ACT Government

CITY TO COMMONWEALTH PARK LIGHT RAIL

Golden Sun Moth Construction Environmental Management and Rehabilitation Plan **(GSM Plan 2.3)**

JULY 2023

DOCUMENT **CONTROL**

DOCUMENT STATUS	FINAL DRAFT
EPBC Number	2019/8582
Project Name	City to Commonwealth Park Light Rail
Approved Action	To extend Canberra's existing light rail network from the City to Commonwealth Park, via London Circuit (West) and Commonwealth Avenue [See EPBC Act referral 2019/8582]
Location of Action	Canberra CBD
Proponent Name	Major Projects Canberra
Proponent Address	Callam Offices Level 3, 50 Easty Street, Phillip ACT 2606
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Title	Environmental Director
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Title	Principal Ecologist (Umwelt)

Declaration of accuracy

In making this declaration, I am aware that section 491 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) makes it an offence in certain circumstances to knowingly provide false or misleading information or documents to specified persons who are known to be performing a duty or carrying out a function under the EPBC Act or the *Environment Protection and Biodiversity Conservation Regulations 2000* (Cth). The offence is punishable on conviction by imprisonment or a fine, or both. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.

Signed	Ashley Cahif
Full name	**Ashley Cahif (Project Director)**
Organisation	**Major Projects Canberra**
Date	**27/07/2023**

GLOSSARY/**ABBREVIATIONS**

ABBREVIATION	EXPANDED TEXT
CEMP	Construction Environmental Management Plan
Compliance audit	Verification of how implementation is proceeding with respect to the Golden Sun Moth Construction Environmental Management and Rehabilitation Plan (GSM Plan).
Conditions of Approval (CoA)	Details of the approval requirements of the decision made under sections 130(1) and 133(1) of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).
DCCEEW	Department of Climate Change, Energy, the Environment and Water (formerly the Department of Agriculture, Water and the Environment
Direct Impact	Golden Sun Moth habitat that would be permanently cleared and no longer provide GSM habitat.
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EPA	ACT Environment Protection Authority
Environmental impact	Defined by AS/NZS ISO 14001:2015 as any change to the environment, whether adverse or beneficial, wholly, or partially resulting from an organisation's environmental aspects.
Exclusion Zone	GSM habitat area of land within the Project footprint excluded from access.
GSM	Golden Sun Moth
The GSM Plan	Comprehensive document comprising of the GSM Construction Environment Management Plan and GSM Rehabilitation Plan, approved by DCCEEW, detailing management measures.
Hold point	Is a verification point that prevents work from commencing prior to approval from the principle.
Indirect Impact	An activity which results in a disturbance associated with construction actives, such as habitat fragmentation, isolation, degradation.
Incident	An unexpected event that has, or has the potential to, cause harm to the environment and requires some action to minimise the impact or restore the environment.
MPC	Major Projects Canberra
NCA	National Capital Authority
Non-compliance	Failure to comply with the requirements of the Project approval or any applicable licence, permit or legal requirements.
Non-conformance	Failure to conform to the requirements of Project system documentation including this GSM Plan or supporting documentation.
Project, the	City to Commonwealth Park Light Rail
Referral Documents	Documents submitted to DCCEEW for approval of the proposed action.
Temporary Direct Impact	Golden Sun Moth habitat that would be cleared and then rehabilitated.
Temporary Indirect Impact	Golden Sun Moth habitat and Golden Sun Moth individuals that would be temporarily fragmented and isolated by the proposed action.
Translocation	Using previously trialled and proven methods to extract and deposit larvae of Golden Sun Moth from one part of the action area to the rehabilitation area.

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EXECUTIVE **SUMMARY**

Major Projects Canberra have received approval (2019/8582) from the Department of Climate Change, Energy, the Environment and Water (DCCEEW) to extend the light rail network from the City to Commonwealth Park (The Project). The approval is subject to several conditions, to ensure the Project manages the impacts to the critically endangered species, Golden Sun Moth (GSM).

The Project consists of five phases of work: early enabling works, main civil works for raising London Circuit, main civil works for rail infrastructure, commissioning and testing, and handback.

> **The GSM Plan will address conditions 1 – 14 under Section A of the Conditions of Approval (CoA), and sets out the environmental mitigation, management, and rehabilitation measures relating to the protection of GSM and GSM habitat in relation to those approved Project impacts on GSM and GSM habitat as outlined in *Figure 1*.**

This document, the Golden Sun Moth Plan or GSM Plan, comprises an Environment Management Plan and Rehabilitation Plan. To reflect the overall staging of the Project the GSM Plan is also staged. The original GSM Plan v1 covered the early enabling works. This version of the GSM plan is intended to cover the remaining elements of the early enabling works through to completion of the City to Commonwealth Park Light Rail Project (**The Project**). This will include the remaining four phases of works. Rehabilitation activities will commence in the southeast cloverleaf in this iteration of the GSM Plan at the completion of works in this area. Rehabilitation of Parkes Way east of the bridge will commence after the construction of the additional bridge utilising techniques which are developed within the southeast cloverleaf. Please note Figure 2 sets out the current indicative footprint for the Project and is based on current design development.

No-go and exclusion zones for project personnel will be established across five locations on City Hill, Parkes Way, and the verge of Commonwealth Avenue. Additionally, sediment and erosion control, weed management activities, and overland waterflow controls around all construction activities will be established and maintained for the duration of the works, commencing from April 2022.

The Project will commence the first translocation activities post approval of this plan to salvage GSM larvae (if present) from within the southwest cloverleaf, as well as the northwest cloverleaf and additional northern section of Commonwealth Avenue median (which were previously approved under the GSM Plan 1.0).

Translocation activities will be required in the western side of Parkes Way (from the existing Commonwealth Avenue Bridge) during the construction of Raising London Circuit, prior to any works being undertaken in the area, as the existing high mast light is non-functional (including the associated electrical connection) and will require repairing to comply with TCCS safety requirements. Rectifying this streetlighting issue is a condition of the National Capital Authority Works Approval.

The translocation works, including pre-translocation surveys will be conducted by an appropriately qualified and experienced ecologist. Monitoring of all activities to ensure compliance with the conditions of approval will be undertaken as necessary. Following completion of utility relocation works in the southeast cloverleaf, rehabilitation activities and management of GSM habitat will commence using methodology developed in co-operation with the ACT Parks and Conservation Service, Environment, Planning and Sustainable Development Directorate. The methodology being trialled in the southeast cloverleaf will be refined and utilised in the rehabilitation of Parkes Way.

Prior to construction of the additional bridge over Parkes Way translocation activities will be conducted on the eastern side of Parkes Way (from the existing Commonwealth Avenue Bridge). Rehabilitation techniques which were trialled in the southeast cloverleaf will be refined and utilised for the rehabilitation of the eastern side of Parkes Way.

1.0 INTRODUCTION

1.1 Purpose and Scope of this Plan

Major Projects Canberra (MPC) have received approval (2019/8582) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) to extend the light rail network from the City to Commonwealth Park (The Project). The approval is subject to several conditions (see ***Appendix A***), to enable the management of impacts to the critically endangered Golden Sun Moth (GSM) *(Synemon plana),* found within the Project's construction footprint.

Of the approximately 8.09 hectares of GSM habit identified adjacent to the Project (see ***Figure 1*** – which sets out the approved impacts to the GSM and GSM habitat from the Project) the Project is approved to directly impact no more than 4.76ha habitat, or indirectly impact no more than 3.33ha of habitat. Prior to direct impacts to GSM habitat, the project is required to translocate GSM larvae to one of two identified rehabilitation areas, in addition to retiring GSM biodiversity offset credits. This Golden Sun Moth Construction Environmental Management and Rehabilitation Plan (GSM Plan) has been developed to comply with the conditions of approval (CoA) for the Project.

The Project has several phases, over an approximate four-year construction programme, that were broadly described in the Preliminary Documentation submitted as part of the approval process under the EPBC Act.

> **The original GSM Plan v1 covered the early enabling works. This version of the GSM plan is intended to cover the remaining elements of the early enabling works through to completion of the City to Commonwealth Park Light Rail Project (The Project). This will include the remaining four phases of works.**

As contemplated in the referral and preliminary documentation, MPC have continued to undertake design development activities in relation to the City to Commonwealth Park Light Rail Project and have provided an indicative construction footprint for this phase of works in ***Figure 2***.

MPC will trial innovative rehabilitation methods currently being developed by Parks and Conservation, ACT to be implemented originally within the southeast cloverleaf. The methods to be utilised for future restoration in the eastern median of Parkes Way will be based on the innovative rehabilitation methods to be trialled and refined in the southeast cloverleaf.

In addition, and consistent with the referral and preliminary documentation, the ongoing design has allowed for the development of details of the Project, including the development of an indicative construction footprint and scope of utility works (after consultation with stakeholders, utility owners and other service providers), as well as further details regarding construction compounds to facilitate the Project.

1.2 GSM Plan Objectives

The GSM Plan objectives are to:

- successfully complete translocation of GSM from areas approved for direct impacts.
- avoid activities that have direct impacts to retained GSM habitat.
- minimise project activities with the potential to indirectly impact retained GSM habitat.
- improve the quality of GSM habitat areas subject to temporary direct impacts.
- Implement rehabilitation activities within the southeast cloverleaf and eastern section of Parkes Way using experimental techniques developed by ACT Parks and Conservation.

Figure 1. Approved impacts to Golden Sun Moth habitat within the construction footprint

1.3 Legislative Context

The alignment of the Project falls under two administrative authorities: The National Capital Agency (NCA), a Commonwealth agency, and ACT Planning and Land Authority, part of the Environment Planning and Sustainable Development Directorate (EPSDD), an ACT Government department. The Project was subject to assessment and approval under the EPBC Act, on account of potential significant impacts on both listed threatened species and communities (Golden Sun Moth) and Commonwealth Land. Approval with conditions was granted in February 2021 (EPBC Act referral 2019/8582).

Notwithstanding the commitments made in this GSM Plan, all activities proposed will be the subject of Works Approval applications under the *Planning and Land Management Act 1988* (PALM Act) (Commonwealth). In the event that an application under the PALM Act is not approved, then MPC will notify DCCEEW in accordance with the Reporting provisions outlined in ***Section 5.2***.

Figure 2. City to Commonwealth Park Light Rail Project Alignment

The Project consists of five phases of work:

1. Early enabling works
2. Main civil works for raising London Circuit
3. Main civil works for rail infrastructure
4. Commissioning and testing
5. Handback

Utility relocation works will commence in phase 1 of the project and will continue throughout the lifecycle of the project where required. As noted in ***Section 1.1***, this revision of the GSM plan is intended to cover the remaining elements of the early enabling works through to completion of the City to Commonwealth Park Light Rail Project (**The Project**). This will include the remaining four phases of works. Further details regarding each phase of works can be seen in ***Section 1.4.1*** to ***Section 1.4.4***.

1.4.1 REMAINING ENABLING WORKS COVERED BY THIS GSM PLAN

As detailed in the GSM Plan 1.0 the enabling works consisted of the relocation of utilities, from the existing location on London Circuit, between Edinburgh Avenue and Constitution Avenue, to a proposed route via Vernon Circle that will also traverse part of Constitution Avenue. Clearing activities which formed part of the GSM Plan 1.0 will now be completed in unison with the main civil works, and include:

- **Clearance Area B:** Approximate 0.13 ha section of the Commonwealth Avenue median adjacent to Area A and north of the Parkes Way Bridge.
- **Clearance Area C:** Approximate 1.2ha section consisting of the north-western cloverleaf.

1.4.2 RAISING LONDON CIRCUIT WORKS COVERED BY THIS GSM PLAN

This phase of the Project would involve raising London Circuit between Edinburgh Avenue and Constitution Avenue on a gradual filled embankment to meet the current height of Commonwealth Avenue, and provision of a new signalised intersection between London Circuit and Commonwealth Avenue.

Key features of this phase of works would involve:

- Temporary closure of London Circuit between Edinburgh Avenue and Constitution Avenue.
- Infilling the London Circuit Road reserve between Edinburgh Avenue and Constitution Avenue, to form embankments from the intersections with those roads to around the existing height of Commonwealth Avenue.
- Removal of the existing ramps (cloverleaves) to the northwest and southwest of the London Circuit-Commonwealth Avenue interchange and modification of the existing ramp to the southeast to remove connection with London Circuit and retain connection between Parkes Way and Commonwealth Avenue.
- Staged closure and demolition of the northbound and southbound Commonwealth Avenue bridges over London Circuit, including infilling the London Circuit Road reserve below.
- Rebuilding London Circuit between Edinburgh Avenue and Commonwealth Avenue.
- Rebuilding London Circuit between Commonwealth Avenue and Constitution Avenue.
- Building a new signalised London Circuit-Commonwealth Avenue intersection, including capacity to accommodate proposed and potential future light rail infrastructure.
- Provision of active transport infrastructure, utility connections, lighting, street furniture, landscaping and drainage.
- Ancillary activities include construction compound sites, traffic diversions and traffic management measures.

These works will include the relocation of additional utilities within, and outside of, the construction footprint. Relocation will occur from the existing locations on London Circuit, between Edinburgh Avenue and Constitution Avenue, and extend to areas which are outside the footprint required to directly construct RLC. The impacted utilities that require relocation include bulk water and communications infrastructure. As contemplated in the referral and preliminary documentation, the scope of utility works has been developed as further design work has been undertaken, with the relevant utilities works including the relocation of bulk water supply mains, telecommunication infrastructure and associated infrastructure in those areas shown on ***Figure 2***.

As design has progressed and the construction methodology developed three compound areas will be used for these works, including:

- **Construction compound site A** – occupying part of the carpark currently in City Block 1, Section 116
- **Construction compound site B** – occupying the carpark currently in City Block 2 and City Block 3, Section 20
- **Construction compound site C** - occupying the carpark currently in Acton Block 24 Section 33

Figure 3. Early enabling and RLC works covered under this GSM Plan

Clearing of the southwest cloverleaf will be required to support the commencement the works. Translocation of activities will be required in the western side of Parkes Way (from the existing Commonwealth Avenue Bridge) during the construction of Raising London Circuit, prior to any works being undertaken in the area, as the existing high mast light in this area are currently non-functional (including the associated electrical connection) and will require repairing to comply with TCCS safety requirements. Rectifying this streetlighting issue is a condition of the National Capital Authority Works Approval. Clearing is to occur as soon as possible after approval has been obtained at the same time as clearing activities detailed in ***Section 1.4.1***.

NCA approval requirements also necessitate the removal of the high mast light in the southeast cloverleaf and installation of additional streetlighting as part of the Raising London Circuit works. The methodology for removal of this pole has been developed such that clearing will not be required in GSM habitat. All machinery, such as cranes and trucks, being operated from Commonwealth Avenue.

Installation of streetlighting will occur in the roadside verge of the south east cloverleaf outside GSM habitat. The construction methodology will require temporary dismantlement of the northern section of the chain-link fence around the translocation area to allow movement of the excavator boom.

Relocation of in-ground utilities between the grassland area on the verge north of the southeast cloverleaf and the southeast cloverleaf is also required prior to the construction of the retaining wall for Raising London Circuit.

Minor clearing of GSM Habitat is also required along the southern boundary of City Hill to allow installation of a footpath between Constitution Avenue and Edinburgh Avenue and also along the northern median of Parkes Way west of the bridge for irrigation infrastructure and to allow access to the Southwest cloverleaf.

Legend

- RLC Impact Boundary
- Clearance Area B
- Clearance Area C
- Clearance Area D
- Clearance Area E
- Construction Compound
- Translocation Area A

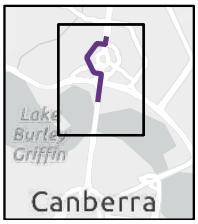

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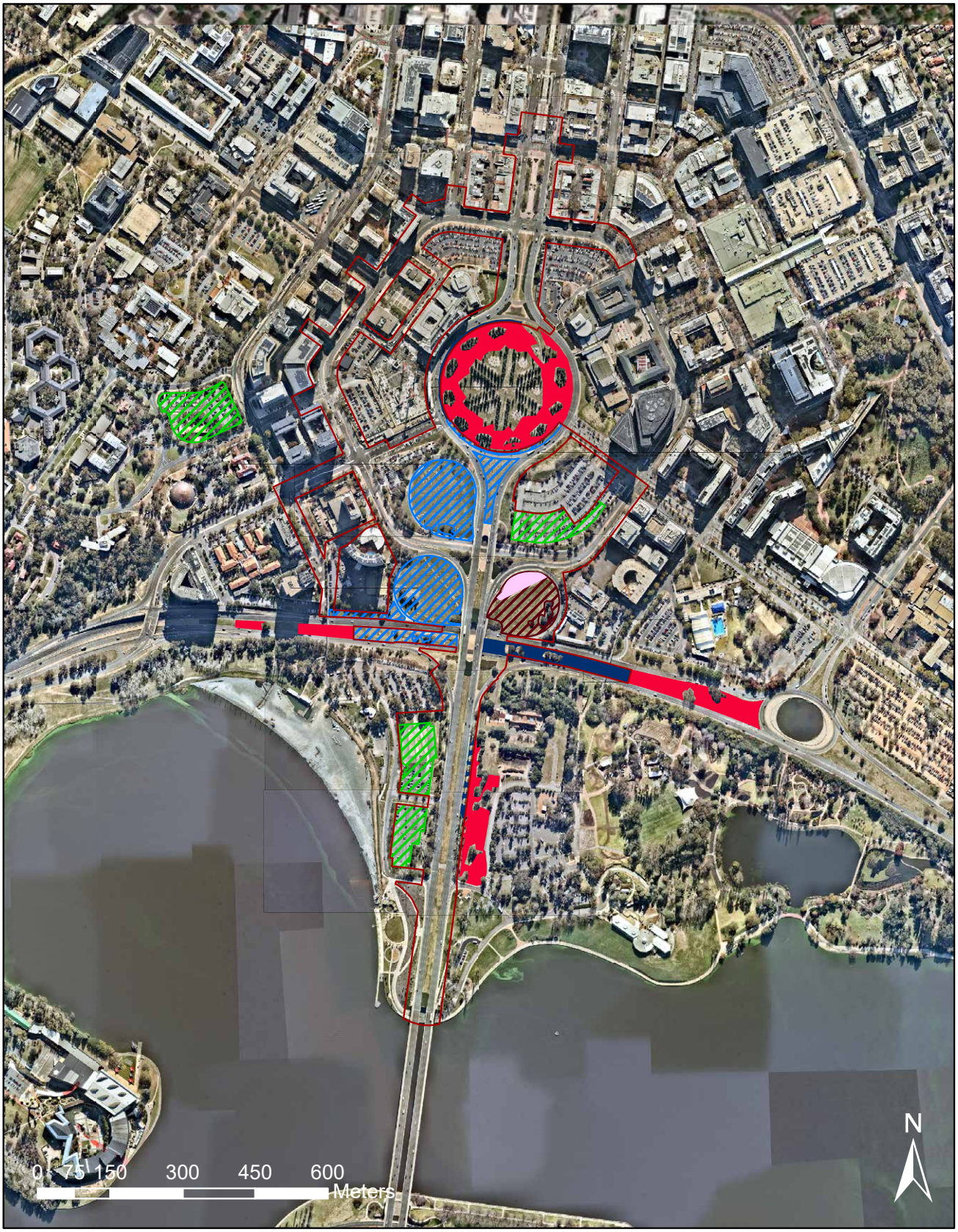
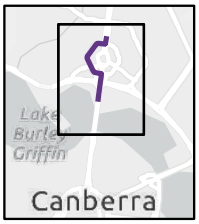
Figure 4. Summary of RLC Works, Exclusion Zones, and GSM Impacted Habitat



Legend

- Approved EPBC Boundary
- Areas to be cleared in advance of occupation
- Construction Compound
- Habitat extinguished during previous phases
- LRS2A works project personnel exclusion zone
- No-go zone excepting approved utilities works (rehab to commence upon completion of these works)
- Translocation Area A



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1.4.3 RAIL INFRASTRUCTURE WORKS COVERED BY THIS GSM PLAN

This phase would include three key works packages: stop and terminus construction, track works, and road works. All works packages would involve common activities including earthworks and excavations, the use of heavy equipment and machinery, the movement of materials and waste, and general surface and foundational works. The footprint required for completion of this phase of works can be seen in ***Figure 5***.

Key features of this phase of works would involve:

- 1.7-kilometre light rail running from the City to Gungahlin light rail Alinga Street terminus down the middle of London Circuit and Commonwealth Avenue to Commonwealth Park.
- Two light rail stops at Edinburgh Avenue and City South and a terminus at Commonwealth Park.
- One scissor crossover to allow light rail vehicles to reverse direction.
- Wire-free running along the entire alignment to prevent the need to install overhead line equipment and to reduce the Proposed Action's visual impact; especially in areas of cultural value and amenity sensitivity.
- Light rail specific bridge crossing of Parkes Way.
- Utility adjustments, relocations and provisions.
- Landscaping features sympathetic with Canberra's design as envisioned by the Griffins' along with requirements set out in other Territory and Australian Government policy.
- 'Green tracks' running along Commonwealth Avenue that involve planting grass or shrubs between and besides the light rail track.
- Intersection layout, traffic signal phasing and road traffic speed changes along the route.
- Pedestrian footpaths and crossing modifications.
- Road widening and verge and kerb line changes.

The construction compounds which are utilised for Raising London Circuit will be maintained with the Acton Compound being extended to include the car park further to the south currently Acton Block 1 Section 95.

Clearing of the eastern side of Parkes Way will be required prior to construction of the additional bridge over Parkes Way. Minor clearing of GSM Habitat is also required along the eastern verge of Commonwealth Avenue to allow relocation of utilities.

1.4.4 COMMISSIONING, TESTING AND HANDBACK WORKS COVERED BY THIS GSM PLAN

Testing and commissioning would involve running trials of the light rail vehicles to test the rails, stops, equipment, and service reliability. Post-works management and monitoring of habitat restoration works would also occur. The final phase would be an audit inspection which would be carried out to address any defects after which the light rail and road would be handed over to the appointed operational and maintenance contractor. During the last two phases no-go zones would be established to protect rehabilitation areas as shown in ***Figure 6***.

1.4.5 TRANSLOCATION ACTIVITIES

Translocation works will be undertaken prior to clearing of each affected area which is deemed suitable. Details on the translocation methodology, including a framework to determine which areas are suitable to have larvae translocated, is provided in ***Appendix C***.

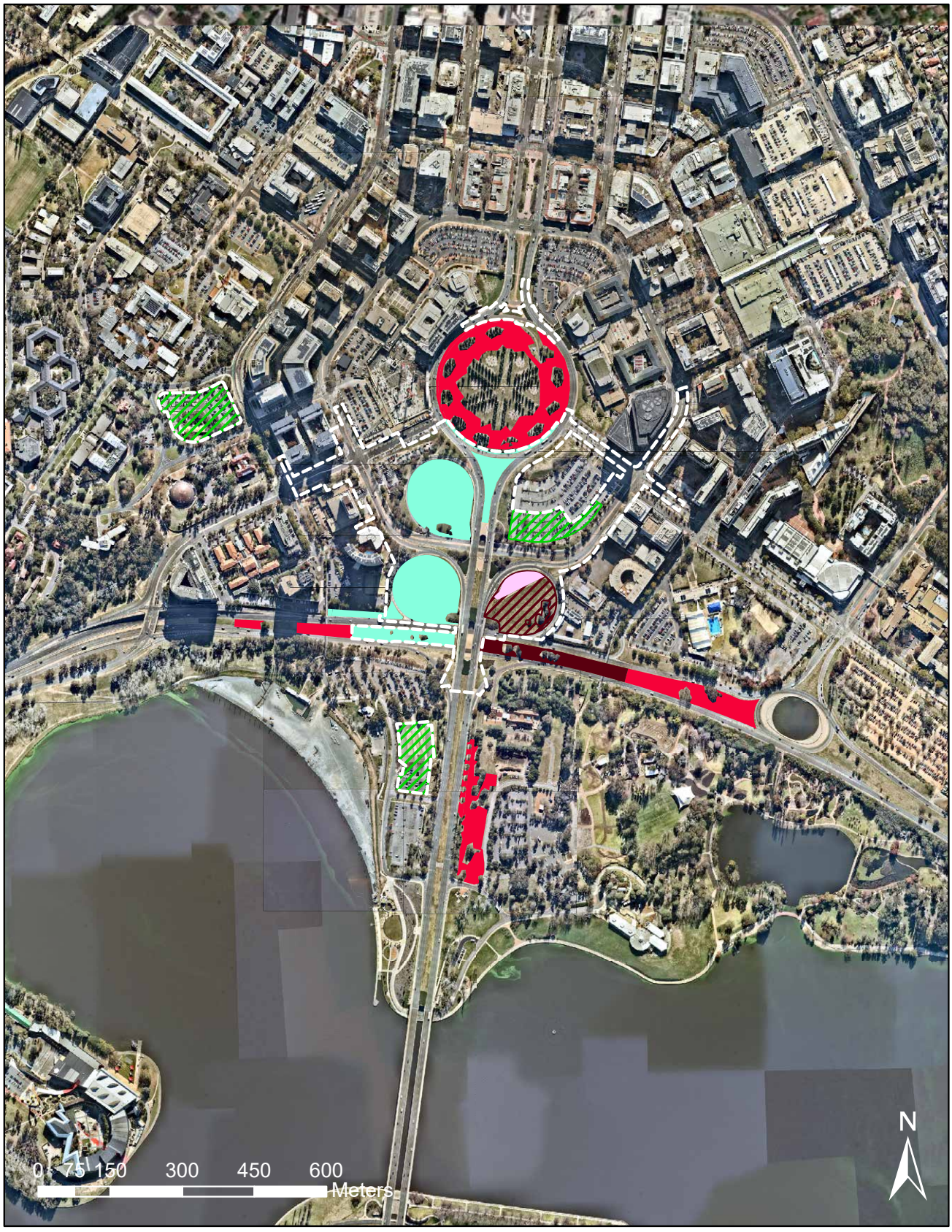
Raising London Circuit Translocation activities

All GSM larvae salvaged from translocation activities will be placed into the northern section of the south-east cloverleaf **(Translocation Area A)**. This area was fenced during the GSM Plan 1.0. A total area of 0.23ha is nominated to receive GSM larvae from the translocation works proposed within this phase of works (***Figure 3***). In accordance with the CoA the area within which GSM will be translocated will be clearly marked as a 'no-go' zone as a part of this current phase of works.

Rail Infrastructure works translocation activities

All GSM larvae salvaged from translocation activities within Parkes Way will be placed within the southeast cloverleaf as shown in ***Figure 5***. In accordance with the CoA the area within which GSM will be translocated will be clearly marked as a 'no-go' zone as a part of this current phase of works.

Figure 5. Rail infrastructure works covered under this GSM Plan



Legend

- RLC Impact Boundary
- RLC works impacted GSM habitat
- RLC works project personnel exclusion zone
- No-go zone at all times other than during approved utilities works
- No-go zone
- Construction Compound
- Translocation exclusion area

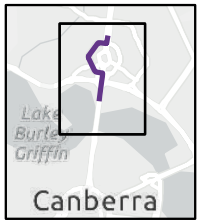


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Figure 6. Summary of commissioning, testing and handback, Exclusion Zones, and GSM Impacted Habitat

Legend

- LRS2A Construction Footprint
- Habitat extinguished during previous phases
- Phase 4-5 works project personnel exclusion zone
- No-go zone

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Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere

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1.4.6 RESTORATION ACTIVITIES

Following completion of utility relocation works in the southeast cloverleaf, rehabilitation activities and management of GSM habitat will commence using methodology developed in collaboration with the ACT Parks and Conservation Service, Environment, Planning and Sustainable Development Directorate. Details of the rehabilitation methodology is provided in ***Appendix D***. The methodology being trialled in the southeast cloverleaf will be refined and utilised in the rehabilitation of Parkes Way.

Prior to commencement of rehabilitation works the cyclone chain-link fence which surrounds the northern section of the Southeast cloverleaf will be extended around the whole boundary of the cloverleaf. The gauging of the fence will be appropriate to enable GSM flight, while excluding rabbit access with consideration of risk of infant rabbits becoming stuck in the structure. Access to the southeast cloverleaf for rehabilitation activities will be via the existing gate. The presence of high flow traffic in both directions on Parkes Way effectively controls the rabbit population within the median. As such the installation of a fence to control rabbits is not required in this location.

1.5 Golden Sun Moth and the Project

The Golden Sun Moth is listed as a critically endangered species under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and as endangered under the ACT Nature Conservation Act 1980.

The GSM has been recorded across 78 sites in the ACT, preferring low-land, areas with less than 5% canopy cover. Golden Sun Moth larvae are known to utilise the Weed of National Significance Chilean Needle Grass *(Nassella neesiana)* as a food plant. The use of Chilean Needle Grass as a food plant, has allowed GSM to distribute and survive in degraded disturbed habitat such as road reserves and urban grassed areas, just like those found within the Project construction footprint.

Approximately 8.09ha of GSM habitat is confirmed in the Project construction footprint. Previous investigations including field-based surveys and desktop reviews determined the extent of the habitat and were summarised in the Preliminary Documentation prepared as part of the Project's approval process under the EPBC Act.

Flying period surveys were completed over a four-year period from 2015 to 2019. The surveys maximised the understanding of detected GSM within the Project construction footprint, aided in limiting uncertainty and error in defining impacts to GSM, and established the broader context of the GSM population across the Canberra City area, within which the Project construction footprint is located.

Survey results varied considerably, due mostly to the ecology of the GSM, climatic conditions, and seasonal variation. Survey results recorded in 2017 and 2019 were generally low, compared with previous year's sampling. Consistently low rainfall limiting plant growth for larvae and habitat disturbance, such as from the European Rabbit, are among the key stressors impacting GSM population numbers.

GSM habitat is confirmed within the median of Parkes Way, the northwest, southwest, and southeast cloverleaves, median of Commonwealth Avenue, and across City Hill (***Figure 2***). The habitat is grassland dominated by Chilean Needle Grass, with isolated patches of Wallaby Grasses. Habitat areas within the Project area are largely confined to small patches within road medians and verges. The existing land use of roads, built structures, and dense landscape plantings renders the patches fragmented. Habitat that is separated by more than 200m or divided by solid barriers higher than 1m, are effectively isolated and therefore considered to be separate populations. Distances between populations in the Project area vary from approximately four metres to 150m. From these factors, overall, the habitat of the area is characterised as being of low quality.

1.5.1 APPROVED PROJECT IMPACTS TO GSM HABITAT

The approved impacts to GSM are categorised as direct and indirect impacts. Direct impacts are actions that results in a temporary or permanent loss of habitat. An indirect impact is an activity which results in a disturbance associated with habitat fragmentation, isolation, degradation.

An overall summary of the impacts to GSM across the Project is provided in ***Table 1***.

The total direct impacts to GSM habitat across the Project area equate to approximately 4.76ha. Of this total direct impact area 1.43ha will be rehabilitated post-construction in partnership with Parks and Conservation Services of the ACT Government. The total indirect impacts to GSM habitat across the Project area are approximately 3.33ha.

In accordance with the CoA, the project will not directly impact a greater habitat area than 4.76ha, or indirectly impact more than 3.33ha of habitat.

A total of 6.66ha of GSM habitat is impacted by both direct and indirect impacts from Project activities. The project will purchase and retire 82 like-for-like species credits in accordance with CoA 6.

Table 1. Summary of Approved Impacts to GSM Across the Project Construction Footprint

IMPACT	NATURE	EXTENT	IMPACT TYPE
Habitat Loss	Direct	Direct removal of 3.33ha of GSM habitat	Permanent Loss
		Direct removal of 1.43ha of GSM habitat	Short-term disturbance. Area will be rehabilitated
Habitat Fragmentation & Isolation	Indirect	Indirect impacts associated with the fragmentation and isolation of 2.07ha remaining GSM habitat	Permanent Reduction
		Indirect impacts associated with the fragmentation and isolation of 1.26ha of remaining GSM habitat	Permanent Reduction

2.0 RISK ASSESSMENT AND MANAGEMENT

2.1 Risk Assessment Process

A preliminary risk assessment was conducted for all works. The preliminary risk assessment was conducted in accordance with the standard risk framework as provided by DCCEEW. The risks associated with the potential impacts are analysed as a function of the likelihood of the risk occurring and the consequences associated with the risk occurring. The risks and impacts identified are assigned likelihood and consequence ratings as per the definitions set out in the guidance documentation from DCCEEW (2021) and presented in ***Table 2*** and described in ***Section 2.2*** and ***Section 2.3***.

The Environmental Management Plan Guidelines (2014) and guidance documentation provided by DCCEEW in April 2021 define the assessment of risk as the *'failure to achieve the plan's objectives'*. As such, the preliminary risk assessment was undertaken to identify key risks to achieving the GSM Plan's objectives. The key risk aspects influencing the objectives of the GSM plan in the risk assessment are:

- the failure of translocation efforts.
- disturbance or direct impacts to GSM habitat identified as being retained.
- degradation of GSM habitat to be retained through additional weed introduction, edge effects or other indirect impacts from the project activities.
- retained GSM habitat rehabilitation efforts fail.

Each risk aspect has one or more scenarios that could affect the achievement of the objectives. Each of these scenarios is considered, by attributing a level of likelihood and consequence, and then establishing the resultant risk level (using the risk matrix identified in ***Table 2***). It is important to note that the risk assessment for the project is based on a business-as-usual specification, or current operations (for example, the public can currently access areas of GSM habitat).

Table 2. Risk matrix used for the risk assessment

		CONSEQUENCE				
		Minor	Moderate	High	Major	Critical
LIKELIHOOD	Highly Likely	Medium	High	High	Severe	Severe
	Likely	Low	Medium	High	High	Severe
	Possible	Low	Medium	Medium	High	Severe
	Unlikely	Low	Low	Medium	High	High
	Rare	Low	Low	Low	Medium	High

2.2 Likelihood

The likelihood of an impact occurring is best described in terms of its associated probability. Typically, the probability of a particular outcome occurring is determined through qualitative assessment by experienced practitioners. However, in all qualitative assessments there is a degree of uncertainty associated with the ability for qualitative assessments to be made (i.e. reflecting the availability of knowledge, human error, etc.).

Consequently, in the assignment of probabilities it is considered best practice to adopt a conservative approach (i.e. over-estimate the probability of impact occurrence) to account for the underlying uncertainty. Such assumptions were applied in completing the risk assessment process for this GSM Plan. ***Table 3*** illustrates the criteria used to determine the likelihood of a risk scenario occurring.

Table 3. Qualitative Description to Characterise Likelihood

Highly Likely	Is expected to occur in most circumstances
Likely	Will probably occur during the life of the project
Possible	Might occur during the life of the project
Unlikely	Could occur but considered unlikely or doubtful
Rare	May occur in exceptional circumstances

2.3 Consequence

The consequences of a risk scenario require a degree of subjective assessment as the consequences of an impact may consist of several elements. A subjective decision is needed for each possible impact as to the level of consequence taking a balanced view of the impact against each of the elements.

Evaluating a consequence is developed from the definitions captured in ***Table 4***. The consequence of an impact used in the risk assessment needs to be the reasonably foreseeable consequence.

Table 4. Evaluating Consequence

Minor	Minor risk of failure to achieve the plan's objectives. Results in short term delays to achieving plan objectives, implementing low cost, well characterised corrective actions.
Moderate	Moderate risk of failure to achieve the plan's objectives. Results in short term delays to achieving plan objectives, implementing well characterised, high cost/effort corrective actions.
High	High risk of failure to achieve the plan's objectives. Results in medium-long term delays to achieving plan objectives, implementing uncertain, high cost/effort corrective actions.
Major	The plan's objectives are unlikely to be achieved, with significant legislative, technical, ecological and/or administrative barriers to attainment that have no evidenced mitigation strategies.
Critical	The plan's objectives are unable to be achieved, with no evidenced mitigation strategies.

2.4 Preliminary Risk Assessment

The following table canvasses the likelihood and consequences of the key risks adapted from the Preliminary Documentation. The risks are presented in the following table prior to the application of any relevant mitigation measures.

Table 5. Preliminary Risk Assessment

ID	(RISK ASPECT) SCENARIO	LIKELIHOOD	CONSEQUENCE	RISK LEVEL
Disturbance or direct impacts to GSM habitat identified as being retained				
PR1	Project related vehicle or machinery access to exclusion sites resulting in direct impacts to GSM habitat identified as being retained. *NB: MPC will not be able to preclude access to third party contractors who may be required to perform road or utility maintenance works (not related to the project) within these road reserve areas.*	Likely	High	High
PR2	Public access to exclusion sites results in direct impacts to GSM habitat identified as being retained. *NB: Public access to all these locations is currently permissible*	Likely	Minor	Low
PR3	Ancillary construction activities occur in GSM habitat identified as being retained, causing direct impacts to GSM habitat.	Possible	Major	High
The failure of translocation efforts.				
PR4	Translocation activities inadvertently result in mortality of GSM individuals.	Possible	High	Medium
PR5	GSM individuals are not identified during translocation activities.	Possible	High	Medium
Degradation of GSM habitat to be retained through additional weed introduction, edge effects or other indirect impacts from the project activities				
PR6	Uncontrolled run off from overland flows through construction areas reduces quality of adjacent GSM habitat conditions.	Likely	High	High
PR7	Uncontrolled dust from construction activity settles in adjacent GSM habitat identified to be retained reducing habitat quality.	Possible	Moderate	Medium
PR8	Introduction of weed species (particularly African Lovegrass) to habitat within the project construction footprint from stockpiling of plant material reduces the suitability or retained habitat for GSM.	Unlikely	Moderate	Low
PR9	Introduction of weed species (particularly African Lovegrass) to habitat within the project construction footprint from machinery or another vector reduces the suitability or retained habitat for GSM.	Likely	Moderate	Medium
Retained GSM habitat rehabilitation efforts fail.				
PR10	Seeding and/or virotube plantings do not establish therefore failing to enhance GSM habitat quality.	Possible	Moderate	Medium
PR11	Use of soil microbe communities from healthy native grassland areas failing to enhance GSM habitat quality.	Possible	Moderate	Medium
PR13	Weed content increases in rehabilitation areas.	Possible	Moderate	Medium

3.0 ENVIRONMENTAL MANAGEMENT CONTROLS

3.1 Introduction

This section of the GSM Plan outlines the project specific environmental management measures and controls that will be implemented. The management measures identified in ***Table 5*** govern the relevant activities to be implemented during the early enabling works phase to meet the requirements as set out under CoA 1-14.

As highlighted by the Preliminary Risk Assessment in ***Section 2.4*** the key risks to achieving the objectives of this plan include:

- The failure of translocation efforts.
- Disturbance or direct impacts to GSM habitat identified as being retained.
- Degradation of GSM habitat to be retained through additional weed introduction, edge effects or other indirect impacts from the project activities.
- Retained GSM habitat rehabilitation efforts fail.

Each management control listed in ***Table 6***:

- Has timeframes for implementation;
- Is described sufficiently to avoid ambiguity and to inform plan implementation;
- Is related to attaining/maintaining performance targets; and
- Is derived from recognised principles, practice, or guidelines, and is justified - technically, scientifically and/or legally (e.g. by recommendation in a national recovery plan) – as an effective and appropriate measure to attain and/or maintain the plan's performance targets.

Table 6. Environmental Management Controls

Code	Environmental Management Controls	Timing for Implementation	Monitoring Requirements	Monitoring Frequency	Performance Indicators	Corrective Action	Responsibility
Disturbance or direct impacts to GSM habitat identified as being retained							
EMC1	No-go and exclusion zones will be clearly signed and identified in all project documentation and detailed within the induction.	No go-zone to be implemented at the commencement of early enabling works. Exclusion zones around the translocation area in the SE cloverleaf will be implemented as part of enabling works. Exclusion zones for the entire SE cloverleaf will be in place prior to the commencement of rehabilitation works.	Site walkovers to inspect all exclusion zones and signage. Exclusion zones clearly mapped on all required documentation.	Weekly during rehabilitation works.	No evidence of access, construction activity or other, within no go exclusion zones. Signage and fencing maintained. Induction records.	Non-compliance reporting completed, and submitted. Reinduction. Immediate removal of items. Reinstatement of signage and fencing. Development of remediation actions, if required.	Site supervisor Environmental Manager
EMC2	Minimise use of soil stockpiles in proximity to known GSM populations to prevent introduction of weeds or pathogen propagules into the area. Spoil is only to be stored long term (+10 days) outside the 20m buffer area to existing populations. Spoil is to be reused on site where practicable. No spoil will be stockpiled within GSM habitat area's unless those areas have been cleared during preliminary works. Excess spoil will be transported out of GSM habitat areas to nominated compound area and disposed of at a licensed facility within 28 days of excavation. No topsoil will be brought imported to GSM Habitat areas unless associated with rehabilitation activities. Any stockpiles will be treated by measures such as covering or spraying with water and polymers.	From Commencement of early enabling works activities and during all construction phases.	Spoil to be transported offsite as specified . Materials placed in bunded areas. No movement of visible dust offsite. Inspection of stockpiles after rain and/or high wind events.	Weekly during construction works. After rain and/or high wind events.	No evidence of spoil or material stored outside of bunded areas. Compliance with storage and removal requirements.	Non-compliance reporting completed, and submitted. Reinduction. Immediate removal of items. Development of remediation actions, if required.	Site supervisor Environmental Manager

Code	Environmental Management Controls	Timing for Implementation	Monitoring Requirements	Monitoring Frequency	Performance Indicators	Corrective Action	Responsibility
EMC3	Effective erosion and sediment controls are implemented throughout the enabling works to mitigate erosion impacts to temporary impact areas of the southeast cloverleaf and Commonwealth Avenue medium. Sediment and erosion structures will include green sediment fences, geo-polymer and geofabric. Excess spoil will be transported out of GSM habitat areas to nominated compound area and disposed of at a licensed facility within 28 days of excavation. Nominated compound area will be surrounded by either sediment fencing/sandbagged or be bunded. No spoil will be stockpiled within GSM habitat area within the Southeast cloverleaf or Parkes Way east following commencement of rehabilitation.	From Commencement of early enabling works activities.	Site walkovers to inspect sediment and erosion control structures . Visual inspection of silt fencing to ensure no seepage is occurring. Visual inspection of habitat within temporary impact areas.	Weekly during enabling works construction.	Sediment and erosion control structures in place with no visible failings. Soil suitably compacted around silt fencing to ensure no seepage is occurring. No visible collection of sediment with habitat areas.	Non-compliance reporting completed, and submitted. Reinstatement of sediment and erosion control structures.	Site supervisor Environmental Manager
EMC4	Access to the no-go and exclusion zones is restricted during each phase of the works in line with Figure 4 for Phase 2, Figure 6 for Phase 3 and Figure 7 for Phases 4 and 5. Mapping to be provided to and discussed with all workers prior to commencement of works during induction and to be included routinely in Daily Toolbox talks.	From Commencement of early enabling works activities.	Site walkovers to inspect that no vehicles, stockpiles, storage items or other construction associated items to be located within designated exclusion zones. Site walkovers to confirm fencing and signage are maintained.	Monthly from mid-2022 to late 2026.	No evidence of access, construction activity or other, within no go exclusion zones. Fencing integrity maintained. Induction records.	Non-compliance reporting completed, and submitted. Reinduction . Reinstatement of fencing or signage. Development of remediation actions, if required.	Environmental Manager

Code	Environmental Management Controls	Timing for Implementation	Monitoring Requirements	Monitoring Frequency	Performance Indicators	Corrective Action	Responsibility
EMC5	Reduce truck speeds on site to reduce wheel generated dust.	From Commencement of early enabling works activities.	Temporary Traffic Management requirements to set construction speed to be complied with throughout works within roads adjacent to habitat areas. No movement of visible dust into habitat areas.	Daily during construction works.	Construction vehicles to adhere to construction speed limits and all TTM requirements . No visible dust collecting in habitat areas.	Non-compliance reporting completed, and submitted. Reinduction.	Site supervisor Environmental Manager
EMC6	Surface water flows are managed with stabilisation measures to prevent the spread of harmful pollutants and ponding of water in areas of temporary indirect impacts. Stabilisation measures will include but are not limited to leveling impacted areas to avoid ponding and/or spraying impacted areas with polymers to provide stabilisation. Further details of stabilisation measures to be implemented will be subject of an NCA works approval.	From Commencement of early enabling works activities – maintained until Phase 5 – Project Handback.	Site walkovers to confirm no visible pooling of water or failing in structures is occurring.	Weekly during construction works.	Stabilisation measures in place with no visible failings. Water draining through site with no pooling.	Non-compliance reporting completed, and submitted. Reinstatement of temporary structures.	Site supervisor Environmental Manager
EMC7	Maintaining vegetation/ground cover as long as possible prior to clearing through staging of works and established no go exclusion zones.	Prior to early works commencing. Prior to commencement of Phase 2 works in mid-2022.	Minimal exposed areas. No movement of visible dust into habitat. No visible pooling of water in temporary impact areas.	Prior to clearing activity.	Compliance with construction program of works. Fencing integrity maintained. Induction records.	Non-compliance reporting completed, and submitted. Issue stop works order. Reinduction. Development of remediation actions, if required.	Site supervisor Construction Manager Environmental Manager

Code	Environmental Management Controls	Timing for Implementation	Monitoring Requirements	Monitoring Frequency	Performance Indicators	Corrective Action	Responsibility
Degradation of GSM habitat to be retained through additional weed introduction, edge effects or other indirect impacts from the project activities							
EMC8	The following control measures are to be implemented in line with standard biosecurity protocols including: • Inspect vehicle, equipment, and footwear prior to entering site. • Preferably clean all vehicles, equipment, and footwear offsite prior to entering. • If vehicles are not clean prior to entering site utilise dedicated cleaning bays at the compounds. • Within wash bays clean footwear, equipment and vehicles with a hard brush or stick to remove as much mud, soil and organic matter as practicable before disinfecting with a solution of 70% methylated spirits and 30% water applied through a spray bottle.	From commencement of early enabling works activities.	Inspection points to confirm vehicles and machinery entering the site are free of soil and vegetation. Site walkovers to inspect all exclusion zones are appropriately fenced and signed.	Daily during construction works.	Construction vehicles to adhere to site protocols. Fencing integrity maintained. Induction records.	Removal of vehicle from site. Non-compliance reporting completed, and submitted. Reinduction.	Surveillance Officer Site Supervisor
EMC9	Weeds that are cleared are not stockpiled onsite and are placed within designated bins in hardstand areas, to be removed from the action area as soon as practical.	From Commencement of early enabling works activities.	Site walkovers to inspect all exclusion zones are appropriately delineated and signed and maintained. Site walkovers to inspect project construction footprint for stockpiles of cleared weeds.	Weekly during construction works.	Compliance with site procedures. Fencing integrity maintained. Induction records.	Non-compliance reporting completed, and submitted. Immediate removal and appropriate disposal of any stockpiled weeds. Reinduction.	Site supervisor Environmental Manager

Code	Environmental Management Controls	Timing for Implementation	Monitoring Requirements	Monitoring Frequency	Performance Indicators	Corrective Action	Responsibility
EMC10	Disposal of any weed material at an appropriately licensed facility.	From Commencement of early enabling works activities.	Compliance records. Site walkovers to inspect all exclusion zones are appropriately delineated and signed and maintained. Site walkovers to inspect project construction footprint for stockpiles of cleared weeds.	Weekly during construction works.	Compliance with site procedures. Fencing integrity maintained. Induction records.	Non-compliance reporting completed, and submitted. Reinduction.	Site supervisor
EMC11	The condition of habitat (including weed extent) is monitored to ensure that there is a reduction in weeds and exotic species within rehabilitation areas.	From commencement of early enabling works activities.	Weed management specialist to undertake survey prior to commencement of works in the Southeast cloverleaf. Monthly environmental inspection to assess weed content of rehabilitation areas.	Monthly during rehabilitation.	Weed extent has not increased since baseline survey completed prior to translocation activities.	Implement mechanical or chemical weed control measures as soon as practicable and appropriate, with consideration to the target weed species.	Qualified Ecologist Weed Management consultant Environmental Manager
EMC12	Assess the extent and density of the GSM population and condition of habitat (including weed extent) through surveys prior to the commencement of works in GSM Habitat areas Ecologist to utilise previous surveys completed within the impact areas.	Prior to construction.	Qualified ecologist undertakes surveys in accordance with best practice methodology within Commonwealth Avenue median and northwest cloverleaf.	Once, prior to translocation activities take place.	Qualified ecologist onsite prior to any clearing activity. Induction records.	Non-compliance reporting completed, and submitted. Stop works order issued. Ecologist to complete survey prior to works commencing again.	Qualified Ecologist Environmental Manager

Code	Environmental Management Controls	Timing for Implementation	Monitoring Requirements	Monitoring Frequency	Performance Indicators	Corrective Action	Responsibility
EMC13	Translocation of GSM larvae from identified areas (median of Commonwealth Avenue, northwest cloverleaf, southwest cloverleaf) to southeast cloverleaf must be undertaken after the 2021/2022 flying period. Clearing activities in areas of GSM habitat must not occur until translocation is complete. Ecologist to list co-ordinates of locations for GSM larvae translocated within the Southeast cloverleaf.	Early 2022 Prior to construction early enabling works and Raising London Circuit. Prior to construction of Parkes Way Bridge.	Qualified ecologist undertakes translocation in accordance with best practice methodology. Compliance records.	Once, prior to translocation activities take place.	Qualified ecologist to confirm conditions, and ensure flyting period has not commenced prior to any translocation activities occurring. Induction records.	Non-compliance reporting completed, and submitted. Stop works order issued. Ecologist to complete survey prior to works commencing again.	Qualified Ecologist Environmental Manager
The failure of translocation efforts							
EMC14	Clearing activities in areas of GSM habitat must not occur during the GSM flying period, usually between mid-October and early January.	January 2022 Prior to clearing activities.	Contractor conducts clearing activity as directed by qualified ecologist outside of September – January.	Daily during clearing activities in.	Qualified ecologist onsite during any clearing activities . Induction records.	Non-compliance reporting completed, and submitted. Stop works order issued. Ecologist to complete survey prior to works commencing again.	Qualified Ecologist Environmental Manager
EMC15	Marking-out, signage, and fencing of clearing limits are clearly identified. The details of fencing and signing measures to be implemented will be subject of an NCA works approval.	Prior to clearing activities. April 2022 (clearance area B, C and D).	Contractor conducts clearing activity within identified clearing areas. Inspection of no-go exclusion zones undertaken prior to any clearing works. Qualified ecologist on site during any clearing activities.	Daily during clearing activities in.	Qualified ecologist onsite during any clearing activities. Induction records. Fencing and signage integrity maintained.	Non-compliance reporting completed, and submitted. Stop works order issued. Ecologist to complete survey prior to works commencing again.	Qualified Ecologist Environmental Manager

Code	Environmental Management Controls	Timing for Implementation	Monitoring Requirements	Monitoring Frequency	Performance Indicators	Corrective Action	Responsibility
EMC16	No permanent structures, including trees are planned for installation within the Southeast cloverleaf and eastern median of Parkes Way which have the capacity to shade the rehabilitation areas. No installation of permanent structures, including trees with the capacity to shade the rehabilitation areas. Signage on fencing surrounding Southeast cloverleaf translocation area to indicate placement of materials in these areas is prohibited.	Commencing August 2021 Construction	Site walkovers to ensure compliance with site plans and no structures are installed or materials placed within retained GSM habitat areas.	Monthly during construction works.	Materials stockpiled in identified compound area only. No structures installed within rehabilitation areas. Fencing integrity maintained. Induction records.	Non-compliance reporting completed, and submitted. Non-compliance reporting completed, and submitted. Induction. Removal of material/ structures as soon as practicable. Development of remediation actions, if required.	Environmental Manager
The failure of rehabilitation efforts							
EMC 18	Implement restoration activities within the southeast cloverleaf using experimental techniques developed by ACT Parks and Conservation (refer to ***Appendix D***).	Commencing after completion of all works in the Southeast cloverleaf.	Photo recording after native planting. Specialist ecologist to monitor GSM populations and habitat in the restoration areas.	At six-month intervals after native planting has occurred. Annually in flying season for GSM. Biannually after planting for first years then annually if native replanting establishes.	Photo records indicate an increase in native grass populations and decrease in exotic species. Performance criteria for native grasses including indicators around: - % C3 Cover - % native grass cover - Grass biomass - % bare ground - % exotics Which would indicate improved habitat for GSM.	Replanting native seeds if required. Weed management if exotics spread into rehabilitation area.	

3.2 Residual Risk Assessment

The Preliminary Risk assessment presented in ***Section 2.4*** contemplated the risks to the Objectives of this GSM Plan without the application of any environmental management controls. Having regard to the proposed environmental management controls presented in ***Table 6***, the following residual risk assessment assesses how the proposed controls will reduce the likelihood or the consequence of the identified risks, to reduce the overall risk level.

Table 7. Residual Risk Assessment

	(RISK ASPECT) SCENARIO	LIKELIHOOD	CONSEQUENCE	RISK LEVEL
ID	**Disturbance or direct impacts to GSM habitat identified as being retained**			
PRX	Preliminary Risk Assessment	Likely	High	High
	Residual Risk Assessment	Unlikely	Moderate	Low
PR1	Project related vehicle or machinery access to exclusion sites resulting in direct impacts to GSM habitat identified as being retained. *NB: MPC will not be able to preclude access to third party contractors who may be required to perform road or utility maintenance works (not related to the project) within these road reserve areas.*	Possible	High	Medium
PR2	Public access to exclusion sites results in direct impacts to GSM habitat identified as being retained. *NB: Public access to all these locations is currently permissible.*	Unlikely	Minor	Low
PR3	Ancillary construction activities occur in GSM habitat identified as being retained, causing direct impacts to GSM habitat.	Rare	Major	Medium
	The failure of translocation efforts.			
PR4	Translocation activities inadvertently result in mortality of GSM individuals.	Unlikely	High	Medium
PR5	GSM individuals are not identified during translocation activities.	Possible	Moderate	Medium
	Degradation of GSM habitat to be retained through additional weed introduction, edge effects or other indirect impacts from the project activities			
PR6	Uncontrolled run off from overland flows through construction areas reduces quality of adjacent GSM habitat conditions.	Unlikely	High	Medium
PR7	Uncontrolled dust from construction activity settles in adjacent GSM habitat identified to be retained reducing habitat quality.	Unlikely	Moderate	Low
PR8	Introduction of weed species (particularly African Lovegrass) to habitat within the project construction footprint from stockpiling of plant material reduces the suitability or retained habitat for GSM.	Unlikely	Moderate	Low
PR9	Introduction of weed species (particularly African Lovegrass) to habitat within the project construction footprint from machinery or another vector reduces the suitability or retained habitat for GSM.	Possible	Moderate	Medium
	Retained GSM habitat rehabilitation efforts fail			
PR10	Seeding and/or virotube plantings do not establish therefore failing to enhance GSM habitat quality.	Unlikely	Moderate	Medium
PR11	Use of soil microbe communities from healthy native grassland areas failing to enhance GSM habitat quality.	Possible	Moderate	Medium
PR13	Weed content increases in rehabilitation areas.	Unlikely	Moderate	Low

4.0 IMPLEMENTATION

4.1 Operational Control

The approval decision was made under sections 130(1) and 133(1) of the EPBC Act and granted to the Major Project Canberra based on the referral and preliminary documentation. Section 134(1A) of the EPBC Act applies to this approval, which provides, in general terms, that if MPC authorises another person to undertake any part of the action, then MPC must take all reasonable steps to ensure that the other person is informed of any conditions attached to this approval, and that the other persons comply with any such condition.

4.2 Hold Points

A hold point is a mandatory verification point beyond which a work process cannot proceed without authorisation by either DCCEEW or Major Projects Canberra. The work cannot proceed until the relevant party is able to verify the evidence to enable release of the hold point by written instruction or advice. Hold points for the project are contained within ***Table 8***.

Table 8. Hold points

#	HOLD POINT DESCRIPTION	TIMING	RESPONSIBILITY	COMPLIANCE RECORD AND SIGN OFF
1	Retire 82 like-for-like species credits and provide evidence to DCCEEW.	July 2021. Prior to commencement of work.	MPC	MPC and DCCEEW
2	The GSM Plan 2.1 submitted and considered by DCCEEW.	Late 2022.	MPC	MPC and DCCEEW
3	Signage of no-go zones.	Prior to commencement of early enabling works.	MPC	MPC
4	Pre-clearance survey and translocation is undertaken prior to clearing of required GSM habitat areas (Commonwealth Ave median adjacent to Vernon Circle, northwest cloverleaf and southwest cloverleaf.	March 2022. Prior to commencing works in GSM habitat area.	MPC / Umwelt	MPC
5	Notification of commencement of works covered by GSM Plan 2.1.	10 days after commencement of work.	MPC	DCCEEW
6	Submission of induction and training records to MPC.	7 days prior to commencement of work.	Contractors undertaking works	MPC
7	Publish GSM Plan 2.1 on public website.	20 days after approval by minister.	MPC	DCCEEW
8	Prepare annual compliance report.	Publish each compliance report on the website within 60 business days following the relevant 12-month period (date of commencement is 30/7/21).	MPC	DCCEEW

4.3 Roles and Responsibilities (Authority)

During preliminary and construction stages of the project, all personnel including MPC staff, contractors and subcontractors have general responsibilities in the implementation of, and compliance with, this GSM Plan and positive environmental management. The general roles and responsibilities are consistent across the entire delivery of the Project, with specific allocations of responsibility to implementation of management measures determined across Project Phases. General roles and responsibilities are listed in ***Table 9***. Allocation of responsibilities are presented in ***Table 5*** Mitigation Measures.

Table 9. Allocation and Responsibility of Roles for Implementation of the GSM Plan

TITLE	RESPONSIBILITY	
Project Manager (Major Projects Canberra)	• Comply with the requirements of this GSM Plan; • Ensure all personnel are aware that works must be carried out in accordance with this GSM Plan; • Endorse all reports and records as detailed in this GSM Plan; • Ensure all relevant permits are obtained prior to commencement of any works;	• Comply with all permit requirements; • Facilitate consultation in accordance with this GSM Plan, including suitable negotiations with landowners where necessary; and • Issue non-conformances to Contractors.
All project personnel	• Carry out work in accordance with the requirements of this GSM Plan; • Exercise due care, skill and foresight when carrying out tasks; • Immediately report all environmental incidents to MPC; • Comply with all permits, approvals and subsequent plans associated with these works;	• Be able to locate a copy of this Plan on site if requested; • Inform MPC immediately if it is not practical to comply with a requirement or if specified controls are considered inadequate; and • Implement corrective actions which have been approved by the appointed site supervisor.
Environmental Manager (MPC)	• Responsibility for the identification of environment approvals (beyond EPBC requirements) required by the project and seeking necessary approvals through consultation with relevant authorities; • Monitors performance against GSM Plan; • Provide advice and environmental support as detailed by this GSM Plan; • Facilitate induction and training programs for all key personnel involved with construction activities; • Consider and advise on matters specified in the requirements in this plan and compliance with such; • Approve any changes to the GSM Plan; • Reports to regulatory authorities on environmental matters, including significant non-conformities, in accordance with legislative requirements;	• Ensures environmental permits are in place; • Responsible for the communication of environment and approval conditions to Project team; • Ensures adjoining landowners and other stakeholders are kept informed of matters relating to their interest; • Will be the day-to-day contact for the purposes of all CoA matters; • Will attend to the general administration of the CoAs, including in relation to those matters set out at Part B of the CoAs; • Is present (or delegate) during all environmental inspections undertaken by the Territory's representative; and • Keep environmental records.
Surveillance Officer (MPC)	• Conduct environmental monitoring and site inspects as required: daily, weekly; • Confirm all site inductions, environmental training and maintain training records have occurred, are current and appropriate; • Check that all employees, consultants and subcontractors are suitably skilled and have a clear understanding of the environmental requirements and consequences of their work;	• Assist in the conduct of site audits; • Report to the Environmental Manager on daily and weekly site inspection summaries; and • Maintain records of all environmental control issues and activities required under this Plan.

TITLE	RESPONSIBILITY	

Contractor (Construction Manager)	• Prepare an environmental plan to ensure compliance with:
	  - Regulatory requirements;
	  - MPC reporting requirements;
	  - Audit and non-compliance management;
	  - Contracts; and
	  - This Plan.
		• Review records of site inductions, environmental training, maintain and report on training records;
		• Assist in the conduct of site audits; and
		• Maintain records of all environmental control issues and activities required under this Plan.

Contractor (Site Supervisor)	• Comply and enforce on site approved environmental plan to ensure compliance with:
	  - Regulatory requirements;
	  - MPC reporting requirements;
	  - Audit and non-compliance management;
	  - Contracts; and
	  - This Plan.
	• Conduct environmental monitoring as required;
		• Conduct site inductions, environmental training and maintain training records;
		• Check that all employees, consultants and subcontractors are suitably skilled and have a clear understanding of the environmental requirements and consequences of their work;
		• Assist in the conduct of site audits; and
		• Maintain records of all environmental control issues and activities required under this Plan.

Project Subcontractor(s)	• Conduct site inductions, environmental training and maintain training records; • Check that all employees are suitably skilled and have a clear understanding of the environmental requirements and consequences of their work; • Check environmental compliance in relation to their activities; • Report environmental incidents, hazards and concerns;	• Maintain site cleanliness and good housekeeping; • Carry out corrective environmental actions as directed; and • Participate and implement their duties in a manner which reduces impact to the environment and -introduces environmental improvements.

4.4 Competence, Training, and Awareness

All personnel directly involved in the Project, including those with environmental management responsibilities, will be appropriately qualified or competent to undertake the tasks of the position to which they have been appointed. Additional competence and training will be undertaken as required for all personnel on the project.

4.4.1 ENVIRONMENTAL INDUCTIONS, TOOLBOX TALKS AND TRAINING

MPC will carry out a site-specific environmental induction for key personnel involved with construction activities, including all site managers and relevant field workers. Key personnel will then incorporate key points from the environmental induction into the site safety inductions.

MPC will establish and maintain a register of environmental training carried out including dates and names of persons trained, and inductor details. Attendees will provide written acknowledgement of understanding and agreement to comply with the environmental requirements for the project. No persons are considered fit to work on the Project until completion and record of induction or training, as appropriate.

4.4.2 GENERAL SITE INDUCTION

All personnel prior to commencing any work on site will undertake a general environmental site induction. The site induction will consist of the following:

- an overview to the environmental issues on the project.
- details of the 'GSM Plan'.
- specific environmental management issues, requirements, and responsibilities.
- the environmental regulatory authorities, emergency contact details and site personnel.
- environmental incident response and reporting requirements.
- all environmental training records are to be maintained by the relevant Contractor.
- toolbox Training.

5.0 MONITORING, INSPECTIONS AND AUDITING

Monitoring activities will be undertaken and maintained for the duration the Project. Monitoring will commence during translocation activities in April 2022 and continue until completion of the Project.

Monitoring detailed throughout this Plan support the environmental control measures specified within this plan. All monitoring activities defined within this Plan specify the frequency, duration, and trigger value for potential corrective actions.

Consistent and continuous monitoring for the duration of the Project supports the specified environmental controls are appropriate as the Project developments. Monitoring throughout the Project is the critical mechanism by which success of this Plan can be established. Monitoring activities inform both decision making and the review process of this Plan.

5.1 Environmental Monitoring & Inspections

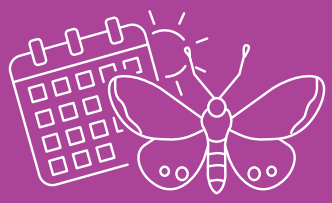
The following inspections and observations will be performed to ensure construction environmental management and rehabilitation requirements as detailed in this Plan are implemented.

- Daily Activity Pre-start Meetings – conducted by the contractor undertaking works and includes record (form).
- Regular site surveillance activities – conducted by MPC Surveillance Officer and Subcontractor Representative.
- Weekly Site Environmental Inspection – conducted by a project representative during active work phases and includes recorded inspection form.
- Monthly Environmental Inspection – conducted by MPC Environmental Representative with Contractor undertaking construction works.

A summary of the monitoring activities to be undertaken throughout the early enabling works is provide in ***Table 10***.

Table 10. Monitoring Schedule Raising London Circuit Works

MONITORING ACTIVITY	PARAMETERS MEASURED	METHODOLOGY	LOCATION	TIMING/ FREQUENCY/ DURATION
Inspect of no-go exclusion zones for breaches.	No visible failings in the fencing. No visible vehicles or materials within exclusion zones.	MPC Surveillance Officer and contractor site manager to conduct daily site walks and record any non-conformities.	All no-go exclusion zones as per ***Figure 2.***	Daily, for duration of works.
Sediment and erosion controls inspections.	No visible failings in the sediment fencing. No visible pooling to a level in breach of the control structures.	MPC Surveillance Officer and contractor site manager to conduct daily site walks and record any non-conformities.	Across all works areas and all no-go exclusion zones as per ***Figure 2.***	Weekly, for duration of works.
Weed Management and control measures in place.	Construction and maintenance vehicles are adhering to pre-site entrance wash down requirements.	MPC Surveillance Officer and contractor site manager to conduct daily site walks and record any non-conformities.	At entrance points to site and across exclusion zones.	Daily, for duration of works.
GSM translocation area establishment.	Visually inspect state of vegetation to inform on habitat health.	MPC Environmental Manager to conduct field-based vegetation inspection and recording.	Northern section of Southeast cloverleaf. This will be extended to the whole of the southeast cloverleaf when utility works are completed in this area.	Monthly following completion of translocation works by late 2021.
Storage of materials within the GSM buffer area.	Visually inspect stockpiles daily to ensure there are no dust or runoff impacts on GSM habitat.	MPC Surveillance Officer and contractor site manager to conduct daily site walks and record any non-conformities.	All GSM buffer areas.	Daily, for duration of works.
GSM Habitat restoration activities.	Visually inspect restoration areas to inform of restoration progress.	MPC Environmental Manager to conduct field-based vegetation inspection and recording.	Southeast cloverleaf and eastern side of Parkes Way.	Weekly once restoration works have commenced.



These inspection and observations will be undertaken whilst construction activities are being completed for the duration of works, within GSM habitat areas. The results of the inspections/observations will be communicated to the project workforce.

5.2 Compliance Reporting and Auditing

Compliance auditing will be undertaken to verify that the work is in compliance within the GSM Plan and the CoAs. Audits will be conducted annually. MPC will be responsible for keeping detailed records of these audits and the audit reports. The CoA has the following requirements for completing the annual compliance audit report:

- publish each annual compliance report on the relevant MPC website within 60 days following the relevant 12-month period; and
- notify DCCEEW by email that a compliance report has been published on the MPC website and provide the weblink for the compliant report within five business days of the date of publication.

Where instructed by the Australian Government Minister administering the EPBC Act MPC must conduct independent audits of compliance with conditions of both the GSM Plan and the CoA. For each independent audit, MPC must:

- provide the name and qualifications of the independent auditor and the draft audit criteria to DCCEEW;
- only commence the independent audit once the audit criteria have been approved in writing by DCCEEW; and
- submit an audit report to DCCEEW within the timeframe specified in the approved audit criteria.

As well as following internal requirements for reporting non compliances with the CoA and conditions of this plan, notification must also be provided to DCCEEW as soon as practicable, and no later than two business days after becoming aware of any incident or non-compliance with the CoAs. The notification must specify:

- Any condition which is or may be in breach.
- A short description of the incident or non-compliance.
- The location (including co-ordinates), date and time of the incident or non-compliance. In the event the exact information cannot be provided, provide the best information available.

Following further investigation into any such incident or non-compliance MPC must provide further details to DCCEEW with the conditions or commitments made in plans as soon as practicable and no later than 10 business days after becoming aware of the incident or non-compliance, specifying:

- Any corrective action or investigation which has already been undertaken on intends to be undertaken in the immediate future.
- The potential impacts of the incident or non-compliance.
- The method and timing of any remedial action that will be undertaken.

6.0 REVIEW OF THIS PLAN

6.1 Plan review

The GSM Plan is a working document that will be subject to review and updates (as required) through the life of the project.

The Environment Manager will conduct a review of the GSM Plan annually to ensure that the GSM Plan is appropriate and effective. The GSM Plan may be reviewed more regularly due to changes in the environment, design and construction methods, as a result of audits or monitoring outcomes or changes to environmental guidelines, as required. Where technical changes to the approach or environmental management controls are proposed these will be also be the subject of review by a suitably qualified ecologist with experience in GSM.

Any changes to the GSM Plan, other than administrative, will be submitted to DCCEEW for endorsement as per Condition 29 of the CoA. The revision history table on the front page of this GSM Plan is to be updated with all updates.

Administrative changes could include, but not limited to:

- Changes in personnel.
- Typographical updates.
- Updates to internal MPC management systems and processes.
- Any other changes that are considered under condition 28 and 29 of the CoA.

7.0 REFERENCES

ACT Government (2020), *City to Commonwealth Park Light Rail November 2020 – EPBC Preliminary Documentation Submissions Report 3,* Canberra, Australia.

ACT Government 2017a. *Action Plan Golden Sun Moth Synemon plana.* Environment Planning and Sustainable Development Directorate, Canberra.

ACT Government (2013), *Environmental Guidelines for Preparation of an Environment Management Plan,* Canberra, Australia.

ACT Government 1998. *Golden Sun Moth (Synemon plana): An endangered species. Action Plan No. 7* Environment ACT. Canberra.

ARUP (2020), *City to Commonwealth Park Light Rail EPBC ACT Preliminary Documentation,* Canberra, Australia.

Braby MF and Dunford M 2006. Field observations on the ecology of the Golden Sun Moth, *'Synemon plana'* Walker. *The Australian Entomologist* 33(2): 103–110.

Commonwealth of Australia (2014), *Environmental Management Plan Guidelines.*

Department of Agriculture, Water and the Environment (2020), *City to Commonwealth Park Light Rail Project, ACT (EPBC 2019/8582),* Canberra, Australia.

A. Georges (2020), *Nature Conservation (Golden Sun Moth) Conservation Advice 2020,* Canberra, ACT.

ISO 14001:2004, *Environmental management systems—Requirements with guidance for use.*

AS/NZS/ISO31000:2018 *Risk Management – Principles and Guidelines.*

APPENDIX A

CONDITIONS OF APPROVAL REFERENCE TABLE

APPENDIX A. CONDITIONS OF APPROVAL REFERENCE TABLE

REF	COND.	CONDITION REQUIREMENT	PLAN REFERENCE	COMMENTS
1	5(a)	Pre-clearance surveys and translocation are undertaken prior to clearing by suitably qualified ecologists.	*Table 5*, *Table 6* and *Appendix B*	Completion of pre-clearance surveys and translocation are listed as hold points prior to the commencement of works within GSM habitat areas (Table 6). Translocation procedure is detailed in Appendix B.
2	5(b)	Clearing of areas containing Golden Sun Moth habitat is undertaken outside of the flying period for the species.	*Table 5*	This condition is a control measures within the Management Table and has associated monitoring requirements and performance indicators.
3	5(c)	In relation to weed management: • that equipment and/or machinery does not introduce weed or pathogen propagules into the action area; • weeds that are cleared are not stockpiled and are removed from the action area as soon as practical; • weeds are reduced within the rehabilitation areas for the duration of rehabilitation in each of the rehabilitation areas; and • corrective actions are implemented in the event that an increase in weeds and exotic species is observed within any of the rehabilitation areas.	*Table 5*	**EMC8** details biosecurity protocol to ensure vehicle, equipment and personnel are free of weeds. **EMC9** details weed management measures. Weeds will be managed in rehabilitation areas for the duration of rehabilitation, to a level lower than existing through mechanical and chemical treatments.
4	5(d)	In relation to erosion and sediment control: i. soil stockpiles are minimised and are managed to prevent the stockpiles acting as a vector to introduce weed or pathogen propagules into the action area; and ii. effective erosion and sediment controls are implemented throughout Phases 1-4 to mitigate erosion impacts in the rehabilitation areas.	*Table 5*	**EMC2** and **EMC3** detail erosion and sediment control measures.
5	5(e)	Surface water flows are managed to prevent the spread of harmful pollutants and ponding of water in the rehabilitation areas or areas of temporary indirect impacts.	*Table 5*	**EMC6** details surface water flow management.
6	5(f)	No permanent shading associated with any structures and tree plantings will impact on the rehabilitation areas.	*Table 5*	**EMC16** details measure to reduce shading impacts.
7	5(g)	Exclusion zones are established to protect all areas of Golden Sun Moth habitat that are to be retained (i.e areas labelled as 'temporary direct' and 'temporary indirect' at Attachment A), including marking-out and signage of clearing limits within the action area, clear identification of Golden Sun Moth habitat to be retained (i.e. areas labelled as 'temporary direct' and 'temporary indirect' at Attachment A) and protection by suitable fencing, signage and/or markings.	*Table 5*	Fencing and signage will be installed marking the translocation area within the Southeast cloverleaf.

REF	COND.	CONDITION REQUIREMENT	PLAN REFERENCE	COMMENTS
8	5(h)	The establishment and maintenance of: i. a clearly marked 'no-go' zone within the South-eastern cloverleaf rehabilitation site prior to commencement of the action, and until any disturbance within the South-eastern cloverleaf rehabilitation site concludes; and ii. a 'no-go' zone comprising the whole South-eastern cloverleaf rehabilitation site prior to commencing Phase 2, and until such time as Phase 2 is completed.	*Table 5*	Fencing and signage will be installed marking the translocation area within the Southeast cloverleaf.
9	5(i)	Prior to undertaking rehabilitation in the rehabilitation areas, photo recording points are set up and photo recording commenced.	*Table 6* Hold points	MPC will collect representative photos from designated photo points. Photo points will be located approximately 20m apart in the Southeast cloverleaf and eastern median of Parkes Way. Location of photo monitoring points within the Southeast cloverleaf can be seen in Appendix D Rehabilitation Activities.
10	5(j)	Planting of native grasses is undertaken in the rehabilitation areas as soon as practicable after disturbance.	*Appendix D*	Native grasses will be planted as soon as practicable after disturbance and will consist of Wallaby grasses; Rytidosperma carphoides, R. auriculata, R. setacea, and R. eriantha to 40% densities and other NTG components that GSM show preference for.
11	5(k)	Details of a site induction program so workers are aware of the need to avoid environmentally sensitive areas before starting work at the action area.	*Section 4.4.1* and *Section 4.4.2*	All personnel prior to commencing any work on site will undertake a general environmental site induction.
12	5(l)	Performance criteria are developed in consultation with a suitably qualified ecologist which are suitable for determining the success of rehabilitation, and monitoring against these performance criteria is undertaken at appropriate intervals.	Revised plan to be issued in 2022	Performance indicators will be developed around: - % C3 Cover - % native grass cover - Grass biomass - % bare ground - % exotics
13	5(m)	Reporting and review mechanisms, and documentation standards to demonstrate compliance with the GSM Plan.	*Table 5* *Section 5.0* *Section 6.0*	Reporting mechanisms are set out in Table 5 and further in Section 5.0. Section 6.0 specifies the GSM Plan review process.
14	5(n)	Any Aboriginal heritage objects or artefacts that may be uncovered are managed appropriately by preparing and implementing an unexpected finds procedure.	*Appendix E*	Appendix E contains an unexpected finds protocol.
15	10(a)	Photos are collected from photo recording points at six-month intervals after native planting as outlined in Condition 5i, for three years after rehabilitation commences in each of the rehabilitation areas.	*Table 6* Hold points	Once photo monitoring points are established, photos must be collected at 6 monthly intervals following native planting for a period of 3 years after commencement of rehabilitation in rehabilitation areas.

REF	COND.	CONDITION REQUIREMENT	PLAN REFERENCE	COMMENTS
16	10(b)	Weeds and exotic species are monitored within the rehabilitation areas every three months for three years after rehabilitation commences in each of the rehabilitation areas, with a focus on rabbits, African Love Grass, Witch Grass and Madagascan Fireweed.	*Appendix D*	Following rehabilitation, rabbit populations and weed extent, with a focus on African Love Grass, Witch Grass and Madagascan Fireweed, must be monitored every 3 months for a period of 3 years.
	10(c)	The Golden Sun Moth population is surveyed in each of the rehabilitation areas annually during the flying period for three years after rehabilitation commences in each respective rehabilitation area.	*Table 6* Hold points	GSM populations must be monitored annually during the flying period between November and January within the rehabilitation areas. Biannual monitoring of planted GSM habitat for first year then annually if native planting establishes.
	11	Three years after commencement of rehabilitation in the South-eastern cloverleaf rehabilitation site, or at any other longer period agreed to in writing by the Minister, the approval holder must provide the Department within 3 months of that date, a report that details the outcomes of the rehabilitation in accordance with the criteria set out in the GSM Plan.	*Table 6* Hold points	Compliance auditing will be undertaken to verify that the work is in compliance within the GSM Plan and the CoAs. Audits will be conducted annually. This data will be used to compile a report at the end of the 3-year period to indicate success of rehabilitation.
	21	The approval holder must prepare a compliance report for each 12-month period following the date of commencement of the action, or otherwise in accordance with an annual date that has been agreed to in writing by the Minister.	*Table 6*. Hold points *Section 5.2*	Section 5.2 details compliance reporting requirements.
	22	The approval holder must notify the Department in writing of any: incident; non-compliance with the conditions; or non-compliance with the commitments made in plans. The notification must be given as soon as practicable, and no later than two business days after becoming aware of the incident or non-compliance.	*Appendix B*	Section 4.0 of Appendix E details the incident reporting procedure.
	23	The approval holder must provide to the Department the details of any incident or noncompliance with the conditions or commitments made in plans as soon as practicable and no later than 10 business days after becoming aware of the incident or non-compliance.	*Appendix B*	Section 4.0 of Appendix E details the incident reporting procedure.

APPENDIX B

COMMUNICATIONS PLAN

COMMUNICATIONS PLAN

The GSM Plan has established the processes needed for internal and external communications relevant to reporting requirements, including:

a) On what it will communicate
b) When to communicate
c) With whom to communicate
d) How to communicate.

When establishing its communication processes, the GSM Plan has:

- **Considered its compliance obligations**
- **Ensured that environmental information communicated is consistent with information generated within the gsm plan and is reliable.**

MPC will respond to relevant communications on the GSM Plan. MPC will retain documented information as evidence of its communications, as appropriate.

1. INTERNAL COMMUNICATION

Internal communications with ACT Government in relation to the GSM Plan will be undertaken by the Major Projects Canberra. Reporting requirements for the MPC include:

a) Suggested changes to the GSM Plan
b) Breaches to conditions of approval
c) Project updates
d) Upcoming works associated with GMS management and mitigation strategies
e) Potential issues/risks
f) Opportunities relevant to the GSM Plan.

Internal communication will also include written instruction; this may include drawings, specifications, method statements, risk assessments, contracts and sub-contracts.

Internal communication regarding the notification of events and associated response actions will be managed using Technical Working Group meetings and briefings. External notification of events will be via MPC as defined in Section of 5 of the GSM Plan.

Internal communication of the Project's performance will also be undertaken via monthly environmental reporting using Aconex, Objective and Consultation Manager.

2. EXTERNAL COMMUNICATION

The Project will externally communicate information relevant to the GSM Plan, as established by Major Project Canberra's communication processes and as required by its compliance obligations.

Based on past engagement and submissions received to the preliminary documentation, the project acknowledges that there are a number of stakeholders and special interest groups who are interested in the potential impacts to the GSM. As such future engagement will include providing updates to external stakeholders about the project, potential impacts to the GSM and management and mitigation strategies.

A Communications and Engagement Strategy has been developed and will be regularly updated which includes our methodology and approach to engaging with local stakeholders including, but not limited to:

- Community Reference Group
- Residents and businesses in the impacted area
- Special interest groups
- Government agencies
- Environmental groups.

Communication and Engagement Action Plans will be developed for key milestones and project activities.

3. COMPLAINTS MANAGEMENT

A complaints management policy has been developed by Major Projects Canberra and is adopted by the Project. The policy uses lessons learnt from Stage 1 and aligns with ACT Government best practice engagement.

4. INCIDENTS AND REPORTING

An incident is defined as an event that causes or has the potential to cause environmental damage, or the potential to, or does, impact on one or more protected matter(s) other than as authorised by the approval.

In the event of an incident occurring on site, the contractor / subcontractor must notify MPC, and relevant authorities within one hour if the incident(s) occurred in the course of their activities in the following circumstances:

- Permanent or irreversible damage or potential damage to designated exclusion zones.
- Damage or potential damage to known area of GSM individuals, outside of the approved activities.

In the event of an incident occurring on site, the contractor / subcontractor must notify MPC, and relevant authorities within two days if the incident(s) occurred in the course of their activities in the following circumstances:

- If the actual or potential harm to the health or safety of human beings or ecosystems is not trivial.

- Notify all relevant authorities, not just MPC. Relevant authorities include:
  - EPA
  - Access Canberra
  - ACT WorkSafe
  - ACT Fire and Rescue.

As well as notifying the relevant authorities notification must also be provided to DAWE as soon as practicable, and no later than two business days after becoming aware of the incident. The notification must specify:

- Any condition which is or may be in breach.
- A short description of the incident.
- The location (including co-ordinates), date and time of the incident. In the event the exact information cannot be provided, provide the best information available.

Following further investigation into any such incident MPC must provide further details to DAWE with the conditions or commitments made in plans as soon as practicable and no later than 10 business days after becoming aware of the incident, specifying:

- Any corrective action or investigation which has already been undertaken on intends to be undertaken in the immediate future.
- The potential impacts of the incident.
- The method and timing of any remedial action that will be undertaken.

The GSM Plan aligns with the requirements set out under the approved MPC Incident Reporting protocol and is adopted for the Project. These plans include responses to emergencies and align with the Unexpected Finds Protocol.

An approved Unexpected Finds Protocol details the requirement for any Aboriginal heritage objects or artefacts that may be uncovered be managed appropriately and in accordance with the Protocol.

Relevant environmental contact names and telephone numbers for notification in the event of an incident are given in ***Table 1A***.

Table 1A. Relevant environmental contact details

POSITION	NAME	PHONE (M)
Project Manager	Earl Alcon	0411 273 620
Environmental Manager	Gemma Stehlik	(02) 6205 9300
Surveillance Manager	Graham Hampton	(02 6205 2745
Community Consultation Manager	Tania Navarro	(02) 6205 0192
Qualified Ecologist	David Moore	1300 793 267
Environmental Representative	TBC*	
POSITION	**NAME**	**PHONE (W)**
ACT Police / ACT Fire and rescue / ACT Ambulance Services / ACT Health / ACT State Emergency Services		000
HAZMAT		000
Icon Water		(02) 6248 3111
Jemina		131 909
Environmental Protection Authority (24 hr)		13 22 81
Poison Information Centre (24 hr)		13 11 26
WorkSafe (24 hr)		13 22 81

*Works are currently out to tender. Environmental Representative for contractor is yet to be determined.

APPENDIX C

TRANSLOCATION PLAN

TRANSLOCATION PLAN

1. TRANSLOCATION PLAN

To confirm the extent of GSM within the project construction footprint (***Figure 1A***), surveys across the Project area were undertaken by a suitably qualified ecologist. Surveys were completed by various consultants from 2015 to 2019, a summary of the survey results is given in ***Appendix A*** EPBC Act Preliminary Documentation.

This section has been prepared with support from Umwelt Environmental Consulting to guide the GSM translocation and defines the GSM sampling and translocation methodology across the Project.

2. TRANSLOCATION OBJECTIVES

The objective of the GSM translocation process is to salvage a sample of larvae in the permanent direct impact areas and use these individuals to supplement populations in adjacent areas not impacted by the Project. This may facilitate the preservation of genetic diversity within the retained population, and may supplement total population numbers to ensure a positive respond to management of habitat in the future.

3. PRIORITY SALVAGE AREAS

Priority salvage areas for GSM larvae would be determined on the basis of fine scale assessment of areas supporting suitable feed species and a preliminary manual larvae search. GSM translocation searches would be restricted to parts of the site supporting 30% cover or greater of the following grass species:

- Chilean needlegrass *(Nassella neesiana)*
- Wallaby grasses *(Rytidosperma spp.)*
- Spear grasses *(Austrostipa spp.)*
- Redleg grass *(Bothriochloa macra)*
- Serrated tussock *(Nassella trichotoma)*

Actively avoid areas of drainage or water logging, and areas of stony soil, with exposed surface rock. These areas will be mapped and not subject to translocation.

During the translocation process, spot larvae searches may also be implemented to guide priority areas for collection. These would comprise:

- Sampling individual grass tussocks for GSM larvae with a mattock or completing small scrapes with machinery.
- Searching the exposed root mass for GSM larvae.
- Recording location of positive and negative detections.
- Translocation of any GSM larvae into the south eastern clover leaf in accordance with the process specified below.
- Using the locations of confirmed detections to determine areas with sufficient density of larvae to justify salvage.

Priority salvage areas would be mapped and marked on the ground using spray markers and posts.

4. SALVAGE METHODOLOGY

A summary of the salvage methodology that will be implemented across the Project is below:

- Larvae salvage would be completed by collecting larvae from within the identified permanent direct impact areas, following disturbance of the soil.
- Surface disturbance completed by civil contractor with supervision by the ecologist and seek to lift sods to a depth of ~15 centimetres, implemented using rippers on the back of machinery. Scraping of topsoil using an angled grader blade; or scraping of topsoil using an excavator bucket.
- Surface disturbance would typically be completed as linear transects across habitat, and seek to sample ~ 10% of identified priority salvage areas. Alternative sampling may be determined by the project ecologist to maximise yields.
- The area disturbed and searched must be recorded as an approximate area (in metres squared).
- Staged soil disturbance to ensure all disturbed areas are searched within 30 minutes of disturbance.
- Soil sods and exposed roots of potential food plants hand searched for GSM larvae by, or supervised by, qualified ecologists.
- Ensuring larvae are handled only with gloves, or indirectly.
- Temporarily storing larvae in a bucket containing soil, and translocated within 30 minutes.
- The number of individuals collected should be recorded.

5. TRANSLOCATION METHODOLOGY

The translocation area(s) should be identified by a qualified ecologist and must supporting areas of the following grass species:

- Wallaby grasses *(Rytidosperma spp.)*
- Spear grasses *(Austrostipa spp.)*

Area(s) identified for translocation must be permanently marked for the duration of transplanting, and coordinates recorded for mapping and monitoring.

The GSM larvae are to be transported in a bucket with a light cover of soil to the translocation site in the south-eastern cloverleaf. GSM larvae are to be stored for no longer than 30 minutes prior to translocation.

Larvae placement is to be undertaken in the identified translocation site to a maximum density of one larvae per 2,500 cm^2 (50 cm x 50 cm) applying the following process:

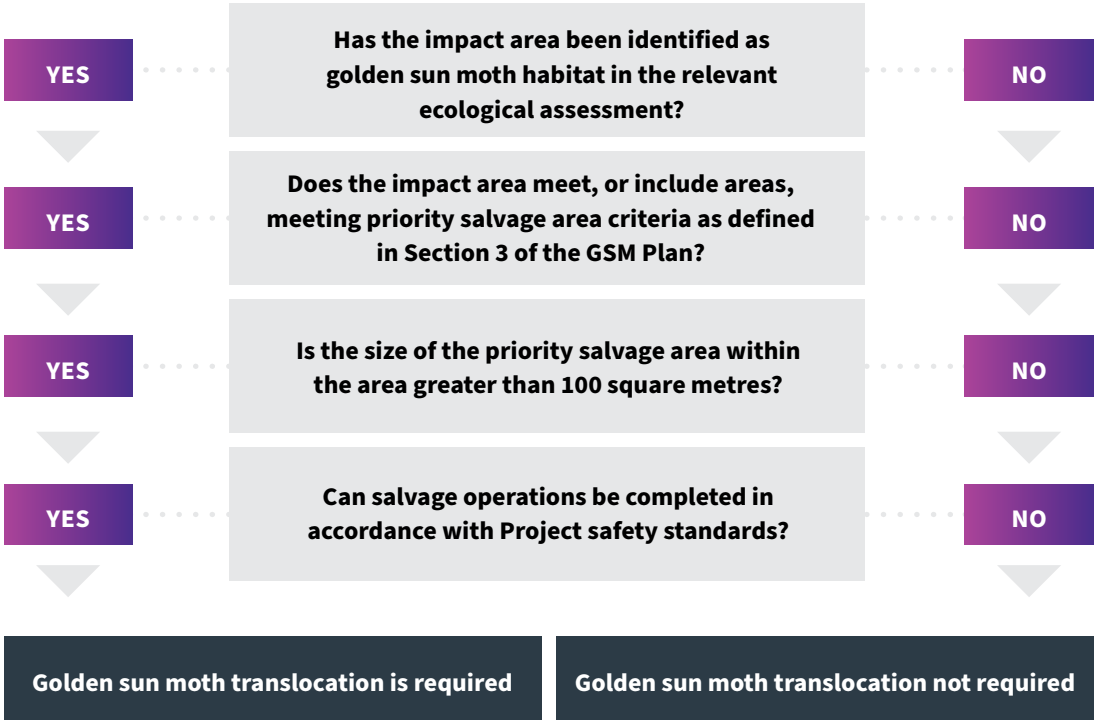
- Identifying individual plants of wallaby grass or spear grass.
- Create a hole 3 cm - 5 cm deep and 0.5 - 1 cm in diameter by inserting spike (e.g. screwdriver) into the ground adjacent to the root mass.
- Place individual GSM larvae carefully within each hole.
- Lightly cover placed GSM larvae with loose soil sourced from the source site.
- The number of individuals translocated should be recorded for each translocation area.
- Translocation areas should be marked with temporary flagging for the duration of translocation to track placement locations. Areas into which GSM have been translocated should be permanently marked.
- Soil from the salvage sites should be returned to the salvage site (and not disposed of at the translocation site) to avoid transfer of weeds.

6. COMPLETION CRITERIA

The translocation process is considered complete once one of the following criteria is met:

- All viable areas of potential source habitat have been sampled to an appropriate intensity, as determined by the project ecologist.
- Sampling of the best remaining areas of habitat result in yields of less than <5 individuals per 100 m of rip line or per hour over a 4 hour period, and as determined by the project ecologist.

Attachment A. Translocation Decision Framework



APPENDIX D

REHABILITATION PLAN - SOUTHEAST CLOVERLEAF

REHABILITATION PLAN - **SOUTHEAST CLOVERLEAF**

This plan describes innovative techniques that have been developed by Parks and Conservation, ACT Government, in co-operation with the CSIRO, for utilisation in the City to Commonwealth Park Light Rail Project to rehabilitate the southeast cloverleaf. Completion of the rehabilitation plan, whilst the responsibility of Major Projects Canberra, will be completed in partnership with both the Parks and Conservation Service, ACT Government and the CSIRO.

A rehabilitation plan will be prepared for the eastern median of Parkes Way, informed by the outcomes of this rehabilitation plan. Pre-rehabilitation and restoration works as detailed in this plan will be retained. Any future rehabilitation plan for the eastern median of Parkes Way will meet the requirements of conditions 5 and 10 attached to the EPBC Act approval for EPBC 2019/8582 as relevant to photo recording points, monitoring, planting schedules and performance criteria.

1. EXPERIMENTAL REHABILITATION PLAN

Soil microbes play crucial roles in regulating terrestrial biodiversity and ecosystem functions. In particular, soil fungal communities can indirectly regulate plant diversity through altering soil nutrient availability (van der Putten et al., 2013), or even directly promote plant diversity by mediating plant coexistence (Bever et al., 2015; Bennett and Cahill, 2016). Mycorrhizal fungi – mutualists that form symbiotic associations with plant roots – play especially important roles in maintaining the health of their host plants through the provision of soil nutrients and water, which can in turn enhance plant drought resilience and defence against enemy attack.

The advances in DNA sequencing technologies for analysing soil microbiomes has increased the ability to better understand the interaction between grassland plants and soil fungal communities. DNA sequencing can allow rapid screening of soil microbial health and inform how microbial mutualists (such as mycorrhizal fungi) can be deployed as inoculation treatments to enhance grassland restoration interventions.

The Project will use experimental soil translocation treatments to improve existing GSM habitat within the Project footprint. DNA sequencing will be utilised to evaluate the benefits of soil microbe communities. The soil will be obtained from healthy native grassland areas, which can promote the restoration of degraded and weed-infested grassland area (dominated by the exotic Chilean needlegrass a food plant for the endangered Golden Sun Moth (GSM) within the Project footprint. , obtained from healthy native grassland areas, can promote the restoration of degraded and weed-infested grassland area (dominated by the exotic Chilean needlegrass a food plant for the endangered Golden Sun Moth (GSM) within the Project footprint. The restoration area, south-eastern cloverleaf, will be divided into different treatment areas. For the treatment plots we will translocate soil containing soil microbe communities from healthy grassland sites. The soil containing microbes will also be used to inoculate the soil in all areas where rehabilitation plantings are occurring. For the control plots we will establish plants without a fungal treatment from a health grassland (either plants will receive: i) no soil from the heathy grassland or ii) they will receive soil which has been treated to remove the fungal community).

2. PRE-REHABILITATION WORKS

Photo Recording Points

Fixed monitoring points will be established no more than 20m apart within each rehabilitation area prior to the commencement of rehabilitation. Within the southeast cloverleaf, 12 points will be established, one per plot (see *Figure 2A*). These points will be used to capture successive photographic images to monitor rehabilitation success.

Phot recording at fixed monitoring points will commence prior to the undertaking of any rehabilitation activities.

Application of herbicide

Biodiversity surveys in the southeast cloverleaf identified the presence of broadleaf weeds. Prior to the commencement of rehabilitation, the use of targeted herbicides will be implemented to control broad-leaved weeds which are not habitat for the Golden Sun Moth and will inhibit the regeneration of native grasses that function as food plants for GSM. Conducting the targeted application of herbicide will not constitute commencement of the three-year rehabilitation plan in the south east cloverleaf.

Weed control will be by regular spot-spraying, or boom spraying outside the GSM flying period. The most suitable months for spraying will be February to April and September.

Figure 1A. Existing fencing which will be extended around the boundary of the southeast cloverleaf

Fencing

Fencing will be extended around the southeast cloverleaf prior to the commencement of rehabilitation works. This will be an extension of the fencing which currently surrounds the translocation area (***Figure 1A***). The fencing to be installed will be a semi-permanent chain link fence powder coated black, and will:

- Be at least 900mm high to deter people from entering the area.
- Have a fine mesh size of 30mm to ensure that juvenile rabbits cannot access the area or get stuck in the fence.
- Have an apron of 180mm to prevent animals passing beneath the fence.

An additional gate will be installed adjacent to Parkes Way to allow access to utilities.

Installation of weed barrier

The northern section of the southeast cloverleaf, which is being utilised for the translocation of GSM larvae, is predominantly exotic Chilean Needle Grass which provides habitat for Golden Sun Moth. Chilean Needle Grass however, is a Weed of National Significance (WONS) and a declared pest plant in the ACT (ACT Government, 2017). To minimise the potential for transfer of Chilean needle grass into the rehabilitation area a weed barrier with a width of 1.5 – 2 metres is to be installed utilising a mixture of plants planted in bands of *Poa labillardierei, Lomanadra longifolia, Lomandra multiflora* and *Rytidosperma caespitosum.* Refer to ***Figure 2A*** for the location of the weed barrier.

3. SOIL TESTING ASSOCIATED WITH REHABILITATION

Soil DNA and soil chemistry analysis will be required prior to the commencement of rehabilitation. Analysis of the following will be required:

- Baseline soil conditions within each of the plots within the southeast cloverleaf.
- Location where soil microbe infusions are to be obtained from.
- Plant tube stock soil prior to planting.
- Soil within each of the plots two years after planting.

An approximate schedule relating to sampling collection is presented in ***Table 2A***.

Table 2A. Timing and frequency of soil collections

SOIL COLLECTION	TREATMENT	CONTROL		TIMING AND REASONING BEHIND SAMPLING TIMING
	SOIL MICROBES	SOIL STERILISATION	NOTHING	
Baseline	1-4 plots	5-8 plots	9-12 plots	Baseline – answering: what was the soil microbial community assemblage 'state' prior to remediation intervention? At this same time, to account for confounding seasonal effects, we would also sample soil from the reference 'healthy' grassland sites from where we will be collecting the healthy soil for inoculation.
Healthy NTG soils		3-5 samples		
Soil samples from plant stock tubes		5 samples		Some soil microbes would be brought in in the potting mix contained in the plant grow tubes/pots.
3 years from initial planting	1-4 plots	5-8 plots	9-12 plots	Once a year in mid-spring over a three-year period.

4. REHABILITATION MEASURES

The edges of the GSM treatment and control plots edges will be staked out with wood stakes or star pickets (and the tops of the stakes coloured depending on plot type (i.e. treatment and control), each plot should be labelled on each stake). The whole restoration area will be planted with GSM food plants consisting of appropriate cells of the following species of *Rytidosperma spp.*.

- *R. auriculatum*
- *R. caespitosum*
- *R. carphoides*
- *R. duttonianum*
- *R. erianthum*
- *R. leaeve*
- *R. pilosum*
- *R. racemosum*
- *R. setaceum*

As well as a mixture of Rytidosperma species a small amount of *Austrostipa scabra, Bothriochloa macra, Microlaena, Themeda* and other NTG species will be included.

Planting in rehabilitation areas will be undertaken as soon as practicable following disturbance.

Experimental plots will be utilised to test the effectiveness of soil microbe infusion. Locations of plots can be seen in ***Figure 2A***.

Treatment Plots

In the treatment plots an infusion of soil will be added to the hole immediately prior to tube-stock being planted in the ground.

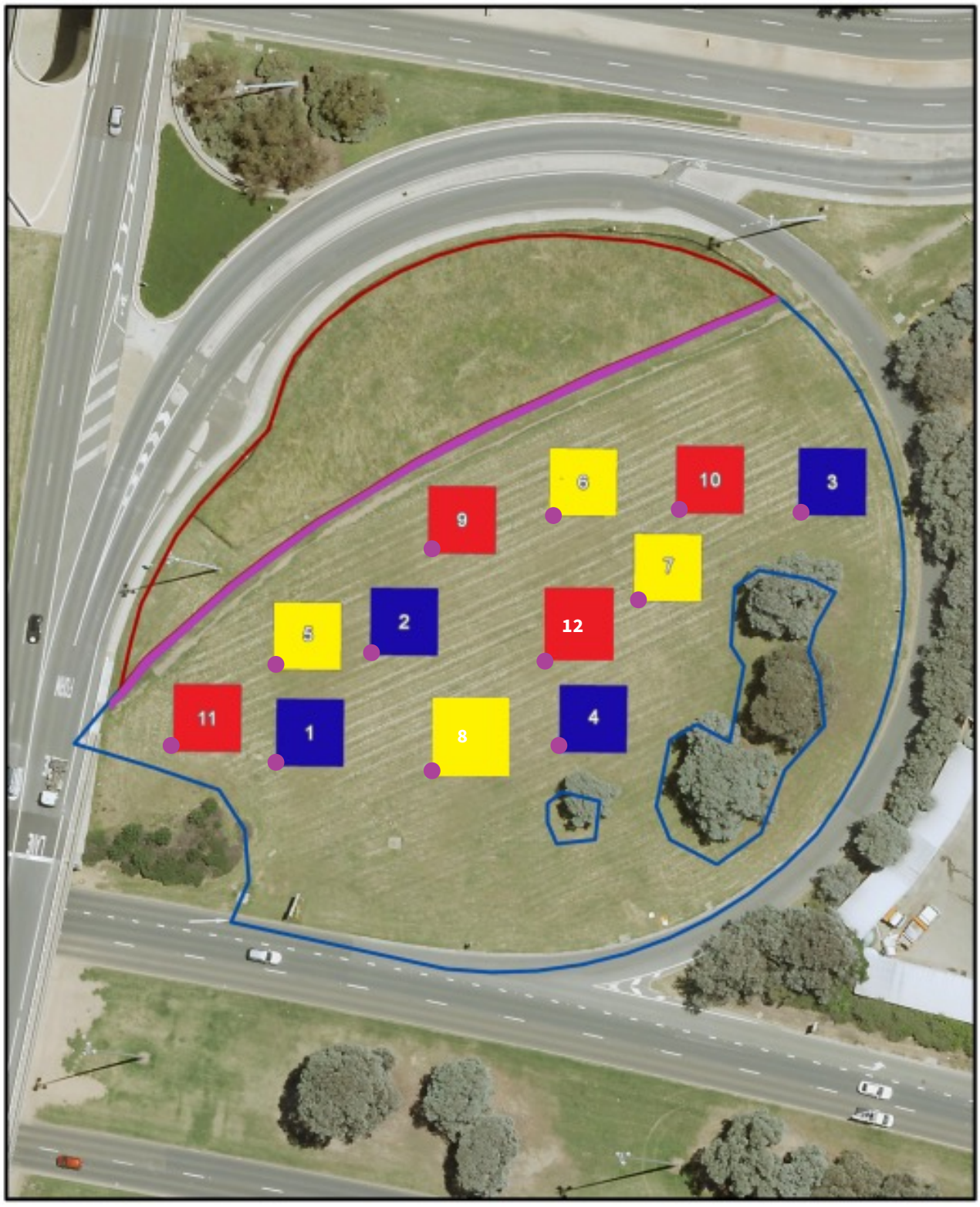
Control Plots – Soil Sterilisation Plot

In the soil sterilisation plots sterile soil (sterilised by autoclaving) will be add to the hole immediately prior to tube-stock being planted in the ground.

Control Plots – no soil added

In the control plots an infusion of water will be added to each plant hole immediately prior to tube-stock being planted in the ground.

Figure 2A. Soil experiment plots to be implemented



Weed Barrier

Light Rail Soil Experiment Plots (10 x 10m)

Treatment
Control Soil Sterilisation
Control No Soil

LRS2A GSM Translocation and Reinstatement

Activity
Translocation Area A
Reinstatement
Light Rail Soil Experiment Plots

Photo monitoring points

10 5 0 10 Meters

1:800 When printed at A4

Coordinate System:
GDA2020 MGA Zone 55

N

Prepared by: Environmental Offsets Team
ACT Parks and Conservation Service
Environmental Offsets
PO Box 158 Canberra ACT 2601

Printed: 21/02/2022

Disclaimer: While all care is taken to ensure accuracy, the ACT Government does not warrant that the map is free from errors.

Aerial Photography 2020

5. RESTORATION ACTIVITIES

This section of the Rehabilitation Plan outlines the project specific environmental management measures and controls that will be implemented (Refer to ***Table 3A***). A monitoring program has been developed to inform progress towards management measures and provide information on outcomes of management actions intended to achieve objectives (Refer to ***Table 4A***). Performance criteria in ***Table 5A*** have been developed in consultation with specialist rehabilitation ecologists at Parks and Conservation, ACT to demonstrate success of rehabilitation. Corrective actions are measures that will be implemented in the event that performance indicators are not met or maintained. The management measures identified in ***Table 3A*** govern the relevant activities to be implemented during rehabilitation to meet the requirements as set out under CoA 1-14.

Adaptive management will be used throughout the rehabilitation process. A feedback loop between monitoring and management will be established to enable a flexible approach to the management requirements of the site, allowing ongoing feedback and refinement of the management strategy to achieve performance requirements. Rehabilitation and land management actions will be revised in response to:

- Legislation change
- Any unforeseen or unplanned management threats
- Advances in research and land management techniques and/or
- Ecological data from the monitoring program

Table 3A. Rehabilitation Management Controls

CODE	REHABILITATION MANAGEMENT CONTROLS	TIMING FOR IMPLEMENTATION	RESPONSIBILITY
Pre-rehabilitation activities			
RMC1	Implement spot or boom sprayed herbicide application for broad-leaved weeds.	Spring 2023	Site supervisor Environmental Manager
RMC2	Extension of fencing around the remainder of the southeast cloverleaf after utility works are completed.	After utility works are completed.	Site supervisor Environmental Manager
RMC3	Planting weed barrier on the border of the translocation and rehabilitation areas to reduce the transfer of exotic species.	Prior to the commencement of rehabilitation activities.	Site supervisor Environmental Manager
Rehabilitation activities			
RMC4	Assess the extent and density of the GSM population and condition of habitat (including weed extent) through surveys prior to the commencement of works in GSM Habitat areas and annually thereafter. Ecologist to utilise previous surveys completed within the impact areas.	GSM Flying season 22/23 Annually during rehabilitation activities.	Qualified Ecologist Environmental Manager
RMC5	Native re-planting As soon as practicable after disturbance complete as necessary: - Soil testing - Soil preparation - Restoration with appropriate cells of Rytidosperma sp. to 40% density augmented with seeding.	After utility works are completed.	Site supervisor (rehabilitation contractor) Environmental Manager
RMC6	The condition of habitat (including weed extent) is monitored to ensure that there is not an increase in weeds and exotic species within rehabilitation areas. Focus towards known weeds that have the potential to invade including African Love Grass, Witch Grass and Madagascan Fireweed.	From commencement of early enabling works activities.	Qualified Ecologist Weed Management consultant Environmental Manager

Table 4A. Monitoring requirements for Rehabilitation Plan

CODE	REHABILITATION MANAGEMENT CONTROLS	MONITORING REQUIREMENTS	MONITORING FREQUENCY	RESPONSIBILITY
Pre-rehabilitation activities				
RMC1	Implement spot or boom sprayed herbicide application for broad-leaved weeds.	Ecologist to complete vegetation survey within the southeast cloverleaf and Parkes Way East prior to the commencement of rehabilitation to establish baseline. Site walkovers to inspect targeted weed management measures. Exclusion zones clearly mapped on all required documentation.	Prior to the commencement of rehabilitation. Monthly until the commencement of rehabilitation (with the exception of the GSM Flying season).	MPC Environmental Manager Specialist ecologist Site supervisor (rehabilitation contractor)
RMC2	Extension of fencing around the remainder of the southeast cloverleaf after utility works are completed.	Inspection to be completed by MPC Construction team to ensure that fence has been installed to specification. Site walkovers to inspect fence integrity and access by rabbits.	At the completion of fence installation. Monthly for the first six months and quarterly for the remainder of the three-year rehabilitation period.	MPC Construction Manager MPC Environmental Manager
RMC3	Planting weed barrier on the border of the translocation and rehabilitation areas to reduce the transfer of exotic species.	Inspection and watering plants weekly for first 4-6 months depending on weather conditions to ensure integrity Site walkovers to visually inspect establishment of plants	Weekly for first 6 months. Quarterly for the duration of the three year rehabilitation period.	Site supervisor (rehabilitation contractor) Environmental Manager
Rehabilitation activities				
RMC4	Assess the extent and density of the GSM population and condition of habitat (including weed extent) through surveys prior to the commencement of works in GSM Habitat areas and annually thereafter. Ecologist to utilise previous surveys completed within the impact areas.	Qualified ecologist undertakes GSM population and habitat condition surveys in accordance with best practice methodology within GSM habitat to be impacted. Criteria to be utilised for habitat condition include: • Weed species list – abundance • Native species list – abundance • Tag 25 plants per plot – cattle ear tags on pegs – measure survivorship • Photo per plot Photo monitoring at each plot location (Refer to ***Figure 2A***). There are 12 plots in total within the southeast cloverleaf).	Once, prior to rehabilitation activities. Annually during the three-year rehabilitation period. Quarterly for the duration of three-year rehabilitation period. To start immediately prior to the commencement of rehabilitation.	Qualified Ecologist Environmental Manager Site supervisor (rehabilitation contractor)

RMC5	Native re-planting As soon as practicable after disturbance complete as necessary: - Soil testing - Soil preparation - Restoration with appropriate cells of Rytidosperma sp. to 40% density augmented with seeding.	Inspection and watering plants weekly for first 4-6 months depending on weather conditions. Site walkovers to visually inspect establishment of plants. Photo monitoring at each plot location (Refer to ***Figure 2A***). There are 12 plots in total within the southeast cloverleaf.	Weekly for first 6 months (dependent on weather conditions). Monthly for first year and quarterly after. Quarterly for the duration of three-year rehabilitation period. To start immediately prior to the commencement of rehabilitation.	Site supervisor (rehabilitation contractor) Environmental Manager Site supervisor (rehabilitation contractor)
RMC6	The condition of habitat (including weed extent) is monitored to ensure that there is not an increase in weeds and exotic species within rehabilitation areas. Focus towards known weeds that have the potential to invade including African Love Grass, Witch Grass and Madagascan Fireweed.	Ecologist to complete vegetation survey within the southeast cloverleaf and Parkes Way East prior to the commencement of rehabilitation to establish baseline. Environmental inspection to assess weed content of rehabilitation areas. Weed species abundance to be measures for each plot and also for rehabilitation area as a whole. Criteria to be utilised include: • Weed species list – abundance in plots • Native species list – abundance in plots • Weed species list for the entire site • Photo per plot.	Prior to the commencement of rehabilitation. Monthly for the first six months and quarterly for the remainder of the three-year rehabilitation period.	Qualified Ecologist Weed Management consultant Environmental Manager

Table 5A. Rehabilitation Performance Indicators and Corrective Actions

CODE	REHABILITATION MANAGEMENT CONTROLS	PERFORMANCE INDICATORS	CORRECTIVE ACTION	RESPONSIBILITY
Pre-rehabilitation activities				
RMC1	Implement spot or boom sprayed herbicide application for broad-leaved weeds.	Reduction in broad leaved weeds in the southeast cloverleaf prior to the commencement of rehabilitation activities.	Additional application of targeted herbicide Change in mixture of herbicides.	Site supervisor (rehabilitation contractor) Environmental Manager
RMC2	Extension of fencing around the remainder of the southeast cloverleaf after utility works are completed.	No evidence of access, construction activity or other, within no go exclusion zones. No evidence of rabbits gaining access to the rehabilitation areas Signage and fencing maintained. Induction records.	Non-compliance reporting completed, and submitted. Reinduction. Reinstatement of signage and fencing. Development of remediation actions, if required.	Site supervisor Environmental Manager
RMC3	Planting weed barrier on the border of the translocation and rehabilitation areas to reduce the transfer of exotic species.	Visual integrity of plants. % Chilean needle grass does not increase within rehabilitation area during rehabilitation.	Non-compliance reporting completed, and submitted. Replace plants which have been disturbed or are not healthy.	Site supervisor Environmental Manager
Rehabilitation activities				
RMC4	Assess the extent and density of the GSM population and condition of habitat (including weed extent) through surveys prior to the commencement of works in GSM Habitat areas and annually thereafter. Ecologist to utilise previous surveys completed within the impact areas.	Qualified ecologist onsite prior to any clearing activity. Induction records.	Non-compliance reporting completed, and submitted. Stop works order issued. Ecologist to complete survey prior to works commencing again.	Qualified Ecologist Environmental Manager
RMC5	Native re-planting As soon as practicable after disturbance complete as necessary: - Soil testing - Soil preparation - Restoration with appropriate cells of Rytidosperma sp. to 40% density augmented with seeding.	Rehabilitation of affected areas includes more than 15% cover of native GSM C3 grass food plants with an average of 10 % Rytidosperma spp. and 5-25% bare ground cover.	Replanting native seeds if required to meet percentage cover. Ensure replanting or grasses re-seeded.	Site supervisor (rehabilitation contractor) Environmental Manager
RMC6	The condition of habitat (including weed extent) is monitored to ensure that there is not an increase in weeds and exotic species within rehabilitation areas. Focus towards known weeds that have the potential to invade including African Love Grass, Witch Grass and Madagascan Fireweed.	Weed extent has not increased since baseline survey completed prior to translocation activities.	Implement mechanical or chemical weed control measures as soon as practicable and appropriate, with consideration to the target weed species.	Qualified Ecologist Weed Management consultant Environmental Manager

APPENDIX E

UNEXPECTED FINDS PROTOCOL

UNEXPECTED FINDS PROTOCOL

Although there are no predicted impacts on Aboriginal or historical archaeology, if remains were to be unexpectedly encountered, an unexpected finds protocol should be implemented for the construction works. Construction workers should be made aware of this protocol during the site induction.

The flowing recommendations for managing Aboriginal or historical archaeology are provided.

- Inform construction personnel during site induction of the possibility of encountering unexpected archaeological remains and the existence of an unexpected finds protocol.
- Adopt the following unexpected finds protocol:

  If archaeological relics or remains are found during construction work, all work in the immediate area of the find should cease.

  - The site area should be secured by the construction site manager and an archaeologist must be called to the site to assess the nature and significance of the find.
  - The archaeologist would assess the required management of the find based on its significance and in conjunction with the construction site manager. Management actions may include contacting the RAO's where the find relates to Aboriginal archaeology, along with ACT Heritage to discuss and confirm the general management actions.
  - Construction work would resume after the implementation of appropriate mitigation measures.
- Implement the following protocol where human skeletal remains are unexpectedly found during construction work:
  - The site area should be secured by the construction site manager and the police informed along with the RAO's, ACT Heritage and an archaeologist.
  - Further action would depend upon the nature of police investigation. If remains are deemed to be of historical value and not from a recently deceased person, the RAO's and archaeologist should assess the management of the find based on its significance and with the construction site manager.

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