

FAO. Liam Watford on Behalf of Hamble Aerostructures (Client)

Hamble Aerostructures Ltd

Kings Avenue
Hamble-le-Rice
Southampton
Hampshire
Sp31 4NF

Dear Liam,

Site at Hamble Aerostructures, Hamble-le-Rice, Southampton

In response to the comments provided by the Contaminated Land Team at Eastleigh, this letter responds to queries raised by Eastleigh and provides greater detail of our reasoning for the scope of the intrusive site investigation carried out at the above site.

Comments made by the Contaminated Land Team at Eastleigh are included below in blue font.

We have reviewed the 'Contaminated Land Remediation and Verification Report' by ACS dated June 2023 reference 23-95162 for the site at Hamble Aerostructures. It was noted that remedial works in relation to the asbestos contamination were completed, and the report includes records of watching briefs during construction works, asbestos air sampling test certificates, waste transfer tickets from asbestos containing material impact soils been removed off-site, and photographic evidence of installation of concrete slab. All these lines of evidence support the conclusion that asbestos remedial works were completed, and even though no Remediation Method Statement was provided or agreed by the LPA, we are satisfied in relation on how the risk of asbestos impacted soils was managed and mitigated.

However, previous queries done by contaminated land team about extent of sampling and assessment carried out have not been addressed. The information Contaminated Land Desk Study & Intrusive Investigation Report reference 22-83228 dated June 2022 is unfortunately not sufficient to discharge the conditions.

Since the above comments, sent to ACS by email dated 22 September 2023, we are now aware of the queries raised by Eastleigh in relation to the Contaminated Land Desk Study & Intrusive Investigation Report reference 22-83228 dated June 2022, which are also included below in blue font. ACS response to Eastleigh queries is shown below in black font.

Thank you for consulting us on the above application, we have reviewed the submitted land contamination assessment by ACS entitled 'Contaminated Land Desk Study & Intrusive Investigation Report', reference 22-83228, dated June 2022.

The report advises that testing of the ground beneath the proposed paint shop has not identified any contaminants that exceed the Generic Assessment Criteria, GAC for a commercial end use and that no remedial works are needed. Testing has identified asbestos impacted soils and that these will need to be dealt with in accordance with HSE

procedures for 'non notifiable' works, and disposed of, off site. Further it recommends that a discovery strategy be adopted during development works for any unexpected contamination that may be encountered.

Whilst the assessment identifies the former industrial use of the site as a source of contamination, local site information / knowledge is not included in terms of identifying activities carried out within the building and contaminants that may be present as a result. Consequently, the potential sources of contamination identified are limited. Similarly, where direct site knowledge is not available, references such as the DoE Industry Profile for Aircraft Manufacture can be used to identify the likely contaminants that may be present on site and thus inform the sampling strategy.

The building converted into the paint shop was previously used for the storage of aircraft parts ready to be dispatched. It is understood that before this, 10-15 years ago, the building was used for painting works, from the 1930s. The existing commercial building has concrete floor slabs covering the entire surface of the building with a concrete slab also covering the external northwest section of the Site. For the previous painting works, it is further understood that concrete floor slabs were also the present across the entire building and inspection pits were not present.

During the site works, the concrete slabs were recorded to be approx. 230-550mm thick. The concrete floors were recorded to be in good condition and are considered suitable to prevent any potential spillages/contaminants from historical painting works to enter made ground and indigenous soils below the concrete slabs.

Contaminants associated with Aircraft Manufacture Works, as presented in the DoE Industry Profile for Engineering Works Aircraft Manufacture Works generally include solvents, metals and hydrocarbon (fuels, lubricant oils, fuel oil and hydraulic oils), cyanides (but unlikely in painting and storage buildings) and asbestos from various processes or as a result of demolition works in the past for example asbestos sheeting used for roofing or cladding or plant insulation.

For the site investigation, contaminants tested included cyanides, metals (arsenic, cadmium, chromium (III & VI), copper, lead, mercury, nickel, selenium, zinc), SOM, FOC, phenols, hydrocarbons including BTEX, speciated TPH, speciated PAH, PCBs and Asbestos ID. In total, 11 soil samples were scheduled for contamination testing, 5 samples from made ground below the concrete slabs and 6 samples from indigenous soils (sandy gravelly or sandy clay) below made ground soils or placed directly below the concrete slabs.

As reported in our Desk Study and Site Investigation Report, all inorganic and organic contaminant concentrations were below their respective GAC for commercial land use, with all concentrations considered to be very low and below detection limit for most speciated TPH, PAH, PCBs and phenols. It is acknowledged that specific testing for solvents was not carried out, however, should solvents be present at the Site, this would have been indicated by the presence of contaminants such as BTEX, phenols and other hydrocarbons including speciated PAHs and TPHs. For other contaminants originated from historical painting works, metals and some type of hydrocarbons would have been detected if there was any type of historical contamination from the works/paint sludge and treatment process sludges. It is further addressed that apart from ACMs encountered within made ground soils, no visual and/or olfactory contamination was identified during the Site works.

It is therefore considered that the chemical contamination testing scheduled for the Site was robust and provides sufficient information to determine whether contamination may have been originated at the Site from historical land uses within the building and surrounding areas.

Further, sampling has been limited in location and depth to access holes through the existing floor. It is understood that the floor is to be replaced.

It is understood that the areas for the internal works, including replacement of the floors, were highlighted in grey, in the attached drawing, Drawing 22-83228/03, which shows an approx. area of 250m² (25m by 10m) for the refurbishment works. Eight trial pits were excavated within the area where alterations to the building were proposed as shown on Drawing 22-83228/05, also attached with this letter. It is recognised that the location of the trial pits was determined by the Client to investigate soils where concrete slabs were broken for the alteration works. However, the trial pits were

spaced less than 5m between excavations and any potential contamination would have been encountered by the intrusive investigation works. This was proven by the encounter of ACMs within the made ground.

In terms of the depths of excavations, all excavations extended below 1.0m, with depths of between 1.25m to 1.60m bgl. All excavations encountered natural soils. For the three trial pits within the external area outside the building proposed for the Extraction Plan, trial pits were also spaced at a maximum of 10m interval and extended to depths of between 1.50m-1.80m bgl.

It is therefore considered that a robust investigation was carried out by the number and distribution of trial pits excavated across the area proposed for the internal alteration and external works. The trial pits extended to sufficient depth to investigate ground conditions.

It is further stressed that a discovery strategy and watching brief was put in place during the construction works. The Client informed ACS that apart from the ACMs contamination already identified at the Site, no unforeseen contamination was encountered during the intrusive ground works.

[Assessment of groundwater impact does not appear to have tested ground water or taken account of DNAPL which would be found at the bottom of any groundwater if present on site.](#)

Groundwater was not encountered during the ground works. Some water was encountered within external trial pits denoted TP09- TP12; however, this was associated with surface water collecting in the pits above the clay soils. Since groundwater was not encountered during the site works, groundwater testing was not carried out.

It is further noted that chemical analysis of soil samples taken from the underlying soils did not record significant concentrations of organic and inorganic determinands. All contaminant concentrations were very low and below their respective GAC for commercial land use. Soil contaminant concentrations were also below GACs for residential land use with homegrown produce, which is the most conservative of the human health generic assessment criteria. Most of the hydrocarbon concentrations were below their respective detection limits. Apart from ACMs, no visual or olfactory evidence of contamination was noted during the site investigation works.

For deep groundwater which can potentially be present below the clay soils across the Site, the Client has informed ACS that HAL site does monitor groundwater via boreholes on an annual basis, with the report submitted in March each year to the Environment Agency. Any potential of deep groundwater contamination across Hamble Aerostructures would therefore be detected by the annual monitoring undertaken for the Site, and respective actions adopted if necessary.

[Section 11 refers to ground gas risk and concludes them to be negligible, however only limited information on how this conclusion was reached is contained within the report, in this regard we would expect to see consideration in line with CL:AIRE technical bulletin RB17. Overall, we do not object to the proposal on land contamination grounds but have reservations about the extent of soil and groundwater sampling and assessment carried out, similarly whilst ground gas risks may be low, the assessment does not demonstrate how this conclusion has been reached.](#)

A Negligible risk from ground gas (mainly methane and carbon dioxide) was identified at the site by the Preliminary Conceptual Site Model (CSM) and Preliminary Risk Assessment included in Section 5.0 of the Desk Study and Site Investigation Report. The assessment considered on-site and/or off-site historical and current land uses which could have a significant impact on the site. Desk study data indicated that the Site is not within a notifiable area of a historical/current landfill site. There were not records of infilled pits, infilled ground or made ground within 250m of the Site.

It was therefore considered that apart from made ground associated with previous use and development of the Site, no other sources of made ground were likely to be present at the Site or within surrounding areas. It was further considered that if there was made ground present, it would most likely be localised and not in large quantities so that the potential

to produce hazardous quantities of asphyxiating ground gases would be limited. There would also need to a significant amount of organic matter to produce hazardous ground gases, unlikely to be the case for the Site.

Based on the outcome of the preliminary CSM and risk assessment, it was therefore considered that installation of boreholes and ground gas monitoring was not required as part of the intrusive ground works to be carried out for the Site. This however to be confirmed by the outcome of the intrusive site investigation.

The CL:AIRE Research Bulletin RB17, A Pragmatic Approach to Ground Gas Risk Assessment, Table A1 provides examples where ground gas monitoring is not necessary for intrusive ground gas investigations. This includes natural soils with low organic content and 1m to 5m of Made Ground (average <3m) that comprises general infilled and car park construction materials with TOC levels less than 6%.

Ground conditions revealed by the site investigation confirmed the predicted ground conditions. Made ground at the Site was reported at depths between 0.50m and 1.0m bgl inside the building and between 0.50m and 1.20mbgl for the external trial pits. The Made Ground underlying the Site was generally described as firm to stiff brown sandy gravelly clay. One unit of light grey sandy gravel was noted within TP02 between 0.30mbgl and 0.50mbgl. The gravel constituents within the units were generally described as fine to coarse angular to sub-rounded flint, brick and concrete. Occasional cement cladding (ACMs) at some trial pit locations.

Soil organic content (SOM) for made ground ranged between <0.87% and 1.4%. This equates to TOC values between 0.50% and 0.81% respectively. SOM for indigenous soils ranged between <0.87% and 1.04%, equivalent to TOC values of 0.50% and 0.60% respectively.

Table 1 of the CL:AIRE Research Bulletin RB17 further indicates that the gas category for sites where the thickness of made ground is a maximum 5m (average <3m) and the maximum total organic carbon content of Made Ground – TOC is below or equal to 1.0% TOC, the Characteristic Situation (BS 8485 and CIRIA C665) will be CS1, where a ground gas risk is not perceived and ground gas protection measures are not required for new buildings.

It is therefore considered that depths and organic matter content reported from made ground and indigenous soils samples class the Site as CS1 and indicate a negligible risk from ground gas generation at the Site. No further action is considered necessary in this regard. The Client has further confirmed that HAL does not monitor ground gases upon the basis that the site is not built on made ground.

For volatile hydrocarbons, all hydrocarbon concentrations reported from the soil samples were below the GAC for commercial land use with all volatile concentrations below their respective detection limit. Based on laboratory testing results and the encountered ground conditions, it is considered that there is no risk or a plausible pathway between potential contaminative sources of hydrocarbon vapours and the development site.

I address that the development site have already been built and parts (a) and (c) of the contaminated land conditions have been discharged as included in the email referred above.

I trust that the further information provided in this letter answers your queries and provides sufficient information to enable the full discharge of the contaminated land planning condition.

However, should you wish to discuss anything related to our response and/or the project, please do not hesitate to contact me.

Yours Sincerely

Claudia Norman *BSc MSc MCIWEM C.WEM*
Principal Geo-Environmental Consultant

Encl

Drawings No – 22-83228/03 and 22-83228/05.

Notes:
Baseplan provided by Client.
Hop architects (Drg.No:HOPA-002-P)

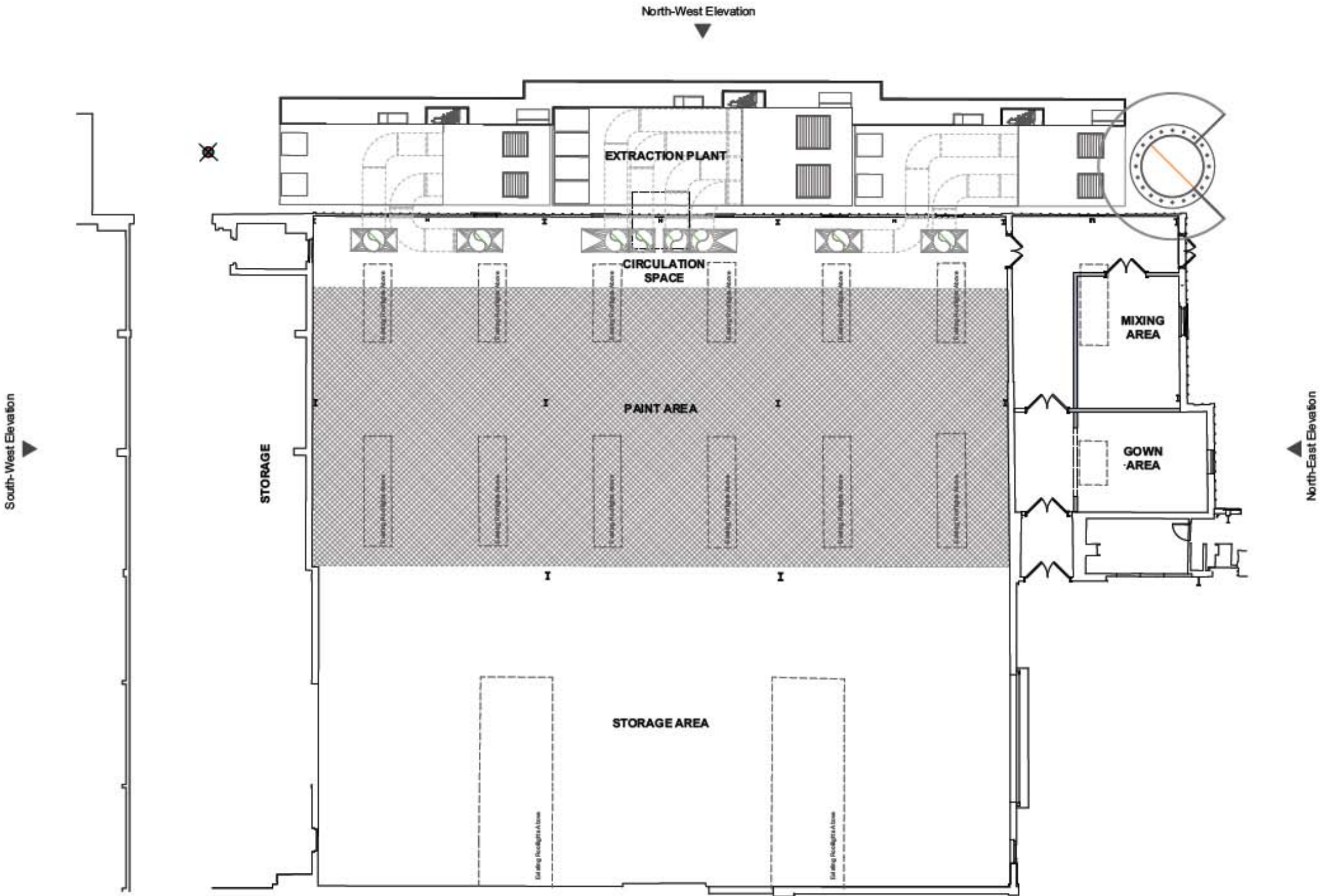
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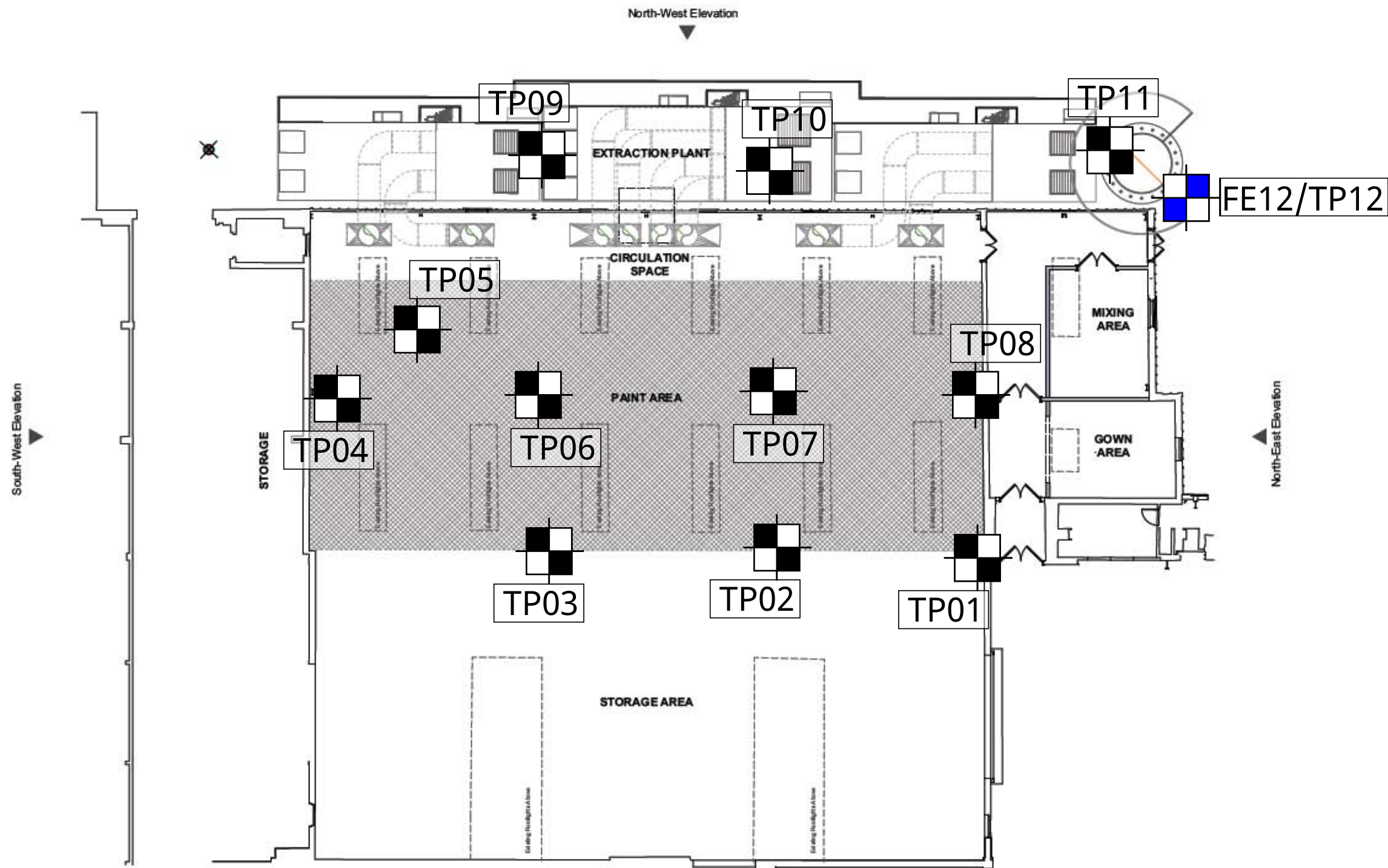
Drawing: Proposed Site Layout	
Client: Develotec Design & Build Ltd	
Project: Site at Hamble Aerostructures Kings Avenue Hamble-le-Rice Southampton SO31 4NF	Project No: 22-83228 Drawing No: 22-83228/03 Revision:
Drawn By: LF	Date: 24/05/2022
Checked By: CN	Date: 24/05/2022



ACS Testing Ltd
Unit 14 Blackhill Road West
Holton Heath Trading Park
Poole, BH16 6LE
T: 01202 622858 | F: 01202 625045
E: geo@acstesting.co.uk | W: acstesting.co.uk
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Notes:
Baseplan provided by Client.
Hop architects (Drg.No:HOPA-002-P)



Key:

 Trial Pit

 Trial Pit / Foundation Excavation



DO NOT SCALE

Drawing:
Exploratory Hole Location Plan - Proposed

Client:
Develotec Design & Build Ltd

Project:	Project No:
Site atHamble	22-83228
Aerostructures	Drawing No:
Kings Avenue	22-83228/05
Hamble-le-Rice	Revision:
Southampton	
SO31 4NF	

Drawn By:	Date:
LF	24/05/2022

Checked By:	Date:
CN	24/05/2022



ACS Testing Ltd
Unit 14 Blackhill Road West
Holton Heath Trading Park
Poole, BH16 6LE
T: 01202 622858 | F: 01202 625045
E: geo@acstesting.co.uk | W: acstesting.co.uk
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