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Subject: Site Contamination Assessment: 43 – 61 Turner Road, Gregory Hills NSW 2557

Our Ref: 30198051

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Introduction

To the Department of Planning, Housing and Infrastructure,

Arcadis Australia Pacific Pty Ltd (Arcadis) was engaged by the Client to provide a summary of the contamination assessment, remediation and current status of the property identified as 43-61 Turner Road, Gregory Hills NSW 2557 (the Site). The Site is situated within Camden Council and comprises four lots (Lots 14, 15, 16 and 17 in deposited plan 28024). The Site is understood to have been previously used as rural residential and agricultural land and is proposed to be redeveloped for Commercial/Industrial land use, as defined in the *National Environment Protection Council (NEPC) (2013) National Environment Protection (Assessment of Site Contamination Measure) (NEPM) 1999 (amended 2013)* (NEPC, 2013).

Arcadis was engaged to undertake the assessment of the Site as part of a due diligence acquisition, and were provided, at various times during the works, details of past reports to help supplement the independent contamination assessment being conducted, which to date has included the Arcadis (2023a) Phase I Environmental Site Assessment (ESA), the Arcadis (2023b) Phase II ESA and the Arcadis (2024) Groundwater Investigation. These contamination assessments were commissioned by the Client to inform the pre-acquisition decisions, with regards site contamination. As such, Arcadis are able to present on works completed onsite, as well as provided a status of the Site in its current configuration based on the review of past reports, and from first hand observation onsite.

The purpose of this document is to summarise the works completed, as well as identify the proposed method forward to enable the remediation of the Site.

Summary of Environmental Investigations

A summary of previous investigations and works completed onsite has been presented below.

Preliminary and Detailed Site Investigation Report (Geo-Logix 2022)

Geo-Logix completed a Preliminary and Detailed Site Investigation for the site in June 2021 for Turner Road Industrial Pty Ltd. This investigation was conducted in order to determine the suitability of the site for proposed redevelopment by Turner Road Industrial Pty Ltd for commercial / industrial land use. Geo-Logix 2021 comprised a site inspection, review of historical site data and limited soil assessment, and sediment and water sampling from the farm dams.

Geo-Logix concluded that asbestos in soils presented a condition that requires remediation for the site to be suitable for the proposed redevelopment. It was recommended a RAP detailing the remedial methodology to

remove the asbestos in manner that protects worker and public health, and validation methodology to demonstrate the remediated areas are suitable for the proposed land use. Dam water onsite was assessed and identified that nitrogen, zinc and copper were detected in the farm dam waters at concentrations above freshwater ecosystem criteria. Thermotolerant coliforms were also detected at low concentrations. The dam water was considered suitable for on-site irrigation

Remedial Action Plan (Geo-Logix 2022)

Geo-Logix prepared a RAP to remediate contamination identified to be present from the Site assessment completed in 2021 for Turner Road Industrial Pty Ltd. The objective of the RAP was to document the procedures and standards to be followed in order to address the identified asbestos impacts at the site in a manner as to make the site suitable for the proposed commercial / industrial land use.

The RAP detailed four areas of environmental concern (AEC) as follows:

- AEC1 –non-friable asbestos present in surface soils surrounding the shed to the rear of the 55 Turner Road dwelling;
- AEC2 –non-friable asbestos and thermotolerant coliforms present in surface soils surrounding the dilapidated chicken coop at 43 Turner Road;
- AEC3 –nutrient levels and suspended solids in the dam water within the five site dams prohibiting stormwater disposal; and
- AEC4 –on-site power poles identified by Council as an issue of concern.

The preferred remedial strategy for the site was the:

- Excavation and offsite disposal of the non-friable asbestos impacted soils associated with AEC1 and AEC2 to an approximate depth of 0.3m, or otherwise natural soils (whichever was shallower);
- Onsite dewatering of the five site dams associated with AEC3;
- Removal of the power poles associated with AEC4; and
- Validation of the extent of excavations and removal of the identified AECs by way of inspection, collection of soil analytical samples and environmental monitoring data.

JBS&G Australia Pty Ltd (2023). Hazardous Building Materials Survey – 43-61 Turner Road Gregory Hills, NSW (HazMat Report)

JBA&G undertook a hazardous building materials surveys (HBMS) of the structures located at 43-67 Turner Road, Gregory Hills, NSW (the site) for Turner Road Industrial Pty Ltd. The inspection comprised five separate rural residential properties and are legally identified as Lots 14-18 in Deposited Plan (DP) 28024. The assessment was undertaken to identify hazardous building materials in accordance with regulations and guidance in force at the time of the inspection.

The assessment identified bonded asbestos to be present in all major structures onsite. Friable asbestos was identified to be present in the form of loose fibre bundles in dust samples collected from the Garage and the Chicken Coop structures collected from number 43 Turner Road.

It was recommended that a suitably qualified and licensed asbestos removalist be engaged to remove the asbestos prior to an asbestos clearance being issued by a licensed Asbestos Assessor for the work area.

JBS&G Australia Pty Ltd (2023). Interim Site Validation Report - Assessment – 43-61 Turner Road Gregory Hills, NSW (Interim Site Validation)

JBS&G completed an Interim Site Validation report for Turner Road Industrial Pty Ltd to detail the remediation and validation works for AEC1 to AEC4, in accordance with the Geo-Logix (2022b) RAP prepared for the Site.

During the completion of remedial works on AEC1 through to AEC4, three areas of unexpected finds (UF) were encountered by JBS&G and were described as asbestos contamination that had been uncovered beneath two former residential buildings and surrounding an inground septic tank. The UF areas were labelled as UF01 through to UF03. AEC3 related to the suitability of dam water for discharge to stormwater, the RAP identified the preferred remedial option to be dewater the dams through application to land. This was not completed under this stage of works. JBS&G noted that although heavy metals and nitrogen concentrations within the on-site dams were above freshwater eco-system criteria as identified in the Geo-Logix (2022a) PDSI, that is was not expected to impact the suitability of the site, from a human health risk perspective, for the proposed commercial/industrial land use.

The Interim Validation Report detailed that works completed, which comprised:

- Excavation and off-site disposal of the non-friable asbestos impacted fill materials associated with at AEC1 and AEC2 to an approximate depth of between 0.1-0.2 m below ground level (mbgl);
- Excavation of fill materials surrounding power poles associated with AEC4 to an approximate depth of 1 mbgl.
- Excavation of friable and non-friable asbestos impacted fill materials to approximate depths of between 0.1-0.3 mbgl in UF01 and UF03 and up to 2 mbgl in UF02;
- Offsite disposal of the friable and non-friable asbestos impacted stockpiles from the excavation of UF01, UF02 and UF03.

Validation sampling completed in AEC1, AEC 2 and AEC4, UF01 to UF03, and associated stockpiles indicated that these areas was reported to be completed in accordance with the Geo-Logix (2022b) RAP and were validated as suitable for the proposed commercial/industrial land use. AEC3 required dewatering of the dams, and subsequent disposal through application to land. AEC is the only outstanding proposed remedial works that had not been completed to date under the Geo-Logix RAP.

The Interim Site Validation report provided evidence of remediation works; including post-asbestos removal asbestos clearances (pre-building demolition), laboratory data, sampling methods, waste classifications, disposal documentation and asbestos removal footprint clearance certificates.

The conclusions of the Interim Validation Report stated that it was expected that the remainder of the Site could be made suitable for the proposed commercial/industrial land use subject to the implementation of the Unexpected Finds Protocol during the remainder of demolition works and topsoil stripping across the Site. A final validation report was stated to require the completion of all remedial works, namely addressing AEC 3 (i.e., dewatering of the dams, and subsequent disposal) at the Site.

Arcadis (2023a) Phase I Environmental Site Assessment – 43-61 Turner Road Gregory Hills, NSW 2557 (Phase I ESA)

Arcadis was engaged to complete a Phase I ESA that involved the completion of a desktop review of available information for the Site, a site inspection, and identification of contaminating activities, PaoC (and affiliated potential contaminants of concern) and environmental constraints as part of a Due Diligence assessment for the potential acquisition of the land by a new land owner.

The Phase I ESA concluded that there was a risk to Site users associated with potential asbestos containing material (ACM) present within soil and stockpiled material present across the southern end of the site in the

vicinity of former structures, now demolished, and that remedial measures should be taken to minimise the risk of exposure at the earliest opportunity. This included asbestos present in buildings, soil, and stockpiles at the Site. In addition to this, Arcadis identified a further four PaoC associated with historic site use and observations made during the site inspection.

- PaoC 1: Former/ current structures
- PaoC 2: Equipment storage and maintenance areas
- PaoC 3: Soil stockpiles
- PaoC 4: Septic tanks

The Phase I ESA also identified that it was required by The Turner Road Precinct Development Control Plan 2018 that a detailed site assessment is completed on Lot 14 and submitted with development applications for the Site.

Arcadis recommended further assessment be undertaken to investigate and delineate the areas of concern prior to redevelopment.

Arcadis (2023b) Phase II Environmental Site Assessment – 43-61 Turner Road Gregory Hills, NSW 2557 (Phase II ESA)

Arcadis completed the Arcadis (2023b) Phase II ESA to address the recommendations presented in the Phase I report and investigate previously identified areas of concern.

The scope of work completed included:

- Drilling and advancement of:
 - 43 shallow environmental investigation bores
 - Four deeper environmental bores (for groundwater investigation);
- Collection of soil samples, fragments of suspected ACM and groundwater samples;
- Analysis of collected samples at a NATA certified analytical laboratory;
- Assessment of analytical data against adopted Site assessment criteria; and
- Preparation of a Phase II ESA report.

Sampling was distributed across the site, with a focus made on Lot 14, that was identified to require detailed assessment. During the site walkover, potential ACM was identified to be present in around the former onsite structures (now demolished) as well as near Dam 1. Ten fragments were collected for analysis, from which nine were confirmed to contain asbestos.

Due to the presence of ACM around proposed works areas, investigation of the area was suspended until such time as surface removal can take place and permit access. Following access, further investigation is required to complete the assessment under the Phase II.

Results from all other soil samples collected from the assessment indicated that all soils were compliant with the proposed commercial/industrial land use land.

Detection of elevated heavy metals above the criteria for *Ecological DGVs for Freshwater 90%* (ANZG, 2018) in groundwater as well as TRH in groundwater well MW01 were identified to be present. It was recommended that further assessment be undertaken of the groundwater to assess connectivity with surface water and to expand the monitoring network.

Arcadis (2024) Groundwater Investigation – 43-61 Turner Road Gregory Hills, NSW 2557 (GW Investigation)

Arcadis completed the Arcadis (2024) Groundwater Investigation with the scope of work included preparation of a sampling and analysis quality plan, installation and sampling of groundwater monitoring wells, surface water sampling, analysis of environmental samples for the COPC for the Site, and completion of rising and falling head tests to assess hydraulic conductivity.

Findings and recommendations of this Groundwater Investigation were as follows:

- Petroleum hydrocarbons were not identified in groundwater or soils onsite.
- Volatile hydrocarbons were not detected in soil or groundwater samples analysed as part of this investigation, and no unacceptable risk to current or future site users from vapour intrusion was identified.
- Heavy metals copper, nickel and zinc are present groundwater at concentrations exceeding the adopted ecological criteria at most locations, which is consistent with the types of metals observed in soil (i.e., copper, nickel, and zinc). As such, metal concentrations observed in groundwater are considered likely to be indicative of regional background concentrations.
- Hydraulic conductivity of the aquifer across the Site is considered to be low.
- Connectivity between groundwater and the on and off-site surface water bodies was not established.

Arcadis consider that the Site is suitable for the intended redevelopment for commercial/industrial use, and does not recommend further assessment, management, or remediation of groundwater beyond dewatering of excavations during redevelopment activities, if required.

Site Condition Summary

A review of the above reports has concluded that the majority of the Site has been successfully assessed and remediation works have commenced in accordance with the Geo-Logix RAP. These remediation works have been documented in the JBS&G Interim Site Validation Report, and for works completed, are considered to have been suitably remediated and validated.

Additional investigation has however, identified localised asbestos contamination to still be present in two locations, and that further assessment is required in data gap areas to finalise the site contamination assessment for Lot 14 at 43 Turner Road. From the works completed, identified data gap areas include:

- Assessment of building footprints (post demolition) that were not assessed post demolition works
- Assessment of Building footprint of the house (still present) at 61 Turner Road (to be completed post demolition),
- Finalisation of assessment for Lot 14 at 43 Turner Road,
- Asbestos surface fragments across the former building footprint areas on the southern boundary of the site,
- Dam dewatering,
- Asbestos surface fragments near Dam 1, and
- Stockpile of unknown origin located at 43 Turner Road.

Prior to the completion of the assessment, remedial actions are required to remove known surface asbestos fragments from localised as of the Site. As such, a Remediation Action Plan (RAP) has been developed for the removal of asbestos contamination and allow for the completion of site assessment works. The developed RAP will permit preliminary remediation and asbestos removal, while outlining final assessment requirements for the Site.

Remediation options has been reviewed and developed within the RAP to enable the remediation of known contamination, as well as provide option for any remediation of unexpected finds identified during the further investigation. The Site validation requirements provided in the RAP have been designed to enable verification of remediation work against the assessment criteria provided for a Commercial/Industrial land use, as defined in NEPM (NEPC, 2013).

Following the completion of further assessment and remediation, as required for the site, a Validation report will be prepared by a qualified environmental consultant in accordance with the requirements of the *NSW EPA (2020) Consultants reporting on contaminated land guidelines* as well as Council's *Management of Contaminated Lands Policy*.

Closing

We trust that this Site status letter has provided a current standing of the site conditions and proposed works for the finalised assessment, remediation and validation of the Site. Should you have any queries or wish to discuss any points further, please do not hesitate to contact the undersigned.

Yours sincerely,

Arcadis Australia Pacific Pty Ltd

A handwritten signature in black ink, appearing to read 'Simon Spyrdz', written in a cursive style.

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