained within Appendix 4.

5.3. SITE ACCESS LOCATIONS

5.3.1.1. The following site accesses have been identified through the proposed design for the onshore cable route.

5.3.2. SECTION 1 LOVEDEAN (CONVERTER STATION)

5.3.2.1. A site access which will become a permanent access with be situated on Broadway Lane just south of the junction with Day Lane. This will provide access to the Converter Station and the fields between the Converter Station and Anmore Lane (as shown in Appendix 2)

5.3.3. SECTION 2 – ANMORE

5.3.3.1. The site access in Section 1 will be utilised as the access point. There will be a required crossing of the unnamed road between Anmore Lane and Edney's Lane. However, construction traffic will not be allowed to use this road owing to its narrow nature and geometry which is only suitable for small vehicles.

5.3.4. SECTION 3 – DENMEAD/KINGS ROAD MEADOW

5.3.4.1. An access will be required from Anmore Road south into Kings Pond Meadow via an existing gate. This access will be utilised as an exit for the HDD compound.

5.3.5. SECTION 4 - HAMBLEDON ROAD TO FARLINGTON AVENUE

5.3.5.1. An access will be made from Hambedon Road north-west of the junction with Soake Road in the Kings Pond Meadow and will be used as an entry point for the HDD compound.

5.3.5.2. An access will be required to the triangular plot of land that will serve as a laydown area on A3 London Road opposite No. 200 and 208 London Road, Waterloovile.

5.3.5.3. The car park on the southside of Portsdown Hill Road near Hilltop Crescent will be utilised for construction purposes and will require the height restriction barrier to be removed.

5.3.6. SECTION 5 – FARLINGTON

5.3.6.1. No accesses are proposed on this section.

5.3.7. SECTION 6 – ZETLAND FIELD & SAINSBURY'S CAR PARK

5.3.7.1. An access to the works in Zetland Field will be required. Due to the central reservation on A2030 Eastern Road, this access will be left-turn-in and left-turn-out.

5.3.7.2. There will be a construction compound in the Sainsbury's car park for the reception pit of Trenchless solution under the south coast railway embankment from Farlington Playing Fields. However, this access will be made from within the Sainsbury's car park (private).

5.3.8. SECTION 7 – FARLINGTON JUNCTION TO AIRPORT SERVICE ROAD

5.3.8.1. The Farlington Playing Fields construction works will be assessed from its access road which is privately owned and not public highway.

5.3.8.2. The HDD compound at the land adjacent to Kendall's Wharf will utilise the existing access to the land.

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

5.3.9.1. To access the northern section of Milton Common, it is intended to use the East Solent Coastal Partnership compound. This will be accessed from the A2030 Eastern Road south of the Langston Harbour viewing car park once their works are completed in October 2022.

5.3.10. SECTION 9 – MOORINGS WAY TO BRANSBURY ROAD

5.3.10.1. If the option to follow the route through the University of Portsmouth playing fields to Longshore Way is utilised, then the turning head and pedestrian gate access to the playing field will be utilised as a construction access point.

5.3.10.2. The rear of the Thatched House public house from Locksway Road will be utilised for construction access.

5.3.10.3. A construction access from Kingsley Road to the common land south of the allotments will be required for the horizontal directional drilling works.

5.3.10.4. The car park access from Bransbury Park from Bransbury Road will be utilised and require the height restriction barrier to be removed.

5.3.11. SECTION 10 – EASTNEY (LANDFALL)

5.3.11.1. The existing car park off Fort Cumberland Road, which is the Landfall and ORS will be utilised for construction access.

6. REQUIRED HIGHWAY INTERVENTIONS

6.1. OVERVIEW

6.1.1.1. The planning stage has identified interventions in Section 1 at the Converter Station and Day Lane that will be required to facilitate the construction of the Onshore Cable Route. The individual CTMPs may identify further interventions that alleviate narrow/constrained roads and junction which geometry cannot accommodate the manoeuvring of larger vehicles. These will also seek to allay safety concerns regarding visibility and sight lines. Traffic management measures will be implemented to ensure general traffic can continue to flow safely and effectively around the construction sites for the Interconnector, as well as ensuring construction vehicles can access the relevant worksites safely and with limited delay.

6.1.1.2. This Framework CTMP provides an overview of the interventions that have been identified at this stage. The individual CTMPs to be prepared by the construction contractors will include detail design and independent safety auditing. All will require approval by the appropriate Highway Authority.

6.2. INTERVENTIONS IDENTIFIED

6.2.1.1. The following measures will be required.

6.2.2. SECTION 1 – LOVEDEAN (CONVERTER STATION AREA)

6.2.2.1. The geometry of the Broadway Lane/Day Lane junction has been identified as a constraint by the design team, third parties during consultation and the abnormal load contractor (as shown in Appendix 5). The geometry of the junction cannot be eased owing to the location of existing electrical cable jointing. Therefore, a new construction access road is proposed to 'smooth' the corner. It will also serve as a construction traffic holding area as shown on the construction access drawing included in Appendix 2. It is intended that the infrastructure other than the permanent site access will be removed when construction is complete.

6.2.2.2. The effective carriageway width of Day Lane between Lovedean Lane and Broadway Lane has been identified that in places it may not be wide enough for two HGVs to pass, as shown on swept path analysis included in Appendix 6. This will be mitigated with a combination of regular maintenance and traffic management. Regular 'siding' will take place to clear the earth that has fallen on to the carriageway edges from the unrestrained verges to ensure maximum carriageway width is maintained. This will include regular cutting back of the verge vegetation. Traffic management can also be utilised for sections where the width remains a concern. At this stage, this has been identified as the 270m section located between east of the proposed construction traffic link road (before the s-bends) and the eastern end of the row of residential properties. Shuttle working traffic signals are proposed. The shuttle working traffic signals would only need to be operational during permitted times when HGVs travel to/from the Converter Station.

6.2.2.3. A section of approximately 50 metres length of Lovedean Lane between the junction with Day Lane and New Road has also been identified as an area that may not be wide enough for two HGVs to pass as shown on swept path analysis included in Appendix 6. In this location the road has no defined edge and the verges are earth and unrestrained. A centre line has not been provided. South of New Road, Lovedean Lane enters the residential conurbation and has a hard kerb edge increasing the effective width and a centre line is provided. For the identified narrower section, similarly as described above for Day Lane, regular 'siding' will take place and cutting back of the verge to ensure the maximum carriageway width is available. The section is short and straight and drivers could be expected to priority work as they would on any narrow road or when an obstruction is met.

6.3. TRAFFIC MANAGEMENT

6.3.1.1. Traffic management will be required for the construction of the entire Onshore Cable Route on the highway network and this will be laid out to the requirements of the TSRGD 2016 Chapter 8. A separate report (Appendix 6 (Framework Traffic Management Strategy) of Appendix 22.1 (Transport Assessment) has been prepared that details the requirements.

7. MANAGEMENT OF ROAD SAFETY

7.1. OVERVIEW

7.1.1.1. This section details strategy and measures that will be taken to ensure road safety is maintained during the construction. Highway condition is related to road safety and therefore included in this section.

7.2. EXISTING COLLISION RECORD

7.2.1.1. The existing collision record has been assessed in Appendix 22.1 (Transport Assessment). Roads that had a higher than average collision rate were assessed in more detail to understand if the road infrastructure was contributing. If the collision rate 25% higher than the national average injury collision rate further analysis was undertaken. If areas of concern were highlighted then further analysis was undertaken. No issues in relation to the existing highway layout or geometries were identified.

7.3. LIAISON, MONITORING AND MITIGATION

7.3.1.1. Near misses or collisions resulting in personal injury from traffic associated with the cable route construction traffic will be monitored throughout the programme to identify areas for improvements. A road safety and liaison officer will be appointed and be responsible for continuous monitoring of traffic management and signage. They will make improvements where necessary within the confines of the temporary Traffic Regulation Orders ('TRO's) and liaise with the highway authorities. They will also respond to public concerns and contact details will be provided.

7.3.1.2. The road safety liaison officer will be responsible for the continual monitoring of the road works for the Onshore Cable Route to ensure the proactive management of road safety. It will be ensured there is sufficient road signage to warn the public and inform construction related traffic to ensure compliance and route choice. There will also be contact telephone numbers for public to raise concerns as well as the provision of a website will be explored. Receptors that attract vulnerable people will be updated on a regular basis (e.g. schools) as necessary.

7.3.1.3. If during the construction localised mitigation measures are required these will be agreed with the relevant highway authorities and incorporated in to the individual CTMPs.

7.4. HIGHWAY CONDITION

7.4.1.1. Highway condition is closely related to road safety and construction traffic, particularly HGVs can have a negative impact to road condition. Therefore, it is proposed before and after construction pavement condition surveys are undertaken and to assess whether construction activities have resulted in worsening road conditions.

7.4.1.2. Weekly conditions surveys will be produced during the works programme to identify areas that are worsening and will become a hazard to other road users that require immediate action.

8. IMPLEMENTATION AND MONITORING

8.1. OVERVIEW

8.1.1.1. For a CTMP to be affective a robust monitoring process is required to ensure compliance.

8.2. DETAILED CTMPS

8.2.1.1. This Outline CTMP will form the framework for individual CTMPs to be produced by the contractors once they are appointed. These will then be approved by the relevant Highway Authority. These individual CTMPs will provide details of;

- Construction vehicle routing;
- A highway condition survey of all routes proposed and accesses;
- Road closures;
- Specific details regarding abnormal loads if any;
- Details of the interventions to the highway that are required to enable construction works (permanent or temporary) and reinstatements;
- Specific details regarding traffic management and construction management such as temporary signage, requirements for banksman or escort vehicles, wheel washing, shuttle buses etc.; and
- Details of construction staff travel arrangements/travel plan.

8.2.1.2. The works will be broken down into a number of sections which may result in multiple contractors being appointed. This will result in a number of individual CTMPs being prepared to cover different sections and stage of works which could include;

- Enabling and permanent works; and
- Specific works including Landfall, landfall head house, the Onshore Cable Route, construction compounds, HDD, Trenchless Solutions at the south coast railway, and the Converter Station works.

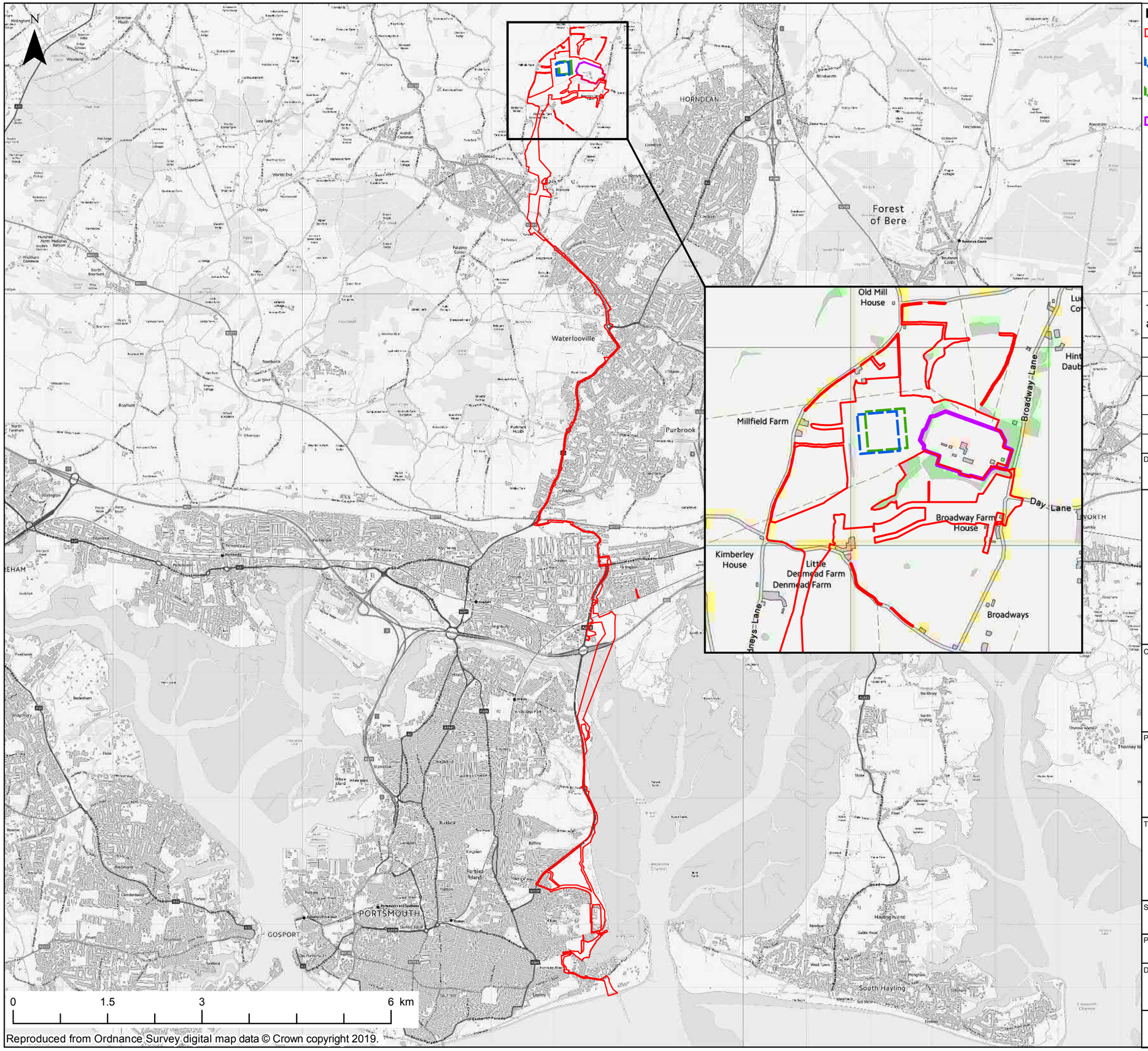
8.3. COMPLIANCE AND MONITORING

8.3.1.1. Responsibility for monitoring and compliance will lie with the Applicant. They will ensure that the construction contractors produce final CTMPs that are compliant and ensure their obligation to monitor is understood.

8.3.1.2. Several key points of contact will be made for the project who will liaise with relevant planning/highway authority and ensure coordination between contractors for all the section of works during the entire construction programme. This will facilitate a clear communication channel to ensure compliance.

8.3.1.3. The individual CTMPs will provide details of the monitoring process and who is responsible with contact details. These will be developed and agreed with the relevant planning authority.

Appendix 1 – Order Limits



Key

- Order Limits
- Converter Station Perimeter Option B (i)
- Converter Station Perimeter Option B (ii)
- Existing Substation Boundary

The Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2017 – Regulation 5(2)(a)

REV	DATE	BY	DESCRIPTION	CHK	APP
01	29/10/2019	JT	Final	GI	MMcG

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CLIENT: AQUIND

PROJECT: AQUIND Interconnector

TITLE: Figure 3.2
Order Limits (Onshore)

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