Environmental Activity Register SE4133

Project No.	628	Project Name	Lake Cathie Public School Upgrade Stage 3	Site	1240 Ocean Drive, Lake Cathie NSW
Prepared by	C McIlveen D Barratt R.Chalmers	Position	Project Manager Site Manager WHSE Coordinator	Date	19/07/2021

REVIEW DATE	REVISION (Y/N) IF *YES* PLEASE STATE REVISION	AUTHORISATION	REVIEW DATE	REVISION (Y/N) IF *YES* PLEASE STATE REVISION	AUTHORISATION
12/12/19	Revision A	D. Proud	20/07/20	Revision D	D. Barratt
06/02/20	Revision B	D. Proud	22/01/21	Revision E	C. Mcilveen
10/03/20	Revision C	D. Barratt	04/02/21	Revision F	C.Mcilveen
			19/07/21	Revision G	C.Mcilveen

Environmental Aspect/Impact	Legal Requirements	Risk Rating	Environmental Actions, Controls and Criteria	Residual Risk Rating	Monitoring			
					Type	Frequency	Documentation	Responsibility
Tree Protection (requires high vigilance)	Australian Standard 4970 (2009) Protection of Trees on Development Sites (AS-4970) Port Macquarie Hastings Council.	Very High	• Installation of tree protection in accordance with Australian Standards, Ecological and arborist report. • Ensure no stockpiling of material within tree protection zone. • Erect signage around location to Cleary define the tree protection zone. • Regularly inspect and maintain and/or replace these controls as required. • Seek regular consultation with local governing authority to ensure and maintain compliance. • Consult with the workforce through site induction and toolbox talks.	Medium	Visual Inspection	Daily Weekly	Hazard & Observation Sheet	Site Manager / Site Foreman
Adjoining waterways (dewatering, soil erosion and runoff) - *NIL waterways directly adjacent to the site.* .	NSW - POEO Act 1997(s 120, 122) NSW - PEO (General) Regulation 1998, cl 55; NSW - Local Government Act 1993, s 638] NSW Department of Housing's Managing Urban Stormwater (2004)	Very High	• Temporary drainage systems will be established to divert clean waters around the land development areas as appropriate. • Erect silt fences, bunds and construct swale drains. • Regularly inspect and maintain and/or replace these controls as required. • Inspect control measures after a rain event. • Street sweepers will be employed on regular basis, as needed • Leave as much vegetation to stabilise soils, where possible. • Install temporary fences to define 'no go' areas in those areas that are not to be disturbed. • Install sediment controls down slope of the site to catch sediment. • Where possible, leave or lay a kerbside turf strip (for example, the nature strip) to slow the speed of water flows and to trap sediment.	Medium	Visual Inspection	Daily Weekly	Hazard & Observation Sheet	Site Manager / Site Foreman

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	ANZECC Water Quality Guidelines		• Limit vehicle entry and exit to one point, and lay geotextile and aggregate to stabilise it for all-weather access. • Clearly mark the access point and give an access map to all suppliers. • Protect all existing stormwater drains. • Save the topsoil and stockpile it for use later in revegetation. Never place it around trees as this will kill them. • Store all stockpiles and building materials behind sediment fences. Cover them with plastic to prevent erosion by wind. • Get council approval before placing stockpiles or other materials on the nature strip or footpath. • Connect downpipes from the guttering to the stormwater drain as soon as possible once the roof sheeting is installed. • Surround the wash-out area with a sediment fence that slows down the water flow. Site this area upslope of another sediment control. • Fill in all trenches immediately after services have been laid. • Spread the topsoil back when the work is finished and revegetate the site as soon as possible to control erosion. • Remove the sediment and erosion controls only after this is done. • Sweep the road and footpath as needed each day. Washing down is unacceptable. • Never place any materials in the gutter or on the road. • Filter or settle-out all water pumped off the site. The water must be clear before it enters the stormwater system or creeks. Gypsum or other flocculent can be applied to muddy or turbid water to assist clay particles to settle.					
Chemicals	NSW - POEO Act (Section 116, 142,) WHS Act and Regulation 2011	Very High	• Chemicals to be stored in bunded areas (impervious and 110% of largest container) away from stormwater drains and pits. • Appropriate chemicals storage is in conformance with: → *AS 1940 The Storage and Handling of Flammable and Combustible Liquids* → *SafeWork NSW Code of Practice - Managing Risks of Hazardous Chemicals at Workplaces* → *OEH Guidelines for Bunding and Spill Management.* • Ponded water within bunds will not be discharged to stormwater. • Fuel and hydraulic leaks to be cleaned up immediately. • Liquid paints NOT to be poured down drains. Spread on waste cardboard or similar and leave to dry. Paint brushes to be rinsed and	Medium	Visual Inspection	Daily Weekly	Hazard & Observation Sheet	Site Manager / Site Foreman

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			paint solids allowed to settle. Container of paint solids to be disposed to liquid waste facility. • Construct concrete washout pit for washout, away from stormwater drains. Send back to batch plant where possible. • Concrete cuttings to be contained and wet vacuum to prevent runoff into stormwater drains. • Storage of bulk fuels (>200L) on site is prohibited. All refuelling shall be undertaken by a mobile facility with appropriate spill control and containment control equipment. • Safety Data Sheets (SDS's) must be provided to the Foreman prior to a chemical being received on site and by subcontractors using chemicals/products.					
Community Concerns		High	• Provide information (e.g. Signage, letterbox drops) to community on programmed works • Provide contact name for inquires. • Advice locals of "noisy" work. • If required in noise sensitive areas and/or in response to complaints, engage consultants to undertake monitoring at nominated receivers. • Vehicles will not be permitted to queue outside the site or in residential areas unless a defined area is established which does not adversely impact on neighbours.	Low	Visual Inspection	Daily Weekly	Hazard & Observation Sheet	Site Manager / Site Foreman
Dust Generation Particulate Emissions (General)	NSW - POEO Act (Sections 124-126)	Very High	• Install shade cloth on perimeter fencing • Vehicle corridors will be clearly identified and restricted to control vehicle access onsite. • Limit vehicle speed onsite to 10km/hr • Fixed and mobile (water tanker) water sprays used to suppress dust emissions • Review/reduce work activities (that generate dust) during moderate to high wind velocity periods. • Maintain equipment; overly smoky plant to be stopped until repair works completed. • Turn off vehicle engines whilst not in use (no long periods of idling)	Medium	Visual Inspection	Daily Weekly	Hazard & Observation Sheet	Site Manager / Site Foreman
Dust Generation (Demolition)	NSW - POEO Act (Sections 124-126)	Very High	• Breakers and crushing equipment to be fitted with dust filtration equipment or water sprays to control dust emissions.	Low	Visual Inspection	Daily Weekly	Hazard & Observation Sheet	Site Manager / Site Foreman

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Dust Generation (Construction)	NSW - POEO Act 1997 (s 124-126)	Very High	• Minimise areas of site disturbed and stage works where possible. • Dust suppression strategies to be used, i.e. water sprays, soil binders, hydro-mulching, controlled speed onsite, roadbase vehicle access, and shaker grids. • Stockpiled topsoils and rubble will be restricted to 4m high. Stabilise if insitu for >4-6 months. • On site drilling or coring operations will be undertaken by equipment fitted with air filtration and/or dust suppression equipment.	Low	Visual Inspection	Daily Weekly	Hazard & Observation Sheet	Site Manager / Site Foreman
Emergency Preparedness		Very High	• Spill kit available onsite. • Spill kit inspected regularly by site management personnel to ensure sufficient resources available at all times. • Site management personnel will refer to the SDS (maintained in the site office) for advice and procedures. • All spills must be reported to the Site Manager and cleaned up. • Site manager to record incidents using AWE SE5101 Incident/Accident Investigation Form. • Sediment pond pumped out regularly to maintain capacity in case of emergency • Ensure you know where stormwater drains are and have materials to block them in case of a spill or fire	Medium	Inspection	Weekly	Hazard & Observation Sheet	Site Manager / Site Foreman
Hazardous materials (Asbestos) - AWE note that the risk for this is Low, however, should potential ACM be encountered on the project an unexpected finds protocol applies	NSW - POEO Act (Section 142) NSW PEO (Waste) Regulation 2005, cl 42 NSW WHS Regulation 2011, Chapter 8	Low	• Request and review the asbestos register for any buildings where construction works are expected to be undertaken. Should potential ACM be encountered during the works, the following unexpected finds process is to be followed; • Stop work if unexpected potential ACM are encountered. • Seek advice from a licensed asbestos assessor (occupational hygienist) If ACM is identified and the RAP/AMP specifies; • A licence subcontractor is used to remove, or disturb any ACM. • Where required a Remediation Action Plan/Asbestos Management Plan/Asbestos Removal Control Plan will be developed and implemented. • A Class B SafeWork NSW asbestos licenced contractor is engaged to remove 10 square metres or more of non-friable (aka 'bonded') asbestos	Low	Visual Inspection	Daily Weekly	Hazard & Observation Sheet	Site Manager / Site Foreman

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			• A Class A SafeWork NSW asbestos licenced contractor is engaged to monitor, remove or disturb any friable ACM. • Work areas will be signed off by the licensed assessor to validate any clean up works.					
Land (contaminated soils, imported fill)	NSW - Contaminated Land Management Act 1997, s 60; NSW - Contaminated Land Management Regulation 1998, cl 3 Acid Sulfate Soils Management Advisory Committee NSW - POEO Act (Section 142) NSW PEO (Waste) Regulation 2005, cl 42 NSW WHS Regulation 2011, Chapter 8.	High	The following unexpected finds process is to be followed; • Stop work if unexpected potentially contaminated soils (eg. ACM, hydrocarbons) are encountered. • Obtain waste classification from consultant in accordance with OEH guidelines *Environmental Guidelines: Waste Classification Guidelines (April 2008)* • Where required a Remediation Action Plan will be developed and implemented. • Sign off by Site Auditor may be required to validate clean up. • Any affected groundwater or ponded rainwater will be tested and classified by consultants prior to disposal. • Check geo-tech requirements. If ACM is identified and the RAP/AMP specifies; • A licence subcontractor is used to remove, or disturb any ACM. • A Class B SafeWork NSW asbestos licenced contractor is engaged to remove 10 square metres or more of non-friable ('bonded') asbestos • A Class A SafeWork NSW asbestos licenced contractor is engaged to monitor, remove or disturb any friable ACM.	Low	Visual Inspection	Daily Weekly	Hazard & Observation Sheet	Site Manager / Site Foreman
Landfilling	NSW - POEO Act *(Section 116, 142)*	Medium	• Reduce, reuse and then dispose • Dispose of hard construction wastes for recycled gravels and sands • Do not send soil to landfill until alternatives for beneficial reuse have been explored as per consultant's advice. • Reuse packaging to protect works	Low	Visual Inspection	Daily Weekly	Hazard & Observation Sheet	Site Manager / Site Foreman
Noise	NSW - POEO Act (Sections 139, 140)	High	• Refer to SSD9491 & AWE CEMP for noise restrictions and working hours. • Use hoarding, or acoustic mats as required. • Situate generators and plant away from sensitive receivers. • Turn off plant/machinery when not in use. • Maintain equipment and stop noisy plant until repaired.	Low	Visual Inspection	Daily Weekly	Hazard & Observation Sheet	Site Manager / Site Foreman

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			• No early or late deliveries outside of working hours (unless by prior arrangement A W Edwards)					
Odour	NSW - (POEO Act 1997 s 142	High	• If odorous materials are uncovered, re-cover immediately. • Seek advice from consultant regarding soil /materials management.	Low	Visual	Daily	Hazard & Observation Sheet	Site Manager / Site Foreman
Resources – water, materials, energy		Medium	• For design and construct jobs, refer to the design specification for Ecologically Sustainable Development (ESD) requirements, where they apply, and product choices. • Buy local wherever possible to reduce impacts of transport on environment.	Low	Visual Inspection	Daily Weekly	Hazard & Observation Sheet	Site Manager / Site Foreman
Sewer (Trade waste)	Comply with the conditions of the trade waste consent or permit, or the local council approval, including acceptance standards	Very High	• No paints or other chemicals to be poured down drains (including sewer). • If required, obtain trade waste licence for discharge or local council approval	Low	Visual Inspection	Daily Weekly	Hazard & Observation Sheet	Site Manager / Site Foreman
Stormwater (Discharge from sedimentation basins, flooding)	NSW - POEO Act (Section 120) ANZECC Water Quality Guidelines NSW Department of Housing's Managing Urban Stormwater (2004)	High	• Water quality to meet *ANZECC Water Quality Guidelines*. → pH 6.5- 8.5, Turbidity <50NTU, No visible oil and grease • Obtain advice for use of flocculants to settle sediment from water. • Where installed, sedimentation pond to be maintained at low levels to ensure capacity during rainfall event. • Do not discharge water from ponds if contaminants are suspected. Obtain advice.	Low	Visual Inspection	Daily Weekly	Hazard & Observation Sheet	Site Manager / Site Foreman
Traffic	Local Government Requirements	High	• Develop and implement traffic management plans, and submit to local council as required. • Signage and notices regarding disruptions. • Use crushed concrete, mulches etc. along site access roads. • Install shakers and wheel wash as required. • Organise regular street sweeping. • Haulage routes and rules will be provided to subcontractors prior to commencing on site. • All loads of soil, demolition wastes, general wastes etc. are to be tarped/covered	Low	Visual Inspection	Daily Weekly	Hazard & Observation Sheet	Site Manager / Site Foreman

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Vibration		High	• Conduct dilapidation report prior to work starting. • Consultation with the Currie & Brown & LCPS • As far as is reasonably practicable, limit the use of vibratory rollers, rock breakers, impact piling etc. adjacent to buildings (>7m). • Obtain advice as required	Low	Visual Inspection	Daily Weekly	Hazard & Observation Sheet	Site Manager / Site Foreman
Waste Litter	NSW - POEO Act (Section 116, 142), NSW - Waste Avoidance and Resource Recovery Act 2001 NSW –PEOA Act 1997, s 143, 144-146 NSW Crown Lands Act 1989, s 155 NSW Management of Waters and Waterside Lands Regulations - N.S.W., cl 13; NSW - PEO (Waste) Regulation 2005, cl 49	High	• Registers and waste disposal requirements as per SafeWork NSW and OEH requirements for removal, storage, transport and disposal. • General site wastes – use one bin system, which is then sorted in the waste contractor's yard providing a report of quantities for recycling, reuse, disposal etc. • Empty drums are to be taken off-site for disposal. Where possible, and safe to do so, empty drums shall be crushed prior to recycling/disposal. • Adequate numbers of waste receptacles (e.g. skips and bins) are provided on site. • Do not overfill skip bins. Cover where potential for windblown litter.	Low	Visual Inspection	Daily Weekly	Hazard & Observation Sheet	Site Manager / Site Foreman

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RISK MATRIX

Any risk classified as being either ***EXTREME***, ***VERY HIGH*** or ***HIGH*** must be reduced to the lowest level possible by the development and implementation of effective controls. The aim is to eliminate or reduce risks to ***MEDIUM*** or ***LOW*** levels for all activities.

RISK CLASS CALCULATOR (RISK CLASS = LIKELIHOOD X CONSEQUENCE)

	Likelihood				
Consequence	Almost certain	Likely	Possible	Unlikely	Rare
Catastrophic	EXTREME	EXTREME	EXTREME	VERY HIGH	HIGH
Major	EXTREME	EXTREME	VERY HIGH	HIGH	MEDIUM
Moderate	VERY HIGH	HIGH	HIGH	MEDIUM	LOW
Minor	MEDIUM	MEDIUM	MEDIUM	LOW	LOW
Insignificant	MEDIUM	LOW	LOW	LOW	LOW

HIERARCHY OF CONTROLS

When deciding on the best way to control a risk, consideration should be given to the Hierarchy of Controls. The Hierarchy of Controls gives an ordered mitigation strategy to remove or reduce the hazard.
Start at the top of the hierarchy of controls, check to see if the risk can be eliminated first. This may not be practicable however by changing the way work is done it could reduce or eliminate the hazard. If the risk cannot be eliminated proceed to the next stage and check for any substitutes available and so on.

- **Elimination** - Removing the hazard at source of the risk.
- **Substitution** - Finding and replacing the problem less hazardous one, e.g. replacing solvent based paints with water-based paint.
- **Isolation** - Separation of the process can be by distance from the rest of the workplace or by a physical barrier between the process and any person, e.g. providing a locked cage area for hazardous substances.
- **Engineering** - Protecting the element at risk, usually human, by installing protective barriers or guards. An example would be hand railing on stairs or an automatic shield on a saw.
- **Administration** - Implementing a procedure or business management system when working in a particular fashion or environment.
- **Personal Protective Equipment** - Safety Glasses, earplugs, protective clothing etc.

CONSEQUENCE

Catastrophic -The hazard has the potential to:
- Permanently disable or kill
- Cause severe damage to the structure
- Have significant impact on the surrounding population and environment

Major -The hazard has the potential to:
- Temporarily disable or very serious injury
- Cause major damage to the structure
- Serious breach of the site boundary and pollution of the local environment

Moderate -The hazard has the potential to:
- Temporarily disable or serious injury
- Cause moderate damage to the structure
- Breach the site boundary and minor pollution to the local environment

Minor -The hazard has the potential to:
- Moderate injury
- Cause minor damage to the structure
- Be contained within the site boundary

Insignificant -The hazard has the potential to:
- Cause minor injury (first aid)
- Insignificant impact contained within the site boundary

LIKELIHOOD	
Almost Certain 75% - 100%	Expected to occur in most circumstances
Likely 60% - 75%	Will probably occur in most circumstances
Possible 40% - 60%	Might occur at some time in the future
Unlikely 20% - 40%	Could occur but doubtful
Rare 0% - 20%	May occur but only in exceptional circumstances.

RISK CLASS LEGEND	
EXTREME	Extreme Risk; No work to proceed
VERY HIGH	Very High Risk; No work to proceed
HIGH	High Risk: Additional task review required
MEDIUM	Medium Risk: Manage by routine procedures
LOW	Low Risk: Manage by routine procedures