APPENDIX B AMENDED MITIGATION MEASURES AND ENVIRONMENTAL RISK ASSESSMENT

SSD-14378717: TELOPEA CONCEPT PLAN AND STAGE 1A

The following section provides recommendation for mitigation measures in response to potential impacts identified in Section 6 of the original EIS and the Submissions Report prepared by Urbis. The structure of mitigation measures is based on the DPIE's hierarchy of approaches for managing impacts identified in the *Draft Environmental Impact Assessment Guidance Series* released by DPE in June 2017, as:

- **Performance based measure** – identify performance criteria that must be complied with to achieve an appropriate environmental outcome but do not specify how the outcome is to be achieved.
- **Prescriptive measure** – require action to be taken or specify something that must not be done.
- **Management based measure** – identify one or more management objectives that must be achieved through the implementation of a management plan.

Following the implementation of appropriate mitigation measures as recommended, it is determined that the proposal will not result in any significant adverse impacts on the surrounding environment. The following table illustrates how the matters raised within the SEARs and CIP Conditions will be addressed.

This analysis comprises a qualitative assessment consistent with AS/NZS ISO 31000:2009 *Risk Management–Principles and Guidelines* (Standards Australia 2009). The level of risk was assessed by considering the potential impacts of the proposed development prior to application of any mitigation or management measures. In accordance with the SEARs, the Environmental Risk Assessment (**ERA**) addresses the following significant risk issues:

- The adequacy of baseline data;
- The potential cumulative impacts arising from other developments in the vicinity of the Site; and
- Measures to avoid, minimise, offset the predicted impacts where necessary involving the preparation of detailed contingency plans for managing any significant risk to the environment.

Risk comprises the likelihood of an event occurring and the consequences of that event. For the proposal, the following descriptors were adopted for 'likelihood' and 'consequence'.

Likelihood		**Consequence**	
A	Almost certain	1	Widespread and/or irreversible impact
B	Likely	2	Extensive but reversible (within 2 years) impact or irreversible local impact
C	Possible	3	Local, acceptable or reversible impact
D	Unlikely	4	Local, reversible, short term (<3 months) impact
E	Rare	5	Local, reversible, short term (<1 month) impact

The risk levels for likely and potential impacts were derived using the following risk matrix.

		LIKELIHOOD				
		A	**B**	**C**	**D**	**E**
CONSEQUENCE	**1**	High	High	Medium	Low	Very low
	2	High	High	Medium	Low	Very low
	3	Medium	Medium	Medium	Low	Very low
	4	Low	Low	Low	Low	Very low
	5	Very low	Very low	Very low	Very low	Very low

The results of the environmental risk assessment for the proposed development are presented in the below table and are based upon the range of technical and specialist consultant reports appended to the EIS and Submissions Report. The table has directly related mitigation measures responding to each impact also based upon the range of technical and specialist consultant reports appended to the EIS and Submissions Report

N.B. 'O' – Operational; 'C' – Construction

'Pe' – Performance based mitigation measure; 'Pr' – Prescriptive based mitigation measure 'Ma' – Management based mitigation measure

SEAR	Potential Impact	Stage of Project	Likelihood	Consequence	Risk Level	Approach	Mitigation Measure (Pe/Pr/Ma)	Residual Impact
2. Design Excellence	The development does not achieve design excellence.	O	D	1	Low	Comply with the requirements of the design Excellence Strategy prepared by Urbis at **Appendix H** of the Submissions Report. Maintain engagement with the 'design Architect' through the detailed design of the proposed development. The following sites will be subject to a design competition: ▪ Buildings C1 and C2 and Telopea Square (Core site) ▪ Building C3 (future Council Library site) Each future stage of the development will also be required to be reviewed by the SDRP which overrides the requirement for a design competition.	Pe	Very Low
3. Built Form and Urban Design Impacts		O	D	2	Low	The detailed design of future development would be undertaken in accordance with the Design Guidelines and ADG. Detailed future DAs must also have regard to the controls outlined in the LEP and Master Plan.	Pe	Very Low
4. Visual Impacts	Visual impact of the development when viewed from adjoining properties and public areas.	O	B	1	High	Measures have been incorporated to reduce the visual impact of the development when viewed from nearby residential areas and public spaces. Future development is to be consistent with the proposed maximum building envelopes to ensure that the visual and view impacts are not worse than those assessed in this application. Future planting of trees and adequate landscaping would assist in mitigating potential visual and view impacts.	Pr	Medium
5. Public Domain	Inadequate public domain for the proposed population.	O	D	2	Low	Future detailed DAs must consider all recommendations of the CPTED Assessment (**Appendix S** of the EIS) prepared by Urbis and be in accordance with the Public Domain Plans prepare	Pr / Ma	Low

SEAR	Potential Impact	Stage of Project	Likelihood	Consequence	Risk Level	Approach	Mitigation Measure (Pe/Pr/Ma)	Residual Impact
						by Hassal (**Appendix M** of the Submissions Report).		
6. Trees and landscaping	Tree removal and construction impacts on tree health	C	C	3	Medium	Tree management measures as outlined within the Arboricutural Impact Assessments (AIA) (Naturally Trees June 2020) are to be considered in future detailed DAs and the Stage 1A works. Section 4 of each AIA contains an Arboricultural Method Statement which sets out management and protection details that must be implemented to ensure successful tree retention. Compliance with the Arboricultural Method Statement and AS4970-2009 Protection of trees on development sites is required during site establishment and all subsequent demolition and construction stages. A comprehensive landscaping scheme to mitigate the unavoidable loss of trees has been prepared which if implemented along with the recommendations for tree retention within the Arborist report will result in a moderate to high positive impact on the contribution of trees to local amenity and character. Tree replacement planting as outlined in the Landscape Plans (**Appendix K** of the Submissions Report) are to be implemented in the Stage 1A works and across the CPA.	Pr / Ma	Low
7. Environmental Amenity	A lack of environmental amenity within the proposal and on the surrounding area due to poor design. Impacts could include view loss, visual and acoustic privacy, lighting and wind impacts.	O	D	5	Very low	Compliance with the Apartment Design Guide and SEPP 65. Future detailed DAs must consider all recommendations of the CPTED Assessment (**Appendix S** of the EIS). Recommendations within the Wind Assessment (SLR 2021) (**Appendix JJ** of the EIS) must be implemented including: Concept - Wind amelioration recommendations of the Wind Impact Assessment (SLR Date##) are to be addressed in future detailed DAs particularly the following: ▪ The Concept should retain the current emphasis on preserving existing trees and landscaping wherever possible. – Horizontal and vertical wind breaks are recommended for specified building entries, to	Pr	Very low

SEAR	Potential Impact	Stage of Project	Likelihood	Consequence	Risk Level	Approach	Mitigation Measure (Pe/Pr/Ma)	Residual Impact
						protect against potential downwash and channelling winds. – Façade setbacks and horizontal windbreaks are proposed to certain buildings to mitigate downwash wind impacting surrounding pedestrian pathways. – Wind mitigations are recommended to identified balconies from level 4 and above. SLR recommends that all proposed balconies be provided with only a single open aspect. ▪ Stage 1A - SLR has worked with the project team throughout the design process and addressed potential wind concerns, with appropriate design measures incorporated and reflected in architectural drawings and development documentation. Recommendations of the SLR Wind Assessment are to be incorporated including: – Horizontal wind breaks are provided over specified building entries and private terraces, to protect against potential downwash from the high-level development. – Vertical windbreaks are proposed to the upper level communal open space as a result of adverse upper level wind conditions. ▪ Wind mitigations are incorporated to identified balconies from level 4 and above. For levels 4 and above SLR state that corner and balconies with multiple open aspects should be converted. It has been proposed that the development will meet this requirement through the use of full height screens to appropriate balcony aspects, to ensure that only a single aspect is considered open for each balcony.		
9. Traffic	Increase in construction traffic on local roads. Increase in traffic and parking during operation.	C / O	C	2	Medium	A construction Traffic Management Plan will be prepared prior to construction commencing. The design of future built form access driveways, parking and servicing areas will be subject of future detailed development applications for individual sites within the CPA and would be required to provide compliance with the appropriate Australian Standards. Stage 1A traffic mitigation measures include the upgrade of Sturt Street and extension of Sturt Street	Pr / Ma	Low

SEAR	Potential Impact	Stage of Project	Likelihood	Consequence	Risk Level	Approach	Mitigation Measure (Pe/Pr/Ma)	Residual Impact
						over the PLR, upgrade of the Adderton Road and Sturt Street intersection, changes to the Adderton Rd and Winter Street intersection (restrict to left in left out only) and new pedestrian and cycle connections.		
10. ESD	Potential increase in energy consumption associated with construction and operational phases	C / O	D	3	Low	All mitigation measures within the Ecological Sustainable Development Report prepared by Frasers are to be adopted.	Pe / Pr	Low
11. Contamination	Environmental and health impacts during demolition and construction activities.	C	D	5	Very Low	Prior to the proposed development works, surficial ACMs are to be removed by a suitably licensed contractor. As part of the development works, the poor quality fill material in southwest of the site area will require excavation and assessed for either onsite reuse or offsite disposal. Following the removal of these ACMs, the land would be considered Low Risk and suitable for the proposed low density residential, high density residential and recreational, open space land use. EES does not envisage that further detailed environmental assessment is required to delineate identified contamination, however it is recommended that an Asbestos Management Plan (AMP) is prepared for the removal of the ACM impacted fill material in both the northern portion of site and the south-western corner. Following this an inspection and validation of surrounding residual soils prior to development works to ensure bonded fragments are removed from both areas. ▪ There is a potential for unexpected subsurface finds (as is the case for any site), and consequently EES recommends that management procedures be implemented: ▪ Procedures for soil disposal and waste classification in accordance with NSW EPA (2014) - Waste Classification Guidelines; ▪ Unexpected Findings Protocol (UFP) procedure for managing instances where gross contamination and/or hazardous materials are encountered, with appropriate consideration of WH&S controls for mitigating risk to construction workers.	Pr	Very Low

SEAR	Potential Impact	Stage of Project	Likelihood	Consequence	Risk Level	Approach	Mitigation Measure (Pe/Pr/Ma)	Residual Impact
12. Heritage and Archaeology	Archaeology - Potential impacts to archaeology and artefacts. Heritage - Potential physical and visual impacts on heritage items	C	C	3	Medium	Archaeological test excavation must be carried out in a small portion in the north-western corner of the subject area in parallel with demolition of the existing buildings and must be completed before the construction of the proposed Stage 1A development. The results of the test excavations must be incorporated into the ACHAR or addendum document and supplied to the project RAPs for comment. The CMP will include the requirement for an Aboriginal Cultural Heritage Induction for all contractors working in the subject area. Should any archaeological deposits be uncovered during any site works, an Archaeological Chance Find Procedure (CFP) must be implemented. Should any human remains be uncovered during any site works, a Human Remains Procedure must be implemented. A copy of the final ACHA must be provided to all project RAPs. Ongoing consultation with RAPs should occur as the project progresses, to ensure ongoing communication about the project and key milestones, and to ensure the consultation process does not lapse, particularly with regard to consultation should the CFP be enacted. Heritage - Overall the Concept Proposal and the detailed design for Stage 1A is considered to provide a compatible response to the character and significance of the Telopea region and will not result in adverse heritage impacts to the vicinity Redstone heritage item to the south west.	Ma	Low
13. Flooding	A change in flood behaviour as a result of the proposal. The proposed Telopea Estate and Stage 1A is located outside of the modelled flood levels and there will be not impact on the existing flood behaviour of The Ponds Creek. The lowest elevation on the Telopea CPA is some 3m above the Flood Planning Level and is also above the PMF level.	C / O	1	E	Very Low	The site is generally not affected by flooding impacts, including 1-in-100 year ARI flood events and the Probable Maximum Flood from Ponds Creek. Should there be any changes to surface levels within the flood extent as a result of future proposed work (not part of this SSD DA) further flooding assessment would be required to ensure there are no adverse increase in flood behaviour as a result.	Pe	Very Low

SEAR	Potential Impact	Stage of Project	Likelihood	Consequence	Risk Level	Approach	Mitigation Measure (Pe/Pr/Ma)	Residual Impact
14. Biodiversity	Impact on flora and fauna during construction and operation	C / O	2	E	Very Low	The former habitats of Blue Gum High Forest and Sydney Turpentine Ironbark Forest should be enhanced by the incorporation of landscape plantings including native species which are diagnostically positive for these ecological communities. Examples of appropriate species are outlined in the Biodiversity Assessment (ACS Environmental July 2020).	Ma	Very Low
15. Social Impact	General disruption to community associated with large scale construction. Potential anti-social behaviour associated with residential tenants.	C / O	C	2	Medium	The relocation of tenants will likely have a short to medium term negative impact. Implementation of a considered Tenant Relocation Strategy during the relocation process, including comprehensive communications, will be crucial in minimising stress and anxiety for tenants and mitigating the impacts of relocation. This is likely to reduce the negative impacts in the short to medium term and create a neutral to positive overall experience for relocated tenants in the long term. The mitigation measures and recommendations outlined within the Social Impact Assessment prepared by Urbis (**Appendix R** of the EIS) will assist in minimising impact on existing and future tenants including: ▪ Continued ongoing consultation as outlined within the Consultation Report prepared by Elton Consulting **(Appendix M** of the EIS) including: ▪ Preparation of an Engagement Plan that outline future engagement activities to be undertaken through the post-lodgement exhibition period and Stage 1A construction period (2023 - 2028) ▪ LAHC to cover all reasonable moving costs including move costs and service connection fees ▪ Experienced case workers will assist tenants to find new dwelling with consideration for their personal needs ▪ Implement the Stage 1A Relocation Plan ▪ Develop and deliver a detailed Tenant Relocation Strategy, in close collaboration with existing tenants.	Ma	Low

SEAR	Potential Impact	Stage of Project	Likelihood	Consequence	Risk Level	Approach	Mitigation Measure (Pe/Pr/Ma)	Residual Impact
						▪ Where possible, relocate tenants once only or within Telopea, and provide tenants with choice about whether they relocate back to Telopea following construction ▪ Develop ways to make new housing and relocation processes pet friendly. ▪ Adoption of the recommendations of the CPTED Assessment prepared by Urbis (**Appendix S** of the EIS)		
18. Social Housing	Failure to provide additional social housing to Telopea and a continuation of long waitlists for social housing in the Parramatta/Baulkham Hills allocation zone.	O	D	2	Low	The implementation of the Concept Plan will result in new housing designed and constructed to contemporary standards and managed by an experienced community housing provider. Based on this assessment, access to high quality social housing is likely to have a high long-term positive impact on the community. The mitigation measures and recommendations outlined within the Social Impact Assessment prepared by Urbis (**Appendix R** of the EIS) will assist in minimising impact on existing and future tenants including: ▪ Ensure housing design takes a 'tenure blind' approach, with no external indicators of tenure type in the design and layout of buildings and open space. ▪ Management of social housing by Hume Community Housing, a long standing Tier 1 Community Housing Provider with high tenant satisfaction rates.	Ma	Low
19. Utilities	Increased demand for potable water, wastewater, power and gas services.	O	C	3	Medium	Further consultation with utility providers will be required at the time of considering detailed DAs and will be required to calculate the final demand requirements as part of the detailed DA process. Strategic options will be further developed for sewer provision. Detailed utility investigation and further discussions with the relevant authorities will occur at the time per standard process.	Pe / Ma	Low
21. Ground Conditions	**Geotechnical** – Inadequate consideration of subsurface conditions.	C / O	D	4	Low	**Geotechnical** – Preliminary Geotechnical recommendations are contained in the Geotechnical Assessment Report by JK Geotechnics (**Appendix Y** of the EIS) Future detailed DA's would be required to undertake further geotechnical investigations as	Pr	Very Low

SEAR	Potential Impact	Stage of Project	Likelihood	Consequence	Risk Level	Approach	Mitigation Measure (Pe/Pr/Ma)	Residual Impact
	Contamination – Risk to human health as a result of contamination.					part of the detailed design and construction of the buildings **Contamination** – All recommendations and mitigation measures outlined in the PSI and DSI prepared by at **Appendix Z** of the EIS are to be adopted. Future development within the CPA will be subject to implementation of an Environmental Management Plan and Asbestos Management Plan for the appropriate management of any small scale contamination issues in accordance with NSW EPA guidance as appropriate prior to commencement of future final construction activities. Prior to the commencement of Stage1A works an Asbestos Management Plan (AMP) is to be prepared for the removal of the ACM impacted fill material in both the northern portion of site and the south-western corner. Following this an inspection and validation of surrounding residual soils prior to development works to ensure bonded fragments are removed from both areas. It is recommended that the Asbestos Management Plan (AMP) is prepared with reference to the WorkCover NSW Code of Practice (2014) "Managing asbestos in or on soil" and Appendix E of WA health's (2009) "guidelines for the assessment, remediation and management of asbestos - contaminated site in Western Australia" and will document procedures for clearance and validation of asbestos remediation at site. The AMP should be followed by all contractors during redevelopment. Asbestos removal should be undertaken by a Class A licenced asbestos removalist. ACM fragments are to be disposed to a licensed waste facility that can accept Special Waste (Asbestos). The following management procedures are to be implemented for development of all lots within the CPA including the proposed Stage 1A works: 22. Stormwater and DrainageProcedures for soil disposal and waste classification in accordance with NSW EPA (2014) - Waste Classification Guidelines; Unexpected Findings Protocol (UFP) procedure for managing instances where gross contamination		

SEAR	Potential Impact	Stage of Project	Likelihood	Consequence	Risk Level	Approach	Mitigation Measure (Pe/Pr/Ma)	Residual Impact
						and/or hazardous materials are encountered, with appropriate consideration of WH&S controls for mitigating risk to construction workers.		
22. Stormwater and Drainage	Stormwater - Potential for reduced water quality during construction and operation as a result of the proposed development.	C / O	C	4	Low	**Stormwater** - As outlined in Integrated Water Management Plan prepared by J. Wyndham Prince enclosed in **Appendix DD** of the EIS, the following stormwater infrastructure is required to appropriately manage water quality and quantity within the Stage 1A works: ▪ Six (6) detention basins will be located throughout the site to deliver the site discharge and storage requirements as outlined in the Upper Parramatta River Catchment Trust (UPRCT) Handbook (4th ed., 2005). ▪ StormFilter™ chambers containing 690 mm high Psorb cartridges will be co-located in each of the basins in order to deliver Council's stormwater pollutant reduction requirements. ▪ OceanGuard® pit filter inserts will be located throughout each of the Stage 1A development parcels to manage the anticipated gross pollutants. Sediment and erosion control measures will be implemented during the demolition and construction phases to avoid downstream impacts. Stormwater Management across the CPA is to be consistent with Parramatta City Council's requirements and provide a means to ensure the environmental outcomes can be achieved. Detailed assessments of all future infrastructure and built form will be required to accompany subsequent DAs. Flooding - The Telopea Estate and Stage 1A development is located outside of the modelled flood levels and it has been illustrated that there will be not impact on the existing flood behaviour. Should there be any changes to surface levels within the flood extent as a result of future proposed work (not part of this SSD DA) further flooding assessment would be required to ensure there are no adverse increase in flood behaviour as a result.	Pr	Very Low

SEAR	Potential Impact	Stage of Project	Likelihood	Consequence	Risk Level	Approach	Mitigation Measure (Pe/Pr/Ma)	Residual Impact
23. Earthworks	Unintended impacts during construction	C	D	3	Low	All recommendations and mitigation measures within the Civil report by J.Wyndham Prince (**Appendix BB** and **Appendix CC)** shall be adopted.	Pr	Very Low
24. Development adjacent to the rail corridor	Construction impacts on the rail corridor and inappropriate development within proximity to the Parramatta Light rail	O	D	3	Low	An Electrolysis Report has been prepared by CCE (**Appendix O** of the EIS) which outlines very low risk of impacts. Ongoing monitoring shall be undertaken as per the recommendations of CCE.	Ma	Very Low
25. Construction of level crossing over rail corridor (Stage 1A only)	Construction impacts on the rail corridor	C	D	4	Low	Mitigation measures within the Traffic Report by Ason (**Appendix T** of the EIS) and the preliminary Construction Management Plan by Frasers (**Appendix KK** of the EIS) shall be adopted including: ▪ A construction fence and suitably classed Hoarding shall be provided along site boundaries / works area boundaries to provide safe pedestrian access. The fencing / hoardings should be maintained for the duration of the construction program associated with the stage of works being undertaken. ▪ Traffic control would be required to manage and regulate traffic movements into and out of the site during construction, with pedestrian priority provided during peak hour periods and to maintain accessibility to public transport facilities. ▪ Disruption to road users should be kept to a minimum by scheduling intensive delivery activities outside of road network peak hours. ▪ Supervised traffic control will be required where two-way flow is restricted over any length of the roadway, depending on the number of truck movements required and would be managed outside of peak hour vehicle and pedestrian activity. The Addendum Traffic and Parking Statement prepared by Ason (**Appendix AA** of the Submissions Report) does not amend any of the proposed mitigation measures.	Ma	Very Low

SEAR	Potential Impact	Stage of Project	Likelihood	Consequence	Risk Level	Approach	Mitigation Measure (Pe/Pr/Ma)	Residual Impact
26. Noise and Vibration	Increase in noise and vibrations levels during construction Increase in noise levels during operation	C / O	D	2	Low	A CNVMP will be prepared during the construction certificate phase and vibrations to be measured and found compliant with the DPIE and DEC guidelines. Future DAs for construction of the buildings will need to demonstrate that the noise criteria set out in the Noise and Vibration Assessment can be met through detailed assessments. The proposal is to provide the recommended minimum glazing construction set out within the Acoustic and Vibration assessment prepared by NDY. Mechanical plant noise emissions can be controlled to acceptable levels at the nearest noise sensitive receivers with attenuation to the intake and discharge paths to the Level 18 plant room. A detailed review of all external mechanical plant and equipment will be undertaken at CC stage (once plant selections and locations are finalised). Use of outdoor areas to be limited to 7am to midnight unless an acoustic assessment is conducted during the fit-out stage that considers additional noise control measures.	Pe / Ma	Very low
27. Waste and servicing	Excessive waste generation during construction and inadequate provision for operation waste management.	C / O	D	4	Very Low	Effective management of construction materials and construction and demolition waste, including options for reuse and recycling where applicable and practicable, will be conducted as outlined in the WMP by SLR Consulting (**Appendix II** of the EIS). The removal and transport of contaminated or hazardous materials (including asbestos) must be conducted by an EPA licensed contractor, and the materials must be disposed of at an appropriately licensed facility. Hazardous or intractable waste arising from the demolition process shall be removed and disposed of in accordance with the requirements of SafeWork NSW and the EPA, and with the provisions of the Work Health and safety Act 2011, NSW Protection of the Environment and Operations Act 1997 (NSW) and the NSW Department of Environment and Climate Change Environmental Guidelines; Assessment, Classification and Management of Liquid and Non Liquid Waste (1999). Waste rooms and infrastructure will eb provided as outlined within the WMP, including bulky goods	Pe / Ma	Very Low

SEAR	Potential Impact	Stage of Project	Likelihood	Consequence	Risk Level	Approach	Mitigation Measure (Pe/Pr/Ma)	Residual Impact
						waste room and a 251m2 waste storage room adjacent to the loading dock. The WMP will be reviewed and updated: ▪ To remain consistent with waste and landfill regulations and guidelines ▪ If changes are made to site waste and recycling management, or To take advantage of new technologies, innovations and methodologies for waste or recycling management.		
29. Construction Impacts	Amenity impacts to adjoining residential and commercial areas including dust, noise and traffic.	C	C	4	Low	The proposed development will be undertaken in accordance with the Civil Infrastructure Report (**Appendix BB** of the EIS) and Plans (**Appendix I** of the Submissions Report) prepared by JWP and the appropriate mitigation measures for managing sediment, erosion, and dust as outlined in the preliminary Construction Management Plan prepared by Frasers Property (**Appendix KK** of the EIS).	Pe / Ma	Very Low
Accessibility / BCA / Fire Engineering	Failure to comply with building standards resulting inadequate access for people with a disability and reduced safety.	O	E	3	Low	As part of future detailed DAs developers will be required to demonstrate that public domain areas and buildings meet the accessibility requirements as per the Disability Discrimination Act 1992. Compliance with the Performance Requirements of the BCA is to be demonstrated within construction documentation. A fire safety engineering assessment is to be conducted as part of the Construction Certificate stage for each of the staged developments to ensure compliance with the Performance Requirements of the BCA. Consultation with FRNSW is to be undertaken in relation to appropriate access to boosting equipment in relation to building locations.	Pe / Pr / Ma	Very Low