Health Infrastructure

Remedial Action Plan

Wentworth Health Service
Wentworth, NSW

6 July 2023

63097/147723 (Rev 3)

JBS&G Australia Pty Ltd

www.jbsg.com.au

Health Infrastructure

Remedial Action Plan

Wentworth Health Service
Wentworth, NSW

6 July 2023

63097/147723 (Rev 3)

JBS&G Australia Pty Ltd

Table of Contents

Table of Contents 3

List of Figures 6

Appendices 6

Abbreviations 7

Executive Summary 8

1. Introduction 1
   - 1.1 Background 1
   - 1.2 Objectives 1

2. Site Condition & Surrounding Environments 2
   - 2.1 Site Identification 2
   - 2.2 Site Description 2
   - 2.3 Surrounding Land-use 2
   - 2.4 Environmental Setting 2

3. Summary Site History and Previous Site Investigations 5
   - 3.1 Summary of Site History 5
   - 3.2 Asbestos Survey Report (FWLHD 2017[11]) 5
   - 3.3 Preliminary Site Investigation (PSI, JBS&G 2022a) 5
   - 3.4 Detailed Site Investigation (JBS&G 2023) 6

4. Contamination Status 8

5. Remediation Options 9
   - 5.1 Remediation Objectives 9
   - 5.2 Extent of Remediation 9
   - 5.2.1 Asbestos Impacted Fill 9
   - 5.3 Consideration of Possible Remediation Options 10
   - 5.3.1 EPA (2017) Guidance 10
   - 5.3.2 WA DoH 2009 Guidance 10
   - 5.3.3 NSW EPA Position Statement 11
   - 5.4 Possible Remedial Options Table 5.1: Remedial Options Matrix 12
   - 5.5 Preferred Remedial Strategy 13
   - 5.6 Containment of Asbestos Contaminated Soils within the Site and Broader WHS 13
   - 5.7 Remediation Principles 13

6. Remediation Plan 14
   - 6.1 Approvals, licences and notifications 14
   - 6.2 Site Establishment 14
   - 6.3 Buildings and Structures Demolition 14

6.4 Containment of Impacted Fill Option 15
6.4.1 Interim Capping Arrangements During Construction Works 16
6.4.2 Permanent Capping Arrangements 17
6.4.3 Borrow Pit 18
6.5 Validation 19
6.6 Waste Classification and Offsite Disposal of Material 19
6.7 Site Disestablishment 20
7. Contingency Plan 21
7.1 Unexpected Finds Protocol 21
7.2 Remedial Strategy Constraints 23
7.3 Excavation and Off-Site Disposal Contingency Option 23
7.4 Material Storage Breach 23
7.5 Complaints 23
7.6 Lack of Available Space 24
7.7 Severe Weather 24
7.8 Odours from Works 24
8. Validation Plan 25
8.1 Overview 25
8.2 Data Quality Objectives 25
8.2.1 State the Problem 25
8.2.2 Identify the Decision 25
8.2.3 Identify Inputs to the Decision 25
8.2.4 Define the Study Boundaries 26
8.2.5 Decision Rules 26
8.2.6 Specify Limits of Decision Error 28
8.2.7 Optimise the Design for Obtaining Data 28
8.2.8 Soil Sampling Methodology 28
8.2.9 Soil Sample Containers 29
8.2.10 PID Screening 29
8.2.11 Quality Assurance/Quality Control 29
8.3 Validation Inspections, Sampling and Analyses 31
8.3.1 Overview of Validation Sampling 31
8.3.2 Marker Layer Inspection 32
8.3.3 Capping Layer Validation 32
8.3.4 Imported Material Validation 33
8.3.5 Waste Disposal Off-Site 33
8.4 Validation Criteria Selection 33
8.4.1 Soil Validation Criteria 33
8.4.2 Application of Soil Criteria 35

8.5 Material Tracking Plan 36
8.5.1 Material Tracking Data 36
8.5.2 Material Tracking Classifications 37
8.6 Validation Reporting 37
8.6.1 Validation Report 37
8.6.2 Long Term Asbestos Management Plan 38
9. Site Management Plan 40
9.1 Hours of Operation 40
9.2 Soil and Water Management 40
9.3 Stockpile Management 40
9.4 Site Access 41
9.5 Excavation Pump-out 41
9.6 Landscaping / Rehabilitation 41
9.7 Noise 41
9.8 Vibration 41
9.9 Air Quality 41
9.9.1 Air Monitoring 41
9.10 Dust Control 43
9.11 Staging of Asbestos Disturbance Works 43
9.12 Odour / Volatile Emissions Control 43
9.13 Transport of Material Offsite/Across the Site 44
9.14 Hazardous Materials 44
9.15 Offsite Disposal of Contaminated Soil 44
9.16 Imported Fill 44
9.17 Groundwater Dewatering 44
9.18 Site Signage and Contact Numbers 44
9.19 Site Security 45
9.20 Community Consultation 45
10. Environmental and Health and Safety Management 46
10.1 Environmental Management 46
10.1.1 Construction Environmental Management Plan 46
10.1.2 Required Elements / Procedures 46
Table 10.1: Required Elements of the CEMP 46
10.2 Health and Safety Management 47
11. Regulatory Approvals / Licensing 48
11.1 Resilience and Hazards State Environment Planning Policy – Chapter 4 Remediation of Land 48
11.2 Protection of the Environment Operations Act 1997 48
11.3 Protection of The Environment Operations (Waste) Regulation 2014 48

11.4 Waste Classification Guidelines (EPA 2014) 49
11.5 Asbestos Removal Regulations and Codes of Practice 49
12. Communications with Stakeholders 50
13. Conclusions and Recommendations 51
13.1 Conclusions 51
13.2 Recommendations 51
14. Limitations 52

List of Tables

Table 2.1: Summary Site Details 2
Table 2.1: Summary of Environmental Characteristics for WHS 3
Table 5.1: Remedial Options Matrix 12
Table 8.1: Summary of QA/QC Control Program 29
Table 8.2: Validation Sampling and Analytical Plan 30
Table 8.3: Adopted Soil Validation Criteria 33
Table 10.1: Required Elements of the CEMP 45

List of Figures

Figure 1 Site Location
Figure 2 Site Layout
Figure 3 Areas of Environmental Concern
Figure 4 Soil and Groundwater Sample Locations
Figure 5 Soil and Groundwater Exceedances
Figure 6 Proposed Redevelopment Plans and Extent of Remediation

Appendices

Appendix A Site Survey and Concept Sketches
Appendix B Summary Tables

Abbreviations

Term	Definition
ACM	Asbestos Containing Materials
AF/FA	Asbestos fines and friable asbestos
AEC	Areas of Environmental Concern
AHD	Australian Height Datum
ASS	Acid Sulfate Soils
CEMP	Construction Environmental Management Plan
CLM Act	NSW Contaminated Land Management Act 1997
COC	Chain of Custody
COPC	Contaminants of Potential Concern
CSM	Conceptual Site Model
DBYD	Dial Before You Dig
DP	Deposited Plan
DQI	Data Quality Indicators
DQO	Data Quality Objectives
DSI	Detailed Site Investigation
EIL	Ecological Investigation Levels
EPA	NSW Environment Protection Authority
ESA	Environmental Site Assessment
ESLs	Ecological Screening Levels
ha	Hectare
HAZMAT	Hazardous Material
HBMS	Hazardous Building and Material Survey
HI	Health Infrastructure
HILs	Health Investigation Levels
HSLs	Health Screening Levels
JBS&G	JBS&G Australia Pty Ltd
LEP	Local Environment Plan
LHD	Local Health District
LOR	Limit of Reporting
LTAMP	Long-Term Asbestos Management Plan
NATA	National Accreditation Testing Authority
PID	Photoionisation Detector
POEO Act	NSW Protection of the Environment Operations Act 1997
PSI	Preliminary Site Investigation
QA/QC	Quality Assurance/Quality Control
RAMP	Redevelopment Asbestos Management Plan
RAP	Remedial Action Plan
REF	Review of Environmental Factors
RPD	Relative Percentage Difference
SAQP	Sampling Analytical and Quality Plan
SEPP	State Environmental Planning Policy
TRH	Total Recoverable Hydrocarbons
UCL	Upper Confidence Limit
VOC	Volatile Organic Compounds
WHS	Wentworth Health Service
WH&S	Work, Health and Safety
WHSP	Work Health and Safety Management Plan

Executive Summary

JBS&G Australia Pty Ltd (JBS&G) was engaged by Health Infrastructure NSW (HI, the Client) to prepare a Remedial Action Plan (RAP) for the proposed hospital upgrade at Wentworth Health Services (WHS), located at 24 Hospital Road, Wentworth NSW, to address asbestos contamination identified during recent investigations. The WHS is legally identified as Lot 1 in DP 1136392 and occupies an area of approximately 4 hectares. The WHS location and layout are shown on **Figures 1** and **2** respectively. The redevelopment area is defined as the portion of the WHS within the levee and is the area currently proposed to be redeveloped by HI, occupying an area of approximately 2 hectares, herein described as "the site". The extent of the site is shown on **Figure 2**.

Concept sketches have proposed a new hospital and associated parking in the southwest of the site and new staff accommodation (see **Appendix A**). The redevelopment footprint has been confined to the southern portion of site, which will comprise of the construction of the new hospital, followed by the decanting and demolition of existing structures across the site and remedial works, including excavation of site to required levels, excavation of services trenches and the installation of a suspended slab. It is noted that the concept sketches (**Appendix A**) include a contamination strategy to demonstrate that ACM from the Stage 1A works are to be capped and contained in the North-East, and Stage 1B to be capped and contained on the existing hospital site. The balance of the WHS is LHD land which is not subject to redevelopment.

The site has been subject to a Preliminary Site Investigation (PSI) and a Detailed Site Investigation (DSI), which have identified the presence of asbestos on/in soil impacts as a result of historic uses/activities on the site, including fly-tipping and the creation of existing/current site levels using fill materials of unknown origin (PSI, JBS&G 2022[1] and DSI, JBS&G 2023[2]). JBS&G (2023) concluded that the site could be made suitable for the proposed land use subject to development and implementation of a site-specific RAP in accordance with the relevant regulatory requirements made or approved by the NSW Environment Protection Authority (EPA) and relevant Australian Standards. It was recommended that a pre-remedial assessment be completed to characterise soils in existing building footprints following demolition.

The RAP, documented herein, meets the requirements of Chapter 4 Remediation of Land of *State Environmental Planning Policy (Resilience and Hazards) 2021* (Resilience and Hazards SEPP). This report documents the procedures and standards to be followed in order to address the identified asbestos impacted soils in such a manner as to make the site suitable for the proposed future uses.

The objective of this RAP is to document the procedures and standards to be followed in order to address the contamination identified at the site, ensuring the protection of human health and the surrounding environment, such that the contamination is remediated / managed in such a manner as to make the site suitable for the proposed future uses.

Potential remedial options have been outlined in **Table 5.1**. Based on assessment of those options, remediation hierarchy endorsed by NSW Environment Protection Authority (EPA) and principles of ecologically sustainable development (ESD) and waste minimisation, and giving consideration to the identified contamination and proposed land use, the preferred remedial strategy for the site is consolidation and isolation of soils impacted with asbestos, and on-site containment within a properly designed barrier, below the proposed landscaped areas or hardstand underneath buildings.

The remediation works are considered Category 1 requiring consent under the Resilience and Hazards SEPP.

---

1 *Preliminary Site Investigation, Wentworth Health Services Facility Wentworth, NSW*, JBS&G Australia Pty Ltd, Rev 0, 1 August 2022, Ref: 63097/146694 (JBS&G 2022)

2 *Detailed Site Investigation, Wentworth Health Services Facility Wentworth, NSW*, JBS&G Australia Pty Ltd, Rev 0, 30 June 2023, Ref: 63097/147120 (JBS&G 2023)

With reference to the limitations in **Section 14**, the following conclusions and recommendations are provided.

Overall, it is considered that the proposed actions outlined in this RAP conform to the requirements of the *Contaminated Sites Guidelines for the NSW Site Auditor Scheme (3rd Edition)* (EPA 2017) because they are: technically feasible; environmentally justifiable; and consistent with relevant laws, policies and guidelines endorsed by NSW EPA.

Subject to the successful implementation of the measures described in this RAP and the recommendations below, it is concluded that the risks posed by contamination can be managed in such a way as to be adequately protective of human health and the environment, such that the site can be made suitable for the proposed hospital use.

It is recommended that the processes outlined in this RAP be implemented and that the following documentation be developed and implemented to ensure the risks and impacts during remediation works are controlled in an appropriate manner:

- A Redevelopment Asbestos Management Plan (RAMP) be prepared for the redevelopment footprint, detailing the safe implementation of the RAP in undertaking asbestos removal, as guided by the WH&S regulatory framework (SafeWork NSW);
- A CEMP, to document the monitoring and management measures required to control the environmental impacts of the works and ensure the validation protocols are being addressed; and
- A Work Health and Safety Management Plan (WHSP) to document the procedures to be followed to manage the risks posed to the health of the remediation workforce.

The CEMP and WHSP will require to be cognisant of the potential occurrence and storage / handling of asbestos contaminated soils on the site.

Upon completion of the remediation works, if containment is considered the most suitable option, the Validation Report and LTAMP for materials retained beneath the marker and capping layer are required to be submitted by the Remediation Consultant to HI for certification that the site is suitable for the proposed uses, subject to implementation of the LTAMP. If offsite disposal is considered the most suitable option, the Validation Report will document the remediation and validation of the site, with no requirement for an LTAMP.

It is further recommended that an asbestos management plan (AMP) be prepared for the LHD site external to the redevelopment/remediation area addressed in this RAP, where the site is a workplace, to manage identified asbestos to meet WHS Regulations, until such time as identified asbestos risks have been removed.

1. Introduction

1.1 Background

JBS&G Australia Pty Ltd (JBS&G) was engaged by Health Infrastructure NSW (HI, the Client) to prepare a Remedial Action Plan (RAP) for the proposed hospital upgrade at Wentworth Health Services (WHS), located at 24 Hospital Road, Wentworth NSW, to address asbestos contamination identified during recent investigations. The WHS is legally identified as Lot 1 in DP 1136392 and occupies an area of approximately 4 hectares. The WHS location and layout are shown on **Figures 1** and **2** respectively. The redevelopment area is defined as the portion of the WHS within the levee and is the area currently proposed to be redeveloped by HI, occupying an area of approximately 2 hectares, herein described as "the site". The extent of the site is shown on **Figure 2**.

Concept sketches have proposed a new hospital and associated parking in the southwest of the site and new staff (see **Appendix A**). The redevelopment footprint has been confined to the southern portion of site, which will comprise of the construction of the new hospital, followed by the decanting and demolition of existing structures across the site and remedial works, including excavation of site to required levels, excavation of services trenches and the installation of a suspended slab It is noted that the concept sketches (**Appendix A**) include a contamination strategy to demonstrate that ACM from the Stage 1A works are to be capped and contained in the North-East, and Stage 1B to be capped and contained on the existing hospital site. The balance of the WHS is LHD land which is not subject to redevelopment.

The site has been subject to a Preliminary Site Investigation (PSI) and a Detailed Site Investigation (DSI), which have identified the presence of asbestos on/in soil impacts as a result of historic uses/activities on the site, including fly-tipping and the creation of existing/current site levels using fill materials of unknown origin (PSI, JBS&G 2022a[3] and DSI, JBS&G 2022b[4]). JBS&G (2022b) concluded that the site could be made suitable for the proposed land use subject to development and implementation of a site-specific RAP in accordance with the relevant regulatory requirements made or approved by the NSW Environment Protection Authority (EPA) and relevant Australian Standards. It was recommended that a pre-remedial assessment be completed to characterise soils in existing building footprints following demolition.

The RAP, documented herein, meets the requirements of Chapter 4 Remediation of Land of *State Environmental Planning Policy (Resilience and Hazards) 2021* (Resilience and Hazards SEPP). This report documents the procedures and standards to be followed in order to address the identified asbestos impacted soils in such a manner as to make the site suitable for the proposed future uses.

1.2 Objectives

The objective of this RAP is to document the procedures and standards to be followed in order to address the contamination identified at the site, ensuring the protection of human health and the surrounding environment, such that the contamination is remediated / managed in such a manner as to make the site suitable for the proposed future uses.

---

[3] *Preliminary Site Investigation, Wentworth Health Services Facility Wentworth, NSW*, JBS&G Australia Pty Ltd, Rev 0, 1 August 2022, Ref: 63097/146694 (JBS&G 2022a)

[4] *Detailed Site Investigation, Wentworth Health Services Facility Wentworth, NSW*, JBS&G Australia Pty Ltd, Rev A, 16 September 2022, Ref: 63097/147120 (JBS&G 2022b)

2. Site Condition & Surrounding Environments

2.1 Site Identification

The location of the site is shown on **Figure 1**. The layout of the site is shown on **Figure 2**. The site details are summarised in **Table 2.1**.

Table 2.1: Summary Site Details

Site Legal Identifier (as shown on **Figure 2**)	Part Lot 1 in DP 1136392
Site Address	24 Hospital Road, Wentworth NSW 2648
Site Area	2 ha
Local Government Authority	Wentworth Shire Council
Approximate Coordinates (GDA 94 Map Grid of Australia (MGA) 54)	Easting: 585100 Northing: 6225273
Registered Site Owner	Health Administration Corporation
Current Zoning	Zone RU5 – Village (Wentworth Local Environmental Plan, 2011)
Previous Land Uses	Vacant Land
Current Land Uses	Health Service
Proposed Land Uses	Health Service

2.2 Site Description

A detailed site inspection was completed on 9 August 2022 by Gina Pinget, one of JBS&G's qualified and experienced field scientists, as part of the DSI (JBS&G 2022b). Key elements of the site are presented on **Figure 2**.

2.3 Surrounding Land-use

The current land uses of adjacent properties/land are summarised below:

- North - the site is bound to the north by vacant land in the north of the WHS/LHD area, then bushland and Tuckers Creek and the Wentworth township beyond. The Silver City Highway/Wentworth Street is situated northeast of the site.
- West – the site is bound to the west by the Darling River. Beyond the river is the rural town of Wentworth.
- East – the site is bound to the southeast by vacant WHS/LHD land then Ski Reserve Road, and Hospital Road to the northeast, which intersects the eastern site boundary.
- South – the site is bound to the south by vacant cleared and bushland, which includes the heritage-listed Wentworth Water Tower. The Wentworth Ski Reserve recreational facilities area on the banks of the Murray River are beyond.
- A levee with dirt access road encircles the site, and is not considered part of the development area.

2.4 Environmental Setting

The environmental setting of the site has been detailed in a previous investigation (JBS&G 2022a). A summary has been provided in **Table 2.1**.

Table 2.1: Summary of Environmental Characteristics for WHS

Environmental Aspect	Characteristics
Topography	Reference to Google Earth Pro[5] indicates that the site is relatively flat, with a gentle fall from 39 m to 38 m Australian Height Datum (AHD) from the north to the south (towards the Murray River). The surrounding area is relatively flat, as it encompasses the confluence of the Darling River and Murray River systems. The site inspection completed by JBS&G indicated that the site has been subject to cut and fill to form the current layout. It was generally level with the surrounding streets, with the exception of the raised levee that surrounds the building structures in the central and southern portions of the site.
Geology / Soil	Reference to the 1:500,000 Geological Series Wentworth Geological Survey of NSW Sheet 9030 (DMR 1983[6]) indicates that site is underlain by Quaternary aged floodplain and outwash sediments ('Qrs-type'). Registered groundwater bore information in **Section 2.8** indicates typical floodplain soils predominantly comprising layers and mixtures of sand, silt and clay. A recent geotechnical desktop study completed by Aitken Rowe (ARTL 2022[7]) referenced a previous investigation of a pump station, located south of the site, which had encountered alluvial material comprising clay-based and sand-based material up to depths of 15 m bgs.
Acid Sulfate Soils (ASS)	A review of the Acid Sulfate Soil (ASS) Risk Map on the Australian Soil Resource Information System (ASRIS[8]) indicated that the site has a very low probability of acid sulfate soils (ASS). Review of the geographical and topographical location of the site has indicated that it is a significant distance away from tidal creeks or estuaries, and it is considered unlikely that ASS would exist at the site. Based on the identified geological and topographical setting no further consideration for the potential for ASS at the site is required.
Hydrology	The site is situated at the confluence of the Murray River and Darling River, directly southwest of the site, and thus considered within the river basin system. Tuckers Creek is situated to the north of site. As the site is situated within the basin, periodic flooding may occur on site. Based on the geological and soil profile of the area being highly influenced by the river systems, the majority of surface runoff would flow west to south-west towards the Darling River and eventually flow into the Murray River. The site survey plan (see **Appendix A**) shows stormwater drainage pits on the site and two discharge outfall points located to the southwest and northwest, as confirmed during the site walkover, which may generate manmade preferential pathways.
Hydrogeology	Registered groundwater bore information within a 1.5 km radius of the site was obtained from Water NSW online search tool (Water NSW 2020[9]). Based on the reported geology, topography and site observations, the permanent groundwater table is expected to be encountered from a depth of 4.5 m bgs. Due to the relatively flat terrain of the site and surrounding area, it is assumed that the natural groundwater migration will occur in a west to southwest direction, following the river flow of the Darling-Murray Basin.

[5] *Google Earth Pro Topographic Elevation Tool* accessed 26 July 2022

[6] *1:500 000 Wentworth Geological Map Sheet Catalog No. 336 Edition 1*. Department of Mineral Resources, Published 1971 (DMR 1983)

[7] *Geotechnical Desktop Study – Proposed Wentworth Health Service Redevelopment, 24 Hospital Road, Wentworth, NSW*, prepared for JBS&G Australia Pty Ltd by Aitken Rowe Testing Laboratories Pty Ltd (ARTL), 29 July 2022, Report number: S22-348 (ARTL 2022).

[8] '*ASRIS*', Atlas of Australian Soils, CSIRO Land and Water, accessed 25 July 2022, https://www.asris.csiro.au/themes/Atlas.html

[9] Water NSW search tool https://realtimedata.waternsw.com.au/. Accessed 21 July 2022.

Environmental Aspect	Characteristics
Meteorology	A review of average climatic data for the nearest Bureau of Meteorology monitoring location (Wentworth Post Office[10]) indicates the site is located within the following meteorological setting: • Average minimum temperatures vary from 4.8 ^{o}C in July to 17.1 ^{o}C in January; • Average maximum temperatures vary from 15.6 ^{o}C in July to 32.9 ^{o}C in January; • The average annual rainfall is approximately 284.9 mm with rainfall greater than 1 mm occurring on an average of 42 days per year; and • Monthly rainfall varies from 18.6 mm in April to 27.5 mm in May with the wettest periods occurring on average in May to November.

[10] http://www.bom.gov.au/climate/averages/tables/cw_047053.shtml, Commonwealth of Australia, 2013 Bureau of Meteorology, Product IDCJCM0028, accessed by JBS&G on 26 July 2022.

3. Summary Site History and Previous Site Investigations

3.1 Summary of Site History

A detailed assessment of the site history has been presented in previous JBS&G investigations (JBS&G 2022a and 2022b). The site is assumed to have been vacant until 1889, where records show that it was granted as land for public hospital use, and later established as the Wentworth District Hospital in 1944. A Heritage Study (Hassell 1989) indicates the original brick hospital building was demolished in 1946 to make way for the current facility. Aerial photography available from 1964 suggests that the site has undergone minor changes over the past 80 years and has remained a public hospital during this time.

Various sources of information and consistency of findings, the historical assessment has an acceptable level of accuracy regarding potentially contaminating activities that may have occurred on the site.

3.2 Asbestos Survey Report (FWLHD 2017[11])

The client provided an Asbestos Survey report prepared in 2017. The survey included inspection of 15 buildings and related structures, identifying predominantly bonded asbestos cement building materials and some friable asbestos items, and provided recommendations for a range of management actions to several of the buildings. Photographs included suggest there may also be lead-based paints, with some flaking paint visible, however lead-based paints were not assessed.

With respect to asbestos contamination aspects, JBS&G noted that damaged ACM in external building materials could impact surface soils.

3.3 Preliminary Site Investigation (PSI, JBS&G 2022a)

JBS&G conducted a PSI for the WHS Facility, which comprised a desktop review of site history and background information including a site inspection from external areas to identify potential areas of environmental concern (AECs) and associated contaminants of potential concern (COPCs); development and documentation of a preliminary conceptual site model (CSM) based on the available information. Access for a site inspection was not available for the PSI.

The investigation concluded:

- The site was primarily vacant up until circa 1880s, when it was acquired and developed as a public hospital, and has remained since;
- A range of AECs and COPC based on historical and currents uses/activities at the site were identified;
- Specific to potential asbestos contamination, fly-tipped materials appeared to be present in the northern portion of the site, and the creation of existing/current site levels may have been achieved using fill materials of unknown origin;
- It was considered unlikely that activities at the site will have contaminated the land to a degree that would prevent the redevelopment of the site for continued health services facility land use; and
- It was anticipated that the site can be made suitable for the proposed land-use in the event contamination was identified at the site.

[11] *Asbestos Survey, Wentworth Health Service, Far West Local Health District 2017,* August 2017.

Based on these conclusions, JBS&G recommended that a DSI inclusive of intrusive sampling be undertaken to characterise potential contamination at the site and confirm the suitability of the site (from a contamination perspective) for the proposed ongoing health services facility land use.

3.4 Detailed Site Investigation (JBS&G 2023)

JBS&G was engaged by HI to conduct a DSI for the WHS Facility.

The scope of works for the investigation comprised a combined desktop review and intrusive investigation to identify and confirm the presence of potential AECs and associated COPCs, including:

- A desktop review of available previous site contamination assessment reports prepared for the site, including a review of documented site history and background information in the PSI, to confirm potential AECs and COPC;
- A detailed site inspection to confirm desktop findings and identify any additional potential AECs and COPC and confirm the preliminary CSM;
- Preparation of a Sampling and Analysis Quality Plan (SAQP) for the works, developed using the Data Quality Objectives (DQO) project planning process;
- Implementation of the SAQP intrusive investigation program including the following:
    - Advancement of 42 test pits (TP01-TP42), seven hand augers (HA43-HA45 and HA47-HA50) and one borehole (BH46) within the site and collection of soil samples.
    - Installation of four groundwater monitoring wells and subsequent successful groundwater sampling of two wells.
    - Sampling of two fire hydrant points to analyse for PFAS.
- Laboratory analysis of selected samples for a range of COPCs;
- Comparison of collected soil and groundwater data against relevant endorsed criteria in relation to assessment, from a contamination perspective, of land use suitability;
- Preparation of a DSI report in accordance with EPA guidelines including conclusions regarding the potential contamination status of the site.

The following conclusions were made:

- The site history review identified that the site was historically as a health care facility since the late 1800s.
- Identified AECs and COPCs were associated with potential importation of fill materials from unknown origins, hazardous materials associated with historical demolition, refurbishment and construction works, biological COPCs related to sewer infrastructure, PFAS from fire hydrants, and the application of pesticides for maintenance of vegetated areas.
- Bonded ACM was encountered within fill in six test pit locations and on the ground surface in some areas of the site, exceeding the adopted health based site criteria;
- Laboratory analysis of selected soil samples indicated that asbestos fines/fibrous asbestos (AF/FA) and ACM were not detected above of laboratory LOR in any of the samples analysed. Where ACM was reported in and on soil, the fragments were non-friable;
- No friable asbestos was detected above the LOR/site assessment criteria in all soil samples and as such fibre release and migration was considered a low risk;
- Concentrations of other COPCs were not identified at levels posing an unacceptable risk to human receptors relating to the proposed redevelopment of the site.

- Ecological exceedances of zinc and hydrocarbon identified onsite did not present an unacceptable risk for a hospital land use setting that requires management or remediation;
- Bonded ACM encountered on surface soils and in fill at some locations across the site were considered to pose an aesthetic issue with respect to the future land use proposed. No other significant aesthetic issues (odours or staining) were identified;
- Concentrations of arsenic, chromium, copper, and zinc reported in groundwater were considered indicative of naturally occurring background levels and potential for COPC migration to groundwater or off-site migration of contamination via surface water/groundwater is considered to be low.
- No soil background issues or chemical mixtures, or significant offsite migration risks were identified;
- Based on the findings of the investigation, it was concluded that the site can be made suitable for the proposed ongoing hospital use.

The following recommendations were made:

- A pre-remedial assessment should be completed to characterise soils beneath existing building footprints following demolition;
- A Remedial Action Plan (RAP) should be prepared for the redevelopment footprint to manage the identified soil impacts;
- A Redevelopment Asbestos Management Plan (RAMP) should be prepared for the redevelopment footprint, detailing the safe implementation of the RAP in undertaking asbestos removal, as guided by the WH&S regulatory framework (SafeWork NSW); and
- An AMP should be prepared for the LHD site external to the developable footprint, where the site is a workplace, to manage identified asbestos to meet Work Health and Safety (WHS) Regulations, until such time as identified asbestos risks have been removed.

4. Contamination Status

Contamination of land is defined by the CLM Act[12] as "the presence in, on or under the land of a substance at a concentration above the concentration at which the substance is normally present in, on or under (respectively) land in the same locality, being a presence that presents a risk of harm to human health or any other aspect of the environment".

JBS&G (2022b) reported that bonded ACM was encountered within fill in six test pit locations and on the ground surface in some areas of the site, exceeding the adopted health based site criteria in some locations. No friable asbestos was detected above the LOR/site assessment criteria in all soil samples and concentrations of other COPCs were not identified at levels posing an unacceptable risk to human receptors relating to the proposed redevelopment of the site.

On this basis, the extent of known contamination within the site is:

- Bonded ACM within surficial soils in the areas shown on **Figures 3** and **5**.

Bonded ACM within TP32 on the raised levee also exceeded the health based site criteria, however, it located outside of the proposed redevelopment and therefore it not proposed to be remediated as part of this RAP. Concentrations of bonded ACM within the other 5 sample locations where bonded ACM was observed was below the health based site criteria and therefore is not considered to be contaminated and does not require formal remediation, but will still require consideration of the WHS framework during redevelopment works.

[12] Contaminated Land Management Act 1997 (CLM Act).

5. Remediation Options

5.1 Remediation Objectives

The remediation objectives are outlined as follows:

- Removal of unacceptable risks to human health and the environment from the identified asbestos contaminated fill such that the site is suitable for the proposed uses;
- Validate the remedial works in accordance with the relevant NSW EPA guidelines and with reference to the adopted site criteria; and
- Document the validation process.

This RAP has been prepared with reference to the following guidelines and legislation:

- Chapter 4 Remediation of Land of *State Environmental Planning Policy (Resilience and Hazards) 2021* (Resilience and Hazards SEPP).
- *Contaminated Land Guidelines: Sampling Design Part 1 - application*, NSW EPA, 2022 (EPA 2022).
- *Contaminated Land Guidelines: Consultants Reporting on Contaminated Land*, NSW EPA, May 2020 (EPA 2020).
- *Contaminated Land Management: Guidelines for the NSW Site Auditor Scheme*, 3rd Edition, NSW EPA, October 2017 (EPA 2017).
- *National Environment Protection (Assessment of Site Contamination) Measure 1999*, as amended 2013, National Environment Protection Council (NEPC 2013).
- *Work Health and Safety Act 2011* (WHS Act).
- *Work Health and Safety Regulation 2017* (WHS Regulation).
- *How to Safely Remove Asbestos - Code of Practice*, Safe Work Australia, 2020 (SWA 2020a).
- *How to Manage and Control Asbestos in the Workplace - Code of Practice*, Safe Work Australia, 2020 (SWA 2020b).
- *Management of Asbestos in the Non-Occupational Environment*, enHealth Council, 2005 (enHealth 2005).
- *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia*, WA Department of Health, 2009 (WA DoH 2009).

5.2 Extent of Remediation

5.2.1 Asbestos Impacted Fill

The lateral extent of potential asbestos contamination is detailed in **Figure 5**, comprising locations within brown silty clay or silty sand fill at six test pit locations (TP02, TP03, TP32, TP33, TP34 and TP41), or observed on the site surface across the northern, southwestern and southeastern portions of the site. Following the DSI recommendations, fill material within the existing building footprint areas will be characterised following demolition, prior to RAP implementation.

The vertical extent of remediation will be to the vertical depth of surficial asbestos contaminated fill to a maximum of 150 mm, with consideration to the specific design options for the site which may form permanent capping layers (such as permanent slabs underlying the proposed building footprint, car park access roadways etc.).

5.3 Consideration of Possible Remediation Options

5.3.1 EPA (2017) Guidance

The approach adopted in this RAP is consistent with the preferred hierarchy of options for site clean-up and/or management provided in NEPC (2013) and referred to by EPA (2017), which are listed as follows:

- on-site treatment so that the contaminant is either destroyed or the associated hazard is reduced to an acceptable level;
- off-site treatment of excavated soil so that the contaminant is either destroyed or the associated hazard is reduced to an acceptable level, after which the soil is returned to the site; or

if the above are not practicable,

- consolidation and isolation of the soil on-site by containment within a properly designed barrier; and
- removal of contaminated soil to an approved site or facility, followed where necessary, by replacement with appropriate material;

or

- where the assessment indicates remediation would have no net environmental benefit or would have a net adverse environmental effect, implementation of an appropriate management strategy.

In addition, it is also a requirement that remediation should not proceed in the event that it is likely to cause a greater adverse effect than leaving the site undisturbed. In addition, where there are large quantities of soil with low levels of contamination, alternative strategies are required to be considered or developed (EPA 2017). In addition, sustainability should be considered by the consultant when deciding which remediation option to choose, in terms of achieving an appropriate balance between the benefits and effects of undertaking the option. For example, where there are large quantities of soil with low levels of contamination, alternative strategies are required to be considered or developed (EPA 2017).

Consideration of each of the available options is presented in **Table 5.1**, taking into account the proposed development works at the site.

5.3.2 WA DoH 2009 Guidance

WA DoH 2009 provides specific guidance in the remediation and management of asbestos.

WA DoH 2009 note the following considerations as important when assessing the acceptability of any remediation:

- Minimisation of public risk;
- Minimisation of contaminated soil disturbance; and
- Minimisation of contaminated material/soil moved to landfill.

Consideration of each of the WA DOH 2009 guidance is presented in **Table 5.1**, taking into account the proposed development works at the site.

5.3.3 NSW EPA Position Statement

The NSW EPA's current position statement[13] on a more recent 2021 version of the WA DOH 2009 guidance and related to management of asbestos in soil in NSW, was also taken into consideration. The statement limits the emu-picking approach of asbestos remediation to surface and shallow (<10cm) soils where the source of the ACM is previously poor/incomplete demolition of an asbestos structure, and excludes this remediation method within deeper fill (>10cm).

[13] *Position statement – WA guidelines for asbestos contaminated sites*, https://www.epa.nsw.gov.au/your-environment/contaminated-land/other-contamination-issues/managing-asbestos-in-and-on-land/position-statement-wa-managment-of-asbestos-sites, accessed 29 April 2022

5.4 Possible Remedial Options

Table 5.1: Remedial Options Matrix

Option of Treatment	Discussion	Conclusion
Option 1: On-site treatment of the soil so that the contaminant is either destroyed or the associated hazard is reduced to an acceptable level.	ACM impacted surface soils Bound ACM can be removed from impacted surface soils (<10 cm) by hand-picking under certain conditions. It is noted EPA's current position on ACM picking (as noted in **Section 5.3.3**) limits the application of this approach to surface and shallow (<10cm) soils where the source of the ACM is previously poor/incomplete demolition of an asbestos structure, and therefore this option has not been considered suitable with consideration to ACM in fill at the site.	Not a suitable option.
Option 2: Off-site treatment of excavated soil so that the contaminant is either destroyed or the associated hazard is reduced to an acceptable level, after which the soil is returned to the site.	ACM impacted soils As above (Option 1), however, there are reductions in noise and dust emissions on site in comparison to on-site treatment (Option 1), but these are offset by increased truck movements. Typically, the costs associated with returning the treated materials to site may be equivalent to the costs associated with disposal to landfill. Furthermore, there are currently no facilities licensed to accept asbestos impacted material for offsite treatment.	Not a suitable option.
Option 3: Consolidation and isolation of the soil on-site by containment within a properly designed barrier.	ACM impacted soils Onsite containment is a suitable remedial option for areas where ACM impact is present above a threshold that renders it commercially unviable to remediate for onsite reuse. This may be due to an inability to effectively remove non-friable ACM due to soil type and building rubble concentration. This approach is more consistent with ESD and waste minimisation principles than Option 4. The amount of material able to be contained onsite will be dependent upon final design levels and the total volumes of fill materials required. It is noted that containment of contaminated soil would require the potential exposure to contamination to be managed by the implementation of a Long-Term Asbestos Management Plan (LTAMP). There must be acceptance by the ultimate custodian of the land that future controls will be implemented, and that a notation will be made on the Title of the land. Implementation of a LTAMP is considered feasible for the site given the proposed long term uses as a health services facility and that the remaining WHS beyond the development/remediation site will require an AMP to manage asbestos on/in soil that will not be remediated as part of the current redevelopment.	**The preferred option.**
Option 4: Removal of contaminated soil to an approved site or facility, followed where necessary by replacement with clean fill.	ACM only impacted soils Offsite disposal is a suitable remedial option for areas where ACM impact is present above a threshold that renders it commercially unviable to remediate for onsite reuse. This may be due to an inability to effectively remove bound ACM due to soil type and building rubble concentration. This option generates the highest quantity of waste, since the materials are disposed to landfill rather than treated and reused (i.e. Options 1 & 2) or retained on site (Option 3). This option also generates additional truck movements and associated fuel/emissions over Option 1 and Option 3, but less than Option 2, since materials are not returned to site.	A suitable option if unable to contain onsite.

5.5 Preferred Remedial Strategy

A number of potential remedial options have been outlined in **Table 5.1**. The preferred remedial strategy for the site is:

- Containment of asbestos contaminated soils, with the installation of a marker layer, capping layer, implementation of a LTAMP and notation on the land Title.

Offsite disposal of asbestos contaminated soils, if unable to be contained on site due to space constraints, is considered to be a suitable/feasible contingency option as part of the development works. The need for a LTAMP for the site would be negated where all asbestos risks are removed off site under this contingency scenario.

A combination of the preferred on-site containment option and contingency disposal option could be implemented where some but not all contaminated soil can be contained on site, requiring off-site disposal of some surplus impacted soil.

5.6 Containment of Asbestos Contaminated Soils within the Site and Broader WHS

It is considered that asbestos contaminated materials can be re-located within the site, or external to the site but within the WHS. To this extent, there is no requirement for an Environment Protection Licence (EPL) to be held to accept the material or to assign a waste classification to the materials, because the material is not considered to be surplus to site requirements and not leaving the site.

Materials destined for containment or re-use across the site as part of the overall remedial and design strategy are not considered to be waste materials. These materials may be temporarily stored within designated locations prior to permanent containment or re-use across the site as part of the overall redevelopment remedial strategy. Transportation of these materials via internal roads is considered appropriate if conducted with appropriate controls including wetted materials, leakproof trucks and covered loads.

5.7 Remediation Principles

The following remedial principles must be implemented during remedial works:

- Minimise the area and extent of disturbance of asbestos impacted fill; and
- Minimise off-site disposal of asbestos impacted fill.

6. Remediation Plan

6.1 Approvals, licences and notifications

The Wentworth Health Facility is situated adjacent to the confluence of the Murray-Darling River and located within 100 m of the Murray-Darling River. The *Wentworth Local Environmental Plan 2011* includes wetland mapping that incorporates the majority of the site. Under Clause 4.8(e) of the SEPP (H&R), Category 1 remediation work (i.e requiring development consent) includes remediation work carried out in an area of zone classified as a wetland (clause 4.8(e)(x)) under an environmental planning instrument. Given the Wentworth LEP classifies part of the site as a wetland area or zone, the remediation works proposed at the site are considered Category 1 remediation works requiring consent. On this basis, development consent for remediation works at the site is required.

An appropriately experienced and licensed Remediation Contractor is required to undertake the works under the supervision of an appropriately qualified and experienced Remediation Consultant. Asbestos impacted soils observed during the DSI were bonded, as per the definitions in relevant regulatory guidance. Based on the current site conditions, the remedial works must be conducted by a Class B (non-friable) licensed contractor who has obtained a site-specific permit approving the asbestos works from SafeWork NSW (SWNSW). This permit application must be made at least seven working days before removal work commences.

Remediation works shall not commence until all required approvals, licences and notifications have been granted and/or received.

Furthermore, all required environmental and health and safety documentations must be completed prior to the commencement of remedial works, and should as a minimum include the Construction Environmental Management Plan (CEMP), and Work Health and Safety Plan (WHSP) detailed in **Section 11**.

6.2 Site Establishment

The boundary of the extent of remediation will be defined by the Remediation Consultant. The Contractor shall secure these areas to ensure that all safety and environmental controls are implemented. These controls will include, but not be limited to:

- Locate and isolate all required utilities in the proximity of the works;
- Assess need for and implement any necessary traffic controls;
- Work area security fencing;
- Site signage and contact numbers;
- Stabilised site entry gate;
- Appropriate decontamination areas for personnel and plant;
- Sediment fencing (attached to security fencing) where necessary; and
- Stormwater runoff and sediment controls (e.g. silt fences and hay bales) where necessary.

6.3 Buildings and Structures Demolition

Existing structures within the site have been scheduled for demolition. Demolition should be completed in a manner that avoids new contamination of soils in vicinity and beneath buildings. Although demolition is not strictly part of the remediation works, the key processes for their demolition are briefly summarised below:

- Removal and disposal of hazardous materials in accordance with relevant regulatory guidance and Waste Classification Guidelines 2014 (EPA 2014);
- Conduct hazardous materials clearance inspection (where required);
- Demolish remainder of structures;

- Beneficial reuse of environmentally validated material onsite where possible or lawfully remove all materials off-site; and
- Expose underlying soils for pre-remedial characterization as recommended in the DSI (JBS&G 2022b).

6.4 Containment of Impacted Fill Option

Asbestos impacted fill can be managed via containment and the implementation of physical separation or within a "Containment Cell", which eliminates the inhalation exposure pathway for airborne asbestos fibres. Physical separation manages materials *in situ,* and could be applied to the following areas (see **Figure 6, Proposed Redevelopment Plans and Extent of Remediation**):

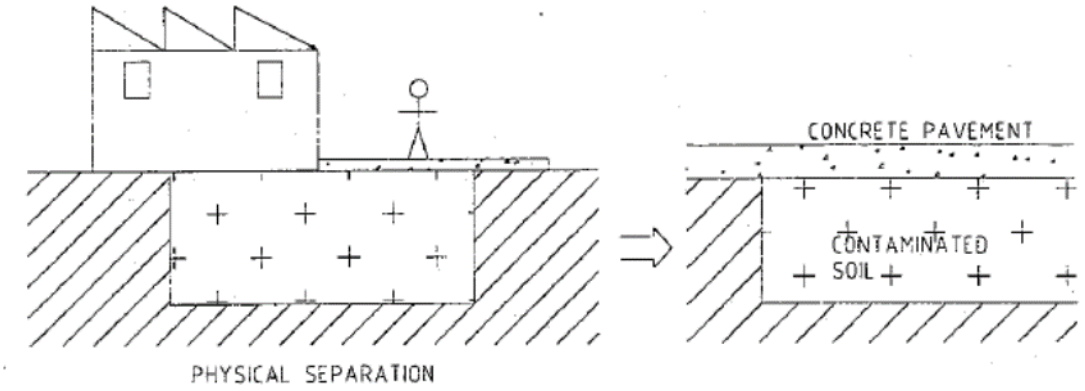
- Existing building footprints / fallout zones;
- ACM on ground surface; and
- ACM within the bund.

It is noted that larger areas capped *in situ* will result in a greater management area for the AMP.

The minimum typical requirements for the physical separation to be adopted in the remediation of the site include:

- A minimum soil cover thickness of 0.5 m in turfed areas, 0.5 m in mass planting/shallow landscaped areas, and 1.0 m in tree pit zones and on the raised levee, which is underlain by a "marker layer" in unpaved areas, i.e., parks, gardens and green open spaces etc.; or
- Permanent concrete floor/ground/wall slabs or asphaltic concrete surfaced pavements directly underlain by a "marker layer", i.e., underlying buildings, suspended slabs, roads, pathways; or
- Top (concrete) of pile foundations (no marker layer required for below pile foundations).

A conceptual sketch, sourced from ANZECC 1999[14], is shown following:



The marker layer shall consist of a bright orange coloured non-woven polyester continuous filament or PET (such as nonwoven geotextiles) or similar with a minimum density of approximately 150 grams per square metre (or equivalent). The marker layer must:

- Be easily recognisable within soils (i.e., bright orange in colour);
- Be durable as a long-term marker layer (i.e., > 150 grams per square metre); and
- Maintain integrity during remedial/civil works such as capping layer insulation and road/building construction.

Additionally, the marker layer must meet geotechnical and civil specifications where required, i.e., underlying roads.

The marker layer should be installed flush with the exterior of all screw pile foundations. A marker layer is not required below pile foundations.

At least 0.5 m depth capping layer in vegetated areas is required for containment of asbestos impacted soils (ANZECC 1999). Deeper capping layers have been specified in mass planting and tree pit zones to accommodate for the increased root depths of native tall grasses, shrubs and trees, and to minimise potential containment failure during future landscaping works in these areas. Furthermore, this enables the proposed finished ground surface levels of the redevelopment to be commensurate with the current ground surface levels of the hospital campus, thus eliminating additional unnecessary disturbance of asbestos impacted materials.

The specific details of the marker layer are required to be included in the site validation report and LTAMP documents in addition to surveyed plans showing the extent of capped area within the site.

It is noted that where typical capping thickness in unsealed areas are constrained by final development levels, thinner capping may be feasible with use of geogrid providing greater resistance to accidental penetration below capping material and marker layer.

It is noted that the final design plans (**Appendix A**) demonstrate that ACM from the Stage 1A works are to be capped and contained in the North-East, and Stage 1B to be capped and contained on the existing hospital site.

6.4.1 Interim Capping Arrangements During Construction Works

It is noted that the bonded asbestos impacted materials subject to excavation to achieve design levels may be capped and contained onsite. With consideration to the staged construction works, it is recommended that the impacted asbestos materials be temporarily stockpiled in an onsite location unlikely to be disturbed. A stockpile management plan is recommended, including guidance on dust suppression and the maintenance of the stockpile covering, including a geofabric cover or the seeding of the stockpile surface, if long- term, so to mitigate any dust borne particle migration.

[14] *Guidelines for the Assessment of On-site Containment of Contaminated Soil,* Australian and New Zealand Environment and Conservation Council, September 1999. (ANZECC 1999).

It may be beneficial to undertake any piling works (if required) as part of the remediation works as the top of pile foundations will form part of the capping layer on the site. Furthermore, completion of piling works during remediation will avoid unnecessary duplicated disturbance of asbestos impacted material on the site if piling works were to be completed subsequent to the installation of the marker and capping layer. Any piling spoil that is generated onto the capping will require removal (and either onsite containment or waste classification and off-site disposal) via a surface scrape of a nominal depth and subsequent visual and laboratory validation as per the requirements of **Table 8.2**. Any failures of the piling pad validation process will require repeating of this process until such time that the piling pad is validated.

In addition, completing the piling works whilst Class B Licensed Asbestos removalists, SafeWork NSW Competent Person (s) or Licensed Asbestos Assessor(s) and a full suite of appropriate asbestos related controls (as per **Section 9**) are being implemented on the site will enhance the safety of the work environment during piling works.

The interim capping approach is considered appropriate to complete (in the interim) the requirements of the RAP as the material or pavement will form a durable physical barrier such that there is/are:

- No complete exposure pathways (inhalation of asbestos fibres) between the asbestos impacted fill material and future site workers; and
- No significant potential risk of contaminant migration via airborne movement and dust generation etc. into surrounding areas of the site (occupational receptors) or offsite (sensitive receptors).

Where a marker layer is required to be placed underlying the capping as indicated above, this marker layer will be installed prior to construction of the interim capping layer so as to meet the requirements of the RAP.

Once the interim capping arrangements have been installed, the CEMP will address interim management requirements for all site works that may result in penetration of and/or removal of the interim cap. The CEMP will remain applicable until such time as the final capping arrangements are completed at the site, following which the LTAMP will replace the interim requirements. It is envisaged that this will occur in conjunction with the completion of construction works such that the CEMP will address primarily construction related activities under the direction of the Contractor, whilst the LTAMP will address primarily site maintenance related activities to be completed under the direction of the future land operators (i.e. the LHD).

Validation of the interim and permanent capping arrangements will be required as outlined in **Section 8,** including inspections by the Remediation Consultant, a survey plan prepared by a registered surveyor showing the level and lateral extent of the marker layer, interim capping and permanent capping in relation to the site boundaries.

6.4.2 Permanent Capping Arrangements

The following general capping procedures will be applied to appropriate scenarios across the site, prior to completion of construction works:

- Beneath permanent parking ground floor/basement structures – installation of a marker layer over contaminated fill material and permanent concrete slab as the physical barrier.
- Permanent hardstand structures (i.e., concrete slabs, suspended slab, pile caps or asphaltic concrete or similar, but not bricks or pavers) – installation of a marker layer overlying potentially contaminated material followed by sub-grade material validated as environmentally suitable materials for human exposure and then the permanent structure (e.g., exterior concrete footpaths, asphaltic roads, etc.).
- Turfed areas – installation of the marker layer at a minimum depth of 500 mm below final finished site levels, with a capping layer consisting of environmentally suitable materials for potential human and/or ecological exposure.

- Mass planting / shallow landscaping areas – installation of the marker layer at a minimum depth of 500 mm below the final finished site levels, with a capping layer consisting of environmentally suitable materials for potential human and/or ecological exposure.
- New tree pit zones – installation of the marker layer at a minimum depth of 1000 mm below the final finished site levels, with a capping layer consisting of environmentally suitable materials for potential human and/or ecological exposure.
- Existing tree zones – installation of the marker layer consistent with immediately adjacent marker layer depths (e.g., 500 mm in turfed areas and 500 mm in mass planting areas) to the extent practicable, with a capping layer consisting of environmentally suitable materials for potential human and/or ecological exposure.
- Within underground services trenches / services – service infrastructure will require remediation to 150 mm below the depth of services, with a marker layer and capping layer installed consisting of environmentally suitable materials for potential human and/or ecological exposure.
- Within road reserves – the entire width of newly constructed road reserves, in conjunction with service infrastructure will be required to a depth 150 mm below the depth of the services, with a marker layer and capping layer installed consisting of environmentally suitable materials for potential human and/or ecological exposure.

Reduced minimum capping layers (e.g. 300mm) may be possible in turfed or mass planting areas with the addition of geogrid providing greater resistance to accidental penetration below capping and marker layers, where development levels constrain the 500 mm capping indicated above. Any reduced capping thickness will also be subject to approval from landscape architects and/or arborists with respect to plant/tree root depth requirements.

Preliminary locations and extents of finished site surfaces, i.e., permanent hardstand structures and landscaped areas are detailed in the draft Development Plans, provided in **Appendix A**.

Where a marker layer has been installed and validated as part of the interim capping arrangements, a new marker layer is not required beneath the final capping layer, subject to all capping materials placed over the marker layer having been validated as environmentally suitable.

Material above the marker layer extending to the final finished ground level will be required to be environmentally suitable material for human and/or ecological exposure (as appropriate). This may include: virgin excavated natural material (VENM) sourced from on-site, imported VENM, imported quarried natural soils/rocks, excavated natural material (ENM) or similar material certified in accordance with an exemption issued by the NSW EPA that also meets site suitability criteria; or imported road making materials comprising fresh quarried material or material covered by a beneficial reuse exemption issued by the NSW EPA.

Additionally, material underlying load bearing structures such as roads, should be geo-technically suitable, in accordance previously prepared geo-technical reports.

In the interface of remediated and non-remediated areas, the extent of the marker and capping layer should be extended a minimum of 300 mm laterally outside the extent of remediated area, where practicable. This may include battering of the marker/capping layer to tie-in with existing site levels within the 300mm outside of the remediated area, where practicable.

Validation of the interim and permanent capping arrangements will be required as outlined in **Section 8,** including inspections by the Remediation Consultant, a survey plan prepared by a registered surveyor showing the level and lateral extent of the marker layer, interim capping and permanent capping in relation to the site boundaries.

6.4.3 Borrow Pit

A potential borrow pit is proposed beneath the landscaped areas of the site (refer **Figure 6** and **Appendix A**) to facilitate the onsite containment of asbestos contaminated fill materials. A borrow

pit allows for non-impacted natural soils below fill to be excavated and re-used elsewhere on site (e.g. as capping) or disposed off site at lower cost, enabling containment of fill.

6.5 Validation

Validation of the remedial works will be conducted by the Remediation Consultant to demonstrate the remediation objectives have been achieved. Details of the Validation Plan are provided in **Section 8**.

6.6 Waste Classification and Offsite Disposal of Material

If ACM, ACM impacted soil or other soil is surplus and requires removal for offsite disposal, waste classification will be completed in accordance with *Waste Classification Guidelines Part 1: Classifying Waste,* NSW EPA (2014) and relevant waste regulations by the Remediation Consultant. Surplus materials may alternately be assessed against EPA Resource Recovery Orders/Exemptions by the Remediation Consultant, where appropriate.

Disposal of waste to licensed waste facilities in accordance with relevant waste regulations will be undertaken by the Contractor. All waste tracking documentation including disposal dockets must be maintained by the Contractor and must be provided to the Principal and the Remediation Consultant (JBS&G) for inclusion in the Validation Report.

Unless specified above, soils requiring off-site disposal will be sampled by the Remediation Consultant as per the sampling density for stockpiled materials in NEPC (2013) for chemicals of concern.

It is a requirement under the *Protection of the Environment Operations (Waste) Regulations 2014* (POEO Waste Regulation) to record the movement of all loads of more than 100 kg of asbestos waste or more than 10 m^2 of asbestos sheeting. Each load will be assigned a unique consignment code to allow NSW EPA to monitor their movement from site of generation to disposal.

In addition, the *proximity principle*, under the POEO Waste Regulation, makes it an offence to transport waste generated in NSW by motor vehicle for disposal more than 150 kilometres from the place of generation, unless the is waste is transported to one of the two nearest lawful disposal facilities to the place of generation.

The Contractor must be aware of and conduct all waste disposal in accordance all relevant regulations.

6.7 Site Disestablishment

On completion of the remediation works all plant / equipment and safety / environmental controls shall be removed from the site by the Contractor. All equipment used during asbestos remediation works will need to be appropriately decontaminated or disposed of as asbestos waste by the Contractor, in accordance with SWA and SWNSW guidance, EPA 2014 and relevant waste regulations.

7. Contingency Plan

A review of remediation works has been undertaken to identify potential risks to meeting the specified site validation criteria. A number of potential risks have been identified. These are listed following with contingencies that will be implemented to ensure that validation criteria are met.

Additionally, the associated remedial works health and environmental risks/hazards and their minimisation/mitigation are further discussed in **Sections 9** and **10**.

7.1 Unexpected Finds Protocol

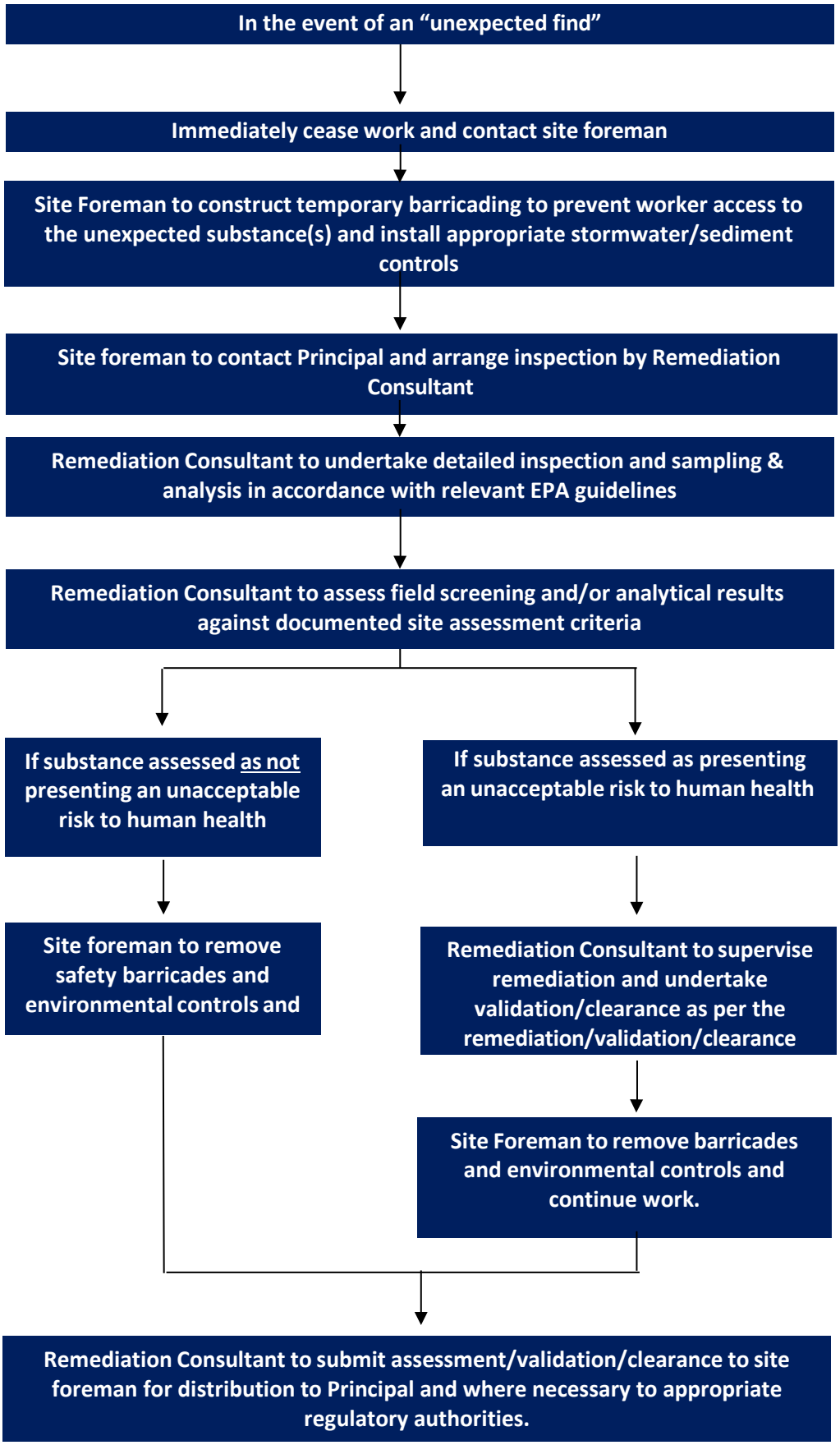
It is acknowledged that previous site investigations have been undertaken to assess the identified contaminants of potential concern in across the site. However, ground conditions between sampling points may vary, and further hazards may arise from unexpected sources and/or in unexpected locations during remediation. The nature of any residual hazards which may be present at the site are generally detectable through visual or olfactory means, for example:

- friable asbestos in soils (visible);
- bottles / containers of chemicals (visible);
- construction / demolition waste (visible);
- ash and/or slag contaminated soils / fill materials (visible);
- petroleum contaminated soils (odorous, staining / discolouration visible) beyond the identified impact, or at levels that prevent off-site disposal without treatment; and
- volatile organic compound contaminated soils (odorous).

As a precautionary measure to ensure the protection of the workforce and surrounding community, should any of the abovementioned substances be identified (or any other unexpected potentially hazardous substance), the procedure summarised in **Flowchart 7.1** is to be followed.

An enlarged version of the unexpected finds protocol, suitable for use on-site, should be posted in the Site Office and referred to during the site-specific induction by the Contractor.

Flowchart 7.1: Unexpected Finds Protocol



7.2 Remedial Strategy Constraints

In the event that the proposed remedial works do not meet the validation criteria, or if the selected remedial strategy is not able to proceed, the following actions will be considered to ensure, firstly, the safety and health of people and the environment and, secondly, that the overall project objectives are achieved:

- Reassessment of remedial and validation options for ACM impacted soils, including the option for excavation and offsite disposal of some or all impacted soil where the preferred on-site containment approach is not feasible or is unable to be applied to all impacted fill (even with a borrow pit) without generation of surplus material requiring removal and disposal.

It is noted that surface bonded (non-friable) ACM can be handpicked to clear surface and shallow (<10cm) soils where the source of ACM is related to previous poor/incomplete demolition of structures and where the asbestos is not in a friable condition (as AF/FA).

7.3 Excavation and Off-Site Disposal Contingency Option

Where management of impacted soils will be completed via excavation and off-site disposal, procedures as documented following will require to be implemented to ensure all environmental/health objectives are addressed.

Impacted soils (assessed as unsuitable for containment) shall be 'chased out' under the direction and supervision of the Remediation Consultant. The procedure for undertaking this excavation activity will be:

- Excavation of impacted soils to nominated lateral and vertical extent until the soils meet the adopted validation criteria (**Section 8.5**);
- Excavated soils shall be stockpiled on a hardstand or plastic liner pending offsite disposal or loaded directly into the back of a truck for disposal; and
- Any unexpected finds will be managed as per **Section 7.1**.

Upon confirmation of soil validation by the Remediation Consultant, excavations that require reinstating, will be backfilled using on-site validated material and/or validated imported material where required.

7.4 Material Storage Breach

In the event any stockpiled or capped materials escape (or have the potential to escape), then the management controls shall be rectified and investigations undertaken to review the adequacy of the controls and any improvements implemented.

7.5 Complaints

Due to the nature of the activities and type of contaminants identified at the site there is a potential for complaints to be received from members of the public, patients and staff members relating to environmental emissions including:

- Dust emissions arising from asbestos contaminated soil excavation, material handling, transport, placement and capping; and
- Noise and vibration from excavation.

Monitoring of all environmental emissions shall be undertaken as detailed in **Section 9** and appropriate actions taken to further control emissions following receipt of a complaint. Such additional controls may include the following actions:

- Disturbance of soils during meteorologically favourable periods only; and/or

- Increasing environmental controls including covering and/or wetting down soils which are generating dust.

7.6 Lack of Available Space

Works will be scheduled so that new remedial areas will not be opened up until previously excavated areas are capped. This has the benefit of separating asbestos earth works and regular earth works, thus minimising the extent of asbestos earth works occurring at any one stage. Should room availability for unexpected finds become a concern, laboratory-turn-around times for validation samples will be decreased in an attempt to clear open areas. If room onsite does become an issue remedial works will stop until areas can be validated. It is noted that the concept sketches (**Appendix A**) include a staged contamination strategy.

7.7 Severe Weather

Weather will be monitored on a daily basis via checking an internet-based weather service provider. Should severe weather be forecast, especially strong winds, works will stop until safe to re-commence. All site management controls will be implemented to the extent practicable as outlined in **Section 9** prior to any severe weather events.

7.8 Odours from Works

Based on the nature of the identified contaminants, off-site odour complaints are considered unlikely. Where complaints occur, the following will be undertaken:

- Installation of an odour screening / masking system at the remediation area boundaries; and/or
- Disturbance of soils during meteorologically favourable periods only; and/or
- The use of odour suppressant additives to water used to keep impact soils/ stockpiles moist; and or
- Covering of impacted soils.

8. Validation Plan

8.1 Overview

Validation data are required to be collected to verify the effectiveness of the remediation works and document the condition of the site as being suitable for the proposed future uses, including:

- Validation activities will be required for the areas outlined in **Table 8.2**.
- Documentation of installation of containment measures if chosen as the remedial option (both interim and final);
- Validation of site-won or imported fill material to demonstrate its suitability for use as a capping layer or in trenching works;
- Tracking the movement of all soil and fill material onsite; and
- Classification of surplus materials requiring offsite disposal.

8.2 Data Quality Objectives

Data Quality Objectives (DQOs) were developed for the validation program, as discussed in the following sections.

8.2.1 State the Problem

The site is proposed to be upgraded to include a new hospital and associated parking, two new staff accommodations, landscaping, and a possible future ambulance station to the southeast of the WHS, external to the site boundary. Previous investigations, as detailed in **Section 3**, have identified asbestos impacts in areas requiring remediation and/or management in order to make the site suitable for the proposed redevelopment.

8.2.2 Identify the Decision

The following decisions are required to be made during the validation works:

- Are fill materials that are not impacted by asbestos above the site criteria able to be re-used on site?
- Have marker and capping layers (where required) been installed appropriately and in accordance with RAP requirements?
- Are imported materials environmentally suitable for their proposed use?
- Have waste materials been suitability classified and lawfully disposed?
- Have the works been completed in accordance with the RAP, or where variations to the works were required, have these met the objectives of the RAP?
- Are analytical data generated by the validation works reliable?
- Is the site suitable for the proposed use?

8.2.3 Identify Inputs to the Decision

The inputs to the decision are:

- Detailed development plans to be provided by HI;
- Previous investigation data;
- Observation and photographic log of marker and capping layer installation (if required);
- Survey of marker and capping layer vertical and lateral extents (if required);
- Field observations and analytical data for soils beneath structures;
- Field observations, sampling and analytical data for imported materials;

- Field observations, sampling and analytical data for reused materials;
- Field observations, sampling and analytical data for off-site disposal of waste materials;
- Field observations, sampling and analytical data of any unexpected finds;
- Physical observations, including visual, olfactory and photoionisation detector (PID), where appropriate, screening results;
- Documentation of appropriate classification of imported materials;
- Environmental monitoring data to demonstrate that potential airborne pollutants as generated by the handling of environmentally impacted materials on the site has not impacted off-site locations;
- Assessment criteria for soils; and
- Data quality indicators as assessed by quality assurance/quality control (QA/QC).

8.2.4 Define the Study Boundaries

The study boundaries of the site are defined as follows:

- The lateral extent of the works relevant to this RAP are defined by the extent of the site, as shown on **Figure 2**;
- The vertical extent of the works is defined as:
- 0.5 m into natural materials; or
- the maximum depth of where potentially impacted fill materials are to be retained.

8.2.5 Decision Rules

The decision rules adopted to answer the decisions identified in **Section 9.2.2** are discussed below.

Are fill materials that are not impacted by asbestos above the site criteria able to be re-used on site?

Fill material was previously characterised during the DSI assessment, as summarised in **Table A** and **Table E**. Fill was generally noted to contain bonded asbestos within the top 100 – 150 mm (as shown on **Figure 6**). Surficial fill that is considered to be contaminated with ACM is to be separated from underlying fill and managed as per the preferred remedial option (**Section 5.4**).

Subject to geotechnical suitability[15] and the unexpected finds protocol in **Section 7.1**, underlying fill materials (>150 mm bgs) are suitable to be re-used or retained on site, without additional assessment.

Have marking and capping layers, where required, been installed appropriately and in accordance with RAP requirements?

The marker and capping layers must be installed across the extent of the remedial area, as shown in **Figure 6.** The marker layer must be installed to the RAP requirements, as well as the manufacturer's installation requirements. The vertical and lateral extents of the marker layer and position of piles should be surveyed, along with consistent and comprehensive photographic evidence.

The extent of the marking and capping layers within the remedial area (**Figure 6**) may be reduced, should the material within the remedial area be removed and underlying soils are validated.

Where soil-based material is to be used as a capping layer, placed above the marker layer and readily accessible to human users, this material is required to be validated as meeting the health and ecological validation requirements for the site in addition to aesthetic requirements.

[15] Assessment and validation of geotechnical suitability of site materials is not considered in this RAP and is to be undertaken by a suitably qualified and experienced geotechnical consultant.

All imported materials to be used as the capping layer must be environmentally suitable, as defined below.

Are imported soils environmentally suitable for their proposed use?

Material required to be imported onto the site as capping, trench backfill or road building purposes (or any other purpose) are required to be demonstrated to be VENM, ENM or material considered suitable for beneficial reuse in accordance with a resource recovery exemption issued by NSW EPA under clauses 51 and 51A of the POEO Waste Regulation.

All imported material must not be classified as containing asbestos as per the definition of SWA (2020a).

All imported materials will be assessed to ensure the entirety of the capping layer from surface to the marker layer is validated upon conclusion of remedial works.

VENM

Laboratory analysis results will be compared to published background levels (metals) and nominated laboratory LORs (for all man-made chemical constituents) for VENM. The Remediation Consultant will conduct a site inspection of all VENM source sites and approve any VENM Certificates prior to importation of material. If either the source site or supporting documentation is unsatisfactory in regard to certainty of the material comprising VENM, the Remediation Consultant will undertake additional sampling to confirm chemical characterisation of VENM material and prepare any required documentation.

ENM

ENM will be assessed in accordance with the "Excavated Natural Material Exemption 2014". The Remediation Consultant will conduct a site inspection of all ENM source sites and approve any ENM material characterisations prior to importation of material. If either the source site or supporting documentation is unsatisfactory in regard to certainty of the material comprising ENM, the Remediation Consultant will undertake additional sampling to confirm chemical characterisation of ENM material and prepare any required documentation.

Resource Recovery Exemptions

Any materials falling under this category will be assessed in accordance with the relevant resource recovery exemption. The Remediation Consultant will undertake additional assessment and reporting if required to ensure compliance with the relevant resource recovery exemption.

Have waste materials been suitability classified and lawfully disposed?

All waste requiring off-site disposal must be suitability characterised and classified in accordance with *Waste Classification Guidelines* (EPA 2014) or relevant exemptions (such as VENM and ENM).

Fill materials present across the extent of the site are considered to be Special Waste – Asbestos, unless assessment proves otherwise. Additional chemical analysis is required for off-site disposal unless sufficient historical data can be used for waste classification purposes.

Natural soils underlying fill materials across the site may be encountered during excavations and may be suitable for characterisation as VENM, if appropriate care should be taken to not mix waste streams, no visual or olfactory signs of contamination are present, and the material meets VENM chemical criteria (if required).

Is the data generated by the validation works reliable?

If the analytical data meets the Data Quality Indicators established in **Section 8.2,** then the analytical data are considered to be reliable.

All other data, such as visual observations, photographic logs and surveys will be qualitatively assessed to ensure they contain sufficient information to inform the validation report.

Is the site suitable for the proposed use?

The site will be considered suitable for the proposed use if the following conditions are met:

- Fill materials or natural soils across the site meet the adopted site criteria;
- Marker and capping layers have been appropriate installed and documented;
- Imported soils are considered to be environmentally suitable;
- Waste materials have been suitably characterised and lawfully disposed;
- Analytical data generated is considered reliable; and
- A suitable LTAMP will be implemented at the site.

8.2.6 Specify Limits of Decision Error

A qualitative assessment shall be undertaken of potential decision errors associated with the data, in accordance with the provisions in NEPC 2013.

8.2.7 Optimise the Design for Obtaining Data

The validation sampling design for each specific type of validation works anticipated is discussed in detail in **Section 8.3**. The general sampling methodologies are discussed below.

8.2.8 Soil Sampling Methodology

Soil sampling will be conducted by the Remediation Consultant. The soil sampling method shall be determined by the Remediation Consultant as consistent with the observations of the site sub-surface and appropriate to generate representative samples. The soil sampling method shall be consistent with the data quality indicators in **Section 8.2**.

Where sample locations are placed by boreholes, undisturbed samples, as collected by push tube or SPT sampler, are preferred where able to be effectively implemented. Otherwise, samples may be recovered from solid flight augers or via test pitting. All asbestos quantifications will be recovered from a solid flight auger with a diameter of at least 150 mm or via test pitting. Re-usable equipment shall require to be decontaminated between sampling locations.

8.2.9 Soil Sample Containers

During the collection of soil samples, features such as seepage, discolouration, staining, odours and other indications of contamination shall be noted on field reporting sheets / field logs.

Collected soil samples shall be immediately transferred to sample containers of appropriate composition (glass jars) fitted with Teflon sealed lids. 500 mL samples shall be additionally collected and placed in new zip lock bags where asbestos analysis is required. Sample labels shall record sample identification number and date and time of sampling. Sample containers shall be transferred to a chilled ice box for sample preservation prior to and during shipment to the testing laboratory. A chain-of-custody form shall be completed and forwarded with the samples to the testing laboratory, containing the following information:

- Sample identification;
- Signature of sampler;
- Date of collection;
- Type of sample;
- Number and type of container;
- Inclusive dates of possession; and
- Signature of receiver.

8.2.10 PID Screening

Soil samples will be screened during field works using a photo-ionisation detector (PID) to assess the potential presence of VOCs including petroleum hydrocarbons. Samples obtained for PID screening will be placed in a sealed plastic bag for approximately 5 minutes to equilibrate, prior to a PID being attached to the bag. Readings will then be monitored for a period of approximately 30 seconds or until values stabilise and the stabilise/highest reading will be recorded on the field sample forms. The PID will be calibrated prior to the commencement of field works and then check readings will be completed on a daily basis during the field program using suitable calibration gas. If required, the PID will be re-calibrated during the field program in accordance with manufacturer's instructions.

8.2.11 Quality Assurance/Quality Control

The objective of the project is to remediate the site to a standard suitable for the prosed uses. To demonstrate the effectiveness of the remedial works, validation sampling, inspections and analysis will be conducted. The quality of the validation data must be sufficient to draw conclusions regarding the suitability of the site. Hence, the quality assurance / quality control (QA/QC) program employed as part of the remediation works will involve pre-determined data quality indicators (DQIs).

The DQIs are summarised following and in **Table 8.1:**

> **Precision** - measures the reproducibility of measurements under a given set of conditions. The precision of the laboratory data and sampling techniques is normally assessed by calculating the Relative Percent Difference (RPD) [16] of duplicate samples. However, this calculation is not applicable due to the presence / absence nature of asbestos, and as such, the agreement between the sample pairs will be assessed instead.

[16] $$RPD(\%) = \frac{|C_o - C_d|}{C_o + C_d} \times 200$$

Where C0 is the analyte concentration of the original sample

- **Accuracy** - measures the bias in a measurement system. The accuracy of the laboratory data that are generated during this study is a measure of the closeness of the analytical results obtained by a method to the 'true' value. Accuracy is assessed by reference to the analytical results of laboratory control samples, laboratory spikes and analyses against reference standards.
- **Representativeness** - expresses the degree which sample data accurately and precisely represent a characteristic of a population or an environmental condition. Representativeness is achieved by using an adequate number of sample locations to characterise the site to the required accuracy.
- **Comparability** - expresses the confidence with which one data set can be compared with another. This is achieved through maintaining a level of consistency in techniques used to collect samples, ensuring analysing laboratories use consistent analysis techniques and reporting methods.
- **Completeness** - is defined as the percentage of measurements made which are judged to be valid measurements. The completeness goal is set at there being sufficient valid data generated during the study.
- **Sensitivity** - expresses the appropriateness of the chosen field and laboratory methods, including the limits of reporting, in producing reliable data in relation to the adopted site assessment criteria.

Table 8.1: Summary of QA/QC Control Program

Data Quality Indicator	Frequency	Data Quality Acceptance Criteria
Precision		
Blind duplicates (intra laboratory)	1 / 20 samples	<50% RPD or agreement between asbestos presence/absence
Blind duplicates (inter laboratory)	1 / 20 samples	<50% RPD or agreement between asbestos presence/absence
Accuracy		
Surrogate spikes	All organic samples	70-130%
Matrix spikes	NA for asbestos analysis. Otherwise 1 per lab batch.	70-130%
Laboratory control samples	1 per lab batch	70-130%
Representativeness		
Sampling appropriate for media and analytes	All samples	All samples
Samples extracted and analysed within holding times.	-	NA for asbestos, organics (14 days), inorganics (6 months)
Laboratory Blanks	1 per lab batch	<LOR
Trip spike	1 per sampling event targeting volatiles	70-130% recovery
Trip blank	1 per sampling event targeting volatiles	<LOR
Comparability		
Standard operating procedures for sample collection & handling	All samples	All samples
Standard analytical methods used for all analyses	All samples	All samples
Consistent field conditions, sampling staff and laboratory analysis	All samples	All samples

Cd is the analyte concentration of the duplicate sample

Data Quality Indicator	Frequency	Data Quality Acceptance Criteria
Limits of reporting appropriate and consistent	All samples	All samples
Completeness		
Soil description and COCs completed and appropriate	All samples	All samples
Appropriate documentation	All samples	All samples
Satisfactory frequency and result for QC samples	All QA/QC samples	-
Data from critical samples is considered valid	-	Critical samples valid
Sensitivity		
Field and analytical methods and limits of recovery appropriate for media and adopted site assessment criteria	All samples	At least 10L per field AQ sample. LOR < Site assessment criteria (where possible)

If the RPD between duplicates is greater that the pre-determined DQI, a judgement will be made as to whether the excess is critical in relation to the validation of the data set or unacceptable sampling error is occurring in the field. For asbestos agreement, the highest concentration of the primary, duplicate or triplicate samples will be recorded as the result for that sample location, thus eliminating any non-conformance between primary, duplicate and triplicate samples.

8.3 Validation Inspections, Sampling and Analyses

8.3.1 Overview of Validation Sampling

The proposed soil validation sampling, quantification and analytical program is outlined in **Table 8.2.**

Table 8.2: Validation Sampling and Analytical Plan

Validation Area	Sampling Frequency	Analytes
Validation of piling platform following piling and surface scrape to remove potential cross-contamination.	1 sample location per 10 m grid	Asbestos (500mL) Minimum of 10L Asbestos Field quantification per metre interval of fill
Further assessment of differing fill material types that may be encountered during civil earthworks (if segregation and on-site re-use above the marker layer is required)	1 per 70m^3 (historical samples able to be included), as per WA DoH 2009 stockpile materials sampling density	Heavy metals TRH/BTEX PAHs OCPs/PCBs Asbestos (500mL) Minimum of 10L Asbestos Quantification per 70m^3
Excavations formed by removal of localised asbestos impact (if required to segregate impacted fill from non-impacted soils)	Floor: 1 per 25m^2. Wall: 1 sample per 5 linear metres. 1 sample per vertical metre.	Asbestos (500mL) 10L Asbestos Quantification per metre interval of fill (where appropriate)
Residual soils underneath stockpiles where contaminated material has been stored	1 sample per 10 m grid. Visual inspection.	Asbestos (500mL) or relevant contaminants
Excavations formed by Unexpected Finds	Base: 1 sample / 10 m grid, minimum of 2 per base Walls: 1 sample per 10 lineal metres per 1 m depth	Relevant contaminants of concern
Imported Materials of VENM, if required	Minimum of 3 samples per source site.	<u>As a minimum:</u> Heavy metals TPH/BTEX PAHs OCPs/PCBs Asbestos (500mL)
Quarried Natural Materials (e.g. blue metal, sandstone, shale)	Confirmation that the material is quarried natural product prior to importation, and visual confirmation.	<u>As a minimum:</u> Heavy metals TPH/BTEX

Validation Area	Sampling Frequency	Analytes
	Minimum of 3 samples per source site.	PAHs OCPs/PCBs Asbestos (500mL)
Imported Materials of ENM, if required	As per ENM exemption 2014	Heavy metals TPH/BTEX PAHs OCPs/PCBs pH EC RTA 276 (foreign materials) Asbestos (500mL)
Waste Classification, stockpiles	1 per 25m^3 up to 200 m^3, minimum of 3. Reduced sampling density for volumes >2100 m^3. Density to consider heterogeneity of the material.	Heavy metals TPH/BTEX OCPs/PCBs PAHs Phenols Asbestos TCLP Metals and PAHs (if required)
Recycled/Recovered Products	As per relevant exemption (supplier) Minimum of 3 samples per source site.	Heavy metals TPH/BTEX PAHs OCPs/PCBs Plus Asbestos (500mL)
All imported materials	Visual inspection upon arrival at site and regular visual inspections during importation.	Visual inspection only.

8.3.2 Marker Layer Inspection

Where capping requirements in **Section 6.4** involve installation of a marker layer, visual inspection will be undertaken by the Remediation Consultant including photographic records, to verify the installation of the marker layer across all required areas of the site, (i.e., across all areas observed, detected or assumed to contain asbestos, as per **Figure 6**). A survey of the marker layer installation, including vertical and lateral extents by the Contractor will be retained for inclusion in the Validation Report. The marker layer will be inspected where present adjacent to pile foundations to ensure the marker layer has been placed flush with the exterior of the pile.

8.3.3 Capping Layer Validation

Where capping requirements in **Section 6.4** involve installation of a capping layer, material to be used as a capping layer must be validated by the Remediation Consultant to be environmentally suitable, consisting of VENM, ENM, suitable on-site materials (i.e. VENM from on-site) or material considered suitable for beneficial reuse via a resource recovery exemption issued by NSW EPA. Additionally, any capping layer material must not exceed the adopted site validation criteria for soils.

The capping layer must be placed at the thicknesses specified for each capping scenario as detailed in **Section 6.4.** Photographic records and a survey of the capping layer installation, which details the final thicknesses of the capping layer, including the vertical and lateral extents by the Contractor will be retained for inclusion in the validation report.

8.3.4 Imported Material Validation

Imported material source sites will be visited by the Remediation Consultant. Supporting documentation must be provided by the Contractor for imported materials to be assessed against the validation plan, relevant guidelines/exemptions and adopted site criteria. The Remediation Consultant will collect additional samples and prepare appropriate documentation for imported materials in lieu of adequate information provided by the Contractor to ensure all material imported to site is validated.

Sampling requirements are detailed in **Table 8.2.**

An electronic database (Imported Material Spreadsheet) will be maintained by the Remediation Consultant and Contractor to keep a record of imported materials.

8.3.5 Waste Disposal Off-Site

All wastes requiring off-site disposal from the WHS must be classified in accordance with *Waste Classification Guidelines* (EPA 2014). The Contractor is responsible for the lawful disposal of the classified waste to a licensed waste disposal facility lawfully able to accept the waste.

Disposal dockets for each individual off-site waste disposal load must be provided to the Principal and to the Remediation Consultant by the Contractor to demonstrate appropriate off-site disposal of waste occurred for site validation purposes.

As detailed in **Section 5.6** above, if asbestos contaminated materials are to be re-located across the site, the material is not considered to be surplus to site requirements (as it is not leaving the Wentworth Health Facility). Materials destined for re-use across the site as part of the overall remedial and design strategy are not considered to be waste materials. Thus, there is no need to assign a waste classification to these materials.

8.4 Validation Criteria Selection

The hospital land use represents a scenario that does not fall under the standard health investigation land use scenarios presented in NEPM (2013). Schedule B7 of NEPM (2013) states “the HILs developed for the commercial/industrial land use scenario are not applicable to a site used frequently by more sensitive groups such as children (within childcare centres, hospitals and hotels) and the elderly (within hospitals, aged care facilities and hospices).” Given that children, elderly and other sensitive sub-populations (such as patients with immunosuppression and pre-existing illness) are frequents users of the site, a more sensitive land use scenario is required to be adopted. To this extent, the HIL B – standard residential land use scenario with minimal opportunities for soil access has been adopted as one of the validation criteria for all COPCs. In addition, given the potential for landscaped spaces in portions of the site, consideration has also been given to HIL C – Recreational and Public Open Space.

8.4.1 Soil Validation Criteria

The site is proposed to be redeveloped for ongoing use as a health services facility. As such, based on the proposed land use and in accordance with the decision process for assessment of urban redevelopment sites (EPA 2017), concentrations in the soil will be compared against published levels as presented in **Tables 8.3**, sourced from the following:

- Health Investigation Levels (HILs) for residential with minimum opportunities for soil access – NEPC 2013, HIL-B;
- Health Screening Levels (HSLs) for petroleum hydrocarbons considering potential for vapour intrusion, clay for low – high density residential (NEPC 2013);
- HSLs for asbestos contamination in soil for high density residential land use (HSL B) – NEPC (2013);

- Management limits for hydrocarbons for urban residential and public open space land use – fine soil (NEPC 2013);
- Generic and derived ecological investigation levels (EILs) based on NEPC (2013) for urban residential and public open space; and
- Ecological Screening Levels (ESLs) for TPH fractions, BTEX and benzo(a)pyrene in fine soil for urban residential and public open space land use (NEPC 2013).

Given the typically clay based fill materials / soils, fine soil criteria will be used in the HSLs/ESLs and the Management Limits.

Where there are no NSW EPA endorsed thresholds the laboratory limit of reporting (LOR) has been adopted as an initial screening value for the purposes of this assessment.

Where required, results will be statistically assessed in accordance with the method summarised in **Section 8.5.2.**

Table 8.3: Adopted Soil Validation Criteria

Constituent	Limit of Reporting (mg/kg)	Laboratory Method	Health Investigation / Screening Levels: HIL B (mg/kg, %w/w for asbestos)	Ecological Investigation / Screening Levels: (mg/kg)	Management Limits TRH (mg/kg)
Asbestos					
Bonded ACM	0.01	AS4964-2004	0.04	-	-
AF/FA	0.001	AS4964-2004	0.001	-	-
Heavy Metals					
Arsenic	2	ICP-AES (USEPA 200.7)	500	100	-
Cadmium	0.4	ICP-AES (USEPA 200.7)	150	-	-
Chromium	5	ICP-AES (USEPA 200.7)	500 (Cr VI)	400 (Cr III)	-
Copper	5	ICP-AES (USEPA 200.7)	30 000	230	-
Lead	5	ICP-AES (USEPA 200.7)	1200	1,200	-
Mercury (inorganic)	0.05	ICP-AES (USEPA 200.7)	120	-	-
Nickel	5	ICP-AES (USEPA 200.7)	1200	330	-
Zinc	5	ICP-AES (USEPA 200.7)	60 000	960	-
Polycyclic Aromatic Hydrocarbons (PAHs)					
Carcinogenic PAHs (as B(a)P TEQ)	-	-	4	-	-
Total PAHs	0.5	-	400	-	-
B(a)P	0.5	GCMS (USEPA8270)	-	0.7	-
BTEX					
Benzene	0.1	Purge Trap-GCMS (USEPA8260)	0.7 (<1 m) 1 (1 to < 2 m) 2 (2 to < 4 m) 3 (4 m +)	65	-
Toluene	0.1	Purge Trap-GCMS (USEPA8260)	480 (<1 m)	105	-
Ethyl benzene	0.1	Purge Trap-GCMS (USEPA8260)	-	125	-
Xylenes (Total)	0.3	Purge Trap-GCMS (USEPA8260)	110 (<1 m) 310 (1 to < 2 m)	45	-

Constituent	Limit of Reporting (mg/kg)	Laboratory Method	Health Investigation / Screening Levels: HIL B (mg/kg, %w/w for asbestos)	Ecological Investigation / Screening Levels: (mg/kg)	Management Limits TRH (mg/kg)
Naphthalene	0.5	Purge Trap-GCMS (USEPA8260)	5 (<1 m)	170	-
Total Recoverable Hydrocarbons (TRH)					
F1 C_6-C_{10}	20	Purge Trap-GCMS (USEPA8260)	50 (<1 m) 90 (1 to < 2 m) 150 (2 to < 4 m) 290 (4 m +)	180	800
F2 >C_{10}-C_{16}	50	Purge Trap-GCMS (USEPA8260)	280 (<1 m)	120	1000
F3 >C_{16}-C_{34}	100	Purge Trap-GCMS (USEPA8260)	-	1300	3500
F4 >C_{34}-C_{40}	100	Purge Trap-GCMS (USEPA8260)	-	5600	10 000
Organochlorine Pesticides (OCPs)					
DDT+DDE+DDD	0.015	GCECD (USEPA8140,8080)	600	180	-
Aldrin and dieldrin	0.01	GCECD (USEPA8140,8080)	10	-	-
Chlordanes – Total	0.1	GCECD (USEPA8140,8080)	90	-	-
Endosulfan I + II	0.01	GCECD (USEPA8140,8080)	400	-	-
Endrin	0.05	GCECD (USEPA8140,8080)	20	-	-
Heptachlor	0.05	GCECD (USEPA8140,8080)	10	-	-
HCB	0.05	GCECD (USEPA8140,8080)	15	-	-
Methoxychlor	0.2	GCECD (USEPA8140,8080)	500	-	-
Mirex		GCECD (USEPA8140,8080)	20	-	-
Toxaphene	1	GCECD (USEPA8140,8080)	30	-	-
PCBs					
Total PCBs	0.5	GCECD (USEPA8140,8080)	1	-	-

Notes: Site-specific EILs for some metals were calculated by JBS&G (2022a) consistent with NEPC (2013), using average site specific data (pH = 8.0 pH units, total organic carbon (TOC) = 0.36 %, clay percentage = 9.94% and cation exchange capacity (CEC) = 27 meq/100g), as presented in **Table A**. NEPC (2013) states that that EILs apply principally to contaminants in the top 2 m of soil at the finished surface/ground level which corresponds to the root zone and habitation zone of many species. In arid regions, where the predominant species may have greater root penetration, specific considerations may result in their application to 3 m depth.

8.4.2 Application of Soil Criteria

For soil to be considered as validated (i.e., not posing an unacceptable risk) all reported concentrations should ideally be below the site validation criteria. For chemical analysis the following statistical criteria shall be adopted with respect to the health-based criteria:

- The upper 95% confidence limit on the average concentration for each analyte (calculated for samples collected from consistent soil horizons, stratigraphy or material types) must be below the adopted criterion;
- No single analyte concentration shall exceed 250% of the adopted criterion; and

- The standard deviation of the results must be less than 50% of the criterion.
- Where the soil validation criteria are exceeded, further remediation and validation, or evaluation of risk, will be required.

In addition to the numerical criteria, consideration shall be given to the presence of soils that are odorous or discoloured as a result of contamination.

8.5 Material Tracking Plan

The movement of all earth-based materials on the site, to the site and from the site is required to be subject to a Material Tracking Plan (MTP). The MTP shall be administered by the Remediation Consultant with the provision of all required information by the Contractor.

Material tracking shall be required for all materials that are moved / excavated from a location on the site and not wholly replaced in the same locations within 12 hours of material movement (i.e., soils excavated for testpitting / assessment do not require material tracking, however all other material will require tracking).

8.5.1 Material Tracking Data

To this extent, all excavation and filling works as undertaken for the purposes of site remediation require the following information to be recorded by the Contractor on Material Tracking Forms (MTFs) and in an electronic Material Tracking Spreadsheet (MTS) and verified by the Remediation Consultant, with respect to material placement activities:

- Date (yyyy/mm/dd);
- Unique MTF identification (starting at 001);
- Site figure showing source (cut) and placement (fill);
- Estimated volume (cubic metres);
- Type of material (refer to classification scheme in **Table 8.2**);
- Depth of source (RL)
- Depth of placement (RL);
- Source (from) information in terms of MGA56 co-ordinates as established by site GPS and/or survey;
- Placement (to) information in terms of MGA56 co-ordinates as established by site GPS and/or survey;
- Source (from) information in terms of site feature;
- Placement (to) information in terms of site feature;
- Source (from) information from off-site source site (e.g. Quarry A);
- Placement (to) information for off-site disposal (e.g., tip, EPA tracking number, docket reference);
- Reference document (where necessary, i.e. virgin excavated natural material / excavated natural material classification);
- Purpose of placement (i.e. containment, surplus to site requirements etc); and
- Comments (when required).

For material which has been removed for the purposes of environmental remediation, and is proposed to be moved again subsequent to the completion / validation of environmental

remediation works, MTFs for the replacement of the material shall make reference to the initial MTFs generated by the excavation of the materials for remediation. As part of the validation of the material tracking forms, mass / material balances shall be assessed at each stage where additional material tracking forms are generated for particular site material.

It is the responsibility of the Contractor to ensure the MTF(s) are completed and submitted to the Remediation Consultant at the end of each day's work. The Remediation Consultant has ownership of the MTFs on receipt of all the necessary information from the Contractor.

The Remediation Consultant is required to review the submitted MTFs and to investigate/resolve any discrepancies. Following this review, a copy of the MTFs will be forwarded to the Principal. Ideally this would occur within two days of the Remediation Consultant verifying the MTFs from the Contractor.

The MTP is considered an active process and revisions of the MTP will be undertaken to improve the MTFs and MTS to ensure comprehensive and efficient material tracking.

8.5.2 Material Tracking Classifications

Material to be moved on the site shall generally be tracked as per one of the following classifications:

- Asbestos contaminated fill (i.e., above site criteria) or asbestos impacted fill (i.e., below site criteria) moved on-site that may be temporarily stockpiled with a unique stockpile identifier prior to final placement under the marker layer;
- Validated soils moved on-site;
- Relocation of fill/natural materials across the site to temporary stockpiles or direct placement under the marker layer;
- Off-site disposal of waste material (with classification);
- Surplus soils as ENM;
- Surplus soils as VENM;
- Imported soils as VENM;
- Imported soils as ENM; and
- Imported soils under exemption.

Review of these general classification will be undertaken throughout the remedial works to ensure the classification remain appropriate.

8.6 Validation Reporting

8.6.1 Validation Report

The validation report shall be prepared by the Remediation Consultant written in general accordance with *Contaminated Land Guidelines: Consultants Reporting on Contaminated Land*, NSW EPA (EPA 2020).

The validation report should contain information including:

- Results of previous investigations conducted at the site;
- Details of the remediation works conducted;
- Information demonstrating that the objectives of the RAP have been achieved, in particular the validation sample results and assessment of the data against both the pre-defined data quality objectives and the remediation acceptance (validation) criteria;

- Information demonstrating compliance with appropriate regulations and guidelines;
- All material tracking data;
- Any variations to the strategy undertaken during the implementation of the remedial works;
- Details of any environmental incidents occurring during the course of the remedial works and the actions undertaken in response to these incidents; and
- Other information as appropriate, including any requirements for ongoing monitoring / management.

8.6.2 Long Term Asbestos Management Plan

In addition to the requirements of the Validation Report, on-site containment of asbestos contaminated/impacted material will require long term management following completion of the redevelopment.

To this end, a LTAMP will be prepared by the Remediation Consultant to detail the ongoing asbestos management and monitoring requirements for the site consistent with the remediation/management works conducted. The LTAMP will be prepared following the completion of the Validation Report for the site such that the requirements may be reviewed and approved by HI.

The LTAMP is required to document the following elements:

- A statement of the objectives of the LTAMP – i.e., to ensure continued suitability of the site following remediation;
- Identification of residual environmental contamination issues at the site that require ongoing management/monitoring to meet the LTAMP objectives, including the type of contamination and location within the site (including a survey plan prepared by a registered surveyor);
- Documentation of environmental management measures which have been implemented to address the identified environmental issues at the site;
- Description of management controls to limit the exposure of site users to known areas of contamination to acceptable levels;
- Description of responsibilities for implementing various elements of the provisions contained in the LTAMP;
- Timeframes for implementing the various control/monitoring, etc. elements outlined in the LTAMP;
- Environmental monitoring and reporting requirements (if required) for the future management of environmental impact underlying the site including:
- Appropriate monitoring locations and depth within and down-gradient of any residual contamination;
- Relevant assessment criteria to be used in evaluating monitoring results;
- Frequency of monitoring and reporting;
- Process for reviewing monitoring data and how decisions will be made regarding the ongoing management strategy;
- The length of time for which monitoring is expected to continue; and
- The regulatory authorities involved and the management inputs required from each;

- the integration of environmental management and monitoring measures for soil and groundwater;
- Health and safety requirements for particular activities;
- A program of review and audits;
- The provisions in the LTAMP are feasible (i.e., able to be implemented) and able to be legally enforceable (i.e., a mechanism exists, such as development consent conditions, to give the plan a basis in law);
- The relevant consent authority is satisfied that the inclusion of a development consent condition relating to the implementation of the LTAMP is acceptable; and
- Corrective action procedures to be implemented where LTAMP assessment criteria are breached.

9. Site Management Plan

The site management plan will be largely based on the outcomes of the REF process. This section contains procedures and requirements that are to be implemented as a minimum requirement during the remedial works at the site.

9.1 Hours of Operation

The hours of operation for remedial work are subject to approval through the REF, however typical hours of operation for remedial works are:

- Monday to Saturday: 7am to 5pm.
- Sunday and public holidays: No work permitted.

9.2 Soil and Water Management

All works shall be conducted in general accordance with the NSW Department of Housing Blue Book – *Managing Urban Stormwater – Landcom*, 2004, which outlines the general requirements for the preparation of a soil and water management plan.

All remedial works shall be conducted in accordance with a soil and water management plan, which is to be kept onsite and made available to Council Officers on request. All erosion and sediment measures must be maintained in a functional condition through the remediation works by the Contractor.

To prevent the migration of impacted soil off site, silt fences shall be constructed at the down-gradient site boundaries by the Contractor. Any material which is collected behind the sediment control structures shall be treated by one of the following options:

- Placement under the capping layer if appropriate; or
- Removal off site to a licensed waste facility subsequent to waste classification.

In storm or extended rainfall event, the structures located on site for sediment control shall be monitored and replaced or altered if necessary by the contractor. Collected material shall be managed in accordance with remediation works by the contractor.

9.3 Stockpile Management

All materials stockpiled onsite will be managed by the Contractor. Unique numbers will be provided for each stockpile, the source of the stockpile, its estimated volume, material characterisation and its location onsite (via GPS) will also be recorded consistent with the Material Tracking Plan provided as **Section 8.5**.

The following procedures will be implemented by the Contractor:

- No stockpiles of soil or other materials shall be placed on footpaths or nature strips unless prior Council approval has been obtained;
- All stockpiles of soil or other materials shall be placed away from drainage lines gutters or stormwater pits or inlets;
- All stockpiles of soil or other materials likely to generate dust or odours shall be covered (where practical);
- All stockpiles of chemically contaminated soil shall be stored in a secure area and be covered if remaining more than 24 hours (where practical); and
- All stockpiles of asbestos contaminated or impacted soils shall be kept damp and covered to minimise potential fibre release, and if left for more than 24 hours, be stored in a secure area (where practical).

9.4 Site Access

All vehicle access to the site shall be stabilised to prevent the tracking of sediment onto the roads and footpaths. All materials must be removed from the roadway on a daily or as required basis. Soil washings from wheels shall be collected and disposed of in a manner that does not pollute waters. Any personnel, equipment, plant or vehicles that enter an asbestos works zone must be appropriately decontaminated prior to exiting.

9.5 Excavation Pump-out

Any excavation pump out water shall be sampled by the consultant for analysis for total suspended solid concentrations, turbidity, pH and the identified contaminants of concern prior to release to stormwater with permission from Council, sewer (only if trade waste permit obtained) or licensed liquid waste Contractor.

Excavation pump out from trenches is not anticipated with the general remediation works given the general remedial plan of minimising ground disturbance and groundwater being at a depth of approximately 4 m bgs. Pump out following accumulation of surface water is the most likely scenario for water disposal.

9.6 Landscaping / Rehabilitation

All exposed soils shall be progressively stabilised and revegetated or resealed on the completion of remedial works.

9.7 Noise

Remediation work shall not give rise to 'offensive noise' as defined in the *Protection of the Environment Operations* (POEO) Act 1997. All equipment and machinery associated with the remediation work shall be operated by the Contractor in accordance with the POEO Act 1997 and its *Noise Control Regulations 2000*.

The remediation works shall comply with the NSW EPA's *Environmental Noise Control Manual* for the control of noise from construction sites which specifies that:

- For a cumulative period of up to 4 weeks, the noise level as measured by the LA10 (15 minute) emitted by the works to specific residences should not exceed the background noise level, LA 90 (15 minute), by more than 20dB(A).

All machinery and equipment used on site will be in good working order and with the fitted with appropriate silencers when necessary.

9.8 Vibration

The use of plant and machinery by the Contractor shall not cause vibrations to be felt or capable to be measured at any premises.

9.9 Air Quality

During remedial works, dust emissions and any odours will be confined within the site boundary. This will be assessed by a program of air monitoring undertaken by the consultant for all remediation works and implemented by air emission controls as required by the Contractor. Air monitoring requirements are summarised in this section.

9.9.1 Air Monitoring

Real-time Exposure Monitoring (Dust)

Preference is given for all environmental monitoring to be undertaken using real time methods. To this extent, the Remediation Consultant shall monitor works on the site by the use of a Dusttrak real-

time aerosol monitors. A minimum of five locations will be monitored continuously throughout the remediation works.

The consultant will advise the Principal and Contractor when the time averaged Dusttrak particulate measurement (PM10) exceeds 0.05 mg/m^3. WA DoH (2009) reports that this level is protective of potential asbestos fibre exposures. Further, this level is well below the inspirable dust inhalation standard, and is further protective of potential respirable dust impacts at the site boundary. The remediation works shall not comprise excavation / handling of silica rich materials, and maintenance of particulates at this level is considered to be similarly protective of potential silica exposures.

If dust levels exceed the adopted criteria of 0.05 mg/m^3, the Principal and Contractor will be notified, and works will require to be modified to reduce dust emissions to below the adopted criteria. All exceedances will be required to be "closed-out" by re-sampling at the exceedance location subsequent to implementation of modified work routines (such as increased dust controls).

Occupational Asbestos Monitoring

Airborne asbestos fibre monitoring will be conducted by the Certified Occupational Hygienist (COH) whom also must be a Licensed Asbestos Assessor (LAA, as per SafeWork NSW requirements) in accordance with the requirements of the National Occupational Health and Safety Commission (NOHSC*) Asbestos Code of Practice and Guidance Notes*, in particular the Guidance note for the estimation of airborne asbestos dust [NOHSC 3002:2005]. The COH shall undertake airborne asbestos fibres monitoring at a minimum of five static locations daily during remediation works that will disturb asbestos impacted or contaminated materials. Monitoring locations will include site perimeter locations and downwind locations. Wind information available from the Bureau of Meteorology (BOM) for the nearest weather stations will be used to determine common prevailing winds in the area. Additionally, personal monitoring of up to three potentially impacted workers as nominated by the Contactor must be undertaken by the COH.

Air filters shall be analysed by a NATA accredited laboratory and results shall be required to be below 0.01 fibres/mL. All detections of fibres shall be further analysed by scanning electron microscope (SEM) to confirm the fibres are asbestos.

If respirable asbestos fibres are confirmed and present between 0.01 and 0.02 fibres/mL, the following controls must be implemented by the licensed asbestos removalist, in accordance with *Code of Practice: How to Safely Remove Asbestos,* SafeWork NSW (SWNSW 2020a);

- Review control measures;
- Investigate the cause; and
- Implement controls to eliminate or minimise exposure and prevent further release.
- If respirable asbestos fibres are confirmed and present above 0.02 fibres/ml, the following controls must be implemented by the licensed asbestos removalist, in accordance with SWNSW 2020a;
- Stop removal work;
- Notify SafeWork NSW by phone, then by fax or written statement that work has ceased;
- Investigate the cause;
- Implement controls to eliminate or minimise exposure and prevent further release; and
- Do not recommence removal work until further air monitoring is conducted and fibre levels are detected below 0.01 fibres/mL.

- A daily report air monitoring report will be prepared documenting the previous/same days airborne asbestos fibre air monitoring results. This report will be made available to all relevant stakeholders, including but not limited to:
- Site workers;
- Hospital staff;
- Neighbouring facilities; and
- Unions.

9.10 Dust Control

During the remedial works, as necessary, excavation areas will be wetted down using a water spray to minimise the potential for dust to be generated by the Contractor. A wetting or bonding agent may be used to further bind the soil to minimise asbestos fibre release.

All asbestos impacted soils must be wetted (but not flooded) prior to and during excavation and movement of the soils. To control dust in significant areas of exposed asbestos contaminated fill, industrial misting fans, placed at the outer extents of remedial/excavation areas, must be utilised by the Contractor.

Dust shall also be controlled by ensuring vehicles leave via the designated (stabilised) site access and all equipment have dust suppressors fitted by the Contractor.

During all remedial works, dust screens will be erected around the perimeter of the site by the Contractor. Where significant fugitive emissions are observed from asbestos inspection / treatment pads, or bioremediation areas, these areas shall be wetted and/or covered by the Contractor.

Meteorological conditions will be monitored by the Remediation Consultant and Contractor. Remedial work will be stopped or modified where meteorological conditions are adverse (i.e., dry conditions and strong winds towards sensitive receptors).

Plant and vehicles should limit their speed when working within asbestos exclusion zones and only traverse wetted haul roads. Only essential vehicles are permitted to traverse the asbestos exclusion zone.

9.11 Staging of Asbestos Disturbance Works

Where practicable, asbestos disturbance works will be conducted exclusively (i.e., with no other dust generating earthworks occurring simultaneously) with the application of a marker layer and interim capping layers as soon as practicable subsequent to site levels being achieved.

The objective of this is to separate all potential asbestos and non-asbestos dust generating activities so appropriate levels of control can implemented for each type of activity.

9.12 Odour / Volatile Emissions Control

No odours should be detectable at the site boundary and volatile emissions of other potentially volatile substances shall be controlled. Appropriate actions will be taken by the Contractor to reduce the odours, which may include: increasing the amount of covering of excavations / stockpiles; mist sprays; odour suppressants; and maintenance of equipment.

Records of volatile emissions and odours shall be kept by the Contractor. Equipment and machinery will be adequately maintained to minimise exhaust emissions. No materials shall be burnt on the site.

9.13 Transport of Material Offsite/Across the Site

Trucks will be loaded in a designated area. The Contractor shall ensure that there is no material tracked out onto the street and that the load is securely covered. In addition, all site vehicles must leave the site in a forward direction.

The Contractor shall also log truck movements and approximate volume, via registration number and consignment number (where applicable), into and out of the site including material relocated across the site.

All appropriate road rules shall be observed and state roads will be selected as far as practicable over local roads when deciding on the transport route to the off-site material disposal location.

Plant and vehicles should limit their speed when working within asbestos exclusion zones and only traverse wetted haul roads.

9.14 Hazardous Materials

Hazardous and / or intractable wastes arising from the remediation work shall be removed and disposed of in accordance with the requirements of NSW EPA, SafeWork NSW and the relevant regulations by the Contractor.

In particular, any hazardous wastes will be transported by a NSW EPA licensed transporter.

9.15 Offsite Disposal of Contaminated Soil

All soils to be removed from the WHS for disposal will be classified, managed and disposed in accordance with the *Waste Classification Guidelines* (EPA 2014) or other appropriate EPA-issued waste RRO/RRE. Documentary evidence for all soil disposal shall be kept for inclusion in the Validation Report.

It is a requirement under the *Protection of the Environment Operations (Waste) Regulations 2014* (POEO Waste Regulation) to record the movement of all loads of more than 100 kg of asbestos waste or more than 10 m^2 of asbestos sheeting. Each load will be assigned a unique consignment code to allow NSW EPA to monitor their movement from site of generation to disposal.

In addition, the *proximity principle*, under the POEO Regulation, makes it an offence to transport waste generated in NSW by motor vehicle for disposal more than 150 kilometres from the place of generation, unless the waste is transported to one of the two nearest lawfully disposal facilities to the place of generation.

9.16 Imported Fill

Any materials imported on site by the Contractor to re-establish ground levels or to be applied as a capping layer must be validated, environmentally suitable material (i.e. VENM, ENM or other, as described in **Table 8.2**). Additionally, the imported fill should also be compatible with required geotechnical constraints and the existing soils characteristic for site drainage purposes.

9.17 Groundwater Dewatering

It is anticipated no dewatering will be required for the remediation works. If dewatering is required as part of the remediation works, a licence shall be applied for from Water NSW for approval to extract groundwater. Details on the analyses and disposal of dewatering water will be provided in a Construction Environmental Management Plan (CEMP) (see **Section 10**).

9.18 Site Signage and Contact Numbers

A sign/s shall be displayed adjacent to the site access point/s throughout the duration of the works with the contact details of the Contractor and project manager as provided and maintained by the Contractor.

9.19 Site Security

The remedial areas shall be secured against unauthorised access by means of an appropriate fence or barricade by the Contractor. All persons working in asbestos remedial areas must be inducted, have undertaken required training and don appropriate PPE. The access gates will be locked at all times when remedial works are not occurring.

9.20 Community Consultation

Owners and / or occupants of adjacent premises and will be notified at least seven days prior to the commencement of preparation for the remediation works. As a minimum the notification shall include the details of an appropriate contact person.

Hospital staff and contractors will be notified at least seven days prior to the commencement of preparation for the remediation works via communications notices by the LHD.

10. Environmental and Health and Safety Management

10.1 Environmental Management

10.1.1 Construction Environmental Management Plan

Prior to commencement of remediation works on the site, a CEMP shall be prepared by the Contractor, which documents the environmental monitoring and management measures required to be implemented during the remediation and construction related activities associated with the construction of the site.

The CEMP shall address each of the nominated items in **Section 10.1.2** and shall include the contingency plan, referred to in **Section 8** above.

10.1.2 Required Elements / Procedures

An assessment of the proposed activities and the associated elements required to be incorporated into the CEMP is provided in **Table 10.1**. The CEMP is required to address each of the required elements and procedures in full detail and to include detailed monitoring processes and procedures, corrective actions and reporting requirements.

Table 10.1: Required Elements of the CEMP

Element	Specific Minimum Requirements to be included in CEMP
1. Dust and Airborne Hazard Control	Real time airborne dust analyser monitoring. Asbestos air monitoring. Provisions for dust control based on monitoring results. Staging of asbestos works. Notification of surrounding buildings and implementation of control measures (e.g., closure of air vents or additional monitoring for asbestos fibres).
2. Flora and Fauna	As appropriate and advised by flora and flora consultant.
3. Heritage/Archaeological	In accordance with relevant heritage/archaeological studies.
4. Visual Impacts	Visual monitoring at site boundary Specific colour requirements for various controls/measures, including PPE (e.g., navy coveralls may be a suitable option in cooler conditions)
5. Emergency Response	As appropriate. Procedures required for spill incident response including material storage breach.
6. Noise Control	Hours of operation, consistent with the consent conditions. Boundary monitoring at commencement of work site activities with potential for environmental noise emissions. Potential noise monitoring at nearest receptors. Procedures for control and management of noise emissions, as appropriate (e.g., restricted hours).
7. Traffic	Controls on vehicle movements on public roads/internal WHS roads Controls on transport in asbestos exclusion zones
8. Protection of Adjoining Structures	As appropriate and advised by structural engineer.
9. Odour Control	Procedures for management of potentially odorous works.
10. Handling of Contaminated Soil and Groundwater	Soil and water management (stockpiling, site access, excavation pump out, reinstatement).
11. Soil Storage/Placement Areas	Soil and water management (stockpiling, site access, excavation pump out, reinstatement). Bunding. Heavy vehicle/personnel decontamination. Interim storage requirements for materials requiring later treatment. Site drainage requirements, incorporating clean/dirty areas and modifications to existing surface water and drainage controls beneath retained pavements. Monitoring as required.
12. Sediment Control	Bunding. Collection/treatment/handling impacted sediments.
13. Operation of Site Office	As appropriate.

Element	Specific Minimum Requirements to be included in CEMP
14. Asbestos Works	Required notifications, permits, signage and exclusion zones. Required personal (e.g. Class A removalist, licences asbestos assessor). PPE and decontamination. Staging of asbestos and non-asbestos works.
15. Environmental Monitoring	Monitoring of dusts, noise, odour and fibres. Monitoring as required for vibration and water releases. Inspection checklists and field forms.
16. Environmental Criteria	Soil and water criteria as sourced from RAP.
17. Material Classification	As detailed in this RAP. Materials tracking, including QA/QC inspection and sampling.
18. Community Relations Plan	Refer to CHW Stage 2 project specific communication protocols, incorporating nomination of specific contact persons & details and requirements for communications/response register.
19. Incident Reporting	As appropriate, including standard form/checklist.
20. Security and Signage	Secure site perimeter. Site boundary signage. Asbestos exclusion zone signage.
21. EMP Review	As appropriate.
22. Training	As appropriate. Asbestos awareness training for all workers.
23. Contact Details	Company/personnel details, including names/phone numbers for: - Principal Contractor - Remediation Consultant - Remediation Contractor - OH&S Compliance - Environmental Compliance

10.2 Health and Safety Management

A Work Health & Safety Management Plan (WHSP) shall be prepared by the Contractor prior to commencement of remediation works on the site. The Plan shall contain procedures and requirements that are to be implemented as a minimum during the works.

The objectives of the WHSP are:

- Ensure all regulatory requirements for the proposed works are satisfied;
- To apply standard procedures that minimises risks resulting from the works;
- To ensure all employees are provided with appropriate training, equipment and support to consistently perform their duties in a safe manner; and
- To have procedures to protect other site workers and the general public.

These objectives will be achieved by:

- Assignment of responsibilities;
- An evaluation of hazards;
- Establishment of personal protection standards, mandatory safety practices and procedures;
- Monitoring of potential hazards and implementation of corrective measures; and
- Provision for contingencies that may arise while operations are being conducted at the site.

11. Regulatory Approvals / Licensing

11.1 Resilience and Hazards State Environment Planning Policy – Chapter 4 Remediation of Land

Chapter 4 Remediation of Land in the Resilience and Hazards SEPP describes Category 1 remediation work as remediation work carried out or to be carried out on an area or zone including critical habitats, environmental conservation areas, nature reserve, floodway, wetlands, etc, which requires consent.
As detailed in **Section 6.1**, as part of the site is classified as a wetland under Wentworth LEP, the proposed remedial works at the site are considered to Category 1 remediation work requiring consent, therefore a DA covering the proposed remediation works is required. Specifically, in relation to the subject site, R&H SEPP also requires that:

- The proposed remediation works are carried out in accordance with the SEPP (R&H) Remediation of Land Planning Guidelines (DUAP 1998[3]) and any guidelines in force under the *CLM Act*;
- The proposed remediation works are carried out in accordance with any development consent conditions; and
- Notice of completion is provided to the local council and the consent authority (DPE) within 30 days of completion of the works, with the details required under the R&H.

11.2 Protection of the Environment Operations Act 1997

The proposed remediation/validation activities are not required to be licensed under the POEO Act since the works do not involve:

- treatment otherwise than by incineration and storage of more than 30 000 cubic metres of contaminated soil originating exclusively from the site, or
- disturbance of more than an aggregate area of 3 hectares of contaminated soil originating exclusively from the site.

11.3 Protection of The Environment Operations (Waste) Regulation 2014

The regulations make requirements relating to non-licensed waste activities and waste transporting. The proposed works on the site will not require to be licensed.

Section 42 of the Regulation stipulates special transportation, reporting, re-use and recycling requirements relating to asbestos waste and must be complied with regardless whether the activity is licensed.

The requirements for the transportation of asbestos waste include:

- bonded asbestos material must be securely packaged at all times;
- friable asbestos material must be kept in a sealed container;
- asbestos-contaminated soils must be wetted down; and
- all asbestos waste must be transported in a covered, leak-proof vehicle.

The transporter of asbestos waste must cause the following information to be given to the EPA prior to the transportation of asbestos waste loads:

[3] *Managing Land Contamination – Planning Guidelines SEPP 55 Remediation of Land*. NSW EPA Department of Urban Affairs and Planning 1998 (DUAP 1998)

- source site details including address, name and contact details;
- date of proposed transportation commencement;
- name, address and contact details of disposal site; and
- approximate weight of each class of asbestos in each load.

The transporter of asbestos waste must ensure the following information is given to the disposal site before or at delivery:

- unique consignment code issued by EPA in relation to that load; and
- any other information specified in the Asbestos and Waste Tyres Guidelines.

The requirements relating to the off-site disposal of asbestos waste are as follows:

- asbestos waste in any form must be disposed of only at a landfill site that may lawfully receive the waste;
- when asbestos waste is delivered to a landfill site, the occupier of the landfill site must be informed by the person delivering the waste that the waste contains asbestos;
- when unloading and disposing of asbestos waste at a landfill site, the waste must be unloaded and disposed of in such a manner as to prevent the generation of dust or the stirring up of dust; and
- asbestos waste disposed of at a landfill site must be covered with virgin excavated natural material or other material as approved in the facility's environment protection licence.

Section 48 of the Regulation requires that wastes are stored in an environmentally safe manner. It also stipulates that vehicles used to transport waste must be covered when loaded.

It is noted that the above requirements of the waste regulatory framework apply when waste materials leave a site. As detailed in **Section 6.6**, material movement across the WHS are not considered to be waste materials because the material is not considered to be surplus to site requirements and is not leaving the WHS. Thus, there is no need to assign a waste classification to the materials.

11.4 Waste Classification Guidelines (EPA 2014)

All wastes generated and proposed to be disposed from the site shall be assessed, classified and managed in accordance with this guideline. Where wastes require immobilisation prior to off-site disposal (to reduce waste classifications) an immobilisation approval shall be sought in accordance with Part 2 of this guideline. Immobilisations are only anticipated to be required with unexpected finds that cannot be retained on site and cannot be disposed directly offsite to a licensed facility.

11.5 Asbestos Removal Regulations and Codes of Practice

The remediation of fill containing asbestos will be managed in accordance with the Work Health and Safety Act (2011), WHS Regulation, SafeWork NSW guidelines, '*Code of Practice: How to Safely Remove Asbestos,* (SWA 2020a), '*Code of Practice: How to Manage and Control Asbestos in the Workplace'*, (SWA 2020b) and the NSW EPA (2014) Waste Classification Guidelines.

Excavation, onsite remediation and removal of friable asbestos contaminated soils are required to be conducted by a Class A Asbestos Removal licensed contractor.

All airborne asbestos fibre monitoring works must be undertaken by a COH / LAA, in accordance with SafeWork NSW requirements.

Before starting the affected works, the Contractor is required to obtain a site-specific permit approving the asbestos works from SafeWork NSW. A permit will not be granted without a current licence and the permit application must be made at least seven days before the work is due to commence.

12. Communications with Stakeholders

Communication will be maintained in accordance with Health Infrastructure and the LHD related communication plans throughout the work with key stakeholders of the project.

Communication will also be maintained throughout the work via:

- Daily pre-starts;
- Weekly toolbox talks;
- Information and training awareness sessions as required;
- Daily airborne asbestos fibre monitoring reports; and
- Community consultation.

13. Conclusions and Recommendations

With reference to the limitations in **Section 14**, the following conclusions and recommendations are provided.

13.1 Conclusions

Overall, it is considered that the proposed actions outlined in this RAP conform to the requirements of the *Contaminated Sites Guidelines for the NSW Site Auditor Scheme (3rd Edition)* (EPA 2017) because they are: technically feasible; environmentally justifiable; and consistent with relevant laws, policies and guidelines endorsed by NSW EPA.

Subject to the successful implementation of the measures described in this RAP and the recommendations below, it is concluded that the risks posed by contamination can be managed in such a way as to be adequately protective of human health and the environment, such that the site can be made suitable for the proposed hospital use.

13.2 Recommendations

It is recommended that the processes outlined in this RAP be implemented and that the following documentation be developed and implemented to ensure the risks and impacts during remediation works are controlled in an appropriate manner:

- A Redevelopment Asbestos Management Plan (RAMP) be prepared for the redevelopment footprint, detailing the safe implementation of the RAP in undertaking asbestos removal, as guided by the WH&S regulatory framework (SafeWork NSW);
- A CEMP, to document the monitoring and management measures required to control the environmental impacts of the works and ensure the validation protocols are being addressed; and
- A Work Health and Safety Management Plan (WHSP) to document the procedures to be followed to manage the risks posed to the health of the remediation workforce.

The CEMP and WHSP will require to be cognisant of the potential occurrence and storage / handling of asbestos contaminated soils on the site.

Upon completion of the remediation works, if containment is considered the most suitable option, the Validation Report and LTAMP for materials retained beneath the marker and capping layer are required to be submitted by the Remediation Consultant to HI for certification that the site is suitable for the proposed uses, subject to implementation of the LTAMP. If offsite disposal is considered the most suitable option, the Validation Report will document the remediation and validation of the site, with no requirement for an LTAMP.

It is further recommended that an asbestos management plan (AMP) be prepared for the LHD site external to the redevelopment/remediation area addressed in this RAP, where the site is a workplace, to manage identified asbestos to meet WHS Regulations, until such time as identified asbestos risks have been removed.

14. Limitations

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only, and has been based in part on information obtained from the client and other parties.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

JBS&G accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by JBS&G, and should not be relied upon by other parties, who should make their own enquiries.

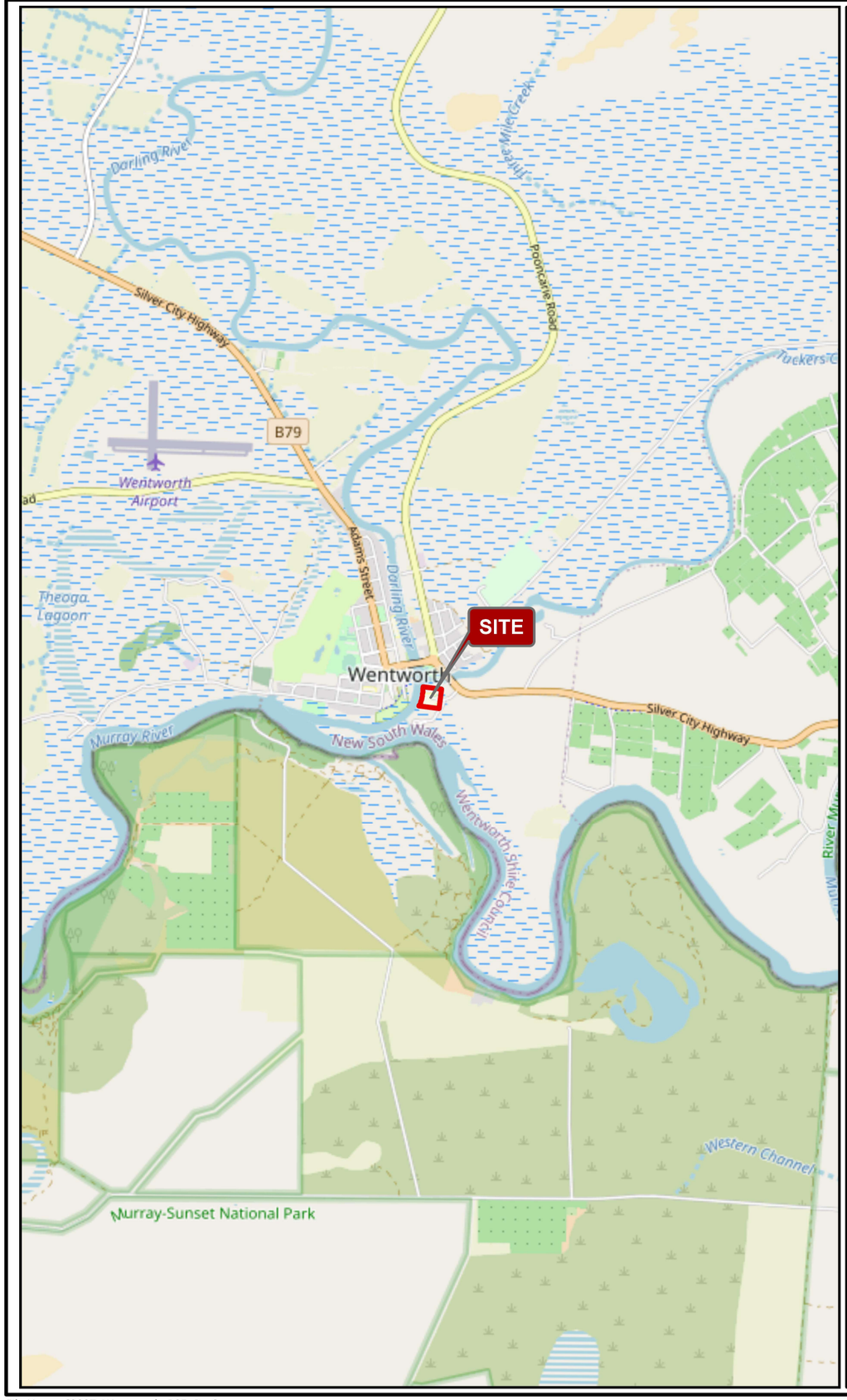
Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the regulatory requirements.

Limited sampling and laboratory analyses were undertaken as part of the investigations undertaken, as described herein. Ground conditions between sampling locations and media may vary, and this should be considered when extrapolating between sampling points. Chemical analytes are based on the information detailed in the site history. Further chemicals or categories of chemicals may exist at the site, which were not identified in the site history and which may not be expected at the site.

Changes to the subsurface conditions may occur subsequent to the investigations described herein, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this report are based on the information obtained at the time of the investigations.

This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, JBS&G reserves the right to review the report in the context of the additional information.

Figures





Legend:

- Approximate Site Boundary
- NSW Cadastre
- Hydro Line

JBS&G

Job No: 63097

Client: Health Infrastructure

Version: R05 Rev 3	Date 30/06/2023
Drawn By: LJ	Checked By: GP

Scale 1:75,000 and 1:30,000

0 500 1,000 metres and 0 250 500 metres

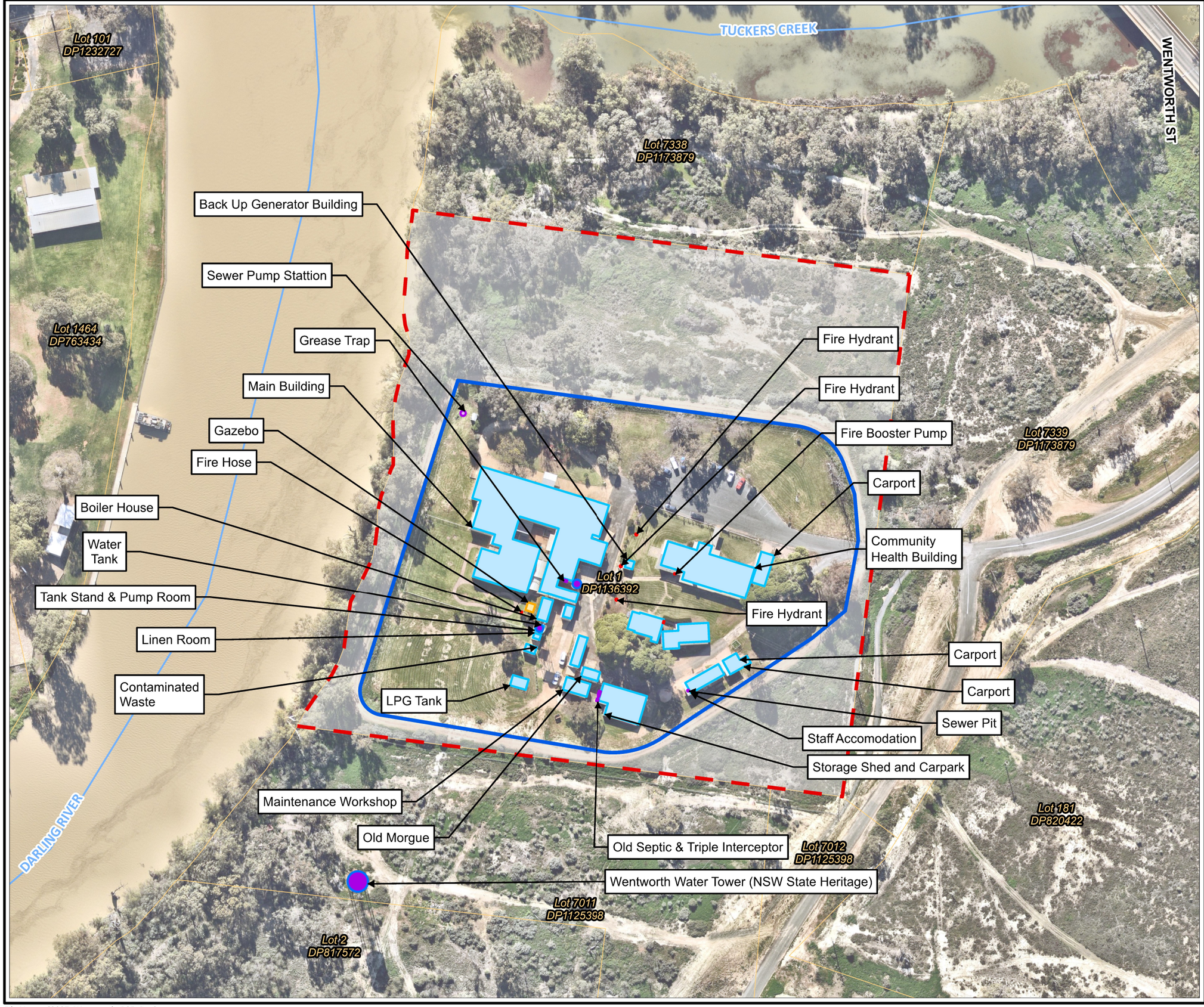
Coord. Sys. GDA 1994 MGA Zone 54

24 Hospital Road
Wentworth, NSW

SITE LOCATION

FIGURE 1

File Name: 63097_Wentworth_R05_Rev3
Reference: © OpenStreetMap (and) contributors, CC-BY-SA



Legend:

- Approximate Site Boundary
- Wentworth LHD Footprint
- NSW Cadastre
- Hydro Line

Built Infrastructure - Material Type / Use

- Brick
- Canopy
- Fire Fighting Infrastruture
- Miscellaneous Service Infrastructure
- Water Tank

JBS&G

Job No: 63097

Client: Health Infrastructure

Version: R05 Rev 3	Date 30/06/2023
Drawn By: LJ	Checked By: GP

Scale 1:2,000

0 25 50
metres

Coord. Sys. GDA 1994 MGA Zone 54

24 Hospital Road
Wentworth, NSW

SITE LAYOUT

FIGURE 2

File Name: 63097_Wentworth_R05_Rev3
Reference: Nearmap www.nearmap.com 20220706



Legend:

- Approximate Site Boundary
- Wentworth LHD Footprint
- NSW Cadastre
- Hydro Line

Site Features

- Emergency Generator Shed
- Firefighting Related Infrastructure
- Infectious Waste/Old Morgue
- Old Dirty Linen
- Old Septic & Triple Interceptor
- Sewer Pump Station
- Historical Orchards and Visible Ground Disturbance
- ACM on Ground Surface
- Topsoil Surface Scrape
- Inferred ACM Pipe Trajectory

JBS&G

Job No: 63097

Client: Health Infrastructure

Version: R05 Rev 3	Date 30/06/2023
Drawn By: LJ	Checked By: GP

Scale 1:1,300

0 10 20

metres

Coord. Sys. GDA 1994 MGA Zone 54

24 Hospital Road
Wentworth, NSW

AREAS OF ENVIRONMENTAL CONCERN

FIGURE 3

File Name: C:\Users\\prohm\JBS&G Australia\JBS&G - DCS - Internal - Projects\Health Infrastructure\63097 Wentworth Health Services Redevelopment\GIS\02_MapProjects\63097_Wentworth_R05_Rev3.aprx
Reference: Nearmap www.nearmap.com 20220706



Legend:

- Approximate Site Boundary
- Wentworth LHD Footprint
- NSW Cadastre
- Hydro Line

Sample Locations

- Monitoring Well (JBS&G 2022)
- Soil Sample Location (JBS&G 2022)
- Hydrant Point

JBS&G

Job No: 63097

Client: Health Infrastructure

Version: R05 Rev 3	Date 30/06/2023
Drawn By: LJ	Checked By: GP

Scale 1:1,300

0 10 20

metres

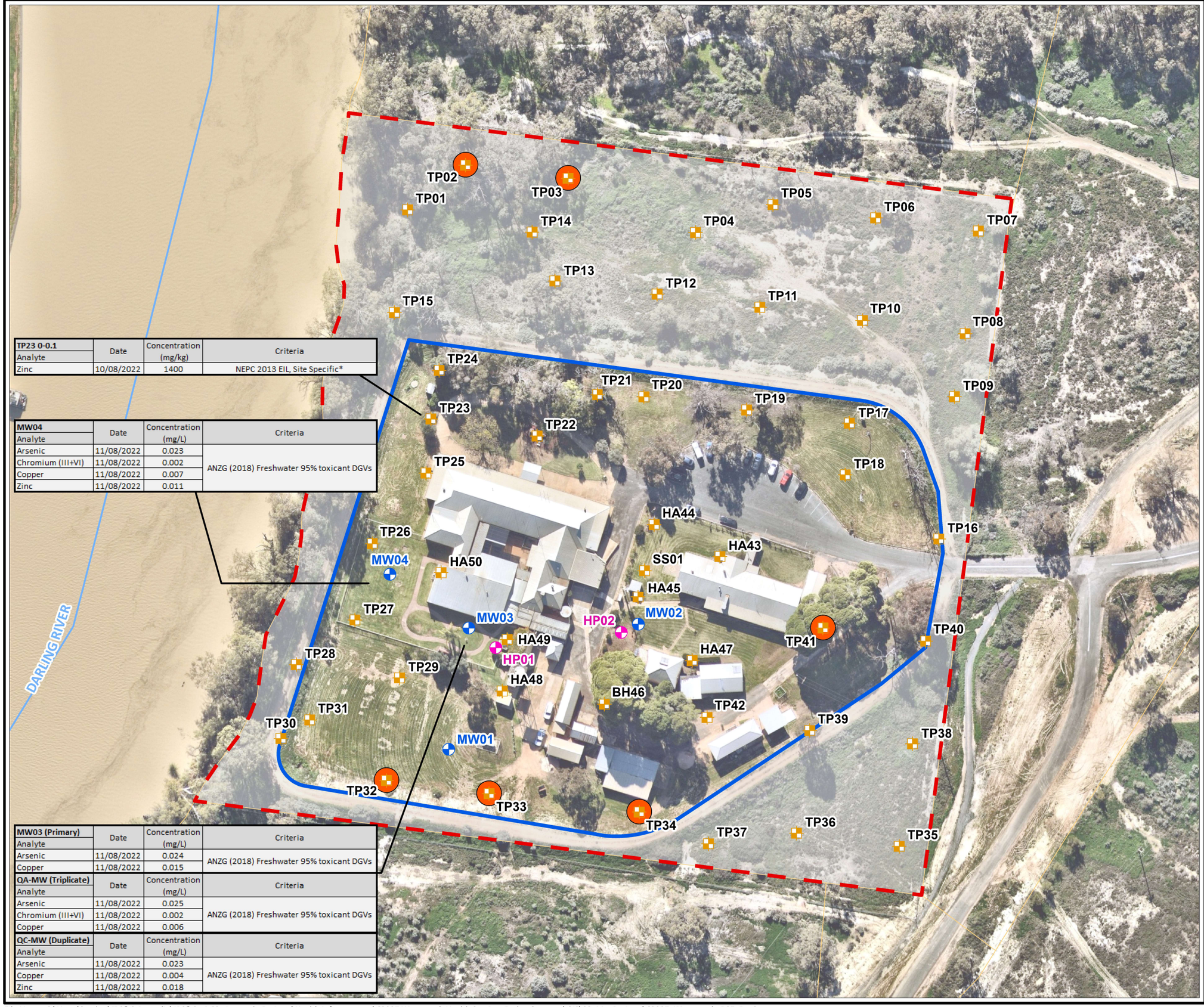
Coord. Sys. GDA 1994 MGA Zone 54

24 Hospital Road
Wentworth, NSW

SOIL AND GROUNDWATER SAMPLE LOCATIONS

FIGURE 4

File Name: C:\Users\\prohm\JBS&G Australia\JBS&G - DCS - Internal - Projects\Health Infrastructure\63097 Wentworth Health Services Redevelopment\GIS\02_MapProjects\63097_Wentworth_R05_Rev3.aprx
Reference: Nearmap www.nearmap.com 20220706



TP23 0-0.1	Date	Concentration (mg/kg)	Criteria
Analyte			
Zinc	10/08/2022	1400	NEPC 2013 EIL, Site Specific*

MW04	Date	Concentration (mg/L)	Criteria
Analyte			
Arsenic	11/08/2022	0.023	ANZG (2018) Freshwater 95% toxicant DGVs
Chromium (III+VI)	11/08/2022	0.002	
Copper	11/08/2022	0.007	
Zinc	11/08/2022	0.011	

MW03 (Primary)	Date	Concentration (mg/L)	Criteria
Analyte			
Arsenic	11/08/2022	0.024	ANZG (2018) Freshwater 95% toxicant DGVs
Copper	11/08/2022	0.015	
QA-MW (Triplicate)	**Date**	**Concentration (mg/L)**	**Criteria**
Analyte			
Arsenic	11/08/2022	0.025	ANZG (2018) Freshwater 95% toxicant DGVs
Chromium (III+VI)	11/08/2022	0.002	
Copper	11/08/2022	0.006	
QC-MW (Duplicate)	**Date**	**Concentration (mg/L)**	**Criteria**
Analyte			
Arsenic	11/08/2022	0.023	ANZG (2018) Freshwater 95% toxicant DGVs
Copper	11/08/2022	0.004	
Zinc	11/08/2022	0.018	

Legend:

- Approximate Site Boundary
- Wentworth LHD Footprint
- NSW Cadastre
- Hydro Line

Sample Locations

- Monitoring Well (JBS&G 2022)
- Soil Sample Location (JBS&G 2022)
- Hydrant Point
- Bonded Asbestos Observed in Fill

JBS&G

Job No: 63097

Client: Health Infrastructure

Version: R05 Rev 3	Date 30/06/2023
Drawn By: LJ	Checked By: GP

Scale 1:1,500

0 10 20
metres

Coord. Sys. GDA 1994 MGA Zone 54

24 Hospital Road
Wentworth, NSW

SOIL AND GROUNDWATER SAMPLE EXCEEDANCES

FIGURE 5

File Name: C:\Users\\prohm\JBS&G Australia\JBS&G - DCS - Internal - Projects\Health Infrastructure\63097 Wentworth Health Services Redevelopment\GIS\02_MapProjects\63097_Wentworth_R05_Rev3.aprx
Reference: Nearmap www.nearmap.com 20220706



FRAG_TP41-0.0-0.1	Date	Concentration (w/w%)	Criteria
Analyte			
Asbestos	10/08/2022	0.005	NEPC HSL-B

TP34-0.0-0.4 FRAG-04	Date	Concentration (w/w%)	Criteria
Analyte			
Asbestos	11/08/2022	0.005	NEPC HSL-B

FRAG_TP33-0.0-0.1	Date	Concentration (w/w%)	Criteria
Analyte			
Asbestos	10/08/2022	0.029	NEPC HSL-B

FRAG_TP32-0.5-0.7	Date	Concentration (w/w%)	Criteria
Analyte			
Asbestos	10/08/2022	0.094	NEPC HSL-B

Legend:

- Approximate Site Boundary
- Wentworth LHD Footprint
- ACM on Ground Surface

Site Features

- Building
- Carpark
- Footpath
- Landscape
- Recreational Outdoor Area/Future Development
- Road

Sample Locations

- Soil Sample Location (JBS&G 2022)
- Bonded Asbestos Observed in Fill

JBS&G

Job No: 63097

Client: Health Infrastructure

Version: R05 Rev 3	Date 30/06/2023
Drawn By: LJ	Checked By: GP

Scale 1:1,000

0 10 20
metres

Coord. Sys. GDA 1994 MGA Zone 54

24 Hospital Road
Wentworth, NSW

SOIL AND GROUNDWATER SAMPLE EXCEEDANCES

FIGURE 6

File Name: C:\Users\\prohm\JBS&G Australia\JBS&G - DCS - Internal - Projects\Health Infrastructure\63097 Wentworth Health Services Redevelopment\GIS\02_MapProjects\63097_Wentworth_R05_Rev3.aprx
Reference: Nearmap www.nearmap.com 20220706

A - Site Survey and Concept Sketches



WENTWORTH HEALTH SERVICE REDEVELOPMENT

24 HOSPITAL ROAD
WENTWORTH NSW 2648

Sheet Number	Sheet Name	Current Revision	Current Revision Date
REF-0000	COVER	2	03.04.2023
REF-0005	EXTERNAL FINISHES BOARD	2	03.04.2023
REF-0020	LOCATION PLAN	2	03.04.2023
REF-0202	SITE PLAN	5	03.04.2023
REF-0203	DEMOLITION PLAN - STAGE 1A	2	03.04.2023
REF-0204	DEMOLITION PLAN - STAGE 1B	2	03.04.2023
REF-0210	SITE SECTIONS	5	03.04.2023
REF-1000	GENERAL ARRANGEMENT PLAN - GROUND	5	03.04.2023
REF-1001	GENERAL ARRANGEMENT PLAN - ROOF	2	03.04.2023
REF-3000	EXTERNAL ELEVATIONS	5	03.04.2023
REF-4000	SECTIONS	2	03.04.2023

NBRS

MostynCopper
PROJECT MANAGER
MOSTYN COPPER

TTW Taylor Thomson Whitting
STRUCTURE + CIVIL
TTW

STEENSEN VARMING
ELECTRICAL + MECHANICAL
STEENSEN VARMING

Warren Smith Consulting Engineers
HYDRAULIC + FIRE
WARREN SMITH CONSULTING ENGINEERS

Issue

No.	Date	Description	Dwn	Chkd
1	20.12.22	Ref Issue	AK	PR
2	03.04.2023	Ref Issue	AK	PR

NBRS
+61 2 9922 2344 nbrs.com.au
Nominated Architect:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Project
WENTWORTH HSR

at
24 Hospital Rd
Wentworth NSW 2648
for
Health Infrastructure

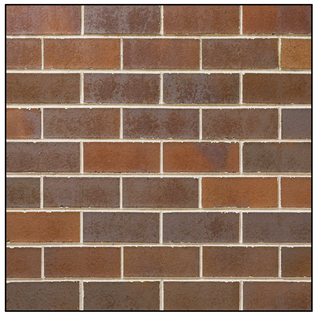
Drawing Title
COVER

Date 12/04/2023 5:48:00 PM
Scale @ A1

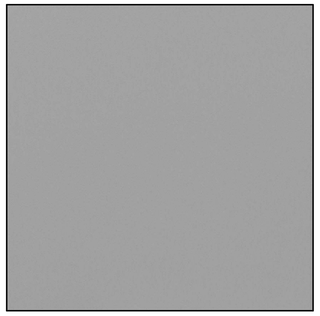
Drawing Reference
21325-NBRS-AR-REF-0000

Revision
2

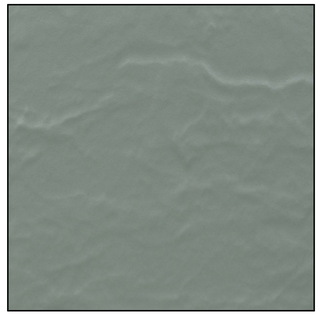
Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright.
© 2022



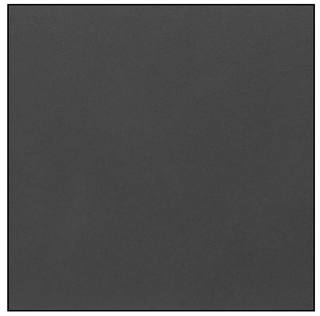
BRK-101
BRICK - ENTRY FEATURE WALL



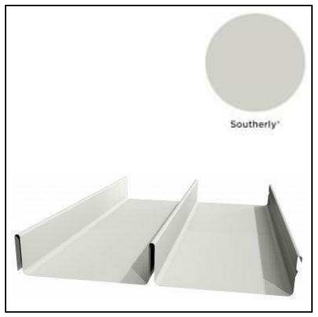
CLD-101
FIBRE CEMENT CLADDING - FACADE PANEL



CLD-102
FIBRE CEMENT CLADDING - FACADE PANEL



CLD-101
FIBRE CEMENT CLADDING - FACADE PANEL



RFS-101
STANDING SEAM ROOF SYSTEM



SCN-101
POWDER COATED ALUMINIUM BLADES



SCN-102
SUNHOOD - PERFORATED METAL SCREEN
COLOUR - CHARCOAL



WIN-101
EXTERNAL WINDOW

NBRS

MostynCopper
PROJECT MANAGER
MOSTYN COPPER

TTW Taylor Thomson Whitting
STRUCTURE + CIVIL
TTW

STEENSEN VARMING
ELECTRICAL + MECHANICAL
STEENSEN VARMING

Warren Smith Consulting Engineers
HYDRAULIC + FIRE
WARREN SMITH CONSULTING ENGINEERS

Issue

No.	Date	Description	Dwn	Chkd
1	20.12.22	Ref Issue	AK	PR
2	03.04.2023	Ref Issue	AK	PR

NBRS
+61 2 9922 2344 nbrs.com.au
Nominated Architect:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Project
WENTWORTH HSR

at
24 Hospital Rd
Wentworth NSW 2648
for
Health Infrastructure

Drawing Title
EXTERNAL FINISHES BOARD

Date 11/04/2023 5:47:38 PM
Scale 1 : 100 @ A1

Drawing Reference
21325-NBRS-AR-REF-0005

Revision
2

Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright. © 2022



NBRS

MostynCopper
PROJECT MANAGER
MOSTYN COPPER

TTW Taylor Thomson Whitting
STRUCTURE + CIVIL
TTW

STEENSEN VARMING
ELECTRICAL + MECHANICAL
STEENSEN VARMING

Warren Smith Consulting Engineers
HYDRAULIC + FIRE
WARREN SMITH CONSULTING ENGINEERS

Issue

No.	Date	Description	Dwn	Chkd
1	20.12.22	Ref Issue	AK	PR
2	03.04.2023	Ref Issue	AK	PR

NBRS
+61 2 9922 2344 nbrs.com.au
Nominated Architect:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Project
WENTWORTH HSR

at
24 Hospital Rd
Wentworth NSW 2648
for
Health Infrastructure

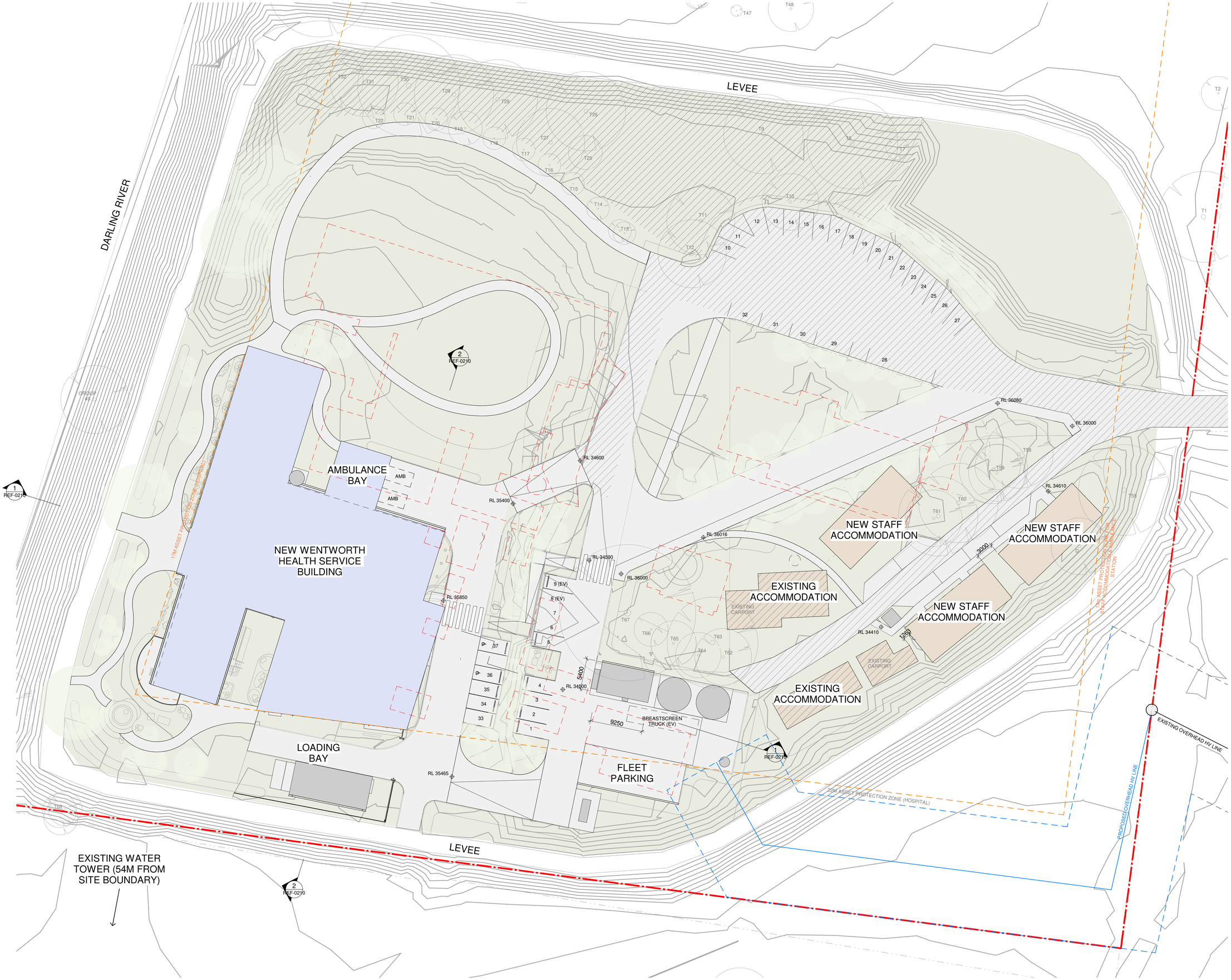
Drawing Title
LOCATION PLAN

Date 11/04/2023 5:47:41 PM
Scale 1 : 2000 @ A1

Drawing Reference
21325-NBRS-AR-REF-0020

Revision
2

Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright. © 2022



NBRS

LEGEND

- NEW HEALTH SERVICE BUILDING
- STAFF ACCOMMODATION
- EXTERNAL PLANT AND SERVICES
- FOOTPATHS, ROADS AND PARKING
- EXISTING ROADS AND PARKING RETAINED
- NEW OR MODIFIED LANDSCAPING
- EXISTING LANDSCAPE RETAINED
- DEMOLISHED BUILDINGS
- TITLE BOUNDARY
- ASSET PROTECTION ZONE BOUNDARY
- PROPOSED OVERHEAD HV LINE
- EASEMENT FOR PROPOSED HV LINE

MostynCopper
PROJECT MANAGER
MOSTYN COPPER

TTW Taylor Thomson Whitting
STRUCTURE + CIVIL
TTW

STEENSEN VARMING
ELECTRICAL + MECHANICAL
STEENSEN VARMING

Warren Smith Consulting Engineers
HYDRAULIC + FIRE
WARREN SMITH CONSULTING ENGINEERS

Issue

No.	Date	Description	Dwn	Chkd
1	24.11.22	Ref Issue		
2	29.11.22	For Information		
3	15.12.22	Ref Issue	AK	PR
4	20.12.22	Ref Issue	AK	PR
5	03.04.2023	Ref Issue	AK	PR

NBRS
+61 2 9922 2344 nbrs.com.au
Nominated Architect:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Project
WENTWORTH HSR

at
24 Hospital Rd
Wentworth NSW 2648
for
Health Infrastructure

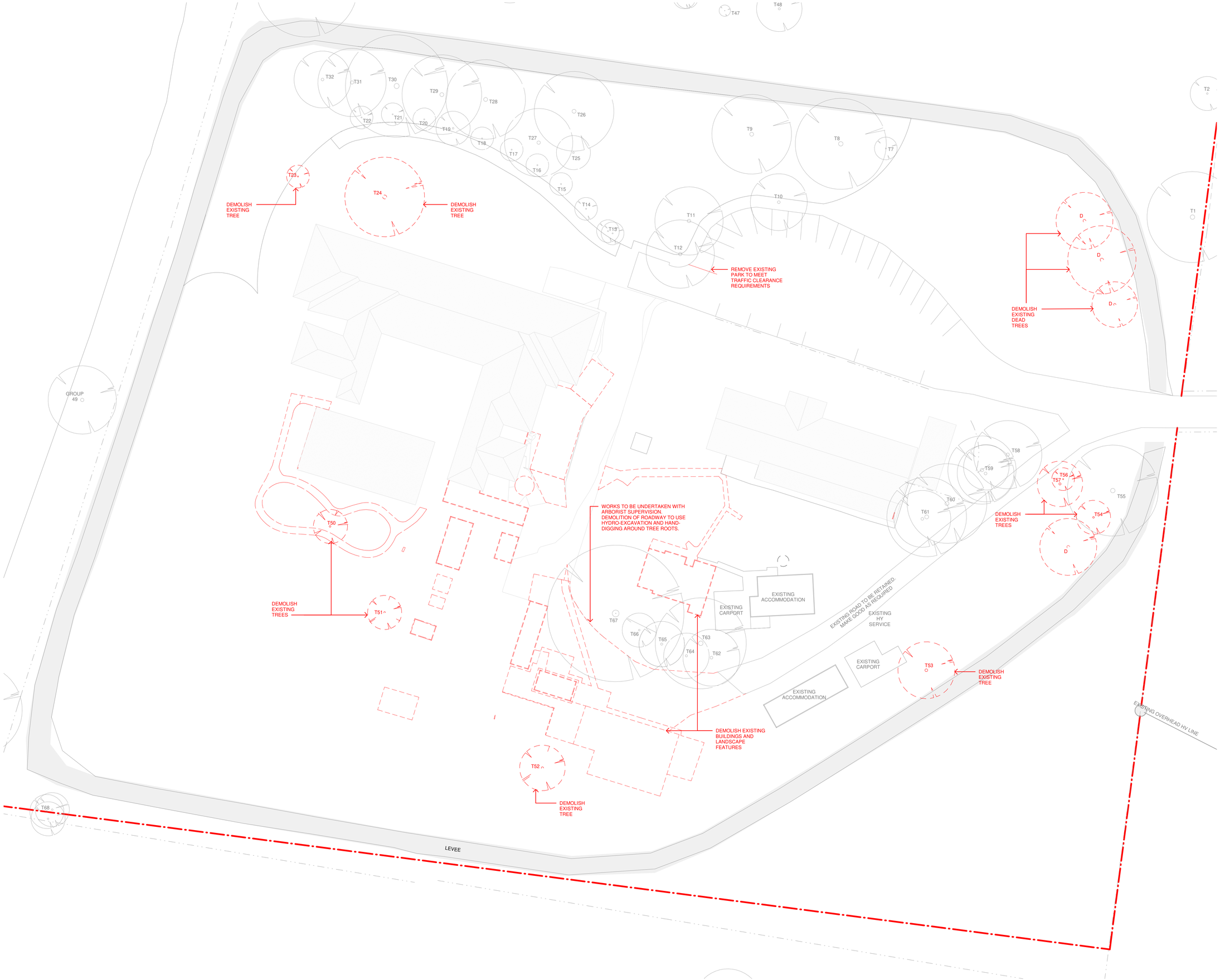
Drawing Title
SITE PLAN

Date 11/04/2023 5:48:28 PM
Scale 1:300 @ A1

Drawing Reference
21325-NBRS-AR-REF-0202

Revision
5

Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright. © 2022



NBRS

MostynCopper
PROJECT MANAGER
MOSTYN COPPER

TTW Taylor Thomson Whitting
STRUCTURE + CIVIL
TTW

STEENSEN VARMING
ELECTRICAL + MECHANICAL
STEENSEN VARMING

Warren Smith Consulting Engineers
HYDRAULIC + FIRE
WARREN SMITH CONSULTING ENGINEERS

Issue

No.	Date	Description	Dwn	Chkd
1	20.12.22	Ref Issue	AK	PR
2	03.04.2023	Ref Issue	AK	PR

NBRS
+61 2 9922 2344 nbrs.com.au
Nominated Architect:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Project
WENTWORTH HSR

at
24 Hospital Rd
Wentworth NSW 2648
for
Health Infrastructure

Drawing Title
DEMOLITION PLAN - STAGE 1A

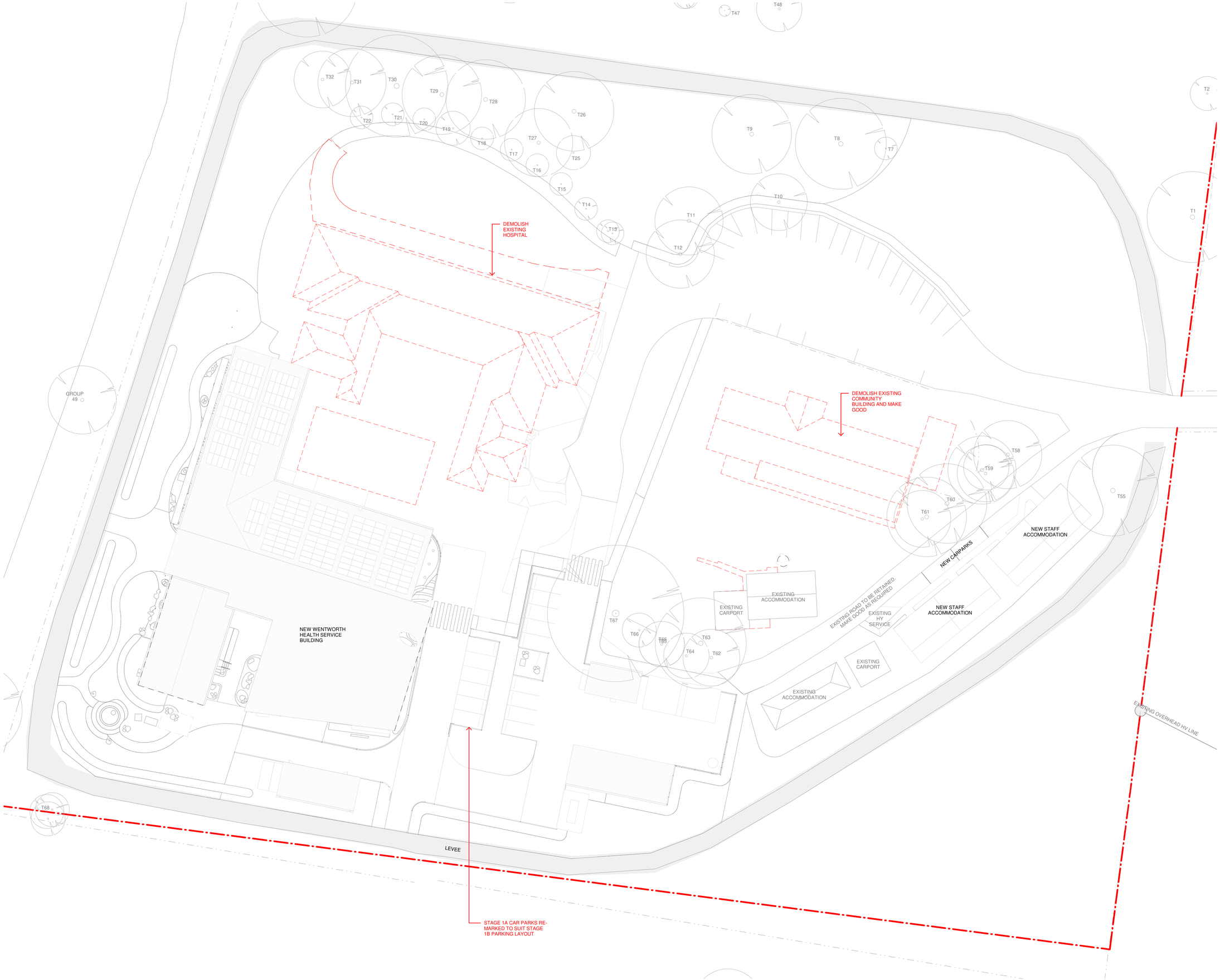
Date 11/04/2023 5:48:34 PM
Scale 1 : 300 @ A1

Drawing Reference
21325-NBRS-AR-REF-0203

Revision
2

0 10 20 30 40 50 60 70 80 90 100

Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright. © 2022



NBRS

MostynCopper
PROJECT MANAGER
MOSTYN COPPER

TTW Taylor Thomson Whitting
STRUCTURE + CIVIL
TTW

STEENSEN VARMING
ELECTRICAL + MECHANICAL
STEENSEN VARMING

Warren Smith Consulting Engineers
HYDRAULIC + FIRE
WARREN SMITH CONSULTING ENGINEERS

Issue

No.	Date	Description	Dwn	Chkd
1	20.12.22	Ref Issue	AK	PR
2	03.04.2023	Ref Issue	AK	PR

NBRS
+61 2 9922 2344
nbrs.com.au
Nominated Architect:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197
ABN 16 002 247 565

Project
WENTWORTH HSR

at
24 Hospital Rd
Wentworth NSW 2648
for
Health Infrastructure

Drawing Title
DEMOLITION PLAN - STAGE 1B

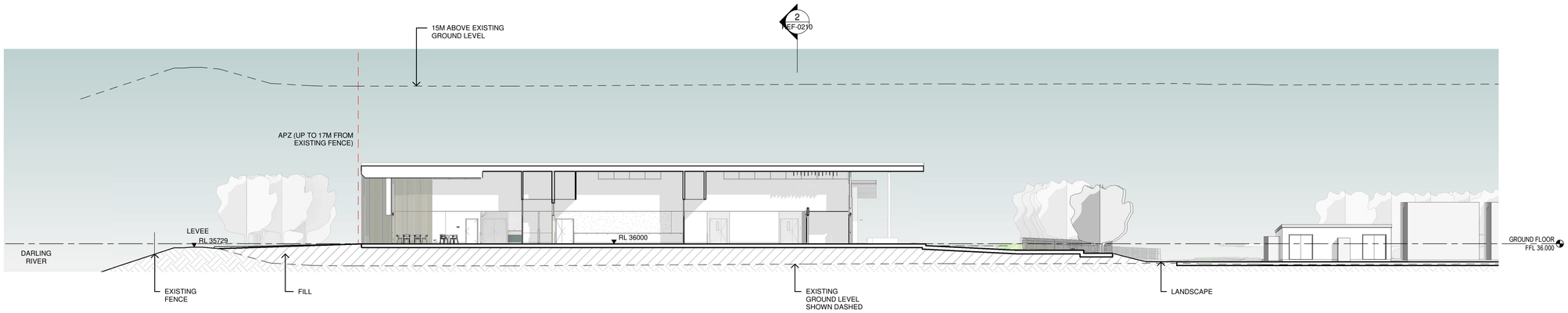
Date 11/04/2023 5:48:50 PM
Scale 1 : 300 @ A1

Drawing Reference
21325-NBRS-AR-REF-0204

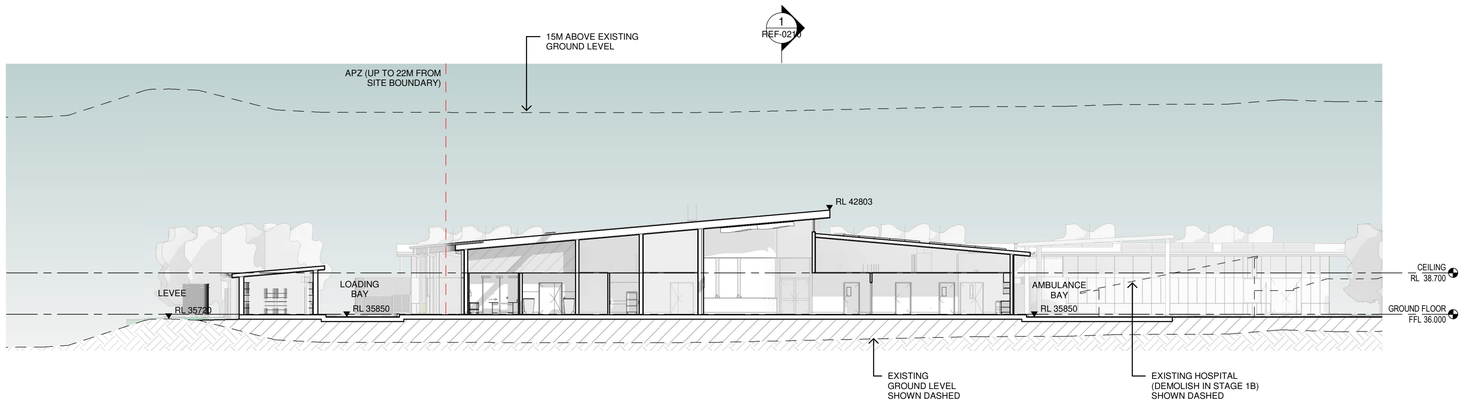
Revision
2

0 10 20 30 40 50 60 70 80 90 100

Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright.
© 2022



1 SITE SECTION - EAST-WEST
1 : 200



2 SITE SECTION - NORTH-SOUTH
1 : 200

NBRS

MostynCopper
PROJECT MANAGER
MOSTYN COPPER

TTW Taylor Thomson Whitting
STRUCTURE + CIVIL
TTW

STEENSEN VARMING
ELECTRICAL + MECHANICAL
STEENSEN VARMING

Warren Smith Consulting Engineers
HYDRAULIC + FIRE
WARREN SMITH CONSULTING ENGINEERS

Issue

No.	Date	Description	Dwn	Chkd
1	24.11.22	Ref Issue		
2	29.11.22	For Information		
3	15.12.22	Ref Issue	AK	PR
4	20.12.22	Ref Issue	AK	PR
5	03.04.2023	Ref Issue	AK	PR

NBRS
+61 2 9922 2344
nbrs.com.au
Nominated Architect:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197
ABN 16 002 247 565

Project
WENTWORTH HSR

at
24 Hospital Rd
Wentworth NSW 2648
for
Health Infrastructure

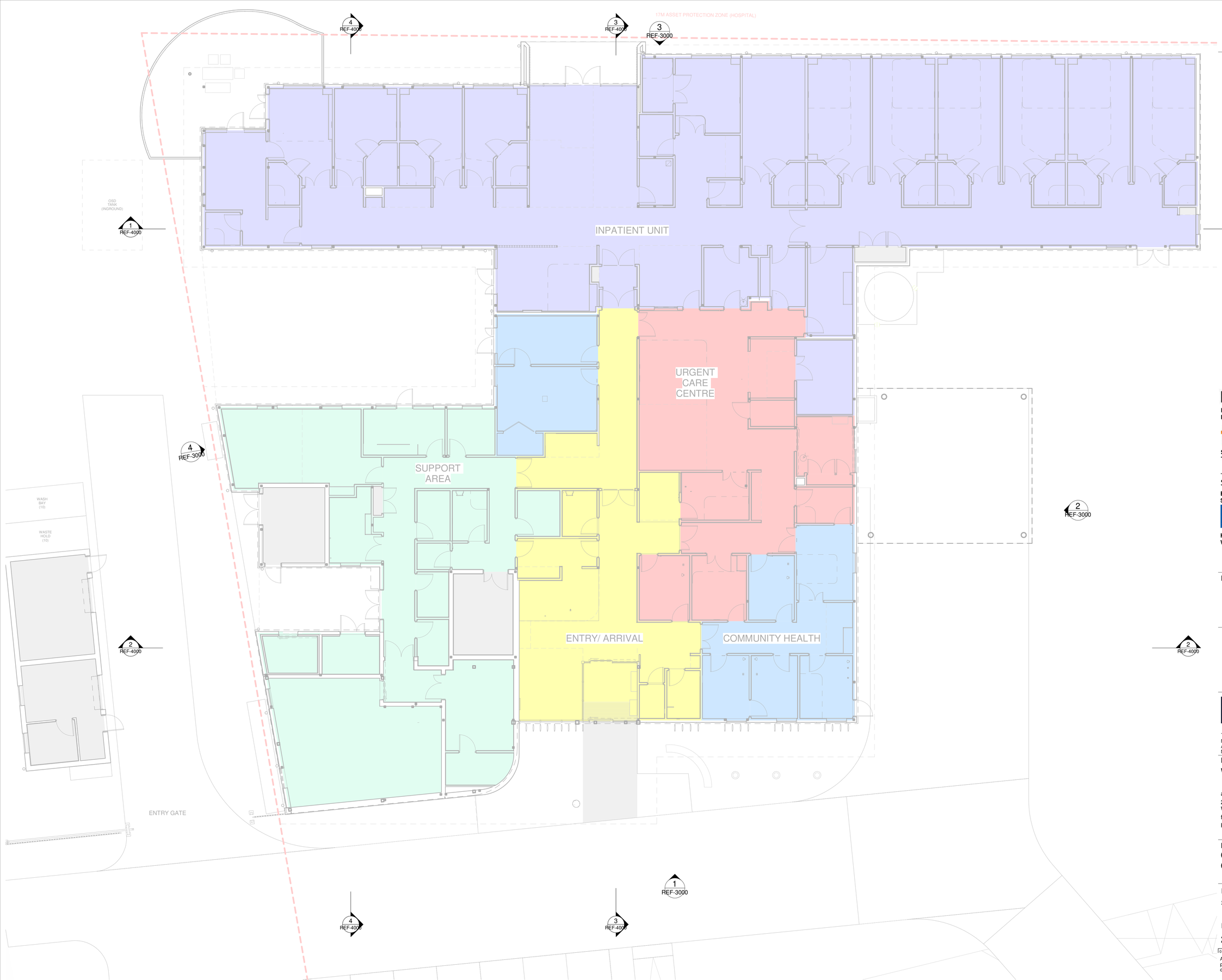
Drawing Title
SITE SECTIONS

Date 11/04/2023 5:49:17 PM
Scale 1 : 200 @ A1

Drawing Reference
21325-NBRS-AR-REF-0210

Revision
5

Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright.
© 2022



NBRS

MostynCopper
PROJECT MANAGER
MOSTYN COPPER

TTW Taylor Thomson Whitting
STRUCTURE + CIVIL
TTW

STEENSEN VARMING
ELECTRICAL + MECHANICAL
STEENSEN VARMING

Warren Smith Consulting Engineers
HYDRAULIC + FIRE
WARREN SMITH CONSULTING ENGINEERS

Issue

No.	Date	Description	Dwn	Chkd
1	24.11.22	Ref Issue		
2	29.11.22	For Information		
3	15.12.22	Ref Issue	AK	PR
4	20.12.22	Ref Issue	AK	PR
5	03.04.2023	Ref Issue	AK	PR

NBRS
+61 2 9922 2344
nbrs.com.au
Nominated Architect:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197
ABN 16 002 247 565

Project
WENTWORTH HSR

at
24 Hospital Rd
Wentworth NSW 2648
for
Health Infrastructure

Drawing Title
GENERAL ARRANGEMENT PLAN - GROUND

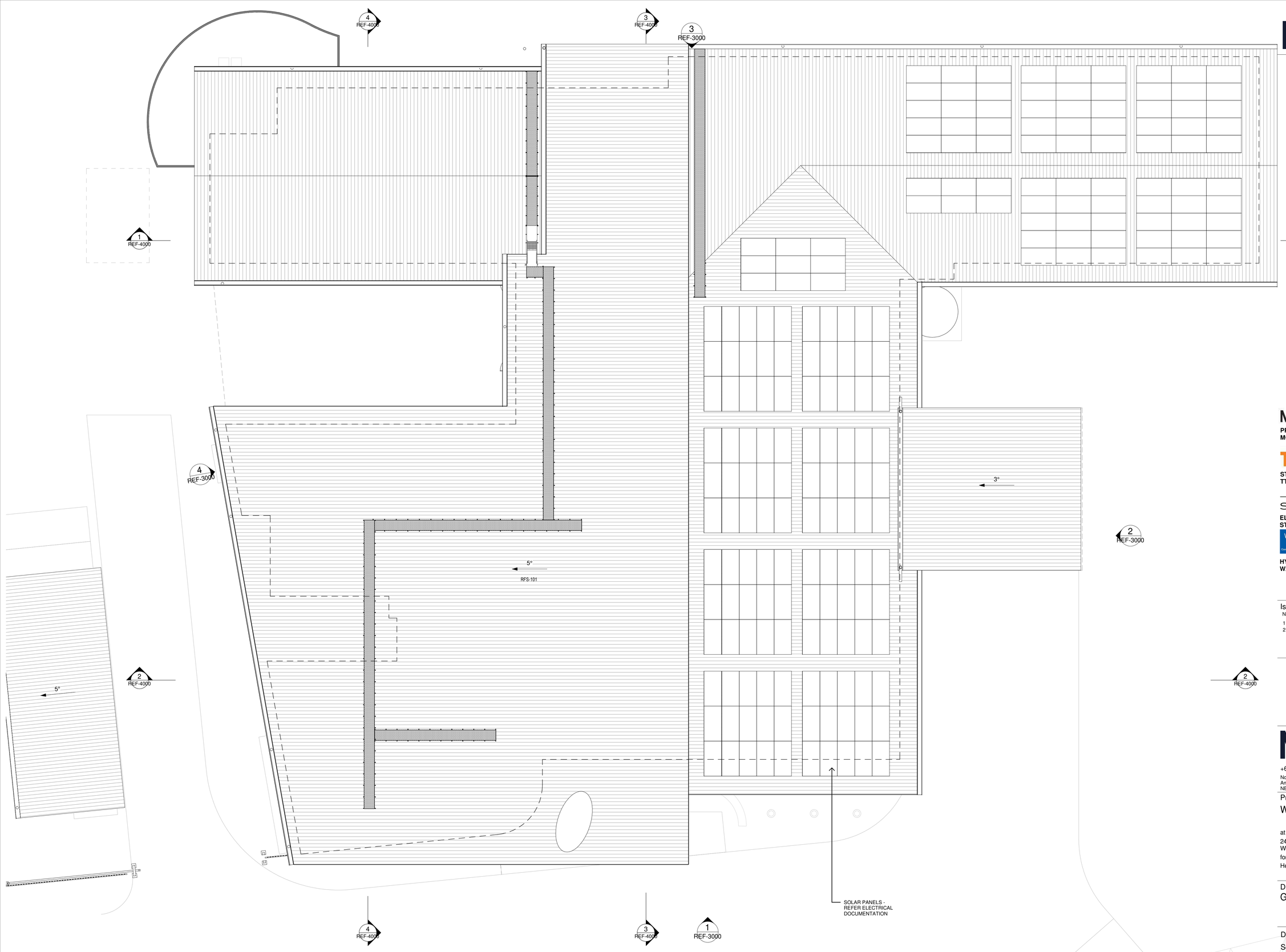
Date 11/04/2023 5:49:25 PM
Scale 1 : 100 @ A1

Drawing Reference
21325-NBRS-AR-REF-1000

Revision
5

0 10 20 30 40 50 60 70 80 90 100

Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright.
© 2022



NBRS

MostynCopper
PROJECT MANAGER
MOSTYN COPPER

TTW Taylor Thomson Whitting
STRUCTURE + CIVIL
TTW

STEENSEN VARMING
ELECTRICAL + MECHANICAL
STEENSEN VARMING

Warren Smith Consulting Engineers
HYDRAULIC + FIRE
WARREN SMITH CONSULTING ENGINEERS

Issue

No.	Date	Description	Dwn	Chkd
1	20.12.22	Ref Issue	AK	PR
2	03.04.2023	Ref Issue	AK	PR

NBRS
+61 2 9922 2344 nbrs.com.au
Nominated Architect:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Project
WENTWORTH HSR

at
24 Hospital Rd
Wentworth NSW 2648
for
Health Infrastructure

Drawing Title
GENERAL ARRANGEMENT PLAN - ROOF

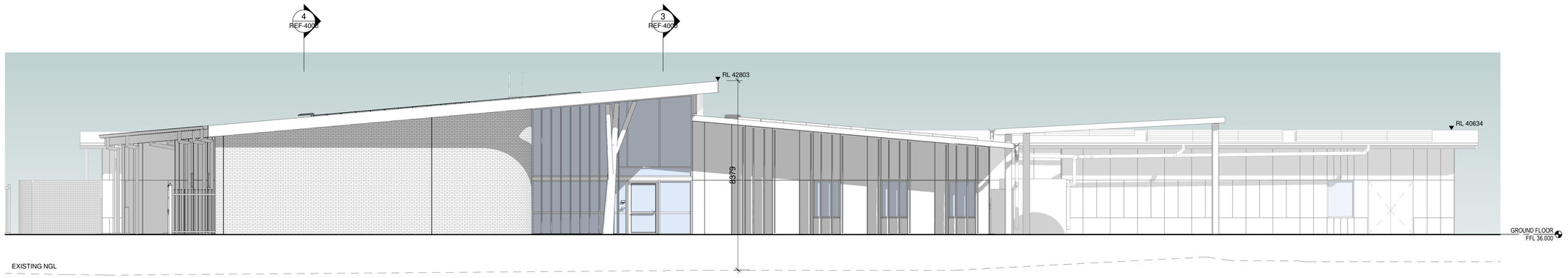
Date 11/04/2023 5:49:29 PM
Scale 1 : 100 @ A1

Drawing Reference
21325-NBRS-AR-REF-1001

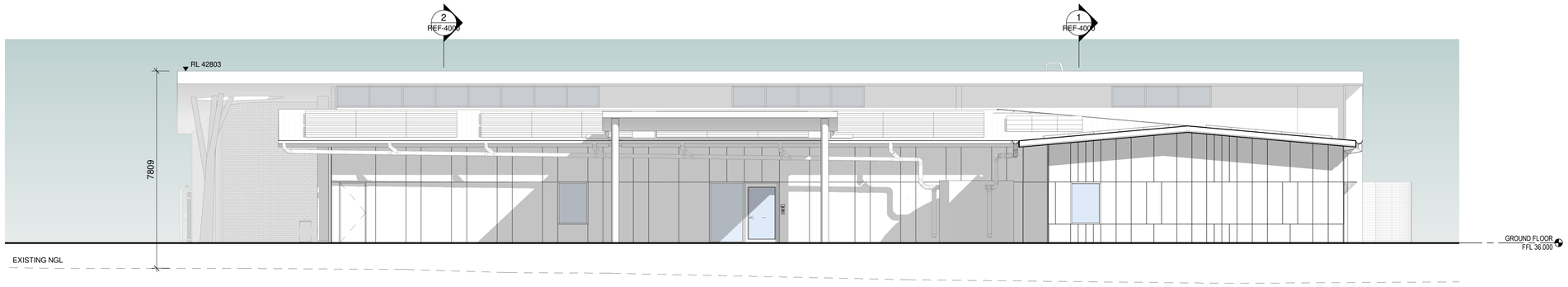
Revision
2

0 10 20 30 40 50 60 70 80 90 100

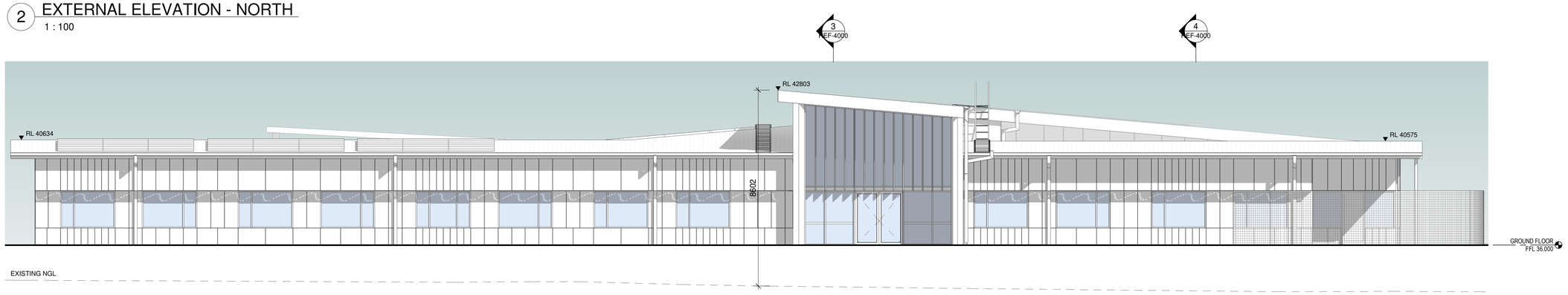
Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright. © 2022



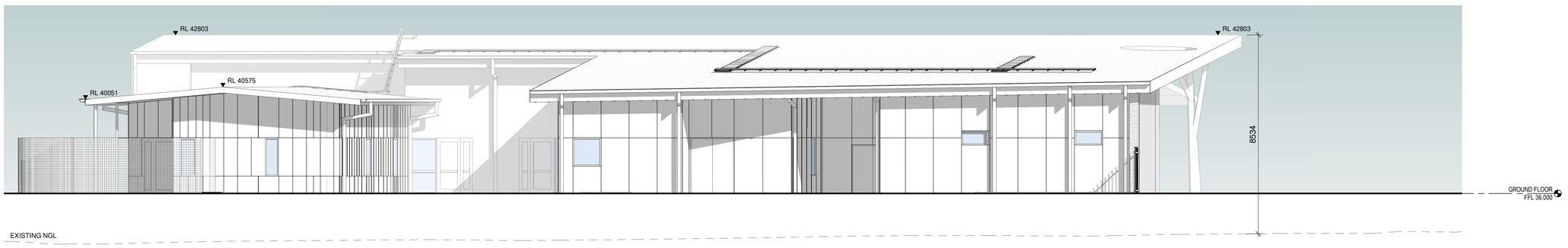
1 EXTERNAL ELEVATION - EAST
1 : 100



2 EXTERNAL ELEVATION - NORTH
1 : 100



3 EXTERNAL ELEVATION - WEST
1 : 100



4 EXTERNAL ELEVATION - SOUTH
1 : 100

NBRS

MostynCopper
PROJECT MANAGER
MOSTYN COPPER

TTW Taylor Thomson Whitting
STRUCTURE + CIVIL
TTW

STEENSEN VARMING
ELECTRICAL + MECHANICAL
STEENSEN VARMING

Warren Smith Consulting Engineers
HYDRAULIC + FIRE
WARREN SMITH CONSULTING ENGINEERS

Issue

No.	Date	Description	Dwn	Chkd
1	24.11.22	Ref Issue		
2	29.11.22	For Information		
3	15.12.22	Ref Issue	AK	PR
4	20.12.22	Ref Issue	AK	PR
5	03.04.2023	Ref Issue	AK	PR

NBRS
+61 2 9922 2344
nbrs.com.au
Nominated Architect:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197
ABN 16 002 247 565

Project
WENTWORTH HSR

at
24 Hospital Rd
Wentworth NSW 2648
for
Health Infrastructure

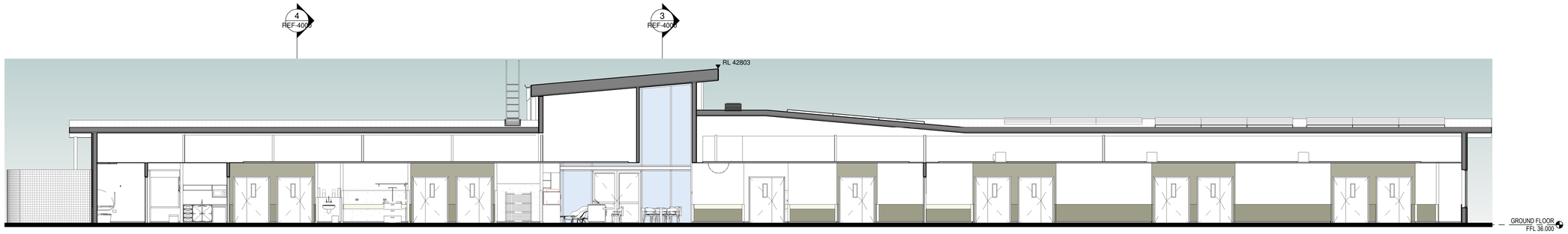
Drawing Title
EXTERNAL ELEVATIONS

Date 11/04/2023 5:50:12 PM
Scale 1 : 100 @ A1

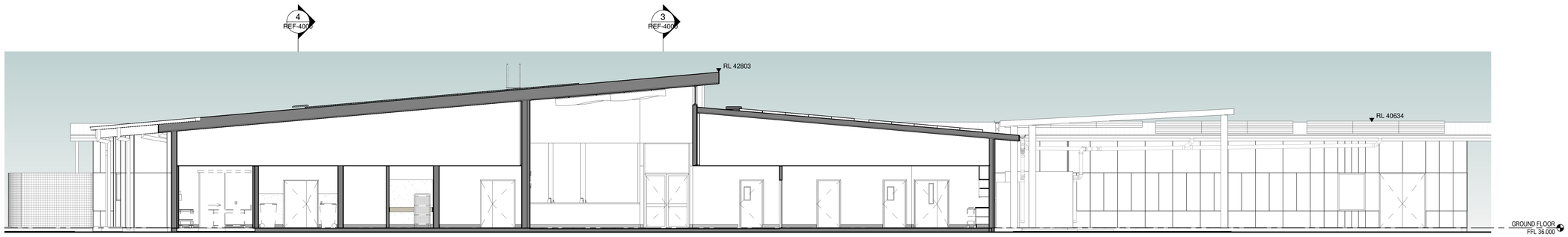
Drawing Reference
21325-NBRS-AR-REF-3000
Revision
5

0 10 20 30 40 50 60 70 80 90 100

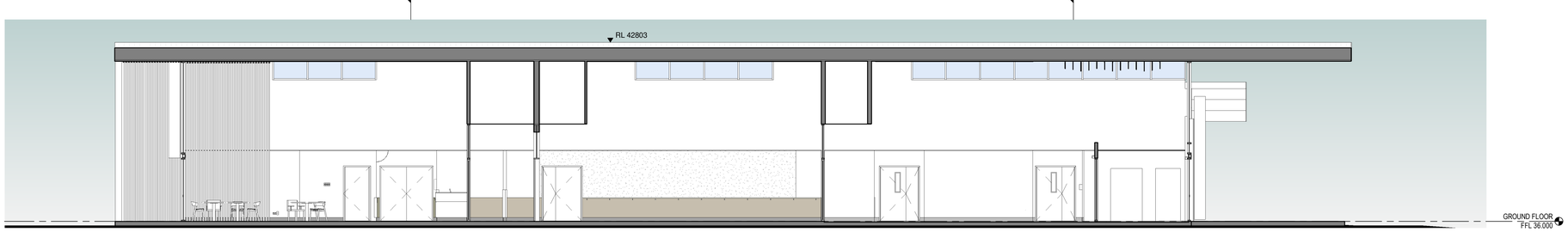
Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright. © 2022



1 SECTION 1 - NORTH-SOUTH
1 : 100



2 SECTION 2 - NORTH-SOUTH
1 : 100



3 SECTION 3 - EAST-WEST
1 : 100



4 SECTION 4 - EAST-WEST
1 : 100

NBRS

MostynCopper
PROJECT MANAGER
MOSTYN COPPER

TTW Taylor Thomson Whitting
STRUCTURE + CIVIL
TTW

STEENSEN VARMING
ELECTRICAL + MECHANICAL
STEENSEN VARMING

Warren Smith Consulting Engineers
HYDRAULIC + FIRE
WARREN SMITH CONSULTING ENGINEERS

Issue

No.	Date	Description	Dwn	Chkd
1	20.12.22	Ref Issue	AK	PR
2	03.04.2023	Ref Issue	AK	PR

NBRS
+61 2 9922 2344
nbrs.com.au
Nominated Architect:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197
ABN 16 002 247 565

Project
WENTWORTH HSR

at
24 Hospital Rd
Wentworth NSW 2648
for
Health Infrastructure

Drawing Title
SECTIONS

Date 11/04/2023 5:50:24 PM
Scale 1 : 100 @ A1

Drawing Reference
21325-NBRS-AR-REF-4000

Revision
2

0 10 20 30 40 50 60 70 80 90 100

Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright.
© 2022

This drawing is copyright and is the property of TAYLOR THOMSON WHITTING (NSW) Pty Ltd and must not be used without authorisation.

THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT NOTES ON DRAWING C002

WENTWORTH HEALTH SERVICE REDEVELOPMENT

24 HOSPITAL ROAD, WENTWORTH, NSW, 2648

CIVIL DRAWINGS

DRAWING LIST	
Drawing No.	Drawing Name
C001	COVER SHEET
C002	NOTES AND LEGENDS SHEET
C100	EROSION AND SEDIMENT CONTROL PLAN
C210	SITE PLAN
C310	PAVEMENT AND JOINTING PLAN
C410	CUT & FILL PLAN

DRAWINGS TO BE PRINTED IN COLOUR



Rev	Description	Eng	Draft	Date
2	REF ISSUE	RP	AE	11.04.23
1	ISSUED FOR SD	RP	AE	23.11.22

DIAL BEFORE YOU DIG www.1100.com.au

BEWARE OF UNDERGROUND SERVICES.
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN

Project
WENTWORTH HEALTH SERVICE REDEVELOPMENT
24 HOSPITAL ROAD, WENTWORTH, NSW, 2648

Drawing Title
COVER SHEET

Architect
NBRS
+61 2 9922 2344 nbrs.com.au
Nominated Architect:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Civil Engineer
TTW Structural Civil Traffic Façade
+61 2 9439 7288 | L6 73 Miller Street North Sydney NSW 2065

Scale: A1 Drawn: AE Authorised: RP

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

Job No	Drawing No	Revision
221039	C001	2

Plot File Created: Apr 11, 2023 - 6:33pm

This drawing is copyright and is the property of TAYLOR THOMSON WHITTING (NSW) Pty Ltd and must not be used without authorisation.

THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT NOTES ON DRAWING C002

GENERAL NOTES

1. Contractor must verify all dimensions and existing levels on site prior to commencement of works. Any discrepancies to be reported to the ENGINEER
2. Strip all topsoil from the construction area. All stripped topsoil shall be disposed of off-site unless directed otherwise.
3. Make smooth connection with all existing works.
4. Compact subgrade under buildings and pavements to minimum 98% standard maximum dry density in accordance with AS 1289 5.1.1. Compaction under buildings to extend 2m minimum beyond building footprint.
5. All work on public property, property which is to become public property, or any work which is to come under the control of the Statutory Authority; the Contractor is to ensure that the drawings used for construction have been approved by all relevant authorities prior to commencement site.
6. All work on public property, property which is to become public property, or any work which is to come under the control of the Statutory Authority is to be carried out in accordance with the requirements of the relevant Authority. The Contractor shall obtain these requirements from the Authority. Where the requirements of the Authority are different to the drawings and specifications, the requirements of the Authority shall be applicable.
7. For all temporary batters refer to geotechnical recommendations.

REFERENCE DRAWINGS

1. These drawings have been based from, and to be read in conjunction with the following Consultants drawings. Any conflict to the drawings must be notified immediately to the Engineer.

Consultant	Dwg Title	Dwg No	Rev	Date
WALPOLE SVY	SURVEY	22072	4	07.10.22
NBRS	SITE PLAN - STAGE 1A	AR-0200	9	01.02.23
NBRS	SITE PLAN - STAGE 1B	AR-0201	9	01.02.23
NBRS	SITE PLAN - STAGE 2	AR-0202	9	01.02.23

SURVEY AND SERVICES INFORMATION

SURVEY

Origin of levels : CONTACT THE SURVEYOR
Datum of levels : A.H.D. VIDE SSM49545
Coordinate system : SURVEYOR TO CONFIRM
Survey prepared by : WALPOLE SVY
Setout Points : CONTACT THE SURVEYOR

Taylor Thomson Whitting does not guarantee that the survey information shown on these drawings is accurate and will accept no liability for any inaccuracies in the survey information provided to us from any cause whatsoever.

UNDERGROUND SERVICES - WARNING

The locations of underground services shown on Taylor Thomson Whittings drawings have been plotted from diagrams provided by service authorities. This information has been prepared solely for the authorities own use and may not necessarily be updated or accurate.

The position of services as recorded by the authority at the time of installation may not reflect changes in the physical environment subsequent to installation.

Taylor Thomson Whitting does not guarantee that the services information shown on these drawings shows more than the presence or absence of services, and will accept no liability for inaccuracies in the services information shown from any cause whatsoever.

The Contractor must confirm the exact location and extent of services prior to construction and notify any conflict with the drawings immediately to the Engineer/Superintendent.

The contractor is to get approval from the relevant state survey department, to remove/adjust any survey mark. This includes but is not limited to; State Survey Marks (SSM), Permanent Marks (PM), cadastral reference marks or any other survey mark which is to be removed or
adjusted in any way.
Taylor Thomson Whitting plans do not indicate the presence of any survey mark. The contractor is to undertake their own search.

BOUNDARY AND EASEMENT NOTE

The property boundary and easement locations shown on Taylor Thomson Whitting drawing's have been based from information received from : WALPOLE SVY 22072 Rev 4

Taylor Thomson Whitting makes no guarantees that the boundary or easement information shown is correct.
Taylor Thomson Whitting will accept no liabilities for boundary inaccuracies. The contractor/builder is advised to check/confirm all boundaries in relation to all proposed work prior to the commencement of construction. Boundary inaccuracies found are to be reported to the superintendent prior to construction starting.

STORMWATER DRAINAGE NOTES

1 Stormwater Design Criteria :
(A) Average exceedance probability -
1% AEP for roof drainage to first external pit
5% AEP for paved and landscaped areas
(B) Rainfall intensities -
Time of concentration: 12 minutes
1% AEP = 150 mm/hr
5% AEP = 98 mm/hr
(C) Rainfall losses -
Impervious areas: IL = 1.5 mm , CL = 0 mm/hr
Pervious areas: IL = 29mm , CL = 2 mm/hr

2. Pipes 300 dia and larger to be reinforced concrete Class "2" approved spigot and socket with rubber ring joints U.N.O.
5. Precast pits may be used external to the building subject to approval by Council.
6. Enlargers, connections and junctions to be manufactured fittings where pipes are less than 300 dia.
7. Where subsoil drains pass under floor slabs and vehicular pavements, unslotted uPVC sewer grade pipe is to be used.
8. Grates and covers shall conform with AS 3996-2006, and AS 1428.1 for access requirements.
9. Pipes are to be installed in accordance with AS 3725. All bedding to be type H2 U.N.O.
10. Care is to be taken with invert levels of stormwater lines. Grades shown are not to be reduced without approval.
11. All stormwater pipes to be 150 dia at 1.0% min fall U.N.O.
12. Subsoil drains to be slotted flexible uPVC U.N.O.
13. Adopt invert levels for pipe installation (grades shown are only nominal).
14. All drainage works to be installed in accordance with PCC standard details.

SITEWORKS NOTES

1. All basecourse material to comply with RMS specification No 3051 and compacted to minimum 98% modified standard dry density in accordance with AS 1289 5.2.1.
2. All trench backfill material shall be compacted to the same density as the adjacent material.
3. All service trenches under vehicular pavements shall be backfilled with an approved select material and compacted to a minimum 98% standard maximum dry density in accordance with AS 1289 5.1.1

KERBING NOTES

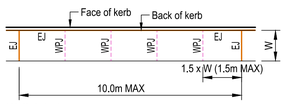
Includes all kerbs, gutters, dish drains, crossings and edges.

1. All kerbs, gutters, dish drains and crossings to be constructed on minimum 75mm granular basecourse compacted to minimum 98% modified maximum dry density in accordance with AS 1289 5.2.1.
2. Expansion joints (EJ) to be formed from 10mm compressible cork filler board for the full depth of the section and cut to profile. Expansion joints to be located at drainage pits, on tangent points of curves and elsewhere at 12m centres except for integral kerbs where the expansion joints are to match the joint locations in slabs.
3. Weakened plane joints to be min 3mm wide and located at 3m centres except for integral kerbs where weakened plane joints are to match the joint locations in slabs.
4. Broomed finished to all ramped and vehicular crossings, all other kerbing or dish drains to be steel float finished.
5. In the replacement of kerbs -
Existing road pavement is to be sawcut 900mm from lip of gutter. Upon completion of new kerbs, new basecourse and surface is to be laid 900mm wide to match existing materials and thicknesses.
Existing allotment drainage pipes are to be built into the new kerb with a 100mm dia hole.
Existing kerbs are to be completely removed where new kerbs are shown.

JOINTING NOTES

Pedestrian Footpath Jointing

1. Expansion joints (EJ) are to be located where possible at tangent points of curves and elsewhere at max 10.0m centres.
2. Weakened plane joints (WPJ) are to be located at a max 1.5 x width of the pavement.
3. Where possible joints should be located to match kerbing and / or adjacent pavement joints.
4. All pedestrian footpath jointings as follows U.N.O.



Wall Jointing

1. For concrete walls, weakened plane joints (WPJ) or control joints (CJ) to be located at a maximum of 8.0m centres. Expansion joints (EJ) to be located at a maximum of 30.0m centres U.N.O.
2. For blockwork walls, dowelled control joints (CJ) to be located at maximum of 8.0m spacing U.N.O.

CONCRETE FINISHING NOTES

1. All exposed concrete pavements are to be broomed finished unless noted otherwise in the Landscape Drawings/Specifications.
2. All edges of the concrete pavement including keyed and dowelled joints are to be finished with an edging tool.
3. Concrete pavements with grades greater than 10 % shall be heavily broomed finished.
4. Carborundum to be added to all stair treads and ramped crossings U.N.O.

BULK EARTHWORKS NOTES

1. Contractor to reference geotechnical report for subgrade preparation requirements
2. All batters at a maximum slope to be confirmed and subject to geotechnical engineer advice.
3. Excavated material may be used as structural fill provided,
(i) it complies with the specification requirements for fill material,
(ii) the placement moisture content complies with the Geotechnical Consultants requirements, and allows filling to be placed and proof-rolled in accordance with the specification. Where necessary the Contractor must moisture condition the excavated material to meet these requirements.
4. Compact fill areas and subgrade to not less than:

Location	Standard dry density (AS 1289 5.1.1.)	Optimum moisture content (OMC)
Under building slabs on ground:	98%	±2%
Under roads and carparks:	98%	±2%
Landscaped areas:	95%	±2%

5. Before placing fill, proof roll exposed subgrade with a 10 tonne minimum roller to test subgrade and then remove soft spots (areas with more than 3mm movement under roller). Soft spots to be replaced with granular fill unless noted otherwise.
6. Contractor shall place safety barriers around excavations in accordance with relevant safety regulations.
7. Bulk earthworks drawings are not to be used for detailed excavation in landscape zones. Contractor to make allowance for additional fill or cut through landscape zones.
8. Contractor to review landscape drawings to confirm softscape profile depths
9. Strip all topsoil from the construction area. All stripped topsoil shall be disposed of off-site unless directed otherwise.
10. Make smooth connection with all existing works
11. Compact subgrade under buildings and pavements to minimum 98% standard maximum dry density in accordance with AS1289.5.1.1. Compaction under buildings to extend 2.0m minimum beyond building footprint
12. Temporary stormwater control and connections to be managed onsite by the builder/contractor
13. Site to be free draining and subgrade to be protected from moisture ingress.
14. Dewatering to be managed by contractor at all times.
15. Quantities to underlying geology such as rock or natural clay are indicative only and based on the geotechnical information available at the time of issue. Underlying natural clay and rock levels can be highly variable between geotech sample locations.
16. All earthworks activities shall be undertaken with level 1 supervision in accordance with AS3798 (2007) by a suitably qualified geotechinical inspection and testing authority (GITA) engaged by the contractor. As a minimum, the frequency and location of testing shall be in accordance with table 8.1 of AS3798 (2007). The GITA is to maintain daily site record sheets as set out in AS3798 (2007)

EROSION AND SEDIMENT CONTROL NOTES

1. All work shall be generally carried out in accordance with
(A) Local authority requirements,
(B) EPA - Pollution control manual for urban stormwater,
(C) LANDCOM NSW - Managing Urban Stormwater: Soils and Construction ("Blue Book").
2. The erosion and sediment control shall be implemented and adapted to meet the varying situations as work on site progresses.
3. Maintain all erosion and sediment control devices to the satisfaction of the superintendent and the local authority.
4. When stormwater pits are constructed prevent site runoff entering the pits unless silt fences are erected around pits.
5. Minimise the area of site being disturbed at any one time.
6. Protect all stockpiles of materials from scour and erosion. Do not stockpile loose material in roadways, near drainage pits or in watercourses.
7. All soil and water control measures are to be put back in place at the end of each working day, and modified to best suit site conditions.
8. Control water from upstream of the site such that it does not enter the disturbed site.
9. All construction vehicles shall enter and exit the site via the temporary construction entry/exit.
10. All vehicles leaving the site shall be cleaned and inspected before leaving.
11. Maintain all stormwater pipes and pits clear of debris and sediment. Inspect stormwater system and clean out after each storm event.
12. Clean out all erosion and sediment control devices after each storm event.

Sequence Of Works

1. Prior to commencement of excavation the following soil management devices must be installed.
1.1. Construct silt fences below the site and across all potential runoff sites.
1.2. Construct temporary construction entry/exit and divert runoff to suitable control systems.
1.3. Construct measures to divert upstream flows into existing stormwater system.
1.4. Construct sedimentation traps/basin including outlet control and overflow.
1.5. Construct turf lined swales.
1.6. Provide sandbag sediment traps upstream of existing pits.
2. Construct geotextile filter pit surround around all proposed pits as they are constructed.
3. On completion of pavement provide sand bag kerb inlet sediment traps around pits.
4. Provide and maintain a strip of turf on both sides of all roads after the construction of kerbs.

WATER QUALITY TESTING REQUIREMENTS

Prior to discharge of site stormwater, groundwater and seepage water
into council's stormwater system, contractors must undertake water quality tests in conjunction with a suitably qualified environment consultant outlining the following:

- Compliance with the criteria of the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000)
- If required subject to the environmental consultants advice, provide remedial measures to improve the quality of water that is to be discharged into Councils storm water drainage system.This should include comments from a suitably qualified environmental consultant confirming the suitability of these remedial measures to manage the water discharged from the site into Councils storm water drainage system. Outlining the proposed, ongoing monitoring, contingency plans and validation program that will be in place to continually monitor the quality of water discharged from this site. This should outline the frequency of water quality testing that will be undertaken by a suitably qualified environmental consultant.

SAFETY IN DESIGN

Contractor to refer to Appendix B of the Civil Specification for the Civil Risk and Solutions Register.

EXISTING SERVICES

Contractor to be aware existing services are located within the site. Location of all services to be verified by the Contractor prior to commencing works. Contractor to confirm with relevant authority regarding measures to be taken to ensure services are protected or procedures are in place to demolish and/or relocate.

EXISTING STRUCTURES

Contractor to be aware existing structures may exist within the site. To prevent damage to existing structure(s) and/or personnel, site works to be carried out as far as practicably possible from existing structure(s).

EXISTING TREES

Contractor to be aware existing trees exist within the site which need to be protected. To prevent damage to trees and/or personnel, site works to be carried out as far as practicably possible from existing trees. Advice needs to be sought from Arborist and/or Landscape Architect on measures required to protect trees. Refer to report 'ARB_220623_TreeIQ Wentworth Health Service Preliminary Advice' by TreeIQ dated 23/06/22.

GROUNDWATER

Contractor to be aware ground water levels are close to existing surface level. Temporary de-watering may be required during construction works.

EXCAVATIONS

Deep excavations due to stormwater drainage works is required. Contractor to ensure safe working procedures are in place for works. All excavations to be fenced off and batters adequately supported to approval of Geotechnical Engineer.

GROUND CONDITIONS

Contractor to be aware of the site geotechnical conditions. Refer to geotechnical report by JK Geotechnics (16 Nov 2017, ref:30993ZArpt) for details.

HAZARDOUS MATERIALS

Existing asbestos products & contaminated material are present on site. Contractor to ensure all hazardous materials are identified prior to commencing works. Safe working practices as per relevant authority to be adopted and appropriate PPE to be used when handling all hazardous materials. Remediation of ACM exposed on site shall be undertaken in accordance with the requirements noted in the Remediation Action Plan (RAP) by JBS&G. ACM volumes are indicative only and are based on nominal 150mm depth across area noted in the detailed site investigation report by JBS&G.

CONFINED SPACES

Contractor to be aware of potential hazards due to working in confined spaces such as stormwater pits, trenches and/or tanks. Contractor to provide safe working methods and use appropriate PPE when entering confined spaces.

MANUAL HANDLING

Contractor to be aware manual handling may be required during construction. Contractor to take appropriate measures to ensure manual handling procedures and assessments are in place prior to commencing works.

WATER POLLUTION

Contractor to ensure appropriate measures are taken to prevent pollutants from construction works contaminating the surrounding environment.

SITE ACCESS/EGRESS

Contractor to be aware site works occur in close proximity to footpaths and roadways. Contractor to erect appropriate barriers and signage to protect site personnel and public.

VEHICLE MOVEMENT

Contractor to supply and comply with traffic management plan and provide adequate site traffic control including a certified traffic marshall to supervise vehicle movements where necessary.

SITEWORKS LEGEND

- × F22.20 — FINISHED SURFACE LEVEL
- 22.00 — FINISHED MAJOR CONTOUR
- 22.10 — FINISHED MINOR CONTOUR
- PROPERTY BOUNDARY
- K&G — KERB AND GUTTER
- KO — KERB ONLY
- K&G - O — KERB AND GUTTER WITH OPENINGS
- IL 10.20 — STORMWATER PIT AND DRAIN
- GT — GRATED TRENCH
- AG — AG (SUBSOIL) DRAIN
- GI — GRATED INLET / FLOOR WASTE
- CONCRETE ENDWALL
- IO — INSPECTION OPENING WITH SUBSOIL DRAINAGE LINE (100 DIA)
- FP — FLUSHOUT POINT WITH SUBSOIL DRAINAGE LINE (100 DIA)
- DP — DOWN PIPE
- OVERLAND FLOWPATH
- RW — RETAINING WALL
- BATTER
- SAWCUT JOINT
- EXPANSION JOINT
- DOWELLED SAWCUT JOINT
- DOWELLED EXPANSION JOINT
- BIO SWALE
- GRASSED SWALE
- GUARD RAIL
- FENCE
- TPZ — TPZ — TREE PROTECTION ZONE
- SRZ — SRZ — STRUCTURAL ROOT ZONE

EXISTING SERVICES LEGEND

- eT — TELECOM
- eG — GAS
- eE — ELECTRICAL
- eO — ELECTRICAL (OVERHEAD)
- eW — WATER
- eD — STORM WATER
- eS — SEWER

DRAWINGS TO BE PRINTED IN Y M C [R] G B K

WORKS NEAR EXISTING SERVICES
ALL EXISTING UNDERGROUND SERVICES ARE TO BE LOCATED ON SITE PRIOR TO COMMENCING WORKS

WORKS NEAR EXISTING TREES
PRECAUTIONS ARE TO BE UNDERTAKEN TO ENSURE EXISTING TREES IN THE VICINITY OF WORKS ARE NOT DAMAGED DURING CONSTRUCTION ACTIVITIES

CIVIL SPECIFICATIONS
DRAWINGS TO BE READ IN CONJUNCTION WITH THE CIVIL SPECIFICATION. REFER APPENDIX A FOR INSPECTION HOLD POINTS

HIGH VOLTAGE ELECTRICAL CABLE
PRECAUTIONS ARE TO BE UNDERTAKEN TO ENSURE HIGH VOLTAGE CABLE IN THE VICINITY OF WORKS IS NOT DAMAGED DURING CONSTRUCTION ACTIVITIES.
LIAISE WITH ASSET OWNER AS REQUIRED

EXISTING STORMWATER ASSETS
SIZE, INVERT LEVEL AND CONDITION OF ALL AFFECTED EXISTING STORMWATER ASSETS TO BE CONFIRMED PRIOR TO COMMENCING WORKS

Rev	Description	Eng	Draft	Date
2	REF ISSUE	RP	AE	11.04.23
1	ISSUED FOR SD	RP	AE	23.11.22

DIAL BEFORE YOU DIG www.1100.com.au

BEWARE OF UNDERGROUND SERVICES.
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN

Project
WENTWORTH HEALTH SERVICE REDEVELOPMENT
24 HOSPITAL ROAD, WENTWORTH, NSW, 2648

Drawing Title
NOTES AND LEGENDS SHEET

Architect
NBRS
+61 2 9922 2344 nbrs.com.au
Nominated Architect:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Civil Engineer
TTW Structural Civil Traffic Façade
+61 2 9439 7288 | L6 73 Miller Street North Sydney NSW 2065

Scale: A1 Drawn: AE Authorised: RP

Job No 221039 Drawing No C002 Revision 2

Plot File Created: Apr 11, 2023 - 6:33pm

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

This drawing is copyright and is the property of TAYLOR THOMSON WHITTING (NSW) Pty Ltd and must not be used without authorisation.

THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT NOTES ON DRAWING C002

EROSION AND SEDIMENT CONTROL LEGEND

- SILTATION FENCE
- STORMWATER PIT WITH GEOTEXTILE FILTER SURROUND
- HAY BALE BARRIERS
- SANDBAG SEDIMENT TRAP
- CATCH DRAIN / OPEN CHANNEL
- STAGE 1A - LIMIT OF WORKS BOUNDARY (INDICATIVE)
- STAGE 1B - LIMIT OF WORKS BOUNDARY (INDICATIVE)
- STAGE 2 - LIMIT OF WORKS BOUNDARY (INDICATIVE)
- TREE PROTECTION ZONE
- STRUCTURAL ROOT ZONE

DARLING RIVER

HEAVY VEGETATION

EXISTING HOSPITAL BUILDING

TEMPORARY SILT FENCE AROUND EXTENT OF WORKS LOCATION IS SHOWN INDICATIVELY ONLY AND IS TO BE CONFIRMED BY CONTRACTOR

PROPOSED TEMPORARY OPEN CHANNEL LOCATION (STAGE 1A). CONTRACTOR TO PROVIDE/CONFIRM ONSITE

DISCHARGE FROM SITE TO BE PROVIDED AND CONTROLLED BY CONTRACTOR (TYP.)

PROVIDE GEOTEXTILE FILTER PIT SURROUND AND SANDBAG SEDIMENT TRAP TO EXISTING GRATED PIT

CONTRACTOR TO MONITOR SITE RUNOFF DURING CONSTRUCTION TO ENSURE SEDIMENT LADEN WATER IS NOT DISCHARGED FROM THE SITE TO DARLING RIVER

TEMPORARY SEDIMENT BASIN TO TREAT SITE RUNOFF. SHOWN INDICATIVELY ONLY

PROPOSED TEMPORARY OPEN CHANNEL LOCATION (STAGE 1A). CONTRACTOR TO PROVIDE/CONFIRM ONSITE

HAYBALE SEDIMENT FILTER ALONG OPEN CHANNEL (TYP.). SHOWN INDICATIVELY ONLY

PROPOSED TEMPORARY OPEN CHANNEL LOCATION (STAGE 1B). CONTRACTOR TO PROVIDE/CONFIRM ONSITE

PROVIDE GEOTEXTILE FILTER PIT SURROUND AND SANDBAG SEDIMENT TRAP TO TEMPORARY GRATED PIT

DISCHARGE FROM SITE TO BE PROVIDED AND CONTROLLED BY CONTRACTOR (TYP.)

TREE 67 TO BE PROTECTED IN ACCORDANCE WITH ARBORIST REQUIREMENTS. PROPOSED LEVELS WITHIN TPZ ABOVE EXISTING GRADE

PROVIDE GEOTEXTILE FILTER PIT SURROUND AND SANDBAG SEDIMENT TRAP TO TEMPORARY GRATED PIT

DISCHARGE FROM SITE TO BE PROVIDED AND CONTROLLED BY CONTRACTOR (TYP.)

TEMPORARY SILT FENCE LOCATION IS SHOWN INDICATIVELY ONLY AND IS TO BE CONFIRMED BY CONTRACTOR

EXISTING BUILDING

TEMPORARY SILT FENCE LOCATION IS SHOWN INDICATIVELY ONLY AND IS TO BE CONFIRMED BY CONTRACTOR

DISCHARGE FROM SITE TO BE PROVIDED AND CONTROLLED BY CONTRACTOR (TYP.)

EXISTING BUILDING

WORKS WITHIN TREE PROTECTION ZONES SHALL BE UNDERTAKEN IN ACCORDANCE WITH ARBORIST REQUIREMENTS

REMEDIATION OF ASBESTOS CONTAMINATED MATERIALS 'ACM' EXPOSED ON SITE SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE REQUIREMENTS NOTED IN THE REMEDIATION ACTION PLAN (RAP) BY JBS&G. THE CONTRACTOR SHALL ALSO REFER TO THE THE DETAILED SITE INVESTIGATION REPORT BY JBS&G

EARTHWORKS AND TEMPORARY BATTERS TO BE CONSTRUCTED IN ACCORDANCE WITH GEOTECHNICAL REPORT TO ENSURE BATTER STABILITY IN THE INTERIM CONDITION.

CONSIDERATION TO BE MADE TO PROVIDING RESIN BINDER POLYMER SPRAY TO ALL INTERIM BATTERS AT INTERFACE OF THE WORKS. DIRTGLUE OR EQUIVALENT.

THE CONTRACTOR SHALL ENSURE THAT DUST SUPPRESSION MEASURES ARE IMPLEMENTED DURING AND UPON COMPLETION OF WORKS ACROSS THE EXTENT OF WORKS. OPTIONS INCLUDE, BUT ARE NOT LIMITED TO:

- HYDROSEEDING (PROVIDE 50mm TOP SOIL LAYER - NOT INCLUDED IN FILL VOLUME ESTIMATES)
- RESIN POLYMER BINDER SPRAY

THE CONTRACTOR SHALL SEEK APPROVAL FROM THE SUPERINTENDENT FOR PROPOSED ALTERNATIVE MEASURES

SCALE 1:300 0 2.5 5 7.5 10 12.5 m
AT ORIGINAL SIZE

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

Rev	Description	Eng	Draft	Date
1	REF ISSUE	RP	AE	11.04.23

DIAL BEFORE YOU DIG www.1100.com.au

BEWARE OF UNDERGROUND SERVICES.
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN

Project
WENTWORTH HEALTH SERVICE REDEVELOPMENT
24 HOSPITAL ROAD, WENTWORTH, NSW, 2648

Drawing Title
EROSION AND SEDIMENT CONTROL PLAN

Architect
NBRS
+61 2 9922 2344
nbrs.com.au
Nominated Architect:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197
ABN 16 002 247 565

Civil Engineer
TTW Structural Civil Traffic Façade
+61 2 9439 7288 | L6 73 Miller Street North Sydney NSW 2065

Scale: A1 Drawn: AE Authorised: RP

Job No	Drawing No	Revision
221039	C100	1

Plot File Created: Apr 11, 2023 - 6:34pm

This drawing is copyright and is the property of TAYLOR THOMSON WHITTING (NSW) Pty Ltd and must not be used without authorisation.

THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT NOTES ON DRAWING C002

SITEWORKS LEGEND

- × F22.20 — FINISHED SURFACE LEVEL
- 22.00 — FINISHED MAJOR CONTOUR
- 22.10 — FINISHED MINOR CONTOUR
- PROPERTY BOUNDARY
- K&G — KERB AND GUTTER
- KO — KERB ONLY
- FK — FLUSH KERB
- IL 10.20 — STORMWATER PIT AND DRAIN
- GT — GRATED TRENCH
- AG — AG (SUBSOIL) DRAIN
- GI — GRATED INLET / FLOOR WASTE
- CONCRETE ENDWALL
- IO — INSPECTION OPENING WITH SUBSOIL DRAINAGE LINE (100 DIA)
- FP — FLUSHOUT POINT WITH SUBSOIL DRAINAGE LINE (100 DIA)
- DP — DOWN PIPE
- OVERLAND FLOWPATH
- RW — RETAINING WALL
- BATTER
- BIO SWALE
- GRASSED SWALE
- TPZ — TREE PROTECTION ZONE
- SRZ — STRUCTURAL ROOT ZONE
- PROPOSED ACM CAP AND CONTAIN LOCATION

DARLING RIVER

EXISTING LEVEE BANK

NEW HOSPITAL BUILDING
FFL 36.00

EXISTING CARPARK

LANDSCAPE BATTER REFER TO LANDSCAPE DRAWINGS FOR DETAILS

STAGE 1B & 2 ACM MATERIAL (APPROX. 400 m³) CAPPED AND CONTAINED WITHIN LANDSCAPE BATTER. SHOWN INDICATIVELY ONLY

LANDSCAPE MOUND REFER TO LANDSCAPE DRAWINGS FOR DETAILS

STAGE 1A ACM MATERIAL (APPROX. 740 m³) CAPPED AND CONTAINED WITHIN LANDSCAPE MOUND. SHOWN INDICATIVELY ONLY

MATCH LEVELS TO TOP OF LEVEE BANK

MATCH INTO EXISTING PAVEMENT LEVELS AND MAKE GOOD AT INTERFACE

MATCH INTO EXISTING KERB AND MAKE GOOD

1:40 LANDING

3m WIDE GRASSED SWALE MIN 1 IN 200 SLOPE TO GRATED SW PIT

1.5m WIDE BIO-SWALE

ABOVEGROUND RWHT. CONNECT 225Ø OVERFLOW TO SW PIT

TEMPORARY 1.5m MAX HEIGHT BLOCKWORK RETAINING WALL ALONG INTERFACE WITH EXISTING HOSPITAL (STAGE 1A)

18 m² BIO-RETENTION RAINGARDEN

TREE 67 TO BE PROTECTED IN ACCORDANCE WITH ARBORIST REQUIREMENTS. PROPOSED LEVELS WITHIN TPZ ABOVE EXISTING GRADE

SERVICES ROOMS - FFL 34.70

CONNECT FIRE TANK OVERFLOWS TO GRATED SW PIT. SERVICES PLINTHS SET ABOVE RL 34.65

CONNECT ROOF DOWNPIPES FOR NEW BUILDINGS TO INGROUND SW DRAINAGE. DETAIL TBC

EXISTING Ø300 RCP OUTLET

INSTALL NON-RETURN VALVES TO PREVENT BACKFLOW. PERMISSIBLE SITE DISCHARGE 124 l/s (Ex. Ø300 PIPE CAPACITY)

SPEL ECOCEPTOR 1500 SERIES - E.240/153030.RCP OR APPROVED EQUIVALENT

BAFFLE PIT WITH ORIFICE PLATE TO RESTRICT FLOWS TO 48 l/s

15KL UNDERGROUND ON-SITE DETENTION (OSD) 5.4 X 3.6m SD ACO STORMBRIXX OR APPROVED EQUIVALENT.

STORE ROOM AND MAINTENANCE SHED - FFL 35.67

TAPER KERBS TO ZERO HEIGHT OVER 1m

SPEL ECOCEPTOR 1500 - E240/153030.RCP SERIES OR APPROVED EQUIVALENT

BAFFLE PIT WITH ORIFICE PLATE TO RESTRICT FLOWS TO 73 l/s

GENERATOR SLAB - SSL 34.90

25KL UNDERGROUND ON-SITE DETENTION (OSD). 9.6 X 3.0m HD ACO STORMBRIXX OR APPROVED EQUIVALENT.

CARPARK EXTENDED DETENTION DEPTH OSD STORAGE 1 IN 100 YR RL 34.65 (BLUE DASH LINE)

SCALE 1:300 0 2.5 5 7.5 10 12.5 m
AT ORIGINAL SIZE

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

Rev	Description	Eng	Draft	Date
3	REF ISSUE	RP	AE	11.04.23
2	ISSUED FOR SD	RP	AE	23.11.22
1	ISSUED FOR DRAFT SD	RP	AE	21.11.22

DIAL BEFORE YOU DIG www.1100.com.au

BEWARE OF UNDERGROUND SERVICES. THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN

Project
WENTWORTH HEALTH SERVICE REDEVELOPMENT
24 HOSPITAL ROAD, WENTWORTH, NSW, 2648

Drawing Title
SITE PLAN

Architect
NBRS
+61 2 9922 2344 nbrs.com.au
Nominated Architect: Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Civil Engineer
TTW Structural Civil Traffic Façade
+61 2 9439 7288 | L6 73 Miller Street North Sydney NSW 2065

Scale: A1 Drawn: AE Authorised: RP

Job No	Drawing No	Revision
221039	C210	3

Plot File Created: Apr 11, 2023 - 6:47pm

This drawing is copyright and is the property of TAYLOR THOMSON WHITTING (NSW) Pty Ltd and must not be used without authorisation.

THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT NOTES ON DRAWING C002

PAVEMENT LEGEND

P1 — ASPHALT VEHICULAR PAVEMENT
40mm thickness asphalt (AC14) with primerseal on 170mm compacted thickness DGB20 or equivalent on 250mm select fill material (Ev=150Mpa) on evenly compacted sub-grade to 100% standard maximum dry density in accordance with A.S.1289.5.1.1 (Min. CBR 3.0%)

P2 — CONCRETE PEDESTRIAN PAVEMENT
125mm thickness concrete (f'c = 32MPa) with SL62 fabric mesh (40 cover) on 100mm compacted thickness DGB20 on evenly compacted sub-grade to 100% standard maximum dry density in accordance with A.S.1289.5.1.1 (Min. CBR 3.0%)

P3 — GRAVEL/PERMEABLE PAVEMENT
Refer to Landscape Specifications for details

ANY UNCONTROLLED/SOFT SPOT TO BE REMOVED AND BACKFILL WITH ENGINEERING FILL/PROOF ROLL AND COMPACTED IN ACCORDANCE WITH GEOTECHNICAL ENGINEER'S RECOMMENDATION

REFER TO GEOTECHNICAL REPORT FOR SUBGRADE PREPARATION REQUIREMENTS

TREE 67 TO BE PROTECTED IN ACCORDANCE WITH ARBORIST REQUIREMENTS. PROPOSED LEVELS WITHIN TPZ ABOVE EXISTING GRADE

SCALE 1:300 0 2.5 5 7.5 10 12.5
AT ORIGINAL SIZE m

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

Rev	Description	Eng	Draft	Date
3	REF ISSUE	RP	AE	11.04.23
2	ISSUED FOR SD	RP	AE	23.11.22
1	ISSUED FOR DRAFT SD	RP	AE	21.11.22

DIAL BEFORE YOU DIG www.1100.com.au

BEWARE OF UNDERGROUND SERVICES.
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN

Project
WENTWORTH HEALTH SERVICE REDEVELOPMENT
24 HOSPITAL ROAD, WENTWORTH, NSW, 2648

Drawing Title
PAVEMENT AND JOINTING PLAN

Architect
NBRS
+61 2 9922 2344 nbrs.com.au
Nominated Architect:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Civil Engineer
TTW Structural Civil Traffic Façade
+61 2 9439 7288 | L6 73 Miller Street North Sydney NSW 2065

Scale: A1 Drawn: AE Authorised: RP

Job No	Drawing No	Revision
221039	C310	3

Plot File Created: Apr 11, 2023 - 6:48pm

This drawing is copyright and is the property of TAYLOR THOMSON WHITTING (NSW) Pty Ltd and must not be used without authorisation.

THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT NOTES ON DRAWING C002

LEVELS TABLE

No.	FROM LEVEL (m)	TO LEVEL (m)	COLOUR
1	-0.70	-0.10	
2	-0.10	0.50	
3	0.50	1.10	
4	1.10	1.70	
5	1.70	2.30	

× FX.XX DENOTES CUT / FILL DEPTH FROM NATURAL SURFACE TO DESIGN SURFACE

CUT AND FILL ESTIMATES

	STAGE 1A	STAGE 1B	STAGE 2
AREA OF WORKS	6,620 m²	3,790 m²	1,050 m²
CUT (UNCONTROLLED FILL)	2,130 m³	1,000 m³	210 m³
ACM (APPROX 150mm DEPTH OF TOPSOIL/FILL)	740 m³	230 m³	170 m³
FILL (TO BENCHING LEVEL)	8,310 m³	2,350 m³	120 m³

1. NO BULKING FACTOR APPLIED.
2. CUT AND FILL VOLUME ESTIMATES CALCULATED FROM THE FINISHED EARLY WORKS STRIPPED SURFACE (150mm BELOW NATURAL SURFACE) TO THE DESIGN BULK EARTHWORKS BENCHING SURFACE.
3. FOR RE-USE OF SITE WON MATERIAL, REFERENCE SHOULD BE MADE TO THE GEOTECHNICAL REPORT. THE CONTRACTOR IS TO MAKE ALLOWANCE FOR SORTING/TESTING AND HANDLING OF ANY FILL MATERIAL PROPOSED FOR RE-USE. ALL TESTING SHALL BE AT THE CONTRACTOR'S EXPENSE.
4. NO VOLUME ALLOWANCE OF BENCHING FOR STRUCTURAL FOOTINGS, SERVICE TRENCHES AND INGROUND SERVICES TANKS.

NEW HOSPITAL BUILDING

SCALE 1:300 0 2.5 5 7.5 10 12.5 m
AT ORIGINAL SIZE

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

Rev	Description	Eng	Draft	Date
4	REF ISSUE	RP	AE	11.04.23
3	PRELIMINARY	RP	AE	19.12.22
2	ISSUED FOR SD	RP	AE	23.11.22
1	ISSUED FOR DRAFT SD	RP	AE	21.11.22

DIAL BEFORE YOU DIG www.1100.com.au

BEWARE OF UNDERGROUND SERVICES.
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN

Project
WENTWORTH HEALTH SERVICE REDEVELOPMENT
24 HOSPITAL ROAD, WENTWORTH, NSW, 2648

Drawing Title
CUT & FILL PLAN

Architect
NBRS
+61 2 9922 2344 nbrs.com.au
Nominated Architect:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Civil Engineer
TTW Structural Civil Traffic Façade
+61 2 9439 7288 | L6 73 Miller Street North Sydney NSW 2065

Scale: A1 Drawn: AE Authorised: RP

Job No	Drawing No	Revision
221039	C410	4

Plot File Created: Apr 11, 2023 - 6:32pm

B - Summary Tables

Table A: Soil Analytical Data
Project Number: 63097
Project Name: Wentworth Health Services Redevelopment

	Metals & Metalloids									TPHs (NEPC 1999)					TRHs (NEPC 2013)							BTEXN						PAH																							
	Arsenic	Cadmium	Chromium (III+VI)	Copper	Iron	Lead	Mercury	Nickel	Zinc	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum of Total)	C6-C10	C10-C16	C16-C34	C34-C40	C10-C40 (Sum of total)	F1 (C6-C10 minus BTEX)	F2 (C10-C16 less Naphthalene)	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(a)pyrene TEQ (LOR)	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ calc (Zero)	Benzo(b+j)fluoranthene	Benzo(b+j+k)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)
	mg/kg	mg/kg	mg/kg	mg/kg	MG/KG	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	2	0.4	5	5	20	5	0.1	5	5	20	20	50	50	50	20	50	100	100	100	20	50	0.1	0.1	0.1	0.1	0.2	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
NEPC 2013 EIL, Site Specific*	100		400	230		1100		330	960																																				170			
NEPM 2013 Table 1A(1) HILs Res B Soil	500[#1]	150	500[#2]	30000		1200[#3]	120[#4]	1200	60000																								4[#5]	4[#5]	4[#5]												400[#6]
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																																																
0-1m																				50[#8]	280[#9]	0.7[#10]	480[#10]	NL[#10]			110[#10]																			5[#10]			
1-2m																				90[#8]	NL[#9]	1[#10]	NL[#10]	NL[#10]			310[#10]																			NL[#10]			
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil																	1300[#16]	5600[#16]		180[#17]	120[#18]	65[#16]	105[#16]	125[#16]			45[#16]						0.7[#16]															
NEPM 2013 Table 7 Res B Soil HSL for Asbestos in Soil																																																
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil															800	1000	3500	10000																															

Field ID	Sampled Date Time	Matrix Description	Lab Report Number																																															
FRAG-02	10/08/2022	Surficial Fragment	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FRAG-04	11/08/2022	Surficial Fragment	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS01-0-0.1	9/08/2022	Fill - Silty Sand	914805	<2	<0.4	9	12	-	18	<0.1	5.6	110	<20	<20	<50	81	81	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP01-0-0.1	9/08/2022	Fill - Silty Clay	914805	3.5	<0.4	22	19	-	15	<0.1	15	52	<20	<20	98	160	258	<20	<50	200	120	320	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP01-0-0.3	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP01-0.5-0.6	9/08/2022	Natural - Clay	914805	-	-	-	-	26,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP02-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP02-0-0.4	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP03-0-0.1	9/08/2022	Fill - Silty Clay	914805	3.5	<0.4	49	24	-	18	<0.1	27	73	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
FRAG_TP03-0-0.4	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP03-0-1.0	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP04-0-0.1	9/08/2022	Fill - Silt	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP04-0-0.4	9/08/2022	Fill - Silt	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP05-0-0.1	9/08/2022	Fill - Silty Sand	914805	7.4	<0.4	31	16	-	12	<0.1	21	47	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP06-0-0.1 (Primary)	9/08/2022		914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA202200809-01 (Triplicate)	9/08/2022	Fill - Silty Sand	303323	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC20220809-01 (Duplicate)	9/08/2022		914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP07-0.5-0.6	9/08/2022	Natural - Sandy Clay	914805	-	-	-	-	23,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP07-0-0.1	9/08/2022	Fill - Clayey Sand	914805	3.3	<0.4	13	11	-	7	<0.1	11	31	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP08-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP09-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP09-0-0.2	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP10-0-0.1	9/08/2022	Fill - Silty Clay	914805	4.9	<0.4	29	14	-	11	<0.1	16	47	<20	83	<50	<50	83	<20	56	<100	<100	<100	<20	56	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP14-0-0.1	9/08/2022	Fill - Silty Clay	914805	3	<0.4	24	13	-	15	<0.1	15	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP14-0-0.3	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP15-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP15-0-0.2	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP16-0.3-0.4	9/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP16-0-0.1	9/08/2022	Fill - Silty Clay	914805	3	<0.4	17	10	-	12	0.7	11	40	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP17-0-0.1	10/08/2022	Fill - Silty Clay	914805	3.1	<0.4	25	12	-	13	<0.1	15	48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP17-0-0.3	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18-0-0.1	10/08/2022	Fill - Silty Clay	914805	3.5	<0.4	18	11	-	24	<0.1	13	38	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP18-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19-0.3-0.4	10/08/2022	Natural - Clayey Sand	914805	-	-	-	-	30,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP20-0-0.1	10/08/2022	Fill - Silty Clay	914805	3.6	<0.4	26	16	-	37	0.1	17	130	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP21-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP22-0-0.1	10/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP23-0-0.1	10/08/2022	Fill - Silty Sand	914805	2.7	<0.4	22	27	-	61	<0.1	8.3	1400	<20	<20	75	110	185	<20	<50	140	<100	140	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP24-0-0.1 (Primary)	10/08/2022		914805	<2	<0.4	9.9	15	-	7.6	<0.1	6.3	44	<20	22	390	300	712	<20	65	750	250	1065	<20	65	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QA202200810-01 (Triplicate)	10/08/2022	Fill - Silty Clay	303323	<4	<0.4	6	27	-	11	0.1	6	49	<25	<50	450	350	810	<25	130	640	250	1000	<25	130	<0.2	<0.5	<1	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.5	<0.5	<0.5	-	<0.2	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
QC20220810-01 (Duplicate)	10/08/2022		914805	<2	<0.4	15	81	-	15	0.3	7.2	66	<20	30	690	570	1290	<20	120	1300	450	1870	<20	120	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP25-0.2-0.25	10/08/2022	Fill - Sand	914805	3.2	<0.4	6.7	7.6	-	61	<0.1	<5	58	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP25-0-0.1	10/08/2022	Fill - Silty Clay	914805	4.2	<0.4	17	15	-	210	<0.1	11	240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP25-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP26-0.5-0.6	10/08/2022	Natural - Sandy Clay	914805	-	-	-	-	28,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP26-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP27-0-0.1	10/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP27-0-0.2	10/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP28-0-0.1	10/08/2022	Fill - Silty Clay	914805	2.6	<0.4	18	8.5	-	15	<0.1	11	37	<20	57	60	80	197	<20	<50	110	<100	110	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP28-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP29-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP29-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP30-0-0.1	10/08/2022	Fill - Silty Clay	914805	3.2	<0.4	20	13	-	24	<0.1	13	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP30-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP31-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP32-0.2-0.5	10/08/2022	Fill - Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP32-0.5-0.7	10/08/2022	Natural - Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP32-0-0.1	10/08/2022	Fill - Silty Clay	914805	3.7	<0.4	23	12	-	14	<0.1	14	44	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP32-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP32-0.5-0.7	10/08/2022	Natural - Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FRAG_TP32-0.5-0.7	10/08/2022	Fill - Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP33-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FRAG_TP33-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP33-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP34-0-0.1	10/08/2022	Fill - Silty Clay	914805	5	<0.4	29	26	-	26	<0.1	19	130	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Table A: Soil Analytical Data
Project Number: 63097
Project Name: Wentworth Health Services Redevelopment

| | Metals & Metalloids | | | | | | | | | TPHs (NEPC 1999) | | | | | TRHs (NEPC 2013) | | | | | | | BTEXN | | | | | | PAH | | | | | | | | |

Table A: Soil Analytical Data
Project Number: 63097
Project Name: Wentworth Health Services Redevelopment

	Organochlorine Pesticides																							Chlorinated Alkanes																			
	4,4-DDE	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	Aldrin	Dieldrin	Aldrin + Dieldrin	Chlordane	Chlordane (cis)	Chlordane (trans)	DDT	DDD	DDT+DDE+DDD	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Carbon tetrachloride	Chloroethane	Chloromethane	Dichlorodifluoromethane	Dichloromethane	Trichlorofluoromethane
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
NEPC 2013 EIL, Site Specific*												180																															
NEPM 2013 Table 1A(1) HILs Res B Soil								10	90					600				20			10		500	30																			
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																																											
0-1m																																											
1-2m																																											
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil																																											
NEPM 2013 Table 7 Res B Soil HSL for Asbestos in Soil																																											
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																																											

Field ID	Sampled Date Time	Matrix Description	Lab Report Number																																											
FRAG-02	10/08/2022	Surficial Fragment	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FRAG-04	11/08/2022	Surficial Fragment	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS01-0-0.1	9/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP01-0-0.1	9/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP01-0-0.3	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP01-0.5-0.6	9/08/2022	Natural - Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP02-0-0.1	9/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP02-0-0.4	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP03-0-0.1	9/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FRAG_TP03-0-0.4	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP03-0-1.0	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP04-0-0.1	9/08/2022	Fill - Silt	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP04-0-0.4	9/08/2022	Fill - Silt	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP05-0-0.1	9/08/2022	Fill - Silty Sand	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP06-0-0.1 (Primary)	9/08/2022		914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA202200809-01 (Triplicate)	9/08/2022	Fill - Silty Sand	303323	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC20220809-01 (Duplicate)	9/08/2022		914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP07-0.5-0.6	9/08/2022	Natural - Sandy Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP07-0-0.1	9/08/2022	Fill - Clayey Sand	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP08-0-0.1	9/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP09-0-0.1	9/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP09-0-0.2	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP10-0-0.1	9/08/2022	Fill - Clayey Sand	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP11-0-0.1	9/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP11-0-0.2	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP12-0-0.1	9/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP13-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP14-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP14-0-0.3	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP15-0-0.1	9/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP15-0-0.2	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP16-0.3-0.4	9/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP16-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP17-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP17-0-0.3	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19-0.3-0.4	10/08/2022	Natural - Clayey Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP20-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP21-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP22-0-0.1	10/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP23-0-0.1	10/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP24-0-0.1 (Primary)	10/08/2022		914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA202200810-01 (Triplicate)	10/08/2022	Fill - Silty Clay	303323	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC20220810-01 (Duplicate)	10/08/2022		914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP25-0.2-0.25	10/08/2022	Fill - Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP25-0-0.1	10/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP25-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP26-0.5-0.6	10/08/2022	Natural - Sandy Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP26-0-0.1	10/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP27-0-0.1	10/08/2022	Fill - Clayey Sand	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP27-0-0.2	10/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP28-0-0.1	10/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP28-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP29-0-0.1	10/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP29-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP30-0-0.1	10/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP30-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP31-0-0.1	10/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP32-0.2-0.5	10/08/2022	Fill - Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP32-0.5-0.7	10/08/2022	Natural - Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP32-0-0.1	10/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP32-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP32-0.5-0.7	10/08/2022	Natural - Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FRAG_TP32-0.5-0.7	10/08/2022	Fill - Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP33-0-0.1	10/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FRAG_TP33-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP33-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP34-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A: Soil Analytical Data
Project Number: 63097
Project Name: Wentworth Health Services Redevelopment

	Organochlorine Pesticides																									Chlorinated Alkanes																			
	4,4-DDE	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	Aldrin	Dieldrin	Aldrin + Dieldrin	Chlordane	Chlordane (cis)	Chlordane (trans)	DDT	DDD	DDT+DDE+DDD	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Carbon tetrachloride	Chloroethane	Chloromethane	Dichlorodifluoromethane	Dichloromethane	Trichlorofluoromethane
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
NEPC 2013 EIL, Site Specific*												180																															
NEPM 2013 Table 1A(1) HILs Res B Soil								10	90					600				20			10		500	30																			
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																																											
0-1m																																											
1-2m																																											
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil																																											
NEPM 2013 Table 7 Res B Soil HSL for Asbestos in Soil																																											
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																																											
Field ID	**Sampled Date Time**	**Matrix Description**	**Lab Report Number**																																										
TP34-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP35-0.5-0.6	10/08/2022	Natural - Sandy Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP35-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP36-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP37-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP38-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP39-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP39-0-0.3	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP40-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP40-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP41-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FRAG_TP41-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP42-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA43-0-0.1	11/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA44-0-0.1	11/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA45-0-0.1	11/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH46-0-0.1	11/08/2022	Fill - Silty Sandy Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA47-0-0.1	11/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA47-0-0.2	11/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA48-0-0.1	11/08/2022	Fill - Gravelly Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA49-0-0.1	11/08/2022	Fill - Silty Sand	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA50-0-0.1 (Primary)	11/08/2022		914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QA20220811-01 (Triplicate)	11/08/2022	Fill - Silty Sand	303323	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1
QC20220811-01 (Duplicate)	11/08/2022		914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Statistical Summary																																												
Number of Results				28	28	28	28	28	28	28	26	26	2	2	28	28	28	28	28	28	28	28	26	28	28	28	26	7	7	7	7	7	7	1	7	7	7	1	7	7	7	7	7	6	7
Number of Detects				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Minimum Detect				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1
Maximum Detect				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration				0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.025	0.05			0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.025	0.027	0.027	0.027	0.25	0.29	0.29	0.29	0.29	0.29	0.29		0.29	0.29	0.29		0.29	0.29	0.29	0.29	0.29	0.25	0.29
Median Concentration				0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.05	0.05	0.05	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.25	0.25	0.25	0.25	0.25	0.25	0.5	0.25	0.25	0.25	0.5	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Standard Deviation				0.0066	0.0066	0.0066	0.0066	0.0066	0.0066	0.0066	0	0			0.0066	0.0066	0.0066	0.0066	0.0066	0.0066	0.0066	0.0066	0	0.0066	0.0066	0.0066	0	0.094	0.094	0.094	0.094	0.094	0.094		0.094	0.094	0.094		0.094	0.094	0.094	0.094	0.094	0	0.094
Number of Guideline Exceedances				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A: Soil Analytical Data
Project Number: 63097
Project Name: Wentworth Health Services Redevelopment

	Chlorinated Alkenes												Solvents	Polychlorinated Biphenyls								MAH										Miscellaneous Hydrocarbons							Chlorinated Benzenes							
	1,1-dichloroethene	1,1-dichloropropene	2-chlorotoluene	3-chloropropene	4-chlorotoluene	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichloroethene	Vinyl Chloride	Acetone	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	Total MAH	Bromobenzene	Isopropylbenzene	1,2-dibromoethane	Bromomethane	Cyclohexane	Dibromomethane	Iodomethane	4-Methyl-2-pentanone	Methyl Ethyl Ketone	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-Dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	Chlorobenzene	Hexachlorobenzene
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.5	1	1	1	1	0.5	1	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	1	1	0.5	0.5	0.5	0.5	0.05
NEPC 2013 EIL, Site Specific*																																														
NEPM 2013 Table 1A(1) HILs Res B Soil																					1[47]																								15
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																																														
0-1m																																														
1-2m																																														
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil																																														
NEPM 2013 Table 7 Res B Soil HSL for Asbestos in Soil																																														
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																																														
Field ID	**Sampled Date Time**	**Matrix Description**	**Lab Report Number**																																											
FRAG-02	10/08/2022	Surficial Fragment	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FRAG-04	11/08/2022	Surficial Fragment	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS01-0-0.1	9/08/2022	Fill - Silty Sand	914805	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
TP01-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
TP01-0-0.3	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP01-0.5-0.6	9/08/2022	Natural - Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP02-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
TP02-0-0.4	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP03-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
FRAG_TP03-0-0.4	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP03-0-1.0	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP04-0-0.1	9/08/2022	Fill - Silt	914805	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05
TP04-0-0.4	9/08/2022	Fill - Silt	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP05-0-0.1	9/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
TP06-0-0.1 (Primary)	9/08/2022		914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
QA202200809-01 (Triplicate)	9/08/2022	Fill - Silty Sand	303323	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1
QC20220809-01 (Duplicate)	9/08/2022		914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
TP07-0.5-0.6	9/08/2022	Natural - Sandy Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP07-0-0.1	9/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
TP08-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
TP09-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
TP09-0-0.2	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP10-0-0.1	9/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
TP11-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
TP11-0-0.2	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP12-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
TP13-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP14-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP14-0-0.3	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP15-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
TP15-0-0.2	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP16-0.3-0.4	9/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP16-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP17-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP17-0-0.3	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19-0.3-0.4	10/08/2022	Natural - Clayey Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP20-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP21-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP22-0-0.1	10/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP23-0-0.1	10/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP24-0-0.1 (Primary)	10/08/2022		914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA202200810-01 (Triplicate)	10/08/2022	Fill - Silty Clay	303323	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC20220810-01 (Duplicate)	10/08/2022		914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP25-0.2-0.25	10/08/2022	Fill - Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP25-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
TP25-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP26-0.5-0.6	10/08/2022	Natural - Sandy Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP26-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
TP27-0-0.1	10/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
TP27-0-0.2	10/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP28-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
TP28-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP29-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
TP29-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP30-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
TP30-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP31-0-0.1	10/08/2022	Fill - Silty Clay	914805	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05
TP32-0.2-0.5	10/08/2022	Fill - Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP32-0.5-0.7	10/08/2022	Natural - Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP32-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
TP32-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP32-0.5-0.7	10/08/2022	Natural - Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FRAG_TP32-0.5-0.7	10/08/2022	Fill - Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP33-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
FRAG_TP33-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP33-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP34-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A: Soil Analytical Data
Project Number: 63097
Project Name: Wentworth Health Services Redevelopment

	Chlorinated Alkenes												Solvents	Polychlorinated Biphenyls								MAH										Miscellaneous Hydrocarbons							Chlorinated Benzenes							
	1,1-dichloroethene	1,1-dichloropropene	2-chlorotoluene	3-chloropropene	4-chlorotoluene	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichloroethene	Vinyl Chloride	Acetone	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	Total MAH	Bromobenzene	Isopropylbenzene	1,2-dibromoethane	Bromomethane	Cyclohexane	Dibromomethane	Iodomethane	4-Methyl-2-pentanone	Methyl Ethyl Ketone	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-Dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	Chlorobenzene	Hexachlorobenzene
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.5	1	1	1	1	0.5	1	0.5	0.5	0.5	0.5	1	0.5	0.5	1	0.5	0.5	0.5	0.5	1	1	0.5	0.5	0.5	0.5	0.05
NEPC 2013 EIL, Site Specific*																																															
NEPM 2013 Table 1A(1) HILs Res B Soil																					1[47]																										15
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																																															
0-1m																																															
1-2m																																															
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil																																															
NEPM 2013 Table 7 Res B Soil HSL for Asbestos in Soil																																															
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																																															

Field ID	Sampled Date Time	Matrix Description	Lab Report Number																																														
TP34-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP35-0.5-0.6	10/08/2022	Natural - Sandy Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP35-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP36-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP37-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP38-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP39-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP39-0-0.3	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP40-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP40-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP41-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FRAG_TP41-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP42-0-0.1	10/08/2022	Fill - Silty Clay	914805	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
HA43-0-0.1	11/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA44-0-0.1	11/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA45-0-0.1	11/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH46-0-0.1	11/08/2022	Fill - Silty Sandy Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA47-0-0.1	11/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA47-0-0.2	11/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA48-0-0.1	11/08/2022	Fill - Gravelly Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA49-0-0.1	11/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
HA50-0-0.1 (Primary)	11/08/2022		914805	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.05
QA20220811-01 (Triplicate)	11/08/2022	Fill - Silty Sand	303323	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<1	<1	<1	<1	<1	<1	<0.1
QC20220811-01 (Duplicate)	11/08/2022		914805	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.05

Statistical Summary

Number of Results	7	1	1	6	7	7	7	7	7	7	7	7	6	28	28	28	28	28	28	28	28	7	7	1	1	1	1	7	1	6	7	7	7	7	1	7	6	6	6	1	1	7	7	7	7	28
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<1	<1	<1	<1	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.05
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<1	<1	<1	<1	<1	<1	<0.1
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration	0.29			0.25	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.25	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.29	0.29					0.29		0.25	0.29	0.29	0.29	0.29		0.29	0.25	0.25	0.25			0.29	0.29	0.29	0.29	0.027
Median Concentration	0.25	0.5	0.5	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.25	0.25	0.5	0.5	0.5	0.5	0.25	0.5	0.25	0.25	0.25	0.25	0.25	0.5	0.25	0.25	0.25	0.25	0.5	0.5	0.25	0.25	0.25	0.25	0.025
Standard Deviation	0.094			0	0.094	0.094	0.094	0.094	0.094	0.094	0.094	0.094	0	0	0	0	0	0	0	0	0	0.094	0.094					0.094		0	0.094	0.094	0.094	0.094		0.094	0	0	0			0.094	0.094	0.094	0.094	0.0066
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A: Soil Analytical Data
Project Number: 63097
Project Name: Wentworth Health Services Redevelopment

	Trihalomethanes				Organic Sulfur Compounds	Ionic Balance			Particle Size	Asbestos - Eurofins																		Chlorinated Hydrocarbons	Other		
	Dibromochloromethane	Chloroform	Tribromomethane	Bromodichloromethane	Carbon disulfide	CEC	Conductivity (1:5 aqueous extract)	pH (Lab)	% Clay*	Approximate Sample Mass	Asbestos Sample Dimensions	Mass ACM	Mass Asbestos in ACM	Asbestos from ACM in Soil	Mass FA	Mass Asbestos in FA	Mass AF	Mass asbestos in AF	Asbestos from FA & AF in Soil	Mass Asbestos in FA & AF	ACM - Comment	FA- Comment	AF - Comment	Organic Fibres - Comment	Respirable Fibres - Comment	Synthetic Fibres - Comment	Asbestos Reported Result	Hexachlorobutadiene	Moisture Content (dried @ 103°C)	TOC	Iron (%)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	MEQ/100G	US/CM	pH Units	%	gm	Comment	gm	gm	% (w/w)	gm	gm	gm	gm	% (w/w)	gm	Comment	Comment	Comment	Comment	Comment	Comment	Comment	mg/kg	%	%	%
EQL	0.5	0.5	0.5	0.5	0.5	0.05	10	0.1	1																			1	1	0.1	0.01
NEPC 2013 EIL, Site Specific*																															
NEPM 2013 Table 1A(1) HILs Res B Soil																															
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																															
0-1m																															
1-2m																															
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil																															
NEPM 2013 Table 7 Res B Soil HSL for Asbestos in Soil														0.04[#19]					0.001[#20]												
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																															
Field ID	**Sampled Date Time**	**Matrix Description**	**Lab Report Number**																													
FRAG-02	10/08/2022	Surficial Fragment	914805	-	-	-	-	-	-	-	-	6	1[#8]	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#11]	1[#11]	1[#11]	1[#3]	-	-	-	-
FRAG-04	11/08/2022	Surficial Fragment	914805	-	-	-	-	-	-	-	-	6	1[#9]	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#11]	1[#11]	1[#11]	1[#3]	-	-	-	-
SS01-0-0.1	9/08/2022	Fill - Silty Sand	914805	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.9	-	-
TP01-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.7	-	-
TP01-0-0.3	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	665	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP01-0.5-0.6	9/08/2022	Natural - Clay	914805	-	-	-	-	-	32	640	9	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	0.5	2.6
TP02-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-
TP02-0-0.4	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	554	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP03-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	-
FRAG_TP03-0-0.4	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	6	1[#9]	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#11]	1[#11]	1[#11]	1[#3]	-	-	-	-
TP03-0-1.0	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	695	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP04-0-0.1	9/08/2022	Fill - Silt	914805	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.4	-	-
TP04-0-0.4	9/08/2022	Fill - Silt	914805	-	-	-	-	-	-	-	-	670	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP05-0-0.1	9/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	615	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	13	-	-
TP06-0-0.1 (Primary)	9/08/2022		914805	-	-	-	-	-	-	-	-	657	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	15	-	-
QA202200809-01 (Triplicate)	9/08/2022	Fill - Silty Sand	303323	-	-	-	-	-	-	-	-	697	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	15	-	-
QC20220809-01 (Duplicate)	9/08/2022		914805	-	-	-	-	-	-	-	-	661	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	16	-	-
TP07-0.5-0.6	9/08/2022	Natural - Sandy Clay	914805	-	-	-	-	-	29	1300	8.2	6.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.6	0.2	2.3
TP07-0-0.1	9/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	-	711	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	10	-	-
TP08-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	558	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	12	-	-
TP09-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	-	-
TP09-0-0.2	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	574	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP10-0-0.1	9/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	-	757	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	7.3	-	-
TP11-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-	-
TP11-0-0.2	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	631	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP12-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	661	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	11	-	-
TP13-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	599	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	16	-	-
TP14-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-
TP14-0-0.3	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	437	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP15-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-
TP15-0-0.2	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	580	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP16-0.3-0.4	9/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	-	704	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP16-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.6	-	-
TP17-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-
TP17-0-0.3	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	635	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP18-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.3	-	-
TP18-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	622	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP19-0.3-0.4	10/08/2022	Natural - Clayey Sand	914805	-	-	-	-	-	28	420	8.1	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	0.3	3
TP19-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	642	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP20-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	560	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	15	-	-
TP21-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	500	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP22-0-0.1	10/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	678	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP23-0-0.1	10/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	707	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	9.7	-	-
TP24-0-0.1 (Primary)	10/08/2022		914805	-	-	-	-	-	-	-	-	704	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	9.2	-	-
QA202200810-01 (Triplicate)	10/08/2022	Fill - Silty Clay	303323	-	-	-	-	-	-	-	-	840	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	12	-	-
QC20220810-01 (Duplicate)	10/08/2022		914805	-	-	-	-	-	-	-	-	813	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	8.8	-	-
TP25-0.2-0.25	10/08/2022	Fill - Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.2	-	-
TP25-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-
TP25-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	810	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP26-0.5-0.6	10/08/2022	Natural - Sandy Clay	914805	-	-	-	-	-	28	32	8.1	9.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	0.3	2.8
TP26-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	552	-	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	12	-	-
TP27-0-0.1	10/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.8	-	-
TP27-0-0.2	10/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	-	-	695	-	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP28-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.9	-	-
TP28-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	614	-	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP29-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5	-	-
TP29-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	616	-	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP30-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.9	-	-
TP30-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	653	-	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP31-0-0.1	10/08/2022	Fill - Silty Clay	914805	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	719	-	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	11	-	-
TP32-0.2-0.5	10/08/2022	Fill - Clay	914805	-	-	-	-	-	-	-	-	-	719	-	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP32-0.5-0.7	10/08/2022	Natural - Clay	914805	-	-	-	-	-	-	-	-	-	586	-	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP32-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.5	-	-
TP32-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	691	-	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP32-0.5-0.7	10/08/2022	Natural - Clay	914805	-	-	-	-	-	-	-	-	-	547	-	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
FRAG_TP32-0.5-0.7	10/08/2022	Fill - Clay	914805	-	-	-	-	-	-	-	-	-	103	1[#6]	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#11]	1[#11]	1[#11]	1[#2]	-	-	-	-
TP33-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	-	-
FRAG_TP33-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	32	1[#10]	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#11]	1[#11]	1[#11]	1[#2]	-	-	-	-
TP33-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	609	-	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP34-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-

Table A: Soil Analytical Data
Project Number: 63097
Project Name: Wentworth Health Services Redevelopment

	Trihalomethanes				Organic Sulfur Compounds	Ionic Balance			Particle Size	Asbestos - Eurofins																		Chlorinated Hydrocarbons	Other		
	Dibromochloromethane	Chloroform	Tribromomethane	Bromodichloromethane	Carbon disulfide	CEC	Conductivity (1:5 aqueous extract)	pH (Lab)	% Clay*	Approximate Sample Mass	Asbestos-Sample Dimensions	Mass ACM	Mass Asbestos in ACM	Asbestos from ACM in Soil	Mass FA	Mass Asbestos in FA	Mass AF	Mass asbestos in AF	Asbestos from FA & AF in Soil	Mass Asbestos in FA & AF	ACM - Comment	FA- Comment	AF - Comment	Organic Fibres - Comment	Respirable Fibres - Comment	Synthetic Fibres - Comment	Asbestos Reported Result	Hexachlorobutadiene	Moisture Content (dried @ 103°C)	TOC	Iron (%)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	MEQ/100G	US/CM	pH Units	%	g	Comment	g	g	% (w/w)	g	g	g	g	% (w/w)	g	Comment	Comment	Comment	Comment	Comment	Comment	Comment	mg/kg	%	%	%
EQL	0.5	0.5	0.5	0.5	0.5	0.05	10	0.1	1																			1	1	0.1	0.01
NEPC 2013 EIL, Site Specific*																															
NEPM 2013 Table 1A(1) HILs Res B Soil																															
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																															
0-1m																															
1-2m																															
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil																															
NEPM 2013 Table 7 Res B Soil HSL for Asbestos in Soil														0.04[#19]					0.001[#20]												
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																															
TP34-0-0.4	-	-	-	-	-	-	-	-	-	542	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP35-0.5-0.6	-	-	-	-	-	17	1800	6.6	9.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	0.5	3
TP35-0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	-	-
TP36-0-0.1	-	-	-	-	-	-	-	-	-	547	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP37-0-0.1	-	-	-	-	-	-	-	-	-	489	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	17	-	-
TP38-0-0.1	-	-	-	-	-	-	-	-	-	493	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP39-0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-
TP39-0-0.3	-	-	-	-	-	-	-	-	-	562	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP40-0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-
TP40-0-0.2	-	-	-	-	-	-	-	-	-	588	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
TP41-0-0.1	-	-	-	-	-	-	-	-	-	651	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	12	-	-
FRAG_TP41-0-0.1	-	-	-	-	-	-	-	-	-	6	1[#7]	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#11]	1[#11]	1[#11]	1[#3]	-	-	-	-
TP42-0-0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	575	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	6.7	-	-
HA43-0-0.1	-	-	-	-	-	-	-	-	-	669	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	15	-	-
HA44-0-0.1	-	-	-	-	-	-	-	-	-	819	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	5.8	-	-
HA45-0-0.1	-	-	-	-	-	-	-	-	-	755	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	10	-	-
BH46-0-0.1	-	-	-	-	-	-	-	-	-	621	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	6.6	-	-
HA47-0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-
HA47-0-0.2	-	-	-	-	-	-	-	-	-	583	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	-	-	-
HA48-0-0.1	-	-	-	-	-	-	-	-	-	671	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	7.5	-	-
HA49-0-0.1	-	-	-	-	-	-	-	-	-	637	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	21	-	-
HA50-0-0.1 (Primary)	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	589	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	11	-	-
QA20220811-01 (Triplicate)	<1	<1	<1	<1	-	-	-	-	-	610	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	<1	11	-	-
QC20220811-01 (Duplicate)	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	605	-	0	0	0	0	0	0	0	0	0	1[#11]	1[#11]	1[#11]	1[#5]	1[#4]	1[#11]	1[#1]	-	8.5	-	-
Statistical Summary																															
Number of Results	7	7	7	7	6	5	5	5	5	61	6	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	1	58	5	5
Number of Detects	0	0	0	0	0	5	5	5	5	61	6	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	0	58	5	5
Minimum Concentration	<0.5	<0.5	<0.5	<0.5	<0.5	17	32	6.6	6.6	6	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	<1	5.8	0.2	2.3
Minimum Detect	ND	ND	ND	ND	ND	17	32	6.6	6.6	6	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	1	1	1	1	1	1	ND	5.8	0.2	2.3
Maximum Concentration	<1	<1	<1	<1	<0.5	32	1800	9	14	819	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	<1	21	0.5	3
Maximum Detect	ND	ND	ND	ND	ND	32	1800	9	14	819	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	1	1	1	1	1	1	ND	21	0.5	3
Average Concentration	0.29	0.29	0.29	0.29	0.25	27	838	8	9.9	573	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1		11	0.36	2.7
Median Concentration	0.25	0.25	0.25	0.25	0.25	28	640	8.1	9.6	616	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0.5	11	0.3	2.8
Standard Deviation	0.094	0.094	0.094	0.094	0	5.7	708	0.87	2.6	198	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		3.7	0.13	0.3
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Field ID	Sampled Date Time	Matrix Description	Lab Report Number
TP34-0-0.4	10/08/2022	Fill - Silty Clay	914805
TP35-0.5-0.6	10/08/2022	Natural - Sandy Clay	914805
TP35-0-0.1	10/08/2022	Fill - Silty Clay	914805
TP36-0-0.1	10/08/2022	Fill - Silty Clay	914805
TP37-0-0.1	10/08/2022	Fill - Silty Clay	914805
TP38-0-0.1	10/08/2022	Fill - Silty Clay	914805
TP39-0-0.1	10/08/2022	Fill - Silty Clay	914805
TP39-0-0.3	10/08/2022	Fill - Silty Clay	914805
TP40-0-0.1	10/08/2022	Fill - Silty Clay	914805
TP40-0-0.2	10/08/2022	Fill - Silty Clay	914805
TP41-0-0.1	10/08/2022	Fill - Silty Clay	914805
FRAG_TP41-0-0.1	10/08/2022	Fill - Silty Clay	914805
TP42-0-0.1	10/08/2022	Fill - Silty Clay	914805
HA43-0-0.1	11/08/2022	Fill - Silty Clay	914805
HA44-0-0.1	11/08/2022	Fill - Silty Clay	914805
HA45-0-0.1	11/08/2022	Fill - Silty Clay	914805
BH46-0-0.1	11/08/2022	Fill - Silty Sandy Clay	914805
HA47-0-0.1	11/08/2022	Fill - Silty Sand	914805
HA47-0-0.2	11/08/2022	Fill - Silty Sand	914805
HA48-0-0.1	11/08/2022	Fill - Gravelly Silty Sand	914805
HA49-0-0.1	11/08/2022	Fill - Silty Sand	914805
HA50-0-0.1 (Primary)	11/08/2022		914805
QA20220811-01 (Triplicate)	11/08/2022	Fill - Silty Sand	303323
QC20220811-01 (Duplicate)	11/08/2022		914805

Table B: Groundwater Analytical Data
Project Number: 63097
Project Name: Wentworth Health Services Redevelopment

| | Metals & Metalloids | | | | | | | | TPHs (NEPC 1999) | | | | | TRHs (NEPC 2013) | | | | | | | BTEXN | | | | | | PAH | | | | | | | |

Table B: Groundwater Analytical Data
Project Number: 63097
Project Name: Wentworth Health Services Redevelopment

	Organochlorine Pesticides																						Chlorinated Alkanes																				Chlorinated Alkenes											
	4,4-DDE	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	Aldrin	Dieldrin	Aldrin + Dieldrin	Chlordane	DDT	DDD	DDT+DDE+DDD	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Carbon tetrachloride	Chloroethane	Chloromethane	Dichlorodifluoromethane	Dichloromethane	Trichlorofluoromethane	1,1-dichloroethene	1,1-dichloropropene	2-chlorotoluene	3-chloropropene	4-chlorotoluene	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichloroethene	Vinyl Chloride
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.005	0.005	0.005	0.005	0.005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.005
ANZG (2018) Freshwater 95% toxicant DGVs					0.0002[44]				0.00008[45]	0.00001[45]						0.00002[45]			0.00009[45]			0.0002[45]		0.27[48]	0.4[48]	6.5[44]					1.9[48]	0.9[48]	1.1[48]			0.24[48]					4[48]								0.7[48]						0.33[48]	0.1[48]
NEPM 2013 Table 1A(4) Res HSL A/B GW for Vapour Intrusion, Clay																																																						
2-4m																																																						
4-8m																																																					
PFAS NEMP 2020 Table 1 Health Drinking Water																																																					
PFAS NEMP 2020 Table 1 Health Recreational Water																																																					
PFAS NEMP 2020 Table 5 Freshwater 95%																																																					
PFAS NEMP 2020 Table 5 Freshwater 99%																																																					
Field ID	**Sampled Date**	**Lab Report Number**																																																					
HP01	11/08/2022	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HP02	11/08/2022	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW03 (Primary)	11/08/2022	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005
QA-MW (Triplicate)	11/08/2022	303323	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.01
QC-MW (Duplicate)	11/08/2022	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005
MW04	11/08/2022	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005
BLANK	12/08/2022	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RIN20220811-S	11/08/2022	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005
RIN20220811-W	11/08/2022	914805	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005
Statistical Summary																																																						
Number of Results	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	6	6	6	6	6	1	6	6	6	1	6	6	6	6	6	5	6	6	1	1	5	6	6	6	6	6	6	6	6
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.01	<0.01	<0.01	<0.01	<0.005	<0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.01
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration																							0.0005	0.0005	0.0005	0.0005	0.0005	0.0005		0.0005	0.0005	0.0005		0.0005	0.0005	0.0029	0.0029	0.0029	0.0025	0.0029	0.0005				0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0029
Median Concentration	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0025	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0025
Standard Deviation																							0	0	0	0	0	0		0	0	0		0	0	0.001	0.001	0.001	0	0.001	0				0	0	0	0	0	0	0	0	0.001
Number of Guideline Exceedances	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0		0	0	0		0	0	0	0	0	5	0	0				0	0	0	0	0	0	0	0	6
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0		0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	0

Table B: Groundwater Analytical Data
Project Number: 63097
Project Name: Wentworth Health Services Redevelopment

| | | Solvents | Polychlorinated Biphenyls | | | | | | | | PFAS | | | | | | | |

Table B: Groundwater Analytical Data
Project Number: 63097
Project Name: Wentworth Health Services Redevelopment

			MAH						Miscellaneous Hydrocarbons						Chlorinated Benzenes							Trihalomethanes				Organic Sulfur Compounds	Major Cations		Ionic Balance			Chlorinated Hydrocarbons	Other
			1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Styrene	Total MAH	Bromobenzene	Isopropylbenzene	1,2-dibromoethane	Bromomethane	Tribromomethane	Iodomethane	4-Methyl-2-pentanone	Methyl Ethyl Ketone	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	Chlorobenzene	Hexachlorobenzene	Dibromochloromethane	Chloroform	Tribromomethane	Bromodichloromethane	Carbon disulfide	Calcium	Magnesium	Electrical Conductivity (Lab)	Hardness as CaCO3	pH (Lab)	Hexachlorobutadiene	TDS
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µS/cm	mg/L	pH Units	mg/L	mg/L
EQL			0.001	0.001	0.001	0.003	0.001	0.001	0.001	0.005	0.001	0.001	0.005	0.005	0.001	0.001	0.001	0.001	0.001	0.001	0.0002	0.001	0.005	0.001	0.001	0.001	0.5	0.5	10	1	0.1	0.001	10
ANZG (2018) Freshwater 95% toxicant DGVs								0.03[48]							0.01[#11]	0.17[#12]	0.16[46]	0.26[46]	0.06[44]	0.055[48]	0.0001[#10]		0.77[#10]										
NEPM 2013 Table 1A(4) Res HSL A/B GW for Vapour Intrusion, Clay																																	
2-4m																																	
4-8m																																	
PFAS NEMP 2020 Table 1 Health Drinking Water																																	
PFAS NEMP 2020 Table 1 Health Recreational Water																																	
PFAS NEMP 2020 Table 5 Freshwater 95%																																	
PFAS NEMP 2020 Table 5 Freshwater 99%																																	
Field ID	**Sampled Date**	**Lab Report Number**																															
HP01	11/08/2022	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HP02	11/08/2022	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW03 (Primary)	11/08/2022	914805	<0.001	<0.001	<0.001	<0.003	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.005	<0.005	-	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.005	<0.001	<0.001	<0.001	14	19	2400	110	8.4	-	3400
QA-MW (Triplicate)	11/08/2022	303323	-	-	-	-	<0.001	-	<0.001	<0.01	<0.001	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	12	14	4800	86	8.2	<0.001	3200
QC-MW (Duplicate)	11/08/2022	914805	<0.001	<0.001	<0.001	<0.003	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.005	<0.005	-	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.005	<0.001	<0.001	<0.001	15	20	2600	120	8	-	3400
MW04	11/08/2022	914805	<0.001	<0.001	<0.001	<0.003	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.005	<0.005	-	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.005	<0.001	<0.001	<0.001	14	15	3300	95	8.3	-	4600
BLANK	12/08/2022	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RIN20220811-S	11/08/2022	914805	<0.001	<0.001	<0.001	<0.003	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.005	<0.005	-	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.005	<0.001	<0.001	<0.001	-	-	-	-	-	-	-
RIN20220811-W	11/08/2022	914805	<0.001	<0.001	<0.001	<0.003	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.005	<0.005	-	-	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.001	<0.005	<0.001	<0.001	<0.001	-	-	-	-	-	-	-
Statistical Summary																																	
Number of Results			5	5	5	5	6	5	6	6	6	5	5	5	1	1	6	6	6	6	1	6	6	6	6	5	3	3	3	3	4	1	4
Number of Detects			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3	3	4	0	4
Minimum Concentration			<0.001	<0.001	<0.001	<0.003	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	14	15	2400	95	8	<0.001	3200
Minimum Detect			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14	15	2400	95	8	ND	3200
Maximum Concentration			<0.001	<0.001	<0.001	<0.003	<0.001	<0.001	<0.001	<0.01	<0.001	<0.001	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.001	<0.005	<0.001	<0.001	<0.001	15	20	3300	120	8.4	<0.001	4600
Maximum Detect			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15	20	3300	120	8.4	ND	4600
Average Concentration			0.0005	0.0005	0.0005	0.0015	0.0005	0.0005	0.0005	0.0029	0.0005	0.0005	0.0025	0.0025			0.0005	0.0005	0.0005	0.0005		0.0005	0.0022	0.0005	0.0005		14	18	2767	108	8.2		3650
Median Concentration			0.0005	0.0005	0.0005	0.0015	0.0005	0.0005	0.0005	0.0025	0.0005	0.0005	0.0025	0.0025	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0001	0.0005	0.0025	0.0005	0.0005	0.0005	14	19	2600	110	8.25	0.0005	3400
Standard Deviation			0	0	0	0	0	0	0	0.001	0	0	0	0			0	0	0	0		0	0.00082	0	0	0	0.58	2.6	473	13	0.17		640
Number of Guideline Exceedances			0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
Number of Guideline Exceedances(Detects Only)			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table C: Preliminary and Chemical Waste Classification Analytical Data
Project Number: 63097
Project Name: Wentworth Health Services Redevelopment

| | Metals & Metalloids | | | | | | | | | TPHs (NEPC 1999) | | | | | TRHs (NEPC 2013) | | | | | | | BTEXN | | | | | | PAH | | | | | | | | |

Table C: Preliminary and Chemical Waste Classification Analytical Data
Project Number: 63097
Project Name: Wentworth Health Services Redevelopment

| | Metals & Metalloids | | | | | | | | | TPHs (NEPC 1999) | | | | | TRHs (NEPC 2013) | | | | | | | BTEXN | | | | | | PAH | | | | | | | | |

Table C: Preliminary and Chemical Waste Classification Analytical Data
Project Number: 63097
Project Name: Wentworth Health Services Redevelopment

				Organochlorine Pesticides																						Chlorinated Alkanes															
				4,4-DDE	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	Aldrin	Dieldrin	Aldrin + Dieldrin	Chlordane	Chlordane (cis)	Chlordane (trans)	DDT	DDD	DDT+DDE+DDD	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Carbon tetrachloride	Chloroethane	Chloromethane	Dichlorodifluoromethane	Dichloromethane	Trichlorofluoromethane
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5
NSW 2014 General Solid Waste CT1 (No Leaching)																												200	600	26	24				10					10				172	
NSW 2014 Restricted Solid Waste CT2 (No Leaching)																												360	1080	46.8	43.2				18				18					310	
Field ID	**Sampled Date Time**	**Matrix Description**	**Lab Report Number**																																								
FRAG-02	10/08/2022	Surficial Fragment	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FRAG-04	11/08/2022	Surficial Fragment	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS01-0-0.1	9/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP01-0-0.1	9/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP01-0-0.3	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP01-0.5-0.6	9/08/2022	Natural - Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP02-0-0.1	9/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP02-0-0.4	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP03-0-0.1	9/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FRAG_TP03-0-0.4	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP03-0-1.0	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP04-0-0.1	9/08/2022	Fill - Silt	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP04-0-0.4	9/08/2022	Fill - Silt	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP05-0-0.1	9/08/2022	Fill - Silty Sand	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP06-0-0.1 (Primary)	9/08/2022		914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA20220809-01 (Triplicate)	9/08/2022	Fill - Silty Sand	303323	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC20220809-01 (Duplicate)	9/08/2022		914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP07-0.5-0.6	9/08/2022	Natural - Sandy Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP07-0-0.1	9/08/2022	Fill - Clayey Sand	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP08-0-0.1	9/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP09-0-0.1	9/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP09-0-0.2	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP10-0-0.1	9/08/2022	Fill - Clayey Sand	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP11-0-0.1	9/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP11-0-0.2	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP12-0-0.1	9/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP13-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP14-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP14-0-0.3	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP15-0-0.1	9/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP15-0-0.2	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP16-0.3-0.4	9/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP16-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP17-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP17-0-0.3	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19-0.3-0.4	10/08/2022	Natural - Clayey Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP20-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP21-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP22-0-0.1	10/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP23-0-0.1	10/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP24-0-0.1 (Primary)	10/08/2022		914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA202200810-01 (Triplicate)	10/08/2022	Fill - Silty Clay	303323	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC20220810-01 (Duplicate)	10/08/2022		914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP25-0.2-0.25	10/08/2022	Fill - Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP25-0-0.1	10/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP25-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP26-0.5-0.6	10/08/2022	Natural - Sandy Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP26-0-0.1	10/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP27-0-0.1	10/08/2022	Fill - Clayey Sand	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP27-0-0.2	10/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP28-0-0.1	10/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP28-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP29-0-0.1	10/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP29-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP30-0-0.1	10/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP30-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP31-0-0.1	10/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP32-0.2-0.5	10/08/2022	Fill - Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table C: Preliminary and Chemical Waste Classification Analytical Data
Project Number: 63097
Project Name: Wentworth Health Services Redevelopment

				Organochlorine Pesticides																								Chlorinated Alkanes																							
				4,4-DDE	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	Aldrin	Dieldrin	Aldrin + Dieldrin	Chlordane	Chlordane (cis)	Chlordane (trans)	DDT	DDD	DDT+DDE+DDD	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Carbon tetrachloride	Chloroethane	Chloromethane	Dichlorodifluoromethane	Dichloromethane	Trichlorofluoromethane
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
NSW 2014 General Solid Waste CT1 (No Leaching)																												200	600	26	24				10					10					172	
NSW 2014 Restricted Solid Waste CT2 (No Leaching)																												360	1080	46.8	43.2				18				18						310	
Field ID	**Sampled Date Time**	**Matrix Description**	**Lab Report Number**																																														
TP32-0.5-0.7	10/08/2022	Natural - Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP32-0-0.1	10/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP32-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP33-0.5-0.7	10/08/2022	Natural - Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FRAG_TP32-0.5-0.7	10/08/2022	Fill - Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP33-0-0.1	10/08/2022	Fill - Silty Clay	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FRAG_TP33-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP33-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP34-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP34-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP35-0.5-0.6	10/08/2022	Natural - Sandy Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP35-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP36-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP37-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP38-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP39-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP39-0-0.3	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP40-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP40-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP41-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FRAG_TP41-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP42-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA43-0-0.1	11/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA44-0-0.1	11/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA45-0-0.1	11/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH46-0-0.1	11/08/2022	Fill - Silty Sandy Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA47-0-0.1	11/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA47-0-0.2	11/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA48-0-0.1	11/08/2022	Fill - Gravelly Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA49-0-0.1	11/08/2022	Fill - Silty Sand	914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA50-0-0.1 (Primary)	11/08/2022		914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QA202200811-01 (Triplicate)	11/08/2022	Fill - Silty Sand	303323	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1
Qc20220811-01 (Duplicate)	11/08/2022		914805	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Statistical Summary																																																	
Number of Results				28	28	28	28	28	28	28	26	26	2	2	28	28	28	28	28	28	28	28	28	26	28	28	28	26	7	7	7	7	7	7	1	7	7	7	1	7	7	7	7	7	6	7
Number of Detects				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Minimum Detect				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1
Maximum Detect				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration				0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.025	0.05			0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.025	0.027	0.027	0.027	0.25	0.29	0.29	0.29	0.29	0.29	0.29		0.29	0.29	0.29		0.29	0.29	0.29	0.29	0.29	0.25	0.29
Median Concentration				0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.05	0.05	0.05	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.5	0.25	0.25	0.25	0.5	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Standard Deviation				0.0066	0.0066	0.0066	0.0066	0.0066	0.0066	0.0066	0	0			0.0066	0.0066	0.0066	0.0066	0.0066	0.0066	0.0066	0.0066	0	0.0066	0.0066	0.0066	0	0.094	0.094	0.094	0.094	0.094	0.094		0.094	0.094	0.094		0.094	0.094	0.094	0.094	0.094	0	0.094
Number of Guideline Exceedances				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table C: Preliminary and Chemical Waste Classification Analytical Data
Project Number: 63097
Project Name: Wentworth Health Services Redevelopment

	Chlorinated Alkenes												Solvents	Polychlorinated Biphenyls							MAH										Miscellaneous Hydrocarbons							Chlorinated Benzenes							Trihalomethanes			
	1,1-dichloroethene	1,1-dichloropropene	2-chlorotoluene	3-chloropropene	4-chlorotoluene	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichloroethene	Vinyl Chloride	Acetone	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	Total MAH	Bromobenzene	Isopropylbenzene	1,2-dibromoethane	Bromomethane	Cyclohexane	Dibromomethane	Iodomethane	4-Methyl-2-pentanone	Methyl Ethyl Ketone	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-Dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	Chlorobenzene	Hexachlorobenzene	Dibromochloromethane	Chloroform	Tribromomethane	Bromodichloromethane
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.5	1	1	1	1	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	1	0.5	0.5	0.5	0.5	0.05	0.5	0.5	0.5	0.5
NSW 2014 General Solid Waste CT1 (No Leaching)	14							14			10	4									<50[#4]							60										4000			86		150	2000			120		
NSW 2014 Restricted Solid Waste CT2 (No Leaching)	25							25.2			18	16									<50[#2]							108										7200			155		270	3600			216		

Field ID	Sampled Date Time	Matrix Description	Lab Report Number																																																
FRAG-02	10/08/2022	Surficial Fragment	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FRAG-04	11/08/2022	Surficial Fragment	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS01-0-0.1	9/08/2022	Fill - Silty Sand	914805	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5
TP01-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
TP01-0-0.3	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP01-0.5-0.6	9/08/2022	Natural - Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP02-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
TP02-0-0.4	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP03-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
FRAG_TP03-0-0.4	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP03-0-1.0	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP04-0-0.1	9/08/2022	Fill - Silt	914805	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5
TP04-0-0.4	9/08/2022	Fill - Silt	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP05-0-0.1	9/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
TP06-0-0.1 (Primary)	9/08/2022		914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
QA202200809-01 (Triplicate)	9/08/2022	Fill - Silty Sand	303323	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
QC20220809-01 (Duplicate)	9/08/2022		914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
TP07-0.5-0.6	9/08/2022	Natural - Sandy Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP07-0-0.1	9/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
TP08-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
TP09-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
TP09-0-0.2	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP10-0-0.1	9/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
TP11-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
TP11-0-0.2	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP12-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
TP13-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP14-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP14-0-0.3	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP15-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
TP15-0-0.2	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP16-0.3-0.4	9/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP16-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP17-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP17-0-0.3	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19-0.3-0.4	10/08/2022	Natural - Clayey Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP20-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP21-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP22-0-0.1	10/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP23-0-0.1	10/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP24-0-0.1 (Primary)	10/08/2022		914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA202200810-01 (Triplicate)	10/08/2022	Fill - Silty Clay	303323	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC20220810-01 (Duplicate)	10/08/2022		914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP25-0.2-0.25	10/08/2022	Fill - Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP25-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
TP25-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP26-0.5-0.6	10/08/2022	Natural - Sandy Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP26-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
TP27-0-0.1	10/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
TP27-0-0.2	10/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP28-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
TP28-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP29-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
TP29-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP30-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
TP30-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP31-0-0.1	10/08/2022	Fill - Silty Clay	914805	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5
TP32-0.2-0.5	10/08/2022	Fill - Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table C: Preliminary and Chemical Waste Classification Analytical Data
Project Number: 63097
Project Name: Wentworth Health Services Redevelopment

	Chlorinated Alkenes												Solvents	Polychlorinated Biphenyls								MAH											Miscellaneous Hydrocarbons							Chlorinated Benzenes							Trihalomethanes			
	1,1-dichloroethene	1,1-dichloropropene	2-chlorotoluene	3-chloropropene	4-chlorotoluene	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichloroethene	Vinyl Chloride	Acetone	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	Total MAH	Bromobenzene	Isopropylbenzene	1,2-dibromoethane	Bromomethane	Cyclohexane	Dibromomethane	Iodomethane	4-Methyl-2-pentanone	Methyl Ethyl Ketone	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-Dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	Chlorobenzene	Hexachlorobenzene	Dibromochloromethane	Chloroform	Tribromomethane	Bromodichloromethane
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.5	1	1	1	1	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	1	0.5	0.5	0.5	0.5	0.05	0.5	0.5	0.5	0.5
NSW 2014 General Solid Waste CT1 (No Leaching)	14							14			10	4									<50[#4]							60										4000			86		150	2000			120		
NSW 2014 Restricted Solid Waste CT2 (No Leaching)	25							25.2			18	16									<50[#2]							108										7200			155		270	3600			216		
Field ID	**Sampled Date Time**	**Matrix Description**	**Lab Report Number**																																															
TP32-0.5-0.7	10/08/2022	Natural - Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP32-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-
TP32-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP33-0.5-0.7	10/08/2022	Natural - Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FRAG_TP32-0.5-0.7	10/08/2022	Fill - Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP33-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-
FRAG_TP33-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP33-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP34-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP34-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP35-0.5-0.6	10/08/2022	Natural - Sandy Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP35-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP36-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP37-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP38-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP39-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP39-0-0.3	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP40-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP40-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP41-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FRAG_TP41-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP42-0-0.1	10/08/2022	Fill - Silty Clay	914805	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5
HA43-0-0.1	11/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA44-0-0.1	11/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA45-0-0.1	11/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH46-0-0.1	11/08/2022	Fill - Silty Sandy Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA47-0-0.1	11/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA47-0-0.2	11/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA48-0-0.1	11/08/2022	Fill - Gravelly Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA49-0-0.1	11/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-
HA50-0-0.1 (Primary)	11/08/2022	Fill - Silty Sand	914805	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5
QA202200811-01 (Triplicate)	11/08/2022		303323	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
Qc20220811-01 (Duplicate)	11/08/2022		914805	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5
Statistical Summary																																																		
Number of Results	7	1	1	6	7	7	7	7	7	7	7	7	6	28	28	28	28	28	28	28	28	7	7	1	1	1	1	7	1	6	7	7	7	7	1	7	6	6	6	1	1	7	7	7	7	28	7	7	7	7
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<1	<1	<1	<1	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<1	<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration	0.29			0.25	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.25	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.29	0.29					0.29		0.25	0.29	0.29	0.29	0.29		0.29	0.25	0.25	0.25			0.29	0.29	0.29	0.29	0.027	0.29	0.29	0.29	0.29
Median Concentration	0.25	0.5	0.5	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.25	0.25	0.5	0.5	0.5	0.5	0.25	0.5	0.25	0.25	0.25	0.25	0.25	0.5	0.25	0.25	0.25	0.25	0.5	0.5	0.25	0.25	0.25	0.25	0.025	0.25	0.25	0.25	0.25
Standard Deviation	0.094			0	0.094	0.094	0.094	0.094	0.094	0.094	0.094	0.094	0	0	0	0	0	0	0	0	0	0.094	0.094					0.094		0	0.094	0.094	0.094	0.094		0.094	0	0	0			0.094	0.094	0.094	0.094	0.0066	0.094	0.094	0.094	0.094
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table C: Preliminary and Chemical Waste Classification Analytical Data
Project Number: 63097
Project Name: Wentworth Health Services Redevelopment

	Microbiological	Organic Sulfur Compounds	Ionic Balance			EPA VIC - IWRG621				Particle Size	Asbestos - Eurofins																	Chlorinated Hydrocarbons	Other		
	E. Coli	Carbon disulfide	CEC	Conductivity (1:5 aqueous extract)	pH (Lab)	Chlorinated Hydrocarbons EPAVic	Other Chlorinated Hydrocarbons EPAVic	Organochlorine Pesticides EPAVic	Other Organochlorine Pesticides EPAVic	% Clay*	Approximate Sample Mass	Asbestos Sample Dimensions	Mass ACM	Mass Asbestos in ACM	Asbestos from ACM in Soil	Mass FA	Mass Asbestos in FA	Mass AF	Mass asbestos in AF	Asbestos from FA & AF in Soil	Mass Asbestos in FA & AF	ACM - Comment	FA- Comment	AF - Comment	Organic Fibres - Comment	Respirable Fibres - Comment	Synthetic Fibres - Comment	Asbestos Reported Result	Hexachlorobutadiene	Moisture Content (dried @ 103°C)	TOC	Iron (%)
	mpn/100mg	mg/kg	MEQ/100G	US/CM	pH Units	mg/kg	mg/kg	mg/kg	mg/kg	%	gm	Comment	gm	% (w/w)	% (w/w)	gm	% (w/w)	gm	% (w/w)	% (w/w)	gm	Comment	Comment	Comment	Comment	Comment	Comment	Comment	mg/kg	%	%C	%
EQL	100	0.5	0.05	10	0.1	0.5	0.5	0.1	0.1	1																			1	1	0.1	0.01
NSW 2014 General Solid Waste CT1 (No Leaching)																																
NSW 2014 Restricted Solid Waste CT2 (No Leaching)																																

Field ID	Sampled Date Time	Matrix Description	Lab Report Number																														
FRAG-02	10/08/2022	Surficial Fragment	914805	-	-	-	-	-	-	-	-	-	-	6	1 #8	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #11	1 #11	1 #11	1 #3	-	-	-	-
FRAG-04	11/08/2022	Surficial Fragment	914805	-	-	-	-	-	-	-	-	-	-	6	1 #9	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #11	1 #11	1 #11	1 #3	-	-	-	-
SS01-0-0.1	9/08/2022	Fill - Silty Sand	914805	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.9	-	-
TP01-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.7	-	-
TP01-0-0.3	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	665	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	-	-	-
TP01-0.5-0.6	9/08/2022	Natural - Clay	914805	-	32	640	9	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	0.5	2.6
TP02-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-
TP02-0-0.4	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	554	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	-	-	-
TP03-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	-
FRAG_TP03-0-0.4	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	6	1 #9	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #11	1 #11	1 #11	1 #3	-	-	-	-
TP03-0-1.0	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	695	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	-	-	-
TP04-0-0.1	9/08/2022	Fill - Silt	914805	-	<0.5	-	-	-	<0.5	<0.5	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.4	-	-
TP04-0-0.4	9/08/2022	Fill - Silt	914805	-	-	-	-	-	-	-	-	-	-	670	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	-	-	-
TP05-0-0.1	9/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	<0.1	<0.1	-	615	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	13	-	-
TP06-0-0.1 (Primary)	9/08/2022		914805	-	-	-	-	-	-	-	<0.1	<0.1	-	657	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	15	-	-
QA202200809-01 (Triplicate)	9/08/2022	Fill - Silty Sand	303323	-	-	-	-	-	-	-	-	-	-	697	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	15	-	-
QC20220809-01 (Duplicate)	9/08/2022		914805	-	-	-	-	-	-	-	<0.1	<0.1	-	661	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	16	-	-
TP07-0.5-0.6	9/08/2022	Natural - Sandy Clay	914805	-	29	1300	8.2	-	-	-	-	-	6.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.6	0.2	2.3
TP07-0-0.1	9/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	<0.1	<0.1	-	711	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	10	-	-
TP08-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	<0.1	<0.1	-	558	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	12	-	-
TP09-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	-	-
TP09-0-0.2	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	574	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	-	-	-
TP10-0-0.1	9/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	<0.1	<0.1	-	757	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	7.3	-	-
TP11-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-	-
TP11-0-0.2	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	631	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	-	-	-
TP12-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	<0.1	<0.1	-	661	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	11	-	-
TP13-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	599	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	16	-	-
TP14-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-
TP14-0-0.3	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	437	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	-	-	-
TP15-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-
TP15-0-0.2	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	580	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	-	-	-
TP16-0.3-0.4	9/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	-	-	-	704	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	-	-	-
TP16-0-0.1	9/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.6	-	-
TP17-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-
TP17-0-0.3	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	635	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	-	-	-
TP18-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.3	-	-
TP18-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	622	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	-	-	-
TP19-0.3-0.4	10/08/2022	Natural - Clayey Sand	914805	-	-	28	420	8.1	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	0.3	3
TP19-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	642	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	-	-	-
TP20-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	560	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	15	-	-
TP21-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	500	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	-	-	-
TP22-0-0.1	10/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	678	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	-	-	-
TP23-0-0.1	10/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	707	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	9.7	-	-
TP24-0-0.1 (Primary)	10/08/2022		914805	-	-	-	-	-	-	-	-	-	-	704	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	9.2	-	-
QA202200810-01 (Triplicate)	10/08/2022	Fill - Silty Clay	303323	-	<180	-	-	-	-	-	-	-	-	840	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	12	-	-
QC20220810-01 (Duplicate)	10/08/2022		914805	-	-	-	-	-	-	-	-	-	-	813	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	8.8	-	-
TP25-0.2-0.25	10/08/2022	Fill - Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.2	-	-
TP25-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-
TP25-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	810	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	-	-	-
TP26-0.5-0.6	10/08/2022	Natural - Sandy Clay	914805	-	-	28	32	8.1	-	-	-	-	9.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	0.3	2.8
TP26-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	<0.1	<0.1	-	552	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	12	-	-
TP27-0-0.1	10/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.8	-	-
TP27-0-0.2	10/08/2022	Fill - Clayey Sand	914805	-	-	-	-	-	-	-	-	-	-	695	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	-	-	-
TP28-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.9	-	-
TP28-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	614	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	-	-	-
TP29-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5	-	-
TP29-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	616	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	-	-	-
TP30-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.9	-	-
TP30-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	653	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	-	-	-
TP31-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	<0.5	-	-	-	<0.5	<0.5	<0.1	<0.1	-	719	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	11	-	-
TP32-0.2-0.5	10/08/2022	Fill - Clay	914805	-	-	-	-	-	-	-	-	-	-	719	-	0	0	0	0	0	0	0	0	0	1 #11	1 #11	1 #11	1 #5	1 #4	1 #11	1 #1	-	-	-	-

Table C: Preliminary and Chemical Waste Classification Analytical Data
Project Number: 63097
Project Name: Wentworth Health Services Redevelopment

	Microbiological	Organic Sulfur Compounds	Ionic Balance			EPA VIC - IWRG621				Particle Size	Asbestos - Eurofins																		Chlorinated Hydrocarbons	Other		
	E. Coli	Carbon disulfide	CEC	Conductivity (1:5 aqueous extract)	pH (Lab)	Chlorinated Hydrocarbons EPAVic	Other Chlorinated Hydrocarbons EPAVic	Organochlorine Pesticides EPAVic	Other Organochlorine Pesticides EPAVic	% Clay*	Approximate Sample Mass	Asbestos Sample Dimensions	Mass ACM	Mass Asbestos in ACM	% (w/w)	Asbestos from ACM in Soil	Mass FA	Mass Asbestos in FA	Mass AF	Mass asbestos in AF	% (w/w)	Asbestos from FA & AF in Soil	Mass Asbestos in FA & AF	ACM - Comment	FA- Comment	AF - Comment	Organic Fibres - Comment	Respirable Fibres - Comment	Synthetic Fibres - Comment	Asbestos Reported Result	Hexachlorobutadiene	Moisture Content (dried @ 103°C)	TOC	Iron (%)
	mpn/100mg	mg/kg	MEQ/100G	US/CM	pH Units	mg/kg	mg/kg	mg/kg	mg/kg	%	gs	Comment	gs	gs	% (w/w)	gs	gs	gs	gs	% (w/w)	gs	gs	Comment	Comment	Comment	Comment	Comment	Comment	Comment	mg/kg	%	%	%
EQL	100	0.5	0.05	10	0.1	0.5	0.5	0.1	0.1	1																				1	1	0.1	0.01
NSW 2014 General Solid Waste CT1 (No Leaching)																																	
NSW 2014 Restricted Solid Waste CT2 (No Leaching)																																	
Field ID	**Sampled Date Time**	**Matrix Description**	**Lab Report Number**																														
TP32-0.5-0.7	10/08/2022	Natural - Clay	914805	-	-	-	-	-	-	-	-	-	586	-	0	0	0	0	0	0	0	0	0	1#11	1#11	1#11	1#5	1#4	1#11	1#1	-	-	-	-
TP32-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.5	-	-
TP32-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	691	-	0	0	0	0	0	0	0	0	0	1#11	1#11	1#11	1#5	1#4	1#11	1#1	-	-	-	-
TP33-0.5-0.7	10/08/2022	Natural - Clay	914805	-	-	-	-	-	-	-	-	-	547	-	0	0	0	0	0	0	0	0	0	1#11	1#11	1#11	1#5	1#4	1#11	1#1	-	-	-	-
FRAG_TP32-0.5-0.7	10/08/2022	Fill - Clay	914805	-	-	-	-	-	-	-	-	-	103	1#6	0	0	0	0	0	0	0	0	0	1#11	1#11	1#11	1#11	1#11	1#11	1#2	-	-	-	-
TP33-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	-	-
FRAG_TP33-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	32	1#10	0	0	0	0	0	0	0	0	0	1#11	1#11	1#11	1#11	1#11	1#11	1#2	-	-	-	-
TP33-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	609	-	0	0	0	0	0	0	0	0	0	1#11	1#11	1#11	1#5	1#4	1#11	1#1	-	-	-	-
TP34-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-
TP34-0-0.4	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	542	-	0	0	0	0	0	0	0	0	0	1#11	1#11	1#11	1#5	1#4	1#11	1#1	-	-	-	-
TP35-0.5-0.6	10/08/2022	Natural - Sandy Clay	914805	-	-	17	1800	6.6	-	-	9.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	0.5	3
TP35-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	-	-
TP36-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	547	-	0	0	0	0	0	0	0	0	0	1#11	1#11	1#11	1#5	1#4	1#11	1#1	-	-	-	-
TP37-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	489	-	0	0	0	0	0	0	0	0	0	1#11	1#11	1#11	1#5	1#4	1#11	1#1	-	17	-	-
TP38-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	493	-	0	0	0	0	0	0	0	0	0	1#11	1#11	1#11	1#5	1#4	1#11	1#1	-	-	-	-
TP39-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-
TP39-0-0.3	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	562	-	0	0	0	0	0	0	0	0	0	1#11	1#11	1#11	1#5	1#4	1#11	1#1	-	-	-	-
TP40-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-
TP40-0-0.2	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	588	-	0	0	0	0	0	0	0	0	0	1#11	1#11	1#11	1#5	1#4	1#11	1#1	-	-	-	-
TP41-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	651	-	0	0	0	0	0	0	0	0	0	1#11	1#11	1#11	1#5	1#4	1#11	1#1	-	12	-	-
FRAG_TP41-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	6	1#7	0	0	0	0	0	0	0	0	0	1#11	1#11	1#11	1#11	1#11	1#11	1#3	-	-	-	-
TP42-0-0.1	10/08/2022	Fill - Silty Clay	914805	-	<0.5	-	-	-	<0.5	<0.5	-	-	575	-	0	0	0	0	0	0	0	0	0	1#11	1#11	1#11	1#5	1#4	1#11	1#1	-	6.7	-	-
HA43-0-0.1	11/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	669	-	0	0	0	0	0	0	0	0	0	1#11	1#11	1#11	1#5	1#4	1#11	1#1	-	15	-	-
HA44-0-0.1	11/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	819	-	0	0	0	0	0	0	0	0	0	1#11	1#11	1#11	1#5	1#4	1#11	1#1	-	5.8	-	-
HA45-0-0.1	11/08/2022	Fill - Silty Clay	914805	-	-	-	-	-	-	-	-	-	755	-	0	0	0	0	0	0	0	0	0	1#11	1#11	1#11	1#5	1#4	1#11	1#1	-	10	-	-
BH46-0-0.1	11/08/2022	Fill - Silty Sandy Clay	914805	-	-	-	-	-	-	-	-	-	621	-	0	0	0	0	0	0	0	0	0	1#11	1#11	1#11	1#5	1#4	1#11	1#1	-	6.6	-	-
HA47-0-0.1	11/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-
HA47-0-0.2	11/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	-	-	-	-	583	-	0	0	0	0	0	0	0	0	0	1#11	1#11	1#11	1#5	1#4	1#11	1#1	-	-	-	-
HA48-0-0.1	11/08/2022	Fill - Gravelly Silty Sand	914805	-	-	-	-	-	-	-	-	-	671	-	0	0	0	0	0	0	0	0	0	1#11	1#11	1#11	1#5	1#4	1#11	1#1	-	7.5	-	-
HA49-0-0.1	11/08/2022	Fill - Silty Sand	914805	-	-	-	-	-	<0.1	<0.1	-	-	637	-	0	0	0	0	0	0	0	0	0	1#11	1#11	1#11	1#5	1#4	1#11	1#1	-	21	-	-
HA50-0-0.1 (Primary)	11/08/2022		914805	-	<0.5	-	-	-	<0.5	<0.5	<0.1	<0.1	-	589	-	0	0	0	0	0	0	0	0	0	1#11	1#11	1#11	1#5	1#4	1#11	1#1	-	11	-	-
QA202200811-01 (Triplicate)	11/08/2022	Fill - Silty Sand	303323	-	-	-	-	-	-	-	-	-	610	-	0	0	0	0	0	0	0	0	0	1#11	1#11	1#11	1#5	1#4	1#11	1#1	<1	11	-	-
Qc20220811-01 (Duplicate)	11/08/2022		914805	-	<0.5	-	-	-	<0.5	<0.5	<0.1	<0.1	-	605	-	0	0	0	0	0	0	0	0	0	1#11	1#11	1#11	1#5	1#4	1#11	1#1	-	8.5	-	-
Statistical Summary																																		
Number of Results	1	6	5	5	5	6	6	26	26	5	61	6	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	1	58	5	5
Number of Detects	0	0	5	5	5	0	0	0	0	5	61	6	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	0	58	5	5
Minimum Concentration	<180	<0.5	17	32	6.6	<0.5	<0.5	<0.1	<0.1	6.6	6	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	<1	5.8	0.2	2.3
Minimum Detect	ND	ND	17	32	6.6	ND	ND	ND	ND	6.6	6	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	1	1	1	1	1	1	1	ND	5.8	0.2	2.3
Maximum Concentration	<180	<0.5	32	1800	9	<0.5	<0.5	<0.1	<0.1	14	819	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	<1	21	0.5	3
Maximum Detect	ND	ND	32	1800	9	ND	ND	ND	ND	14	819	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	1	1	1	1	1	1	1	ND	21	0.5	3
Average Concentration		0.25	27	838	8	0.25	0.25	0.05	0.05	9.9	573	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1		11	0.36	2.7
Median Concentration	90	0.25	28	640	8.1	0.25	0.25	0.05	0.05	9.6	616	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0.5	11	0.3	2.8
Standard Deviation		0	5.7	708	0.87	0	0	0	0	2.6	198	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		3.7	0.13	0.3
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table D: Leachate Analytical Data

Project Number: 63097

Project Name: Wentworth Health Services Redevelopment

			Metals & Metalloids	Ionic Balance		
			Lead	pH (after HCL)	pH (Final)	pH (Initial)
			mg/L	pH Units	pH Units	pH Units
EQL			0.01	0.1	0.1	0.1
NSW 2014 General Solid Waste TCLP1 (leached)			5			
NSW 2014 Restricted Solid Waste TCLP2 (leached)			20			
Field_ID	**Sampled_Date_Time**	**Lab_Report_Number**				
HA49-0-0.1	11/08/2022	917148	0.03	7.2	5.4	9.5
TP25-0-0.1	10/08/2022	917148	3.5	6.4	4.6	9
Statistical Summary						
Number of Results			2	2	2	2
Number of Detects			2	2	2	2
Minimum Concentration			0.03	6.4	4.6	9
Minimum Detect			0.03	6.4	4.6	9
Maximum Concentration			3.5	7.2	5.4	9.5
Maximum Detect			3.5	7.2	5.4	9.5
Average Concentration						
Median Concentration			1.765	6.8	5	9.25
Standard Deviation						
Number of Guideline Exceedances			0	0	0	0
Number of Guideline Exceedances(Detects Only)			0	0	0	0

Table E: Asbestos Quantification Data
Project Number: 63097
Project Name: Wentworth Health Services Redevelopment

Asbestos Quantification Results									
Sample Location ID	AQ Sample ID	Asbestos Identified in AQ	ACM ID	g	ACM g	%	w/w%	NEPC HSL-B (w/w%)	Result
TP01	TP01-0.0-0.3	No	-	16400	0	0	0.000	0.04	Below HSL
TP02	TP02-0.0-0.4	Yes	Frag_02	16400	6	0.9	0.005	0.04	Below HSL
TP03	TP03-0.0-1.0	Yes	FRAG_TP03-0-0.4	16400	6	0.9	0.005	0.04	Below HSL
TP04	TP04-0.0-0.4	No	-	16400	0	0	0.000	0.04	Below HSL
TP04	TP04-0.4-0.5	No	-	16400	0	0	0.000	0.04	Below HSL
TP05	TP05-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
TP06	TP06-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
TP07	TP07-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
TP07	TP07-0.1-0.2	No	-	16400	0	0	0.000	0.04	Below HSL
TP08	TP08-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
TP09	TP09-0.0-0.2	No	-	16400	0	0	0.000	0.04	Below HSL
TP10	TP10-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
TP10	TP10-0.1-0.4	No	-	16400	0	0	0.000	0.04	Below HSL
TP11	TP11-0.0-0.2	No	-	16400	0	0	0.000	0.04	Below HSL
TP12	TP12-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
TP13	TP13-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
TP14	TP14-0.0-0.3	No	-	16400	0	0	0.000	0.04	Below HSL
TP15	TP15-0.0-0.2	No	-	16400	0	0	0.000	0.04	Below HSL
TP16	TP16-0.0-0.3	No	-	16400	0	0	0.000	0.04	Below HSL
TP16	TP16-0.3-0.4	No	-	16400	0	0	0.000	0.04	Below HSL
TP17	TP17-0.0-0.3	No	-	16400	0	0	0.000	0.04	Below HSL
TP18	TP18-0.0-0.2	No	-	16400	0	0	0.000	0.04	Below HSL
TP19	TP19-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
TP20	TP20-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
TP21	TP21-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
TP22	TP22-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
TP23	TP23-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
TP24	TP24-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
TP25	TP25-0.0-0.2	No	-	16400	0	0	0.000	0.04	Below HSL
TP26	TP26-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
TP27	TP27-0.0-0.2	No	-	16400	0	0	0.000	0.04	Below HSL
TP27	TP27-0.2-1.0	No	-	16400	0	0	0.000	0.04	Below HSL
TP28	TP28-0.0-0.4	No	-	16400	0	0	0.000	0.04	Below HSL
TP29	TP29-0.0-0.2	No	-	16400	0	0	0.000	0.04	Below HSL
TP30	TP30-0.0-0.2	No	-	16400	0	0	0.000	0.04	Below HSL
TP30	TP30-0.2-0.4	No	-	16400	0	0	0.000	0.04	Below HSL
TP31	TP31-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
TP32	TP32-0.0-0.2	No	-	16400	0	0	0.000	0.04	Below HSL
TP32	TP32-0.2-0.5	No	-	16400	0	0	0.000	0.04	Below HSL
TP32	TP32-0.5-0.7	Yes	FRAG-TP32-0.5-0.7	16400	103	15.45	0.094	0.04	Above HSL
TP33	TP33-0.0-0.4	No	-	16400	0	0	0.000	0.04	Below HSL
TP33	TP33-0.4-0.7	Yes	FRAG-TP33-0-0.1	16400	32	4.8	0.029	0.04	Below HSL
TP34	TP34-0.0-0.4	Yes	Frag_04	16400	6	0.9	0.005	0.04	Below HSL
TP35	TP35-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
TP36	TP36-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
TP37	TP37-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
TP38	TP38-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
TP39	TP39-0.0-0.3	No	-	16400	0	0	0.000	0.04	Below HSL
TP40	TP40-0.0-0.2	No	-	16400	0	0	0.000	0.04	Below HSL
TP41	TP41-0.0-0.1	Yes	FRAG_TP41-0-0.1	16400	6	0.9	0.005	0.04	Below HSL
TP42	TP42-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
HA43	HA43-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
HA43	HA43-0.2-0.3	No	-	16400	0	0	0.000	0.04	Below HSL
HA44	HA44-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
HA44	HA44-0.2-0.3	No	-	16400	0	0	0.000	0.04	Below HSL
HA45	HA45-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
HA45	HA45-0.2-0.3	No	-	16400	0	0	0.000	0.04	Below HSL
BH46	BH46-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
HA47	HA47-0.0-0.2	No	-	16400	0	0	0.000	0.04	Below HSL
HA48	HA48-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
HA48	HA48-0.2-0.3	No	-	16400	0	0	0.000	0.04	Below HSL
HA49	HA49-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
HA49	HA49-0.1-0.2	No	-	16400	0	0	0.000	0.04	Below HSL
HA50	HA50-0.0-0.1	No	-	16400	0	0	0.000	0.04	Below HSL
HA50	HA50-0.2-0.3	No	-	16400	0	0	0.000	0.04	Below HSL

Conversion Key	
	1640*1000
1 tonne	1640000

ACM Detection	
	Within AQ

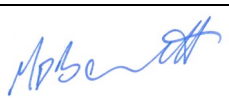
© JBS&G

This document is and shall remain the property of JBS&G. The document may only be used for the purposes for which it was commissioned and in accordance with the Terms of Engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited

Document Distribution

Rev No.	Copies	Recipient	Date
A	1 x Electronic	Isabella Di Nardo (MostynCopper) idinardo@mostyncopper.com.au	20/10/2022
B	1 x Electronic	Isabelle Stephens (MostynCopper) istephens@mostyncopper.com.au	7/11/2022
0	1 x Electronic	Isabelle Stephens (MostynCopper) istephens@mostyncopper.com.au	23/12/2022
1	1 x Electronic	Isabelle Stephens (MostynCopper) istephens@mostyncopper.com.au	08/02/2023
2	1 x Electronic	Isabelle Stephens (MostynCopper) istephens@mostyncopper.com.au	13/04/2023
3	1 x Electronic	Isabelle Stephens (MostynCopper) istephens@mostyncopper.com.au	6/07/2023

Document Status

Rev No.	Author	Reviewer	Approved for Issue		
		Name	Name	Signature	Date
A	Gina Pinget (LAA 002016)	Matthew Bennett, CEnvP-SC / Mitchell Hodgins	Matthew Bennett	Draft for Client Review	20/10/2022
B	Gina Pinget (LAA 002016)	Matthew Bennett, CEnvP-SC / Mitchell Hodgins	Matthew Bennett	Draft for Client Review	7/11/2022
0	Gina Pinget (LAA 002016)	Matthew Bennett, CEnvP-SC / Mitchell Hodgins	Matthew Bennett		23/12/2022
1	Gina Pinget (LAA 002016)	Matthew Bennett, CEnvP-SC / Mitchell Hodgins	Matthew Bennett		08/02/2023
2	Gina Pinget (LAA 002016)	Matthew Bennett, CEnvP-SC / Mitchell Hodgins	Matthew Bennett		13/04/2023
3	Gina Pinget (LAA 002016)	Matthew Bennett, CEnvP-SC / Mitchell Hodgins	Matthew Bennett		6/07/2023



www.jbsg.com.au