APPENDIX

E

DUNGOWAN DAM AND PIPELINE EIS

Mitigation measures

NSW GOVERNMENT | EMM creating opportunities

Appendix E. Mitigation measures

Table E.1 Summary of mitigation measures

Aspect	Ref #	Mitigation measure	Timing
General			
Construction environmental management	G01	A Construction Environment Management Plan (CEMP) would be developed to manage impacts of the project throughout the construction phase. The CEMP would: • Be an overarching management plan to provide guidance for the implementation of mitigation measures across a suite of project impacts. • Include responsibilities for implementation. • Include induction and training requirements. • Detail inspection, auditing and incident reporting requirements. • Contain environmental sub plans.	Prior to construction
Operational environmental management	G02	An Operation Environment Management Plan (OEMP) would be developed to manage impacts of the project during operation and maintenance. The OEMP would be developed by WaterNSW and Tamworth Regional Council (as asset owners) to ensure integration between the dam and pipeline operation, management and maintenance.	Prior to operation
Construction hours	G03	Standard work hours for construction works would be undertaken: • Monday to Saturday 7.00am to 6.00 pm. • Sundays or public holidays – low noise and low traffic generating work may be carried out 9.00 am to 5.00 pm. Blasting would be undertaken: • Monday to Saturday 9.00 am to 5.00 pm. • No work on Sundays or public holidays.	Construction

Aspect	Ref #	Mitigation measure	Timing
Surface Water			
Surface water management	SW01	A construction Soil and Water Management Plan (SWMP) would be prepared and implemented as part of the CEMP. The SWMP would identify all reasonably foreseeable risks relating to soil erosion and water pollution and describe how these risks would be addressed during construction. The SWMP will: • Detail induction and training requirements. • Assess and detail the requirements to comply with relevant policies guidelines, legislation and other approvals. • Be developed in accordance with the requirements of Managing Urban Stormwater – Soils and Construction, Volume 1 (Landcom 2004) and other relevant volumes. • Address potential water pollution risks from other activities such as chemical and fuel storage and handling, concrete batching and working in and around the reservoir. • Contain management procedures for activities which may result in water pollution. • Contain a construction schedule, and description of how the plan would work through the various stages of construction. • Contain design calculations for the treatment measures, including hydrologic estimations of runoff volumes and rates, and swale and sedimentation basin capacities. • Detail the review and inspection processes for onsite measures. • Detail the responsibilities for the management and implementation of the SWMP.	Pre-construction Construction
Ongoing soil and erosion management	SW02	An overarching Erosion and Sediment Control Plan (ESCP) and Progressive Erosion and Sediment Control Plans (PESCPs) would be prepared for all project disturbances and phases in accordance with Landcom (2004), DECC (2008) and Appendix P – Land-based pipeline construction (IECA 2015) The overarching ESCP and PESCPs shall be prepared and certified by a suitably qualified and experienced certified professional in erosion and sediment control	Pre-construction Construction

Aspect	Ref #	Mitigation measure	Timing
Surface water quality monitoring	SW03	A surface water quality monitoring program would be developed and included in the SWMP to monitor potential surface water quality impacts due to the project construction. The program will: • Be based on the program specified in Chapter 9 of the Surface Water Assessment, with adaptations documented as required. • Include water quality monitoring parameters, triggers, locations and frequencies. • Include a trigger action response plan. • Detail reporting strategies. • Commence prior to any ground disturbance to establish appropriate baseline conditions and continue for the duration of construction, as well as following the completion of construction. The surface water quality monitoring program would be carried forward for longer term monitoring during operation and implemented as part of the OEMP.	Pre-construction Construction Operation
Sediment basins	SW04	The proposed approach to designing and operating sediment basins would be detailed in the SWMP, including: • Basin design principles. • Testing process/results to determine most suitable dosing chemicals and appropriate dosing rates. • Consideration of potential water quality and aquatic ecology impacts in dosing chemical choice. • Consideration of automatic dosing equipment to reduce the risk of over-dosing basins.	Pre-construction Construction
Establishing ancillary facilities	SW05	Ancillary facilities would be sited and established in accordance with the following principles to minimise water quality impacts: • Located above the 1 in 100 year flood level to limit flood impacts. • Located on relatively level ground to reduce rainfall runoff velocity and erosion potential. • Stormwater runoff would be diverted to swales and sedimentation basins (as required).	Construction

Aspect	Ref #	Mitigation measure	Timing
Concrete batch plant	SW06	A Water Management Plan (and PESCP as required) would be developed for the concrete batching plant that would detail management measures including: • Maintaining separation of 'clean' rainfall from surfaces which have contact with cement and concrete. • Sealing the batching plant surface with hardstand or paving so that local rainfall runoff within the plant site may be directed effectively to drains and sumps, and to prevent mud and pooling. • Installation of a first flush system for hardstand areas, which may receive dust drift or minor quantities of spilt material. • appropriate bunding of chemical and liquid storage areas. • Vehicle washdown facility for vehicles moving in and out of the batching area. • Installing a wastewater collection and recycling system. • Monitoring pond and sump water quantity and quality.	Construction
Sewage management	SW07	• Sewage would be collected from the accommodation camp, and other ancillary facilities as required, and transported to the Tamworth wastewater treatment plant by truck for treatment and reuse. • Sewage would be transported by a competent wastewater transport contractor with environmental and safety management plans in place prior to the action occurring.	Construction
Chemicals and spills	SW08	Measures to minimise the risk of spills would be provided in the SWMP, including: • Storage of fuels, flammable materials, chemicals and hazardous materials in appropriately sized, segregated, bunded stores within designated and secured work sites. • Refuelling procedures for plant and equipment, including bunding requirements and separation distances from drainage lines. • Vehicle washdown and concrete truck washout within designated bunded areas or off site. • Concrete washout and solids collected and disposed of off-site or recycled at an approved licensed facility. • Emergency spill response kits within work sites, refuelling areas and construction vehicles.	Construction

Aspect	Ref #	Mitigation measure	Timing
Spill management	SW09	A site specific emergency spill plan would be developed, and include spill management measures in accordance with relevant EPA guidelines. The plan would address measures to be implemented in the event of a spill, including initial response and containment, notification of emergency services and relevant authorities.	Construction
Storage and use of explosives	SW10	If explosives are required to be used, a blast management plan would be developed that would include measures to minimise potential residue impacts to water quality, including: • Storage of explosives outside of flood prone areas and in accordance with the *Explosives Regulation 2013* and applicable Australian Standards. • Measures to be used to reduce the risk of chemical residues from entering the surface water environment. • PESCPs to limit the residue mobilisation potential during rainfall events. • Placement of blasted material into areas that would minimise potential for trace quantities of blast chemicals entering waterways.	Construction
Works in waterways	SW11	Area or activity specific Work Method Statements (WMS) would be prepared for works within waterways. WMSs would detail, but not be limited to: • Works to be undertaken during periods of dry weather or low flow. • Flood forecasting process and the measures to be implemented in the event of forecast flood or high flow conditions. • Ecological considerations and requirements. • Final design requirements including armouring of creek bed at pipeline crossing locations.	Construction
Construction water supply	SW12	The likely volume of water required from the existing Dungowan Dam for construction purposes would be determined prior to construction and arrangements for water access would be made with Tamworth Regional Council	Construction
Existing Dungowan Dam decommissioning	SW13	The timing of the transfer of water from, and decommissioning of, the existing Dungowan Dam would consider potential seasonal issues including thermal stratification, algal blooms and periods of typically lower flows and decreased hydrological risk	Construction

Aspect	Ref #	Mitigation measure	Timing
Dam water quality	SW14	Operating manuals would be developed prior to commissioning of the new Dungowan Dam that would detail measures to ensure suitable water quality is maintained, including: • Monitoring of stratification via temperature and other physical/chemical indicators. • Use of multi-level offtake. • Release of environmental water only when conditions are suitable for the release to be made without environmental harm. • Managing and responding to reservoir water quality issues. • Potential additional destratification measures eg bubblers or mechanical mixers.	Operation
Long term geomorphic monitoring	SW15	Long term monitoring of geomorphic aspects of the project would be undertaken as part of operational monitoring. The monitoring program would be developed and included in operational management processes and would focus on both significant storm runoff events and regular monitoring of: • Pipeline crossing locations. • Reservoir deposition rates. • Downstream channel stability in Dungowan Creek and the Peel River, undertaken by a Geomorphologist.	Operation
Optimising translucency releases	SW16	Optimisation of the modelled translucency releases, with the potential for pulsed release pattern, would be further investigated during the development of the environmental flow release regime to minimise hydrological change in Dungowan Creek.	Operation
Groundwater			
Groundwater management	GW01	A Groundwater Management Plan (GWMP) would be prepared and implemented as part of the CEMP. The plan would include: • Induction and training requirements. • Groundwater monitoring program (quality and quantity of inflow). • Groundwater licensing. • Water quality trigger levels. • Reporting requirements. • Corrective actions, contingencies, and responsibilities for all management measures.	Pre-construction Construction

Aspect	Ref #	Mitigation measure	Timing
Dam construction	GW02	• Excavations to be sequenced and progressively backfilled with earth fill material to limit cumulative seepage to excavations and dewatering. • Excessive seepage from defects to be grouted to reduce permeability. • Seepage estimations to be further validated during detailed design when the program schedule and construction methods are finalised following detailed design. • Seepage from the Dungowan Creek Alluvium and Peel Fractured Rock should be metred and compared to predictions and groundwater take should be detailed in compliance reporting in accordance with licensing and agency requirements.	Construction
Pipeline construction	GW03	• Implement appropriate construction methodologies to facilitate construction in flooded trenches (if necessary). • Leave trenches open for the minimal length of time. • Any groundwater take would be measured, recorded and reported.	Construction
Peel River underbore	GW04	• Manage viscosity of drilling fluids to prevent drilling fluids from surfacing or migrating from the work area to nearby bores. • Undertake close observation of the Peel River during under boring to ensure no drilling fluids are leaking to the Peel River. • Implementation of a monitoring program, utilising existing nearby landholder bores, during drilling to ensure groundwater levels and quality are not impacted by the potential migration of drilling fluids.	Construction
Excavated material management	GW05	• Minimise disturbance of pyritic materials where possible. • Ensure pyritic material has fully reacted and is treated prior to placement if the material is used in structural areas of the dam. • Implement appropriate environmental controls during construction and operation to capture any acidic drainage.	Construction
Aquifer disruption	GW06	• Implement appropriate engineering solutions to control seepage under or around the dam embankment (ie grout curtains, shotcreting, low permeability clay core).	Construction

Aspect	Ref #	Mitigation measure	Timing
Terrestrial ecology			
Biodiversity management	TE01	Prior to construction, a Flora and Fauna Management Plan (FFMP), forming part of the CEMP, would be prepared that would detail: • Induction and training requirements. • Design and construction measures to maximise the retention of vegetation and habitat. • Pre clearing and clearing processes and management measures. • Minimising injury of native animals during clearing and construction. • Weed and pathogen management. • Native vegetation restoration.	Pre-construction Construction
Design and planning for clearing works	TE02	• Site the proposed pipeline and powerline routes primarily in areas of non-native and highly modified vegetation. • Site stockpiles for excavated materials in low-quality vegetation where possible. • Site ancillary facility elements in cleared or partially cleared areas where possible. • Site quarries and borrow areas within the inundation area wherever practicable. • Minimise clearing during construction. • Establish exclusion zones around retained vegetation, including fencing and signage.	Pre-construction Construction
Pre-clearing	TE03	• Prior to clearing, collect native seeds for propagation and use in rehabilitation works. • Pre-clearing surveys would be conducted prior to clearing, including translocation of less mobile fauna (particularly reptiles such as the Border Thick-tailed Gecko) into areas of retained vegetation.	Construction
Clearing of vegetation	TE04	• Vegetation clearing undertaken in accordance with the two-stage process described in the BDAR. • Mulch and stockpile cleared native vegetation for use during rehabilitation. • Retain hollows logs and limbs for placement within retained vegetation and reuse during rehabilitation.	Construction
General construction works affecting fauna	TE05	• Minimise night operations adjacent to woodland and forest. • Use directional lighting to minimise light spill to adjacent vegetation. • Minimise construction traffic movements at night.	Construction

Aspect	Ref #	Mitigation measure	Timing
Biosecurity management	TE06	A biosecurity management plan would be developed as part of the CEMP to minimise the risk of off-site transport or spread of disease, pests or weeds. This management plan would detail appropriate management measures including: • Training and inductions on biosecurity requirements. • Vehicles, machinery and equipment to be clear of soil and plant debris when they arrive on the subject land and prior to movement between sites to minimise the potential for the introduction of weeds and pathogens. • Landowners consultation on farm biosecurity requirements in relation to all plant and equipment that would enter their property, including ancillary items such as portaloos. • Weed control prior to construction works being undertaken, where possible. • Appropriate disposal and management of weeds during clearing works. • Construction of wash-down stations at a suitable location. • Re-vegetation of cleared areas as quickly as possible following construction. • Active and intensive weed control would be undertaken within 50 m of the disturbance footprint, in areas where significant weeds are known to occur. • Control of unnecessary movements across adjoining farmland. • Design and implementation of a weed and pathogen monitoring program.	Construction

Aspect	Ref #	Mitigation measure	Timing
Rehabilitation	TE07	A rehabilitation plan would be developed for all areas disturbed during construction, including ancillary areas, pipeline corridor and the existing Dungowan Dam inundation area. The rehabilitation plan would include: • Erosion protection details along concentrated flow paths and critical sections. • Source locations and quality of topsoil for rehabilitation, ensuring it is stripped from cleared areas with diverse native groundcover and low weed cover. • Processes and quantities for application of topsoil, seeding and hydromulch. • Quantities and locations for the reuse of woody native vegetation removed during clearing. • Native species composition for rehabilitated areas, ensuring consistency with nearby areas of structurally intact native vegetation on similar soil and terrain. • The use of any large surface rocks in rehabilitated areas or retained native vegetation to provide habitat for ground-dwelling animals. • Monitoring framework to assess of the success of rehabilitation and determine whether any changes to management such as additional weed management, seeding or planting of native species are required.	Construction Operation
Biodiversity offsets	TE08	Biodiversity offsets would be agreed and in place prior to the clearing or inundation of applicable vegetation.	Pre-construction Construction
Aquatic ecology			
Aquatic ecology management	AE01	Prior to construction, measures to manage aquatic ecology impacts would be included in the FFMP, including • Works planning. • Aquatic habitat protection. • Fauna entrapment. • Inspections and monitoring.	Pre-construction Construction
Planning works within Dungowan Creek	AE02	• Ensure bed, banks and riparian zone is progressively rehabilitated as soon as practicable following disturbance. • Avoid Platypus nesting period of October – March, where possible. If construction is to be undertaken at this time, sites inspections will be undertaken.	Construction

Aspect	Ref #	Mitigation measure	Timing
Aquatic habitat protection	AE03	• Minimise the removal of native riparian vegetation during waterway crossing pipeline construction. • Site inspections by a qualified ecologist along the creek banks should be conducted prior to riparian vegetation clearing for platypus burrows. • The removal of instream habitat structures (e.g. cobbles, boulders, vegetation, snags) should be minimised. • Snags are not to be removed from waterways but should be realigned or relocated (ideally replaced) in accordance with the *Policy and Guidelines for Fish Habitat Conservation and Management* (2013).	Construction
Water quality protection	AE04	• Installation of instream silt curtains to reduce downstream transport of sediment. • Silt fencing and sediment controls to be installed to mitigate the risk of turbid water being generated from the pipeline corridor and entering the waterway. • Install control measures to reduce potential for generation of turbidity during bypass of creek flows around the crossing. Measures could include infrastructure to ensure water is not pumped from the bed or banks of the creek. • Any dewatering activities to meet regulatory requirements for discharge water quality.	Construction
Works within waterways	AE05	• A qualified ecologist must be on site during trenching, and pre-trenching construction of Dungowan Creek to relocate any fauna that may be disturbed. • Construction periods would be kept to a minimum to limit disruption to aquatic fauna. Construction timing should be scheduled for low flow periods. • Trenching methods through waterways should ensure that the original bed level of the waterway is reinstated upon completion of works, such that the final bed profile does not obstruct the passage of fish.	Construction
Fauna entrapment	AE06	• Daily inspections of the works site (Cofferdam/sheet piled work zone) would be completed to check for aquatic fauna that may become entrapped in the works site after overnight foraging. • Appropriate screening would be installed on bypass pumps to prevent the entrainment of fauna into the pumps.	Construction

Aspect	Ref #	Mitigation measure	Timing
Environmental releases	AE07	• Any optimisation of environmental flows resulting in larger pulsed releases must consider Cold Water Pollution (CWP) and ensure that flows do not result in CWP particularly during spring and summer. • If the release of flows that result in CWP to downstream environments of Dungowan Creek is required during, consideration would be given to the timing, volumes and aquatic impacts.	Operation
Fish salvage	AE08	• Explore engineering solutions to prevent entrapment of fish in the spilling basin • Develop a fish salvage plan to be implemented after spilling events during project operation.	Operation
Offsets	AE09	• Fish passage offsets to four existing fish barriers on the Peel River downstream of the new Dungowan Dam would be completed prior to the operation of the new Dungowan Dam and pipeline project. • Key fish habitat offsets would be finalised prior to impact by way of payment of a monetary offset amount into the Fish Conservation Trust Fund or agreement of other supplementary offset approaches with DPI Fisheries.	Construction Operation
Aboriginal heritage			
Impact avoidance and minimisation	AH01	The construction footprint would avoid or minimise impact to identified Aboriginal objects and/or sites identified and areas of significant buried cultural material (or where they have a high likelihood of being present).	Pre-construction Construction

Cultural heritage management	AH02	An Aboriginal Cultural Heritage Management Plan (ACHMP) would be developed by a heritage specialist in consultation with the RAPs and consent authority to provide the post-approval framework for managing Aboriginal heritage within the project area. The ACHMP should include the following issues: • Processes, timing and communication methods for maintaining Aboriginal community consultation and participation, including a grievance mechanism. • Descriptions and methods for undertaking further investigation, assessment and management of the sites currently assigned a tentative classification (DDBB1-4 inclusive, DDSA1 and 2, DDST3). • Descriptions, methods and timing for undertaking further investigation, assessment and management of the existing Dungowan Dam inundation zone following de-watering, including impacts from spoil emplacement. • Detail descriptions and methods of any additional investigative and/or mitigative archaeological actions that may be required prior to works commencing or during the project, including details of location/s, methods, personnel, and timing of actions. • Description and methods of actions to minimise any inadvertent impacts to identified Aboriginal objects and/or sites and areas of archaeological sensitivity outside of the construction footprint (such as heritage sites, gender specific areas etc), including inductions and a suitable regime of monitoring actions. • Description and methods for undertaking further Aboriginal heritage assessment, investigation and mitigation of any areas of the project footprint that change following completion of the ACHA and/or during the final design and construction phases of the project. • Description and methods of post-excavation analysis and reporting of the archaeological investigations implemented as part of the ACHMP. • Procedures following current Water Infrastructure guidelines for managing the unexpected discovery of Aboriginal objects, sites and/or human remains. • Procedures for the curation and long-term management of cultural materials recovered as part of the works outlined in the ACHMP and any preceding stages associated with the project. Discussions with RAPs indicate that any curation should remain on Country and remain accessible to the local Aboriginal community into the future. • Processes for reviewing, monitoring, and updating the ACHMP as the project progresses.	Pre-construction Construction

Aspect	Ref #	Mitigation measure	Timing
Heritage interpretation	AH03	A heritage-interpretation strategy and plan would be developed by a heritage specialist, in consultation with RAPs, to identify the interpretive values of the project footprint, and specifically Aboriginal heritage values, and to provide direction for interpretive installations and devices. The strategy and plan would include consideration of three main components identified though the ACHA process, being: • Input and feedback from the RAPs, which to date include a number of cultural sites and social history places from both traditional and contemporary connection of the project footprint with the Aboriginal community; and a range of flora and fauna that have totemic, medicinal and/or economic association with the Aboriginal community. • The historical record of the study and its immediate environs, which has documented associations with Aboriginal people, dating to the post-contact period. • The past cultural and environmental landscape informed by current archaeological investigations and analysis of the ACHA, and any future activities that may result from the project (eg archaeological salvage of key locales).	Construction

Aspect	Ref #	Mitigation measure	Timing
Cultural flows	AH04	A Cultural Flow Management Plan (CFMP) would be developed by heritage and water specialists, in consultation with the RAPs, and consent authority to provide the post approval framework for management and monitoring of water regimes in the vicinity of key Aboriginal sites, objects and/or places within the project area. The CFMP should include the following issues: • Processes, timing, and communication methods for consultation and participation. • A background description of the Aboriginal sites, objects, places and values, and their significance; and information on how water influences their significance and integrity, noting that this may require additional investigations. • An overview of the catchment or river systems, including hydrological information from prior to, and following establishment of the dam. • Clear objectives for the cultural flows in maintaining the significance of Aboriginal sites, objects, places and values. • Description of how water would be managed into the future to maintain necessary water regimes; and any constraints/limitations. This should include information on key personnel to manage and monitor these regimes. • A risk assessment, with a description of how they would be minimised, and any management requirements if they eventuate. • How the water regime associated with the Aboriginal sites, objects, places and values would be monitored, including methods and timing.	Construction Operation
Consultation	AH05	Consultation should be maintained with the RAPs during the finalisation of the assessment process and throughout the project.	Pre-construction Construction Operation
Site validation and submission	AH06	AHIMS Site Recording Forms for the newly identified Aboriginal objects and/or sites within the project area and areas of archaeological sensitivity should be submitted to the AHIMS database once their validation has been completed.	Construction
Maintaining project knowledge	AH07	If the heritage consultant changes through the project, suitable handover should be undertaken to minimise loss or mistranslation of the intent of the information, findings and future steps in heritage management.	Construction

Aspect	Ref #	Mitigation measure	Timing
Historic heritage			
Historic heritage management	HH01	A Historic Heritage Management Plan (HHMP) would be prepared and implemented as part of the CEMP. The HHMP would include: • Measures that would be implemented to manage potential impacts on items of heritage significance. • Inclusion of heritage awareness and management training within the site induction process for relevant personnel involved in site works. • Details regarding the conservation and curation of any historical artefacts recovered during works.	Pre-construction Construction
Impact avoidance	HH02	• Any items in Table 10.2 of the SOHI that are to be avoided would be made no-go areas and would be identified in the HHMP and the heritage induction. • Power poles would be sited to avoid impact to significant locations of the Port Stephens Cutting	Construction
Archaeological test excavation	HH03	Test excavations would be undertaken at three locations along the pipeline prior to works: • Ogunbil brick shearing shed and silo (DH09). • Cadell's Dungowan Station (DH11). • Hut 4 (DH22). • If relics are discovered, and it is possible to move the alignment, this would be the preferred method of management to retain heritage significance. • If it is not possible to move the alignment, a program of archaeological salvage excavation would need to occur – a detailed archaeological research design with additional research and comparative analysis would need to be prepared prior to excavations commencing, including notification to the NSW Heritage Council.	Construction

Aspect	Ref #	Mitigation measure	Timing
Archival photography	HH04	An archival record in the form of digital photography would be prepared to capture the pre-construction state of the landscape. The records would be prepared generally in accordance with the following guiding documents: • Photographic recording of heritage items using film or digital capture (Heritage Office 2006). • How to prepare archival records of heritage items (NSW Heritage Office 1998). • The images would capture fields/paddocks and their relationship to Dungowan Creek, surviving stockyards and ramps, road and tracks, and general landscape features by the former residential group on *Paradise,* and should include a basic plan showing where the photographs were taken from, a photographic catalogue and reference to the SoHI for detailed information. • The existing Dungowan Dam would be recorded separately and in more detail. • The record of the photographs, and any other data relating to the history of the project should be provided: – To Tamworth Regional Council local studies library (or equivalent). – Heritage NSW library for access to researchers also.	Pre-construction
Electronic survey	HH05	Electronic survey of former building complexes to benefit data collection data for future research would be considered as part of the HHMP.	Construction
Significant finds	HH06	If any significant historical finds are discovered during test excavation or general construction works, interpretation would be undertaken and a report provided to Tamworth Regional Council and Heritage NSW.	Construction
Unexpected finds protocol	HH07	Any items of potential heritage conservation significance or human remains discovered during construction would be managed in accordance with the Water Infrastructure NSW Unexpected Heritage Finds and Humans Remains Procedure, including: • Ceasing works within 5 m of the find. • Supervisory and management notifications. • Archaeologist assessment of find. • If the find is determined to be a relic, a section 146 notification (under the *Heritage Act*) is to be forwarded to the Heritage Council who would be consulted on the appropriate management measure. If the find is assessed and is not a relic, work inside the area that was made a no-go area can re-commence.	Construction

Aspect	Ref #	Mitigation measure	Timing
Existing Dungowan Dam walkover	HH08	The plausibility of a walkover of the existing Dungowan Dam inundation area with any decedents, or persons, previously living in the area to be inundated would be investigated and considered in the HHMP.	Construction
Skeletal remains management	HH09	• The skeleton remains potentially identified as John Wilson and associated artefacts would be excavated and inspected, if possible, *in situ* to ascertain the ancestry, sex and age of the individual. If *in situ* identification is not possible, the skeleton would be fully exhumed and analysed in a laboratory. • Should the skeleton be found to be Caucasian, the probability of it being the remains of John Wilson are high and consultation with Water Infrastructure NSW, Heritage NSW, NSW Health and other identified stakeholders would be held to decide on the final resting place. • Should the skeleton be found to be of Aboriginal ancestry, consultation would be held with the Aboriginal stakeholders, Water Infrastructure NSW, Heritage NSW, NSW Health to agree on a final resting place.	Pre-construction
Social and economic			
Ongoing social monitoring and management	SE01	A social impact monitoring and management framework would be developed to ensure that the identified positive and negative impacts are monitored over time to measure the effectiveness or otherwise of the proposed management measures, including: • Ongoing community and stakeholder engagement, including regular project updates and targeted notifications to affected parties. • Tracking of progress and success of mitigation and management strategies. • Ensuring the Indigenous community believe their concerns have been considered and addressed. • Identify whether the proposed terrestrial and aquatic offsets effectively mitigate the cultural impacts of the project. • Key performance indicators, targets and outcomes. • Effective, monitored and reported complaints handling processes. • Mechanisms for ongoing adaption of management measures when and if required.	Pre-construction Construction Operation

Aspect	Ref #	Mitigation measure	Timing
Local employment and upskilling	SE02	A Construction Workforce Management Plan would be developed to maximise local and regional workers and ensure job readiness for local and regional individuals and businesses. The Construction Workforce Management Plan would include details of: • Strategies for the hiring of local and regional workers in the area, followed by hiring outside of these areas. • Consultation with local employment, apprenticeship and education and training agencies to enhance the potential of hiring of local and regional workers. • Upskilling programs to better equip local people to meet the needs of the project's workforce. • Identification of potential sources of funding for more skills-based courses in the local area to maximise potential benefits in up-skilling the local workforce and providing targeted employment opportunities for youth. • Strategies to consult with and support indigenous businesses to take advantage of opportunities relating to future education, tourism and research related to the project.	Pre-construction Construction
Utility disruptions	SE03	Consultation would be undertaken with customers subject to any service disruptions as a result of the project construction (e.g. water and electricity), to determine service access needs and to provide advanced notice of planned service disruptions.	Construction
Housing stress	SE04	• Onsite accommodation and facilities would be established as early as possible in construction to minimise any lag between project commencement and provision of accommodation • Following construction, the repurposing of the construction accommodation facility to within the Tamworth Regional LGA would be considered as a means to provide social housing.	Pre-construction Construction
Recreational opportunities	SE05	• Recreational access to the land around the new Dungowan Dam (e.g. for bushwalking) would be considered during the development of the OEMP. • If recreational opportunities are deemed feasible, further targeted social analysis would be undertaken with relevant stakeholders to determine the most appropriate scope and opportunities for reuse of construction related facilities and materials as part of the final land use.	Operation

Aspect	Ref #	Mitigation measure	Timing
Biodiversity offsetting	SE06	During the development of the biodiversity offset strategy, Water Infrastructure NSW would consult with relevant affected stakeholders, including a social needs analysis where applicable, to ensure that any potential social co-benefits of the offsetting arrangements are considered.	Pre-construction Construction
Dam safety			
Dam safety	DS01	A Dam Safety Emergency Plan (DSEP) would be developed in consultation with Tamworth Regional Council, the State Emergency Service (SES) and other emergency services that would include project specific operation and inspection of the new Dungowan Dam, and downstream evacuation plans during the different emergency events.	Prior to operation
Bushfire			
Bushfire management	BF1	A Bushfire Management Plan (BFMP) would be prepared to address bushfire risk during construction, in accordance with NSW Rural Fire Service Guide to Developing A Bushfire Emergency Management Plan and Australian Standard AS 3745-2010 – Planning for Emergencies in facilities. At a minimum, the BFMP should specify: • Staging of development and the likely bushfire risks at each stage. • The measures to be undertaken during construction to reduce the likelihood of an ignition or spread of fire due to work associated with the project. • How access and egress would be provided for construction workers and emergency vehicles. The BFMP would be developed prior to construction and in consultation with the NSW Rural Fire Service.	Pre-construction Construction
Asset protection zones	BF2	The areas within the temporary construction site and the operational part of the dam infrastructure would be managed as an APZ and a minimum separation of 24m provided to unmanaged vegetation (noting vegetation stockpiles would not form part of an APZ)	Construction Operation
Building construction standards	BF3	Vulnerable buildings and/or critical assets would be constructed to appropriate BAL levels in accordance with the Australian Standard for the Construction of Buildings in Bushfire Prone Areas (AS3959).	Construction Operation

Aspect	Ref #	Mitigation measure	Timing
Access road specifications	BF4	Access roads within the construction and operational site would be in accordance with *Planning for Bushfire Protection 2019* Table 5.3b where practical, including: • Access roads are two-wheel drive, all-weather roads. • Minimum 5.5 m carriageway width kerb to kerb. • Maximum grades for sealed roads do not exceed 15 degrees and an average grade of not more than 10 degrees or other gradient specified by road design standards, whichever is the lesser gradient. • Curves of roads have a minimum inner radius of 6 m. • Dead end roads incorporate a minimum 12 m outer radius turning circle, and are clearly sign posted as a dead end. • A minimum vertical clearance of 4 m to any overhanging obstructions, including tree branches, is provided.	Construction Operation
Water supply for firefighting	BF5	Water supply and utilities would be installed during construction, and maintained during operation where required, in accordance with Planning for Bushfire Protection 2019 Table 5.3c, including: • A minimum static water supply of 20,000 litres (single or multiple tanks) should be provided for firefighting. • A hardened ground surface for truck access is to be supplied up to and within 4 metres of the water source. • A 65 millimetres (mm) metal Storz outlet with a gate or ball valve shall be provided as an outlet on each of the tanks. • Water tanks, if located above ground, shall be of a non-combustible material. • Underground tanks shall have an access hole of 200 mm to allow tankers to refill direct from the tank. • All associated above ground fittings to the tank shall be non-combustible.	Construction
Ignition sources	BF6	• Site hot works, earthmoving or hole boring operations generating sparks, and use of explosives, would be prohibited on all days of Severe, Extreme and Catastrophic Fire Danger • No smoking on project site except in designated smoking areas, detailed in the BFMP.	Construction
Chemical retardant use	BF7	Use of firefighting foam and chemical retardants would be restricted within the catchment area.	Construction Operation

Aspect	Ref #	Mitigation measure	Timing
Vegetation burning	BF8	• Where vegetation waste disposal is required, the residual waste would be pushed into a stockpile within 50 m to 100 m of the clearing area depending on topography, and controlled burning undertaken. • Stockpile locations would be located away from the toe of vegetated upslope batters, in cleared areas and preferably near a source of water. • Any pile burn would be provided a hazard reduction certificate (HRC) by the NSW Rural Fire Service. The pile would be attended at all times and conducted in accordance with any specific requirements of the HRC.	Construction
Landuse			
Landuse management	LU1	A Land Use Management Plan (LMP) would be prepared that sets out measures to minimise disruption to nearby agricultural activities and businesses. A pre-construction survey would be undertaken, which would inform the land use management plan. The plan would include: • A process for landholder consultation and input to management plan. • Maximising the use of existing roads, tracks and disturbed areas. • Avoidance, minimisation and repair of any damage to landholder property caused by construction activities or vehicle access. • Measures to minimise conflict between livestock and construction activities including the scheduling of noise intensive works and management of vehicle movement around livestock.	Pre-construction Construction
Property Acquisition	LU2	All property acquisition would be carried out in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991*.	Pre-construction
Property access	LU3	• The requirement for temporary changes to property access would be minimised during development of the detailed construction methodology. • Affected landowners would be consulted when temporary, short-term changes to access to their property would occur., including advanced notification of relevant project schedules, construction works and changes to access arrangements. • All property access gates that are opened would be promptly closed. • Fences would be regularly checked and any damage caused by construction would be repaired promptly.	Construction

Aspect	Ref #	Mitigation measure	Timing
Rehabilitation of private land	LU4	• Final rehabilitation of private lands would be as agreed with landowners and would include a site walkover and handover sign off by the landowner and project representative. • Where no specific requirement is agreed, rehabilitation would consider land and soil capability and methods including contour scarification, seed application, fertilizer and protection such as hydromulch and binders.	Construction
Land, soil and erosion			
Soil stripping planning	LSE01	A Soil Stripping and Management Plan (SSMP) would be developed to ensure the preservation of soil resources, including details of: • The quantity and quality of topsoil and other soil to be managed. • The processes to strip and save topsoil resources from disturbance areas that would be inundated to use for rehabilitation (if suitable) of other project related disturbed areas. • The management of soil stockpiles to ensure seedbank viability and minimise weed growth/spread. • Storing and backfilling the pipeline trench with subsoil in the same sequence that existed prior to excavation.	Pre-construction Construction
Contamination			
Contaminated lands management	SC01	A Contaminated Land Management Plan (CLMP) would be prepared and implemented as part of the CEMP. The plan would include: • Induction and training requirements. • Details for the capture and management of any surface runoff contaminated by exposure to the contaminated land. • Any further investigations required to determine the extent, concentration, and type of identified contamination. • Management of the remediation and subsequent validation of the contaminated land, including any certification required. • Measures to ensure the safety of site personnel and local communities during construction. • Complete pre- and post-construction site assessments in areas to be used for project office compounds, depots or laydown areas in accordance with the ASC NEPM. • A process for tracking excavated material and waste.	Pre-construction Construction

Aspect	Ref #	Mitigation measure	Timing
Contamination investigation/ confirmation	SC02	Potentially contaminated areas directly affected by the project would be investigated prior to impact. If contamination posing a risk to human or ecological receptors is identified, a Remediation Action Plan would be prepared and implemented.	Construction
Unexpected Finds	SC03	The discovery of previously unidentified contaminated material would be managed in accordance with an unexpected contaminated lands discovery procedure. The procedure would include: • Cease work in the vicinity. • Initial assessment by an appropriately qualified environmental consultant. • Further assessment and management of contamination, if confirmed, in accordance with section 105 of the CLM Act.	Construction
Asbestos management	SC04	An Asbestos Management Plan would be prepared (as part of the Work Health and Safety Plan) that would detail asbestos identification, handling and management.	Construction
Use of hazardous materials	SC05	The use of hazardous materials would be undertaken following a risk assessment in accordance with the project Construction Hazard and Risk Management Plan. Risk assessments would include an environmental assessment to determine whether it is practical to use a chemical with a lower hazard level and the key controls to be implemented prior to use.	Construction

Aspect	Ref #	Mitigation measure	Timing
Traffic and transport			
Traffic management	TT01	A Traffic Management Plan (TMP) would be prepared in accordance with the TfNSW Traffic Control at Work Sites Technical Manual (2022) and QA Specification G10 Control of Traffic (TfNSW). The TMP would include: • Induction and training requirements. • Identification of haulage routes and communication, along with site access requirements and restrictions, to all relevant drivers. • Measures to maintain access to local roads and properties. • Site specific traffic control measures (including signage) to manage and regulate traffic movement. • Measures to maintain pedestrian and cyclist access. • Requirements and methods to consult and inform the local community of impacts on the local road network. • Communication of changes to roads or paths to emergency services, public transport operators, other road user groups and any other affected stakeholders. • Access to construction sites including entry and exit locations and measures to prevent construction vehicles queuing on public roads. • A response plan for any construction traffic incident. • Consideration of other developments that may be under construction to minimise traffic conflict and congestion that may occur due to the cumulative increase in construction vehicle traffic. • Monitoring, review and amendment mechanisms.	Pre-construction Construction
Out of hours traffic	TT02	During construction, monitoring of heavy vehicle movements to and from sites would occur to ensure compliance with road traffic noise criteria at night.	Construction
Road or lane closures	TT03	Any road or lane closures would be undertaken in consultation and consent from the relevant roads authority, including compliance with any issued licences.	Construction
Large or oversized vehicle movements	TT04	• Construction vehicle access plans would be prepared for the largest type of truck (using vehicle swept path diagrams) for each identified construction compound site. • A separate application would be required to NHVR for the approval of access by any oversize or overmass vehicle, which may require access to any construction site.	Construction

Aspect	Ref #	Mitigation measure	Timing
Road dilapidation	TT05	A Road Condition Report would be prepared before construction commences in consultation with the relevant road authorities. The Road Condition Report would contain details of the condition of roads potentially used during construction and would be used as the basis for reinstating roads to their condition before construction commenced after the completion of construction.	Construction
Road safety	TT06	• The posted speed limit along the transport route between Nemingha and the new Dungowan Dam would be reduced from 100 km/h to a maximum 80 km/h for the duration of construction of the project. • Frequent signage of the new road speed limits would be provided by road pavement numerals at the entry point to each section of the affected roads from all significant side road entry points and additional new speed limit sign would be installed at regular intervals along the route in both the eastbound and westbound directions.	Construction
School bus stops	TT07	The safety of all school bus stops along the transport route or other roads subject to a project traffic would be considered and documented in the TMP, including: • Consultation with school bus operators. • Monitoring and confirmation of the ongoing safety of each pick up and drop off site along the project route. • Construction in school bus pick up/drop off areas to occur during school holidays. • The feasibility of planning project deliveries outside school bus pick up and drop off times.	Construction
Waste			
Waste management	WS01	A Waste Management Plan (WMP) would be prepared and implemented as part of the CEMP. The WMP would include: • Induction and training requirements. • Measures to avoid and minimise waste. • Classification of wastes and management options (re-use, recycle, stockpile, disposal), including asphalt and vegetation waste. • Statutory approvals required for managing both on and off-site waste, or application of any relevant resource recovery exemptions. • Procedures for storage, transport and disposal. • Monitoring, record keeping and reporting.	Pre-construction Construction

Aspect	Ref #	Mitigation measure	Timing
Resource recovery	WS02	Resource recovery would be applied to the management of construction waste and would include: • Recovery of resources for reuse − reusable materials generated by the project would be segregated for reuse on site, or off site where possible, including the reuse of the major waste streams (VENM). • Recovery of resources for recycling − recyclable resources (such as metals, plastics and other recyclable materials) generated during construction and demolition. • Resources would be segregated for recycling and sent to an appropriate recycling facility for processing. • Recovery of resources for reprocessing − cleared vegetation would be mulched or chipped on-site and used for landscaping, in the absence of a higher beneficial use being identified.	Construction
Waste disposal	WS03	Wastes would be managed and disposed of in accordance with relevant *Waste Classification Guidelines* (NSW EPA, 2014) and government policies.	Construction
Concrete and construction waste	WS04	Where possible and suitable, excess inert construction and demolition waste would be encapsulated in the spoil placement area upstream of the existing dam to avoid the requirement for offsite disposal.	Construction
Food waste	WS05	Options for the management of food waste would be defined in the WMP, including the potential for beneficial reuse in nearby agricultural operations.	Construction
Chemical containers, grease/oil drums and oil filters	WS06	• All hazardous wastes generated at the construction areas would be classified, stored in sealed containers in a bunded area and then removed and disposed of in accordance with appropriate regulations and guidelines. • Hazardous materials would only be removed by suitably qualified and licensed contractors and disposed at an appropriately licenced waste disposal facility.	Construction
Management of unexpected waste materials	WS07	• Suitable areas would be identified in the WMP to allow for contingency management of unexpected waste materials, including contaminated materials. • Areas would be hardstand or lined areas that are appropriately stabilised and bunded, with sufficient space for stockpile storage.	Construction

Aspect	Ref #	Mitigation measure	Timing
Noise and vibration			
Noise and vibration management	NV01	A Noise and Vibration Management Plan (NVMP) would be prepared and implemented as part of the CEMP. The NVMP would generally follow the approach in the *Interim Construction Noise Guideline* (DECC, 2009) and identify: • Induction and training requirements. • All potential significant noise and vibration generating activities associated with the activity. • Feasible and reasonable mitigation measures to be implemented. • A monitoring program to assess performance against relevant noise and vibration criteria. • Arrangements for consultation with affected neighbours and sensitive receivers, including notification and complaint handling procedures. • Contingency measures to be implemented in the event of non-compliance with noise and vibration criteria. • A blast management process and arrangements relating to vibration generated by blasting. • Site specific mitigation and management measures	Pre-construction Construction
Out of hours works	NV02	An out-of-hours works protocol would be developed and documented in the CEMP for any construction works that may be required outside of the standard work construction hours. The protocol would include: • Details of works required outside standard construction hours, including justification. • Measures that would be implemented to manage potential impacts associated with the out of hours works. • Location and activity specific noise and vibration impact assessment process(es) that would be followed to identify potentially affected receivers, clarify potential impacts and select appropriate management measures. • Details of the approval process (internal and external).	Construction

Aspect	Ref #	Mitigation measure	Timing
Noise and vibration intensive works	NV03	Location and activity specific noise and vibration impact assessments would be carried out prior to the following works: • Works with the potential to result in noise levels above 75 dBA at any receiver. • Works required outside standard construction hours and likely to result in noise levels in greater than the NMLs. • Works with the potential to exceed relevant performance criteria for vibration. • The assessments would clarify predicted impacts at relevant receivers in the vicinity of the activities to assist with the selection of appropriate management measures.	Construction
Monitoring	NV04	Monitoring would be carried out at the commencement of new noise and vibration intensive activities and works in new locations to confirm that actual noise and vibration levels are consistent with noise and vibration impact predictions and that the management measures that have been implemented are appropriate.	Construction
Noise mitigation infrastructure	NV05	Where reasonable and feasible, operational noise mitigation such as noise barriers, berms and at-property treatments identified during detailed design should be installed early in the project so as to provide a benefit to receivers during the construction phase of the project.	Construction
General construction	NV06	The following measures would be implemented during construction works: • Minimise the number of plant items operating concurrently when in proximity to receivers. • Parking within designated areas located away from nearby sensitive receivers (where possible). • Planning high noise and vibration generating activities to be carried out in continuous blocks during non-sensitive periods, followed by appropriate respite periods. • Noise and vibration monitoring may be adopted as a management strategy throughout the construction works.	Construction
Operational noise	NV07	The control valve sheds would be designed and constructed to emit the following maximum sound power levels (L_{Aw}): • 92 dB from the control valve site located in Dungowan, adjacent to the Ogunbil Road and Thorntons Road intersection. • 82 dB emitted from the control valve site located in Ogunbil.	Construction Operation

Aspect	Ref #	Mitigation measure	Timing
Air quality			
Air quality management	AQ01	An Air Quality Management Plan (AQMP) would be prepared and implemented as part of the CEMP. The AQMP would include: • Induction and training requirements. • Potential sources of air pollution. • Air quality management objectives consistent with any relevant published EPA and/or EES/DPE guidelines. • Mitigation and suppression measures to be implemented. • Methods to manage work during strong winds or other adverse weather conditions. • A progressive rehabilitation strategy for exposed surfaces. • Monitoring of air quality within the project area.	Pre-construction Construction
Dust generation – general	AQ02	• Erect screens or barriers to site fences around potentially dusty activities and material stockpiles where practicable. • Provide an adequate water supply on the construction site for effective dust/particulate matter suppression/mitigation. Store water for dry periods and ensure that the contractor has adequate permitted access to water. • Avoid site runoff of water or mud. • Temporarily cease non-essential dust generating activities during high winds (ie winds greater than 8m/s or when excessive dust is seen leaving the site). • Suitable dust suppression and/or collection techniques would be used during cutting, grinding or sawing activities likely to generate dust in close proximity to sensitive receivers.	Construction
Materials handling and transport	AQ03	• Haulage trucks would not be overloaded to reduce spillage during loading/unloading and hauling. • Regularly used haul vehicle turning circles would be made of adequate diameter, and gravel sheeted where required, to reduce pulverising the soil. • Minimise drop heights from loading or handling equipment. • Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.	Construction
Soil stripping and stockpiling	AQ04	• Progressive soil stripping would be undertaken to minimise exposed areas. • Storage of materials that have the potential to result in dust generation would be minimised within project sites at all times and manage to minimise dust emissions. • Long-term soil stockpiles would be revegetated.	Construction

Aspect	Ref #	Mitigation measure	Timing
Vehicle movements on unpaved roads	AQ05	• Water haulage routes as required. • Routes to be clearly marked and speed limits enforced. • Gravel surfacing considered for long-term routes.	Construction
Vehicle fuel combustion emissions	AQ06	• Ensure proper maintenance and tuning of all equipment engines. • Ensure vehicles switch off engines when stationary.	Construction
Burning of cleared vegetation	AQ07	• Selecting a location that is as far as possible from the accommodation camp and occupied residences. • Schedule burning during daytime hours only with avoidance of smouldering overnight where possible. • Avoid burning during warmer months, subject consideration of bushfire risk and fire bans.	Construction
Visual			
Pipeline and road construction	VIS01	The siting of works compounds for the storage of materials and plant would consider avoiding any location immediately adjacent to residential dwellings, particularly if those premises do not have the advantage of existing screening by landscaping etc.	Pre-construction Construction
Powerline design	VIS02	The final alignment of the proposed electricity powerline should be selected to avoid or minimise vegetation clearance.	Construction
Borrow pits and quarry areas	VIS03	Retain mature vegetation, as far as operationally feasible, around the perimeter of the excavation areas.	Construction
Night works lighting	VIS04	Where extended construction hours occur in darker evening or night-time periods, the task lighting direction would be towards the ground below the horizontal plane.	Construction

Aspect	Ref #	Mitigation measure	Timing
Climate change			
Climate change management	CC01	The priority risk areas detailed in the CCAP (Appendix X) should be reviewed during detailed design, the preparation of environmental and operational management plans, and their incorporation considered, including: • Consider opportunities to ensure vegetation is monitored over time to ensure fire risk is understood and managed. • Consider conducting fuel reduction burns for parts of the catchment that become vulnerable to bushfire impacts. • After fire events, consider installation of appropriate sediment and erosion controls in tributaries leading to the dam and conduct autumnal post fire planting for soil stabilisation. • Consider approaches to minimise algal blooms through reducing organics from entering the reservoir through fuel reduction burns and ample understorey to filter water entering the reservoir. • Consider the need for fire resistant pylons and buried power cables to reduce powerline exposure to local bushfire impacts. • Where incorporated, specific roles and responsibilities within the team should be assigned to each management action to ensure ownership and implementation.	Pre-construction Construction
Risk register reviews	CC02	Monitoring and review the climate adaptation risk register through design, construction and operational phases.	Pre-construction Construction Operation
Change in climate scenarios over time	CC03	Monitor any potential changes in the IPCC's RCP scenarios and localised projections for the Dungowan/Tamworth region to periodically update the ratings of identified risks associated with a changing climate and projections.	Construction Operation

Aspect	Ref #	Mitigation measure	Timing
Ecologically sustainable development			
IS tool target	ESD01	The project would target an 'Excellent' rating under the IS Design and As-built rating tool (version 1.2) with an aim to achieve a minimum rating score of 61. Key internal and external stakeholders should be engaged to allow for strategic development of high value, whole of life sustainability initiatives to be integrated into the project.	Pre-construction Construction Construction
Adaptability and resilience	ESD02	A project Sustainability Plan would be developed to incorporate adaptability and resilience and embed the ESD principles in the design and delivery of the project, including: • Resource efficiency. • Waste minimisation. • Low carbon emissions. • Sustainable procurement. • Implementation of polluter pay principles.	Pre-construction
Sustainability initiatives and actions	ESD03	The recommended sustainability initiatives identified in the ESD Pathway report would be considered in: • Detailed design. • The preparation of the Sustainability Plan. • The development of operational procedures. • Ongoing monitoring and review of water, energy, waste and transport efficiency initiatives would occur through design, construction and operational phases.	Pre-construction Construction Operation
Community notifications and complaints			
Complaints handling	C01	A readily accessible contact point, such as a 24-hour toll-free information and complaints line would be established, and a register kept of: • Date and time of complaints. • Complainants' details. • Person receiving complaint and person referred to. • Description of complaint. The Contractor would provide quick response to complaints, with complaint handling staff having both a good knowledge of the works and ready to access information. Compliance monitoring should be undertaken to investigate complaints.	Construction

Aspect	Ref #	Mitigation measure	Timing
Community amenity notifications	C02	• Notification would be provided to receivers potentially impacted by construction, including relevant works duration, types of works, respite periods and contact details for complaints. • Notification should be completed at least five days prior to the start of the proposed works or 14 days for works outside construction hours. • Consultation would be conducted with any affected noise sensitive receivers to determine the least sensitive work periods and where feasible, incorporate arrangements into works schedule.	Construction