MULTIPLEX

CONTAMINATION PLAN

New Maitland Hospital
State Significant Infrastructure Application – Stage 2

Multiplex Constructions Pty Limited

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Contents

1. Attachment 1: Site Audit Statement

NSW Site Auditor Scheme

Site Audit Statement

A site audit statement summarises the findings of a site audit. For full details of the site auditor's findings, evaluations and conclusions, refer to the associated site audit report.

This form was approved under the *Contaminated Land Management Act 1997* on 12 October 2017.

For information about completing this form, go to Part IV.

Part I: Site audit identification

Site audit statement no. **0503-1612-1**

This site audit is a:

❑ statutory audit

☑ non-statutory audit

within the meaning of the *Contaminated Land Management Act 1997*.

Site auditor details

(As accredited under the *Contaminated Land Management Act 1997*)

Name **Andrew Lau**

Company **JBS&G**

Address **Level 1, 50 Margaret Street**

Sydney NSW Postcode 2000

Phone **02 8245 0300**

Email **alau@jbsg.com.au**

Site details

Address **Metford Road**

Metford NSW Postcode 2323

Property description

(Attach a separate list if several properties are included in the site audit.)

Lot 7314 in DP 1162607

Local government area **Maitland City Council**

Area of site (include units, e.g. hectares) **17 ha (approx.)**

Current zoning **Rural landscape (RU2) (Maitland City Council LEP 2011)**

Regulation and notification

To the best of my knowledge:

☐ ~~**the site is** the subject of a declaration, order, agreement, proposal or notice under the *Contaminated Land Management Act 1997* or the *Environmentally Hazardous Chemicals Act 1985*, as follows: (provide the no. if applicable)~~

- ☐ ~~Declaration no.~~
- ☐ ~~Order no.~~
- ☐ ~~Proposal no.~~
- ☐ ~~Notice no.~~

☑ **the site is not** the subject of a declaration, order, proposal or notice under the *Contaminated Land Management Act 1997* or the *Environmentally Hazardous Chemicals Act 1985*.

To the best of my knowledge:

☐ ~~the site **has** been notified to the EPA under section 60 of the *Contaminated Land Management Act 1997*~~

☑ the site **has not** been notified to the EPA under section 60 of the *Contaminated Land Management Act 1997*.

Site audit commissioned by

Name **Troy Harvey**

Company **Health Infrastructure**

Address **Level 6, 77 Pacific Highway**

North Sydney NSW Postcode **2060**

Phone **02 9978 5450**

Email **Troy.Harvey@health.nsw.gov.au**

Contact details for contact person (if different from above)

Name

Phone

Email

Nature of statutory requirements (not applicable for non-statutory audits)

☐ Requirements under the *Contaminated Land Management Act* 1997 (e.g. management order; please specify, including date of issue)

☐ Requirements imposed by an environmental planning instrument (please specify, including date of issue)

☐ Development consent requirements under the *Environmental Planning and Assessment Act 1979* (please specify consent authority and date of issue)

☐ Requirements under other legislation (please specify, including date of issue)

Purpose of site audit

☐ **A1** To determine land use suitability

Intended uses of the land:

OR

A2 To determine land use suitability subject to compliance with either an active or passive environmental management plan

Intended uses of the land:

OR

(Tick all that apply)

☐ **B1** To determine the nature and extent of contamination

☐ **B2** To determine the appropriateness of:

- ☐ an investigation plan
- ☐ a remediation plan
- ☐ a management plan

☐ **B3** To determine the appropriateness of a **site testing plan** to determine if groundwater is safe and suitable for its intended use as required by the *Temporary Water Restrictions Order for the Botany Sands Groundwater Resource 2017*

☐ **B4** To determine the compliance with an approved:

- ☐ **voluntary management proposal** or
- ☐ **management order** under the *Contaminated Land Management Act 1997*

☑ **B5** To determine if the land can be made suitable for a particular use (or uses) if the site is remediated or managed in accordance with a specified plan.

Intended uses of the land: Health care facility comprising long term care (hospitals, child care, aged facilities, and hospices), commercial/industrial land use (training facilities, administration and ancillary buildings) and open spaces (gardens, play areas).

Information sources for site audit

Consultancies which conducted the site investigations and/or remediation:

GHD

Titles of reports reviewed:

- Phase 2 Environmental Site Assessment, New Maitland Hospital Stage 1 Development Area, Metford Road, Metford NSW 2015, GHD Pty Ltd, December 2015 (GHD 2015); and

- Remedial Action Plan / Contamination Management Plan, New Maitland Hospital Stage 1 Development Area, Metford NSW, GHD Pty Ltd, July 2016 (GHD 2016).
- New Maitland Hospital, Lot 7314 Site Condition Inspection, GHD Pty Ltd, 17 October 2017 (GHD 2017)

Other information reviewed, including previous site audit reports and statements relating to the site:

- Stage 2 Soil Investigation, CSR/PGH Maitland NSW, LeVert, September 2011 (LeVert 2011);
- Phase 2 Detailed Environmental Site Assessment CSR/PGH Maitland Metford Road, Metford NSW 2323, DLA Environmental Pty Ltd, January 2014 (DLA 2014a);
- Remediation Action Plan, CSR/PGH Metford, Metford Road, Metford NSW 2323, DLA Environmental Consultants Pty Ltd, May 2014 (DLA 2014b);
- Additional Environmental Investigation Former CSR Facility, Metford Road, Metford New South Wales 2323, December 2015, DLA Environmental Consultants Pty Ltd (DLA 2015);
- Closure Mine Operations Plan for Metford Clay Mine ML 1523, 5848, 4865 and 5090, VGT Pty Ltd, March 2015 (VGT 2015);
- Screening Health and Environmental Risk Assessment, Former CSR Facility, Metford NSW, Golder Associates, December 2015 (Golder 2015); and
- Report on Geotechnical investigation, Proposed New Maitland Hospital, Metford Road, Metford, Douglas Partners Pty Ltd, November 2015 (DP 2015).
- Site Audit Report 0503-1612, Lot 7314 in DP 1162607, New Maitland Hospital Stage 1 Development Area, Metford Road, Metford, Andrew Lau of JBS&G, 12 July 2016 (JBS&G 2016).

Site audit report details

Title **Site Audit Report, New Maitland Hospital, Lot 7314 DP 1162607, Metford Road, Metford NSW**

Report no. **51731-111832 (Rev 0)** Date **25 January 2017**

Part II: Auditor's findings

Please complete either Section A1, Section A2 or Section B, not more than one section. (Strike out the irrelevant sections.)

- Use **Section A1** where site investigation and/or remediation has been completed and a conclusion can be drawn on the suitability of land uses **without the implementation** of an environmental management plan.
- Use **Section A2** where site investigation and/or remediation has been completed and a conclusion can be drawn on the suitability of land uses **with the implementation** of an active or passive environmental management plan.
- Use **Section B** where the audit is to determine:
    - (B1) the nature and extent of contamination, and/or
    - (B2) the appropriateness of an investigation, remediation or management plan[1], and/or
    - (B3) the appropriateness of a site testing plan in accordance with the *Temporary Water Restrictions Order for the Botany Sands Groundwater Source 2017*, and/or
    - (B4) whether the terms of the approved voluntary management proposal or management order have been complied with, and/or
    - (B5) whether the site can be made suitable for a specified land use (or uses) if the site is remediated or managed in accordance with the implementation of a specified plan.

[1] For simplicity, this statement uses the term 'plan' to refer to both plans and reports.

Section A1

I certify that, in my opinion:

The **site is suitable** for the following uses:

(Tick all appropriate uses and strike out those not applicable.)

- ☐ Residential, including substantial vegetable garden and poultry
- ☐ Residential, including substantial vegetable garden, excluding poultry
- ☐ **Residential with accessible soil, including garden (minimal home-grown produce contributing less than 10% fruit and vegetable intake), excluding poultry**
- ☐ Day care centre, preschool, primary school
- ☐ **Residential with minimal opportunity for soil access, including units**
- ☐ **Secondary school**
- ☐ Park, recreational open space, playing field
- ☐ Commercial/industrial
- ☐ Other (please specify):

_____

OR

- ☐ I certify that, in my opinion, the **site is not suitable** for any use due to the risk of harm from contamination.

Overall comments:

_____

_____

_____

_____

_____

_____

Section A2

I certify that, in my opinion:

Subject to compliance with the **attached** environmental management plan[2] (EMP), the site is suitable for the following uses:

(Tick all appropriate uses and strike out those not applicable.)

☐ Residential, including substantial vegetable garden and poultry

☐ Residential, including substantial vegetable garden, excluding poultry

☐ **Residential with accessible soil, including garden (minimal home-grown produce contributing less than 10% fruit and vegetable intake), excluding poultry**

☐ Day care centre, preschool, primary school

☐ **Residential with minimal opportunity for soil access, including units**

☐ **Secondary school**

☐ Park, recreational open space, playing field

☐ Commercial/industrial

☐ Other (please specify):

_____

EMP details

Title _____

Author _____

Date _____ No. of pages _____

EMP summary

This EMP (attached) is required to be implemented to address residual contamination on the site.

The EMP: (Tick appropriate box and strike out the other option.)

☐ requires operation and/or maintenance of **active** control systems[3]

☐ requires maintenance of **passive** control systems only[3].

[2] Refer to Part IV for an explanation of an environmental management plan.
[3] Refer to Part IV for definitions of active and passive control systems.

~~Purpose of the EMP:~~

~~Description of the nature of the residual contamination:~~

~~Summary of the actions required by the EMP:~~

~~How the EMP can reasonably be made to be legally enforceable:~~

~~How there will be appropriate public notification:~~

~~Overall comments:~~

Section B

Purpose of the plan[4] which is the subject of this audit:

_____

_____

_____

I certify that, in my opinion:

(B1)

☐ The nature and extent of the contamination **has** been appropriately determined

☐ The nature and extent of the contamination **has not** been appropriately determined

AND/OR (B2)

☐ The investigation, remediation or management plan **is** appropriate for the purpose stated above

☐ The investigation, remediation or management plan **is not** appropriate for the purpose stated above

AND/OR (B3)

☐ The site testing plan:

☐ **is** appropriate to determine

☐ **is not** appropriate to determine

if groundwater is safe and suitable for its intended use as required by the *Temporary Water Restrictions Order for the Botany Sands Groundwater Resource 2017*

AND/OR (B4)

☐ The terms of the approved voluntary management proposal* or management order** (strike out as appropriate):

☐ **have** been complied with

☐ **have not** been complied with.

*voluntary management proposal no. _____

**management order no. _____

AND/OR (B5)

☑ The site **can be made suitable** for the following uses:

(Tick all appropriate uses and strike out those not applicable.)

☐ Residential, including substantial vegetable garden and poultry

☐ Residential, including substantial vegetable garden, excluding poultry

[4] For simplicity, this statement uses the term 'plan' to refer to both plans and reports.

- ~~☐ **Residential with accessible soil, including garden (minimal home-grown produce contributing less than 10% fruit and vegetable intake), excluding poultry**~~
- ~~☐ Day care centre, preschool, primary school~~
- ~~☐ **Residential with minimal opportunity for soil access, including units**~~
- ~~☐ **Secondary school**~~
- ☑ Park, recreational open space, playing field
- ☑ Commercial/industrial
- ☑ Other (please specify):

  Health care facility comprising long term care (hospitals, child care, aged facilities, and hospices)

IF the site is remediated/managed* in accordance with the following plan (**attached**):

*Strike out as appropriate

Plan title Remedial Action Plan / Contamination Management Plan, New Maitland Hospital Stage 1 Development Area, Metford Road Metford

Plan author GHD Pty Ltd

Plan date 4 July 2016 No. of pages **126**

SUBJECT to compliance with the following condition(s):

1. Prior to any potentially combustible materials being reused on site, a suitably qualified and experienced geotechnical engineer must certify that the materials are suitable to be reused.

2. All of the sub-plans required under the RAP must be reviewed and accepted by site auditor prior to commencement of remediation works.

3. A Material Tracking Plan (MTP) is required to be reviewed and accepted by a site auditor prior to commencement of any remediation or civil works.

4. The validation report and long term environmental management plan (LTEMP) must be reviewed and accepted by a site auditor prior to occupation.

Overall comments:

The site assessment activities undertaken by GHD and the proposed remediation and validation works are considered to have met the requirements of the Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (2nd Edition) (DEC 2006).

The site investigation activities identified ACM impacted material, carbonaceous material exceeding the assessment criteria and material presenting aesthetic issues (building and domestic waste) at the site which require remediation or management under the proposed uses.

The site investigation activities also reported the presence of potentially combustible materials (generally carbonaceous fill, stockpiles or outcroppings), however, were deemed

suitable for re-use on site from a contamination viewpoint. Prior to any potentially combustible materials being reused on site, a suitably qualified and experienced geotechnical engineer must certify that the materials are suitable to be reused. In the event that potentially combustible materials are deemed suitable for reuse, their placement should be recorded in the Long Term Site Management Plan (LTSMP) to be prepared for the site.

There were no levels of the identified contaminants of potential concern in groundwater which are considered not to require remediation or management under the proposed uses. There was no evidence of potential or actual migration of contaminants from the site which may result in unacceptable risks to surrounding human or ecological receptors.

The RAP (GHD 2016) prepared for the site addressed the identified contamination issues as they relate to the proposed uses of the site. The remediation approach documented in the RAP was checked by the auditor and was found to be technically feasible, environmentally justifiable given the nature and extent of the identified contamination and consistent with relevant laws, policies and guidelines.

Part III: Auditor's declaration

I am accredited as a site auditor by the NSW Environment Protection Authority (EPA) under the *Contaminated Land Management Act 1997.*

Accreditation no. 0503

I certify that:

- I have completed the site audit free of any conflicts of interest as defined in the *Contaminated Land Management Act 1997,* and
- with due regard to relevant laws and guidelines, I have examined and am familiar with the reports and information referred to in Part I of this site audit, and
- on the basis of inquiries I have made of those individuals immediately responsible for making those reports and obtaining the information referred to in this statement, those reports and that information are, to the best of my knowledge, true, accurate and complete, and
- this statement is, to the best of my knowledge, true, accurate and complete.

I am aware that there are penalties under the *Contaminated Land Management Act 1997* for wilfully making false or misleading statements.

Signed 

Date 29 January 2018

Part IV: Explanatory notes

To be complete, a site audit statement form must be issued with all four parts.

How to complete this form

Part I

Part I identifies the auditor, the site, the purpose of the audit and the information used by the auditor in making the site audit findings.

Part II

Part II contains the auditor's opinion of the suitability of the site for specified uses or of the appropriateness of an investigation, or remediation plan or management plan which may enable a particular use. It sets out succinct and definitive information to assist decision-making about the use or uses of the site or a plan or proposal to manage or remediate the site.

The auditor is to complete either Section A1 or Section A2 or Section B of Part II, **not** more than one section.

Section A1

In Section A1 the auditor may conclude that the land is *suitable* for a specified use or uses OR *not suitable* for any beneficial use due to the risk of harm from contamination.

By certifying that the site is *suitable*, an auditor declares that, at the time of completion of the site audit, no further investigation or remediation or management of the site was needed to render the site fit for the specified use(s). **Conditions must not be** imposed on a Section A1 site audit statement. Auditors may include **comments** which are key observations in light of the audit which are not directly related to the suitability of the site for the use(s). These observations may cover aspects relating to the broader environmental context to aid decision-making in relation to the site.

Section A2

In Section A2 the auditor may conclude that the land is *suitable* for a specified use(s) subject to a condition for implementation of an environmental management plan (EMP).

Environmental management plan

Within the context of contaminated sites management, an EMP (sometimes also called a 'site management plan') means a plan which addresses the integration of environmental mitigation and monitoring measures for soil, groundwater and/or hazardous ground gases throughout an existing or proposed land use. An EMP succinctly describes the nature and location of contamination remaining on site and states what the objectives of the plan are, how contaminants will be managed, who will be responsible for the plan's implementation and over what time frame actions specified in the plan will take place.

By certifying that the site is suitable subject to implementation of an EMP, an auditor declares that, at the time of completion of the site audit, there was sufficient information satisfying guidelines made or approved under the *Contaminated Land Management Act 1997*

(CLM Act) to determine that implementation of the EMP was feasible and would enable the specified use(s) of the site and no further investigation or remediation of the site was needed to render the site fit for the specified use(s).

Implementation of an EMP is required to ensure the site remains suitable for the specified use(s). The plan should be legally enforceable: for example, a requirement of a notice under the CLM Act or a development consent condition issued by a planning authority. There should also be appropriate public notification of the plan, e.g. on a certificate issued under s.149 of *the Environmental Planning and Assessment Act 1979*.

Active or passive control systems

Auditors must specify whether the EMP requires operation and/or maintenance of active control systems or requires maintenance of passive control systems only. Active management systems usually incorporate mechanical components and/or require monitoring and, because of this, regular maintenance and inspection are necessary. Most active management systems are applied at sites where if the systems are not implemented an unacceptable risk may occur. Passive management systems usually require minimal management and maintenance and do not usually incorporate mechanical components.

Auditor's comments

Auditors may also include **comments** which are key observations in light of the audit which are not directly related to the suitability of the site for the use(s). These observations may cover aspects relating to the broader environmental context to aid decision-making in relation to the site.

Section B

In Section B the auditor draws conclusions on the nature and extent of contamination, and/or suitability of plans relating to the investigation, remediation or management of the land, and/or the appropriateness of a site testing plan in accordance with the *Temporary Water Restrictions Order for the Botany Sands Groundwater Source 2017*, and/or whether the terms of an approved voluntary management proposal or management order made under the CLM Act have been complied with, and/or whether the site can be made suitable for a specified land use or uses if the site is remediated or managed in accordance with the implementation of a specified plan.

By certifying that a site *can be made suitable* for a use or uses if remediated or managed in accordance with a specified plan, the auditor declares that, at the time the audit was completed, there was sufficient information satisfying guidelines made or approved under the CLM Act to determine that implementation of the plan was feasible and would enable the specified use(s) of the site in the future.

For a site that *can be made suitable*, any **conditions** specified by the auditor in Section B should be limited to minor modifications or additions to the specified plan. However, if the auditor considers that further audits of the site (e.g. to validate remediation) are required, the auditor must note this as a condition in the site audit statement. The condition must not specify an individual auditor, only that further audits are required.

Auditors may also include **comments** which are observations in light of the audit which provide a more complete understanding of the environmental context to aid decision-making in relation to the site.

Part III

In **Part III** the auditor certifies their standing as an accredited auditor under the CLM Act and makes other relevant declarations.

Where to send completed forms

In addition to furnishing a copy of the audit statement to the person(s) who commissioned the site audit, statutory site audit statements must be sent to

- the **NSW Environment Protection Authority:**
  nswauditors@epa.nsw.gov.au or as specified by the EPA

  AND
- the **local council** for the land which is the subject of the audit.

2. Attachment 2 - Part Lot 401 - Detailed Site Investigation Scope and Methodology Proposal – April 2019

Multiplex Constructions Pty Ltd

New Maitland Hospital

Part Lot 401 - Detailed Site Investigation Scope and methodology proposal

12 April 2019
Revision 1

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Appendices

1. Introduction

This report summarises GHD's recommended scope of works and methodology for the initial assessment to address the Secretary's Environmental Assessment Requirements (SEARs) issued to NSW Health Infrastructure (HI) for New Maitland Hospital (NMH) Stage 2 (Main Works) (SSI 18_9775), in regard to contamination assessment for proposed development on Part Lot 401 DP 755237, Metford Rd, Metford NSW (the southwest portion of Lot 401, as shown in DA02 "SITE PLAN" 16/02/2018 in Appendix A, with an area of approximately 2 ha).

SEARs Key Issues 1 and 11 are summarised below:

- **1. Statutory and Strategic Context** – Address the statutory provisions contained in:

  – State Environmental Planning Policy No. 55 – Remediation of Land.

  – Draft State Environmental Planning Policy (Remediation of Land).
- **11. Contamination** – Assess and quantify any soil and groundwater contamination and demonstrate that the site is suitable for the proposed use in accordance with SEPP 55. Relevant Policies and Guidelines: Managing Land Contamination: Planning Guidelines - SEPP 55 Remediation of Land.

GHD previously carried out a site inspection and brief document review for Part Lot 401 (GHD, 2018)[1], to supplement the environmental site (contamination) assessment (ESA) (GHD, 2015)[2] and remediation action plan (RAP) (GHD, 2016)[3], both of which relate solely to Lot 7314 DP 1162607. The letter report (GHD, 2018) was written to address the Stage 1 (Early Works) SEARs, based on the understanding that Part Lot 401 would be used by CSR for storage of contaminated material (if any) found during the development of Lot 7314, and that no development / remediation / construction works would be undertaken within Part Lot 401 associated with NMH. However, we now understand that HI propose to construct a carpark on Part Lot 401, which will likely require excavation and/or movement of existing stockpiled materials. It is understood that the proposed carpark with almost entirely cover Part Lot 401, resulting in limited access to the underlying soils. On this basis, the site will be assessed against commercial/industrial land use criteria.

A limited review of the following documents was undertaken by GHD (2018):

- EA 2011 – Preliminary Contamination Assessment – February 2011
- LeVert 2011 – Stage 2 Soil Investigation – September 2011
- VGT 2014 – Mine Operation Plan and Mine Closure Plan – June 2014
- VGT 2015 – Closure Mine Operations Plan – March 2015
- DLA 2014 – Phase 2 Detailed Environmental Site Assessment – January 2014
- DLA 2015a – Additional Detailed Site Investigation (Pit 2 Area) – June 2015
- DLA 2015b – Additional Environmental Investigation – December 2015
- Golder 2015 – Screening Health and Environmental Risk Assessment – December 2015

[1] *New Maitland Hospital – Part Lot 401 site inspection and addendum to contamination investigations, and Lot 7314 site condition inspection – February 2018*. GHD reference 22/18003/02/115267 dated 8 May 2018.

[2] *New Maitland Hospital Stage 1 Development Area, Metford NSW – Phase 2 Environmental Site Assessment – Metford Road, Metford, NSW*. GHD reference 22/18003/111407 Revision 0 dated 17 December 2015.

[3] *New Maitland Hospital Stage 1 Development Area, Metford NSW – Remedial Action Plan / Contamination Management Plan*. GHD reference 22/18003113050 Revision 0 dated 4 July 2016.

Of particular note, given the proposed car park construction:

- DLA (2015a) concluded that "*It is important to note that this investigation involved excavation into three pits within the greater Pit 2 area… It is likely that contamination remains within the unexcavated areas of Pit 2. Additionally, the widespread nature of contamination at the Site, the heterogeneous distribution of contamination and the uncontrolled history of filling at the Site infer that chemical, asbestos and aesthetic impact is likely to remain at the Site, requiring both future delineation and possibly management".*
- DLA's methodology in quantifying ACM in larger bulk samples was not detailed, and discussion of results (in DLA weekly reports) was limited to statements that sieve analysis was conducted and the material meets Commercial Industrial criteria. This information is insufficient to assess whether more sensitive criteria would be met.
- Data gaps identified by Golder (2015) include the following:
  - Understanding of the depth and distribution of fill across the Site
  - The exact location of the various historical activities and infrastructure, particularly fuel and chemical storage
  - Understanding and mapping of the presence of asbestos
- The stated significance of these data gaps varies, and depends primarily on the proposed remediation and management approach.

Furthermore, Part Lot 401 has not been inspected or any additional information provided since the letter report was issued in May 2018.

A Detailed Site Investigation (DSI) is recommended, as proposed in this report. If required, a remediation action plan (RAP) will be developed for Part Lot 401, and the findings of the DSI will be incorporated into the Asbestos Management Plan (AMP), Construction Environmental Management Plan (CEMP), Validation Report, and Long Term Site Management Plan (LTSMP) for review by the Site Auditor (JBS&G).

This proposal document supersedes the previous scope and methodology proposal dated 4 April 2019, addressing concerns raised by the Site Auditor 10 April 2019 (JBS&G-CADV-000003) regarding the (previous) proposed number of sampling locations (16 test pits). The Site Auditor confirmed in discussions with GHD 11 April 2019 that a minimum of 30 test pit sampling locations would be required to satisfy the "EPA's minimum sampling requirements and the relevant asbestos sampling frequency in national guidance".

2. Scope of work

To work towards meeting the requirements of the SEARs, and with reference to GHD 2018, we propose to undertake the following scope of work:

- Desktop review of all available information.
- Intrusive soil investigation (if required, pending desktop review findings), including:
  - Preparation of health, safety and environmental (HSE) documentation.
  - Preparation of a sampling and analysis quality plan (SAQP).
  - Dial Before You Dig (DBYD) search and review of available site service plans.
  - Service location by a competent and qualified subcontractor (to guide sample location).
  - Visual inspection (concurrent with service location) to guide sample location.
  - Setup of work signage and barriers as required.
  - Soil sampling from approximately 32 test pits.
  - Inspection and (if present) gauging of existing wells on site, with provision for boreholes to be drilled and converted to monitoring wells (pending inspection and test pit investigation findings).
  - Groundwater monitoring (gauging and sampling) of up to 4 monitoring wells.
- Laboratory analysis of selected samples for contaminants of potential concern (CoPC) and soil characterisation parameters.
- Preparation of a report, summarising the findings of the investigation and recommending further stages of investigation, site management or remediation requirements (as may be required).
- Meeting to discuss findings.
- Pending findings – Preparation of an RAP for Part Lot 401, incorporation (of Part Lot 401) into the AMP, Validation Report and LTSMP, and review of the updated CEMP (to be revised by Multiplex).

3. Methodology and basis of assessment

3.1 Desktop review

Review of available/relevant information, including:

- Topography and hydrology.
- Soils, geology and hydrogeology.
- Current and historical land use, based on current and historical aerial photographs (including surrounding area).
- Site contamination status and land use restrictions based on EPA registers.
- Information held by CSR, in particular (if available), documentation for works carried out on Part Lot 401 subsequent to the investigations reviewed in GHD (2018).

3.2 Fieldwork preliminaries

The HSE documentation will address hazards associated with fieldwork (including travel).

The SAQP will be prepared based on GHD's experience and discussion with HI, Multiplex and JBS&G.

DBYD and available service plans will be reviewed by GHD and the subcontractor engaged to locate the services on site. Sampling locations may be relocated based on proximity to identified services.

3.3 Intrusive investigation

3.3.1 Contaminants of potential concern

The contaminants of concern (CoPC) are based on investigations on Lot 7314 (GHD, 2015) and the limited review of previous investigations (GHD, 2018), and comprise:

- Total recoverable hydrocarbons (TRH).
- Benzene, toluene, ethylbenzene and xylene (BTEX).
- Polycyclic aromatic hydrocarbons (PAH).
- Metals (including arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, vanadium and zinc).
- Pesticides (including organochlorines, OCP).
- Polychlorinated biphenyls (PCB).
- Volatile organic compounds (VOC).
- Asbestos.

3.3.2 Soil sampling

The NSW EPA Sampling Design Guidelines (EPA 1995) recommend 30 systematic sampling locations for a 2 hectare area (based on detection of circular hot spots). Given some targeted sampling is anticipated (see below), the Site Auditor recommended additional sampling locations be included as contingency. As such, we propose to undertake soil sampling from approximately 32 test pit locations and two borehole locations (to be converted to groundwater monitoring wells), noting:

- Some areas of the site will be relatively undisturbed with a low potential for contamination.
- Historical areas of potential contamination will be specifically targeted.

Data from previous investigations (including soil descriptions, where available, as well as laboratory results) will be compared with the current findings.

We propose analysis of an average of one sample per location (some locations may be visually assessed without analyses, although samples at representative depth intervals will be collected from all locations) with allowance for analysis of a second sample from at least half the locations (e.g. in areas of deeper / heterogeneous fill or different strata). Analyses would comprise TRH, BTEX, PAH and metals (11) in all samples; OCP and PCB generally as 4 part composites (except in apparent fill material or potential migration pathways); pH and CEC in a limited number of representative samples to establish a basis for EILs; and allowance for identification/quantification of asbestos in up to 50% of the samples analysed (including any observed ACM).

Test pits will be carried out with a (minimum) 20 tonne excavator, to allow excavation to up to 4 m depth.

Soils will generally be collected from the following sampling intervals (depth below ground level):

- Surface (0.0-0.1 m).
- Subsurface (0.5 and 1.0 m, and every metre thereafter).
- Extent of investigation (4.0 m / 0.3 m into natural soil / practical refusal).

Deeper excavation and sampling may be undertaken at selected locations to determine the extent of fill material (if encountered and if practical to excavate beyond 4 m).

Soil samples will be collected directly from excavation spoil, using stainless steel hand tools e.g. trowel or spatula. Soils encountered (and sampled) will be logged; with features such as seepage, discolouration, staining, odours and other indications of contamination noted.

GHD has not proposed systematic sampling of stockpiles at present, as it is not known what stockpiles will remain, and of these, which stockpiles are intended to be disposed of off-site.

3.3.3 Asbestos in soils

GHD will assess asbestos in soils using methodology from *The Guidelines for Remediation and Management of Asbestos Contaminated Sites in Western Australia* (WA DOH 2009), which have been adopted essentially as is in the amended NEPM 1999 (NEPC 2013). As it is not generally practical to sieve bulk samples of clay soils, bulk samples will be based on visual assessment by an experienced consultant trained in asbestos identification, with follow up laboratory analysis of a representative sub sample using the following method of assessment:

- A sample (10L or greater) will be spread out on a contrasting colour material for visual inspection. Any visible asbestos containing materials will be collected from the bulk sample, weighed and submitted to the laboratory for identification. The bulk sample will also be weighed to allow a %w/w calculation to be made for the bulk sample. A representative 500 mL (minimum) sub-sample will be collected and submitted a NATA accredited laboratory for quantification of asbestos in soils.
- The 500 mL sample will be sieved in the laboratory and divided into ACM (which is hand separated out and weighed) and fibrous pieces (fibrous asbestos – (FA) / asbestos fines (AF)) which are reported as a percentage weight by weight (% w/w) basis (it is noted that the AF cannot be hand picked out of the sample, and only an estimation of the % amount present can be provided).

Concentrations of bonded asbestos (ACM), asbestos fines and fibrous asbestos will be compared against the NEPM HSLs for a range of land uses. It is noted that even if concentrations of asbestos in soil are below the HSLs, WHS regulations and waste regulations will still apply where any asbestos is present.

3.3.4 Groundwater sampling

Pending inspection and gauging of the wells in Part Lot 401 (MW61 and MW62, refer to DLA Figure 1 “Groundwater Monitoring Well Locations” 10/12/2015), field investigation findings, and/or detailed review, groundwater monitoring wells would be installed in accordance with the *Minimum Construction Requirements for Water Bores in Australia (Third Edition)* (Australian Government, February 2012).

GHD proposes to install at least one groundwater monitoring well within the area of “Pit 2” (refer to GHD, 2018) if test pit investigations confirm it is located within Part Lot 401, with contingency for an additional well depending on the results of field investigations and/or detailed review of available reports. Installation of groundwater monitoring wells would be carried out following soil investigations, to take into account any findings of these investigations.

Following soil investigations and installation of any new wells, a groundwater monitoring event (GME) would be carried out for all wells within Part Lot 401, as well as gauging of nearby wells if deemed to be required and readily accessible. Groundwater samples will be analysed for TRH, BTEX, PAH (low level), metals (11), VOCs and major ions in all samples. Field parameters (temperature, pH, EC, DO and redox) would be measured during groundwater sampling.

3.3.5 Quality assurance

GHD fieldwork will be conducted in general accordance with GHD's Standard Field Operating Procedures (FOP). The standard FOP ensured that all environmental samples were collected by a set of uniform and systematic methods as required by the Quality Assurance (QA) system. The FOP describes decontamination procedures, sample identification procedures, chain of custody information, sample duplicate frequency and field equipment calibration requirements. Key procedures include:

- Photographs will be taken of all sampling locations, soil stratigraphy, visual signs of contamination, and potential asbestos observations.
- New disposable nitrile gloves will be used for the collection of each sample to prevent cross-contamination issues.
- Re-usable sampling tools/equipment will be decontaminated (e.g. washed or brushed clean and rinsed) between use at each sampling location.
- Samples will be placed in laboratory-supplied containers appropriate for the analysis required. Sample containers will be filled to minimise headspace. The containers will be labelled with the job number, sample identification and date collected.
- Samples will be stored in a dedicated, iced container for transport to the project analytical laboratory with Chain-of-Custody documentation.
- Samples will be submitted to the project laboratory to enable sufficient time for extraction and analysis within specified holding times. Quality control checks will be conducted in the laboratory.

3.3.6 Quality control

In accordance with the Australian Standards (AS4482), quality control samples will comprise:

- Intra- and inter- laboratory duplicate samples at a combined rate of at least 1 in 10 primary samples.
- Laboratory supplied trip blank and spike (one per batch).
- Field rinsate sample and blank (one per day).

3.4 Analytical program

Samples will be submitted to the primary laboratory ALS Environmental and the secondary laboratory Eurofins MGT (for inter-laboratory duplicate analysis), both accredited by the National Association of Testing Authorities (NATA) for the required analyses. Unless stated otherwise, all laboratory analysis will be carried out on a standard five (5) day turnaround, where relevant for the analytical method.

Table 3-1 summarises the analytical program proposed for the intrusive soil investigations, and the GME.

Table 3-1 Proposed sampling and analytical program

Sampling	No. of sample locations	Approximate no. of primary samples	Analysis	No. of samples analysed
Soil	34	120 (nominal)	TRH, BTEX, PAH and metals OCP and PCB pH and CEC c Asbestos ID (ACM) Asbestos in soil [d]	60 [a] 8 [b] 5 5 40
Trip blank (soil)	one per batch		TRH C6-C10 and BTEX	3
Trip spike (soil)	one per batch		TRH C6-C10 and BTEX	3
Field rinsate (water)	one per day		TRH C10-C40, BTEX, PAH and metals	3
Field blank (water)	one per day		TRH C10-C40, BTEX, PAH and metals	- [e]
Groundwater	4	4	TRH, BTEX, PAH (low level), metals, VOC and major ions	5
Trip blank (water)	one per batch		TRH C6-C10 and BTEX	1
Trip spike (water)	one per batch		TRH C6-C10 and BTEX	1
Field rinsate (water)	one per day		TRH, BTEX, PAH and metals	1
Field blank (water)	one per day		TRH, BTEX, PAH and metals	- [e]

[a] Includes intra- and inter- laboratory duplicate samples at a combined rate of at least 1 in 10 primary samples.

[b] Four-part composites.

[c] pH and CEC for determining appropriate Ecological Investigation Levels (EILs) in accordance with NEPC 2013.

[d] Refer to Section 3.3.2.

[e] Analysed if detections of CoPC reported for the field rinsate sample.

The above program is not intended to be sufficient to delineate the extent of any contamination encountered or characterise the soil for waste classification purposes. Additional analyses may be required, depending on the initial results, for example:

- Deeper samples to vertically delineate contamination (if encountered).
- Toxicity characteristic leaching procedure (TCLP) testing to refine the waste classification.

3.5 Reporting

The report will be prepared in accordance with Guidelines for Consultants Reporting on Contaminated Sites (OEH 2011), and will include:

- A summary of the desktop review and site inspection (and interview/s if undertaken).
- A photograph log to support the site inspection.
- A site plan identifying site features.
- Soil logs to support the results of the intrusive investigation (if carried out).
- Gauging and sampling records to support the results of the GME (if carried out).
- A summary of the site contamination status and suitability for the proposed land use.
- A preliminary contamination risk assessment in the form of a preliminary conceptual site model (CSM).
- A preliminary waste classification and disposal options assessment.
- Discussion of statutory obligations under SEPP 55 – Remediation of Land and Draft State Environmental Planning Policy (Remediation of Land).
- Recommendations for further stages of investigation, site management, or remediation (if required).

It is noted that existing contamination issues (if identified) may trigger obligations to notify the EPA under the Contaminated Land Management Act 1997.

4. Conclusion

Given the change in proposed development/use of Part Lot 401 since the Stage 1 (Early Works) SSI submission, and findings of the limited document review summarised in Section 1, GHD believe a DSI (as proposed in this report) is required to address the SEARs issued to HI for NMH Stage 2 (SSI 18_9775). The proposed scope of work has been developed based on discussions with the Site Auditor.

The DSI will aim to assess and quantify any soil and groundwater contamination and demonstrate that the site is [or can be made] suitable for the proposed use in accordance with SEPP 55 (and the Draft State Environmental Planning Policy, *Remediation of Land*).

If required, an RAP will be developed for Part Lot 401, and the findings of the DSI will be incorporated into the AMP, CEMP (revised by Multiplex, reviewed by GHD), Validation Report, and LTSMP, for review by the Site Auditor.

Appendices

Appendix A – GHD 2018 (letter report)

New Maitland Hospital – Part Lot 401 site inspection and addendum to contamination investigations, and Lot 7314 site condition inspection – February 2018. GHD reference 22/18003/02/115267 dated 8 May 2018.

08 May 2018

Health Infrastructure
c/o Leigh Tunbridge
Savills Australia
Level 25, Governor Phillip Tower 1 Farrer Place
North Sydney NSW 2000

Our ref: 22/18003/02115267
Your ref:

Dear Leigh

New Maitland Hospital
Part Lot 401 site inspection and addendum to contamination investigations, and Lot 7314 site condition inspection – February 2018

1 Introduction

GHD understands that Part Lot 401 DP 755237 has been incorporated within the site area to align with the State Significance Infrastructure (SSI) declared boundaries for the proposed New Maitland Hospital (NMH) development (refer to DA01 "CONTEXT PLAN" 16/02/2018). Previous investigations undertaken by GHD did not specifically include Lot 401 (including the Part identified), hence this letter summarises the site inspection and brief document review undertaken by GHD, to supplement the contamination assessment undertaken in 2015 (GHD, 2015)[1] and remediation action plan prepared in 2016 (GHD, 2016)[2], both of which relate solely to Lot 7314 DP 1162607.

While on site to inspect the subject area of Part Lot 401 DP 755237, GHD also undertook a limited site inspection of the adjoining Lot 7314 DP 1162607 to confirm whether there were any significant changes to the site condition since the previous inspections undertaken in October 2015 (GHD, 2015) and most recently in October 2017 (GHD, 2017)[3].

2 Part Lot 401 investigations

Part Lot 401 comprises the southwest corner of Lot 401, within an inset area adjoining the northern portion of Lot 7314, as shown in the attached figure DA02 "SITE PLAN" 16/02/2018. The rectangular area comprising Part Lot 401 is approximately 2 ha.

GHD understands that the area will be used by CSR for storage of contaminated material (if any) found during the development of Lot 7314, and that no development/remediation/construction works will be undertaken within Part Lot 401 associated with NMH (refer to DA07 "MASTERPLAN" 16/02/2018 and DA10 "AREA OF INFLUENCE – BUILDING FOOTPRINT" 16/02/2018).

As documented in Section 2.2, GHD notes that Part Lot 401 is currently separated from Lot 7314 by a security fence (with lockable gates) along the southern boundary and a wire fence along the eastern boundary.

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[1] *New Maitland Hospital Stage 1 Development Area, Metford NSW – Phase 2 Environmental Site Assessment – Metford Road, Metford, NSW*. GHD reference 22/18003/111407 Revision 0 dated 17 December 2015.

[2] *New Maitland Hospital Stage 1 Development Area, Metford NSW – Remedial Action Plan / Contamination Management Plan*. GHD reference 22/18003113050 Revision 0 dated 4 July 2016.

[3] *New Maitland Hospital – Lot 7314 site condition inspection, October 2017*. GHD letter, reference 2218003, dated 17 October 2017.

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2.1 Historical information

The following documents were briefly reviewed in regard to the inclusion of Part Lot 401:

- EA 2011 – Preliminary Contamination Assessment – February 2011
- LeVert 2011 – Stage 2 Soil Investigation – September 2011
- VGT 2014 – Mine Operation Plan and Mine Closure Plan – June 2014
- VGT 2015 – Closure Mine Operations Plan – March 2015
- DLA 2014 – Phase 2 Detailed Environmental Site Assessment – January 2014
- DLA 2015a – Additional Detailed Site Investigation (Pit 2 Area) – June 2015
- DLA 2015b – Additional Environmental Investigation – December 2015
- Golder 2015 – Screening Health and Environmental Risk Assessment – December 2015

2.1.1 General

Figure 1 from EA (2011) identifies a number of potential contaminating activities or features in this area of the brickworks site, including the following:

- Calcium fluoride disposal area (also indicated on LeVert 2011 Figure 2 as a Calcium sulphate disposal area. Elsewhere in LeVert 2011 it is described as a fine white gravel which is spent calcium sulphate from the flue gas scrubbers).
- Filled areas (possibly within Part Lot 401).
- 'No. 2 Pit' (possibly within Part Lot 401).

A number of these features are also shown in figures from LeVert 2011 (these have not been attached, for brevity). The Calcium sulphate disposal area is noted as 2 m deep.

VGT (2014) Figure 9 "Domain Areas" 26/03/2014 identifies the following domains in Part Lot 401:

- Domain A – Disturbed floor and stockpiles
- Domain C – Natural steep face with good vegetation
- Domain G – Mixed revegetated land and shallow water bodies
- Lime stockpile [identified in EA 2011 as Calcium fluoride disposal area – a waste product produced from scrubbers]

DLA (2014) noted some site remediation had occurred to the south west of the former factory, creating several large stockpiles. The stockpiles consist of hydrocarbon impacted material undergoing bio-remediation, a large sorted brick, concrete and rubble stockpile with minor polycyclic aromatic hydrocarbon (PAH) detections and two large soil stockpiles, one designated 'clean' and the other 'marginal' both with detections of PAH. It is not known where these stockpiles were in relation to Part Lot 401.

The following is a brief summary of previous investigations undertaken within Lot 401 (focussing on Part Lot 401). This information has not been critically reviewed.

2.1.2 Soil

Intrusive soil investigations were undertaken by LeVert (2011) and DLA (2014-2015).

LeVert recommended further investigations into fill depth and contamination in the filled area south west of the factory, including former Pit 2 (potentially applicable to Part Lot 401).

DLA (2014) sampled approximately 40 test pits in the overall area of Lot 401, as indicated on Figures 3, 4 and 8 (attached, along with Figure 2 "Figure Reference Map"). One of these ("Pit 2") (adjacent/immediately to the north of Part Lot 401) was a large pit measuring approximately 30 m x 30 m wide and 9 m deep, with an additional shaft excavated to bedrock at 14.6 m deep. DLA also collected numerous samples from stockpiles in the area.

DLA (2014) identified the following soil samples exceeding adopted assessment criteria or exhibiting evidence of contamination:

- Total recoverable hydrocarbon (TRH) at 3.5 and 4.5 m depth in TP213.
- Benzo(a)pyrene (BaP) toxic equivalence quotient (TEQ) in Pit 2.
- TRH in test pit 225.
- DLA noted the material encountered within the Pit 2 excavation was relatively consistent throughout the dig, varying between clay with mixed gravel and coal chitter. TP225 was located along the western boundary of Pit 2 within the adjoining bund, and foreign materials were encountered approximately 2-3 m below the surrounding surface level, including processed timber, plastic, metal fragments, a large steel beam, material bags and old drums. DLA noted that although these materials were discovered during excavations into the edge of Pit 2 in this area, the large excavation directly into the Pit 2 area did not encounter any bulk foreign materials.
- Test Pits 191 and 213 were excavated within a 'bund' in the eastern portion of Part Lot 401. DLA noted the bund seemed to be comprised of two separate bunds most likely constructed at different times. The material from natural bedrock to approximately 4 m (about half way up the bund) seems to have been predominantly clean clays with low foreign material content. The upper half (approx. 4 to 5 m at TP191/TP213 location) seems to have been a lower quality source material, with mixed refuse including plastic, steel, emptied material storage bags and sacks, an old crushed 5000 L underground storage tank (UST), and large quantities of broken brick scattered throughout some layers. DLA considered it was highly possible that more USTs may be located in this area given the noted hydrocarbon odour through this upper bund material in at least three (3) separate test pits along the length of the bund. **GHD notes that this 'bund' has been now excavated to natural rock and reinstated with soil (and seeded) – refer to Section 2.2.**

Locations TP103-111, possibly TP188 and TP189, TP190, TP198, TP201, TP214, TP215, TP225, and TP243-245 were also excavated, but did not show evidence of contamination and analysed soil samples did not exceed the adopted assessment criteria.

DLA (2015a) investigations involved additional excavations in the vicinity Pit 2. From the DLA (2015a) report and with reference to attached Figure 1 "CSR/PGH Soil Sampling Locations - Pit 2" 29/08/2014, it appears these investigations comprised "Proposed Pit 2-2" (to the south of previous excavation "Pit 2") and "Proposed Pit 2-4" (to the north of previous excavation "Pit 2"). "Existing Pit 2-1" appears to have been the pit designated as "Pit 2" excavated as described in DLA (2014), and proposed Pit 2-3 does not appear to have been excavated based on subsequent discussion in the DLA (2015a) report. Proposed Pit 2-2 and the southern portion of the area designated as Proposed Pit 2-3 were within Part Lot 401.

Some 14 stockpiles were generated from these excavations (some of which are shown on attached DLA 2015a Figure 1 “Metford former brickworks Stockpile Locations” 7/11/2014), and variously contained materials such as asbestos, ash-like material, foreign materials (concrete, steel and timber), with contaminants including hydrocarbons, PAHs and asbestos. The stockpiles were documented by DLA and either used to backfill the Pit 2 excavations, or remained on site (with some stockpiles undergoing land-farming).

DLA’s investigations included the following conclusions relevant to Part Lot 401 (refer to DLA Figure 1 “Pit 2” 29/08/2014 and Figure 1 “Stockpile Locations” 7/11/2014, noting discrepancies in pit extents):

> “… *the following contamination issues may potentially pose an unacceptable risk to human health, the environment and the general amenity of the Site*:
>
> – B(a)P concentrations in the western wall of Pit 2-2;
> – Asbestos-impacted soils in the north-east of Pit 2-2;

DLA (2015a) also concluded that “*It is important to note that this investigation involved excavation into three pits within the greater Pit 2 area… It is likely that contamination remains within the unexcavated areas of Pit 2. Additionally, the widespread nature of contamination at the Site, the heterogeneous distribution of contamination and the uncontrolled history of filling at the Site infer that chemical, asbestos and aesthetic impact is likely to remain at the Site, requiring both future delineation and possibly management”.*

While DLA reported the presence of ACM fragments in various samples, including an instance where “*the ACM was observed to have broken into small fragments amongst heavy wet clay*”, they also reported that “*No Asbestos Fines / Fibrous Asbestos (AF/FA) was detected in any of the samples submitted for asbestos analysis*”. Brief review of the DLA (2015a) report indicates numerous soil samples (approximately 0.5 kg samples) were quantified for asbestos by the laboratory, with “no asbestos detected”. However DLA’s methodology in quantifying ACM in larger bulk samples is not detailed, and discussion of results (in DLA weekly reports) is limited to statements that sieve analysis was conducted and the material meets Commercial Industrial criteria. This information is insufficient to assess whether more sensitive criteria would be met. Assessment of the significance of any asbestos contamination will also depend on other considerations such as how asbestos contamination is to be managed.

Data gaps identified by Golder (2015) include the following:

- Understanding of the depth and distribution of fill across the Site
- The exact location of the various historical activities and infrastructure, particularly fuel and chemical storage
- Understanding and mapping of the presence of asbestos

The stated significance of these data gaps varies, and depends primarily on the proposed remediation and management approach.

2.1.3 Surface water/sediment

No previous surface water or sediment sampling appears to have been undertaken within Part Lot 401.

2.1.4 Groundwater

Refer to DLA Figure 1 “Groundwater Monitoring Well Locations” 10/12/2015.

DLA (2014) sampled 5 groundwater wells (MW5, MW7, MW4, MW9 and MW10). MW5 appears to be just north of Part Lot 401, however survey would be required to confirm. Copper, lead, nickel, and/or zinc concentrations exceeded ANZECC trigger values in a number of groundwater samples, which DLA presumed to be a regional groundwater quality issue. The wells were reported as existing, and no logs were provided.

DLA (2015b) sampled 14 wells in Lot 401 (including MW61 and MW61 within Part Lot 401, and MW5 adjacent as noted previously) and analysed groundwater samples for TRH, benzene, touluene, ethylbenzene and xylene (BTEX), PAH, volatile organic compounds (VOCs), 10 metals and fluoride. No PAH, BTEX or VOCs were reported above the laboratory limit of reporting (LOR). Low concentrations of TRH were detected in MW93 and MW203, downgradient and some distance to the north of Part Lot 401. Concentrations of various heavy metals exceeded the assessment criteria. DLA did not draw any conclusions regarding the groundwater results.

2.1.5 Previous soil vapour testing

DLA (2015b) also sampled soil vapour from 14 sub-soil locations and one sub-slab location (as shown in Figure 1 19/10/2015, incorrectly titled “Groundwater Monitoring Well Locations”), one of which (GW1) was located within Part Lot 401, and two (GW2 and GW6) nearby (to the north of Part Lot 401). Chloroform was detected in GW1 (and GW6), below the adopted assessment criteria (US EPA Regional Screening Levels for indoor commercial air quality). Cis 1,2 – dichloroethene was detected in GW2, below the adopted assessment criteria (NEPM 1999, amended 2013) for all land use settings.

2.2 Site inspection

The site inspection was undertaken Monday 12 February 2018, by Jesse Simkus, an experienced senior environmental engineer who was familiar with the site and the proposed development.

CSR was active on Part Lot 401, predominantly using the area for storage and management of excavated fill material from Lot 401 remediation works. Site features and observations are summarised in Table 1. Refer also to the attached ADW Johnson survey figure (“SITE PLAN MAITLAND HOSPITAL DEVELOPMENT” 15/02/2018) with Nearmap aerial imagery (14/12/2017).

Table 1 Part Lot 401 site inspection observations and photographic log

Current observations for Part Lot 401

Photograph 1. Western corner of Part Lot 401, access track to Metford Road gate (for access to Lot 7314). Reed-lined channel on left (east of access track). View southwest.

Photograph 2. Reed-lined channel east of the access track. Lot 7314 site compound in background. View south.

Photograph 3. Southern end of the reed-lined channel, continuing into (downgradient) unlined channel. Lot 7314 site compound in background. View south.

Photograph 4. Unlined channel and concrete pipe culvert under access track. Metford Road gate in background. View southwest.

Current observations for Part Lot 401

Photograph 5. Plastic pipe culvert under access track, small collection area to west of access track. View north.

Photograph 6. Former CSR access road, now main access to Lot 401 (northern corner), viewed from the fill mound/berm in northern corner of Part Lot 401 (berm continues northeast along northwestern boundary of Lot 401). View north.

Photograph 7. Fill mound/berm running along northwestern boundary of Lot 401. Surface predominantly soil with brick fragments. View northeast.

Photograph 8. Central portion of Part Lot 401 viewed from the fill mound/berm. Various stockpiles from Lot 401 remediation, predominantly fill material awaiting screening. View southeast.

Current observations for Part Lot 401

Photograph 9. Western portion of Part Lot 401 viewed from the fill mound/berm. Various waste stockpiles, including vegetation (from clearing), soil and concrete. Lot 7314 site compound in background. View southwest.

Photograph 10. Concrete waste stockpile in western portion (northern corner) of Part Lot 401. View southwest.

Photograph 11. Soil and vegetation waste stockpiles in western portion of Part Lot 401. View west.

Photograph 12. Reed-lined channel and access track. Metford Road gate in background. View west.

Current observations for Part Lot 401

Photograph 13. Groundwater monitoring well MW62 (see DLA Figure 1 “Groundwater Monitoring Well Locations” 10/12/2015), adjacent (east of) the reed-lined channel. View west.

Photograph 14. MW62. Soil and vegetation waste stockpiles. Fill mound/berm in background. View north.

Photograph 15. MW62. Reed-lined channel to right of frame. Security fence along southwest boundary of Part Lot 401 and northeastern boundary (western portion) of Lot 7314. Lot 7314 site compound in background. View southwest.

Photograph 16. MW62. Waste soil and vegetation stockpiles on left, fill material stockpiles from Lot 401 remediation in background. Security fence continuing along southwest boundary of Part Lot 401 and northeastern boundary (western portion) of Lot 7314. View southeast.

Current observations for Part Lot 401

Photograph 17. Fill material stockpile from Lot 401 remediation. View southeast.

Photograph 18. Southwestern boundary (fence) of Part Lot 401. Fill material stockpiles from Lot 401 remediation on right. Metford Road in background. View northeast.

Photograph 19. 'Top gate' in boundary fence between Part Lot 401 and Lot 7314. Soil and vegetation waste stockpile (from clearing) on Lot 7314 in background (refer to Section 3, Table 2).

Photograph 20. Embankment in eastern portion of Part Lot 401, recently excavated to rock, top-soiled and seeded (as noted in Section 0). View northeast.

Current observations for Part Lot 401

Photograph 21. Southern corner of Part Lot 401. Extent of security fence along the southwestern boundary of Part Lot 401. Continues to northeast as post-wire fence. View south (into Lot 7314).

Photograph 22. Fill stockpiles in eastern portion of Part Lot 401, believed to be from previous site works (not specifically associated with Lot 401 remediation). View northeast.

Photograph 23. Fill stockpiles in eastern portion of Part Lot 401. Lot 7314 in background. View southeast.

Photograph 24. Fill stockpiles in eastern portion of Part Lot 401. Scrap metal on surface. Lot 7314 in background (northern corner of eastern portion). View southeast.

Current observations for Part Lot 401

Photograph 25. Eastern corner of Part Lot 401 viewing along estimated northeastern boundary (of the Part Lot). Seeded embankment and fill material stockpiles (from Lot 401 remediation) in background (left and centre respectively). View northwest.

Photograph 26. Fill material from Lot 401 remediation, awaiting processing. View west.

Photograph 27. Groundwater monitoring well MW61 (see DLA Figure 1 “Groundwater Monitoring Well Locations” 10/12/2015). Remainder of Lot 401 in background. View north.

Photograph 28. MW61, viewing approximately along northeastern boundary of Part Lot 401 (no survey markers at time of inspection). Fill material stockpiles from Lot 401 remediation in background. View northwest.

Current observations for Part Lot 401

Photograph 29. MW61 (on left). Fill material stockpiled above the seeded embankment (as noted in Photograph 25 and Photograph 26). View south.

Photograph 30. Central portion of Part Lot 401. Fill material stockpiles from Lot 401 remediation. Southwestern boundary security fence in background. View southwest.

3 Lot 7314 site inspection

The inspection was undertaken by Jesse Simkus (following inspection of Part Lot 401), who was familiar with the previous site condition. The comparison of previous and current site condition was supported by reference to aerial photographs and previous site photographs.

Lot 7314 was largely unchanged since October 2017, with the exceptions noted in Table 2. Refer also to the attached ADW Johnson survey figure (referenced above).

Table 2 Lot 7314 site inspection observations and photographic log

Current observations for Lot 7314

Photograph 31. Lot 7314 site compound (land clearing noted in previous inspection). View west.

Photograph 32. Lot 7314 site compound. Metford Road gate in background (right). View northwest.

Current observations for Lot 7314

Photograph 33. Waste concrete stockpiles in northwestern portion of Lot 7314. Part Lot 401 in background (beyond security fence). View northeast.

Photograph 34. Waste concrete, soil and vegetation waste stockpiles in northwestern portion of Lot 7314. View east.

Photograph 35. Waste (concrete, soil and vegetation) stockpiles in northwestern portion of Lot 7314. Part Lot 401 southwestern boundary fence on right. Metford Road gate in background. View northwest.

Photograph 36. Groundwater monitoring wells MW404D and MW404S in northern corner of Lot 7314 dog-leg (viewed from eastern corner of Part Lot 401). View southwest.

Photograph 37. Soil and vegetation waste stockpile east of the site compound, as noted in Photograph 19 (from Part Lot 401). View southwest.

Photograph 38. Soil and vegetation waste stockpile east of the site compound (left) and mulched wood stockpile from vegetation clearing (right). View southwest.

Current observations for Lot 7314

Photograph 39. Sediment basin / dam southeast of the site entrance (Metford Road gate), as viewed from adjacent the soil and vegetation stockpile (above). Fill material stockpiles in background (as noted in Photograph 42). View southwest

Photograph 40. Sediment basin / dam southeast of the site entrance. Soil and vegetation waste stockpile (left, as noted in Photograph 37) and covered carbonaceous material (right, as noted in Photograph 43 and Photograph 44) in background. View northeast.

Photograph 41. Various waste stockpiles (predominantly fill soil, with exception of asphalt waste in centre of photograph) southeast of the site compound. Stockpiles in background-left noted in Photograph 39. View southeast.

Photograph 42. Various waste soil stockpiles (as noted in Photograph 39 and Photograph 40) from land clearing and leveling. View southwest.

Current observations for Lot 7314

Photograph 43. Former water body in centre of Lot 7314 (noted in previous inspection as having been drained) – channel cut to prevent future ponding. The large carbonaceous material stockpile and outcrop (in background) covered with sandstone fill (presumably sourced from the site, but not confirmed). View southeast.

Photograph 44. As per previous photograph. Southern cutting on right. View south.

Photograph 45. View through central portion of Lot 7314 (now cleared and generally levelled). Southern cutting in background (left). View southwest.

Photograph 46. Central portion of Lot 7314. Site compound in background. View northwest.

Current observations for Lot 7314

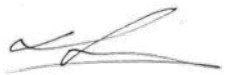
Photograph 47. Northern portion of Lot 7314, south of Part Lot 401. Soil and vegetation waste stockpile (left, as noted in Photograph 37 and Photograph 40) and Part Lot 401 southwestern boundary and 'top gate' (right, as noted in Photograph 19) in background. View north.

Photograph 48. Seeded embankment (as noted in Photograph 20 and Photograph 25) partially in Lot 7314, predominantly in Part Lot 401 (beyond security fence). 'Bottom gate' to Part Lot 401 on right. View northeast.

4 Conclusion

There were no significant changes observed since the previous inspections (October 2015 and 2017) or additional factors regarding the inclusion of Part Lot 401 (for the proposed use) that would require revision of the Phase 2 report (GHD 2015) or associated Remedial Action Plan / Contamination Management Plan (GHD 2016). Should intrusive works / excavations or construction be proposed within Part Lot 401, more detailed assessment of potential contamination issues should be undertaken.

Regards



Jesse Simkus
Senior Environmental Engineer
6650 5673

Attachments: **Limitations statement**

Figures (in order of reference)

DA01 "CONTEXT PLAN" 16/02/2018
DA02 "SITE PLAN" 16/02/2018
DA07 "MASTERPLAN" 16/02/2018
DA10 "AREA OF INFLUENCE – BUILDING FOOTPRINT" 16/02/2018
EA Figure 1 "Location and Property Boundaries" 22/2/2011
VGT Figure 9 "Domain Areas" 26/03/2014
DLA Figure 2 "Figure Reference Map" 29/11/2013
DLA Figure 3 "2011-2013 Soil Sample Locations" 11/11/2013
DLA Figure 4 "Factory Area Soil Sampling Locations 2013" 11/11/2013
DLA Figure 8 "Grass Area Sample Locations" 11/11/2013
DLA Figure 1 "Soil Sampling Locations - Pit 2" 29/08/2014
DLA Figure 1 "Stockpile Locations" 7/11/2014
DLA Figure 1 "Groundwater Monitoring Well Locations" 10/12/2015
DLA Figure 1 "Vapour Monitoring Well Locations" incorrectly titled "Groundwater Monitoring Well Locations" 19/10/2015
ADW Johnson survey figure "SITE PLAN" 15/02/2018

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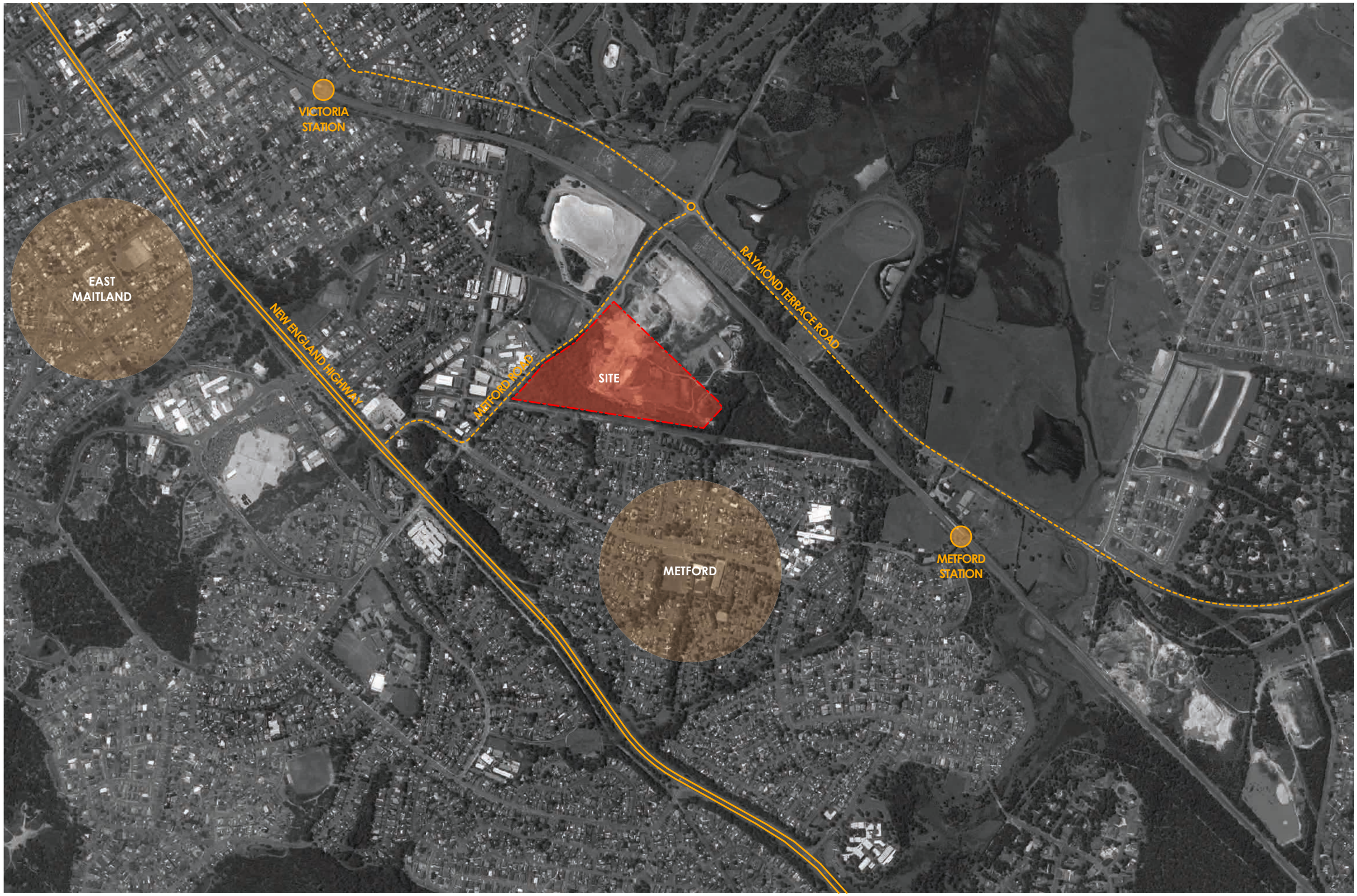

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PROJECT NO. 21701

PROJECT NORTH

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DRAWING AREA OF INFLUENCE - BUILDING FOOTPRINT

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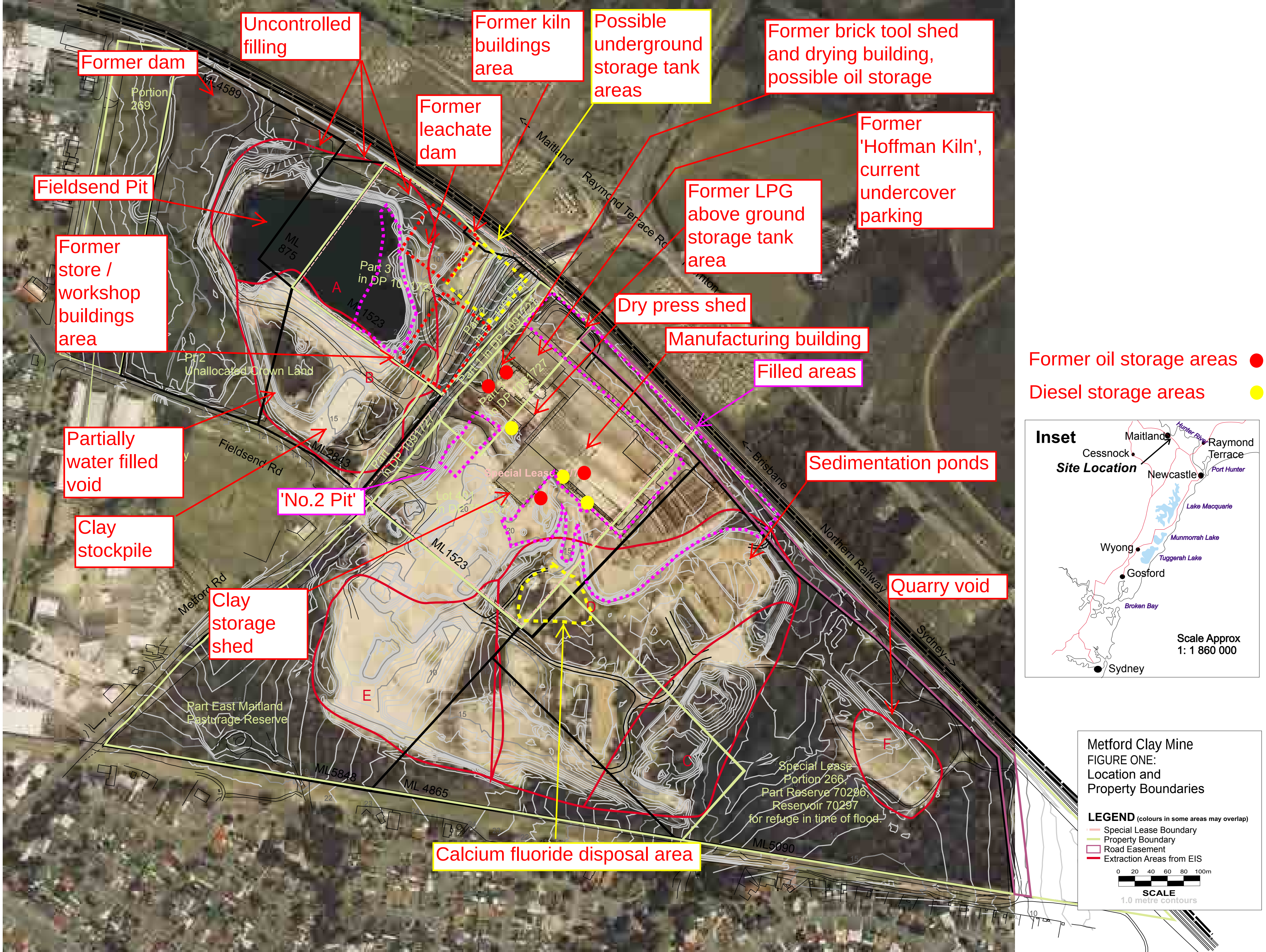
Former dam
Uncontrolled filling
Former kiln buildings area
Possible underground storage tank areas
Former brick tool shed and drying building, possible oil storage
Former leachate dam
Former 'Hoffman Kiln', current undercover parking
Fieldsend Pit
Former store / workshop buildings area
Former LPG above ground storage tank area
Dry press shed
Manufacturing building
Filled areas
Partially water filled void
'No.2 Pit'
Clay stockpile
Sedimentation ponds
Clay storage shed
Quarry void
Calcium fluoride disposal area
Former oil storage areas
Diesel storage areas
Portion 269
ML4589
ML 875
ML 1523
ML2843
ML5848
ML 4865
ML5090
Unallocated Crown Land
Fieldsend Rd
Metford Rd
Maitland
Raymond Terrace Rd
Brisbane
Northern Railway
Sydney
Special Lease
Part East Maitland Pasturage Reserve
Special Lease Portion 266, Part Reserve 70296, Reservoir 70297 for refuge in time of flood.
A
B
C
E
F
Inset
Site Location
Maitland
Cessnock
Raymond Terrace
Newcastle
Port Hunter
Hunter River
Lake Macquarie
Munmorrah Lake
Tuggerah Lake
Wyong
Gosford
Broken Bay
Sydney
Scale Approx 1: 1 860 000
Metford Clay Mine
FIGURE ONE:
Location and Property Boundaries
LEGEND (colours in some areas may overlap)
Special Lease Boundary
Property Boundary
Road Easement
Extraction Areas from EIS
0 20 40 60 80 100m
SCALE
1.0 metre contours