



AQUIND Limited

# **AQUIND INTERCONNECTOR**

Statement of Common Ground Between  
Aquind Limited and Portsmouth Water  
Agreed Draft

The Planning Act 2008

Infrastructure Planning (Examination Procedure) Rules 2010, Rule 8(1)(e)

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## DOCUMENT

<b>Document</b>	<b>Statement of Common Ground with Portsmouth Water</b>	<b>Statement of Common Ground with Portsmouth Water</b>
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# 1. INTRODUCTION AND PURPOSE

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## 1.1. PURPOSE OF THE STATEMENT OF COMMON GROUND

1.1.1.1. This Statement of Common Ground (“SoCG”) relates to an application made by AQUIND Limited to the Planning Inspectorate under section 37 of the Planning Act 2008 (“Act”). The application was made on 14th November 2019 and was accepted on 12th December 2019. This SoCG has been prepared with Portsmouth Water (‘PW’) to show where agreement has been reached with AQUIND Limited (‘the Applicant’) during the pre and post Development Consent Order (‘DCO’) application consultation and in the course of the DCO Examination.

1.1.1.2. The application is for an order granting development consent – a development consent order (“DCO”). The draft DCO is referred to as the AQUIND Interconnector DCO. The DCO, if granted, would authorise AQUIND Limited to carry out the following work (“the Development”), as well as associated development:

- (a) HVDC marine cables;
- (b) HVDC underground cables;
- (c) Converter station
- (d) HVAC cables; and
- (e) Fibre optic data transmission cables and associated infrastructure.

1.1.1.3. This SoCG has been prepared by AQUIND Limited and Portsmouth Water in respect of the Development, collectively referred to in this SOCG as ‘the parties’.

1.1.1.4. The purpose and possible content of SoCGs is set out in paragraphs 58-65 of the Department for Communities and Local Government’s guidance entitled “Planning Act 2008: examination of applications for development consent” (26 March 2015). Paragraph 58 of that guidance explains the basic function of SoCGs:

*“A statement of common ground is a written statement prepared jointly by the applicant and another party or parties, setting out any matters on which they agree. As well as identifying matters which are not in real dispute, it is also useful if a statement identifies those areas where agreement has not been reached. The statement should include references to show where those matters are dealt with in the written representations or other documentary evidence.”*

- 1.1.1.5. SoCGs are therefore a useful and established means of ensuring that the evidence at the DCO examination focuses on the material differences between the main parties, and so aim to help facilitate a more efficient examination process.
- 1.1.1.6. The purpose of the SoCG is to set out agreed factual information about the proposed DCO application by AQUIND Limited. It is intended that the SoCG should provide matters on which AQUIND Limited and Portsmouth Water agree. As well as identifying matters which are not in dispute, the SOCG may also identify areas where agreement has not yet been reached, or where the parties agree to disagree.

## 2. CONSULTATION WITH PORTSMOUTH WATER

2.1.1.1. The parties have been engaged in consultation since the inception of the proposed Scheme. Early correspondence dates back to March 2018 with significant consultation also occurring between May 2019 and October 2019.

2.1.1.2. A summary of recent key meetings and correspondence between the parties can be found in the table below:

**Table 2.1 – Key Meetings and Correspondence**

Date	Form of Contact	Summary
28/03/2018	Meet (Project Brief and Ground Investigation planning meeting)	<ul style="list-style-type: none"> <li>• Brief Portsmouth Water/EA on Aquind Project including proposed converter station locations and cable route.</li> <li>• Portsmouth Water highlighted the important of the protecting the SPZ1 in this area and the risk associated with works with this area affecting the water supply to Portsmouth and surrounding area (high transmissivity, issue with turbidity as well and contamination)</li> <li>• Brief on scope of works for Ground investigation, with focus on the works to be undertake within the SPZ1.</li> <li>• Discussion on the ground investigation aquifer (SPZ1) protection measure to be implement during.</li> <li>• Portsmouth Water suggested additional desk study information required was obtained regarding karstic features (Peter Brett Associated karstic feature database/map).</li> <li>• Portsmouth Water requested a detailed method statement to cover all ground investigation works within the SPZ1 outlining protection/mitigation measure to be incorporated, including measure if karstic features were encountered during drilling</li> </ul>

Date	Form of Contact	Summary
		<p>activities. (Following the meeting and prior to ground investigation works commencing a detailed method statement for ground investigation works within the SPZ1 was agreed with Portsmouth Water).</p> <ul style="list-style-type: none"> <li>• It was agreed that Portsmouth Water (James Bucknall) would be kept up to date on drilling activities daily.</li> </ul>
18/06/2019	Meeting (Converter Station Engineering)	<ul style="list-style-type: none"> <li>• Indicative converter station site layout and arrangement of buildings and electrical equipment was presented and discussed</li> <li>• Site constraints and their impact on locating the compound was discussed</li> <li>• Potential source of contamination within converter station along with proposed mitigations discussed and agreed in principle.</li> <li>• Temporary and permanent site surface drainage system discussed and agreed in principle.</li> <li>• Sustainable drainage including filter drains, infiltration drains, infiltration swales, detention basin, infiltration basin and soakaway system discussed and agreed in principle.</li> <li>• Karst features along with treatment strategy was discussed with both PW and EA and agreed in principle</li> <li>• Foul drainage system was discussed and agreed in principle</li> <li>• Oily water drainage and oil containment discussed and agreed with both PW and EA in principle</li> <li>• Site investigation findings and foundation solution was discussed and agreed in principle.</li> </ul>



Date	Form of Contact	Summary
23/07/2019	Meeting	<ul style="list-style-type: none"> <li>Joint meeting alongside Environment Agency, Portsmouth City Council Drainage, Hampshire County Council Drainage</li> </ul>
02/09/2019	Meeting (Converter Station Engineering)	<ul style="list-style-type: none"> <li>PW and EA comments Discussed</li> <li>WSP proposal in response to PW and EA comments were discussed and agreed.</li> </ul>
05/08/2020	Meeting	<ul style="list-style-type: none"> <li>PW comments on the applicant response to Relevant Representation was discussed.</li> <li>Supplementary karst report was discussed and further explanation relating to HDD works and the method of dealing with unknown karst features were explained</li> <li>Proposed piling solution and piling risk assessment (draft) discussed.</li> <li>Proposed temporary car park and associated temporary surface water drainage discussed</li> <li>Converter station drainage system and SuDS explained.</li> <li>Explanation was provided relating to fire deluge system and how the surface water drainage system will be designed to account for its operation.</li> </ul>
11/09/2020	Meeting	<ul style="list-style-type: none"> <li>Proposed site level and associated Earthworks methodology discussed</li> <li>Construction water management and earthwork water management discussed</li> <li>Generic method statement and its table of contents discussed</li> </ul>
Various	Various (Converter Station Engineering)	<ul style="list-style-type: none"> <li>Agreement of Aquifer contamination Workshop Minutes of Meeting.</li> </ul>

Date	Form of Contact	Summary
		<ul style="list-style-type: none"><li>• Various correspondence with PW and EA during design development of the preliminary drainage strategy drawings and report.</li></ul>

# 3. SUMMARY OF TOPICS COVERED BY THE STATEMENT OF COMMON GROUND

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## 3.1. COVERED IN THE STATEMENT OF COMMON GROUND

3.1.1.1. The following topics discussed between the Applicant and Portsmouth Water are commented further in this SoCG:

- Converter Station
  - Groundwater
  - Flood Risk
  - Foul Drainage
  - Surface water drainage
  - Sustainable Drainage System (SuDS)
  - Oily water drainage and Oil containment
  - Karst Features
  - Foundation solution
  - Temporary Site Water Management Plan
  - Siting SuDS features
  - Embedded mitigation
- Onshore Cable Corridor
  - Alternative Onshore Cable Route options within Section 5 – Farlington
  - Kings Pond/Denmead Meadows – Karst and Groundwater Vulnerability
  - Temporary loss of an abstraction
  - Use of inert drilling fluids during HDD drilling
  - “Major loss of an aquifer” must also consider major loss of the unit, i.e. unsaturated zone and saturated zone as well as yield and level
  - Specific training (for those working on the Proposed Development)
  - HDD works, spills and incidents
  - Service (utility) crossings

- Optical Regeneration Stations (Landfall)

## **3.2. NOT COVERED IN THE STATEMENT OF COMMON GROUND**

- 3.2.1.1. For the avoidance of doubt, matters not covered in this SoCG have not been discussed between the parties as they have not been raised by Portsmouth Water or Aquind.

## 4. CURRENT POSITION

### 4.1. ES CHAPTER 2: CONSIDERATION OF ALTERNATIVES

Table 4.1 – Consideration of Alternatives

Ref.	Description of matter	Current Position	RAG
<b>Alternative Onshore Cable Route</b>			
PW 4.1.1	Portsmouth Water Land at Farlington	<p>Consideration was given to routing the cables from Havant Road, north through Scoutlands and up to the operational reservoir sites owned by Portsmouth Water. However, Portsmouth Water utility records confirmed that the site to be heavily constrained with existing utilities.</p> <p>A HDD solution to cross the existing utilities was considered, however, it was found that there was insufficient space for the associated compounds between the existing constraints and subsequently discounted.</p> <p>Portsmouth Water is in agreement that the routing of the cable within the Portsmouth Water Land north of Eveleigh Road is unviable. Further detail is provided in Table 2.9, and sections 2.6.6.9 and 2.6.6.10 of ES Chapter 2, Consideration of Alternatives (APP-117)</p>	Ongoing
PW 4.1.2	Routing through Portsmouth Water Land	<p>Following the February 2019 consultation, discussions were held with regards to the cable route options through from Havant Road, north through Scoutlands and up to the operational reservoir sites.</p> <p>The sites are heavily constrained by existing Portsmouth Water (and other (gas)) utilities. It was agreed, that subject to obtaining appropriate rights, the area of Scoutlands provided a suitable option for the onshore cable installation. However, further north, beyond Eveleigh Road, to which considerations considered a HDD solution to cross the existing utilities, it was found that there was insufficient space, and that an option to route the cables north of Eveleigh Road was an unviable option. Both the Applicant and Portsmouth Water are in agreement of this assessment. As such the consultation options 5B(i), (ii), (iii) and 5C were not progressed.</p>	Ongoing
<b>Service (Utility) Crossing</b>			
PW 4.1.3	Service (Utility) Crossing	<p>PT advised that typical burial depths for service pipes to properties were usually 750mm – but in Portsea Island it is usually 400mm – 650mm. These are the 25mm pipes. PW service pipes are usually 900mm down.</p> <p>JO advised that the depth of water mains means that any cable crossing(s) would need to pass under the water pipes.</p> <p>ACTION: PW to send WSP the requirements for working in the vicinity of or crossing PW assets.</p> <p>Established practice is to provide a minimum of 500mm between existing services and new cables, but Portsmouth Water’s specific requirements would be reflected in any detailed designs.</p> <p>Because the cables would be carrying DC, electromagnetic fields and induced voltages in parallel metallic pipes are not a significant concern.</p>	Ongoing

## 4.2. ES CHAPTER 18: GROUND CONDITIONS

Table 4.2 – Ground Conditions

Ref.	Description of matter	Current Position	RAG
<b>Baseline &amp; Methodology</b>			
PW 4.2.1	Area of Study – Ground Conditions	<p>Portsmouth Water have raised concerns that the 500 m area of search identified within section 18.1.2.2 of ES Chapter 18 Ground Conditions (APP-133) may be too narrow with regards to contamination impacts on receptors beyond the 500 m.</p> <p>The Applicant has provided clarification on its area of study within its Response to Portsmouth Water’s Relevant Representation (RR-005) and understands that contamination could migrate beyond 500m in the event of a pollution incident and/or contamination mobilisation.</p>	Agreed
PW 4.2.2	Baseline – Ground Conditions	The baseline environment identified in section 18.5 of ES Chapter 18 Ground Conditions (APP-133) is agreed.	Agreed
PW 4.2.3	Assessment Methodology – Ground Conditions	<p>It is agreed that section 18.4 of ES Chapter 18 Ground Conditions (APP-133) clearly outlines the approach to creating the baseline and assessing impacts of the development.</p> <p>The assessment has taken into account the high sensitivity of the underlying Principal Aquifer. Where a low sensitivity rating is noted it refers to the pore water within the Secondary Undifferentiated Aquifer only, as a receptor in of itself.</p> <p>The Applicant has provided clarification on the assessment of Secondary Undifferentiated Aquifers within its response to Portsmouth Water Relevant Representations. It is acknowledged that whilst Secondary Undifferentiated may result in a low sensitivity classification, where it overlies a Principal Aquifer, its potential to impact on groundwater may be higher.</p>	Agreed
<b>Predicted Impacts</b>			
PW 4.2.4	Groundwater	It is agreed that the predicted impacts as set out in section 18.7 of ES Chapter 18 Ground Conditions (APP-133) clearly outlines the impacts following embedded mitigation measures.	Agreed
<b>Mitigation - Converter Station Area</b>			
PW 4.2.5	Piling Risk Assessment	<p>Draft Piling Risk Assessment issued to PW on 1<sup>st</sup> July 2020. Pre-cast driven piles are currently envisaged as they are of relatively minimal or equal impact, compared to other techniques, in relation to the turbidity and other potential impacts on the SPZ1 aquifer within the Chalk bedrock. Limiting the pile lengths to 10m clearance from the groundwater table is advised; the groundwater table is approximately 45m bgl to 55m bgl (informed by Portsmouth Water), however a review of the unsaturated zone of influence should be conducted for detailed design. It is currently assumed a pile length of 10 to 25m will suffice for the majority of loading and ground condition scenarios, for the end bearing to achieve sufficient embedded depth within the Structured Chalk. The length of each driven pile cannot be confirmed for driven piles till installations; this is due to the pile requirement to achieve a specification rather than a set length. The impact of open or closed piles is considered of similar influence on the SPZ1.</p> <p>The design will be fully developed by the Contractor. Project specific piling risk assessment will be submitted to and approved by the relevant local planning authority and Portsmouth Water in consultation with the sewerage and drainage authority (Southern Water in accordance with Requirement 12 to the draft DCO (APP-019).</p>	Agreed

Ref.	Description of matter	Current Position	RAG
PW 4.2.6	Unknown Karst Features	The Contractor shall monitor the ground during bulk earthwork for any unknown and unidentified karst features. As part of site bulk earthwork management and sequencing of work, the Contractor shall develop a risk assessment methodology in consultation with responsible local authority as a basis for notifiable and un-notifiable karst features to use during bulk earthwork. The Contractor shall follow an agreed communication protocol for any identified features. The Contractor shall prepare and submit information relating to the karst features including, but not limited to, exact location, type and agreed method of treatment as a record to the Employer and responsible local authority at the end of the bulk earthwork. This information will be included and detailed in the Generic Method Statement. This was requested by Portsmouth Water in the meeting dated 05/08/2020.	Agreed
PW 4.2.7	Watching Brief (karst dissolution features)	It is agreed that a watching brief should be kept for karst dissolution features when any cable trench excavation work is undertaken in the Source Protection Zone 1 and in areas overlying Principal Aquifer, this is to be secured in an update to the OOCEMP (APP-505 Rev002) to be submitted at Deadline 1. This is also covered in the Addendum to ES Chapter 19 Groundwater. The requirement for the submission of construction environment management plans in relation to all works, which accord with the OOCEMP, is secured via Requirement 15 (Construction environmental management plan) to the draft DCO (APP-019).  This information will be included and detailed in the Generic Method Statement. This was requested by Portsmouth Water in the meeting dated 05/08/2020.	Agreed
<b>Mitigation - Onshore Cable Corridor – General</b>			
PW 4.2.9	Watching Brief (karst dissolution features)	It is agreed that a watching brief should be kept for karst dissolution features when any cable trench excavation work is undertaken in the Source Protection Zone 1, and this is to be secured in an update to the OOCEMP to be submitted at Deadline 1 (APP-505 Rev002). The requirement for the submission of construction environment management plans in relation to all works, which accord with the OOCEMP, is secured via Requirement 15 (Construction environmental management plan) to the draft DCO (APP-019).	Agreed
PW 4.2.10	OOCEMP comments	During the Relevant Representation process Portsmouth Water made various comments with regards to the OOCEMP (APP-505), which include: <ul style="list-style-type: none"> <li>1) Cable trenches and utility ducts should be included as potential pathways</li> <li>2) Details of any chemical surfactants proposed must be reviewed prior to use on site and included in the OOCEMP</li> <li>3) Watching brief for karst dissolution features.</li> </ul> WSP has reviewed the comments and has updated the OOCEMP accordingly. Instances where the OOCEMP has been amended to address these issues has been detailed in the PW Relevant Representation response.	Agreed
<b>Onshore Outline Construction Environmental Management Plan</b>			
PW 4.2.11	OOCEMP Comments	During the Relevant Representation process Portsmouth Water made various comments with regards to the OOCEMP (APP-505), which include: <ul style="list-style-type: none"> <li>1. A watching brief for solution features would be implemented during construction</li> <li>2. Measures in relation to installation of cable ducts and trenching as detailed in Section 6.4.3.4 of the Onshore Outline CEMP</li> <li>3. Chemicals and surfactants will be reviewed before being used on-site and included within the contractor's methods statements</li> </ul>	Agreed



Ref.	Description of matter	Current Position	RAG
		WSP has reviewed the comments and has updated the OOCEMP accordingly. Instances where the OOCEMP has been amended to address these issues has been detailed in the PW Relevant Representation response.	
<b>Residual Effects</b>			
PW 4.2.12	Residual effects – Ground Conditions	It is agreed that section 18.10 and Table 18.8 of ES Chapter 18 Ground Conditions (APP-133) clearly identifies the residual effects of the Proposed Development.	Agreed

### 4.3. ES CHAPTER 19: GROUNDWATER

**Table 4.3 – Groundwater**

Ref.	Description of matter	Current Position	RAG
<b>Baseline &amp; Methodology</b>			
PW 4.3.1	Area of Study - Groundwater	Portsmouth Water have raised concerns that the 500 m area of search identified within section 19.1.2 of ES Chapter 19 Groundwater (APP-134) is agreed.	Agreed
PW 4.3.2	Baseline - Groundwater	The baseline environment identified in section 19.5 of ES Chapter 19 Groundwater (APP-134) is agreed.	Agreed
PW 4.3.3	Assessment Methodology – Groundwater	It is agreed that section 19.4 of ES Chapter 19 Groundwater clearly outlines the approach to creating the baseline and assessing impacts of the development.	Agreed
<b>Predicted Impacts</b>			
PW 4.3.4	Groundwater	It is agreed that the predicted impacts as set out in section 19.6 of ES Chapter 19 Groundwater clearly outlines the impacts following embedded mitigation measures.	Agreed
<b>Mitigation - Converter Station Area</b>			
PW 4.3.5	Watching Brief (karst dissolution features)	It is agreed that a watching brief should be kept for karst dissolution features when any cable trench excavation work is undertaken in the Source Protection Zone 1, and this is to be secured in an update to the OOCEMP to be submitted at Deadline 1 (APP-505 Rev002). This is also covered in the Addendum to ES Chapter 19 Groundwater. The requirement for the submission of construction environment management plans in relation to all works, which accord with the OOCEMP, is secured via Requirement 15 (Construction environmental management plan) to the draft DCO (APP-019).  This information will be included and detailed in the Generic Method Statement. This was requested by Portsmouth Water in the meeting dated 05/08/2020.	Agreed



Ref.	Description of matter	Current Position	RAG
PW 4.3.6	Known Karst Dissolution Features	<p>Following conductivity and resistivity geophysical survey three karst feature were identified . Two of them are within proposed Converter Station option B(i) and B(ii). and the other located approximately 500m southeast of the Converter Station option B. Following the geophysical survey, the features were further investigated for infilling by cone penetration testing (CPT), the CPT indicated the karstic features to be (naturally) infilled with a Grade D Chalk. If the nature of infilling material requires proving, sample collection will be required or agreement with relevant local authority the CPT data sufficiently supports the interpretation. This should be reviewed at detailed design stage to inform any required mitigation measures.</p> <p>The control of surface water drainage and drainage within the ground shall be carefully considered during detailed drainage design by the Contractor to mitigate increasing risk of dissolution of bedrock and formation of karstic features. It was agreed by Portsmouth Water that, following further investigation by the Contractor, if necessary, ground stabilisation and treatment by grouting will be the preferred solution. To minimise influence of grouting on the SPZ1, the Contractor in accordance with CIRIA C574 shall propose a grout mix that is of a suitable composition, control and cure time and is to be reviewed and commented on by the local authority and Portsmouth Water for agreement.</p>	Agreed
PW 4.3.7	Unknown Karst Features	<p>The Contractor shall monitor the ground during bulk earthwork for any unknown and unidentified karst features. As part of site bulk earthworks management and sequencing of work, the Contractor shall develop a risk assessment methodology in consultation with statutory authority and Portsmouth Water as a basis for notifiable and un-notifiable karst features to use during bulk earthwork. The Contractor shall follow an agree communication protocol for any identified features. The Contractor shall prepare and submit information relating to the karst features including, but not limited to, exact location, type and agreed method of treatment as a record to the Employer and responsible local authority at the end of the bulk earthwork. In general, the expectation is to treat karst features same as EA 3.1.3.2</p>	Agreed
PW 4.3.8	Surface Water Drainage (permanent)	<p>There is no record of any known existing surface water drainage network within the Converter Station Area or in close proximity to the Order Limits.</p> <p>The principles of the surface water drainage design have been discussed and agreed with the Portsmouth Water (and the Environment Agency) and are included in sections 2.4 to 2.9 of the Surface Water Drainage and Aquifer Contamination Mitigation Strategy (APP-360).</p> <p>Written details regarding the surface water drainage will be submitted to and approved by the relevant local planning authority and Portsmouth Water in consultation with the sewerage and drainage authority (Southern Water) in accordance with Requirement 12 to the draft DCO (APP-019).</p>	Agreed
PW 4.3.9	Foul Drainage system (permanent)	<p>There is no record of any known existing foul drainage network within the Converter Station Area or in close proximity to the Order Limits.</p> <p>The principles of the foul water drainage design have been discussed and agreed with the Portsmouth Water (and the Environment Agency) and are included in Section 3 of the Surface Water Drainage and Aquifer Contamination Mitigation Strategy (APP-360).</p> <p>The design will be fully developed in accordance with section 4 of the Surface Water Drainage and Aquifer Contamination Mitigation Strategy (APP-360). Written details regarding the foul water drainage will be submitted to and approved by the relevant local planning authority in consultation with the sewerage and drainage authority (Portsmouth Water in accordance with Requirement 12 to the draft DCO (APP-019).</p>	Agreed

Ref.	Description of matter	Current Position	RAG
PW 4.3.10	Oil Water Drainage System (Permanente)	<p>The principles of the oily water drainage design have been discussed and agreed with Portsmouth Water (and the Environment Agency) and are included in Section 4 of the Surface Water Drainage and Aquifer Contamination Mitigation Strategy (APP-360).</p> <p>It is accepted that the information on the Converter Station design is submitted in outline for detailed approval post grant of the DCO. This will include the final design of the oily water drainage and size of dump tank(s) which will be defined during detailed design of the system and form part of Requirement 6 (Detailed design approval) of the draft DCO (APP-019) in accordance with the details within Section 4 (Oil Containment and Oily Water Drainage) of the Surface Water Drainage and Aquifer Contamination Strategy (APP-360).</p>	Agreed
PW 4.3.11	Active Fire Suppression System	Information relating to active fire suppression system and associated drainage has been added to the updated version of the Surface Water Drainage and Aquifer Contamination Mitigation Strategy (APP-360, Rev 002) which will be submitted as Appendix 7 to the Onshore Outline CEMP (APP-505, Rev 002) and secured under requirement 15 of the dDCO (APP-019)	Agreed
PW 4.3.12	SuDS and Water Quality System	<p>Surface water from oil containment areas and oily water areas will be directed through the proprietary system of an oil separator, with the use of SuDS to further reduce the hydrocarbon concentration of water discharged from the oil separator, prior to discharge via a soakaway to ground.</p> <p>The detailed design of these features will be in accordance with the description provided in the associated construction detail within Section 5 and the design drawings contained within Appendix 1 of the Surface Water Drainage and Aquifer Contamination Mitigation Strategy (APP-360) (drawing reference AQD-WSP-OS-UK-DR-D-200140-141 &amp; AQD-WSP-OS-UK-DR-D-200140-141). Written details regarding the surface water drainage will be submitted to and approved by the relevant local planning authority and Portsmouth Water in consultation with the sewerage and drainage authority (Southern Water) in accordance with Requirement 12 to the draft DCO (APP-019).</p>	Ongoing
PW 4.3.13	Temporary Surface Water Management	<p>Temporary surface water run-off management during construction has been discussed and agreed in principle by the Portsmouth Water.</p> <p>This information will be included and detailed in the Generic Method Statement. This was requested by Portsmouth Water in the meeting dated 05/08/2020.</p>	Agreed
PW 4.3.14	Temporary Car Park and Associated Temporary Drainage	<p>The principles of the temporary car park design and associated surface water drainage to mitigate risk of contamination to the Aquifer was discussed at the meeting on 05.08.2020. Design notes and indicative drawing will be submitted to PW and EA for review and comment.</p> <p>The information will be added to the updated version of the Surface Water Drainage and Aquifer Contamination Mitigation Strategy (APP-360, Rev 002) which will be submitted as Appendix 7 to the Onshore Outline CEMP (APP-505, Rev 002) and secured under requirement 15 of the dDCO (APP-019)</p>	Ongoing
PW 4.3.15	Foundation Design	The extent of existing ground conditions and proposed foundation was discussed and agreed in principle with Portsmouth Water (and the Environment Agency) at a meeting on 18/06/2019. Considering the ground conditions encountered, piling is identified as the likely foundation design to be utilised subject to detailed design development post consent of the DCO. The use of pre-cast driven piles are likely to be one of the design options that will have the lowest impact on the chalk aquifer and restrictions set by Portsmouth Water around the SPZ1 designation.	Agreed

Ref.	Description of matter	Current Position	RAG
		The foundation solution will form part of Requirement 6 Detailed design approval of the draft DCO (APP-019) and will be required to be in accordance with the details within Section 7 (Foundation Solution) of the Surface Water Drainage and Aquifer Contamination Strategy (APP-360, Rev 002).	
PW 4.3.16	Piling Risk Assessment	<p>Draft Piling Risk Assessment issued to PW and EA on 1<sup>st</sup> July 2020 as an appendix 6 to APP-360 Surface Water Drainage and Aquifer Contamination Mitigation Strategy.</p> <p>The updated version of APP-360 Surface Water Drainage and Aquifer Contamination Mitigation Strategy is now appendix 7 to OOCEMP .</p> <p>The design will be fully developed by the Contractor. Project specific piling risk assessment will be submitted to and approved by the relevant local planning authority and Portsmouth Water in consultation with the sewerage and drainage authority (Southern Water in accordance with Requirement 12 to the draft DCO (APP-019).</p>	Agreed
<b>Mitigation - Onshore Cable Corridor – General</b>			
PW 4.3.17	Dewatering	Dewatering permits may be required during construction as high groundwater levels are likely to be encountered at points along the cable route during trench excavation works. Dewatering permits may therefore be required (unless an exception applies). Permits will be applied for at the relevant time. ES Chapter 19 in Section 19.6.1.4. states that “the water management permitting, licenses and agreements will be completed by the appointed contractor, with the quantities of groundwater management determined at the detailed design stage.”	Agreed
PW 4.3.18	Watching Brief (karst dissolution features)	It is agreed that a watching brief should be kept for karst dissolution features when any cable trench excavation work is undertaken in the Source Protection Zone 1 and Principal Aquifer, this is to be secured in an update to the OOCEMP to be submitted at Deadline 1 (APP-505 Rev002). The requirement for the submission of construction environment management plans in relation to all works, which accord with the OOCEMP, is secured via Requirement 15 (Construction environmental management plan) to the draft DCO (APP-019).	Agreed
<b>Mitigation - Onshore Cable Corridor – HDD works</b>			
PW 4.3.19	Presence of mud engineer and use of inert drilling fluids	(From OOCEMP Section 6.2.5.5). To ensure drilling fluids do not break out into the groundwater environment nor groundwater seeps into the bore, a mud engineer will be present at all times during the HDD drilling process to monitor drilling fluid viscosity, density, annual pressure, solids contents, filter cake quality and total mud volume and thereby ensuring the filter cake remains intact and that drilling fluid is not lost to the ground and that groundwater does not seep into the bore annulus. In addition, a review of the proposed drilling fluid and inert polymers will also be completed before ground is broken. All drilling fluids, including polymers, will be Centre for Environment Fisheries and Aquaculture Science (Cefas) rated products.	Agreed
PW 4.3.20	Avoidance of karst dissolution features in the Chalk	(From OOCEMP Section 6.2.5.7). The scheme design in the first instance ensures that the trenchless construction avoids karst dissolution features (in the Chalk) as much as possible. At HDD-5 (Kings Pond), the drilling will be kept in the overlying Lambeth Group only. The contractor will ensure that when drilling HDD-5 there will always be at least a 5m standoff between the proposed HDD alignment and the top of Chalk.	Agreed

Ref.	Description of matter	Current Position	RAG
PW 4.3.21	Briefing drill crew on SPZ1 sensitivity, monitoring fluid pressures, identifying karst features and watching brief presence	<p>(From OOCEMP Section 6.2.5.8). The drilling team will also need to be briefed on the environmental sensitivity of the SPZ1, Principal Chalk Aquifer and the importance of identifying karst dissolution features prior to work commencing and during the works. They will need to monitor the fluid pressures and observe for significant pressure drops throughout the works. A significant pressure drop would indicate that loss of fluid, potentially to fractures/dissolution features, may be occurring. A watching brief will also need to be implemented to identify any elements of karst dissolution features at any time during the works.</p> <p>In the meeting dated 05/08/2020 Portsmouth Water asked for a Generic Method Statement for the HDD works which includes a breakdown of the composition of the HDD drilling fluid.</p>	Agreed
PW 4.3.22	Temporary pause of drilling in the event a karst dissolution feature is detected. Notification of EA.	<p>(From OOCEMP Section 6.2.5.9). Should [dissolution] features be detected, drilling should be paused temporarily, until the Engineer on site can determine the most suitable course of action for mitigation, from a catalogue of actions already agreed with Portsmouth Water and the EA. A number of actions can be taken to seal the area of loss, for example increasing the drilling fluid viscosity or introducing a cement grout. Real time downhole annular pressure monitoring should be completed to allow for these observations. The exact pressure change parameters and procedures to evaluate mitigation would need to be agreed with Portsmouth Water (and the Environment Agency) at detailed Design Stage. The EA (and Portsmouth Water) will also be notified immediately of any loss of drilling fluid. Once the risk from the dissolution feature has been satisfactorily mitigated (i.e. to no risk of contamination), works will then resume.</p> <p>On the above, in the meeting dated 05/08/2020 Portsmouth Water (and the Environment Agency) asked to be provided with a Generic Method Statement which parts of it will set out the methodology of the process of dealing with unknown karst dissolution features during HDD works.</p>	Agreed
PW 4.3.23	Inclusion of sheet piled walls toes into the Chalk to reduce groundwater ingress. Sump pumping from base of pits.	<p>(From OOCEMP Section 6.2.5.10). The launch and receptor pits for the HDD-4 (Farlington Railway Crossing (Trenchless)) will include perimeter sheet piled walls toed into the Chalk to reduce groundwater ingress from the superficial River Terrace Deposits. Groundwater seepage at the base of the pits could occur and this will be sump pumped during operation. The potential consents and permits required to manage this water will be completed by the appointed contractor. The method of discharge has yet to be determined. The groundwater collected will either be discharged to surface water, sewer, disposed of off-site or a combination of these three methods. If the water is to be discharged to sewer or a surface waterbody then a discharge consent(s) may be required. The permitting process will be completed by the contractor, after detailed design, once a dewatering and discharge management methodology has been agreed upon. The appointed contractor will be responsible for acquiring the relevant consents and adhering to the conditions of said consents. Any contaminated water would require off-site disposal.</p> <p>In the meeting dated 05/08/2020, Portsmouth Water asked for a Generic Method Statement for the HDD works which includes details such as the size of the HDD pathways, and how the mobilisation of material around the HDD works and water ingress is dealt with.</p>	Agreed



Ref.	Description of matter	Current Position	RAG
PW 4.3.24	Dewatering quantities to be determined at detailed design	(From OOCEMP 6.2.5.11). The required groundwater dewatering quantities for HDD-4 pits will be determined at detailed design. The designer must ensure the discharge quantities are accurate or conservative to ensure no flood risk should be increased due to surplus groundwater encountered during construction.  This information will be included in the Generic Method Statement. This was requested by Portsmouth Water in the meeting dated 05/08/2020.	Agreed
PW 4.3.25	Cleaning of drilling equipment	(From OOCEMP 6.2.5.12). All drilling equipment will be checked and cleaned before use. This will prevent cross contamination.  This information will be included and detailed in the Generic Method Statement. This was requested by Portsmouth Water in the meeting dated 05/08/2020.	Agreed
PW 4.3.26	Use of Filter Cake to prevent cross-contamination of groundwater bodies	(From OOCEMP 6.2.5.13). Drilling through alternative geologies can transfer existing contamination from one source to another. Drilling can also generate fines which can increase sediment in the water column, creating turbidity contamination. The Filter Cake will prevent the mobilisation of contaminants from one groundwater body to another, as the cake 'self-seals' as the drilling progresses. Therefore, no cross contamination is anticipated. Following the embedded mitigation measures the drilling fines and fluids will be contained in the drilling cake, preventing contamination from spreading between sources and drilling fines entering the local groundwater receptors.  This information will be included and detailed in the Generic Method Statement. This was requested by Portsmouth Water in the meeting dated 05/08/2020.	Agreed
PW 4.3.27	Presence of flexible hose pump at breakout compound	(From OOCEMP 6.2.5.14). To ensure surface breakout is not lost to the environment a flexible hose pump will be contained at the exit compound site so breakout fluid can be retained on site. A sufficiently sized Intermediate Bulk Container or similar will be stored on site to store such a breakout.	Agreed
<b>Mitigation - Onshore Cable Corridor – Onshore Cable Route Trench Excavation Works</b>			
PW 4.3.28	Dewatering for trench construction	(From OOCEMP 6.4.3.2). The required groundwater dewatering quantities for trench construction will be determined at detailed design. The designer must ensure the discharge quantities are accurate or conservative to ensure no flood risk should be increased due to surplus groundwater encountered during construction. This applies to all sections.  This information will be included and detailed in the Generic Method Statement. This was requested by Portsmouth Water in the meeting dated 05/08/2020.	Agreed
PW 4.3.29	Catalogue of detailed descriptions of mitigation measures in the event an unexpected karst dissolution feature is discovered during cable trench excavation works in Sections 1, 2 and 3.	(From OOCEMP 6.4.3.3.) Sections 1, 2 and 3 have been identified as areas which may contain dissolution features. Previous investigations suggest a very low likelihood of encountering such features. Such features would represent potential contaminant transport pathways (directly to public water abstractions) and have been raised as a concern by the EA (and Portsmouth Water). Although no dissolution features have been identified within the Order Limits, there may be features present which are as yet unidentified.	Agreed

Ref.	Description of matter	Current Position	RAG
		<p>A catalogue of detailed descriptions of mitigation measures will be agreed with Portsmouth Water and the EA prior to construction of Sections 1, 2 and 3. A list of possible measures has been included in OOCMP Section 6.4.3.4.</p> <p>In the meeting dated 05/08/2020 Portsmouth Water asked for a Generic Method Statement which includes details of the mitigations measures for dealing with unexpected karst dissolution features during the cable trench excavation works. A Communications Plan (setting out how and when communications between WSP (and the Contractor) and Portsmouth Water (and the Environment Agency) is to occur.</p>	
<b>Mitigation - Landfall</b>			
PW 4.3.30	Requirement for dewatering/abstraction license	<p>(From Chapter 19 Groundwater, Section 19.6.4.57). The excavations proposed in the superficial River Terrace Deposits, Storm Beach Deposits and Wittering Formation will likely intercept groundwater meaning trench construction will require groundwater dewatering. The detailed Design Stage will consider groundwater seepage rates into the proposed trenches and inform upon whether an abstraction licence and/or a discharge consent will be required.</p> <p>This information will be included and detailed in the Generic Method Statement. This was requested by Portsmouth Water in the meeting dated 05/08/2020.</p>	Agreed
<b>Appendix 19.3: The Hydrogeology of Kings Pond and Denmead Meadows</b>			
PW 4.3.31	Possible presence of karst dissolution features around Kings Pond, vulnerability of PW sources and control of activities in Denmead Meadows	<p>The conceptual model developed by the BGS indicates that karst is likely to be present in low-lying areas around Kings Pond. Groundwater sources (boreholes and springs) are vulnerable to contamination from surface when:</p> <ul style="list-style-type: none"> <li>• There is no overlying geology;</li> <li>• The water table is close to surface;</li> <li>• The groundwater catchment is small; and</li> <li>• Groundwater flow paths are short.</li> </ul> <p>These are characteristics of karst aquifers and it follows that the Bedhampton and Havant springs are vulnerable to contamination. Therefore, project activities in the area of Denmead Meadows need to be carefully controlled.</p>	Agreed
PW 4.3.32	Evidence indicates that Kings Pond is more surface water dependent than groundwater, undertaking cable trenching works in late summer	<p>The available evidence indicates that Kings Pond is more dependent on surface water contributions rather than being sustained by groundwater. However, there is some evidence that groundwater may rise above the base elevation of the pond in wetter periods potentially providing some baseflow. To avoid any potential impact on baseflow contributions from the proposed works, it is proposed that cable trenching works is undertaken in late summer when groundwater levels are expected to be at their lowest.</p> <p>This information will be included and detailed in the Generic Method Statement. This was requested by Portsmouth Water in the meeting dated 05/08/2020.</p>	Agreed

Ref.	Description of matter	Current Position	RAG
<b>OOCEMP Appendix 07 : Supplementary Karst Report</b>			
PW 4.3.33	Proposed mitigations for impacts related to karst dissolution features	The Supplementary Karst Report proposed mitigation measures for dealing with impacts related to the presence of karst dissolution features. These have been carried over into the OOCEMP and referenced in EA 3.1.4.6 above.	Agreed
PW 4.3.34	Whether karst dissolution features containing natural infill should be considered potential pollution pathways	We agree that even with the infill these features should still be treated as potential contaminant pathways. But we think that those which are infilled should be viewed as a different level of risk. During the cable trenching works there will only be temporary contact with these, and they'll be covered again. Only a significant discharge of water causing infill collapse is likely to cause a turbidity spike. A filled feature is therefore more manageable than an open one, which is a greater risk. If an infilled feature is identified, it should be evaluated for the necessity of mitigation measures, i.e. whether collapse is likely. It may not require any mitigation or may require grouting.	Agreed
PW 4.3.35	Areas where sediments/Head Deposits are found at excessive thicknesses (7m) should be assessed for the presence of solution features;	The area where Head deposits were found in excessive thicknesses referenced in the Supplementary Karst Report were in the existing substation where no works are proposed. In the proposed Converter Station existing solution features are already known.	Agreed
PW 4.3.36	The vulnerability of the Chalk with regards to fracture networks should not be underestimated.	WSP agree that the vulnerability of the Chalk with regards to fracture networks should not be underestimated.	Agreed
<b>Onshore Outline Construction Environmental Management Plan</b>			
PW 4.3.37	OOCEMP comments	<p>During the Relevant Representation process Portsmouth Water made various comments with regards to the OOCEMP (APP-505), which include:</p> <ol style="list-style-type: none"> <li>1. Limited reference to Source Protection Zones, abstractions or solution features;</li> <li>2. Behaviours/standards on site need to be prescribed in final detailed CEMP;</li> <li>3. PW want to be consulted on subsidiary plans (when complete)</li> <li>4. Piling method statement should be included and causes of turbidity should be considered</li> <li>5. Specific training to be developed for individuals to work on the proposed Development (such as on Principal Aquifers, Public Water Supplies, SPZs);</li> <li>6. PW want to be informed of any spillages at Converter Station;</li> <li>7. All decisions to remediate and validate the works are to be carried out under Environmental Professional;</li> <li>8. Chalk does not have to be penetrated for pollution risks to occur;</li> <li>9. Protection of groundwater and surface water bodies is required;</li> <li>10. PW asked for more detail on attenuation ponds i.e. construction and operational details (including lining details);</li> </ol>	Agreed

Ref.	Description of matter	Current Position	RAG
		<p>11. Must outline strategy for storage and bunding of potentially hazardous material;</p> <p>12. Location Specific Environmental Control Measures needs to refer to sensitivity of underlying aquifer, SPZs or solution features;</p> <p>13. PW must have opportunity to review Temp. Site Water Management Plan. Surface water cannot runoff unchecked within the catchment.</p> <p>WSP has reviewed the comments and has updated the OOCEMP accordingly. Instances where the OOCEMP has been amended to address these issues has been detailed in the PW Relevant Representation response.</p>	
PW 4.3.38	Surface water management and Aquifer contamination mitigation strategy	The updated version of the Surface Water Drainage and Aquifer Contamination Mitigation Strategy (APP-360, Rev 002) is submitted as Appendix 7 to the Onshore Outline CEMP (APP-505, Rev 002) and secured under requirement 15 of the dDCO (APP-019)	Agreed
PW 4.3.39	Generic method statement	<p>Following meeting with PW, EA and HCC on 5<sup>th</sup> August, A construction generic method statement covering following for converter station, HDD works, and onshore cable route will be prepared</p> <ul style="list-style-type: none"> <li>• Outline construction water management</li> <li>• Outline earthwork management plan</li> <li>• Outline construction karstic feature method statement</li> <li>• Outline construction sequencing</li> <li>• Communication statement and strategy</li> <li>• Preliminary dynamic contact list</li> </ul> <p>The construction Generic Method Statement will be submitted to the ExA, as an appendix to the OOCEMP and will be secured under requirement 15 of dDCO (APP-019). It is anticipated that this document will be submitted at Deadline 2.</p>	Ongoing
<b>Residual Effects</b>			
PW 4.3.40	Residual effects - groundwater	It is agreed that section 19.8 and Table 19.7 of ES Chapter 19 Groundwater clearly identifies the residual effects of the Proposed Development.	Agreed



## 5. SIGNATURES

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Ref.	Portsmouth Water	Aquind (the Applicant)
Signature		
Printed Name		
Title		
On behalf of	Portsmouth Water	Aquind Limited
Date		

