

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

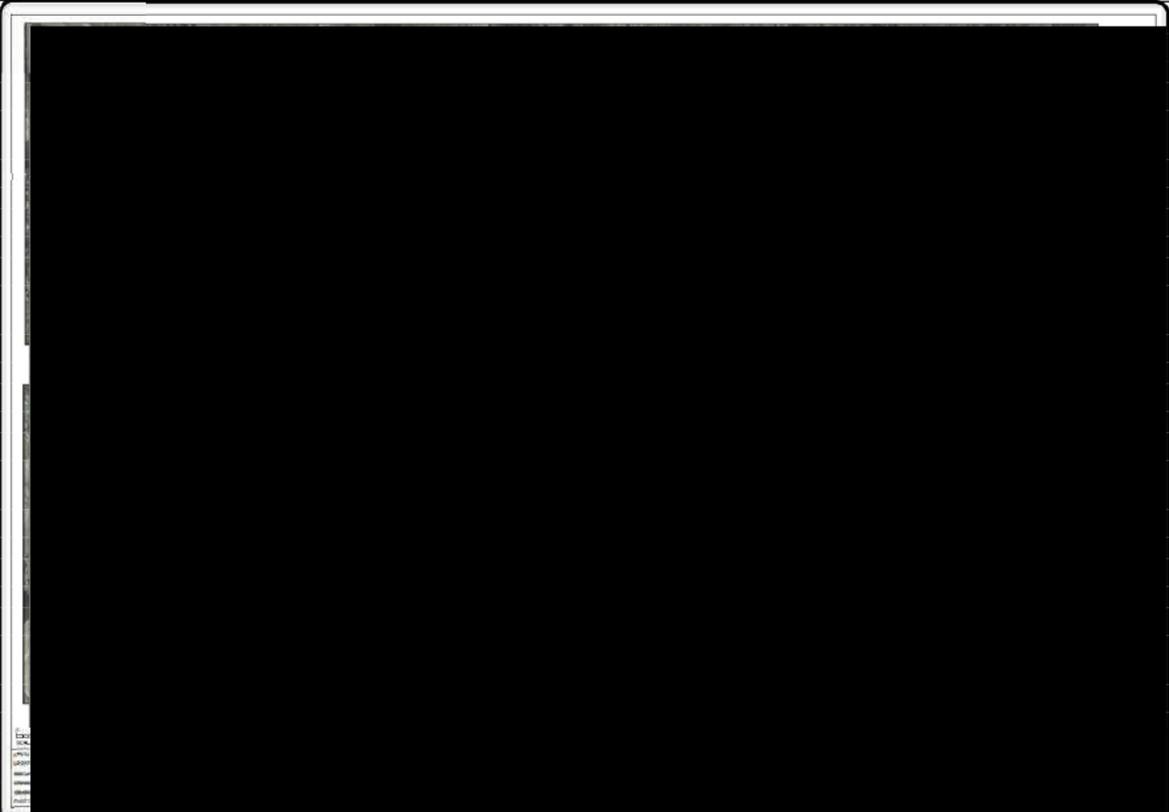
This EIA form is used by WaterNSW to assess and approve minor works that are either *Development Without Consent* or *Exempt Development*. It records & assesses activities or project works where environmental impacts are minimal or not likely to significantly affect the environment. If you are unsure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

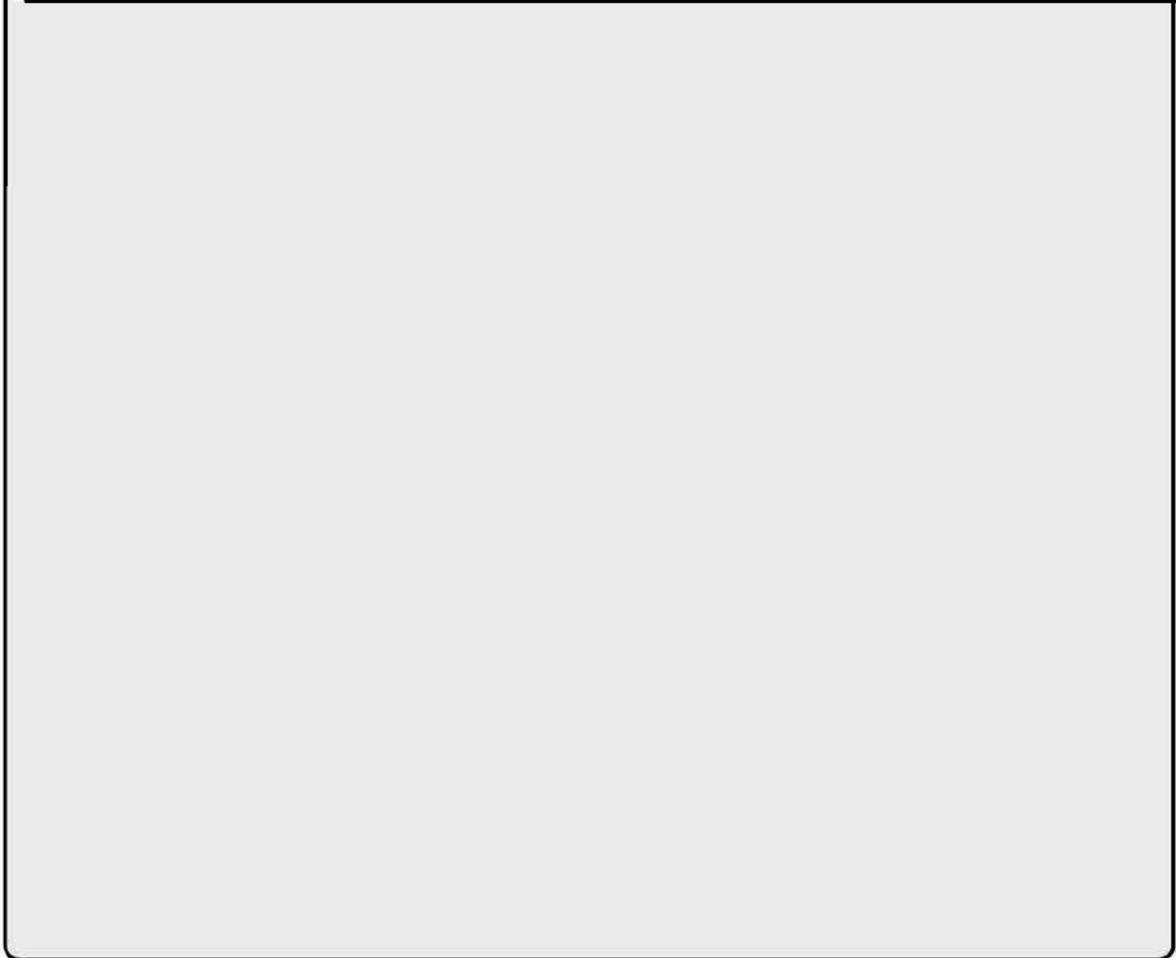
The EIA form is for use with Adobe Reader. Enable JavaScript when prompted by Adobe Reader.

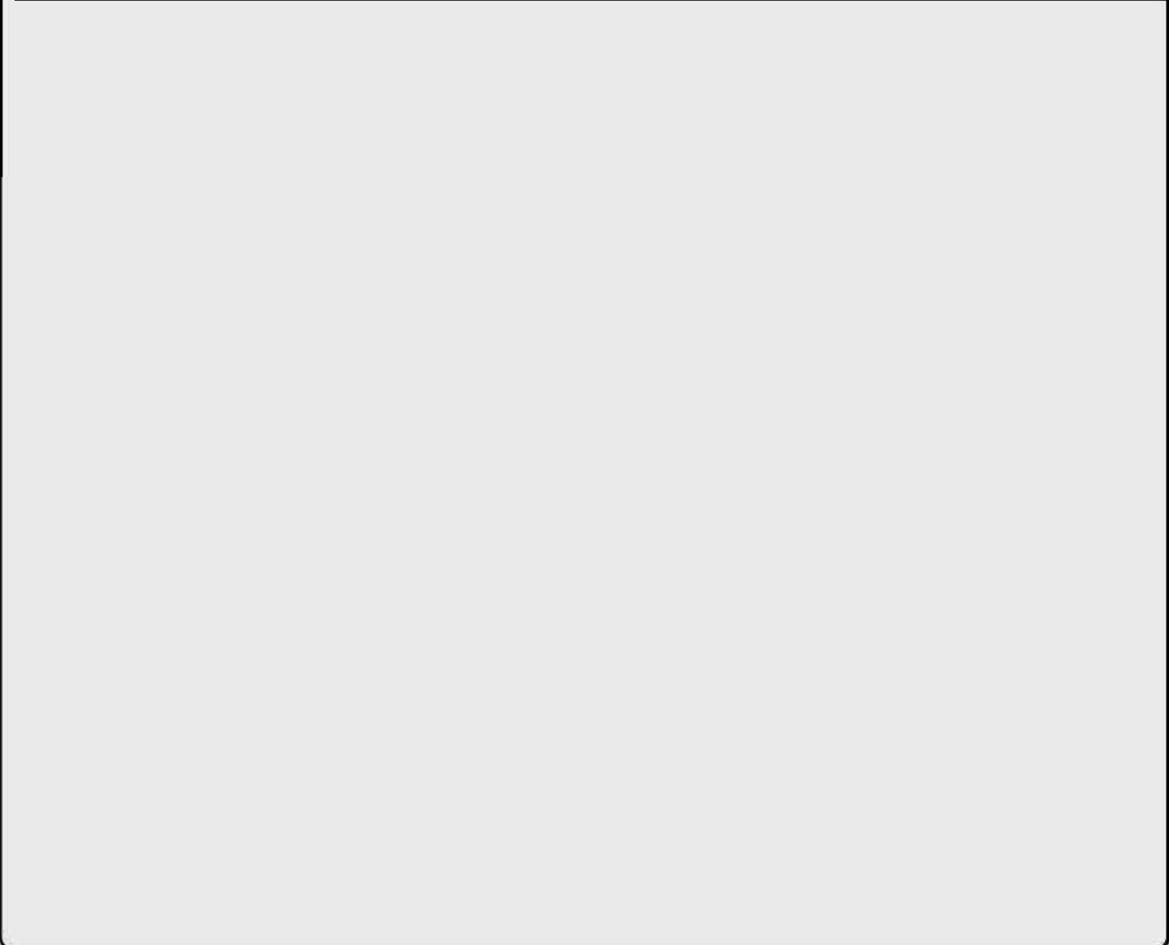
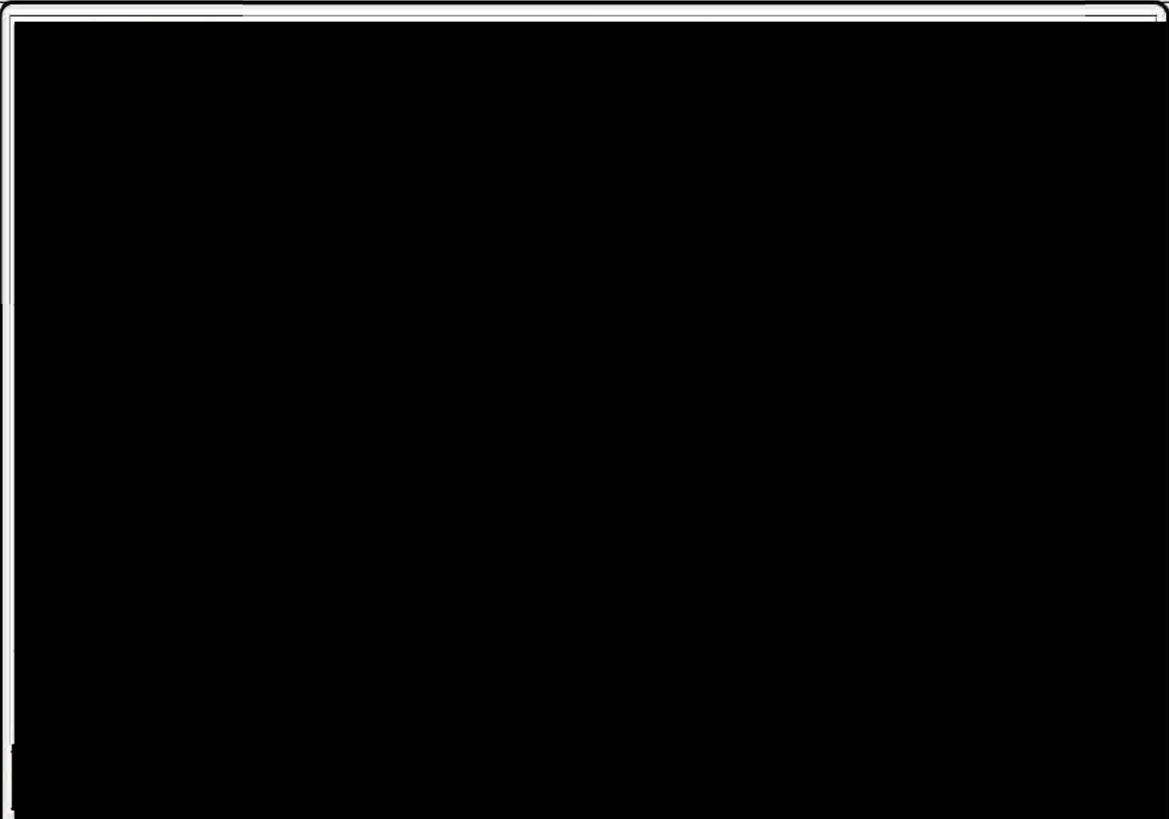
SECTION 1 PROJECT SCOPE

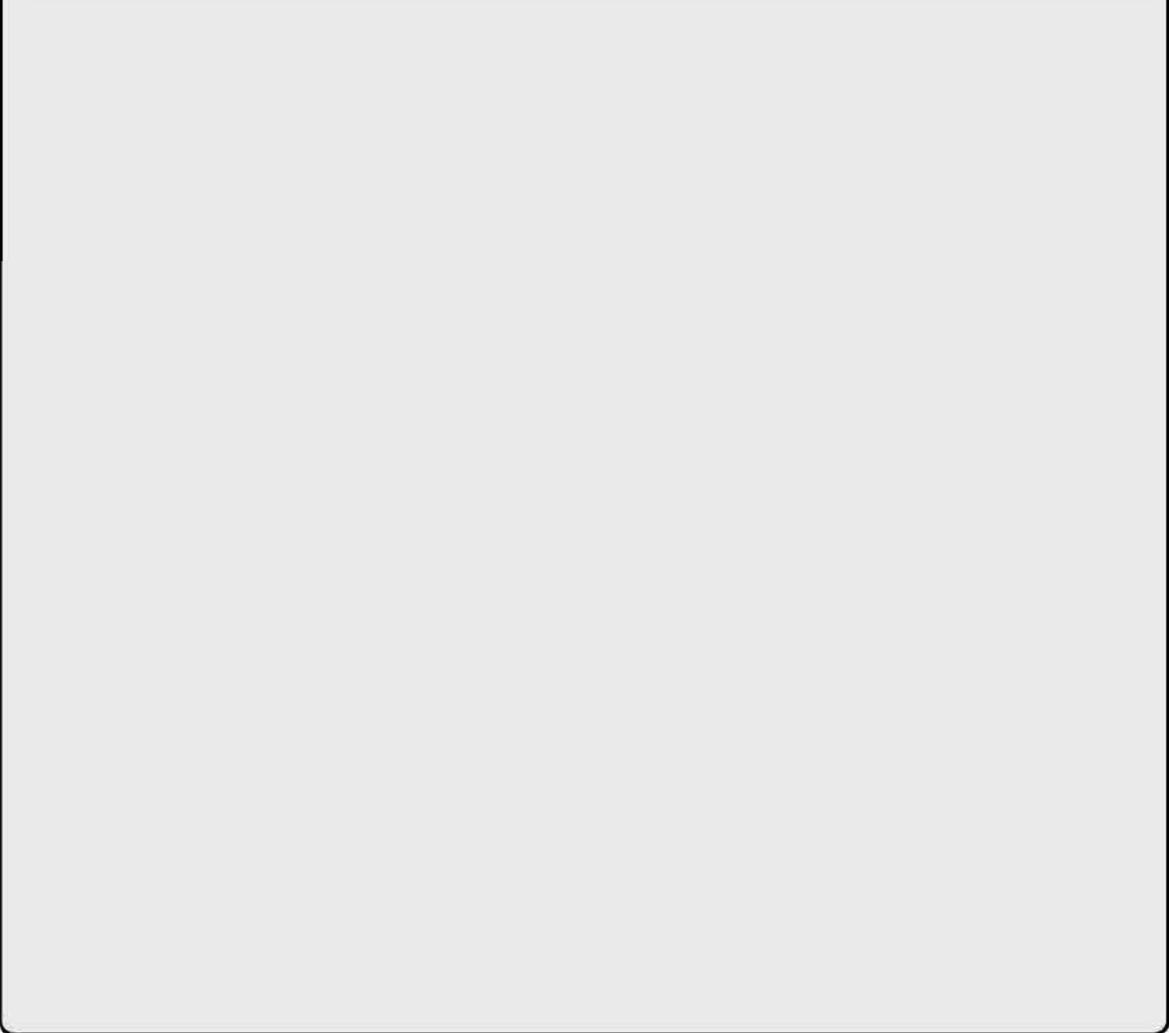
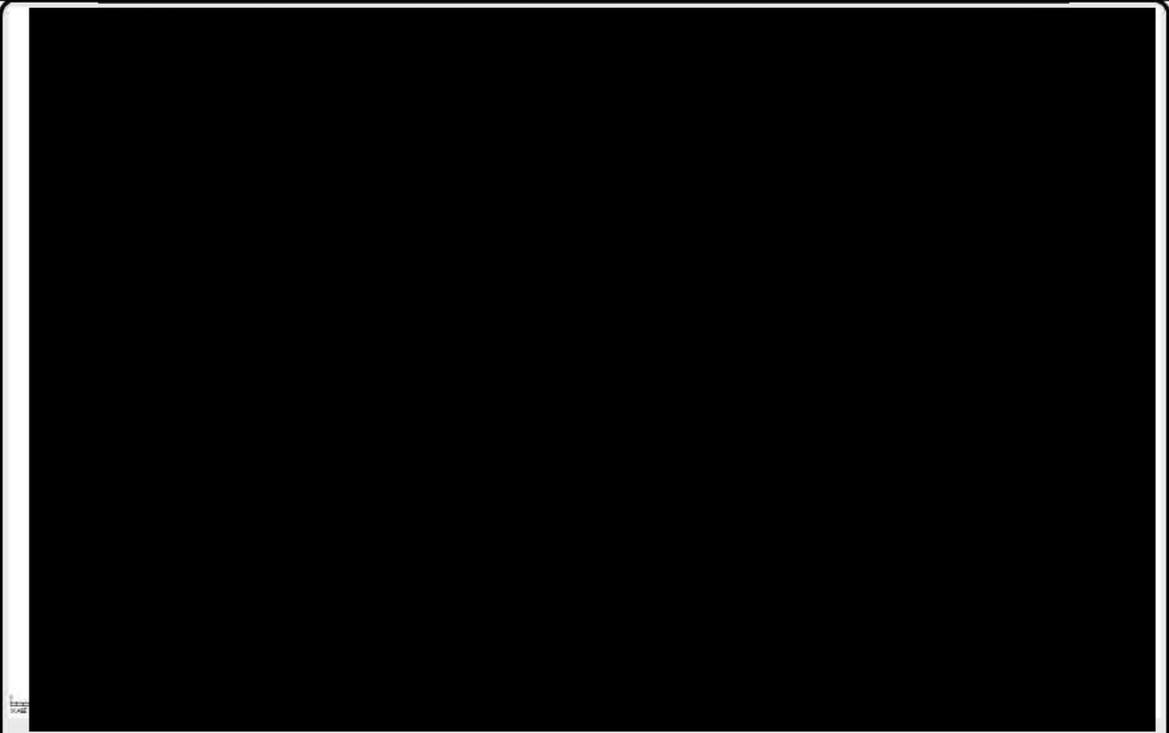
	QUESTIONS	ANSWERS	GUIDANCE
1.1	Organisation/Business Unit/Team	Asset Delivery	
1.2	WaterNSW representative and contact details		
1.3	Has a site inspection been undertaken? If so by whom and when?	The sites have been inspected by representatives from WaterNSW and AssetReady in July 2024. Site visits also undertaken by specialist contractors in June 2025.	<i>It is recommended the person undertaking site inspection should also complete this Form.</i>
1.4	ARK Reference – Project Folder/Work Folder	F2024/8055	<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		<i>Environmental Services time taken to process this request will be assigned to the project.</i>
1.6	Project or Works Value	\$4M Publication of the EIA is required as an AHIP Variation is required under Section 90d of the National Parks and Wildlife Act 1974.	<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 Drainage Improvement and Baseline Aerial Survey	<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 works developed as part of the Drainage Improvement and Baseline Aerial Survey Project, generally involve the following:</p> <ul style="list-style-type: none"> - Installation of 16 new flumes across the Upper Canal, one 450mm diameter pipe and 15 x 700mm diameter half-pipes, at seven different locations, including construction of infill concrete slabs and wing walls and a new drainage pit - Repair of Upper Canal syphons, largely consisting of repairing lost mortar and plugging holes and cracks - Cleaning and regrading of existing cut-off, coping, and spoon drains along the Canal access road and within setback between the Canal and the SHR boundary - Removal of up to eight timber telegraph poles located within or immediately adjacent to existing drainage channels or causeways - Cutting of new drains, and channels to connect existing drains and causeways: - Construction of nine new causeways - Cleaning and replacement of existing drainpipes - Targeted regrading the access road and infill of potholes. <p>Any excess material is intended to be spread as top dressing within the canal corridor, as it is clean and suitable for reuse. This approach aligns with the recommendations outlined in the Aboriginal Cultural Heritage Assessment Addendum report (D2025/112443) (ACHA Addendum) prepared by Extent Heritage and supports efficient site management by avoiding unnecessary disposal costs.</p> <p>Site compound would be established at existing cleared areas where required.</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	February 2026 - December 2026	
1.10	Planned Site Work Hours	Mon-Fri - 6:00am to 6:00pm Sat - 7:00am to 1:00pm	<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>

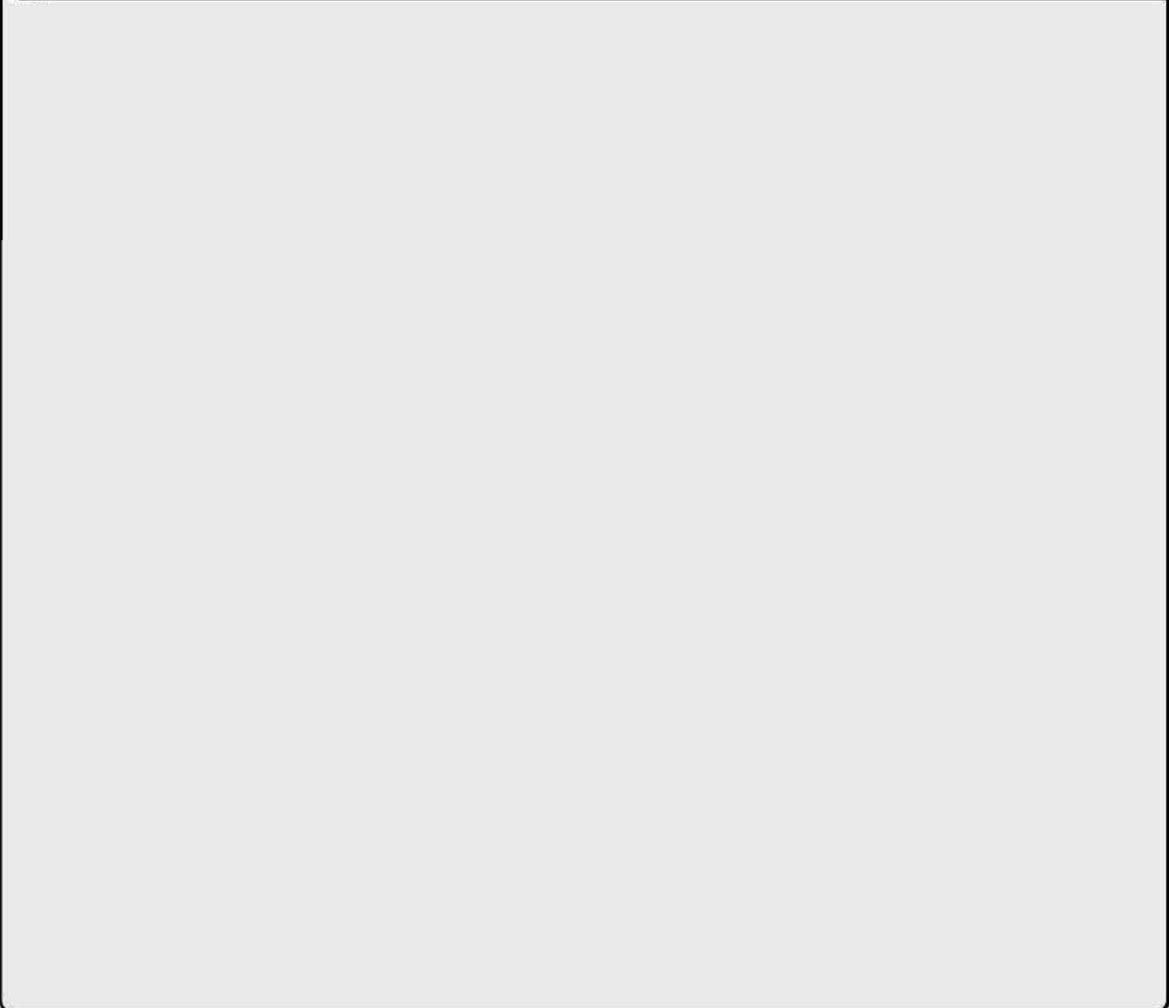
		Sundays & Public Holidays – No work	<i>Non-standard hours may require additional noise assessments to be prepared.</i>
1.11	One-off Project or Routine work	<input checked="" type="radio"/> One Off <input type="radio"/> Routine	
1.11.2	Options considered & justification for selecting the preferred option.	<p>Option 1 – Do nothing</p> <p>Option 2 – Undertake the remediation works</p> <p>The remediation work will improve the capability of surface and cross drainage in the canal corridor to prevent surface water entering the canal leading to contamination related to pathogens, turbidity, etc.</p> <p>This proposal is required to improve the reliability of the Upper Canal to supply raw drinking water to the Prospect Reservoir. Without these required repairs, the Upper Canal would further deteriorate. Each option for repair has been assessed to ensure structural stability, lifecycle, maintenance and cost implications. Each option also considered the heritage values of the Upper Canal and ensured that the most aesthetically suitable design was selected to minimise impacts on heritage significance. The remediation work is necessary to ensure longevity of the infrastructure.</p>	<i>Describe all options that were considered and why the preferred option was selected.</i>
1.12	Location	Upper Canal – from Cataract Tunnel to Prospect Reservoir	<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>
1.13	Site Plan / Photos / Aerial Photo: Add Figures or ARK reference to figures	Selected typical plans are shown below. For the complete set of IFC Drawings refer D2025/24015 or Appendix A of ACHA Addendum (D2025/112443).	
		<input type="button" value="Add Site Plans, Figures or Photo etc."/>	<input type="button" value="Remove Figure or Photo"/>





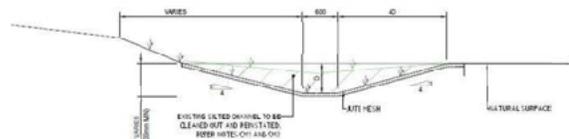




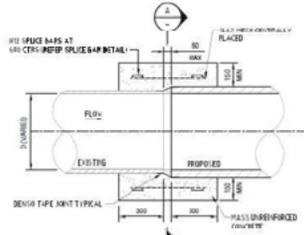




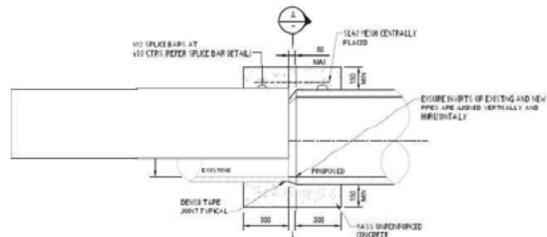
TYPE 1 TRAPEZOIDAL CHANNEL (JULITE MESH LINED) - NEW
SCALE N5



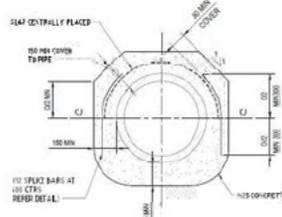
TYPE 2 TRAPEZOIDAL CHANNEL (JULITE MESH LINED) - REINSTATEMENT
SCALE N5



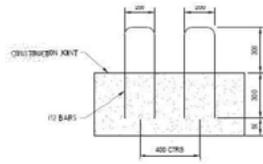
PLAN FOR EXTENSION OF EXISTING PIPE
N1 TO SCALE



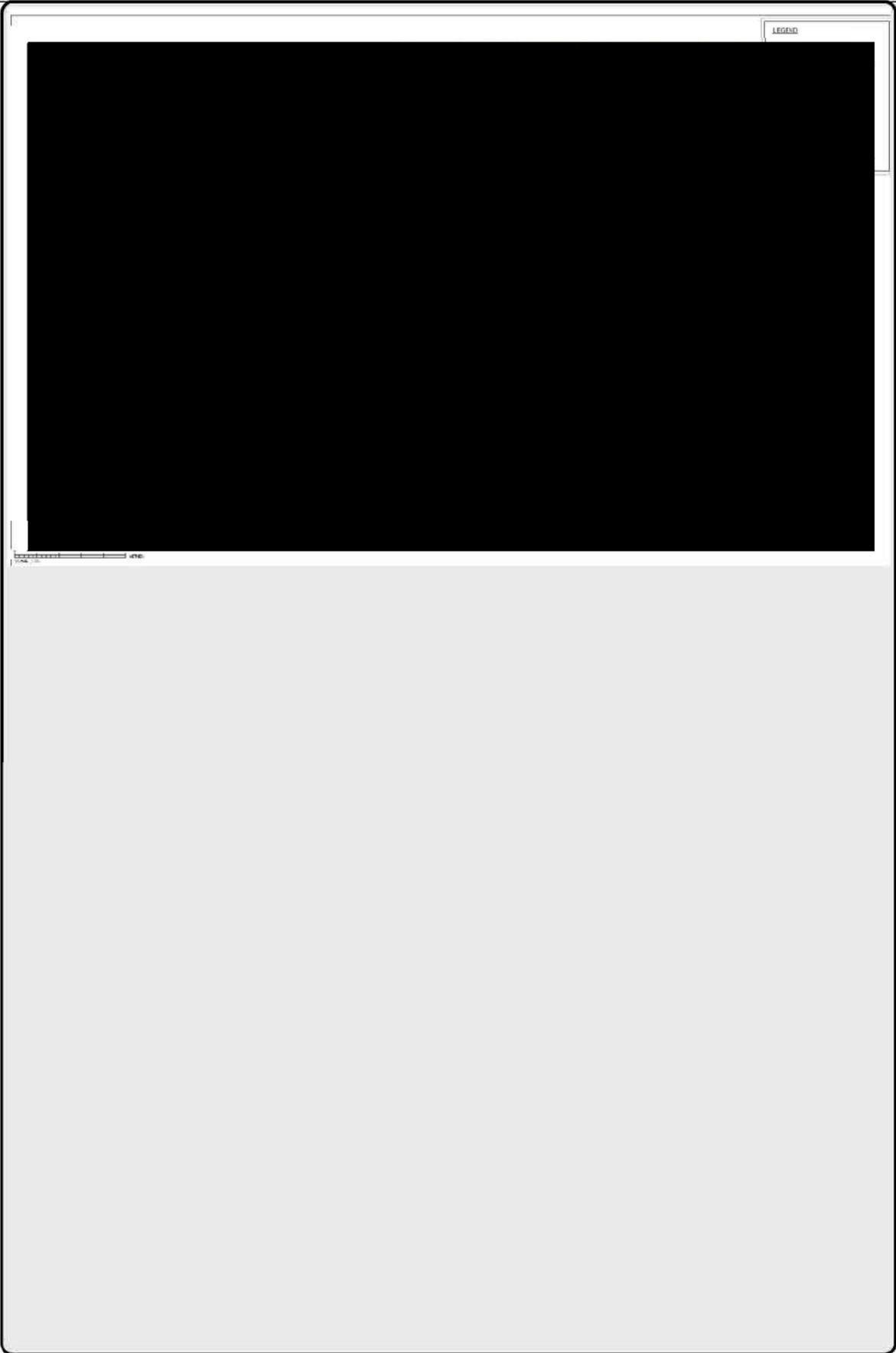
ELEVATION FOR EXTENSION OF EXISTING PIPE
N1 TO SCALE

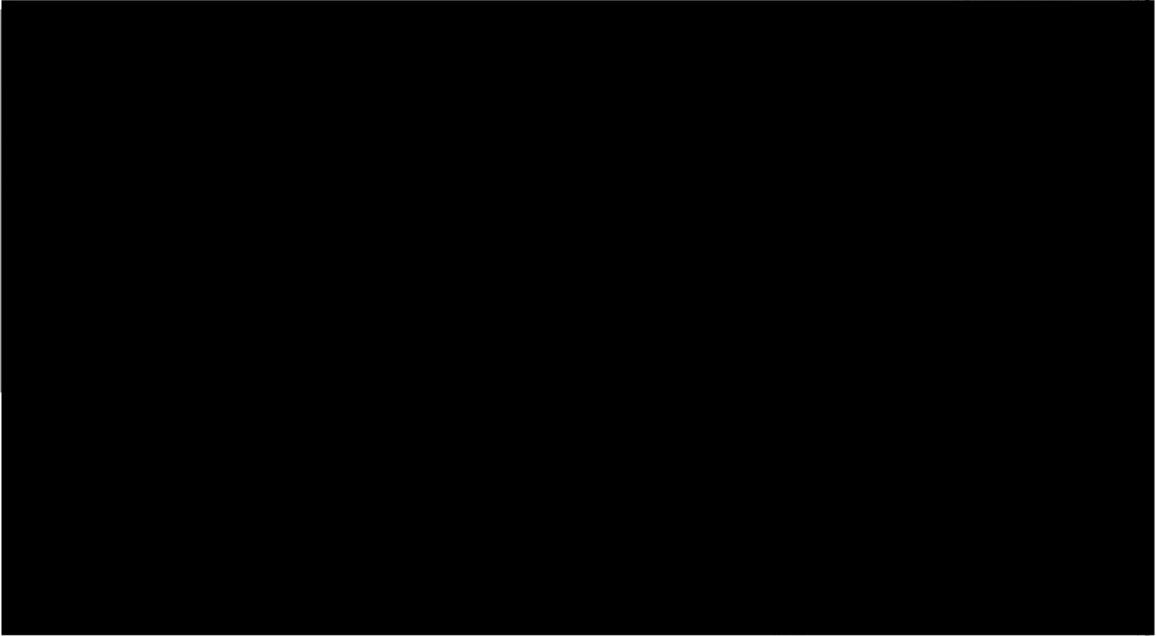


SECTION
N1 TO SCALE

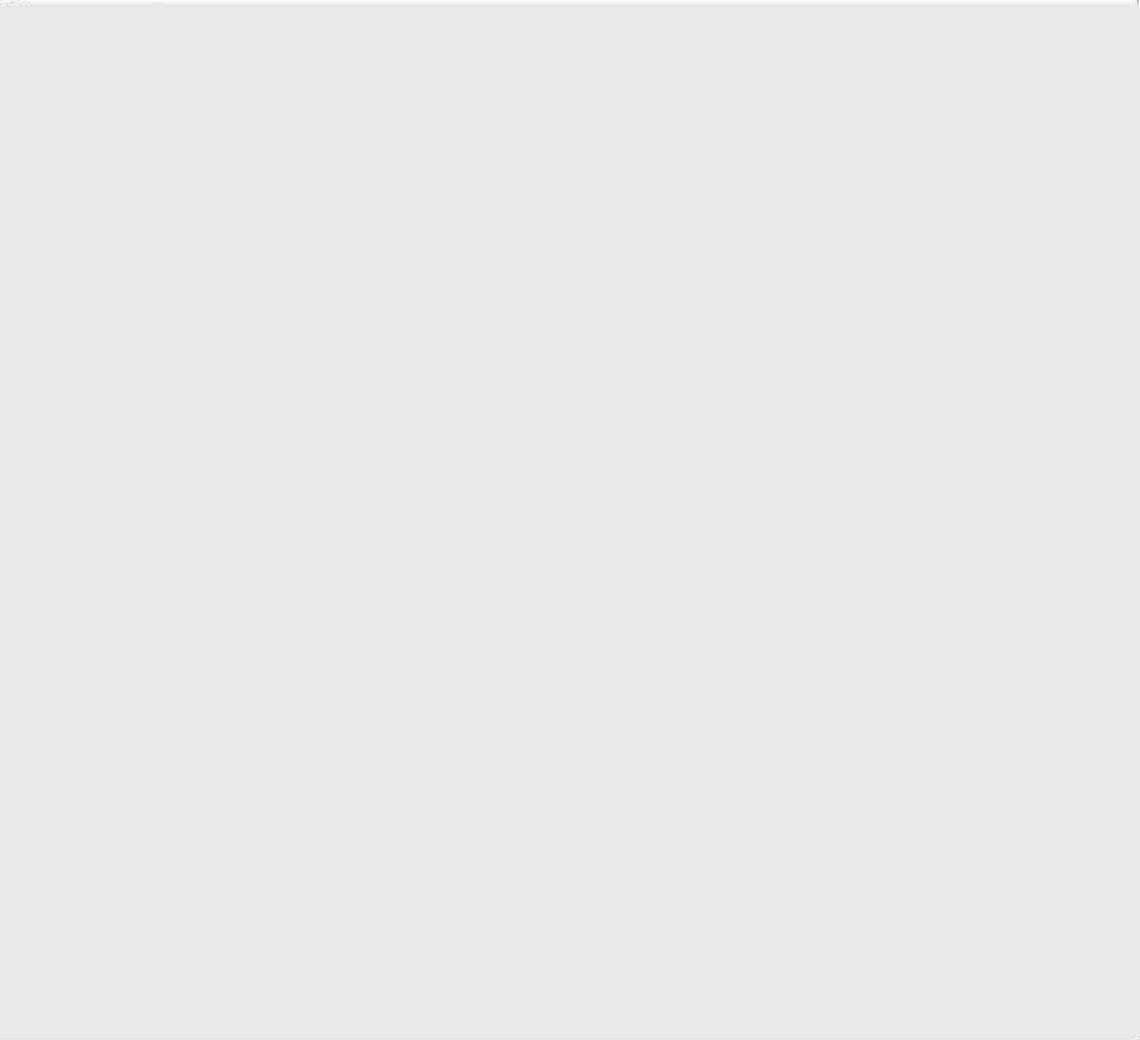


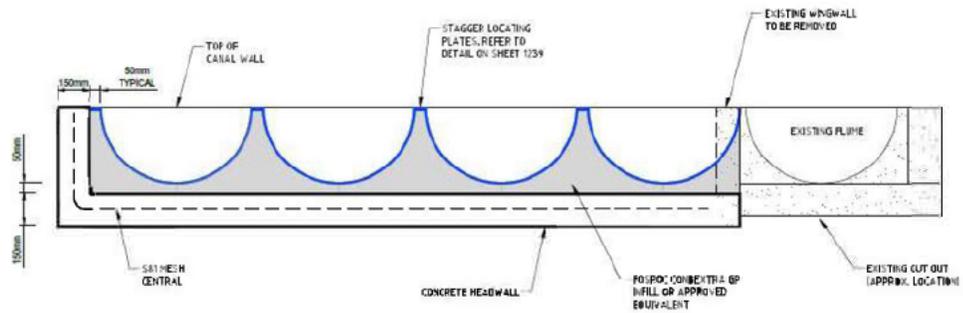
SPLICE BAR ELEVATION
N1 TO SCALE



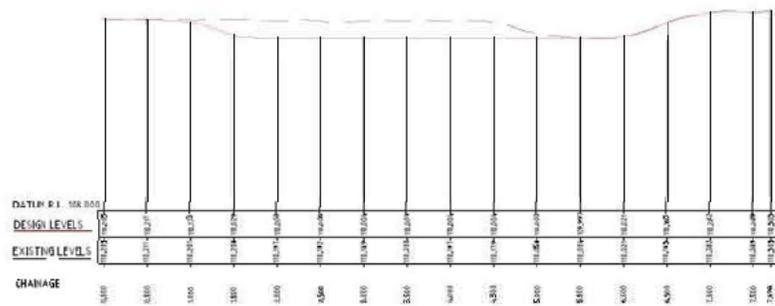


Scale 1:1000

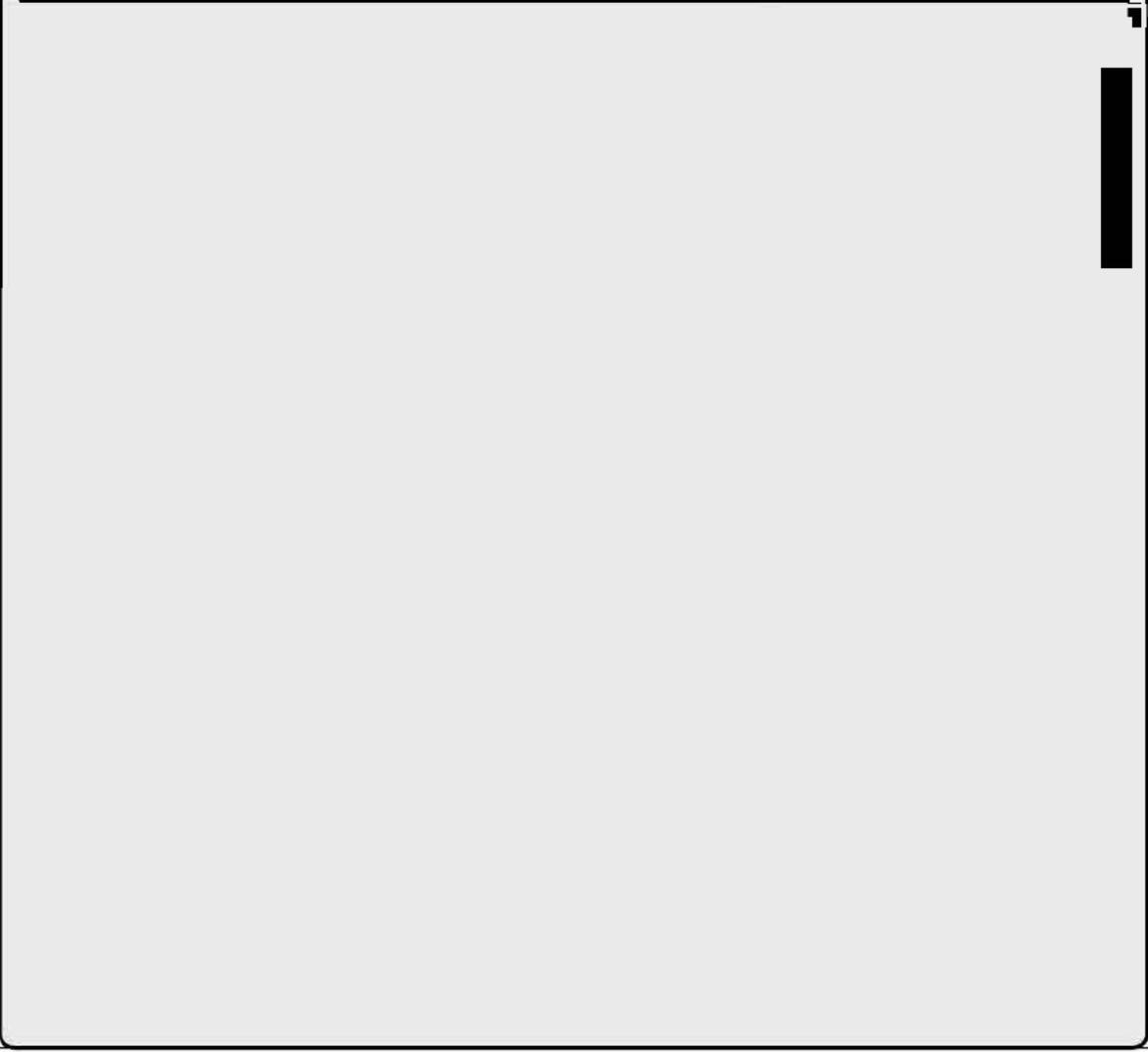
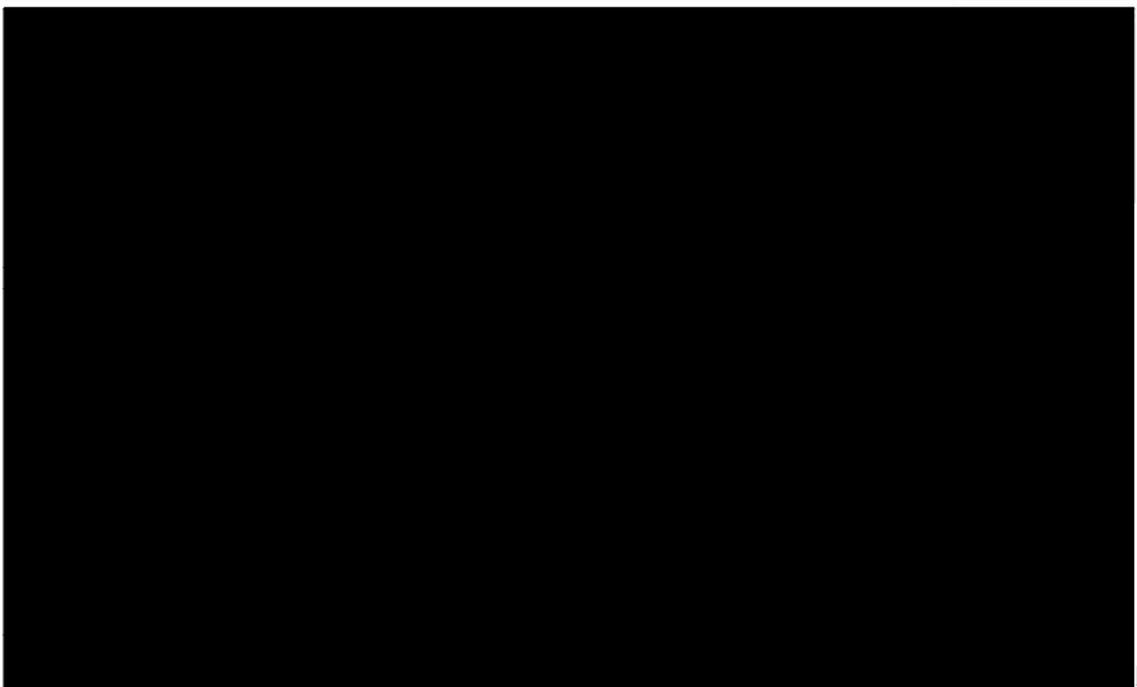


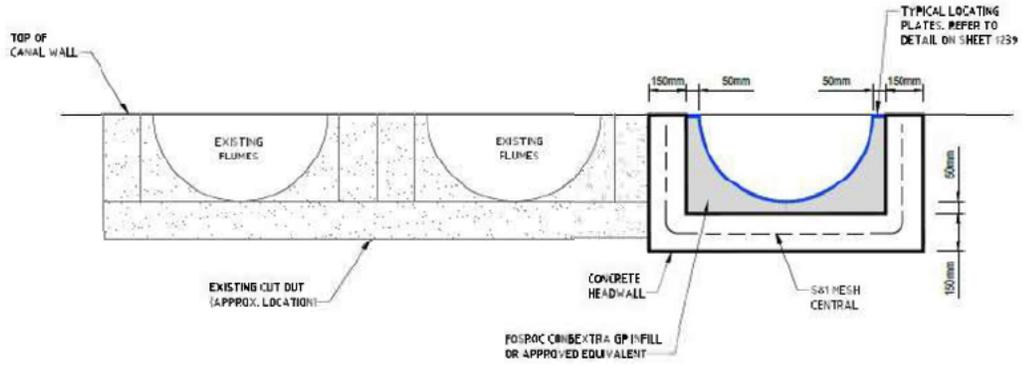


SECTION A - ADDITIONAL FLUMES ARRANGEMENT
SCALE 1:10

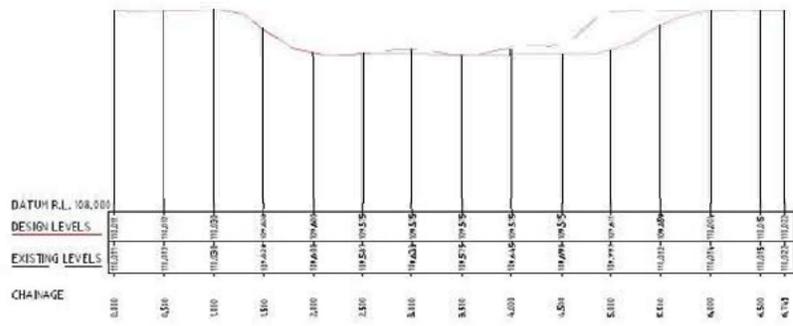


SECTION B - EARTHWORKS AT FLUMES OUTLET
SCALE H 1:25 V 1:25

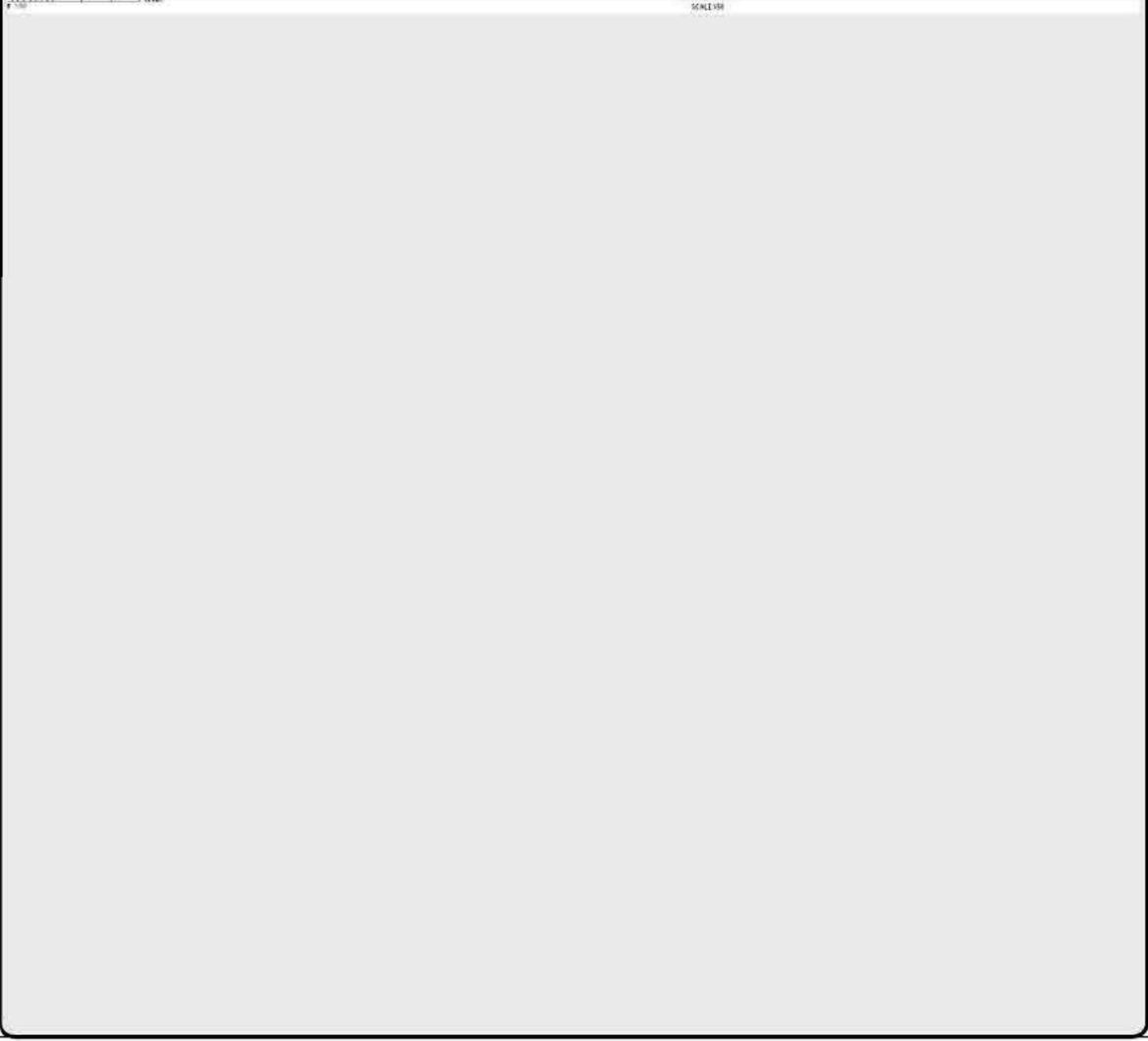


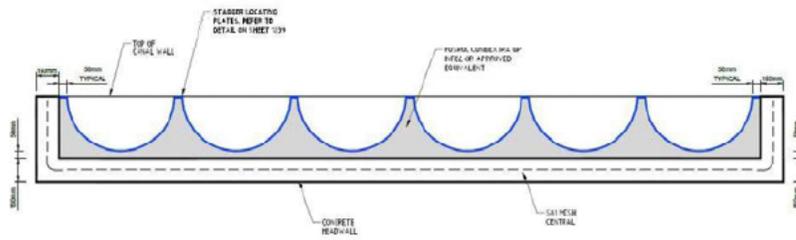


SECTION A - ADDITIONAL FLUME ARRANGEMENT
SCALE 1:10

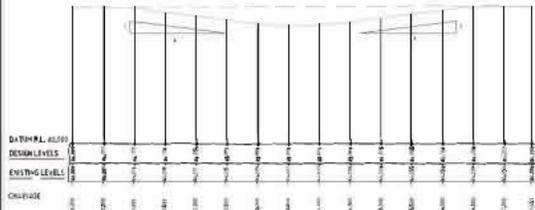


SECTION B - EARTHWORKS AT FLUMES OUTLET
SCALE H 1:25 V 1:25

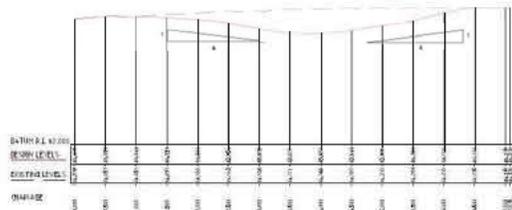




SECTION A - ADDITIONAL FLUMES ARRANGEMENT
SCALE 3/8"



SECTION B - EARTHWORKS AT FLUMES INLET
SCALE 1/4" = 1'-0"

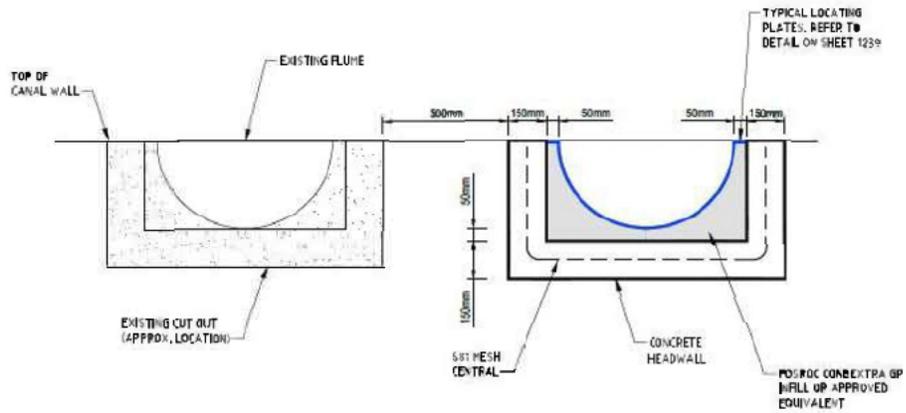


SECTION C - EARTHWORKS AT FLUMES OUTLET
SCALE 1/4" = 1'-0"

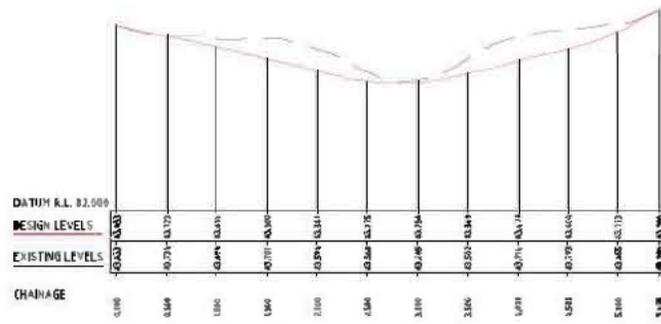


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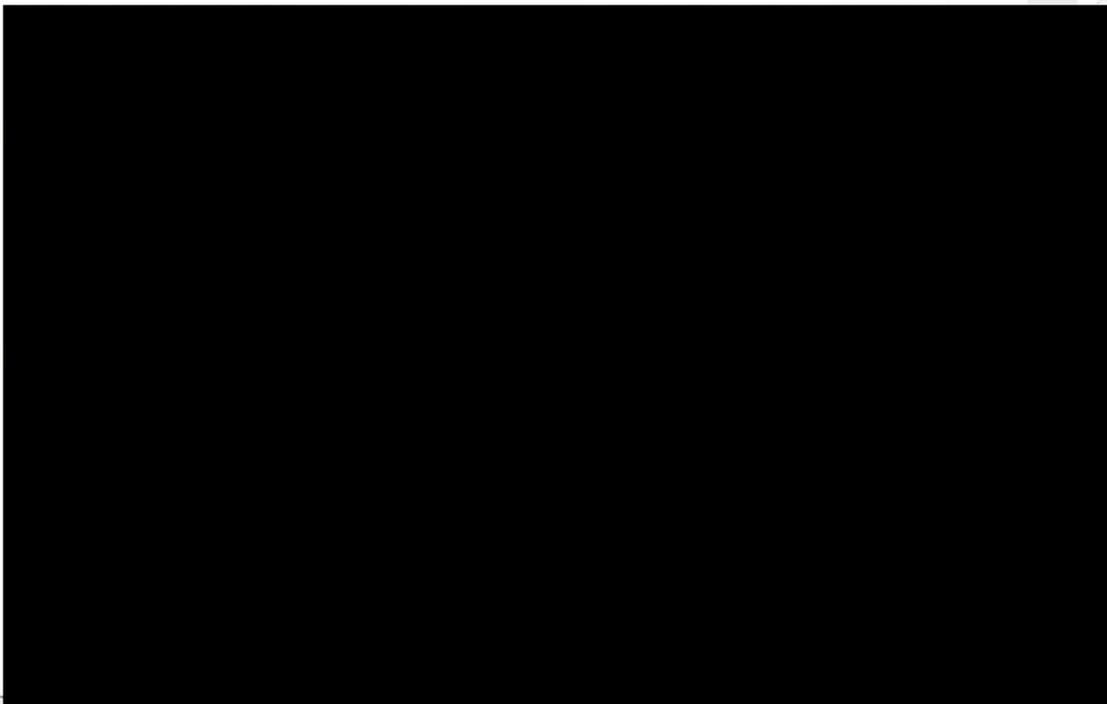
SCALE 1:100

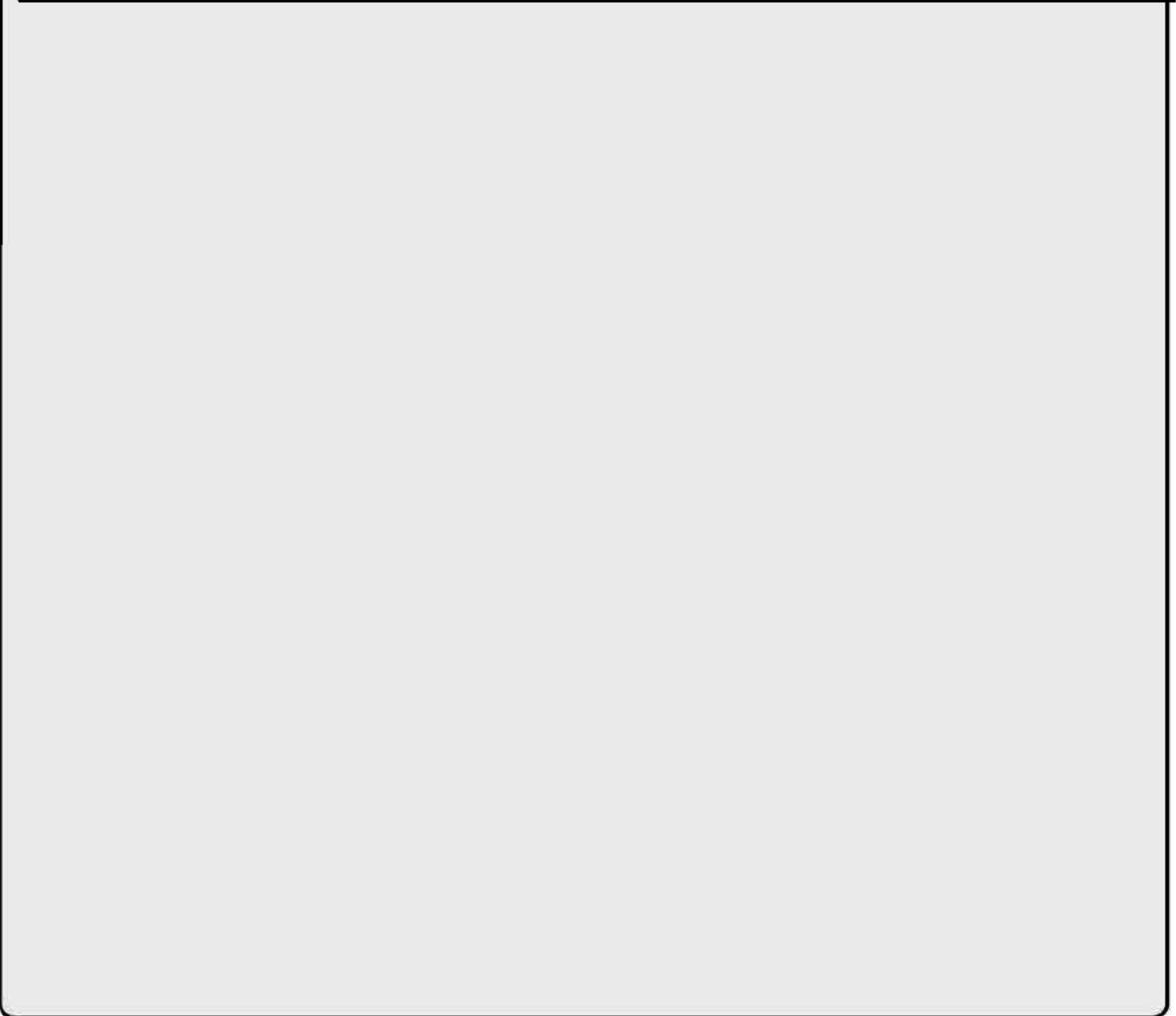
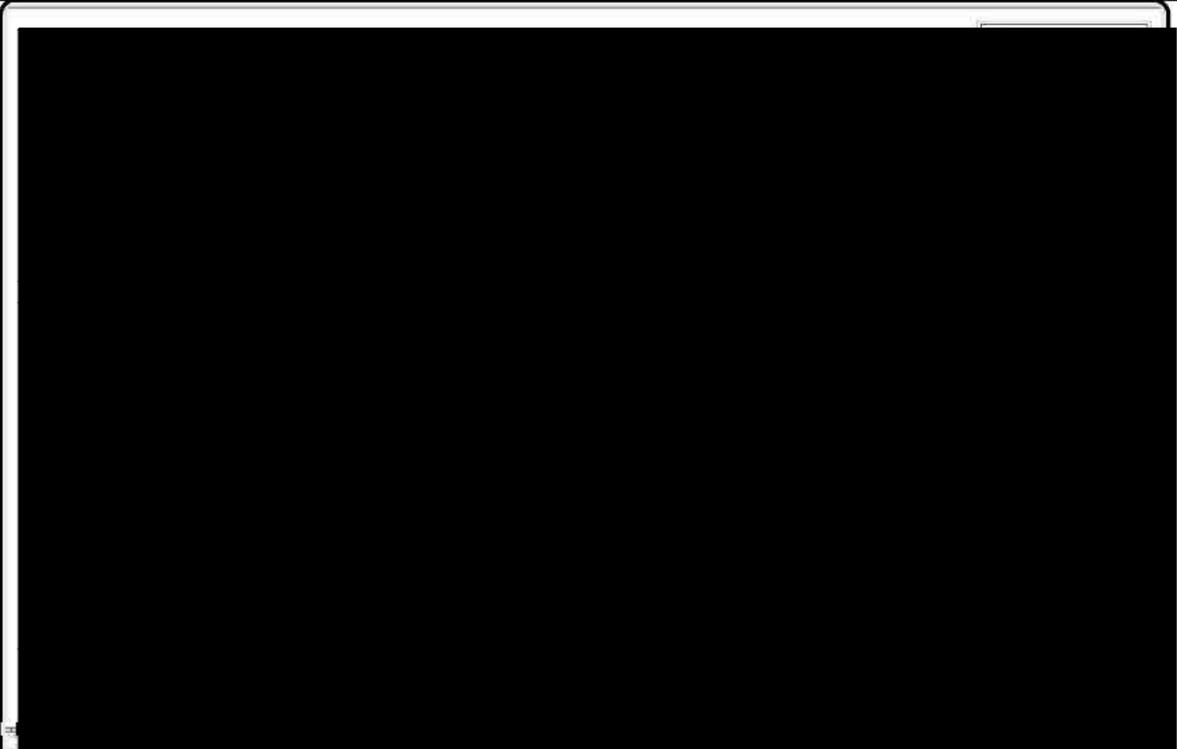


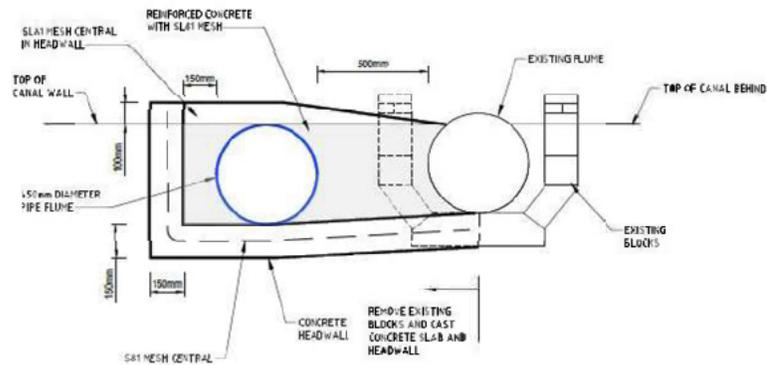
SECTION A - ADDITIONAL FLUME ARRANGEMENT
SCALE 1/10



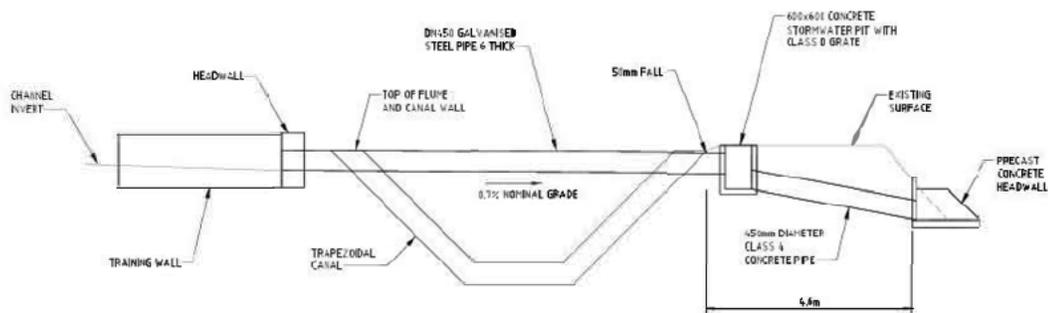
SECTION B - EARTHWORKS AT FLUMES OUTLET
SCALE H 1:25 V 1:25



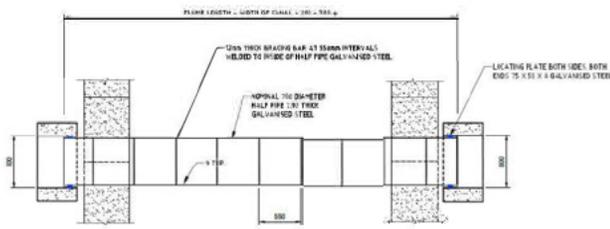




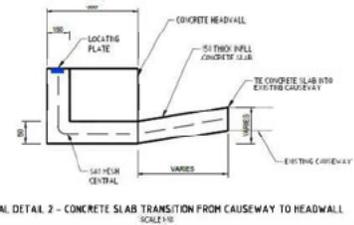
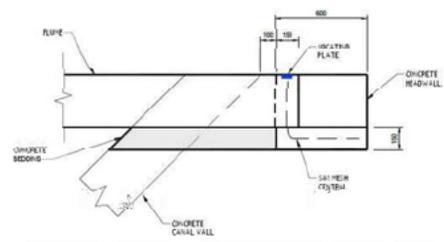
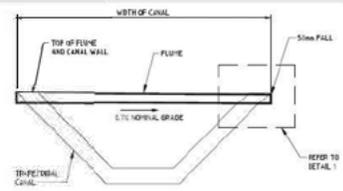
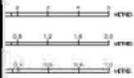
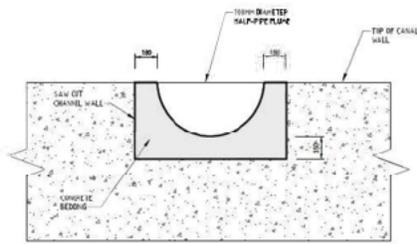
SECTION A - ADDITIONAL FLUME ARRANGEMENT
SCALE 1/10



SECTION B - ADDITIONAL FLUME LONG SECTION
SCALE 1/50



CONTRACTOR TO VERIFY WIDTH OF CANAL AT EACH LOCATION PRIOR TO FABRICATION OF FLUMES
NOTE: LIFTING OF FLUME INTO PLACE SHALL NOT DISTURB THE FLUME STRUCTURE BEFORE EMBEDMENT IN THE CANAL



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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1.14.1	Provide evidence of ownership and detail what the land is used for	Special Areas : no entry for water quality protection	Provide details of landuse e.g operational area, Special Area, Controlled Area, recreational area, agricultural area etc http://www.waternsw.com.au/supply/Greater-Sydney/system NULA
1.15	Lot and DP	Lot 3 – DP719962, Lot 2 – DP719962, Lot 1 – DP719962, Lot 1 – DP625921, Lot 1 – DP730136, Lot 2 – DP730136, Lot 1 – DP717439, Lot 2 – DP1086648, Lot 2 – DP616271, Lot 1 – DP1185630, Lot 1 – DP623825, Lot 2 – DP623825, Lot 51 – DP1274231, Lot 1 – DP596355, Lot 1 – DP613552, Lot 12 – DP1055232, Lot 1 – DP596353, Lot 1 – DP616147, Lot 2 – DP1086645, Lot 1 – DP596354,	Find a property using NULA or the NSW Planning Portal
1.16	What is the local government area (LGA)?	Camden Council, Campbelltown City Council, City of Fairfield, City of Liverpool, and Wollondilly Shire 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 – Infrastructure: 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="radio"/> Yes <input type="radio"/> 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/B9*
1.18.1	Are there any identifiable potential impacts on water quality?	<input checked="" type="radio"/> Yes <input type="radio"/> 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?	Increase in turbidity level in the water supply if the turbid runoff water enters the canal. Should this occur, it will generally occur during the construction phase. Erosion and sedimentation controls will be in place throughout the Project until local site re-vegetation is established.	
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.	Yes, sediment control will be implemented during construction and will be left in place until the impacted areas are revegetated.	
1.18.4	Will impacts on water quality be transferred outside the site for treatment? How? Why?	No	
1.18.5	Is it likely that a neutral or beneficial effect on water quality will occur? Why?	It is not anticipated that there will be impacts on the water quality within the canal. Sediment will be prevented from leaving the site through use of sediment fences or similar. The proposed work is to improve the capability of surface and cross drainage in the canal corridor to prevent pooling of surface water and contamination of the canal. Any excess spoil material will be spread within the Canal corridor. The area will be spray grassed as required.	

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="radio"/> Yes <input type="radio"/> 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="radio"/> Yes <input type="radio"/> 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="radio"/> Yes <input type="radio"/> 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="radio"/> Yes <input type="radio"/> 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="radio"/> Yes <input type="radio"/> 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="radio"/> Yes <input type="radio"/> N/A

SP7	Special & Controlled Areas	Portable fuel trailers shall be taken off catchment at the end of each working week.	<input checked="" type="radio"/> Yes <input type="radio"/> 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 checked="" type="radio"/> Yes <input type="radio"/> N/A
SP9	Special & Controlled Areas	New gravel or borrow pits shall not be established within the Special Areas.	<input checked="" type="radio"/> Yes <input type="radio"/> 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 checked="" type="radio"/> Yes <input type="radio"/> 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 checked="" type="radio"/> Yes <input type="radio"/> N/A
1.19	Does the project or work require any vegetation to be cleared?	<input checked="" type="radio"/> Yes <input type="radio"/> No	<i>Clearing means any one or more of the following:</i> (a) cutting down, felling, thinning, logging or removing vegetation, (b) killing, destroying, poisoning, ringbarking, uprooting or burning native vegetation.
1.19.1	Describe the nature, extent and location of the clearing.	Clearing of grass in the existing coping drains and back drains including regrading of the existing drainage channel in order to provide free drainage for surface water to drain away from the canal coping. All disturbed areas will be re-vegetated. Excess spoil material will be spread and used as top-dressing within the Canal corridor. The area will be spray grassed/seeded as required.	<i>Details to be included; the area of vegetation to be impacted, the type of vegetation to be cleared and how the vegetation will be impacted.</i> http://www.environment.nsw.gov.au/vegetation/naapproval.htm Refer <i>Tree Clearing Permit CD2021/110*</i> before commencing.

FLORA AND FAUNA

Select the appropriate safeguards to manage the impacts

FF1	Flora and Fauna	Vegetation disturbance or clearing shall be minimised to the greatest degree practical and only in accordance with EIA approval.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
FF2	Flora and Fauna	Slashing groundcover shall be limited to a height of 150 to 200mm.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
FF3	Flora and Fauna	Any vegetative material that has been cleared, lopped or otherwise removed shall be retained and used as surface mulching to assist site revegetation on completion of the works.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
FF4	Flora and Fauna	Fallen logs shall be pushed out of the work areas and into adjoining areas wherever possible. Cutting up of logs over 40cm diameter with hollows shall be minimised.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
FF5	Flora and Fauna	Disturbance of rock ledges, caves, overhangs and surface bush rock shall be avoided wherever possible.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
FF6	Flora and Fauna	Retained vegetation and trees shall be protected from accidental damage, encroachment or smothering by temporary fencing, flagging or similar. Drip lines of trees are to be avoided.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
FF7	Flora and Fauna	All equipment transported to the site shall be free of contaminants such as weeds.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
FF8	Flora and Fauna	Undertake preclearance check including demarcation of trees and inspection for habitat features (e.g. tree hollows, nests etc) / fauna (engagement of ecologist required). Where possible clearing of vegetation with habitat features should be undertaken during summer to minimise potential impacts to nesting fauna.	<input type="radio"/> Yes <input checked="" type="radio"/> N/A

PEST AND WEED CONTROL

Select the appropriate safeguards to manage the impacts

P1	Pest and Weed Control	Control of weeds shall be undertaken by using appropriate government and industry accepted control methods. Removal of weeds from the site shall be properly disposed of at an appropriately licensed waste facility.	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
P2	Pest and Weed Control	Notification of neighbours and other stakeholders shall be undertaken as required by the current relevant Pesticide Control Order issued under the Pesticides Act 1999 and in accordance with the Water NSW Pesticide Use Notification Plan.	<input type="radio"/> Yes <input checked="" type="radio"/> N/A

P3	Pest and Weed Control	Herbicides and pesticides shall be stored and used in accordance with the relevant label directions, registration or permit conditions issued under the Agricultural & Veterinary Chemical Code (NSW) Act 1994 and Pesticides Act 1999 and Code of Practice issued by WorkCover NSW.	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
P4	Pest and Weed Control	Mixing or decanting of herbicides shall not be undertaken within 20m of any natural or built drainage line or wetland.	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
P5	Pest and Weed Control	All vehicles, vessels and equipment transported to the site shall be free of contaminants such as weeds. Care shall also be taken to ensure all vehicles, vessels and equipment are free of aquatic weeds and their seeds before leaving the site.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
P6	Pest and Weed Control	All debris from control works shall be removed from flood-prone areas and only left onsite with approval of WaterNSW	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
P7	Pest and Weed Control	Ensure record keeping of pesticide application compliant with the NSW Pesticides Regulation (2017).	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
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.
1.20.1	Provide details	The proposed work will be carried out at identified areas along the Upper Canal.	Details to be included; name of waterway / waterbody, the proximity of works to the waterway / waterbody
1.21	Is the project or work likely to result in any soil disturbance?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
1.22	Will the project or work require the stockpiling of any materials?	<input checked="" type="radio"/> Yes <input 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 checked="" type="radio"/> Yes <input 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 checked="" type="radio"/> Yes <input 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 checked="" type="radio"/> Yes <input 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: <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. 	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
SW10	Soil and Water	Topsoil shall be stockpiled separately from general spoil and reused wherever possible.	<input checked="" type="radio"/> Yes <input 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 checked="" type="radio"/> Yes <input 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 type="radio"/> Yes <input checked="" 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 type="radio"/> Yes <input checked="" 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.</i> <i>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	Excess concrete, waste material will be removed off-site. All waste material will be disposed of off-site in accordance with relevant Australian Standards, WorkCover and regulatory Agency (EPA) guidelines as appropriate. Waste dockets will be provided to WaterNSW at the end of the Project. Any material that can be reused will be stockpiled separately and transported to locations nominated by WaterNSW for future reuse. Any excess spoil material will be spread as top-dressing within the Canal corridor. The area will be spray grassed/seeded as required.	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 maybe 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

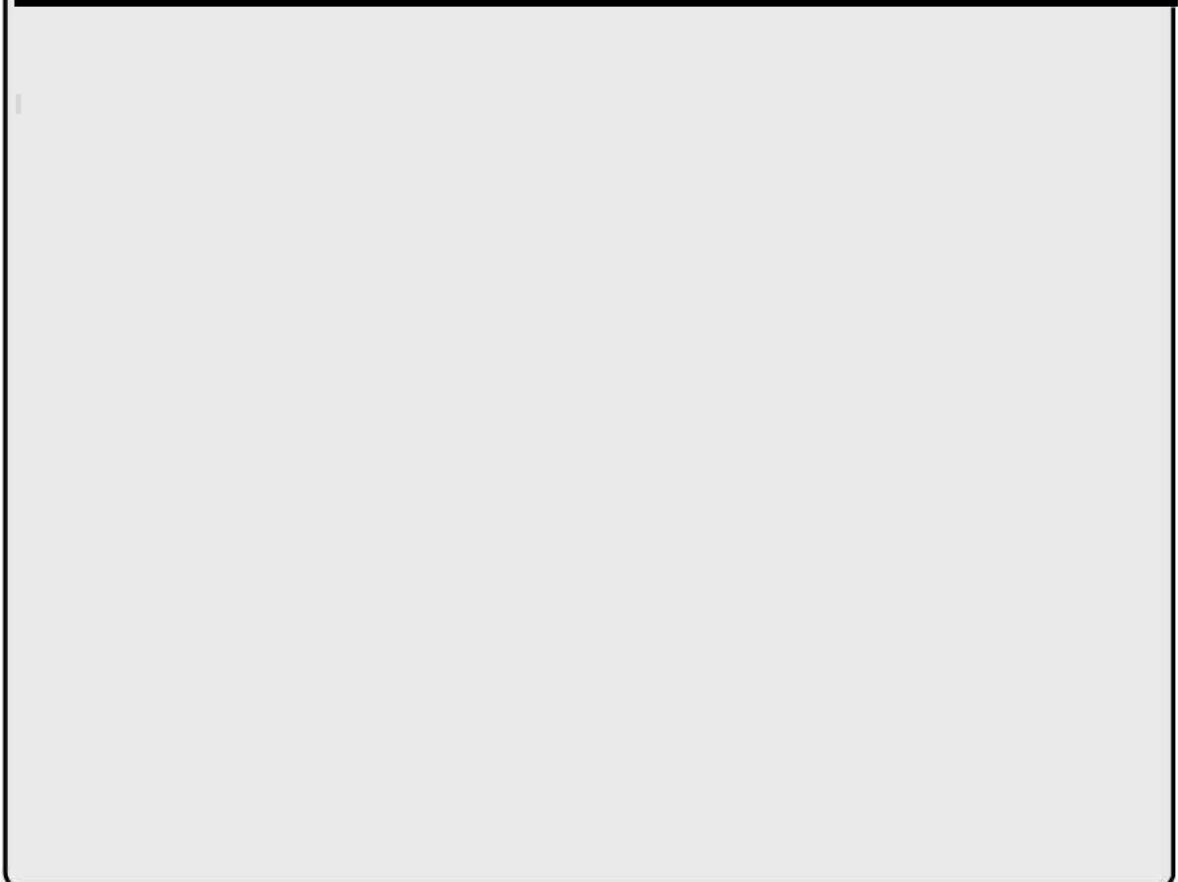
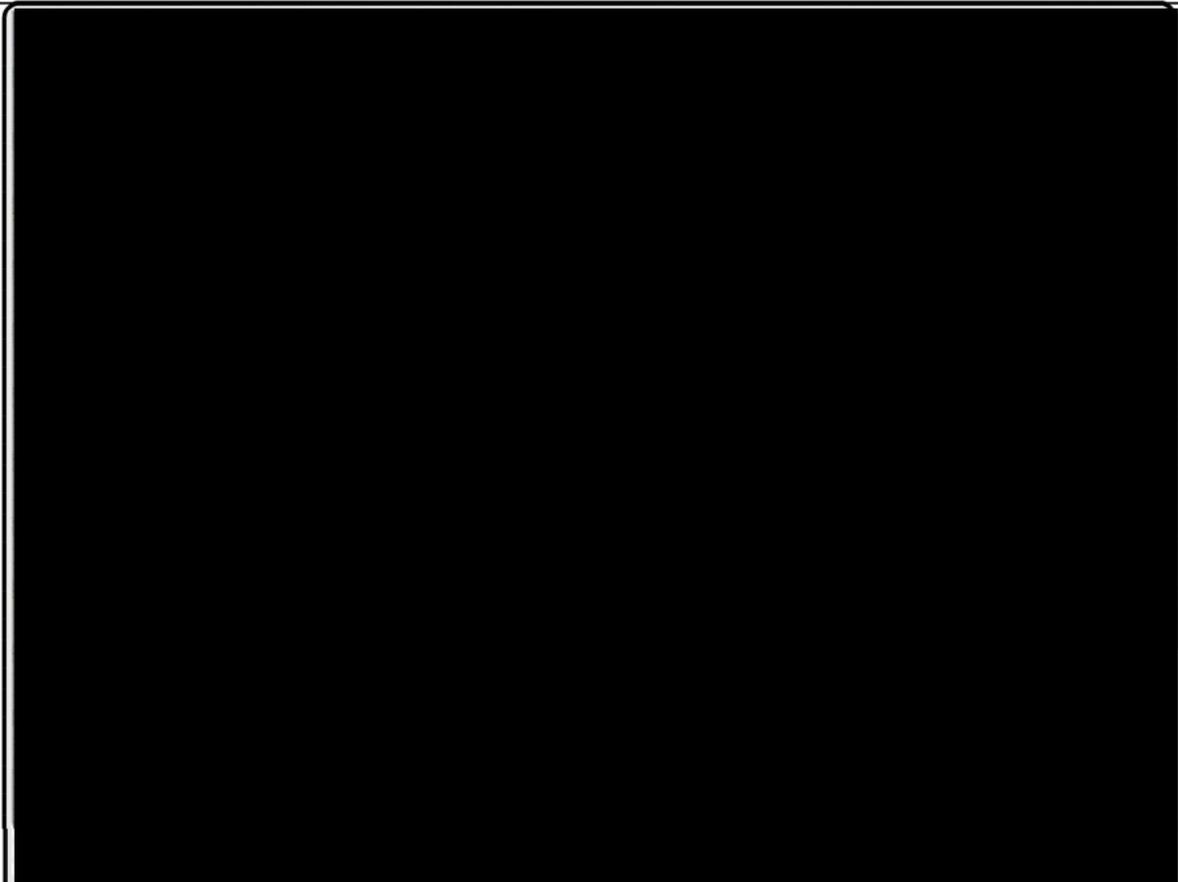
W2	Waste	If the contractor is working at the same location for more than one day, self-contained portable ablution and toilet facilities shall be provided, unless otherwise specifically negotiated with Water NSW. These facilities shall be located at least 20m from any natural or built drainage line or 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 checked="" type="radio"/> Yes <input type="radio"/> No	<i>Types of impact may include noise, dust, access, visual amenity. Surrounding land uses may be agricultural/other rural land uses, residential, recreational etc.</i>
1.24.1	Provide details of the impact e.g. access, noise disturbance, dust.	Access via private properties may be required to gain access to the work locations. However, this will only be limited to large vehicles. Utility vehicles will use the existing access track along the canal. 24 hrs access will be made available for WaterNSW operational staff and emergency services. The contractor is to ensure that access will be available at all times. Noise disturbance is not anticipated as there will only be minor excavation.	
COMMUNITY			
Select the appropriate safeguards to manage the impacts			
C1	Community	A Community Engagement Plan, or equivalent, shall be prepared to the satisfaction of the Water NSW Communications Team before work commences.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
C2	Community	All contractors' (and any sub-contractors') personnel employed for the works shall maintain a tidy appearance and exercise courtesy in all dealings with the public.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
C3	Community	All access through, or work within any private property shall be undertaken with a minimum of inconvenience to the owner/ occupier	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
NOISE AND VIBRATION			
Select the appropriate safeguards to manage the impacts			
N1	Noise and Vibration	All practicable and feasible measures shall be taken to minimise noise. All vehicles, plant and equipment shall comply with relevant EPA and Workcover requirements.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
N2	Noise and Vibration	For any work approved to be undertaken outside standard hours, the emitted noise should not exceed the background noise level + 5dB(A)	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
AIR QUALITY			
Select the appropriate safeguards to manage the impacts			
AQ1	Air Quality	All practicable and feasible measures shall be taken to avoid raising excessive levels of dust.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
AQ2	Air Quality	All vehicles, plant and equipment shall be properly maintained to reduce vehicle and plant emissions. If visible smoke is seen for longer than 10 seconds duration from any engine while working on the site, the machine shall be taken out of service and adequately tuned or repaired so that such extended smoke emission no longer occurs.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
AQ3	Air Quality	Wherever possible, vehicles, plant and equipment shall be switched off when not in use.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
AQ4	Air Quality	Hazardous material shall be handled as per relevant guidelines to avoid potential air pollution.	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
1.25	Will the project require new fences to be installed?	<input type="radio"/> Yes <input checked="" type="radio"/> No	

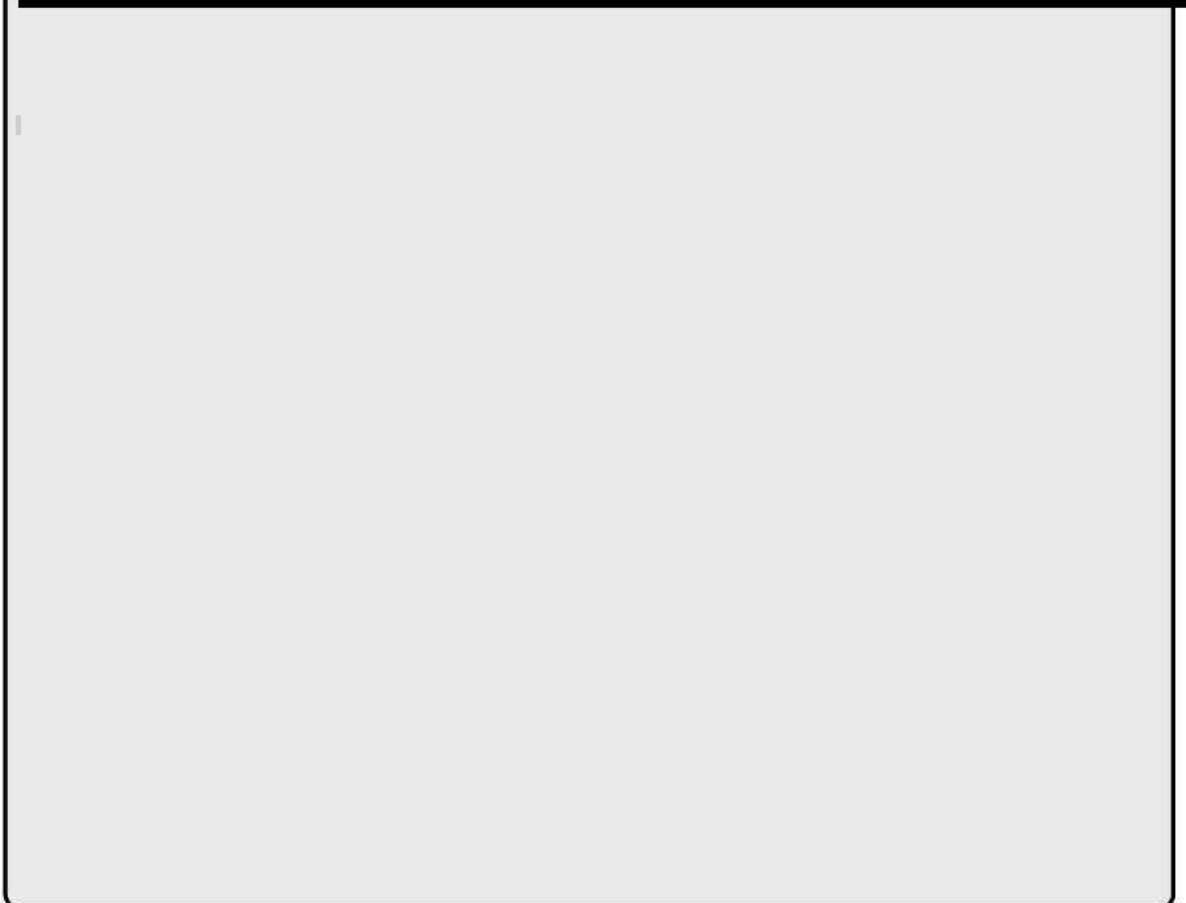
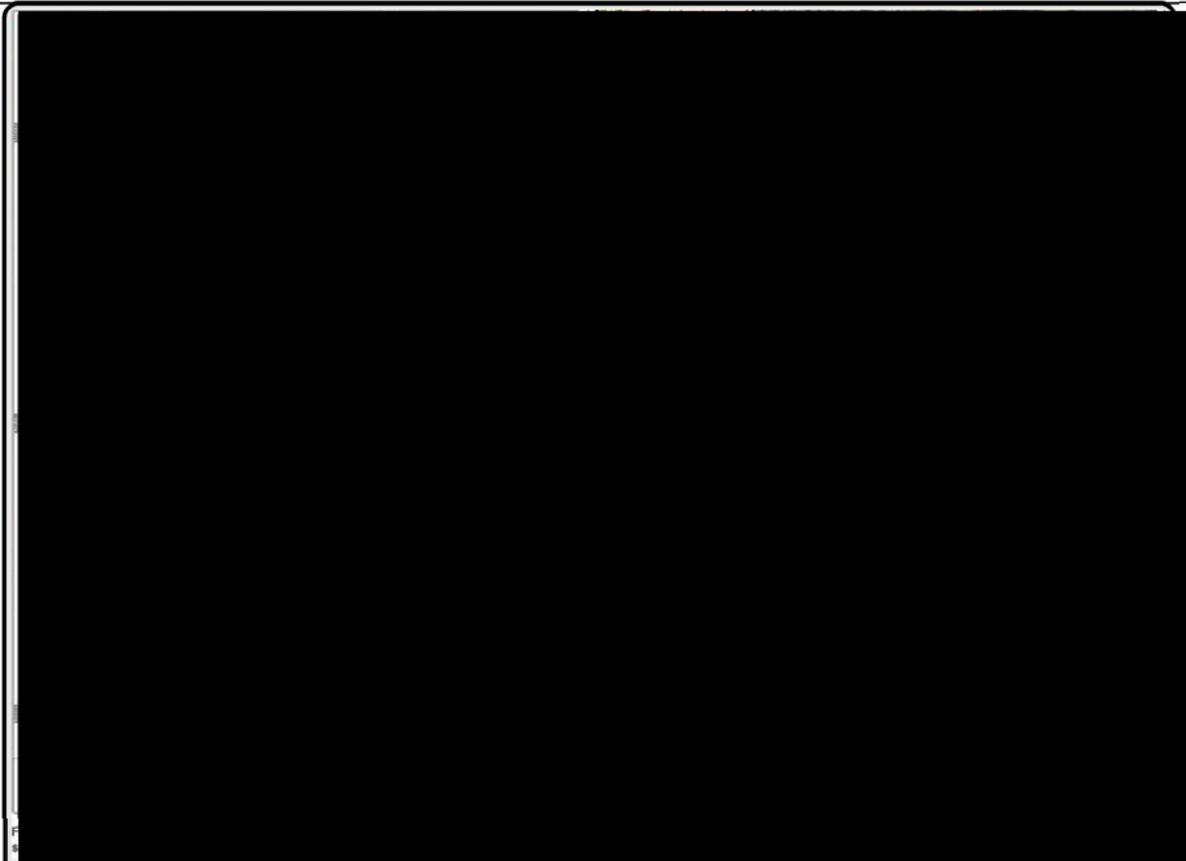
1.25.2	Are temporary or new access tracks or roads to be developed?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
1.26	Are there any impacts on any Councils, utilities and/or roads?	<input type="radio"/> Yes <input checked="" type="radio"/> No	Carry out a dial-before-you-dig if necessary 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 checked="" type="radio"/> Yes <input type="radio"/> No	Past rehabilitation may include replanting, rip rap and making good of a disturbed area.
1.28.1	Provide details of the rehabilitation requirements.	Ongoing maintenance and inspection will be required post drainage improvement work.	
SITE DECOMMISSIONING			
Select the appropriate safeguards to manage the impacts			
D1	Site Decommissioning and Restoration	On completion of the works and prior to leaving the site: - all vehicles, construction equipment, materials, waste and excess spoil relating to the works shall be removed from the work site and any adjacent affected areas - all disturbed areas shall be restored with a minimum of 80% cover before removal of temporary control measures - any property or infrastructure that has been damaged as a result of the works shall be repaired, replaced or restored in consultation with Water NSW	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
D2	Site Decommissioning and Restoration	Disturbed areas shall be reseeded wherever there is no local seed source for natural reseeded.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
D3	Site Decommissioning and Restoration	Any vegetative material retained from any clearing or lopping shall be spread over disturbed areas as surface mulching to assist site revegetation.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
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.	All controls and mitigation measures (identified within the SOHI (D2025/121449), ACHA Addendum (D2025/112443) and EIA) will be detailed in the CEMP, SWMS, Project Management Plan, Project Quality Plan, etc as relevant.	
1.31	What is the myWaterNSW Aboriginal Heritage Assessment request number?	Extent Heritage (Extent) prepared an Aboriginal Cultural Heritage Assessment Addendum report (D2025/112443) (ACHA Addendum) to accompany the previously produced, Aboriginal Cultural Heritage Assessment Out-of-Canal Works prepared by Extent in 2018 (2018 ACHA). WaterNSW have previously obtained an Aboriginal heritage impact permit (AHIP) for out of canal works in August 2018 (AHIP C00003872, Appendix B) using the 2018 ACHA as supporting documentation. While the Upper Canal corridor was assessed and was granted an area wide AHIP, the specific impacts of the current package of drainage remediation works and their locations were not included in the 2018 assessment. WaterNSW obtained a 10-year time extension for AHIP C00003872 (end date 31 August 2035) which will continue to facilitate and manage the ongoing maintenance of the Upper Canal corridor and the Aboriginal archaeological cultural resource. The addendum report addresses the potential Aboriginal heritage impacts and supports an AHIP variation to facilitate the proposed works. The addendum identifies the extent, nature and significance of Aboriginal cultural values and archaeological objects, as well as provides advice on the management of those values and objects. In conjunction with the 2018 ACHA (Extent), the ACHA Addendum includes Aboriginal community consultation as per the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW 2010a) to identify and understand the cultural and social values of the study area, in addition to archaeological desktop analysis, previous field investigations in the form of survey and salvage excavation program to identify and understand the potential scientific values of the study area.	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.
Thank you for completing Section 1 of this Minor Works Environmental Impact Assessment .			

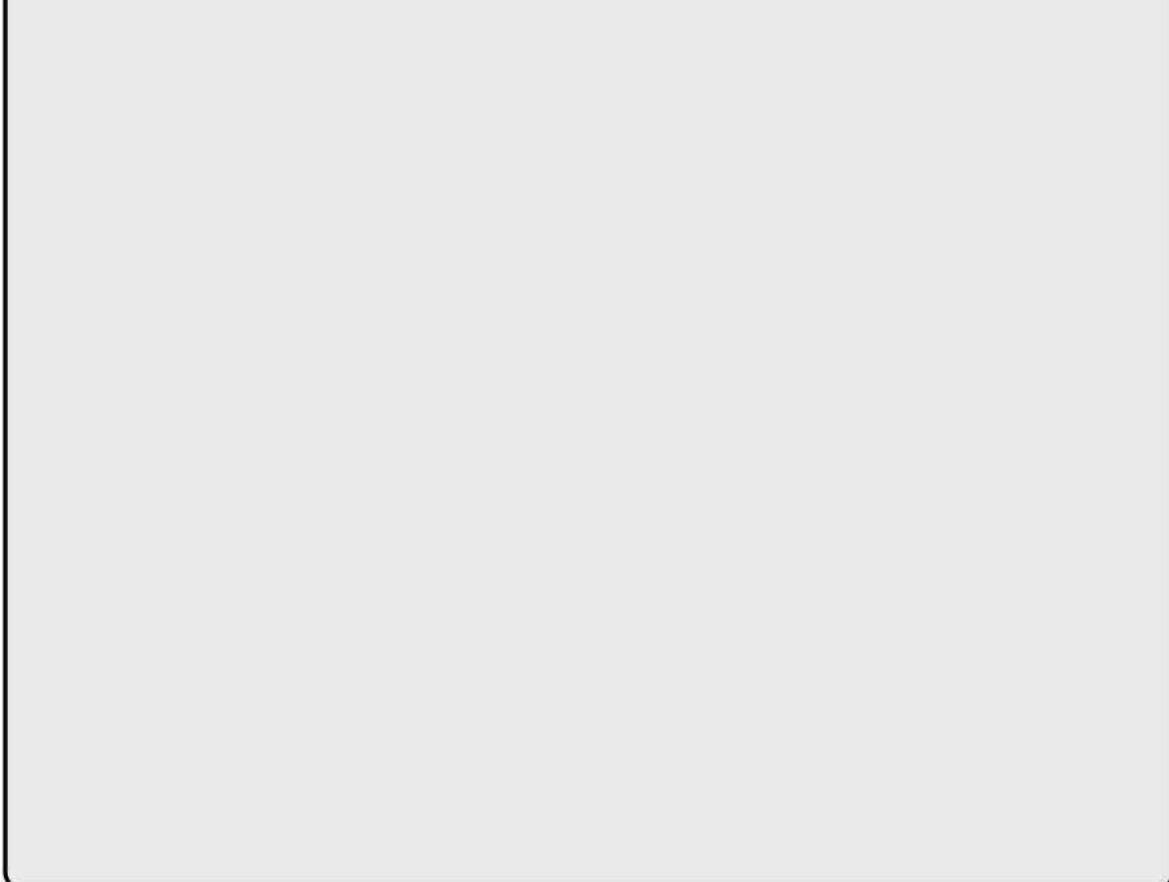
	<p>Ensure you have saved this form to ARK and included the ARK reference number above.</p> <p>Go to myWaterNSW, click 'Request Something' & create a service request for Environmental Services.</p> <p>Does the work trigger an Aboriginal Heritage Field Assessment? If so, it is required to complete the EIA.</p>	<p>Save to ARK and go to myWaterNSW to create a service request</p>
<p>☑</p>	<p><u>Environmental Services Team</u> - 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	<p>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?</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p>Heritage to be checked:</p> <ol style="list-style-type: none"> 1. WaterNSW S170 Register (D2016/73126) 2. NSW Planning Portal 3. Relevant Council LEP 4. State Heritage Inventory Database
2.1.1	<p>Identify and describe the works with regard to the heritage significance.</p> <p>The Upper Canal is identified as an item of State heritage significance on the State Heritage Register (SHR), listed as 'Upper Canal System (Pheasants Nest Weir to Prospect Reservoir)' (SHR #01373). The Upper Canal is also locally listed as heritage within Local Environment Plans and included on WaterNSW s170 heritage register.</p> <p>The SOHI determined that the proposed works are assessed as having no more than a minor or inconsequential impact on the heritage significance of the Upper Canal. The works will have a positive impact as it will improve the reliability of the Upper Canal to supply raw drinking water to the Prospect Reservoir. There is no requirement to liaise with Wollondilly Shire Council, Campbelltown City Council, Camden Council, Liverpool City Council, or Fairfield City Council on the matter in line with Division 1 Section 2.11 of the TI SEPP 2021.</p>	
2.1.2	<p>Will there be ground disturbance at a locally significant site or where a relic is predicted to occur?</p> <p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>	<p>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.</p> <p>Consult with the Heritage Specialist or Adviser</p>
2.1.3	<p>Is the item identified on the LEP as locally significant?</p> <p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>	<p>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.</p> <p>Consult the Heritage Specialist for advice ⓘ</p>
2.1.5	<p>Is the item only listed on the WaterNSW s170 Register or will it be demolished or partially demolished or become unoccupied?</p> <p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>	<p>Discuss with the Heritage Specialist or Adviser for advice.</p> <p>If demolition or vacating is occurring, notification to Heritage NSW must be undertaken immediately.</p>
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)]		
2.1.7	<p>Include details that support the above conclusions and any outcomes of consultation with the heritage specialist.</p> <p>Extent Heritage prepared a SoHI (D2025/121449) for submission to Heritage NSW. The SOHI determined that the proposed works will have a negligible to minor impact on the heritage significance of the Upper Canal, and are generally in keeping with management, repair, and maintenance policies from the "Upper Canal: Pheasants Nest to Prospect Reservoir Conservation Management Plan 2016" prepared by the Government Architect's Office (D2016/31377). The installation of the new flumes will have an adverse impact on the open channel walls of the Canal, however the targeted cutting of the walls will have a negligible overall impact on the Upper Canal, and are considered necessary to improve drainage systems along the Upper Canal. The below recommendations (refer 2.1.9 below) should be followed regarding the repair and cleaning methodologies for the syphons to ensure fabric of exceptional significance is protected during the works.</p> <p>The Section 60 Works Application (HMS 12016) was approved pursuant to section 63 of the Heritage Act 1977 on 24 November 2025 (D2025/125606) and associated electronically stamped plans (D2025/125668).</p> <p>The proposed works are assessed as having no more than a minor or inconsequential impact on the heritage significance of the Upper Canal, and there is no requirement to liaise with Wollondilly Shire Council, Campbelltown City Council, Camden Council, Liverpool City Council, or Fairfield City Council on the matter in line with Division 1 Section 2.11 of the TI SEPP 2021.</p>	

2.1.8	Is the item identified on the National Heritage List?	<input type="radio"/> Yes <input checked="" type="radio"/> No	<i>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.</i>
2.1.9	Detail specific requirements or measures that need to be included in the Environmental Approval.	<p>The recommendations from the SOHI should be followed to ensure fabric of exceptional significance is protected during the works.</p> <p>Section 60 Conditions of Consent will be adhered to and incorporated into project delivery documentation prior to project execution.</p>	SR2
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? 	<input checked="" type="radio"/> Yes <input type="radio"/> No	<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 ora 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>







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.	<p>A variation to AHIP C0003872 is sought under Section 90d of the National Parks and Wildlife Act 1974 to facilitate the proposed works and manage harm to Aboriginal cultural heritage.</p> <p>Refer to Upper Canal Project – Drainage Improvement Works Aboriginal Cultural Heritage Assessment Addendum (ACHA Addendum) (D2025/112443) and Aboriginal Cultural Heritage Assessment Out-of-Canal Works (ACHA) prepared by Extent Heritage (D2018/57861) for details of the assessment and RAP consultation.</p> <p>Extent and WaterNSW liaised with Local RAPs and HeritageNSW to inform the ACHA Addendum. WaterNSW will submit the ACHA Addendum and determined EIA with the AHIP Variation Application to DCCEEW.</p>	<p><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></p>
2.2.4	Provide details of any specific requirements that need to be included in the Environmental Approval?	<p>The ACHA Addendum makes a number of recommendations based on the identified potential for Aboriginal heritage impact and the relevant statutory requirements and should be followed (refer D2025/112443).</p> <p>Conditions of Consent of the AHIP Variation must be implemented and adhered to.</p>	

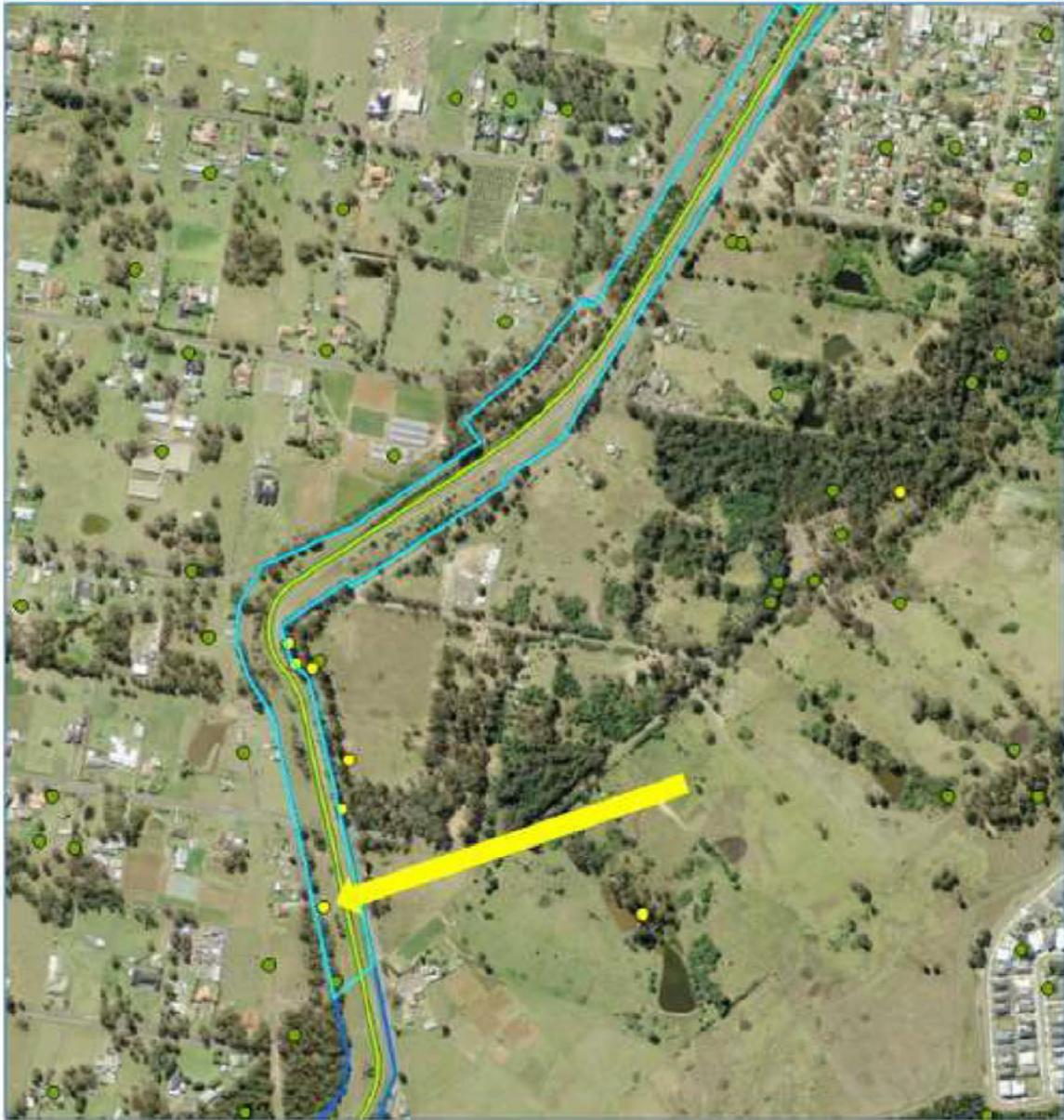
HERITAGE

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 in 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
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
2.3	<p>Is the project or work within or likely to affect any of the following?</p> <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	<p><i>There are 49 areas of Wilderness across NSW, 4 affecting the Sydney Drinking Water Catchments: Look up details using NULA.</i></p> <p><i>For land declared critical habitat, check:</i></p> <ol style="list-style-type: none"> 1. OEH Critical Habitat Register 2. DPI Fisheries Register of Critical Habitat <p><i>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)</i></p> <p><i>An Area of Outstanding Biodiversity Value is declared under the Biodiversity Conservation Act 2016 and includes critical habitat.</i></p>

2.3.1	Provide detailed project information relevant to the searches undertaken that supports the outcome.	<p>The proposed works span multiple land parcels and are associated with maintenance or upgrades to an existing asset. A review of NULA has identified the presence or potential habitat of threatened species near these lots, including:</p> <ul style="list-style-type: none"> - Vulnerable Southern Myotis - Vulnerable Powerful Owl - Endangered Koala - Endangered Cumberland Plain Land Snail - Vulnerable White-bellied Sea-Eagle - Vulnerable Grey-headed Flying fox - Vulnerable Little Eagle - Vulnerable Eastern Coastal Free-tailed Bat - Vulnerable Eastern False Pipistrelle - Vulnerable Greater Broad-nosed Bat - Endangered Bush Stone-curlew - Vulnerable Spotted Harrier - Vulnerable Latham's Snipe - Endangered Swift Parrot - Vulnerable Downy Wattle (Lot 2 DP1086645) <p>Works are expected to result in limited vegetation disturbance. No removal of larger canopy trees would be undertaken and the area of disturbance is generally restricted to areas that are frequently managed by grass cutting and weed removal. Hence core koala habitat will not be affected.</p> <p>Particular attention, however, is to be given to works associated with Lot 2 DP1086645 as the Vulnerable Downy Wattle has been mapped in this land parcel as mapped below.</p>	
2.4	<p>Is the project or works within or likely to affect any of the following areas:</p> <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 	<p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>	<p>The Warragamba Special Area is within the Greater Blue Mountains World Heritage Area.</p> <p>See SEPP (Exempt & Complying Development) 2008 Clause 1.5 for inclusions of environmentally sensitive areas, use hyperlink to check:</p> <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 <p>If works will impact on National Park or area with a conservation agreement consultation is required.</p>
2.5	Are there any known contamination/hazardous materials issues?	<p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>	<p>Examples may include asbestos, contaminated soil.</p> <p>NULA Contaminated Land Risk Register (D2016/135491) and Hazardous Materials Register (D2015/74763).</p> <p>Register - Gauging Stations, 26 November 2014 - Asbestos NSW Office of Water D2015/74762</p>
2.6	<p>Does the project or works require consent under State Environmental Planning Policy (Biodiversity and Conservation) 2021 or the Local Land Services Act 2013?</p> <p>Use the Native Vegetation Regulatory Maps to determine vegetation category.</p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>	<p>Check permissibilities under the LLS Act and State Environmental Planning Policy (Biodiversity and Conservation) 2021.</p> <p>Refer to the Local Land Services Act 2013 Section 60A 60O 60Q Schedule 5A for authorisations and permissibilities.</p>
2.6.1	Provide details about the extent and nature of the clearing activity. Include what authorisations exist or approvals are required.	<p>The work will be undertaken in previously disturbed areas.</p> <p>The Upper Canal is mapped as excluded land and as such the LLS Act does not apply.</p> <p>The Upper Canal is located within the regulated Hawkesbury Nepean Catchment which means environmental impact needs to consider (however, not meet) if it will have a neutral or beneficial effect on water quality (NorBE) (refer 1.18.5 above).</p>	<p>Ensure no ancillary activities require clearing.</p> <p>Record justification if clearing can be undertaken without approval.</p> <p>Attach evidence of consultation where required.</p>

Vulnerable Downy Wattle



- Legend**
- | | |
|--|--|
| Bionet Species Sightings- Flora | Not Listed as Threatened |
| Vulnerable | WNSW Infrastructure LINE |
| Not Listed as Threatened | Canal |
| Bionet Species Sightings- Fauna | WaterNSW Boundaries |
| Endangered | Special and Controlled Areas (WNSW) |
| Vulnerable | Schedule 1 Controlled Area |



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2.7 Is the project or work likely to have only a minimal impact on the environment?

Yes No

A project is likely to have more than a minimal impact if for example:

- 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

			<ul style="list-style-type: none"> • 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.	<p>A Variation to AHIP C0003872 is required under Section 90d of the National Parks and Wildlife Act 1974 to facilitate the works. A s60 Works Application under the Heritage Act 1977, was lodged through the Heritage Management System on 1 October 2025 and is under assessment by the Heritage Council of NSW (HMS 12016).</p> <p>Excess material is intended to be spread as top dressing within the canal corridor, as it is clean and suitable for reuse. This approach aligns with the recommendations outlined in the ACHA Addendum (D2025/112443) prepared by Extent Heritage and supports efficient site management by avoiding unnecessary disposal costs.</p> <p>Given the nature of the proposed works and their confinement to within 10 metres of the canal, which already acts as a barrier to habitat connectivity, the potential impact on wildlife movement and habitat fragmentation is considered low. No large canopy trees will be removed, and disturbance will be limited to areas routinely maintained through mowing and weed control.</p>	Details here will not appear elsewhere on the approval. Whether Yes or No response is provided, add supporting details.
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	If there is no applicable development category, consider what approval mechanism is most likely to apply for the project.
2.7.5	Detail the planning instrument, development category and development without consent type that best describes the project or works?	The works are considered as development permitted without consent under SEPP (Transport and Infrastructure) 2021 cl 2.159(1) which permits 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.	Work will be carried out in accordance with the approved SoHI (D2025/121449), s60 approval (D2025/125606), electronically stamped plans (D2025/125668) and AHIP C0003872 Variation.	
2.9	Does the project or works require notification under the Fisheries Management Act?	<input type="radio"/> Yes <input checked="" type="radio"/> No	<p>Activities that could trigger requirement include:</p> <ul style="list-style-type: none"> • 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 checked="" type="radio"/> Yes <input type="radio"/> No	<p>The planned site work hours were identified at 1.10.</p> <p>Standard Hours are : Mon-Fri 7am-6pm, Sat 8am-1pm, No work Sunday or Public Holidays.</p> <p>Non-standard hours may require additional noise assessments to be prepared.</p> <p>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.</p>
3.1.1	Provide details and outcomes of any noise assessments for the proposed work	Noise disturbance is not anticipated as there will only be minor excavation.	Refer CD2015/210* Out of Hours Works Application
3.1.2	Detail project specific noise mitigation measures.	Noise-generating works or activities should not commence before 7:00 a.m. when located near sensitive receivers.	

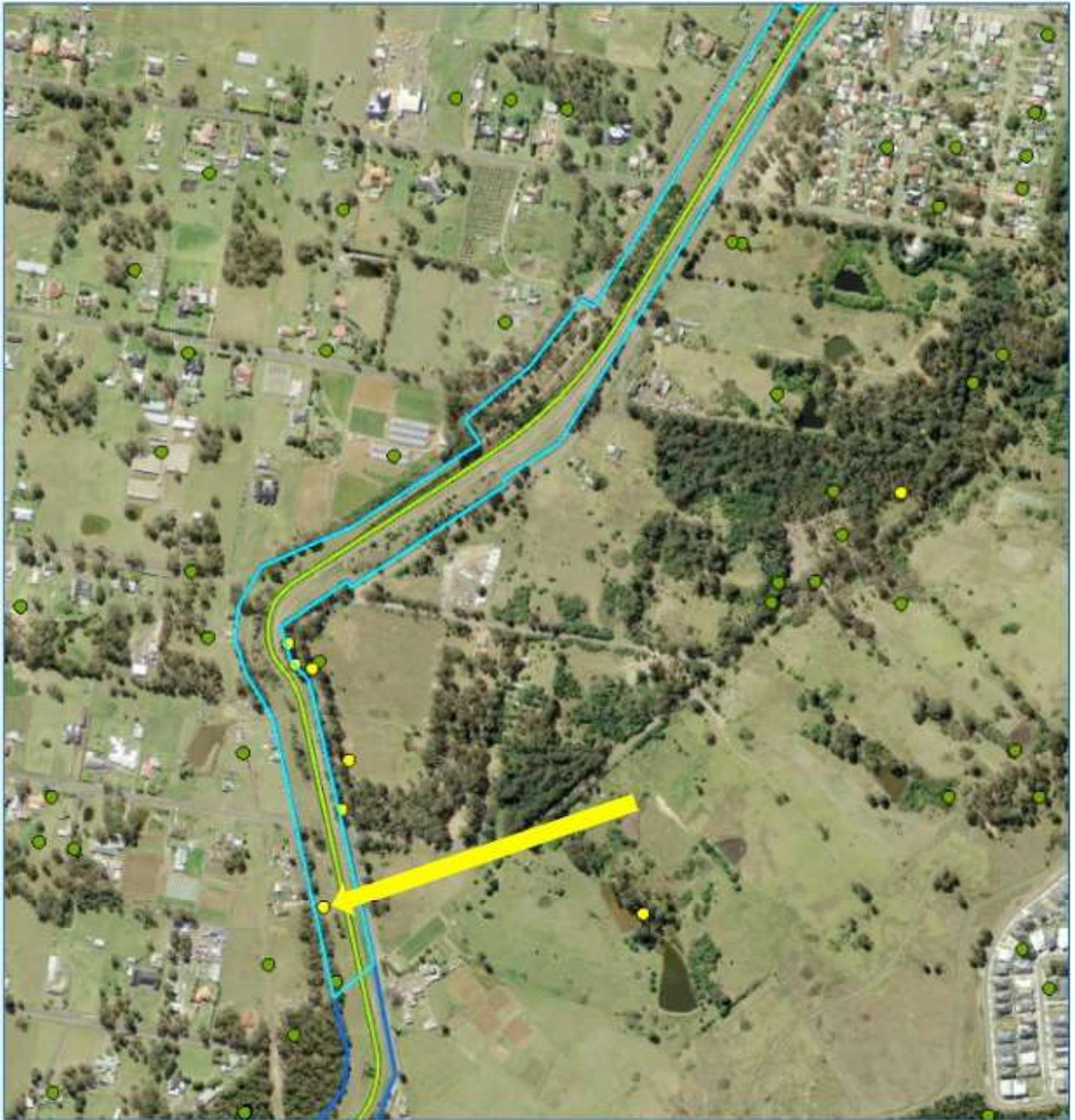
		In the event of complaints, controls for noise mitigation shall be evaluated. The Community Engagement Plan, or equivalent, should consider consultation for noise associated with works.	
3.2	Does the project or work require a permit/ approval under the Water Act and/or Water Management Act?	<input type="radio"/> 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 that need to be implemented during this project or works?	<input checked="" 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 contractor needs to understand and follow?
3.7.1	Provide details	Particular attention is to be given to works associated with Lot 2 DP1086645 as the Vulnerable Downy Wattle has been mapped in this land parcel (map as attached).	PS2
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	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.
3.8.1	What is the likely impact of the activity on the environment?	Conditions of consent as specified in the AHIP Variation and s60 approval to be followed to reduce the impact on heritage items. The proposed works are within a highly managed and ecologically fragmented zone, and do not involve removal of trees or canopy vegetation. Potential impacts have been considered and appropriate mitigation measures proposed. As such, the overall environmental risk is minimal.	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.
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	RITM0841835	ARK Minor Works EIA Form #	
WaterNSW Contact		Project Location	Upper Canal - from Cataract Tunnel to Prospect Reservoir
Project Title	Upper Canal Drainage Improvement and Baseline Aerial Survey		
Approved Activity	<p>The works developed as part of the Drainage Improvement and Baseline Aerial Survey Project, generally involve the following:- Installation of 16 new flumes across the Upper Canal, one 450mm diameter pipe and 15 x 700mm diameter half-pipes, at seven different locations, including construction of infill concrete slabs and wing walls and a new drainage pit- Repair of Upper Canal syphons, largely consisting of repairing lost mortar and plugging holes and cracks- Cleaning and regrading of existing cut-off, coping, and spoon drains along the Canal access road and within setback between the Canal and the SHR boundary- Removal of up to eight timber telegraph poles located within or immediately adjacent to existing drainage channels or causeways- Cutting of new drains, and channels to connect existing drains and causeways- Construction of nine new causeways- Cleaning and replacement of existing drainpipes- Targeted regrading the access road and infill of potholes. Any excess material is intended to be spread as top dressing within the canal corridor, as it is clean and suitable for reuse. This approach aligns with the recommendations outlined in the Aboriginal Cultural Heritage Assessment Addendum report (D2025/112443) (ACHA Addendum) prepared by Extent Heritage and supports efficient site management by avoiding unnecessary disposal costs. Site compound would be established at existing cleared areas where required.</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.		
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			
C1	A Community Engagement Plan, or equivalent, shall be prepared to the satisfaction of the Water NSW Communications Team before work commences.		
C2	All contractors' (and any sub-contractors') personnel employed for the works shall maintain a tidy appearance and exercise courtesy in all dealings with the public.		
C3	All access through, or work within any private property shall be undertaken with a minimum of inconvenience to the owner/occupier		
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.
SP8	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.
SP9	New gravel or borrow pits shall not be established within the Special Areas.
SP10	In the event Water NSW fire roads are damaged as a result of the works, they shall be repaired as soon as practicable.
SP11	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.
Soil and Water	
SW1	All works shall be undertaken in a manner that will minimise site disturbance and avoids or minimise erosion and sedimentation.
SW2	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: <ul style="list-style-type: none"> 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).
SW3	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.
SW4	A maintenance checklist shall be prepared for sites. Records shall be kept of all checks and maintenance and shall be provide to Water NSW on request. As a minimum this shall include a regular check of: <ul style="list-style-type: none"> 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)
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.
SW10	Topsoil shall be stockpiled separately from general spoil and reused wherever possible.
SW11	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.

Flora and Fauna	
FF1	Vegetation disturbance or clearing shall be minimised to the greatest degree practical and only in accordance with EIA approval.
FF2	Slashing groundcover shall be limited to a height of 150 to 200mm.
FF3	Any vegetative material that has been cleared, lopped or otherwise removed shall be retained and used as surface mulching to assist site revegetation on completion of the works.
FF4	Fallen logs shall be pushed out of the work areas and into adjoining areas wherever possible. Cutting up of logs over 40cm dbh with hollows shall be minimised.
FF5	Disturbance of rock ledges, caves, overhangs and surface bush rock shall be avoided wherever possible.
FF6	Retained vegetation and trees shall be protected from accidental damage, encroachment or smothering by temporary fencing, flagging or similar. Drip lines of trees are to be avoided.
FF7	All equipment transported to the site shall be free of contaminants such as weeds.
Pest and Weed Control	
P5	All vehicles, vessels and equipment transported to the site shall be free of contaminants such as weeds. Care shall also be taken to ensure all vehicles, vessels and equipment are free of aquatic weeds and their seeds before leaving the site.
P6	All debris from control works shall be removed from flood-prone areas and only left onsite with approval of WaterNSW
Air Quality	
AQ1	All practicable and feasible measures shall be taken to avoid raising excessive levels of dust.
AQ2	All vehicles, plant and equipment shall be properly maintained to reduce vehicle and plant emissions. If visible smoke is seen for longer than 10 seconds duration from any engine while working on the site, the machine shall be taken out of service and adequately tuned or repaired so that such extended smoke emission on longer occurs.
AQ3	Wherever possible, vehicles, plant and equipment shall be switched off when not in use.
Noise and Vibration	
N1	All practicable and feasible measures shall be taken to minimise noise. All vehicles, plant and equipment shall comply with relevant EPA and Workcover requirements.
N2	For any work approved to be undertaken outside standard hours, the emitted noise should not exceed the background noise level + 5dB(A)
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	
D1	On completion of the works and prior to leaving the site: <ul style="list-style-type: none"> - all vehicles, construction equipment, materials, waste and excess spoil relating to the works shall be removed from the work site and any adjacent affected areas - all disturbed areas shall be restored with a minimum of 80% cover before removal of temporary control measures - any property or infrastructure that has been damaged as a result of the works shall be repaired, replaced or restored in consultation with Water NSW
D2	Disturbed areas shall be reseeded wherever there is no local seed source for natural reseeded.
D3	Any vegetative material retained from any clearing or lopping shall be spread over disturbed areas as surface mulching to assist site revegetation.
Fencing	
PROJECT SPECIFIC SAFEGUARDS	
PS1	All controls and mitigation measures (identified within the SOHI (D2025/121449), ACHA Addendum (D2025/112443) and EIA) will be detailed in the CEMP, SWMS, Project Management Plan, Project Quality Plan, etc as relevant.
PS2	Particular attention is to be given to works associated with Lot 2 DP1086645 as the Vulnerable Downy Wattle has been mapped in this land parcel (map as attached).
STAKEHOLDER REQUIREMENTS	
SR2	The recommendations from the SOHI should be followed to ensure fabric of exceptional significance is protected during the works. Section 60 Conditions of Consent will be adhered to and incorporated into project delivery documentation prior to project execution.
SR3	The ACHA Addendum makes a number of recommendations based on the identified potential for Aboriginal heritage impact and the relevant statutory requirements and should be followed (refer D2025/112443). Conditions of Consent of the AHIP Variation must be implemented and adhered to.
SR6	Noise-generating works or activities should not commence before 7:00 a.m. when located near sensitive receivers. In the event of complaints, controls for noise mitigation shall be evaluated. The Community Engagement Plan, or equivalent, should consider consultation for noise associated with works.
SR9	Work will be carried out in accordance with the approved SoHI (D2025/121449), s60 approval (D2025/125606), electronically stamped plans (D2025/125668) and AHIP C0003872 Variation.
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 # ⓘ	
Environmental Adviser Approval Environmental Impact Assessment for Minor Works was approved/endorsed by	



Legend

Biorer Species Sightings- Flora

- Vulnerable
- Not Listed as Threatened

Biorer Species Sightings- Fauna

- Endangered
- Vulnerable

- Not Listed as Threatened

WNSW Infrastructure LINE

- Canal

WaterNSW Boundaries Special and Controlled Areas (WNSW)

- Schedule 1 Controlled Area

