

Molonglo Valley Stage 2 - Urban Development Area B1 Mitigation Measures:

No.	Impact of development	Recommended Mitigation Measure	Response
1	Air Quality	<ul style="list-style-type: none"> Construction Environment Management Plans (CEMPs) to manage use of construction machinery and allow for dust suppression 	<ul style="list-style-type: none"> Construction Environment Management Plans (CEMPs) to be developed by the contractor and to include management of construction machinery and dust suppression.
		<ul style="list-style-type: none"> Dust suppression measures – watering, spray tack, hydro mulching, limiting work on windy days 	<ul style="list-style-type: none"> Dust is anticipated to be managed in accordance with industry standards and guidelines including retaining existing vegetation where possible, stripping areas progressively and only where it is necessary for works to occur, restrict vehicle movements, covering loads when transporting materials and once works are complete the area will be revegetated as quickly as possible.
2	Climate Change emissions	<ul style="list-style-type: none"> Emission controls on construction and personal vehicles 	<ul style="list-style-type: none"> As part of the construction works it will be ensured that all petrol and diesel engines exhaust emission comply with Environmental Protection requirements. Service records for vehicles will be obtained if required
		<ul style="list-style-type: none"> Energy efficiency ratings for dwellings 	<ul style="list-style-type: none"> Not applicable to the project
		<ul style="list-style-type: none"> Offsetting via replanting vegetation in urban areas and parklands 	<ul style="list-style-type: none"> Not applicable to the project
		<ul style="list-style-type: none"> Household waste and energy use management 	<ul style="list-style-type: none"> Not applicable to the project
3	Steep slopes, development of and on	<ul style="list-style-type: none"> Appropriate erosion and sediment control measures CMP to manage construction on steep areas, limit clearing of vegetation and ground cover Stormwater management – construction and ongoing Formalisation of tracks in recreation areas to limit erosion 	<ul style="list-style-type: none"> The Principal Contractor to develop an Erosion and Sediment Control Plan (ESCP) No works shall commence until the Contractor obtains a signed copy of the Erosion and Sediment Control Plan from the Environmental Protection Authority A construction management plan is to be developed for construction on steep areas and approved by the superintendent prior to construction

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4	Contaminated land	<ul style="list-style-type: none"> Environmental site assessment be undertaken prior to construction Appropriate site remediation where required 	<ul style="list-style-type: none"> Environmental site assessments will be undertaken prior to construction.
		<ul style="list-style-type: none"> CMP to manage potential contaminants used during construction 	<ul style="list-style-type: none"> The Environmental Management Plan implemented by the Contractor will also involve preventing pollution, setting environmental targets and supporting the principles of Ecologically Sustainable Development
5	Removal of endangered ecological communities	<ul style="list-style-type: none"> Develop in area of degraded vegetation or predominantly exotic vegetation Undertake further investigation of significance of vegetation to be removed 	<ul style="list-style-type: none"> Relevant studies and investigations have been undertaken to explore these issues and the design of John Gorton Drive reflects the outcomes of these studies and investigations
		<ul style="list-style-type: none"> Offset significant vegetation to be removed in parklands and urban open spaces 	<ul style="list-style-type: none"> Not applicable to this project
		<ul style="list-style-type: none"> CMP to control erosion and sedimentation and the effects on vegetation 	<ul style="list-style-type: none"> CMP to be developed by the Contractor and to include erosion and sediment and to limit the impact on vegetation.
		<ul style="list-style-type: none"> Weed control measures to reduce ingress of weeds 	<ul style="list-style-type: none"> Not applicable to this project
		<ul style="list-style-type: none"> Implementation of the Molonglo River Park Concept Plan to protect and manage areas within identified public land 	<ul style="list-style-type: none"> Not applicable to this project
6	Reduction of woodland connectivity	<ul style="list-style-type: none"> Limit mid and over storey vegetation removal, especially in areas of ecological significance such as the Molonglo river corridor Reduce clearing in identified woodland connections 	<ul style="list-style-type: none"> The limit of construction area will be fenced to limit the area of clearing, the removal of vegetation and disturbance in areas of ecological significance.
		<ul style="list-style-type: none"> Implementation of the Molonglo River Park Concept Plan to protect and manage areas within identified public land 	<ul style="list-style-type: none"> Not applicable to this project
		<ul style="list-style-type: none"> Develop parks and reserves to improve connectivity between areas of ecological significance and offset clearing of identified woodland connections 	<ul style="list-style-type: none"> Not applicable to this project

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7	Tree Hollows being removed	<ul style="list-style-type: none"> • Strategic preservation of hollows • Relocation of felled limbs/trees containing hollows • Timing of tree removal to prevent injury, death or disturbance of breeding of fauna species 	<ul style="list-style-type: none"> • CEMP developed by the contractor to include the recommended mitigation measures.
8	<i>Aprasia parapulchella</i> - Pink tailed work lizard (PTWL)	<ul style="list-style-type: none"> • Protection of important habitat by fencing and signage during construction (avoiding key habitat) • CMP to protect habitat from construction activities and indirect impacts 	<ul style="list-style-type: none"> • Site fencing to be erected to protect habitat. • CMP to include protection of habitat from construction activities and indirect impacts
		<ul style="list-style-type: none"> • Enhance connectivity by strategically located parks and open space areas 	<ul style="list-style-type: none"> • Not applicable to the project
		<ul style="list-style-type: none"> • Implementation of the Molonglo River Park Concept Plan 	<ul style="list-style-type: none"> • Not applicable to the project
9	Threatened birds <i>Polytelis swainsonii</i> – Superb parrot; <i>Xanthomyza phrygia</i> - Regent honeyeater; <i>Grantiella picta</i> - Painted honeyeater; <i>Climacteris picumnus</i> - Brown tree creeper; <i>Hieraaetus morphnoides</i> - Little eagle;	<ul style="list-style-type: none"> • Mitigation measures for items 5, 6 and 7 would assist for these species 	<ul style="list-style-type: none"> • Refer to Item 5, 6 and 7 for responses
		<ul style="list-style-type: none"> • Construction timing to limit disruption on breeding times 	<ul style="list-style-type: none"> • Not applicable to the project
		<ul style="list-style-type: none"> • Field investigations and/or targeted surveys to determine the present (or nil) of all species 	<ul style="list-style-type: none"> • Not applicable to the project
10	<i>Lathamus discolor</i> - Swift Parrot	<ul style="list-style-type: none"> • Implementation of recommendations of the NES Plan. 	<ul style="list-style-type: none"> • Not applicable to the project

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11	<i>Rutidosis leptorrhynchoides</i> - Button Wrinklewort <i>Swainsona recta</i> – Small purple pea	<ul style="list-style-type: none"> If specimens are found fencing of key habitat areas (areas of environmental significance) would be appropriate to protect from construction activities 	<ul style="list-style-type: none"> Site fencing to be erected to protect habitat.
12	<i>Perunga ochracea</i> - Perunga grasshopper	<ul style="list-style-type: none"> Protection of important habitat by fencing and signage during construction (avoiding key habitat) 	<ul style="list-style-type: none"> Site fencing to be erected to protect habitat.
		<ul style="list-style-type: none"> CEMP to protect habitat from construction activities and indirect impacts 	<ul style="list-style-type: none"> CMP to include protection of habitat from construction activities and indirect impacts.
		<ul style="list-style-type: none"> Enhance connectivity by strategically located parks and open space areas 	<ul style="list-style-type: none"> Not applicable to the project
		<ul style="list-style-type: none"> Implementation of the Molonglo River Park Concept Plan 	<ul style="list-style-type: none"> Not applicable to the project
13	Threatened fish (Two spined blackfish and Murray River Crayfish) and platypus	<ul style="list-style-type: none"> Mitigation measures described for items 14, 16 and 17 Appropriate erosion and sediment control measures CEMP to manage construction on steep areas, limit clearing of vegetation and ground cover Stormwater management Formalisation of tracks in recreation areas to limit erosion and runoff into waterways 	<ul style="list-style-type: none"> Not applicable to the project
14	Molonglo Riparian Corridor	<ul style="list-style-type: none"> Implementation of the Molonglo River Park Concept Plan 	<ul style="list-style-type: none"> Not applicable to the project
		<ul style="list-style-type: none"> Restricting or managing works within the river corridor to limit the risk of erosion 	<ul style="list-style-type: none"> No works within the river corridor.
		<ul style="list-style-type: none"> Restricting or managing works within the river corridor to limit the risk of direct impacts 	<ul style="list-style-type: none"> No works within the river corridor.
		<ul style="list-style-type: none"> Stormwater infrastructure design to improve water qualities flowing through waterways (swales, ponds) 	<ul style="list-style-type: none"> Temporary sediment erosion control ponds are proposed in the project.
		<ul style="list-style-type: none"> CMP to manage the handling of potential contaminants/pollutants during construction 	<ul style="list-style-type: none"> CMP to include management of handling of potential contaminants/pollutants during construction

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		<ul style="list-style-type: none"> Stringent sediment and erosion controls during construction implemented through CEMP 	<ul style="list-style-type: none"> Monitoring of sediment and erosion control during construction to be undertaken.
		<ul style="list-style-type: none"> Weed management strategies during construction 	<ul style="list-style-type: none"> Not applicable to the project
		<ul style="list-style-type: none"> Asset protection and fire hazard management strategies to limit the impact on the area and reduce the risk of fire occurring in the area 	<ul style="list-style-type: none"> Not applicable to the project
15	Clearing of land, native vegetation, soil disturbance, removal of surface rock	<ul style="list-style-type: none"> Develop in area of degraded vegetation or predominantly exotic vegetation Undertake further investigation of significance of vegetation to be removed Offset significant vegetation to be removed in parklands and urban open spaces CEMP to control erosion and sedimentation and the effects on vegetation Weed control measures to reduce ingress of weeds Implementation of the Molonglo River Park Concept Plan to protect and manage areas within identified public land 	<ul style="list-style-type: none"> Throughout the construction of John Gorton Drive the contractor will be directed to minimise disturbance to existing vegetation and reduce the extent of clearing and grubbing required for construction Further, the disturbed areas will be reinstated as soon as practically possible, post construction activities A CEMP will be developed to control erosion and sedimentation and the effects on vegetation
16	Sedimentation and erosion – impacts on habitat and pollution of waterways and reduced water quality in the Molonglo River	<ul style="list-style-type: none"> Restricting or managing works within gullies and waterways to limit the risk of erosion Stormwater infrastructure design to improve water qualities flowing through waterways (swales, ponds) CMP to manage the handling of potential contaminants/pollutants during construction Stringent sediment and erosion controls during construction implemented through CEMP 	<ul style="list-style-type: none"> The Contractor shall develop an Erosion and Sediment Control Plan (ESCP) as part of the preliminary preparations for the construction works. The ESCP shall include hay bales, filter rolls and rock weirs to reduce the impact of the construction works on the Molonglo River No work can proceed until the ESCP has been reviewed by the superintendent and signed and stamped by the Environment Protection Authority
		<ul style="list-style-type: none"> Implementation of the Molonglo River Park Concept Plan 	<ul style="list-style-type: none"> Not Applicable to this development

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17	<p>Waterways, water quality ground water: -Waterways and gullies</p> <p>Waterways, water quality and ground water: -Groundwater</p>	<ul style="list-style-type: none"> Restricting or managing works within gullies and waterways to limit the risk of erosion Stormwater infrastructure design to improve water qualities flowing through waterways (swales, ponds) CEMP to manage the handling of potential contaminants/pollutants during construction Stringent sediment and erosion controls during construction implemented through CEMP 	<ul style="list-style-type: none"> In addition to the recommended mitigation measures the Contractor shall develop an Erosion and Sediment Control Plan (ESCP) as part of the preliminary preparations for the construction works. The ESCP shall include hay bales, filter rolls and rock weirs to reduce the impact of the construction works on the Molonglo River
18	Fire Hazard	<ul style="list-style-type: none"> Design and implementation of a Bushfire Management Plan (community education and awareness, strategies for emergency service, APZ, operations, infrastructure needs, building design and standards) Establish APZ during construction Consideration of annual bushfire operations and their impacts on construction 	<ul style="list-style-type: none"> A Fire Management Control Plan will be implemented as part of the construction works The Fire Management Control Plan will incorporate all requirements of the Bushfire Management Plan This site control measures will define the general requirement during construction depending on the extremity of the fire danger
		<ul style="list-style-type: none"> Establishment of APZ for estate developments 	<ul style="list-style-type: none"> Not Applicable to this development
19	Important view sheds	<ul style="list-style-type: none"> Preserve the backdrop as described in the National Capital plan Minimise the impact on the landscape as described in the Territory Plan Incorporate the preservation of trees into the development Implement principles from the Structure Plan for Molonglo and North Weston Preservation of non-urban areas (hills, ridges and buffers and the river corridor) Implement the Molonglo River Park Concept Plan 	<ul style="list-style-type: none"> The John Gorton Drive Extension does not involve any construction that could impede the view shed of the Molonglo Valley. In addition to this the landscape has been designed to blend with the existing flora of the area. The roadway is designed to preserve the natural landscape as much as practically possible and maintain the significant flora in the region
20	Local community perception	<ul style="list-style-type: none"> Proponent to undertake community consultation prior to EDPs and DAs 	<ul style="list-style-type: none"> Community consultation has been undertaken during the design process
21	Molonglo River Park - Recreation	<ul style="list-style-type: none"> Implementation of the Molonglo River Park Concept Plan 	<ul style="list-style-type: none"> Outside of the limit of works of the John Gorton Drive Extension

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22	Stromlo Forest park – Recreation	<ul style="list-style-type: none"> • Appropriate transport links through suburbs and into the park • Landscaping to reduce the impact on vista and views • Implementation of adaptive management strategy from NES Plan for the use of the Stromlo Forest Park 	<ul style="list-style-type: none"> • Outside of the limit of works of the John Gorton Drive Extension
23	Mt Stromlo Observatory	<ul style="list-style-type: none"> • Dust suppression measures during construction • Consultation with Observatory staff, especially during times of prescribed bushfire management (burning) • Implementation of the “5km Light Limitation Zone” • Design of suburbs and lighting in consultation with Observatory staff to limit light pollution 	<ul style="list-style-type: none"> • Outside of the limit of works of the John Gorton Drive Extension
24	Public health and safety	<ul style="list-style-type: none"> • Implement CEMP for public safety • Urban design to limit shading of residences and public spaces • Use of crime prevention through environmental design • Access to and availability of recreation facilities during construction and operation through CEMPs and adaptive management strategies outlines in the NES Plan. • Promote awareness of public safety in relation to water quality control ponds and the river 	<ul style="list-style-type: none"> • A Construction Environmental Management Plan is to be implemented as part of the construction works to include mitigation measures to promote awareness of public safety and address the issues with public access to recreation facilities during construction
25	Residential receivers	<ul style="list-style-type: none"> • Implementation of CEMP • Suburb design to limit impacts • Access to and availability of recreation facilities • Promote awareness of public safety of open water 	<ul style="list-style-type: none"> • A Construction Environmental Management Plan to be implemented as part of the construction works to include mitigation measures to promote awareness of public safety around open water and address the issues with public access to recreation facilities during construction

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26	Significant trees	<ul style="list-style-type: none"> • Develop in area of degraded vegetation or predominantly exotic vegetation • Undertake further investigation of significance of vegetation to be removed • Offset significant vegetation to be removed in parklands and urban open spaces • Strategic preservation of hollow bearing/significant trees • Timing of tree removal to prevent injury, death or disturbance of breeding of fauna species 	<ul style="list-style-type: none"> • Tree Management Plan has been developed and defines the trees value status. These trees have been considered in the design of John Gorton Drive Extension. • During construction, other trees of significance are to be temporarily fenced off to avoid damage
27	Indigenous heritage sites	<ul style="list-style-type: none"> • Compliance with ACT Heritage Council requirements 	<ul style="list-style-type: none"> • Biosis Research developed an Conservation Management Plan (CMP) as part of the design process • The CMP highlights two locations of significance which are outside of the limit of works for John Gorton Drive Extension • In addition to the above an unidentified discovery protocol for the works will need to be implemented in the vicinity of heritage sites
28	Historic heritage sites	<ul style="list-style-type: none"> • Compliance with ACT Heritage Council requirements 	<ul style="list-style-type: none"> • Biosis Research developed an Conservation Management Plan (CMP) as part of the design process • The CMP highlights two locations of significance which are outside of the limit of works for John Gorton Drive Extension • In addition to the above an unidentified discovery protocol for the works will need to be implemented in the vicinity of heritage sites

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29a	Geological site SU19, bluffs and terraces, Molonglo River Geological site	<ul style="list-style-type: none"> Suburb and infrastructure design to minimise impacts on this site 	<ul style="list-style-type: none"> Biosis Research developed an Conservation Management Plan (CMP) as part of the design process The CMP highlights two locations of significance which are outside of the limit of works for John Gorton Drive Extension In addition to the above an unidentified discovery protocol for the works will need to be implemented in the vicinity of geologically significant sites
29b	SU18 Lower Molonglo Geological Site	<ul style="list-style-type: none"> Suburb and infrastructure design to minimise impacts on this site 	<ul style="list-style-type: none"> Outside of the limit of works for John Gorton Drive Extension