Proposed Extension to Fisherman's Hollow Twin Staircase (south) YANCHEP

Native vegetation clearing permit referral application
Supporting documentation

February 2022

City of Wanneroo

Table of Contents

1. Introduction

The City of Wanneroo is proposing to undertake the clearing of vegetation within the Yanchep Foreshore Reserve to facilitate the extension of the southern arm of the existing beach access staircase. Detailed information for the affected land parcel by the proposed clearing works is shown in Table 1 below.

Table 1: Land ownership and zoning within clearing areas.

Lot Number	Address	Land Owner	MRS Zoning	Reserve Purpose
Lot 520 on Deposited Plan 406005 Reserve 12439	5 Brazier Road YANCHEP 6035	Crown Land – Power to Lease	Parks and Recreation	Recreation

2. Background

The Fisherman's Hollow twin staircase extension project has been prioritised by the City of Wanneroo as the structure currently poses a safety risk to the public.

Significant erosion was experienced along the Yanchep coastline following winter storms in 2021. At the base of the Fisherman's Hollow twin staircase structure, erosion resulted in an unsafe, 1.5m drop from the base of the southern arm of the structure to the beach. The southern arm of the structure has been permanently closed off, and pedestrians have been directed to the northern arm of the staircase to provide access to the beach.

To remediate this issue, an extension will be installed onto the southern arm of the staircase to provide ongoing safe access to the beach.

Figure 1: Locality map of the Fisherman's Hollow twin staircase, Yanchep.

These works are required to ensure safe access to the beach. While clearing will be minimal and avoided as best as possible, some clearing will be required for the installation of foundation piles for the structure.

3. Scope

The purpose of this document is to provide an assessment against the *Environmental Protection Act 1986* – Ten Clearing Principles to determine whether the proposed clearing is likely to have a significant impact on the environment.

The proposed infrastructure is an extension to the southern arm of the beach access staircase located at the end of the Fisherman's Hollow,Yanchep. The staircase extension will consist of 12 steps, a handrail and piles which will extend from the existing staircase landing. The staircase will be made of fibre reinforced plastic (FRP) material, and the foundation will be high strength steel screw piles.

The proposed scope of works for the staircase extension will include:

- Demolition of the currently installed wooden temporary stairs and other minor maintenance activities;
- Installation of screw piles by a 8.5 tonne excavator;
- Installation of pre-fabricated staircase components across three to four days.

It is proposed the vegetation will be removed by manual means through the use of an 8.5 tonne excavator.

The clearing and construction is scheduled to commence in April 2022. It is anticipated the clearing and construction will take one week to complete, with a completion date of April/May 2022.

The clearing of vegetation is proposed within the Yanchep Foreshore Reserve near Fisherman's Hollow, totalling 0.0025 hectares (24.95m^2) (Figure 2 (below), Attachment A – Clearing Plan and Attachment B – Shapefiles).

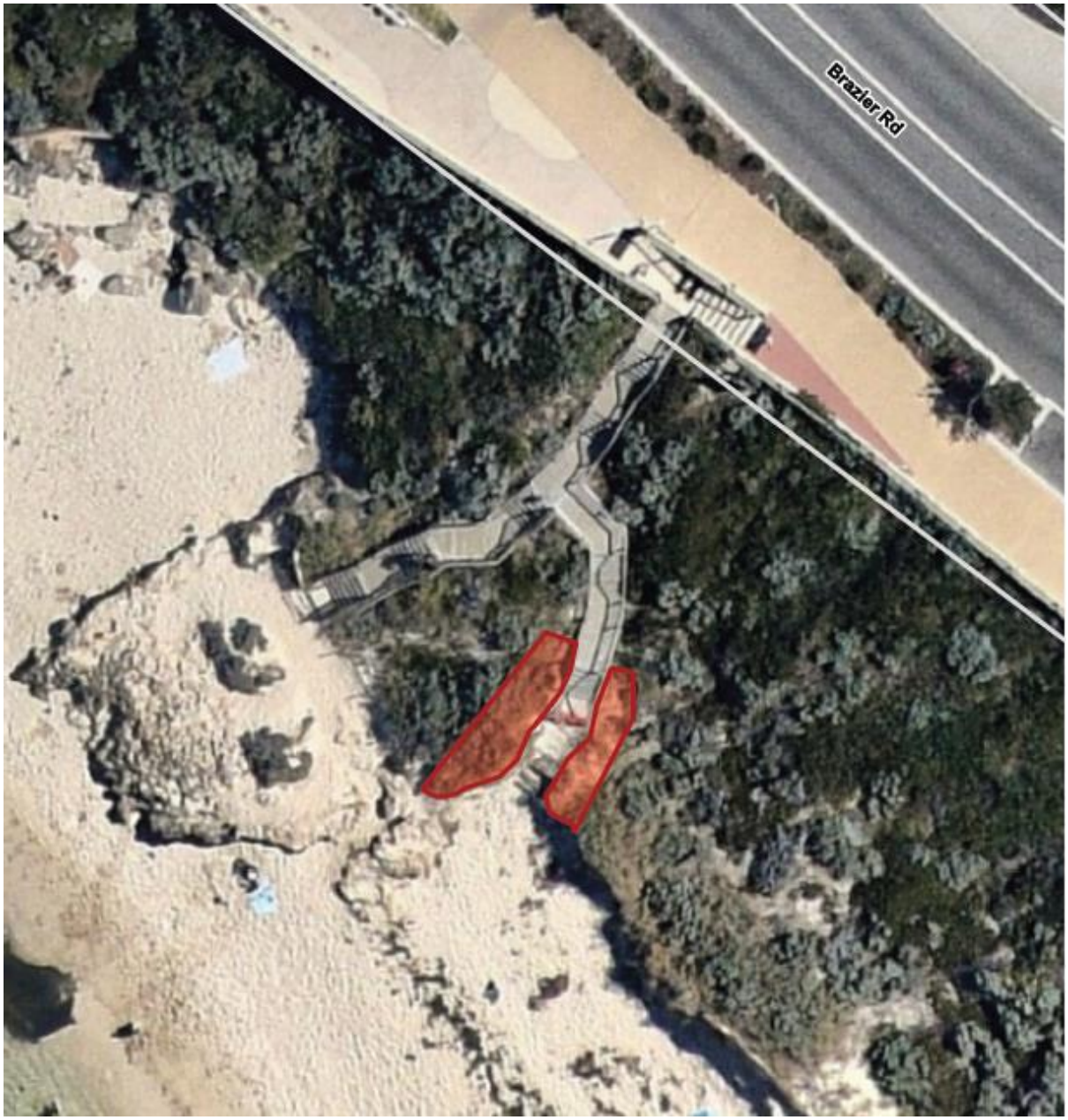

Figure 2: Proposed clearing of 0.0025ha (24.95m^2) for the extension of the southern arm of the twin staircase at Fisherman's Hollow, Yanchep, for the provision of safe access to the beach.

Figure 3: Proximity of proposed clearing (red circle) in relation to surrounding foreshore reserve and bushland, with Newman and Picnic Cove Parks to the east and coastal areas north and south.

4. Flora and Vegetation

On 4 February 2022, City Environmental Officers conducted a vegetation assessment of the proposed clearing area. The majority of the vegetation is in good condition, consisting mainly of native species. Erosion is evident within the proposed clearing area closest to the beach, with a sheer drop of approximately 1.5m from the base of the existing structure to the beach.

The vegetation is dominated mainly by three native species: *Olearia axillaris*, *Ficinia nodosa* and *Spinifex longfolius*; and one weed species: *Tetragonia decumbens* (Attachment C – Site Photographs, Attachment D – Photograph Locations and Flora List, Table 1). The clearing area is approximately 24.95m^2 (Attachment A – Clearing Plan and Attachment B – Shapefiles). A total of nine flora species were identified during the survey, including six native flora and three weed species.

Table 1: Species identified during the vegetation assessment on 4/02/2022.

NATIVE SPECIES	WEED/PLANTED SPECIES
Ficinia nodosa	*Cakile maritama*
Lepidosperma gladiatum	*Pelargonuim capitatum*
Olearia axillaris	*Tetragonia decumbens*
Scaevola crassifolia	
Spinifiex longifolius	
Threlkeldia diffusa	

5. Fauna

During the aforementioned vegetation survey, no fauna were documented within the extent of the proposed clearing areas.

The City of Wanneroo's (the City's) Environmental Planning Considerations Report (EPCR) did not identify any instances of threatened or priority fauna species within the selected footprint (Attachment E). Protected fauna species were however identified within a 5km radius of the selected area (Attachment E).

The City's EPCR did identify the selected area as being located within a Carnaby's cockatoo (*Calyptorhynchus latirostris*) "Confirmed" roosting area buffer. The EPCR also identified the proposed clearing area was within or adjacent to a Key Biodiversity Area for birds.

6. Avoidance and Mitigation Measures

For the foundation of the structure extension, screw piles have been selected as the preferred piling methodology to limit the extent of clearing necessary to complete the project. Traditional piles require significant clearing to achieve an adequate depth while screw piles require limited clearing within the pile footprint to install.

Clearing at the site will be limited to what is necessary for piling and the structure footprint. The purpose of the permit is to allow for clearing in the instance that the vegetation is damaged or cleared during construction. The structure is required to ensure safe, ongoing access to the beach for the community.

7. Clearing Principles

A City of Wanneroo 'Environmental Planning Considerations Report' (Attachment E) was generated by the City as supporting documentation for the below clearing principle assessment. This, along with additional data sources provided by various state and federal departments, were reviewed to determine the level of impact and the level of variance to the clearing principles.

The following table summarises the identified environmental impacts and the level of variance against the clearing principles.

Table 2: Identified Impacts against Clearing Principles

Clearing Principle	Proposed Project Impacts
Principle (a) – Native vegetation should not be cleared if it comprises a high level of biological diversity	The City Environmental Officers undertook a vegetation assessment of the proposed clearing area on 4 February 2022. The survey identified the proposed project area had been impacted by erosion. Within the proposed clearing area, the vegetation is dominated by three native species and one weed species. The proposed clearing area is located within Bush Forever Site 397 and is a mapped Environmentally Sensitive Area (ESA). The City's EPCR (Attachment E) identifies the following flora and fauna attributes for the proposed clearing site: • No records of Federal or State TECs, PECs, Threatened and Priority Flora records or Threatened and Priority Fauna records within the selected site boundaries • The proposed clearing area is within an important birding area (Northern Swan Coastal Plain IBA). The City's EPCR (Attachment E) identifies the following flora and fauna attributes within 5kms of the proposed clearing site: • Federal and State listed TECs and PECs (or their buffers) located within a 5km radius of the proposed clearing site • State listed Priority Flora records located within a 5km radius of the proposed clearing site • Federal and State listed Threatened and Priority Fauna and Fauna Habitat records located within a 5km radius of the proposed clearing site • Confirmed and Possible Black Cockatoo breeding and roosting habitat buffers within 6km's of the proposed clearing site. In relation to clearing principle (a), the proposed small clearing area of 0.0025 hectares (24.95m^2) of both remnant vegetation and weed species located within Bush Forever Site 397 and an ESA may be at variance to this principle.
Principle (b) – Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia	The City's EPCR (Attachment E) identified the proposed clearing area is within an important birding area (Northern Swan Coastal Plain IBA) and is within the Carnaby's Cockatoo Confirmed and Possible 'roosting area buffers'. The City's Vegetation Assessment did not identify the presence of any trees within the proposed 0.0025 hectares (24.95m^2) clearing area, as such, no hollows suitable for nesting are present.

	Considering the above, the application area is not likely to be at variance with clearing principle (b).
Principle (c) – Native vegetation should not be cleared if it includes or is necessary for the continued existence of, rare flora.	The City's EPCR (Attachment E) identified there are priority flora species within a 5km radius of the application area, however no Federal or State threatened or priority flora species are identified within the application area. The City's Vegetation Assessment did not identify the presence of any trees within the proposed 0.0025 hectare clearing area, as such, no hollows suitable for nesting are present. Considering the application area does not contain rare flora or suitable habitat trees for black cockatoos and the vegetation contains both weed species and remnant flora ranging from a majority Degraded to small areas of Good condition, the application area is not likely to be at variance with clearing principle (c).
Principle (d) - Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a Threatened Ecological Community.	The City's EPCR (Attachment E) identified both Federal and State Threatened Ecological Communities (and buffers) within a 5km radius of the application area, however no threatened or priority communities are present within the City's proposed 0.0025 hectare clearing area (CoW, 2022). Due to the absence of an identified TEC within the application area, the City's proposed clearing is not likely to be at variance to clearing principle (d).
Principle (e) - Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been significantly cleared.	The vegetation proposed for clearing to facilitate the extension of the southern structure of the twin staircase contains remnant native vegetation belonging to the Quindalup Complex. In accordance with DBCA's South West Vegetation Complex Statistics, vegetation representation within the Quindalup Complex is greater than 30%, with 60.49% currently persisting (DBCA, 2018). The City's proposed clearing is not likely to be at variance with clearing principle (e) due to the current extent of the Vegetation Complex and the small clearing requirement of 0.0025 hectares (24.95m^2).
Principle (f) - Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or a wetland	Wetlands or watercourses are not located within the application area, or within 50 metres of the application area (CoW, 2022). The coastal heath vegetation within the application area is therefore not growing in association with a wetland or watercourse. Considering the above, the proposed clearing is therefore not likely to be at variance to clearing principle (f).
Principle (g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.	The proposed clearing of 0.0025 hectares (24.95m^2) of remnant vegetation and weed species is not located within an Acid Sulfate Soil risk area (DWER, 2022).

	The Groundwater Salinity (Total Dissolved Solids) at the proposed clearing site is considered to be Marginal with a salinity range of between 500 - 1000mg/L (DWER, 2022). DWER's Perth Groundwater Map identifies the surface geology within the application area as Safety Bay Sand: Aeolian and beach lime sand (DWER, 2022). The Natural Resource Information (WA) mapping tool identifies the application area as Quindalup South System Phase (211Qu_Q4) – coastal dunes of the Swan Coastal Plain with calcareous deeps sands and yellow sands. Coastal scrub (DPIRD, 2022). The erosion risk (due to water and wind) of this site is medium to high given erosion is already present at the site and noting its proximity to coastal conditions. The installation of the structure will help to stabilise the erosion occurring in the application area, stopping the dunes from falling inwards where the current structure has become damaged and removed. Given the above hydrogeological conditions and absence of risk factors associated with clearing within these hydrogeological features, it is not likely for the clearing to result in appreciable land degradation and therefore is not likely to be at variance to clearing principle (g).
Principle (h) - Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.	The proposed clearing area is within the Yanchep Foreshore Reserve and is both, an Environmentally Sensitive Area, and Bush Forever 397 (CoW, 2022). Due to the high value of remnant vegetation available throughout the Yanchep Foreshore Reserve and vegetation within the large extents of Bush Forever 397 Site, it is not likely for the proposed clearing to be at variance to clearing principle (h).
Principle (i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.	Wetlands or watercourses are not located within the application area, or within 50 metres of the application area (CoW, 2022). The coastal heath vegetation within the application area is therefore not growing in association with a wetland or watercourse. As no surface water is present within the proposed clearing area, the proposed clearing is not likely to cause deterioration in surface water quality through sedimentation or eutrophication. The proposed clearing area is not within a Public Drinking Water Source Area, however it is within the Perth Groundwater Area RIWI Act area. Given the availability of adjacent remnant vegetation throughout Bush Forever Site 397, and the proposed small clearing area, it is not considered the proposed clearing will increase groundwater salinity. The proposed clearing is therefore not likely to be at variance to clearing principle (i).

Principle (j) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause or exacerbate the incidence or intensity of flooding.	The proposed clearing of 0.0025 hectares (24.95m^2) hectares of Good condition vegetation (remnant vegetation and weed species) is not likely to cause, or exacerbate the incidence, or intensity of flooding. The proposed clearing is not likely to be at variance to clearing principle (j).

8. Conclusion

The City has assessed the proposed clearing against the 10 clearing principle and has found that the clearing of 0.0025 hectares (24.95m^2) within the Yanchep Foreshore Reserve, may be at variance to principle (a) due to the clearing occurring within Bush Forever Site 397, however, it is not likely to be at variance to the remaining clearing principles.

9. References

City of Wanneroo. (2022). Intramaps. Environmental Planning Considerations Report. Accessed 15 February 2022.

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Department of Biodiversity, Conservation and Attractions. (2021). *Florabase – the Western Australian Flora.* Available at https://florabase.dpaw.wa.gov.au/

Department of Primary Industries and Regional Development (DPIRD). Natural Resource Information (WA) Mapping Tool. https://maps.agric.wa.gov.au/nrm-info/ Accessed 15 February 2022.

Department of Water and Environmental Regulation. (2021). *Perth Groundwater Map.* Available at https://maps.water.wa.gov.au/Groundwater/ Accessed 15 February 2022.