Stage 4 Commentary | Frodsham Solar

National Infrastructure Project
EN010153

Comments from Cllr Lucy Sumner
Cheshire West & Chester Council

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Applicants Previous Response To Written Submission

Worst-Case Interaction of Buried Chemicals and a Battery Fire

This matter was raised by Cllr Sumner during the aforementioned public consultation. The Applicant subsequently wrote to Cllr Sumner explaining that the potential implications of battery fires had been discussed with an independent battery fire safety advisor who routinely advises developers and local authorities. As previously explained, modern battery unit design, combined with construction on concrete plinths and surrounding stone surfaces, results in very limited heat transfer to underlying soils. The Proposed Development will be supported by an Outline Battery Safety Management Plan [APP-139], which sets out the measures to prevent fires and manage potential impacts should an incident occur.

Furthermore, the geo-environmental investigations provide no evidence of vinyl chloride or other contaminants being present at concentrations that would present a material risk from a fire at the BESS compound. The BESS compounds are located entirely within Flood Zone 1 and would not be affected by flooding from either the River Weaver or the River Mersey. Accordingly, the suggestion that flood risk could exacerbate such interactions is not supported by the evidence.

Executive Summary

- During the hearing, I raised concerns regarding the adequacy of the Axis / Smith Grant ground investigation and its implications for human health, particularly in the context of the proposed Battery Energy Storage System (BESS).
- The investigation appears limited in both spatial coverage and depth, with boreholes located only at the margins of historic waste tanks and extending to approximately 3 metres below ground level, despite historical evidence that some tanks and lagoons may extend significantly deeper. As a result, the investigation provides only a partial characterisation of subsurface conditions.
- This uncertainty is relevant because lithium-ion battery fires can generate extremely high temperatures and may persist for extended periods. In circumstances where historic industrial deposits may contain chlorinated compounds, exposure to extreme heat has the potential to generate toxic decomposition products.
- While such scenarios may be low probability, the potential consequences for human health could be severe. In this context, a precautionary approach would require greater confidence in the characterisation of subsurface conditions and consideration of worst-case interaction scenarios.

Detailed Commentary

Limitations of the Axis / Smith Grant Site Investigation

- The Applicant's targeted investigation comprised four boreholes, all located on or near the margins of historic tank structures.
- In historic industrial waste tanks and lagoons, the most heterogeneous and potentially concentrated materials are often located towards the centre of the structure. Sampling at the perimeter therefore does not necessarily characterise the contents of the tank itself.
- Sampling depth was also limited to approximately 3 metres below ground level. Historical evidence indicates that some tanks and lagoons in this area may extend significantly deeper, potentially 15–

20 metres. A shallow borehole at the edge of a tank cannot reasonably be assumed to represent conditions deeper within the structure or closer to its centre.

- The analytical scope also appears limited. Although carbon tetrachloride was detected marginally above laboratory detection limits, this does not demonstrate its absence elsewhere within the landfill features or at greater depths. Nor does it rule out other hazardous substances that may not have been included in the analytical suite.
- Where landfill contents are poorly documented, standard contaminated-land practice normally treats such material as potentially hazardous until adequately characterised.
- Taken together, the investigation demonstrates only that contaminant concentrations were low at four shallow locations selected by the Applicant. It does not demonstrate that deeper landfill materials are absent, nor that disturbance of the tanks would be risk-free.

Relevance to the Proposed Battery Energy Storage System

- The proposed development includes a grid-scale lithium-ion Battery Energy Storage System (BESS).
- Lithium-ion battery fires, though rare, can reach temperatures in the order of 800–1000°C and may persist for extended periods during thermal runaway events. The Outline Battery Safety Management Plan recognises thermal runaway and toxic gas generation as key hazards associated with battery failures and describes the mitigation measures that would be implemented.
- However, the Applicant has suggested that battery units mounted on concrete plinths and surrounding stone surfaces would result in limited heat transfer to underlying soils.
- While such construction can reduce heat transfer, concrete and compacted stone are conductive materials. Heat transfer through solid materials occurs primarily through conduction, meaning heat can be transmitted downward through the structure over time.
- In the context of a prolonged battery fire, the relevant technical question is therefore not simply whether heat rises in air, but what temperatures could be transmitted into the underlying ground and for how long.
- Where historic industrial deposits may contain chlorinated hydrocarbons such as vinyl chloride or carbon tetrachloride, exposure to high temperatures has the potential to generate hazardous gases including hydrogen chloride and phosgene.
- Phosgene is an acutely toxic pulmonary agent capable of causing severe lung injury and delayed respiratory failure at relatively low concentrations.

Absence of Site-Specific Thermal Modelling

- During the hearing the Applicant indicated that thermal and heat-flux data exist for battery systems, including measurements relating to heat release, venting behaviour and external temperatures.
- However, it was not clear whether site-specific modelling has been undertaken to demonstrate:
- peak temperatures at the soil–plinth interface
- the duration of elevated temperatures beneath the structure
- predicted subsurface temperatures at depth beneath the BESS units.
- If such modelling exists, it would assist the Examination if the results could be provided. If not, this represents a remaining evidential gap in understanding the interaction between a credible BESS fire scenario and the underlying ground conditions.

Potential Chemical Decomposition

- Lithium-ion battery fires may reach temperatures approaching 800–1000°C, which falls within the temperature range at which certain chlorinated hydrocarbons may thermally decompose to produce hazardous gases such as phosgene, hydrogen chloride and chlorine.
- Even low airborne concentrations of these substances can pose risks to human health.
- Lithium-ion battery fires can reach temperatures approaching 800–1000°C, which falls well within the temperature range where chlorinated hydrocarbons such as carbon tetrachloride and vinyl chloride can decompose to produce highly toxic gases including phosgene, hydrogen chloride and chlorine.
- Even very small airborne concentrations of these gases can pose serious risks to human health.

Table 1: Decomposition temperatures and potential impact upon human health

Original Substance	Approx. Temperature Where Decomposition / Hazardous Reactions Begin	Problematic Chemicals Produced	Health / Safety Concern
Arsenic / Arsenic compounds	• ~135°C (arsenic trioxide sublimation) • ~300–500°C significant volatilisation	Arsenic oxide fumes (As_2O_3), arsenic vapour, particulate arsenic compounds	Highly toxic inhalation hazard; causes severe lung irritation, systemic poisoning, and is a known carcinogen
Carbon tetrachloride (CCl_4)	• ~250–400°C decomposition can begin • ~500–700°C significant breakdown reactions	Phosgene ($COCl_2$), Hydrogen chloride (HCl), Chlorine (Cl_2), Carbon monoxide (CO), Carbon dioxide (CO_2)	Phosgene is a highly toxic pulmonary agent; HCl and chlorine cause severe respiratory injury
Vinyl chloride (VCM)	• ~300–450°C decomposition reactions begin • >600–800°C combustion conditions	Hydrogen chloride (HCl), Phosgene ($COCl_2$) (trace in some conditions), Carbon monoxide (CO), Carbon dioxide (CO_2), acetylene	HCl causes corrosive respiratory injury; phosgene can cause delayed fatal lung damage
Chlorinated hydrocarbons (general fire chemistry)	~400–1000°C depending on combustion conditions	Phosgene, Chlorine, Hydrogen chloride, dioxins (in some combustion conditions)	Toxic inhalation gases and long-term environmental contaminants

Table 2: Potential gases are hazardous even at very low concentrations.

Gas	Approx. Dangerous Exposure Level
Phosgene	~0.6 ppm can cause severe lung injury
Hydrogen chloride	~35–50 ppm causes serious respiratory irritation
Chlorine	~10 ppm dangerous; ~30 ppm potentially life-threatening

Absence of Site-Specific Thermal Modelling

- During the hearing the Applicant indicated that thermal and heat-flux data exist for battery systems, including measurements relating to heat release, venting behaviour and external temperatures.
- However, it was not clear whether site-specific modelling has been undertaken to demonstrate:
- peak temperatures at the soil–plinth interface
- the duration of elevated temperatures beneath the structure
- predicted subsurface temperatures at depth beneath the BESS units.

- If such modelling exists, it would assist the Examination if the results could be provided. If not, this represents a remaining evidential gap in understanding the interaction between a credible BESS fire scenario and the underlying ground conditions.

Environment Agency Concerns

- It is also noted that the Environment Agency's written representation raises concerns regarding flood resilience and operational safety of the site during flood events, indicating that certain environmental risks remain under consideration.

Suggested Actions

Given the uncertainty regarding buried industrial waste and the potential consequences of a worst-case interaction scenario, a precautionary approach would suggest:

1) Site-specific thermal modelling of a credible battery fire scenario showing predicted subsurface temperatures.
2) Further intrusive investigation within the central footprints of historic tanks and to greater depths.
3) Broader contaminant screening reflecting the historic industrial context of the site.
4) Assessment of potential interaction between battery fire scenarios and underlying ground conditions.

These matters relate directly to human health and environmental risk.

3b | Traffic, Transport and Navigation

i. cumulative effects of construction traffic and abnormal loads with other projects during the construction phase and replacements during the operational phase
ii. construction traffic access plan
iii. potential ecological impacts to the Non-Breeding Bird Mitigation Area (NBBMA) from construction and operational traffic
iv. closure of the River Weaver
v. control of working hours for permitted preliminary works vi. contractor parking

Applicants Previous Response To Written Submission

Not applicable

Executive Summary

- The Outline Construction Traffic Management Plan (oCTMP) sets out the proposed strategy for managing construction traffic associated with the Proposed Development. This includes the use of a defined construction route via Pool Lane, Grinsome Road and Marsh Lane, delivery scheduling, and the use of banksmen to manage vehicle movements along narrow sections of Marsh Lane.
- However, several matters would benefit from further clarification during the Examination. In particular, these relate to the management of cumulative construction traffic with other infrastructure projects, the operation of construction traffic along narrow sections of Marsh Lane, the timing and routing of abnormal loads, and the potential ecological effects of construction activity associated with the Non-Breeding Bird Mitigation Area (NBBMA). Clarification would also be helpful regarding working hours for preliminary works, contractor parking arrangements, and potential navigation implications relating to the River Weaver.

Detailed Commentary

Cumulative Construction Traffic

- The oCTMP recognises that other major infrastructure schemes in the area, including elements of the HyNet North West project, may generate construction traffic using the same local highway network.
- The proposed approach to managing cumulative impacts relies primarily on ongoing liaison between project teams and the potential establishment of a Construction Traffic Management Plan Working Group if construction programmes overlap.
- While this collaborative approach is welcome, it is not currently clear whether:
    - a formal cumulative construction traffic assessment has been undertaken;
    - the combined traffic volumes from overlapping projects have been modelled; or
    - contingency arrangements exist should construction programmes change.
- Given the scale of infrastructure projects proposed within the wider Stanlow / HyNet area, further clarity regarding the practical management of cumulative traffic impacts would assist the Examination.

Construction Traffic Access Plan

- The proposed construction access route would utilise Pool Lane, Grinsome Road and Marsh Lane, before connecting to the existing wind farm access tracks serving the site.
- The oCTMP acknowledges that Marsh Lane is approximately 3–4 metres wide for much of its length, which does not allow two HGVs to pass safely.
- The proposed mitigation is the deployment of banksmen positioned at either end of the narrow section, using radio communication to control vehicle movements along the route.
- While this approach may be workable, further detail would assist in understanding how the system would operate in practice, including:
    - the traffic management layout for this section of road;
    - the potential for queueing or waiting times during peak construction periods; and
    - how interactions with other legitimate road users would be managed.

Construction Traffic Volumes

- The oCTMP estimates a total of 5,355 one-way deliveries (10,710 two-way vehicle movements) over the construction period.
- Peak construction activity is expected to generate up to 46 two-way delivery-related vehicle movements per weekday, with lower volumes on Saturdays.
- Although the document states that no highway capacity concerns are anticipated, it is not entirely clear:
    - whether local junction capacity assessments have been undertaken for peak construction periods; or
    - whether the combined effect of delivery vehicles and construction staff vehicles has been fully assessed.
- Additional clarification of these assumptions may assist in understanding the robustness of the transport assessment.

Abnormal Loads

- The oCTMP indicates that abnormal indivisible loads (AIL) may be required for equipment such as transformers, cranes and cable drums.
- However, the exact number, routing and timing of these loads has not yet been defined and is expected to be determined at a later stage.
- As abnormal loads may require escort arrangements, temporary traffic management or route clearances, further information regarding:
    - the anticipated number of abnormal load movements, and
    - their likely routing and timing
- would assist in understanding the potential transport implications.

Ecological Considerations – Non-Breeding Bird Mitigation Area (NBBMA)

- The oCTMP indicates that the NBBMA would be constructed during an early phase of the construction programme and would involve staff movements and HGV deliveries associated with earthworks and materials transport.
- While the anticipated traffic associated with this phase is relatively limited, the documentation does not appear to explicitly address:

    - the potential disturbance effects of construction traffic and activity on birds using the mitigation area; or
    - how traffic movements close to the NBBMA will be managed to minimise disturbance.
- Given that the NBBMA forms a key ecological mitigation measure for the development, further clarification regarding how disturbance during construction and operation will be minimised would be helpful.

Working Hours and Preliminary Works

- The oCTMP indicates that construction activities are anticipated to occur during the following hours:
    - 08:00–18:00 Monday to Friday
    - 08:00–13:00 Saturday
- However, the document notes that certain activities — including abnormal load deliveries or commissioning works — may occur outside these hours where necessary, subject to agreement with the Local Highway Authority.
- Further clarification would assist regarding:
    - the circumstances in which out-of-hours activities may occur; and
    - how these activities would be controlled to minimise disturbance to nearby communities and ecological receptors.

Contractor Parking and Staff Travel

- The oCTMP indicates that construction staff parking will be provided within main and satellite construction compounds, with up to 243 workers present during peak construction periods.
- The document notes that a Construction Staff Travel Plan will be prepared by the appointed contractor at a later stage, including measures such as lift-sharing and minibus transport to reduce reliance on private vehicles.
- At present, however, the detailed arrangements for staff travel are not yet defined. Further information on the anticipated approach to managing construction workforce transport would therefore assist in assessing potential traffic impacts.

Suggested Actions

To provide greater certainty regarding transport impacts during construction, it would be helpful if the Applicant could provide:

1. Clarification of whether cumulative construction traffic impacts with nearby infrastructure projects have been formally assessed.
2. Further detail regarding the traffic management arrangements on Marsh Lane, including management of narrow sections.
3. Additional information on the anticipated number and routing of abnormal loads.
4. Clarification of how construction traffic and activity will avoid disturbance to the Non-Breeding Bird Mitigation Area.
5. Confirmation of the controls that will apply to out-of-hours construction activities.
6. Further information on the Construction Staff Travel Plan and contractor parking arrangements.

3c | Non-motorised users and public rights of way (PRoW)

i. structural surveys of PRoWs over bridges for proposed to be used by emergency vehicles and for visitor car park access
ii. temporary PRoW closures including impacts to the National Cycle Route 5 and the need for a communication plan
iii. PRoW user experience within the solar array development area (SADA) during operation
iv. PRoW condition surveys and maintenance during the construction, operational and decommissioning phases
v. PRoW status post-decommissioning
vi. access to the River Weaver for recreation

Applicants Previous Response To Written Submission

Cycleways and Bridleways

The Applicant has submitted an Outline Public Rights of Way Management Plan [as updated alongside this submission], which sets out how public rights of way crossing the Site will be managed during construction and operation. The provision and management of permissive paths is addressed within the Outline LEMP.

Further detail on how community feedback relating to access and movement has informed the design, including measures to accommodate a range of user groups, is provided in the Design Approach Document [APP-130].

Response To Active Travel

The Applicant disagrees that its responses to consultation feedback are dismissive of local concerns. Visual impact including the views from elevated locations such as Frodsham Hill and Helsby Hill were specific themes raised through consultation and have been expressly recognised and assessed in the Environmental Statement.

The Applicant's use of terms such as "significant" and "not significant" is not intended to minimise the importance of any individual concern. These terms are used in the Environmental Impact Assessment (EIA) as a matter of professional judgement within an established methodology for environmental assessment. ES Vol 1 Chapter 6: Landscape and Visual [APP-039] explains that professional judgement is an important part of the LVIA process. In that context, the LVIA recognises that elevated views are available from locations to the south of the Site, including Frodsham Hill and Helsby Hill, and has assessed specific viewpoints from those locations. ES Vol 1 Chapter 6: Landscape and Visual [APP-039] identifies moderate adverse effects at those elevated viewpoints, but concludes those effects are not significant in EIA terms. Further explanation to this point is set out at Ref CWACC6.7 of the Applicant's Response to Local Planning Authority and Statutory Environmental Body Relevant Representations [PD2-027].

ES Vol 1 Chapter 6: Landscape and Visual [APP-039] does identify significant residual adverse visual effects for certain receptors, particularly users of public rights of way that pass through or immediately adjacent to the Order Limits, and these effects are clearly reported as significant. The assessment distinguishes these close-range effects from effects experienced from more distant or elevated locations, where views are assessed as not undergoing a fundamental change in character, and therefore not significant in EIA terms.

With regard to whether additional mitigation would be effective in further mitigating the visual impacts of the Proposed Development, ES Vol 1 Chapter 6: Landscape and Visual [APP-039] explains that proposed planting would, over time, reduce visibility of new structures for some receptors, but also records that, because of the nature of elevated viewpoints and the viewing geometry involved, planting cannot be relied upon to screen the development in the same way as it can from lower-level routes and receptors. This reflects an honest application of the mitigation hierarchy based on the evidence and assessment of effects, not a dismissal of the concerns raised.

Finally, on residential receptors, ES Vol 1 Chapter 6: Landscape and Visual [APP-039] assesses the limited potential for change in views to affect amenity and explains why any visibility from nearby properties would occur in the context of existing large-scale infrastructure, with screening typically present, such that effects would not be of a nature or degree that would materially affect living conditions. That is a conclusion in EIA terms only; it does not deny that some residents may still perceive a change in their wider environment.

All development delivers benefits of one form or another (otherwise development would simply not happen), and all development gives rise to harm to one degree or another (an inevitable consequence of change), but at its core the planning balance is about comparing the benefits that a proposed development would deliver against the harm that it would cause. The Applicant does recognise that the Proposed Development will result in adverse visual impacts, but considers (at paragraphs 8.3.13 to 8.3.16 of the Planning Statement [APP-128]) that in planning terms this should carry limited weight. This is not to disregard the visual impact, but a professional judgement as to the weight the issue should be given in planning terms. The Applicant has also set out the many benefits of the Proposed Development within Section 5 of the Planning Statement, and it is the Applicant's position that the benefits of the Proposed Development in this location and landscape that is already characterised by major infrastructure and renewable energy development outweigh the visual harm.

Executive Summary

I note the Applicant's reliance on the Outline PRoW Management Plan and linked outline documents. However, the key issue for the Examination is not whether documents exist, but whether they secure deliverable, enforceable and durable mitigation for the long-term change to a heavily used recreational landscape. The Outline PRoW Plan confirms significant managed restrictions and closures during construction (including on NCN5) and leaves several critical matters, route standards, surfacing, widths, user segregation, permanence and maintenance, to later approval. In my view, the DCO should provide greater certainty now that the PRoW network will remain usable year-round, well connected and permanently secured, with clear arrangements for maintenance and ecological protection.

Detailed Commentary

1) "Outline documents" vs enforceable outcomes

- The Outline PRoW Plan states a full PRoW Management Plan will be required post-consent and must be "substantially in accordance" with the outline.
- That provides a process, but it does not yet secure key quality outcomes (standards, permanence and funding) that matter most given the scale and duration of effects.

2) Temporary restrictions and closures, including NCN5

- The Outline PRoW Plan confirms that NCN5 sections would be used as construction access roads and would operate under restrictions during construction hours, including:
    - prohibition of pedestrians and equestrians along a defined section during construction hours; and
    - cyclists permitted only under a banksman-controlled system holding construction traffic at each end.
- Given NCN5's strategic function, the Examination would benefit from clearer commitments on communications, safe alternatives/diversions, and minimising disruption (beyond "published online").

3) Cycleways/bridleways as essential mitigation: standards not yet committed

- In this marshland context, cycleways and bridleways are core mitigation, not optional enhancements. The Outline PRoW Plan indicates new permissive paths and "improved access" in operation, but the final route, surfacing material, permitted user groups and widths are explicitly deferred to the full PRoW Plan.
- Without minimum standards now (all-weather surfacing, widths, equestrian safety design and conflict management), the mitigation risks being aspirational.

4) Permanence of access (permissive paths can be removed)

- The Outline PRoW Plan states permissive paths may be removed if antisocial behaviour affects users, wildlife or security.
- That creates uncertainty for communities being asked to accept long-term landscape change: access improvements relied upon in the planning balance should be secure for the life of the development, with proportionate management responses short of removal.

5) Marshland usability and maintenance

- The Outline PRoW Plan recognises periodic flooding/mud and states works may be undertaken to improve path condition, with monitoring and maintenance schedules to be set out later.
- Given the wet marshland environment, the DCO should secure (at minimum) baseline condition surveys, inspection frequency, maintenance triggers, and funding/responsibility—so routes remain usable year-round.

6) Ecological dimension and user management

- The Outline PRoW Plan acknowledges stakeholder input on minimising wildlife disturbance and proposes signage (including dogs on leads near the estuary/NBBMA).

- Well-designed routes (alignment, surfacing, zoning, signage) can reduce unmanaged disturbance; poorly defined permissive access can increase it.

Suggested Actions

To provide greater certainty regarding the long-term functionality of the PRoW network, it would be helpful if the Applicant could provide:

1. Secure minimum design standards in the DCO / requirements for all retained/new routes (all-weather surfacing, minimum widths, equestrian safety provisions, inclusive access where intended).
2. Require a PRoW communications plan for construction (especially NCN5), including advance notice, signed diversions/alternatives, and user-group engagement (not solely website notices).
3. Clarify and secure permanence: permissive paths relied upon as mitigation should not be removable other than through a clearly defined, proportionate process with alternative provision.
4. Secure maintenance and monitoring commitments (baseline surveys, inspection frequency, repair standards, responsibilities and funding) across construction, operation and decommissioning.
5. Confirm how PRoW design and management will avoid increased disturbance to sensitive areas (e.g., dog management, zoning, surfacing to reduce trampling).

3d | Landscape and Visual effects (including historic environment and glint and glare)

Glint and Glare
i. clarifications
ii. assessment of impacts including traveller sites
iii. how mitigation would be secured

Landscape and Visual
i. i. clarifications
ii. post-decommissioning state

Historic Environment
i. policy
ii. categorisation of harm to heritage assets
iii. public benefits

Applicants Previous Response To Written Submission

Requirement for Landscape Screening

This matter refers to the representation submitted by Frodsham's Active Travel Team [REP1-071]. The Applicant's response is set out at FAT01–FAT03 of this document.

Executive Summary

At the hearing, key issues were:

(1) Residential glint and glare affecting a defined group of dwellings for up to 3 months per year (and a smaller group for more than 3 months, albeit for shorter daily duration);

(2) Whether additional screening from elevated viewpoints (Frodsham and Helsby Hills) has been properly tested, given evidence that the shallow viewing angle could allow meaningful screening without materially affecting generation; and

(3) The need for clarity on post-decommissioning restoration and the policy balance where harm is identified. The Applicant's LVIA recognises mitigation hierarchy principles and identifies mitigation options (including screening and anti-reflective coatings), but several matters would benefit from clearer, enforceable mechanisms.

Detailed Commentary

1) Glint and glare – scale of effect and enforceability of mitigation

- The Glint and Glare Assessment reports that glint/glare is geometrically possible towards a large number of assessed dwellings, but concludes overall effects are "low impact" and recommends no further mitigation for residential amenity. It identifies:
    - 16 dwellings with effects predicted for less than 3 months per year and less than 60 minutes on any day; and
    - 15 dwellings with effects predicted for more than 3 months per year, still less than 60 minutes on any day (with mitigating factors such as impacts above ground floor, coincidence with direct sunlight, and distance).

- From a resident-amenity perspective, the hearing evidence remains that the experience for affected households—potentially up to an hour per day over several months—is not negligible, even if judged "moderate/low" in assessment terms.
- Clarification requested: what is the secured mechanism if real-world effects exceed modelled assumptions or if verified complaints arise post-construction? In particular:
    - is there a requirement for post-installation verification at the affected receptors;
    - what is the complaints/trigger process; and
    - what remedial options are secured (e.g., additional screening or limited panel adjustment)?
- The assessment also notes a DCO provision requiring a minimum five-degree tilt difference between two panel areas (to prevent reflections being experienced at the same time at any location). That is helpful, but it does not address the question of remedial mitigation for residential receptors if impacts arise in practice.

2) Landscape and visual – screening from elevated views

- Hearing evidence from the Active Travel Team highlighted that the viewing angle from Frodsham Hill is shallow (~5–6 degrees) and that strategically designed 7–8m screening could obscure substantial depths of panel rows, potentially without materially affecting output, because much of the rear array is already effectively self-screened at low sun angles.
- The Applicant's LVIA acknowledges the open, panoramic nature of these elevated views and concludes that effects from elevated viewpoints are moderate adverse but not significant in EIA terms.
- The Applicant's position (as summarised in discussion) is that tall screening could conflict with the open marsh character and provide limited benefit at distance; however, the key point raised at the hearing is that this conclusion appears to rest largely on professional judgement, rather than a clearly presented comparative assessment of alternative screening scenarios (e.g., targeted belts/copses, variable heights, softened edges, and selective internal breaks).
- Clarification requested: has the Applicant undertaken (and can it provide) a comparative visual test of the Active Travel screening approach from the principal elevated viewpoints, showing:
    - a "with additional screening" option versus the current mitigation; and
    - the extent of panel depth screened at representative locations?
- NPS policy expects mitigation to be applied where practicable, and the LVIA policy summary itself identifies screening (native trees/hedges/woodland) as a potential mitigation measure alongside anti-reflective coatings and careful siting/design.

3) Post-decommissioning landscape state

- Given the long operational life, the Examination would benefit from clearer certainty on the intended end state and how it is secured and funded. At present, decommissioning and restoration are commonly addressed through outline plans and later approvals; the concern is whether restoration of the marsh character is a defined, enforceable outcome rather than an assumption.
- Clarification requested: confirm the secured approach to:
    - removal of above-ground infrastructure;
    - land reinstatement; and
    - how delivery is guaranteed (including funding mechanism/obligations).

4) Historic environment – assets, harm categorisation, and public benefits

- The Historic Environment plans show that the Order Limits sit within a landscape containing multiple designated and non-designated heritage assets and areas (including conservation areas, listed buildings, scheduled monuments and a registered park/garden in the wider area).
- Where heritage harm (including setting impacts) is identified, the decision-maker must understand:
    - how harm has been categorised (e.g., degree of harm and significance of asset), and
    - what public benefits are relied upon and whether they are certain and secured.
- The hearing discussion raised that some asserted benefits (community/interpretation/access enhancements) are described at outline level and may not be fully secured through enforceable mechanisms. This is relevant to the weight that can properly be given to "public benefits" in any heritage balance.
- Clarification requested: provide a clear summary table setting out:
    - each affected heritage asset (including setting receptors);
    - the categorisation of harm; and
    - the specific public benefits relied upon, distinguishing those secured through the DCO requirements from those that are voluntary/aspirational.

Suggested Actions

1. Glint & glare: confirm a secured post-construction verification and complaint-trigger mechanism, and what remedial measures (screening/panel adjustment) are available if impacts exceed predictions.
2. Provide the list of affected dwellings referenced at the hearing and tie this to the assessment outputs.
3. Elevated viewpoints screening: provide a comparative visual test of the Active Travel screening concept from Frodsham/Helsby Hills, so the ExA can judge whether further mitigation is reasonably practicable.
4. Decommissioning: clarify the secured restoration end-state and how delivery/funding is guaranteed.
5. Historic environment: provide a clear harm/benefit schedule for heritage assets shown on the Historic Environment plans, distinguishing secured versus aspirational benefits.

3e | Green Belt

i. clarifications
ii. planning policy considerations

Executive Summary

The main issue remains whether the Order Limits comprise designated Green Belt or can properly be treated as "grey belt" for decision-making purposes. Cheshire West and Chester Council (CWCC) maintains the land is Green Belt and does not meet the definition of grey belt, with consequences for whether the proposal is inappropriate development and the weight to be given to harm to openness and Green Belt purposes. Even if the Proposed Development is treated as Critical National Priority (CNP) infrastructure under EN-1 (and therefore capable of forming the starting point for very special circumstances), Green Belt policy is not disapplied: the ExA must still assess the degree of harm and explain transparently how that harm is outweighed.

Detailed Commentary

1) Green Belt versus grey belt: what must be evidenced

- CWCC's position is that the site is designated Green Belt and not grey belt (as set out in its Relevant Representation). The Applicant relies on PD2-027 for its grey belt position.
- The Government's Green Belt guidance (updated Feb 2025) explains that land can be identified as grey belt only where it is not judged to strongly contribute to purposes (a), (b) or (d) and where footnote 7 constraints (other than Green Belt) would not provide a strong reason to restrict development.
- Accordingly, if grey belt is argued, the Applicant should clearly evidence—on an appropriately granular basis—how the site performs against:
    - Purpose (a) checking sprawl of large built-up areas;
    - Purpose (b) preventing neighbouring towns merging (CWCC's concern re separation between Runcorn and Frodsham); and
    - Purpose (d) preserving the setting/special character of historic towns (where relevant).

2) Inappropriateness and the "stepped" policy approach

- The NPPF confirms that substantial weight must be given to any harm to the Green Belt, including harm to its openness, and that inappropriate development should not be approved except in very special circumstances.
- The hearing discussion highlighted a "stepped" approach:
- Is the land grey belt and does paragraph 155 apply such that development is not inappropriate?
- If not, the development is inappropriate and must be justified by very special circumstances, with substantial weight given to harm (including openness).
- The Government guidance also clarifies that where development is not inappropriate on grey belt, this is excluded from the policy requirement to give substantial weight to Green Belt harm (via footnote 55).

- This increases the importance of getting the grey belt judgement right and evidencing it properly.

3) Openness: spatial, visual, duration and activity

- CWCC's position is that harm to openness would be substantial, given the scale (c. 600 acres) and the extent of built/engineered elements (arrays, fencing, substations, BESS compounds and associated activity). The Applicant characterises harm as limited to moderate but accepts substantial weight should be afforded to Green Belt harm in the overall balance.
- The Green Belt guidance confirms openness has spatial and visual aspects and that decision-makers may consider the duration/remediability of development and the degree of activity generated (e.g. traffic).
- Given the long operational timeframe, and the scale of encroachment across open marsh, the ExA should be satisfied that the openness assessment has captured:
    - the cumulative spatial effect across the whole site (not just height of components);
    - the degree of urbanising influence and activity; and
    - the extent to which the development is remediable at decommissioning (and how that is secured).

4) Very special circumstances and CNP infrastructure

- Both CWCC and the Applicant accept that the proposal is CNP under EN-1 and that this is capable of providing the starting point for very special circumstances. CWCC also notes that BESS can fall within the CNP definition of low carbon/energy infrastructure. (CWCC also referenced recent DCO reasoning on this point.)
- However, NPPF policy remains clear: where renewable energy projects comprise inappropriate development in the Green Belt, developers must demonstrate very special circumstances, and those circumstances exist only where the harm is clearly outweighed.
- Accordingly, even if CNP is accepted, the ExA still needs a clear, reasoned explanation of:
    - the full extent of Green Belt harm, including openness and purposes;
    - any other harms; and
    - why the benefits clearly outweigh that harm.

5) Longer-term policy implications

- CWCC's concern is that consent for development of this scale on designated Green Belt land may have practical implications for future Green Belt decision-making pressures in this location. While each case turns on its own facts, this underscores the need for a robust, well-evidenced Green Belt judgement and a transparent planning balance.

Suggested Actions

1. Provide a clear, evidenced statement on whether the land is grey belt, applying the Government's criteria on Green Belt purposes (a), (b) and (d) and footnote 7 constraints.
2. If grey belt is not accepted, set out the very special circumstances case explicitly, ensuring substantial weight is given to Green Belt harm (including openness).

3. Provide clearer explanation of how openness has been assessed (spatial/visual aspects, duration/ remediability and activity effects), consistent with Government guidance.
4. Ensure the final decision report explains the policy “step” (grey belt/not inappropriate vs inappropriate/VSC) and the resulting planning balance transparently.

3f | Biodiversity and Ecology (including Habitats Regulations Assessment (HRA) aspects

i. NBBMA including but not limited to: • interested parties' positions on Adverse Effects on Integrity (AEoI) to the Mersey Estuary Special Protection Area (SPA) and Ramsar
    - whether the NBBMA should be considered mitigation or compensation
    - rhe concept of repurposing an already 'in use' mitigation area and consideration of additionality
    - appropriateness of the application of the Cleve Hill approach to calculate the size of the NBBMA and exploration of alternative methods
    - shape of the NBBMA including the 'panhandle' area
    - NBBMA requirement in the draft Development Consent Order (DCO)
    - long-term management and monitoring
    - potential impact of additional PRoWs

ii. Skylark Mitigation Area (SMA) including but not limited to:
    - size and location
    - baseline surveys
    - long-term management and monitoring
    - farmland birds requirement in the draft DCO

iii. cumulative and in-combination effects of other developments to the proposed mitigation areas
iv. Biodiversity Net Gain (BNG) proposals and calculations, specifically the consideration of reedbed priority habitat
v. baseline ornithological surveys
vi. proposed buffer distances
vii. potential impacts to Local Wildlife Sites viii.lake effect and the reliance on the use of an anti-reflective coating
viii. proposal for disapplication of section 28E of the Wildlife and Countryside Act 1981 within the draft DCO
ix. potential noise effects from any controlled unexploded ordnance detonations

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Applicants Previous Response To Written Submission

Environmental and Ecological Impacts

The Applicant has submitted a detailed Ecological Impact Assessment and Habitats Regulations Assessment, together with a comprehensive suite of mitigation measures to protect and enhance biodiversity within the Site and the ecological interest features of the Mersey Estuary SPA, Ramsar site and SSSI.

The Site was covered by a robust three-year ornithological survey programme, supported by extensive desk-based data. While not every parcel of land was surveyed in every individual year, the overall survey design ensured that all relevant areas were adequately covered across the programme. Surveys consistently encompassed the core non-breeding period (October to March) in each of the three survey years, thereby exceeding Natural England's minimum guidance requirement of two winters of non-breeding bird survey data and capturing inter-annual variation.

Natural England has confirmed that it is satisfied with the survey coverage and evidence base and has raised no objection in respect of the adequacy of the survey data.

Executive Summary

- A substantial proportion of the Order Limits comprises Functionally Linked Land (FLL) supporting the Mersey Estuary SPA and Ramsar site. The Applicant acknowledges this within the Habitats Regulations Assessment (HRA) and relies heavily on the proposed Non-Breeding Bird Mitigation Area (NBBMA) and associated habitat management to conclude that no Adverse Effect on Integrity (AEoI) will arise.
- However, the ecological baseline and the role of Frodsham Marsh as a functioning open estuarine landscape require careful consideration. The marsh already supports significant assemblages of migratory and overwintering birds associated with the SPA. Its ecological value arises not only from specific habitat types but also from its large-scale openness and connectivity with the estuary.
- The Applicant's position that parts of the site — particularly Cell 3 — can be ecologically improved through long-term habitat management should therefore be treated with caution. The marsh is not an ecological blank canvas awaiting enhancement; it is an established ecological system that has developed over decades.
- Given the reliance on long-term habitat creation, hydrological management and behavioural assumptions regarding bird use, it is essential that the HRA and associated mitigation proposals demonstrate — beyond reasonable scientific doubt — that the development will not adversely affect the integrity of the Mersey Estuary SPA and Ramsar site.
- Several aspects of the mitigation strategy and ecological assessment therefore warrant further clarification.

Detailed Commentary

Ecological Context of Frodsham Marsh

- During the hearing the Applicant suggested that Cell 3 is currently relatively dry and that the project could introduce managed wet areas, controlled grazing and water level management over the 40-year operational life of the scheme to improve habitat conditions for SPA birds.
- That narrative requires careful scrutiny.
- Frodsham Marsh is not an ecological blank canvas awaiting improvement. It is already one of the most important birdwatching sites in northwest Cheshire, precisely because of its open estuarine character and the mosaic of habitats created through decades of tidal influence and sediment deposition.
- Local ornithological records describe how birds exploit invertebrate-rich substrates within the sludge tanks and marsh soils. During high tides on the Mersey Estuary, birds move inland to feed on these areas where mosquito larvae and other invertebrates occur in abundance.
- The marsh regularly supports internationally migratory waders including Bar-tailed Godwit, capable of non-stop migrations exceeding 7,000 miles. Such species rely on feeding grounds like Frodsham Marsh to build the energy reserves necessary for long-distance migration.
- Other regularly recorded species include:
    - Black-tailed Godwit, including birds ringed in Iceland and tracked by the British Trust for Ornithology
    - Little Stint, a migrant that typically winters in Africa but has occasionally overwintered here
    - Redshank and Dunlin, which depend on open feeding areas
    - Raptors such as Short-eared Owl and Peregrine Falcon, which hunt across the open marsh landscape
- In this context, openness is ecological infrastructure. Wide, uninterrupted landscapes allow birds to detect predators, move between feeding areas and maintain flocking behaviour across large spatial scales.
- The marsh has developed over decades as a functioning mosaic of sludge tanks, grassland, reedbeds and tidal influences, supporting complex seasonal bird assemblages.
- The introduction of managed wet scrapes and controlled grazing within a solar array landscape cannot automatically be assumed to replicate the ecological function of a naturally open estuarine marsh.
- Artificial hydrological regimes must operate successfully for the entire operational life of the project. They depend on long-term funding, management expertise and accurate ecological assumptions.
- If solar infrastructure fragments the marsh through fencing, panel blocks, access tracks and compounds, then the fundamental spatial character of the habitat changes. Even if wet areas are introduced between panel rows, the landscape is no longer the same expansive open marsh that currently supports these bird populations.

Functionally Linked Land and Adverse Effects on Integrity

- It is accepted by the Applicant that the Order Limits represent Functionally Linked Land (FLL) associated with the Mersey Estuary SPA and Ramsar site.

- Under the Habitats Regulations, the key legal test is whether it can be concluded beyond reasonable scientific doubt that the development will not result in an Adverse Effect on Integrity (AEoI) of the designated site.
- The Applicant concludes that this test is met through the implementation of mitigation measures including the creation and management of the Non-Breeding Bird Mitigation Area (NBBMA).
- However, that conclusion relies heavily on assumptions regarding:
    - the effectiveness of newly created habitat
    - the behavioural response of displaced bird populations
    - the success of long-term ecological management
- Given the international importance of the Mersey Estuary SPA, careful scrutiny of these assumptions remains necessary.

Non-Breeding Bird Mitigation Area (NBBMA)

- The NBBMA forms the central element of the Applicant's mitigation strategy.
- Several matters remain unclear.

Mitigation or Compensation

- A key issue raised during the examination is whether the NBBMA should properly be considered mitigation or compensation.
- Under the mitigation hierarchy:
    - impacts should first be avoided
    - then minimised
    - then mitigated
    - and only as a last resort compensated
- If existing habitat used by SPA-associated birds is lost or functionally altered, the creation of alternative habitat elsewhere may represent compensation rather than mitigation.
- Clarification of this distinction is important in the context of the HRA.

Additionality and Existing Mitigation Land

- Part of the proposed mitigation area overlaps land already associated with mitigation measures for the existing Frodsham Wind Farm.
- This raises questions regarding additionality.
- If mitigation land is already functioning ecologically, repurposing it for a second development may not represent genuine additional habitat capacity.

Size and Methodology

- The Applicant has applied a methodology derived from the Cleve Hill Solar Park scheme to determine the size of the NBBMA.
- However, the ecological characteristics of Frodsham Marsh differ significantly from the Cleve Hill site.
- The applicability of this methodology to an estuarine marsh landscape therefore requires clearer justification.

Shape and Configuration

- The shape of the mitigation area, including the narrow "panhandle" extension, raises questions regarding habitat functionality.
- Irregular configurations may increase edge disturbance and reduce effective habitat area.
- Further explanation of the ecological reasoning behind this design would be beneficial.

Long-Term Management

- The effectiveness of the NBBMA depends heavily on long-term ecological management and monitoring.
- Clarification would be helpful regarding:
    - the ecological success criteria for the mitigation area
    - monitoring arrangements over the 40-year operational period
    - management interventions if targets are not achieved
    - how long-term funding and governance will be secured

Skylark Mitigation Area (SMA)

- The Environmental Statement proposes a Skylark Mitigation Area (SMA) to address displacement of farmland birds.
- Further clarity would assist the Examination regarding:
    - baseline skylark survey results
    - the capacity of the SMA to accommodate displaced territories
    - the long-term habitat management regime required to maintain suitable breeding conditions

Additional Ecological Issues

- A number of additional matters raised during the examination may warrant clarification.
- These include:
    - cumulative and in-combination effects with other developments in the area
    - the treatment of reedbed priority habitat within the Biodiversity Net Gain calculations
    - baseline ornithological survey coverage and methodology
    - adequacy of proposed buffer distances between solar infrastructure and ecological receptors
    - potential impacts to Local Wildlife Sites within or adjacent to the Order Limits
    - potential lake effect arising from solar panels and reliance on anti-reflective coatings
    - the proposed disapplication of section 28E of the Wildlife and Countryside Act 1981 within the draft DCO
    - possible ecological disturbance arising from controlled unexploded ordnance detonations

Conclusion

- Frodsham Marsh is already a functioning ecological landscape supporting internationally important bird populations associated with the Mersey Estuary SPA and Ramsar site.
- The ecological value of this landscape arises not only from specific habitat types but also from its open, connected spatial character.

- Where mitigation relies on long-term habitat creation and hydrological management within a solar array landscape, it is essential that ecological outcomes are robustly evidenced and secured for the lifetime of the project.
- Given the international importance of the nearby designated sites, the Examination must be satisfied that the Habitats Regulations test has been met with the necessary level of scientific certainty.

Suggested Actions

1. Clarify the status of the Non-Breeding Bird Mitigation Area (NBBMA)
   Provide a clear statement explaining whether the NBBMA is considered mitigation or compensation within the mitigation hierarchy, and how this classification aligns with the requirements of the Habitats Regulations Assessment.
2. Demonstrate additionality of mitigation land
   Provide evidence demonstrating that the proposed NBBMA represents genuine additional ecological capacity and is not reliant upon land already functioning as mitigation associated with the existing Frodsham Wind Farm.
3. Explain the methodology used to calculate the size of the NBBMA
   Provide further detail on the Cleve Hill methodology used to determine the size of the mitigation area, including:
   - the underlying assumptions and data inputs
   - justification for applying this methodology to the Frodsham Marsh context
   - consideration of alternative site-specific approaches.
4. Provide ecological justification for the configuration of the NBBMA
   Explain the ecological reasoning behind the shape and configuration of the mitigation area, including the “panhandle” extension, and demonstrate how edge effects and disturbance risks have been considered.
5. Clarify long-term governance and management arrangements
   Provide details on how the long-term management of the NBBMA will be secured, including:
   - responsible organisations or conservation bodies
   - funding mechanisms
   - ecological monitoring arrangements
   - management interventions if ecological targets are not achieved.
6. Provide success criteria and monitoring triggers
   Define the measurable ecological success criteria for the NBBMA and Skylark Mitigation Area (SMA), including monitoring frequency, reporting arrangements and clear triggers for corrective management action.
7. Clarify the ecological capacity and management of the Skylark Mitigation Area (SMA)
   Provide further information on:
   - baseline skylark survey data
   - the number of displaced territories anticipated
   - how the SMA is expected to accommodate those territories over time.

8. Provide clarification on cumulative and in-combination effects
   Provide an updated assessment of potential cumulative impacts on SPA-linked bird populations, including interaction with other developments and infrastructure proposals within the wider Mersey Estuary ecological network.
9. Clarify Biodiversity Net Gain (BNG) calculations
   Provide further explanation of the BNG calculations, particularly in relation to:
   - the treatment of reedbed priority habitat
   - the distinction between habitat enhancement and genuine biodiversity gain.
10. Provide additional information on recreational disturbance
    Provide further assessment of potential disturbance associated with additional Public Rights of Way, including baseline recreational usage and measures to minimise disturbance to SPA-linked bird populations.
11. Clarify buffer distances and baseline ornithological surveys
    Provide additional detail regarding:
    - the methodology and coverage of baseline ornithological surveys
    - the justification for proposed ecological buffer distances between infrastructure and sensitive habitats.
12. Clarify impacts to Local Wildlife Sites and restoration potential
    Provide further assessment of potential impacts to Local Wildlife Sites and the extent to which the development may affect long-term habitat restoration opportunities within the marsh landscape.
13. Provide further information regarding the proposed disapplication of Section 28E of the Wildlife and Countryside Act 1981
    Clarify how the proposed disapplication would operate in practice and demonstrate how equivalent ecological safeguards would be maintained through the DCO.
14. Clarify potential disturbance associated with unexploded ordnance detonation
    Provide additional information on potential noise and disturbance effects arising from controlled unexploded ordnance detonations and any mitigation measures proposed to protect wildlife.

3g | Ground Conditions

i. adequacy of the characterisation of ground conditions
ii. soil testing proposals
iii. article 19 of the draft DCO authority to survey and investigate the land without digging trenches February 2026
iv. approach to unexpected contamination
v. adequacy of proposed mitigation measures vi. adequacy of post construction monitoring proposals

Applicants Previous Response To Written Submission

Historic Landfill Concerns

The representation refers to the historic disposal of mixed industrial residues, including references to the former ICI Runcorn chemical complex. A comprehensive geoenvironmental assessment has been undertaken and is reported in Environmental Statement (ES) Volume 2, Appendix 10-1: Stage 1 Geo-Environmental Assessment [APP-096]. This assessment includes detailed analysis of historic mapping, regulatory and environmental records, and review of previous site investigations undertaken in connection with previous developments, including the Frodsham Wind Farm. In addition, the Applicant has undertaken project-specific ground investigation and chemical testing to inform the Environmental Statement. Cheshire West and Chester Council and the Environment Agency have confirmed that the assessments submitted are appropriate for this stage of the project and have agreed with the recommended mitigation measures, which are secured through requirements within the draft Development Consent Order (DCO).

Unlined Tanks and Reported Chemical Disposal

The historic unlined tanks and tipping lagoons referenced in REP1-074 relate to the former Manchester Ship Canal Dredging Deposit Ground cells. These areas have been subject to extensive investigation as part of previous developments and have been further considered within the Applicant's assessment.

Cllr Sumner raised similar concerns during the Section 42 consultation on the Preliminary Environmental Information Report and attended the Applicant's public consultation events to discuss these matters directly. In response, the Applicant invited the provision of any specific information regarding the location or nature of any unregulated chemical disposal within the Site. No further details were provided. In the absence of such information, the Applicant has relied on extensive deskbased research and site-specific investigation data, all of which is reported within Environmental Statement: Volume 2, Appendix 10-1: Stage 1 Geo-Environmental Assessment [APP-096].

Limitations of the Axis / Smith Grant Site Investigation

Following the concerns raised by Cllr Sumner, the Applicant offered to undertake targeted site investigation works at the locations identified by Cllr Sumner as being of greatest concern, namely the Battery Energy Storage System (BESS) compound areas. Prior to conducting the investigation, the Applicant issued an investigation specification to Cllr Sumner setting out borehole locations, sampling depths, analytical methods and chemical suites to be tested. The investigation briefing note included a comprehensive Volatile Organic Compounds (VOC) analytical suite comprising 61 target compounds, including vinyl chloride and carbon tetrachloride. The findings are reported at Appendix J of Environmental Statement: Volume 2, Appendix 10-1: Stage 1 Geo-Environmental Assessment [APP-096], which concludes:

"The concentrations of contaminants recorded within the underlying soils within the BESS footprint, when compared to corresponding generic assessment criteria, have not been identified as being of a significant risk to future site users. Reported concentrations in samples are very low and do not appear to convey what could be expected from a hazardous landfill or chemicals dump. With heavy industry ongoing within the vicinity of the Manchester Ship Canal, alongside associated canal shipping traffic, the low levels of the contaminants recorded in the dredging materials from the MSCDG Cell 5 during this site investigation are to be expected."

Previous Wind Farm Discharge of Conditions

The points raised in relation to the discharge of planning conditions associated with the Frodsham Wind Farm are matters for Cheshire West and Chester Council. However, the Applicant has utilised the data and findings arising from the wind farm investigations, which included extensive geotechnical and chemical testing, to inform Environmental Statement: Volume 2, Appendix 10-1: Stage 1 Geo-Environmental Assessment [APP-096].

Executive Summary

- The proposed development site lies within an estuarine marsh landscape historically associated with the industrial activities of the former ICI Runcorn chemical complex, one of the largest chemical manufacturing centres in Europe during the twentieth century.
- Historic records and mapping identify the presence of dredging deposit cells, tipping lagoons and unlined tanks across the Frodsham Marsh area. Contemporary reporting and official records relating to the Runcorn chemical industry document widespread historic disposal of industrial residues in quarries, lagoons and marshland environments during periods when environmental regulation was far less stringent than today.
- Such historic disposal practices have previously resulted in serious contamination incidents in the wider Runcorn area, including the migration of toxic gases such as hexachlorobutadiene (HCBD) from historic waste deposits into nearby residential properties.
- Against this background, the site may reasonably be expected to contain heterogeneous and potentially poorly documented industrial waste deposits. Where such uncertainty exists, best practice requires that ground investigations adopt a precautionary approach and provide robust characterisation of subsurface conditions.

- While the Applicant has undertaken desk-based analysis and targeted intrusive investigations, the spatial coverage and depth of the Axis / Smith Grant investigation remain limited. Boreholes were located at the margins of historic tank features and extended only to approximately 3 metres below ground level, despite indications that historic tank structures may extend significantly deeper.
- In addition, the proposed development includes Battery Energy Storage System (BESS) infrastructure located within historic dredging deposit cells. The Applicant states that foundation design will limit heat transfer to underlying soils, but it is not clear whether site-specific thermal modelling has been undertaken to assess subsurface temperature profiles during a credible worst-case battery fire scenario.
- Given the historic industrial legacy of the site, the complexity of potential subsurface deposits, and the scale of the proposed development, further clarification regarding ground investigation, contamination risk management and monitoring would assist the Examination.

Detailed Commentary

1. Historic Chemical Landfill Context

- The proposed site lies within an area historically associated with the ICI Runcorn chemical complex. For much of the twentieth century this complex was one of the largest chemical manufacturing centres in Europe.
- Contemporary reporting, parliamentary records and environmental investigations document extensive historic disposal of chemical wastes in lagoons, quarries and marshland surrounding Runcorn. These practices frequently involved the disposal of mixed industrial residues that would not meet modern environmental standards.
- Historical contamination incidents associated with the Runcorn chemical industry include the migration of toxic gases such as hexachlorobutadiene (HCBD) from historic waste deposits into nearby homes, resulting in evacuations and long-term disruption to local communities.
- The wider Runcorn area has also been identified in official environmental reporting as a major historic source of chlorinated chemical emissions, including substances such as chloroform, vinyl chloride and other chlorinated hydrocarbons.
- This industrial legacy does not in itself demonstrate contamination at the specific development site. However, it provides important context. Where historic disposal practices were widespread and records incomplete, subsurface deposits may contain complex and heterogeneous mixtures of industrial materials.
- In such circumstances, precautionary investigation and robust site characterisation are particularly important prior to development involving significant ground disturbance.

2. Unlined Tanks and Reported Disposal on Frodsham Marsh

- Local mapping and records identify a series of historic tanks and lagoons beneath parts of the site, commonly referred to locally as Tanks 1–6, alongside the Frodsham Marsh Tipping Lagoon and Weston Marsh Lagoon.
- Some of these features do not appear on formal historic landfill registers, reflecting the incomplete documentation of historic disposal practices within the marsh environment.

- Local accounts from former industrial workers have suggested that redundant chemicals were disposed of within some of these tanks during earlier industrial operations. While such accounts cannot be treated as definitive evidence of disposal practices, they highlight the potential for undocumented deposits within historic lagoon or tank structures.
- These tanks are understood to have been unlined and located within a low-lying estuarine environment subject to periodic flooding and groundwater interaction. Such conditions increase the potential for contaminant migration where hazardous substances are present.
- In this context, the presence of historic tank and lagoon features represents a potential ground condition constraint which warrants careful investigation before development proceeds.

3. Limitations of the Axis / Smith Grant Site Investigation

- The targeted investigation undertaken for the Applicant provides useful data regarding soil conditions at the locations sampled. However, the investigation has several important limitations.
- All four boreholes were located on or near the margins of historic tank features rather than within their central footprints, where deposited materials are likely to be deepest and most heterogeneous.
- Sampling depths were limited to approximately 3 metres below ground level, despite historical evidence suggesting that tank or lagoon deposits may extend substantially deeper, potentially in the order of 15–20 metres.
- Consequently, contaminant concentrations measured at shallow depths near tank edges cannot necessarily be assumed to represent conditions deeper within these features.
- The analytical suite included a range of volatile organic compounds, and carbon tetrachloride was detected marginally above laboratory detection limits in at least one sample. While concentrations recorded were low, this does not demonstrate the absence of contaminants at greater depth, nor does it exclude the presence of other substances not detected within the limited sampling programme.
- Where landfill contents are uncertain or poorly documented, accepted environmental practice generally requires that such sites be treated as potentially contaminated until adequate investigation demonstrates otherwise.
- Taken together, the Axis / Smith Grant investigation demonstrates only that contaminant concentrations were low at four shallow sampling locations. It does not conclusively characterise conditions within the deeper or central portions of historic tank features.

4. Potential Interaction Between Historic Deposits and BESS Infrastructure

- The proposed development includes Battery Energy Storage System infrastructure located within historic dredging deposit cells.
- Lithium-ion battery fires are known to generate extremely high temperatures, often exceeding 800–1000°C during thermal runaway events. Such fires can also be prolonged and difficult to extinguish.
- The Applicant states that concrete plinths and stone hardstanding would limit heat transfer to underlying soils. However, concrete and compacted stone are thermal conductors rather than insulators, and the extent to which heat may be transmitted to underlying soils depends on fire duration, structural design and thermal dissipation.

- Where historic deposits may contain chlorinated hydrocarbons or other industrial chemicals, elevated temperatures could potentially influence the behaviour or decomposition of such materials.
- While the probability of such a scenario may be low, the potential consequences could be significant. It is therefore relevant to understand whether site-specific thermal modelling has been undertaken to assess subsurface temperature profiles beneath the BESS infrastructure during a credible worst-case fire scenario.
- In particular, clarification would be helpful regarding predicted subsurface temperatures at depths of approximately 3 m, 10 m, 15 m and 20 m beneath the proposed BESS locations.

5. Reliance on Previous Wind Farm Investigations

- The Applicant refers to investigations undertaken during the development of the nearby Frodsham Wind Farm.
- While those investigations provide useful background data, their scope and purpose differed from the current proposal. They were undertaken in relation to a different development layout and did not necessarily include comprehensive intrusive investigation of all historic tank or lagoon features beneath the wider site.
- Planning records also indicate that certain contamination-related conditions associated with the wind farm development were discharged on the basis of limited investigations and monitoring commitments rather than comprehensive site-wide characterisation.
- Accordingly, reliance on these earlier investigations should not be interpreted as definitive evidence that contamination risks across the current development site have been fully resolved.

6. Need for Robust Contamination Safeguards

- Given the historic industrial legacy of the site and the potential uncertainty regarding subsurface deposits, it is important that the Development Consent Order secures appropriate safeguards.
- These should include:
    - robust procedures for managing unexpected contamination
    - clear stop-work triggers and regulatory notification requirements
    - appropriate soil management and waste handling protocols
    - consideration of long-term groundwater and surface water monitoring where relevant.
- Such safeguards would help ensure that any contamination encountered during construction or operation is appropriately managed.

Potential Industrial Chemicals in Legacy Landfill Site

Table: Potential Industrial Chemicals, Decomposition Temperatures and Human Health Risks

Chemical / Compound	Typical Decomposition or Volatilisation	Potential Toxic Products / Reaction	Risk to Human Health
Arsenic compounds	~600–800 °C (volatilisation)	Arsenic vapours, arsenic oxides	Highly toxic; respiratory poisoning, carcinogenic
Barium compounds	~800–1200 °C	Barium oxide dusts	Toxic if inhaled; cardiovascular and
Cadmium	~767 °C (boiling point)	Cadmium oxide fumes	Severe lung damage;

Chromium VI	>700 °C	Chromium oxides	Highly toxic and
Lead	~900 °C volatilisation	Lead oxide fumes	Neurotoxin;
Mercury	357 °C (boiling point)	Mercury vapour	Severe neurotoxicity
Nickel compounds	>800 °C	Nickel oxides	Respiratory irritation;
Zinc	~907 °C (boiling point)	Zinc oxide fumes	Metal fume fever; respiratory irritation
Chlorine	Released under high	Chlorine gas	Severe respiratory
Chlorobenzene	~450–600 °C	Chlorinated hydrocarbons, HCl	Toxic vapours; liver and nervous system effects
Perchloroethylene (PCE)	~600 °C	Hydrogen chloride,	Severe lung injury
Trichloroethylene (TCE)	~400–600 °C	Phosgene, hydrochloric	Highly toxic gas
Carbon Tetrachloride	~500–700 °C	Phosgene gas	Potentially lethal
Vinyl Chloride	~500 °C	Phosgene, hydrogen	Carcinogenic;
Benzene	~498 °C	Toxic aromatic vapours	Known human
Cyanides	~500 °C	Hydrogen cyanide gas	Rapidly fatal respiratory
Phenols	~400–600 °C	Phenolic vapours	Skin, respiratory and systemic toxicity
Phthalates	~350–450 °C	Toxic organic vapours	Endocrine disruption
Toluene	~480 °C	Flammable vapours	Neurological toxicity
Xylene	~465 °C	Toxic vapours	Central nervous system
Ammonia	651 °C	Nitrogen oxides	Severe respiratory
Hydrochloric acid	Vapour formation >110	Hydrogen chloride gas	Corrosive respiratory
Polycyclic Aromatic Hydrocarbons (PAHs)	400–600 °C	Carcinogenic combustion products	Cancer risk
Sulphur	~444 °C	Sulphur dioxide	Respiratory irritant
Sulphuric acid residues	Decompose >300 °C	Sulphur oxides	Severe respiratory
Dioxins / Furans	Form 200–450 °C during combustion	Highly toxic chlorinated compounds	Persistent carcinogens
Hexachlorobenzene	~450–600 °C	Chlorinated toxic fumes	Liver damage;
PCBs	~500–800 °C	Dioxins, furans	Highly toxic and
Chromium III catalysts	>1000 °C	Chromium oxides	Respiratory irritation
Cobalt compounds	~900 °C	Cobalt oxides	Lung disease risk
Vanadium compounds	~650–700 °C	Vanadium oxides	Respiratory toxicity
Asbestos	Fibres released with	Airborne fibres	Lung cancer and

Suggested Actions

1. **Provide site-specific worst-case thermal modelling for a Battery Energy Storage System (BESS) fire scenario, including predicted subsurface temperature profiles beneath the proposed BESS infrastructure.**
2. Provide further explanation of how the existing ground investigation strategy adequately characterises deeper historic tank and dredging deposit features across the site.
3. Provide additional detail regarding the depth and spatial coverage of intrusive investigations undertaken within historic lagoon or tank structures.
4. Clarify whether further investigation has been considered to characterise deeper deposits beneath the proposed BESS infrastructure locations.
5. Confirm whether site-specific thermal modelling has been undertaken to assess subsurface temperature profiles beneath the BESS infrastructure during a credible worst-case fire scenario.

6. Provide further detail regarding the procedures for managing unexpected contamination encountered during construction.
7. Confirm whether long-term groundwater, surface water or gas monitoring requirements will be secured through the Development Consent Order.

3h | The Water Environment

i. disapplication of Flood Risk Activity Permits
ii. cable crossings of the River Weaver
iii. position of bridge abutments and soffit levels
iv. safe access and egress under flood conditions
v. post-construction water quality monitoring
vi. management of contaminated fire water
vii. location of construction compounds

Applicants Previous Response To Written Submission

Flood Risk and Site Sensitivity

A detailed Flood Risk Assessment has been undertaken, including site-specific hydraulic modelling, and is reported in ES Volume 2, Appendix 9-1: Flood Risk Assessment and Drainage Strategy [APP-084 to APP-088]. The Applicant has engaged extensively with the Environment Agency to ensure that flood risks have been robustly assessed and that appropriate mitigation measures are incorporated. These measures are secured through requirements within the draft DCO.

Executive Summary

- The proposed Frodsham Solar development is located within a highly sensitive floodplain environment associated with the River Weaver and Mersey estuary. Much of the site lies within Flood Zone 3 and parts of the wider marsh are projected to fall below annual flood levels within the coming decades as a result of climate change and sea level rise. These conditions materially increase the importance of robust flood risk management and water environment protection.
- Local experience demonstrates that flood risk within the Weaver and Mersey catchments is not theoretical but current and escalating, with recent flood events affecting surrounding communities including Northwich and Acton Bridge. Within this context, the combination of floodplain location, historic industrial land uses, and proposed infrastructure introduces a compound risk scenario that warrants careful scrutiny.
- While the Applicant states that flood risk has been assessed through a site-specific Flood Risk Assessment and hydraulic modelling, several matters require further clarification during examination. These include the proposed disapplication of Flood Risk Activity Permits, the design and environmental implications of River Weaver crossings, the hydraulic performance of bridge structures, safe access and egress during flood events, and the management of pollution risks including contaminated firewater and construction-phase impacts.
- Given the ecological, hydrological and contamination sensitivities of the marsh environment, additional clarity on these matters would assist the Examining Authority in determining whether the development can be safely accommodated within the floodplain over its operational lifetime.

Detailed Commentary

Flood Risk Context and Site Sensitivity

- The proposed development is located on low-lying marshland adjacent to the Mersey estuary where a substantial proportion of the site lies within Flood Zone 3, indicating a high probability of flooding from tidal and fluvial sources. Local experience across the Weaver and Mersey catchments demonstrates the increasing frequency and severity of flood events in recent years, with notable incidents affecting communities such as Northwich and Acton Bridge.

- Although the Applicant states that the development has been designed to remain operational during flood events and that sensitive infrastructure is located outside Flood Zones 2 and 3 where possible , the wider marsh landscape remains subject to tidal influence, groundwater fluctuations and climate change pressures over the lifetime of the development.
- Climate projections indicate rising sea levels and increased flood frequency over the coming decades. In combination with the site's historic industrial uses and areas of dredged deposits, flooding has the potential not only to affect infrastructure but also to mobilise contaminants through saturated soils or groundwater pathways.
- This interaction between floodplain hydrology, legacy industrial deposits and new infrastructure introduces a compound environmental risk that warrants detailed scrutiny within the examination process.

Flood Risk Activity Permits and Regulatory Control

- The draft Development Consent Order proposes the disapplication of Flood Risk Activity Permits in certain circumstances.
- Given the proximity of the Site to the River Weaver and associated flood defences, clarification is required regarding how the regulatory oversight normally provided through the Environmental Permitting regime would be replicated within the DCO framework.
- Flood Risk Activity Permits typically provide detailed scrutiny of works affecting main rivers, flood defences and maintenance corridors. If these requirements are disapplied, it is important that equivalent regulatory safeguards are clearly secured through the DCO requirements or associated management plans.

Cable Crossings of the River Weaver

- The Environmental Statement indicates that watercourse crossings would generally be undertaken using open span structures. While this approach avoids culverting and aligns with good practice, further detail is required regarding the construction methodology for infrastructure associated with the River Weaver corridor.
- In particular, the examination should consider:
- the potential disturbance of sediments during construction;
- risks to water quality arising from construction runoff or accidental pollution; and
- the long-term integrity and maintenance of infrastructure installed in proximity to the river channel.
- These matters are particularly important given the ecological sensitivity of the estuarine environment and the need to protect water quality objectives under the Water Framework Directive.

Bridge Abutments and Soffit Levels

- Bridge structures associated with the development must be considered in the context of flood conveyance and hydraulic performance.
- While the Applicant's hydraulic modelling indicates that the development will not increase flood risk elsewhere , the detailed design of bridge abutments and soffit levels should be carefully examined to ensure that structures do not create localised constrictions, alter flow paths or affect floodplain storage during extreme events.

- This is particularly relevant when considering climate change allowances and the increasing frequency of high-magnitude flood events.

Safe Access and Egress During Flood Events

- The Flood Risk Assessment includes a Flood Warning and Evacuation Plan intended to manage residual flood risk . However, questions remain regarding the practical implementation of safe access and egress under flood conditions.
- This is particularly relevant during construction phases when personnel and equipment may be present across dispersed areas of the marsh.
- Further clarification would assist the examination in understanding:
    - how access routes would remain usable during flood events;
    - how emergency services access would be maintained; and
    - how evacuation procedures would operate during rapidly developing tidal or fluvial flood scenarios.

Post-Construction Water Quality Monitoring

- The Environmental Statement identifies mitigation measures intended to control surface water runoff and protect water quality, including Sustainable Drainage Systems and construction environmental management measures .
- However, limited detail is provided regarding long-term monitoring once the development becomes operational.
- Given the site's floodplain location and its historic industrial context, it would be beneficial to establish a clear framework for post-construction water quality monitoring. Such monitoring would help identify any unforeseen impacts arising from ground disturbance, flooding events or operational activities.

Management of Contaminated Fire Water

- The proposed Battery Energy Storage System introduces a potential risk scenario involving lithium-ion battery fires.
- Such incidents can generate large volumes of contaminated fire water containing heavy metals, electrolytes and other toxic compounds. Within a floodplain environment, uncontrolled releases could present a direct risk to adjacent watercourses and estuarine habitats.
- Although the Environmental Statement indicates that protective measures are proposed to prevent groundwater contamination , additional clarity would be beneficial regarding:
    - the containment capacity available for firewater;
    - the assumed worst-case fire scenario used to size containment infrastructure; and
    - the measures that would prevent contaminated water entering surrounding drainage systems or watercourses during extreme weather conditions.

Location of Construction Compounds

- The siting of construction compounds within a floodplain environment also warrants consideration.
- Temporary infrastructure located within areas susceptible to flooding may introduce additional pollution risks if extreme weather events occur during the construction period.
- Further clarification would therefore be beneficial regarding:

- the siting of compounds relative to flood zones;
- temporary drainage and pollution control arrangements; and
- emergency procedures should flooding occur during construction activities.

Suggested Actions

1. Clarify the implications of disapplying Flood Risk Activity Permits and explain how equivalent regulatory oversight would be secured through the Development Consent Order.
2. Provide further detail regarding the design and installation methodology for River Weaver crossings, including measures to protect water quality during construction.
3. Confirm that bridge abutment design and soffit levels have been fully tested within hydraulic modelling scenarios incorporating climate change allowances.
4. Demonstrate how safe access and egress would be maintained during flood events for both construction and operational phases of the development.
5. Establish a framework for post-construction water quality monitoring and reporting across the operational lifetime of the project.
6. Provide detailed arrangements for the containment and management of contaminated firewater arising from potential battery fire scenarios.
7. Clarify the siting, drainage arrangements and environmental management measures associated with construction compounds located within flood-prone areas.

3i | Any other matters that the ExA wishes to raise including but not limited to:

Noise, Vibration and Nuisance
i. clarifications
ii. raveller sites, including PSED
iii. piling
iv. nuisance – Article 8 of draft DCO

Air Quality including Dust
i. mitigation

Waste
i. adequacy of estimation of waste quantities during construction and operation (replacement)
ii. design of Solar PV Modules and other plant to maximise reuse and recycling
iii. capacity of waste management infrastructure

Private wire connection
i. updates on negotiations
ii. clarification on associated development

Applicants Previous Response To Written Submission

Community Infrastructure and Public Benefit

The outline Landscape and Ecology Management Plan (LEMP), as updated alongside this submission, sets out the proposed landscaping, access and educational enhancements proposed by the Applicant. These measures are secured through Requirement 9 of the draft DCO, which requires submission and approval of a final LEMP in substantial accordance with the outline document. The Applicant can only proceed with the Proposed Development once the final LEMP has been approved by the Council. The community benefit fund proposed by the Applicant is consistent with comparable projects across the UK. It is noted that community benefit funds are voluntary and sit outside the statutory planning and DCO regime and therefore cannot be required or secured through the Development Consent Order. Nevertheless, the Applicant confirms that the level of community benefit currently proposed will be kept under review, including in light of the Government's ongoing consultation on community benefits associated with renewable energy infrastructure.

Executive Summary

- This section addresses several additional matters relevant to the examination of the proposed development, including noise and vibration impacts, air quality mitigation, waste management arrangements, and the proposed private wire electricity connection.
- The Environmental Statement includes a Noise Impact Assessment and identifies nearby residential receptors, including traveller sites located near Moorditch Lane and Brook Furlong, which have been treated as sensitive receptors within the assessment . While the Applicant concludes that operational noise impacts would be limited, further clarification would assist the Examining Authority in understanding how construction impacts, potential nuisance, and equality considerations have been addressed.
- Additional clarification would also be beneficial in relation to construction dust mitigation, the estimation and management of waste streams over the project lifecycle, and the scope and status of the proposed private wire electricity connection. These matters do not necessarily indicate fundamental objections to the proposal but would benefit from further explanation to ensure that potential environmental and community impacts are fully understood within the examination.

Detailed Commentary

Noise Assessment and Sensitive Receptors

- The Environmental Statement includes a Noise Impact Assessment addressing both construction and operational noise impacts associated with the solar array, battery energy storage system (BESS), transformers and associated infrastructure .

- The assessment identifies several potential operational noise sources, including inverters, transformers and cooling systems associated with the BESS. These sources are expected to produce relatively low-level continuous noise, typically characterised by transformer “hum” or cooling fan operation .
- The assessment also identifies nearby residential receptors to the south of the site and confirms that two traveller sites located near the junction of Moorditch Lane and Brook Furlong have been treated as residential noise-sensitive receptors within the modelling process .
- While this approach represents a precautionary assumption within the modelling, the presence of these communities raises additional considerations in relation to equality impacts and the Public Sector Equality Duty.

Traveller Sites and Public Sector Equality Duty (PSED)

- The identification of nearby traveller sites as residential sensitive receptors within the noise assessment indicates that the Applicant has recognised the potential for impacts on these communities.
- However, given the duties placed upon decision-makers under the Public Sector Equality Duty, it is important that the examination clearly demonstrates that the potential impacts on these groups have been fully considered.
- This includes ensuring that construction noise, operational noise and temporary disturbance have been assessed in a manner that appropriately recognises the potential vulnerability of such communities.

Piling and Construction Noise

- Construction noise and vibration have been assessed using standard methodologies including BS5228 and DMRB LA111 guidance .
- At this stage of the project, the assessment necessarily relies on indicative construction plant inventories and assumed working practices. As a result, the precise levels of noise and vibration will depend on the detailed construction methods adopted.
- Where activities such as piling or heavy ground works occur in proximity to residential receptors, there is potential for temporary disturbance. The Construction Environmental Management Plan is therefore expected to play an important role in managing these impacts through appropriate working hours, plant selection and noise control measures.

Nuisance – Article 8 of the Draft DCO

- Article 8 of the draft Development Consent Order provides powers relating to the maintenance and operation of the authorised development.
- While such powers are standard within DCO frameworks, it is important that they operate alongside appropriate safeguards to prevent unreasonable nuisance arising from noise, vibration, lighting or operational activities.
- Clarification regarding the mechanisms available to address nuisance complaints during the operational life of the development would therefore assist the examination.

Air Quality Including Dust

- Construction activities associated with the development have the potential to generate dust and particulate emissions, particularly during phases involving soil disturbance, earthworks and installation of infrastructure.
- The Environmental Statement identifies mitigation measures including dust suppression and good construction practice. However, the effectiveness of these measures will depend on their implementation through the Construction Environmental Management Plan.
- Confirmation of monitoring arrangements and trigger levels for additional mitigation would assist the Examining Authority in understanding how potential dust impacts would be managed during construction.

Waste Quantities During Construction and Operation

- A development of this scale will generate several waste streams during construction, including packaging materials, excavated soils and surplus construction materials.
- In addition, components such as solar panels, electrical equipment and battery systems may require replacement during the operational lifetime of the project.
- Further clarification would therefore be beneficial regarding:
    - the assumptions used in estimating construction waste quantities;
    - how equipment replacement over the operational lifetime has been accounted for; and
    - how these waste streams will be managed within the wider waste management system.

Design for Reuse and Recycling

- Given the anticipated operational life of the project, consideration should also be given to how the design of solar modules, battery systems and associated infrastructure maximises opportunities for reuse and recycling at the end of their operational life.
- Design approaches that facilitate future recycling or component recovery would help minimise the long-term environmental footprint of the development.

Capacity of Waste Management Infrastructure

- The examination may also wish to consider whether sufficient waste management infrastructure exists locally or regionally to accommodate the anticipated waste streams arising during construction, operation and eventual decommissioning of the development.

Private Wire Connection

- The proposed development includes provision for a private wire electricity connection that would enable renewable energy generated by the site to be supplied directly to local industrial users .
- This feature has the potential to contribute to industrial decarbonisation and regional energy resilience. However, several aspects of the proposal would benefit from further clarification.
- These include:
    - the current status of negotiations with potential industrial off-takers;
    - the route and physical infrastructure associated with the private wire connection; and
    - whether all elements of the connection are fully captured within the DCO application as associated development.
- Clarification on these matters would assist the Examining Authority in understanding the scope and implications of this component of the scheme.

Suggested Actions

1. Provide clarification on how potential impacts on nearby traveller communities have been considered in relation to the Public Sector Equality Duty.
2. Confirm how construction noise and vibration from activities such as piling will be managed and monitored through the Construction Environmental Management Plan.
3. Clarify how nuisance issues arising during the operational life of the development would be addressed within the powers provided by Article 8 of the draft Development Consent Order.
4. Provide further detail regarding dust mitigation and monitoring arrangements during the construction phase.
5. Clarify the assumptions used in estimating construction and operational waste quantities and demonstrate how design has considered reuse and recycling opportunities.
6. Confirm the capacity and management arrangements for handling waste streams throughout the lifecycle of the development.
7. Provide an update on the status and scope of the proposed private wire electricity connection, including confirmation of its treatment as associated development within the DCO application.