Review of Environmental Factors



Addendum

Sewerage System Upgrade Mort Street, Balmain

1 Determination

This Review of Environmental Factors Addendum (REFA) assesses potential environmental impacts of the Sewerage system upgrade in Mort Street, Balmain and was prepared under Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), with Sydney Water both the proponent and determining authority.

The Sydney Water Project Manager is accountable to ensure the proposal is carried out as described in this REFA and the Sewerage system upgrade, Mort Street, Balmain, March 2021 (approved REF). If the scope of work or work methods described in this REFA change significantly following determination, additional environmental impact assessment may be required.

Decision Statement

During construction, the main potential environmental impacts of the proposal are typical construction impacts such as noise, traffic and visual. During operation, there are no anticipated impacts. The proposal will not be carried out in a declared area of outstanding biodiversity value and is not likely to significantly affect threatened species, populations or ecological communities, or their habitats. Accordingly, a Species Impact Statement (SIS) or a Biodiversity Development Assessment Report (BDAR) is not required.

It is considered that, given the nature, scale and extent of impacts and implementation of the safeguards outlined in both this REFA and the approved REF, the proposed work is unlikely to have a significant impact on the environment. Accordingly, we do not require an Environmental Impact Statement (EIS) and the proposal may proceed.

Certification

I certify that I have reviewed and endorsed the contents of this REFA document and, to the best of my knowledge, it is in accordance with the EP&A Act and the Environmental Planning and Assessment Regulations (EP&A Regulation). The proposal has been considered against matters listed in section 171 (Appendix A) and the Guidelines approved under section 170 of the EP&A Regulation and the information it contains is neither false nor misleading.

Prepared by:	Reviewed by:	Endorsed by:	Approved by:
Stuart Dawson REFA author Environment and Heritage, Sydney Water Date: 07/07/2022	Sarah Mitchell Environment Representative Company Date: 27/07/2022	Anton Thurairatnam Project Coordinator Specialised services Date:03/08/2022	Jill Berwick A/Environment and Heritage Manager Sydney Water Date: 19/08/22



2 Project Summary

Project information

Project location

The proposal consists of a pipeline installation located within a public reserve (Mort Bay Park), road alignments and road verges managed by the Inner West Council. The proposal site occupies part of the following lots:

- 27 28/-/DP1031159
- 23/-/DP1031154
- 20/-/DP748753.

This addendum assessment relates to changes in the proposed alignment in lots:

- 27/-/DP1031159
- 20/-/DP748753.

The change also involves a relocation of the proposed route within the Approved REF to the road alignment of Mort Street.

Approved REF

Project scope

Sewerage System Upgrade, Mort Street, Balmain (March 2021)

Sydney Water proposes to install a new wastewater pipeline in, and adjacent to Mort Bay Park, Balmain. This proposal is to improve system performance and meet environmental licence requirements. The proposed wastewater pipeline will be installed using a combination of trenchless techniques.

During the installation of the pipes, the existing pipeline will be mostly operational. The project scope will include:

- Installation of about 200 m of new DN225 pipe via micro tunnelling along Cameron Street and College Street. The micro tunnelling will be from a six-by-six metre pit on College St to three maintenance holes (MH), two existing MHs on Cameron Street and a new MH in Mort Bay Park.
- Installation of about 15 m of new DN225 pipe via micro tunnelling from a new MH in Mort Bay Park to an existing MH.
- Installation of about 55 m of new DN225 pipe via pipe bursting in Mort Bay Park between two existing MHs. A bypass will be required during pipe bursting for adjacent residential houses along Trouton Street.
- Installation of about 90 m of new DN225 pipe via micro tunnelling in Mort Bay Park.



- Micro tunnelling will be from a pit in Mort Bay Park, at the location of the new MH, to an existing MH in Mort Bay Park, and a pit on Mort Street to connect the new pipe to existing services.
- Installation of three new maintenance holes, two in Mort Bay Park and one in College Street
- Removal of two trees.

Project change

The proposed change includes:

- construction of two new MH (MH6D and MH 7D), in a different location to the initial proposal, on Mort Street with a construction footprint of about four metres by four metres
- pipe bursting of about 25 m from MH 1288417 to MH 6D, requiring a four metre by four metre pit at MH 1288417
- replacement of existing 150 VC pipe with new DN225 pipe
- installation of approximately 50 m of new DN225 between MH
 6D and MH 1113673 via MH 7D, using open cut trenching.

These changes are in place of the original proposal to establish a pit, construct a new MH and install 90 m of DN 225 pipe via micro tunnelling in Mort Bay Park. No additional households will need to be temporarily disconnected from the wastewater system as there are no further connections from MH 1288417 to MH 6D.

The work site will be restored following construction in consultation with Council. Restoration will involve:

- backfilling of excavated areas with appropriate bedding material
- restoration of pavements and roads to the appropriate standards
- disposal of waste, including spoil, at an appropriate facility
- tidying of construction site and demobilisation.

Justification for project change

The targeted archaeological test excavation which was undertaken prior to the construction as required by the Approved REF, uncovered a significant amount of intact archaeological relics and substrate structures associated with the early and later phases of the Mort's Dock site. Following the test excavation, the original proposal to micro tunnel through the park was determined to be an unviable option due to the constructability and heritage impacts. This amended route has been selected to significantly reduce the potential for disturbing and impacting heritage items.





Figure 1 Project change







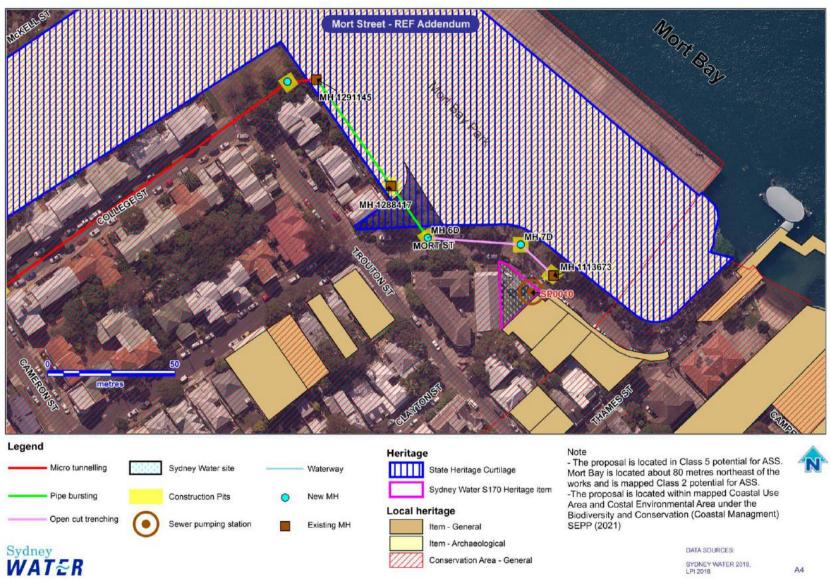
Figure 2 Project Change - Ecology







Figure 3 Project Change - Heritage





3 Legislative consideration

There are no additional legislative requirements above those already assessed in Sewerage System Upgrade, Mort Street Balmain REF (March 2021). However, there has been a consolidation of the State Environmental Planning Policy's (SEPP) as outlined in the table below.

The project change is required to facilitate development of a sewerage system in land zoned R1 General Residential and RE1 Public Recreation, which are prescribed zones. The project is permissible without consent in accordance with Section 2.126 of the State Environmental Planning Policy (Transport and Infrastructure) 2021.

Accordingly, this REF addendum has been assessed under Division 5.1 of the EP&A Act and Sydney Water can self-determine the project.

Heritage NSW have modified the s.60 approval under the *NSW Heritage Act 1977* for the amended proposal (July 2022). Further details are included in Section 5 below.

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Repealed SEPP	In force SEPP	Updated SEPP reference		
SEPP (Infrastructure) 2007 (ISEPP)	SEPP (Transport and Infrastructure) 2021 (TISEPP)	Section 2.126(6) of the TISEPP permits development by or on behalf of a public authority for sewerage systems without consent on any land in the prescribed circumstances.		
		The proposal involves development of a sewerage system carried out by Sydney Water as a public authority. As such, the proposal is permissible without consent.		
SEPP (Vegetation in	SEPP (Biodiversity and	Chapter 2 Vegetation in Non-Rural Areas		
Non-Rural Areas) 2017 and Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005	Conservation) 2021 (BC SEPP)	Chapter 2 of the BC SEPP aims to regulate clearing of native vegetation on urban land and land zoned for environmental conversation/management that does not require development consent.		
		Vegetation in Non-Rural Areas applies to Inner West LGA as listed under subsection 2.3(1)(a) and within the zones listed in subsection 2.3(1)(b) of this SEPP. However, Section 2.4(1) states: 'This Chapter does not affect the provisions of any other SEPP'. As the works are permissible under the TISEPP a Council permit to clear vegetation under this SEPP is not required.		
		Chapter 10, Sydney Harbour Catchment		
		The BC SEPP aims to ensure that the catchment, foreshores, waterways and islands of Sydney Harbour are recognised, protected, enhanced and maintained as a natural asset and public asset of national and heritage significance. The proposal compliments the aims of the SEPP, as works will reduce impacts of sewage overflows on the waterway and the environment and maintain public open space. Mitigation measures will be implemented to minimise		

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construction impacts to ensure that the catchment, foreshore and waterways of Sydney Harbour are protected. The proposal does not require consent under the BC SEPP.

SEPP (Coastal	
Management) 2	2018

SEPP (Resilience and Hazards) 2021 (RH SEPP)

Chapter 2, Coastal Management

The works are on land to which this SEPP applies. The works within College St and Mort Bay Park are located within an area mapped as Coastal Environment and Coastal Use Areas. Section 6 of the approved REF concludes that the works will not have a significant impact on the coastal zone, and therefore the works can proceed.

No Coastal Management Programs are in place in the vicinity of the works.

4 Consultation

Sydney Water must consult with councils and other authorities for work in sensitive locations or where the work may impact other agencies infrastructure or land (specified in Part 2.2 Division 1 of the State Environmental Planning Policy (Transport and Infrastructure) 2021 (TISEPP).

Sydney Water has been in consultation with Inner West Council concerning the changes presented in this REF Addendum. The Inner West Council attended a site visit on 30 June 2022 to discuss the works and provide feedback to be considered in the project design. Key environmental issues raised during the site visit was about the removal of trees and temporary impacts to traffic on Mort Street. Council will be informed and consulted regarding the traffic management plan required for the works along Mort Street and details about tree removal.

Further details are provided in Appendix B.

5 Additional environmental impacts and mitigation measures

The table below lists the environmental impacts that could result from the proposed change compared to the approved REF and the additional mitigation measures identified. All other environmental impacts and mitigation measures identified in the approved REF (March 2021) remain the same and will be incorporated into the Contractors CEMP.

Aspect	Additional impacts
Topography, geology and soils	The proposed excavation would result in larger volumes of excavated material and temporary stockpiling. In the event of heavy rain, there is potential for erosion and sedimentation to occur. Trenching will be undertaken progressively in three, 6m sections that will be supported by steel trench boxes. As the trench progresses, the completed section will be backfilled. This method will limit soil exposure and the volume of exposed excavated material which will limit the potential for erosion and sedimentation.



The proposed changes can be managed using the environmental safeguards specified in the approved REF.

Water and drainage

The proposed excavation associated with open cut trenching could expose the soil on site to erosion. If not managed appropriately there is potential for soil to leave the site resulting in an increase in sedimentation and turbidity in Mort Bay. The potential for these impacts will be reduced with the application of the progressive trenching and backfilling methodology previously described.

A test excavation in Mort Bay Park did not encounter groundwater at an approximate depth of 4.5 m. There has been no extraction of groundwater on the project to date. The proposed trenching in this Addendum REF may encounter groundwater, however, the excavation in comparison to the approved REF will:

- be shorter in total duration (approximately 20 days, compared to 36 days),
- comprise of smaller sections, open for shorter periods (due to sectional trenching and backfilling).

This will serve to limit potential interaction with, and extraction of, groundwater by restricting the time available for potential groundwater inflow. The anticipated groundwater extraction for the entire project as originally estimated remains below 3 ML. The existing WSWA remains current.

The proposed changes can be managed using the environmental safeguards specified in the approved REF.

Flora and fauna

An Arborist Impact Assessment Report was completed as per the requirements of the Approved REF on 7th September 2021 by Canopy Consulting (Appendix C). The assessment examined the potential impacts of the proposed works of the Approved REF on existing trees in the vicinity of the development site. The assessment recommended two trees for removal due to the impact of the type, and level, of encroachment. The trees are both Mahogany Gums (Eucalyptus botryoides), one of which is assessed as having high value. Two additional trees considered to be subject to major encroachment may be able to be retained (or may require removal) pending further assessment. The report prescribes tree protection measures for the other 13 trees assessed. The protection measures include fencing and restriction of activities within the Tree Protection Zone (TPZ) and, for two of the 13 trees, additional measures including trunk and branch, and ground protection.

The proposed excavation subject to this REF Addendum will take place in the road alignment of Mort Street. There are several curbside trees adjacent to Mort Street. It is not anticipated that the excavations will impact these trees as the works are located outside of their TPZ. There are no trees to be removed as part of the project change

The proposed changes can be managed using the environmental safeguards specified in the approved REF along with the application of recommendations within the Arboricultural Impact Assessment Report. These recommendations are also presented as additional safeguards in Section 6.

Heritage

As part of the Approved REF targeted archaeological test excavation were undertaken prior to the construction to determine the extent of heritage impact. The tests uncovered a significant amount of intact archaeological relics and substrate structures associated with the early and





later phases of the Mort's Dock site. These results prompted a change in the proposed alignment to reduce heritage impacts.

As detailed in Appendix D, AECOM Australia Pty Ltd (AECOM) prepared a letter to assess the design and construction methodology changes where it passes thorough the former Mort's Dock. The assessment found that the project change will not require any further excavation within the Mort's Dock SHR curtilage and will be limited to existing service footprints (as indicated in Figure 1 and Appendix A of Appendix D), thereby avoiding all former buildings associated with Morts Dock (refer Figure 2 of Appendix D). The assessment concluded that under Section 65a (1)(a) of the *Heritage Act 1977* the amendment to the proposed construction methodology will not impact archaeological relics, deposits or structures associated with the Mort's Dock item. See full report in Appendix D. An application to modify s60 approval for works to Mort's Dock (SHR no. 01854) under section 65a of the heritage act was submitted on the 20/06/2022 and was approved by Heritage NSW on the 25/07/2022 (Appendix E).

The conditions of approval are consistent with the original approval under Section 60. The targeted archaeological test excavation has been undertaken within the footprint of the former Sawmill/Joinery building. As detailed in Appendix D, the proposed changes are not located within the footprint of any former buildings. No further targeted archaeological test excavation are required.

Further, based on the mapping prepared for the original assessment, and also presented in the Section 65a Modification report, there are no know former buildings or areas of historical archaeological potential in the vicinity of MH 1288417. As such, the proposed 4 m x 4 m excavation works around MH 1288417 can proceed, with no further historical archaeological works required. If any unexpected finds are encountered during construction works, please follow the standard Stop Works Procedure as outlined in the Section 65a Modification letter and subsequent approval.

The proposed changes can be managed using the environmental safeguards specified in the approved REF.

Noise and vibration

The proposed trenching will increase construction noise levels along Mort Street. The nearest sensitive receivers are 33 Trouton Street, Balmain Scout Hall and 107 Mort Street. Predicted noise impacts would be temporary and the level of impact would be dependent on the rate of progression for pipeline construction. As the pipeline construction moves further away from a receiver, the predicted construction noise impact would reduce. Works will be conducted during standard construction hours and potential impacts will be short-term due to the linear nature of the works and minimised by implementing the safeguards listed in the approved REF.

The proposed changes can be managed using the environmental safeguards specified in the approved REF.

Waste and hazardous materials

The proposed trenching will increase the volume of excavated road material and excess spoil from excavation. The proposal will reduce the area of micro tunnelling through the park, therefore, there will be a reduction in waste drill cuttings and drilling fluids.

The proposed changes can be managed using the environmental safeguards specified in the approved REF.



Traffic and access

The proposed trenching will require the partial road closure of Mort Street. The proposal has the potential to impact on access to residential properties and result in the temporary reduction in the availability of street parking along Mort Street. There would be a reduction in traffic flow with stop/go one-way traffic management during work hours.

Outside of construction hours normal traffic conditions will be restored. The works will be undertaken progressively in sections and steel plates will be placed over any exposed excavation.

The proposed changes can be managed using the environmental safeguards specified in the approved REF.

Social and visual

The amended proposal will likely have increased visual and social impact in the areas surrounding Mort Street as the works would involve opencut trenching. These social and visual impacts will mainly be in relation to the erection of fencing and barricades around excavated areas and the stockpiling of excavated material. Social amenity impacts of noise and vibration, and traffic and access also apply. These impacts will be temporary. The excavation and pipe installation will be progressively completed in small sections and the road would be fully restored upon completion.

The amended proposal reduces the footprint of the works in Mort Bay Park reducing the overall impact on recreation access identified in the approved REF.

The proposed changes can be managed using the environmental safeguards specified in the approved REF.

6 Additional safeguards

Additional Safeguards

Where the extent of encroachment is less than 10% of the TPZ of a tree, excavation may be undertaken using conventional construction methods. Where encroachment is to be greater than 10% of the TPZ and prior to any mechanical excavations within the TPZ of trees to be retained, exploratory excavation using non-destructive methodology shall be undertaken at the perimeter of the excavation required. Exploratory excavation must be conducted as per the recommendations provided in Section 8.2 of the Arboricultural Impact Assessment Report.

Where a situation occurs that a significant root (>50 mm in diameter) requires pruning or removal, the root is to be severed with a sharp saw implement by, or under instruction of an arborist.

If temporary access for machinery is required within the TPZ of trees to be retained, ground protection measures will be required. Measures may include a permeable membrane such as geotextile fabric beneath a 100mm thick layer of mulch of crushed rock below rumble boards, or steel plates or track mats.

Prescribed tree protection measures as outlined in the Arboricultural Impact Assessment Report are to be applied.





Tree truck/s and/or major branches (typically considered to be of a diameter >100 mm) located within close proximity to the works, must be wrapped with protective hessian or similar acceptable material to prevent tree injury.

Care is to be taken when operating heavy machinery near trees to avoid damage to tree and tree canopy. Under no circumstances are branches to be torn off by construction equipment.

Removed trees will be replaced in discussion with Council.

7 Conclusion

This REF addendum outlines potential environmental impacts associated with the change in pipeline alignment to road alignment of Mort Street and change in construction methodology to include open cut trenching as part of the Sewerage System Upgrade Mort Street, Balmain. Any additional environmental impacts are considered minor and potential impacts can be mitigated through implementation of the measures outlined in this addendum and the original REF. The proposed works are not likely to significantly impact the environment.

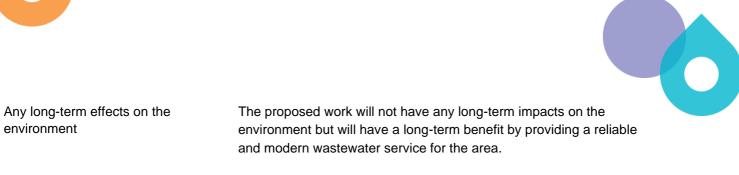




Appendix A – Section 171 checklist

Requirements in addition to the approved REF are considered in the table below.

Section 171 checklist	REF finding
Any environmental impact on a community	There may be short-term impacts on the community from noise, traffic and visual disturbance generally associated with construction activity. There will be environmental improvements by providing a reliable wastewater service to the local community.
Any transformation of a locality	The proposed work will not result in the transformation of a locality.
Any environmental impact on the ecosystems of the locality	The proposed work will not result in environmental impacts to ecosystems of the locality. The pipeline alignment and the construction of MH 6D and 7D requires excavation and trenching in road alignment of Mort Street. As this is pre-disturbed land and as the excavations will not encroach into the TPZ of nearby trees, no environmental impacts are anticipated. There will be environmental improvements by ensuring a reliable wastewater service will collect and treat wastewater, minimising any impacts on the ecosystem.
Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of the locality	The proposed work will occur in landscapes the have been disturbed by existing landuse, i.e., a road corridor. During construction the proposal may result in a localised and temporary reduction of aesthetic and recreational values of the affected site considering its proximity to Mort Bay Park.
	The work area will be restored to pre-existing condition or better and will not result in a reduction of the aesthetic, recreational, scientific or other environmental quality or value of the locality.
Any effect upon a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or any other special value for present or future generations	The proposed work will not have any effect upon a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific, or social significance or any other special value for present or future generations. The changes proposed, and subject to this REF Addendum, have been made to mitigate any heritage impacts on archaeological relics, deposits or structures associated with the Mort's Dock item.
Any impact on the habitat of any protected animals (within the meaning of the <i>Biodiversity Conservation Act</i> 2016)	The proposed work will be unlikely to have a significant impact on flora and fauna. The proposed trenching is occurring within the road alignment of Mort Street and is not anticipated to have any impacts on the surrounding vegetation or habitat of protected animals.
Any endangering of any species of animal or plant or other form of life, whether living on land, in water or in the air	The proposed work will not be endangering any species of animal, plant or other form of life, whether living on land, in water or in the air.



Any degradation of the quality of the environment

The proposed work will not cause the degradation of the quality of the environment.

Any risk to the safety of the environment

The proposed work will not increase risk to the safety of the environment. The proposed works will prevent future wastewater pipe failures and will improve health and safety outcomes in this respect.

Any reduction in the range of beneficial uses of the environment The proposed work will not have any reduction in the range of beneficial uses of the environment. Through the relocation of pipeline alignment, these changes will result in reduction in the temporary disruption originally anticipated in the Approved REF within the Mort Bay Park area.

Any pollution of the environment

The proposal will involve earthworks which may contribute to temporary impact on local soil, water, and air quality. These sites will be restored to their pre-disturbed state at the end of construction.

Environmental safeguards will mitigate the potential for the proposed work to pollute the environment. No pollution of the environment is expected.

Any environmental problems associated with the disposal of waste The disposal of wastes will be conducted in accordance with the environmental safeguards, and no environmental problems associated with the disposal of waste are expected.

(natural or otherwise) that are, or are likely to become, in short supply

Any increased demands on resources The proposed work will not increase demand on resources, that are, or are likely to become, in short supply.

Any cumulative environmental effect with other existing or likely future activities

The proposed work will not have any cumulative environmental effect with other existing or likely future activities.

Any impact on coastal processes and coastal hazards, including those under projected climate change conditions

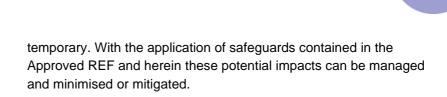
The proposed work will not have any impact on coastal processes or hazards, and coastal processes and coastal hazards will not have any impact on the proposed activity.

district strategic plans made under the EP&A Act, Division 3.1

Any applicable local strategic planning There are no applicable strategic planning statements or plans, as statements, regional strategic plans or the proposed work forms part of a renewals program.

Any other relevant environmental factors.

The proposed work has been assessed against the factors listed above. The overall environmental impact of the works is considered to have been reduced due to the reduction in potential impact on heritage items of Mort's Dock. All other potential environmental impacts from the proposed works identified are short-term and





Appendix B – Consideration of TISEPP consultation

TISEPP section	Yes	No
Section 2.10, council related infrastructure or services – consultation with council		
Will the work:		
Potentially have a substantial impact on stormwater management services provided by council?		✓
Be likely to generate traffic that will strain the capacity of the road system in the LGA?		✓
Involve connection to, and have a substantial impact on, the capacity of a council owned sewerage system?		✓
Involve connection to, and use of a substantial volume of water from a council owned water supply system?		✓
Involve installation of a temporary structure on, or enclosing, a public space under council's control that will cause a disruption to pedestrian or vehicular traffic that is not minor or inconsequential?		
Involve excavation of the surface of, or a footpath adjacent to, a road for which the council is the roads authority that is not minor or inconsequential?	✓	
Section 2.11, local heritage – consultation with council		
Is the work likely to affect the heritage significance of a local heritage item, or of a heritage conservation area (not also a State heritage item) more than a minor or inconsequential amount?		✓
Section 2.12, flood liable land – consultation with council		1
Will the work be located on flood liable land (that is land that is susceptible to flooding by the probable maximum flood event) and will they alter flood patterns other than to a minor extent?		✓
Section 2.13, flood liable land – consultation with State Emergency Services		
Will the work be located on flood liable land (ie. land that is susceptible to flooding by the probable maximum flood event) and undertaken under a relevant provision*, but not the carrying out of minor alterations or additions to, or the demolition of, a building, emergency works or routine maintenance? * (e) Div.14 (Public admin buildings), (g) Div. 16 (Research/ monitoring stations), (i) Div. 20 (Stormwater systems)?		✓
Section 2.14, development with impacts on certain land within the coastal zone– council consultation		
Is the work on land mapped as coastal vulnerability area and inconsistent with a certified coastal management program?		✓
Section 2.15, consultation with public authorities other than councils		
Will the proposal be located on land adjacent to land reserved under the National Parks and Wildlife Act 1974 or to land acquired under Part 11 of that Act? If so, consult with DPIE (NPWS).		✓
Will the proposal be located on land in Zone E1 National Parks and Nature Reserves or in a land use zone that is equivalent to that zone? If so, consult with DPIE (NPWS)		✓
Will the proposal comprise a fixed or floating structure in or over navigable waters? If so, consult TfINSW		✓
Will the proposal be located on land in a mine subsidence district within the meaning of the Coal Mine Subsidence Compensation Act 2017? If so, consult with Subsidence Advisory NSW.		✓
Will the proposal involve clearing of native vegetation on land that is not subject land (ie non-certified land)? If so, notify DPIE at least 21 days prior to work commencing. (Requirement under s3.24 Chapter 3 Sydney Region Growth Centres - of the SEPP (Precincts – Central River City) 2021.		✓





Appendix C – Arborist Impact Assessment Report

Available on request





Appendix D – Morts Dock S65A Letter Report

Available on request

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Appendix E – S65A Approval Letter

Available on request