

Determination

Picnic Point to Revesby Cable Project



Proposal details			
NIG	13230	WBS	SJ-00287/SI-00327
REF date	31 st of October 2018	REF version number	Version 1.0
Proponent name	Ausgrid Operator Partnership (ABN 78 508 211 731), trading as Ausgrid	Proponent address	570 George Street, Sydney NSW 2000
Activity class	4	HPRM reference	2017/5646

The *Review of Environmental Factors (REF) – Picnic Point to Revesby Cable Project* 31st of October 2018/Version 1 has been reviewed and considered against the requirements of sections 111 and 112 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

In considering the proposal, this determination has examined and taken into account to the fullest extent possible, all matters affecting or likely to affect the environment by reason of that activity as addressed in the REF and by associated investigations and studies including the following:

- Contaminated Site Investigation
- Magnetic Field Assessment
- Ecological Assessment

This determination is made following a consideration of the factors in section 111 of the EP&A Act, clause 228 of the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation) and the *NSW Code of Practice for Authorised Network Operators* (DP&E, 2015).

Among other factors, the REF has considered potential impacts of the activity on outstanding biodiversity values habitat and threatened species, populations and ecological communities and their habitats for both terrestrial and aquatic species. The REF has also assessed the need for referral to the Commonwealth Minister for the Environment under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

As an authorised person on behalf of Ausgrid, who did not prepare the REF, I discharge the duty as a determining authority under section 111 of the EP&A Act and conclude that the proposal:

- is not an activity prescribed by the EP&A Regulation as requiring an environmental impact statement (EIS)
- is not likely to significantly affect the environment (including outstanding biodiversity values habitat) or threatened species, populations or ecological communities, or their habitats, and therefore an EIS is not required
- is not to be carried out on land that is, or is a part of outstanding biodiversity values habitat, or is not likely to significantly affect threatened species, populations or ecological communities, or their habitats, and therefore a species impact statement (SIS) is not required
- is not likely to have a significant impact on matters of national environmental significance, or on the environment on Commonwealth land, and therefore referral to the Minister under the EPBC Act is not required.

Therefore the proposal to construct, operate and maintain two underground 132kV kilovolt power cable from Sydney South bulk supply point to Revesby zone substation, as described in the REF, is approved

on behalf of Ausgrid and may proceed without further assessment subject to compliance with and including the implementation of the following conditions of approval required to prevent, minimise, and/or offset adverse environmental impacts including economic and social impacts:

- Mitigation measures in *REF– Picnic Point to Revesby Cable Project /Version 1.0*
- All relevant statutory requirements, including approvals, licences, notifications, permits and authorisations.

Any aspects of the proposal which do not comply with the specified mitigation measures are in breach of this determination.



Jason Wall

1/11/18

Manager – Program Development

Attachment 1 Mitigation measures in REF – Picnic Point to Revesby 31st of October 2018/Version 1.0

Impact	No.	Mitigation measures	Construction	Operation
Land use	5.1.1	Consult with affected stakeholders about the proposal.	✓	✓
	5.1.2	Provide information via a free call 1800 number, email address and Ausgrid's website for people wanting more information.	✓	✓
	5.1.3	Install feeders within the disturbed access track within Georges River National park to reduce impacts on aesthetic and recreational values.	✓	✓
Climate Change	5.2.1	Comply with section 8 of NS174C Environmental Handbook.	✓	
	5.2.2	Report information on energy production, energy consumption and the amount of greenhouse gas emissions to the Clean Energy Regulator for the facilities on an annual basis by 31 October the following year.	✓	
	5.2.3	Materials sourced from local suppliers where cost effective and no impact on engineering properties.	✓	✓
	5.2.4	Recycled materials considered and used where cost effective and no impact on engineering properties.	✓	
	5.2.5	All plant and equipment would be turned off when not in use.	✓	
Electric and magnetic fields	5.3.1	Implement no cost and very low cost measures to reduce magnetic field exposure, including where relevant: <ul style="list-style-type: none"> • using a compact phase configuration (eg trefoil) • using multicore cables or trefoil single core cables • using optimum phase arrangement for dual circuits • balancing loads across phase. 	✓	✓
	5.3.2	Using double circuit joint bays	✓	
	5.3.3	Within the carriageway locate feeders to minimise exposure as far as reasonably practicable (with potential increased temporary construction impacts).	✓	
	5.3.4	The feeder is to be installed following the route of existing 132kV feeders.	✓	✓
Noise and vibration	5.4.1	Comply with sections 4.2 of NS174C Environmental Handbook.	✓	✓
	5.4.2	All workers to be made aware of the presence of sensitive receivers in the area and the need to avoid impacts.	✓	✓
	5.4.3	Provide at least four clear business days notice to affected receivers prior to starting work unless it is emergency works or it is discussed with the affected receivers face-to-face. Include the following information in notification letters: <ul style="list-style-type: none"> • a description of the works and why they are being undertaken • details of the works that will be noisy • work hours and expected duration • what is being done to minimise the impacts (eg respite periods) • 24 hour contact number. 	✓	✓

Impact	No.	Mitigation measures	Construction	Operation
	5.4.4	Consult with affected sensitive receivers (eg schools, restaurants, hospitals, childcare, etc)	✓	✓
	5.4.5	Schedule works outside worship times and during school holidays when in proximity to educational facilities.	✓	✓
	5.4.6	No high impact activities after 11 pm. (High impact activities include saw cutting, vibratory rolling, grinding, rock cutting, vibratory rolling, grinding, rock breaking, jack hammers, underboring/ directional drilling and impact piling).	✓	✓
	5.4.7	Plan the site layout to minimise movements that would activate audible reversing and movement alarms.	✓	✓
	5.4.8	Provide respite periods for affected receivers: <ul style="list-style-type: none"> one hour respite after every three consecutive hours of high impact activities one day respite after every three consecutive days of high impact activities. 	✓	✓
	5.4.9	Do not affect a receiver for more than two nights in a one week period.	✓	✓
	5.4.10	Due to unavoidable work requirements or due to a regulatory licence requirement (eg RMS) out of hours and/or night works may be required.	✓	✓
	5.4.11	No work is permitted on Sunday night/ Monday morning unless fully justified as necessary due to unavoidable and exceptional circumstances.		
	5.4.12	Where the ROL stipulates out of hours work the works must meet the requirements of NS 174C Environmental Handbook, out of hours work criteria or a site specific noise management plan.	✓	✓
	5.4.13	Develop and Comply with a Construction Noise and Vibration Management Plan where works are likely to exceed three weeks in duration at one location or a certain receiver or cause offensive noise within a sensitive area or night time pile driving / rock breaking would be required. The NVMP must be in accordance with the Interim Construction Noise Guidelines (NSW DECC, 2009).	✓	✓
	5.4.14	Works would be undertaken between 7am and 6pm Monday to Friday and 8am and 1pm on Saturday. Between 7am and 8am on Saturdays, works that are inaudible to the nearest residential premises are allowed. Audible works may be undertaken outside of these hours if: <ul style="list-style-type: none"> the works are emergency works AND the affected residents have been notified as far as reasonably practicable; OR the works fall into one of the following categories AND the affected residents are provided with a notification letter at least four clear business days prior to the works: <ul style="list-style-type: none"> the delivery of oversized plant or structures that require special approval maintenance and repair of essential public infrastructure that is unable to occur during standard hours public infrastructure works that shorten the length of the work and are supported by the affected community (this would require community consultation). 	✓	✓

Impact	No.	Mitigation measures	Construction	Operation
			✓	✓
	5.4.15	For out of hours work, consider notifying local council.	✓	✓
	5.4.16	Provide information via a free call 1800 number, email address and Ausgrid's website for people wanting more information.	✓	✓
	5.4.17	Provide signage outside the worksite detailing who is undertaking the works and a 24 hour contact number.	✓	✓
	5.4.18	Have a documented complaints process, including an escalation procedure so that if a complainant is not satisfied there is a clear path to follow	✓	✓
	5.14.19	Keep a register of any complaints, including details of the complaint such as date, time, person receiving complaint, complainant's contact number, person referred to, description of the complaint, time of verbal response and timeframe for written response where appropriate.	✓	
	5.14.20	Undertake condition reports of structures within five metres of vibration generating works.	✓	
	5.14.21	Mains supply should be used at joint bays were practicable. Where required low noise generators should be used at joint bays and noise barriers or blankets used on temporary fence surrounding the joint bay.	✓	
	5.14.22	Refer operational noise enquires to Ausgrid Environmental Services.	✓	✓
	5.14.23	Reinstate joint bays as soon as practicable so as to minimise the time that road plates are left in place.	✓	
	5.14.24	Once installed pits lids must not rock and make noise. Impact absorbing material must be installed between pit lids to prevent noise nuisance as a result of joint pits.	✓	
	5.14.25	Consider recessing road plates flush with the road surface when not in use for more than 2 nights.	✓	
	5.14.26	Pre-cast joint bays are to be utilised to reduced timing of construction. If joint bay construction is take more than three weeks a quantitative noise assessment in accordance with the ICNG will be required at each location.	✓	
Air quality	5.5.1	Comply with sections 2.1 Erosion and sediment control and 4.2 Air of NS 174C Environmental Handbook	✓	✓
	5.5.2	All workers to be made aware of the presence of sensitive receivers in the area and the need to avoid impacts.	✓	✓
	5.5.3	Use water sprays to dampen (but not saturate) disturbed surfaces and stockpiles, at material transfer points and during construction and demolition.	✓	✓
	5.5.4	Visually monitor dust levels during works. If dust is leaving site, causing a safety issue or complaints are received suspend works and consider mitigation options and/or substitute with an alternate process.	✓	✓
	5.5.5	Restrict traffic movement and vehicle speeds over disturbed areas and unsealed roads.	✓	✓
	5.5.6	Use dust collection devices (such as vacuum) on construction and rock breaking equipment where available.	✓	✓

Impact	No.	Mitigation measures	Construction	Operation
	5.5.7	Prepare and comply with a site specific erosion and sediment control plan (ESCP) when disturbing more than 250m ² at any one time. The ESCP must be prepared in accordance with Managing Urban Stormwater – Soils and Construction (NSW Landcom, 2004), the 'Blue Book'. The ESCP will form part of the CEMP prepared prior to construction. The ESCP / soil and water management plan (SWMP) must be prepared by a suitably qualified person (ie who has completed an International Erosion Control Association (IECA) endorsed course or passed the examination for Certified Professional in Erosion and Sediment Control (CPESC)) in accordance with Managing Urban Stormwater – Soils and Construction.		
	5.5.8	No stockpiling on this site. All spoil to be tipped into a truck or skip bin.	✓	✓
	5.5.9	Position vehicles and equipment where the fumes will least affect receivers, where practicable.	✓	✓
	5.5.10	Do not leave vehicles or equipment idling when they are not needed.	✓	✓
Hydrology	5.6.1	Comply with sections 2.1 Erosion and sediment control, 2.3 Oil fuel and chemicals and 2.2 Water discharge of NS 174C Environmental Handbook.	✓	✓
	5.6.2	All workers to be made aware of the presence of sensitive areas such as surrounding drains immediately adjacent to the work area and the need to avoid impacts.	✓	✓
	5.6.3	Maintain sediment controls, especially during periods of rainfall.		✓
	5.6.4	Prior to construction, prepare and implement an ESCP/SWMP as part of the CEMP in accordance with the Blue Book. The ESCP/SWMP must be prepared by a suitably qualified person (i.e. who has completed an International Erosion Control Association (IECA) endorsed course or passed the examination for Certified Professional in Erosion and Sediment Control (CPESC)) in accordance with <i>Managing Urban Stormwater – Soils and Construction</i> . The ESCP/SWMP must address storage of spoil.	✓	✓
	5.6.5	Maintain sediment controls, especially during periods of rainfall.	✓	
	5.6.6	Remove temporary erosion and sediment controls as the site is stabilised or rehabilitation is complete	✓	✓
	5.6.7	No stockpiling on this site. All spoil to be tipped into a truck or skip bin	✓	✓
	5.6.8	Stabilise disturbed areas promptly, this may include progressive rehabilitation	✓	✓
	5.6.9	For maintenance, work in accordance with Erosion and sediment control on unsealed roads (OEH, 2012) and Managing Urban Stormwater Volume 2C Unsealed Roads.	✓	
	5.6.10	Contain slurry using a wet-vac.	✓	✓
	5.6.11	Organise a licensed taker to remove the water if the relevant discharge criteria cannot be met.	✓	✓
	5.6.12	Non-domestic discharges to sewer must be in accordance with a permit from the relevant water supply authority.	✓	✓
	5.6.13	Prior to construction, prepare a re-vegetation management plan for works within Georges River National Park.	✓	✓

Impact	No.	Mitigation measures	Construction	Operation
	5.6.14	Store oil in a bund unless it is temporary storage.	✓	✓
	5.6.15	Ensure a spill kit is readily available and workers and know how to use it.	✓	✓
	5.6.16	Decommissioning of fluid filled cables and fluid tanks will be conducted in accordance with Fluid Filled Cable Decommissioning Plan developed as a part of the Construction Environmental Management Plan. Ongoing management of decommissioned cables in accordance with Ausgrid Procedures.	✓	✓
Geology and soil	5.7.1	Comply with section 2.1 Erosion and sediment control of NS 174C Environmental Handbook.	✓	✓
	5.7.2	All workers to be made aware of the presence of sensitive areas and the need to avoid impacts.	✓	✓
	5.7.3	Design access tracks and undertake their maintenance in accordance with <i>Managing Urban Stormwater Volume 2C Unsealed Roads and Erosion and sediment control on unsealed roads – A field guide for erosion and sediment control maintenance practices</i> .	✓	✓
	5.7.4	Prepare and comply with a site specific erosion and sediment control plan (ESCP) when disturbing more than 250m ² at any one time. The ESCP must be prepared in accordance with <i>Managing Urban Stormwater – Soils and Construction</i> (NSW Landcom, 2004), the 'Blue Book'. The ESCP will form part of the CEMP prepared prior to construction. The ESCP/SWMP must be prepared by a suitably qualified person (ie who has completed an International Erosion Control Association (IECA) endorsed course or passed the examination for Certified Professional in Erosion and Sediment Control (CPESC)) in accordance with <i>Managing Urban Stormwater – Soils and Construction</i> .	✓	✓
	5.7.5	Based on the presence of acidic residual soils and the exceedance of the action criteria determined by the Net Acidity value it is recommended that it would be prudent to allow for the preparation of an Acid Sulfate Management Plan (ASSMP) for all excavation works in the residual soils.	✓	✓
	5.7.6	Follow any instructions from the NPWS regarding access to weather-affected access tracks.	✓	✓
	5.7.7	Restrict activities in land reserved under the NPW Act to periods of dry weather and to daylight hours.	✓	✓
Contamination	5.8.1	Comply with section 5 Contamination of NS 174C Environmental Handbook.	✓	✓
	5.8.2	All workers to be made aware of the presence of sensitive areas and the need to avoid impacts.	✓	✓
	5.8.3	Dispose of material in accordance with the Waste Classification documentation prepared by WSP Australia (Appendix F)	✓	
	5.8.4	Toolbox talk is to include a discussion of the potential contamination at the site.	✓	✓
	5.8.5	Segregate suspected contaminated spoil from clean spoil to reduce disposal costs.	✓	✓
	5.8.6	Undertake testing to determine the waste classification and subsequent storage, transport, tracking, licensing and disposal requirements.	✓	✓

Impact	No.	Mitigation measures	Construction	Operation
	5.8.7	Provide a secure and bunded area for the storage of fuel, oil or chemicals. This area would be imperviously bunded with a capacity to contain not less than 110% of the volume of the largest container.	✓	✓
	5.8.8	Temporarily store excavated known or suspected contaminated spoil in a covered, lined/ sealed skip or bulk storage bag or sealed container on-site for classification prior to disposal off site. Where there are site restrictions for on-site storage, store offsite. If storing more than 5 tonnes of spoil, use a licensed storage facility. There may also be a requirement for having a licence to transport the spoil (there are exemptions for Ausgrid staff).	✓	✓
	5.8.9	If you think that you have found contamination, you must stop work immediately, restrict access and notify: <ul style="list-style-type: none"> • your supervisor • Ausgrid's Environmental Services • your local safety advisor for WHS requirements. 	✓	✓
	5.8.10	Soil excavated from Ausgrid's 132kV fluid filled cable trenches must be contained in a plastic lined and covered secure bin to prevent water ingress or dust escape.	✓	✓
	5.8.11	Any person handling the waste is trained in handling Scheduled Chemicals and methods of containing Scheduled Chemical spills, and wears Personal Protective Equipment (PPE).	✓	✓
	5.8.12.	All packages / storage containers are clearly labelled and maintained in good order.	✓	✓
	5.8.13	Where more than 50kg but less than 1 tonne is stored, ensure that: <p>There is a clearly defined storage area with conspicuous warning notices identifying the area.</p> <p>The storage area is constructed to prevent discharge in the external environment. For soil this can be satisfied by storing in a lined and covered bin.</p>	✓	✓
	5.8.14	Engage an AS1 licensed contractor to manage asbestos impacted fill in accordance with Work Cover NSW (2008).	✓	✓
	5.8.15	Provide a secure, lockable and floored area for the storage of fuel, oil or chemicals. This area would be imperviously bunded with a capacity to contain not less than 110% of the volume of the largest container.	✓	✓
	5.8.16	Prior to construction, nominate and sign post a plant refueling area.	✓	✓
	5.8.17	Comply with NS 156 when working near or around underground cables.	✓	✓
	5.8.18	Stockpile soils from above the slab of existing 132kV cable trenches in a plastic lined and covered secure bin.	✓	
	5.8.19	Manage soil from below the slab of existing 132kV cable trenches in the following manner: <ul style="list-style-type: none"> • keep them separate from soils from above the slab • any person handling the waste is trained in handling scheduled chemicals and methods of containing scheduled chemical spills and wear personal protective equipment (PPE) • all packages / storage containers must be clearly labelled and maintained in good order. 	✓	✓

Impact	No.	Mitigation measures	Construction	Operation
	5.8.20	If the soil is not contaminated with cable fluid (or anything other than OCP) it can be replaced in the trench to original depths. Soil excavated from the below the protective slab must be reinstated below the protective slab.	✓	✓
	5.8.21	Where the soil contains contaminants such as cable fluid, the fill material should be disposed off-site to a suitably licensed waste facility. The waste must be classified in accordance with the NSW DECC's Waste Classification Guidelines. The sampling must include OCPs.	✓	✓
	5.8.22	When transporting soil where the concentration of Aldrin or Dieldrin in the soil is 5-mg/kg or greater, or the presence has not been ruled out, the following additional controls apply: The transport vehicle must carry personnel trained in containing spills of OCP contaminated spoil. Appropriate PPE, clean up material and equipment must be carried on the transport vehicle.	✓	✓
	5.8.23	If soil from below the slab of existing 132kV cable trenches is not contaminated with anything other than OCP, reinstate it below the slab.	✓	
	5.8.24	If soils from below the slab of existing 132kV cable trenches is contaminated with substances other than OCP: <ul style="list-style-type: none"> do not reinstate the soil in the trench and assume the soil is hazardous waste until it is classified wear appropriate PPE transport using a licensed transporter to a premises licensed to store the contaminated soil arrange for classification of the soil dispose of the soil offsite in accordance with the classification	✓	
	5.8.25	If asbestos is encountered in soil or old conduits or joint bays during construction, the works would cease, access restricted and the asbestos managed and disposed of in accordance with NS 211 Working with Asbestos Products and NSW DECC's Waste Classification Guidelines.	✓	✓
	5.8.26	Additional trial hole investigations are to be undertaken by the Principal Contractor which would be used to ensure excavated spoil is appropriately classified and managed with respect to waste management requirements.	✓	
Waste	5.9.1	Comply with section 5.3 Waste management of NS 174C Environmental Handbook.	✓	✓
	5.9.2	All workers to be made aware of the presence of sensitive areas and the need to avoid impacts.	✓	✓
	5.9.3	Prior to construction, prepare a Waste Management Plan (WMP) which contains a list of expected wastes, their volume and their planned reuse, disposal or recycling.	✓	✓
	5.9.4	Classify wastes to determine licensing, waste tracking and disposal requirements.	✓	
	5.9.5	Segregate and label waste to improve recycling opportunities, avoid cross contamination and reduce disposal costs.	✓	
	5.9.6	Where possible, reuse or recycle or return to the supplier wastes including metal components, transformer oil, spoil and packaging.	✓	

Impact	No.	Mitigation measures	Construction	Operation
	5.9.7	Reuse VENM and ENM where options are available. Ensure that: <ul style="list-style-type: none"> a valid waste classification certificate is available and the reuse meets the conditions of the planning approval for that site. 	✓	
	5.9.8	Ensure a spill kit is readily available and workers and know how to use it.	✓	✓
	5.9.9	Where possible, reuse or recycle or return to the supplier wastes including metal components, transformer oil, spoil and packaging.	✓	✓
	5.9.10	Undertake testing to determine the waste classification and subsequent storage, transport, tracking, licensing and disposal requirements.	✓	✓
Flora and fauna	5.10.1	Comply with section 6 Ecology of NS 174C Environmental Handbook.	✓	
	5.10.4	Where cables must be laid within the TPZ, minimise the extent impacted and for significant encroachments, underbore/ directional drill at least 600 mm beneath the ground surface, or if excavating, hand dig or use an air knife.	✓	
	5.10.5	Keep storage areas, stockpiles, vehicle parking, and access tracks clear of the TPZ.	✓	
		Before entering or leaving bushland, check boots, personal items and all components of vehicles and equipment (including radiator, engine, cabin, tray, attachments, guards and plates) are free of soil and vegetation. If identified, disinfected with solutions such as Pine-o-Clean or Nu Clenz prior to undertaking works in vulnerable areas.		
		Vegetation to be retained must be identified and protected to prevent damage from workers and machinery and remain in place for the duration of construction work.		
	5.10.6	Comply with the Tree Safety Management Plan when undertaking vegetation pruning/ removal and maintenance works. No tree can be removed. Minor branches can only be pruned in a very minor or inconsequential manner.	✓	
	5.10.7	Vegetation clearing and pruning to comply with NEG-OH21 Vegetation Safety Clearances / ISSC3 Guideline for Managing Vegetation Near Powerlines/Bushfire Risk Management Plan .	✓	
	5.10.8	Where works could inadvertently harm adjacent vegetation, implement measures to protect the TPZ and the vegetation.	✓	
	5.10.9	Trench or excavate outside the SRZ. If trenching is within the SRZ ensure an arborist is present if roots greater than 50mm diameter would be impacted.	✓	
	5.10.11	Contact local wildlife rescue organisations for the rescue or care of native wildlife (refer to section 10 of NS174C Environmental Handbook)	✓	
	5.10.12	Keep to designated roads and access tracks. Restrict vehicle and plant movements to existing cleared areas.	✓	
	5.10.13	When removing weeds, select the most appropriate method taking in to account weed species, environmental considerations and the extent of infestation. Use of pesticides will comply with the Pesticides Act 1999 .	✓	
	5.10.14	Contain and dispose of cleared vegetation containing weeds to an appropriately licensed vegetation waste disposal facility.	✓	

Impact	No.	Mitigation measures	Construction	Operation
	5.10.15	<p>For unplanned encroachments within the TPZ:</p> <ol style="list-style-type: none"> 1. Prior to site establishment, prepare a TPZ and SRZ plan to show TPZ and SRZ limits and trench alignment. 2. Prior to site establishment, mark out TPZ limits in the field where access allows using spray paint. 3. Prior to site establishment, include the SRZ / TPZ plan in relevant work instructions. 4. Prior to construction, provide the SRZ / TPZ plan to the appropriate contact person (council, land owner, park manager) advising they would be notified where any un-planned works would encroach on the TPZ. 5. Provide tool box construction restrictions and approval process for works within the SRZ / TPZ to construction crews. 6. Generate a hold point where the SRZ is to be compromised via construction works (trenching, access or storage of materials), until written advice is received from an arborist that planned controls are sufficient to release the hold point. 	✓	
	5.10.16	If planting vegetation, use local native species grown from local provenance seed. These can be purchased from many council nurseries and a number of private native nurseries.	✓	
	5.10.17	No importing mulch from other sites.	✓	
	5.10.18	<p>Implement a tree felling protocol to protect fauna.</p> <ol style="list-style-type: none"> 1. Identify all hollow-bearing trees in the vicinity of the works with high visibility flag or similar prior to commencement of vegetation clearing. 2. Undertake pre-clearance surveys for fauna immediately prior to clearing. 3. Where fauna is identified in a tree to be felled, the tree must not be cleared until the fauna has relocated itself. 4. Remove understorey vegetation and other trees in the vicinity. 5. Check the tree each morning until the fauna moves into adjacent vegetation (normally following day). 6. Ensure an ecologist is present during felling of hollow-bearing trees to relocate fauna or provide care as necessary. 	✓	
	5.10.19	Keep storage areas, stockpiles, vehicle parking, and access tracks clear of the TPZ.	✓	
	5.10.20	Vegetation to be retained must be identified and protected to prevent damage from workers and machinery and remain in place for the duration of construction work.	✓	
	5.10.21	A number of mitigation measures will be implemented to avoid impacts on the root systems of trees including marking out of protection zones when works are in proximity, presence of arborist whenever works are within the structural root zone and utilising horizontal directional drilling to avoid the root systems of major trees. Refer to attached Arborist report (Appendix G) for all mitigation measures.	✓	

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	5.10.22	Provide an escape route for fauna if trenches or pits will be open extended periods (eg log or stick)		
	5.10.23	Comply with conditions / recommendations in Appendix F Ecological Report.	✓	
	5.10.24	A vegetation rehabilitation plan must be developed for the section where regrowth vegetation is to be removed in co-ordination with National Parks and local community groups	✓	
Bush fire	5.11.1	Comply with section 6.4 Total fire bans of NS 174C Environmental Handbook.	✓	✓
	5.11.2	All workers to be made aware of sensitive areas and the need to avoid impacts.	✓	✓
	5.11.3	Any hot works during a total fire ban must be in accordance with an approved exemption Ausgrid employees to work in accordance with DG33. This includes grinding, welding, brazing, oxy-cutting, heat treatment or processes that generate heat or continuous streams of sparks. The Contractor or ASP must obtain their own exemption.	✓	
	5.11.4	Hot work activities to be clear of combustible matter by at least 3 metres. Keep adequate fire fighting equipment immediately at hand. Avoid driving a vehicle through long grass or operating motors and equipment in proximity to vegetation.	✓	
	5.11.5	Undertake consultation with the local fire authority prior to commencing hot works to advise of works in bushfire prone areas and of any access restrictions to fire trails.	✓	
	5.11.6	Schedule hot works activities during the more favourable period of the day and week.	✓	✓
Aboriginal heritage	5.12.1	Comply with section 7.1 Aboriginal heritage of NS 174C Environmental Handbook.	✓	✓
	5.12.2	All workers to be made aware of sensitive areas and the need to avoid impacts.	✓	
	5.12.3	No impact on rock outcrops	✓	
		IMPORTANT: THIS PROPOSAL IS ON DISTURBED LAND. If you think you have discovered an Aboriginal heritage object or evidence of Aboriginal occupation you must stop work immediately, restrict access and notify your Supervisor to ensure the regulator is contacted. Ausgrid employees should contact Ausgrid's Environmental Services. In these cases Ausgrid's Environmental Services will contact the regulator.		
	5.12.4	Restrict vehicle and plant movements to existing roadways or access tracks.		
Non-Aboriginal heritage	5.13.1	Comply with section 7.2 Non-Aboriginal heritage of NS 174C Environmental Handbook.	✓	✓
	5.13.2	All works to cease if potential heritage is discovered. Access should be restricted and Supervisor notified to ensure regulator is contacted. Ausgrid employees should contact Ausgrid Environmental Services on 9394 6659.	✓	✓
Visual and aesthetics	5.14.1	Consult with affected stakeholders about the proposal.	✓	✓
	5.14.2	The feeders would be installed underground.	✓	

Impact	No.	Mitigation measures	Construction	Operation
	5.14.3	Reinstate the roadways post works to a suitable condition.	✓	✓
	5.14.4	Clear the minimum amount of vegetation necessary and undertake replacement planting.	✓	
	5.14.5	Locate the proposal within the existing easement that contains existing electrical infrastructure within Georges River National Park or within the existing cleared access track where possible.	✓	
Traffic and access	5.15.1	Comply with section 4.2 Noise and vibration of NS 174C Environmental Handbook.	✓	✓
	5.15.2	Where works are proposed on a classified road for the 11kV load transfer, consent is required under section 138(1) of the Roads Act 1993. To apply for a section 138 consent, write to RMS for classified state roads or the relevant local council for classified regional roads to request approval, providing a description of the work and including a plan showing the extent of the works. Ausgrid employees should use the relevant templates from Appendix 1 of Ausgrid's Procedure to Seek Consent Under Section 138 of the Roads Act. An ROL must be obtained from RMS if traffic will be impacted during the works.	✓	✓
	5.15.3	Prepare and implement a Traffic Management Plan in accordance with relevant requirements, including provisions for pedestrian and cycle ways.	✓	✓
	5.15.4	Prior to construction, prepare a TCP in accordance with the Australian Standard 1742.3	✓	✓
	5.15.5	The TMP and /or TCP must consider the cumulative impact of construction traffic movements from other Ausgrid and non-Ausgrid works.	✓	✓
	5.15.6	All potentially affected residents and businesses are to be provided with 48 hours' notice of any access changes to properties. Where residents and businesses are directly affected by the work (eg their access will be restricted), one week's notice must be given.	✓	✓
	5.15.7	Reinstate roads post works in consultation with council/RMS.	✓	✓
	5.15.8	Enclosures would only be installed a maximum two weeks prior to the commencement of jointing	✓	✓
	5.15.9	Where multiple works crews are being utilised there would be adequate separation to minimise impacts on traffic	✓	✓
	5.15.10	Temporary joint pit lids would be installed to reduce the potential for noise from impacting each other. Once installed pits lids shall not rock and make noise. Impact absorbing material must be installed between pit lids to prevent noise nuisance as a result of joint pits.	✓	✓
	5.15.11	If there are considerable delays in joint bay works temporary reinstatement of joint bays will be considered to reduce traffic and noise impacts.	✓	✓
	5.15.12	Installation of Variable Message Signs prior to the commencement of works to alert road users of future closures/work areas.	✓	✓

Impact	No.	Mitigation measures	Construction	Operation
	5.15.13	Consult with Sydney Buses regarding impacts to routes and bus stop locations	✓	✓
Social and economic	5.16.1	EMF, noise, visual and traffic mitigation measures (sections 5.3.3, 5.4.3, 5.14.3 and 5.15.3) would reduce potential impacts on the surrounding community.	✓	
Cumulative impact	5.17.1	The proposal would be constructed in stages along the proposed route, thereby limiting the amount of noise at any one time and phasing out the various construction scenarios by distance and time.	✓	✓
	5.17.2	Ausgrid is proposing a number of mitigation measures (outlined in section 5.3) which will substantially reduce the magnetic field exposure.	✓	✓
	5.17.3	The appropriate road authority must be consulted during the TMP process for any necessary approvals.	✓	✓
	5.17.4	Canterbury-Bankstown Council, any adjacent commercial premises and sensitive receivers would be consulted prior to construction in order to minimise cumulative traffic and noise impacts associated with the works.	✓	✓
	5.17.5	Other works on Ausgrid's network would be staged and coordinated as necessary to minimise potential cumulative traffic and noise impacts during the construction of the proposal.	✓	✓
	5.17.6	Mitigation measures to address cumulative impact are detailed in sections 5.3, 5.4, 5.8, 5.9 and 5.15 of the REF.	✓	✓