11 December 2020

Dr Mark Jackson
Director
Jackson Environment and Planning Pty Ltd
Suite 102, Level 1
25-29 Berry Street
NORTH SYDNEY NSW 2060

SF20/116554
SEAR 1238

Dear Mr Jackson

Waste Management Facility
68 Hawken St, Oberon (Lot 33 & 34 DP 1228591 and Lot 18 DP 1249431)
Secretary's Environmental Assessment Requirements (SEAR) 1238

I refer to your request to modify the Planning Secretary's Environmental Assessment Requirements (SEARs) that were issued of the 23 July 2018. Please find attached a copy of the amended SEARs for the preparation of an environmental impact statement (EIS) for the Development Application (DA) and EIS.

Specifically, the SEARs have been amended to include:

- a composting facility that will process up to 40,000 tonnes per annum of kerbside organics.

The amended SEARs have been issued on the basis that Council is satisfied the appropriate assessment pathway for the proposed changes is via a modification application to DA10.2019.43.1.

These requirements have been prepared in consultation with the Environment Protection Authority (EPA), Transport for NSW (TfNSW) and the Environment, Energy and Science Group (EESG). A copy of their updated requirements has been included.

If you do not lodge a development application under section 4.12(8) of the *Environmental Planning and Assessment Act 1979* within 2 years of the date of this letter, you must consult further with the Planning Secretary in relation to the preparation of the EIS.

Should you have any further enquiries, please contact Mary Ellen Trimble, Planning and Assessment, at the Department on (02) 9274 6213 or maryellen.trimble@planning.nsw.gov.au.

Yours sincerely

Chris Ritchie
Director
Industry Assessments
as delegate of the Secretary

Environmental Assessment Requirements

Section 4.12(8) of the *Environmental Planning and Assessment Act 1979*.

Designated Development

SEAR Number	1238
Proposal	The proposed construction and operation of a wood waste processing and landscape supplies production facility and windrow composting facility with the capacity to process up to 99,000 tonnes per annum.
Location	68 Hawken St, Oberon (Lot 33 & 34 DP 1228591 and Lot 18 DP1249431) in the Oberon local government area.
Applicant	Borg Manufacturing Pty Ltd
Date of Issue	11 December 2020
General Requirements	The Environmental Impact Statement (EIS) must meet the minimum form and content requirements in clauses 6 and 7 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000.*
Key Issues	The EIS must include an assessment of all potential impacts of the proposed development on the existing environment (including cumulative impacts if necessary) and develop appropriate measures to avoid, minimise, mitigate and/or manage these potential impacts. As part of the EIS assessment, the following matters must also be addressed: • **strategic context** – including: - a detailed justification for the proposal and suitability of the site for the development; - consideration of impacts to surrounding agricultural resources and land; - a demonstration that the proposal is consistent with all relevant planning strategies, environmental planning instruments, development control plans (DCPs), or justification for any inconsistencies; and – a list of any approvals that must be obtained under any other Act or law before the development may lawfully be carried out. • **suitability of the site** – including: - a detailed justification that the site can accommodate the proposed processing capacity, having regard to the scope of operations and its environmental impacts and relevant mitigation measures; and - floor plans depicting the proposed layout including the location of machinery and equipment. • **waste management** – including: - details of the type, quantity and classification of waste to be received at the site; - details of the resource outputs and any additional processes for residual waste; - details of waste handling including, transport, identification, receipt, stockpiling and quality control; and – the measures that would be implemented to ensure that the proposed development is consistent with the aims, objectives and guidelines in the *NSW Waste Avoidance and Resource Recovery Strategy 2014-21*. • **hazards and risk** – including: - a preliminary risk screening completed in accordance with *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development* and *Applying SEPP 33* (DoP, 2011), with a clear indication of class, quantity and location of all dangerous goods and hazardous materials associated with the development. Should preliminary screening

	indicate that the project is "potentially hazardous" a Preliminary Hazard Analysis (PHA) must be prepared in accordance with *Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis* (DoP, 2011) and *Multi-Level Risk Assessment* (DoP, 2011). • **air quality** – including: - a description of all potential sources of air and odour emissions of the development; - an air quality impact assessment in accordance with relevant Environment Protection Authority guidelines; and - a description and appraisal of air quality impact mitigation and monitoring measures. • **noise and vibration** – including: - a description of all potential noise and vibration sources during construction and operation, including road traffic noise; - a noise and vibration assessment in accordance with the relevant Environment Protection Authority guidelines; and - a description and appraisal of noise and vibration mitigation and monitoring measures. • **soil and water** – including: - a description of local soils, topography, drainage and landscapes - details of water usage for the proposal including existing and proposed water licencing requirements in accordance with the *Water Act 1912* and/or the *Water Management Act 2000* - an assessment of potential impacts on floodplain and stormwater management and any impact to flooding in the catchment - details of sediment and erosion controls - a detailed site water balance - an assessment of potential impacts on the quality and quantity of surface and groundwater resources - details of the proposed stormwater and wastewater management systems (including sewage), water monitoring program and other measures to mitigate surface and groundwater impacts; and - a description and appraisal of impact mitigation and monitoring measures. • **traffic and transport** – including: - details of road transport routes and access to the site; - road traffic predictions for the development during construction and operation; - swept path diagrams depicting vehicles entering, exiting and manoeuvring throughout the site - an assessment of impacts to the safety and function of the road network and the details of any road upgrades required for the development. • **fire and incident management** – including: - identification of any aggregate quantities of combustible waste products to be stockpiled at any one time; - identification of foreseeable on-site and off-site fire events and other emergency incidents; and - technical information on the environmental protection equipment to be installed on the premises such as air, water and noise controls, spill clean-up equipment and fire (including management of fire water, location of fire hydrants and water flow rates at the hydrant) management and containment measures. • **biodiversity** – including: - accurate predictions of any vegetation clearing on site or for any road upgrades; - details of weed management during construction and operation in accordance with existing State, regional or local weed management plans or strategies - a detailed description of the measures to avoid, minimise, mitigate and offset biodiversity impacts.

	• **visual** – including an impact assessment at private receptors and public vantage points. • **heritage** – including Aboriginal and non-Aboriginal cultural heritage.
Environmental Planning Instruments and other policies	The EIS must assess the proposal against the relevant environmental planning instruments, including but not limited to: • State Environmental Planning Policy (Infrastructure) 2007 • State Environmental Planning Policy (Koala Habitat Protection) 2020 • State Environmental Planning Policy No. 33 – Hazardous and Offensive Development • State Environmental Planning Policy No. 55 – Remediation of Land • Oberon Local Environmental Plan 2013 • relevant development control plans and section 7.11 plans.
Guidelines	During the preparation of the EIS you should consult the Department's Register of Development Assessment Guidelines which is available on the Department's website at https://www.planning.nsw.gov.au/Assess-and-Regulate/Development-Assessment/Industries. Whilst not exhaustive, this Register contains some of the guidelines, policies, and plans that must be taken into account in the environmental assessment of the proposed development.
Consultation	During the preparation of the EIS, you must consult the relevant local, State and Commonwealth government authorities, service providers and community groups, and address any issues they may raise in the EIS. In particular, you should consult with the: • Department of Planning, Industry and Environment, specifically the: o Environment, Energy and Science Group o Environment Protection Authority • Transport for NSW • Fire & Rescue NSW • NSW Rural Fire Service • Oberon Council • the surrounding landowners and occupiers that are likely to be impacted by the proposal. Details of the consultation carried out and issues raised must be included in the EIS.
Further consultation after 2 years	If you do not lodge an application under Section 4.12(8) of the *Environmental Planning and Assessment Act 1979* within 2 years of the issue date of these SEARs, you must consult with the Planning Secretary in relation to any further requirements for lodgement.

Ms Mary Ellen Trimble
Para Planner
Department of Planning, Industry and Environment

Via e-mail: maryellen.trimble@planning.nsw.gov.au

Notice Number	1603589
Date	02-Dec-2020

BETTERGROW - SEAR 1238 UPDATE
Wood Waste Processing and Composting Facility - Oberon

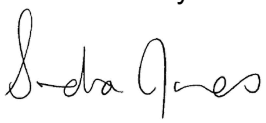
I refer to your e-mail to the Environment Protection Authority (EPA), dated 18 November 2020, seeking updated Secretary Environmental Assessment Requirements (SEARs) for the preparation of an environmental impact assessment (EIS) for the above development. The EPA understands that the EIS is being prepared for the modification of Oberon Council's consent No. 10.2019.43.1 to allow for the composting of garden organics at the Oberon facility.

The EPA has reviewed the accompanying SEARs report prepared by Jackson Environmental and Planning Pty Limited and reviewed the EPA's original recommended SEARs for this facility (dated 3 July 2018). The EPA considers that the SEARs provided for the original development are still relevant with the following additional comments to be considered by the proponent when preparing the EIS:

- A detailed description of the waste receipt and handling process including the likely sources of the kerbside organic collection should be provided.
- An assessment of odours from the premises, potential impacts on surrounding industrial and residential receivers and measures to mitigate odour generation should be undertaken.
- Discussion should be made regarding the potential to generate leachate from the composting process and storage of organic material at the premises and how these risks will be managed.
- The EIS should consider the need for the development of standard operating procedures (including a QA/QC plan) for the management of the receipt of kerbside organic waste, the composting process and all material handling to minimise the generation of odour, leachate, dust and noise at the premises.
- The EIS should reference the EPA guideline document "C*omposting and Related Organics Processing Facilities"* (DEC, 2004).

Should you have any queries in relation to these recommended SEARs please contact Mr Andrew Helms at the EPA's Regional South (Bathurst) Office on 6333 3805 or by e-mail at central.west@epa.nsw.gov.au.

Yours sincerely



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Sandie Jones
Regional Manager
Regional South - Bathurst

(by Delegation)

10 December 2020

SF2018/208117; WST18/00096/04

The Manager
Industry Assessments
Department of Planning, Industry and Environment
PO Box 39
Sydney NSW 2001

Attn: Mary Ellen Trimble, Para Planner

Dear Ms Trimble,

SEAR 1238 Update: Lot 18 DP 1249431 and others; 68 Hawken Street, Oberon Organic Composting and Landscape Supplies Production Facility

Thank you for the 18 November 2020 referral of the proposed Organic Composting and Landscape Supplies Production Facility to Transport for NSW (TfNSW) requesting advice for inclusion in the Secretary's Environmental Assessment Requirements (SEARs).

The documentation provided has been reviewed and TfNSW notes that:

- The current development consent (Oberon Council DA10.2019.43.1) permits the shredding and mulching of up to 99,000 tonnes per annum (tpa) of timber and sawdust products. It is proposed to alter the process to receive and compost up to 40,000 tpa of garden organics at the site. However it is understood the facility will remain within the threshold limit for receiving a maximum of 99,000 tpa of material.

- The site will primarily be accessed by a driveway located upon Lot 18 DP 1249431 known as 68 Hawken Street Oberon (or 59 Maher Drive on SIXmaps). A private link road will also be constructed between the site and the Borg Manufacturing facility adjoining the site's western boundary, to allow internal transfer of wood waste from that facility.

TfNSW requests that the Environmental Impact Statement be supported by an Integrated Transport Assessment (ITA) prepared by a suitably qualified person in accordance with the *Austroads Guide to Traffic Management Part 12*, TfNSW *Supplements to Austroads* and the *RTA Guide to Traffic Generating Developments*. The ITA is to address the following.

- Explanation of what effects a change of up to 40,000 tpa of transported organic waste or derived products (inbound or outbound) may have on the types and volumes of vehicles generated by the facility – both in terms of haulage movements and staff movements. Each of the worst-case scenarios, and underlying assumptions such as the average densities of materials and load capacities of trucks, should be clarified.

- Explanation of any requested changes to existing transport-related consent conditions.

- Whether retailing of products to the general public is proposed, as this is understood to be prohibited under the current consent.

51-55 Currajong Street PARKES NSW 2870 | PO Box 334 PARKES NSW 2870 DX20256
P 6861 1449 | **W** development.western@rms.nsw.gov.au | ABN 18 804 239 602

- Operational schedule:
    - Hours and days of work, number of shifts and start and end times,
    - Phases and stages of the project, including construction, operation and decommissioning.

- Traffic volumes:
    - Existing background traffic,
    - Any changes (from the approved DA) in project-related traffic,
    - Projected cumulative traffic at commencement of operation, and a 10-year horizon post-commencement.

- Traffic characteristics:
    - Number and ratio of heavy vehicles to light vehicles,
    - Peak times for existing traffic,
    - Peak times for development-related traffic including commuter periods,
    - Proposed hours for transportation and haulage,
    - Interactions between existing and development-related traffic.

- Any changes or additional origins, destinations and routes for heavy (haulage) vehicles.

- The impact of traffic generation on the public road network and measures employed to ensure traffic efficiency and road safety during construction, operation and decommissioning of the project.

- The need for improvements to the road network, and the improvements proposed such as road widening and intersection treatments, to cater for and mitigate the impact of project related traffic.

- Proposed road facilities, access and intersection treatments are to be identified and be in accordance with Austroads Guide to Road Design including provision of Safe Intersection Sight Distance (SISD).

- Local climate conditions that may affect road safety during the life of the project (e.g. fog, wet and dry weather, icy road conditions).

- Propose a Traffic Management Plan (TMP) to be developed following approval of the EIS, in consultation with Council and TfNSW. The TMP should identify strategies to manage the impacts of project related traffic, including any community consultation measures for peak haulage periods.

- Propose a Driver Code of Conduct for haulage operations which could include, but not be limited to:
    - Safety initiatives for haulage through residential areas and/or school zones.
    - An induction process for vehicle operators and regular toolbox meetings.
    - A public complaint resolution and disciplinary procedure.

TfNSW appreciates the opportunity to contribute to the SEARs and requests a copy is provided to TfNSW at the same time it is sent to the applicant. If you wish to discuss this matter further, please contact Bevan Crofts, Development Assessment Officer on (02) 6861 1449.

Yours faithfully

Ainsley Bruem
A/Manager Land Use Assessment
Region West

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DOC20/965059
SEAR1238

Ms Mary Ellen Trimble
Para Planner
Planning and Assessment Group
Industry Assessments
maryellen.trimble@planning.nsw.gov.au

Dear Ms Trimble

Wood Waste Processing and Organic Composting Facility – 26 Endeavour Street, Oberon – SEAR 1238

I refer to your email dated 18 November 2020 seeking input into the Department of Planning, Industry and Environment's Environmental Assessment Requirements (EARs) for the preparation of an Environmental Impact Assessment (EIS) for a Wood Waste Processing and Organic Composting Facility at 26 Endeavour Street, Oberon.

The Biodiversity, Conservation and Science Directorate (BCS) understands that this request is for an update of SEAR 1238. The original SEARs were approved for the construction and operation of a wood waste processing and landscape supplies production facility with the capacity to process up to 99,000 tonnes per annum. It is now proposed to include a windrow composting facility at the site which will process up to 40,000tpa of garden organics. The total processing amount of 99,000 tpa will remain the same.

BCS has considered your request and provides EARs for the proposed development in **Attachments A** and **B**.

BCS recommends the EIS needs to appropriately address the following:

1. Biodiversity and offsetting
2. Water and soils
3. Flooding

Please note that as of 1 July 2020 Aboriginal cultural heritage responsibilities previously performed by BCS have been transferred to the Heritage Division of the Department of Premier and Cabinet. Any questions or requests for formal Aboriginal cultural heritage assessment requirements should be directed to heritagemailbox@environment.nsw.gov.au , phone 02 9873 8500 or mail Heritage NSW, Department of Premier and Cabinet, Locked Bag 5020 Parramatta NSW 2124.

If you have any questions about this advice, please do not hesitate to contact Helen Knight, Conservation Assessment Data Officer, via helen.knight@environment.nsw.gov.au or (02) 6883 5327

Yours sincerely,

Samantha Wynn
Senior Team Leader Planning North West
Biodiversity, Conservation and Science Directorate

1 December 2020

Attachment A - Environmental Assessment Requirements

Attachment B - Guidance Material

ATTACHMENT A

BCS's Recommended Environmental Assessment Requirements (EARs) for Wood Waste Processing and Organic Composting Facility – 26 Endeavour Street, Oberon

OEH	Office of Environment and Heritage (now Biodiversity, Conservation and Science Directorate)
BCS	Biodiversity, Conservation and Science Directorate of the NSW Department of Planning, Industry and Environment, (formerly OEH)
The Department	NSW Department of Planning, Industry and Environment
NPWS	National Parks and Wildlife Service

1. The Proposal

All components of the proposed development must be clearly described, including:

- the location of the proposed development and its context in the locality
- the rationale for the project
- the size, scale and type of the proposed development
- the pre-construction, construction, operational, and, where relevant, decommissioning and rehabilitation phases of the proposed development, and the methods proposed to implement these phases
- plans and maps of the proposed development showing the locations of relevant phases and infrastructure
- the staging and timing of the proposed development
- the proposed development's relationship to any other proposals and developments

2. Environmental Impacts of the Proposal

The proponent must consider, assess, quantify and report on the likely environmental impacts of the proposal if applicable, particularly:

- Biodiversity
- National Park estate: land reserved or acquired under the *National Parks and Wildlife Act 1974*
- Flooding and floodplain issues
- Cumulative impacts

The Secretary's Environmental Assessment Requirements should address the specific requirements outlined under each heading below and assess impacts in accordance with the relevant guidelines mentioned. A full list of guidelines and reference material is presented in **Attachment B**. Appropriate justification should be provided in instances where the matters below are not addressed.

3. Biodiversity

Biodiversity Assessment Methodology for the Biodiversity Offsets Scheme (BOS)

The EIS should include an assessment of the following:

a. The EIS must assess the impact of the proposed development on biodiversity values to determine if the proposed development is "likely to significantly affect threatened species" for the purposes of Section 7.2 of the Biodiversity Conservation Act 2016 (BC Act), as follows:

   a. The EIS must demonstrate and document how the proposed development exceeds, or does not exceed, the biodiversity offsets scheme threshold as set out in Section 7.4 of the BC Act 2016 and Clause 7.1 of the Biodiversity Conservation Regulation 2017 (BC Regulation) by determining whether the proposed development involves:

      i. **The clearing of native vegetation exceeding the thresholds** listed under Clause 7.23 of the BC Regulation, **or**

      ii. The clearing of native vegetation, or other action, **on land included on the Biodiversity Values Map** published under Clause 7.23 of the BC Regulation (this map includes areas of outstanding biodiversity value, as declared under Section 3.1 of the BC Act).

   b. If the proposal does not trigger any of the criteria in (a) above, then the EIS must determine whether the proposed development is likely to have a significant impact based on '*the test for determining whether proposed development likely to significant affect threatened species or ecological communities'* in Section 7.3 of the BC Act.

   c. Where there is reasonable doubt regarding potential impacts, or where information is not available, then a significant impact upon biodiversity should be considered likely when applying the test in Section 7.3 of the BC Act. Where it is concluded that there is no significant impact, the EIS must justify how the conclusion has been reached.

   d. If the development exceeds the thresholds in (a) or (b), then the EIS must be accompanied by a biodiversity development assessment report (BDAR) prepared in accordance with Part 6 of the BC Act. That is, the Biodiversity Assessment Methodology applies.

Required Information

Where development is considered "likely to significantly impact on threatened species" and a Biodiversity Development Assessment Report is required, the following requirements apply:

- Biodiversity impacts related to the proposal are to be assessed in accordance with the Biodiversity Assessment Method and documented in a Biodiversity Development Assessment Report (BDAR). The BDAR must include information in the form detailed in the *Biodiversity Conservation Act 2016* (s6.12), Biodiversity Conservation Regulation 2017 (s6.8) and Biodiversity Assessment Method.
- The BDAR must document the application of the avoid, minimise and offset hierarchy including assessing all direct, indirect and prescribed impacts in accordance with the Biodiversity Assessment Method.
- The BDAR must include details of the measures proposed to address the offset obligation as follows:
  - The total number and classes of biodiversity credits required to be retired for the proposal.
  - The number and classes of like-for-like biodiversity credits proposed to be retired.
  - The number and classes of biodiversity credits proposed to be retired in accordance with the variation rules.
  - Any proposal to fund a biodiversity conservation action.
  - Any proposal to make a payment to the Biodiversity Conservation Fund.

- If seeking approval to use the variation rules, the BDAR must contain details of the reasonable steps that have been taken to obtain requisite like-for-like biodiversity credits.

The BDAR must be prepared by a person accredited to apply the Biodiversity Assessment Method under s6.10 of the *Biodiversity Conservation Act 2016*.

Where a BDAR is not required and a threatened species assessment is prepared to support a conclusion of "no significant impact", the EIS must include a field survey of land identified as native vegetation and/or native species habitat inclusive of non-vegetative habitat, namely, karst, caves, crevices, cliffs, rocky outcrops and other features of geological significance and habitat associated with human made structures. This should be conducted and documented in accordance with the relevant guidelines including the Threatened Species Survey and Assessment Guidelines: Field Survey Methods for Fauna – Amphibians (DECCW, 2009), Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities - Working Draft (DEC, 2004) and Guidelines for Threatened Species Assessment (Dept Planning, July 2005). The approach should also reference the field survey methods and assessment information on the Department of Planning, Industry and Environment website including the BioNet Atlas, Threatened Species Profiles, taxon specific survey guidelines and BioNet Vegetation Classification (see Attachment 2).

Transitional arrangements for the *Biodiversity Assessment Method 2020*

Clause 6.31 of the *Biodiversity Conservation Regulation 2017* provides that when the BAM is amended, a BAR may be prepared based on the prior version of the BAM for the following designated periods;

- 12 months for a BDAR in respect of SSD/SSI or standard biocertification,
- 12 months or longer if approved by the Minister for a BDAR in respect of strategic biocertification,
- 6 months for BARs in respect of all other development or stewardship applications

A BAR prepared under these arrangements must state that it has been prepared based on the prior version.

This means that from 22 October 2020 until the end of the relevant designated transition period a BAR may be prepared using **either** the BAM 2017 **or** the BAM 2020, but not a combination of both.

If an Accredited Assessor has commenced preparing a BAR in accordance with the BAM 2017, it is recommended that they discuss the transition options with the proponent/landholder. If opting to continue using the BAM2017, the BAR must be prepared within the relevant designated period and must include a statement that it has been prepared based on the BAM 2017. In addition, because BOAMs has been updated to reflect the BAM 2020 settings, an assessor continuing to prepare a BAR under the BAM 2017 should consult the Release Notes (attached) to ensure the correct BAM-C settings are applied.

Where an assessor proposes to apply BAM 2017 to a scattered tree (formerly paddock tree) or small area streamlined assessment, the assessor must contact BAM Support for guidance on how to use the BAM Calculator to apply the transitional arrangements. However, if the applicant or assessor proposes to apply BAM 2017 to a BSSAR, the applicant or assessor must contact the Biodiversity Conservation Trust to discuss use of this option.

4. NPWS Managed Estate

Land reserved or acquired under the *National Parks and Wildlife Act 1974* (NPW Act)

If the proposed development is within, adjacent to, or in close proximity to, NPWS managed conservation estate (e.g. a national park, nature reserve, state conservation area, land which is declared wilderness under the *Wilderness Act 1987*), or is within, adjacent to, or in close proximity to, a watercourse that flows directly into NPWS managed conservation estate, then the EIS must address impacts upon such area/s.

Where NPWS managed estate is likely to be impacted, the EIS should include:

- The following (as appropriate):
  - Evidence that the proponent has consulted with BCS on the legal permissibility of the proposal under the NPW Act.
  - In the case of proposals on land declared as wilderness under the *Wilderness Act 1987*, evidence that the proponent has consulted with BCS on the appropriateness of the proposal. That is, whether it is consistent with the objects of the *Wilderness Act 1987* (section 3) and the management principles for wilderness areas (section 9).
  - Alternative options that have been explored to avoid impacts on the NPWS managed estate (on-park) and a clear justification of any on-park components of the proposal.
  - If on-park impacts are considered unavoidable, consideration of the issues, including details of any compensation proposal, consistent with the Department's *Revocation, Recategorisation and Road Adjustment Policy* (2012) for proposals that are located wholly or partly in a National Park or other land acquired or reserved under the *National Parks and Wildlife Act 1974*.
- Consideration of the matters identified in the *Guidelines for developments adjoining land managed by the Office of Environment & Heritage* (OEH 2013) where a proposal adjoins or is immediate vicinity of NPWS managed estate, or is upstream of NPWS managed estate, which include:
  - The nature of the impacts, including direct and indirect impacts
  - The extent of the direct and indirect impacts
  - The duration of the direct and indirect impacts
  - The objectives of the reservation of the land
- A description of the mitigation and management options that will be used to prevent, control, abate or minimise identified direct and indirect impacts associated with the proposal. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.

5. Water

- The EIS must map features relevant to water, including:
  - Rivers, streams, estuaries (as described in s4.2 of the Biodiversity Assessment Method).
  - Wetlands (as described in s4.2 of the Biodiversity Assessment Method).
  - Groundwater.
  - Groundwater dependent ecosystems.
- The EIS must describe background conditions for any water resource likely to be affected by the proposal, including:
  - Existing surface and groundwater.
  - Hydrology

- Water Quality Objectives (as endorsed by the NSW Government) including groundwater as appropriate that represent the community's uses and values for the receiving waters. Indicators and trigger values/criteria for the identified environmental values in accordance with the ANZECC (2000) *Guidelines for Fresh and Marine Water Quality* and / or local objectives, criteria or targets endorsed by the NSW Government
- *Risk-based Framework for Considering Waterway Health Outcomes in Strategic Land-use Planning Decisions* (OEH/EPA, 2017).

- The EIS must assess the impacts of the proposal on water quality, including:
  - The nature and degree of impact on receiving waters for both surface and groundwater, demonstrating how the proposal protects the Water Quality Objectives where they are currently being achieved, and contributes towards achievement of the Water Quality Objectives over time where they are currently not being achieved. This should include an assessment of the mitigating effects of proposed stormwater and wastewater management during and after construction.
  - Identification of proposed monitoring of water quality.

- The EIS must assess the impact of the proposal on hydrology, including:
  - Water balance including quantity, quality and source.
  - Effects upon rivers, wetlands, estuaries and floodplain areas.
  - Effects upon water-dependent fauna and flora including groundwater dependent ecosystems.
  - Impacts to natural processes and functions within rivers, wetlands, estuaries and floodplains that affect river system and landscape health such as nutrient flow, aquatic connectivity and access to habitat for spawning and refuge (e.g. river benches).
  - Changes to environmental water availability, both regulated / licensed and unregulated / rules-based sources of such water.

Project specific requirements

Where there is a heightened potential to impact on water quality and hydrology, the EIS should include the following:

- A description of existing water quality / hydrology based on suitable data (meaning data collection may be required) and must include:
  - Water chemistry.
  - A description of receiving water processes, circulation and mixing characteristics and hydrodynamic regimes.
  - Lake or estuary flushing characteristics.
  - Sensitive ecosystems or species conservation values.
  - Specific human uses and values (e.g. fishing, proximity to recreation areas).
  - A description of any impacts from existing industry or activities on water quality.
  - A description of the condition of the local catchment e.g. erosion, soils, vegetation cover.
  - An outline of baseline groundwater information, including, for example, depth to water table, flow direction and gradient, groundwater quality, reliance on groundwater by surrounding users and by the environment.
  - Historic river flow data.

- An assessment of the impacts of the proposal on water quality and hydrology including:
  - Water circulation, current patterns, water chemistry and other appropriate characteristics such as clarity, temperature, nutrient and toxicants, and potential for erosion.
  - Changes to hydrology
  - Stream bank stability and impacts on macro invertebrates.
  - Water quality and hydrology modelling and / or monitoring, where necessary.

- Proposed water quality monitoring in accordance with the *Approved Methods for the Sampling and Analysis of Water Pollutants in NSW* (DEC 2004). The water quality and aquatic ecosystem monitoring program must include:
    - Adequate data for evaluating maintenance, or progress towards achieving, the relevant Water Quality Objectives.
    - Measurement of pollutants identified or expected to be present.

6. Flooding

- The EIS must map the following features relevant to flooding as described in the Floodplain Development Manual 2005 (NSW Government 2005) including:
    - Flood prone land (i.e. land susceptible to the probable maximum flood event).
    - Flood planning area, the area below the flood planning level.
    - Hydraulic categorisation (floodway and flood storage areas).
    - Flood hazard.
- The EIS must describe flood assessment and modelling undertaken in determining the design flood levels for events, including a minimum of the 10% Annual Exceedance Probability (AEP), 1% AEP flood levels and the probable maximum flood, or an equivalent extreme event.
- The EIS must model the effect of the proposal (including fill) on the current flood behaviour for a range of design events as identified above, and the 0.5% AEP and 0.2% AEP year flood events as proxies for assessing sensitivity to an increase in rainfall intensity of flood producing rainfall events due to climate change.
- All site drainage, stormwater quality devices and erosion / sedimentation control measures should be identified in the EIS and the onsite treatment of stormwater and effluent runoff and predicted stormwater discharge quality from the proposal should be detailed.
- Modelling in the EIS must consider and document:
    - Existing council flood studies in the area and examine consistency to the flood behaviour documented in these studies.
    - The impact on existing flood behaviour for a full range of flood events including up to the probable maximum flood (PMF), or an equivalent extreme flood.
    - Impacts of the proposal on flood behaviour resulting in detrimental changes in potential flood affection of other developments or land. This may include redirection of flow, flow velocities, flood levels, hazard categories and hydraulic categories.
    - Impacts of earthworks and stockpiles within the flood prone land up to the PMF level. The assessment should be based on understanding of cumulative flood impacts of construction and operational phases.
    - Relevant provisions of the NSW Floodplain Development Manual 2005.
- The EIS must assess the impacts on the proposal on flood behaviour, including:
    - Whether there will be detrimental increases in the potential flood affectation of other properties, assets and infrastructure.
    - Consistency with Council floodplain risk management plans.
    - Consistency with any Rural Floodplain Management Plans.
    - Compatibility with the flood hazard of the land.
    - Compatibility with the hydraulic functions of flow conveyance in floodways and storage in flood storage areas of the land.
    - Whether there will be adverse effect to beneficial inundation of the floodplain environment, on, adjacent to or downstream of the site.
    - Whether there will be a direct or indirect increase in erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.
    - Appropriate mitigation measures to offset potential flood risk arising from the proposal. Any proposed mitigation work should be modelled and assessed on the overall catchment basis

in order to ensure it fits its purpose and meets the criteria of the Council where it is located, and to ensure it has no adverse impact to surrounding areas.

- Any impacts the proposal may have upon existing community emergency management arrangements for flooding. These matters are to be discussed with the NSW SES and Council.
- Whether the proposal incorporates specific measures to manage risk to life from flood. These matters are to be discussed with the NSW SES and Council.
- Emergency management, evacuation and access, and contingency measures for the proposal during both construction and operational phases considering the full range of flood risk (based upon the probable maximum flood or an equivalent extreme flood event). These matters are to be discussed with and have the support of Council and the NSW SES.
- Any impacts the proposal may have on the social and economic costs to the community as a consequence of flooding.

ATTACHMENT B

Guidance Material

Title	Web address
Relevant Legislation	
Biodiversity Conservation Act 2016	https://www.legislation.nsw.gov.au/view/html/inforce/current/act-2016-063
Commonwealth Environment Protection and Biodiversity Conservation Act 1999	https://www.legislation.gov.au/Details/C2014C00140/Download
Environmental Planning and Assessment Act 1979	https://www.legislation.nsw.gov.au/view/html/inforce/current/act-1979-203
Fisheries Management Act 1994	https://www.legislation.nsw.gov.au/view/html/inforce/current/act-1994-038
National Parks and Wildlife Act 1974	https://www.legislation.nsw.gov.au/view/html/inforce/current/act-1974-080
Protection of the Environment Operations Act 1997	https://www.legislation.nsw.gov.au/view/html/inforce/current/act-1997-156
Water Management Act 2000	https://www.legislation.nsw.gov.au/view/html/inforce/current/act-2000-092
Wilderness Act 1987	https://www.legislation.nsw.gov.au/view/html/inforce/current/act-1987-196
Biodiversity	
Biodiversity Values Map	https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=BVMap
Biodiversity Assessment Method (OEH, 2017)	https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/biodiversity-assessment-method-170206.pdf
BAM Operational Manual Stage 1- Biodiversity Assessment	https://www.environment.nsw.gov.au/research-and-publications/publications-search/biodiversity-assessment-method-operational-manual-stage-1
BAM Operational Manual Stage 2 – Impact Assessment	https://www.environment.nsw.gov.au/research-and-publications/publications-search/biodiversity-assessment-method-operational-manual-stage-2
BAM Operational Manual Stage 3	https://www.environment.nsw.gov.au/research-and-publications/publications-search/biodiversity-assessment-method-operational-manual-stage-3
Serious and irreversible impacts of development on biodiversity	https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/biodiversity-offsets-scheme/serious-and-irreversible-impacts
Guidance and Criteria to assist a decision maker to determine a serious and irreversible impact (OEH, 2017)	https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/guidance-decision-makers-determine-serious-irreversible-impact-190511.pdf
Accreditation Scheme for Application of the Biodiversity Assessment Method Order 2017	https://www.legislation.nsw.gov.au/view/pdf/asmade/sl-2017-471

Title	Web address
Ancillary rules: Biodiversity conservation actions	https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/ancillary-rules-biodiversity-conservation-actions-170496.pdf
Ancillary rules: Reasonable steps to seek like-for-like biodiversity credits for the purpose of applying the variation rules	https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/ancillary-rules-reasonable-steps-like-for-like-biodiversity-credits-170498.pdf
Ancillary rules: Impacts on threatened species and ecological communities excluded from application of variation rules	https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/ancillary-rules-impacts-on-threatened-entities-excluded-from-variation-170497.pdf?la=en&hash=C38840BFF49F012433532DF72E3D90C741E4DAC1
The Department's Threatened Species Website	https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species
NSW BioNet (Atlas of NSW Wildlife)	www.bionet.nsw.gov.au/
Surveying Threatened Plants and their Habitats - NSW Survey Guide For The Biodiversity Assessment Method (DPIE 2020).	https://www.environment.nsw.gov.au/research-and-publications/publications-search/surveying-threatened-plants-and-their-habitats-survey-guide-for-the-biodiversity-assessment-method
Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities - November 2004	https://www.environment.nsw.gov.au/surveys/BiodiversitySurveyGuidelinesDraft.htm
Threatened species survey and assessment guidelines: field survey methods for fauna – amphibians	https://www.environment.nsw.gov.au/research-and-publications/publications-search/threatened-species-field-survey-methods-for-fauna-amphibians
NSW Survey Guide for Threatened Frogs	https://www.environment.nsw.gov.au/research-and-publications/publications-search/nsw-survey-guide-for-threatened-frogs
Surveying 'species credit' threatened bats and their habitats – NSW survey guide for the Biodiversity Assessment Method	https://www.environment.nsw.gov.au/research-and-publications/publications-search/species-credit-threatened-bats-nsw-survey-guide-for-biodiversity-assessment-method
Bat calls of NSW - region-based guide to the echolocation calls of Microchiropteran bats	https://www.environment.nsw.gov.au/surveys/Batcalls.htm
Community Biodiversity Survey Manual	https://www.environment.nsw.gov.au/surveys/CommunityBiodiversitySurveyManual.htm
BioNet Vegetation Classification - NSW Plant Community Type (PCT) database	www.environment.nsw.gov.au/research/Vegetationinformationsystem.htm
The Departments Data Portal (access to online spatial data)	http://data.environment.nsw.gov.au/
Fisheries NSW policies and guidelines	https://www.dpi.nsw.gov.au/fishing/habitat/publications/pubs/fish-habitat-conservation
National Park Estate	
Guidelines for developments adjoining land and water managed by the	http://www.environment.nsw.gov.au/protectedareas/developmntadjoiningdecc.htm

Title	Web address
Department of Environment, Climate Change and Water (DECCW, 2010)	
Developments Adjacent to National Parkes and Wildlife Service lands	https://www.environment.nsw.gov.au/research-and-publications/publications-search/developments-adjacent-to-national-parks-and-wildlife-service-lands
List of national parks	https://www.nationalparks.nsw.gov.au/conservation-and-heritage/national-parks
Revocation, recategorisation and road adjustment policy (OEH, 2012)	http://www.environment.nsw.gov.au/policies/RevocationOfLandPolicy.htm
List of aquatic reserves	www.dpi.nsw.gov.au/fisheries/habitat/protecting-habitats/mpa
Water	
Water Quality Objectives	http://www.environment.nsw.gov.au/ieo/index.htm
ANZECC & ARMCANZ (2000) Water Quality Guidelines	https://www.waterquality.gov.au/anz-guidelines/resources/previous-guidelines/anzecc-armcanz-2000
Risk-based Framework for Considering Waterway Health Outcomes in Strategic Land-use Planning Decisions	http://www.environment.nsw.gov.au/research-and-publications/publications-search/risk-based-framework-for-considering-waterway-health-outcomes-in-strategic-land-use-planning
Applying Goals for Ambient Water Quality Guidance for Operations Officers – Mixing Zones	http://deccnet/water/resources/AWQGuidance7.pdf
Approved Methods for the Sampling and Analysis of Water Pollutant in NSW (2004)	http://www.environment.nsw.gov.au/resources/legislation/approvedmethods-water.pdf
Flooding	
Floodplain development manual	http://www.environment.nsw.gov.au/floodplains/manual.htm
Floodplain Risk Management Guidelines	http://www.environment.nsw.gov.au/topics/water/coasts-and-floodplains/floodplains/floodplain-guidelines
NSW Climate Impact Profile	http://climatechange.environment.nsw.gov.au/
Climate Change Impacts and Risk Management	https://www.environment.gov.au/climate-change/adaptation/publications/climate-change-impact-risk-management