

Appendix G

Consolidated mitigation measures





Table A-1 Consolidated, revised mitigation measures

ID	Measures and programs	Timing
General		
G-1	AGL would carry out the Proposal in accordance with the Project Application documents and the Minister's Conditions of Approval.	Pre-construction Construction Operation
G-2	Monitoring would be carried out in accordance with the requirements of an Environmental Protection Licence.	Operation
Cumulative impacts		
CU-1	AGL would continue to engage with Transport for NSW as to the collaborative design and construction processes to reduce the cumulative visual impact of the projects (the Proposal and M12RT project).	Pre-construction Construction
Management planning		
M-1	The construction and operation would be carried out under the provisions of an Environmental Management System prepared in accordance with ISO 14001 or equivalent.	Construction Operation
M-2	The construction would be carried out under the provisions of a Construction Environmental Management Plan.	Construction
M-3	The operation would be carried out under the provisions of an Operational Environmental Management Plan.	Operation
Consultation		
CO-1	Consultation would continue with stakeholders during all stages of the Proposal.	Pre-construction Construction Operation
CO-2	Stakeholders, including adjoining landholders and the local community would be notified when construction and operation are planned to commence.	Construction Operation
Biodiversity		
B-1	<p>A Biodiversity Management Plan would be prepared as part of the CEMP and implemented throughout construction. The Plan would include, but not be limited to:</p> <ul style="list-style-type: none"> Plans showing areas to be cleared and areas to be protected, including exclusion zones, appropriate signage, protected habitat features and revegetation areas, vehicle and equipment parking areas, and stockpile areas Site inductions Location of threatened biodiversity Pre-clearing survey requirements Vegetation clearing procedures Procedures for unexpected threatened species finds and fauna handling Protocols to manage weeds and pathogens including a Plan of Management for the control of weeds, according to requirements under the NSW <i>Biosecurity Act 2015</i> 	Pre-construction Construction

ID	Measures and programs	Timing
	<ul style="list-style-type: none"> ■ Protocols for soil and seed material to minimise transfer between sites ■ Restriction of public access and associated impacts from domestic pets, waste dumping and damage to adjoining vegetation should be enforced pre, during and post construction ■ Reduction in lighting levels at access road to avoid any adverse effects upon the essential behavioural patterns of light-sensitive fauna, in accordance with AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting ■ Noise management practices ■ Dust control measures 	
B-2	Detailed design would consider areas identified in the Biodiversity Development Assessment Report (BDAR) that host threatened species and communities and limits the intrusion of the Proposal into those areas.	Pre-construction Construction
B-3	<p>Limit removal of trees to that required within the development footprint and reinstate logs and rocks, which are removed for pipeline construction, along the right of ways or relocate them to appropriate nearby habitats.</p> <ul style="list-style-type: none"> ■ A pre-clearing protocol would be implemented during clearing works, as follows: <ul style="list-style-type: none"> – Pre-clearance surveys would be undertaken to determine if any inhabiting fauna are present – A suitably qualified and trained fauna handler would be present during hollow-bearing tree clearing to rescue and relocate displaced fauna ■ Appropriate exclusion fencing around trees and woodland that are to be retained within the development footprint would be erected, considering allowance for Tree Protection zones in accordance with the Australian Standards 	Pre-construction Construction
B-4	Koala traffic signs would be installed along the access route from Old Punt Road.	Construction Operation
B-5	Any fencing required around proposed easements (not including fencing erected for safety of operation purposes) would have a Koala-friendly design, with a 20cm gap at the bottom to allow the movement of Koalas and other terrestrial fauna.	Construction Operation
B-6	A Biodiversity Offset Strategy would be prepared for the Proposal .	Pre-Construction
B-7	Weed infestations within the construction footprint would be identified and mapped prior to construction.	Pre-construction
B-8	Appropriate wheel wash and hygiene procedures would be implemented to limit construction plant and vehicles spreading weed seeds, vegetation debris and loose soil to and from the Proposal area.	Construction
B-9	Weed controls would be monitored regularly to promote the rehabilitation of revegetated areas within the Proposal area. Supplementary active revegetation would be undertaken as required.	Operation
B-10	Open sections of trenches would be monitored as required for trapped animals such as small ground dwelling mammals.	Construction
B-11	To manage the risk of koalas entering the site and being hurt, injured or killed, fauna exclusion fencing will be installed around operational areas where reasonable and feasible.	Construction

ID	Measures and programs	Timing
Surface water and hydrology		
SW-1	<p>A Surface Water Management Plan (SWMP) will be prepared as part of the CEMP and implemented throughout construction. It would include, but not be limited to:</p> <ul style="list-style-type: none"> ▪ Erosion and Sediment Control Plan ▪ Stormwater Management Strategy ▪ Dewatering Procedure ▪ Acid Sulphate Soil Management Plan (ASSMP) 	Pre-construction Construction
SW-2	<p>A site-specific Erosion and Sediment Control Plan (ESCP) would be developed in accordance with the Blue Book. At minimum this would include:</p> <ul style="list-style-type: none"> ▪ Scheduling construction works to avoid periods of heavy rainfall, where possible ▪ Incorporating a designated stable vehicle access road and construction phase car park ▪ Minimisation of the area of exposed and unstable ground surfaces during construction ▪ Using sediment control systems including geofabric on stockpiles, silt fences, sediment traps, contour berms, energy dissipators ▪ Resealing or revegetating exposed surfaces as soon as practical ▪ Dust suppression methodologies including the use of a mist/spray and limiting certain tasks once a wind threshold is reached ▪ Clean/dirty water separation and management via a Stormwater Management Strategy ▪ Contact with soil, sediment, groundwater and surface water where possible ▪ A description of monitoring required (dust as well as certain contaminants) ▪ A description of the inspection and maintenance of erosion and sediment controls required 	Pre-construction Construction
SW-3	<p>A Stormwater Management Strategy would be developed including:</p> <ul style="list-style-type: none"> ▪ Clean water diversion drains or berms to divert clean water runoff from the surrounding catchment around the construction site and into existing drainage lines to prevent the formation of new surface flow paths ▪ Separation of clean and dirty/contaminated stormwater within the construction site ▪ All surface runoff from disturbed areas will be directed via dirty water drains to sediment control structures which will ultimately run into the sediment basin/s ▪ Sediment basin sizing, location and maintenance regime in accordance with Blue Book and IECA guidelines ▪ Turbidity testing and treatment (via a Dewatering Procedure) ▪ A description of disposal/reuse options (eg reuse for dust suppression or irrigation or disposal to stormwater or sewer) ▪ Water quality monitoring ▪ Siting of waste and chemical storage areas 	Construction

ID	Measures and programs	Timing
	<ul style="list-style-type: none"> Disposal of contaminated water at a licensed facility 	
SW-4	<p>A Dewatering Procedure would be developed to instruct:</p> <ul style="list-style-type: none"> Process for testing whether water meets discharge criteria Water treatment methods including flocculation and pH adjustment Discharge process and location/s including avoiding erosion or scour Water quality monitoring requirements Permits and records required Any water which cannot be treated to meet discharge criteria would be removed by sucker truck and transported for offsite disposal at a licenced facility 	Construction
SW-5	<p>An ASSMP would be developed and implemented and would include:</p> <ul style="list-style-type: none"> Further site investigations to determine the areas of ASS that may generate sulphuric acidity from sulphide oxidation Preparation in accordance with the Port Stephens LEP 2013, the Port Stephens Council ASS Policy 2004, and the Acid Sulphate Soils Manual (ASSMAC 1998) Protocol to minimise the disturbance and exposure of ASS A description of the management/stockpiling requirements for each of the scenarios that may generate ASS (ie excavation or HDD) Methods for storing excavated ASS in conditions which simulate its natural state; or treatment and storage away from water bodies and drainage lines Bunding of exposed ASS storage and treatment areas to minimise and prevent spread of leachate Appropriate signage, barricading and sediment controls Recommended liming rates for generated ASS Method for lime treatment with machinery sufficient to perform adequate mixing A description of the maximum onsite residency time for untreated ASS A description of an emergency response protocol (ie where acidic runoff is generated) Steps to minimise groundwater dewatering (potentially oxidising unoxidised ASS) A field screening test using hydrogen peroxide (H₂O₂) would be performed on excavated soils in areas where ASS or PASS is anticipated, or on suspect soils. Soils which record a pH of below 4 following oxidation should be managed as ASS. Record keeping requirements including: <ul style="list-style-type: none"> ASS monitoring and laboratory testing results Excavation records Stockpile tracking Register of lime used for ASS treatment Register of any offsite disposal of treated ASS 	<p>Pre-construction</p> <p>Construction</p>

ID	Measures and programs	Timing
SW-6	The permanent piped connection to the Hunter Water Corporation (HWC) network would be installed as early works to provide water for construction purposes and minimise water deliveries to the Proposal area.	Pre-construction
SW-7	<p>A procedure would be developed and implemented to minimise the risk of drilling waste (in the form of drilling fluids and hydraulic stimulation fluids) contaminating watercourses during drilling, completion, hydraulic stimulation and workover activities.</p> <p>Drilling fluid spills would be immediately contained, cleaned up and reported.</p>	Construction
SW-8	The HDD entry and exit sites would be securely bunded to prevent the release of leachate from excavated material, drilling fluids, or spills entering the surrounding environment.	Construction
SW-9	A designated concrete washout area for concrete mixers and pump trucks, concrete chutes, tools and equipment would be established away from drainage lines and water bodies, which would be lined with impervious material. The washout capacity would be regularly checked before being used. The wash water would be left to evaporate, with dried concrete removed for recycling as required. Inspection of the capacity of the washout area and integrity of the liner would be undertaken prior to each use, and prior to rainfall events or site shut down, with improvements made as required. Wash water would be pumped out as required to maintain capacity or prior to rain events and disposed of as contaminated water.	Construction
SW-10	The use of pesticides in the project footprint would be limited where possible to avoid contamination of nearby watercourses/wetland areas.	Construction Operation
SW-11	Use of chemical treatment of hydrostatic test water would be avoided where possible. If necessary, chemical concentration to be calculated such that they are consumed in the hydrotesting process and only trace volumes would be present in any discharge.	Construction
SW-12	Water used in pressure testing would be collected following testing and disposed of off-site at a licensed facility.	Construction
SW-13	Any mulch stockpiles from cleared vegetation must be located at high points away from watercourses, with upgradient water diverted to avoid entering the stockpile.	Construction
SW-14	Mulch should not be used as part of erosion controls in the floodplain or along concentrated flow paths.	Construction
SW-15	<p>Bunding and hazardous materials storage requirements include:</p> <ul style="list-style-type: none"> ▪ Appropriately bunded in accordance with relevant Australian Standards ▪ Bund-wall expansion joints and fire suppression to be incorporated into design. ▪ Sufficient capacity ▪ Isolation valves for all bunds ▪ A high-level alarm would be fitted to the sewage tank ▪ Low- and high-level alarms would be fitted to the diesel tanks ▪ Inspection and maintenance after rainfall ▪ Bund areas and tanker loading/unloading areas having sufficient capacity 	Construction Operation
SW-16	A register of all hazardous chemicals kept in the Proposal area is to be maintained and updated regularly.	Construction

ID	Measures and programs	Timing
		Operation
SW-17	Dedicated re-fuelling areas and spill controls, and appropriate chemical, fuel and liquid storage and handling would be undertaken during construction, in accordance with Australian standards.	Construction Operation
SW-18	Spill kits to be maintained in appropriate locations in accordance with Australian Standards, including where required inside machinery and vehicles.	Construction Operation
SW-19	A Spill Response and Containment Procedure would be developed including: <ul style="list-style-type: none"> ▪ Training and PPE ▪ Precautionary measures for handling and storage of chemicals and fuels ▪ Spill response protocols (control, contain, clean up) ▪ Contaminated soils to be disposed of appropriately ▪ All spills to be reported and recorded in the Spills Register ▪ Spill kits to be restocked following use 	Construction Operation
SW-20	All vehicles, plant and equipment to be checked regularly for fuel tank and line leaks or failures.	Construction Operation
SW-21	Bunds and sumps should be regularly inspected, and capacity maintained by regular draining and disposal.	Construction Operation
SW-22	Licenced contractors would be engaged to collect, transport and dispose of liquid hazardous materials, waste solvents, paints and hydrocarbon products to an appropriate off-site facility in accordance with relevant NSW Environment Protection Authority (EPA) guidelines.	Construction Operation
SW-23	Management and maintenance of the sewage system must be carried out by suitably trained personnel.	Construction Operation
SW-24	The civil design of the power station will incorporate the principles in the Port Stephens Council DCP 2007 to ensure that the post-development flow rate and volume is equal to pre-development for all storm events.	Pre-construction
SW-25	The power station would be developed above the PMF level.	Pre-construction
SW-26	A Flood Preparedness Plan would be developed based on the PMF event, and would include: <ul style="list-style-type: none"> ▪ Roles, responsibilities and communication procedures including emergency contacts ▪ Monitoring procedures for rainfall and flood warnings (including BoM and local flood warning services) ▪ Requirement for an environmental risk assessment prior to commencing excavation or trenching work in the event of a flood warning ▪ Site shut-down and flood preparedness procedures to minimise harm to persons, plant and the environment ▪ Actions in the lead up to the flood (such as monitoring water levels, filling excavations, completing erosion and sediment controls, removing hazardous materials and waste from the Proposal area, barricading, sealing tanks and containers to prevent overflows, tying down loose items) 	Construction Operation

ID	Measures and programs	Timing
	<ul style="list-style-type: none"> Actions at the time of the flood (may include further evacuation, rescue, pollution prevention, spill response, and contingency measures) Actions post-flood (including clean up and rectification) Evacuation routes and procedures identified, particularly for the access road into the site Rescue procedures Procedure for resuming operations Reporting requirements and corrective actions <p>During its development, the Flood Preparedness Plan would be discussed with the SES and Council to ensure alignment with community evacuation arrangements.</p>	
SW-27	<p>Pre-construction surface water quality monitoring would be undertaken at the following monitoring locations:</p> <ul style="list-style-type: none"> Drainage Path 1 (at culvert crossing Pacific Highway) Drainage Path 2 (at culvert crossing Pacific Highway) <p>Water quality testing would be undertaken monthly (if water is present) and following elevated periods of rainfall for a period of at least 3 months prior to construction.</p> <p>Test results from pre-construction monitoring would be correlated with available monitoring data from the adjacent NGSF site to create a baseline dataset which could be used for comparison during construction and operation of the Proposal.</p>	Pre-construction
SW-28	<p>A surface water quality monitoring program would be implemented at the following monitoring locations:</p> <ul style="list-style-type: none"> Construction phase sediment basin/s (construction only) Wet sump oil and grease separator (GPT) Bio-retention system outflow Drainage Path 1 Drainage Path 2 LEP Wetlands discharge location (downstream of the secondary drainage that meets Drainage Path 1) <p>Water quality testing would be undertaken monthly and following elevated periods of rainfall.</p>	Construction Operation
SW-29	<p>Regular inspection, monitoring and maintenance of erosion and sediment control structures would be undertaken in accordance with the ESCP and Blue Book.</p> <p>In addition, inspections would be undertaken immediately prior to and following heavy rainfall and rectifications made as required.</p>	Construction
SW-30	<p>Regular inspection and maintenance would be undertaken of:</p> <ul style="list-style-type: none"> Hazardous material containment facilities Bunds and sumps Vehicles, plant and equipment including tanks and line failures Sewage tanks Water storage tanks or ponds 	Construction Operation

ID	Measures and programs	Timing
	<ul style="list-style-type: none"> ▪ GPT ▪ Spill kits <p>In addition, inspections would be undertaken immediately prior to and following heavy rainfall and rectifications made as required.</p>	
SW-31	<p>An Operation Environmental Management Plan (OEMP) will include a Stormwater Management Strategy including:</p> <ul style="list-style-type: none"> ▪ Drainage and temporary water storage systems, including separation of clean and dirty/contaminated water ▪ Use of GPT (sediment and oil/water separator) and bioretention area ▪ Reuse options (eg irrigation) ▪ Water quality monitoring ▪ Clean water discharge location and method ▪ Disposal of contaminated water and sewage at a licensed facility 	Operation
SW-32	<p>A chemical drains system would be provided for collection and treatment of chemical spills and stormwater falling into bunded chemical storage areas (if outdoors).</p> <p>Chemical drains would be collected in a drains sump for testing and treatment before being piped to the process wastewater system.</p>	Operation
Groundwater		
GW-1	<p>A Groundwater Management Plan would be prepared, implemented and updated as required as part of the CEMP and OEMP. The plan would describe best practice control measures to reduce the risk of contamination of groundwater, or the substantial alteration of groundwater flows due to drawdown effects. The plan would detail:</p> <ul style="list-style-type: none"> ▪ Background groundwater quality and levels ▪ Management of groundwater interference and dewatering ▪ Groundwater testing and assessment ▪ Groundwater discharge or reinjection criteria ▪ Best practice controls ▪ Spill response and containment plan ▪ Contamination response plan ▪ Drawdown contingency plan ▪ Groundwater monitoring program <p>The Groundwater Management Plan would include a groundwater monitoring program which would detail:</p> <ul style="list-style-type: none"> ▪ Groundwater monitoring required <ul style="list-style-type: none"> – Analytes/parameters (water quality) – Background concentrations – Criteria/thresholds ■ Groundwater levels 	Construction Operation

ID	Measures and programs	Timing
	<ul style="list-style-type: none"> ■ Frequency ■ Bore locations <ul style="list-style-type: none"> – The 10 existing monitoring bores on the power station site – Available boreholes at the NGSF site near the proposed pipeline corridor – Additional locations along the pipeline corridor – At the directional drilling entry and exit pits (during construction) – Upstream and downstream of the operational stormwater discharge point/s ■ Potential impacts <ul style="list-style-type: none"> – Change in groundwater quality or levels – Drawdown impacts – Effects on GDE – Effects on beneficial aquifers (including groundwater users) ■ Reporting requirements ■ Protocol for the investigation, notification and mitigation of any identified exceedances of the groundwater quality criteria <p>Monitoring requirements would be reviewed once the details of the construction are finalised and during construction.</p>	
GW-2	Limit the extent of impervious surfaces to allow aquifer recharge.	Pre-construction
GW-3	Minimise long-term disturbance of groundwater flows through design, such as incorporating permeable zones that allow groundwater to bypass the buried gas pipeline.	Pre-construction Construction
GW-4	<p>When constructing the gas pipeline in areas of shallow groundwater, the following techniques should be considered to minimise groundwater impact:</p> <ul style="list-style-type: none"> ■ Trenches below the water table would be excavated over short lengths to reduce the volume of groundwater impacted during construction ■ As required, use appropriate materials, such as trench shields or sheet piles, to maintain the stability of excavation walls ■ If practical, dewater to locally lower the water table beneath the floor of the excavation to provide a safe and dry working surface ■ Abstracted groundwater would be stored pending water quality testing, for either re-injection or infiltration (if water quality criteria are met) or disposal offsite at a licensed disposal facility ■ Replace material excavated from trenches to minimise changes to groundwater flows ■ Where possible, pipelines will be bedded on sand in the base of the trench 	Construction
GW-5	When working along the pipeline route, additional precautions should be made when using or transporting fuels and chemicals, and any spills should be immediately contained and cleaned up. Any contaminated material to be removed from the site would be sent to a licensed facility.	Construction
GW-6	Any water encountered and abstracted from the Tomago Sandbeds aquifer should be locally reinjected back into the aquifer on the hydraulically down gradient side, approximately 50m from the edge of the construction works.	Construction

ID	Measures and programs	Timing
	<p>Prior to re-injection the abstracted groundwater must be inspected for any signs of contamination (high turbidity, oily sheen or odour of hydrocarbons) and tested for water quality parameters (temperature, dissolved oxygen, redox, EC, and pH), which would be compared to measurements from nearby monitoring wells.</p> <p>If greater than 10% difference with the groundwater measurements treatment would be required prior to re-injection.</p> <p>If collected groundwater does not meet criteria for re-injection, then the collected groundwater must be disposed to a facility licenced to accept and treat contaminated water.</p>	
GW-7	Undertake infiltration rate tests at locations of proposed groundwater discharge areas or infiltration basins to determine local infiltration rates and the presence of indurated sand layers capable of inhibiting groundwater recharge.	Construction Operation
GW-8	Process water would be managed to prevent discharge to surface water systems or groundwater.	Operation
GW-9	Sealed pavement areas should be used for refuelling and chemical storage areas to minimise the risk of spills infiltrating to groundwater.	Construction Operation
GW-10	Prepare a remediation action plan for major spills or other incidents which may cause impact to groundwater quality. This may include hydraulic containment using downgradient berms and pumps.	Construction Operation
GW-11	Rehabilitate compacted areas which are not needed for operational activities by loosening the soil, adding organic matter and revegetating the area.	Post-construction
GW-12	If more than 3 ML/year groundwater is expected to be intercepted during construction, AGL would pursue a Water Access Licence and continue consultation regarding any water trading requirements.	Pre-construction Construction
Air quality		
AQ-1	The power station would be fitted with a Continuous Emission Monitoring Systems (CEMS) to demonstrate ongoing regulatory compliance, ensure proper and efficient operation of pollution control equipment, and evaluate operating and emission variability.	Pre-construction Operation
AQ-2	<p>The CEMP will include requirements to monitor and manage potential air quality impacts associated with the construction of the Proposal. The CEMP will identify project construction activities with the potential to have air quality impacts and the controls required to avoid, minimise and mitigate these impacts. The plan will include measures to:</p> <ul style="list-style-type: none"> Minimise dust generation from stockpiles, haulage routes, work activities and exposed ground surfaces Minimise generator and vehicle emissions Cover or minimise truck loads Reduce speeds on unsealed roads Modify or cease dust generating works during unfavourable weather conditions Inspect and address corrective actions 	Construction
AQ-3	Any long-term stockpiles would be stabilised and are to be managed to suppress dust emissions.	Construction

ID	Measures and programs	Timing
AQ-4	Demolition activities, including removal of hazardous building materials, will be planned and carried out in a manner that minimises the potential for dust generation. Removal of hazardous building materials will be completed prior to the commencement of general demolition works.	Construction
AQ-5	Vegetation or other materials are not to be burnt on site.	Construction Operation
AQ-6	All air quality requirements and monitoring would be adhered to in accordance with an EPA license.	Operation
Soils and contamination		
SC-1	Heavy vehicles and machinery would use allocated tracks where possible to minimise soil erosion.	Construction
SC-2	Where highly contaminated soil and/or groundwater is impacted, a site-specific remediation action plan would be required to manage the material. This would include management requirements that are above those outlined within the CEMP. It may be specific to the selected remediation technique and detail the requirements of a specialist remediation contractor.	Pre-construction Construction
SC-3	A pre-demolition hazardous materials survey is required for the demolition of the residential dwelling on Lot 3. Based on the findings, required controls would be implemented for removing the identified materials.	Pre-construction
SC-4	<p>A spills protocol would be developed as part of the OEMP, including:</p> <ul style="list-style-type: none"> Fuel/chemical spill protocols – spill kits to be available and relevant workers to be trained on response protocols A formal reporting procedure - any spills to be reported on the Spill Register A register of all hazardous chemicals kept on site is to be maintained and updated regularly Appropriate recorded spill capture points (i.e. bunding, collection sump, etc) Maintenance requirements of effluent-related infrastructure or disposal to stormwater or sewer) 	Operation
SC-5	<p>Monitoring of contamination would be included in the CEMP which would include:</p> <ul style="list-style-type: none"> Further assessment of identified contamination AECs prior to construction to determine remedial actions Hazardous materials (HAZMAT) asbestos and lead paint surveys of any buildings or structures within the Proposal area prior to demolition Monitoring to be detailed in Proposal construction environmental management plans 	Construction
SC-6	Construction of sediment basin/s would be in accordance with the specifications outlined in Appendix I.	Construction Operation
Aboriginal heritage		
AH-1	Cultural awareness induction for any personnel involved in ground breaking activities. This could include a Cultural Awareness Training Program.	Construction

ID	Measures and programs	Timing
AH-2	<p>An Aboriginal Cultural Heritage Management Plan (ACHMP) including potential monitoring and salvage works procedures would be prepared and implemented for the Proposal construction. The ACHMP would include, but not be limited to:</p> <ul style="list-style-type: none"> ▪ Monitoring and salvage works procedures ▪ An Aboriginal artefacts care agreement ▪ Long term management procedures for Aboriginal objects ▪ Aboriginal cultural heritage mapping ▪ Community consultation with RAPs and BCD prior to construction 	Construction
AH-3	<p>Chance Finds Procedure to be followed for any Aboriginal heritage objects found during the works. In the event an Aboriginal heritage object is found all activity in the immediate area must cease and an appropriately qualified heritage professional should be consulted. OEH and local Aboriginal stakeholder groups must be immediately contacted and informed of the Aboriginal heritage object found. The qualified heritage professional should record the location and the attributes of the site and determine its Aboriginal cultural significance. If Aboriginal remains (human skeletal material or suspected human skeletal material) are discovered during construction all activities in the immediate area must cease. The State Police and OEH must be contacted and any sand or soil removed from the near vicinity identified and set aside for investigation purposes.</p>	Construction
AH-4	<p>Repatriation of archaeological material is to be conducted for artefacts and charcoal recovered during test excavations. The location of the reburial must be determined by the RAPs and should be as close as possible to the location at which the sites were recovered.</p>	Construction
AH-5	<p>A copy of the final ACHAR should be distributed to all Aboriginal organisations who expressed interest in the proposed works.</p>	Pre-construction
AH-6	<p>A copy of the final ACHAR including comments and recommendations by RAPs should be provided to the relevant DPIE BCD regional branch.</p>	Pre-construction
Traffic and transport		
T-1	<p>Parking for construction staff is to be provided within the NPS site.</p>	Construction
T-2	<p>A Construction Traffic Management Plan (CTMP) would be prepared by the contractor to safely manage traffic movements to and from the Proposal.</p>	Pre-construction
T-3	<p>Over Size Over Mass vehicle requirements would be addressed in Traffic Control Plans within the CTMP.</p>	Pre-construction
T-4	<p>A Drivers Code of Conduct would be prepared that directs all heavy vehicles to access the site via the Pacific Highway and Old Punt Road intersection.</p>	Pre-construction
T-5	<p>A CHR turn treatment on Old Punt Road is required to allow for the safe movement of construction traffic turning right into the site and to prevent queuing of vehicles along Old Punt Road. This must be designed in accordance with the Austroads Guidelines and to the satisfaction of PSC and Transport for NSW.</p>	Pre-construction
T-6	<p>Prior to construction of the Proposal, AGL undertakes to share designs and collaborate with Transport for NSW to ensure that there is no restriction to the development of the M12RT project and associated local or state roads.</p>	Pre-construction

ID	Measures and programs	Timing
T-7	AGL will design proposed utilities to be adequately protected and/or have suitable vertical clearance so as not to limit the current operation of the road reserve. AGL undertakes to collaborate with Transport for NSW upon finalisation of the M12RT design/exhibition to ensure that there is no restriction to the development of local and state roads relevant to M12RT.	Pre-construction Construction
T-8	AGL would design the access from Old Punt Road to integrate appropriately with any development proposal designs for the upgrade of Old Punt Road that are exhibited prior to commencement of the construction of the Proposal.	Pre-construction
Noise and vibration		
NV-1	A Construction Noise and Vibration Management Plan (CNVMP) would be prepared prior to the commencement of works to manage high noise works, affected receivers, complaints handling and consultation protocols, and out of hours work.	Construction
NV-2	Respite periods of one hour would be employed for every three hours of work where works are anticipated to generate noise levels > 75dBA at a receiver.	Construction
NV-3	Appropriate plant and equipment would be selected for the task at hand and efficient work practices would be adopted to minimise the construction period and the number of noise sources on site.	Construction
NV-4	Power down plant and equipment when not in use and avoid high engine speeds when lower speeds are sufficient.	Construction
NV-5	All construction plant and equipment would be maintained in suitable condition prior to mobilisation to the site and during construction.	Construction
NV-6	Particular emphasis would be placed on construction maintenance of exhaust silencers, covers on engines and transmissions, and poorly maintained components.	Construction
NV-7	Excessively noisy machines would be taken out of service for repair or removed from the site.	Construction
NV-8	Tonal motion alarms (beepers) would be avoided in favour of broadband motion alarms (quackers).	Construction
NV-9	Where night works are required, works with the potential to generate impulsive noise would be avoided.	Construction
NV-10	Noise complaints would be managed by the construction contractor in accordance with the CEMP.	Construction
NV-11	Appropriate plant and equipment would be selected for the task at hand so that lower vibration/lower impact plant would be chosen over that with a higher impact.	Construction
NV-12	Plant and equipment selected for the Proposal would have sound power levels not exceeding those presented in Section 6.9 of the EIS – Attenuated Sound Power Levels at Source.	Operation
NV-13	Where the attenuated noise levels from the Proposal exceed the predicted noise levels, further attenuation and/or analysis would be carried out to assess and recommend additional measures.	Operation
NV-14	Where noise complaints are validated, operator attended noise measurements would be undertaken to measure and compare the site noise level contributions with the NMLs presented in the EIS.	Construction
NV-15	Where noise monitoring is carried out, all site noise levels would be measured.	Construction

ID	Measures and programs	Timing
NV-16	Where noise monitoring identifies an exceedance, management measures would be designed and implemented to ensure ongoing compliance.	Construction
NV-17	Where vibration complaints are validated, vibration monitoring would be undertaken to identify the nature and extent of any exceedances.	Construction
NV-18	Where vibration monitoring identifies an exceedance, management measures would be designed and implemented to ensure ongoing compliance.	Construction
Social and economic		
SE-1	AGL would use social procurement policies to employ local labour, local and regional businesses, contractors and supply companies for provision of labour, goods and services.	Construction Operation
SE-2	Detailed advanced notice of goods and services required by the Proposal would be issued to assist local businesses and services meet the needs of the Proposal. AGL would require all tenderers on the Proposal to prepare a Local Industry Participation Plan and an Indigenous Engagement Plan as a mandatory component of each tender.	Construction Operation
SE-3	Community consultation would be ongoing throughout the Proposal life. Public notifications, letterbox drops, and emails would be used to update the local community on the Proposal's progress and scheduling of works, particularly works which would have an impact on public amenity such as noisy night works.	Construction Operation
SE-4	Throughout the Proposal planning, construction and operation, AGL would continue consultation with the following key stakeholders: <ul style="list-style-type: none"> ▪ DPIE ▪ Paterson electoral division ▪ Newcastle electoral division ▪ Port Stephens Council ▪ Transport for NSW ▪ Hunter Water Corporation ▪ Department of Defence ▪ Civil Aviation Authority ▪ Newcastle Airport ▪ Department of Energy Agriculture, Water and the Environment (previously Department of Energy and Environment) 	Pre-construction Construction Operation
SE-5	AGL would continue dialogue groups with representatives from Port Stephens Koalas, Hunter Wildlife Rescue, Wahroonga Aboriginal Corporation, HWC and Hunter Region Botanic Gardens.	Construction Operation
SE-6	A Local Community Investment Program would be established for the Proposal once construction commences and would continue into operation. The Proposal would further facilitate, or support initiatives aimed at community development, capacity building and strengthening community institutions.	Construction Operation
SE-7	AGL would continue to develop their working relationships with local area emergency service providers including Raymond Terrace police, ambulance and fire services, and regional hospitals, to prepare for emergencies and advise on risks to	Construction Operation

ID	Measures and programs	Timing
	or from the Proposal. Proposal design will provide sufficient access for emergency vehicles and equipment including firefighting and rescue.	
SE-8	AGL's existing 'Fitness for Work Policy' will be enforced, and all staff, contractors and visitors will undergo site inductions to be familiar with the construction safety management plan and emergency management plan, as well as occupational health and safety requirements.	Construction Operation
SE-9	First aid facilities will be provided on site.	Construction Operation
SE-10	Community liaison would be undertaken throughout the construction and operation phases. A 24-hour information line would be established for any concerned residents to enquire about the Proposal, and a complaints register would be maintained for the life of the Proposal.	Construction Operation
SE-11	<p>AGL would monitor socio-economic parameters so that the effects of the Proposal on the socio-economic conditions of the local area can be quantified during the Proposal and additional management measures can be applied where required. These parameters may include:</p> <ul style="list-style-type: none"> ▪ Number of direct jobs created for local and regional residents ▪ Number of contracts with local businesses and their monetary value ▪ Funding provided to community organisations and groups ▪ Housing and accommodation requirements of the workforce ▪ Number of staff who remain in the community after construction ▪ Stakeholder and community feedback 	Construction Operation
Visual amenity		
VA-1	The power station design including all plant facilities such as diesel storage and operational and amenity buildings would be located insofar as is practical to reduce the requirement to clear vegetation and to reduce the angle from passing viewpoints.	Pre-construction
VA-2	A landscape design workshop would be considered to establish the means to minimise the visual impact and visibility of the Proposal. The workshop would assess the retention of trees, the planting of new and endemic vegetation, and viewpoint specific plantings to eliminate visual impacts from specific locations.	Pre-construction
VA-3	<p>A site landscape plan would be prepared that emphasises integration of new plantings with existing vegetation and that includes opportunities to provide screen plantings. The landscape plan would include (but not limited to):</p> <ul style="list-style-type: none"> ▪ Visual and ecological planting patterns of locally endemic species to emulate existing mixes of tree and grass cover in the surrounding landscape ▪ Installation of temporary screens to minimise exposure of construction areas from local viewpoints ▪ Specific plantings would be considered for screening the nearest residential receivers 	Pre-construction Construction
VA-4	The power station design would seek to include the selection of visually sympathetic cladding and security fencing materials to reduce contrast and improve integration of the balance of plant and of the site as a whole.	Pre-construction

ID	Measures and programs	Timing
VA-5	The lighting design would be in accordance with AS4282-1997 Control of the obtrusive effects of outdoor lighting.	Pre-construction
VA-6	<p>The site-specific CEMP would include the following:</p> <ul style="list-style-type: none"> Where possible, lights would be used at the lowest effective level and would be directed downwards to the work area and away from incoming viewpoints Construction lighting would be kept to a minimum necessary for safety and security needs and would not be directed in a manner so as to shine toward oncoming traffic on the Pacific Highway Night works would be limited where possible to avoid areas that are exposed to direct views along Pacific Highway and workers will be trained in the management of night time lighting Inspection and maintenance schedules of the following construction elements and mitigations for visual impacts: <ul style="list-style-type: none"> Construction lighting direction Temporary construction fencing and screening Delineated no-go areas Vegetation plantings and rehabilitation 	Construction
VA-7	<p>A site-specific OEMP will be prepared for the Proposal. The OEMP would include the following inspection requirements:</p> <ul style="list-style-type: none"> Inspection and maintenance of security lighting direction to ensure it is directed to the worksite and away from neighbouring land uses Inspection and maintenance of security fencing to remove litter and graffiti Inspection and maintenance of vegetation plantings and rehabilitation 	Operation
Non-Aboriginal heritage		
NAH-1	<p>If any heritage objects and/or relics are uncovered during the construction of the Proposal the following steps would be followed:</p> <ul style="list-style-type: none"> All activity in the immediate area would cease immediately The project manager would be notified Flagging or fencing would be erected to demarcate and protect the area Site personnel and visitors would be advised to avoid the area until further notice An appropriately qualified heritage professional would be consulted to confirm if the object/s is a heritage item or relic The Office of Environment and Heritage (OEH) would be contacted An appropriately qualified heritage professional would record the location and attributes of the site and determine the significance of the find <p>Heritage objects and/or relics may include glass, ceramic, metal, building footings, and building materials etc., as protected under NSW legislation.</p>	Construction
NAH-2	In the event of the discovery of human skeletal material (or suspected human skeletal material) during project activities in the Proposal area the following steps would most likely be followed:	Construction

ID	Measures and programs	Timing
	<ul style="list-style-type: none"> All activities and/or works in the immediate area would cease The NSW Police would be immediately contacted along with the project manager and OEH Flagging or fencing would be erected to demarcate and protect the area Site personnel and visitors would be advised to avoid the area until further notice Any sand or soils removed from the near vicinity of the find would be identified and set aside for assessment by the investigating authorities 	
Waste and recycling		
WR-1	Appropriate construction and demolition waste storage and disposal methods would be completed in accordance with the CEMP and <i>Protection of the Environment Operations Act 1997</i> during possible demolition of the onsite property. This aims to reduce any transportation of harmful contaminant via surface water run-off into the surrounding waterway systems.	Construction
WR-2	<p>A Construction Waste Management Plan (CWMP) and Operational Waste Management Plan (OWMP) would be developed and implemented prior to each stage. The plans would be developed with the following criteria:</p> <ul style="list-style-type: none"> A hierarchical waste management approach would be used, from the most preferable (reduce, reuse or recycle wastes) to the least preferable (disposal) to prioritise waste management strategies to avoid waste generation The CWMP and OWMP would be developed in accordance with the mitigation strategies described in the WSM which provides avoidance, mitigation, reuse, recycle or disposal methods for each waste stream identified in the NPS The plans would promote the use of materials with minimal packaging requirements, removal of packaging offsite by suppliers and fabrication of parts offsite Where waste cannot be avoided, waste materials would be segregated by type for collection and removal (for processing or disposal) by licensed contractors All waste types would be separated at source for recycling and apply a system of colour-coded waste storage containers to ensure the segregation of waste is affected as far as possible A licensed service provider would be appointed to collect general solid waste and hazardous waste during construction and operation Each waste type would be classified for transport to ensure correct handling Any waste that cannot be recovered or recycled would need to go to a licensed treatment or disposal facility where it would be treated and disposed of according to its classification 	Construction Operation
WR-3	An audit regime would be implemented, in accordance with the AGL Health and Safety Environmental Management System (HSEMS) during construction and operation which includes (but not limited to) quantities of waste, storage areas and contractor services.	Construction Operation
WR-4	Spoil that can be beneficially reused would be done so in accordance with the project spoil re-use hierarchy.	Construction
WR-5	Ongoing consultation would be required between AGL and HWC regarding the arrangement for the disposal of wastewater.	Construction Operation

ID	Measures and programs	Timing
Plume rise and aviation hazard		
PR-1	AGL would provide the plume rise assessment report to Airservices Australia, Department of Defence, and CASA for review prior to the commencement of construction.	Pre-construction
PR-2	AGL would continue to consult with Department of Defence during design, construction and operation on appropriate measures to manage aviation safety risks associated with the Proposal.	Pre-construction Construction Operation
PR-3	AGL would apply for approval from the Directorate of External Land Planning (DELP) for the erection of permanent and temporary structures in accordance with AC 139-08(0) – CASA Advisory Circular – Reporting of Tall Structures.	Pre-construction
Bushfire		
BF-1	<p>An Emergency Management and Evacuation Plan (EMEP) would be developed and implemented prior to construction and operation. The EMEP would be developed in accordance with:</p> <ul style="list-style-type: none"> ■ NSW RFS – A guide to developing a Bush Fire Emergency Management and Evacuation Plan ■ Australian Standard AS 3745:2010 – Planning for emergencies in facilities <p>The EMEP would include:</p> <ul style="list-style-type: none"> ■ Identify designated buildings or safe places that can provide refuge from bushfires (in accordance with AS3959:2018) ■ Consultation with the local NSW RFS, NSW Fire and Rescue and Port Stephens Bush Fire Management Committee ■ Assessment of response times and access for fire services ■ Ensuring persons are not exposed to bushfire impacts 	Construction Operation
BF-2	<p>Road access to the proposed NPS site would be available to the Fire Emergency Services through the incorporation of the following measures in design:</p> <ul style="list-style-type: none"> ■ The NPS road system would consist of a perimeter road and a network of services roads to allow for multiple access routes ■ The perimeter road would be sealed and a minimum 8m wide forming part of the Asset Protection Zone (APZ) ■ Service roads would be sealed and a minimum of 4m wide, sign posted, and with direct access toward the main entry ■ An alternate access/egress will be considered during design in the event access to Old Punt Road or Old Punt Road itself is cut off or closed 	Construction Operation
BF-3	<p>A radiant heat impact of 23kW/m² or less would be achieved within design for the generator plant, equipment and fuel storage. This would be achieved through either:</p> <ul style="list-style-type: none"> ■ Implementation of an APZ between the asset and the site boundary (as large as reasonably possible) ■ Installation of radiant heat barriers such as metal clad fencing or construction within a shed (in order to be able to decrease the APZ distance less than 32m) ■ Suitable siting of infrastructure within the construction compound 	Pre-construction Construction

ID	Measures and programs	Timing
BF-4	The bulk fuel (diesel) storage would be designed to be compliant with the Australian Standards AS1692:2006 and AS 1940:2017. The location of these storage areas would be located as far as possible from the primary bushfire hazard area. If compliance with AS1692:2006 and AS 1940:2017 is not possible, fire protection on the primary bushfire hazard side (east) of the plant and equipment area would, as a minimum, be compliant with AS 2419.1:2005 for the installation of fire hydrants.	Pre-construction
BF-5	Design of the proposed pipelines would take advantage of the existing bushfire protection measures. Where the final design layout demonstrates that any existing measures are insufficient, compliance with the requirements of the applicable pipeline standard; European LNG Code, EN 1473:2007 would be necessary.	Pre-construction
BF-6	Electrical transmission lines would have vegetation easements in accordance with the bushfire protection requirements of the Guide for the Management of Vegetation in the Vicinity of Electricity Assets (ISSC 3 – 2016).	Pre-construction Construction
BF-7	As described in ISSC 3, 2016, a 10m APZ would be established surrounding the boundary fence, where only maintained lawn or grasses are permitted.	Construction
BF-8	Administration, workshops and stores buildings located on the eastern side of the site (within 23m of the primary bushfire hazard) would be designed to a construction standard minimum of BAL 40.	Pre-construction Construction
BF-9	An emergency egress onto the Pacific Highway, using the existing Lot 2 residential access, will be further considered and included in the EMEP and operational management plans.	Construction Operation
BF-10	Water for firefighting would be provided through the installation of a ring main water supply and hydrants throughout the site. The water supply for the site would be capable of complying with the Australian Standard AS2419.1:2017.	Construction
BF-11	AZP's would be monitored through vegetation clearing maintenance activities.	Operation
Hazard and risk		
HR-1	The detailed design of the generator building/housing and associated equipment would clearly outline the basis of safety used to ensure that the explosive situations do not arise.	Pre-construction
HR-2	Rotating machines would be designed such that the risk associated with failure leading to uncontained projectiles is minimised.	Pre-construction
HR-3	The safety assessment process would continue to identify controls that prevent or limit the effects of major hazardous incidents on site, such as fire and explosion that could result in significant off-site effects.	Pre-construction
Fire safety		
FS-1	The storage and associated piping systems for gases in the gaseous or liquefied states would comply with NFPA 54, NFPA 55, NFPA 56, NFPA 58, and ASME B31.1/B31.3/B31.8 as applicable.	Pre-construction
FS-2	The detailed design would provide for the subdivision of separate fire areas for the purpose of limiting the spread of fire, protecting personnel, and limiting the resultant consequential damage to the plant. Fire areas would be separated from each other by fire barriers, spatial separation, or other approved means.	Pre-construction
FS-3	Hydrocarbon detection systems would be provided in areas of the facility where congestion and hydrocarbon loss may occur.	Pre-construction

ID	Measures and programs	Timing
FS-4	Hot works would be controlled by appropriate Control of Work permitting processes, if required.	Construction Operation
FS-5	Diesel tanks would be designed, installed, and operated in accordance with relevant Australian Standards.	Construction Operation
FS-6	A hydrant system comprising at least one hydrant riser per tank would be installed along with a mobile monitor.	Construction
FS-7	Foam concentrate and powder-type extinguishers would be provided along with a minimum of three powder-type extinguishers for the storage area.	Pre-construction
FS-8	A smoke detection system would be installed throughout rooms containing electrical equipment, including walk-in-type consoles, above suspended ceilings where combustibles are installed, and below raised floors. Where the only combustibles above the false ceiling are cables in conduit and the space is not used as a return air plenum, smoke detectors are permitted to be omitted from this area.	Pre-construction
FS-9	An aspirating smoke detection system would be considered for fire detection with Argonite gaseous suppression systems in cabinets and FM200 gaseous suppression in the switch rooms.	Pre-construction
FS-10	A fire detection system would be provided for each generator housing.	Pre-construction
FS-11	Fireproofing of supports and structures potentially exposed to a jet fire would be considered during design based on the requirements of API 2118.	Pre-construction
FS-12	Bund capacity in the diesel storage area would be sufficient for spill containment and firefighting purposes.	Pre-construction
FS-13	Fire water storage capacity would be provided to comply with NFPA 850 requirements.	Pre-construction