Title of Proposal - City to Commonwealth Park Light Rail Project, ACT

Section 1 - Summary of your proposed action

Provide a summary of your proposed action, including any consultations undertaken.

1.1 Project Industry Type

Transport - Land

1.2 Provide a detailed description of the proposed action, including all proposed activities.

The proposed action (the Project) comprises the next phase in the development of Canberra's light rail network, extending the service from the City to Commonwealth Park. The Project would also include an expansion of the existing light rail depot at Mitchell (Mitchell Depot Upgrade). Map 1 Appendix A provides a map of the area affected by the action and an overview of the Project including details of its key features.
The Project is located on both Territory and National Land, and also crosses Designated Areas as shown in Map 2 Appendix A.
The Project is being progressed as a separate and independent action from the Commonwealth Park to Woden Light Rail component of Canberra's light rail network as further described in section 1.7
KEY FEATURES
The key Project features are:
- A 1.7 kilometre extension of the existing City to Gungahlin light rail track from the City to Commonwealth Park via London Circuit (west) and Commonwealth Avenue that would be mainly built within the existing road reserve.
- Three new light rail stops (Map 1 Appendix A), which will be subject to further design development. Notionally, they would form a combination of side and island platforms depending on the final design and existing constraints at each proposed stop location.
- Light rail vehicle (LRV) driver amenities would be provided at the Commonwealth Park stop, integrated unobtrusively into the stop's design (as is the case with the existing Alinga St stop).
- Expansion of the existing light rail depot in Mitchell to accommodate the stabling and maintenance of the additional LRVs needed for this Project as identified in Map 3 and Map 4 Appendix A.
- Removal of some mature landscape trees and their replacement with new plantings and extensive landscape treatments, the detail of which will be provided in detailed landscape design. There will be landscaping treatment of the Michell Depot where possible.
- Changes to the on-ramp and off-ramp at the Commonwealth Avenue-London Circuit intersection to accommodate the light rail.
- Creation of a pedestrian and traffic shared-zone on London Circuit between Gordon Street and Edinburgh Avenue to improve accessibility to the light rail stop.
ROUTE
City to Commonwealth Park light rail would start at the existing City to Gungahlin light rail stop terminus located within the Northbourne Avenue median north of Alinga Street. It would extend along Northbourne Avenue to the intersection with London Circuit, then follow the median of London Circuit around the western side of the city to Commonwealth Avenue and terminate

within the median of Commonwealth Avenue, immediately south of the Albert Street intersection (Map 1 Appendix A). The Project is primarily located within the existing road reserve along this route, and generally down the median of the existing road.
The Project does not include any extension beyond the terminus immediately south of the Albert Street intersection. A separate referral is being submitted for a separate section of the Canberra light rail network south of Lake Burley Griffin to Woden, discussed further in section 1.2.
TRACK APPEARANCE
A standard gauge double embedded track would be built at the same level (grade) as the existing roads.
The materials and finishes would be informed by the proposed urban design requirements developed by an independent panel of heritage and design specialists and selected through the detailed design process.

Consistent with City to Gungahlin light rail, the track would be installed on a concrete slab and it would be fully separated from other transport modes (e.g. traffic lanes, bus lanes, cycleways, footpaths) except at each intersections and mid-block crossings.
Major Projects Canberra (the ACT Government agency with responsibility for delivering the Project) is considering the use of alternative track slab surface treatments for sections of the City to Commonwealth Park alignment. These potentially include grass tracks on Commonwealth Avenue or a paved track slab surface on London Circuit, to better integrate the design into the surrounding characteristics of the local environment.
STOPS
The Project would mainly use the light rail stop design which was developed and built as part of City to Gungahlin light rail. Each stop would include a north and southbound platform that would be 33 metres long however it would include space to extend the platforms to 45 metres in the future depending on the expected patronage.
LANDSCAPE AND URBAN DESIGN
City to Commonwealth Park light rail passes through a complex urban environment at London Circuit and then down the nationally-significant ‘Main Avenue’ of Commonwealth Avenue. This makes the integration of the Project into this urban and landscape setting critical. It means that the stops and other required infrastructure need to be sensitively designed to respect their surrounding value, context and setting. Accordingly, the Project’s urban design is being split into two distinct precincts to reflect the specific and distinct characteristics of each road. This also presents an opportunity to enhance the urban realm and landscaping in each precinct. One key feature that is proposed across both precincts is designing the Project to operate without any overhead wires (called wire-free running), with all LRVs running from on-board power supplies that would charge at each stop.
TRACTION POWER SUBSTATIONS
One new traction power substation (TPS) would be needed to service the Project. While Map 1 Appendix A shows its potential location, this would be confirmed and finalised during the detailed design along with its specifications. The TPS would need to be connected to the light rail foot print at Commonwealth Avenue. This could involve under-boring Commonwealth Avenue along the suggested route shown in Appendix A.
LIGHT RAIL VEHICLES
At least four more LRVs would be needed to supplement the existing rolling stock used for City to Gungahlin light rail, in order to cater for the forecast additional demand when City to Commonwealth Park is operational. Accordingly, extra stabling would be needed at the Mitchell depot to accommodate the additional LRVs. The maintenance and servicing facility would also need expanding at the depot to support the additional LRVs as shown in Map 3 Appendix A.

STRUCTURES

The following structures may need building or expanding to support the Project:

• A dedicated light rail ramp between London Circuit and Commonwealth Avenue, which will likely use the existing road off-ramp. The existing ‘cloverleaf’ alignment would be adjusted to maintain Commonwealth Avenue northbound to Parkes Way eastbound traffic movements.

• A new bridge between the existing bridges along Commonwealth Avenue over Parkes Way.

FEATURES DURING CONSTRUCTION

Temporary construction compounds would be needed to: store materials, plant and equipment; carry out certain maintenance work; and house site offices and worker amenities. Temporary traffic management controls (e.g. diversions and lane closures) would be introduced to allow for construction. The final compound locations and specifications and temporary traffic controls would be confirmed by the contractor. Map 1 Appendix A shows indicative construction compound locations.

1.3 What is the extent and location of your proposed action? Use the polygon tool on the map below to mark the location of your proposed action.

Area	Point	Latitude	Longitude
Mitchell Depot Expansion	1	-35.223271524578	149.13965261524
Mitchell Depot Expansion	2	-35.22368345508	149.14362228458
Mitchell Depot Expansion	3	-35.224042797003	149.14354718272
Mitchell Depot Expansion	4	-35.223665926166	149.13962042873
Mitchell Depot Expansion	5	-35.223271524578	149.13965261524
London Circuit Compound Location	1	-35.283470061326	149.12889159267
London Circuit Compound Location	2	-35.283470061326	149.12888086383
London Circuit Compound Location	3	-35.283496335306	149.12927783077
London Circuit Compound Location	4	-35.283461303331	149.12948167865
London Circuit Compound Location	5	-35.283294901243	149.12972844188
London Circuit Compound Location	6	-35.283128498814	149.13000739162
London Circuit Compound Location	7	-35.283487577314	149.13076913898
London Circuit Compound Location	8	-35.284188213705	149.13016832416

Area	Point	Latitude	Longitude
London Circuit Compound Location	9	-35.284328340256	149.12982500141
London Circuit Compound Location	10	-35.28439840344	149.1296747977
London Circuit Compound Location	11	-35.28443343501	149.12947094982
London Circuit Compound Location	12	-35.284424677119	149.12925637309
London Circuit Compound Location	13	-35.28438088765	149.12877357547
London Circuit Compound Location	14	-35.283470061326	149.12889159267
Comm Ave Construction Compound	1	-35.289784329265	149.12727153842
Comm Ave Construction Compound	2	-35.289819358504	149.12750757282
Comm Ave Construction Compound	3	-35.290292251748	149.12742174213
Comm Ave Construction Compound	4	-35.290239708191	149.12722862308
Comm Ave Construction Compound	5	-35.289801843887	149.12727153842
Comm Ave Construction Compound	6	-35.289784329265	149.12727153842
TPS construction Compound	1	-35.288937054928	149.12848121469
TPS construction Compound	2	-35.288939244279	149.1285724098
TPS construction Compound	3	-35.289162557749	149.12853754108
TPS construction Compound	4	-35.289243563464	149.12856704538
TPS construction Compound	5	-35.289256699518	149.1284838969
TPS construction Compound	6	-35.289138474954	149.12845707481
TPS construction Compound	7	-35.288937054928	149.12847585027
TPS construction Compound	8	-35.288937054928	149.12848121469

Area	Point	Latitude	Longitude
Parks Way Construction Compound	1	-35.28572521355	149.12663585489
Parks Way Construction Compound	2	-35.28572521355	149.1266412193
Parks Way Construction Compound	3	-35.285804033269	149.12763363664
Parks Way Construction Compound	4	-35.285979187924	149.12760145013
Parks Way Construction Compound	5	-35.285904747242	149.1266090328
Parks Way Construction Compound	6	-35.28572521355	149.12663585489
Project Construction footprint	1	-35.289504094808	149.12761754339
Project Construction footprint	2	-35.289464686759	149.12723666971
Project Construction footprint	3	-35.285944157023	149.12779456918
Project Construction footprint	4	-35.285147199938	149.12786430662
Project Construction footprint	5	-35.284945769982	149.12783212011
Project Construction footprint	6	-35.284796886649	149.12772483175
Project Construction footprint	7	-35.284753097381	149.12767118757
Project Construction footprint	8	-35.284696171298	149.12760145013
Project Construction footprint	9	-35.284604213694	149.12678605859
Project Construction footprint	10	-35.284389645546	149.12647492235
Project Construction footprint	11	-35.284245140146	149.12635154073
Project Construction footprint	12	-35.283255490172	149.12579900567
Project Construction footprint	13	-35.28223517466	149.12520355527
Project Construction footprint	14	-35.281976809465	149.12512845342

Area	Point	Latitude	Longitude
Project Construction footprint	15	-35.28173158072	149.12510699575
Project Construction footprint	16	-35.281508246753	149.12521428411
Project Construction footprint	17	-35.281420664637	149.12527329271
Project Construction footprint	18	-35.280461634269	149.12611550634
Project Construction footprint	19	-35.279791620012	149.12669486349
Project Construction footprint	20	-35.279524488599	149.12694162671
Project Construction footprint	21	-35.279410629041	149.12705964391
Project Construction footprint	22	-35.279318665434	149.12722594087
Project Construction footprint	23	-35.279283631652	149.12746197526
Project Construction footprint	24	-35.279428145906	149.12871188466
Project Construction footprint	25	-35.279441283553	149.12884599512
Project Construction footprint	26	-35.278206335448	149.12902838533
Project Construction footprint	27	-35.278258886815	149.12945217435
Project Construction footprint	28	-35.27948069648	149.12926978414
Project Construction footprint	29	-35.27954200544	149.12924296205
Project Construction footprint	30	-35.279616451972	149.12918395345
Project Construction footprint	31	-35.279682140031	149.12911421602
Project Construction footprint	32	-35.279695277637	149.12901765649
Project Construction footprint	33	-35.279712794441	149.1289318258
Project Construction footprint	34	-35.279699656838	149.12871724908
Project Construction footprint	35	-35.27965148561	149.12827200239
Project Construction footprint	36	-35.27960769356	149.12786430662
Project Construction footprint	37	-35.279603314354	149.12771410291
Project Construction footprint	38	-35.27959455594	149.12758535688

Area	Point	Latitude	Longitude
Project Construction footprint	39	-35.279612072766	149.12747806852
Project Construction footprint	40	-35.279633968793	149.12737078016
Project Construction footprint	41	-35.279660244018	149.12731713598
Project Construction footprint	42	-35.27970841524	149.12723130529
Project Construction footprint	43	-35.279795999208	149.12711865251
Project Construction footprint	44	-35.279927374982	149.12699527089
Project Construction footprint	45	-35.280106921529	149.12678605859
Project Construction footprint	46	-35.280295226016	149.12659293954
Project Construction footprint	47	-35.281258637472	149.125777548
Project Construction footprint	48	-35.281512625856	149.12558442895
Project Construction footprint	49	-35.281705306168	149.12546104734
Project Construction footprint	50	-35.282160730536	149.12543958967
Project Construction footprint	51	-35.282751902578	149.12582582776
Project Construction footprint	52	-35.28337810233	149.12619597261
Project Construction footprint	53	-35.283684631911	149.12638372724
Project Construction footprint	54	-35.283991160333	149.12655538862
Project Construction footprint	55	-35.284096255524	149.12667877023
Project Construction footprint	56	-35.284205729537	149.12684506719
Project Construction footprint	57	-35.284288929688	149.12708110158
Project Construction footprint	58	-35.284271413874	149.1272044832
Project Construction footprint	59	-35.284297687594	149.12748879735
Project Construction footprint	60	-35.284345856058	149.12783748453
Project Construction footprint	61	-35.284363371856	149.12801451032
Project Construction footprint	62	-35.284429056064	149.12815934961

Area	Point	Latitude	Longitude
Project Construction footprint	63	-35.28449474022	149.12825590913
Project Construction footprint	64	-35.284573561136	149.1283363754
Project Construction footprint	65	-35.284661139842	149.12838465516
Project Construction footprint	66	-35.284696171298	149.12840074842
Project Construction footprint	67	-35.287450472066	149.1279501373
Project Construction footprint	68	-35.289499716137	149.12762827222
Project Construction footprint	69	-35.289504094808	149.12761754339

1.5 Provide a brief physical description of the property on which the proposed action will take place and the location of the proposed action (e.g. proximity to major towns, or for off-shore actions, shortest distance to mainland).

The Project footprint would occupy a relatively narrow corridor along the median of both London Circuit and Commonwealth Avenue. A wider Project footprint is required to accommodate temporary traffic management controls, plant, and equipment during construction. The study area considers a broader footprint that is appropriate for understanding potential direct and indirect impacts. Table 2 shows these footprints.

Table 2: Project footprint descriptions

See appendix E

Table 3 lists the detail of the land outside of the existing road reserve needed to service the Project.

See appendix E

Expansion of light rail depot facility within the Project Footprint and maintained during the Operations Phase of the Project.

1.6 What is the size of the proposed action area development footprint (or work area) including disturbance footprint and avoidance footprint (if relevant)?

14 hectares

1.7 Is the proposed action a street address or lot?

Lot

1.7.2 Describe the lot number and title. The median of Northbourne Avenue, Mitchell Depot, London Circuit, Commonwealth Avenue

1.8 Primary Jurisdiction.

Australian Capital Territory

1.9 Has the person proposing to take the action received any Australian Government grant funding to undertake this project?

No

1.10 Is the proposed action subject to local government planning approval?

Yes

1.10.1 Is there a local government area and council contact for the proposal?

Yes

1.10.1.0 Council contact officer details

1.10.1.1 Name of relevant council contact officer.

Mr Dominic Riches

1.10.1.2 E-mail

dominic.riches@act.gov.au

1.10.1.3 Telephone Number

02 6205 1834

1.11 Provide an estimated start and estimated end date for the proposed action.

Start date 01/2020

End date 12/2023

1.12 Provide details of the context, planning framework and State and/or Local government requirements.

National Context

Australia has one of the fastest population growth rates in the developed world at nearly 1.5 percent each year. Looking ahead, the national population is expected to reach 41.5 million by 2061[1]. Canberra will play an important role in facilitating Australia's growth.

Canberra is Australia's eighth largest city and the nation's capital. It is strategically located between our two largest cities; Sydney and Melbourne. The city's economy is continuing to strengthen and diversify, with the highest 'real' gross state/territory product growth rate of any jurisdiction; four percent in the 2017-2018 financial year[2].

Major Projects Canberra and the ACT Government's investment in the Project would support achieving the national objectives of continued economic growth and improved productivity, while helping the city to remain a livable destination of choice. While other major Australian cities are now making expensive transportation investments with traffic congestion already at critical levels, Canberra has a unique opportunity to appropriately invest in such infrastructure ahead of time.

City Context

The Territory's population grew by about two percent in 2018[3], which was only surpassed by Victoria. This trend is expected to continue with the population expected to reach 500,000 by 2030.

Canberra has a high car dependency and low public transport patronage. With the city's growing population this would mean more cars on our roads and increased congestion. Without additional investment, Infrastructure Australia has estimated that the cost of road congestion in the Territory would increase from $208 million in 2011 to about $700 million by 2031[4]. Collectively, this would impact on the city's livability and accessibility.

The ACT Government is committed to making strategic policy choices today to avoid the economic and social cost caused by severe congestion in the future. This would ensure that the city remains competitive and continues the high-quality lifestyle Canberrans enjoy. The plan to extend the Canberra light rail network to Commonwealth Park is consistent with the Australian Government's national cities objectives; including the concept of a '30-minute city', where, no matter where people live, they can readily access the places they need to visit on a daily basis[5].

City to Gungahlin light rail network

The corridor to Gungahlin was the first light rail line to be delivered in the territory, and opened in April this year, which the line provides a 12-kilometre service from Gungahlin Place, via the racecourse and the Dickson interchange to Alinga Street

Extension of the light rail network to Commonwealth Park

The extension of Canberra's light rail network from the City to Commonwealth Park is a valuable opportunity to provide Canberrans with access to City West, the West Basin and Commonwealth Park, enhancing connectivity between Lake Burley Griffin and the city.

City West, West Basin and Commonwealth Park are currently the site of key cultural institutions in Canberra, and also areas of increasing public and private developments. The Project will facilitate the development and use of this growth area just outside the City's existing commercial district. These locations are also close to important current and future residential, employment and educational hubs including the Australian National University, and New Acton.

Commonwealth Park is also a gateway to Lake Burley Griffin and important open spaces including Commonwealth Park, City Hill and Henry Rolland Park. The Project will provide visitors, workers and residents with increased access to these areas.

Finally, the Project also facilitates - but is not dependent on - the further development of Canberra's light rail network from Commonwealth Park to Woden, and the completion of the intended north-south light rail spine connecting Gungahlin to Woden, as outlined in the Government's Light Rail Master Plan.

Joint Standing Committee on the National Capital and External Territories (JSCNCET)

In 2018, the ACT Government's intention to extend Canberra's light rail network to Woden was the subject of an inquiry by the Commonwealth Joint Standing Committee on the National Capital and External Territories (JSCNCET) into the relevant Commonwealth and Parliamentary planning approvals process.

The subsequent *Commonwealth Approvals for ACT Light Rail: Commonwealth and Parliamentary Approvals for the Proposed Stage 2 of the Australian Capital Territory Light Rail Project* (JSCNCET Inquiry Report), was prepared to outline the planning approvals pathway and process.

The JSCNCET Inquiry Report also outlined a number of areas for further development relating to treatment of Commonwealth Avenue Bridge, heritage values, placement / appearance of stops, landscaping, and wire-free running of light rail - primarily located in the south of Lake Burley Griffin.

The Project will be progressed in a manner that is responsive to the JSCNCET Inquiry Report.

The JSCNCET Inquiry Report noted, amongst other things, that a light rail route that reflects the Inter-Town Public Transport System defined in the National Capital Plan 2016 (**NCP**) essentially has ‘in principle’ Commonwealth planning approval without the need to amend the NCP. Given the Inter-Town Public Transport System in the NCP includes Northbourne Avenue and Commonwealth Avenue, the Project appears consistent with the routes for public transport contemplated in the NCP.

The ACT Government has engaged, and will continue to engage, with the JSCNCET Inquiry Report and Australian Government generally through the development of the Project and the associated environment and planning assessment and approval process.

The ACT Government, through its Major Projects Canberra agency, is also continuing to develop the proposal for Canberra's light rail network to extend to Woden as an independent program of work - including a rigorous and collaborative process with the Commonwealth National Capital Authority (NCA) and other stakeholders to address those areas for further development identified by the JSCNCET, and the infrastructure required to extend the light rail network over and south of Lake Burley Griffin. A key focus of the work program is the proposed light rail crossing of Commonwealth Avenue Bridge.

Following from the JSCNCET Inquiry Report, and given the additional matters to address for the light rail network to cross Lake Burley Griffin and enter the Parliamentary Zone, Commonwealth Park to Woden Light Rail will involve a separate environmental and planning assessment and approvals process, with a longer timeframe than the process which may apply to the City to Commonwealth Park light rail project. Accordingly, the Commonwealth Park to Woden light rail project is the subject of a separate EPBC Act referral.

Environmental Planning and Assessment Framework

The Project's planning approvals process would be similar to the process for City to Gungahlin light rail, as it is subject to ACT and Commonwealth planning and environmental legislation. However, whilst the EPBC Act was relevant to the City to Gungahlin light rail project, City to Gungahlin was not a controlled action and did not require further assessment under the EPBC Act, the assessment to date suggests that the Project would need EPBC Act approval.

Specifically, the Project would be controlled and approved by the:

- ACT Government Planning & Land Authority (ACT PLA) under *Planning and Development Act 2007* (P&D Act) for the areas of the project impacting on Territory land that is not a Designated Area (as defined in the *Australian Capital Territory (Planning and Land Management) Act* 1988 (Cth) (PALM Act) and set out in the NCP).

- NCA under the PALM Act for the areas of the Project impacting on Designated Areas.

-Commonwealth Minister for the Environment, as supported by the Commonwealth Department of Environment and Energy (DoEE) under the *Environment Protection Biodiversity Act* 1999 (Cth) (EPBC Act) for those parts of the Project that would impact on the habitat and values of the golden sun moth or would otherwise attract the operation of the EPBC Act.

Appendix A shows the land boundaries covered by each of the above environmental and planning assessment and approvals process, with more detail on each described below.

Territory planning approval

The parts of the Project located outside Designated Areas will need Development Approval from ACT PLA under the P&D Act. Development Approval is therefore needed primarily for sections of the Project Construction Footprint on London Circuit between Northbourne Avenue and University Avenue and University Avenue and Elizabeth Avenue, and the Mitchell Depot Upgrade.

The development approval process will involve an assessment of the Project against the

provisions of the Territory Plan 2008 (Territory Plan), which is administered by ACT PLA under the P&D Act. The object of the Territory Plan is *"to ensure, in a manner not inconsistent with the National Capital Plan, [that] the planning and development of the Territory, to provide … people … with an attractive, safe and efficient environment in which to live and work and have their recreation"*.

The Territory Plan is the statutory instrument used to implement the strategic land use, environmental, transport, built form and social policies established by ACT PLA. Development tables within the Territory Plan are used to determine whether development is 'exempt', 'prohibited' or 'assessable'. Assessable development is assessed via a specific process termed 'a track'. The 'assessment track' that is adopted for a particular project depends on that project's consistency with the Territory Plan development codes and land use zoning objectives, the suitability of the land for development, and the scale of the environmental and social impact.

In relation to the Project, it is proposed to prepare an assessment of environmental effects to support a 'merit track' development application. This is an application made where the Project is consistent with the provisions of the Territory Plan. The development application, which may include an assessment of environmental effects, will be publicly exhibited and also may be referred to various ACT Government entities. During this time, members of the public and relevant ACT Government entities can submit questions and queries about the Project (termed a representation). In assessing the development application in a merit track, ACT PLA must consider "the probable impact of the proposed development, including the nature, extent and significance of probable environmental impacts" (s120 P&D Act).

In addition, Major Projects Canberra has worked with ACT PLA to discuss whether any Territory Plan Variations (TPVs) are required in order for the Project to be consistent with the Territory Plan. As a result of these discussions, a TPV may be required for the Mitchell Depot Upgrade. This process is likely to involve further detailed assessments, community consultation and exhibition of the proposed variation ahead its formal statutory determination and adoption.

Works approval

The parts of the Project located within Designated Areas will need a Works Approval from the NCA in accordance with the PALM Act. Works Approval would be needed for the University Avenue and Northbourne Avenue intersections as these are both Designated Areas. It would also be needed for London Circuit south of Edinburgh Avenue up to Commonwealth Avenue, and Commonwealth Avenue. The Works Approval process involves an assessment of the Project against the provisions of the NCP.

The NCP is administered by NCA under the PALM Act. The object of the NCP is *"to ensure that Canberra and the Territory are planned and developed in accordance with their national significance"*.

The NCP identifies certain Designated Areas, which are those locations in the Australian Capital Territory that have the special characteristics of the National Capital, including that they are recognised for their cultural landscape, realm and amenity values in representing the Griffin

Plan. This can include both Territory and National land. Works Approval is needed for all works in a Designated Area, and it focusses on managing impacts on the above values. The NCA will make its assessment against the NCP including relevant precinct codes, and other relevant policies.

The Project crosses four precincts: University Avenue (Precinct 4: City), London Circuit south of Edinburgh Avenue (Precinct 5: Commonwealth Park), Commonwealth Avenue north including Parkes Way (Precinct 6: Constitution Avenue & Anzac Parade), and Commonwealth Avenue south (Precinct 10: Lake Burley Griffin & Foreshores).

The ACT Government and the NCA have been successful in establishing a solid working relationship throughout the design and delivery of the City to Gungahlin light rail project. This included, for example, effective coordination between ACT PLA and the NCA in agreeing consistent conditions of approval, as far as possible having regard to the different regulatory regimes that applied. This relationship would be beneficial in seeking Works Approval for this Project. The ACT Government has started engagement with the NCA on the proposal to extend the Canberra light rail network from the City to Woden in December 2016. This included discussing design concepts, route alignments and approvals processes, and it has fundamentally shaped the Project as described in this referral.

In general, if EPBC Act approval is required for a project, the NCA would grant a Works Approval for that project after the EPBC Act approval (if any) had been granted. Accordingly, design work for the Project will be progressed earlier than usual in an EPBC Act process so that the NCA has enough information when considering the Project to give it confidence in the Project and to ensure that any design adjustments are incorporated into the Works Approval process.

EPBC Act Approval

Commonwealth Approval is needed under the EPBC Act where an ‘action’ (which includes a development project) has, will have or is likely to have a significant impact on one of nine matters of national environmental significance (NES matters) or on the environment on Commonwealth land.

In this case, consideration has been given as to whether the Project is likely to have a significant impact on the NES matters and Commonwealth land values under the EPBC Act

This referral focusses on identifying if the Project’s impacts are predicted to be significant. Guidelines have been developed to help assess if the Project is likely to have a significant impact. Upon carrying out an assessment under these guidelines, Major Projects Canberra has decided to refer the Project to Commonwealth Minister for the Environment for her opinion whether it is a ‘controlled action’.

1.13 Describe any public consultation that has been, is being or will be undertaken, including with Indigenous stakeholders.

This section described the consultation carried out in relation to the Project to date.

Preliminary Consultation

Consultation has been an important part of the development of the underpinning strategies for the extension of the light rail network. Reports such as the Transport for Canberra (2012), the ACT Planning Strategy (2018) and the Moving Canberra 2019-2045 (Integrated Transport Strategy) have informed the development of this consultation planning. Major Projects Canberra (MPC) has undertaken formal and informal consultation which will continue appropriate to the expansion of the light rail network.

In addition to the distribution and circulation of regular information updates to the public, the following organisations and special interest groups have been identified as requiring stakeholder specific consultation as the light rail network expands:

- Community Councils, including Gungahlin, North Canberra, South Canberra, Woden, Tuggeranong and West Creek.

- Landowners and businesses along the route that would be directly affected by construction and new infrastructure.

- Business, industry groups that have a keen interest in opportunities and impacts plus associated development opportunities.

- Special interest groups that have a keen interest in how the light rail network is built and the social, environmental and economic opportunities created by the expansion of light rail.

- Government bodies including the City Renewal Authority, Climate Change Council, Heritage Council and the NCA.

Expert advice, community and stakeholder feedback, insights and the experience and lessons learnt from construction and operation of City to Gungahlin light rail are all contributing to the expansion of the light rail network.

All stakeholders have had the opportunity to comment on aspects of the light rail project to date, either through formal consultations or informally via publicly available project information updates, over the last 24 months.

In 2017, stakeholder and community views were sought on the potential routes for the light rail to travel from the City to Woden Town Centre, with four key themes explored:

- Options for the route between the City and Woden alignment of the tracks

- Proposed locations for the stops

- Identification of items of community or environmental interest.

Several Commonwealth and Territory environmental approval and planning approval processes involve public consultation and provide interested stakeholders with a further opportunity to

comment on the expansion of light rail.

The ACT Government, through Major Projects Canberra, is committed to an ongoing consultation process with the community, local businesses, educational institutions and other key stakeholders throughout the expansion of light rail. These stakeholder consultations are planned via various engagements including community pop-ups and workshops, website and social media channels, door knocks and surveying, formal meetings and working groups. Major Projects Canberra intends to continue engaging with :

- Employers

- Interest Groups: community or interest groups + Community Councils

- Residents + commutersBusinesses and landlords

- Education: schools, early learning, vocational and higher education institutions

- Other: major cultural institutions, event spaces, hotels, places of worship and embassies

- Local peak bodies with an interest in the expansion of light rail including those representing people living with a disability and specialist commuters (public transport and other e.g. cyclists)

- Aboriginal and Torres Strait Islander groups and individuals including the ACT Aboriginal and Torres Strait Islander Elected Body, registered Aboriginal Organisations and the United Ngunnawal Elders Council.

Consultation undertaken

Principles contained in the ACT Government's *Engaging Canberrans: a guide to community engagement****[1]*** have been used to guide the engagement and consultation process adopted by Major Projects Canberra. A full communications and engagement strategy has been developed for current light rail expansion plans and approved by the ACT Government. All engagement activity is guided by the approach set out in this overarching strategy. For each underpinning activity a communications plan has been or will be developed – for example, a Business communications and engagement plan.

Engagement activities are part of an ongoing conversation as the Canberra light rail network is delivered over the next 20 years. While the Canberra light rail network has been a public discussion for decades, MPC has been engaging directly on the Canberra light rail network with the community and stakeholders' conversations being undertaken since 2011.

Ongoing Engagement and Consultation

Major Projects Canberra is committed to an ongoing consultation process with the community, local businesses, educational institutions and other key stakeholders throughout the Project.

Finally, as described elsewhere in this Referral, several of the Commonwealth and Territory environmental approval and planning approval processes involve public consultation to inform

planning whilst and providing interested stakeholders with an opportunity to comment on the Project.

Impacts on people and communities

During light rail expansion construction, temporary changes to traffic arrangements, and localised short term impacts to amenity may be experienced by people and communities that live, work within, or travel through the impact area. Notwithstanding, once complete, the light rail expansion would extend the dedicated inter-town public transport system currently provided for by the City to Gungahlin light rail system. Light rail expansion responds to the growth projected for Canberra without diminishing livability that communities enjoy, ultimately improving connectivity of individuals and communities.

Businesses and residents along the light rail expansion route will face impacts during construction. The potential impacts to local businesses and residents (during construction and long-term) may include:

- Noise, vibration, dust

- Loss or reduced access to buildings

- Impact to streetscape and amenity

- Impact to traffic flows, and reduced traffic access

- Reduced or loss of public space

- Prolonged construction from cumulative projects in the vicinity

- Reduced loss or reduction of single-story parking areas affecting customers and staff

- Potential loss of revenue through reduced client visitors or awareness due to construction impacts or visual barriers

- Impact to deliveries, waste disposal and other movement of goods/services

A rigorous pre-construction engagement program is being developed to work with stakeholders along the alignment and ascertain and develop a program of support to assist reduce or mitigate impacts of construction.

Major Projects Canberra is committed to an ongoing consultation process with the community, local businesses, educational institutions and other key stakeholders throughout the Project area.

Finally, as described elsewhere in this Referral, several of the Commonwealth and Territory environmental approval and planning approval processes involve public consultation to inform planning whilst providing interested stakeholders with an opportunity to comment on the Project.

[1] ACT Government, Engaging Canberrans: a guide to community engagement (2011).

[2] Canberra Light Rail “What we heard” Report (June 2019)

1.14 Describe any environmental impact assessments that have been or will be carried out under Commonwealth, State or Territory legislation including relevant impacts of the project.

Preliminary environmental assessment

Major Projects Canberra has carried out a preliminary environmental assessment (refer to Appendix B) and a biodiversity survey and report (refer to Appendix C) to help develop the Project and assess options define the concept design, inform community consultation and engagement, and understand the potential significance of the Project's environmental impact. This has helped to avoid and minimise environmental impacts through making effective design decisions, while confirming the environmental approvals that are needed to build and operate the Project.

The work outlined above has identified that the Project’s only potentially significant impact under the EPBC Act would be to the critically endangered golden sun moth in a specific habitat at the intersection of London Circuit and Commonwealth Avenue. It is on this basis that Major Projects Canberra has referred the Project to the Minister for the Environment for a decision as to whether it is a ‘controlled action’.

Further, the preliminary environmental assessment has identified that the Project is unlikely to have a significant impact on the National heritage values of any National heritage places or on the environment on Commonwealth land. Despite this conclusion, Major Projects Canberra is still choosing to make a referral in relation to these matters as a precautionary approach.

Major Projects Canberra submits that, based on the assessments carried out to date, it may be appropriate for any further assessment under the EPBC Act be done by way of providing preliminary documentation.

Further environmental assessment

Should the Minister for the Environment decide that the Project is a controlled action for the purposes of the EPBC Act, Major Projects Canberra considers that assessment on preliminary documentation may be appropriate, given that the impacts are considered to be localized, easily predicted and effectively managed using standard mitigation measures.

A range of further assessments will be needed required to support other applications to the Territory and Commonwealth Governments for environment and planning approvals as described in section 1.10.

1.15 Is this action part of a staged development (or a component of a larger project)?

No

1.16 Is the proposed action related to other actions or proposals in the region?

Yes

1.16.1 Identify the nature/scope and location of the related action (Including under the relevant legislation).

Major Projects Canberra does not believe that the Project is part of a staged development or split referral, taking into account the policy document EPBC Act Policy Statement - Staged Developments - Split referrals: Section 74A of the EPBC Act. [1]

The Project is a self-contained extension to Canberra's current light rail network from Gungahlin to the City. The Project is part of the ACT Government's long term intention to develop a light rail network in Canberra. It also facilitates the extension of the light rail network to Woden. However, the following design and programming factors mean the Project is a stand-alone action under the EPBC Act:

- Timing: Major Projects Canberra acknowledges that the Commonwealth Park precinct is currently subject to increasing public and private development. In this respect, extending the light rail network from the City to Commonwealth Park enables public transport infrastructure to be embedded within the urban environment at an early stage, and will help service and support the precinct's development. As a result, it is important that the Project is progressed in a timely manner. By comparison, other proposed parts of the light rail network - including from Commonwealth Park to Woden - require further development to ensure they are integrated into the urban environment.

- Independent destinations: The Project will provide Canberrans with enhanced public transport access between the City and Lake Burley Griffin. It will benefit people who wish to travel to and from City West, the Australian National University, New Acton, Commonwealth Park and the north shore of Lake Burley Griffin - which are important and emerging destinations in their own right. The light rail stops would provide Canberrans with access to the range of amenities, public services and community infrastructure described above. This is consistent with the intention of opening-up the corridor between the City and Lake Burley Griffin.

- Integration: Progressing the Project as a matter of priority also allows the ACT Government to develop and benefit from synergies with the City to Gungahlin light rail. In this respect, it is possible that many of the designs used in the City to Gungahlin light rail will be adopted for the Project to develop a cohesive network.

- Route: The route for the Project is settled, and it impacts a relatively limited, highly developed urban area that primarily consists of road reserve. By comparison, while considerable preliminary work has been undertaken on the Commonwealth Park to Woden proposal, the final route is yet to be settled and further work needs to be done in conjunction with key stakeholders.

- Planning: The City to Commonwealth park light rail design and route is substantially settled and has 'in-principle' Commonwealth approval as it reflects the Inter-Town Public Transport System and areas designated for public transport use set out in the NCP (as described in section 1.10). It is also not subject to the Parliamentary Approval process required for

developments within in the Parliamentary Zone.

- Impacts: the environmental impacts of the Project are relatively discrete and well known - in this respect, Major Projects Canberra considers that where the Project is a controlled action it could be appropriately assessed and management strategies identified through preliminary documentation. By comparison, where the light rail network is extended through the Parliamentary Zone further detailed environmental assessments will need to be undertaken to understand and manage environmental impacts appropriately.

Consequently, although a separate EPBC Act referral for light rail from the Commonwealth Park to Woden is being lodged, this is being progressed and delivered as an independent action to the Project.

Section 2 - Matters of National Environmental Significance

Describe the affected area and the likely impacts of the proposal, emphasising the relevant matters protected by the EPBC Act. Refer to relevant maps as appropriate. The interactive map tool can help determine whether matters of national environmental significance or other matters protected by the EPBC Act are likely to occur in your area of interest. Consideration of likely impacts should include both direct and indirect impacts.

Your assessment of likely impacts should consider whether a bioregional plan is relevant to your proposal. The following resources can assist you in your assessment of likely impacts:

• Profiles of relevant species/communities (where available), that will assist in the identification of whether there is likely to be a significant impact on them if the proposal proceeds;

• Significant Impact Guidelines 1.1 – Matters of National Environmental Significance;

• Significant Impact Guideline 1.2 – Actions on, or impacting upon, Commonwealth land and Actions by Commonwealth Agencies.

2.1 Is the proposed action likely to have ANY direct or indirect impact on the values of any World Heritage properties?

No

2.2 Is the proposed action likely to have ANY direct or indirect impact on the values of any National Heritage places?

No

2.3 Is the proposed action likely to have ANY direct or indirect impact on the ecological character of a Ramsar wetland?

No

2.4 Is the proposed action likely to have ANY direct or indirect impact on the members of any listed species or any threatened ecological community, or their habitat?

Yes

2.4.1 Impact table

Species	Impact
Golden Sun Moth (GSM)	The Project is expected to impact a golden sun moth population at the London Circuit and Commonwealth Avenue intersection; mainly in

Species	Impact
	the south west and south east corners of the ‘clover leaf’ (see Figure 5.1 of Appendix B). Given the uncertainty in the design, a precautionary approach has been taken in assuming loss of the entire recorded habitat at 2.6 hectares. This includes for the loss of habitat along Parkes Way to accommodate building the Commonwealth Avenue bridge. There are also inherent risks associated with any construction work relating to spills, accidents, edge effects and other key threatening processes indirectly impacting on the values of the adjacent golden sun moth habitat, which further lends to the precautionary approach to assuming total loss. That said, these risks can be effectively managed through the adoption of standard management measures that are proven effective in avoiding and/or minimising risks, as discussed in the section 4 of this referral. The Project’s operation has the potential to disrupt the golden sun moth habitat continuity in the medium-to-long term to the extent that each of the existing sub-populations would be reduced potentially to the point of not being viable. In accordance with Australian Government’s significant impact assessment guidelines for the critically endangered golden sun moth Synemon plana (DEWHA, 2009) this considers any “loss, disturbance or fragmentation of small or fragmented areas of habitat as being potentially significant”. This forms the basis of concluding that the Project would likely have a significant impact on this matter of national environmental significance in accordance with the assessment criteria in the above guidelines and those defined under Significant Impact Guidelines 1.1: Matters of National Environmental Significance (MNES, DEWHA, 2009) presented in Table 5 of Appendix C.

2.4.2 Do you consider this impact to be significant?

Yes

2.5 Is the proposed action likely to have ANY direct or indirect impact on the members of any listed migratory species, or their habitat?

No

2.6 Is the proposed action to be undertaken in a marine environment (outside Commonwealth marine areas)?

No

2.7 Is the proposed action to be taken on or near Commonwealth land?

Yes

2.7.1 Is the proposed action likely to have ANY direct or indirect impact on the Commonwealth land?

Yes

2.7.2 Describe the nature and extent of the likely impact on the whole of the environment.

Light rail project alignment

Section 6.4 and Chapter 8 in Appendix B assesses the Project's impact on Commonwealth land (including the Reserve Bank of Australia's leased premises on the eastern side of London Circuit north of University Avenue and National Land along at the southern end of London Circuit and along Commonwealth Avenue). It confirms that while development would take place on National and Commonwealth land the impacts are not considered significant.

Potential impacts on Commonwealth land include the following:

Construction and operation of the traction power substation.Connection of a combined services route to the traction power substation from Commonwealth Avenue, noting that this would be under-bored and or trenched and reinstated and it would have no permanent surface impact.Construction and operation of the light rail on or near Commonwealth land.Adjustments to Commonwealth Avenue and its intersection with London Circuit.Adjustments to other intersections along the alignment on Commonwealth land.Utility relocations and traffic management control.Impacts on the Reserve Bank of Australia leased premises, noting that it is listed as a Commonwealth heritage place.

The following sections describe the Project's potential impacts from carrying out the above actions on Commonwealth Land.

Impacts on landscapes and soils

The Project is not likely to substantially: alter natural landscape features; cause subsidence, instability or substantial erosion; or involve large scale soil or mineral excavations on Commonwealth Land. The Project would involve locally excavating the modified landscape, however this would be restored through landscaping, tree-planting, and public realm

enhancements as further developed through the Works Approval processes (and Development Application on Territory land). Where the Project footprint crosses turfed areas, a grass track slab treatment is mainly proposed. Also, the traction power substation could be located to avoid tree removal, trimming and pruning where feasible.

Section 5.3 and section 6.4 of Appendix B further describes the context, potential impacts, and mitigation measures on the landscapes and soils in and local to the study area an indicative map of the Landscape is provided in Map 4 Appendix A.

Impacts on coastal landscapes and processes

The Project is not located near a coastal area therefore there are no predicted impacts.

Impacts on ocean forms, ocean processes and ocean life

The Project is located on land therefore there are no predicted impacts to ocean environments.

Impacts on water resources

The Project footprint is located within the Lake Burley Griffin/Molongolo River hydrological catchment. The key risk is any discharges to Lake Burley Griffin, which is Commonwealth land. This can be controlled and managed during construction through proven and effective measures to prevent sediment or pollutant discharge. Temporary impacts on the local stormwater and drainage regime would be negligible in the context of the size of the overall catchment.

Operationally, the works would see a minor increase in runoff volumes and rates, while stormwater infrastructure would be designed to accommodate any increase. The Project would also be designed to minimise its susceptibility to flooding without any material change to the flood risk or potential to surrounding land and property.

Based on the ability to effectively manage construction works under industry-standard controls and the design including provisions to manage the increase in stormwater discharge and minimise any increased flood risk, it is concluded that there would be no material or significant impact on the availability or quality of surface waters in the area, including Lake Burley Griffin.

Pollutants, chemicals and toxic substances

The Project’s construction and operation is unlikely to generate large quantities of smoke, fumes, chemicals, nutrients, or other pollutants that would substantially reduce local air or water quality.

The Project’s construction may have short-term impacts on the local air quality from clearing activities, stockpiling and managing topsoil and other construction-related activities leading to the creation of dust, which can be effectively managed using industry-standard controls. Conversely, extension of the light rail network would increase public transport use, helping reduce car dependency. This would have the potential to improve local air quality through an overall reduction in vehicle emissions.

Potential contamination, soil and geology impacts associated with the Project include:

Potential (re)mobilisation of existing contaminants. Physical and chemical changes to the soil and geological characteristics.Erosion and sedimentation caused by excavation and vegetation removal leading to a secondary and indirect reduction in surface and groundwater quality. Introduction of new pollutants and contaminants into the receiving environment and their potential to impact on sensitive receivers.

The potential for the above impacts to occur can be managed and minimised through effective and proven management controls.

A search of the Australian Soil Resource Information System indicates that the acid sulfate soil potential along the proposed alignment is extremely to very-low (Class C4). As such, this is not considered a risk to the building or operating the Project.

Impacts on plants

The Project would mainly occur in the existing road reserve on Commonwealth land; which includes planted median and margins that are classified as modified grassland and include a series of mature trees. No threatened plant species were recorded within the study area on Commonwealth land during any of the completed field surveys.

Given the results of the completed desktop assessment and field surveys, it is considered highly unlikely that any threatened flora species occur in the study area on Commonwealth land. Appendix C details the investigation that informed this position.

Impact on animals

The recorded golden sun moth population is wholly located on Territory land which is allocated as road reserve. This land is also a Designated Area. Actions carried out on Commonwealth land could indirectly impact on this species. The only impact to animal species on Commonwealth land would be those low-mobility smaller species that are non-threatened and endemic to the area. This would result from any vegetation and tree clearance along the route. Impacts can be effectively minimised through an ecological management plan.

As noted above, there are no recorded listed migratory species in the study area. Appendix B and Appendix C detail the investigations that informed this position.

Impacts on people and communities

During construction, temporary changes to traffic arrangements and localised short-term amenity impacts may be experienced by people and communities that live and work within, or travel through, the Project Construction Footprint. The associated visual, traffic, noise, and social impacts can all be effectively managed and minimised to avoid any significant impact.

Once complete, the Project would extend the dedicated Inter-Town Public Transport System currently provided for by the City to Gungahlin light rail farther south. The Project also responds to the growth projected for Canberra without reducing the livability that the community currently enjoys. The Project would also improve connectivity of individuals and communities.

Impacts on heritage

Section 3.1 describes the Commonwealth heritage items associated with the study area. The Project has the potential to impact on two Commonwealth heritage items; the Parliament House Vista and the Reserve Bank of Australia. The scale of potential impacts on the values and attributes of the listed items (described in section 3.1) are not considered to be significant under the *EPBC Act* as described further below.

Cumulative/Temporary/Permanent

The Project would introduce new infrastructure within an important area of cultural and social value in Canberra. However, all permanent infrastructure, aside from the traction power substation (TPS) would be in the existing road reserve. The nature and scale of the light rail infrastructure would not be of a scale that it would not alter the function use of either London Circuit or Commonwealth Avenue as functional road corridors. This means there would be no fundamental change in the road's use, context, setting or relationship with either the Parliamentary House Vista or Reserve Bank of Australia.

The Reserve Bank of Australia is located 15 metres from the median of London Circuit. At this distance, the bank is sufficiently close to be impacted by cosmetic building damage either from construction or operational vibration. Both can be effectively managed to reduce their impact magnitude to a level that would prevent any significant impacts (e.g. structural damage) as described in Section 7 of Appendix B.

Additional temporary impacts would also be introduced during construction mainly from temporary traffic arrangements and the movement of equipment and machinery. These impacts would last for the duration of construction, leading to amenity impacts along the road corridor and to adjacent properties. Any impacts to the Reserve Bank of Australia would be temporary. Once construction is complete the only residual impact would be the change in landscape and urban character created during construction. Landscape planting and urban design measures would be used to mitigate this, with the impact magnitude decreasing overtime as the vegetation establishes and matures.

The TPS proposed within the Parliament House Vista would be permanent infrastructure and hence, would be located and designed to minimise its visual impacts, as described under Visual/Physical in this section of the referral.

Reversible/Irreversible

The light rail infrastructure would alter the setting and relationship of the road network through the areas of Commonwealth Land impacted by the Project. This could be partially mitigated through effective urban treatments and landscape planting. There is not expected to be any irreversible impacts to the heritage values and attributes associated to these Commonwealth heritage places. This is because the road would continue to function as a transport corridor with the light rail not fundamentally changing its context, setting or relationship with the surrounding environment.

Cultural/Social/Symbolic

The Project is not likely to impact on any cultural, social or symbolic Commonwealth heritage values. Memorial features and recreational spaces within the Parliament House Vista will not be directly impacted as they are removed from either the traction power substation or the northern section of Commonwealth Avenue.

Visual/Physical

As noted above, physical impacts would arise from civil works associated with the Project's construction. These impacts would be partially mitigated through effective urban treatments and landscape planting. Specifically, detailed urban design treatments for the traction power substation would be developed with the NCA through the Works Approval process. This would be supplemented by either under boring or trenching and reinstating (in the road reserve) the combined services route to connect the traction power substation to the light rail system. Urban design measures would also be used to treat the amenity impact along Commonwealth Avenue. While Project would introduce light rail along the edge of the Parliamentary House Vista, the changes in this location would be removed from the core values of the vista, which are located to the south of Lake Burley Griffin. As such, there scale and nature of the changes would be removed for the core vantage points. They would also represent a small to indiscernible change in the overall viewscape form the heart of the vista. This means the visual impact of the Project on the Parliament House Vista would be minor to negligible.

The introduction of light rail could be perceived as changing the relationship between the Reserve Bank of Australia and road corridor; potentially materially impacting its amenity and setting. Importantly, the decision to operate wire-free would serve to minimise such impacts. Overall, again as there is no fundamental change in the use of London Circuit, any setting and amenity-related impacts are not considered significant.

2.7.3 Do you consider this impact to be significant?

No

2.8 Is the proposed action taking place in the Great Barrier Reef Marine Park?

No

2.9 Is the proposed action likely to have ANY direct or indirect impact on a water resource related to coal/gas/mining?

No

2.10 Is the proposed action a nuclear action?

No

2.11 Is the proposed action to be taken by the Commonwealth agency?

No

2.12 Is the proposed action to be undertaken in a Commonwealth Heritage Place Overseas?

No

2.13 Is the proposed action likely to have ANY direct or indirect impact on any part of the environment in the Commonwealth marine area?

No

Section 3 - Description of the project area

Provide a description of the project area and the affected area, including information about the following features (where relevant to the project area and/or affected area, and to the extent not otherwise addressed in Section 2).

3.1 Describe the flora and fauna relevant to the project area.

The city of Canberra is in the Southern Tablelands. The area host flora and fauna including remnant eucalyptus forest on the hills surrounding Canberra consistent with the ecology of the Southern Tableland. The lower lying areas and lake shores contain remnant grasslands and riparian river frontages that provide habitat for native trees and grasses, birds, insects, reptiles and mammals.

A desk review of Commonwealth and Territory records, and subsequent field assessments have identified the presence of the following ecological features in the study area:

Two principal vegetation community types;- modified grassland and urban vegetation of exotics.- The critically endangered golden sun moth.

There were no threatened flora species and no threatened ecological communities recorded within the study area (Biosis, 2019, refer to Section 7 of Appendix B).

A total of 56 records of the golden sun moth and 2.6 hectares of suitable known breeding and feeding habitat were recorded and observed during targeted surveys (Biosis, 2019) at the intersection of London Circuit, Commonwealth Avenue and along Parkes Way. Specifically, there were two golden sun moths recorded in the south-west corner of the intersection ‘clover leaf’ in 2019. This compares to 16 records in 2017 and 24 records in 2016 as shown on Figure 5.1 of Appendix C. In the south-east corner of the intersection ‘clover leaf’, 38 species were recorded in 2019 compared to 160 in 2017 (refer to Figure 5.2 of Appendix B).

Under Commonwealth guidelines, any recorded sun moths within 200 metres of each other are considered part of a single population. Accordingly, even though there are major roads separating each of the intersection ‘clover leaves’ there is some mobility between the areas shown on Figure 5.2 of Appendix B. This population is considered distinct and isolated from nearby populations at Campbell, Reid, Yarralumla, Ainslie and Barton (Mulvaney, 2012).

The golden sun moth is critically endangered under the EPBC Act. It is also endangered within the ACT under the *Nature Conservation Act* 2014 (ACT). The table below describes the core ecological values of the golden sun moth population and habitat within the study area.

Table 3: Golden sun moth values and its habitat

See Appendix E

Mitchell Depot Upgrade

The preliminary desktop assessment identified areas of potential habitat for threatened fauna (Biosis 2017a), with Golden Sun Moth and Striped Legless Lizard *Delma impar* both identified as likely to occur within the study area. However, no suitable habitat for Striped Legless Lizard was identified during the field assessments. The study area lacked habitat features commonly utilised by Striped Legless Lizards as shelter including; structurally complex native grasslands dominated by tussock-forming grasses over ground with soil cracks, and lightly embedded rocks or woody debris

3.2 Describe the hydrology relevant to the project area (including water flows).

The Project is within the Lake Burley Griffin/Molonglo River catchment, with the light rail alignment draining to Lake Burley Griffin. A review of existing flood mapping data on ACTMapi indicates that the catchment's 1-in-100-year flood level is not located within the study area. London Circuit, near its intersection with Edinburgh Avenue, is however prone to short-duration nuisance flooding due to its lower lying nature.

Locally, the Mitchell Depot part of the study area sits within the Sullivans Creek hydrogeological landscape (HGL). This is a large catchment, running north of the lake to Mitchell, Mount Majura and Mount Ainslie. Spread over 72 km2, the area receives up to 750 mm of rainfall every year on average.

3.3 Describe the soil and vegetation characteristics relevant to the project area.

Geology

The geology of the study area (including Mitchell Depot) comprises the Canberra Formation; a conglomerate (mix) of mudstone, siltstone, minor sandstone, limestone, hornfels (a type of metamorphic rock), dacitic ignimbrite (a type of igneous rock made of hardened volcanic ash called tuff) and volcaniclastic sediments.

Soils

The overlaying soils are characteristic of the underlying geology of the study area and are mainly dominated by Williamsdale and Burra landscapes. The natural soils in the study area comprise a mix of alluvium, as deposited from the lake and river, and poorly draining sandy sodic (saline) and podzolic (formed from eucalypt) soils. Much of the area has been modified and infilled to support Canberra's development, and prior to that, to support the land's agricultural use.

Acid sulfate soils

There is an extremely low to low probability for acid sulfate soils (Class 4) across the Project area identified in the Australian Soil Resource Information System (CSIRO, 2011) [1].

Vegetation

The Project area and Mitchell Depot are in central Canberra.

The only vegetation in the Project area is planted, introduced and is modified and maintained. It therefore classified as two low-ecological value community-types: ‘modified grasslands’ and ‘urban vegetation: exotics’. Chapter 5 of Appendix B provides more information regarding the soil and vegetation characteristics of the Project area.

The area to the south of the Michell Depot upgrade footprint is considered an area of urban vegetation consisting mainly of planted natives with a small patch of exotics present (Biosis 2019). Planted native urban vegetation communities are not considered ‘native vegetation’ as defined under the *Nature Conservation Act 1980* (NC Act).

[1] Fitzpatrick, R., Powell, B. and Marvanek, S. 2011, Atlas of Australian Acid Sulphate Soils v.2. Australia: CSIRO.

3.4 Describe any outstanding natural features and/or any other important or unique values relevant to the project area.

The light rail passes through the Central National Area, which is a combination of the NCP precincts crossed by the Project footprint. The Central National Area is a location of national significance as identified in the NCP. Most of the Project is also in a Designated Area, which are those locations in the Australian Capital Territory provisioned under the NCP that have the special characteristics of the National Capital, including that they are recognised for their cultural landscape, realm and amenity values in representing the Griffin Plan.

There are no outstanding natural features or important or unique values associated with the Mitchell Depot or immidiate area.

3.5 Describe the status of native vegetation relevant to the project area.

As described under section 3.3, the study area (including Mitchell Depot) is in central Canberra.

The only vegetation in the Study area is planted, introduced and is modified and maintained. While it includes native species, these form part of an introduced landscape. Planted native vegetation communities are not considered ‘native vegetation communities’ as defined under the NC Act or the EPBC Act. Further details on vegetation relevant to the study area is described in detail in Chapter 5 of Appendix C.

The area to the south of the depot expansion area does not contain native vegetation.

3.6 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

Appendix D illustrates the Study area’s gradient, which is generally level to gently undulating.

The hydrological gradient is north to south, with the groundwater draining to Lake Burley Griffin. The topography would need to be modified locally as the light rail can only operate on a shallow gradient. This would be mainly at the intersection between London Circuit and Commonwealth Avenue. Other minor changes would be needed for the light rail to navigate existing bridges and traffic ramps within existing road reserves.

Mitchell Depot is located on relatively level ground it would require no substantial change in gradient however some localised earthworks may be needed to create a level foundation platform.

3.7 Describe the current condition of the environment relevant to the project area.

The Study area crosses two distinct landscape and urban character precincts. The Michell Depot expansion is designated Nature Reserve and open woodland NUZ3 Hills and buffer areas. The existing visual environment of the Study area is generally characterised by high-density commercial development (e.g. multistory buildings) within the City precinct and the more formal boulevard character of Commonwealth Avenue, flanked by parkland. The Michell Depot is located in an industrial zone bounded by open woodland and grassland

Each precinct represents a different character zone that would require differing treatments and strategies for integrating the Project within its context. There are also mature trees and other landscaping elements along the Project that have substantial value within the streetscape.

The environment is urban, highly modified and managed. It holds limited natural character other than the golden sun moth habitat at the London Circuit and Commonwealth Avenue intersection, where recorded species numbers have reduced over the past three years. The landscaped areas, even including the golden sun moth habitat, are managed and maintained as part of the urban environment.

There is considerable development and change taking place and planned on London Circuit with the development of new commercial and residential development.

3.8 Describe any Commonwealth Heritage Places or other places recognised as having heritage values relevant to the project area.

Places within or adjacent to the Project and construction footprints listed on the Commonwealth heritage list and other places recognised as having heritage values to the study area are identified in Section 5.1 of Appendix B. There are no ACT Heritage listed items within the Commonwealth Land areas as described in Section 5.1 of Appendix B.

There are two Commonwealth Heritage listed places within the study area that are relevant; Parliament House Vista and the Reserve Bank of Australia. The Commonwealth heritage values associated to these places is outlines below, along with relevant attributes to the Project.

See Table in Attachment E

Consideration will be given for those heritage items located outside of the Project study area that may have unobstructed views towards the Project. Views and vistas to and from parkways and hill tops such as Mount Ainslie, Mount Pleasant and Black Mountain will be taken into consideration during the detailed design and Development Application and Works Approval processes.

Please see section 2.7.2 for a detailed discussion of the likely impact of the Project on heritage values on Commonwealth Land.

3.9 Describe any Indigenous heritage values relevant to the project area.

There are no Aboriginal heritage values recorded in or local to the Study area. The nearest to the Study area are those recorded as being submerged on the bed of Lake Burley Griffin.

3.10 Describe the tenure of the action area (e.g. freehold, leasehold) relevant to the project area.

The majority of the Project would be contained within the existing road reserves. Table 3 in Section 1.5 identifies where the Project impacts on land outside of the road reserve and for each of these impacts, the tenure of that block of the land and a description of the impact is included.

3.11 Describe any existing or any proposed uses relevant to the project area.

The Study area is existing Territory or National road reserve and it is currently used to provide access into and out of the city. The land uses next to the road reserve in the study area include mixed uses. New residential and commercial development is currently under construction or planned along London Circuit. The following existing land uses are in the Study area.

London Circuit

Land use:

- London Circuit: four-lane public road with footpath provisions.- City Hill: amenity public open space and key vantage point.- East of London Circuit: principally public car parking, the city police station, and the Reserve Bank of Australia, ACT Magistrates Court and the Supreme Court of Australia.- West of London Circuit: a mix of commercial and retail properties and low-rise residential units.

Key properties:

- Reserve Bank of Australia (a Commonwealth heritage place), Supreme Court of Australia, Canberra City police station, ACT Magistrates Court, Commonwealth Superannuation Corporation, QT Hotel, Capital Tower Hotel, and AON. The ANU and the National Film and

Sound Archive of Australia are located to the west off University Avenue.

Commonwealth Avenue

Land use:

- Commonwealth Avenue: six-lane public road with marked cycle lane in both directions; intertown public transport route, as defined in the National Capital Plan. Footpath provisions south of the Parkes Way overbridge.- West of Commonwealth Avenue: public open space and public car parking, Henry Rolland Park located near Lake Burley Griffin, and the foreshore area.- East of Commonwealth Avenue: amenity planted verges, public car parking, the archbishop's house, and Lake Burley Griffin foreshore area.

Key properties:

- The archbishop's house, the ACT Parks Depot and the National Capital Exhibition. The Canberra Olympic Pool and National Convention Centre are respectively located about 400 metres and 500 metres to the east of Commonwealth Avenue.

Mitchell Depot

Land Use

- The existing Mitchell Depot is located in industrial area and used as storage for the Light Rail

Key Properties

- The planned expansion would extend into nature reserve (wooded) and open areas (grassland)

Section 4 - Measures to avoid or reduce impacts

Provide a description of measures that will be implemented to avoid, reduce, manage or offset any relevant impacts of the action. Include, if appropriate, any relevant reports or technical advice relating to the feasibility and effectiveness of the proposed measures.

Examples of relevant measures to avoid or reduce impacts may include the timing of works, avoidance of important habitat, specific design measures, or adoption of specific work practices.

4.1 Describe the measures you will undertake to avoid or reduce impact from your proposed action.

This Project follows the general principles of ‘avoid, minimise and mitigate’ to manage impacts to the environment, and endeavors to, in order of consideration:

- Avoid impacts on environment, through the planning process.

- Minimise impacts on environment, through the planning process.

- Mitigate impacts on environment, though the use of a range of mitigation measures during the Project’s planning, construction and operation.

On the basis that the Project is expected to result in potentially significant impacts to a listed threatened species, the golden sun moth, further assessment is expected to be needed to finalise the impacts and define specific mitigation measures. The main measure to be used would be refining the Project Construction Footprint to minimise habitat loss.

The following measures supplement the above. Each will be further developed to reduce the proposed action’s ecological impact on ecological values during construction and operation:

- Undertake detailed design and route optimisation considering the golden sun moth habitat within the study area.

- Limit the Project Construction Footprint within and local to the golden sun moth habitat and other vegetated areas to reduce direct and indirect impacts.

- Supplement this by creating, maintaining and monitoring no-go zones for the Project Construction Footprint next to the golden sun moth habitat to ensure vehicles, machinery and heavy foot traffic does not impact on these areas where possible.

-Define specific requirements under a construction environmental management plan to restrict or limit certain activities from taking place in or near the golden sun moth habitat and other vegetated areas.

- Develop tree replacement and planning strategies in collaboration with experienced arborists,

the NCA, and appropriate Commonwealth and Territory Government stakeholders.

- Avoid branch trimming where feasible and reasonable. Otherwise any trimming, lopping or pruning would be carried out by accredited and experienced arborists using cleaned and sterilised equipment to prevent the transmission of plant pathogens.

- Mulch and appropriately dispose of all green waste created from vegetation removal.

- Establish tree protection zones, root protection zones and canopy protection zones around all retained trees in accordance with Australian Standard (AS4970-2009) *Protection of Trees on Development Sites*. Fence off and sign these protection zones as being part of the environmental exclusion zones.

- Offset the removal of trees and shrubs by replanting appropriate replacement species.Induct construction staff to an appropriate level and make them aware of the location and extent of key ecologically sensitive areas and exclusion zones.

- Locate all construction compounds and laydown areas to avoid or otherwise minimise vegetation removal. Note: the removal of native or mature canopy species for compound purposes would be avoided.

- Prevent the dispersal of weed seed or soil-borne pathogens through the implementation of vegetation hygiene protocols for footwear, vehicles, heavy plant and machinery as multiple plants are declared pest species in the ACT under the *Pest Plants and Animals (Pest Plants) Declaration 2005* (No 1).

- Design, install and maintain appropriate sediment and erosion controls during excavation works to prevent any potential sediment runoff entering nearby stormwater drains and discharging to Lake Burley Griffin.

- Engage an independent environmental auditor to assess the environmental management procedures and delivery of the project. The environmental auditor would ensure procedures are in place, managed, maintained and monitored. They would also provide a point of contact for stakeholder and community feedback on environmental performance.

In preparing this referral, it has been necessary to assess a worst-case scenario based on the current design. This is consistent with the ecologically sustainable development principle of taking precaution where there is uncertainty. It therefore allows the opportunity for the design to be refined and its impacts minimised as the Project progresses.

To further address the Project’s potential impacts, a series of other concept mitigation measures have been developed for implementation. These are outlined in Chapter 7 of Appendix B. They would be further refined during the development of design and the documentation needed to support the Development Application and Works Approval processes. Many of the measures would be introduced under the construction environmental management plan. This plan would define the measures to be outcome-focused, specific, measurable, achievable, relevant and time-bound, consistent with the draft *Outcomes-based Conditions Policy 2015* and *Outcomes-based Conditions Guidance 2015* (DoE 2015).

4.2 For matters protected by the EPBC Act that may be affected by the proposed action, describe the proposed environmental outcomes to be achieved.

As described in section 4.1, the Project would seek to minimise the extent of the significance of its impact on the known golden sun moth habitat at the intersection of London Circuit and Commonwealth Avenue. Where impacts are unavoidable, Major Projects Canberra would work with key stakeholders to establish an appropriate treatment that would involve offsets and other controls.

While the Project is not predicted to have a significant impact on any other protected matter or Commonwealth land values it would be sensitively and carefully designed to ensure the landscape and amenity character of the surrounding area would be enhanced as part of the Project. This includes seeking to minimise impacts on the cultural values within the broader setting of the Central National Area. The Project also provides an opportunity to sensitively undertake renewal of some landscape areas identified as being in poor condition.

Section 5 – Conclusion on the likelihood of significant impacts

A checkbox tick identifies each of the matters of National Environmental Significance you identified in section 2 of this application as likely to be a significant impact.

Review the matters you have identified below. If a matter ticked below has been incorrectly identified you will need to return to Section 2 to edit.

5.1.1 World Heritage Properties

No

5.1.2 National Heritage Places

No

5.1.3 Wetlands of International Importance (declared Ramsar Wetlands)

No

5.1.4 Listed threatened species or any threatened ecological community

Listed threatened species and communities - Yes

5.1.5 Listed migratory species

No

5.1.6 Commonwealth marine environment

No

5.1.7 Protection of the environment from actions involving Commonwealth land

No

5.1.8 Great Barrier Reef Marine Park

No

5.1.9 A water resource, in relation to coal/gas/mining

No

5.1.10 Protection of the environment from nuclear actions

No

5.1.11 Protection of the environment from Commonwealth actions

No

5.1.12 Commonwealth Heritage places overseas

No

5.2 If no significant matters are identified, provide the key reasons why you think the proposed action is not likely to have a significant impact on a matter protected under the EPBC Act and therefore not a controlled action.

The referral states “if no significant matters are identified, provide the key reasons why you think the proposed action is not likely to have a significant impact on a matter protected under the EPBC Act and therefore not a controlled action”.

This is not applicable as there is predicted to be a significant environmental impact on the values of the habitat of the golden sun moth.

Section 6 – Environmental record of the person proposing to take the action

Provide details of any proceedings under Commonwealth, State or Territory law against the person proposing to take the action that pertain to the protection of the environment or the conservation and sustainable use of natural resources.

6.1 Does the person taking the action have a satisfactory record of responsible environmental management? Please explain in further detail.

Yes. Major Projects Canberra on behalf of the ACT Government is the proponent of the proposed action. The ACT Government takes a proactive and responsible approach to environmental management.

6.2 Provide details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against either (a) the person proposing to take the action or, (b) if a permit has been applied for in relation to the action – the person making the application.

Not Applicable

6.3 If it is a corporation undertaking the action will the action be taken in accordance with the corporation's environmental policy and framework?

Yes

6.3.1 If the person taking the action is a corporation, please provide details of the corporation's environmental policy and planning framework.

While Major Projects Canberra is undertaking the action, the Project would be undertaken in accordance with relevant ACT Government policies and guidelines, including the *ACT Planning Strategy 2018*, the *Moving Canberra 2019 – 2045 Integrated Transport Strategy* and the *ACT Climate Change Strategy 2019*.

6.4 Has the person taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?

Yes

6.4.1 EPBC Act No and/or Name of Proposal.

The ACT Government has referred numerous proposed actions under the EPBC Act. Since

2014, these

include the following:

- 2014/7327 ACT Economic Development Directorate/Residential development/Division of Symonston, ACT/ACT/Symonston Residential Estate Stage 2, Symonston, ACT

- 2015/7483 ACT Shared Services Procurement/Transport - Land/Pialligo/Australian Capital Territory/Construction of a link road on Marjura Parkway, Pialligo, ACT

- 2016/7742 ACT Procurement/Transport - Land/Mustang Avenue roundabout, Majura Road, Pialligo, ACT/Australian Capital Territory/Construction of the IKEA Canberra Northern Access Road, ACT

- 2016/7781 Land Development Agency/Residential Development/north of Isabella Pond Weir, between Drakeford Dr and Lake Tuggeranong, ACT/Australian Capital Territory/Urban Development of part Block 5 Section 10 Greenway, ACT

- 2017/8013 ENVIRONMENT, PLANNING AND SUSTAINABLE DEVELOPMENT DIRECTORATE - DEPARTMENTAL/Residential Development/Block 29, Section 36, Mawson/Australian Capital Territory/Construction of public housing units within Block 29, Section 36, Mawson, ACT.

- 2017/8061 Chief Minister, Treasury and Economic Development Directorate ACT Procurement/Transport - Water/Canberra, ACT/Australian Capital Territory/Molonglo 3 Water Supply Pipeline, ACT

Section 7 – Information sources

You are required to provide the references used in preparing the referral including the reliability of the source.

7.1 List references used in preparing the referral (please provide the reference source reliability and any uncertainties of source).

Reference Source	Reliability	Uncertainties
ACT Government, Engaging Canberrans: a guide to community engagement, 2011.	Reliable - Formal ACT Government Guidelines document.	No known uncertainties. The information utilised is considered to be current as of the preparation of this referral and suitable for use to support the preparation of this referral.
ACT Government, Planning & Development Act 2007 (P&D Act).	Reliable - Sourced form relevant statutory document	No known uncertainties. The information utilised is considered to be current as of the preparation of this referral and suitable for use to support the preparation of this referral.
AECOM, Coranderrk Street GPT Short-term Upgrade Options Assessment, 2012.	Mostly reliable - prepared by a reputable consultant with appropriate expertise and is relevant to project.	Data is greater than five years old.
ARUP/Hassell, Appendix A - Project Drawings for City to Commonwealth Park light rail project, July 2019	Current and reliable: prepared to support this referral.	2019 and specifically collected for this Project
Australian Bureau of Statistics - Australian Demographic Statistics, Sep 2018	Current and reliable - prepared by a reputable consultant with appropriate expertise and is relevant to project. Data is Less than five years old.	No known uncertainties. The information utilised is considered to be current as of the preparation of this referral and suitable for use to support the preparation of this referral.
Australian Bureau of Statistics, Australian National Accounts: State Accounts, 2016-17	Reliable - prepared by trusted Australian Government institution with experience in their specific areas of expertise. Data is less than five years old, Specific to ACT, Update form previous release of information form same source.	Currency of data
Australian Bureau of Statistics, Australian National Accounts: State Accounts, 2017-18	Current and reliable - prepared by trusted Australian Government institution with	No known uncertainties. The information utilised is considered to be current as of

Reference Source	Reliability	Uncertainties
	experience in their specific areas of expertise. Data is most current, Specific to ACT, Update form previous release of information form same source.	the preparation of this referral and suitable for use to support the preparation of this referral.
Australian Bureau of Statistics, Regional Population Growth, Australia 2016-2017, Released 24 April 2018.	Current and reliable - prepared by trusted Australian Government institution with experience in their specific areas of expertise. Data is most current, Specific to ACT, Update form previous release of information form same source.	No known uncertainties. The information utilised is considered to be current as of the preparation of this referral and suitable for use to support the preparation of this referral.
Biosis, Ecological Assessment for City to Commonwealth Park light rail project, July 2019	Current and reliable: prepared to support this referral including a desk review of published records and field surveys by qualified specialists.	2019 and specifically collected for this Project
Cardno 2006, City Area Infrastructure Capacity and Catchment Study, 2006.	Mostly reliable - prepared by a reputable consultant with appropriate expertise and is relevant to project.	Data is greater than ten years old.
Commonwealth Department of the Environment and Energy, EPBC Act Policy Statement - Staged Developments - Split referrals: Section 74A of the EPBC Act BIO277.0613.	Reliable - Formal Australian Government Guidelines document.	No known uncertainties. The information utilised is considered to be current as of the preparation of this referral and suitable for use to support the preparation of this referral.
Commonwealth Department of the Environment and Energy, Outcomes-based Conditions Guidance 2015	Current and reliable - Reference Guidelines published by Commonwealth Department of Environment and Energy	No known uncertainties. The information utilised is considered to be current as of the preparation of this referral and suitable for use to support the preparation of this referral.
Commonwealth of Australia, Smart Cities Plan. Commonwealth of Australia, The Department of Prime Minister and Cabinet, Canberra, ACT, 2016	Current and reliable - Formal Australian Government published document.	No known uncertainties. The information utilised is considered to be current as of the preparation of this referral and suitable for use to support the preparation of this referral.
Commonwealth Department of the Environment and Energy, Outcomes-based Conditions Guidance 2015	Current and reliable - Reference Guidelines published by Commonwealth Department of Environment and Energy	No known uncertainties. The information utilised is considered to be current as of the preparation of this referral and suitable for use to support the preparation of this referral.

Reference Source	Reliability	Uncertainties
CPR [Conservation Planning and Research] Survey guidelines for determining lowland vegetation classification and condition in the ACT. Land Management and Planning Division, ACT Government, 2012	Current and reliable - Formal ACT Government Guidelines document.	No known uncertainties. The information utilised is considered to be current as of the preparation of this referral and suitable for use to support the preparation of this referral.
Fitzpatrick, R., Powell, B. and Marvanek, S. Atlas of Australian Acid Sulphate Soils v.2. Australia: CSIRO, 2011.	Current and reliable - Reference Guidelines published by Commonwealth Department of Environment and Energy	No known uncertainties. The information utilised is considered to be suitable for use to support the preparation of this referral.
Hill Thalis, JILA and SMEC, Urban Strategy, Linking City Centre to the Lake, 2013.	Mostly reliable - prepared by a reputable consultant with appropriate expertise and is relevant to project.	Data is greater than five years old.
Infrastructure Australia, Australian Infrastructure Audit Report, May 2015	Mostly reliable - prepared by trusted Australian Government institution with experience in their specific areas of expertise. Data is less than five years old, Specific to ACT, Update form previous release of information form same source.	Currency of data
Infrastructure Australia, Population Estimated and Projections, April 2015	Mostly reliable - prepared by trusted Australian Government institution with experience in their specific areas of expertise. Data is less than five years old, Specific to ACT, Update form previous release of information form same source.	Currency of data
Jacobs, Yarralumla Creek and Long Gully Flood Study, 2015.	Reliable - prepared by a reputable consultant with appropriate expertise and is relevant to project. Data is Less than five years old.	No known uncertainties. The information utilised is considered to be suitable for use to support the preparation of this referral.
National Capital Authority, National Capital Plan (NCP), 2016.	Current and reliable - Quoted form relevant statutory document	No known uncertainties. The information utilised is considered to be current as of the preparation of this referral and suitable for use to support the preparation of this referral.
National Capital Authority, National Capital Plan Parliamentary Zone Precinct Code, 2016	Current and reliable - Sourced form relevant statutory document	No known uncertainties. The information utilised is considered to be current as of the preparation of this referral

Reference Source	Reliability	Uncertainties
		and suitable for use to support the preparation of this referral.
NCA, Kings & Commonwealth avenues draft design strategy, August 2017	Mostly reliable - Formal Australian Government Guidelines document.	Document is in Draft stage and has not been finalised by NCA Board.
RPS, Appendix B - Preliminary Environmental Assessment for City to Commonwealth Park light rail project, July 2019	Current and reliable: prepared to support this referral including a desk review of published records and field surveys by qualified specialists.	2019 and specifically collected for this Project
Taylor 1989: 16-17, Read et al 1994:14	Reliable - Quotation from research that is current relent, reliable and consistent,	No known uncertainties. The information utilised is considered to be suitable for use to support the preparation of this referral.
The Canberra Times, National Capital Authority concerned over light rail stage two route, Canberra Times, 20 April 2018	Current and reliable - Quotation from media interview	No known uncertainties. The information utilised is considered to be current as of the preparation of this referral and suitable for use to support the preparation of this referral.

Section 8 – Proposed alternatives

You are required to complete this section if you have any feasible alternatives to taking the proposed action (including not taking the action) that were considered but not proposed.

8.0 Provide a description of the feasible alternative?

The following alternative route was contemplated during the feasibility studies for the City to Commonwealth Park light rail project, but for the following reasons is not being proposed.

Not building the Project would effectively result in the continued development of the existing road network and bus system in the City to Commonwealth Park corridor. This option was dismissed as it would not deliver the contemplated segregated Inter-Town Public Transport system as described in the NCP. Section 3.1.4 of the NCP describes the Inter-Town Public Transport system that should link activity centres.

Traversing the City

Two routes were considered to connect the Project from Alinga Street (the terminus of C2G light rail project) to the Commonwealth Avenue alignment. Both of these options align with the NCP in terms of a public transport corridor on London Circuit. Routes considered were either to take a western or eastern alignment on London Circuit.

The western alignment around London Circuit was selected for the north-south spine to serve City West and the Australian National University, and to support the proposed developments within the Capital Hill and at West Basin precincts. The eastern side of London Circuit was considered to be better served by a potential east-west link of the Canberra light rail network, as part of a potential future route from Belconnen to Russell and the Airport. Failure to traverse the western side of London Circuit as part of the Project corridor, means that it would be unlikely for the western side of London Circuit to ever be served by light rail

8.1 Select the relevant alternatives related to your proposed action.

8.27 Do you have another alternative?

No

Section 9 – Contacts, signatures and declarations

Where applicable, you must provide the contact details of each of the following entities: Person Proposing the Action; Proposed Designated Proponent and; Person Preparing the Referral. You will also be required to provide signed declarations from each of the identified entities.

9.0 Is the person proposing to take the action an Organisation or an Individual?

Organisation

9.2 Organisation

9.2.1 Job Title

Project Director (Acting)

9.2.2 First Name

Ashley

9.2.3 Last Name

Cahif

9.2.4 E-mail

Ashley.cahif@act.gov.au

9.2.5 Postal Address

496 Northbourne Avenue
Dickson ACT 2602
Australia

9.2.6 ABN/ACN

ABN

66676633401 - CMTEDD ACT PROCUREMENT

9.2.7 Organisation Telephone

(02) 6207 7396

9.2.8 Organisation E-mail

Ashley.cahif@act.gov.au

9.2.9 I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:

Not applicable

Small Business Declaration

I have read the Department of the Environment and Energy's guidance in the online form concerning the definition of a small a business entity and confirm that I qualify for a small business exemption.

Signature:..... Date: .....

9.2.9.2 I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations

No

9.2.9.3 Under sub regulation 5.21A(5), you must include information about the applicant (if not you) the grounds on which the waiver is sought and the reasons why it should be made

Person proposing the action - Declaration

I, Ashley Cahif, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf of or for the benefit of any other person or entity.

Signature: Ashley Cahif Date: 5/7/19

I, Ashley Cahif, the person proposing the action, consent to the designation of Major Projects Canberra as the proponent of the purposes of the action describe in this EPBC Act Referral.

Signature: Ashley Cahif Date: 5/7/19

9.3 Is the Proposed Designated Proponent an Organisation or Individual?

Organisation

9.5 Organisation

9.5.1 Job Title

Project Director (Acting)

9.5.2 First Name

Ashley

9.5.3 Last Name

Cahif

9.5.4 E-mail

Ashley.cahif@act.gov.au

9.5.5 Postal Address

496 Northbourne Avenue
Dickson ACT 2602
Australia

9.5.6 ABN/ACN

ABN

66676633401 - CMTEDD ACT PROCUREMENT

9.5.7 Organisation Telephone

(02) 6207 7396

9.5.8 Organisation E-mail

Ashley.cahif@act.gov.au

Proposed designated proponent - Declaration

I, Ashley Cahif, the proposed designated proponent, consent to the designation of myself as the proponent for the purposes of the action described in this EPBC Act Referral.

Signature: Ashley Cahif Date: 5/7/19

9.6 Is the Referring Party an Organisation or Individual?

Organisation

9.8 Organisation

9.8.1 Job Title

Project Director (Acting)

9.8.2 First Name

Ashley

9.8.3 Last Name

Cahif

9.8.4 E-mail

ashley.cahif@act.gov.au

9.8.5 Postal Address

496 Northbourne Avenue
Dickson ACT 2602
Australia

9.8.6 ABN/ACN

ABN

66676633401 - CMTEDD ACT PROCUREMENT

9.8.7 Organisation Telephone

(02) 6207 7396

9.8.8 Organisation E-mail

Ashley.cahif@act.gov.au

Referring Party - Declaration

I, Ashley Cahif, I declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence.

Signature: Ashley Cahif Date: 5/7/19

Appendix A - Attachments

The following attachments have been supplied with this EPBC Act Referral:

1. APP B_ PEA 190704_ FINAL 1 of 3.pdf
2. APP B_ PEA 190704_ FINAL 2 of 3.pdf
3. APP B_ PEA 190704_ FINAL 3 of 3.pdf
4. App A_Map1.jpg
5. App A_Map2.jpg
6. App A_Map 3 Depot.pdf
7. App A_Map 4 Depot.pdf
8. App A_Precinct Map City.pdf
9. App A_Precinct Map Commonwealth Ave.pdf
10. App C - Commonwealth.Park_.to_.Woden Biodiversity PEA.FINAL_.pdf
11. Appendix E - List of Tables - City to Commonwealth Park light rail.pdf
12. D 01R RAIL LSEC PRECINCT 1 - Gradients App D.pdf
13. D 02R ALIGN LSEC PRECINCT 2A - Gradients App D.PDF