THE PROJECT, SITE SELECTION AND ALTERNATIVES

THE VPI IMMINGHAM LLP (LAND AT ROSPER ROAD) COMPULSORY PURCHASE ORDER 2024

DOCUMENT CD 8.1

STATEMENT OF EVIDENCE

James Beresford-Lambert
Engineering Manager
VPI Immingham LLP

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1 QUALIFICATIONS AND EXPERIENCE

1.1 My name is James Beresford-Lambert and I have been an Engineering Manager at VPI Immingham LLP ("**the Acquiring Authority**") for 4 years.

1.2 I have a Masters of Engineering degree in Chemical Process Engineering and Fuel Technology awarded with first class honours.

1.3 I have 30 years' experience working on major energy projects in liquified natural gas, gas-to-liquid and upstream oil and gas developments. I have delivered greenfield and brownfield projects including site selection and amine absorption/regeneration systems similar to those deployed in carbon capture at a similar scale of complexity and cost as the Project.

1.4 As the Engineering Manager for the Acquiring Authority on the VPI Carbon Capture Project ("**Project**"), I am responsible for all technical and project delivery aspects of the Project including engineering and design development, program management (to final investment decision ("**FID**") and execute), quality control, contracting and procurement, risk and interface management, surveys, data management and planning and permitting delivery. My focus is on technical and project delivery aspects rather than commercial matters. I have been engaged on the Project for the last 4 years.

2 SCOPE OF EVIDENCE

2.1 The scope of my evidence is limited to:

2.1.1 the Project and interactions with the Viking CCS Pipeline (see Section 3); and

2.1.2 the site selection process that was undertaken for the Project and the lack of available alternatives (see Section 4).

3 THE PROJECT

3.1 The existing 1260 MW VPI Immingham Combined Heat and Power (CHP) Plant ("**CHP Plant**") is a gas fired power and steam generating facility, located in South Killingholme, North Lincolnshire, which has been in operation since 2004. The CHP Plant has undergone a series of upgrades since, making it one of the most efficient plants of its kind, with a thermal efficiency of up to 70% when operated at baseload.

3.2 The CHP Plant is the largest of its kind in the UK and Europe and currently provides power and steam to over 25% of the UK's refining capacity at the two co-located refineries of Humber and Lindsey. The majority of the CHP Plant output, however, provides flexible and low-cost power to meet up to 2.5% of the UK's peak electricity demand as well as critical grid stability services. With three gas turbine trains in combined cycle mode, together with two auxiliary steam boilers, the CHP Plant provides flexible power generation and industrial steam.

3.3 Power generated by the CHP Plant is exported via a connection to the National Grid 400kV substation within the CHP Plant facility. The natural gas supply to the CHP Plant exists via an offtake facility at Thornton Curtis, a 6.76km natural gas pipeline (owned by VPI) and a gas reception facility located on the existing CHP Plant. Raw water is supplied via an existing agreement with Anglian water.

3.4 The photograph of the CHP Plant at Figure 1 illustrates the existing on site 400kV electrical substation / grid connection, the natural gas reception facility and other key features.

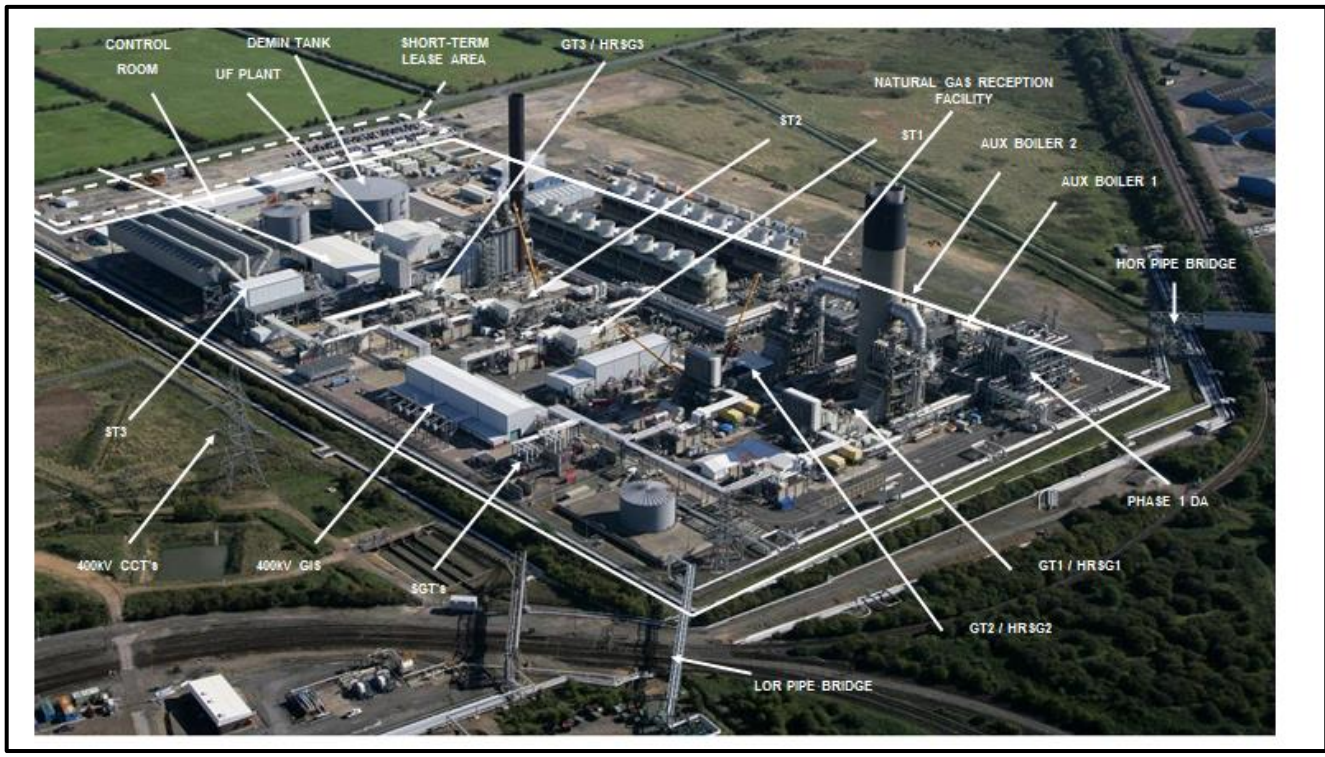

Figure 1 CHP Plant Plan

3.5 Natural gas is the primary fuel for the CHP Plant which is supplemented by Refinery Off Gas ("**ROG**") from the Humber Oil Refinery. Carbon dioxide (CO_2), which is a greenhouse gas, is produced during the combustion (burning) of this gas which is currently emitted to the atmosphere through the existing exhaust stacks. The objective of the Project is to remove over 95% of this CO_2 from the exhaust gases and hence reduce the emissions to the atmosphere.

3.6 The Project will capture up to 3.3 million tonnes of CO_2 emissions per annum via a post-combustion carbon capture retrofit to two gas turbines and two auxiliary gas boilers, as depicted in the capture plant schematic at Figure 2.

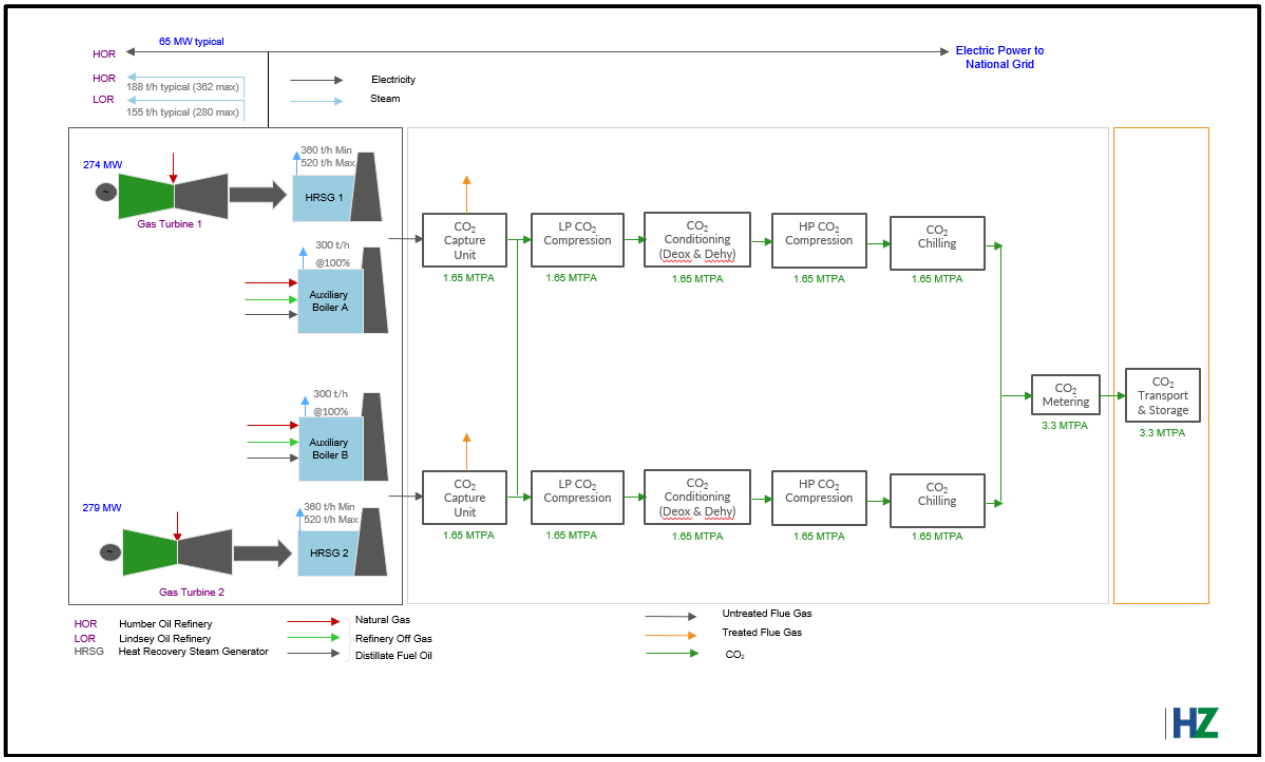

Figure 2 Capture Plant Schematic

3.7 Figure 3 shows the existing CHP Plant situated on the green land and the Project situated on the black land immediately adjacent to the CHP Plant. The Project layout shown at Figure 3 illustrates the existing main exhaust stack structure (shown in red) at the CHP Plant which houses the individual stacks of CCGT 1, CCGT 2, Auxiliary Boiler 1 and Auxiliary Boiler 2. New flue gas ducting (shown in brown) will be installed to route flue gas from the existing main exhaust stack to two new 1.65 million tonnes per annum ("**MTPA**") carbon capture units (CCUs), each dedicated to the corresponding CCGT with capability to route either or both Auxiliary Boilers to each carbon capture unit. Equipment (known as dampers) will be installed in the ducting to control whether carbon dioxide flow goes to the existing main exhaust stack or to the carbon capture units within the Project.

3.8 The additional water required for the Project has been minimised in design to limit the increased amount to 10% or less. Cooling for the Project has been selected as predominantly air cooling to minimise the impact on additional water required, due to constraints in the Humber Region.

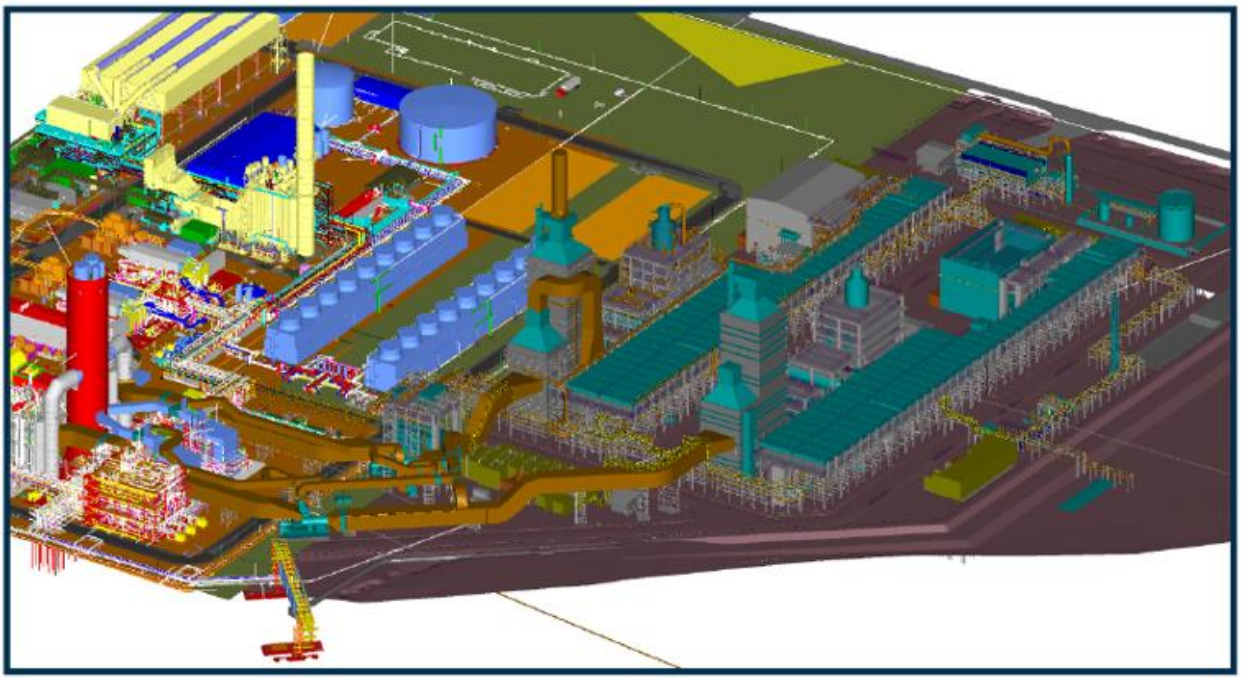

Figure 3 Capture Plant Layout

3.9 In order to export the CO_2 to the Viking CCS transport and storage network the gaseous CO_2 captured from the CHP Plant undergoes conditioning, compression and metering to meet the Viking CCS export pipeline specifications. These facilities are part of the Project scope.

3.10 Figure 4 illustrates the location of the CHP Plant and adjacent Phillips 66 ("**P66**") Humber Refinery in relation to the Viking CSS pipeline.

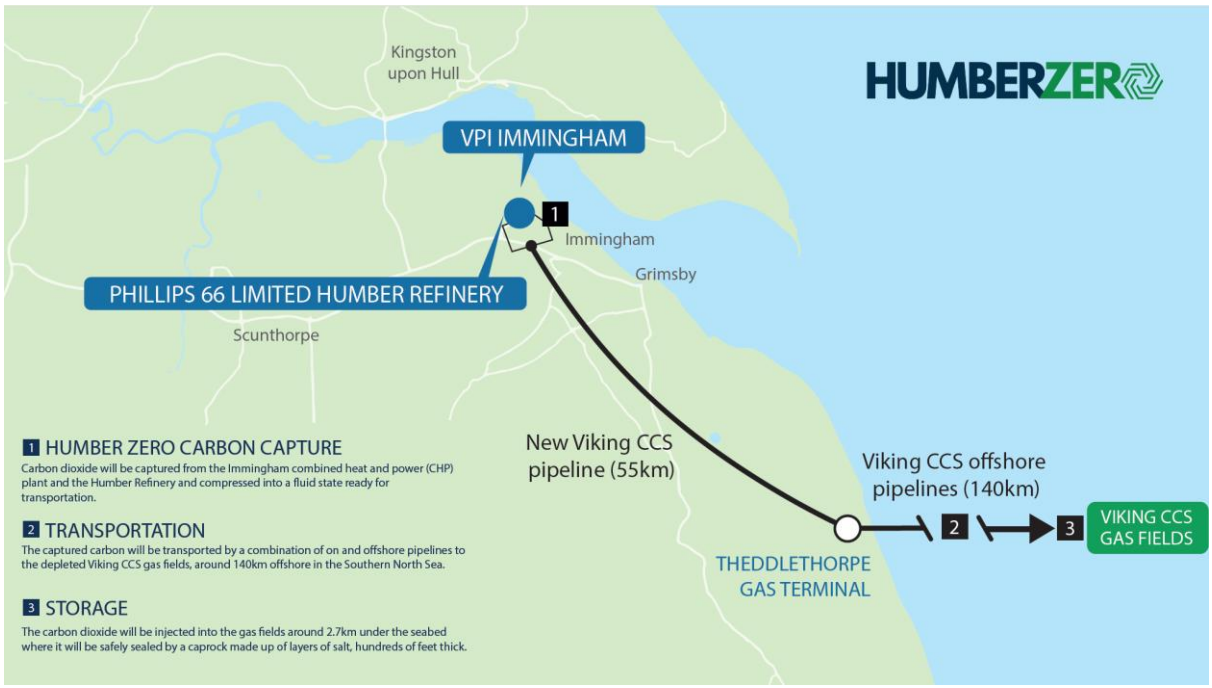

Figure 4 Humber Zero Overview

3.11 The land required for the Project is highlighted in Figure 5 to the South of the existing CHP Plant and East of the P66 refinery. Figure 4 also illustrates the location of the CHP Plant, the Humber Oil Refinery to the West and the Lyndsey Oil Refinery to the North. The Port of Immingham lies approximately 1km to the east with good road connections that will provide a key route for import of materials and fabricated modules during the Project's construction.

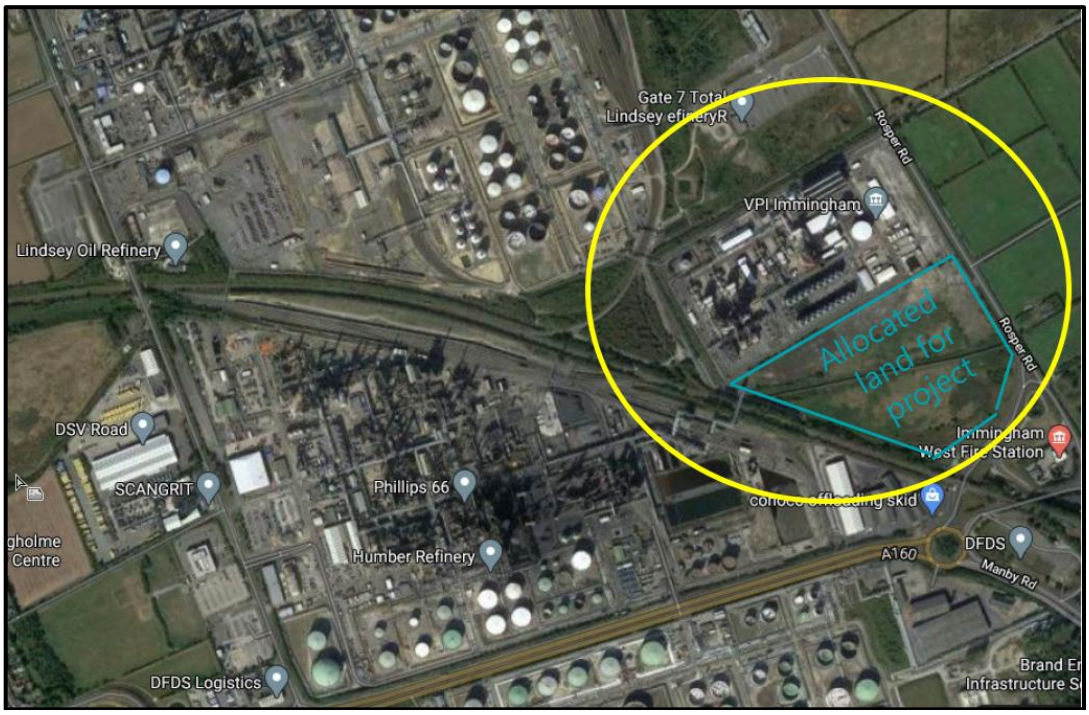

Figure 5 Project Land Allocation Map

3.12 The Project has a design life of 25 years to align with the operational assets.

3.13 The Project needs to be located as close as possible to the main exhaust stack tie-ins to minimise connecting infrastructure associated with the huge volumes of exhaust gas and avoid the need for very large, energy consuming exhaust gas blowers. For each CCGT tie-in, the flue gas ducting is approximately 7m^2. The auxiliary boiler flue gas ducting is around 4m^2. Each flue gas duct requires blowers of significant scale to increase the pressure in the exhaust gas to push it through the carbon capture plant.

3.14 The land area required is driven by the very large low-pressure equipment associated with the carbon capture process and the need for extensive air coolers which span the full width of the plot at around 250m, as shown at Figure 3.

3.15 **Engineering Status**

3.16 The Project has completed sufficient engineering and design development over the past 5 years to be ready to move into the execution phase as soon as commercial agreements are in place to enable FID.

3.17 Pre-FEED (Front-End Engineering Design) studies were completed in December 2021 through a combined programme of work together with P66, delivered through the engineering contractor Wood. FEED studies commenced with Worley in December 2021 and completed in April 2023. Wood was retained as a project consultant and supported VPI-Immingham in project assurance and preparation for the execution phase activities throughout the duration of the FEED.

3.18 A Process Design Package has been developed by Shell Cansolv, with work commencing in January 2022 and completed in November 2022, and the output integrated into the overall FEED package by Worley.

3.19 A FEED Verification exercise was conducted with Bechtel between April and October 2023 to provide VPI with greater confidence in the FEED output.

3.20 In order to further de-risk this first of a kind at scale project VPI are taking the opportunity between now and FID to complete further EPC (Engineering, Procurement and Construction) development work over and above the FEED. Worley have been selected as the EPC Partner through competitive tendering. The scope of work includes more detailed design definition, supply chain engagement and execution planning with the objective of improving performance, cost and schedule certainty. The EPC partner will also play a key role supporting VPI in lender engagement and finalising the Dispatchable Power Agreement. Finance matters are dealt with in the evidence of Mr Briggs (**CD 8.3**).

Planning and Permitting

3.21 Preparation for planning and permitting commenced in 2021 when AECOM was appointed Environmental Planning and Permit Contractor in a joint tendering and execution plan together with P66. Arup was later appointed as Lead Contractor in April 2023 with AECOM and DWD continuing to support the Project as subcontractor to Arup.

3.22 Preparation spanned two years with key activities including public consultation events, archaeological excavations, environmental surveys, data collection and analysis, culminating in the submission of an environmental impact assessment.

3.23 A substantial variation to the existing VPI Immingham environmental permit is required for the Project. A variation application was submitted to the Environment Agency ("**EA**") in March 2023 following 2 years of intensive preparatory works.

3.24 In July 2023 the EA determined that additional information was required to meet the criteria for duly making applications in line with its revised guidelines. Following this feedback, the Project facilitated a series of meetings with the EA via the enhanced pre-application process to ensure the requirements are well understood and that all information to be submitted in support of the application is aligned with the EA's expectations. One of the key issues resolved through these engagements is the regulator's requirements for detailed information on proprietary amine solvents relating to environmental emissions to be published in the public register, a matter which has been extensively discussed between the carbon capture industry and the regulators.

3.25 All additional information requested was submitted in December 2023 and the Project's application was deemed duly made in February 2024. As far as we are aware, VPI is the first project deploying proprietary amine to have met the requirements of the EA regarding full disclosure of amine emissions.

3.26 Following the 'duly made' status of VPI's permit application being achieved, the EA has completed consultations with statutory bodies and interested parties. Engagement with the regulator to date has also shown that delays can be expected due to the first of a kind aspects of carbon capture permitting.

3.27 To de-risk the application, VPI successfully applied for prioritisation under the EA's prioritisation programme. The application is now being considered under the priority project status.

3.28 At the time of this statement, only toxicology related issues remain to be closed with the UK Health Security Agency ("**HAS**") as consultee. Updated data has now been presented by Shell for the Cansolv amine and dispersion modelling updated by Arup. I expect these issues to be resolved and I am not aware of any other impediment to the granting of the permit, which is anticipated to be granted by Q2 2025.

Viking CCS Interfaces

3.29 As part of the Viking CCS transportation and storage project, Harbour Energy will install an onshore pipeline facility at Immingham on the Order Land, adjacent to the Project, providing an ideal location for connection of the CO_2 export.

3.30 In addition to the CO_2 connection, VPI will provide power and utilities to the Viking CCS project. The Project will also provide CO_2 to enable commissioning, start-up and early phase operation of the Viking CCS project. Engineering and equipment selection is progressing to enable this.

3.31 The collaboration agreements with Harbour Energy have enabled information sharing, bilateral document reviews, technical and commercial meetings and participation in workshops during the Project FEED.

3.32 The current Collaboration Agreement enables:

3.32.1 Bi-weekly commercial and monthly technical engagement post the Project FEED.

3.32.2 Participation in a number of schedule and risk workshops aimed at developing an integrated Humber Zero and Viking CCS schedule and risk register.

3.32.3 Collaboration and participation in the Track-2 Sequencing Process, and the further development of the Humber Zero VPII Post-combustion Carbon Capture Project and Viking CCS Project towards the successful realization of the Viking CCS Cluster.

3.33 The Acquiring Authority and Harbour have agreed terms for the relevant land interest required for the Viking CCS transportation and storage project within the boundaries of the Order Land, to enable the Viking project to come forward unimpeded. Harbour has withdrawn their objection to the Order.

3.34 **Project Programme**

3.35 A summary of project status is presented at Figure 6.

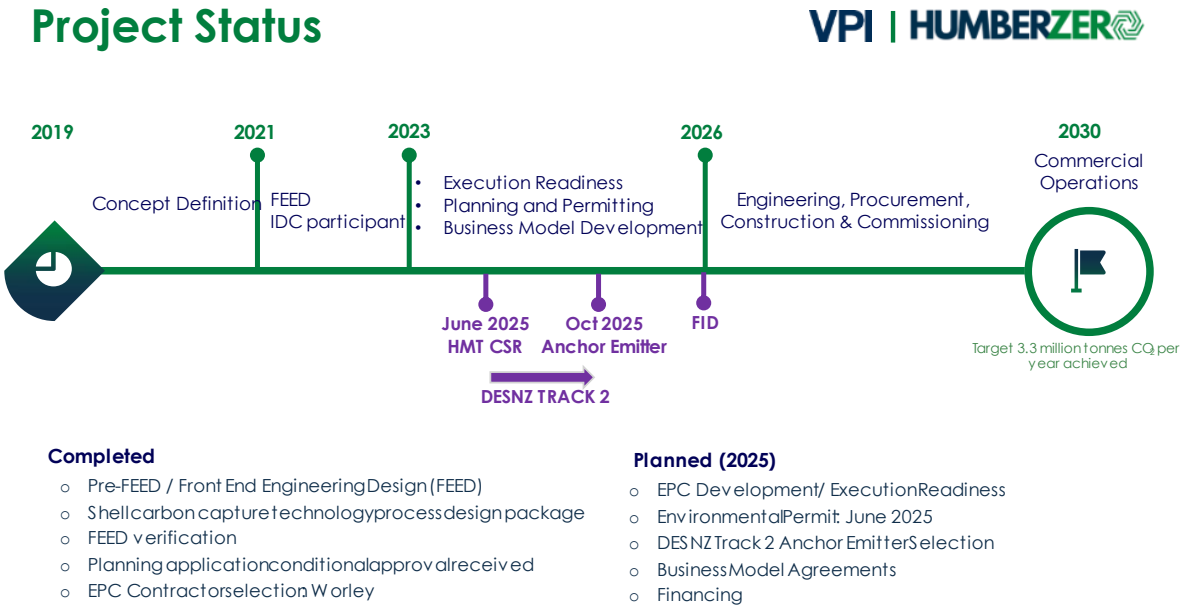

Figure 6 Project Status

3.36 A summary of the Project engineering, procurement, construction and commissioning program is presented at Figure 7.

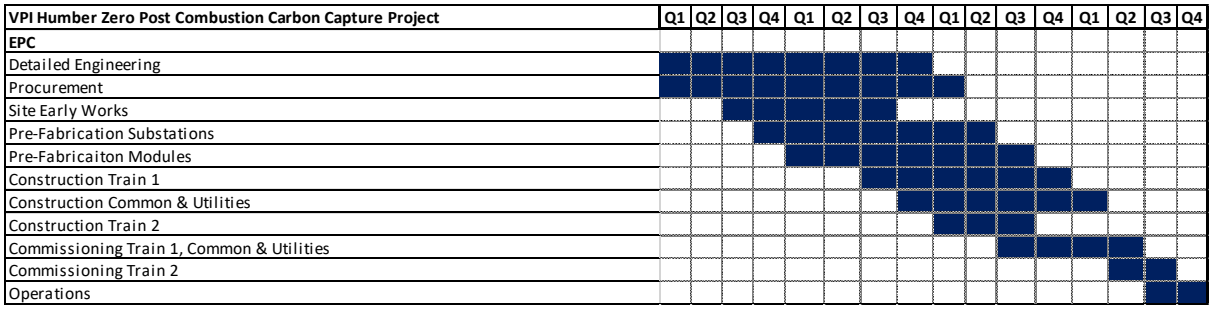

Figure 7 VPI Execution Schedule

3.37 VPI's plan is that following FID, VPI will take control of the Order Land (whether by agreement with P66, or through the CPO), conduct any necessary outstanding surveys and then commence site preparation works prior to the main construction works.

3.38 A detailed path of construction has been developed and is being refined through the EPC development phase. The construction will be a combination of assembly at site (stick build approach) and offsite fabrication and assembly with shipment of modules to site (modular approach). The duration will extend out to 39 months from FID and a substantial site presence is expected during that time, with up to 1200 full time construction personnel on site at the peak of activity.

3.39 This period of construction will in part be overlapping with the installation and construction of the Viking CCS pipeline and compound. During this time of parallel activities in the shared areas, Viking CCS and the Project will work closely to enable both projects to deliver within the planned timelines.

3.40 Interactive scheduling workshops have commenced to understand the schedule interfaces and constraints. The intention is that prior to FID, an integrated construction plan will be developed identifying and incorporating the interface requirements and constraints so that at FID, a realistic and achievable integrated schedule will be in place.

4 SITE SELECTION AND ALTERNATIVES

4.1 Background and History

4.2 During the concept selection phase in 2020, studies and screening exercises were completed by Wood on behalf of Humber Zero partners, which included VPI Immingham and P66. The concept report addressed a number of different projects in the Immingham area, resulting in a concept layout for the overall proposed development as shown at Figure 8. This incorporated:

- Green Hydrogen and Blue H2 SMR on the Uniper plot;
- Blue H2 ATR on the Plot to the North of VPII;
- 3 Post-combustion CO_2 capture plants for VPII on plot to South of VPII;
- Hydrogen pipeline (shown in green) running between the sites;

- 3 Post-combustion CO_2 capture plants on Humber Refinery;
- 2 Post-combustion CO_2 capture plants on Lindsey Oil Refinery (not shown);
- CO_2 Gathering network (not shown); and
- CO_2 Booster Compression on Plot to East of VPII.

Figure 8 Humber Zero Concept Project Locations

4.3 A more detailed concept layout specifically for the post combustion carbon capture units for VPI Immingham and the CO_2 compression station was developed at this time, shown at Figure 9.

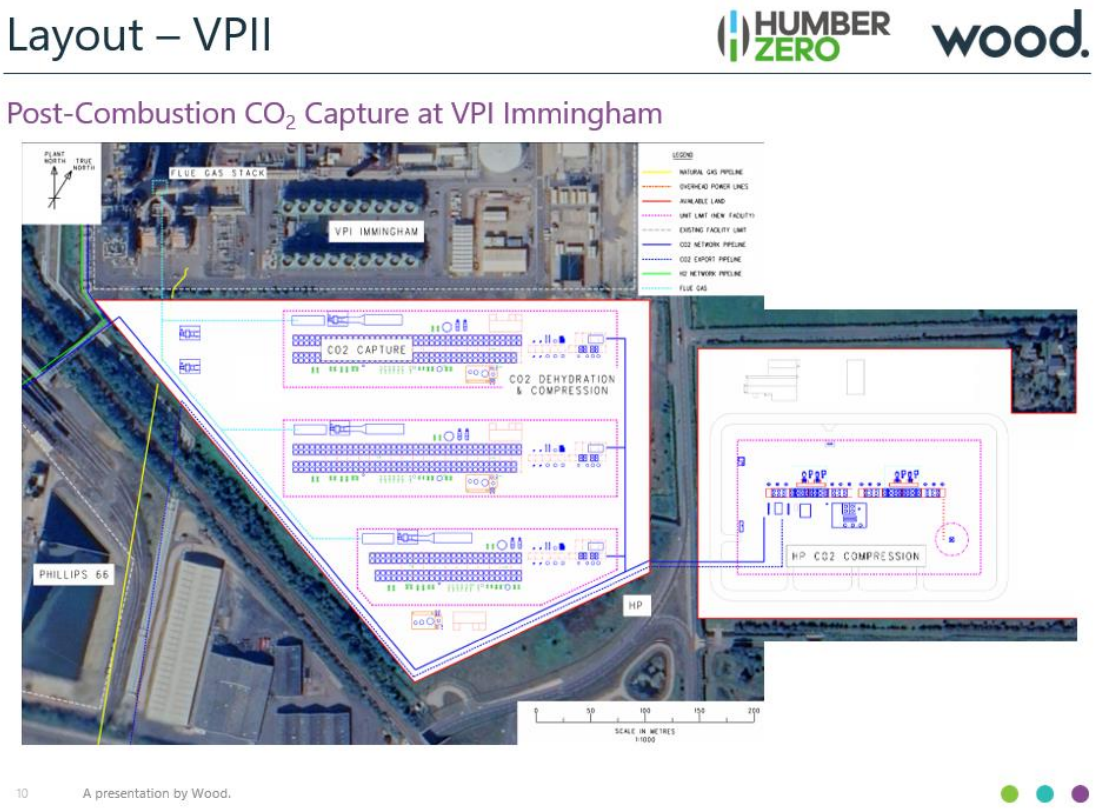

Figure 9 VPI Conceptual Layout

4.4 From this point forward, working together with P66 under the Humber Zero partnership, the plot south of the CHP Plant (i.e. the Order Land) has been represented as being assigned for the VPI post combustion carbon capture project. It is only after the making of the Order that P66 has questioned whether there are alternatives to the Order Land. Examples of VPI and P66 working in alignment on this basis associated with planning and permitting include:

4.4.1 Scoping opinion (**Appendix 1**): Jointly endorsed by VPI and P66. Proposed submission of a single Environmental Statement for both projects. Submission included combined redline boundary;

4.4.2 Public consultation: Joint consultation process for both projects. All communications with the public, including newspaper publications (**Appendix 2**) presented both projects as a single application; and

4.4.3 Environmental Impact Assessment - single EIA document jointly reviewed and approved by VPI and P66 (**Appendix 3**).

4.5 In addition, at quarterly progress meetings with UKRI and at Harbour Viking CCS interface meetings, the location of the Project facilities on the Order Land has always been acknowledged but never challenged in terms of alternatives.

4.6 There were several points to note in 2020:

4.6.1 A 3-train carbon capture arrangement for VPI would require the full extent of the Order Land;

4.6.2 A joint HP CO_2 compression station was envisaged for both VPI and P66, located to the east of the plot on the other side of Rosper Road; and

4.6.3 A hydrogen pipeline (shown in green) would run to the West of the CHP and over the existing pipebridge to P66, see Figure 8.

4.7 Following concept selection, the Project moved into a pre-FEED phase supported by co-funding from UK Research and Innovation ("**UKRI**") through the Industrial Decarbonisation Challenge ("**IDC**") fund. VPI and P66 jointly applied as Humber Zero for the funding and selected Wood as Contractor to proceed with pre-FEED and integrated project management works on behalf of both parties.

4.8 During this period (mid-to-late 2021) P66 determined that it would prefer to have a separate HP CO_2 compression station to VPI, to enable separated control of operations and responsibility. At the same time, P66 indicated that it wanted to use the land east of Rosper Road (originally intended for the HP CO_2 compression station) for their Gigastack green hydrogen development (**Appendix 4**). As a result, an HP CO_2 compression location study was commissioned with Wood.

4.9 Wood identified an option to accommodate these revisions with the resulting layout as shown at Figures 10 and 11. This was achieved by design development and refinement of equipment sizing and location, as well as through removal of plot space contingency. The 3 VPI carbon capture trains and LP and HP CO_2 compression stations are all co-located on the Order Land at this time.

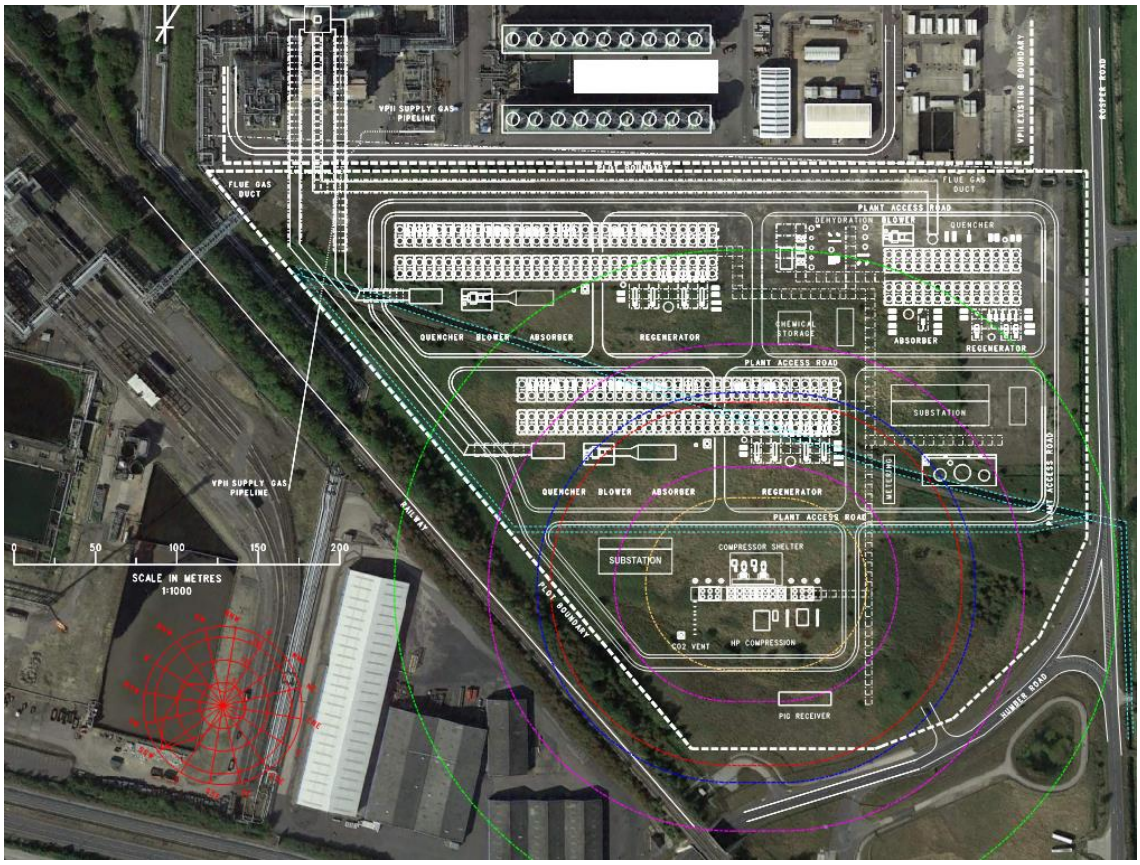

Figure 10 Humber Zero VPI Pre FEED Layout

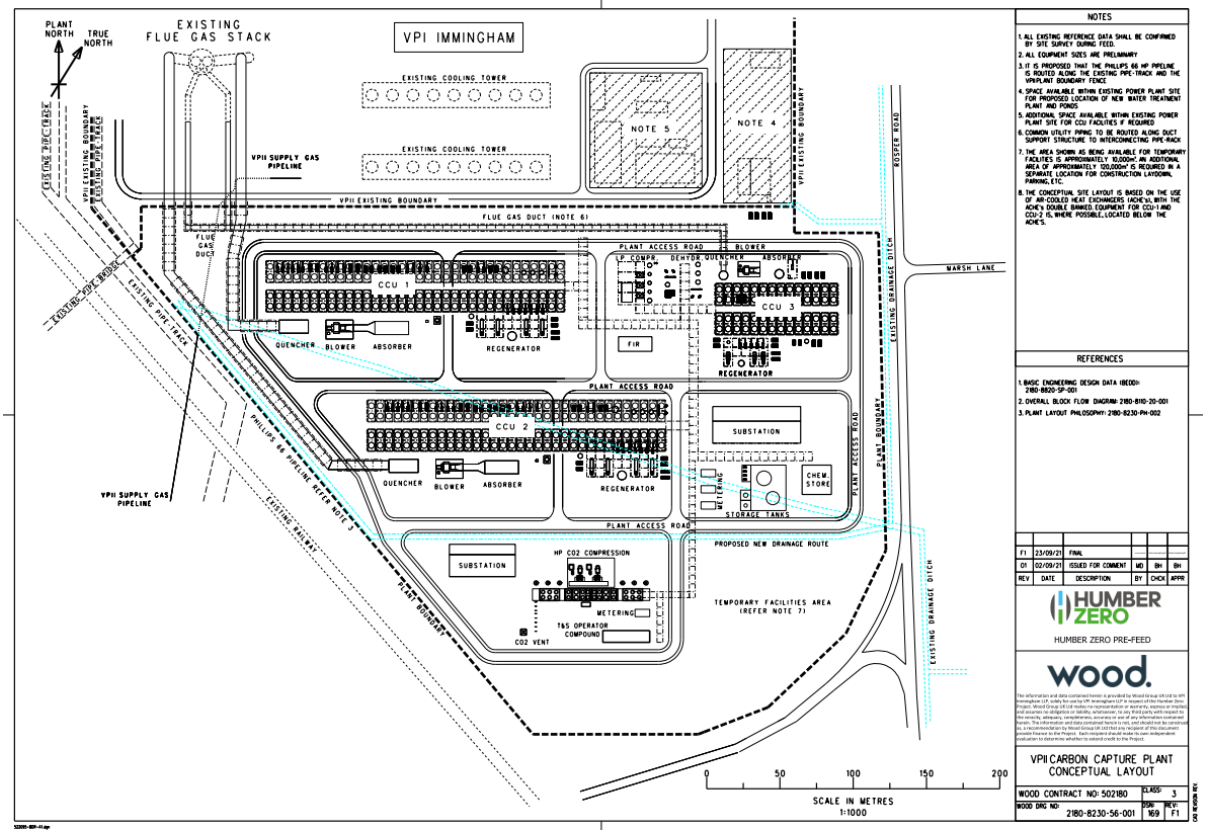

Figure 11 Humber Zero VPI Pre FEED Layout Drawing

4.10 Important points to note at this time included, per Figure 11:

4.10.1 It was proposed that the P66 HP Pipeline should be routed along the existing pipe-track and the CHP Plant boundary fence; and

4.10.2 The area being shown as available for temporary facilities was limited and a significant additional area was identified as being required in a separate location for temporary construction facilities (laydown, parking, warehousing, etc.)

4.11 Figure 13 represents the agreed plot plan at the end of the pre-FEED phase prior to moving forward into front end engineering and design (FEED).

4.12 During the pre-FEED phase, VPI and P66 independently tendered the carbon capture technology and FEED Contractor scopes of work on a competitive basis. Both companies subsequently selected the same carbon capture technology provider (Shell Cansolv) and the same FEED Contractor (Worley).

4.13 Throughout FEED, VPI and P66 continued to work collaboratively under the UKRI funding scheme with regular monthly joint project management team (JPMT) (**CD 2.2**) and quarterly UKRI progress meetings (**CD 2.3**). During this time, it remained a common understanding that the Order Land was the base case and assumption for the VPI post combustion carbon capture project. The entire FEED design development progressed on that basis as well as the planning and permitting associated with the Project, again in a collaborative effort using the same consultants, AECOM and DWD.

4.14 During the FEED phase, VPI were requested by P66 to:

4.14.1 Fit all the facilities in the northern part of the Order Land. This was to release the southern part for the Viking CCS above ground installation; and

4.14.2 Provide a pipeline corridor for use by P66 on the north-eastern part of the Order Land to enable future P66 projects.

4.15 It has also been clear that the southern part of the Order Land will be required temporarily for the location and laydown of construction facilities. The Heads of Terms being negotiated between VPI and P66 include a 5-year lease of the land surrounding the main demise. This land is required by VPI for the storage of equipment, materials and general welfare facilities required in connection with the works ("**Temporary Use Land**"). The Temporary Use Land includes the strip of land to the east of the main demise (referred to by P66 as the pipeline corridor). This southern part of the Order Land is approximately 30,000m^2 which although not satisfying all temporary construction land area required, is key to efficient construction being located adjacent to the construction site.

4.16 Therefore, the pipeline corridor does, subject to the above, fall within the available laydown area and does not represent any attempt by VPI to acquire additional land rights under this Order. VPI remains committed to working with P66 to ensure that any viable project they have that requires access through the pipeline corridor will be reasonably accommodated (under either a reversion of freehold or via leasehold arrangements). As identified early in pre-FEED, it will not be possible to locate all temporary construction facilities on the Order Land and a significant area is required offsite (see paragraph 4.10.2 above). Feasible options have been identified for this additional temporary land which will be formalised in the lead up to FID.

4.17 Despite challenges, VPI were able to accommodate the above requests by P66 by reducing the number of carbon capture units from 3 to 2, incorporating the HP CO_2 compression into the units and exploring design measures to reduce overall footprint (e.g. use of a special air cooler tube design which included turbulators).

4.18 The resulting land area at the end of FEED and as remains today is shown in the site plan at Figure 12. As VPI move through EPC development, it has become clear through advice from Worley that the land plot cannot be reduced any further without significant technical impact on the feasibility of the Project.

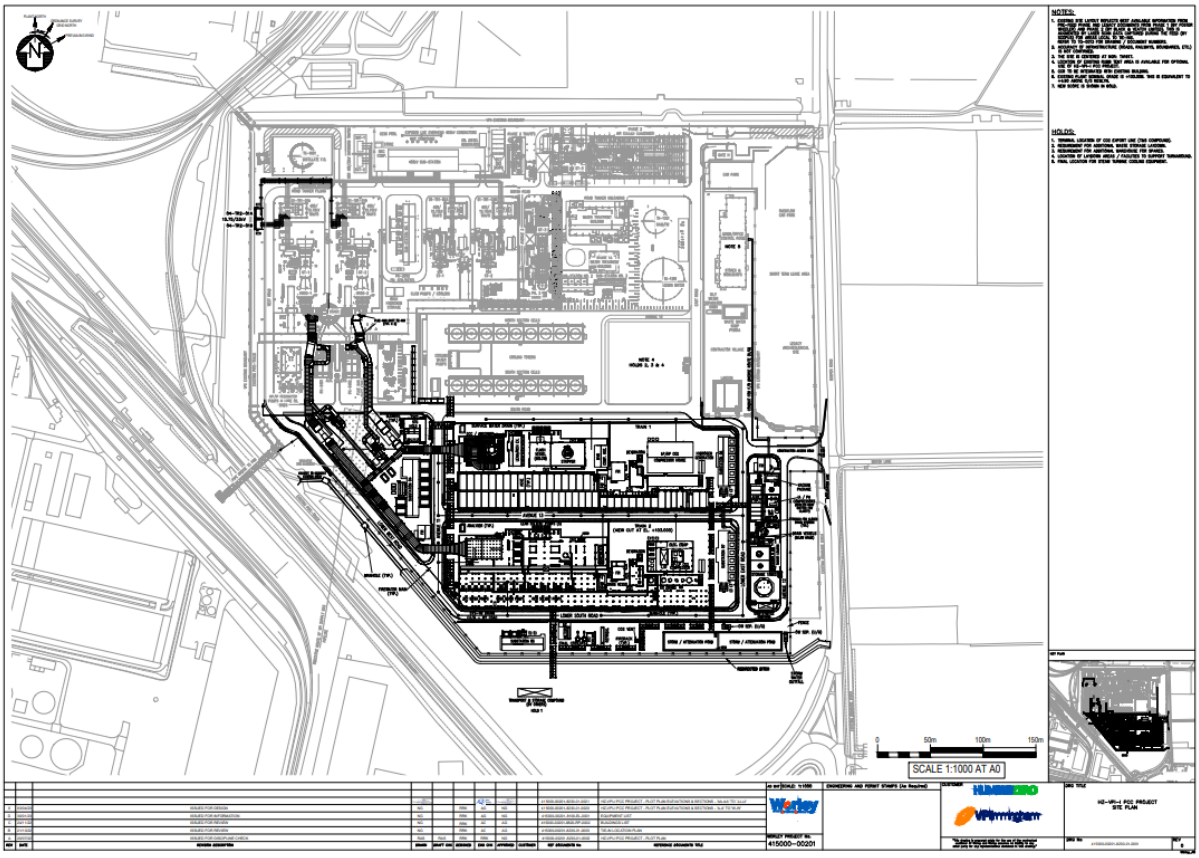

Figure 12 Humber Zero VPI FEED Layout Drawing

4.19 **Site Alternatives**

4.20 The Order Land was selected by Wood as the site for the Project in 2020 through a jointly funded study by VPI, P66 and Uniper. Since then, the Order Land has always been represented as the location for the Project which is entirely logical given it is available and adjacent to the CHP.

4.21 As stated previously, for technical reasons (i.e. conveying flue gases from the existing exhausts to the capture plant, the supply of power and utilities (air, water, firewater, steam), the Project needs to be located as close as possible to the emitter source in this case the CHP Plant.

4.22 As a significant amount of land is required for the Project (around 90,000m^2) this acts as a key constraint on options available in proximity to the CHP plant.

4.23 The Project needs an export route for the captured CO_2. The Viking CCS transportation and storage pipeline plans to terminate at an onshore pipeline compound adjacent to the Project and within the Order land. This presents an ideal location for the Project to minimise interconnecting pipelines and permissions, situated between the emitter and the transportation pipeline.

4.24 In theory the exhaust gas could be transported to a more remote site but this would be complicated and not feasible. Very large flue gas ducting (two ducts of 7m^2 and two ducts of 4m^2) are required to transport the exhaust gas from the CHP to the capture

plant. The size is due to the very high volume of exhaust gas at low pressure. These large ducts would still need to be located on the Order Land together with flue gas blowers and associated dampers. The major challenge is crossing Rosper Road which is a very busy road used extensively by heavy goods vehicles. To cross under Rosper Road would require a very significant tunnel together with in and out ramps (which would extend significantly into land either side of the road) to be excavated. This tunnel would need to be approximately 42m wide by 11m high to accommodate the ducting and access for maintenance and repair activities. These activities would necessitate handling of large volumes of excavated material in itself requiring land and increasing construction traffic. Tunnelling underneath a road is complicated and presents many potential risks given the geology and high water levels in the area Cross above the road is also technically very challenging due to the sheer size of the ducts and elevation required. Guven the scale and complexity of either option and the high probability of needing to close Rosper Road for periods during the installation it is unlikely that National Highways would permit either option.

4.25 The alternative is to split the carbon capture plant with facilities on either side of Rosper Road connected by smaller pipelines. However, to achieve this, the CO_2 must first be removed from the exhaust gases requiring all the carbon capture unit facilities and low-pressure compression to increase the density of the CO_2 such that it can be transported by pipeline. Otherwise, the very large ducting would be required to transport the low-pressure high-volume exhaust gases. Even if a technical solution was possible to split the facilities on either side of Rosper Road, the facilities that would still be required on the Order Land are significant – it does not avoid the need for the Order Land. It must also be noted that as well as two low pressure CO_2 pipelines crossing the road, power and control cables, instrument air and water supplies and a high-pressure CO_2 return pipeline would need to cross the road, which is a significant engineering operation.

4.26 Further to this, the utilities and thermal reclaimer unit (highlighted in the red box in Figure 13) are best located adjacent to the capture units to minimise interfaces. If these were to be located on an alternative site across the road, even more interconnecting pipework would be required including amine solvent pipelines and chemicals. Drainage retention ponds would still be required on the Order Land. Only the high-pressure compression, pipeline conditioning and export metering could be relocated (highlighted in the green boxes in Figure 13). A high-pressure pipeline route to the Viking CCS manifold would still be required on the Order Land. In summary, the majority of the Order Land would still be required even if splitting facilities across Rosper Road.

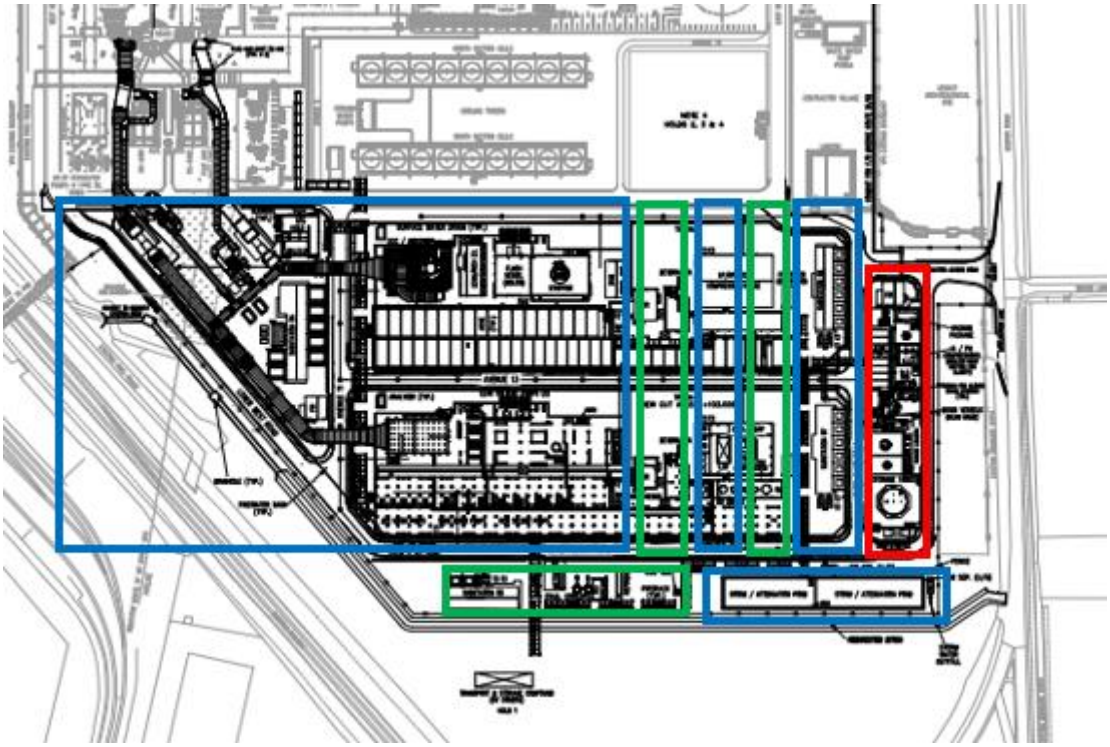

Figure 13 Humber Zero VPI Layout Split Facilities

4.27 In reviewing the land area surrounding VPI Immingham:

4.27.1 Land North of the CHP is not available, as a gas engine project has recently been completed by VPI and an open cycle gas turbine project is currently under construction there.

4.27.2 Land directly East of the CHP and North of Marsh Lane is within the red line boundary of a development consent order secured by Able Marine and has been considered unavailable for a permanent facility due to the ongoing development of this area by Able Marine. Even if this were available, it is not a practical solution and does not alleviate the need for significant areas of the Order Land as explained in 4.24 and 4.25.

4.27.3 The land East of the CHP is also closer to noise and emission receptors which could result in the Project not being able to meet planning requirements and not being permittable. The receptors are noted in the Humber Zero Environmental Statement Chapter 6 - Air Quality and Chapter 7 Noise and Vibration. If the low-pressure elements of the Project were retained on the Order Land with piping used to convey CO_2 offsite, this would require the majority of the Order Land in any case.

4.27.4 Land East of the CHP and South of Marsh Lane is owned by P66 who has stated this is not available for use by VPI, as it is designated for the Gigastack project even if that is currently on hold (**Appendix 4**).

4.27.5 Land West of the CHP, the small area bounded by railway lines is not large enough and the railway crossings would not be feasible.

4.27.6 Land South of the CHP is the Order Land and is ideally located.

4.28 As explained above, the Order Land was selected as the site for the Project jointly with P66 and has been the basis for the Project development since 2020. Even if alternative land were available across Rosper Road, there are no means to avoid the need for significant areas of the Order Land and the technical challenges outlined in paragraphs 4.23 and 4.24 above. As a result, it can be concluded that there are no reasonable site alternatives for the Project.

4.29 **Future P66 Project Requirements**

4.30 VPI has some indication of P66 future project requirements:

4.30.1 Hydrogen pipeline routing: Initial Wood concept studies identified a potential route between the refineries and the CHP plant. It is not clear to VPI whether P66 confirmed the feasibility of this option.

4.30.2 Gigastack Green Hydrogen Project: So far as VPI is aware, this project is permanently paused according to press releases in 2023 (**Appendix 5**).

4.30.3 Uniper Green Hydrogen Project (**Appendix 6**): This appears to be a recent development with the green hydrogen and hydrogen pipeline sitting in Uniper scope and P66 being the offtaker (i.e. having hydrogen delivered to the refinery). Based on public consultation materials (Figures 14 and 15), there are two pipeline options, one East of the Refinery (Rosper Road) and two West of the Refinery (Eastfield Road). The green shaded area includes the lease area P66 has agreed with Harbour for Viking CCS.

4.30.4 If the proposed pipeline routing for this on the Order Land is as shown on drawing 215005-00703-00-CI-DPP-00013 Rev 2 (**Appendix 7**) then VPI consider this to be a feasible option and will work with P66 to enable this solution. VPI has already offered to P66 the land or rights needed to facilitate this pipeline routing once construction of the VPI project has been completed and subject to rights granted to Harbour.

4.30.5 P66 0.46kTPA future carbon capture scheme: VPI are not aware of any issues associated with the Project that are an impediment to this scheme. VPI will work with P66 on scheduling the extension to the existing pipebridge works early in the construction program to enable the installation thereby facilitating the works that P66 require in a way that is consistent with the Order and the VPI project.

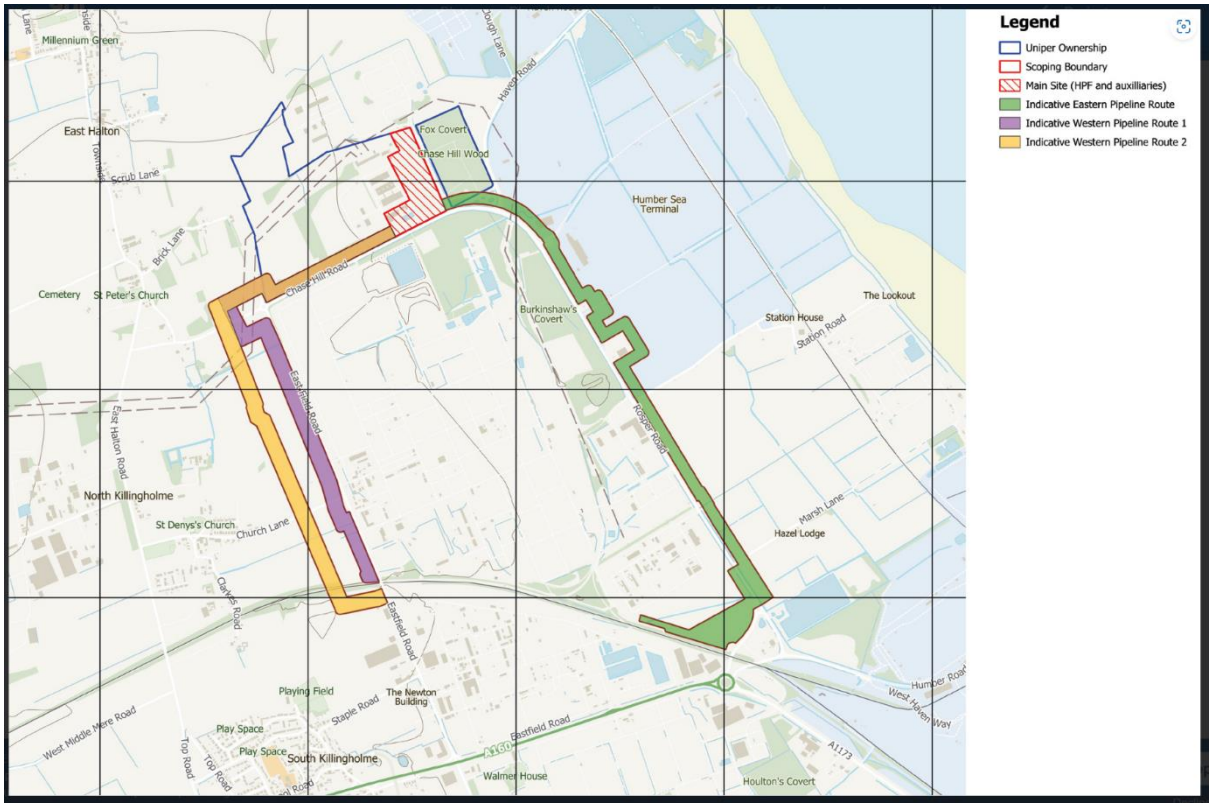

Figure 14 Uniper Green Hydrogen Pipeline Route Options

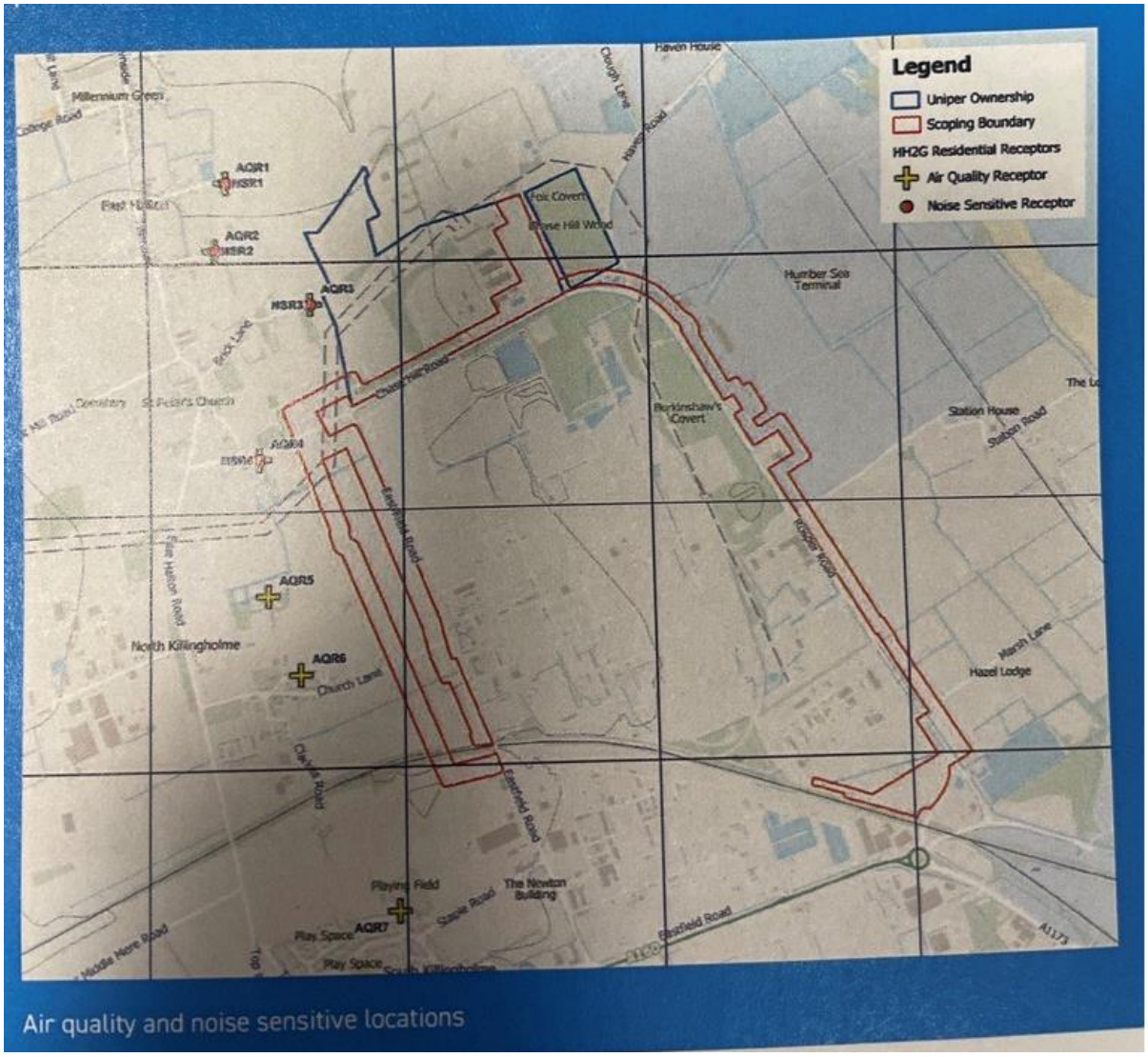

Figure 15 Uniper Green Hydrogen Pipeline Receptors

5 CONCLUSION

5.1 A significant land area (at least 90,000m^2) is required for the permanent Project facilities, similar in size to the footprint of the existing CHP and an even greater area of land is required during the construction phase for temporary laydown areas and construction access as well as co-ordinated working with Harbour.

5.2 The Order land has been the base case option for the Project since 2020 when Humber Zero project locations were first identified. P66 has supported this assumption for the past 5 years through technical development and joint planning and permitting assessments.

5.3 VPI has accommodated multiple requests from P66 to reduce the permanent land area for the Project on the Order Land in the interest of collaboration whilst also accommodating increases in the land area for Viking CCS transportation and storage pipeline in the interest of the cluster program.

5.4 Reasonable alternative sites are not available in the proximity of the CHP Plant. Even if land was available to the east of Rosper Road and adjacent to Marsh Lane (Able Marine or P66-owned land), based on current assessments, VPI would not be able to satisfy the EA targets for emissions nor planning requirements for noise increases due to closer proximity to nearest receptors, rendering the Project infeasible.

5.5 If it became necessary to now consider an alternative site, this would result in a significant cost and schedule impact to the Project, resulting in the inability to meet an FID date in 2026 and deliver the Project within the 2030 timeline.

5.6 Even if alternative sites were available, significant parts of the Order land would still be required to route ducting and locate associated flue gas blowers. The feasibility and acceptability of road crossing on a rack of two by 7m^2 ducts plus two by 4m^2 ducts is considered to be very low on highway safety grounds. To enable pipelines in place of ducting the CO_2 must first be captured and compressed the facilities for which comprise 70% or more of the plot space required for the facility hence most the Order Land would still be required.

5.7 The Viking CCS onshore pipeline compound and pipeline routing onto the Order Land can be accommodated and collaborative scheduling of execution activities will be conducted to understand and mitigate issues in advance of FID.

5.8 The Acquiring Authority considers that it would be feasible to accommodation P66 pipeline requirements on the Order Land in a way that is consistent with the Project to enable connection of the Humber Refinery to the Viking CCS transportation and storage pipeline.

6 STATEMENT OF TRUTH

6.1 This statement of evidence has been prepared and provided for this inquiry by me and I confirm that the facts stated in my proof are either within my own knowledge or, where indicated, reflect the advice that I have received. The opinions that I have expressed represent my true opinion.

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James Beresford-Lambert

Date: 22nd April 2025