Environmental Management Plans

This Information Sheet is intended to assist in the preparation of Environmental Management Plans that may be required as a condition of subdivision and/ or development approval.

An Environmental Management Plan may be requested by the City of Armadale (the City) as part of its role administering the *Local Government Act 1995* and the *Planning and Development Act 2005*.

This information sheet assists in achievement of the following model scheme condition(s), that are published by the Western Australian Planning Commission, and that may be a condition of a subdivision approval in the City.

EN1: *Prior to the commencement of subdivisional works a foreshore / environmental/ bushland / tree / wetland / wildlife protection [DELETE AS APPLICABLE] management plan for [INSERT VALUE] is to be prepared and approved. to ensure the protection and management of the sites environmental assets with satisfactory arrangements being made for the implementation of the approved plan. (Local Government)*

EN2: *Prior to the commencement of subdivisional works, measures being undertaken to identify any vegetation on the site worthy of retention, including any potential habitat or foraging trees for threatened fauna species, and protection measures implemented to ensure such vegetation is not impacted by subdivisional works. (Local Government)*

EN3: *A revegetation plan being prepared, approved and implemented for the revegetation of [INSERT VALUE] or the area shown on the dated [INSERT VALUE] (attached) [DELETE AS APPLICABLE] with appropriate native species to the specifications of the Department of Water and Environmental Regulation OR Department of Biodiversity, Conservation and Attractions OR Local Government (DELETE AS APPLICABLE). (Local Government).*

Environmental Management and Improvement Strategy: *as required under Local Planning Policy PLN 2.7 (Environmental Management and Improvement Policy for Development of Constrained Land).*

Guide to achievement of model scheme condition EN1 and EN3

Environmental Management Plans (EMP) may be required as a condition of development approval or subdivision approval. Examples include.

- Wetland (and buffer) EMP
- Bushland EMP
- Foreshore (and buffer) EMP*
- Revegetation Plan
- Environmental Management and Improvement Strategy

Examples of the content of these EMP's is provided below.

Additional content may be required at the City's request, and in consideration of each area's unique environment.

For some areas, Foreshore Management Plans may also be required to adhere with Appendix 5 requirements of Armadale Redevelopment Scheme 2.

1. Background

Recommended content includes the following.

- Description of approved development & applicable area
- Purpose of report, guiding documents, relevant policy including Local Planning Policy
- Consultation

- Description of tenure and staging of tenure change (such as land ceding)
- Address of related reports or documents such as Landscaping Plans, Urban Water Management Plans, Bushfire Management Plans etc.
- Summary of, and reference to, higher order environmental assessment reports
- Review of applicable environmental regulation (for example compliance with EP Act 1986, EPBC Act 1999 and BC Act 2016).

2. Description of environmental attributes

A description of environmental attributes as supported by technical survey shall be provided. Examples of environmental attributes includes the following.

- Topography
- Soils
- Hydrology
- Wetland /wetland buffers and watercourse mapping
- Floodplain mapping
- Description of vegetation (plant communities, structure & condition)
- Description of flora (native and non-native)
- Description of fauna
- Description of fauna habitat / conservation areas

- Description of ecological linkages
- Identification of present or nearby cultural and social values.
- Identification of present or nearby mapped threatened, endangered or priority species or ecological communities.
- Identification of present or nearby Matters of National Environmental Significance.
- Existing canopy cover for site

Technical survey is required to be consistent with Environmental Protection Authority Technical Guidance for Flora and Vegetation Surveys for Environmental Impact Assessment (2016).

Assessments of Vegetation Condition shall be based on the Keighery Scale method of ranking vegetation condition (Part C of the Local Government Biodiversity Planning Guidelines, Section 12.7).

Field-based weed survey shall include identification of Weed of National Significance (WONS), Declared Pest Plants and locally significant weeds. Weed mapping and datasets are required to include species ID, location (GPS coordinates and mapping), extent of weed outbreaks, percentage cover, and prioritisation with relation to risk and control.

GPS mapping is required to be in accordance with the DBCA's 'Techniques for mapping weed distribution and cover in bushland and wetlands (Standard Operating Procedure No: 22.1, 2011).

3. Address of development design

A description (including maps) of the development layout shall be provided that cross references other elements of design including landscaping and water management.

4. Potential impacts and threats

A description of threats to environmental attributes shall be provided, supported by technical survey. The following are examples of threats to environmental attributes.
- Clearing of native flora
- Weed proliferation
- Water quality and quantity (drainage dewatering, groundwater abstraction, climate adaptation)
- Bushfire risk & mitigation
- Uncontrolled access
- Feral / pest animal occurrence
- Disease introduction, occurrence or spread
- Acid Sulphate Soils
- Drying climate
- Construction impacts
- Sedimentation and erosion
- Nutrient enrichment
- Displacement of local fauna

5. Management & environmental improvement plan

A plan for enhancement of the environmental attributes and management of threats is required to be provided. Examples of content includes.

7 Orchard Ave, Armadale WA 6112
08 9394 5000
info@armadale.wa.gov.au
www.armadale.wa.gov.au

CITY OF Armadale

- Identification of management zones (description, diagram, and cross sections)
- Vegetation Retention Plan
- Revegetation proposal (revegetation zones, species selection, planting density, implementation strategy, watering proposal)
- Management actions weed / disease/ feral animal control
- Construction impact management
- Infrastructure planning: access control and infrastructure plan
- Pest management
- Habitat enhancement
- Bushfire management access
- Infrastructure provision (recreation, fauna management, maintenance)
- Drainage and nutrient management
- Construction management

Supporting mapping and cross-sectional diagrams must be provided.

6. Implementation & review

Recommended content includes the following.

- Clear objectives, targets, outcomes and measurable completion criteria
- Specific and time bound works proposals
- Maintenance schedules and contingency action planning

The City of Armadale have minimum completion criteria that apply to the achievement of EMPs.

1. Demonstrated survival and establishment of all revegetation (including infill that exceeds 10% of the original installation) for a minimum of 2 summer periods.

2. Less than 5% weed occurrence at site (not averaged)

3. 0% Weeds of National Significance or Declared Species (not averaged)

4. Demonstrated net increase in canopy

5. Achievement of the following minimum plant densities (4-6 sedges/ rushes grasses per square meter, 1.5-2 square meters of shrubs, 0.1-0.2 trees per square meters).

6. 50-meter buffer watercourse rehabilitation width (permanent water or protected wetlands)

7. 30-meter buffer watercourse rehabilitation width (seasonally flowing watercourses)

8. 30-meter buffer watercourse rehabilitation width (watercourses that flow after specific rain event)

- Audit and reporting templates (annual and final)
- Delivery schedules (for staged developments)

7. **Professional standard**

All reports and supporting mapping are required to be prepared by a suitably qualified professional. Maps are required to be both topographic and cross-sectional.

7 Orchard Ave, Armadale WA 6112
08 9394 5000
info@armadale.wa.gov.au
www.armadale.wa.gov.au

CITY OF Armadale

Guide to achieving model scheme condition EN2

EN2 requires the identification and protection of vegetation, trees, and habitat prior to the commencement of subdivision works.

Planning for the achievement of EN2 is encouraged to occur early in the land use change process.

Planning and reporting associated with achievement of EN2 also supports City requirements for bulk earthworks / civil works applications, and applications for the clearance of subdivisional conditions.

Three reports /plans associated with the achievement of EN2 are required to be submitted to the City for review and approval. These include:

- Arboriculture Report
- Construction and Environmental Management Plan
- Wildlife Relocation and Protection Plan

Arboriculture Reports

Preliminary Arboriculture Reports, Arboriculture Impact Assessments, and Tree Retention and Protection Plans identify trees and vegetation and evaluate retention opportunities at a detailed design / lot level.

The following information sheet assists in the preparation of Arboriculture Report.

https://www.armadale.wa.gov.au/sites/default/files/assets/documents/docs/Planning_and_Land_Use/Tree_Retention_and_Protection_Information_Sheet.pdf

Construction and Environmental Management Plans (CEMP)

A CEMP is a mechanism used to ensure works are undertaken in a manner that minimises environmental risks by identifying controls at an on-ground works delivery stage.

The following information sheet assists is preparation of a CEMP.
https://www.armadale.wa.gov.au/sites/default/files/assets/documents/docs/Environmental_Management/Information_Sheet_Construction_Environmental_Mgmt_Plan.pdf

Wildlife Protection and Relocation Plan

Wildlife Protection Plans shall be submitted prior to groundbreaking works commencing.

Findings reports must be provided after works completion.

The following information sheet assists in the preparation of a Wildlife Protection and Relocation Plan.

https://www.armadale.wa.gov.au/sites/default/files/assets/documents/docs/Planning_and_Land_Use/Information_Sheet_-_Preparation_of_a_Wildlife_Protection_and_Relocation_Plan.pdf .

7 Orchard Ave, Armadale WA 6112
08 9394 5000
info@armadale.wa.gov.au
www.armadale.wa.gov.au

CITY OF Armadale