

1 Review of Environmental Factors Addendum 2

Dunmore pumping station redesign (August 2024)

1 Determination

This Review of Environmental Factors Addendum 2 (REFA2) assesses potential environmental impacts of Dunmore pumping station redesign 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 for ensuring the proposal is carried out as described in this REFA, the Wastewater Servicing for Growth Dunmore (Shell Heights) (January 2019) (approved REF) and the Wastewater Servicing Growth at Dunmore (Shell Heights) – Interim Operating Plan alignment (February 2024) (REFA). Additional environmental impact assessment may be required if the scope of work or work methods described in this REFA change significantly following determination.


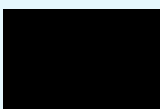


Decision Statement

The main potential construction environmental impacts of the proposal include visual impacts and vegetation removal. During operation, the main impacts are associated with visual amenity. 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. Therefore, a Species Impact Statement (SIS) and Biodiversity Development Assessment Report (BDAR) is not required.

Given the nature, scale and extent of impacts and implementation of the mitigation measures outlined in this REFA and the approved REF, the proposed work is unlikely to have a significant impact on the environment. Therefore, we do not require an Environmental Impact Statement (EIS) and the proposal may proceed.

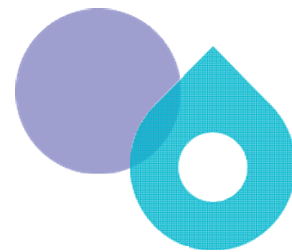
Certification

I certify that I have reviewed and endorsed this REFA2 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:
			
Sarah Watson REFA author, Sydney Water Date: 5/8/2024	Sarah Mitchell Environment Representative, Sydney Water Date: 7/8/2024	Dianne Clemens Project Manager, Sydney Water Date: 8/8/24	Murray Johnson Senior Manager Environment and Heritage Services Date: 27/8/2024

2 Proposal Summary

Aspect	Detailed description
Proposal location	<p>The proposal is located in the following areas:</p> <ul style="list-style-type: none">• Dunmore Road• Southern Cross Boulevard• intersection of Southern Cross Boulevard and Monkhouse Parade• land owned by Shellharbour City Council to the south of 1 Dunmore Road (part of 21/-/DP653009)• land owned by Rail Corp to the west of the proposed pumping station (part of 1//DP859763)• land owned by Shellharbour City Council to the east of the original Dunmore Village. <p>The proposal change will be located in the following areas:</p> <ul style="list-style-type: none">• 1 Dunmore Road• land owned by Shellharbour City Council to the south of 1 Dunmore Road (part of 21/-/DP653009).
Approved REF/REFA	<p>REF Wastewater Servicing for Growth Dunmore (Shell Heights) (January 2019), REFA Wastewater Servicing for Growth at Dunmore (Shell Heights) – Interim Operating Plan alignment (February 2024).</p>
Proposal scope	<p>Sydney Water is planning wastewater infrastructure to service residential development in Dunmore. Once development in the area is complete, the proposal will provide wastewater infrastructure for about 400 residential properties. The proposal consists of:</p> <ul style="list-style-type: none">• 265 m of DN 225 gravity wastewater pipeline connecting the Dunmore Road pressure pipeline to an existing discharge location at the corner of Southern Cross Boulevard and Monkhouse Parade (Southern Cross Boulevard gravity pipeline).• 830 m of DN 150 gravity wastewater pipeline to connect Dunmore Village properties into the new pumping station (Dunmore Village gravity lead-in pipeline)• 1500 m of DN 200 (200 OD) pressure pipeline along Dunmore Road and Southern Cross Boulevard (Dunmore Road pressure pipeline)• New wastewater pumping station (SP1204) adjacent to 1 Dunmore Road (located within Lot 21 DP653009), including facilities for emergency overflows via an emergency relief structure.



Proposal change

The proposed changes include:

- Changes to the location 830 m of DN 150 gravity wastewater pipeline.
- Installation of council access road adjacent to pumping station.
- Redesign of pumping station (SP1204) including addition of retaining wall and change to location of emergency overflow.

Justification for proposal change

The construction of the pumping station SP1204 will block existing access from the council access gate off Dunmore Road to Lot 21 DP 653009. As part of the construction of pumping station SP1204 Shellharbour City Council required maintained access to Lot 21 DP653009 from Dunmore Road. Changes to pumping station design allow for continued council access to Lot 21 DP 6530096 from Dunmore Road past the pumping station. Changes to location of gravity main were required due to design and construction requirements.





Figure 1 Proposal change

Servicing Growth at Dunmore – Flora and Fauna Assessment Report



Figure 2. Arcadis vegetation mapping

3 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 the State Environmental Planning Policy (Transport and Infrastructure) 2021 (TISEPP). No formal consultation with Shell Harbour Council was required under the TISEPP; however, Shell Harbour Council has received ongoing consultation regarding the proposal.

4 Legislative consideration

There are additional legislative requirements above those already assessed in the approved REF (January 2019) and REFA (February 2024).

Section 2.126 of the *State Environmental Planning Policy (Transport and Infrastructure) 2021* (TISEPP) permits development by or on behalf of a public authority for sewerage without consent on any land.

Legislation

State Environmental Planning Policy (Resilience and Hazards) 2021

The State Environmental Planning Policy (Coastal Management) 2018 was repealed in 2021 and incorporated into the Resilience and Hazards SEPP 2021.

The requirements in section of Clause 11 of the State Environmental Planning Policy (Coastal Management) 2018 are the same as section 2.8 of the Resilience and Hazards SEPP 2021. The proposal was assessed to meet these requirements in the approved REF. The proposal changes impacts will be consistent with the assessment done in the REF and no further assessment is required.

State Environmental Planning Policy (Transport and Infrastructure) 2021 (TISEPP)

The Infrastructure SEPP 2007 was repealed in 2021 and replaced with the TISEPP. Section 2.126(6) of the TISEPP permits development by or on behalf of a public authority for wastewater reticulation systems without consent on any land in the prescribed circumstances.

The proposal involves development related to a wastewater main. Development is carried out in the prescribed circumstances if it is carried out by or on behalf of a public authority.

As Sydney Water is a public authority, the proposal is permissible without consent.

5 Additional environmental impacts and mitigation measures

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

Environmental impacts table

Aspect	Additional impacts	Additional mitigation measures
Water and drainage	<p>The proposal will require the removal of up to 2.2 ML of groundwater. The REF (January 2019) assessed the impacts of groundwater removal and disposal on the environment. Safeguards outlined in the REF will mitigate impacts from groundwater removal.</p> <p>The council access road will be graded road base and 1 coat of bitumen to reduce impacts of sedimentation and erosion from runoff. A concrete gutter will be installed on the southern boundary and a drainage swale and gutter on the northern boundary of the council access road will be installed to manage runoff from the access road. Once construction of the council access road and drainage is complete Shellharbour City Council will take over management of the access road and drainage.</p> <p>The Hydrology and hydraulic assessment for a wastewater pump station in Dunmore 2018 assessed the impacts of the proposal on the 1% AEP event showed that the proposal would change peak flood level by -0.01 to +0.01 m. This level of potential increase in flood level would have negligible impact on the surrounding residents and area.</p>	<p>Sydney Water will obtain a groundwater Water Supply Works Approval. Where dewatering is >3ML per water year (from 1 July), Sydney Water will also obtain a Water Access Licence from NRAR. The Contractor is responsible for:</p> <ul style="list-style-type: none"> preparing a Dewatering Management Plan at least four months prior to construction <p>complying with the conditions of the above approvals (such as protecting water quality, minimising aquifer extraction volumes, monitoring extraction with flow meters and recording volumes).</p>
Flora and fauna	<p>An Addendum flora and fauna assessment was undertaken by Arcadis, a site visit was done by two qualified ecologists on 30 May 2024 to assess consistency of vegetation classification with the REF and the impact of the proposal change on flora and fauna. The findings of the flora and fauna assessment are summarised below, the full assessment can be seen in Appendix C. The proposal requires vegetation removal along the gravity main construction footprint and council access road. For the assessment it was assumed removal of all vegetation within the project footprint, shown in Figure 1, as a worst case scenario.</p> <p>Threatened Species</p> <p>Thirteen threatened flora species were identified as having moderate to high likelihood to occur. None were found during the site visit and it was determined that all 13 could be decreased to a low likelihood of occurrence.</p> <p>Two Magenta Lilly Pilly (<i>Syzygium paniculatum</i>) were identified on site during the August 2018 field survey for the REF, however as planted individuals. Although Magenta Lilly Pilly is a threatened flora species in NSW the individuals on site do not hold the same level of significance as naturally occurring</p>	<p>Apply appropriate safeguards from the REF (January 2019).</p> <p>Offset residual impacts to native vegetation and trees in accordance with the Biodiversity Offset Guideline (SWEMS0019.13).</p> <p>If removal of trees with habitat features capable of concealing fauna such as tree-hollows, nest boxes or birds nests are identified an ecologist should be present during their removal.</p> <p>If birds nests require removal during spring they should be inspected by an ecologist to determine if they are being used for nesting and need to be left in situ or if they can be removed.</p>

Environmental impacts table

Aspect

Additional impacts

Additional mitigation measures

individuals and should be considered Exotic/Planted Native Vegetation. An additional 3 Magenta Lilly Pilly individuals were identified during the 2024 site visit and a test of significance was prepared which concluded that the removal of the species does not constitute a significant impact to the local occurrence of the species or species as a whole.

It was determined that 2 threatened fauna species had the potential to be impacted by the proposal through habitat removal, they were the:

- Grey-headed Flying Fox (*Pteropus poliocephalus*)
- Green and Golden Bell Frog (*Litoria aurea*).

No threatened species were identified during field survey.

Tests of significance under the BC Act and Significant Impact Criteria assessment under the EPBC Act were completed for both species. Both assessments concluded that the proposal is unlikely to have a significant impact on both species.

There were no trees within the study area that were mature enough to bear hollows, resulting in no hollow bearing trees. However, there are 4 Silky Oaks (*Grevillia robusta*) along the western alignment with about 4 nestboxes installed on each. It was determined the nest boxes were unlikely to be used by threatened species but could be occupied by common native species. Mitigation measures will ensure there is no impact to species during the removal of the nest boxes.

Threatened Ecological Communities (TECs)

The site visit confirmed the presence of planted native/exotic and one Endangered Ecological Community (EEC) Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregion listed under the BC Act. The areas of both vegetation within the study area can be seen on Figure 2 and in the table below.

PCT	EEC (BC Act)	Total in study area (ha)	To be cleared (ha)
PCT 4028 – Estuarine Swamp Oak	Swamp Oak Floodplain Forest of the New South Wales North	1.13	0.06

Follow the Arrive Clean, Leave Clean guidelines (DoE 2015) and the Saving our Species Hygiene guidelines (DPIE 2020) to help protect biodiversity and prevent the spread of invasive diseases (*Phytophthora cinnamomi*, myrtle rust, amphibian chytrid fungus) and weeds threatening our native plants, animals and ecosystems.

Avoid traversing, travelling through or accessing areas outside of the project footprint which has the potential to damage biota.

A species identification sheet should be created for Green and Golden Bell Frog and posted on the Proposal site. During daily Pre-start Meetings/Toolbox Talks the Environmental Manager (or another responsible person) should mention the potential for Green and Golden Bell Frog to occur and explain the Unexpected Finds/Stop Works Procedure should one be identified on the work site.

Installation of frog fence will occur along the eastern boundary of the project site. Installation and maintenance of the frog fence should be prioritised between the months of August and March when Green and Golden Bell Frogs are more active. Fencing design should be consistent with that described in the Best practice

Environmental impacts table

Aspect	Additional impacts			Additional mitigation measures
Twig-rush Forest	Coast, Sydney Basin and South East Bioregion			<p>guidelines: Green and Golden Bell Frog habitat (DECC 2008).</p> <p>Nest boxes required to be removed to facilitate the proposal should be assessed by an ecologist for functionality. If they are deemed to be functional (i.e. provide habitat for hollow dependant fauna) they should be reinstalled in retained vegetation within the project footprint.</p>
Planted exotic/native	-	1.13	0.46	
	Total	2.26	0.52	

A test of significance was done to assess the impact of vegetation removal of the EEC. Due to the small area requiring removal for the proposal the degraded nature of the EEC from invasive species and habitat fragmentation the proposal is not likely to have a significant effect on the EEC.

Aquatic habitats

An unmapped tributary of Rocklow Creek runs through the southern edge of the study area. While it does provide potential habitat for the Green and Golden Bell Frog, given the small and intermittent nature it is unlikely to provide potential habitat for any other threatened species.

The proposal requires vegetation removal within a Coastal Wetland Proximity Area. Mitigation measures will ensure the vegetation clearing of planted native/exotic vegetation is unlikely to significantly impact the biophysical, hydrological or ecological integrity of the adjacent Coastal Wetland or the quality and quantity of surface groundwater flows to the adjacent Coastal Wetland. The emergency relief structure will be flowing into stormwater in Dunmore Road then into the waterway mapped as Coastal Wetland, adjacent to the proposal. Flows into the Coastal Wetland from emergency relief structure has been assessed in the REF (January 2019).

Groundwater removal will be required for the proposal which has the potential to impact groundwater dependant ecosystems (GDE). Safeguards outlined in the REF will minimise the impacts of groundwater removal on GDE in the surrounding area.

Potential impacts

The proposal change is unlikely to have a significant impact on any threatened flora species, threatened fauna species or

Environmental impacts table

Aspect	Additional impacts	Additional mitigation measures
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TECs. As a worst case scenario the proposal will require removal and restoration of the following vegetation:

Name	Total (ha)	Required restoration area (ha)	Offset ratio
PCT 4028 (EEC)	0.06	0.18	3
Planted native/exotic	0.46	0.92	2
Tree removal (locally native)	-	-	3
Tree removal (exotic)	-	-	1

Any impacts to threatened species will be managed through mitigation measures.

Heritage

An Aboriginal Cultural Heritage Due Diligence Assessment (AHDD) was conducted by Kelleher Nightingale Consulting (KNC) for the additional impact area required for the proposal change and can be seen in Appendix D. The AHDD includes a review of desktop information as well as site inspection. A search of the Heritage NSW Aboriginal Heritage Information Management System (AHIMS) was conducted on 20 May 2024. The closest AHIMS site was located 100 m northwest of the proposal change area and would not be impacted by the proposal. A site inspection was conducted on the 30 May 2024 which concluded that no Aboriginal objects, Aboriginal archaeological sites or area of archaeological potential were identified during the inspection. There will be no impact to Aboriginal heritage from the proposal change.

None. Apply appropriate safeguards from the REF (January 2019).

Social and visual

A Visual Impact Assessment (VIA) was completed by Aurecon to assess the changes of the pumping station (SP1204) on surrounding residents and receivers. The findings of the assessment are summarised below, full VIA and 3D visualisations can be seen in Appendix E and F respectively.

Four viewpoints were chosen to represent key views of sensitive receivers in the area and illustrate a range of receptor types, view types and viewing distance from the project. Of the four

Apply appropriate safeguards from the REF (January 2019).

Design to incorporate:

- making visible above ground infrastructure, such as the vent shaft and chemical dosing

Environmental impacts table

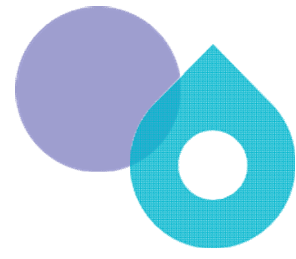
Aspect	Additional impacts	Additional mitigation measures
	<p>viewpoints only the residents along Dunmore Road would experience visual impacts from the proposal. During construction the residents along Dunmore Road may experience temporary impacts to visual amenity from construction activities such as earthworks and installation of facilities. The construction works will be temporary and short in duration, residents have been consulted and notified of the works.</p> <p>During operation the resident adjacent to the pumping station will experience minor visual impacts. Visual impacts will be reduced through incorporation of mitigation measures.</p>	<p>unit, environmental green</p> <ul style="list-style-type: none">• using palisade fencing to maintain visibility through fencing• using dark grey concrete blocks to help blend retaining wall into surrounding landscape.

6 Conclusion

This REFA outlines potential environmental impacts associated with changes to visual amenity and vegetation removal as part of the REF Wastewater Servicing for Growth Dunmore (Shell Heights) (January 2019). Any additional environmental impacts are considered minor and potential impacts can be mitigated through implementation of the measures outlined in this REFA and the approved REF. The proposal is not likely to significantly impact the environment.

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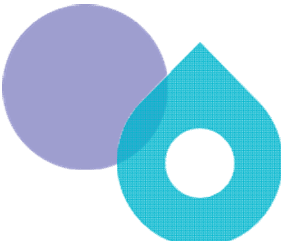
Appendix A – Section 171 checklist

There are no requirements in addition to those considered in the approved REF

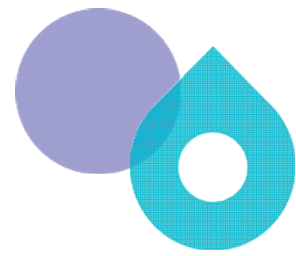


Appendix B – Consideration of TISEPP consultation

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?		X
Be likely to generate traffic that will strain the capacity of the road system in the LGA?		X
Connect to, and have a substantial impact on, the capacity of a council owned sewerage system?		X
Connect to, and use of a substantial volume of water from a council owned water supply system?		X
Require temporary structures on, or enclose, a public space under council's control that will disrupt pedestrian or vehicular traffic that is not minor or inconsequential?		X
Excavate a road or a footpath adjacent to, a road for which the council is the roads authority that is not minor or inconsequential?		X
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?		X
Section 2.12, flood liable land – consultation with council		
Will the work be on flood liable land (land that is susceptible to flooding by the probable maximum flood event) and will works alter flood patterns other than to a minor extent?		X
Section 2.13, flood liable land – consultation with State Emergency Services		
Will the work be on flood liable land (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)?		X
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?		X
Section 2.15, consultation with public authorities other than councils		
Will the proposal be on land adjacent to land reserved under the <i>National Parks and Wildlife Act 1974</i> or to land acquired under Part 11 of that Act? <i>If so, consult with DPIE (NPWS).</i>		X
Will the proposal be on land in Zone E1 National Parks and Nature Reserves or on a land use zone that is equivalent to that zone? <i>If so, consult with DPIE (NPWS)</i>		X

Will the proposal include a fixed or floating structure in or over navigable waters? If so, consult <i>TfNSW</i>		X
Will the proposal be on land in a mine subsidence district within the meaning of the <i>Coal Mine Subsidence Compensation Act 2017</i> ? If so, consult with <i>Subsidence Advisory NSW</i> .		X
Will the proposal be on land in a Western City operational area specified in <i>the Western Parkland City Authority Act 2018</i> , Schedule 2 and have a capital investment value of \$30 million or more? If so, consult <i>the Western Parkland City Authority</i> .		X
Will the proposal clear 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).		X

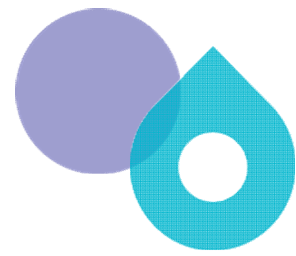


Appendix C – Flora and Fauna Assessment



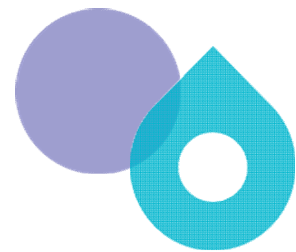


Appendix D - Aboriginal Cultural Heritage Due Diligence Assessment



Appendix E – Visual Impact Assessment





Appendix F – 3D Visualisations

