AQUIND Limited

AQUIND INTERCONNECTOR

Applicant's Transcript of Oral Submissions - ISH2 on Traffic, Highways and Air Quality

The Planning Act 2008

Infrastructure Planning (Examination Procedure) Rules 2010, Rule 8(c)

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AQUIND INTERCONNECTOR DCO

APPLICANT'S STATEMENT FOR HEARING

ISSUE SPECIFIC HEARING 2 - TRAFFIC, HIGHWAYS AND AIR QUALITY

MONDAY 14 DECEMBER 2020

1. INTRODUCTION

1.1 On 14 November 2019, AQUIND Limited (the '**Applicant'**) submitted an application for the AQUIND Interconnector Order (the '**Order'**) pursuant to section 37 of the Planning Act 2008 (as amended) (the '**Act'**) to the Secretary of State ('**SoS'**) (the '**Application'**).

1.2 The Application was accepted by the Planning Inspectorate ('**PINS'**) on 12 December 2019, with the examination of the Application commencing on 8 September 2020.

1.3 On 9 November 2020 the Examining Authority ('**ExA'**) issued the agenda for Issue Specific Hearing 2 into Traffic, Highways and Air Quality ('**ISH2'**). Within the agenda dated 9 November 2020 the ExA requested full transcripts of any oral submissions intended to be made at ISH2. This request in the agenda issued is understood to be a request for information by the ExA in accordance with the Rule 8 letter dated 15 September 2020, as updated on 20 November 2020.

1.4 In response to this request, this statement is submitted on behalf of the Applicant and provides a full written response of the oral submissions intended to be made on behalf of the Applicant at ISH2 in relation to the specific questions raised by the ExA in the agenda for ISH2

1.5 It is noted in the agenda that the ExA confirm the agenda is for guidance only, that it is not intended to be exclusive or exhaustive and that the ExA may add other issues for consideration and may alter the order in which issues are considered. Any additional detailed information requested by the Examiner or further information considered to be required to help address points not raised in the agenda for ISH2, or raised by others at the ISH2, will be provided in the Applicant's post hearing submissions, to be submitted at Deadline 6.

Format of this Statement

1.6 This statement provides responses to the questions raised by the ExA, and it is confirmed any other questions raised at ISH2 will be responded at ISH2 as necessary on behalf of the Applicant.

1.7 The Applicant has submitted a Core Bundle ('**CB'**) index of common documents in relation to all hearings which are to take place during December 2020 in respect of the Application. This Core Bundle has been provided in an electronic format with links to the relevant Application documents as they are contained on the PINS webpage for the Application. The Applicant has not submitted these documents to PINS again. References to the CB index follow the format "**CB – document number**".

1.8 The Applicant has also submitted a hearing specific bundle index of Application documents relevant to ISH2, also provided in an electronic format with links to the relevant Application documents as they are contained in the PINS webpage for the Application. References to the ISH2 hearing specific bundle follow the format "**ISH2 – document number**".

1.9 In addition, and further to the request by the ExA for illustrative supporting material, this statement is accompanied by exhibits, a list of which is included in **Appendix 1** to this statement, and which are referred to throughout this document by reference to "**ISH2 – Exhibit number**".

2. HEARING PARTICIPANTS ON BEHALF OF THE APPLICANT

2.1 In attendance at ISH2 from the Applicant will be:

2.1.1 Kirill Glukhovskoy (LLM, MBA, ACMA), Managing Director of AQUIND Limited

2.1.2 Vladimir Temerko, Project Manager of AQUIND Limited

2.2 The Applicant will be represented at ISH2 by Simon Bird QC of Francis Taylor Building and Martyn Jarvis, Senior Associate of Herbert Smith Freehills LLP.

2.3 In addition, the following participants will be speaking on behalf of the Applicant on their relevant specialist topics during ISH2:

2.3.1 In respect of matters relating to Traffic, Highways and Transport:

(A) Chris Williams of WSP. Chris is an Associate Transport Planner with 17 years' experience in highways and transport planning and a BSc (Hons) in Human Geography and an MSc in Transport Planning and Engineering and is the Transport Lead in relation to the Application. Chris is a Member of the Chartered Institute of Highways and Transportation.

2.3.2 In respect of matters relating to Air Quality and Emissions:

(A) Stuart Bennett of WSP. Stuart is Chartered Environmentalist and Associate Director of air quality in WSP's Environmental business unit with over eighteen years of experience in strategic air quality planning, assessment, monitoring, mitigation and management, providing strategic guidance and technical support on air quality projects and related disciplines. Stuart has extensive knowledge of air quality assessment, mitigation and management processes applicable to Nationally Significant Infrastructure Projects.

2.3.3 In respect of engineering matters:

(A) Paul Hudson of WSP: Paul is a Principal Cable Engineer with WSP and holds a BSc (Hons) in Electrical / Electronic Engineering. Paul has worked in the power cable industry for over 35 years, in manufacturing, system design and installation design in the UK, working for the world's largest cable company and now as a consultant with WSP and has worked on several major HV cable contracts. Paul has experience as the in the HVDC and HVAC cable tendering processes and subsequently for HVDC and HVAC contracts for the IFA2 project in the UK and France and was responsible for the development of the NSN interconnector project through to FID and EPC contract award. During his career Paul has been responsible for the delivery of the 600kV HVDC Western Link project and Projects Business Manager for HV Systems for cable systems from 66kV to 400kV, fluid filled and XLPE.

(B) Oliver Bulch of WSP: Oliver is a Senior Cable Engineer with WSP and has worked in the power cable industry as a Site Manager / Project Engineer for over 12 years' with an established record in the delivery of complex projects across all voltages from LV to 400 kV. Oliver has successfully overseen and delivered underground cabling projects at all voltages including LV, HV and EHV specialising in HV Cable Diversions (Oil to XLPE / XLPE) and Linear Onshore Cable routes and is experienced in the planning, management and monitoring of construction activities.

(C) Ian Robson of WSP: Ian is an Associate Director with WSP currently managing the OHL and HV Cable teams in the UK. Ian holds a First Class Honours Degree in Electrical / Mechanical Engineering and has been a chartered engineer since 2005. Ian has over 25 years' experience in the Power Transmission industry working as Project Manager and Senior Substation / HV Cable engineer in the design and specification of high voltage substations and high voltage cables. Ian has been responsible for the preparation of tenders and also review of tender documentation, compilation of technical specifications, design of various substation configurations and high voltage cable designs as well as the approval of all

design documentation during the design review phase of projects and ultimately managing and delivering the projects through to final installation and commissioning through to client handover. Prior to this Ian worked as Project Manager for East Anglia One (EA1) Project which included onshore cabling from Bawdsey to Burstall/Bramford 400kV substations via 2 underground HV cable circuits each 37km in length as well as a number of shorter HV substation cable circuits.

3. TRAFFIC, HIGHWAYS AND TRANSPORT

Question 3A-1

With reference to the Applicant's response to ExQ1 TT1.16.18 at Deadline 1, please can the Applicant set out the assumptions and limitations made in respect of traffic generated from Fratton Park on football match days, and the predicted effects on the highways? Could Portsmouth City Council and Hampshire County Council confirm their positions in respect of the assumptions made?

3.1 Within the Applicant's response to ExQ1 TT1.16.18 it was stated that the Applicant considers traffic conditions associated with football matches to be similar to weekday peak traffic conditions, which are accounted for and fully assessed in the Transport Assessment (TA) (APP-448) (**ISH2-2**) and Supplementary Transport Assessment (REP1-142) (**ISH2-3**). This is based upon a review of traffic flow information obtained from the Highways England Webtris database (https://webtris.highwaysengland.co.uk/), which provides traffic data for the Strategic Road Network and specifically the A27 off-slips of the A27 / A2030 Eastern Road Farlington Roundabout that feed into the A2030 Eastern Road.

3.2 The Applicant's review of this data focused on weeks containing the 07 December 2019, 11 January 2020 and 01 February 2020 when Portsmouth FC played home league games with attendances of approximately 18,000, which was consistent with average attendances across the 2019 / 2020 season.

3.3 The review also focused on traffic flows recorded on the A27 off-slips that link to the A2030 Eastern Road on the Tuesday, Wednesday and Thursday between the hours of 07:00-10:00 and 16:00-19:00 and each Saturday preceding each day between 12:00-15:00. The comparison of this data, as shown in **ISH2 - Exhibit 1**, shows that weekday peak hour traffic flows are either higher or very similar to Saturday pre-match flows on all of the assessed dates. This therefore corroborates the Applicant's assumption that traffic conditions on a Portsmouth FC match-day are similar to those in weekday peak periods.

3.4 The Applicant accepts there are two potential limitations within these assumptions:

1.1.1 The traffic flow analysis is based upon data for the A27 off-slips rather than the A2030 Eastern Road itself. However, the Applicant notes that through the local knowledge and experience of Mr Williams, the majority of traffic turns onto the A2030 Eastern Road from the A27 off-slips. The Applicant is also aware through the same local knowledge and experience that, prior to a football match, non-football related traffic routes away from the A2030 Eastern Road where possible to avoid traffic congestion on this route. It is therefore a reasonable assumption that the majority of traffic recorded on the A27 off-slips between 12:00-15:00 on a match day is also headed towards the A2030 Eastern Road.

1.1.2 It has not been possible due to the effects and restrictions associated with the Covid-19 pandemic to confirm the assumptions used in the modelling in relation to the post-match traffic flows leaving Portsea Island on the A2030 Eastern Road or A27 on-slips. As was noted in the Applicant's response to EXA1 TT1.16.18, it had been the intention to undertake these confirmatory surveys to correspond to Portsmouth FC home matches however the ability to carry out this exercise has been affected by the Covid-19 pandemic, which has prohibited attendance at Portsmouth FC football matches since March 2020. However, the available data shows that traffic flows on the A27 off-slips are similar to weekday AM and PM peak hour flows and, therefore, the Applicant is satisfied that no additional mitigation measures (such as the removal of traffic management on match days) would be required on A2030 Eastern Road.

3.5 The Applicant notes in any event that the FTMS (REP1-068) **(CB-22)** addresses Portsmouth FC home matches through the use of programme constraints that limit construction on the A2030 Eastern Road on Portsea Island as far as practically possible to periods outside of the football season. With these restrictions on the A2030 Eastern Road on Portsea Island, construction will take place during the football season only during the Easter school holidays and in August, which may correspond with up to 2-3 Portsmouth FC home matches during construction of each cable circuit.

Question 3A-2

Can the Applicant briefly set out the results of the additional survey work undertaken to inform the Supplementary Transport Assessment, in particular the Technical Note at Appendix E [REP1-142]?

3.6 Limited additional survey work was undertaken to inform the Supplementary Transport Assessment (STA) (REP1-142) (**ISH2-3**) submitted at Deadline 1 over and above that already contained within the Transport Assessment (TA) (APP-448) (**ISH2-2**) that formed part of the Application submission. The additional survey work can be summarised as follows:

3.6.1 A speed survey was completed on Broadway Lane on the 25th June 2020 to measure vehicle speeds in the vicinity of the proposed Converter Station access junction. This survey has confirmed that achievable visibility splays at the Converter Station access junction are appropriate for the speed of traffic recorded on Broadway Lane as shown at Section 3.3 in the STA (**ISH2-3**)

3.6.2 Overnight parking surveys completed in July 2020 on all residential roads which may be impacted through the temporary suspension of access, parking or displaced parking during construction of the Onshore Cable Route. These surveys followed the "Lambeth Parking Survey" methodology, which is the transport planning industry accepted approach to surveying residential parking demand. These consisted of a snapshot survey completed between the hours of 00:30 and 05:30 on two separate weekday nights when residential parking demand is likely to be at its highest. These surveys showed that, in the majority of cases, anticipated levels of displaced parking could be accommodated on surrounding residential streets during the construction period.

3.7 Further to this, a summary of additional assessment work is provided as contained within the STA (**ISH2-3**), which for clarity has been split into relevant topics.

3.8 All assessments of traffic flows and traffic capacity contained within the STA are based upon outputs from the Sub Regional Transport Model (SRTM), the use of which was agreed with Hampshire County Council and Portsmouth City Council during pre-application discussions through the Transport Assessment Scoping Note and SRTM Coding Note (Appendix A of the TA, page 257) (**ISH2-2)**.

3.9 With regards to construction traffic and access, the STA (**ISH2-3**) provides the following additional assessment work:

3.10 **Converter Station Access (ISH2-3, section 3.3)**

3.10.1 An assessment of visibility splays at the Converter Station access junction, using the speed survey completed in June 2020 on Broadway Lane within the vicinity of the proposed access as discussed above.

3.10.2 An assessment of the proposed use of banksman on Day Lane to manage the entry and exit of construction HGVs and prevent vehicle conflicts occurring. This showed that the proposed strategy could operate with minimal delay to traffic on Day Lane.

3.11 **Construction Traffic Routes (ISH2-3, section 3.5)**

3.11.1 An assessment of the impacts associated with removing Milton Road from the permitted construction traffic routes, with use A3 London Road instead to access construction locations in Sections 3 and 4 of the Onshore Cable Corridor. This assessment showed that the change in routing resulted in a less than 1% increase in traffic flow on A3 London Road, the impact of which would be negligible.

3.12 **AIL's (ISH2-3, section 3.9)**

3.12.1 An assessment of abnormal load movements associated with delivery of cable drums to indicative Joint Bay locations situated along the Onshore Cable Corridor. This assessment, based upon assumed delivery routes between Portsmouth Cargo Terminal and indicative Joint Bay locations, provided a swept path analysis for access and egress manoeuvres where these will be necessary. This assessment showed that access by cable drum delivery vehicles to Joint Bays is achievable, albeit with temporary restriction of on-street parking or temporary removal of street

furniture required in some places. Where required these will be facilitated by powers contained within the draft Development Consent Order and reinstated as necessary following delivery of cable drums.

3.13 **Personal Injury Collisions (ISH2-3, section 4)**

3.13.1 A fully updated assessment of Personal Injury Collision data for the Onshore Cable Corridor and wider study area, superseding that contained within the TA (**ISH2-2**). This assessment has not highlighted any sections of the study area which would be sensitive to temporary traffic management or temporary increases in traffic flow due to traffic reassignment away from the construction works. Therefore the impacts of the Proposed Development are considered to be negligible.

3.14 **Traffic Capacity (ISH2-3, section 5)**

3.14.1 With regards to traffic capacity assessments, the STA provided a series of updated and additional assessments to the TA. This included the following:

(A) Using traffic flows obtained from the SRTM, junction capacity assessments of the B2150 Hambledon Road / Aston Road traffic signal junction and the Dell Piece West / A3 Portsmouth Road / Catherington Lane traffic signal junctions where traffic signal specifications were not received from Hampshire County Council prior to submission of the DCO application. These assessments showed that the B2150 Hambledon Road / Aston Road junction will operate within capacity in the assessed Do-Minimum and Do-Something scenarios and that the Dell Piece West / A3 Portsmouth Road / Catherington Lane junction is forecast to operate over capacity in the Do-Minimum and Do-Something scenarios. Despite operating over capacity, the impact of the Proposed Development is considered to be minor, with limited increases in queue length and delay forecast when compared to the Do-Minimum and Do-Something scenarios.

(B) An assessment of the impacts of construction works associated with the Onshore Cable Route leaving the Converter Station in the PM peak through junction capacity assessments of the A3 Portsmouth Road / Lovedean Lane junction, Dell Piece West / A3 Portsmouth Road / Catherington Lane traffic signal junction and A3(M) Junction 2. These assessments showed that the addition of construction worker traffic to these junctions has a minor impact on their operation.

(C) An additional assessment of the impact of the traffic management required to facilitate construction of the Onshore Cable Route on the A2030 Eastern Road through completion of the Eastern Road Traffic Assessment Technical Note is included in Appendix E on page 360 of the STA (**ISH2-3**).

3.14.2 This Technical Note (**ISH2-3**) firstly provided a review of baseline observed traffic data for the A2030 Eastern Road, which showed that, in the context of observed traffic flows, the SRTM is robust. This is because the observed traffic flows and volume to capacity ratios on the A2030 Eastern Road within the Order Limits are highest at the location which will be most impacted by the proposed traffic management, between Airport Service Road and Burrfields Road.

3.14.3 Secondly, the Technical Note (**ISH2-3**) provided an assessment of the SRTM outputs for the A2030 Eastern Road in respect of how modelled traffic management between Airport Service Road and Burrfields Road impacts upon traffic. This section demonstrated how the impacts of traffic management on the A2030 Eastern Road have been robustly assessed, through the modelled reduction in link speeds and increased journey times, resultant decreases in traffic flow and subsequent reassignment of traffic across the wider highway network. Overall the modelled traffic management on the A2030 Eastern Road is forecast by the SRTM to result in a decrease in traffic flow of 18-25% in the AM peak and 20-31% decrease in the PM peak, with this reassignment onto adjacent lower class roads robustly assessed through completion of the local junction capacity assessments and link assessments contained within the TA.

3.14.4 Thirdly, the Technical Note includes an assessment of the A2030 Eastern Road / Tangier Road traffic signal junction with traffic management located at the junction. This acts as a worst-case assessment of the likely impacts of traffic management being installed on the A2030 Eastern Road adjacent to Milton Common. This demonstrated the junction will operate over its theoretical capacity in the southbound direction with significant queues forecast as a result of the traffic management measures introduced in the southbound lane during the PM peak and in the northbound direction in the AM peak. It is noted by the Applicant however, that delays experienced in the southbound direction in the PM peak hour are not uncommon for PM peak hour conditions along the Eastern Road as a result of the merge of the southbound carriageway from two lanes to one lane south of the A2030 Eastern Road / Tangier Road traffic signal junction. It is also noted that the forecast queue in the AM peak can be accommodated without having a detrimental impact on the wider highway network because there are no major upstream junctions that would be impacted by this temporary congestion. Furthermore, this modelling provides similar results in relation to traffic delay and journey time changes on A2030 Eastern Road as those provided by the SRTM, therefore confirming that this assessment is robust.

3.15 **Further Sensitivity Testing (ISH2-3, section 5.5)**

3.15.1 The final section of STA traffic assessments provides a sensitivity test of the traffic management shuttle working traffic signal locations and junctions with temporary signals assessed within the TA. The sensitivity tests reflect a scenario that incorporates a 50% reduction of traffic reassignment away from the Onshore Cable Route as assessed by the SRTM, thereby providing a very robust assessment of all temporary traffic signal locations, as a greater level of traffic than would be anticipated is assumed to remain on the routes where traffic signal controlled shuttle workings are proposed. These sensitivity tests showed that at some locations the temporary traffic signals are forecast to operate over capacity, leading to long queues and delays in the AM and PM peak hours.

3.15.2 However, the level of queuing and delay forecast at these locations will lead to the reassignment of traffic away from the Onshore Cable Corridor, as is forecast within the SRTM. This reassignment will reflect the Communication Strategy of the FTMS (REP1-068) (**CB-22**) which will ensure drivers are informed of the construction, allowing them to make alternative route choices and knowledge of where those temporary traffic signals in place for a longer duration are located. This will therefore allow temporary traffic signals to operate closer to capacity, with shorter queues and delays, than forecast in these sensitivity tests.

3.16 **Bus Journey Times (ISH2-3, section 6)**

3.16.1 The final section of the STA provides an assessment of impacts to bus journey times, using data derived from the SRTM. This assessment included a cross-section of bus routes to cover both impacts of traffic management on the Onshore Cable Corridor and traffic reassignment across the wider highway network. Overall, it can be concluded that the works will generally have a minor impact on bus routes across the study area and where this is more pronounced, the impact will be limited to a short-time period.

Question 3A - 3

In light of the additional data, and the newly identified likely significant environment effects (as tabulated in the Applicant's response to Rule 17 request in relation the ES Addendum), are the conclusions made on the significance of effects both pre- and post-mitigation robust?

3.17 Following on from completion of updated junction capacity assessments and as a result of the sensitivity assessments, which inherently will produce results which are worse than those being sensitivity tested, a number of new significant residual impacts were identified within ES Addendum (REP1-139) (**CB-13**) in relation to traffic delay.

3.18 The majority of newly identified significant effects relate to sensitivity test assessments of traffic management locations requiring temporary traffic signals or shuttle working traffic

signals, and which were assessed within the Transport Assessment (TA) (APP-448) (**ISH2-2**).

3.19 For the reasons set out above, such effects are not likely to materialise in practice and represent an absolute worst case due to reassignment of traffic away from the Onshore Cable Corridor during construction.

3.20 In all cases, the defined post-mitigation effects on traffic delay have been determined using a precautionary approach, in order to maintain a robust and worst-case assessment of impacts associated with construction of the Onshore Cable Route. The Applicant has used a robust and agreed methodology to assess these impacts through use of the worst-case traffic management SRTM scenario, which is fully WebTAG compliant traffic model. However to provide greater comfort of possible impacts, the Applicant has also undertaken a series of sensitivity tests covering alternative assumptions on the level of traffic reassignment away from the onshore cable route as described above.

3.21 On this basis the conclusions drawn regarding pre and post-mitigation effects are considered to be very robust.

Question 3A - 4

Can Portsmouth City Council explain its comment in the Local Impact Report that 'the whole exercise needs to be repeated'?

3.22 The Applicant understands that this comment relates to Section 3.2 of the Eastern Road Further Traffic Assessments Technical Note (Appendix E of the Supplementary Transport Assessment (REP1-142) (**ISH2-3**), which provided a correction of observed traffic flows to data originally provided in Table 23, 24 and 27 of the Transport Assessment (APP-448) (**ISH2-2**).

3.23 The comment specifically related to traffic survey information presented in the Technical Note between Airport Service Road and Burrfields Road (Table 5 and 6), where the updated flows represented an increase in each direction and across both peak hours of between 63 and 799 vehicles when compared to the Transport Assessment. As a result of this, the Applicant understands that Portsmouth City Council were concerned that if this discrepancy had also followed through to the SRTM then there would be grounds to repeat the transport modelling exercise.

3.24 In responding to this question, the Applicant refers to the response provided to Portsmouth City Council's Local Impact Report (Section 5.6.6, REP2-013) (**CB-4**), which confirms that traffic flows within the modelling undertaken were correct. Errors in stated traffic flows were in the text of the tables in Section 1.5 of the Transport Assessment (TA) (APP-448) only (**ISH2-2**), as is stated in Section 3.2 of the Eastern Road Technical Note which is included in Appendix E of the Supplementary Transport Assessment (REP1-142) (**ISH2-3**).

3.25 Within Table 5 of the Eastern Road Technical Note, the northbound traffic flow on the A2030 Eastern Road between Airport Service Road and Burrfields Road is 1,201 vehicles in the AM peak and 908 vehicles in the PM peak. In the SRTM Do-Minimum scenario the same link has a northbound traffic flow of 1,651 vehicles in the AM peak (Table 12) and 1,615 vehicles in the PM peak (Table 13).

3.26 Within Table 6 of the Eastern Road Technical Note the southbound traffic flow on the A2030 Eastern Road between Airport Service Road and Burrfields Road is 1,306 vehicles in the AM peak and 1,819 vehicles in the PM peak. In the SRTM Do Minimum scenario the same link has a southbound traffic flow of 1,655 vehicles in the AM peak and 2,247 vehicles in the PM peak.

3.27 This shows the robust nature of the traffic flows used within the SRTM to assess the impacts of construction of the Onshore Cable Route as contained within the Transport Assessment (APP-448) (**ISH2-2**), Chapter 22 of the ES (APP-137) (**ISH2-1**), Supplementary Transport Assessment (REP1-142) (**ISH2-3**) and ES Addendum (REP1-139) (**CB-13**), on the basis that traffic flows included in the SRTM are higher than observed traffic surveys in the same location, and therefore the modelling exercise does not need to be repeated.

Question 3A - 5

With reference to the Applicant's Responses to the Local Impact Reports ([REP2-013] page 3-24, 5.1.14), do the updated results for Portsdown Hill and Portsbridge Roundabout have any consequential effects on the modelled scenarios?

3.28 As detailed within Section 1.2 of the Supplementary Transport Assessment (STA) (REP1-142) (**ISH2-3**) the majority of analyses completed within the STA use the SRTM to assess the future year baseline and construction stage impacts of the Proposed Development. This includes all analysis of Portsdown Hill and Portsbridge Roundabout as contained within the Transport Assessment (TA) (APP-448) (**ISH2-2**), STA (**ISH2-3**), Chapter 22 of the Environmental Statement (ES) (APP-137) (**ISH2-1**) and ES Addendum (REP1-138) (**CB-13**), and therefore the Applicant can confirm that the correction of baseline traffic flows on Portsdown Hill does not have any consequential effects upon SRTM modelled scenarios.

3.29 The SRTM is a strategic transport model developed by Solent Transport. The Solent Transport website describes the SRTM as "fully WebTAG compliant and is capable of providing outputs which can robustly support the development of transport strategies and schemes, provide information to support development of funding bids and business cases, and can inform land use strategies and development transport assessments" (https://www.solent-transport.com/srtm), and as such it has been used successfully by the relevant Local Authorities to complete "numerous Local Plans, major development transport assessments and transport strategies and studies". The full scope and methodology of transport modelling undertaken using the SRTM was fully agreed with Portsmouth City Council and Hampshire County Council as part of the TA scoping exercise.

3.30 With regards to Portsbridge Roundabout, the Applicant accepts that when using the SRTM outputs the Do-Minimum scenario results for the junction capacity analysis do not reflect the existing situation where traffic queues are known to extend back from the westbound A27 off-slip onto the A27 mainline in the peak hours. Further to the response provided to PCC's Local Impact Report, which showed that the predicted impacts at this junction are forecast to be minor, the Applicant has completed further analysis of traffic flows comparing the outputs of the Do Something 1 and 2 Scenarios with the Do Minimum Scenarios. This comparative assessment has been undertaken in order to identify the changes arising from traffic reassignment by virtue of construction of the Proposed Development at Portsbridge Roundabout as shown below

	AM Peak	PM Peak
Portsbridge Roundabout Do-Something 1 Net Traffic Flow Changes compared to Do-Minimum Scenario	+8	+34
A27 Westbound Off-Slip Do-Something 1 Net Traffic Flow Changes compared to Do-Minimum Scenario	-10	+9
Portsbridge Roundabout Do-Something 2 Net Traffic Flow Changes compared to Do-Minimum Scenario	-18	+36
A27 Westbound Off-Slip Something 2 Net Traffic Flow Changes compared to Do-Minimum Scenario	-6	-8

3.31 As the table shows, the Do-Something scenarios lead either to a decrease in traffic flow or an increase of 30-40 vehicles across the entire junction in the AM and PM peak hours. In addition, the A27 Westbound off-slip experiences a maximum increase of nine vehicles in the PM peak Do-Something 1 scenario and a decrease in traffic in all other scenarios. This is despite the junction operating in the SRTM with a lower level of delay than the existing baseline, with traffic instead using alternative routes such as the M275 to avoid construction works on the A2030 Eastern Road. The use of this higher class route as a consequence

of traffic diverting away from the A2030 Eastern Road is considered to be intuitive given the direct and resilient links it provides into central Portsmouth from the A27.

3.32 Based upon this analysis, the Applicant remains satisfied that the installation of traffic management on A2030 Eastern Road will have a negligible impact on the operation of Portsbridge Roundabout and in particular the A27 off-slip, further confirming that a robust assessment has been provided.

Question 3A - 6

The transport assessment [APP-448] and supplementary transport assessment [REP1-142] rely on the sub-regional transport model in order to understand the impact of traffic at a detailed level. Can the Applicant explain why this model is appropriate for such an assessment, what assumptions have been applied to assess localised and detailed level effects (using the regional model) and what measures are in place to address any degree of uncertainty that may exist in outcome?

3.33 As detailed within Section 1.2 of the STA (REP1-142) (**ISH2-3**) the majority of analysis completed within the STA uses the SRTM to assess the future year baseline and construction stage impacts of the Proposed Development. This was in response to pre-application meetings with Hampshire County Council and Portsmouth City Council, during which it was requested that as part of the Transport Assessment the Applicant should assess the impacts of traffic reassignment across the wider highway network in addition to an assessment of the Onshore Cable Corridor itself.

3.34 As noted in the Applicant's response to question 3A-5 above, the SRTM is a strategic transport model which is fully WebTAG compliant with the Department for Transport's Transport Analysis Guidance (WebTAG). It has been developed by the Solent Transport Partnership (comprising Hampshire County Council, Portsmouth City Council, Southampton City Council and Isle of Wight Council) to support development transport assessments including those in Portsmouth (City Centre Road Scheme (17/02066/CS3)) and Hampshire (Welborne – New Community North of Fareham (P/17/0266/OA)).

3.35 Further to this, as can be seen in Figure 2-1 of the SRTM Coding Note (Appendix B of the Transport Assessment, APP-448) (**ISH2-2**), the entirety of the Onshore Cable Corridor is included within the core "Fully Modelled Area" of the SRTM, and as such it offers the highest degree of accuracy available with regard to route choice and traffic reassignment. An important part of the functionality of the SRTM is that it makes routing choices for vehicles on the basis of generalised cost of each available route, in line with guidance set out by WebTAG Unit 3.1 Highway Assignment Modelling (DfT, 2020). This means that delays associated with traffic congestion are incorporated into drivers' route choice and that the introduction of traffic management in the Do-Something scenarios leads to vehicles reassigning to alternative routes across the highway network in order to make best possible journey progress.

3.36 It is therefore the Applicant's view that the SRTM has robustly and appropriately considered the effects of traffic management required to facilitate construction of the Onshore Cable Route in the highway across the study area.

3.37 In addition to the SRTM modelling, an assessment of localised and detailed level effects, has been completed through local junction capacity assessments and link assessments using the SRTM traffic flow outputs as per the agreed methodology set out in the TA Scoping Note (Appendix A of the TA, APP-448) (**ISH2-2**). Each of these junction capacity assessments has used industry standard modelling software. It should also be noted that following an initial review of the SRTM outputs the Applicant agreed with Hampshire County Council and Portsmouth City Council to extend the scope of local junction capacity assessments to include an additional nine locations, based upon modelled increases in traffic flow and junction operation with the SRTM. As a result, a total of 31 junctions were included within the Transport Assessment (**ISH2-2**), which the applicant considers to be a very robust assessment of temporary impacts associated with construction of the Onshore Cable Route.

3.38 Furthermore, the Applicant has completed a series of sensitivity tests and additional analysis within the STA that consider the following:

3.38.1 An assessment of temporary traffic signals and shuttle working traffic signals assuming a 50% reduction in traffic reassignment away from the Onshore Cable Corridor, which the Applicant has provided further detail on above; and

3.38.2 An assessment of the A2030 Eastern Road / Tangier Road traffic signal junction with traffic management lane closures (Eastern Road Further Traffic Assessments Technical Note, Appendix E (page 360) of the STA (REP1-142) (**ISH2-3**), which is also detailed in the Applicant's response above.

3.39 Each of these additional assessments have shown that the SRTM has supported a robust and credible assessment of the temporary impacts associated with construction of the Onshore Cable Route, which sees traffic seeking to divert away from the corridor (in line with typical driver behaviour that seeks to find the optimum route for a journey purpose). This has been supplemented by the further sensitivity testing provided, which has assumed a lesser level of diversion to increase the robustness of the assessment.

Question 3A - 7

For those residents who cannot access their driveways due to construction, what distance does the Applicant consider acceptable for residents to seek alternative parking arrangements? Would on-street parking arising from displacement affect the effectiveness of diversion routes?

3.40 **Alternative parking arrangements**

3.41 The strategy for providing access to residential driveways during construction of the Onshore Cable Route is detailed within the Onshore Cable Route Construction Impacts on Access to Properties and Car Parking and Communication Strategy (Appendix 1 of the FTMS (REP1-068) (**CB-22**). Along the majority of the Onshore Cable Corridor, temporary lane closures will be required to facilitate construction and where this is required vehicular access will be unavailable during construction working hours, except for emergencies and for vulnerable persons.

3.42 Taking account of start-up and shut-down periods at each construction location, this means that access to driveways will be unavailable on weekdays from approximately 07:30 to 16:30, reflecting the normal construction working hours of 07:00 to 17:00. On Saturdays, access to driveways will be unavailable from approximately 08:30 and 12:30 reflecting the 08:00 to 13:00 normal construction working hours.

3.43 In the rare circumstances where there are full road closures to facilitate construction of the Onshore Cable Route, vehicular access will be unavailable for the entirety of the road closure, including outside of construction working hours, except in emergencies.

3.44 Where vehicular access is not available to residential properties and driveways, residents will likely need to park at alternative locations, such as on adjacent or nearby residential streets or at public car parks as identified in the Access to Properties and Car Parking and Communication Strategy contained in Appendix 1 of the FTMS (page 110) (**CB-22**).

3.45 Given that construction will progress along the highway in 100m sections at a rate of 100m per week it is estimated that 5-10 properties will impacted at any one time for period of 1-2 weeks per circuit. However, during the period of construction it is normal working practice for road plates to be installed across the trench once excavated and the cable ducts installed and these to remain in place until reinstatement of the carriageway is completed at the end of the week. This means that in the majority of cases, properties impacted by construction works are likely to have driveway access restricted for approximately two days only with access available across road plates at all other times. It also means that, whilst 5-10 properties may be located within the 100m construction area, for the majority of the construction period only 3-4 properties will have driveway access restricted at any one-time.

3.46 Based on travel patterns derived from the National Travel Survey 2018 (Department for Transport), the Applicant also estimates that 45% of driveway capacity will be displaced during construction working hours where driveway access is not available through road plating (as detailed in Section 5.3 of the Onshore Cable Route Construction Impacts on Access to Properties and Car Parking and Communication Strategy contained in Appendix 1 of the FTMS (REP1-068) **(CB-22, page 110).**

3.47 Within the Onshore Cable Route Construction Impacts on Access to Properties and Car Parking and Communication Strategy (REP1-068) **(CB-22, page 110)** alternative parking was assessed up to an approximate distance of 400m away from residential properties. This represents a maximum five minute walk at a speed of 5km per hour, which is the industry standard approach for assessment of travel time when traveling by foot and is considered an acceptable maximum distance for the displacement of parking on a temporary basis. This is based upon a distance of 400m being the accepted maximum distance for residents to walk to a mode of transport, as stated in the Busses in Urban Developments[1] which recommends that all housing development is located within 400m of a bus stop. In addition, the Public Transport Access Level (PTAL) assessment methodology used by Transport for London assumes "*that people will walk up to 640 metres (approximately eight minutes) to a bus service*" from home (Assessing Transport Connectivity in London, TfL 2015).[2] Therefore 400 metres is a recognised distance for residents to walk from their property to a mode of travel.

3.48 The assessment of available parking up to a 400m distance from residential properties also showed that in the vast majority of locations where parking surveys have been completed, all displaced parking could be accommodated when using the robust assumption that 5-10 properties within each 100m section are to be impacted at the same time. As stated above, however, in practice only 3-4 properties are likely to have access restricted at any one time.

3.49 Nevertheless, the Applicant also notes that whilst this distance will be acceptable to some residents, it may not be the case for all, with this acceptability depending upon individual circumstances and mobility. Conversely, some residents may choose to park further afield or may be able to cover a greater walk distance within a five minute walk. This is therefore considered to be acceptable given the limited duration of disruption

3.50 **Effect of displacement on diversion routes**

3.51 In responding to the question on whether or not displaced parking affects diversion routes the Applicant has considered the impact on unofficial diversion routes used by traffic reassigning away from traffic management on the Onshore Cable Corridor and signed diversion routes which will be provided during full road closures.

3.52 Where parking is displaced onto unofficial diversion routes as a consequence of traffic management, there may be some limited circumstances where there are minor impacts on these routes. The number of properties affected at any given point of time will lead to only a low number of displaced parked vehicles and the roads to which the vehicles are displaced already include an element of on street parking and have the potential to accommodate more without materially affecting the flows of traffic. The changes are not expected to be significant.

3.53 Where signed diversion routes are to be provided during full road closures displaced parking will not impact upon their operation. This is because the proposed diversion routes use roads which contain parking restrictions or haves areas of on-street parking that does not impact upon two-way traffic flow due to the existing carriageway width.

Question 3B

Abnormal Indivisible Loads (AILs)

What are the intentions regarding routing, timing and management of deliveries via AILs?

What provisions will be made such as advance notice to residents and businesses along the AIL delivery route? How will this be managed, and how will services affected by the AIL deliveries be restored, including those affected areas that lie outside the Order limits?

Would the movements of AILs, and the consequential road restrictions in terms of access and parking, impact on the road diversions and traffic assumptions modelled on the highway network and, if so, have they featured in the assessment of cumulative effects?

[1] Buses in Urban Developments – Chartered Institute of Highways and Transportation (January 2018)
[2] Assessing Transport Connectivity in London – Transport for London (2015)
(http://content.tfl.gov.uk/connectivity-assessment-guide.pdf, accessed on 26/11/20)

In relation to AILs, the specialist report by Collett ([REP1-142] Appendix A, paragraph 1.11) makes reference to full structural reports being made of any affected properties near the AIL route and discussion with the relevant local authorities in advance to ensure the route is structurally suitable. Whose responsibility is this, how or where is it secured and what compensation is available if damage is caused to properties either within or outside the Order limits?

3.54 **Routing, timing and management of deliveries via AILs**

3.55 These matters are set out in the Supplementary Transport Assessment (STA) (REP1-142) (**ISH2-3**) and the Framework Construction Traffic Management Plan (FCTMP) (REP1-070) (**CB-23**), noting that it will be for the appointed contractor to address the final arrangements in accordance with the FCTMP which is secured by the draft DCO (REP3-003) (**CB-1**).

3.56 AILs will comprise cable drum deliveries to the joint bays and transformer components deliveries to the Lovedean Converter Station. In brief, the details of routing, timing and management of AIL deliveries can be summarised as follows:

3.56.1 All deliveries of AILs to be outside of peak times;

3.56.2 All AILs movements will be accompanied by an escort vehicle;

3.56.3 Two working days' notice will be provided to the highway authority and Police of proposals to transport the cable drums as specified in The Road Vehicles (Authorisation of Special Types) (General) Order 2003;

3.56.4 Banksmen will be used at all joint bays to manage AIL movements;

3.56.5 Use of pre-assessed routes for the AILs as prescribed in the FCTMP (REP1-070) (**CB-23**);

3.56.6 Use of either TTROs to restrict on-street parking or temporary removal and reinstatement of street furniture would be required for the short durations that the cable drum delivery vehicles are present in some locations. Powers to facilitate such measures are included for within the Draft DCO, along with the requirement for the reinstatement of any alterations after construction is complete to the satisfaction of the relevant highway authority.

3.57 Section 2.7 of the updated Framework CTMP also states that a haulier must gain approval from relevant highway authorities prior to commencement of work.

3.58 The notification requirements and process are provided in The Road Vehicles (Authorisation of Special Types) (General) Order 2003 and repeated on the following website which provides details to hauliers: https://www.gov.uk/esdal-and-abnormal-loads/notifying-the-authorities:

3.58.1 Depending on load and route, advance warning needs to be given to: the police; highway authorities; together with bridge and structure owners like Network Rail.

3.58.2 The above website also has a link to Highways England's electronic service delivery for abnormal loads (ESDAL) to plot the route; make notifications as above; and get advance notice of any possible route problems.

3.58.3 There is also a summary document of notification timescales for different loads. For the cable drums, two working days' notice will be required to the Highway and Bridge Authorities and Police. For the transformer components, at least 10 weeks' notice will be required to Highways England (via a Special Order application) while Highway and Bridge Authorities and Police will require five working days' notice.

3.59 **Notification to Residents and Businesses**

3.60 The Onshore Cable Route Construction Impacts on Access to Properties and Car Parking and Communication Strategy, Appendix 1 of the FTMS (REP1-068) (**CB-22**) provides further detail on the expected impacts on residential, business and public vehicle parking along the Onshore Cable Corridor during construction. It outlines the Applicant's proposed approach to communicating with local residents, businesses and other stakeholders during the construction period for the onshore elements of the Proposed Development.

3.61 The communication strategy currently proposes the following actions prior to commencement of construction:

3.61.1 Two weeks prior to commencement of construction, letters and emails will be issued to the following to inform them of the forthcoming works and advertise the relevant section of the project website where further information will be provided

(A) Homes and businesses located on the Onshore Cable Corridor;

(B) Individuals / organisations who provided their feedback and / or registered for updates during pre-application consultation; and

(C) Identified stakeholders (included in Appendix 8 of the Access to Properties document and to be reviewed regularly as appropriate).

3.61.2 All letters and notices issued will also include the following communication methods to enable people to contact the project team during construction:

(A) A dedicated email address;

(B) Freephone number; and

(C) Freepost address.

3.61.3 These will be monitored during office working hours (Mon-Fri, 9.00am – 5.30pm and can be amended in line with the changes in working hours). The project website will also be updated to create a dedicated 'Construction' section, which will provide information on forthcoming and current works, together with a set of construction focused FAQs and contact details for the project team. The 'Construction' section of the website will also allow individuals/organisations to register for email updates that are specific to certain geographical areas where construction works are taking place.

3.62 **Removal and reinstatement of street furniture**

3.63 If any street furniture need moving in order for the load to travel the route, then the haulier must organise this and notify Council of the arrangements. The provisions of the DCO require reinstatement of the highway and any street furniture removed temporarily.

3.64 **Assessment of Cumulative Effects**

3.65 All AIL movements will be completed outside of weekday peak hours to minimise disruption to traffic. It is also anticipated that such movements will be limited to 1-2 per day to any single location. As a result, it is concluded that these movements would not have an impact on the assessed effects of the construction of the Proposed Development, all of which considered the AM and PM peak hours only, and would not lead to any additional significant effects.

3.66 **AIL Structural Reports**

3.67 The approach to how AIL's will be dealt with is provided within the Framework Construction Traffic Management Plan (REP1-070) (**CB-23**), which is secured by the dDCO . It will be the responsibility of the appointed haulier to ensure that they can safely travel the route and to agree the relevant protocols with the relevant highway authorities. In doing so, the following steps would be completed:

3.67.1 All abnormal load notifications are submitted via email (via ESDAL, Abhaulier software etc).

3.67.2 The Local Highway Council checks to see if the abnormal load exceeds specific measurements (over 30m long, over 5m height, over 5m wide or over 80t in weight) or uses a particular route.

3.67.3 If the abnormal load is over any of these parameters then the highway authority passes the details onto their Structures Team for assessment.

3.68 If any street furniture (usually traffic signs and posts) need moving in order for the load to travel the route, then the haulier must organise this and notify Council of the arrangements.

3.69 With regard to compensation, it is not expected that there will be any damage to properties as the structural appropriateness of the route will be confirmed prior to any AIL's undertaking deliveries in connection with the Authorised Development. In the unlikely event that any damage is caused to properties, it would be for the property owner or occupier as relevant to seek to bring a claim for compensation at law in respect of that. The Order does not remove any rights for persons to do so. This position is the same as it would be for any AIL

movements approved in this manner where the movements were undertaken not connected with works authorised by a DCO, and it is not considered it is necessary or appropriate to otherwise specifically provide for this unlikely scenario in the Order.

Question 3C Joint bays and laydown areas

Given the Applicant's response to Local Impact Reports ([REP2-013], page 3-50, 5.5.2) regarding the position of joint bays, and noting that the construction of a joint bay takes 20 days, what confidence can the highway authorities have that the construction of joint bays will not take place within the highway?

Has the Applicant modelled the worst case of all joint bays needing to be constructed in the highway on Portsea Island? If not, why not?

Given the extent of the Order limits, how does the Applicant intend to provide laydown areas adjacent to construction works without encroachment onto the public highway?

3.70 **Location of joint bay construction working areas**

3.71 Typical joint bay arrangements are shown on **ISH2 - Exhibit 2.**

3.72 To correspond with the lengths of cable that can fit on a drum and specific constraints on installation, joint bays will need to be positioned at approximately 600-2,000m intervals along the route.

3.73 Joint bays will be positioned in verges, fields or car parks where possible, to limit impacts on the highway during installation, with this secured in the updated Onshore Outline CEMP (REP4-005) **(CB-24)** with which compliance is secured by requirement 15 of the dDCO (REP1-031) **(CB-15).** It is also preferable to avoid the need for the DC cables to cross the highway to access a joint bay location.

3.74 In addition to the joint bay excavation, which will be large enough for the joint bay itself, plus space for cable handling during installation and jointing, additional space will be required for delivering and offloading of cable drums and winches, and for a site set-up during jointing.

3.75 The location of the joint bays cannot be confirmed now as it is a matter to be addressed at detailed design. Detailed design approvals for all works will also take place at that stage with the relevant authorities.

3.76 The number, distance between and location of joint bays along the route is an iterative process with several contributory factors. These include the following:-

3.76.1 maximum drum dimensions and weight determined by manufacturing, transport and site constraints.

3.76.2 maximum cable length that can be installed determined by the route, number and type of bends, profile, number of service crossings, duct size, type and lubricant and cable maximum pulling tension.

3.76.3 availability of space suitable for the locations of joint bays.

3.77 The factors that impact on the detailed route engineering differ between suppliers, meaning it is not possible to confirm the final joint bay positions until the contractor has completed the detailed design phase following contract award.

3.78 The general process will be to first survey the route to determine distances, profiles and bends. Based on this the process, the determining section lengths will commence starting with the fundamentals of maximum cable lengths to be considered. This will divide the route into a number of sections to provide a starting point. The process then becomes more granular with each section being surveyed in detail to identify the most suitable joint bay locations and to understand obstructions, services etc. and to allow calculations to be carried out to determine the maximum length of cable pull possible. As part of this process a series of trial holes will be required to confirm that the route and location of joint bays are in fact possible taking into account ground conditions, services etc.

3.79 Ideally potential joint bay locations will align with the maximum cable length that can be installed for each section. However, this is unlikely and some considerable iteration is required to reach the final route design and joint bay locations

3.80 **Assessment of joint bay construction in the highway**

3.81 Further to the response above, the Applicant has not specifically modelled the case where all joint bays need to be constructed within the highway on Portsea Island. By definition, the nature and alignment of the Onshore Cable Corridor means not all Joint Bays will be in proximity to the highway and therefore it has not been necessary to model the effects of their construction on the highway.

3.82 In further responding to the question the Applicant refers to the answer provided to EXA Written Question TT1.16.11 (REP1-091), where the Applicant stated that construction of Joint Bays would be facilitated by similar or less disruptive traffic management when compared to installation of cable ducts for the Onshore Cable Route – a position which has been assessed by the Applicant.

3.83 Construction of Joint Bays will also be completed using the same construction working hours and will generate a similar number of construction traffic movements as installation of the cable ducts for the Onshore Cable Route. As such, the assessments of traffic management required contained within the Transport Assessment (APP-448) (**ISH2-2**), Supplementary Transport Assessment (REP1-142) (**ISH2-3**), Chapter 22 of the Environmental Statement (APP-137) (**ISH2-1)** and Environmental Statement Addendum (REP1-139) (**CB-13**)provide a robust assessment of likely impacts associated with construction of any Joint Bays that are required within the highway also.

Question 3D

Day Lane and Broadway Lane

During operation of the Proposed Development, how many and what sort of large or oversized vehicles will need to access the Converter Station site?

At Day Lane and Broadway Lane, why can't normal construction vehicles (i.e. non-AILs) utilise the existing highway network without modification, especially since option 1 (shown in Appendix 5 to Appendix F of the Transport Assessment [APP-448]) shows that even AILs may be able to use the existing highway with minor modification? If option 1 (reference above) is not feasible, why not?

Is there a compelling reason why option 1 cannot be pursued and that option 2 (with permanent acquisition of land) has to be followed?

With respect to management of construction traffic on Day Lane, can the Applicant set out the predicted effectiveness of using banksmen to co-ordinate HGV movements? Apart from the purpose-built access on the corner with Broadway Lane, how does the Applicant intend to prevent HGVs meeting other non-construction traffic and potentially waiting within the public highway?

Does the Applicant consider additional passing bays or waiting areas to be required on Day Lane and Lovedean Lane? If not, why not?

3.84 **Use of oversized vehicles during operation of the Converter Station**

3.85 There will be no oversized vehicle access required during normal operation of the Converter Station. Access by such vehicles will only be required to access the site during the unlikely event of a fault or equipment replacements and in these cases a detailed risk assessment and method statement will be provided and approvals sought with relevant Highways Authorities.

3.86 **Need for amendments to the highway network in connection with construction traffic**

3.87 Option 1, as shown on Drawing COL-D-333100-10-7 "Site Entrance Option 1 SPA" of Appendix 1 of the STA (REP1-142) (**ISH2-3,** page 201), was discounted as a viable location for the site access junction due to road safety concerns and the presence of underground Scottish and Southern Electricity Network (SSEN) infrastructure at the corner of Day Lane and Broadway Lane as summarised below:

3.87.1 Option 1 created a road safety concern due to the layout effectively creating a fourth arm on the western side the Day Lane / Broadway Lane junction, leading to the following issues such as:

(A) during the construction and operation phases, the location of the access road would have created a confusing highway layout for traffic approaching from Day Lane and would likely lead to vehicles either misjudging the left hand bend or overshooting into the access itself; and

(B) construction vehicles turning into and out of the access junction from Day lane would have very limited forward visibility of oncoming traffic due to the existing bend, which is likely to have triggered an objection from HCC as the Local Highway Authority.

3.87.2 The presence of SSEN underground infrastructure would have led to the risk of temporary closure of a site access located at Option 1 should maintenance of this equipment be required. As access is required at all times to both the SSEN infrastructure and Converter Station for safety reasons, the location of the access junction at Option 1 was not considered viable by the Applicant.

3.88 Taking this into account it is the Applicant's view that Option 1 would not have provided a safe means of access to the Converter Station and therefore 'Option 2' has been taken forward.

3.89 The proposed site access junction and gated haul road (Drawing AQD-WSP-UK-OS-DR-Z-200215 at Appendix C of the STA (REP1-1-42)) (**ISH2-3**) provides the following benefits:

3.89.1 The relocation of the site access away from the Day Lane / Broadway Lane junction avoids the potential for driver confusion when approaching from Day Lane by virtue of the separation provided;

3.89.2 The provision of the gated haul road removes the need for construction HGVs to negotiate the bend at the junction of Day Lane / Broadway Lane, thereby providing a road safety improvement to Option 1;

3.89.3 The relocation of the site access allows for appropriate northbound and southbound visibility splays to be achieved from the site access junction. This allows traffic exiting the compound to see and be seen by other road users;

3.89.4 The provision of the gated haul road removes any requirement for vehicles to wait on carriageway when entering the site access during the construction stage;

3.89.5 The provision of the gated haul road allows all entry and exiting vehicle movements across Broadway lane to be completed under banksman control during the construction stage; and

3.89.6 The provision of the gated haul road provides the ability for abnormal loads to access the site safely in perpetuity.

3.90 The provision of an access arrangement which ensures the safe movement of traffic on the highway in the vicinity of the access to the Converter Station Area is the compelling reason why 'Option 2' has been taken forward.

3.91 **Position in relation to the land required for the gated haul road**

3.92 The Applicant has agreed Heads of Terms with Winchester College, the owner of the land over which the new access road will be constructed in the area by the junction of Broadway Lane and Day Lane (i.e. Plots 1-47 and 1-49 as shown on the Land Plans (REP1-011a) (**CB-18**). The Heads of Terms provide the rights required for the construction, use and maintenance of the access road and the associated landscaping. The Applicant's and College's respective solicitors are preparing the Option Agreement and associated documents for completion. The Option Agreement will also include the rights required from the College's agricultural tenants, Timothy and Samuel Sykes, with whom the Applicant has had a considerable level of engagement.

3.93 **Management of HGV traffic during the construction period**

3.94 Following discussions with HCC, the Applicant is intending to implement an amended strategy for the management of construction traffic on Day Lane. The amended strategy will still use banksmen to coordinate HGV movements, but take a more strategic approach to the management of arrivals and departures at the Converter Station Area. This revised strategy is under discussion with HCC as the Local Highway Authority, and if agreed will be included within an updated version of the Framework Construction Traffic Management Plan.

3.95 The amended strategy for management of HGVs exiting the Converter Station Area includes the stacking of HGVs waiting to leave the site. As is stated in Table 10 of the STA (**ISH2-3**), 43 HGVs will depart from the Converter Station Area via Day Lane during a typical working day in peak construction. Given the eight-hour working period, this equates to approximately six HGV movements travelling eastbound on Day Lane every hour. It is proposed that during peak construction, the banksman located at the exit of the Converter Station Area will prevent single HGVs from leaving the site alone, waiting until there are three HGVs waiting to leave. Once three HGVs are ready to leave, all three vehicles are released together in a convoy travelling eastbound on Day Lane.

3.96 This methodology would mean the time in which Day Lane is occupied by HGV movements exiting the site would reduce from approximately one instance every ten minutes, to one instance every half hour. This methodology would thereby decrease the total time within the working day in which eastbound HGV movements take place on Day Lane, and thus decrease the potential for conflicts with both general traffic and arriving HGVs. In order to ensure the exiting convoy does not conflict with the arrival of HGVs, all banksmen will be made aware by radio contact when a convoy is to be released, and arriving HGVs will be halted at their 'check-in' positions should their arrival have the potential to conflict with the departing vehicles.

3.97 In terms of HGV arrivals, their management will be dealt with by way of a requirement to pre book an arrival time at the Converter Station Area. This will allow HGV arrivals to be coordinated in order to avoid times when HGVs will be departing.

3.98 There are sufficient public laybys located within a 20 minute drive time of the site to allow HGVs to wait within appropriate areas in order to await their delivery slot. The location of these laybys would be generally on the Strategic Road Network, as shown on **ISH2 - Exhibit 3**. As can be seen from this, seven laybys are available: -

3.98.1 A27 westbound, approx. 240 metres west of the Stein Road bridge, Emsworth;

3.98.2 M27 eastbound, just west of the Portsbridge Roundabout, Cosham;

3.98.3 Layby just off Junction 3, accessed by Hulbert Road to the east of the junction;

3.98.4 A3 southbound, approx. 850 metres north of the A3 / A272 junction;

3.98.5 A3 southbound, approx. 725 metres north of the A3 / B2070 junction;

3.98.6 A3 southbound, approx. 2.5 km south of the A3 / B2070 junction; and

3.98.7 A3 southbound, approx. 218 metres south of the A3 / New Barn Farm Lane junction.

3.99 In addition, the BP service station on the A27 westbound, approx. 560 metres west of Horndean Road, Emsworth provides parking for six HGVs.

3.100 This shows that there are a number of opportunities for HGV's arriving at the Converter Station Area to wait ahead of the arrival slot becoming available.

3.101 As with departures from the Converter Station Area, it is anticipated that at peak construction there will be 43 HGV movements travelling westbound on Day Lane. It is proposed that HGVs will pull into pre-identified laybys in order to 'check-in' with the banksmen in place on Day Lane ahead of their arrival slot. The arriving vehicle will be given authorisation by the Banksmen to leave their check-in location. Once this authorisation has been given, no HGVs will be permitted to leave the Converter Station Area until the dispatched HGV has arrived. Should the arriving HGV be likely to conflict with a departing convoy. The approaching HGV will be held at their check-in point until the departing HGVs have cleared the banksman at the eastern end of Day Lane. Approaching HGVs will also be held should another approaching HGV have already been cleared for arrival and be travelling to Day Lane from their 'check-in' point. This will eliminate the potential for conflicting HGV movements to occur on Day Lane.

3.102 This management strategy will ensure that HGVs arriving at the Converter Station can be scheduled to avoid times when departing HGVs are leaving. At the same time, if HGVs are known to be arriving at the Converter Station Area, departing HGVs can be held on site until such as the incoming HGVs have arrived.

3.103 Whilst HGVs are travelling to/from the Converter Station Area, general background traffic can be held at the access, through the use of “Stop/Go” boards. This strategy can also be used at the junction of Day Lane and Lovedean Road. Adopting this strategy will ensure that the free flow of traffic is maintained for the travelling public, whilst allowing for a flexible approach to traffic management when there is the need to control movement and allowing a procedure to be able to deal with any unforeseen circumstances that may arise.

3.104 **Need for waiting areas on Day Lane and Lovedean Lane**

3.105 The approach toward preventing conflict occurring between HGVs and ordinary traffic has also been altered slightly to account for the now proposed convoy strategy for existing vehicles. The highway maintenance which is detailed in Section 3.4.3. of the Supplementary Transport Assessment (**ISH2-3**) will still be undertaken. The use of banksmen which is detailed in Section 3.4.4. of the Supplementary Transport Assessment (**ISH2-3**) will also be retained.

3.106 On this basis, whilst the potential for provision of passing bays on Day Lane is currently being investigated by the Applicant following discussions with HCC on this subject, these are not considered to be necessary given the proposed revisions to the management strategy of HGV movements as outlined above. These investigations are nonetheless ongoing.

Question 3E

Construction programming

With reference to the Framework Traffic Management Strategy, could the Applicant explain or provide insight as to whether any greater certainty can be applied to the ‘weeks per circuit’ construction programme? Why are there differences (1 day to 2 weeks per circuit for example) and what factors would influence prolonging the construction?

What ‘engineering challenges’ does the Applicant envisage during onshore construction that would warrant the contractor deviating from the Applicant’s own identified preferred working hours and routes? Is this purely down to the skill or ability of the contractor?

3.107 **Construction period estimate ranges**

3.108 All estimates of construction time per circuit have been based upon the assumed installation rates of cable ducts along the Onshore Cable Corridor taking account of varying levels of services and / or other constraints which may impact upon the rate of installation. These are based upon professional judgement and experience from similar projects.

3.109 Any differences in weeks per circuit provided within the FTMS (REP1-068) **(CB-22)** relate to options available for either the final alignment of the Onshore Cable Route or the construction working hours used. Further explanation for each of these locations is provided below:

3.109.1 **Sub-Section 4.1**: B2150 Hambledon Road between Soake Road and Milton Road which has a stated range in duration of between 11 and 22 weeks per circuit. The reason for the duration in range at this location is due the optionality within the Order Limits, which includes the possibility for contactors to take one circuit out of B2150 Hambledon Road and install it in the adjacent roads of Hambledon Road / Southdown View, which run parallel to the B2150. Use of this option would reduce the total duration of works on B2150 Hambledon Road between Soake Road and Milton Road from 22 weeks to 11 weeks.

3.109.2 **Sub-Section 5.4**: The road closure on A2030 Havant Road has a stated duration of impacts in the FTMS of between one and two weekends per circuit. This variation in durations listed on this link is due to optionality on construction working hours. Should construction take place between Saturday sunrise and Sunday sunset it has been estimated that construction will take one weekend per circuit. Alternatively, if working hours were limited between 07:00 and 22:00 construction would require two weekends per circuit.

3.109.3 **Section 8.1**: A2030 Eastern Road between Airport Service Road and Tangier Road has a stated duration of works for between five and eight weeks. The variation in listed durations of works on this link is due to optionality within working hours available to appointed contractors. Should construction takes place 24 hours

per day and seven days per week it is estimated that installation of each circuit would take five weeks. However if construction takes place over 10 hour days and seven days per week installation of each circuit will take eight weeks.

3.109.4 **Section 8.2**: The variation within listed durations of works in the vicinity of Milton Common is due to optionality in respect to the variations in working hours which could be utilised by appointed contractors, and in respect to the Cable Route which could be taken forward for installation. For Option 1, which would see both circuits installed within Milton Common, the duration of on-carriageway works would be between 1-2 weeks, dependent upon whether 24-hour working or 10-hour working is utilised. For both Options 2 and Option 3, which would respectively see either one or both circuits being installed in the carriageway directly to the north of Milton Common, installation durations vary between eight weeks, should 10-hour working days be used, seven days a week, or 11 weeks, should 10 hour working days be used Monday – Friday with an additional five hours on Saturdays.

3.110 In all cases it will be for the Contractor to determine the most appropriate approach for construction of the Onshore Cable Route.

3.111 At some locations the Applicant has identified preferred routes or working hours that minimise traffic disruption, however, each of these locations presents engineering challenges, and it is recognised that the contractor, having performed additional surveys and searches appropriate to be undertaken at that time, may not choose these routes due to unforeseen constraints and use those with the worst-case assessed environmental effects. These worst-case environmental effects have been fully assessed within Chapter 22 of the Environmental Statement (APP-137) **(ISH2-1**) and Environmental Statement Addendum (REP1-139) **(CB-13)** on that basis.

3.112 All construction work will be completed in accordance within the programme and calendar restrictions identified within the FTMS (REP1-068) **(CB-22)**, which is secured by the dDCO (REP3-003) **(CB-1)**.

3.113 **Engineering Challenges**

3.114 The most common challenges faced during a project of this nature are:

3.114.1 previously unidentified services

3.114.2 services in locations different to route records

3.114.3 other unknown obstacles

3.114.4 presence of a high water table

3.114.5 unforeseen ground conditions

3.115 Any of the above could require the contractor to deviate from the preferred route and work outside the normal working hours in order to find a route that can be safely constructed and that allows the cable to be installed in such a way as required to ensure the long term safe performance of the system.

3.116 The potential need for deviations and the scope of the assessment carried out to account for this is not based on the skill or ability of the contractor. An appropriately qualified and skilled contractor workforce, familiar with works of the type to be undertaken, will be appointed, and they will in any event be required to comply with the mitigations and controls provided in accordance with the assessment undertaken.

Question 3F

First Group and bus services

In the Applicant's comments on D1 submissions from non-IPs ([REP3-015], 2.4.10) (and elsewhere) it is noted that there are ongoing discussions with the bus companies and that appropriate mitigation can be secured. Can the Applicant provide the minutes of the meetings with First Group into the Examination and confirm the status of discussions with both bus companies? What is the nature of the additional mitigation measures arising from the meetings with the bus companies to limit the impact on their services? Where and how would such measures be secured?

3.117 The Minutes of Meetings held with First Group on 8th October 2020 and with Stagecoach on 21st October 2020 were submitted as part of the Applicant's response to Deadline 3 submissions (REP4-027) **(CB-9)** and are re-provided in **ISH2 - Exhibit 4** and **ISH2 - Exhibit 5** for reference.

3.118 During each meeting the Applicant provided details of the Proposed Development, focusing upon the construction of the Onshore Cable Route and Framework Traffic Management Strategy (REP1-068) **(CB-22)** that will facilitate construction within the highway. This included a discussion regarding the types of traffic management which would be required along all sections of the Onshore Cable Corridor and weekend full road closures that will affect either First Group or Stagecoach bus services.

3.119 Both First Group and Stagecoach welcomed the engagement on the proposals and considered the FTMS appeared well planned, with neither bus operator expressing significant concerns regarding the proposals or potential disruption to bus services. Where full road closures are required that impact bus services it was also the view that these could be dealt with simply through diversions to existing services and/ or provision of shuttle buses.

3.120 It was agreed with each bus operator that further meetings would be held if required following their full review of the FTMS and road closure requirements, which was shared after each meeting.

4. AIR QUALITY AND EMISSIONS

Question 4G

Clean Air Zone

How does Portsmouth City Council envisage the instigation of a Clean Air Zone would be affected by or have an effect on the Proposed Development?

Would the implementation of the Clean Air Zone have a beneficial influence over the construction worker travel arrangements?

4.1 With respect to Heavy Goods Vehicles for the convertor station works, paragraph 2.8.2.1 of the Framework Construction Traffic Management Plan (REP1-071) (**CB-23**) requires "*...All vehicles will have engines with the minimum standard of Euro 6 for diesel and Euro 4 for petrol*."

4.2 The Ministerial Directive for the Portsmouth charging Clean Air Zone states non-compliant vehicles are HGVs, buses and coaches, taxis and private hire vehicles that:

4.2.1 Do not meet Euro 6 emissions standards (so are Euro 5 or older) if they are diesel

4.2.2 Do not meet Euro 4 emissions standards (so are Euro 3 or older) if they are petrol.

4.3 Therefore, construction vehicles to be used will be compliant with the requirements of the Clean Air Zone and will not be subject to enforced re-routing in avoidance. It is therefore concluded that the implementation of the Clean Air Zone will not have any impact on emissions produced by construction vehicles.

Question 4H Air Quality Management Areas and the Air Quality Local Plan

Can the Applicant clarify the conclusions made in respect of all the Air Quality Management Areas within and outside the Order limits?

Whilst it is now recorded that AQMA No.9 would experience slight adverse effects following the recorded additional traffic data (as opposed to slight beneficial), are there implications for other parts of the route?

With reference to the answer to question ExQ1 AQ1.2.4 and the Works Plans, can Portsmouth City Council clarify whether there are particular areas of concern relating to potential exceedances of NO2 within the Order limits and whether such areas are covered either by Air

4.4 **Summary of conclusions in respect of AQMA's**

4.5 All Air Quality Management Areas designated by Portsmouth City Council inside and outside the order limits have been included in the air quality impact assessment.

4.6 **AQMA 6** is located in the city centre along the A2047 Fratton Road and Kingston Road. It is outwith the Order Limits but is affected by changes in traffic flows resulting from diverted traffic. The impacts in this AQMA are predicted to be negligible adverse under both the DS1 and DS2 scenarios, with no significant effect. The maximum predicted concentrations of NO_2 against a predicted maximum concentration of 30.9µg/m³ under the DM scenario were:

4.6.1 31.2µg/m³ for DS1 with a maximum predicted deterioration of 0.3µg/m³; and

4.6.2 30.9µg/m³ for DS2 with a maximum predicted deterioration of 0.1µg/m³.

4.7 Out of 11,439 receptors on modelled roads that intersect this AQMA, 7,310 were predicted to experience a deterioration in concentrations under the DS1 scenario, and 1,706 under the DS2 scenario.

4.8 **AQMA 7** is outwith the Order Limits and is affected by virtue of changes in traffic flows as a result of diversions from traffic management. Located in the south west of the city, 3,945 receptors were identified on roads that intersect this AQMA. The impacts were predicted to be negligible adverse and not significant for both the DS1 and DS2 scenarios. An NO_2 concentration of 27.4µg/m³ was predicted for the DM scenario, and the maximum predicted concentrations under the DS1 and DS2 scenarios were 27.6µg/m³ and 27.4µg/m³ respectively.

4.9 **AQMA 9** is located in the east of the city along the A2030 Eastern Road. this AQMA is covered by the Order Limits. It is directly affected by Onshore Cable Route Section 8 and is

likely to be affected by work within other Sections along Eastern Road and Sections 9 and 10, through the movement of construction traffic into and out of these Sections. Under the modelling described in Chapter 23 Air Quality (REP1-033) the impact on this AQMA is predicted to be significant with slight beneficial effects. The maximum predicted concentration of NO_2 under the DM scenario was 25.7µg/m³, and the maximum predicted concentrations under the DS1 and DS2 scenarios were 25.2µg/m³ and 25.6µg/m³.

4.10 The change in effect recorded for AQMA 9 in Appendix 23.8 (REP1-078) (**ISH2-8**) versus Chapter 23 (REP1-033) (**ISH2-7**) is due to the sensitivity test undertaken using data from the Supplementary Transport Assessment (REP1-142) (**ISH2-3**). This additional data involved forcing less traffic to redirect as a result of the traffic management than was previously predicted, resulting in slower traffic speeds and more queueing on Eastern Road. Only a small number of receptors were predicted to experience impacts above negligible (305 out of 3,253 for DS1 and 324 out of 3,253 for DS2), therefore slight impacts were conservatively predicted overall.

4.11 **AQMA 11** is located in the west of the city and includes the A3, M275 motorway and Junction 2 of the M275. This AQMA is not covered by the Order Limits, however is affected by diverted traffic within the city. This is the location of the highest NO_2 predictions within the model, and the DM prediction was 48.2µg/m³, in excess of the limit value for NO_2 of 40µg/m³. Maximum predicted concentrations in this AQMA were 48.3µg/m³ and 48.4µg/m³ under the DS1 and DS2 scenarios respectively. The maximum deteriorations predicted at any receptors in the AQMA (not necessarily with the highest overall predictions) was 0.6µg/m³ and 0.7µg/m³ for DS1 and DS2 respectively.

4.12 **AQMA 12** was not assessed as the traffic flow changes did not meet the IAQM screening criteria for change i.e. any changes inside AQMA 12 were so small that their impacts would have an imperceptible impact on local air quality.

4.13 **Sensitivity Testing**

4.14 The sensitivity testing recorded in Appendix 23.8 (REP1-078) (**ISH2-8**) was undertaken on the basis that less traffic would re-route away from the traffic management on Eastern Road and showed an expected adverse change in predicted air quality impacts. Given the results predicted from reduced traffic redistribution on the road network versus the results from the original predicted levels of redistribution on the network, it is considered that the air quality modelling reported in Chapter 23 (REP1-033) (**ISH2-7**) is robust and valid, including for the City of Portsmouth. The traffic redistribution that informed the modelling in Chapter 23 (REP1-033) (**ISH2-7**) represents a worst-case scenario for the other AQMA in the city.

Question 4l Construction Programming

In terms of no more than six gangs working on the cable corridor at any one time, is there a prescription as to how far the gangs have to be away from each other? How is the management and separation of gang working secured?

Has a scenario been tested whereby gangs, with associated laydown and works areas, combined with traffic management measures, would have a cumulative effect on air quality?

Could gangs work in one area in succession for a continued effect?

4.15 **On highway working gang restrictions**

4.16 Paragraph 2.3.1.8 of the FTMS (REP1-068) (**CB-22**) states that construction of the Onshore Cable Route on-carriageway will be undertaken by a maximum of six gangs working concurrently.

4.17 The management and separation of working gangs is also secured via the FTMS (REP1-068) (**CB-22**), included in which is a series of working restrictions which stipulate, for each sub-section of the Onshore Cable Corridor, when works cannot take place. These restrictions include the identification of which sub-sections of the Onshore Cable Corridor, cannot be undertaken concurrently. These restrictions prevent works being undertaken concurrently on sub-sections of the Onshore Cable Corridor which are in close proximity to one another, and therefore prevent multiple construction zones in the same area and the cumulative traffic impacts that would be generated by such works. The restrictions which are included in the FTMS (REP1-068) (**CB-22**) also include the prevention of works being

undertaken concurrently on proposed diversionary routes at the same time as the routes for which such diversions are required.

4.18 An example of the restrictions which are placed by the FTMS (REP1-068) (**CB-22**) on concurrent working in multiple nearby areas can be seen for Sub-section 3.2 on B2150 Hambledon Road north of Soake Road. The restrictions of concurrent working prevent works being undertaken in this location when they are also being undertaken on any other location on the B2150, or on A3 Maurepas Way, or on any of the sub-sections of A3 London Road that require shuttle working traffic signals or road closures. This is shown graphically on the plan provided in **ISH2- Exhibit 6.**

4.19 The number of gangs working within the Order Limit does not affect the construction dust assessment as the accepted IAQM methodology followed does not carry that level of detail.

4.20 **Cumulative Air Quality Impacts**

4.21 The amended Chapter 23 (REP1-033) (**ISH2-7**) presents amalgamated air quality results from diverted traffic, construction traffic and on-site power generation at HDD drilling locations. This predicts cumulative air quality impacts from these different aspects of the works due to the addition of the pollutant contribution of all of these separate elements of the assessment to the background air pollutant concentrations. The assessed elements make up the principal contributions to ambient air quality in the locations where they have been assessed. The maximum background pollutant concentrations within the Order Limits are:

4.21.1 NO2 – 22.98µg/m³ (objective 40µg/m³) (Chapter 23 (REP1-033) (**ISH2-7**) Plate 23.3)

4.21.2 PM10 – 17.16µg/m³ (objective 40µg/m³) (Chapter 23 (REP1-033) (**ISH2-7**) Plate 23.17)

4.21.3 PM2.5 – 11.87µg/m³ (objective 25µg/m³) (Chapter 23 (REP1-033) (**ISH2-7**) Plate 23.20)

4.22 Each of the maximum background concentrations leaves substantial headroom for emissions until the objective value is exceeded.

4.23 Emissions from Non-Road Mobile Machinery (NRMM) of the types typically used during construction operations were scoped out of the assessment following the guidance provided in the Defra Technical Guidance (LAQM.TG(16), paragraph 7.26) (Chapter 23 (REP1-033) (**ISH2-7**) Table 23.3), which states that with suitable site management and controls in place NRMM are unlikely to have a significant impact on local air quality.

APPENDIX 1

ISSUE SPECIFIC HEARING 2 EXHIBITS

Document description	Exhibit
A27 traffic flow data (Question 3A-1)	ISH2 - Exhibit 1
Typical joint bay arrangements (Question 3C)	ISH2 - Exhibit 2
Plan showing the location of laybys (Question 3D)	ISH2 - Exhibit 3
Minutes of Meetings held with First Group on 8th October 2020 (Question 3F)	ISH2 - Exhibit 4
Minutes of Meetings held with First Group on 21st October 2020 (Question 3F)	ISH2 - Exhibit 5
Plan showing concurrent working restrictions (Question 4I)	ISH2 - Exhibit 6