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30 January 2025

Our ref: 754-MELEN225720.1-L01

Macquarie Point Development Corporation
via email: greg@macpoint.com

Attention: Greg Cooper

Dear Greg

Environmental Auditor Opinion - Remediation Approach

1. INTRODUCTION AND OBJECTIVE

Mr David Lam of Tetra Tech Coffey is the Environmental Auditor for the Macquarie Point Development Project (the Site) appointed by Macquarie Point Development Corporation (the Corporation). Mr Lam is acting in an independent role and was engaged in 2015 to oversee the environmental remediation and validation of the Site. Environmental assessment and remediation including development and implementation of a remediation strategy is being undertaken by AECOM Australia Pty Ltd (AECOM).

The objective of this letter is to provide the Environmental Auditor's opinion on the adopted approach to assessment and remediation of the land and groundwater at the Site, to deliver a site that is suitable for the proposed use: multipurpose stadium (with nearby basement carpark) with surrounding mixed use, including open space, as depicted in the Mac Point Precinct Plan (https://www.macpoint.com/precinctplan). The Regatta Point part of the precinct includes medium to high density residential use.

We prepared this letter at the request of MPDC, in response to comments and queries raised by the Tasmanian Planning Commission (TPC) and Environment Protection Authority (EPA) Tasmania.

The Environmental Auditor cannot provide a definitive statement regarding what the environmental audit will later find, because that would compromise the Environmental Auditor's independence in writing the final environmental audit report. Further, no other party can state definitively what the audit will later find. It is however considered reasonable for the Environmental Auditor to note (in general terms) the overall appropriateness of the approach being adopted.

This letter should not be considered any form of guarantee or warranty regarding the final condition of the Site or future findings of Site assessment, remediation or management by others, or the Environmental Auditor's reasonable response to those findings, under relevant guidance.

2. THE ENVIRONMENTAL AUDIT SYSTEM

In the absence of an environmental audit system in Tasmania, the Victorian environmental audit system was adopted to provide a framework for assessment and sign-off on the suitability of land for proposed use. For the Macquarie Point Site, this approach was formalised by an amendment to the Macquarie Point Development Corporation Act 2012 (in 2015), and by registration of the Environmental Auditor on the EPA Tasmania Register of Interstate Contaminated Land Auditors. The environmental audit system considers the human health and ecological impacts or risks that may be presented by land and groundwater.

The Environmental Auditor completing audits at the Site to date under the (Victorian) guidelines has undertaken the following key steps (among other things).

- Notified EPA Tasmania of the audit, referring to the Environmental Auditor's place on the Register of Interstate Contaminated Land Auditors.
- Reviewed the Site's known history (including the surrounding area), and other relevant background information.
- Reviewed and commented on reports and other documents prepared by the environmental site assessor (including documents describing work plans, assessment, and derivation of criteria).
- Conducted site visits and attended meetings.
- Assessed the environmental condition of soil, groundwater and soil vapour at the Site, using all available information.
- Assessed potential risks to human health and the environment relevant to the potential land use/s.
- Consulted with the audit client and MPDC, to discuss intentions for the Site.
- Consulted with EPA with respect to the audit process and the determination of 'Clean Up To the Extent Practicable' (CUTEP) using EPA Victoria guidance.
- Prepared Contaminated Land Audit Reports (including Site Suitability Statements).

When the environmental auditing of the Site commenced, the Environment Protection Act 1970 (EP Act 1970) was in place, in Victoria. The EP Act 1970 defined the environmental audit process. Although the EP Act 1970 was repealed and replaced by the Environment Protection Act 2017 (the EP Act 2017), at 1 July 2021, transitional arrangements allowed audits commenced under the EP Act 1970 to continue under that framework, with no defined end-point specified for continuing under that system. The relevant parts of the EP Act 1970 continue - as if not repealed - for audits commenced before 1 July 2021, under Section 478 of the EP Act 2017.

Environmental audits (consisting of a Contaminated Land Audit Report and a Site Suitability Statement) have been completed for four of the seven sub-areas originally forming the Site. To maintain continuity with the environmental auditing already completed, it was decided to continue the environmental auditing under the EP Act 1970 framework, per the mechanism in Section 478 of the EP Act 2017.

Currently, the Macquarie Point Development Project is in the process of adding land at Regatta Point (at the eastern end of the Site) into the project. Although the Royal Engineers Building and Yards, at the western end of the Site, are in the Precinct Plan, we understand no steps have yet been taken to add this area to the project. The land at Regatta Point has an industrial use history, while the Royal Engineers Building and Yards has not been subject to industrial activity.

Whether the additional land at Regatta Point will be audited under the EP Act 1970 or under the EP Act 2017 has not been determined, although a Preliminary Site Investigation (PSI) and Sampling and Analytical Quality Plan (SAQP) for this area have been prepared. A 'whole-of-site' consolidated audit report is proposed to be completed following the auditing of the currently remaining three sub-areas of the Site and the approach to be adopted for the additional land areas (regarding using either the EP Act 1970 or EP Act 2017) will also apply for the whole-of-site environmental audit. Regardless of the legislative framework adopted, the systems are

similar in objective and process and are considered by the Environmental Auditor to not require significant changes to the Site remediation strategy.

3. ROLE OF THE ENVIRONMENTAL AUDITOR

As indicated above, the Corporation has engaged Mr David Lam of Tetra Tech Coffey to undertake the environmental auditing of the Site. The role of the Environmental Auditor in this instance is to provide confidence / assurance to the Corporation and other relevant Project stakeholders that the environmental assessment, remediation and validation required has been completed to a level compliant with relevant standards.

The Environmental Auditor has been involved during the iterative process of environmental assessment and development and implementation of the remediation strategy. This has informed the completed Contaminated Land Audits and associated Suitability Statements. We note that the suitability of the Site for proposed uses has been subject to requirements for ongoing management of residual contamination, because total clean up of all contamination is not practicable for the Site. Ongoing management of residual contamination has been specified under a Site Environment Management Plan, Macquarie Point Development Project (AECOM, 2021 – 'SEMP'). Site Suitability Statements completed to date have required the SEMP to be implemented, and for any changes to the SEMP to be prepared by a suitably qualified professional and verified as acceptable by an Environmental Auditor. The SEMP is currently being updated.

An important aspect to understand regarding remediation versus management of contamination is that an environmental audit should only be completed where further 'remediation' is not required. This may be determined either because there is no contamination that could compromise the proposed use, or because contamination remaining will not affect the proposed use, and can be managed if retained. In the latter case, further removal of contaminated soil may be conducted at a later stage (such as during construction), but would be considered 'incidental', rather than necessary before audit completion.

4. PROJECT DETAILS

4.1 PROPOSED USE OF THE SITE

The Macquarie Point Strategic Framework and Masterplan 2015-2030 (the Masterplan) (MPDC, 2015) outlined a range of mixed uses for the overall Site, including:

- Hotel
- Public use
- Residential
- Retail (incl. Tourism & Hospitality)
- Commercial (incl. Office & Research)

The Mac Point Precinct Plan (the Precinct Plan) (MPDC, 2023) outlines a different range of uses including a multipurpose stadium, with a range of mixed uses in surrounding areas. As noted, an additional area at Regatta Point is being added to the Site. The area of the Royal Engineers Building and Yards is included in the Precinct Plan[1]). The proposed mixed use will consist largely of commercial or open space, although an underground carpark is proposed (at the northeast of the stadium) along with medium to high density residential use (proposed at Regatta Point). The clean up that has been conducted, and the requirements for

[1] The Royal Engineers Building and Yards is included in the Precinct Plan but there is no process underway to add the area to the Site, so it is not currently envisaged to be included in the environmental auditing work.

management of residual contamination in the SEMP have previously been based on the original development based on the 2015 Masterplan.

The multipurpose stadium and surrounding mixed uses would in general be considered to be consistent with uses envisaged for parts of the Site previously audited. However, some elements of the specific design for the stadium and nearby basement carpark will need to be considered for specific risk issues that may apply. If this confirms that risks are consistent with the original development scenario, auditing for the changed development scenario should be straightforward. For example, barrier layers in the playing field area, and basement depth for the nearby basement carpark need to be considered for potential differences in risk profile compared to allowances made to date. As design of the stadium and surrounds may change the remediation process, associated audits may also need to be amended with addenda (if necessary).

4.2 ENVIRONMENTAL AUDITING COMPETED

The remediation and validation of the Site has been progressing in a staged approach and the Site Suitability Reports / Statements have also been issued progressively for four sub-areas of the Site as follows:

- **Contaminated Land Audit Report - Macquarie Point Development Project - Audit Area 1**, dated 5 June 2019.[2]
- **Contaminated Land Audit Report - Macquarie Point Development Project - Audit Area 4 West**, dated 24 September 2020.[3]
- **Contaminated Land Audit Report - Macquarie Point Development Project – Lot E and Underground Carpark**, dated 23 July 2021.[4]
- **Contaminated Land Audit Report - Macquarie Point Development Project – Lot B**, dated 22 November 2021.[5]

The Site Suitability Statements consider the environmental suitability of the Site with respect to soil, groundwater and vapour. Each of the four Site Suitability Reports reflect the proposed use of each sub-area at the time of preparation. The proposed use of each sub-area at the time of the audit is outlined in each report. Since these reports were issued (2019 to 2021), proposed uses of the Site have changed. A review will be required to confirm whether or not the previous considerations of risk are applicable to all design details that may apply to the changed development scenarios.

Currently there are three sub-areas in various stages of assessment / remediation / validation, with preparation of Site Suitability Reports / Statements pending, as listed below:

- The Gateway (south west portion)
- The Precinct South (south east portion)
- Audit Area 4 East (north east portion)

As an overview, the contamination remaining on the Site generally (rather than specific to any one sub-area) includes:

- Contaminants in soils, predominantly consisting of hydrocarbons (including polycyclic aromatic hydrocarbons (PAHs)), metals and localised possible asbestos.
- Vapour impacts by hydrocarbons and methane.
- Groundwater impacts by hydrocarbons and metals (the hydrocarbon impacts including localised residual LNAPL, and dissolved PAHs)

[2] This sub-area of the Site is now referred to as The Goods Shed and Yard.
[3] This sub-area of the Site is now referred to as The Escarpment.
[4] This sub-area of the Site is now referred to as The Promenade and Underground Carpark.
[5] This sub-area of the Site is now referred to as The Precinct North.

The remaining impacts have been assessed for the previous envisaged development, and have been considered able to be managed under the SEMP that has been developed for the Site. The process required for the different development scenario is to consider whether there are any additional risks, and whether these remain manageable. For example, a proposed basement carpark is now understood to be significantly deeper than the previously envisaged underground carpark. The management of contaminated groundwater and vapour ingress therefore needs to be reconsidered. As well, residual impacts in groundwater have previously been considered not to pose an unacceptable risk to the receiving environment of Sullivans Cove / Derwent Estuary, based on monitoring/observation of discharge areas, and the expectation that the previous envisaged development / construction would not change flow paths materially. The potential for the newly proposed deep basement carpark to affect the receiving environment in a more adverse way needs to be considered. The assessment will depend on proposed details of design and construction. It is possible that some elements of the new proposal will reduce risks - a larger / deeper excavation envelope may cause additional residual contaminant mass to be physically removed. The results of these and any other necessary risk considerations cannot be pre-empted at this time, but there are not yet any known obstacles to a Site Suitability Statement being able to eventually be issued. Whether this requires additional remediation of residual impacts, or any changes in the documented approach to management of the residual contamination remains to be seen.

Document review

The Environmental Auditor has reviewed assessment reports for soil, groundwater and vapour along with remediation and validation reports for multiple sub-areas of the Site.

Also:

- Data Gap Assessments (DGAs)
- Sampling and Analytical Quality Plans (SAQPs)
- Remediation Work Plans (RWPs)
- LNAPL Remediation aspects.
- Remediation Pilot Trials, Remediation Bench Scale,
- Assessment of Off-Site Ecological Impacts (so including surface waters nearby the Site (Sullivans Cove and the Derwent Estuary.
- Site Environment Management Plan (SEMP)

The Environmental Auditor has also reviewed the characterisation of imported backfill (VENM) as well as characterisation of soil excavated and stockpiled at the Site for on-site reuse or off-site disposal.

4.3 OTHER MATTERS

Environmental Auditor review of current key documents

The Environmental Auditor is currently reviewing the following two key documents prepared by AECOM:

- **Site Remediation Strategy Update 2024**, dated 17 June 2024 (**SRS Update 2024**)
- **Site Environment Management Plan**, dated 18 December 2024 (**SEMP 2024**)

The **SRS Update 2024** was prepared to review the changed proposed use of the Site from that in the Masterplan to the current proposed use for the multipurpose stadium. Further, the SRS Update 2024 has been prepared to assess the extent of required modifications or additional works required to address the contamination of land and groundwater at the Site and manage any residual risks to human and ecological receptors both on and off Site during construction activities and extending into the on-going future users and maintenance workers.

The **SEMP 2024** is an update of earlier iterations of the SEMP and has been adapted to address management requirements in sub-areas of the Site as they have been progressively completed, and for the Site as a whole. The management measures and actions in the SEMP are closely tied to the specific proposed uses of sub areas and based on derivation of relevant remediation criteria for each use. The SEMP is required to be implemented under Site Suitability Statements issued to date, and will remain a requirement in future environmental audits. The SEMP includes elements such as:

- prevention of use/contact with groundwater (other than for remediation or monitoring),
- constructed barriers to prevent contact by Site users with residual soil contamination (this would also prevent surface erosion of contaminated soil and consequent impacts to stormwater),
- clean soil conduits for services to reduce maintenance worker risk, and
- vapour mitigation where appropriate.

Depending on the results of assessment of any changes to risks for the new development proposal, some details of the SEMP may need to be amended (by a suitably qualified professional, and the changes verified by an Environmental Auditor), to allow a Site Suitability Statement to be issued for the new development.

Implications of Proposed Basement Carpark

The proposed basement carpark abutting the northeast edge of the stadium is understood to be likely to extend several metres below the water table.

Basements below the water table level have not previously been considered in derivation of remediation criteria and in the scope of management plans. Basement construction will require careful consideration and management of potential for ingress of contaminated/saline groundwater and associated odours or vapours, both in the construction and post-construction phase. This includes consideration of potential residual Non Aqueous Phase Liquids (NAPLs) in basement areas, or where NAPL could migrate to a basement (currently the proposed basement carpark does not appear to intersect a known residual LNAPL plume). For example, basement tanking or pressure relief by drainage – if undertaken – requires different consideration than is needed for vapour mitigation systems where there is unsaturated soil below the lowest basement level. It is understood that tanking is envisaged, but the Environmental Auditor has not yet seen proposed details of design.

Groundwater

The condition of groundwater is an important aspect of environmental audits. It is necessary to demonstrate that clean up of groundwater contamination has occurred to the extent practicable, and that the residual contamination does not pose unacceptable impacts which cannot be managed (such as impacts to receiving surface waters). This ‘Clean Up To the Extent Practicable’ (CUTEP) status had been considered to apply for completed audits, but will need to be reconsidered in the context of changes to the developed Site. Issues to be considered include the possible changed groundwater regime from deeper structures/basements, and sewer realignment works. The effects of residual NAPL in some areas will need to be considered in the context of the changed development scenario – for example possible ingress.

Adopted Criteria

The applicability of the adopted criteria for the remediation and management of the Site will need to be re-confirmed for the different development scenario now proposed. Because the criteria have been based on a wide range of envisaged development scenarios, they are likely to remain acceptable, however a complete reconsideration of the conceptual site model for the Site (and the applicability of the criteria as developed) needs to be checked off.

Services

An aspect of the management of risks from residual contamination is the limitation of potential exposure to maintenance workers through the use of dedicated service conduits which may allow isolation from direct contact with residual contaminants in soils.

5. REMEDIATION STRATEGY

The Site remediation strategy, broadly, adopts a process of assessing contamination and remediating contamination that poses unacceptable risks to the proposed development to the extent practicable. Only where residual contamination (that is not practicable to remove) is able to be managed, an environmental audit (with 'Site Suitability Statement' will be sought). Where residual contamination cannot be practicably managed by controls able to be specified by the environmental audit, the proposed land use cannot be achieved. In that instance, either the land use would need to be reconsidered, or the extent of remediation that has been considered to have been practicable may need to be re-visited.

Although the details of assessment and remediation/management vary, the above overall approach applies to soil, groundwater (including NAPL impacts) and vapours.

6. ENVIRONMENTAL AUDITOR OPINION OF PROPOSED REMEDIATION AND MANAGEMENT

As noted, no Environmental Auditor can reasonably pre-empt/predict exact findings of future environmental auditing. To do so would introduce an intractable conflict for the Environmental Auditor in their final evaluation of Site suitability.

However, the Environmental Auditor can advise the following.

- The overall approach and process to remediation and management is reasonable.
- Full Site remediation, assessment and auditing has not been completed, and in particular has not been completed for the changed development scenario.
- At this time, there is no obvious impediment to the Site being able to be remediated, and residual contamination managed, in a way that allows the proposed development to occur.
    - It is possible that this interpretation may change based on new information or assessments to be completed.
    - Specific requirements in terms of remediation extents, investigations to support the conceptual site model, and associated timelines and costs that may be required to finalise environmental auditing cannot be pre-empted and are not the responsibility of the Environmental Auditor.

The environmental audits (and final site-wide audit) will relate only to environmental contamination aspects of the Project. Geotechnical and other aspects of the proposed use of the Site are excluded.

7. CLOSURE

We hope this letter adequately clarifies the Environmental Auditor's position with respect to the proposed approach for remediation of the Site to allow the proposed multipurpose stadium and mixed use.

Please contact Mr David Lam if clarification of any matter is required.

Regards

David Lam
Senior Principal Environmental Consultant/Environmental Auditor