



23 January 2025

Department of Education c/- Johnstaff Attn: Priya Mekala (Johnstaff) Level 5, 9 Castlereagh Street, Sydney NSW 2000

By email: <a href="mailto:priya.mekala@johnstaff.com.au">priya.mekala@johnstaff.com.au</a>

Dear Priya

RE: INTERIM AUDIT ADVICE LETTER NO. 1 - GILLIESTON PUBLIC SCHOOL REDEVELOPMENT AND NEW PUBLIC PRESCHOOL SITE AUDIT - REVIEW OF RAP

1. INTRODUCTION

As a NSW Environment Protection Authority (EPA) accredited Contaminated Sites Auditor, I am conducting an Audit (TO-139) under the NSW *Contaminated Land Management Act 1997* (CLM Act) in relation to Gillieston Public School. This initial review has been undertaken to provide an independent review of the suitability and appropriateness of a Remediation Action Plan (RAP).

The site is proposed for redevelopment by NSW Department of Education (DoE) for continuing use as a primary education facility, including demolition of some existing temporary buildings and construction of new buildings, as well as ancillary works and landscaping (referenced herein as "the activity").

Due to contamination identified at the site, a Remedial Action Plan (RAP) has been prepared for implementation during the site redevelopment. As an EPA-accredited Site Auditor, I have been engaged by DoE to review the RAP and prepare this Interim Audit Advice (IAA).

Following approval of the Review of Environmental Factors (REF) for the site redevelopment, subsequent audit phases are expected to include review of a report documenting the remediation and validation of the site during the activity. It is anticipated that this will culminate in a Section A Site Audit Statement (SAS) and supporting Site Audit Report (SAR). The Audit is not currently a requirement of development approval and so is not currently a Statutory Audit. However, the Audit would become a Statutory Audit if included as a mitigation measure under the approved REF.

This interim audit advice (IAA #1) is based on a review of the documents listed below, as well as discussions with DoE (c/o Johnstaff) and Stantec Australia Pty Ltd (Stantec) who undertook the investigations and prepared the RAP.

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Ref: 318002140

Audit Number: TO-139

Ramboll Australia Pty Ltd ACN 095 437 442 ABN 49 095 437 442 The report reviewed was:

'Remediation Action Plan, Gillieston Public School', Stantec, version Rev 5, 8 November 2024 (the RAP).

The following reports were also provided for background information:

- 'Geotechnical DD Preliminary Desktop Review, Gillieston Public School', Stantec, project reference 304100928, version Rev 0, 8 February 2023.
- 'Intrusive Geotechnical Investigation Report, Gillieston Public School', Stantec, project reference 304100928, version Rev 0, 10 February 2023.
- 'Preliminary Desktop Site Investigation Contamination, Gillieston Public School', Stantec, project reference 304100928, version Rev 1, 26 September 2024 (the PDSI).
- 'Remediation Action Plan, Gillieston Public School', Stantec, version Rev 1, 21 March 2023 (the Draft RAP).
- Waste Classification Report (SP1), Gillieston Public School Remediation', prepared for HTS Group, reference 304100928, Stantec, 19 April 2023.
- Waste Classification Report (SP2), Gillieston Public School Remediation', prepared for HTS Group, reference 304100928, Stantec, 23 April 2023.
- Waste Classification Report (SP3), Gillieston Public School Remediation', prepared for HTS Group, reference 304100928, Stantec, 23 April 2023.
- 'Detailed Site Investigation, Gillieston Public School' Prepared for SINSW, reference 304100928, Stantec, 25 July 2024 (**the DSI**).

Review of the investigation data will be included in the subsequent site audit report for the project.

I have reviewed the key documents against the requirements of guidelines made or approved under Section 105 of the CLM Act, including the following:

- National Environment Protection Council (NEPC) 'National Environment Protection (Assessment of Site Contamination) Measure 1999', as Amended 2013 (NEPM, 2013)
- NSW EPA (2015) 'Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997'
- NSW EPA (2017) 'Guidelines for the NSW Site Auditor Scheme (3rd Edition)'
- Australian and New Zealand Guidelines (ANZG) (2018) 'Guidelines for Fresh and Marine Water Quality'
- Australia and New Zealand Heads of EPAs (HEPA 2020) 'PFAS National Environmental Management Plan, Version 2.0'
- NSW EPA (2020) 'Contaminated Land Guidelines, Consultants Reporting on Contaminated Land'
- Chapter 4 Remediation of Land in the Resilience and Hazards State Environment Planning Policy (SEPP) (2021) (SEPP R&H, formerly known as SEPP 55) and NSW Department of Urban Affairs and Planning and NSW EPA (1998) 'Managing Land Contamination, Planning Guidelines SEPP 55 – Remediation of Land'.
- Western Australia Department of Health (2021) 'Guidelines for the assessment, remediation and management of asbestos contaminated sites'.
- NSW EPA (2022a) 'Contaminated Land Guidelines, Sampling design part 1 application' and 'Contaminated Land Guidelines, Sampling design part 2 interpretation'.

• NSW EPA (2022b) 'Contaminated Land Consultant Certification Policy'.

# 2. SITE DETAILS

### 2.1. Location

The site details are as follows:

Street address: 100 Ryans Road and 19 Northview Street, Gillieston Heights, NSW

2321

Identifier: Lot 51 DP 1162489 and Lot 2 DP 1308605 (Attachment 1)

Local Government: Maitland City Council

Owner: NSW Department of Education

Site Area: Approximately 23,385 m<sup>2</sup>

Zoning: RU2 Rural Landscape and R1 General Residential under Maitland Local

Environmental Plan 2011

The northern, southern and western boundaries of the site are well defined by streets/roadways. The eastern activity site boundary extends beyond the current alignment of the school fence to incorporate the entirety of Lot 51 DP 1162489 and Lot 2 DP 1308605.

### 2.2. Adjacent Uses

The site is located within an area of rural residential and agricultural land use. The surrounding site use includes:

North: Gillieston Road followed by rural residential and agricultural property.

East: Agricultural land, followed by rural residential property. Residential properties are also located along the eastern portion of Northview Street.

South: Northview Street followed by residential and open space (aviation navigational infrastructure).

West: Ryans Road followed by a subdivision construction site, then rural residential and agricultural land.

Wentworth Swamp, an estuarine wetland environment, is located approximately 1.3 km to the west of the site. The closest residential properties are located approximately 20 m north and south of the site.

### 2.3. Site Condition

The current site condition has been informed based on a review of site photographs (provided by DoE), recent aerial imagery and site observations reported by Stantec. The site is in use as a primary school, comprising a permanent building (understood to be heritage listed) in the north-western portion, and a series of demountable buildings across the western and southern portions of the site. The demountable buildings are generally installed on brick piers.

Walkways between buildings appear to generally comprise concrete pavements. Unpaved areas of the site, predominantly in the eastern portion of the site and around the western and southern site boundaries, generally comprised mown grass, however aerial images indicate an area of bare soil is present in the central portion of the developed area.

A palisade-style school fence surrounds the existing school boundary, approximately following the boundary of Lot 51 DP 1162489, with the exception of the northeast portion where the fence deviates from the lot boundary to exclude a dam. The dam, which extends into the neighbouring property to the

east, appears to be heavily vegetated. Surrounding grasses on the neighbouring property appear to be maintained (mowed).

The Auditor has not carried out a site visit to inform this IAA.

### 2.4. Proposed Activity

The Gillieston Public School has been identified by the NSW Department of Education (DoE) as requiring redevelopment. The proposed Gillieston Public School redevelopment and new public preschool will include the removal of demountable structures and replacement with permanent teaching spaces.

The Gillieston Public School redevelopment and new public preschool comprises the following activities:

- Demolition and removal of existing temporary structures.
- Site preparation activities, including demolition, earthworks, tree removal.
- Construction of new:
  - 32 permanent general learning spaces and 3 support teaching spaces
  - Administration and staff hubs
  - Hall, canteen and library
  - Out of school hours care
  - Public preschool (standalone building for 60 places)
  - Covered Outdoor Learning Areas (COLAs)
  - Outdoor play areas, including games courts and yarning circle
  - New at-grade car parking
  - Extension of the existing drop-off / pick-up area and new bus bay
  - Realignment of the existing fencing
  - Associated stormwater infrastructure upgrades
  - Associated landscaping
  - Associated pedestrian and road upgrade activity.

For the purposes of this audit, the 'residential with soil access' land use scenario will be assumed, the most sensitive land use applicable to primary schools and childcare settings.

# 3. PREVIOUS INVESTIGATIONS

# 3.1. Site History and PDSI

The PDSI included a summary of the site history based on: historic aerial imagery; business directories; current and historic land title information; search of public databases (SafeWork NSW, NSW EPA); local records of geology, hydrogeology, topography and hydrology; Council listings; and the school's asbestos register.

The site has been used as an educational facility since 1898 and has been progressively developed with staged construction to the current site layout, most recently in late 2022. Historic demolition and filling were considered by Stantec to comprise the mechanisms with the greatest potential for contamination to have occurred. Stantec also noted the site asbestos register included identification of asbestos on external portions of two of the site buildings.

The PDSI was carried out in conjunction with geotechnical investigations undertaken by Stantec at the site, which included advancement of 28 boreholes to a maximum depth of 1.8 m below ground level (mbgl) all extending into underlying natural soil and subsequently a further 51 sampling locations were accessed by hand auger to a maximum depth of 0.3 mbgl. Selected samples were analysed for total recoverable hydrocarbons (TRH), benzene, toluene, ethylbenzene, xylenes, naphthalene (BTEXN), metals, polycyclic aromatic hydrocarbons (PAH), organochlorine pesticides (OCP), organophosphorus pesticides (OPP), polychlorinated biphenyls (PCB) and per- and polyfluoroalkyl substances (PFAS). The Investigation locations assessed for the PDSI are included on **Attachment 2**.

Fill was encountered across the site to a maximum depth of 1.2 mbgl in the eastern portion of the site and was observed to contain anthropogenic inclusions (plastic, PVC, metal, tile, brick, concrete, glass). Fill material in the western portion of the site comprised silty sand and was identified at depths of 0.1 to 1.0 mbgl.

Soil samples reported concentrations exceeding the adopted human health criteria for lead at 12 locations and friable asbestos at one location, all within the north-western portion of the site, and largely adjacent to the existing heritage building (Building D, on **Attachment 1**). The sample containing friable asbestos was coincident with a fragment of bonded asbestos containing material (ACM). Concentrations of zinc (15 locations), lead (two locations) and nickel (one location) also exceeded the adopted urban residential and open space ecological criteria, also generally located within the north-western and western portion of the site.

The PDSI included the following recommendations based on the results and the proposed redevelopment of the site:

- A RAP or site-specific human health and ecological risk assessment is developed for the site.
- An Unexpected Finds Protocol (UFP) is developed to manage risks of unidentified impacts such as hazardous materials or waste in fill material at the site.
- A Construction Environmental Management Plan (CEMP) is prepared to minimise risk to human health and the environment during implementation of the RAP.
- Waste classification assessments are prepared (as required) for disposal of impacted soil.

# 3.2. Draft RAP and Interim Remediation

Based on the PDSI results and recommendations, Stantec prepared the Draft RAP to address the identified metals and asbestos contamination. The preferred remedial strategy comprised excavation and offsite disposal of the impacted soils due to the effectiveness to mitigate risks to human and ecological receptors at the site. Onsite encapsulation was also considered potentially suitable, however, was noted to incur additional design costs and ongoing management.

Remedial excavations were carried out in April and May 2023, and included excavation and stockpiling of impacted soil into three stockpiles of 34 t (SP01), 190 t (SP02) and 11 t (SP03), waste classification, materials disposed offsite, validation sampling and reinstatement of the excavations with imported landscaping soil.

Waste classification sampling and analytical results (TRH, BTEX, PAH, metals, OCP, OPP, PCB and asbestos) of the stockpiles reported:

- SP01: Two fragments of potential ACM, and lead and benzo(a)pyrene above the general solid waste (GSW) criteria. Toxicity characteristic leaching procedure (TCLP) testing was not carried out and the material was classified as restricted solid waste (RSW) – special waste.
- SP02: Lead and benzo(a)pyrene above the GSW criteria, however, further TCLP testing reported concentrations within the GSW criteria. The material was classified as GSW.

SP03: Lead concentrations above the GSW criteria for both contaminant threshold (CT) and specific
contaminant concentration (SCC, applicable when used with TCLP concentrations) and the material
was classified as RSW – Special Waste due to identified asbestos concentrations during the PDSI.

Eighty-two validations samples were collected from the excavations, 14 of which did not meet the adopted remediation criterion for lead in soil, including samples collected in close proximity to building footprints. It was deemed impracticable to undertake further excavation to achieve validation until demolition of buildings occurs. Validation sample locations and the extent of the interim remediation excavations are shown on **Attachment 3**.

Due to the failed validation samples, the validation reporting was not completed and DoE elected to temporarily backfill the excavations with imported soil. It is understood that the imported soil was sourced from Australian Native Landscapes and sampling and inspection of the material was carried out prior to import. The results of imported material validation were not provided.

### 3.3. DSI

Stantec undertook a DSI ahead of the proposed redevelopment of the site. The objectives of the DSI were to identify whether contamination was present beyond the extent identified in the PDSI and interim remediation, provide a statement of suitability for the proposed use and recommendations for any future management, remediation or further investigation (if required).

The DSI included intrusive investigation by 14 hand auger locations and 21 test pits using a 5-tonne excavator to facilitate soil sampling and surface water and sediment sampling from a dam located in the eastern portion of the site. Soil samples were collected at approximately 0.5 m intervals and selected samples were analysed for TRH, BTEXN, metals, PAH, OCP, OPP, PCB, PFAS and asbestos. The sediment and surface water samples were analysed for total petroleum hydrocarbons (TPH), BTEX, metals, PAH, phenols, OCP, OPP, PCB and PFAS. The sample locations accessed as part of the DSI are included on **Attachment 2** and **Attachment 3**.

Fill was encountered across the site, up to 2 mbgl in the north-eastern portion, where Stantec noted a former drainage channel may have been filled. Anthropogenic material was identified in shallow soils (0-0.3 mbgl) at four of the sample locations, generally in the north-western portion of the site, close to demountable buildings.

Soil analytical results identified one sample location with lead concentrations at greater than 2.5 times the adopted criterion, adjoining demountable buildings in the western portion of the site. Sediment analytical results were below the adopted sediment quality criteria. Surface water reported concentrations of copper, lead, nickel and zinc above the ANZG (2018) default guideline value for 95% protection of freshwater species, and PFOS above the NEMP (2020) criterion for 99% protection of freshwater species.

Stantec recommended that interim management controls are implemented through an Interim Site Management Plan prepared by an occupational hygienist. The DSI also recommended that an updated RAP be prepared to incorporate the findings of the investigation.

# 3.4. Auditor's Opinion

In the Auditor's opinion, investigations were adequate to inform site characterisation in areas that were accessible, however, there is potential for further metals and asbestos contamination to be present in areas of the site that were inaccessible during the intrusive investigations (e.g. beneath buildings). Furthermore, investigation locations undertaken by hand tools (e.g., hand auger) did not extend to the full depth of fill in some cases, and therefore, there is also potential for further contamination at depth. The methodology of investigation by auger/borehole may also underestimate the prevalence of ACM within fill material.

Sampling of surface water from the dam in the eastern portion of the site identified some metals and PFOS contamination that would require consideration during the proposed dewatering and filling of the dam as part of the redevelopment works.

It should be noted that the Auditor has not reviewed the data relating to the previous investigations in detail. Review of the investigation data will be included in the SAR prepared following completion of remediation and validation of the site (following completion of redevelopment of the site).

# 4. EVALUATION OF PROPOSED DATA GAP INVESTIGATION AND REMEDIATION

### 4.1. Pre-Remediation Data Gap Investigation

Data gap investigations are proposed in the RAP prior to completion of remediation activity and following demolition/removal of demountable buildings and hardstand pavements. The recommended data gap investigations comprise:

- Investigation beneath buildings and hardstand adjacent to Building D.
- Investigation within the Gillieston Road corridor where the cut/fill plan indicates earthworks will be carried out as part of the redevelopment to the north of the site.

The additional investigations are proposed to include:

- Site walkover and clearance inspection of surficial soils to visually assess for the presence of demolition rubble, ACM or contamination indicators (staining, odour or discolouration).
- Soil sample density is to be determined by the Environmental Consultant based on the NSW EPA (2022a) 'Contaminated Land Guidelines, Sampling design part 1 application'.
- Soil samples will be collected at near surface (0.1 mbgl), 0.3 mbgl, 0.5 mbgl and 1.0 mbgl, as well
  as any change in strata or contamination indicators (staining, odour, discolouration, or presence of
  anthropogenic materials), with field screening using a calibrated photoionisation detector (PID). Soil
  samples will be collected to a maximum depth of 1 mbgl, 0.3 m into natural soil or refusal
  (whichever occurs first).
- Soil samples will be screened in the field using a portable x-ray fluorescence analyser (XRF) to delineate lead and zinc contamination.
- Analysis of soil samples for contaminants of potential concern (CoPC), comprising lead, zinc, and asbestos. Asbestos sampling is proposed where observations of ACM are made and proposed to comprise 10 L field screening for ACM and a representative 500 mL sample for laboratory assessment of asbestos fines (AF) and friable asbestos (FA).
- Investigation results will be used to inform an update to the RAP, if required.

# 4.1.1. Auditor's Opinion

In the Auditor's opinion, the proposed investigation strategy for previously inaccessible areas of the site is considered generally appropriate, however, further CoPCs may require consideration based on visual and olfactory assessment of the fill following removal of surface coverings. The sampling density should also be sufficient to provide confidence in the site characterisation for asbestos (typically twice the minimum sampling density where asbestos is known or suspected to be present) and visual assessment for asbestos must be carried out by a suitably qualified and experienced person.

Works within the road corridor are not considered part of the school site and should be assessed commensurate with the exposure scenarios for the land use. Clarification should be provided on the extent of these works and if these will be included within the site audit boundary.

### 4.2. Remediation Required

The CoPCs that require remediation have been summarised in **Table 4.1** based on the investigations and interim remediation previously completed by Stantec. The remedial extent is based on the current understanding, and as noted in **Section 4.1**, further investigation of data gaps is required following demolition or removal of the demountable buildings and hardstand pavements. Building D is understood to be heritage listed and will be retained as part of the redevelopment, and therefore no investigation or remediation of the building footprint is proposed.

Assessment of the remediation works is to be undertaken in accordance with the validation sampling plan in the RAP. These are discussed in **Table 4.2**.

**Table 4.1: Remediation Required and Preferred Options** 

Description	Extent of Remediation Required	Preferred Options
Lead and zinc impacted soil (remaining from interim remediation)	Lateral: 'Approximate Initial Remediation Extent' outside of the hatched area on Figure 3 in the RAP ( <b>Attachment 3</b> ). Approximately 115 m² around existing buildings in the northwest portion of the site. Vertical: Estimated to be 0.3 mbgl, depth of fill.	Excavation and Offsite Disposal, or Cap and Contain
Lead and zinc impacted soil (additional remediation area identified in DSI)	Lateral: 'Approximate Additional Areas Requiring Remediation' on Figure 3 of the RAP ( <b>Attachment 3</b> ). Approximately 197 m² around the interim remediation area and inferred to extend under buildings.  Vertical: Estimated to be 0.4 mbgl, depth of fill.	Excavation and Offsite Disposal, or Cap and Contain

It is understood that construction will be undertaken in four stages: Stage 1, Stage 2.1, Stage 2.2 and Stage 2.3 (**Attachment 4**). Remediation will predominantly be undertaken in Stages 2.2-2.3.

# 4.3. Evaluation of RAP

The Auditor has assessed the RAP by comparison with the checklist included in NSW EPA (2020) *Contaminated Land Guidelines, Consultants Reporting on Contaminated Land.* The RAP was found to address the required information, as detailed in **Table 4.2**, below.

**Table 4.2: Evaluation of Remedial Action Plan** 

Remedial Action Plan	Auditor Comments
Remedial Goal  The remediation objectives outlined in Section 1.2.2 of the RAP are as follows:  • "To ensure that the identified contaminated material is managed in accordance with best and most sustainable practices to remove unacceptable health risk to human and ecological receptors.  • Demonstrate, through remediation and validation, that potential health risk to site receptors has been reduced to an acceptable level, and the site is considered suitable for the proposed land use; and  • If contamination remains following remediation, the material is to be managed such that a complete source-pathway-receptor linkage is incomplete under the ongoing land use post-construction, for example via implementation of a Long-Term Environmental Management Plan (LTEMP)."	In the Auditor's opinion, these objectives are considered appropriate.

underlain by a geofabric marker layer. A series of conceptual cross sections are provided as potential

encapsulation scenarios.

#### **Auditor Comments Remedial Action Plan** Discussion of the Extent of Remediation Required The proposed remediation is based on known lead in soil contamination which comprises the main risk to Remediation required for each area was discussed within human health. Consistent with the findings of the the RAP and summarised in **Table 4.1**. interim remediation works, the Auditor considers that the extent of remediation will be informed through data gap and validation sampling. Remedial Options The Auditor considers that an appropriate range of options were considered. Remedial options were assessed and comprised: Option 1 – do nothing. Option 2 - monitored natural attenuation. Option 3 - onsite immobilisation fixation/stabilisation and reuse onsite. Option 4 – onsite soil washing and reuse onsite. Option 5 – offsite immobilisation fixation/stabilisation and either reuse onsite or reuse offsite. Option 6 - offsite soil washing and either reuse onsite or reuse offsite. Option 7 - excavation and offsite disposal Option 8 - above ground consolidation, containment/encapsulation Option 9 - in situ containment/encapsulation The RAP included a brief description of each of the options and a tabulated evaluation of advantages and disadvantages. Selected Preferred Option and Rationale The Auditor considers the preferred options to be appropriate. Preferred options were discussed within the RAP and comprised Option 7 (excavation and offsite disposal) or The Auditor notes that based on the redevelopment Option 8 (above ground consolidation, staging plans and cut/fill design appended to the containment/encapsulation) or Option 9 (in situ RAP, only limited fill is proposed within Stages 2.2-2.3, where the remedial works are proposed. The containment/encapsulation). majority of fill required to meet design levels is Option 7 was considered to be effective at mitigating the within Stage 1 which would be completed prior to risk to receptors by removing the contaminated removal of demountable buildings and associated materials. investigation and remediation works, limiting the Options 8 and 9 were also considered suitable, however, potential to implement Options 8 and 9 as part of the subject to a suitable location being available for current design. The proposed activity stages are containment and consultation with relevant shown on Attachment 4. stakeholders. Options 8 and 9 were also noted to require further assessment of the leachability of the CoPCs and inform the containment system design requirements, as well as long term management under an FMP Description of Remediation to be Undertaken The Auditor considers the remediation description to be generally feasible provided remediation The RAP includes a description of the remediation excavations can be effectively completed around activities required for the preferred options. Building D (proposed for retention). Section 12.5 of the RAP describes the remediation An updated RAP should be prepared once the excavations and waste classification for offsite disposal. proposed location(s) and design for containment are Excavations will be guided by visual identification of finalised (if proposed). natural soil and handheld field portable XRF analyser screening of samples during excavations, and subsequent validation sampling analytical results. Section 12.7 describes the indicative containment/encapsulation design requirements for onsite retention and management under an EMP. Containment is proposed to be incorporated into the design for the redevelopment, with planned pavements or other surface coverings comprising the capping layer

#### **Remedial Action Plan Auditor Comments** Proposed Validation Criteria These criteria are generally acceptable and considered suitable for the land use scenario. Validation criteria adopted in the RAP comprise the assessment criteria from the investigations from NEPM (2013) for the most sensitive land use (i.e., residential with soil access). The RAP included a tabulated summary of the validation criteria for lead, zinc and asbestos. The Auditor notes that imported material must either Proposed Validation Testing be VENM, ENM or be classified under a Resource Excavation: 1 sample location per 5m length of Recovery Order. The density of testing would need to excavation wall, 1 sample per 25 m<sup>2</sup> on the base of be commensurate with the documentation provided excavations. Samples will also be collected per 0.5 m and the consistency of the results. depth of excavation or change in soil horizon. Validation excavations are proposed to be field screened using a handheld field portable XRF analyser as a semiquantitative assessment to inform remediation extent and analytical validation sampling. Validation samples will be analysed for lead and zinc and are required to meet the adopted validation criteria (human health and ecological). Waste Classification of Excavated Material: 1 sample per 25 m<sup>3</sup> of stockpiled soils up to 250 m<sup>3</sup>. A minimum of three (3) samples is required for any stockpile. For stockpiles >250 m³ but <2500 m³ in size, a statistical analysis approach may be used for classification, with the collection of at least 10 samples. Samples will be screened against the NSW EPA (2014) waste classification guidelines to inform waste classification. Imported Material: Provided with suitable certification for the material type and 1 sample per 100 m<sup>3</sup> and a minimum of 3 primary samples per source. Imported material must meet the relevant Resource Recovery Order criteria or otherwise have a NSW EPA Special Exemption (i.e., VENM) and must be free from asbestos, meet aesthetic requirements, and meet the site validation criteria. Waste classification and imported material samples will be analysed for metals, TRH, BTEX, PAH, OCP, OPP, PCB, PFAS and asbestos. TCLP testing will also be completed where required for waste classification. Waste classification may also comprise a reduced list of analytes based on CoPCs at the discretion of the Environmental Consultant. Contingency Plan if Selected Remedial Strategy Fails A wide range of potential and relevant scenarios and response measures were considered in the Section 16.0 of the RAP provides a contingency plan contingency plan. with a number of options have been provided for specific In the Auditor's opinion, the procedure for handling potential problems, including: unexpected finds, which includes stopping work and Evidence of additional contamination not previously identification of materials is appropriate and practical identified. and can be implemented within the proposed Greater than anticipated volumes of soil require remediation strategy. management. Unintentional release of stockpiled soil or water drained from stockpile. Water ingress to excavation is unmanageable. Elevated CoPC concentrations are encountered within remaining soils following remedial excavations.

Imported material is determined unsuitable. An update to the RAP is required (as a result of data

The RAP includes specific contingency measures to address these scenarios including further investigation and emergency response procedures. The remedial

gap investigations).

Remedial Action Plan	Auditor Comments
strategy has a low risk of failure, as validation failure would lead to further excavation.	
Contingency procedures are also provided for the unexpected finds and asbestos in Section 13.6 of the RAP.	
Interim Site Management Plan (before remediation)	The interim management measures were not
The DSI included recommendations to prepare and implement an Interim Site Management Plan to manage the risk from known contamination in the interim period between further remediation and redevelopment of the site. The RAP notes that DoE advised that the Asset Management Unit sought external advice and implemented interim controls for the lead impacted areas of the site (fencing).	detailed in the RAP and are understood to be beyond the Stantec scope of work. Interim management is required to prevent site users being exposed to known lead contamination in soil prior to remediation commencing.
Site Management Plan (operation phase) including stormwater, soil, noise, dust, odour and WH&S  Section 13.0 of the RAP provides the framework for a Construction Environmental Management Plan (CEMP) to be implemented during the remediation and redevelopment activity. The CEMP requirements in the RAP address the following elements/plans:	The Auditor considers the requirements defined for the CEMP to be generally acceptable. The CEMP should also include definition of roles and responsibilities for the activity and provide contact details.
<ul> <li>Stockpile management.</li> <li>Waste management and materials tracking, including onsite materials tracking.</li> <li>Excavation water management (if required).</li> <li>Odour and dust control.</li> <li>Asbestos removal.</li> <li>Acid sulfate soils management (if required).</li> <li>Unexpected finds and heritage constraints.</li> <li>Stormwater management, erosion and sediment control.</li> <li>Noise.</li> <li>Traffic control.</li> <li>Site security.</li> <li>Training.</li> <li>Work health and safety, including incident management.</li> <li>Medical and environmental emergency response.</li> <li>Incident reporting.</li> <li>Community consultation.</li> </ul>	
Remediation Schedule and Hours of Operation  The remediation schedule is not defined in the RAP.  Hours of operation during the activity are to comply with	Acceptable, it is understood the remediation schedule will be prepared after REF approval.
Council requirements to control noise and are noted in the RAP to typically comprise:  7am and 5pm Monday through Friday  8am to 1pm Saturdays.  No work is permitted on Sundays or public holidays.	
	The Authority Dan Control of the Con
Contingency Plans to Respond to Site Incidents  Section 14.1 of the RAP presents incident response planning for medical and environmental emergencies. The RAP includes a flow chart for each detailing the response protocol, including contacting emergency services (if required), emergency mitigation measures and notifying the Project Manager.	The Auditor notes that the RAP provides emergency response, management and contingency plans that are directly applicable for the proposed activity.
The unexpected finds protocol in Section 13.6 of the RAP also provides the approach to incident response to be implemented in the case of unexpected contamination, including stopping work, reporting to the Site Supervisor, moving out of the vicinity, engaging a suitably qualified Environmental Consultant to assess	

#### **Remedial Action Plan Auditor Comments** the find and provide appropriate actions. The site owner and occupier are required to be informed as soon as possible and Council and the EPA may be required to be informed if there is potential for immediate harm to human health and the environment. Contingency planning for potential scenarios during the activity that would affect site remediation and validation is discussed in Section 16.0 of the RAP and summarised above. Licence and Approvals Generally acceptable, noting that specific licence requirements will need to be defined in the CEMP. Section 17.0 of the RAP provides the regulatory requirements for the proposed remediation, including reference to relevant legislation and guidance documentation for waste management, environmental protection, and planning controls. Stantec state in the RAP that the remediation works would comprise Category 2 remediation under the State Environmental Planning Policy (SEPP) - Resilience and Hazards 2021 (activity not requiring approval) subject to DoE, development or Ministerial requirements. Section 13.4 details the licence requirements for asbestos removal (if required) in the event of unexpected asbestos finds. Contacts/Community Relations The Auditor notes that site establishment is noted to include display of site signage, and this should Section 14.3 states: "Stantec does not anticipate that include contact details for responsible personnel for significant community consultation will be required the remediation activity. Community consultation is during the course of the remedial and validation works. likely to be required of DoE as part of the REF Should this assumption change, a detailed Community approval, including exhibition of the REF. Consultation Plan may be developed to manage communications with third parties. Staged Progress Reporting Generally acceptable given the anticipated scale of the activity. If progressive reoccupation of Redevelopment of the site is proposed to be undertaken remediated portions of the site is required however, in four stages (Stage 1, Stage 2.1, Stage 2,2 and Stage staging of validation reporting is likely to be required 2.3), with remediation predominantly completed during to facilitate the audit. Stages 2.2-2.3. Remediation validation reporting is proposed to be prepared following completion of all remediation activity. Long Term Environmental Management Plan Generally acceptable. The RAP includes the requirement for preparation of a An enforcement mechanism for the EMP will be long-term Environmental Management Plan (EMP) in the required for onsite management to be an acceptable event that contaminated materials remain on site. The option. If implementation of the EMP during site proposed EMP will provide: occupation is not a mitigation measure, an alternative enforcement mechanism will be required. "Site details and background. Detail the contaminated material remaining at Detail the nature, extent and survey of the encapsulated materials on site and the remedial works undertaken. The requirements for working in and around any impacted material, including works permit systems and rectification measures for any penetration to capping mechanisms or changes to the site. Detail roles, responsibilities and accountabilities for tasks and requirements of ensuring the effectiveness of the remedial works over the life of the strategy. Include an Inspection and Testing Plan detailing triggers, timelines, inspection criteria and responses for ongoing assessment of the remedial works."

Remedial Action Plan	Auditor Comments	
The landowner will be responsible for ensuring implementation of the EMP and the EMP must be provided to Council and noted on the Section 10.7 Planning Certificate and be available on the school website.  The RAP states that the EMP would form part of the activity approval as an appropriate mechanism for legal enforcement.		
Waste Management Section 5.2 of the RAP defines the waste classification requirements. Excavated material requiring offsite disposal requires waste classification in accordance with NSW EPA (2014) waste classification guidelines, Section 12.5.1 of the RAP defines the sampling strategy and analytical requirements for waste classification and Section 13.1.1 of the RAP defines the waste tracking requirements for offsite disposal.	The Auditor considers the waste management procedures detailed in the RAP to be appropriate for implementation during the remediation activity.	
Waste must be tracked and disposed offsite at appropriately licenced facilities in accordance with the NSW EPA requirements.		
Waste tracking will be achieved through copies of weighbridge slips, tip dockets and consignment disposal confirmation (where appropriate, including NSW EPA WasteLocate).		

### 4.4. Auditor's Opinion

In the Auditor's opinion, the proposed remediation activities are appropriate to contamination at the site. Data gap investigations proposed (refer to **Section 4.1**) may lead to identification of further contamination requiring remediation which may warrant revision of the RAP. Appropriate contingencies are included should this scenario eventuate.

If the onsite encapsulation remedial strategy is proposed, the proposed location for encapsulation and the capping and/or containment cell design should be provided to the Auditor for review. Investigation of the contaminant leaching potential may also be required to demonstrate retention suitability to protect groundwater.

In general, if adequately implemented, the RAP (subject to the data gap investigations and adequate containment design, if required) should be able to ensure that the site is suitable for the proposed land use through the removal and disposal and/or onsite encapsulation of metals contaminated fill. Successful validation will be required to confirm this.

# 5. CONCLUSIONS AND RECOMMENDATIONS

Stantec provided the following conclusions in the RAP:

"Once all data gap investigations are completed, remediation and validation undertaken, and remaining contamination (if any) managed under an LTEMP, then the site would be considered suitable for the intended land use post-construction of the proposed [activity]."

Based on the information presented in the reviewed reports, following the decision-making process for assessing urban redevelopment sites in NSW EPA (2017) *Guidelines for the NSW Site Auditor Scheme (3rd Edition)*, the Auditor concludes that the site can be made suitable for the intended continued use as a primary school, subject to implementation of the RAP and compliance with the following conditions:

• A Validation Consultant is engaged to document the remediation activity.

- Any amendments to the remediation approach are reviewed by the Site Auditor, including the proposed location(s) and capping and containment design for onsite retention of contaminated materials.
- The Construction Environmental Management Plan (CEMP) is prepared under the framework provided
  as part of the RAP prior to commencement of the remediation activity, including to reflect the REF
  mitigation measures and regulatory requirements. The CEMP should be implemented by the
  Principal/Remediation Contactor.
- Validation of remediation is compiled into a Validation Report, in accordance with NSW EPA (2020)
   Contaminated Land Guidelines, Consultants reporting on contaminated land, for review and audit by
   the Site Auditor. The Validation Report will document how the remediation acceptance criterion has
   been achieved.
- If an EMP is required due to retained contamination, the EMP is reviewed and audited by the Site Auditor and agreed as an appropriate method of management prior to implementation.
- If an EMP is required, in order to facilitate the legal enforceability of the EMP, it is recommended that a REF mitigation measure be included that requires implementation of the EMP, or otherwise implementation of any conditions on the Site Audit Statement (SAS), during occupation of the site.
- A Section A SAS and SAR assessing the suitability of the site for occupation is prepared by a NSW EPA Accredited Site Auditor following completion of remediation.
- If staged re-occupation of the site is required following remediation of portions of the site, commensurate staged validation reporting will be required to facilitate the site audit. Consultation with the Principal Certifying Authority would be required to define the site audit requirements for reoccupation (i.e., through IAA, or separate Section A SAS).

Mitigation measures are summarised in **Table 5.1**.

**Table 5.1: Mitigation Measures** 

Project Stage	Mitigation Measures
Design (D)	Preparation of a Data Gap Investigation report documenting the outcomes of the proposed additional investigations and finalising the remediation requirements and extents. This must be provided to the Auditor for review prior to remediation commencing.
Construction (C)	Depending on the significance of the remediation recommendations informed by the Data Gap Investigation, an update to the RAP may be required. This must be provided to the Auditor for review and endorsement prior to remediation commencing.
Construction (C)	Implementation of the RAP.
Construction (C)	At the completion of remediation in accordance with the RAP, preparation of a Validation Report and long-term Environmental Management Plan (EMP). These must be reviewed by the Auditor who will prepare a Section A Site Audit Statement (SAS) and Site Audit Report (SAR) assessing the suitability of the site for the proposed use.
Operation (O)	The EMP (if required) is to be implemented during occupation or use of the site. The approved EMP is to be reviewed periodically and, where appropriate, updated or amended. The approved EMP is to be implemented until a site audit confirms that the site is suitable for the proposed use without an EMP.

# 6. LIMITATIONS

This interim audit advice was conducted on behalf of the Department of Education – School Infrastructure NSW for the purpose of assessing the suitability and appropriateness of a remedial action plan (RAP). This summary report may not be suitable for other uses.

The Auditor has relied on the documents referenced in **Section 1** in preparing the Auditor's opinion. The consultants included limitations in their reports. This interim audit advice must also be subject to those limitations. The Auditor has prepared this document in good faith but is unable to provide certification outside of areas over which the Auditor had some control or is reasonably able to check. If the Auditor is unable to rely on any of those documents, the conclusions of this interim audit advice could change.

It is not possible to present all data which could be of interest to all readers of this interim audit advice. Readers are referred to the referenced reports for further data. Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect to, their situation.

\* \* \*

Consistent with the NSW EPA requirement for staged 'signoff' of sites that are the subject of progressive assessment, remediation and validation, I advise that:

- This advice letter does not constitute a Site Audit Report or Site Audit Statement.
- At the completion of the remediation and validation I will provide a Site Audit Statement and supporting documentation.
- This interim advice will be documented in the Site Audit Report.

Yours faithfully Ramboll Australia Pty Ltd

Tom Onus

EPA Accredited Site Auditor 1505

D 02 9954 8133 M 0408 665 517 tonus@ramboll.com

Attachments: 1 Site Layout and Cadastral Boundaries

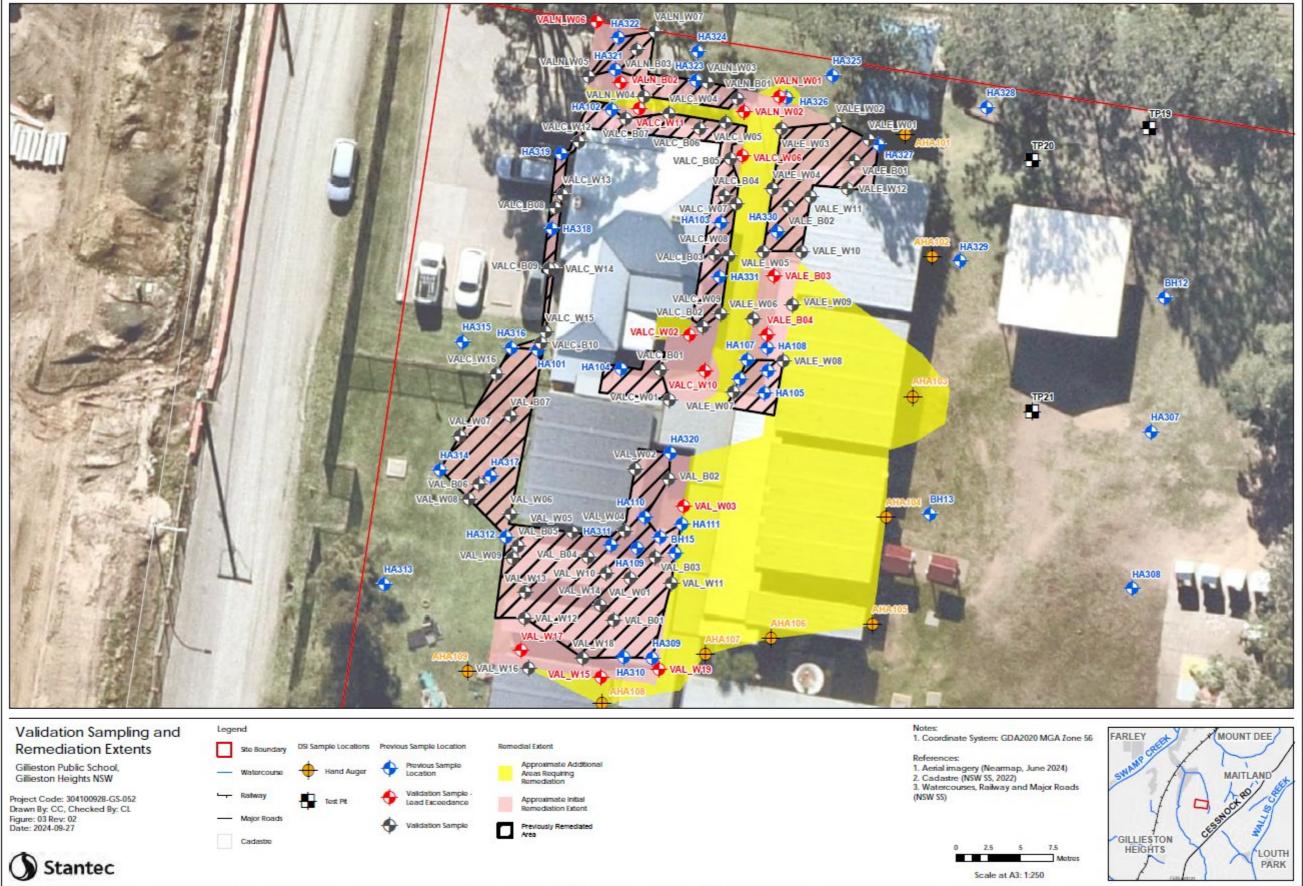
2 Soil Investigation Locations

3 Proposed Remediation Extent

4 Proposed Activity Staging Plan







- All works required for the Completion of the new Learning Building & required decanting

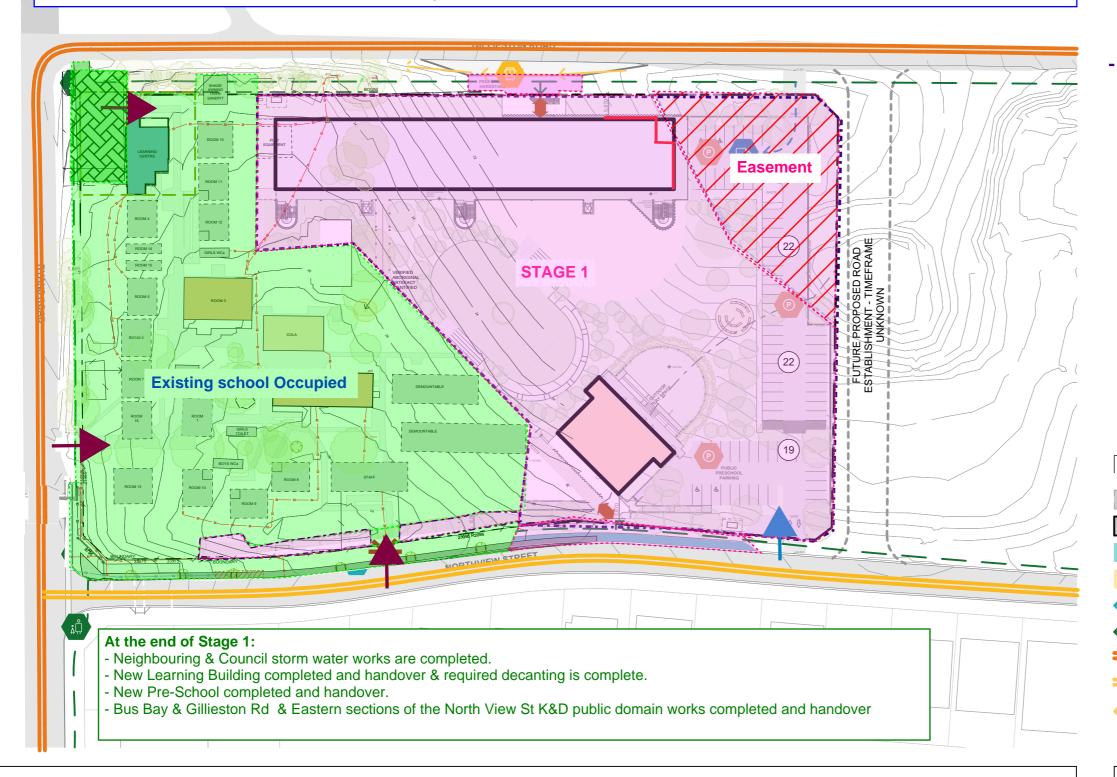
- All works required for the Completion of the new Pre-School

- Bus Bay & Gillieston Rd & Eastern sections of the North View St K&D public domain works

# **Key Notes:**

1. Staff will be utilising the existing car park adjacent to Building D (Brick Cottage) on Gillieston Road during Stage 1 Construction Works

2. School Access on Northyiew Street is retained across Stage 1 Services corridor



# **CONSTRUCTION LEGEND**

Easement - This area is in possession of the Contractor. However, works in this area cannot be commenced until neighbouring & council stormwater works are complete

In Construction & Site in possession with the contractor

**Existing and Operational** 

Completed and Occupied

**Contractor Site Access** 

School Access

Hoarding Line

Staff car park

Remediation - This area is required to be remediated and made good prior to Hall and OOSH demountable installation

### TECHNICAL OVERLAY

**Bus Stop** 

Carparking

Kiss n Drop

**Bicycles and Scooters** 

**Crossings and School Zones** 

**Maintenance and Delivery Access** 

### **LEGEND**

- FUTURE PROPOSED ROADS

- CAR PARKING

- KISS N DROP & QUEUING ZONE

- BICYCLE / SCOOTER PARKING

- MAINTENANCE / DELIVERY ACCESS

- ACTIVE TRANSPORT LINKS

- MULTIDIRECTIONAL CAR ACCESS

- BUSBAY DROP OFF

- NARROW CUL DE SAC

- ENTRY

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# Gillieston Public School - Stage 2 Construction Works

Some parts of Stage 2 works would occur simultaneously

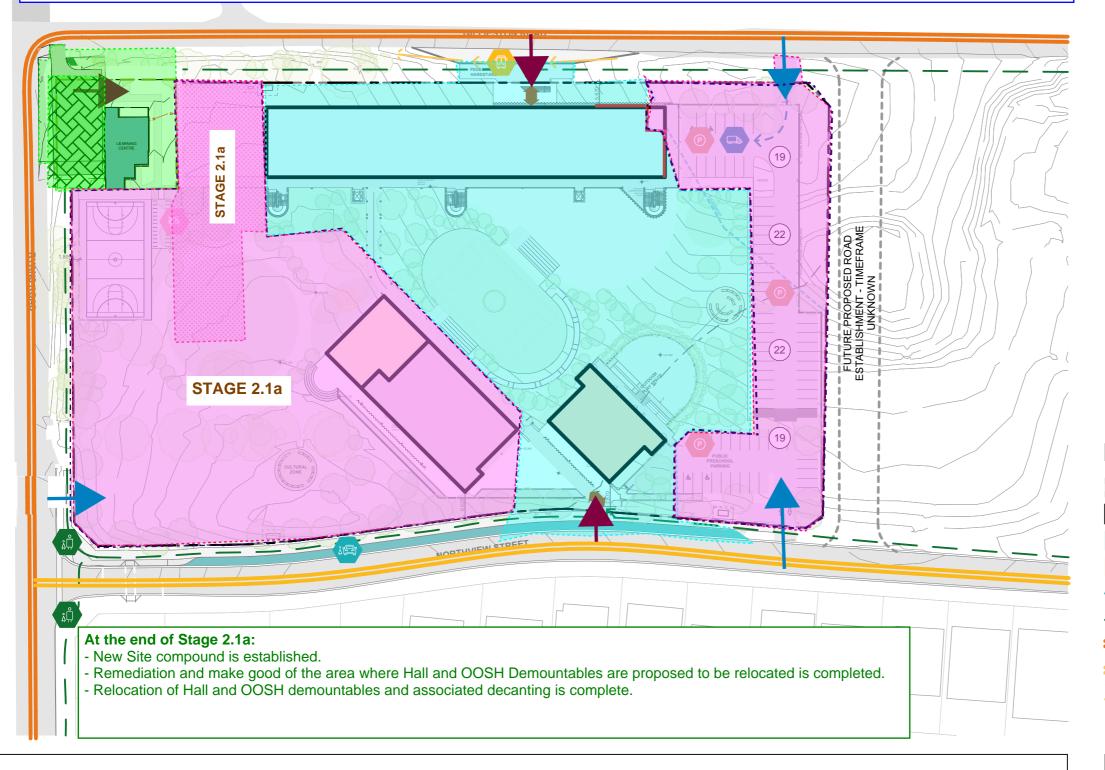
# Gillieston Public School - Stage 2.1a Construction Works

## **Construction works include:**

- Site shed relocation.
- Remediation and make good of the area where Hall and OOSH Demountables are proposed to be relocated.
- Relocation of Hall and OOSH demountables and associated decanting to facilitate construction of New Hall and OOSH Building.

## **Key Notes:**

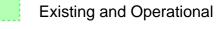
1. Staff will be utilising the existing car park adjacent to Building D (Brick Cottage) on Gillieston Road during Stage 2.1a Construction Works

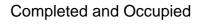


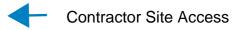
### **CONSTRUCTION LEGEND**

Easement - This area is in possession of the Contractor. However, works in this area cannot be commenced until neighbouring & council stormwater works are complete



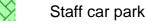








Hoarding Line



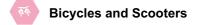
Remediation - This area is required to be remediated and made good prior to Hall and OOSH demountable installation

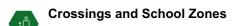
### TECHNICAL OVERLAY

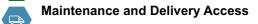
**Bus Stop** 





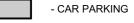






### LEGEND

- FUTURE PROPOSED ROADS



- KISS N DROP & QUEUING ZONE

- BICYCLE / SCOOTER PARKING

- MAINTENANCE / DELIVERY ACCESS

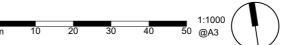
- ACTIVE TRANSPORT LINKS

- MULTIDIRECTIONAL CAR ACCESS

- NARROW CUL DE SAC

- BUSBAY DROP OFF

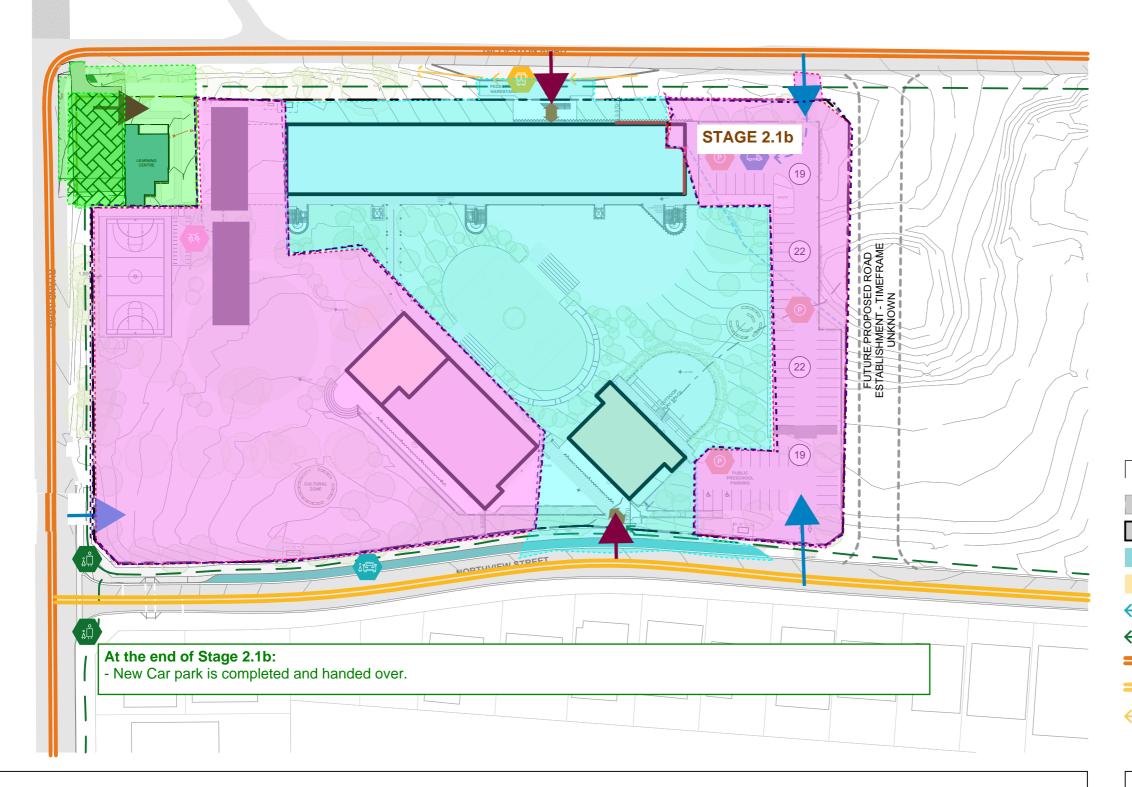
- ENTRY



Gillieston Public School

# **Key Notes:**

1. Staff will be utilising the existing car park adjacent to Building D (Brick Cottage) on Gillieston Road during Stage 2.1b Construction Works



**CONSTRUCTION LEGEND** 

Easement - This area is in possession of the Contractor. However, works in this area cannot be commenced until neighbouring & council stormwater works are complete

In Construction & Site in possession with the contractor

Existing and Operational

Completed and Occupied

Contractor Site Access

School Access

Hoarding Line

Staff car park

Remediation - This area is required to be remediated and made good prior to Hall and OOSH demountable installation

### TECHNICAL OVERLAY

Bus Stop

P Carparking

Kiss n Drop

Bicycles and Scooters

Crossings and School Zones

Maintenance and Delivery Access

### LEGEND

- FUTURE PROPOSED ROADS

- CAR PARKING

- KISS N DROP & QUEUING ZONE

- BICYCLE / SCOOTER PARKING

- MAINTENANCE / DELIVERY ACCESS

- ACTIVE TRANSPORT LINKS

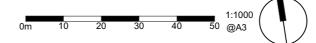
- MULTIDIRECTIONAL CAR ACCESS

- NARROW CUL DE SAC

- BUSBAY DROP OFF

- ENTRY

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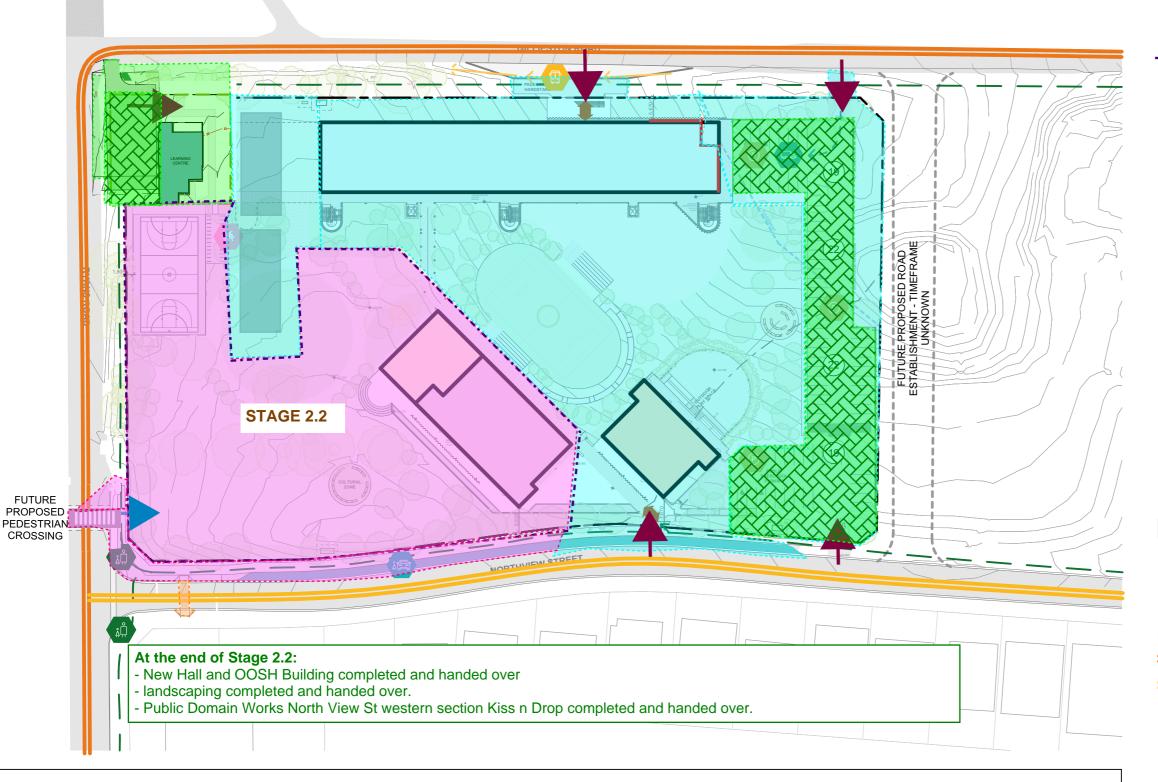




- Completion & Handover of New Hall and OOSH Building
- Completion of landscaping
- Completion of Public Domain Works North View St western section Kiss n Drop

# **Key Notes:**

1. Staff will be utilising the existing car park adjacent to Building D (Brick Cottage) on Gillieston Road and the new car park during Stage 2.2 Construction Works



### **CONSTRUCTION LEGEND**

Easement - This area is in possession of the Contractor. However, works in this area cannot be commenced until neighbouring & council stormwater works are complete

In Construction & Site in possession with the contractor

**Existing and Operational** 

Completed and Occupied

**Contractor Site Access** 

School Access

**Hoarding Line** 

Staff car park

Remediation - This area is required to be remediated and made good prior to Hall and OOSH demountable installation

# TECHNICAL OVERLAY

**Bus Stop** 

Carparking

Kiss n Drop

**Bicycles and Scooters** 

**Crossings and School Zones** 

**Maintenance and Delivery Access** 

### **LEGEND**

- FUTURE PROPOSED ROADS

- CAR PARKING

- KISS N DROP & QUEUING ZONE - BICYCLE / SCOOTER PARKING

- MAINTENANCE / DELIVERY ACCESS

- ACTIVE TRANSPORT LINKS

- NARROW CUL DE SAC

- MULTIDIRECTIONAL CAR ACCESS

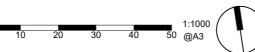
- BUSBAY DROP OFF

- ENTRY

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Gillieston Public School RevA 17.09.24

100 Ryans Road & 29 Northview Street



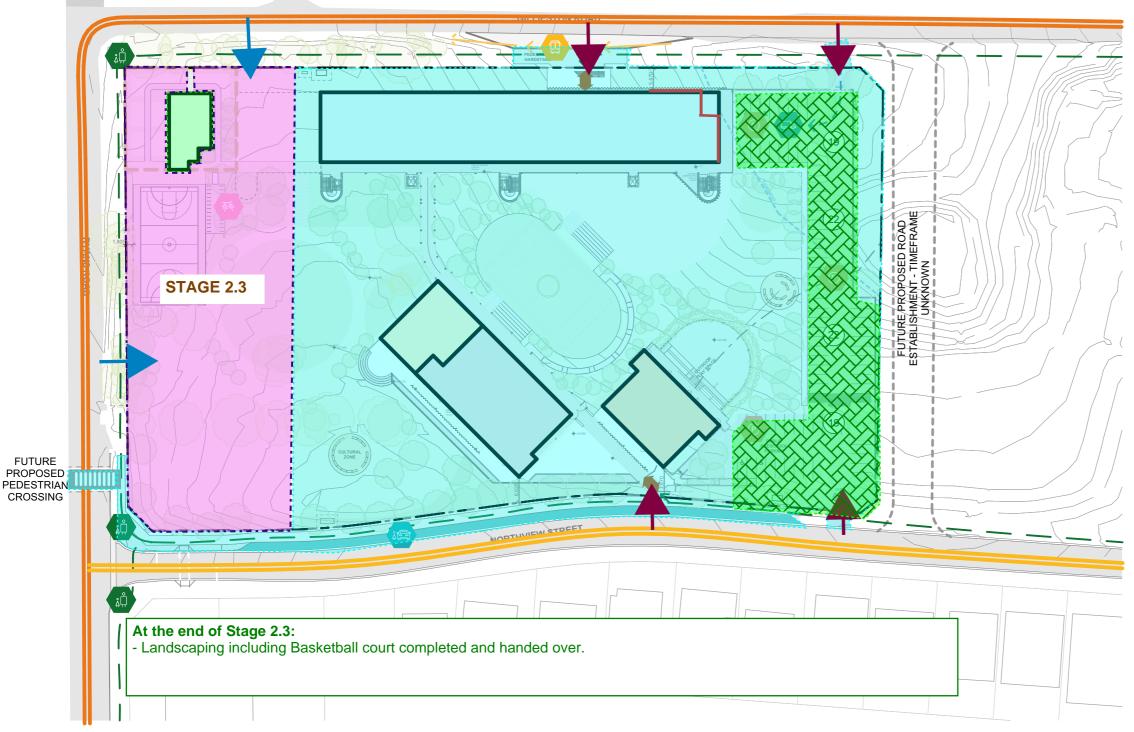


## Construction works include:

- Removal of relocated demountables
- Completion of landscaping including Basketball court

# **Key Notes:**

1. Staff will be utilising the new car park during Stage 2.3 Construction Works



# **CONSTRUCTION LEGEND**

Easement - This area is in possession of the Contractor. However, works in this area cannot be commenced until neighbouring & council stormwater works are complete

In Construction & Site in possession with the contractor

**Existing and Operational** 

Completed and Occupied

**Contractor Site Access** 

**School Access** 

**Hoarding Line** 

Staff car park

Remediation - This area is required to be remediated and made good prior to Hall and OOSH demountable installation

# TECHNICAL OVERLAY

**Bus Stop** 

Carparking

Kiss n Drop

**Bicycles and Scooters** 

**Crossings and School Zones** 

**Maintenance and Delivery Access** 

### LEGEND

- FUTURE PROPOSED ROADS

- CAR PARKING

- KISS N DROP & QUEUING ZONE

- BICYCLE / SCOOTER PARKING

- MAINTENANCE / DELIVERY ACCESS

- ACTIVE TRANSPORT LINKS

- NARROW CUL DE SAC

- MULTIDIRECTIONAL CAR ACCESS

- BUSBAY DROP OFF

- ENTRY

RevA 17.09.24



**FUTURE** 

CROSSING

# CONSTRUCTION LEGEND

Easement - This area is in possession of the Contractor. However, works in this area cannot be commenced until neighbouring & council stormwater works are complete

In Construction & Site in possession with the contractor

Existing and Operational

Completed and Occupied

Contractor Site Access

School Access

---- Hoarding Line

Staff car park

Remediation - This area is required to be remediated and made good prior to Hall and OOSH demountable installation

# TECHNICAL OVERLAY

Bus Stop

Carparking

Kiss n Drop

Bicycles and Scooters

Crossings and School Zones

Maintenance and Delivery Access

### LEGEND

- FUTURE PROPOSED ROADS

- CAR PARKING

- KISS N DROP & QUEUING ZONE

- BICYCLE / SCOOTER PARKING

- MAINTENANCE / DELIVERY ACCESS

- ACTIVE TRANSPORT LINKS

- MULTIDIRECTIONAL CAR ACCESS

- BUSBAY DROP OFF

- NARROW CUL DE SAC

- ENTRY

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FUTURE PROPOSED PEDESTRIAN

CROSSING

and design © SHAC Pty Ltd. The signed control copy of this drawing is held by SHAC Pty IFORMATION CONTAINER REF: GPS-SHAC.- - -M2-A-DA3502-Transport and Parking



