Botany Report commissioned by the Save Crossness Nature Reserve campaign

Including: an evaluation of Cory's *EN010128-000178-6.3 Environmental Statement - Appendix 7-2 - Preliminary Ecological Appraisal*, *EN010128-000182-6.3 Environmental Statement - Appendix 7-6 - Botanical Survey Report* and associated documents; and a Botany Survey undertaken by Dr M.A. Spencer on the 7th and 20th August 2024.

By Dr Mark A. Spencer FLS
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With supporting commentary from Joshua Styles MSc AMRSB MCIEEM FISC Level 6

EXECUTIVE SUMMARY

This report was requested by Laurence Pinturault on behalf of Save Crossness Nature Reserve and commissioned by Jed Holloway, Planning Solicitor, Planning Voice at Southwark Law centre. Save Crossness Nature Reserve (SCNR) is a campaign group made up of local residents, bird watchers, local campaigners and environmentalists, many of whom are members of the Friends of Crossness Nature Reserve (FoCNR). The group was set up in December 2023 to challenge Cory's proposed carbon capture facility including its associated supporting plant and ancillary infrastructure.

Cory's application for Development Consent Order (PINS Reference: EN010128) proposes the compulsory purchase of 11.7% of the nature reserve, a 25.5-hectare local nature reserve forming part of Erith Marshes Site of Metropolitan Importance for Nature Conservation. Cory are proposing ecological mitigation works on existing wildlife habitat in the remainder of Crossness Nature Reserve, at Norman Road Field (NRF) and at Thamesmead Golf course. This report presents an assessment of Cory's survey methodology and resultant proposals. The report consists of two parts:

PART 1 – evaluation of the following Cory documents:

- *EN010128-000178-6.3 Environmental Statement - Appendix 7-2 - Preliminary Ecological Appraisal*,
- *EN010128-000182-6.3 Environmental Statement - Appendix 7-6 - Botanical Survey Report*,

and associated botanical survey data and accompanying relevant documents commissioned by Cory and undertaken by WSP Ltd in relation to the impacting Crossness Nature Reserve and Norman Road Fields.

PART 2 - botanical survey of the site with the aim of identifying Habitat and Species of Principal Importance as well as other notable (such as axiophyte) species that are of relevance to the planning process (and that may not have been addressed by the WSP reports). The report presents data and expert opinion derived from the botany survey undertaken by me on the 7th and 20th August 2024. These data and resulting commentary aim to provide botanical and habitat evidence to be used in SCNR representation at Cory's Development Consent Order.

This report was compiled by me (Dr Mark A. Spencer) in my voluntary role as the London Natural History Society's Vascular Plant Recorder. Additionally, I requested the opinion of Mr Joshua Styles MSc AMRSB MCIEEM FISC Level 6 regarding the content of the *Preliminary Ecological Assessment* and the *Botanical Survey Report*. I received private payment for the site survey.

Overall, the *Preliminary Ecological Assessment* and the *Botanical Survey Report* significantly underestimated the ecological value of the site, particularly the area of high quality Coastal and Floodplain Grazing Marsh (referred to in this report as Grazing Marsh) Habitat of Principal Importance known as East Paddock, which will be destroyed by the development proposal, and the SE corner of Norman Road Field, which contains remnant Grazing Marsh and will also be destroyed or severely damaged by unnecessary and inappropriate Habitat creation (tree

planting and/or seed mix sowing). The surveys that underpin these reports are inadequate and are not properly represented in the supporting data. Based upon the information provided, it is evident that the surveyors were insufficiently experienced to undertake surveys such as these.

While the botanical survey confirmed the presence of Coastal and Floodplain Grazing Marsh HPI, as listed in the Section 41 of the NERC Act, the report does not accurately identify the full extent of the higher quality and better condition habitat, the majority of which is within the proposed development area (see Figures 1-7) and will be destroyed. This area is so extensive that it is hard to envisage how a 10% BNG could be achieved when such a significant area of HPI (& the species therein) will be lost (particularly as, in my opinion, the current ecological value of the SE portion of the area proposed for offsetting known has Norman Road Fields has been underestimated). The loss of this habitat will also significantly negatively impact the developing London-wide Local Nature Recovery Strategy (LNRS) (NOTE: LNRS is a statutory requirement).

PERSONAL BACKGROUND - Dr Mark A. Spencer

I have been working as a professional botanist since 2001, including 12 years working as the Senior Curator of the British and Irish Herbarium at the Natural History Museum, London. I have a degree in botany and a PhD in mycology. I have extensive experience relating to London's plant life (A full cv can be supplied if required). I am the London Natural History Society's and Botanical Society for Britian and Ireland (Middlesex) Recorder for plants (meaning that I am a primary source of data and knowledge for plants in Greater London, Middlesex and parts of the adjoining counties); in this capacity, I am an advisor to Greenspace Information for Greater London (the local biological records centre), a founder of the London Invasive Species Initiative, a board member on the London Wildlife Sites Board and am a key information and data provider for the Greater London Authority with regard to the importance of vascular plants in the Local Nature Recovery Strategy. In this particular case, I am familiar with Crossness Nature Reserve and the surrounding area as I was employed in the early 2000s to survey the area as part of the GLA's Sites of Importance for Nature Conservation (SINC) Review process. I was also instrumental in saving the Nationally Scarce Marsh Sow-thistle (*Sonchus palustris*) from extinction in London and its subsequent introduction into Crossness (one of only two sites in London where it currently survives).

My above role as Recorder is voluntary, the majority of my professional work is as a forensic botanist and expert witness within the criminal and civil justice systems in England and Wales.

Mr Joshua Styles

Josh Styles MSc AMRSB MCIEEM established Styles Ecology Ltd in 2023. At Edge Hill University, Josh was awarded a 1st class BSc degree in Ecology. After completing his undergraduate degree, Josh became a Senior Ecologist and Botanical Specialist. He has managed numerous projects, including complex schemes addressing Biodiversity Net Gain, and the survey, assessment, and mitigation of impacts across a wide range of habitats. Josh received a Distinction in his MSc in Biological Recording and Ecological Monitoring at Manchester Metropolitan University. He has extensive experience and understanding of UK terrestrial

habitats and has worked as a Principal Ecologist, Botanical Specialist, and Botanical Training Lead in a former role. He also spearheaded the upskilling of staff in habitat and botanical survey and assessment, and he introduced the FISC assessment nationally. Josh sits on several professional committees, including the North-West and Ecological Restoration Committees of the Chartered Institute of Ecology and Environmental Management (CIEEM). [NOTE: Mr Styles is not responsible for the content of the body of this report and has only provided specific commentary relating to the content of the WSP Botanical Survey Report]

PART 1: DOCUMENT REVIEW

The following three documents were reviewed by Dr Mark A. Spencer and Mr Joshua Styles

NOTE – to enable cross-referencing, the headings below are those used within the WSP reports. The sentences and sections in italics are quotes from the WSP reports.

1. **EN010128-000178-6.3 Environmental Statement - Appendix 7-2 - Preliminary Ecological Appraisal** [PEA]

Note: This report is dated April 2023 & predates the Botany Report considered below (dated December 2023).

FIELD SURVEYS - 3.3.1 – the report states that a '*UKHab survey was undertaken [on the 5th January and 3rd February 2023] by an associate and a qualifying member of the CIEEM, who have completed numerous habitat surveys previously*'.

MS comment - it is not known if these are the same two WSP staff members who undertook the botany survey discussed below. Based upon my assessment of the species list provided in *Annex A* (see below) it is my opinion that these people are not professionally competent to undertake this work or they have not fully presented their data; and, consequently this report falls below professional standards, see Mr Styles's comments below.

Annex A - PLANT SPECIES LIST:

MS comment - the lists below are the only plant species list I have been able to locate within all the documents I have reviewed, they are quoted verbatim. The data was compiled from survey undertaken on the 5th January and 3rd February 2023 (the letters in brackets refer to DAFOR scale – a measure of abundance).

"*G3; 25 - COASTAL FLOODPLAIN AND GRAZING MARSH*
Creeping bent Agrostis stolonifera (D), cock's-foot Dactylis glomerata (A), nipplewort Lapsana communis (R), dock Rumex sp. (R), spear thistle Cirsium vulgare (R), perennial rye grass Lolium perenne (LD), common bent Agrostis capillaris (D), daisy Bellis perennis (R), cranesbill Geranium sp. (R), common nettle Urtica dioica (R), creeping cinquefoil Potentilla reptans (O), red fescue Festuca rubra (A).

G4 - MODIFIED GRASSLAND
Creeping bent (D), cock's-foot (A), nipplewort (R), sea beet Beta vulgaris (R), spear

thistle (R), perennial rye grass (LD), common bent (D), daisy (R), cranesbill (R), creeping cinquefoil (O), red fescue (A), red dead nettle Lamium purpureum (R), clover Trifolium repens (A), ribwort plantain Plantago lanceolata (F), bramble Rubus fruticosus agg. (R), yarrow Achillea millefolium (A), bristly ox-tongue Helminthotheca echioides (R), mayweed Matricaria sp. (R), toadflax Linaria vulgaris (O).

H3 - MIXED SCRUB
Teasel Dipsacus pilosus (F), silver birch Betula pendula (R), wild carrot Daucus carota (O), bramble (A), spear thistle (F), toadflax (O), cock's-foot (O), yarrow (F), spurge Euphorbium sp. (R), speedwell Veronica chamaedrys (F), perennial rye grass (A), common nipplewort (O), red fescue (O), knapweed Centaurea nigra (O), mullein Verbascum thapsus (R), ribwort plantain (F), caper spurge Euphorbia lathyris (LD)"

MS comment - The above lists demonstrate a lack of sufficient identification skill, experience or diligence - for example, recording a plant as 'dock Rumex sp.' to genus level (i.e. 'Rumex') is an inadequate under the circumstances (of undertaking a survey for a Nationally Significant Infrastructure Project) and reflects on the surveyor's probable lack of knowledge. In the case of docks, in addition to several widespread species that are likely to occur, there are 2-3 regionally rare or habitat indicative species that could be expected to occur at this site (*R. palustris, P. maritimus & R. pulcher*) - not being able to accurately identify, or omitting the identification, of these species (& other plants) is a serious failing.

I recorded one of these species (*R. palustris*) during one of my visits. It is recognised that the surveyors visited at a suboptimal time of year; this, in my opinion is inappropriate for a Nationally Significant Infrastructure Project that involves NERC Section 41 Habitats and Species.

However, there are many species that, to a suitably trained botanist, can be identified when not in flower – listing 'cranesbill Geranium sp.' is not adequate. Nearly all UK species of *Geranium* can easily be identified vegetatively (by a suitable trained person). Plants such as these should be recorded to species level, not doing so reveals a cursory approach to recording the species composition and habitat quality of a site. Recording a habitat in a reductive manner such as this significantly increases the risk of the habitat being under-valued or mischaracterised.

Also, the total number of species the surveyors have identified is tiny and reflects minimal effort and/or skill. The list of readily identifiable plants that are widespread or locally abundant on the site that are not in the above lists, for example: Common Reed (*Phragmites australis*), Greater Plantain (*Plantago major*) and Sea club-rush (*Bolboschoenus maritimus*) is disconcerting and reflects an organisational failure to undertake appropriate surveys. In some cases, these plants are definitive, e.g. Common Reed for Reedbed HPI, or diagnostic, e.g. Sea Club-rush for Grazing Marsh and/or Saltmarsh HPIs, in defining habitat types and their omission is unacceptable for a report of this nature.

Additionally, 'Teasel Dipsacus pilosus' is almost certainly an error for the widespread *Dipsacus fullonum*, whereas *D. pilosus* is now a very scarce plant in London (recent nearby records from Lesnes Abbey Wood may be an introduction). It is concerning that these data appear to be

the sole (available) information compiled to evaluate the vegetation type and status within the site. Using DAFOR scales on a partial inventory of species present does not present the full ecological status of the site and the omission of a large number of plant species is not best practice.

HABITAT SURVEY: OVERVIEW - 4.2.1

MS comment - reflecting the poor quality of the *PLANT SPECIES LIST* data presented above, I have the following comment to make regarding the following paragraph:

G3C – OTHER NEUTRAL GRASSLAND - 4.2.2

MS comment – the associated map (Figure 7-6: Site UKHab Survey Map) is incorrect as describing, at least part of the small parcel of land in the SE corner of Norman Road Fields as '*other neutral grassland*' -at least part of this area contains remnant coastal floodplain and grazing marsh communities – I recorded *Eleocharis palustris* (this is likely to be nationally rare, & potentially endangered, subsp. *palustris* & not the nationally common, but regionally scarce, subsp. *waltersii*), *E. uniglumis, Ranunculus sardous* & a vegetative batrachian *Ranunculus* (*either baudotii or trichophyllus*). In Greater London, all four species are characteristic of Grazing Marsh in London and all four are at risk of extinction in the region.

HABITATS - 5.3.2 – states that '*detailed botanical surveys as well as surveys of ditch and pond habitats will be undertaken*'.

MS comment - In my opinion the subsequent botanical survey and lack of supporting data (see above, and comments by J. Styles below) does not reflect this undertaking; as stated by the surveyors in that report, extensive areas of the site were not visited.

HABITATS - 5.3.4 – states that '*It is recommended to undertake a Biodiversity Net Gain assessment prior to applying for consent. This would enable assessment of the value of habitats on Site and determine recommendations for compensation and enhancement. Assessment should be undertaken as early as possible as the assessment informs design. Assessment should be led by an ecologist of "capable" or higher level in 'Environmental Assessment' as per the CIEEM competency framework (CIEEM, 2019b). It should be noted that within the context of Biodiversity Net Gain, HPI loss is considered significant and would require bespoke compensation for the Proposed Scheme to achieve a net gain for biodiversity*'.

MS comment – under the proposed scheme, the inevitable loss of HPI and SPI are important considerations that require suitable mitigation, the NERC Act Section 41 taxa are a Material Consideration, and their presence cannot be ignored. This matter does not appear to be adequately addressed in the BNG report or Mitigation Schedule. The significant loss of Grazing Marsh HPI (and SPI species therein) via the direct destruction of the East Paddock and unsuitable planting of trees in areas containing plant SPI and other notable species in key areas of Norman Road Field (see Part 2 and Figures 5 & 6) has not been addressed. The BNG report, following this report and the botany report, mischaracterises the area in the SE of Norman Road Fields as not being Grazing Marsh, which, based upon my survey (see Part 2) it clearly is).

PROTECTED AND NOTABLE SPECIES – 5.4.1

MS comment - this paragraph (as does the whole report) ignores the need to consider relevant vascular plants; there are at least two NERC Act Section 41 species on site, Divided Sedge and Borrer's Saltmarsh-grass, and possibly a third, Sea Barley. [NOTE: on the BSBI DDb there are post 2010 records of Divided Sedge & Borrer's Saltmarsh-grass from Crossness LNR & the monads that cover the proposed development].

2. EN010128-000182-6.3 Environmental Statement - Appendix 7-6 - Botanical Survey Report

Executive Summary: p. 1: para 3 - The stated aim of the botanical survey undertaken on the 14th July 2023 was to '*confirm the presence and condition of the coastal floodplain and grazing marsh HPI [Habitats of Principal Importance] and to identify any populations of rare or notable plants which may be present. A secondary aim of the survey was to gather incidental records of invasive plants*'.

MS comment - With regard to the primary aim, the presented survey data survey and subsequent report fall short of being of sufficient quality and thoroughness for a project of this scale – Significant areas of relevant HPI were not properly documented (See Part 2 and figures 5 & 6) and a number of notable species were overlooked or not recorded. I will expand on this opinion later in this document.

Executive Summary: p. 1: para 3 – The report states that '*No legally protected plant species were recorded, although one Section 41 of the Natural Environment and Rural Communities Act 2006 SPI listed, Vascular Plant Red listed vulnerable species and the London Priority Species listed species was identified – sea barley* Hordeum marinum'.

MS comment - This assessment is partially incorrect; there are two further NERC Act Section 41 plant species – i.e. species of principal importance – known from the area, and which I observed during my visits on 7th and 20th August:

- Divided Sedge (*Carex divisa*) and
- Borrer's Saltmarsh-grass (*Puccinellia fasciculata* var. *pseudodistans*).

The current London Priority Species list (and the associated red-list for vascular plants) is being revised but both Divide Sedge and Borrer's Saltmarsh-grass are also London Priority Species. By missing these important species, the survey results in an undervaluing of the site.

Furthermore, in my opinion, the identification of Sea Barley by the surveyors is probably incorrect; the species has not been recorded in Greater London for many decades. Unfortunately, the quality of the image claiming to depict this plant is of poor quality (Appendix B: p. 14); but, in my opinion, the plants shown are a mixture of Wall Barley, Yorkshire fog and Meadow Barley, all common plant species that should be recognisable by a suitably qualified and experienced person. It is important that the occurrence of Sea Barley be confirmed.

INTRODUCTION – 1.1.4. The report notes that '*Further botanical surveys were recommended by the PEA [Preliminary Ecological Appraisal] to gather additional information and identify the potential for notable plant species (those protected under Schedule 8 of the Wildlife and Countryside Act or listed on one or more registers of general conservation concern) to be present on Site*'.

MS comment - as noted in the paragraph above, the survey undertaken by WSP on the 14th July 2023 failed to identify the relevant species (see Part 2), aside from Sea Barley. The survey also failed to identify a significant area (see Part 2 and Figures 5 & 6) of Thames Grazing Marsh within the area affected by the proposed development and associated mitigation (the area in the SE of Norman Road Field).

HABITAT AND NOTABLE PLANT SURVEY - 2.2.1. The report states that '*A botanical survey was undertaken on 14th July 2023 by two ecologists, holding a Field Identification Skills Certificate (FISC) level 3 qualification*'.

MS comment - There is no mention of supervision or subsequent quality assurance. FISC Level 3 is defined as 'Reasonable ID[entification] skills: some flowering plants, some grasses sedges or ferns – an improver.' (source - [redacted]) – the level of experience is insufficient for unsupervised work such as this (see supporting comments from Joshua Styles below), especially for a proposed development that is considered to be of National Significance.

DATA ANALYSIS - 2.3.1. – The report states that '*Data were analysed in two ways: to identify the National Vegetation Classification (NVC) communities present, qualitative comparisons were made to the published accounts and keys in British Plant Communities using professional judgement and surveyor experience*'.

MS comment - as noted above, the surveyors undertaking this work do not have sufficient identification skills to complete this work; the use of NVC accounts and keys requires the ability to identify a large number of plant species accurately.

NOTES AND LIMITATIONS - 2.4.3. – The report states that '*No safe access was available to the East Paddock (as detailed in Figure 7-10: Ecological Survey Areas (Volume 2)) due to the presence of horses. However, the plant species were recorded from the southern and eastern boundaries of the field and could be adequately surveyed from the other side of the fence using binoculars. It is unlikely notable species were missed. The habitat was homogeneous throughout the field; consequently, the survey as undertaken is considered sufficient for determining the habitat type and condition*'.

MS comment - This is a serious omission on the part of the surveyors; the site is not inaccessible – I contacted the site managers and was granted access. The assertion in the report that the field (East Paddock) *'could be adequately surveyed from the other side of the fence using binoculars*' is incorrect and misleading - grassland habitats have to be examined close-up (at least within a few metres) to be adequately surveyed for individual notable species (one of the purposes of the WSP survey). The lack of presented survey data indicates that the ecologists overlooked a number of notable species and consequently

mischaracterised the habitat; during my visit to the field in question, I observed the following notable species (See Part 2), which are indicative of Thames Grazing Marsh in Greater London:

- Strawberry Clover (*Trifolium fragiferum*),
- Pink Water-speedwell (*Veronica catenata*), and
- Borrer's saltmarsh-grass (*Puccinellia fasciculata* var. *pseudodistans*).

It is also incorrect that the habitat is 'homogeneous' – see Appendix: Fig. 1 (below) of this report (from Google Earth via [redacted]) that demonstrates this;

NOTES AND LIMITATIONS - 2.4.5. – The report states that '*it is considered that sufficient information was gathered to enable an assessment of the habitat types present*'.

MS comment - In my opinion, the above statement is incorrect and misleading. This is for the following reasons:

- The surveyors are insufficiently qualified – FISC level 3 is not an appropriate level of expertise for an unsupervised survey site of this complexity.
- It is evident that the surveyors failed to record several significant species, either through inexperience or not surveying the site sufficiently (all of the species I have discussed so far would be at their most visible in mid-July; in the case of Borrer's Saltmarsh-grass, there were extensive stands covering many metres when I visited the site, see Fig. 1).
- The absence of presented desk-top data is a significant omission. Without these data it is not possible to assess the conclusions of the report – in essence, they become unsubstantiated opinion.

The absence of an appendix listing the species recorded in the cited compartments (see para. 2.2.1. p. 4) is a significant omission; the statements regarding the habitat types within the compartments cannot be substantiated by Cory without this information. Habitat types are largely defined (in addition to other factors such as soil type and hydrology) by the plant species they contain, without these data the habitat designations and habitat condition cannot be confirmed.

DESK STUDY – 3.1.2 – This section notes that '*a total of 254 plant species have been recorded within Crossness LNR in 2015 – 2023*' –

MS comment - There is no discussion relating to these records which is a significant omission. In the absence of these data, it is not possible to evaluate the ecological value of the habitat and/or the conservation value of the species therein. A total species count is, on its own, almost meaningless.

HABITAT AND NOTABLE PLANT SURVEY - 3.2.1. – 'Figure 7-6: Site UKHab Survey Map (Volume 2)' and '*Figure 7-16: Botanical Survey Results (Volume 2)*' appear to be the only data (presented resulting from this survey work Appendix: Figs 2-4; source *EN010128-000158-6.2 Environmental Statement - Figures - Part 1*).

MS comment - On their own, these maps are insufficient in this regard; the absence of supporting data fall sort of professional standards (see supporting comments by J. Styles below).

Section dealing with Compartment 1/East Paddock (paras *3.2.2 - 3.2.5*) – the survey correctly identifies this area as coastal floodplain and grazing marsh HPI but overlooks a number of notable species (see Appendix: Fig. 1) that are located within the compartment (e.g. Strawberry Clover (*Trifolium fragiferum*), Pink Water-speedwell (*Veronica catenata*) and Borrer's saltmarsh-grass (*Puccinellia fasciculata*); the last named plant is a NERC Act. Section 41 species (a species of principal importance).

Section dealing with Compartment 2 (paras *3.2.6 - 3.2.8*) – the survey correctly identifies this area as coastal floodplain and grazing marsh HPI but overlooks a number of notable species and overemphasises the poor condition; significant plants that are located within the compartment include Divided Sedge (*Carex divisa*), Round-fruited Sedge (*Juncus compressus*), and Frog Rush (*Juncus ranarius*).

DISCUSSIONS AND CONCLUSIONS: PROTECTED AND NOTABLE SPECIES - 4.2.1

MS comment - In addition to Sea Barley, two further NERC Act. Section 41 vascular plant species of principal importance, Borrer's Saltmarsh-grass (*Puccinellia fasciculata* var. *pseudodistans*) and Divided Sedge (*Carex divisa*) are adjacent to (Divided Sedge), or within (Borrer's Saltmarsh-grass), the proposed development area and are therefore of Material Consideration. The failure to identify these species leads to a [severe] underappreciation of the potential ecological harms of the development.

MS comment - The report notes that '*Sea barley, which was recorded within the coastal floodplain and grazing marsh, is included in the SPI list under Section 41 of the Natural Environment and Rural Communities Act 2006, the Vascular Plant Red List for England as a vulnerable species and the London Priority Species List. The presence of this species is a material consideration for the Proposed Scheme* [my underlining]. *Measures to provide replacement habitat for this species should be considered in the development design*'. Notwithstanding my concerns that this plant has been incorrectly identified, I am in agreement with this statement, which also applies to Borrer's saltmarsh-grass and Divided Sedge. I have not located any information within the Mitigation (EN010128-000214-7.8 - Mitigation Schedule) proposals that addresses this Material Consideration.

DISCUSSIONS AND CONCLUSIONS: HABITATS OF PRINCIPAL IMPORTANCE 4.3.1. -

MS comment - While the botanical survey confirmed the presence of Coastal and Floodplain Grazing Marsh HPI, as listed in the Section 41 of the NERC Act, the report does not accurately identify the full extent of the higher quality and better condition habitat, the majority of which is within the proposed development area (see Figures 1-7). This area is so extensive that it is hard to envisage how a 10% BNG could be achieved when such a significant area of HPI (& the species therein) will be lost (particularly as, in my opinion, the current ecological value of the SE portion of the area proposed for offsetting known has Norman Road Fields has been underestimated). The loss of this habitat will also significantly negatively impact the

developing London-wide Local Nature Recovery Strategy (LNRS) {NOTE: LNRS is a statutory requirement].

Additional comments from Joshua Styles MSc AMRSB MCIEEM FISC Level 6 on the adequacy of WSP Botanical Survey Report [with minor edits and additional notes by M.A. Spencer]

- In my view, and in light of available best-practice guidance, this survey report falls well below the industry standard expected for botanical survey.
- While methods are clear that both notable plants and NVC communities will be surveyed, the competence of surveyors is not at a capable level for such a survey. FISC Level 3 may be sufficient for preliminary habitat survey (see CIEEM's competency standard for preliminary habitat survey here: [redacted], but is neither sufficient for NVC survey or important plant survey. The National Vegetation Classification is a complex, phytosociological classification which requires a person of at minimum FISC Level 4 alongside appropriate experience in order to adequately identify the full range of taxa required for community/sub-community-level classification (BSBI guidance on the application of FISC field skills: [redacted]).
- In addition to below-minimum required competency for NVC survey, important plant survey also requires a person who is at least FISC 4/5. These are the levels at which a person is capable of differentiating cryptic taxa which may constitute important floristic features for the area, including *Ranunculus trichophyllus* & *Eleocharis uniglumis* as examples you [M.A. Spencer] cite.
- The function of the survey report is stated to identify notable plants which may be red-listed, Schedule 8, and so on. The desk study, however, fails to identify any of the 254 plants [NOTE: to date, various searches and requests have failed to locate this list] located during the data search which are notable. It is unclear whether the data search found any important plants, and, if so, whether any had been recorded on site.
- The survey methods state that NVC communities will be derived from the [above] survey. There are, however, no qualitative survey results in the form of quadrat or stand sampling, while descriptions of communities remain exceptionally brief, as would be expected from surveyors which are not equipped to undertake botanical survey. This, again, falls outside of the realm of best-practice and the methods required for NVC survey as prescribed by Rodwell, 2006 (NVC user handbook: [redacted]).
- The report fails to correlate NVC communities to priority, Annex I or irreplaceable habitat types. This is of particular importance within Compartment 3 which, again, has an exceptionally poor level of botanical information to support characterisation. The author attributes this compartment to an MG1 grassland managed for conservation and states it has been seeded with common knapweed (*Centaurea nigra*), amongst other things. All examples of MG1e *Arrhenatherum elatius* grassland *Centaurea* nigra sub-community correspond to UKHab g3a Lowland meadows, rather than g3c Other neutral grassland, as this area has been characterised as. The difference in distinctiveness and overall BU, and implications of this could be significant.

- Field scabious is red-list NT in England and has not been highlighted as important within the report [NOTE: this plant appears to be derived from a 'wild-flower' seed mix.]
- The report explains that measures to provide replacement habitat for sea barley (a nationally important plant which was one of 50 species involved in the BSBI Threatened Plants Project) should be considered. The report, however, goes no way to explain how this might occur. Coastal grazing marsh is not a habitat that can be created simply by a quick translocation or seed mix. The nuance that was needed here, again, seems to have been glossed over in its entirety.
- A combination of poor competency, little to no botanical information and evidence, substantial reporting omissions, alongside serious questions around accuracy of reporting would personally raise a number of alarm bells. In my view, the only real way to address these issues would be to have surveys repeated by a FISC 5+ person.

3. EN010128-000187-6.3 Environmental Statement - Appendix 7-11 - Shading Study Annex A

MS comment - The study indicates that there will be reduction in sunlight in the vicinity of the building – this reduction in light may negatively impact remaining populations of regionally scarce plants on site, particularly Divided Sedge (*Carex divisa*), Narrow-leaved Pepperwort (*Lepidium ruderale*), Borrer's Saltmarsh-grass (*Puccinellia fasciculata* var. *pseudodistans*) & Round-fruited Rush (*Juncus compressus*). However, the graphic representations are heavily foreshortened and therefore the extent of light loss is hard to assess; this is because the foreshortening does not enable the extent (in square metres) or duration to be established. Consequently, it is not possible to assess the impact of reduced light upon the remaining Habitats of Principal Importance following construction. However, it is important to recognise that the two main HPIs affected by shading are likely to be the Reedbeds and the Grazing Marsh – the health of both habitats is highly reliant upon high light levels because key species, especially grasses, such as Common Reed (*Phragmites australis*) are intolerant of heavy shading.

PART 2: Botany Survey undertaken by Dr M.A. Spencer on the 7th and 20th August 2024.

Due to time, and funding constraints, this survey should not be considered a full habitat survey but the approach I have used is comparable to a Preliminary Ecological Appraisal (aka Phase I Habitat Survey) without detailed mapping. The primary objective of the survey was to gather supplementary information that would inform and validate my opinions relating to the *Preliminary Ecological Appraisal* and *Botanical Survey Report* and associated documents discussed above.

In total, I recorded 160 plant species during my visits (see Appendix: Survey Data). The majority of these plants were identified using my own field botanical experience in conjunction with the current UK standard field botanical reference work, *New Flora of the British Isles* (4th ed, reprinted 2021) by C. Stace. A small number of plants were only identified to species aggregates (e.g. *Rubus fruticosus* and *Taraxacum officinale*), these species often require detailed study to identify accurately, and it is acceptable practice to identify to the aggregate in these circumstances. One plant, a Water-crowfoot (*Ranunculus* sect. *Batrachium*) was not identified to species as the plants were seedlings; however, based upon the habitat and location, it is very likely that the plants are either *R. baudotii* or *R. trichophyllus*, both of which are strongly associated with coastal grazing marsh in the region.

The majority of the species recorded (144) are widespread plants in Greater London that are, in many cases, not particularly associated with Habitats of Principal Importance (HPIs). But it's important to recognise that many of these species are ecologically significant and their value should not be overlooked. However, the focus of this survey was to identify habitats and plants that are notable in some way with regard to national legislation and regional conservation priorities. Below is a summary of the key species I observed with notes on their relevance to the legislative environment, their GB and regional conservation status and priorities and, finally, this planning application:

Divided Sedge (*Carex divisa*) is a *Nationally Scarce* plant that is listed under Section 41 of the NERC Act (2006) – Natural England stated that "In England many of our rarest and most threatened species are listed under Section 41 (S41) of the 2006 Natural Environment and Rural Communities (NERC) Act. Outcome 3 of the Government's Biodiversity 2020 strategy contains an ambition to ensure that 'By 2020, we will see an overall improvement in the status of our wildlife and will have prevented further human-induced extinctions of known threatened species.' Protecting and enhancing England's S41 species is key to delivering this outcome" (see: [redacted]).

This species is largely restricted to and is characteristic of ancient grazing marshes and is listed as Vulnerable to Extinction (see: [redacted]) in Great Britain. It is considered Endangered in Greater London (source – *Vascular Plant Red-list for Greater London and Middlesex*; in prep). I observed it in one area (Fig. 7), but this species is likely to occur across the area affected by the proposed development, particularly the East Paddock (see Fig. 1) but can be overlooked in heavily grazed pasture.

Similarly, Borrer's Saltmarsh-grass (*Puccinellia fasciculata var. pseudodistans*) is a Nationally Scarce plant that is listed under Section 41 of the NERC Act (2006). In Greater London, this

species is largely restricted to and is characteristic of ancient grazing marshes and is listed as Near Threatened in (see: [redacted]) in Great Britain. It is considered Vulnerable to extinction in Greater London (source – *Vascular Plant Red-list for Greater London and Middlesex*; in prep,). I observed it in two areas (Figs. 1 & 7) this species occurs across a significant area affected by the proposed development, particularly the East Paddock (see Figs. 1-3).

As discussed above (Part 1), WSP ecologists recorded **Sea Barley** (*Hordeum marinum*), this plant is also listed under Section 41 of the NERC Act (2006).

In addition to the above species, three other plant species were recorded that are considered at, varying, risk of extinction in Great Britain, these are:

Round-fruited Rush (*Juncus compressus*). Is **Vulnerable to extinction** (see: [redacted]) in Great Britain. In Greater London, this species is largely restricted to the Thames floodplain, and it is considered Endangered (source – *Vascular Plant Red-list for Greater London and Middlesex*; in prep). I observed it in one area (Fig. 6). Like Divided Sedge, this species may occur across the area affected by the proposed development, particularly the East Paddock (see Figs. 1) but can be overlooked in heavily grazed pasture.

Strawberry Clover (*Trifolium fragiferum*). This plant is listed as **Vulnerable to extinction** (see: [redacted]) in Great Britain. In Greater London, this species is largely restricted to the Thames floodplain and is also considered Vulnerable to extinction in Greater London (source – *Vascular Plant Red-list for Greater London and Middlesex*; in prep). I observed it in two areas. One area in particular, the East Paddock (Fig. 1) contains a large concentration of this easily recognisable plant, this population is one of the few remaining viable populations in London but will be extirpated by this development.

Field Scabious (*Knautia arvensis*). In my opinion, while this plant is listed as Near Threatened in Great Britain and Greater London, this particular population is a recent introduction via a 'wild-flower' seed mix and the population is not of high conservation value (however, it may support notable invertebrate species).

I also recorded the following species (See Appendix: Survey data), all of which are considered at (varying) risk of extinction in the Greater London under the recent *Vascular Plant Red-list for Greater London and Middlesex* (in prep):

- Near Threatened species in Greater London:
    - **Pink Water-speedwell** (*Veronica catenata*),
    - **Hairy Buttercup** (*Ranunculus sardous*),
    - **Wild Celery** (*Apium graveolens* var. *graveolens*),
    - **Marsh Dock** (*Rumex palustris*),
    - **Slender Thistle** (*Carduus tenuiflorus*)
    - **Narrow-leaved Pepperwort** (*Lepidium ruderale*)
- Vulnerable to extinction in Greater London:
    - **Narrow-leaved Bird's-foot Trefoil** (*Lotus tenuis*)
- Endangered in Greater London:

    - **Common Spike-rush** (*Eleocharis palustris* subsp. *palustris*), and
    - **Frog Rush (***Juncus ranarius*)
- Critically Endangered in Greater London:
    - **Few-flowered Spike-rush** (*Eleocharis uniglumis*).

The majority of the above species are strongly associated with coastal grazing marsh and ecologically linked habitats such as coastal saltmarsh. Their presence is often used to indicate and confirm HPI status. In addition to the above species, the following plants are either entirely restricted to or heavily associated with coastal grazing marsh: **Marsh Sow-thistle** (*Sonchus palustris*), **Knotted Hedge-parsley** (*Torilis nodosa*), **Sea Couch** (*Elymus athericus*), **Sea Beet** (*Beta vulgaris subsp. maritima*), **Sea Club-rush** (*Bolboschoenus maritimus*), **Dittander** (*Lepidium latifolium*) and the as yet unidentified, **Water-crowfoot sp**. (*Ranunculus* sect. *Batrachium*).

Overall, the presence of the above notable species (in conjunction with the remaining 144 cited in the Appendix) play a significant part in evaluating the habitat status using the standard methodologies cited by WSP and by Mr Styles.

Many of these plants are also designated as Axiophytes (see: [redacted]) in Greater London (Source: *Greater London and Middlesex Axiophytes*, in prep) and are on the current Long List for Greater London's *Local Nature Recovery Strategy* Priority Species. The apparent overlooking of the majority of these species inevitably results in the national and regional conservation value of the habitat at the site being undervalued.

Notes on Norman Road Field (Areas 4 and 5)

Overall, the absence of a thorough and appropriately timed survey by WSP has resulted in an underestimate of the value of the grassland and wetland habitats in this area and in other high value areas as noted in Figures 5-7 below. The WSP survey was conducted in November, a time of year when the identification of more challenging plant species, particularly those indicative of grazing marsh, should only be undertaken by someone with considerable expertise; the optimum time to survey a grassland site such as this would be June-September. While the grassland is under-grazed and is in poor condition in most areas, there are remnants of the former plant diversity. During my 7th and 20th August visits to this area, I observed the following London notable & rare species in Area 4 (see Figures 3-6):

- *Eleocharis palustris* – this may be the nationally rare, & potentially endangered, subsp. *palustris* & not the nationally common, but regionally scarce, subsp. *waltersii*,
- *E. uniglumis,*
- *Ranunculus sardous*, and
- A vegetative Batrachian *Ranunculus* (either *baudotii* or *trichophyllus*).

Omissions such as these are likely to result in an underestimate of the current value of the site and therefore overestimate the apparent value any proposed enhancement. Also, some of the proposed habitat enhancements, particularly tree planting, risk destroying these vulnerable plant species and priority habitats (In London, *R. baudotii* and *trichophyllus* & *E. uniglumis* are characteristic of Grazing Marsh).

[NOTE: the raw data collected for this survey is currently being compiled but is available for inspection. On completion, it will be submitted to the Local Environmental Records Centre (GiGL – [redacted]) where it will be fully accessible.]

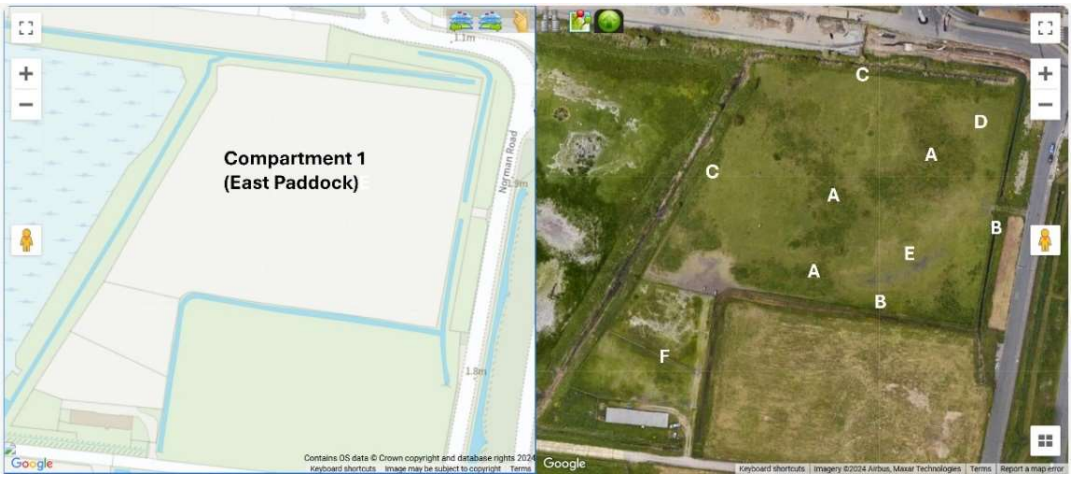
CONCLUSION

Comments are based upon my review of the supplied documents and my own survey.

I agree with the finding in the WSP Botanical Report that much of the site is Coastal and Floodplain Grazing Marsh. However, in my opinion, they overlooked a significant area of this habitat on Norman Road Field and failed to fully locate and map all the relevant HPIs and plant SPIs on site, this is particularly true of Compartment 5 (known as the East Paddock) which will be entirely destroyed by this development.

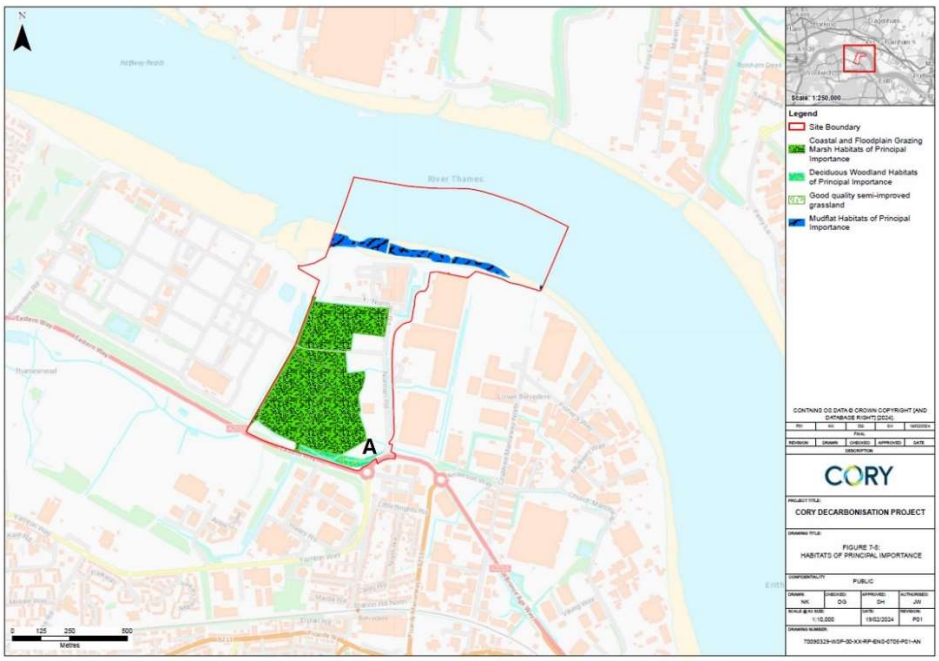
The failure to properly survey the site to accepted professional standards (particularly the East Paddock that will be entirely lost under this development) has resulted in a limited species inventory that inevitably results in the importance of the site being significantly underestimated. This failure appears to be largely due to the WSP ecologists being inadequately trained and having insufficient identification skills.

Appendix: Fig. 1. Compartment 1 (East Paddock) – This area described in the Botanical Survey Report as 'homogenous' (*NOTES AND LIMITATIONS - 2.4.3*); this is incorrect, during my visit on the 7th August 2024, I entered the East Paddock and observed the following features and notable plant species: **A** – areas of taller herbs (e.g. *Centaurea debeauxii, Arrhenatherum elatius, Jacobaea erucifolia*) and sparse hawthorn scrub; **B** – stands of Common Reed (*Phragmites australis*; NOTE: these stands of HPI are not mapped on Fig. 7.6, presented below); **C** – bramble and hawthorn dominated scrub/hedge; **D** – large stands of Strawberry clover (*Trifolium fragiferum*; a species that is at risk of extinction in GB & London); **E** – probable former flood channel; now seasonally inundated with brackish water containing a distinctive plant community, particularly Pink Water-speedwell (*Veronica catenata*) and, in drier areas, Narrow-leaved Bird's-foot Trefoil (*Lotus tenuis)*; **F** - heavily grazed and partially poached grassland containing significant stands of Borrer's saltmarsh-grass (*Puccinellia fasciculata*). **The proposed development will result in the total loss of the HPI and the associated plant species within Compartment 1 (East Paddock).**



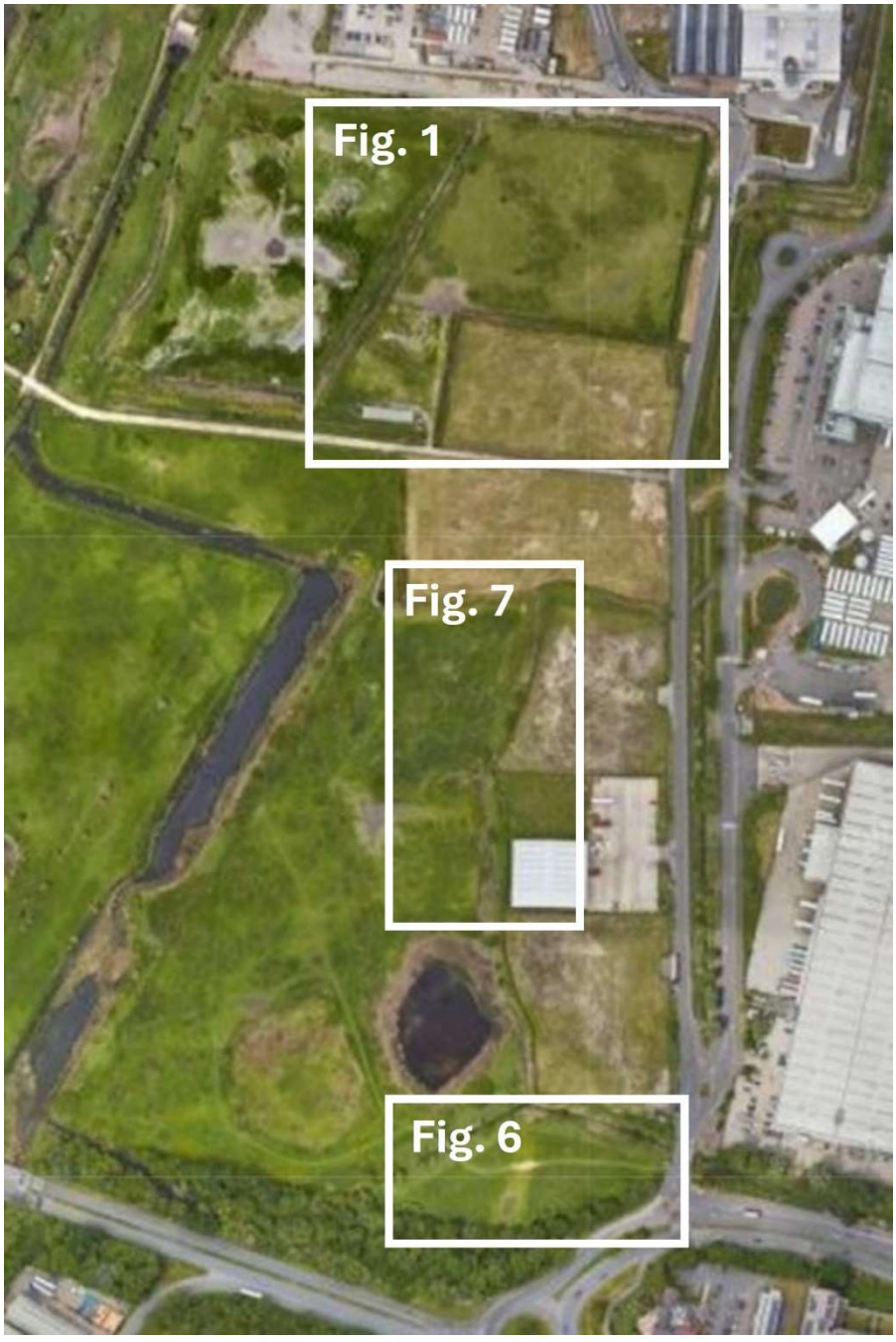
Appendix: Fig. 2. Compartments 1-4 surveyed by WSP UK Ltd staff in July 2023. (source Figure 7-16: BOTANICAL SURVEY RESULTS: EN010128-000158-6.2 Environmental Statement - Figures - Part 1).

Appendix: Fig. 3. Habitats of Principal Importance surveyed by WSP UK Ltd staff in Jan & Feb 2023. (source Figure 7-5: HABITATS OF PRINCIPAL IMPORTANCE: EN010128-000158-6.2 Environmental Statement - Figures - Part 1). [NOTE: the area marked **A** is Coastal and Floodplain Grazing Marsh, not 'other Neutral Grassland' as defined by WSP staff, see **Figs 2** above, and **4** below]



Appendix: Fig. 4. Other habitat types not mapped in Fig. 3 above; surveyed by WSP UK Ltd staff in Jan & Feb 2023. (source Figure 7-6: SITE UKHAB SURVEY MAP: EN010128-000158-6.2 Environmental Statement - Figures - Part 1) [NOTE: the area marked **A** is Coastal and Floodplain Grazing Marsh, not 'other Neutral Grassland' as defined by WSP staff. Also, the field margin areas marked **B** are Reedbed, which is an HPI and was omitted from Figure 7-5: HABITATS OF PRINCIPAL IMPORTANCE, see **Fig. 3** above]

Appendix: Fig. 5. Overall area surveyed on the 7th and 20th August 2024 by Dr Mark A. Spencer, including more focussed areas (Figs. 1, 6 & 7) of assessment. The area known as 'East Paddock' marked **Fig 1** consists of Coastal and Floodplain Grazing Marsh; see **Fig 1** of this report for notable plants and landscape features identified during my survey. The central area, marked **Fig 7**, retains a number of notable plant species, particularly along the eastern boundary adjacent to the proposed development. The southern area, known as Norman Road Field, marked **Fig. 6**, also retains a number of notable plant species indicative of Coastal and Floodplain Grazing Marsh.



Appendix: Fig. 6. Focussed area surveyed on the 7th and 20th August 2024 by Dr Mark A. Spencer. This south-eastern area, part of Norman Road Field, retains a number of notable plant species indicative of Coastal and Floodplain Grazing Marsh in the London area, in particular Hairy Buttercup (*Ranunculus sardous*), Few-flowered Spike-rush (*Eleocharis uniglumis*) and Common Spike-rush (*Eleocharis palustris* subsp. *palustris*). The area with the white outline oblong is where these plants occur and appears to be the remnant of an infilled flood channel or drainage ditch. This area has been identified in Fig 14 of 7.9 Outline LABARDS document for 'Proposed Grassland' as mitigation. The proposed mitigation would result in the loss of Grazing Marsh plant species.

Appendix: Fig. 7. Focussed area surveyed on the 7th and 20th August 2024 by Dr Mark A. Spencer. This central area, part of Norman Road Field, retains a number of notable plant species indicative of Coastal and Floodplain Grazing Marsh in the London area, in particular Hairy Buttercup (*Ranunculus sardous*), Divided Sedge (*Carex divisa*), Narrow-leaved Pepperwort (*Lepidium ruderale*), Borrer's Saltmarsh-grass (*Puccinellia fasciculata* var. *pseudodistans*), Frog Rush (*Juncus ranarius*) and Round-fruited Rush (*Juncus compressus*). The areas with the white outline oblongs are where these plants largely occur, primarily on the boundary of the proposed development. These ecologically sensitive areas are where HPI and notable species occur are where Cory's consultants are proposing to plant trees (see Fig 14 7.9 in the Outline LaBARDS document). This would result in the loss of HPI Grazing Marsh and a number of regionally rare and endangered species.

Appendix: Survey data undertaken by Dr M.A. Spencer on the 7th and 20th August 2024. Legend: Ax = Axiophyte; CR = Critically Endangered; EN = Endangered; GB = Great Britain; GLA = Greater London Authority; NERC sect. 41 (https://www.gov.uk/government/publications/habitats-and-species-of-principal-importance-in-england) NS = Nationally Scarce; NT = Near Threatened; VU = Vulnerable

Scientific Name	Common Name	Status
Apium graveolens* var. *graveolens	**Wild Celery**	NT (GLA); Ax
Beta vulgaris* subsp. *maritima	**Sea Beet**	Ax
Bolboschoenus maritimus	**Sea Club-rush**	Ax
Carduus tenuiflorus	**Slender Thistle**	NT (GLA); Ax
Carex divisa	**Divided Sedge**	NERC sect. 41; VU (GB); EN (GLA); NS
Eleocharis palustris* subsp. *palustris	**Common Spike-rush**	EN (GLA)
Eleocharis uniglumis	**Few-flowered Spike-rush**	CR (GLA)
Elymus athericus	**Sea Couch**	Ax
Juncus compressus	**Round-fruited Rush**	VU (GB/Eng); EN (GLA)
Juncus ranarius	**Frog Rush**	EN (GLA)
Knautia arvensis	**Field Scabious**	NT (GB); NT (GLA)
Lepidium latifolium	**Dittander**	Ax
Lepidium ruderale	**Narrow-leaved Pepperwort**	NT (GLA); Ax
Lotus tenuis	**Narrow-leaved Bird's-foot Trefoil**	VU (GLA); Ax
Puccinellia fasciculata* var. *pseudodistans	**Borrer's Saltmarsh-grass**	NERC sect. 41; NT (GB); VU (GLA); NS
Ranunculus sardous	**Hairy Buttercup**	NT (GLA); Ax
Rumex palustris	**Marsh Dock**	NT (GLA); Ax
Sonchus palustris	**Marsh Sow-thistle**	REW (GLA); NS
Torilis nodosa	**Knotted Hedge-parsley**	Ax
Trifolium fragiferum	**Strawberry Clover**	VU (GB); VU (GLA)
Veronica catenata	**Pink Water-speedwell**	NT (GLA); Ax
Ranunculus* sect. *Batrachium	**Water-crowfoot sp.**	Ax
Acer campestre	Field Maple	
Achillea millefolium	Yarrow	
Agrostis capillaris	Common Bent	
Agrostis stolonifera	Creeping Bent	
Alliaria petiolata	Hedge Garlic	
Allium vineale	Wild Onion	
Alopecurus geniculatus	Marsh Fox-tail	
Anisantha sterilis	Barren Brome	
Anthriscus sylvestris	Cow Parsley	
Arrhenatherum elatius	False Oat-grass	
Artemisia vulgaris	Mugwort	

Atriplex patula	Common Orache	
Atriplex prostrata s.s.	Spear-leaved Orache	
Ballota nigra subsp. *meridionalis*	Black Horehound	
Bellis perennis	Daisy	
Brassica nigra	Black Mustard	
Bromus hordeaceus subsp. *hordeaceus*	Soft-brome	
Bromus hordeaceus subsp. *longipedicellatus*	Long-stalked Soft-brome	
Buddleja davidii	Buddleia	
Calystegia sepium	Hedge Bindweed	
Calystegia x *lucana*	hybrid Bindweed	
Capsella bursa-pastoris	Shepherd's-purse	
Carex otrubae	False Fox-sedge	
Catapodium rigidum	Sea Fern-grass	
Centaurea nigra s.l.	Knapweed	
Cerastium fontanum subsp. *vulgare*	Common Mouse-ear	
Cerastium glomeratum	Sticky Mouse-ear	
Chenopodium album s.s.	Fat-hen	
Chenopodium ficifolium	Fig-leaved Goose-foot	
Cirsium arvense	Creeping Thistle	
Cirsium vulgare	Spear Thistle	
Conium maculatum	Hemlock	
Convolvulus arvensis	Field Bindweed	
Cornus sanguinea subsp. *australis*	Dogwood	
Corylus avellana	Hazel	
Crataegus monogyna	Hawthorn	
Crepis capillaris	Smooth Hawk's-beard	
Dactylis glomerata	Colt's-foot	
Daucus carota subsp. *carota*	Wild Carrot	
Dipsacus fullonum s.s.	Teasel	
Echium vulgare	Viper's-bugloss	
Elymus repens	Common Couch	
Epilobium hirsutum	Great Willowherb	
Erigeron sumatrensis	Guernsey Fleabane	
Erodium cicutarium s.s.	Common Stork's-bill	
Ervilia hirsuta	Hairy Tare	
Euphorbia helioscopia	Sun Spurge	
Festuca rubra subsp. *rubra*	Red Fescue	
Foeniculum vulgare	Fennel	
Fraxinus excelsior	Ash	
Galega officinalis	Goat's-rue	
Galium aparine	Goose-grass	
Galium verum	Ladies-bedstraw	
Geranium dissectum	Cut-leaved Crane's-bill	
Geranium molle	Dove's-foot Crane's-bill	

Geranium robertianum	Herb-Robert	
Geranium rotundifolium	Round-leaved Crane's-bill	
Glechoma hederacea	Ground-ivy	
Glyceria maxima	Reed Sweet-grass	
Gnaphalium uliginosum	Common Cudweed	
Helminthotheca echioides	Prickly Ox-tongue	
Heracleum sphondylium subsp. *sphondylium*	Hogweed	
Hirschfeldia incana	Hoary Mustard	
Holcus lanatus	Yorkshire-fog	
Hordeum secalinum	Meadow Barley	
Hypericum perforatum	Perforate St-John's-wort	
Hypochaeris radicata	Common Cat's-ear	
Iris pseudacorus	Yellow Iris	
Jacobaea erucifolia	Hoary Ragwort	
Jacobaea vulgaris	Ragwort	
Juncus articulatus	Jointed Rush	
Juncus bufonius s.s.	Toad Rush	
Juncus inflexus	Hard Rush	
Lamium album	White Dead-nettle	
Lamium purpureum	Red Dead-nettle	
Lapsana communis subsp. *communis*	Nipple-wort	
Lathyrus pratensis	Meadow Vetchling	
Lemna gibba	Fat Duckweed	
Lemna minor	Common Duckweed	
Lemna minuta	Least Duckweed	
Lepidium didymum	Lesser Swine-cress	
Lepidium draba subsp. *draba*	Hoary Cress	
Leucanthemum vulgare	Ox-eye Daisy	
Linaria vulgaris	Common Toad-flax	
Lolium perenne	Perennial Rye-grass	
Lotus corniculataus	Bird's-foot Trefoil	
Lythrum salicaria	Purple Loosestrife	
Malva sylvestris	Common Mallow	
Medicago arabica	Spotted Medick	
Medicago lupulina	Black Medick	
Medicago sativa subsp. *varia*	Sand Lucerne	
Odontites vernus subsp. *serotinus*	Red Bartsia	
Oxybasis rubra	Red Goose-foot	
Pentaglottis sempervirens	Green Alkanet	
Persicaria maculosa	Redshank	
Phleum bertolonii	Smaller Cat's-ear	
Phragmites australis	Common Reed	
Plantago coronopus	Buck's-horn Plantain	
Plantago lanceolata	Ribwort Plantain	

Plantago major subsp. *intermedia*	Greater Plantain	
Plantago major subsp. *major*	Greater Plantain	
Poa annua	Annual Meadow-grass	
Poa trivialis	Rough Meadow-grass	
Polygonum aviculare agg.	Knotgrass	
Potentilla reptans	Cinquefoil	
Poterium sanguisorba subsp. *sanguisorba*	Salad Burnet	
Prunella vulgaris	Selfheal	
Prunus spinosa	Blackthorn	
Ranunculus acris	Meadow Buttercup	
Ranunculus repens	Creeping Buttercup	
Rosa canina agg.	Dog-rose	
Rubus fruticosus agg.	Bramble	
Rumex conglomeratus	Clustered Dock	
Rumex crispus	Curled Dock	
Rumex obtusifolius	Broad-leaved Dock	
Schedonorus arundinaceus	Tall Fescue	
Scorzoneroides autumnalis	Autumn Hawkbit	
Senecio inaequidens	Narrow-leaved Ragwort	
Senecio vulgaris	Groundsel	
Silene latifolia	White Campion	
Sisymbrium officinale	Hedge Mustard	
Sonchus arvensis	Field Sow-thistle	
Sonchus oleraceus	Smooth Sow-thistle	
Stachys sylvatica	Hedge Woundwort	
Stellaria graminea	Lesser Stitchwort	
Stellaria media	Chickweed	
Symphytum x *uplandicum*	Russian Comfrey	
Taraxacum officinale agg.	Dandelion	
Trifolium pratense	Red Clover	
Trifolium repens	White Clover	
Tripleurospermum inodorum	Scentless Mayweed	
Tussilago farfara	Colt's-foot	
Typha latifolia	Reedmace	
Urtica dioica subsp. *dioica*	Common Nettle	
Veronica chamaedrys	Germander Speedwell	
Viburnum opulus	Guelder-rose	
Vicia sativa	Common Vetch	