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Construction Waste Management Plan

Bungendore High School
Part of 18 Harp Avenue, North Bungendore Precinct (Elm Grove Estate), Bungendore NSW

Colliers International (SA) Pty Ltd on behalf of NSW Department of Education (DoE)
14 March 2025

AU124170 CWMP R1

Quality Management

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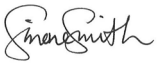
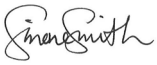
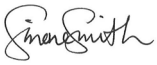
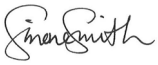
Signature	Draft				
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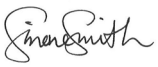
Signature	
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This report was prepared in accordance with the scope of services set out in the contract between Geosyntec Consultants Pty Ltd (ABN 23 154 745 525) and the client.

Executive Summary

Geosyntec Consultants Pty Ltd (Geosyntec) was commissioned by Colliers International (SA) Pty Ltd (the Client) on behalf of the NSW Department of Education (DoE) (the Proponent) to prepare a Construction Waste Management Plan (CWMP) for the Bungendore High School Project. Bungendore High School is located within part of 18 Harp Avenue, North Bungendore Precinct (Elm Grove Estate) in Bungendore NSW (the site). This CWMP is prepared to support a Review of Environmental Factors (REF) for the construction of the new Bungendore High School (the activity).

The objectives of this CWMP are to provide a structured framework for managing solid and liquid waste during construction, and for outlining practices for reuse, recycling, and lawful disposal of waste materials. Specific goals include minimizing waste generation to landfill, promoting on-site reuse, and demonstrating compliance with the Environmental Protection Agency (EPA) and Queanbeyan-Palerang Regional Council regulations.

The CWMP identifies the personnel roles and responsibilities for implementing waste management measures and for emphasizing the NSW Government's waste management hierarchy: avoid, reduce, reuse, recycle, and dispose. The CWMP includes detailed strategies for managing various construction waste streams such as concrete, timber, metals, bricks, sediment, cables, as well as paper and food packaging. It also addresses the handling and disposal of hazardous materials like asbestos or waste oil.

The future Bungendore High School is designed for 600 students through the construction of three buildings, three storeys high orientated along Birchfield Drive. The buildings will include teaching spaces, specialist learning hubs, a library, administrative areas and a staff hub. Additional core facilities are also proposed including a standalone school hall with covered outdoor learning area (COLA), a carpark, a pick-up, a kiss and drop off zone along Birchfield Drive, sports courts and a sports field. There is also an agricultural plot and building to be constructed in the western portion of the site. The new school also features a single storey building with associated paddocks in the far western portion of the site designed for livestock management and hands-on agricultural learning. The design has been masterplanned to allow for future expansion.

The CWMP complies with relevant legislation and guidelines. These include the Protection of the Environment Operations Act 1997, Waste Avoidance and Resource Recovery Act 2001, and the NSW Waste and Sustainable Materials Strategy 2041. Waste management procedures are to adhere to the EPA's Waste Classification Guidelines and other applicable standards. Regular reviews and updates of the CWMP are needed to remain current and effective throughout the construction of the proposed works and the future expansion. A waste management register is to be maintained to record all waste and recyclables generated, and for transparency and accountability.

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1 Introduction

This Construction Waste Management Plan (CWMP) has been prepared by Geosyntec Consultants Pty Ltd (Geosyntec) for Colliers International (SA) Pty Ltd (the Client) on behalf of the NSW Department of Education (DoE) (the Proponent) to support a Review of Environmental Factors (REF) for the construction and operation of the new high school at Bungendore. Bungendore High School is located within part of 18 Harp Avenue, North Bungendore Precinct (Elm Grove Estate) in Bungendore NSW (the site). The site location and layout are presented in Figures 1 and 2, Appendix A.

The site is legally described as part of Lot 125 in Deposited Plan (DP) 1297613. The site has an area of approximately 4.20 hectares (ha) and is zoned R2 Low Density Residential.

The proposed activity is for the construction and operation of a new high school known as Bungendore High School (BHS). The new high school will accommodate 600 students and 68 staff. The school will provide 26 general learning spaces, and three support learning spaces across two buildings. The buildings will be predominantly three-storeys in height and will include permanent and support teaching spaces, specialist learning hubs, a library, administrative areas and a staff hub.

Additional core facilities are also proposed including a standalone school hall with covered outdoor learning area (COLA), a car park, a kiss and drop zone along Birchfield Drive, sports courts and a sports field. The new school also features a single storey building with associated paddocks in the far western portion of the site designed for livestock management and hands-on agricultural learning.

Specifically, the project involves the following:

- Building A, a three-storey learning hub accommodating general learning spaces, a special education learning unit (**SELU**), a physical education centre, a performing arts space, and other core facilities including administrative areas, staff hub, library and end of trip facilities.
- Building B, a part three/part four storey learning hub accommodating general learning spaces, specialist workshops for food, textile, wood and metal workshops, as well as visual arts studios, science labs and staff areas.
- Building C, which is a standalone school hall with COLA.
- Building D, a single-storey agricultural block comprising an animal storage space, a COLA and internal workshop.
- On-site staff car park with 50 spaces with access via Bridget Avenue.
- Kiss and drop zones and bus bays along Birchfield Drive.
- Open play space including sports courts and a sports field.
- Associated utilities and services including a 1000kv padmount substation.
- Public domain/off-site works including the removal of street trees

The proposed site access arrangements are as follows:

- Main pedestrian entrance to be located off Birchfield Drive.
- Secondary pedestrian access from Bridget Avenue.

The design has been masterplanned to allow for an additional future stage.

Figure 3, Appendix A provides an extract of the proposed site plan current at the time of this CWMP.

1.1 Background

This CWMP has been prepared to support a Review of Environmental Factors (REF) for the NSW DoE for the construction and operation of the new Bungendore High School (the activity).

The purpose of the REF is to assess the potential environmental impacts of the activity prescribed by State Environmental Planning Policy (Transport and Infrastructure) 2021 (T&I SEPP) as "development permitted without consent" on land carried out by or on behalf of a public authority under Part 5 of the Environmental Planning and Assessment Act 1979 (EP&A Act). The activity is to be undertaken pursuant to Chapter 3, Part 3.4, Section 3.37 of the T&I SEPP.

This document has been prepared in accordance with the Guidelines for Division 5.1 assessments (the Guidelines) by the Department of Planning, Housing and Infrastructure (DPHI). The purpose of this report is described in Section 1.2.

1.2 Objectives

The main objective of this CWMP is to provide a framework to assist Colliers in providing effective management of solid and liquid waste during construction, and detail management practices for the reuse, recycling and lawful disposal of waste generated during construction.

The CWMP addresses the following specific objectives:

- To minimise the generation of waste to landfill.
- To minimise generation of waste material (avoidance) and reuse onsite if possible.
- To ensure that the preferred waste management strategies follow the waste management hierarchy of avoidance, minimisation, reuse, recycling and final disposal.
- To raise awareness among employees and subcontractors of their waste management responsibilities.
- To ensure waste disposal complies with the requirements of EPA and Council.
- To provide requirements for recording quantities and classification of each type of waste.

The management of demolition waste is outside the scope for this CWMP as the site is part of an undeveloped vacant land and there is therefore no demolition activities associated with the construction of Bungendore High School.

1.3 Review of CWMP

An important aspect of this CWMP is that it will be reviewed on a regular basis to confirm that it is up-to-date, and waste materials generated are identified and appropriate management strategies are implemented to maximise landfill diversion. Should there be any need to amend this CWMP, it will be revised in accordance with the review process detailed in Section 6.

1.4 Site Identification

Table 1.1: Site Details

Item	Site Details
Street Address:	Part 18 Harp Avenue, Bungendore NSW 2621
Property Description:	Lot 125 in DP1297613.
Ownership:	The Minister for Education and Early Learning
Geographical Coordinates:	Latitude: -35.241302 Longitude: 149.460912
Property Size:	Approximately 4.20 hectares
Local Government Area (LGA):	Queanbeyan-Palerang Regional Council
Current/Historical Use:	The site is currently cleared vacant land with paved new roadways surrounding the Site. The site has potentially historically been part of agricultural land uses – primarily grazing.
Proposed Use:	A new public high school
Zoning	R2 Low Density Residential (LEP Land Use Zoning Diagram)

The current street address is part of 18 Harp Avenue, Bungendore, NSW 2621, and is legally described as part Lot 125 in Deposited Plan 1297613 as noted above. The proposed school site forms part of a larger lot which is the subject of a proposed residential subdivision, as shown in Figure 2 Appendix A.

The site is located within the North Bungendore Precinct (Elm Grove Estate) in Bungendore. As a result of precinct wide rezonings, the surrounding locality is currently transitioning from a semi-rural residential area to an urbanised area with new low density residential development.

The site is zoned R2 Low Density Residential, with the adjoining land also zoned R2 Low Density Residential.

The site has three frontages:

– Approx 500m southern frontage to Birchfield Drive.

– Approx 500m northern frontage to Bridget Avenue.

– Approx 100m eastern frontage to Winyu Rise.

At the time of this CWMP, the site is cleared of the vegetation and consists of grassland, having been prepared for the purposes of future low density residential development.

2 Legislative Requirements and Guidelines

Applicable legislation and guidelines to the construction of BHS are outlined in this section.

2.1 Legislation

Section 143 of the Protection of the Environment Operations (POEO) Act (1997) requires waste to be transported to a place that can lawfully accept it. It will be the responsibility of the main construction works contractor (Principal Contractor) to ensure that subcontractors are aware that there is a site CWMP and clearly specify where all wastes are to be transported, the capacity of the nominated facilities to receive/manage the waste, and to confirm that waste management aspects (types, quantities and disposal pathways) are provided.

Legislation relevant to waste management includes the following:

- POEO Act 1997 (POEO Act)
- Protection of the Environment Operations (Waste) Regulation 2014
- Waste Avoidance and Resource Recovery Act 2001
- Work Health and Safety Act 2011
- Work Health and Safety Regulation 2017
- Contaminated Land Management Act 1997
- Environmentally Hazardous Chemicals Act 1985
- NSW Waste and Sustainable Materials Strategy 2041
- National Waste Policy 2018

2.2 Guidelines and Standards

Guidelines and standards relevant to this CWMP include:

- Waste Classification Guidelines Part 1: Classifying Waste (NSW EPA, 2014)
- Standards for Managing Construction Waste in NSW (NSW EPA, 2019)
- Waste Reduction and Purchasing Policy 2011-2014 (WRAPP) (NSW Government)
- Storing and Handling Liquids, Environmental Protection: Participants Manual (NSW DECC, 2007)
- Relevant Resource Recovery Exemption and Orders as issued by EPA
- Relevant Green Star Rating Requirements by Green Building Council of Australia

2.3 Green Star Design & As Built

The Green Star performance rating system from the Green Building Council of Australia (GBCA) is designed to acknowledge projects that adopt waste management strategies promoting the reuse, recycling, and conversion of waste into energy, as well as the responsible handling of materials to minimize the amount of waste sent to landfills. The masterplan for BHS assumes a minimum 4-Star performance rating. To achieve their Green Star rating, DoE aim to divert at least 90% of construction waste from the landfill.

3 Waste Management Strategies

3.1 Mitigation Measures and Roles and Responsibilities

The requirements, roles and responsibilities associated with specific waste management mitigation measures that are categorised as general, waste disposal, waste management (stockpiles), disposal, and monitoring are outlined below in Table 3.1.

Table 3.1: Waste Management Mitigation Measures and Roles and Responsibilities

Mitigation Number/ Name	Aspect/ Section	Mitigation Measure/ Requirement	When to Implement	Responsibility	Reason for Mitigation Measure
1. CWMP	General	This Construction Waste Management Plan must be implemented for the duration of the construction works.	Pre-construction Construction	Principal Contractor Project Manager Site Manager	Good practice
2. Site Plan/Site Inductions	General	Relevant waste management details will be indicated on a site plan visible for all workers, including the location of the main skip bin. Staff and subcontractors will undergo a site induction and ongoing toolbox talks that will detail waste minimisation and reuse management measures, including the requirements of the waste management hierarchy. Waste minimisation training will include energy consumption awareness that promotes energy conservation methods including minimising energy use by switching off equipment when not in use.	Pre-construction Construction	Project Manager Site Manager	Good practice
3. Waste management framework	General	The NSW Governments Waste Management Hierarchy of “avoid-reduce-reuse-recycle-dispose” will be followed as the framework of waste management throughout the project. The reuse and/or recycling of waste materials generated on site shall be maximised as far as practicable, to minimise the need for treatment or disposal of those materials off site.	Pre-construction Construction	Project Manager	Relevant Guideline
4. Asbestos Waste	Waste Disposal	Asbestos will be managed in accordance with a site Asbestos Removal Control Plan and Asbestos Management Plan, if required. Asbestos waste is to be managed as per the POEO (2014) Part 7 Transportation and Management of Asbestos Waste	Construction	Project Manager Site Manager	Good Practice
5. Site generated waste material	Waste Disposal	Waste material generated on-site will be transported and disposed of at an approved waste disposal facility in accordance with the requirements of relevant legislation, codes, standards and guidelines.	Pre-construction Construction	Project Manager	Relevant Guideline
6. Waste Register	Waste Disposal	A waste register will be developed and maintained, detailing types of waste collected, amounts, date/time and details of disposal.	Construction	Project Engineer	Good practice

Mitigation Number/ Name	Aspect/ Section	Mitigation Measure/ Requirement	When to Implement	Responsibility	Reason for Mitigation Measure
7. S143 Notice	Waste Disposal	A S143 notice under the POEO Act will be completed should the offsite (on private property) lawful disposal of waste material be deemed necessary.	Construction	Project Manager Project Engineer	Legislation
8. Waste Facilities Licenses	Waste Disposal	The relevant licences of waste facilities utilised for the disposal of project waste will be obtained (on a regular basis if necessary) to ensure they are legally able to accept that waste.	Pre-construction Construction	Project Engineer	Good practice
9. Disposal of Waste Streams	Waste Disposal	Disposal of the waste streams identified in Sections 3.5 to 3.7 is to be conducted by a licensed waste contractor. Waste is to be taken to a facility lawfully able to receive it. Waste is to be tracked and recorded.	Construction	Project Manager Site Manager	POEO (Waste) Regulation 2014
10. Stockpiles Management	Waste Management - Stockpiles	Stockpiles of waste material designated for offsite disposal is to be stockpiled more than two metres from drainage lines and retained vegetation or alternatively placed within separate skip bins for the different waste streams.	Construction	Site Supervisor	Good practice
11. Inspections	Monitoring	Regular visual inspections will be conducted to ensure that work sites are kept tidy and to identify opportunities for reuse and recycling.	Construction	Project Engineer	Good practice
12. CWMP Update	Recycling Contractor Information	CWMP will be updated once the recycling/disposal contractor/s has been established.	Pre-construction Construction	Project Manager Site Supervisor	CWMP Update

3.2 General Principles

3.2.1 Overview

The 2018 National Waste Policy provides a framework for collective action by businesses, governments, communities and individuals. The following is the waste hierarchy, in order of most preferable to least preferable.

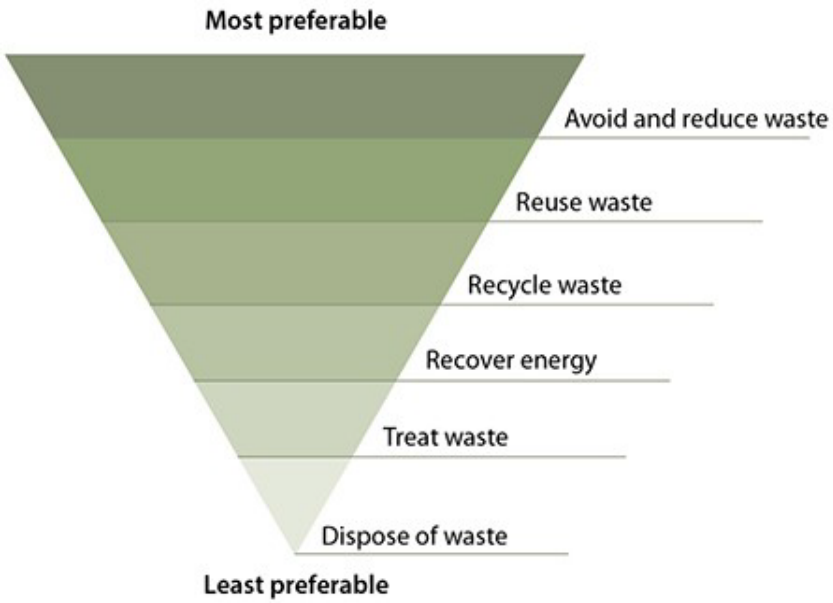


Figure 3.1: Waste hierarchy (NSW EPA Waste Avoidance and Resource Recovery Strategy 2014-21).

Recovery of energy and treatment of waste is not applicable to this project. The remaining principles are described in greater details below.

3.2.2 Avoid and Reduce

Minimise the production of waste materials by:

- Purchasing materials that will result in less waste, which have minimal packaging, are pre-cut or fabricated
- Not over-ordering products and materials

3.2.3 Reuse

The following reuse principles apply:

- Ensure that wherever possible, materials are reused either onsite or offsite
- Identify waste products that can be reused
- Put systems in place to separate and store reusable items
- Identify the potential applications for reuse both onsite and offsite and facilitate reuse

3.2.4 Recycling

The following recycling principles apply:

- Identify recyclable waste products to be produced onsite
- Provide systems for separating and stockpiling of recyclables
- Provide clear signage to ensure recyclable materials are separated
- Process the material for recycling either onsite or offsite

Note: in some cases, it may be more economical to send the unsorted waste to specialised waste contractors who will separate and recycle the materials at an offsite location.

3.2.5 Disposal

Waste products that cannot be reused or recycled will be removed and disposed of. The following will need to be considered:

- Ensure the chosen waste disposal contractor complies with regulatory requirements
- Implement regular collection of bins

3.3 Classification of Waste Streams

Where waste cannot be avoided, reused, or recycled, it is the responsibility of the Principal Contractor to ensure that waste is appropriately classified for offsite disposal and is disposed of to an appropriately licensed facility. The classification of waste is undertaken in accordance with the NSW EPA's Waste Classification Guidelines Part 1: Classifying Waste (2014). This document identifies six classes of waste: Special, Liquid, Hazardous, Restricted Solid, General Solid (putrescible), and General Solid (Non-putrescible), and describes a six-step process to classifying waste. That process is described below:

1. Step 1: Is the waste 'special waste'?
    - Establish if the waste should be classified as special waste. Special wastes are clinical and related waste such as asbestos and waste tyres. Definitions are provided in the guidelines.
    - Note: Asbestos and clinical wastes must be managed in accordance with the requirements of Clauses 42 and 43 of the Protection of the Environment Operations (Waste) Regulation (2005).
2. Step 2: Is the waste 'liquid waste'?
    - If the waste is not special waste, the second step is to determine whether it is 'liquid waste'. Liquid waste means waste that: has an angle of repose of less than five degrees above horizontal and becomes free-flowing at or below 60°Celsius, or when it is transported, it is generally not capable of being picked up by a spade or shovel.
    - Liquid wastes are sub-classified into:
        - Sewer and stormwater effluent.
        - Trackable liquid waste according to the Protection of the Environment Operations (Waste) Regulation 2005 Schedule 1 Waste to which waste tracking requirements apply.
        - Non-trackable liquid waste.
3. Step 3: Is the waste pre-classified?
    - The EPA has pre-classified several commonly generated wastes in the categories of hazardous, general solid waste (putrescible) and general solid waste (non-putrescible). If a waste is listed as 'pre-classified', no further assessment is required. Building and demolition waste is pre-classified as general solid waste (non-putrescible).
4. Step 4: Does the waste possess hazardous characteristics?
    - If the waste is not special waste (other than asbestos waste), liquid waste or pre-classified, establish if it has certain hazardous characteristics and can therefore be classified as hazardous waste.
    - Hazardous waste includes items such as explosives, flammable solids, substances capable of spontaneous combustion, oxidising agents, toxic substances, and corrosive substances.

5. Step 5: Determining a waste's classification using chemical assessment
    - If the waste does not possess hazardous characteristics, Step 5 requires chemical assessment of the waste to assess if the waste is hazardous, restricted solid or general solid waste. Soil waste that has been pre-classified as asbestos waste must also be chemically assessed.
    - Waste classification is assessed by comparing total and leachable concentrations against the criteria provided in the guidelines.
6. Step 6: Is the waste putrescible or non-putrescible?
    - If the waste is assessed as general solid waste under Step 5, a further assessment is available to determine whether the waste is putrescible or non-putrescible. The definition of non-putrescible waste is provided in the guidelines.

3.4 Resource Recovery Exemptions and Orders

Part 9 of the Protection of the Environment Operations (Waste) Regulation 2014 enables the EPA to grant exemptions for the land application or use of waste. The EPA has issued resource recovery exemptions and orders (RRE and RRO) for a range of commonly recovered, high volume and well-characterised waste materials that allow their use as engineered fill or fertiliser at unlicensed, off-site facilities, as listed in their website (https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/resource-recovery-framework/current-orders-and-exemption). The Principal Contractor is responsible to ensure that waste disposed of under the RRO/RRE meets the RRO/RRE requirements. Imported materials that are imported under the RRO/RRE must also meet RRO/RRE requirements, including assessment requirements.

3.5 Asbestos Waste

Previous investigations for the larger Elm Grove Estate precinct and the site were conducted to determine whether asbestos containing materials (ACM) will be contained in the waste streams therefore requiring management within the precinct and the site. The site is within the northeast section of the precinct land area. Given that the site investigations did not encounter asbestos and construction works will likely be conducted under appropriate controls in place, it is unlikely that asbestos will be encountered during construction.

This is supported by the documents provided by the client, listed below.

- Douglas Partners Pty Ltd (DP), Addendum to Preliminary Site Investigation (PSI), Proposed Residential Development, Lot 1 in DP798111, Bungendore NSW, Ref: 88336.02.LR.001.Rev1, dated September 2017. Related to the precinct.
- JK Environments Pty Ltd (JKE), Preliminary Site Investigation (PSI), Proposed High School, Birchfield Drive, Bungendore NSW, Ref: E37084PTrpt DRAFT, dated 15 November 2024. Relates to the site.

The 2024 JKE PSI states the following: "*Review of the site history information did not identify any former buildings or structures on the site. No indicators for asbestos (i.e. building and demolition waste, fibre cement, etc) were encountered in the fill material during fieldwork. Asbestos was not detected in the soil samples analysed. Considering these lines of evidence, the potential for asbestos to be present in fill material at the site, at concentrations that pose a risk to the receptors, is considered to be low. However, we note that sampling was completed from boreholes using auger drilling methods (due to site accessibility limitations) which limits the disturbance of the soil and a thorough visual assessment of the fill/soil. Therefore, due to the presence of fill at the site, there remains a low potential for asbestos to be encountered during the proposed development works (i.e. during ground disturbance). Residual risks associated with*

asbestos in fill can be addressed via the implementation of an unexpected finds protocol and, if required, appropriate management during the development works".

In the event asbestos is encountered and is to be removed from site, an Asbestos Removal Control Plan (ARCP) should be prepared for the works to ensure procedures are completed in accordance with relevant legislation, and potential human health risk is mitigated. The ARCP should include specific requirements on asbestos waste. An asbestos management plan (AMP) should also be prepared and site works should be undertaken in accordance to the asbestos controls specified in the AMP including air monitoring requirements if applicable.

3.6 Construction Waste and Quantities

Quantities and reuse/disposal options

The different waste streams that are likely to be encountered during the main construction works are based on industry-accepted construction waste percentages and the proposed development area in accordance with experienced DoE data for a new school of similar capacity are shown below in Table 3.2. The approximate volume of waste is estimated by comparing the subject site area, and the number of buildings constructed to accommodate the given number of students, to the waste generated at another new school constructed for DoE previously provided as a reference. For BHS the reference is approximately 600 students and 3 to 4 buildings.

Details on the disposal/ recycling facilities have not been determined as they have yet to be appointed for the project. At the time when the waste contractors and disposal/ recycling facilities have been appointed, their details such as licences, will be included in revised versions of the CWMP.

Waste contractors/ sub-contractors will be required to identify the intended disposal facilities to meet the legislative and safety requirements, uphold the guiding principles of the waste hierarchy, and achieve maximum diversion from the landfill. Contractors will be required to maintain records of waste management and they will be made available as required to validate management pathways, as outlined in this section.

Table 3.2: Construction Waste Streams and Estimated Volumes

Type of Material	Estimated Waste Volume (m^3)			Onsite (Reuse/Recycle)	Recycling (Contractor and Facility)	Disposal (Contractor and Facility)
	Reuse	Recycling	Landfill Disposal	Proposed reuse and/or recycling collection methods	Disposal/Transport Contractor	Recycling Outlet or Landfill Site
Concrete, Brick, Block Work, Render, Tiles		160 m^3		Comingled Bins	TBA	TBA
Metals		120 m^3		Comingled Bins	TBA	TBA
Timber Off-Cuts		140 m^3		Comingled Bins	TBA	TBA
Cardboard		50 m^3		Comingled Bins	TBA	TBA
Plasterboard		160 m^3		Comingled Bins	TBA	TBA
Containers, Plastics, Plastic Packaging		170 m^3		Comingled Bins	TBA	TBA
Pallets and Reels	80 units			Comingled Bins	TBA	TBA
Liquid Waste			50 m^3	Separated Container/Bin	TBA	TBA
General Waste*			100 m^3	General Waste Bins	TBA	TBA
Sub Total		800 m^3	150 m^3			
TOTAL		950 m^3				

*As contractors have not been established, the offsite facility is To Be Advised (TBA).
Volumes are in cubic metres [m^3]
Waste volumes estimated based on Australian Bureau of Statistics; Waste Account, Australia, Experimental Estimates (2018-2019) and Department of Climate Change, Energy, the Environment and Water (DCCEEW); Construction and demolition waste status report – management of construction and demolition waste in Australia 2011 and relative to other SINSW data.
*Soil waste will be quantified and disposed in accordance with waste classification.

Waste/recyclables storage (on-site)

Waste and recycling materials will be stored in bins provided by the appointed waste contractor(s). These bins will be appropriately coloured and signed to indicate what materials are to be deposited into them and located, to maximise the recovery of reusable/recyclable materials.

Where space does not permit onsite recycling, wastes will be deposited into one bin, and the waste is to be sorted offsite by a waste contractor.

As main construction works progress, the designated bins will be moved to the collection of materials that will be diverted from landfills. This will also involve relocating signage advising as to the correct waste management practices.

General waste streams

The management measures for the various waste sources are detailed below.

Earthworks Material

Excavated material requiring offsite disposal must be disposed of in accordance with the NSW EPA (2014) Waste Classification Guidelines - Refer to Section 3.7.

Concrete

Concrete waste will be minimised by ordering the correct amount of concrete. Concrete slurry will be dried off onsite. Concrete waste will be stockpiled in a designated skip bin and reused wherever possible. Surplus concrete can be potentially reused in pavement construction or temporary site access tracks. Excess concrete will be collected and recycled at an appropriate concrete recycling facility.

Timber

Timber waste is to be stockpiled in skip bin and transported offsite for disposal.

Scrap Metal

Metal waste will be stockpiled on site, collected and transported to a metal recycling facility.

Bricks

Bricks are to be reused onsite where appropriate. Surplus bricks are to be stockpiled in skip bin and collected and recycled at an appropriate facility.

Sediment

Sediment captured in sediment controls is to be reused on site where possible. Surplus sediment requiring offsite disposal will require waste classification in accordance with *NSW EPA (2014) Waste Classification Guidelines – Part 1: Classifying Waste* and will be disposed off to an appropriately licensed facility.

Cables and Parts

Metal components are to be segregated and placed with the other scrap metal waste for recycling. The remainder of the material is to be stockpiled (in skip bin) and transported offsite as waste.

Paper and Cardboard Packaging

Paper and cardboard packaging will be placed into recycling bins and managed through the recycling contractor.

Food Packaging

The food packaging is to be placed within the site's general waste bins and recycling bins where applicable.

Drums and Containers (empty, containing no residue)

Drums and containers that may have potential chemical residue should be stored in a paved and bunded area and taken offsite by a licensed contractor for suitable rinsing and disposal/recycling.

Waste Oil, Grease, Lubricants

Waste oil, grease and lubricants are to be collected and stored in sealed drums or containers within a paved and bunded area to minimise potential soil contamination. The drums are to be transported offsite by a licensed contractor to manage oily waste to a waste oil recycler.

Oily Rags and Filters

Oily rags and filters are to be collected and stored in sealed drums or containers within a paved and bunded area to minimise potential soil contamination. The drums are to be transported by a licensed contractor to manage oily waste for recycling, if available, or disposal.

Liquid Waste

Liquid waste may be produced on site for environmental control measures such as:

- Site and vehicle cleaning.
- Dust control waste.

The following will be conducted to minimise the impact of liquid waste:

- Ensure water is used in moderation and no taps are left continuously running.
- Use any greywater produced onsite for irrigation or for dust suppression.
- Only discharge clean water into stormwater.

Wastewater and stormwater will be managed and disposed in accordance with the requirements of the Construction Soil and Water Management Plan.

Waste/ recyclables transport

Truck routes to and from the site should be identified in the Construction Traffic and Pedestrian Management Plan.

3.7 Excavation Waste

The cut/ fill plans in the Architecture Plans indicate that excavation waste soil is expected to be generated during the site earthworks. Should potentially contaminated material be uncovered during excavation, the unexpected finds protocol (UFP) provided in the site's Construction Management Plan (CMP (Reference pending) or other document must be followed. Where possible, excavated material will be reused onsite if assessed suitable for onsite reuse. Material requiring offsite disposal must be disposed of in accordance with the NSW EPA (2014) Waste Classification Guidelines – see Section 3.3.

3.8 Stormwater Pollution Prevention

Stormwater is to be managed in accordance with the site CMP to ensure that environmental impact does not occur due to stormwater conveyance. Surface water requiring offsite disposal is to be assessed by an Environmental Consultant.

3.9 Litter Management

The construction manager will be responsible for litter control at the site. They may appoint a designated person to the role of litter management and it will be their duty to periodically inspect the site and immediate surrounds for litter. If litter is identified, they will be responsible to collect and dispose of it.

The following will be implemented to manage litter at the site:

- Daily site inspections will be conducted to identify litter, remedy the situation, and investigate the cause to reduce the potential for the issue to occur in the future.
- Sufficient bins (and/or bin space) will be made available to avoid dumping of materials outside of the bins.
- Waste/recycling bins will have covers to ensure that wastes cannot be blown out during windy conditions.

If a problem should arise regarding compliance with litter control, proper mitigation will be implemented to correct the issue.

3.10 Wildlife Management

The following will be implemented to manage wildlife and limit wildlife attraction on waste, if applicable, at the site:

- Proper enclosure of waste storage areas.
- Ensuring that waste bins or waste storage containers are covered with proper lids.
- Odours from waste should be eliminated as practically as can be. Most common and objectionable odours are associated with putrescible wastes. Bins containing putrescible waste must be appropriately enclosed.
- Periodic inspection of the site and surrounds for wildlife ingress and elimination from waste areas, if applicable.

4 Compliance Management

4.1 Contracts and Purchasing

Each subcontractor working on the site will be required to adhere to this CWMP.

The Principal Contractor for the main construction works will be responsible to communicate and ensure that each subcontractor does the following:

- Takes practical measures to prevent waste being generated from their work.
- Implements procedures to ensure waste resulting from their work will be actively managed and where possible recycled, as part of the overall site recycling strategy or separately as appropriate.
- Ensures that the appropriate quantities of materials are ordered, minimally packaged and where practical pre-fabricated. Oversupplied materials should be returned to the supplier.
- Implements source separation of off cuts to facilitate reuse, resale, or recycling.

The Site Manager will be responsible for:

- Ensuring there is a secure location for on-site storage of materials to be reused on site, and for separating materials for recycling off site.
- Engaging appropriate waste and recycling contractors to remove waste and recycling materials from the site.
- Co-ordinating between subcontractors, to maximise on site reuse of materials.
- Ensuring that the bins are monitored on a regular basis by site supervisors to detect any contamination or leakage or the presence of wildlife.
- Ensuring the site has clear signs directing staff to the appropriate location for recycling and stockpiling stations and that each bin/skip/stockpile has signs clearly posted.
- Providing training to the site employees and subcontractors regarding the requirements of the CWMP.

Should a subcontractor cause a bin to be significantly contaminated, the Site Manager will be advised by a non-conformance report procedure. The offending subcontractor will then be required to take corrective action, at their own cost. The non-conformance process would be managed by the General Contractors' Quality Management Systems.

4.2 Training and Education

4.2.1 Site Work Inductions

Site employees and sub-contractors will be required to attend a site-specific induction that will outline the components of the CWMP and explain the site-specific practicalities of the waste reduction and recycling strategies outlined in the CWMP.

The site induction is to focus on the key requirements of this CWMP as detailed within Sections 3 and 4.

Site construction employees are to have a clear understanding of which products are being reused/ recycled on site and where they are stockpiled.

The site manager will post educational signage in relation to the recycling activities on site in breakout areas, lunchrooms, etc.

4.3 Inspections and Monitoring

Regular monitoring and inspections will be undertaken during construction to ensure that waste is being managed in accordance with this CWMP. This should be completed concurrently with inspections required under the site CMP. Inspections and monitoring are to be documented.

4.4 Incident

Waste-related incidents must be recorded in accordance with the CMP requirements.

4.5 Non-conformance, Corrective and Preventative Action

Environmental non-conformances are situations or events that do not comply with the safeguards and procedures specified in this CWMP or specified operating procedures or supplementary documents.

Corrective action involves the management of environmental non-conformances.

Preventative action involves the management of situations where a potential for a non-conformance, incident or complaint has been identified. Preventative action can also include identified areas of continual improvement to reduce environmental risks and impacts.

Non-conformances must be recorded in accordance with the CMP requirements.

4.6 Reporting and Records

A waste management register will be prepared and used to record wastes and recyclables generated from the site, which clearly specifies material reuse onsite, recyclable waste and offsite disposal. This register is to be developed and maintained by the General Contractor. The register should be developed and approved for site works prior to the commencement of construction works. Subcontractors must provide adequate information for the register.

It will be a condition of appointment, that waste/ recycling contractors provide these records and that they also contain details of the facilities where the materials are transported.

These records will be made available upon request.

5 Document Review

5.1 Review of the Plan

The CWMP may be reviewed and updated regularly during construction to ensure that it addresses ongoing environmental issues and changes in legislation, policies or guidelines. In particular, environmental incidents, non-conformance or environmental audit outcomes should be considered when undertaking a review and may trigger a review of the plan.

Revision to the CWMP is to occur in accordance with the process included in the CMP. Changes that are not considered to be minor will be provided to the Certifying Authority for confirmation of their satisfaction with the plan.

5.2 Document Control

Project records, including contractor records, will be maintained to provide evidence of the effective operation of this CWMP and may include:

- Correspondence to/from stakeholders.
- Training records.
- Environmental complaints / enquiries.
- Non-conformance and corrective action records.
- Environmental incidents reports.

6 Evaluation of Environmental Impacts

As an evaluation of the environmental impacts of construction waste management it is concluded that:

1. The extent and nature of potential impacts are low and will not have significant impact on the locality, community and/or the environment.
2. Potential impacts can be appropriately mitigated or managed to ensure that there is minimal impact on the locality, community and/or the environment.

7 Limitations

This report has been prepared for use by the Client and DoE who 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 report has been prepared specifically for DoE for the purposes of the commission and use by any nominated third party in the agreement between Geosyntec and the Client. No warranties, express or implied, are offered to any third parties and no liability will be accepted for use or interpretation of this report by any third party (other than where specifically nominated in an agreement with the Client).

This report relates to only 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. This report should not be reproduced without prior approval by the Client or amended in any way without prior approval by Geosyntec.

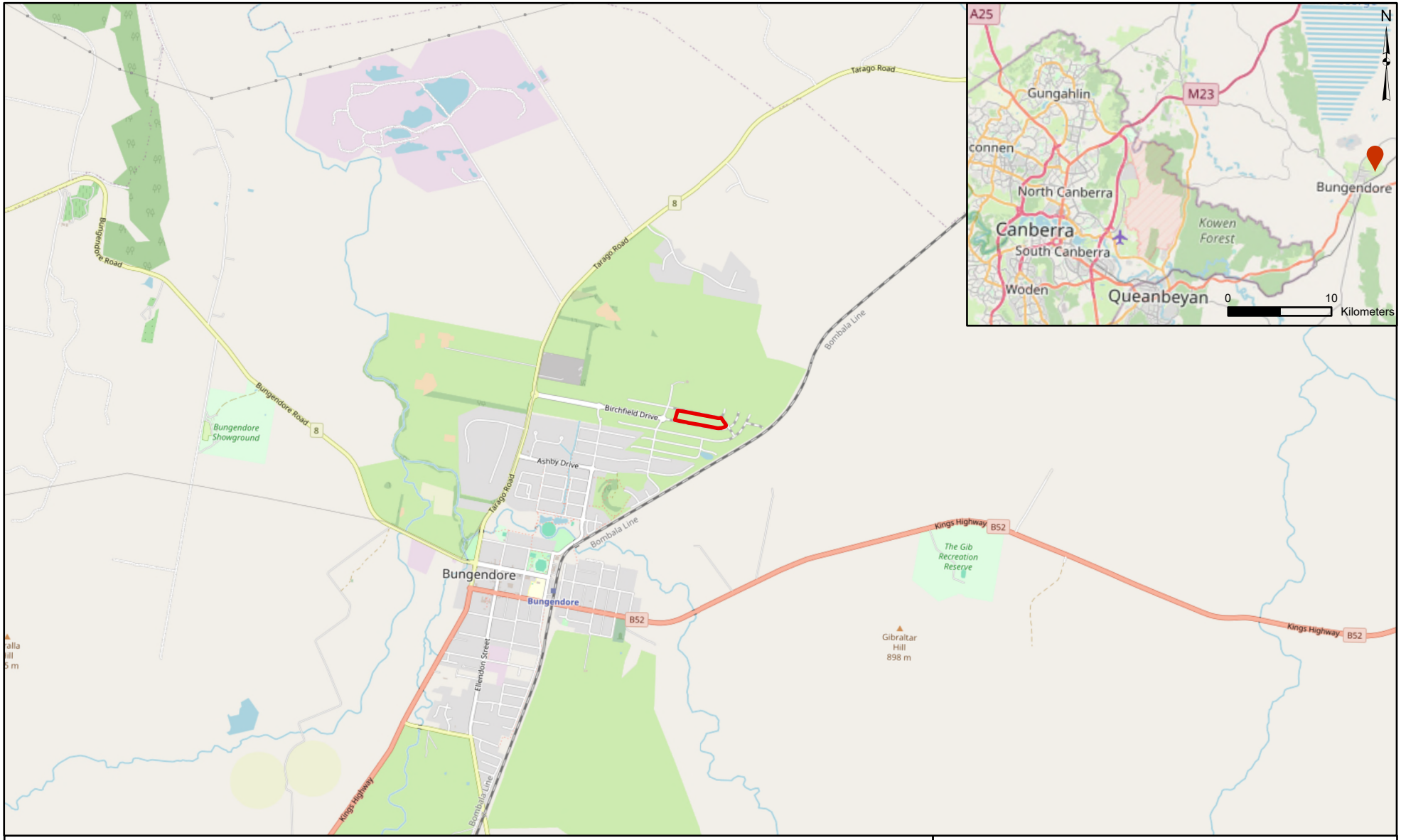
Subject to the scope of work, Geosyntec's assessment was limited strictly to typical environmental conditions associated with the subject property area and does not include evaluation of any other issues.

This report does not comment on any regulatory obligations based on the findings. This report relates only to the objectives stated and does not relate to any other work conducted for the Client.

All conclusions regarding the site are the professional opinions of the Geosyntec personnel involved with the project, subject to the qualifications made above. While normal assessments of data reliability have been made, Geosyntec assumes no responsibility or liability for errors in any data obtained from regulatory agencies, statements from sources outside of Geosyntec, or developments resulting from situations outside the scope of this project.

Geosyntec is not engaged in environmental assessment and reporting for the purpose of advertising sales promoting, or endorsement of any client interests, including raising investment capital, recommending investment decisions, or other publicity purposes. The Client acknowledges that this report is for its exclusive use.

Appendix A Figures



Legend

Subject Site

N

0 1 Kilometers

Notes:
This product has been created to support the main report and is not suitable for other purposes.
Image Source: OpenStreetMap: © OpenStreetMap (and) contributors, CC-BY-SA

Site Location Map

Bungendore High School, Part of 18 Harp Avenue,
North Bungendore Precinct (Elm Grove Estate), Bungendore NSW

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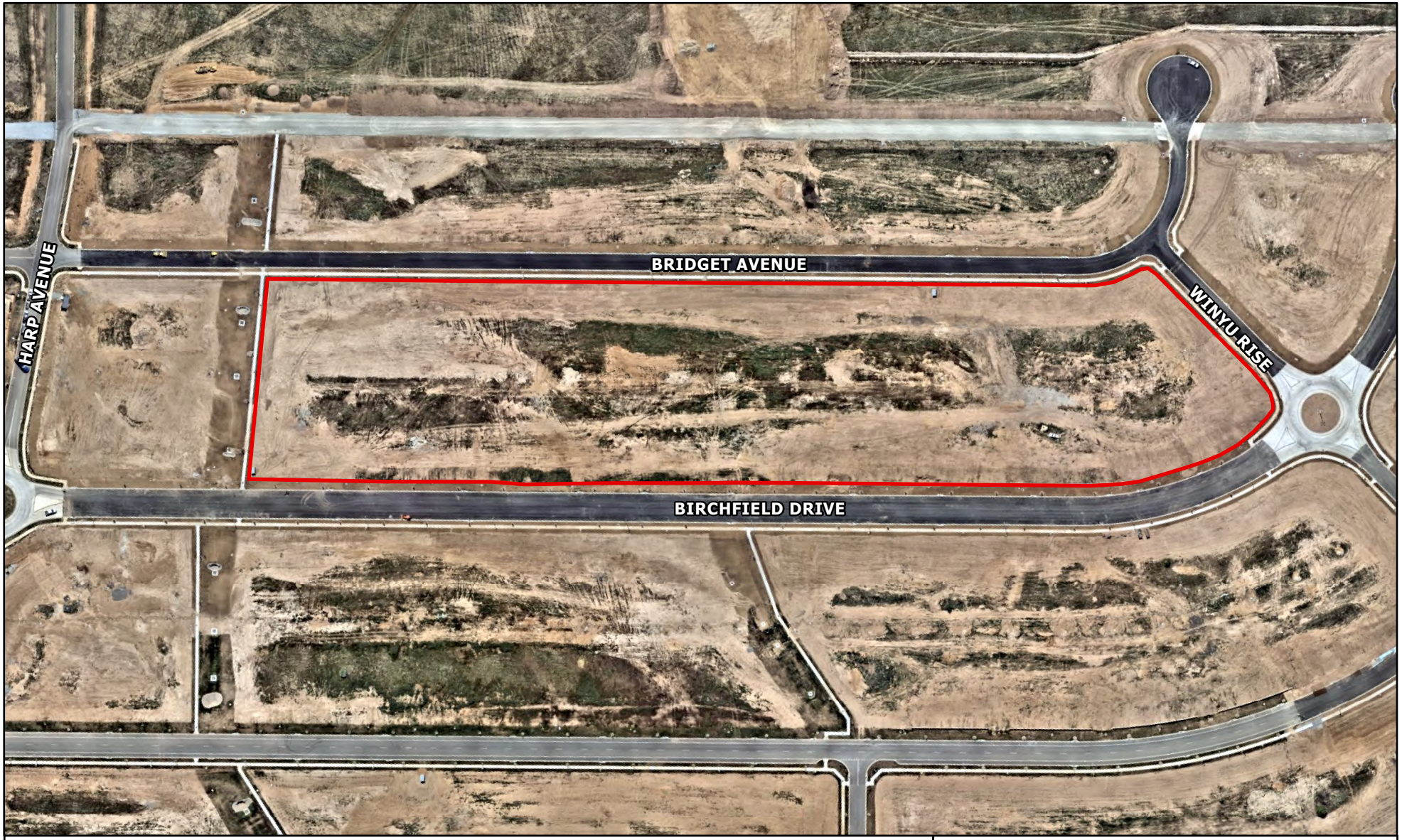
AU124170	November 2024

Figure 1



Legend

Subject Site

N

0 50 Meters

Notes:
This product has been created to support the main report and is not suitable for other purposes.
Image Source: Nearmap (29 September 2023).

Existing Layout

Bungendore High School, Part of 18 Harp Avenue,
North Bungendore Precinct (Elm Grove Estate), Bungendore NSW

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Figure 2

Legend

Subject Site

N

0 40 Meters

Notes:
This product has been created to support the main report and is not suitable for other purposes.
Image taken from the following document:
Bungendore High School Bundle 1 - SITE GROUND FLOOR PLAN - BHS-NBRS-ZZ-ZZ-DR-A-000200-SITE PLAN-[C]

Proposed Site Plan and Layout

Bungendore High School, Part of 18 Harp Avenue,
North Bungendore Precinct (Elm Grove Estate), Bungendore NSW

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Figure 3

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