

Minor Works Environmental Impact Assessment (EIA) /Minor Works Review of Environmental Factors(REF) Form

This EIA form is used by WaterNSW to assess and approve minor works that are either *Development Without Consent* or *Exempt Development*. It records & assesses activities or project works where environmental impacts are minimal or not likely to significantly affect the environment. If you are unsure how to answer anything in this Form, please contact the Environmental Services Team for assistance and advice.

The EIA form is for use with Adobe Reader. Enable JavaScript when prompted by Adobe Reader.

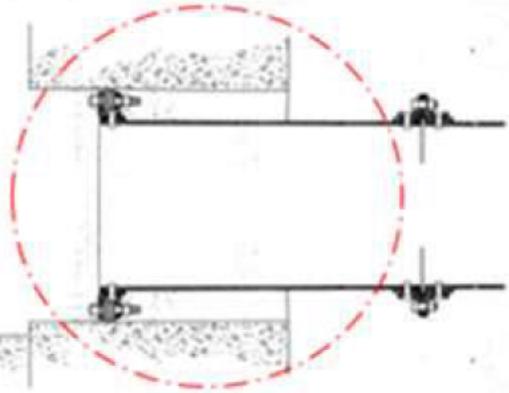
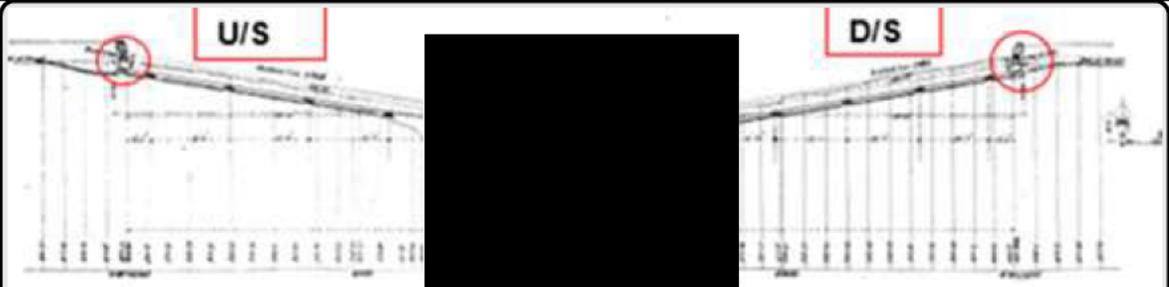
SECTION 1 PROJECT SCOPE			
No.	QUESTIONS	ANSWERS	GUIDANCE
1.1	Organisation/Business Unit/Team	Regional Project Delivery – Sydney	
1.2	WaterNSW representative and contact details	[REDACTED]	
1.3	Has a site inspection been undertaken? If so by whom and when?	Site inspection completed by [REDACTED] (Project Engineer) May 2024 [REDACTED] (TL Project Delivery) May 2024	<i>It is recommended the person undertaking site inspection should also complete this Form.</i>
1.4	ARK Reference – Project Folder/Work Folder	F2024/252 ARK Location: D2024/077784	<i>Save your work to ARK and include the ARK numbers here. Provide project/works folder for background information.</i>
1.5	Project Number/Budget Code	[REDACTED]	<i>Environmental Services time taken to process this request will be assigned to the project.</i>
1.6	Project or Works Value	\$150,000 per Aqueduct Seal Six (6) Aqueduct Seals in total Estimated \$900,000 total	<i>Publication of EIA/REF is required when:</i> - Capital investment is > \$5 million <i>- an approval or permit is required under:</i> - FM Act section 144, 201, 205 or 219 - Heritage Act section 57 - NP&W Act section 90 - POEO Act section 47-49 or 122 <i>or if it is considered to be in the public interest.</i>
1.7	Project or Works Title	Upper Canal Aqueducts Expansion Joint Renewal	<i>Include the full name of the project or work you propose undertaking.</i>
1.8	Scope of Works: What is to be undertaken and how?	<p>The scope is to repair works for the failed aqueducts joint around the diversion pipeline. There will be preparation and dress defective areas around the joint, cutting back as needed according to repair product specification. Mortar will be applied to the existing pipe surface which will be installed with flexible materials and fit a double wide EPDM Hydratite, ensuring all joint repair complies with AS/NZS4020:2005 for potable water.</p> <p>The scope of work involves utilising similar materials and employing appropriate methods, with a predominant emphasis on minimising invasive repair techniques whenever feasible.</p> <p>The works will be supported by the use of one trailer for the purposes of equipment storage and another for the provision of amenities. This will ensure the works have a minimal footprint within the boundary of the canal. Access is via established service roads within the canal boundary.</p> <p>Due to the location of the asset, the work required can only be completed during an outage where the Canal is isolated and dewatered.</p>	<i>Clearly outline the full scope of work and activities, including equipment type, size, quantity; sequence and tasks involved including site establishment, stockpiles; temporary structures such as site sheds; any block banks and de-watering.</i>
1.9	Proposed Start Date and Expected Duration of works	Outage 1: March 2025 Outage 2: October 2025	
1.10	Planned Site Work Hours	Standard hours	<i>Identify the planned site work hours.</i> <i>Standard Hours are : Mon-Fri 7am-6pm, Sat 8am-1pm, No work Sunday or Public Holidays.</i> <i>Non-standard hours may require additional noise assessments to be prepared.</i>
1.11	One-off Project or Routine work	<input checked="" type="radio"/> One Off <input type="radio"/> Routine	
1.12	Location	1. Elladale Creek - 34.188889,150.755278 2. Ousedale Creek -34.1696167,150.759444 3. Mullaley Creek -34.164710,150.757636 4. Leafs Creek -34.149667,150.757000 5. Nepean Creek	<i>Identify the location of the project or work and the asset. Be sure to include the access roads / routes used to deliver materials to site</i>

		-34.142778,150.766389 6. Menangle Creek -34.115278,150.781389	
1.13	Site Plan / Photos / Aerial Photo: Add Figures or ARK reference to figures		

Add Site Plans, Figures or Photo etc.

Remove Figure or Photo









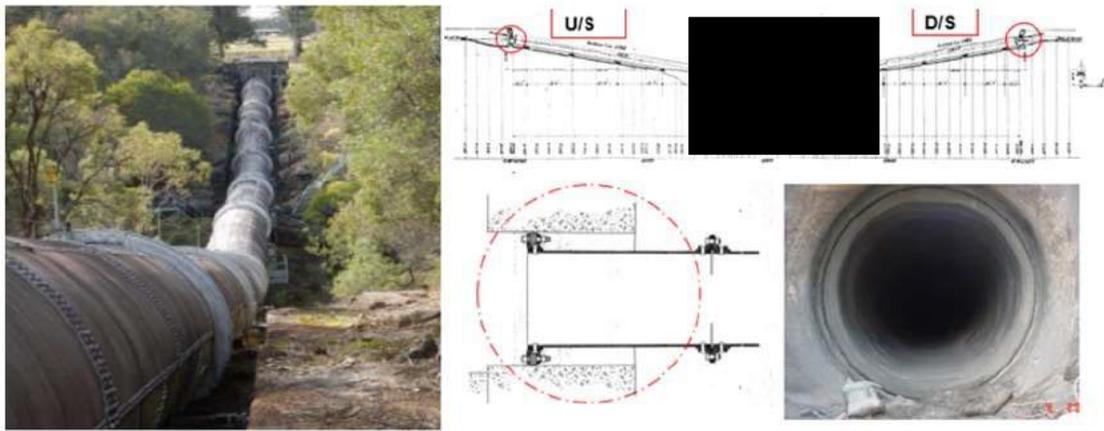
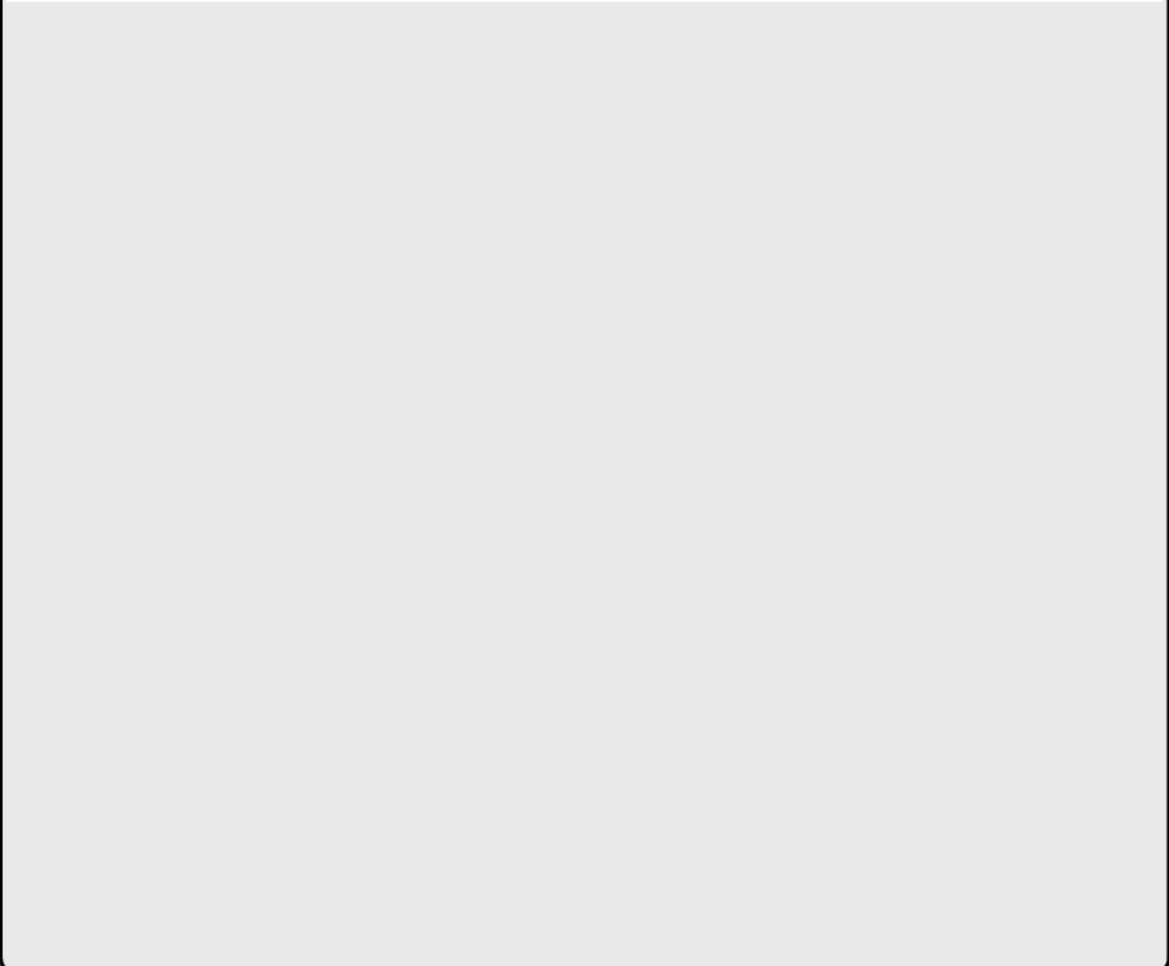


Figure 1: the Upper Canal Aqueducts



Figure 2: Damaged Aqueducts joints identified (typical)



1.14	Is the land and/or asset owned by WaterNSW?	<input checked="" type="radio"/> Yes <input type="radio"/> No	Site ownership details can be found at; Vested orders (DOC11/8076) for assets Government Property Register or Land Titles Office NULA
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1.15	Lot and DP	Aqueduct 1 - Elladale Creek - Lot 2 DP 719962 Aqueduct 2 - Ousedale Creek - Lots 1 and 2 DP 625921 Aqueduct 3 - Mullaly Creek - Lot 2 DP 625921 Aqueduct 4 - Leafs Creek - Lot 3 DP 625921 Aqueduct 5 - Nepean Creek - Lot 1 DP 730136 Aqueduct 6 - Menangle Creek - Lot 3 DP 730136	Find a property using NULA or the NSW Planning Portal
1.16	What is the local government area (LGA)?	Aqueducts 1,2 and 3 - Wollondilly Shire Council Aqueducts 4, 5 and 6 - Campbelltown City Council	You can find the LGA by using NULA Maps or the NSW Planning Portal
1.17	What is the zoning of the site?	SP2 - Water Supply System	Provide details of the zoning from the relevant Local Environmental Plan(s)
1.18	Will the project or work be within the Sydney Drinking Water Catchment and/or a Special Area / Controlled Area?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Check NULA to identify if the project or work is within the Sydney Drinking Water Catchment. For more information on undertaking a Neutral or Beneficial Effect Assessment refer to CD2016/89*
1.18.1	Are there any identifiable potential impacts on water quality?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Potential pollutants are sediments (fine & coarse), nitrogen, phosphorus, pathogens and hazardous chemicals and contaminants such as oil/fuel.
1.18.2	What pollutants are likely and are these during and/or post construction?	Works to address corrosion, application of mortar and installation of Hydratite within a potable water pipeline.	
1.18.3	Can impacts on water quality be effectively contained on the site and not reach any watercourse, waterbody or drainage depression? Describe how and include specific safeguards at Q1.30.	Any debris or abrasive blasting must be contained to minimise and prevent excessive contamination into pipework. Removal of any waste by-products should be managed by the contractor and disposed at a landfill licensed to receive it. A CEMP is to be prepared that addresses the environmental safeguards detailed as well as containment of waste materials.	
1.18.4	Will impacts on water quality be transferred outside the site for treatment? How? Why?	NA	
1.18.5	Is it likely that a neutral or beneficial effect on water quality will occur? Why?	Long term beneficial effect on water quality due to replacement of failing seals.	
SPECIAL AND CONTROLLED AREAS			
Select the appropriate safeguards to manage the impacts			
SP1	Special & Controlled Areas	All activities or work undertaken in Water NSW Special / Controlled Areas shall be carried out in a manner that will prevent or minimise impacts on water quality, environmental damage and fire.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A
SP2	Special & Controlled Areas	Standard access requirements of Water NSW catchment lands shall be observed. This includes restricted access to the catchment after periods of significant rainfall (typically 10mm in a 24 hour period).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A
SP3	Special & Controlled Areas	All gates and barriers shall be closed and locked at all times to prevent unauthorised access to the Special/Controlled Area.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A
SP4	Special & Controlled Areas	Any suspected unauthorised access to the area shall be reported to the WaterNSW Incident Number 1800 061 069 (24/7 Service).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A
SP5	Special & Controlled Areas	All incidents, spills or fire sightings that occur in the WaterNSW Special / Controlled Area shall be immediately reported to the WaterNSW Incident Number 1800 061 069 (24/7 Service).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A
SP6	Special & Controlled Areas	Works shall not be undertaken and vehicles shall not travel on unsealed roads in the Water NSW Special / Controlled Areas when road surfaces are saturated, water is flowing down table drains or the catchment has been closed by Water NSW.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A
SP7	Special & Controlled Areas	Portable fuel trailers shall be taken off catchment at the end of each working week.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A
SP8	Special & Controlled Areas	Any imported fill material shall be restricted to 'Virgin excavated natural material' (eg clay, gravel, sand soil and rock) that is not mixed with any other waste. Coal waste materials shall not be used in the construction or maintenance of trails.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A
SP9	Special & Controlled Areas	New gravel or borrow pits shall not be established within the Special Areas.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A
SP10	Special & Controlled Areas	In the event Water NSW fire roads are damaged as a result of the works, they shall be repaired as soon as practicable.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A
SP11	Special & Controlled Areas	All equipment transported to the site shall be thoroughly washed down, including underneath tractors and slashers, to remove mud, dirt and vegetative materials, prior to entering the Water NSW Special / Controlled Areas.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A

1.19	Does the project or work require any vegetation to be cleared?	<input type="radio"/> Yes <input checked="" type="radio"/> No	Clearing means any one or more of the following: (a) cutting down, felling, thinning, logging or removing vegetation, (b) killing, destroying, poisoning, ringbarking, uprooting or burning native vegetation.
1.20	Is the project or work located on, in or adjacent to (within 40m) of "water land" or waterway?	<input checked="" type="radio"/> Yes <input type="radio"/> No	'water land' means land submerged by water: (a) whether permanently or intermittently, or (b) whether forming an artificial or natural body of water, and includes wetlands and any other land prescribed by the regulations as water land to which this Division applies.
1.21	Is the project or work likely to result in any soil disturbance?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
1.22	Will the project or work require the stockpiling of any materials?	<input type="radio"/> Yes <input checked="" type="radio"/> No	

SOIL AND WATER

Select the appropriate safeguards to manage the impacts

SW1	Soil and Water	All works shall be undertaken in a manner that will minimise site disturbance and avoids or minimises erosion and sedimentation.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
SW2	Soil and Water	All areas disturbed during the works shall be protected by installing appropriate erosion and sedimentation control measures so that sediment-laden runoff does not enter any drainage line or wetland. Measures may include: o diverting any potential upslope runoff and stormwater away from the site; o installing temporary erosion control devices (eg sediment fencing, sand bags, sediment basins); o temporary surface protection (eg surface mulching, geotextile/erosion control matting).	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
SW3	Soil and Water	All erosion and sediment control measures shall be checked and maintained on a regular basis so that they work effectively at all times, including removing trapped sediment before or when 30% capacity is reached. Control measures shall not be removed before the ground surface is stabilised.	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
SW4	Soil and Water	A maintenance checklist shall be prepared for sites. Records shall be kept of all checks and maintenance and shall be provided to Water NSW on request. As a minimum this shall include a regular check of: o sediment fencing/bunding o any sign of erosion of the site or material o any impact on adjacent vegetation (material shall be kept outside the dripline of any tree) o the safe storage of any chemicals, fuels or lubricants o the height, gradient and stability of any stockpile (<2m high and 2:1 slope)	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
SW5	Soil and Water	Chemicals, fuels and lubricants shall be securely stored in approved containers and spill containment material shall be kept on site ready for immediate use. Bund capacity is to be at least 110 % of the largest container & 25% of the total stored volume	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
SW6	Soil and Water	No chemicals, fuels and lubricants shall be stored overnight on site unless specifically approved by Water NSW. If approved, these materials shall be stored with bunding within an established site compound, on a level area clear of native vegetation and at least 40m from any natural or built drainage line or wetland.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
SW7	Soil and Water	Plant and equipment shall not be refuelled within 20m of any natural or built drainage line or wetland. During any refuelling, spill containment material shall be on hand ready for immediate use.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
SW8	Soil and Water	Weather forecasts shall be regularly checked so that expected storm events can be taken into account in project planning and erosion and sediment management.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
SW9	Soil and Water	Temporary compounds and stockpiles shall be located: o at least 40m from natural or built drainage lines or wetland;	<input checked="" type="radio"/> Yes <input type="radio"/> N/A

		<ul style="list-style-type: none"> o on areas previously disturbed and that do not require the clearing of native vegetation; o on level, hard ground wherever possible, and shall not be located on slopes steeper than 1(N):10(H); o beyond tree drip lines; o where there is no risk of impact on any indigenous or non-indigenous heritage site. 	
SW10	Soil and Water	Topsoil shall be stockpiled separately from general spoil and reused wherever possible.	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
SW11	Soil and Water	Concrete shall not be mixed within 20m of any natural or built drainage line or wetland. All concrete waste and any concrete washout shall be contained and removed for disposal off site at a lawful facility. Washout of trucks on site shall be minimised wherever possible.	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
SW12	Soil and Water	Waste water generated during works shall be captured and: <ul style="list-style-type: none"> - tested and treated before release back into the environment ensuring all water quality criteria are met; - disposed offsite at a lawful receiving facility; - sediment laden waters can be discharged in a manner that prevents sediments entering natural or built drainage lines or wetlands. 	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
SW13	Soil and Water	Silt booms shall be installed in the stream or water body around the work site, or immediately downstream. The silt booms shall be appropriately anchored to maximise the capture of any sediment laden water.	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
SW14	Soil and Water	Any mixing of paints is to be carried out over a waterproof membrane of at least 4 square metres in area. The contractor is to take all reasonable steps to prevent spillage of paint.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
1.23	Will the project or work result in the generation of any waste materials?	<input checked="" type="radio"/> Yes <input type="radio"/> No	<i>This may include spoil, concrete, building materials, vegetation, wastewater, oil and grease. Will portable toilets be needed at the site?</i>
1.23.1	Provide details of the nature, amount of waste likely to be generated and proposed disposal	Very minimal construction waste including corroded pipe and defective joint material and general waste. Redundant or replaced equipment will be managed and disposed of appropriately in accordance with the EPA Waste Classification Guidelines.	Refer to EPA Waste Classification Guidelines for classifying waste. If the project or work involves the use and disposal of, or exposure to, contaminated/hazardous materials, dangerous goods or controlled chemicals, approval may be required from SafeWork NSW or EPA
WASTE			
Select the appropriate safeguards to manage the impacts			
W1	Waste	All working areas shall be maintained, kept free of rubbish and cleaned up at the end of each working day. Equipment and materials shall be securely stored.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
W2	Waste	If the contractor is working at the same location for more than one day, self-contained portable ablution and toilet facilities shall be provided, unless otherwise specifically negotiated with Water NSW. These facilities shall be located at least 20m from any natural or built drainage line or wetland.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
W3	Waste	The contractor shall be appropriately licensed to remove and dispose of all hazardous materials. Hazardous materials shall be handled and disposed in accordance with relevant Australian Standards, SafeWork NS and regulatory agency (EPA) guidelines.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
W4	Waste	All waste fluids generated during the works, including concrete wash, the washing of painting equipment and human effluent, shall be contained for proper disposal offsite in accordance with SafeWork NSW and NSW government guidelines.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
W5	Waste	All waste removal, transport and disposal, including excess spoil, shall be in accordance with the EPA current guidelines for waste. Materials shall be recycled wherever possible. Dockets or equivalent evidence shall be obtained for all recycling and waste disposal, detailing the weights, materials, time and date and waste facility used. These dockets shall be available onsite and submitted with monthly reports and placed in ARK folder F2018/3432.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A

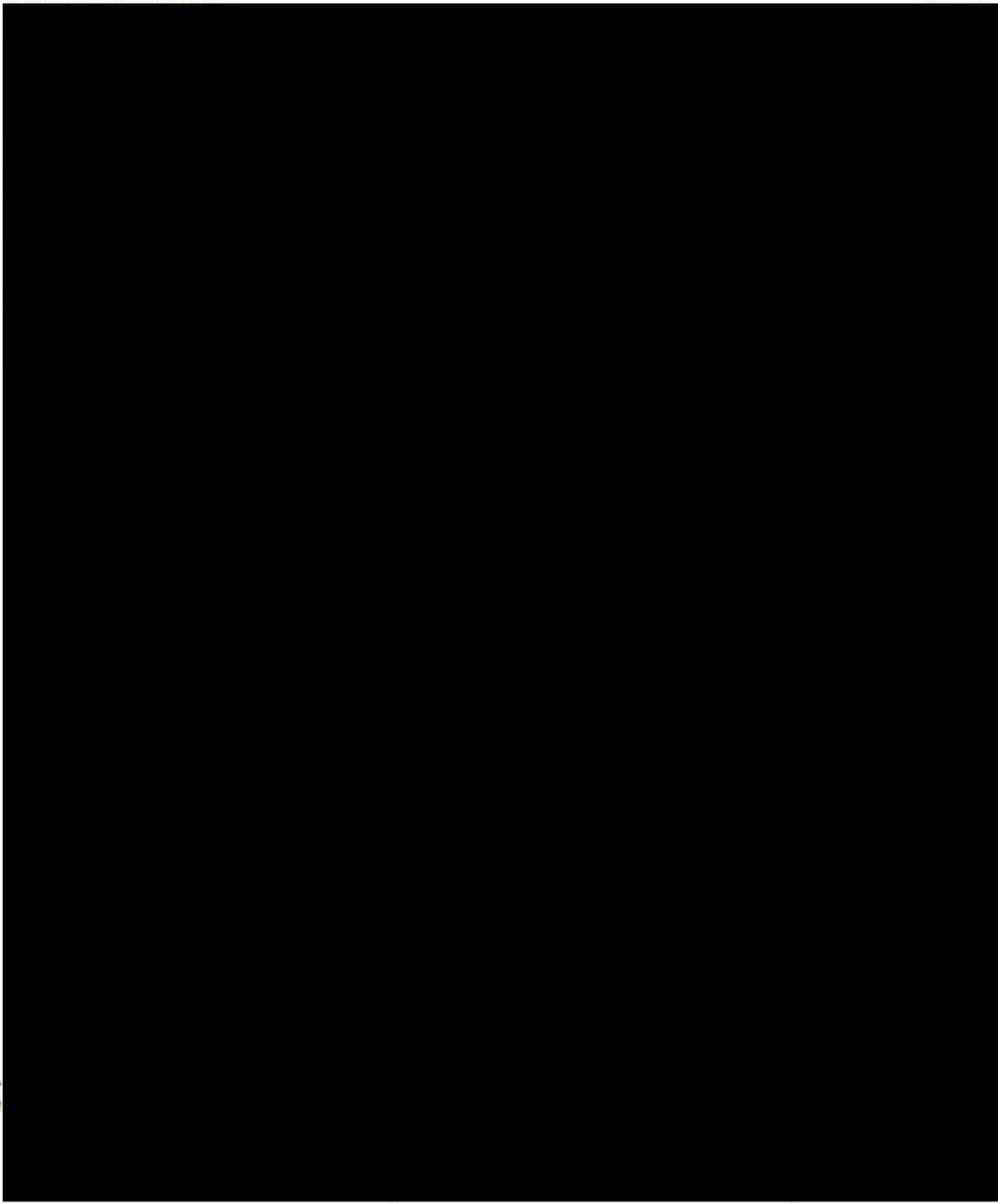
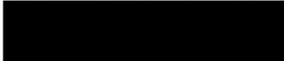
1.24	Will the project or work have an impact on members of the public or surrounding areas?	<input type="radio"/> Yes <input checked="" type="radio"/> No	Types of impact may include noise, dust, access, visual amenity. Surrounding land uses may be agricultural/other rural land uses, residential, recreational etc.
1.25	Will the project require new fences to be installed?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
1.25.2	Are temporary or new access tracks or roads to be developed?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
1.26	Are there any impacts on any Councils, utilities and/or roads?	<input type="radio"/> Yes <input checked="" type="radio"/> No	Carry out a dial-before-you-dig if necessary or conduct a survey to indicate if any underground infrastructure is present, eg, water, sewer, power, telecommunications, council roads, otherwise contact the supply authority or local Council.
1.28	Are there any post-construction rehabilitation or future maintenance requirements?	<input type="radio"/> Yes <input checked="" type="radio"/> No	Post rehabilitation may include replanting, rip rap and making good of a disturbed area.
1.29	Is a Construction Environmental Management Plan (CEMP) required?	<input checked="" type="radio"/> Yes <input type="radio"/> No	A CEMP demonstrates how & where site specific environmental controls or safeguards will be implemented at the project site. Not all projects or works need to have a CEMP prepared, for example small scale works with few potential impacts. The CEMP must address the safeguards identified in the EIA for the project. (refer to CD2015/188* - CEMP Condensed Template)
1.30	Are there any special environmental safeguards, controls or mitigation measures that need to be implemented during this project or works?	<input checked="" type="radio"/> Yes <input type="radio"/> No	Minor and routine works not requiring a CEMP can still require specific mitigation measures.
1.30.1	Provide details. Include a list of any project specific controls or mitigation measures that need to be implemented during this project or works.	Establishment of Protection Zone (TPZ) around the work area if required. A CEMP is to be prepared that addresses the environmental safeguards detailed as well as containment of waste materials.	PS1
1.31	What is the myWaterNSW Aboriginal Heritage Assessment request number?	RITMO699849 - Aboriginal Object Due Diligence Assessment Internal Checklist by WaterNSW First Nations Team undertaken on 24 September 2024. Works subject to exclusion areas near Elladale Creek (Aqueduct 1) as attached. No further archaeological assessment required.	An Aboriginal Cultural Heritage Field Assessment is needed for all new infrastructure; maintenance and upgrades of existing infrastructure where there is no previous assessment; environmental surveys; and vehicle movements off approved access tracks.
<p>Thank you for completing Section 1 of this Minor Works Environmental Impact Assessment .</p> <p>Ensure you have saved this form to ARK and included the ARK reference number above.</p> <p>Go to myWaterNSW, click 'Request Something' & create a service request for Environmental Services.</p> <p>Does the work trigger an Aboriginal Heritage Field Assessment? If so, it is required to complete the EIA.</p>			Save to ARK and go to myWaterNSW to create a service request
<input checked="" type="radio"/>	<p>Environmental Services Team - Once Section 1 has been submitted, check that all questions are completed. If Section 1 is incomplete refer back to the Project Manager with comments. Environmental Services will complete section 2 & 3 of the assessment.</p>		

SECTION 2 ENVIRONMENTAL CONSIDERATIONS			
	QUESTIONS	ANSWERS	HERITAGE TO BE CHECKED
2.1	Will the project / work occur on a heritage item? Is the work site or asset identified on the WaterNSW s170 heritage register, the State heritage register, National Heritage List or identified as a local heritage item on the LEP?	<input checked="" type="radio"/> Yes <input type="radio"/> No	Heritage to be checked: 1. WaterNSW S170 Register (D2016/73126) 2. NSW Planning Portal 3. Relevant Council LEP 4. State Heritage Inventory Database
2.1.1	Identify and describe the works with regard to the heritage significance.	The Upper Canal is listed on the NSW State Heritage Register (SHR) as 'Upper Canal System' (#01373). The Upper Canal is also listed on the WaterNSW and Sydney Water Heritage and Conservation Register as part of the Upper Nepean Scheme (#4575806). The Upper Canal is listed as a State heritage item on the Wollondilly Local Environmental Plan 2011 and the Campbelltown Environmental Plan 2015.	
2.1.2	Will there be ground disturbance at a locally significant site or where a relic is predicted to occur?	<input checked="" type="radio"/> Yes <input type="radio"/> No	Refer first to the Heritage NSW Archeological Exceptions as guidance for works which may be done under the Exceptions (ensuring you can also meet the General conditions) or secondly the WaterNSW Exceptions (D2022/152136). If the work can be done under either Exception it must be recorded in D2020/133333. If the proposed activities/works do not comply with the Exceptions, approval under s149 of the Heritage Act 1977 may be required. Consult with the Heritage Specialist or Adviser
2.1.3	Is the item identified on the LEP as locally significant?	<input checked="" type="radio"/> Yes <input type="radio"/> No	If yes notification to Council with provision of a heritage impact assessment for the works is required, and any comments received within 21 days must be considered. Consult the Heritage Specialist for advice ⓘ
2.1.4	Will the impacts be more than minor or inconsequential?	<input type="radio"/> Yes <input checked="" type="radio"/> No	If there is more than minor or inconsequential impact to a local heritage item, Council notification with provision of a heritage impact assessment for the works is required, and any comments received within 21 days should be considered.
2.1.5	Is the item only listed on the WaterNSW s170 Register or will it be demolished or partially demolished or become unoccupied?	<input type="radio"/> Yes <input checked="" type="radio"/> No	Discuss with the Heritage Specialist or Adviser for advice. If demolition or vacating is occurring, notification to Heritage NSW must be undertaken immediately.
To be Exempt Development - must involve no more than minimal impact on the heritage significance of the item or area [Refer TISEPP cl2.20 (e), (f)]			
2.1.6	Are the proposed works permissible under the Heritage NSW Standard Exemptions or WaterNSW Standard Exceptions? <i>Consult the Heritage Specialist or Adviser</i>	<input type="radio"/> Yes <input checked="" type="radio"/> No	Refer to the Heritage NSW Standard Exemptions as guidance for works which may be done under the Standard Exemptions/ Archaeological Exceptions/WaterNSW Exceptions if they have little to no impact to an item's heritage significance and meet the relevant standards. If the work can be done as a Standard Exemption, WaterNSW Exception or Archaeological Exception it must be recorded in D2020/133333. If the proposed activities/works would not comply with the Standard Exemptions or site-specific exemptions, approval under the Heritage Act 1977 is required. Consult the Heritage Specialist or Adviser

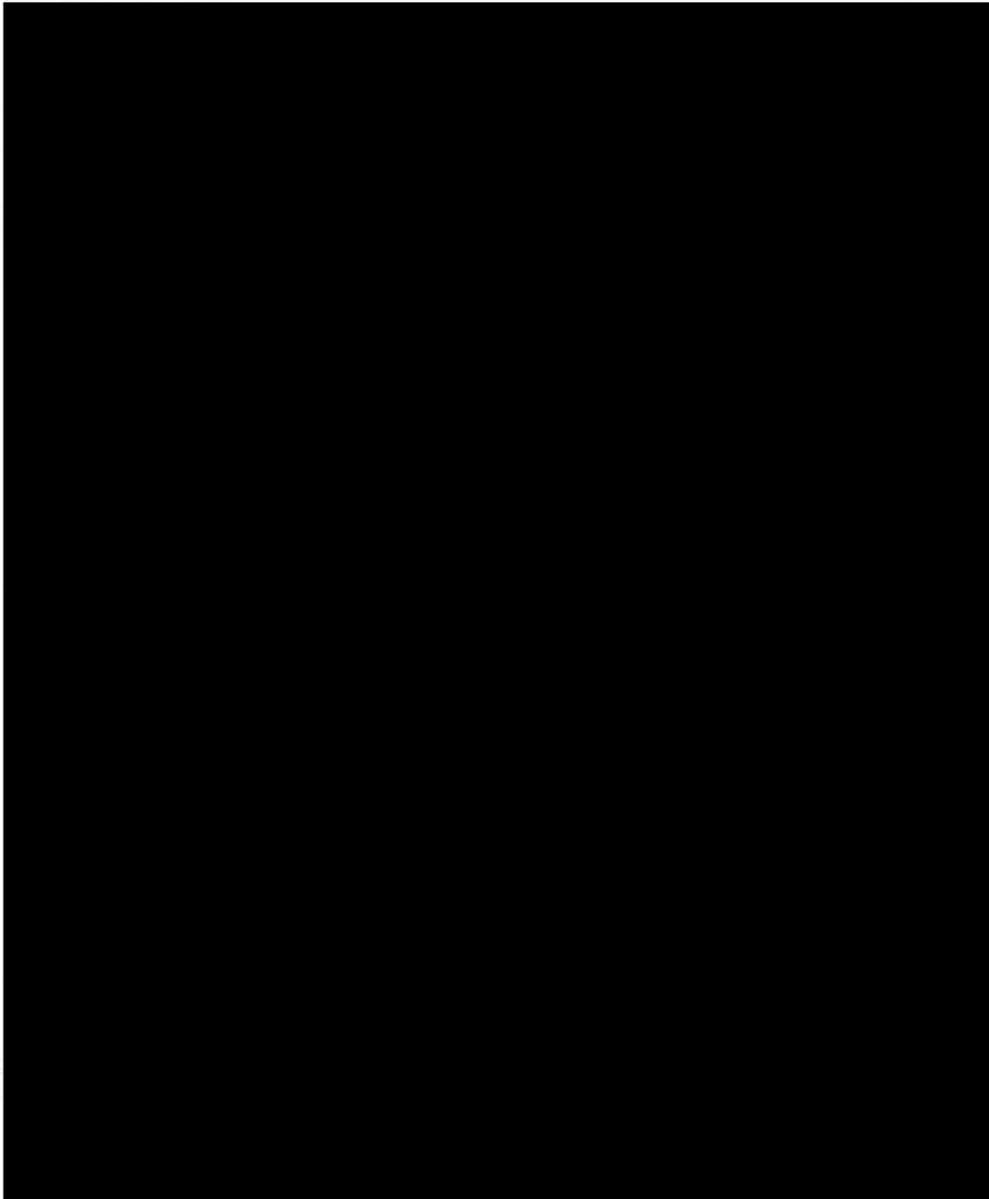
2.1.7	<p>Include details that support the above conclusions and any outcomes of consultation with the heritage specialist.</p>	<p>The Upper Canal is rated as having Exceptional heritage significance, but the works will not detrimentally impact the significance of the structure. In the 1930s the inside of the aqueduct pipes themselves were lined with a 30mm thick cement mortar, and several pipes were relined c2000. The replacement of seals within the aqueducts themselves is of an insignificant nature but is essential to the on-going operation of the asset for the purposes of supplying Sydney's drinking water.</p> <p>Safety upgrades are necessary and inevitable to ensure ongoing operation of the aqueducts along the Upper Canal. While the seals are modern they are not of heritage significance and are a perishable item that is intended to be replaced when it reaches end of life.</p> <p>The works to be undertaken will not have an adverse impact on the heritage item. The works are part of the maintenance of the Upper Canal which is needed to enable WaterNSW to meet its water supply obligations for the Greater Sydney region.</p>	
2.1.8	<p>Is the item identified on the National Heritage List?</p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>	<p>If yes contact the Heritage Specialist or Adviser to discuss the impact of works and test against the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) to ensure that the works do not have a significant impact on MNES.</p>
2.1.9	<p>Detail specific requirements or measures that need to be included in the Environmental Approval.</p>	<p>Section 60 Approval was received from Heritage NSW (D2025/1673) on 10 January 2025 (refer as attached).</p> <p>Pursuant to section 63 of the Heritage Act 1977, approval was granted subject to the following conditions:</p> <p>1. All work shall comply with the information contained within:</p> <p>a) Report: Upper Canal Aqueduct Expansion Joint Renewals Statement of Heritage Impact, ARK Ref. No. D2024/128620, prepared by WaterNSW, undated.</p> <p>EXCEPT AS AMENDED by the conditions of this approval:</p> <p>2. A suitably qualified and experienced heritage consultant must be nominated for this project. The nominated heritage consultant must provide input into the detailed design, provide heritage information to be imparted to all tradespeople during site inductions, and oversee the works to minimise impacts to heritage values. The nominated heritage consultant must be involved in the selection of appropriate tradespersons and must be satisfied that all work has been carried out in accordance with the conditions of this consent.</p> <p>3. A photographic archival recording must be prepared prior to the commencement of works/ during works/ at the completion of works. This recording should be in accordance with How to prepare archival recordings of heritage items and Photographic recording of heritage items using film or digital capture. The digital copy of the archival record must be provided to Heritage NSW.</p> <p>4. All work to, or affecting, significant fabric shall be carried out by suitably qualified tradespersons with practical experience in conservation and restoration of similar heritage structures, materials and construction methods.</p> <p>5. Significant built and landscape elements are to be protected during site preparation and the works from potential damage. Protection systems must ensure significant fabric, including landscape elements, is not damaged or removed.</p> <p>6. If requested, the applicant and any nominated heritage consultant may be required to participate in audits of Heritage Council of NSW approvals to confirm compliance with conditions of consent.</p> <p>This approval will lapse five years from the date of the consent unless the building works associated with the approval have physically commenced.</p>	<p>SR2</p>
2.2	<p>Are there any:</p> <ul style="list-style-type: none"> - relevant confirmed site records or other associated landscape feature information on AHIMS? and/or - an Aboriginal Place? - other sources of information of which a person is already aware? and/or - landscape features that are likely to indicate the presence of Aboriginal objects? - an ILUA in place? 	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p>Landscape features that indicate the likely existence of Aboriginal objects.</p> <p><i>Is the proposed activity</i></p> <ul style="list-style-type: none"> - within 200 metres of waters - within sand dunes on a ridge top/ridge line/headland - within 200 metres of the top or bottom of a cliff face - within 20m of or within a cave, rock shelter or a cave mouth <p>AND the land is NOT previously disturbed</p> <p>An Aboriginal Heritage Information Management System (AHIMS) Web Services search must be undertaken using 200m buffer of the project or work and if positive undertake within 50m.</p> <p>ILUA - Indigenous Land Use Agreement - use Nula</p>



AHIMS Web Services (AWS)
Search Result



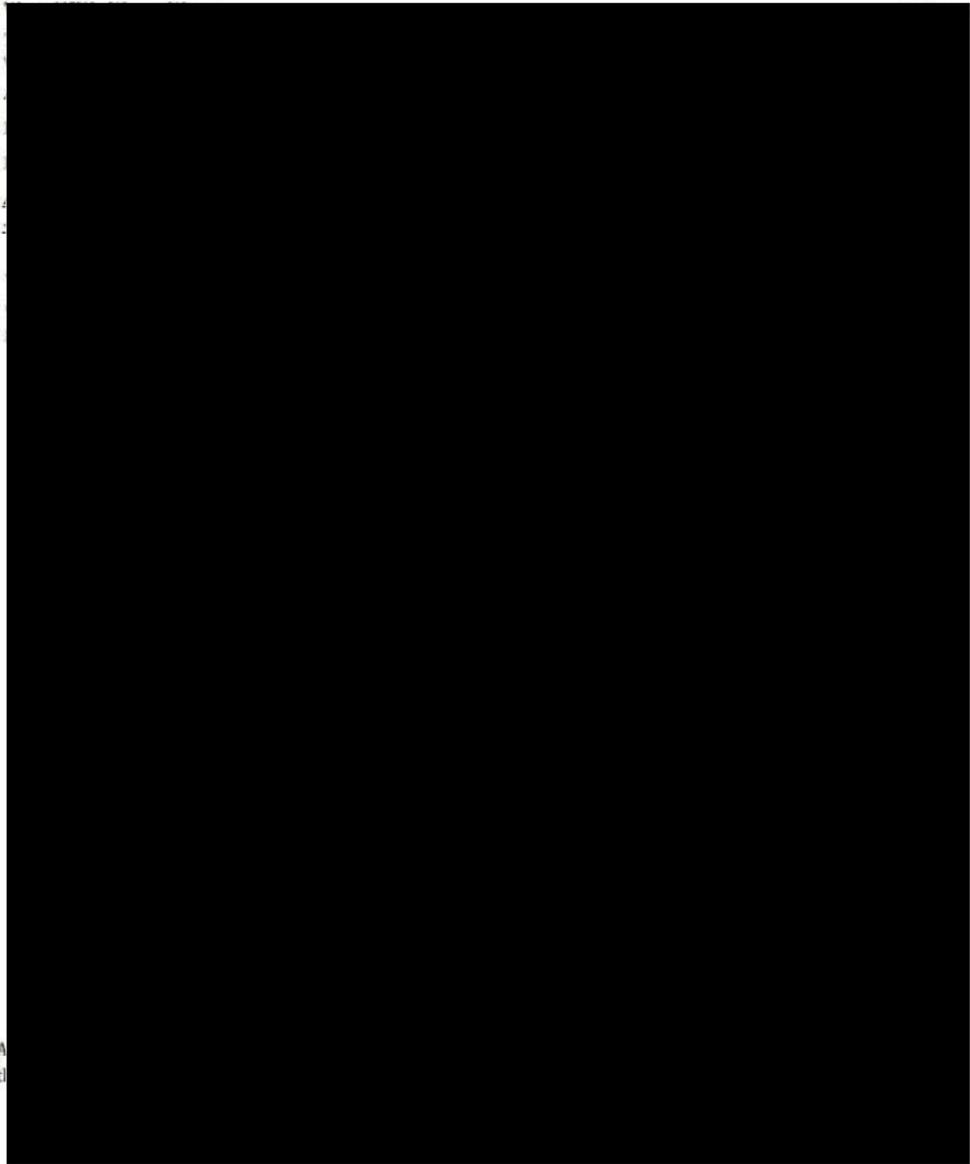
September 2024



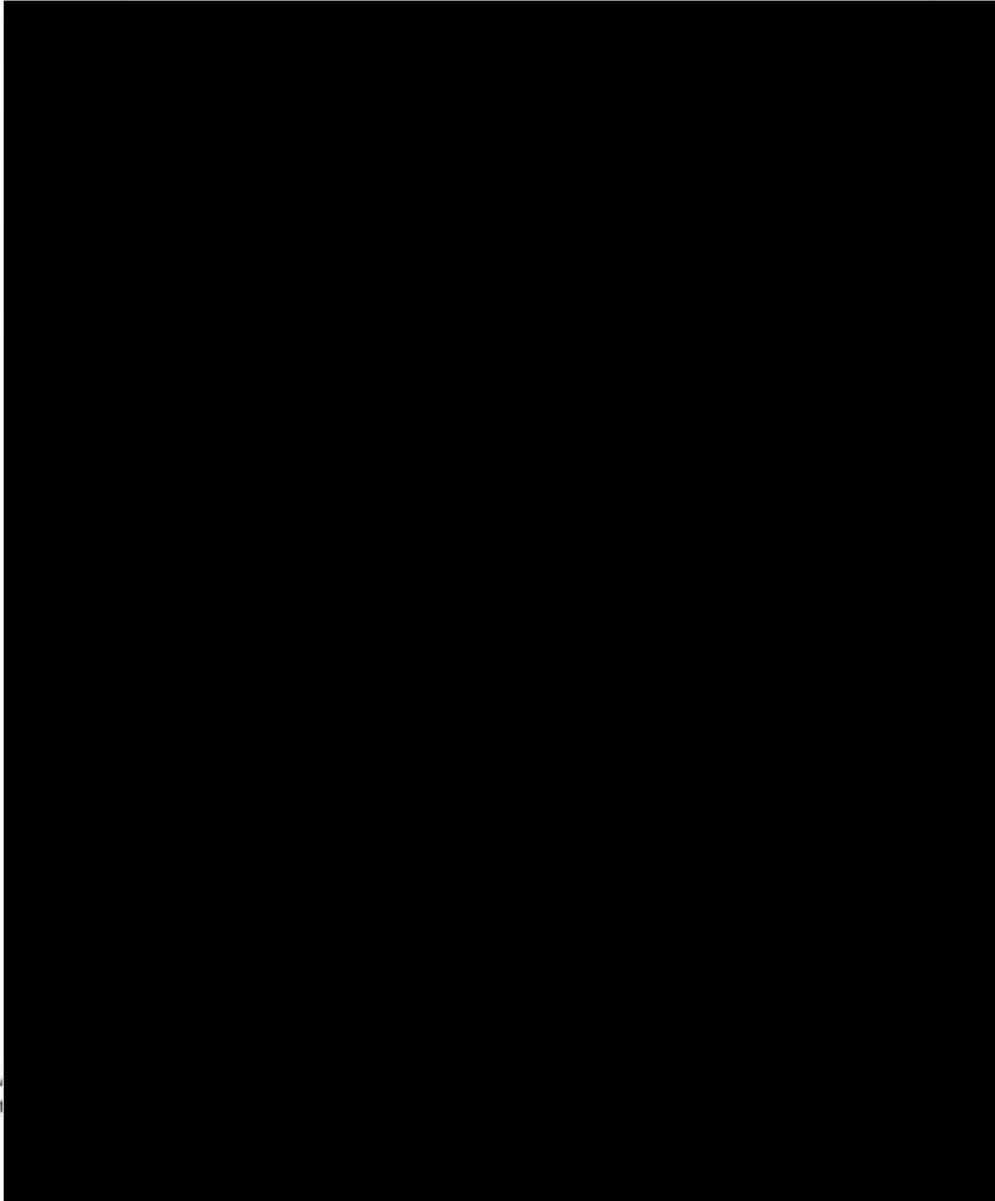
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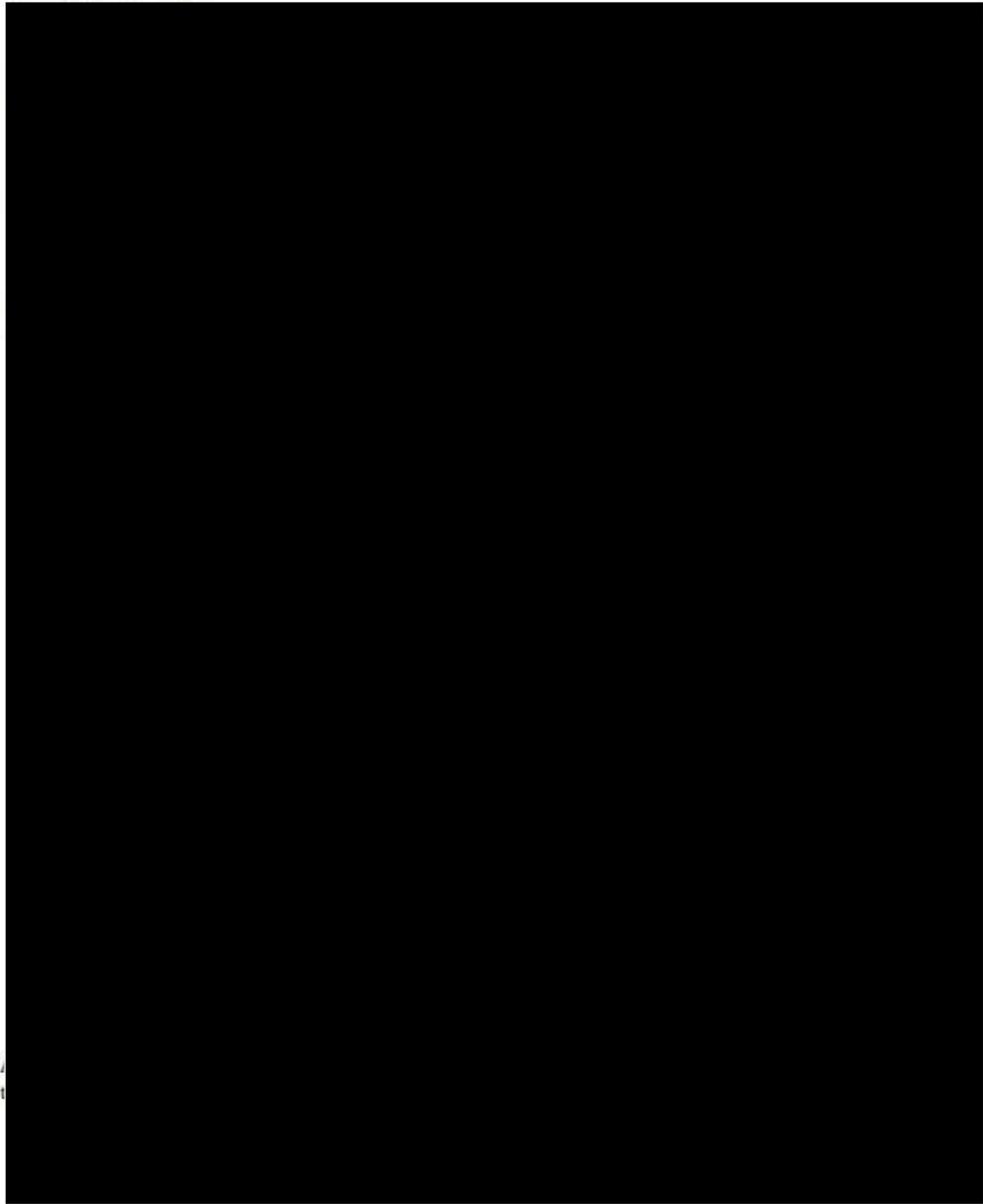
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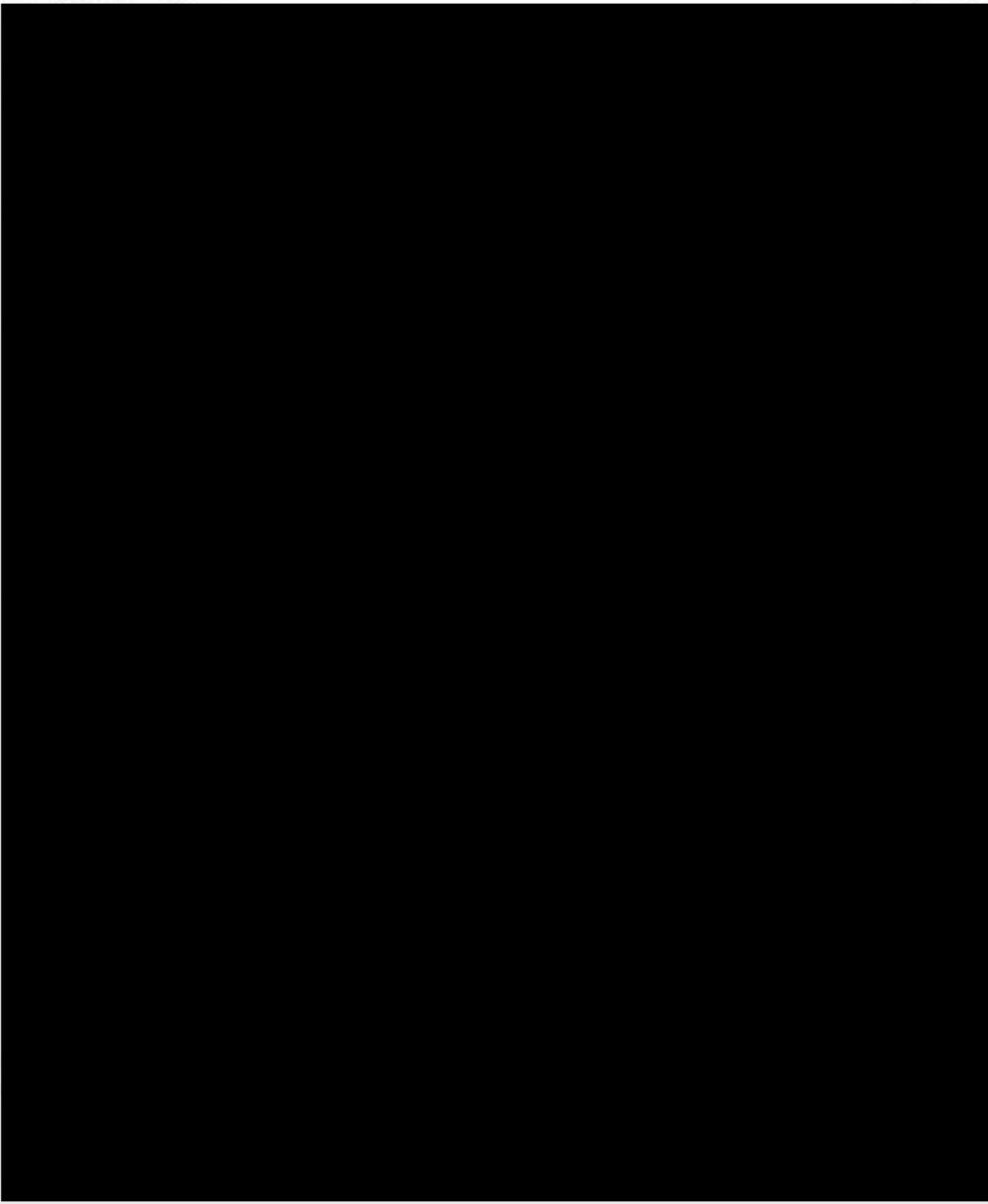
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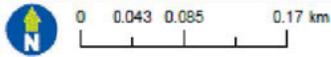
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September 2024



September 2024



- Legend
- WNSW Boundaries
 - Regulated Valleys
 - Regulated



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 WaterNSW | Ph: 1300 722 468 |
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2.2.1 Can harm to Aboriginal objects listed on AHIMS or identified by other sources of information and/or can the carrying out of the activity within the relevant landscape features, be avoided?

Yes No

Possible solutions may include reducing the footprint area; re-positioning elements; re-routing infrastructure trenching or incorporating a no-development area into the site design.

2.2.3	Provide outcomes of consultation with First Nations Team regarding the site assessment and Heritage specialist.	The WaterNSW First Nations Team have created exclusion zones at Elladale Creek (Aqueduct 1) (refer above and as attached). All staff and Contractors are to stay out of these zones during the works at a minimum, and a Cultural Heritage Assessment request is to be created if works are proposed in these exclusion zones.	<i>If your project or works is on land that is not disturbed land or contains known Aboriginal objects, engage expert to undertake desktop assessment and visual inspection of the area to see if Aboriginal objects can be identified or are likely to be present below the surface. Where Aboriginal objects are likely in the area of the proposed activity, an AHIP will be required.</i>
HERITAGE			
Select the appropriate safeguards to manage the impacts			
H1	Heritage	Site induction shall include awareness of the heritage significance of the site. This shall include the importance of preventing accidental damage to any structure or historical remnants such as roads, steps & stairs, curbing, footings & foundations and picnic area facilities or interfering with any material associated with the heritage item.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
H2	Heritage	All activities or work undertaken within the heritage precinct shall be carried out in a manner that will protect the fabric of the heritage item from damage or interference during the work.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
H3	Heritage	If problems are encountered that necessitate a major change in the work method, works shall cease until the significance of the change can be assessed. The Water NSW Environmental Services Team shall be contacted for advice. Note: the works may require re-approval prior to recommencing, depending on the changes.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
H4	Heritage	Replacement of missing, damaged or deteriorated fabric shall match existing fabric in appearance, material and method of fixing. If this is not possible, specific advice shall be obtained from the Water NSW Environmental Services Team before undertaking the replacement.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
H5	Heritage	Painting shall be done using the Water NSW approved colour scheme available from the Heritage Adviser. If any specified colour is not available, Water NSW Heritage Adviser approval shall be obtained before an alternative colour is used.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
H6	Heritage	If any items which have the potential to be of heritage significance are encountered, works shall cease until the significance of the item can be established. The Water NSW Environmental Services Team should be contacted for advice on the appropriate course of action to take.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
H7	Heritage	The Upper Canal is potentially fragile due to its age and is heritage listed. The works shall be designed and undertaken in such a way that the Upper Canal is adequately protected from ground vibration and structural damage.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
H8	Heritage	If any Aboriginal cultural material (e.g. relics such as stone tools, worked bone or fire hearths) is encountered within or immediately adjacent to the work area, work shall stop immediately until the significance of the item can be established. Water NSW Procedure CD2012/184* - Unexpected Aboriginal Objects Procedure should be followed.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
2.3	Is the project or work within or likely to affect any of the following? <ul style="list-style-type: none"> - Declared Wilderness Area - Declared Area of Outstanding Biodiversity Value - Critical habitat of an endangered species, population or ecological community 	<input type="radio"/> Yes <input checked="" type="radio"/> No	There are 49 areas of Wilderness across NSW, 4 affecting the Sydney Drinking Water Catchments: Look up details using NULA. For land declared critical habitat, check: 1. OEH Critical Habitat Register 2. DPI Fisheries Register of Critical Habitat Exempt development cannot be carried out in critical habitat of an endangered species, population or ecological community (identified under the Biodiversity Conservation Act or the Fisheries Management Act) An Area of Outstanding Biodiversity Value is declared under the Biodiversity Conservation Act 2016 and includes critical habitat.
2.3.1	Provide detailed project information relevant to the searches undertaken that supports the outcome.	No threatened species identified within the work area, however NULA identifies several records for the Southern Myotis, Large Bent-winged Bat and the Vulnerable Brown Treecreeper near or within the Upper Canal area.	
2.4	Is the project or works within or likely to affect any of the following areas: <ul style="list-style-type: none"> - World Heritage Land or land to which SEPP (Resilience & Hazards) 2021 applies - Wetlands and/or migratory birds - National Parks or Land covered by a Conservation Agreement 	<input type="radio"/> Yes <input checked="" type="radio"/> No	The Warragamba Special Area is within the Greater Blue Mountains World Heritage Area . See SEPP (Exempt & Complying Development) 2008 Clause 1.5 for inclusions of environmentally sensitive areas, use hyperlink to check: <ul style="list-style-type: none"> - an aquatic reserve under the Fisheries Management Act 1994 or a marine park under the Marine Parks Act 1997 - A RAMSAR wetland or a World Heritage area declared under the World Heritage Convention

			<i>If works will impact on National Park or area with a conservation agreement consultation is required.</i>
2.5	Are there any known contamination/hazardous materials issues?	<input checked="" type="radio"/> Yes <input type="radio"/> No	<i>Examples may include asbestos, contaminated soil.</i> NULA Contaminated Land Risk Register (D2016/135491) and Hazardous Materials Register (D2015/74763). <i>Register - Gauging Stations, 26 November 2014 - Asbestos NSW Office of Water D2015/74762</i>
2.5.1	Provide project specific safeguards or measures to be implemented. These will appear within the approval.	A number of Upper Canal Aqueducts are listed on the Contaminated Sites Register with elevated lead levels detected in the soil. This is due to corrosion, residual lead from earlier painting and abrasive paint removal. Consideration should also be given to the project approach to managing residual soil. If not forecast properly, this could end up with considerable quantities of contaminated soil (hazardous waste) to be disposed at significant expense. Mitigation strategies will also need to be implemented to prevent environmental contamination during the proposed works. The transport of lead paint waste within NSW requires an environment protection licence if more than 200 kilograms is transported in a load under the Protection of the Environment Operations Act 1997, Schedule 1, clause 48.	Section 60 of the Contaminated Land Management Act 1997 includes a duty to report contamination. For further details see the Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997 PS3
2.6	Does the project or works require consent under State Environmental Planning Policy (Biodiversity and Conservation) 2021 or the Local Land Services Act 2013? <i>Use the Native Vegetation Regulatory Maps to determine vegetation category.</i>	<input type="radio"/> Yes <input checked="" type="radio"/> No	<i>Check permissibilities under the LLS Act and State Environmental Planning Policy (Biodiversity and Conservation) 2021.</i> Refer to the Local Land Services Act 2013 Section 60A 60O 60Q Schedule 5A for authorisations and permissibilities.
2.6.1	Provide details about the extent and nature of the clearing activity. Include what authorisations exist or approvals are required.	Native vegetation clearance not required.	<i>Ensure no ancillary activities require clearing.</i> <i>Record justification if clearing can be undertaken without approval.</i> <i>Attach evidence of consultation where required.</i>
2.7	Is the project or work likely to have only a minimal impact on the environment?	<input checked="" type="radio"/> Yes <input type="radio"/> No	<i>A project is likely to have more than a minimal impact if for example:</i> <ul style="list-style-type: none"> • a license or permit is required • it is carried out in a waterway where flow interruptions are required • there is likely to be a community impact • it will result in the clearing of mature trees or a large area of understorey or native grasses • it will impact on an aboriginal heritage item • it will result in largescale soil disturbance • it will result in an increase in hard surfaces • it will result in the creation of new tracks, roads • it will result in more than minimal modifications / alterations to items of State or local significance
2.7.1	Provide all additional information relevant to the activity that supports the above assessment.	Works to an existing State listed asset using compatible materials. Works are not intrusive and involve the removal of failed seals from within the aqueducts. There would be no significant impact to the Upper Canal's heritage significance. The works are minor in nature, would be undertaken in accordance with the relevant standards prescribed by Heritage NSW and would not impact on the overall significance of the Upper Canal. Earthworks are not required.	<i>Details here will not appear elsewhere on the approval. Whether Yes or No response is provided, add supporting details.</i>
2.7.2	Does the project or work fall within one of the associated exempt development types listed under SEPP (Transport and Infrastructure) 2021 Chapters or Schedule 1; or alternative Environmental Planning Instrument?	<input type="radio"/> Yes <input checked="" type="radio"/> No	<i>If TISEPP clauses don't adequately describe the project or works, including Schedule 1; consider State Environmental Planning Policy (Exempt and Complying Development Codes) 2008</i>
2.7.4	Does the project or work fall within one of the development categories permitted without consent listed under SEPP (Transport and Infrastructure) 2021 and does the project or work comply with any criteria specified in the relevant clause?	<input checked="" type="radio"/> Yes <input type="radio"/> No	<i>If there is no applicable development category, consider what approval mechanism is most likely to apply for the project.</i>
2.7.5	Detail the planning instrument, development category and development without consent	SEPP (Transport and Infrastructure) 2021	

	type that best describes the project or works?	2.159 Development permitted without consent (1) Development for the purpose of water reticulation systems may be carried out by or on behalf of a public authority without consent on any land.	
Complete Section 3 Minor Works Review of Environmental Factors			
2.8	Are there any special environmental safeguards, controls or mitigation measures that need to be implemented during the project?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
2.8.1	Provide details. Add specific stakeholder requirements or safeguards that need to be included in the Environmental Approval.	The WaterNSW First Nations Team have created exclusion zones at Elladale Creek (Aqueduct 1) (refer attached). All staff and Contractors are to stay out of these zones during the works at a minimum, and a Cultural Heritage Assessment request is to be created if works are proposed in these exclusion zones.	SR9
2.9	Does the project or works require notification under the Fisheries Management Act?	<input type="radio"/> Yes <input checked="" type="radio"/> No	Activities that could trigger requirement include: - Dredging or reclamation on water land (S198A and C263) - Construction, alteration or modifications to a dam, weir or reservoir (S218) - Interruptions to water flows or does the project or work obstruct the passage of fish (S219)

SECTION 3 MINOR WORKS REVIEW OF ENVIRONMENTAL FACTORS			
	QUESTIONS	ANSWERS	GUIDANCE
3.1	Are the project or works outside of standard construction hours (refer 1.10)?	<input type="radio"/> Yes <input checked="" type="radio"/> No	The planned site work hours were identified at 1.10. Standard Hours are : Mon-Fri 7am-6pm, Sat 8am-1pm, No work Sunday or Public Holidays. Non-standard hours may require additional noise assessments to be prepared. Refer - NSW EPA Interim Construction Noise Guidelines for assessment guidance. Note: these guidelines are to be replaced, refer NSW EPA construction noise web site for changes.
3.2	Does the project or work require a permit/ approval under the Water Act and/or Water Management Act?	<input type="radio"/> Yes <input checked="" type="radio"/> No	Activities that could trigger requirement include: - Water supply, drainage or flood works - Affect flow of water to or from river or lake (e.g. a levee on a floodplain) - Water use (e.g. water extraction from a river)
3.3	Does the project or work require a permit/ approval/consultation from any other relevant authorities/agencies?	<input type="radio"/> Yes <input checked="" type="radio"/> No	Note: Relevant authorities/ agencies may include, but are not limited to: - LLS (natural resource management) - DPE-Environment/NP&WS (works on or adjacent to land reserved under National Parks & Wildlife Act) - DPI – NSW Crown Lands Division - DPI – State Forests - Local Council (flood liable land) - Roads and Maritime Services (works affecting RMS roads or in navigable waters) - MDBA (River Murray works) - TISEPP consultation
3.4	Will the project or work involve working in the riverine land of the Murray River, the waters and the bed and banks of its tributaries and associated water bodies OR along the NSW Border?	<input type="radio"/> Yes <input checked="" type="radio"/> No	Check map indexes to see affected areas STW130254 e.g. Conargo, Corowa, Deniliquin, Hume, Murray, Wakool, Wentworth and Windouran
3.5	Will the project or work (including any access tracks or ancillary works) affect, or likely to affect, any threatened species, population, ecological community or their habitat? (this includes State or Commonwealth listings)	<input type="radio"/> Yes <input checked="" type="radio"/> No	Check: 1. OEH Critical Habitat Register 2. NSW BioNet - NSW Wildlife Atlas Search 3. Threatened fish species 4. EPBC - Protected Matters SearchTool https://www.environment.gov.au/epbc/what-is-protected
3.6	Will the project or work have an affect on a Matter of National Environmental Significance?	<input type="radio"/> Yes <input checked="" type="radio"/> No	The EPBC - Protected Matters SearchTool can be used to find out if an area is likely to contain MNES. For guidance on undertaking an Assessment of Significant Effect refer to the Significant Impact Guidelines 1.1 - Matters of National Environmental Significance
3.7	Are there any special environmental safeguards, controls or mitigation measures	<input type="radio"/> Yes <input type="radio"/> No	Is there anything special about the site that needs to be protected? Are there any site specific controls or measures that you think the

	that need to be implemented during this project or works?		contractor needs to understand and follow?
3.8	Is the activity likely to significantly affect the environment including, critical habitat, threatened species, populations or ecological communities or their habitats?	<input type="radio"/> Yes <input checked="" type="radio"/> No	<i>Part 5 of EP&A Act, states if the activity is "likely to significantly affect the environment (including critical habitat) or threatened species, populations or ecological communities, or their habitats", then there is likely to be a significant impact and an EIS/SIS must be prepared, see Sections 5.1 & 5.5.</i>
3.8.1	What is the likely impact of the activity on the environment?	Given the nature of the works on areas subject to previous and ongoing disturbance there is minimal impact likely on the environment. Potential impacts to be managed with the EIA environmental safeguards identified in an approved CEMP.	<i>When considering the likely impact of an activity on the environment, the proponent and determining authority must take into account the factors listed in clause 171(2) of the EP&A Regulation or Table 1 of the Guidelines for Division 5.1 Assessments.</i>
Section 4 - Environmental Approval to be completed, finalised, filed in ARK project folder and sent to the Project Manager			

SECTION 4 ENVIRONMENTAL APPROVAL			
Project Details			
myWaterNSW Request #: RITM	RITM0690236	ARK Minor Works EIA Form #	D2024/77784[v1]
WaterNSW Contact	[REDACTED]	Project Location	1. Elladale Creek - 34.188889,150.755278 2. Ousedale Creek -34.1696167,150.759444 3. Mullaley Creek -34.164710,150.757636 4. Leaf Creek -34.149667,150.757000 5. Nepean Creek -34.142778,150.766389 6. Menangle Creek -34.115278,150.781389
Project Title	Upper Canal Aqueducts Expansion Joint Renewal		
Approved Activity	<p>The scope is to repair works for the failed aqueducts joint around the diversion pipeline. There will be preparation and dress defective areas around the joint, cutting back as needed according to repair product specification. Mortar will be applied to the existing pipe surface which will be installed with flexible materials and fit a double wide EPDM Hydratite, ensuring all joint repair complies with AS/NZS4020:2005 for potable water. The scope of work involves utilising similar materials and employing appropriate methods, with a predominant emphasis on minimising invasive repair techniques whenever feasible. The works will be supported by the use of one trailer for the purposes of equipment storage and another for the provision of amenities. This will ensure the works have a minimal footprint within the boundary of the canal. Access is via established service roads within the canal boundary. Due to the location of the asset, the work required can only be completed during an outage where the Canal is isolated and dewatered.</p>		
Project Manager Responsibilities			
<p>In carrying out the project or works, it is the Project Manager's responsibility to ensure that the works are carried out as described within this assessment and that all safeguards listed within this approval are complied with. The Project Manager must also ensure that all licences, permits and approvals are obtained and maintained as required and that all statutory and regulatory requirements are complied with throughout the project or works. The Project Manager is also to ensure compliance with the Building Code of Australia and other relevant technical, manufacturer or industry standards as may be required.</p>			
CEMP Requirement			
<p>A Construction Environmental Management Plan (CEMP), or equivalent, shall be prepared addressing the environmental safeguards identified in the EIA approval and any appropriate industry standards. The CEMP shall be submitted to the Environmental Services team for review and approval prior to on-ground works commencing.</p>			
Environmental Safeguards			
General			
G1	All WaterNSW Work Health and Safety requirements must be adhered to.		
G2	All complaints and compliments shall be directed to - feedback@waternsw.com.au or 1300 662 077.		
G3	All environment incidents shall be addressed in accordance with WaterNSW's Environmental Incident Management Procedure CD2016/6 .		
G4	If works have not commenced within 2 years of this approval, the EIA form must be re-submitted prior to the commencement of works, to ensure the controls remain in line with current legislation and internal procedures including re-approval by the Environmental Services team.		
G5	Site inductions shall include all aspects, impacts and controls identified in the EIA/REF and Environmental Approval.		
G6	For any shutdown, completion of Site Shutdown (RACS requirement) shall be completed at least 24 hours prior to shutdown commencing.		
G7	Approved Standard Hours are : Mon-Fri 7am-6pm, Sat 8am-1pm, No work Sunday or Public Holidays. For any proposed works outside approved standard construction hours, an Out of Hours Application CD2015/210* shall be submitted to the Environmental Services team, allowing 10 working days for approval.		
G8	If any items which have the potential to be of heritage significance are encountered, works shall cease until the significance of the item can be established. The Water NSW Environmental Services Team should be contacted for advice on the appropriate course of action to take.		
G9	If any Aboriginal cultural material (e.g. relics such as stone tools, worked bone or fire hearths) is encountered within or immediately adjacent to the work area, work shall stop immediately until the significance of the item can be established. Water NSW Procedure CD2012/184* - Unexpected Aboriginal Objects Procedure should be followed.		
G10	All sediment and erosion controls shall be installed according to the requirements of <i>Managing Urban Stormwater: Soils and Construction - Volume 1, 4th Edition 'Blue Book'</i> .		
G11	WaterNSW Tree Clearing Permit CD2021/110* must be completed and authorised by the works supervisor before vegetation removal activities commence.		
Community			
Traffic and Utilities			
Special and Contolled Areas			
SP1	All activities or work undertaken in Water NSW Special / Controlled Areas shall be carried out in a manner that will prevent or minimise impacts on water quality,		

	environmental damage and fire.
SP2	Standard access requirements of Water NSW catchment lands shall be observed. This includes restricted access to the catchment after periods of significant rainfall (typically 10mm in a 24 hour period).
SP3	All gates and barriers shall be closed and locked at all times to prevent unauthorised access to the Special/Controlled Area
SP4	Any suspected unauthorised access to the area shall be reported to the Water NSW supervisor and report in RACS system.
SP5	All incidents, spills or fire sightings that occur in the WaterNSW Special / Controlled Area shall be immediately reported to the Water supervisor/Project Manager and reported in RACS system.
SP6	Works shall not be undertaken and vehicles shall not travel on unsealed roads in the Water NSW Special / Controlled Areas when road surfaces are saturated, water is flowing down table drains or the catchment has been closed by Water NSW.
SP7	Portable fuel trailers shall be taken off catchment at the end of each working week.
Soil and Water	
SW1	All works shall be undertaken in a manner that will minimise site disturbance and avoids or minimise erosion and sedimentation.
SW5	Chemicals, fuels and lubricants shall be securely stored in approved containers and spill containment material shall be kept on site ready for immediate use. Bund capacity is to be at least 110 % of the largest container & 25% of the total stored volume
SW6	No chemicals, fuels and lubricants shall be shall be stored overnight on site unless specifically approved by Water NSW. If approved, these materials shall be stored with bunding within an established site compound, on a level area clear of native vegetation and at least 40m from any natural or built drainage line or wetland.
SW7	Plant and equipment shall not be refuelled within 20m of any natural or built drainage line or wetland. During any refuelling, spill containment material shall be on hand ready for immediate use.
SW8	Weather forecasts shall be regularly checked so that expected storm events can be taken into account in project planning and erosion and sediment management.
SW9	Temporary compounds and stockpiles shall be located: <ul style="list-style-type: none"> o at least 40m from natural or built drainage lines or wetland; o on areas previously disturbed and that do not require the clearing of native vegetation; o on level, hard ground wherever possible, and shall not be located on slopes steeper than 1(V):10(H); o beyond tree drip lines; o where there is no risk of impact on any indigenous or non-indigenous heritage site.
SW12	Any wastewater generated during the works shall be contained for disposal offsite at a lawful facility. Water contaminated with sediment can only be discharged in a manner that prevents the sediment entering natural or built drainage lines or wetland.
SW14	Any mixing of paints is to be carried out over a waterproof membrane of at least 4 square metres in area. The contractor is to take all reasonable steps to prevent spillage of paint.
Flora and Fauna	
Pest and Weed Control	
Air Quality	
Noise and Vibration	
Heritage	
H1	Site induction shall include awareness of the heritage significance of the site. This shall include the importance of preventing accidental damage to any structure or historical remnants such as roads, steps & stairs, curbing, footings & foundations and picnic area facilities or interfering with any material associated with the heritage item.
H2	All activities or work undertaken within the heritage precinct shall be carried out in a manner that will protect the fabric of the heritage item from damage or interference during the work.
H3	If problems are encountered that require a major change in the work method, works shall cease until the significance of the change can be assessed. The Water NSW Environmental Services Team shall be contacted for advice. Note: the works may require re-approval prior to recommencing, depending on the changes.
H4	Replacement of missing, damaged or deteriorated fabric shall match existing fabric in appearance, material and method of fixing. If this is not possible, specific advice shall be obtained from the Water NSW Environmental Services Team before undertaking the replacement.
H5	Painting shall be done using the Water NSW approved colour scheme. If any specified colour is not available, Water NSW Environmental Services Team approval shall be obtained before an alternative colour is used.
H7	The Upper Canal is potentially fragile due to its age and is heritage listed. The works shall be designed and undertaken in such a way that the Upper Canal is adequately protected from ground vibration and structural damage.
Waste	

W1	All working areas shall be maintained, kept free of rubbish and cleaned up at the end of each working day. Equipment and materials shall be securely stored.
W2	If the contractor is working at the same location for more than one day, self-contained portable ablution and toilet facilities shall be provided, unless otherwise specifically negotiated with Water NSW. These facilities shall be located at least 20m from any natural or built drainage line or wetland.
W3	The contractor shall be appropriately licensed to remove and dispose of all hazardous materials. Hazardous materials shall be handled and disposed in accordance with relevant Australian Standards, WorkCover and regulatory agency (EPA) guidelines.
W4	All waste fluids generated during the works, including from the washing of painting equipment and human effluent, shall be contained for proper disposal offsite in accordance with Workcover and NSW government guidelines.
W5	All waste removal, transport and disposal, including excess spoil, shall be in accordance with the regulatory agency's (EPA) current guidelines for waste. Materials shall be recycled wherever possible. Dockets or equivalent evidence shall be obtained for all recycling and waste disposal, detailing the weights, materials, time and date and waste facility used. These dockets shall be available onsite and submitted with monthly reports.
Site Decommissioning and Restoration	
Fencing	
PROJECT SPECIFIC SAFEGUARDS	
PS1	Establishment of Protection Zone (TPZ) around the work area if required. A CEMP is to be prepared that addresses the environmental safeguards detailed as well as containment of waste materials.
PS3	A number of Upper Canal Aqueducts are listed on the Contaminated Sites Register with elevated lead levels detected in the soil. This is due to corrosion, residual lead from earlier painting and abrasive paint removal. Consideration should also be given to the project approach to managing residual soil. If not forecast properly, this could end up with considerable quantities of contaminated soil (hazardous waste) to be disposed at significant expense. Mitigation strategies will also need to be implemented to prevent environmental contamination during the proposed works. The transport of lead paint waste within NSW requires an environment protection licence if more than 200 kilograms is transported in a load under the Protection of the Environment Operations Act 1997, Schedule 1, clause 48.
STAKEHOLDER REQUIREMENTS	
SR2	Section 60 Approval was received from Heritage NSW (D2025/1673) on 10 January 2025 (refer as attached). Pursuant to section 63 of the Heritage Act 1977, approval was granted subject to the following conditions: 1. All work shall comply with the information contained within: a) Report: Upper Canal Aqueduct Expansion Joint Renewals Statement of Heritage Impact, ARK Ref. No. D2024/128620, prepared by WaterNSW, undated. EXCEPT AS AMENDED by the conditions of this approval: 2. A suitably qualified and experienced heritage consultant must be nominated for this project. The nominated heritage consultant must provide input into the detailed design, provide heritage information to be imparted to all tradespeople during site inductions, and oversee the works to minimise impacts to heritage values. The nominated heritage consultant must be involved in the selection of appropriate tradespersons and must be satisfied that all work has been carried out in accordance with the conditions of this consent. 3. A photographic archival recording must be prepared prior to the commencement of works/ during works/ at the completion of works. This recording should be in accordance with How to prepare archival recordings of heritage items and Photographic recording of heritage items using film or digital capture. The digital copy of the archival record must be provided to Heritage NSW. 4. All work to, or affecting, significant fabric shall be carried out by suitably qualified tradespersons with practical experience in conservation and restoration of similar heritage structures, materials and construction methods. 5. Significant built and landscape elements are to be protected during site preparation and the works from potential damage. Protection systems must ensure significant fabric, including landscape elements, is not damaged or removed. 6. If requested, the applicant and any nominated heritage consultant may be required to participate in audits of Heritage Council of NSW approvals to confirm compliance with conditions of consent. This approval will lapse five years from the date of the consent unless the building works associated with the approval have physically commenced.
SR9	The WaterNSW First Nations Team have created exclusion zones at Elladale Creek (Aqueduct 1) (refer attached). All staff and Contractors are to stay out of these zones during the works at a minimum, and a Cultural Heritage Assessment request is to be created if works are proposed in these exclusion zones.
DECLARATION AND SIGN-OFF	
Author Certification - I certify that I have reviewed and endorse the contents of this EIA document and, to the best of my knowledge, it is in accordance with the EP&A Act 1979, the EP&A Regulation 2021 and the Guidelines approved under clause 170 of the EP&A Regulation 2021, and the information it contains is neither false nor misleading.	
This REF has been prepared in accordance with Section 5.5 of the <i>Environmental Planning and Assessment Act 1979</i> (EP&A Act). Under Part 5 of the EP&A Act, WaterNSW is both the proponent and determining authority for the proposed activity. The State Environmental Planning Policy (Transport & Infrastructure) 2021 allows the proposal to be carried out without development consent. WaterNSW has prepared this REF in accordance with Clause 170 of the Environmental Planning and Assessment Regulation 2021.	
On the basis of the assessment and having taken into account to the fullest extent possible all matters likely to affect the environment as a result of the proposed activity, it is concluded that, by adopting the measures identified in the REF, there is unlikely to be a significant environmental impact as a result of undertaking the proposed activity. Accordingly, an Environmental Impact Statement (EIS) is not required.	
If the scope of work or work methods described in this report change either prior to or during works, additional Environmental Impact Assessment must be undertaken.	
If this Minor Works EIA/REF is to be published in accordance with the NSW DPE <i>Guidelines for Division 5.1 assessments</i> , all relevant studies used to prepare the EIA are to be attached to the form & placed on the WaterNSW website prior to the commencement of works.	
Approval ARK # 	D2024/77784(v2)
Environmental Adviser Approval	

Environmental Impact Assessment for Minor Works was approved/endorsed by	