

Swan and Canning Rivers Management Act 2006

PART 5

DETERMINATION OF DEVELOPMENT APPLICATION

FILE NUMBER : SRT6018
APPLICANT : City of Belmont
APPLICANT'S ADDRESS : Locked Bag 379
CLOVERDALE WA 6985
LANDOWNER : City of Belmont and Western Australian Planning
Commission
LAND DESCRIPTION : Ayres Bushland, Lots 277, 278 and 279 on Plan 2252
Boulder Avenue, Ascot; and Lot 302 on Plan 47452
(Crown Reserve 48325)
DEVELOPMENT : Demolition of existing boardwalk and construction of a
new boardwalk
VALID FORM 1 RECEIVED : 4 September 2014
DETERMINATION : **APPROVAL WITH CONDITIONS**

The application to commence development in accordance with plans D1137-00-01 Rev B, D1137-01-01 Rev B, D1137-02-01 Rev B, D1137-02-02 Rev B, L01-B and L02-B is APPROVED subject to the following conditions:

1. Approval to implement this decision is valid for two (2) years from the date of the approval. If the development has not been completed or substantially commenced within this period, a new approval will be required before commencing or completing the development.
2. The applicant shall notify the General Manager, Swan River Trust, in writing not less than thirty (30) days prior to the commencement of works.
3. Final design plans for the boardwalk, certified by a qualified and practising engineer, shall be submitted to the Swan River Trust for approval a minimum of thirty days (30) prior to commencement of works.
4. Prior to the commencement of works a Construction, Demolition & Environmental Management Plan (CDEMP) shall be prepared to the satisfaction of the Swan River Trust (see **Advice Notes 2 & 3**).
5. Prior to the commencement of works a Vegetation Impact Assessment and Management Plan shall be prepared to the satisfaction of the Swan River Trust (see **Advice Notes 2, 5 & 6**).
6. Prior to commencement of works a revised Acid Sulphate Soils and Dewatering Management Plan shall be prepared to the satisfaction of the Swan River Trust on advice from the Department of Environment Regulation (see **Advice Notes 2 & 8**).

7. All works shall be undertaken in accordance with the plans approved under **Condition 3, 4, 5, and 6**.
8. The balustrading on the boardwalk structure shall be black in colour.
9. Any excavated soil, construction materials, rubbish or any other deleterious matter resulting from the works shall be prevented from entering the Swan River.
10. The works shall not prevent public access along the adjacent foreshore pathway unless closure is necessary for safety purposes and a safe alternative route is provided.
11. Upon immediate completion of the works, waste materials shall be removed and the area cleaned-up to the satisfaction of the Swan River Trust.

ADVICE TO APPLICANT

1. The applicant should ensure that all personnel associated with the project are thoroughly briefed on the Swan River Trust conditions of approval.
2. The plans required under **Condition 4, 5 & 6** are to be submitted to the Swan River Trust a minimum of 30 days prior to the commencement of works.
3. The Construction, Demolition and Environmental Management Plan required under **Condition 4** is to identify the environmental risks associated with the works and ensure that appropriate measures are taken to manage these risks. The Plan will need to address, but not be limited to:
 - Details of proposed access and egress to the site;
 - Demolition methodology including pile removal;
 - Construction methodology including earthworks and machinery details;
 - Pile driving and testing methodology and protection of fauna during this process;
 - Measures taken to minimise sediment disturbance and prevent any debris, building materials, or other deleterious matter from entering the river;
 - Use of a floatable protection barrier and silt curtain, including details on the regular checking/maintenance schedule;
 - Details of any storage and bunding of materials, equipment and chemicals;
 - Appropriate spill response to fuel spills or other pollutants into the river;
 - Details of any refuelling;
 - Waste management; and
 - Approximate programme of works including work hours/days.
4. To minimise underwater noise, it is preferred that a vibration hammer with a soft start-up, rather than a drop hammer, be used to install the piles. This should reduce noise impacts, including to dolphins which are often observed in this part of the estuary.
5. The Vegetation Impact Assessment and Management Plan required under **Condition 5** should include the following:
 - Identify all vegetation that is required to be removed or pruned to facilitate the works;

- numbers and species of plants to be re-planted to off-set loss of vegetation;
 - locations of proposed offset planting, and
 - measures for minimising impacts to vegetation (such as the establishment of tree protection zones).
6. It is recommended that the Vegetation Impact Assessment and Management Plan be prepared taking into consideration Australian Standard 4970-2009 Protection of trees on development sites, and that an arborist be consulted regarding the establishment of tree protection zones.
 7. It is recommended that construction activities do not occur during bird breeding season. Works undertaken during summer and autumn are preferable.
 8. The Department of Environment Regulation has advised that a revised and specific Acid Sulphate Soils Management Plan needs to be developed when the details of the construction activities have been confirmed. The management plan is to contain details of soil treatment/management and dewatering management if it is determined that dewatering will be required.
 9. The Department of Aboriginal Affairs recommends that the City of Belmont keeps the Whadjuk native title claimants, and any other Aboriginal heritage custodian who may not be represented by these claimants, informed of the planned commencement, progress and finalisation of the works.
 10. The applicant is advised that the proposal has the potential to be affected by sea level rise. It is recommended applicants understand the implications of potential sea level rise on the site. The onus rests with the applicant to undertake a risk assessment and exercise their judgment in determining the level of risk they are prepared to accept.

The Trust's Climate Change Risk Assessment Project (2010) models impact of potential sea level rise in the Swan and Canning Rivers, and sets out a methodology to assess the vulnerability of foreshore areas. While mapping information is available from the Trust, it is also recommended applicants undertake their own research and obtain appropriate independent professional advice relevant to the particular circumstances.



HON. ALBERT P JACOB JP MLA
MINISTER FOR ENVIRONMENT; HERITAGE

Date: 23/1/2015

FILE No. : SRT6018

TRUST MEETING : 9 December 2014

SWAN RIVER TRUST REPORT

PROPOSAL : Demolition of existing boardwalk and construction of a new boardwalk

COST : \$2,356,058

LOCATION : Ayres Bushland, Lots 277, 278 and 279 on Plan 2252 Boulder Avenue, Ascot; and Lot 302 on Plan 47452 (Crown Reserve 48325)

APPLICANT : City of Belmont

OWNER : City of Belmont and Western Australian Planning Commission

LOCAL GOVERNMENT : City of Belmont

MRS ZONE : Parks and Recreation & Waterway

LG ZONE : Parks and Recreation & Waterway

DECISION TYPE : Part 5, *Swan and Canning Rivers Management Act 2006* – Ministerial Determination

ATTACHMENTS : 1. Location map
2. Aerial image
3. Proposed boardwalk alignment
4. Locality Plan (D1137-00-01 Rev B)
5. Layout Plan (D1137-02-01 Rev B)
6. Typical sections and details (D1137-02-02 Rev B)
7. Landscape plan L01-B
8. RAL Colour Chart
9. Bird Hides L02-B
10. Department of Water response to Trust draft report
11. Department of Aboriginal Affairs response to Trust draft report

RECOMMENDATION : **APPROVAL WITH CONDITIONS**

REPORT

1.0 INTRODUCTION

1.1 The Swan River Trust (the Trust) has received an application from the City of Belmont for the demolition of the existing boardwalk and construction of a new boardwalk at Ayres Bushland, Lots 277, 278 and 279 on Plan 2252 Boulder

Avenue, Ascot; and Lot 302 on Plan 47452 (Crown Reserve 48325) (**Attachment 1 to 4**).

- 1.2 The existing boardwalk has reached the end of its service life and is in need of replacement. The application proposes the complete removal of the existing boardwalk, followed by the construction of a new, larger boardwalk incorporating universal access, seating areas and two bird hide structures (**Attachment 5**).
- 1.3 The development site is located on lots which are wholly within the Trust's Development Control Area. Therefore the application is being processed pursuant to Part 5 of the *Swan and Canning Rivers Management Act 2006*. The Trust will provide a recommendation on the proposal to the Minister for Environment.

2.0 CONSULTATIONS

Department of Environment Regulation – Contaminated Sites Branch (CSB) – Acid Sulphate Soils

- 2.1 CSB advises that the proposed Acid Sulphate Soils (ASS) management measures presented in the ASS Investigation and Management Plan appear to be suitable based on the extent of soil to be disturbed during construction of the boardwalk. However, DER understands that specific details relating to the construction works, such as the depth and volume of excavations, are yet to be confirmed, and dewatering may also be necessary for the construction of footings.
- 2.2 DER therefore recommends that a revised and specific ASS management plan be developed when the details of the construction activities have been confirmed. The management plan should include details of soil treatment/management and dewatering management if it is determined that dewatering will be required.

Department of Aboriginal Affairs (DAA)

- 2.3 DAA advised that this project was considered under the Whadjuk Trial Protocol Heritage Assessment in 2013. A field visit was undertaken by representatives of the DAA, South West Aboriginal Land and Sea Council (SWALSC), the Trust and the City and it was considered the proposed works were not of a nature to cause deleterious impact to the Swan River or a place to which section 5 of the *Aboriginal Heritage Act 1972* may apply.
- 2.4 As a result of the protocol assessment, it is considered that no further work relating to a heritage statutory approval is required. It is recommended that the City of Belmont informs the Whadjuk people regarding the progress of the works through liaison with SWALSC.

Department of Water (DoW) Floodplain Management

- 2.5 DoW Floodplain Management advises that:

- the site of the proposed boardwalk is located within the floodway of the Swan River;
- the obstruction caused by the proposed development is not considered to significantly impact the general flooding regime of the area;
- the proposal has significant regional benefit to the community; and
- average velocities are expected to be <1.0 m/s.

Consequently, the proposal is considered acceptable with regard to major flooding.

Department of Parks and Wildlife (Parks & Wildlife) Land Use Planning

- 2.6 Parks & Wildlife advises that the subject site is located within an area identified in the *Geomorphic Wetlands Swan Coastal Plain dataset* as Conservation Category estuary-peripheral.
- 2.7 Parks & Wildlife notes that works will be undertaken with minimal disturbance to existing vegetation and that damaged vegetation will be replaced as required.
- 2.8 It is recommended that construction activities do not occur during bird breeding season. Works undertaken during summer and autumn are preferable.
- 2.9 Structerre consulting engineers propose three options describing the predicted level of disturbance from earthworks. It is recommended that Option 1 is adopted for construction as this will result in the lowest level of disturbance in regard to potential impacts to biota.

City of Belmont

- 2.10 As the applicant, the City of Belmont is supportive of the proposed development.

Swan River Trust – Riverpark Management

- 2.11 Riverpark is supportive of this proposal as it is consistent with objectives related to improving recreational and amenity value of the Riverpark, and is consistent with objectives of the draft Riverpark Trail Masterplan.
- 2.12 Aboriginal heritage approval for these works was covered in the Belmont Trial Whadjuk Protocol completed in February 2014.

Swan River Trust - Riverbank

- 2.13 The *Swan and Canning Rivers Foreshore Assessment and Management Strategy (Damara, 2008)* identifies Ayres Bushland as Priority 2 due to low invasive species, low degrading influences and moderate erosion.
- 2.14 Management plans are to be produced by the awarded contractor. Riverbank requested further consultation upon receiving the construction and environmental management plans as this will give more information regarding methodology.
- 2.15 The ASS management plan provided considers excavation management as well as stockpile management and treatment. This will need to be adhered to by the contractor and again, is very dependent on the construction methodology.
- 2.16 Damage to vegetation – Landscape Plan L01-B indicates existing trees to be retained and notes that all work within drip lines of existing trees is to be done by hand. Riverbank suggests AS 4970-2009 *Protection of trees on development sites* should be considered. Considering the variation to Tree Protection Zones due to soil type and construction methodology, it is recommended that an arborist be consulted.
- 2.17 Riverbank has an excellent working relationship with City of Belmont staff and numerous major foreshore projects have been undertaken with success. They are familiar with the Belmont tender process and feel confident that a suitable contractor will be sought.

3.0 PUBLIC COMMENT – SUBMISSIONS ON DRAFT REPORT

- 3.1 In accordance with the requirements of Part 5 of the *Swan and Canning Rivers Management Act 2006* a copy of the draft report and proposed recommendation has been provided to the applicant, the local government and other consultant agencies. A copy was also published on the Trust website for a period of three (3)

weeks between 18 December 2014 and 9 January 2015 with an invitation for public submissions.

- 3.2 Two (2) submissions were received. The Department of Water Swan Avon Region advised that it had no further comments on the draft report. The Department of Aboriginal Affairs advised that the report accurately captures the advice provided by DAA with respect to the project. Accordingly there is no known information to suggest that an approval for the proposed works is required under the *Aboriginal Heritage Act 1972*. However, the Department suggests that the City of Belmont keeps the Whadjuk native title claimants, and any other Aboriginal heritage custodian who may not be represented by these claimants, informed of the planned commencement, progress and finalisation of the works.
- 3.3 Accordingly the recommendation of the report has been amended to include an additional advice note (**Advice Note 9**) as per the Department of Aboriginal Affairs recommendation.

4.0 RELEVANT POLICIES AND PLANS

- ◆ State Planning Policy 2.10 – *Swan-Canning River System*
- ◆ SRT/EA1 – *Conservation, Land Use and Landscape Preservation*
- ◆ SRT/E3 – *Flood Prone Land*
- ◆ SRT/E5 – *Heritage*
- ◆ SRT/D2 – *Access Pathways and Cycle Access*
- ◆ SRT/D25 – *Boardwalks*
- ◆ Belmont Foreshore Precinct Plan – June 2014

5.0 ENVIRONMENTAL AND PLANNING CONSIDERATIONS

- ◆ Design
- ◆ Flood protection
- ◆ Public use
- ◆ Visual amenity
- ◆ Vegetation protection
- ◆ Environmental protection
- ◆ Public access
- ◆ Acid sulphate soils
- ◆ Aboriginal heritage

6.0 BACKGROUND

- 6.1 Ayres Bushland is located on the eastern foreshore of the Swan River, approximately 200 metres upstream of the Redcliffe Bridge in Ascot (**Attachment 1**). As can be seen in the aerial photograph in **Attachments 2 & 3**, an existing boardwalk passes through the site linking the existing shared use path. The boardwalk passes over the Airport Southern Main Drain (also known as the Kanowna Drain), and a conservation category wetland (South Garvey Park, estuary-peripheral).
- 6.2 The existing boardwalk was constructed in the 1980s and is reaching the end of its service life. In 2011 an engineer inspected the boardwalk and deemed it unsafe and in need of urgent repairs. The Trust issued a permit to the City of Belmont in November 2011 to carry out interim repair works as recommended by the engineer

to render the boardwalk safe and serviceable pending complete replacement of the structure.

- 6.3 The City of Belmont has engaged landscape architects, Ecoscape, to complete the design brief and documentation for the replacement boardwalk. Specialist coastal and marine engineers, M P Rogers & Associates Pty Ltd, have been engaged as subconsultant to Ecoscape to provide advice on the marine and structural aspects of the works.
- 6.4 The design documentation has been prepared as a design and construct contract. As there are a large number of proprietary boardwalk systems on the market, a design and construct tender will allow the best value for the City by not excluding potential tenderers with different boardwalk systems. As the tender has not yet been awarded, specific details regarding the construction methodology have not been determined.
- 6.5 The key design requirements such as the appearance, geometry, structural constraints and marine loadings have been determined by Ecoscape and M P Rogers & Associates and form the basis of this development application.
- 6.6 The proposed boardwalk is split into two separate stages. Stage 1 consists of the main boardwalk and Stage 2 consists of a lower boardwalk loop (**Attachment 5**). Depending on the City of Belmont's budget, either both stages will be constructed or just Stage 1. The development application seeks approval of both Stage 1 and Stage 2.

7.0 DISCUSSION

Public use

- 7.1 In situations where topography, fragile riverbanks, natural drainage patterns and vegetation may prevent the construction of a pathway, a boardwalk structure may provide an appropriate means of providing public access. Trust policy *SRT/D25 Boardwalks* allows the orderly development of boardwalks around the river in locations where there is a demonstrated community need or benefit.
- 7.2 The policy states that the Trust may consider the construction of a boardwalk appropriate where it is identified in an endorsed overall planning strategy, such as a precinct plan. The *Belmont Foreshore Precinct Plan – June 2014* acknowledges the Ayres Bushland boardwalk and states that it allows ecologically sensitive interaction with the wetland environment. The endorsed plan also discusses the intended replacement of the existing boardwalk.
- 7.3 The existing boardwalk allows continuity in the existing foreshore path network by providing access over the top of the Kanowna Drain and fragile wetland environment. Replacement of the existing boardwalk with the larger boardwalk will increase public use by improving universal access, providing seating within areas on the boardwalk, and providing bird hides for people to observe the wetland fauna.

Design

- 7.4 Trust policy *SRT/D25 Boardwalks* seeks to ensure that boardwalks are constructed in an appropriate manner to maintain public safety and minimise environmental damage. The applicant is required to demonstrate that the boardwalk is designed and constructed from materials that complement the surrounding environment.

- 7.5 The design of the proposed boardwalk can be seen in **Attachments 5 & 6**. The proposal consists of a wider main boardwalk that is to be constructed at the same height as the existing boardwalk and includes balustrading. This boardwalk will connect the existing shared use paths on either side.
- 7.6 A narrower boardwalk loop is also proposed. This boardwalk will be at a lower level to provide a different experience and will not have balustrading.
- 7.7 Nine bench seats are proposed on the Stage 1 boardwalk, and six bench seats are proposed on the lower Stage 2 loop section of boardwalk.
- 7.8 The decking of the proposed boardwalk is to be constructed of Permastruct FRP Grating Mini Mesh with #6 grade fine grit made from vinyl ester resin. This decking has been selected as it does not require maintenance, is vandal proof and meets access requirements in accordance with AS1428.1-2009.
- 7.9 The application includes two bird hide structures (**Attachments 5 & 9**). These bird hide structures are to be constructed as screens from the same FRP grating mini mesh as the proposed decking. The screens will be open structures, constructed on only one side of the boardwalk to ensure public surveillance and reduce anti-social behaviour.
- 7.10 The application states that final design drawings will comply with Australian Standard 3962-2001 *Guidelines for the Design of Marinas* and Australian Standard AS4997-2005 *Guidelines for the Design of Maritime Structures*, and will be certified by a qualified and practising marine engineer. As the final plans have not been completed it is appropriate to condition that final certified plans be provided prior to the commencement of works.

Flood protection

- 7.11 The proposed boardwalk is to be constructed within the floodway of the Swan River. Trust policy *SRT/E3 Flood Prone Land* indicates that the Trust will not support development of land within the floodway where such development may affect the normal flow of the river during floods or degradation of the natural features of the area.
- 7.12 The Department of Water has advised that the obstruction caused by the proposed development is not considered to significantly impact the general flooding regime of the area, and average velocities are expected to be <0.1 m/s. Consequently, the proposal is considered acceptable with regard to major flooding.
- 7.13 To reduce the potential impact of flood currents on the boardwalk structure, the boardwalk has been designed so that its alignment is approximately parallel to the direction of major flows, and the supports are as open as possible to allow floodwaters to flow through freely.
- 7.14 As the proposed boardwalk crosses over the Kanowna Drain, the boardwalk design spans over the main drain so any flows out of the drain are not obstructed. The alignment of the boardwalk has been chosen so that it is away from the dynamic shoreline area adjacent to the main drain.
- 7.15 The deck level of the boardwalk was chosen with consideration of the relationship to the surrounding environment and also the design water levels in the area. A similar level to the existing boardwalk was considered appropriate.
- 7.16 The paths at either end of the boardwalk have a level of around 1.2m AHD. This has been adopted as the minimum boardwalk level for the Stage 1 boardwalk. The boardwalk will then ramp up to a level of 1.7m AHD over the main drain. The

stage 2 boardwalk will be set at a lower level of 0.9m AHD. Due to the lower level of this section of boardwalk it will not require balustrading and will provide a different experience of being closer to the ground and vegetation.

- 7.17 The boardwalk will be inundated during severe flood or storm surge events. However, during such events the adjacent connecting paths to the north and south of the boardwalk will also be flooded limiting access to the structure.
- 7.18 A sea level rise of 0.1m has been included in the design.

Visual amenity

- 7.19 Trust policy *Conservation, Land Use and Landscape Preservation* (SRT/EA1) states that the design, materials and colour scheme of development adjacent to the river and foreshores should complement and protect the character and landscape setting of the river.
- 7.20 The grating panels on the boardwalk are to be the following proposed colours placed to match the colour arrangement as shown on the Landscape Plan (**Attachment 7 & 8**).
- Colour 1 – RAL 7001 Silver Grey
- Colour 2 – RAL 7011 Iron Grey
- Colour 3 – RAL 5008 Grey Blue
- 7.21 The colour of the proposed bird hide screens has not been specified however the applicant has advised that the colours will be muted tones to blend in with the environment and will tie in with the boardwalk decking colours.
- 7.22 The boardwalk structure is to be constructed within a section of the foreshore that is heavily vegetated and provides a natural setting. The proposed colours are generally dark non-reflective colours that will blend with the surrounding landscape.
- 7.23 The balustrading for the main boardwalk is proposed to be galvanised steel Moddex Assistrail™ or approved equivalent. The galvanised steel is a reflective material and could potentially have a detrimental impact on the visual amenity of the site. It is recommended that the balustrade be painted black to reduce its reflectivity.

Vegetation protection

- 7.24 Trust policy *Conservation, Land Use and Landscape Preservation* (SRT/EA1) promotes the conservation of native vegetation for the protection and enhancement of the river environment.
- 7.25 The worksite is densely vegetated with locally native plant species, and a low number of invasive species are present within the wetland area. Given the type of machinery that is required to access the area, and the limited access to the work site, it is expected that some damage to vegetation will be unavoidable.
- 7.26 The application states that works will be carried out with minimal disturbance to the existing vegetation. The contractor's methodology will be required to limit the damage to vegetation to that which cannot reasonably be avoided. Areas of vegetation that are damaged during the works are to be reinstated. Trees and vegetation will only be removed or pruned where they directly impact the installation of the boardwalk and approval has been granted.

- 7.27 Landscape Plan L01-B (**Attachment 7**) indicates existing trees to be retained and notes that all work within drip lines (also known as the tree 'crown') of existing trees is to be done by hand.
- 7.28 The amount of disturbance to vegetation is very much dependent on the construction methodology, which is yet to be determined. Structerre consulting engineers undertook a geotechnical site investigation to determine suitable foundation options and earthwork requirements.
- 7.29 The scope of the earthworks is dependent on the foundation solution adopted and the degree of acceptable disturbance to the wetland area. Structerre's report outlines three options for foundations and earthworks categorised according to their level of disturbance to wetland vegetation.
- 7.30 Option 1 – Low disturbance, would involve using piles for the boardwalk. Earthworks would require localised stripping of vegetation and topsoil within the vicinity of the piles. Earthworks would also need to be undertaken to develop appropriate working platforms for the piling equipment.
- 7.31 Option 2 – Medium disturbance, would comprise stripping the vegetation and topsoil and excavating materials within the vicinity of the foundations and engineered placement of non-reactive fill material to final level. This would result in a higher bearing capacity. The bridge would be required to carry the loads from construction traffic, however smaller equipment would be used than option 1.
- 7.32 Option 3 – High disturbance, would comprise stripping off topsoil and all vegetation, and excavating to a depth of 1.0m within the whole boardwalk corridor. The improved ground would allow for higher bearing capacity however the soil disturbance would require greater ASS management, and the disturbance to the wetland vegetation would be unacceptable.
- 7.33 The adopted methodology for boardwalk foundations will depend on the chosen methodology and design from the awarded contractor.
- 7.34 As it is not yet known exactly how much vegetation will be impacted by the construction of the boardwalk, it is recommended that the applicant prepare a Vegetation Impact Assessment and Management Plan prior to the commencement of works. The management plan should identify all vegetation that is to be removed or pruned, numbers and species of plants to be re-planted, locations of proposed offset planting, and measures for minimising impacts to vegetation. It is recommended that this plan be prepared taking into consideration AS 4970-2009 Protection of trees on development sites, and that an arborist be consulted regarding tree protection zones.

Environmental protection

- 7.35 Trust policy SRT/EA1 promotes the protection and restoration of waterways. The demolition of the existing boardwalk and construction and associated earthworks for the new boardwalk have the potential to detrimentally impact on the water quality of the Swan River.
- 7.36 The application proposes the complete removal of the existing boardwalk, including the complete removal of existing piles. Should it be likely that excessive disturbance to the riverbed be required to remove the piles, the piles may be cut off at ground level.
- 7.37 The awarded contractor will be responsible for preparing a Construction, Demolition and Environmental Management Plan (CEMP) for the proposed demolition and construction works once the construction methodology has been

finalised. The CDEMP will include the following details to ensure that the works will not negatively impact on the environment:

- Details of proposed access and egress to the site;
 - Demolition methodology including pile removal;
 - Construction methodology including earthworks and machinery;
 - Pile testing methodology;
 - Management of sediment and turbidity during works;
 - Protection of the environment during demolition and construction;
 - Waste management; and
 - Management of fuel spills or any other pollutants into the river.
- 7.38 Should piling be used for boardwalk foundations, it is the Trust's preference that vibration hammers and a soft start-up, instead of a drop hammer, be used to install the piles. This should reduce noise impacts on the neighbouring residences as well as marine mammals, which are often observed in this part of the estuary.
- 7.39 It is recommended that a condition be applied to the approval requiring that a CDEMP be submitted to the Trust for approval at least 30 days prior to the commencement of works.

Public access

- 7.40 *State Planning Policy 2.10, Swan-Canning River System* states that public access to the river and its foreshores should be maintained and enhanced while protecting the river.
- 7.41 The boardwalk has been designed to accommodate both pedestrians and cyclists. Vehicles will not be permitted on the boardwalk. Horses are known to be ridden in the area however they will be prevented from accessing the boardwalk through the installation of appropriate barriers.
- 7.42 The boardwalk has been designed to accommodate universal access in accordance with AS1428.1-2009. To allow two wheelchairs to pass each other a minimum clear width of 1800mm is required. The main boardwalk of Stage 1 will have a clear width of 2.5m. The lower Stage 2 boardwalk will have a width of 1.5m however there are wider sections at the seating areas and the bird hide where wheelchairs can pass.
- 7.43 During construction public access will need to be restricted. The shared path along the shoreline of the river that joins the existing boardwalk receives both pedestrian and cyclist traffic. This traffic will need to be diverted around the site during the works.
- 7.44 The successful contractor will be required to prepare a Traffic Management Plan for the works, however the development application proposes diverting pedestrian and cyclist traffic to the path adjacent to Waterview Parade. In this instance it is considered appropriate to allow the temporary restriction of public access provided that a suitable alternate route is provided.

Acid sulphate soils

- 7.45 *State Planning Policy 2.10, Swan-Canning River System* states that any development in the vicinity of the river should identify the risks of acid sulphate soils (ASS) and measures taken to minimise possible risks associated with its disturbance.

- 7.46 The proposed boardwalk is to be constructed within a high to moderate ASS disturbance risk (<3m from surface) area. Strutterre consulting engineers undertook an ASS investigation in May 2014 and following the investigation have prepared an Acid Sulphate Soils Investigation and Management Plan.
- 7.47 The proposal was referred to the Department of Environment Regulation – Contaminated Sites Branch (CSB) for their expert advice. CSB advised that the investigation found that soils beneath the topsoil contain reactive sulphur that will require appropriate management during the proposed works.
- 7.48 CSB commented that although the proposed ASS management measures presented in the ASS Management Plan appear to be suitable based on the extent of soil to be disturbed during construction, the specific details relating to the construction works, such as the depth and volume of excavations, are yet to be confirmed. Furthermore, as groundwater is present at a depth of approximately 0.3 metres below ground level, dewatering may be necessary depending on the method chosen for the construction of the footings.
- 7.49 CSB therefore recommends that a revised and specific ASS management plan be developed when the details of the construction activities have been confirmed. The management plan should include details of soil treatment/management and dewatering management if it is determined that dewatering will be required. This can be ensured through conditions of the approval.

Aboriginal heritage

- 7.50 Trust policy SRT/E5 *Heritage* supports the recognition and protection of heritage areas, including the Swan Canning River System which holds important spiritual significance to local Indigenous people. As a result, the Department of Aboriginal Affairs (DAA) was consulted as part of the assessment process for this application.
- 7.51 DAA advised that this project was considered under the Whadjuk Trial Protocol Heritage Assessment in 2013 and it was considered the proposed works were not of a nature to cause deleterious impact to the Swan River or a place to which section 5 of the *Aboriginal Heritage Act 1972* may apply. As a result of the protocol assessment, DAA advised that no further work relating to a heritage statutory approval is required.

Conclusion

- 7.52 The proposed replacement of the existing boardwalk with the proposed larger boardwalk has significant benefit to the community. The proposed boardwalk allows continuity in the existing foreshore path network and allows ecologically sensitive interaction with the wetland environment. The proposed structure will increase public use by improving universal access and providing seating within areas on the boardwalk.
- 7.53 Though there are risks associated with the demolition and construction works, it is considered that these can be appropriately managed through conditions and advice notes. Long term adverse environmental impacts from the works are considered unlikely.
- 7.54 It is therefore recommended that the proposal be approved, subject to appropriate conditions and advice.

8.0 RECOMMENDATION – APPROVAL WITH CONDITIONS

That the Trust advises the Minister for Environment that it recommends approval of the demolition of existing boardwalk and construction of a new boardwalk at Ayres Bushland, Lots 277, 278 and 279 on Plan 2252 Boulder Avenue, Ascot; and Lot 302 on Plan 47452 (Crown Reserve 48325) as described in plans received by the Trust on 4 September 2014, subject to the following conditions:

1. Approval to implement this decision is valid for two (2) years from the date of the approval. If the development has not been completed or substantially commenced within this period, a new approval will be required before commencing or completing the development.
2. The applicant shall notify the General Manager, Swan River Trust, in writing not less than thirty (30) days prior to the commencement of works.
3. Final design plans for the boardwalk, certified by a qualified and practising engineer, shall be submitted to the Swan River Trust for approval a minimum of thirty days (30) prior to commencement of works.
4. Prior to the commencement of works a Construction, Demolition & Environmental Management Plan (CDEMP) shall be prepared to the satisfaction of the Swan River Trust (see **Advice Notes 2 & 3**).
5. Prior to the commencement of works a Vegetation Impact Assessment and Management Plan shall be prepared to the satisfaction of the Swan River Trust (see **Advice Notes 2, 5 & 6**).
6. Prior to commencement of works a revised Acid Sulphate Soils and Dewatering Management Plan shall be prepared to the satisfaction of the Swan River Trust on advice from the Department of Environment Regulation (see **Advice Notes 2 & 8**).
7. All works shall be undertaken in accordance with the plans approved under **Condition 3, 4, 5, and 6**.
8. The balustrading on the boardwalk structure shall be black in colour.
9. Any excavated soil, construction materials, rubbish or any other deleterious matter resulting from the works shall be prevented from entering the Swan River.
10. The works shall not prevent public access along the adjacent foreshore pathway unless closure is necessary for safety purposes and a safe alternative route is provided.
11. Upon immediate completion of the works, waste materials shall be removed and the area cleaned-up to the satisfaction of the Swan River Trust.

ADVICE TO APPLICANT

1. The applicant should ensure that all personnel associated with the project are thoroughly briefed on the Swan River Trust conditions of approval.
2. The plans required under **Condition 4, 5 & 6** are to be submitted to the Swan River Trust a minimum of 30 days prior to the commencement of works.

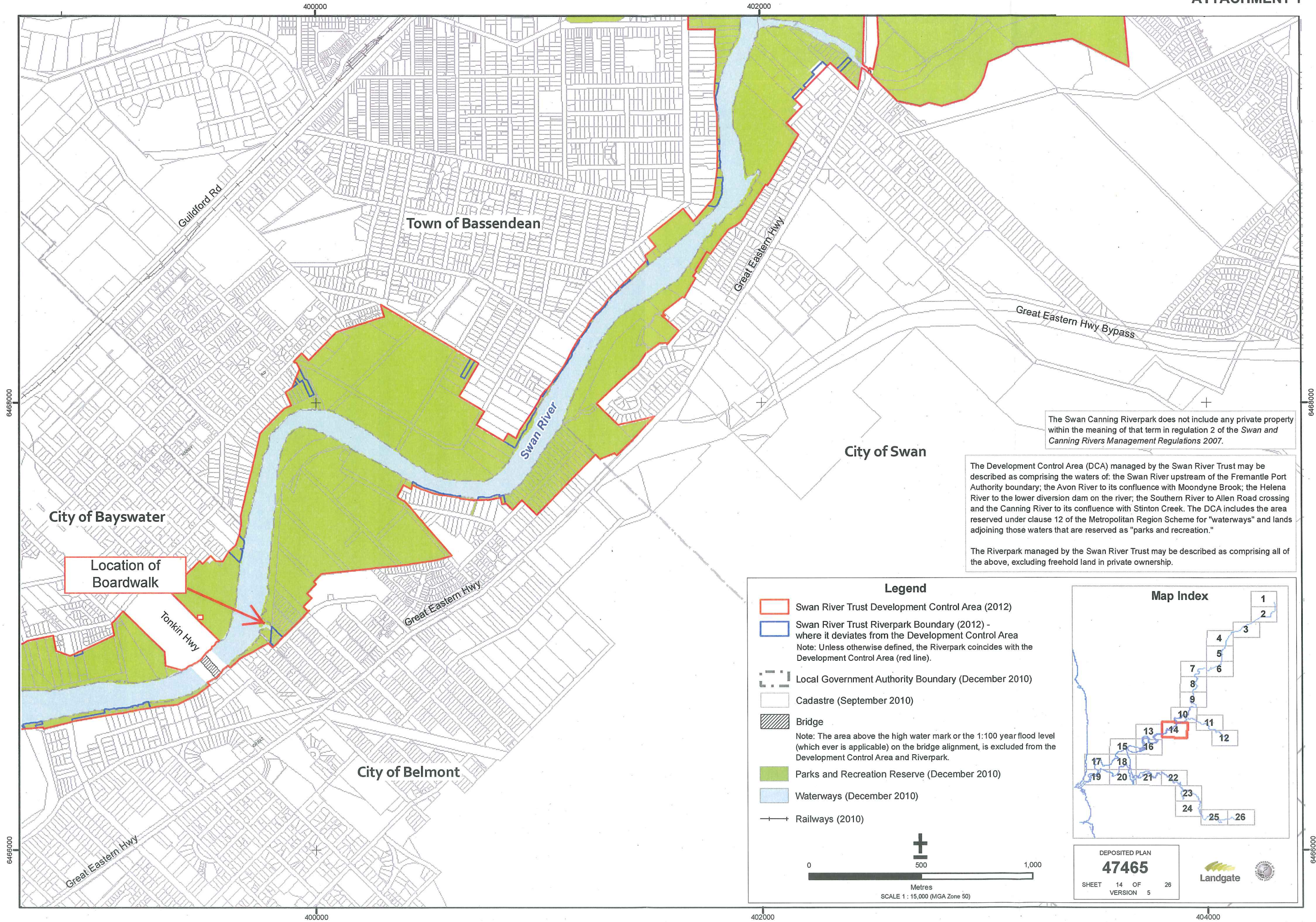
3. The Construction, Demolition and Environmental Management Plan required under **Condition 4** is to identify the environmental risks associated with the works and ensure that appropriate measures are taken to manage these risks. The Plan will need to address, but not be limited to:
 - a. Details of proposed access and egress to the site;
 - b. Demolition methodology including pile removal;
 - c. Construction methodology including earthworks and machinery details;
 - d. Pile driving and testing methodology and protection of fauna during this process;
 - e. Measures taken to minimise sediment disturbance and prevent any debris, building materials, or other deleterious matter from entering the river;
 - f. Use of a floatable protection barrier and silt curtain, including details on the regular checking/maintenance schedule;
 - g. Details of any storage and bunding of materials, equipment and chemicals;
 - h. Appropriate spill response to fuel spills or other pollutants into the river;
 - i. Details of any refuelling;
 - j. Waste management; and
 - k. Approximate programme of works including work hours/days.
4. To minimise underwater noise, it is preferred that a vibration hammer with a soft start-up, rather than a drop hammer, be used to install the piles. This should reduce noise impacts, including to dolphins which are often observed in this part of the estuary.
5. The Vegetation Impact Assessment and Management Plan required under **Condition 5** should include the following:
 - Identify all vegetation that is required to be removed or pruned to facilitate the works;
 - numbers and species of plants to be re-planted to off-set loss of vegetation;
 - locations of proposed offset planting, and
 - measures for minimising impacts to vegetation (such as the establishment of tree protection zones).
6. It is recommended that the Vegetation Impact Assessment and Management Plan be prepared taking into consideration Australian Standard 4970-2009 Protection of trees on development sites, and that an arborist be consulted regarding the establishment of tree protection zones.
7. It is recommended that construction activities do not occur during bird breeding season. Works undertaken during summer and autumn are preferable.
8. The Department of Environment Regulation has advised that a revised and specific Acid Sulphate Soils Management Plan needs to be developed when the details of the construction activities have been confirmed. The management plan is to contain details of soil treatment/management and dewatering management if it is determined that dewatering will be required.
9. The Department of Aboriginal Affairs recommends that the City of Belmont keeps the Whadjuk native title claimants, and any other Aboriginal heritage custodian who may not be represented by these claimants, informed of the planned commencement, progress and finalisation of the works.

10. The applicant is advised that the proposal has the potential to be affected by sea level rise. It is recommended applicants understand the implications of potential sea level rise on the site. The onus rests with the applicant to undertake a risk assessment and exercise their judgment in determining the level of risk they are prepared to accept.

The Trust's Climate Change Risk Assessment Project (2010) models impact of potential sea level rise in the Swan and Canning Rivers, and sets out a methodology to assess the vulnerability of foreshore areas. While mapping information is available from the Trust, it is also recommended applicants undertake their own research and obtain appropriate independent professional advice relevant to the particular circumstances.

FINAL REPORT ENDORSED

Signed:  Date: 20/01/2015
Rod Hughes
General Manager, Swan River Trust



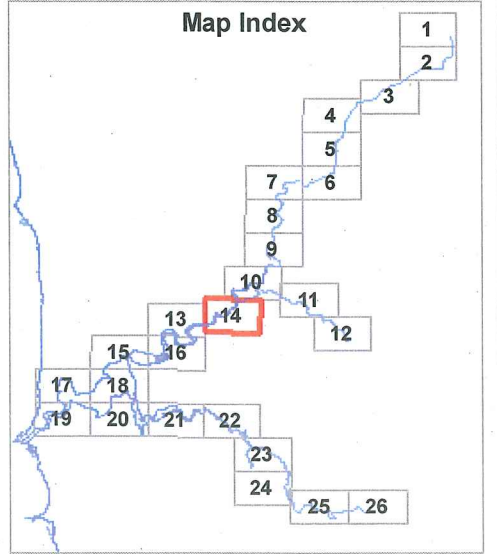
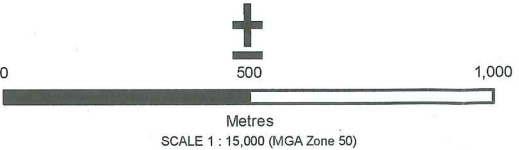
The Swan Canning Riverpark does not include any private property within the meaning of that term in regulation 2 of the *Swan and Canning Rivers Management Regulations 2007*.

The Development Control Area (DCA) managed by the Swan River Trust may be described as comprising the waters of: the Swan River upstream of the Fremantle Port Authority boundary; the Avon River to its confluence with Moondyne Brook; the Helena River to the lower diversion dam on the river; the Southern River to Allen Road crossing and the Canning River to its confluence with Stinton Creek. The DCA includes the area reserved under clause 12 of the Metropolitan Region Scheme for "waterways" and lands adjoining those waters that are reserved as "parks and recreation."

The Riverpark managed by the Swan River Trust may be described as comprising all of the above, excluding freehold land in private ownership.

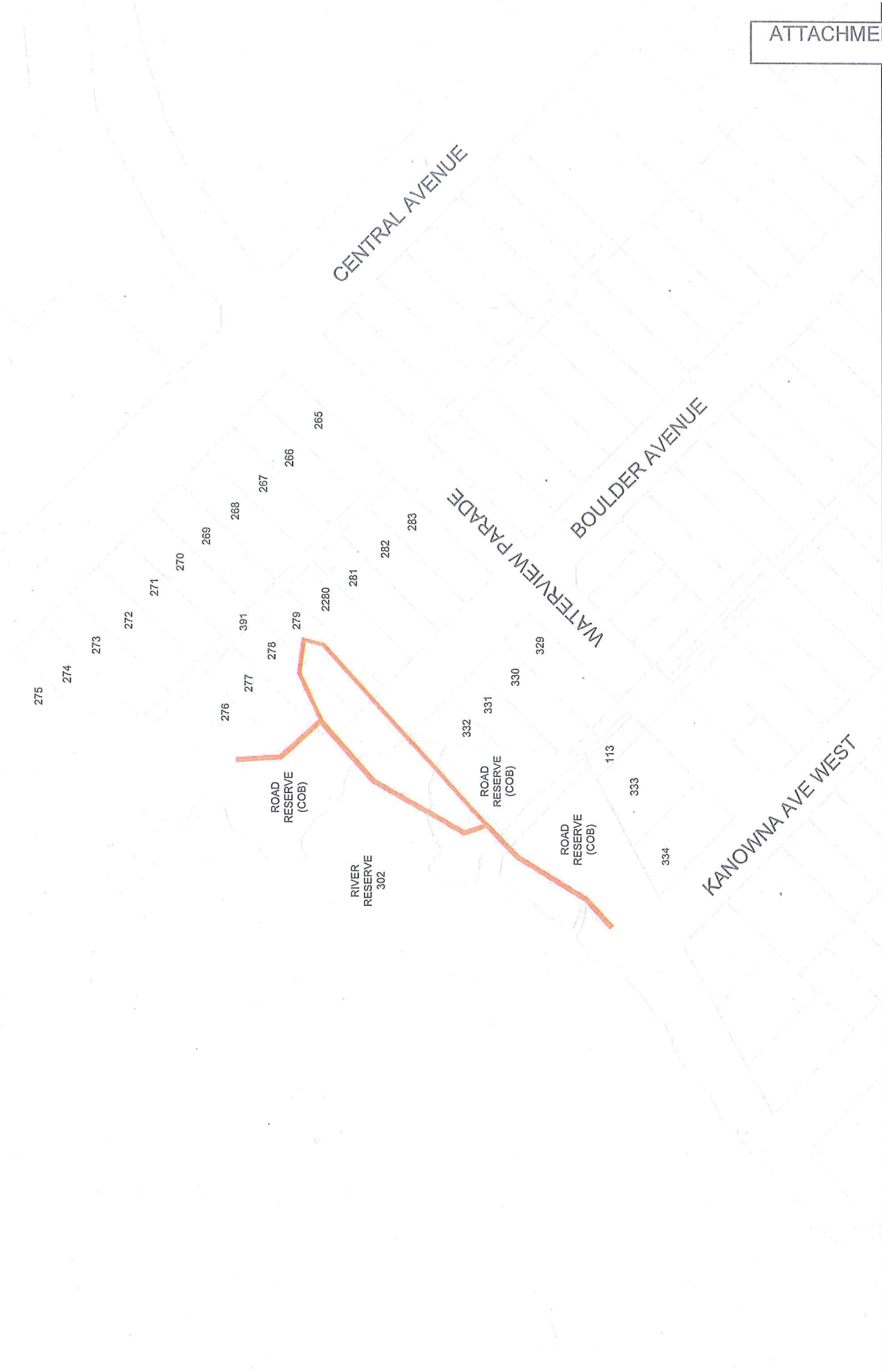
Legend

- Swan River Trust Development Control Area (2012)
- Swan River Trust Riverpark Boundary (2012) - where it deviates from the Development Control Area
Note: Unless otherwise defined, the Riverpark coincides with the Development Control Area (red line).
- Local Government Authority Boundary (December 2010)
- Cadastre (September 2010)
- Bridge
Note: The area above the high water mark or the 1:100 year flood level (which ever is applicable) on the bridge alignment, is excluded from the Development Control Area and Riverpark.
- Parks and Recreation Reserve (December 2010)
- Waterways (December 2010)
- Railways (2010)



DEPOSITED PLAN
47465
SHEET 14 OF 26
VERSION 5





Proposed boardwalk alignment



existing boardwalk alignment

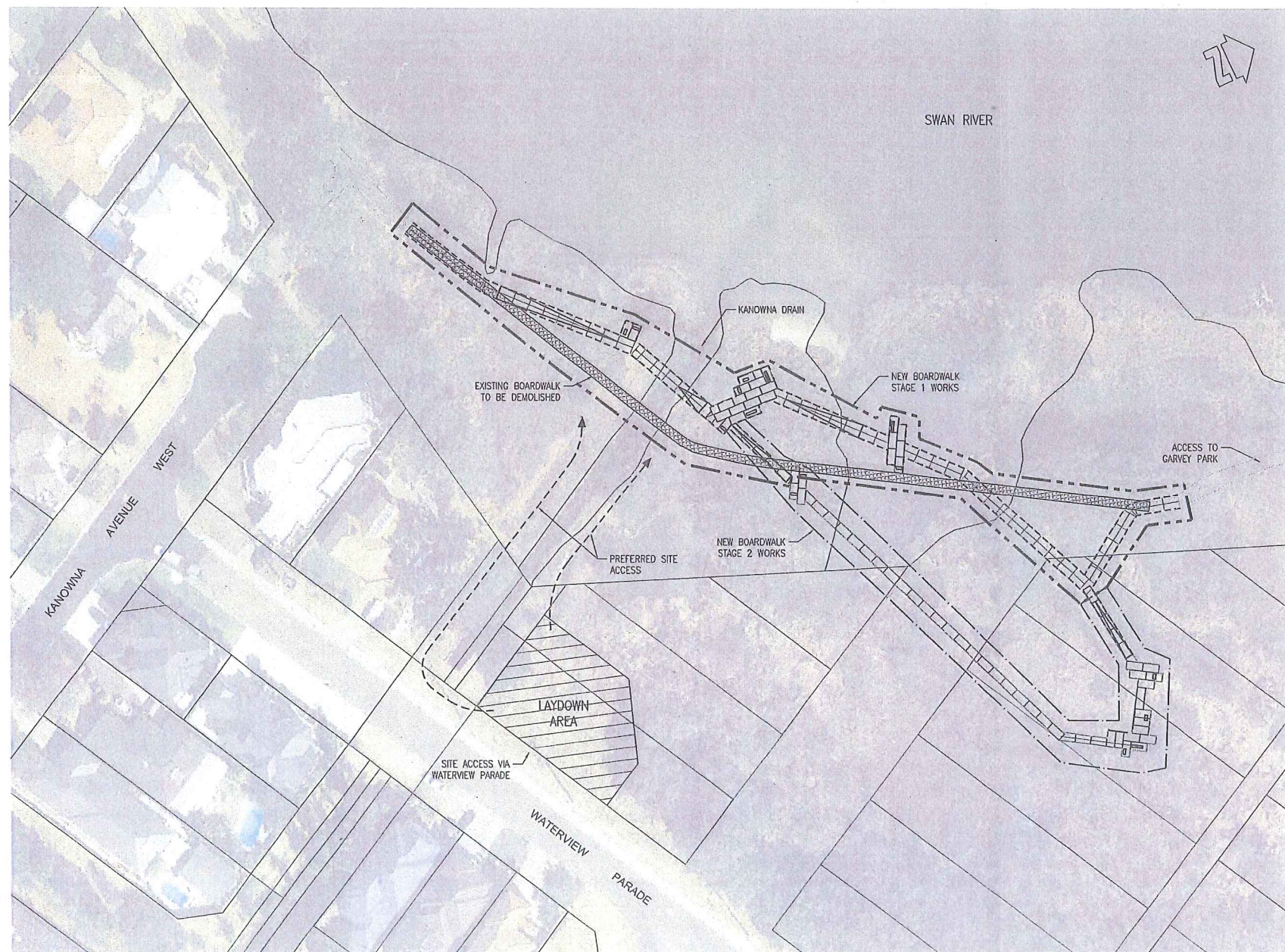
proposed boardwalk alignment

Location map and proposed boardwalk alignment

ECOSCAPE & CITY OF BELMONT

AYRES BUSHLAND BOARDWALK

DRAWING No.	TITLE
D1137-00-01	DRAWING LIST, LOCALITY PLAN & NOTES
D1137-01-01	SURVEY & DEMOLITION PLAN
D1137-02-01	LAYOUT PLAN
D1137-02-02	TYPICAL SECTIONS & DETAILS



LOCALITY PLAN
SCALE 1:500

GENERAL NOTES:

1. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATION AND SUCH WRITTEN INSTRUCTION AS MAY BE ISSUED.
2. REFER ANY DISCREPANCIES TO THE SUPERINTENDENT PRIOR TO COMMENCING WORK, IF IN DOUBT ASK.
3. DATUMS
HORIZONTAL: MGA 94
VERTICAL: AHD (AUSTRALIAN HEIGHT DATUM)
4. AERIAL PHOTOGRAPH: FROM MARCH 2014 - SUPPLIED BY LANDGATE.
5. SURVEY LEVELS TAKEN BY JBA SURVEYS ON 5 MAY 2014.
6. ALL DIMENSIONS AND LEVELS RELATING TO EXISTING STRUCTURES AND BOUNDARIES ARE APPROXIMATE ONLY AND SHALL BE CHECKED AND ALL DISCREPANCIES REPORTED TO THE SUPERINTENDENT PRIOR TO COMMENCING WORK.
7. DISTANCES AND LEVELS ARE SHOWN IN METRES, DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE.
8. DIMENSIONS SHALL NOT BE SCALED.
9. THE CONTRACTOR SHALL CONFIRM THE LOCATION OF AND PROTECT ANY UNDERGROUND SERVICES IN THE AREA OF THE WORKS. DIAL 1100 BEFORE YOU DIG.
10. SETTING OUT SHALL BE UNDERTAKEN BY A QUALIFIED ENGINEERING SURVEYOR.
11. MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE BUILDING CODE OF AUSTRALIA AND THE APPROPRIATE AUSTRALIAN STANDARDS.
12. THE CONTRACTOR'S SITE ACCESS AND LAYDOWN AREA TO BE CONFIRMED WITH THE SUPERINTENDENT PRIOR TO COMMENCING WORK.

DESIGN NOTES:

1. DESIGN LIFE: 25 YEARS
2. DECK LOADS:
UNIFORMLY DISTRIBUTED LOAD 5 kPa
POINT LOAD 4.5 kN
NO VEHICLES
3. BOARDWALK SUBJECT TO INUNDATION, CURRENT AND DEBRIS LOADING DURING FLOOD EVENTS.

0.55 mAHd	HAT	1.31 mCD
0.19 mAHd	MHHW	0.95 mCD
-0.03 mAHd	MSL	0.73 mCD AHD 0.76 mCD
-0.22 mAHd	MLLW	0.54 mCD
-0.42 mAHd	LAT	0.34 mCD
-0.76 mAHd	CD	0.00 mCD

TAKEN FROM DOT SUBMERGENCE CURVE FOR BARRACK SQUARE
DOT 696-35-02 25/08/2008

TIDAL LEVELS
SCALE 1:20

CAD: 11370001(B)

REV	DATE	APPROVED	AMENDMENT	REV	DATE	APPROVED	AMENDMENT
B	08.08.14	PMD	ISSUED FOR TENDER				
A	11.07.14	PMD	PRELIMINARY ISSUE				

COPYRIGHT The concepts and information contained in this document are the Copyright of m p rogers & associates. Use or copying of this document in whole or part without the written permission of m p rogers & associates constitutes an infringement of copyright.		CLIENT ECOSCAPE & CITY OF BELMONT		PROJECT AYRES BUSHLAND BOARDWALK	
This plan is not to be used for construction unless issued as Rev 0 and signed below		m p rogers & associates pl coastal and port engineers		TITLE DRAWING LIST LOCALITY PLAN & NOTES	
DESIGNED P. DOUST	CHECKED D. BOBRIDGE	APPROVED	Suite 1, 128 Main Street Osborne Park 6017 Western Australia t: +61 8 9254 6600 f: +61 8 9254 6699 admin@coastalports.com.au		
DRAWN T. VAN BEEM	CHECKED P. DOUST		SCALE AT A1 1:500	DRAWING NUMBER D1137-00-01	REV B

AT CORRECT SCALE THIS IS 100 mm

SET OUT POINTS (MGA94)			
SOP #	EASTING	NORTHING	ELEVATION (mAHD)
SOP1	399,716.079	6,466,911.425	1.2
SOP2	399,728.509	6,466,923.845	1.2
SOP3	399,730.072	6,466,926.581	1.2
SOP4	399,742.026	6,466,947.457	1.7
SOP5	399,743.671	6,466,950.331	1.7
SOP6	399,751.670	6,466,957.460	1.7
SOP7	399,756.154	6,466,961.468	1.5
SOP8	399,757.742	6,466,962.903	1.5
SOP9	399,754.893	6,466,973.908	1.5
SOP10	399,756.672	6,466,976.907	1.5
SOP11	399,764.344	6,466,989.838	1.2
SOP12	399,774.915	6,467,007.648	1.2

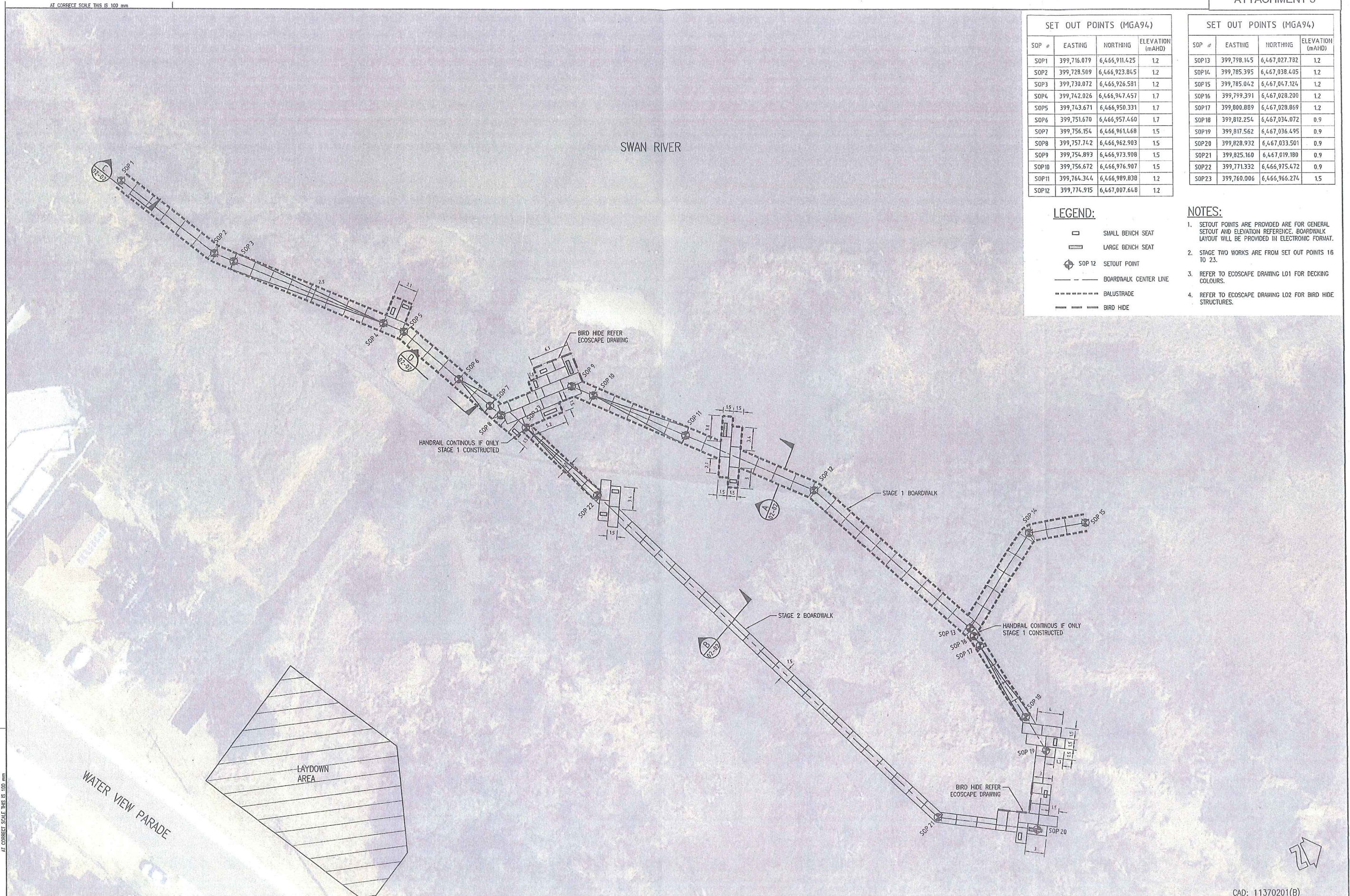
SET OUT POINTS (MGA94)			
SOP #	EASTING	NORTHING	ELEVATION (mAHD)
SOP13	399,798.145	6,467,027.782	1.2
SOP14	399,785.395	6,467,038.405	1.2
SOP15	399,785.042	6,467,047.124	1.2
SOP16	399,799.391	6,467,028.200	1.2
SOP17	399,800.889	6,467,028.869	1.2
SOP18	399,812.254	6,467,034.072	0.9
SOP19	399,817.562	6,467,036.495	0.9
SOP20	399,828.932	6,467,033.501	0.9
SOP21	399,825.160	6,467,019.180	0.9
SOP22	399,771.332	6,466,975.472	0.9
SOP23	399,760.006	6,466,966.274	1.5

LEGEND:

- SMALL BENCH SEAT
- LARGE BENCH SEAT
- SETOUT POINT
- BOARDWALK CENTER LINE
- BALUSTRADE
- BIRD HIDE

NOTES:

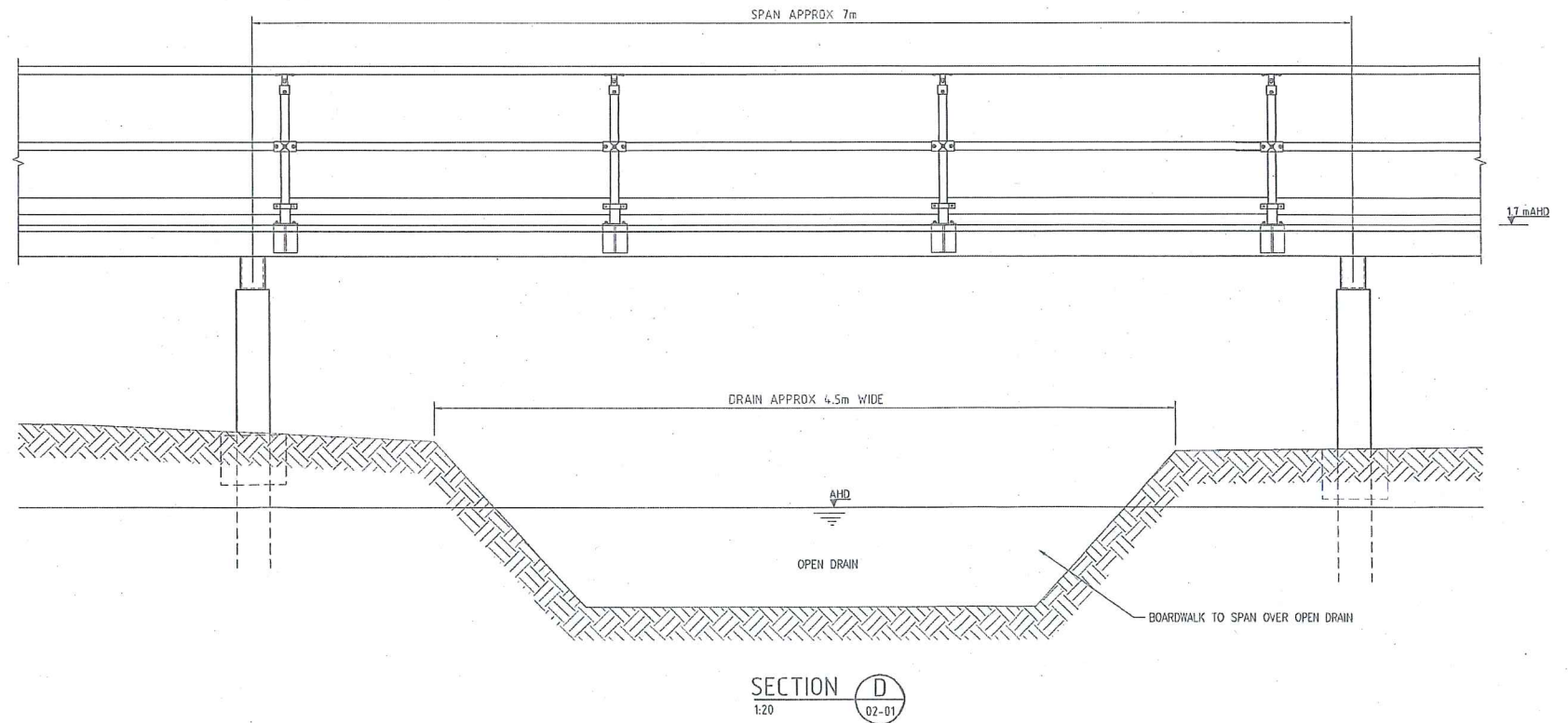
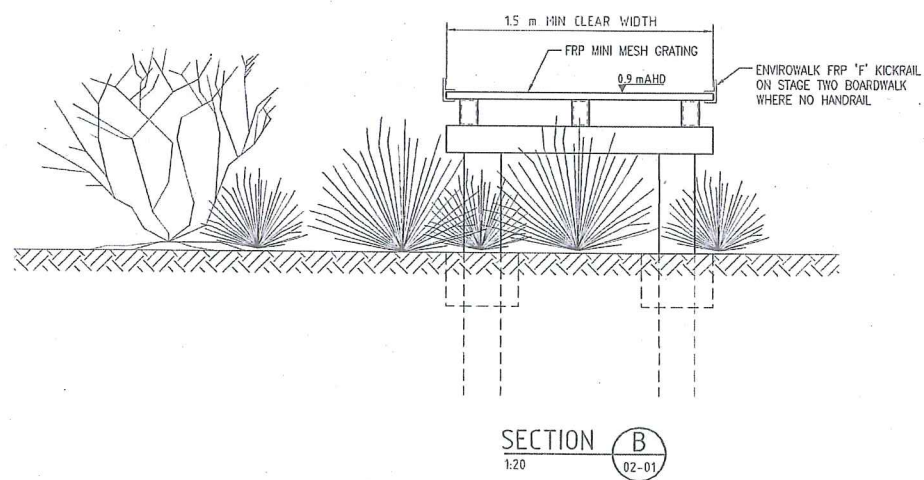
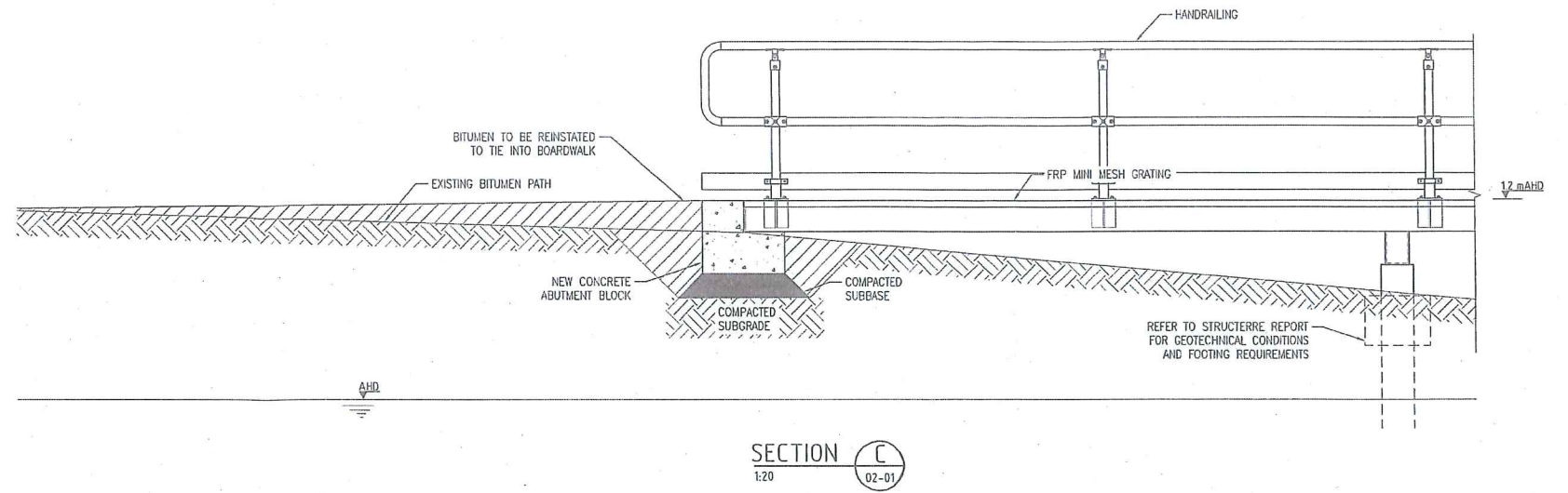
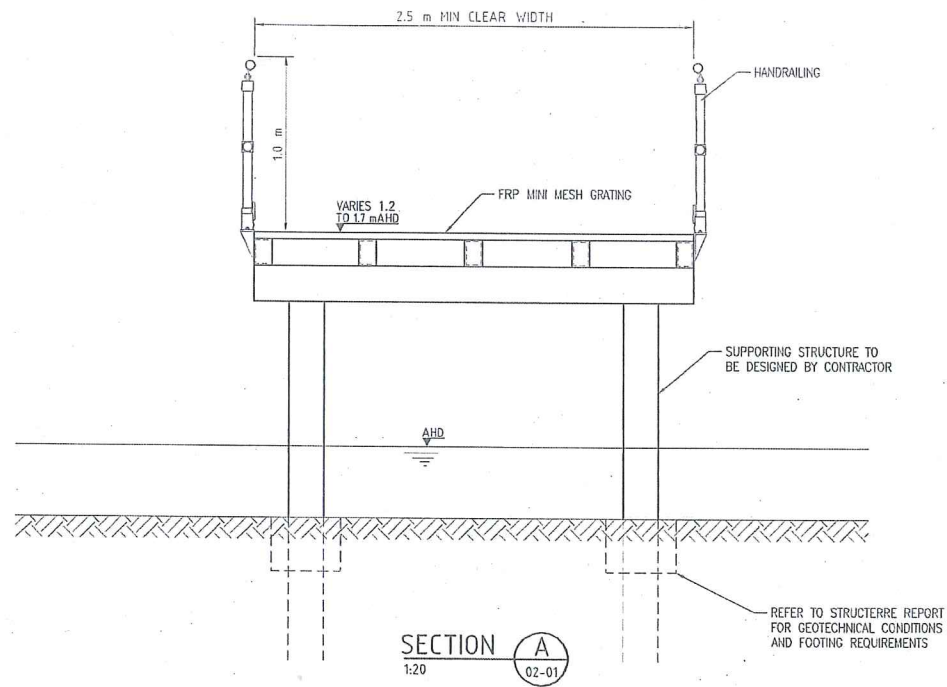
1. SETOUT POINTS ARE PROVIDED ARE FOR GENERAL SETOUT AND ELEVATION REFERENCE. BOARDWALK LAYOUT WILL BE PROVIDED IN ELECTRONIC FORMAT.
2. STAGE TWO WORKS ARE FROM SET OUT POINTS 16 TO 23.
3. REFER TO ECOSCAPE DRAWING L01 FOR DECKING COLOURS.
4. REFER TO ECOSCAPE DRAWING L02 FOR BIRD HIDE STRUCTURES.



CAD: 11370201(B)

<table border="1"> <tr> <td>REV</td> <td>DATE</td> <td>APPROVER</td> <td>AMENDMENT</td> </tr> <tr> <td>B</td> <td>08.08.14</td> <td>PMD</td> <td>ISSUED FOR TENDER</td> </tr> <tr> <td>A</td> <td>01.07.14</td> <td>PMD</td> <td>PRELIMINARY ISSUE</td> </tr> </table>				REV	DATE	APPROVER	AMENDMENT	B	08.08.14	PMD	ISSUED FOR TENDER	A	01.07.14	PMD	PRELIMINARY ISSUE	<p>COPYRIGHT</p> <p>The concepts and information contained in this document are the Copyright of m p rogers & associates. Use or copying of the document in whole or part without the written permission of m p rogers & associates constitutes an infringement of copyright.</p>				<p>CLIENT</p> <p>ECOSCAPE & CITY OF BELMONT</p>				<p>DESIGNED</p> <p>P. DOUST</p>				<p>CHECKED</p> <p>D. BOBRIDGE</p>				<p>APPROVED</p>			
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<p>m p rogers & associates pl coastal and port engineers</p> <p>Suite 1, 128 Main Street Osborne Park 6017 Western Australia</p> <p>t: +61 8 9254 6600 f: +61 8 9254 6639 admin@ecospots.com.au</p>								<p>PROJECT</p> <p>AYRES BUSHLAND BOARDWALK</p>				<p>TITLE</p> <p>LAYOUT PLAN</p>																							
<p>SCALE AT A1: 1:250</p>								<p>DRAWING NUMBER</p> <p>D1137-02-01</p>				<p>REV</p> <p>B</p>																							

AT CORRECT SCALE THIS IS 100 mm



AT CORRECT SCALE THIS IS 100 mm

CAD: 11370202(B)









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REV	DATE	APPROVED	AMENDMENT	REV	DATE	APPROVED	AMENDMENT	DESIGNED	CHECKED	APPROVED	SCALE AT A1	AS SHOWN	BRAND NUMBER	D1137-02-02	REV	B			
B	08.08.14	PMD	ISSUED FOR TENDER					P. DOUST	D. BOBRIDGE										
A	16.07.14	PMD	PRELIMINARY ISSUE					T. VAN BEEM	P. DOUST										

ATTACHMENT 7

REV	DATE	ISSUE
A	28.07.2014	CLIENT REVIEW
B	04.08.2014	CLIENT REVIEW

LOCATION PLAN

LEGEND

-  EXISTING TREE TO BE RETAINED
-  BIRD HIDE
-  FRP GRATING PANEL COLOUR 1
-  FRP GRATING PANEL COLOUR 2
-  FRP GRATING PANEL COLOUR 3
-  BALUSTRADE
-  LONG BENCH
-  SHORT BENCH

NOTE: GRATING COLOURS ARE INDICATIVE ONLY



NOTES

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WHERE MIXED PLANTING IS PROPOSED PLANT IN GROUPS OF 3, 5 OR 7 OF THE SAME SPECIES.

9 Stirling Hwy.
North Fremantle WA 6159
ph: (08) 9430 8955
web: www.ecoscape.com.au



AUTHOR: LM/IU CHECKED: PJ PROJECT NO: 3131-13

AYRES BOARDWALK
CLIENT: CITY OF BELMONT

LANDSCAPE PLAN




L01-B

SCALE 1:250 @ A1



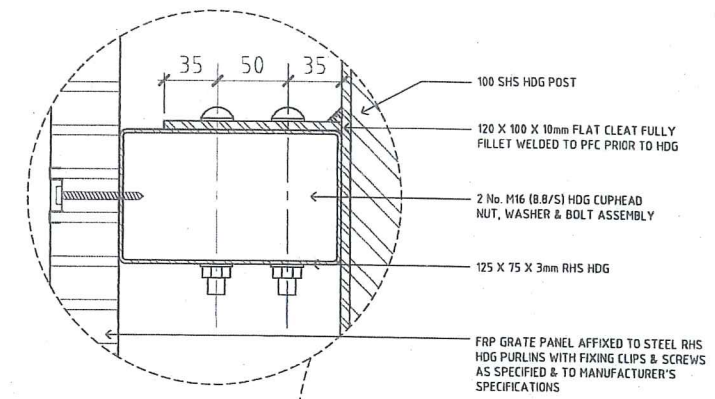
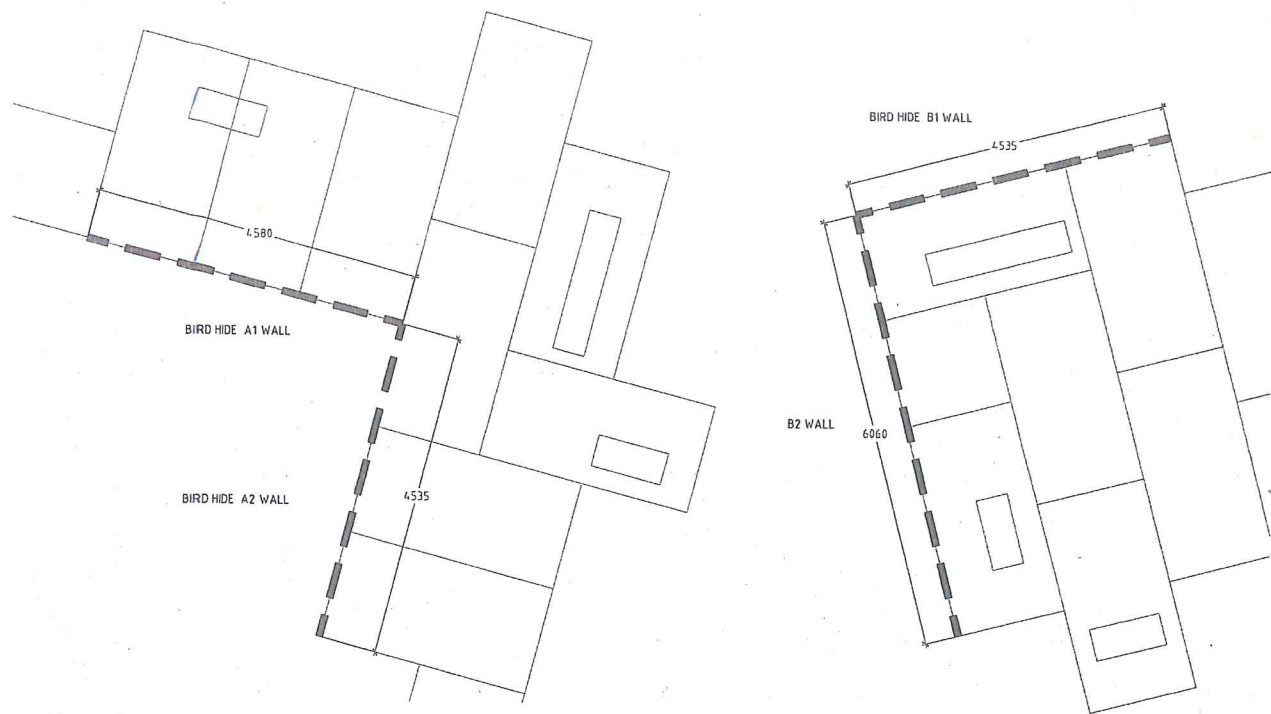
RAL COLOURS

RAL 1000 Green beige		RAL 1001 Beige	
RAL 1002 Sand yellow		RAL 1003 Signal yellow	
RAL 1004 Golden yellow		RAL 1006 Maize yellow	
RAL 1007 Daffodil yellow		RAL 1011 Brown beige	
RAL 1013 Oyster white		RAL 1014 Dark Ivory	
RAL 1015 Light Ivory		RAL 1016 Sulfur yellow	
RAL 1017 Saffron yellow		RAL 1018 Zinc yellow	
RAL 1019 Grey beige		RAL 1021 Rape yellow	
RAL 1023 Traffic yellow		RAL 1028 Melon yellow	
RAL 1032 Broom yellow		RAL 2000 Yellow orange	
RAL 2001 Red orange		RAL 2002 Vermilion	
RAL 2004 Pure orange		RAL 2008 Bright red orange	
RAL 3000 Flame red		RAL 3001 Signal red	
RAL 3002 Carmine red		RAL 3003 Ruby red	
RAL 3004 Purple red		RAL 3005 Wine red	
RAL 3007 Black red		RAL 3009 Oxide red	
RAL 3011 Brown red		RAL 3012 Beige red	
RAL 3013 Tomato red		RAL 3014 Antique pink	
RAL 3015 Light pink		RAL 3016 Coral red	
RAL 3017 Rose		RAL 3020 Traffic red	
RAL 3022 Salmon pink		RAL 5000 Violet blue	
RAL 5001 Green blue		RAL 5002 Ultramarine	
RAL 5003 Sapphire blue		RAL 5004 Black blue	
RAL 5005 Signal blue		RAL 5007 Brilliant blue	
RAL 5008 Grey blue		RAL 5009 Azure blue	
RAL 5010 Gentian blue		RAL 5011 Steel blue	
RAL 5012 Light blue		RAL 5013 Cobalt blue	
RAL 5014 Pigeon blue		RAL 5015 Sky blue	

RAL 5017 Traffic blue		RAL 5018 Turquoise blue	
RAL 5019 Capri blue		RAL 5020 Ocean blue	
RAL 5021 Water blue		RAL 5022 Night blue	
RAL 5023 Distant blue		RAL 5024 Pastel blue	
RAL 6000 Patina green		RAL 6001 Emerald green	
RAL 6002 Leaf green		RAL 6003 Olive green	
RAL 6004 Blue green		RAL 6005 Moss green	
RAL 6007 Bottle green		RAL 6009 Fir green	
RAL 6011 Reseda green		RAL 6012 Black green	
RAL 6013 Reed green		RAL 6014 Yellow olive	
RAL 6015 Black olive		RAL 6016 Turquoise green	
RAL 6017 May green		RAL 6018 Yellow green	
RAL 6019 Pastel green		RAL 6020 Chrome green	
RAL 6021 Pale green		RAL 6024 Traffic green	
RAL 6025 Fern green		RAL 6026 Opal green	
RAL 6027 Light green		RAL 6028 Pine green	
RAL 6029 Mint green		RAL 6033 Mint turquoise	
RAL 6034 Pastel turquoise		RAL 7000 Squirrel grey	
RAL 7001 Silver grey		RAL 7002 Olive grey	
RAL 7004 Signal grey		RAL 7005 Mouse grey	
RAL 7006 Beige grey		RAL 7009 Green grey	
RAL 7010 Tarpaulin grey		RAL 7011 Iron grey	
RAL 7012 Basalt grey		RAL 7013 Brown grey	
RAL 7015 Slate grey		RAL 7016 Anthracite grey	
RAL 7021 Black grey		RAL 7022 Umber grey	
RAL 7023 Concrete grey		RAL 7024 Graphite grey	
RAL 7026 Granite grey		RAL 7030 Stone grey	
RAL 7031 Blue grey		RAL 7032 Pebble grey	
RAL 7033 Cement grey		RAL 7034 Yellow grey	

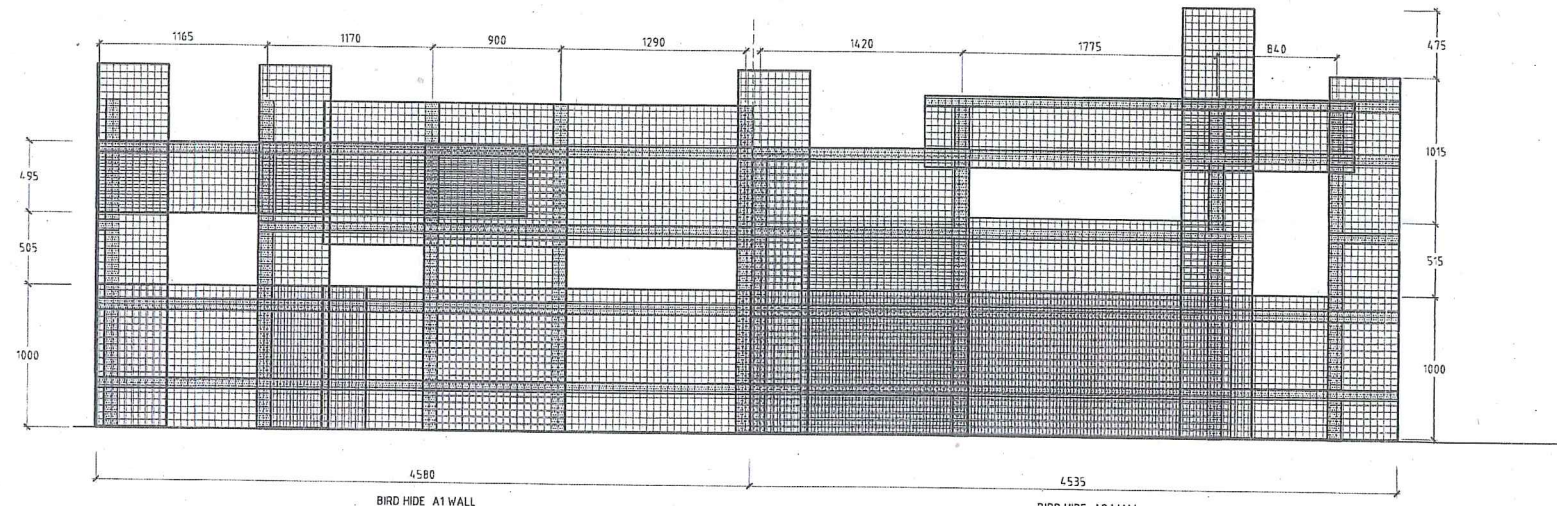
ATTACHMENT 9

REV	DATE	ISSUE
A	28.07.2014	CLIENT REVIEW
B	04.08.2014	CLIENT REVIEW

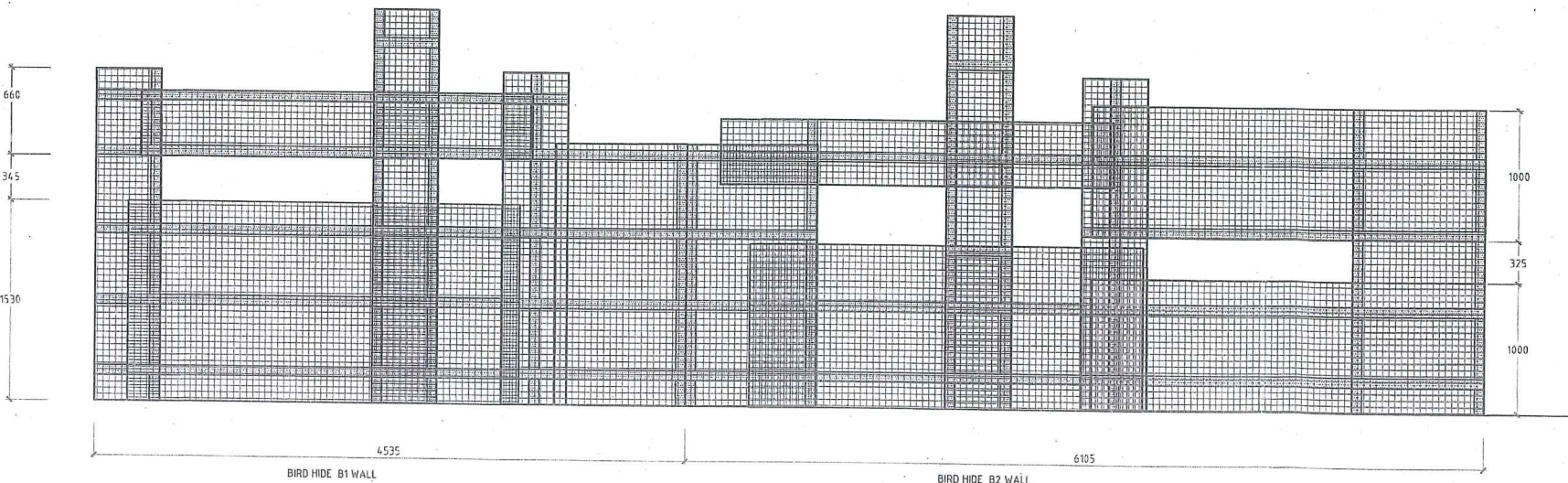


01 BIRD HIDE A
SCALE 1:50 @ A1

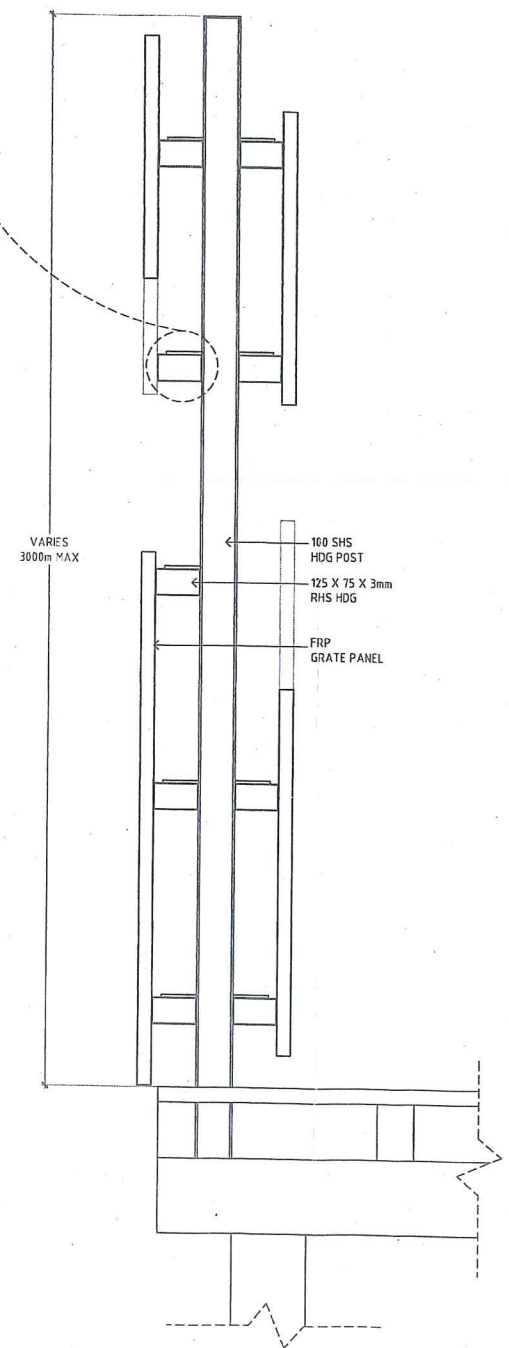
02 BIRD HIDE B
SCALE 1:50 @ A1



03 BIRD HIDE A
SCALE 1:25 @ A1



04 BIRD HIDE B
SCALE 1:25 @ A1



05 BIRD HIDE TYPICAL DETAIL
SCALE 1:10 @ A1

NOTE: THE BIRD HIDE DESIGN IS SUBJECT TO STRUCTURAL ENGINEERING REVIEW PRIOR TO CONSTRUCTION

LOCATION PLAN

LEGEND

--- EXTENT OF WORKS



NOTES

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AUTHOR: LM/IU CHECKED: PJ PROJECT NO: 3131-13

AYRES BOARDWALK
CLIENT: CITY OF BELMONT

BIRD HIDES

L02-B

SCALE AS SHOWN





Your Ref
Our Ref SRT6018
Enquiries Tammy Kostas, 9278 0973

Department of Water
Swan Avon Region
SRS/WL: 32138



23 DEC 2014

FILE: RF-2833-02
TRIM: WRD 266916
SCANNED: Y N

Mr James Mackintosh
Department of Water
Swan Avon Region
7 Ellam Street
VICTORIA PARK WA 6100

19 December 2014

Attention: James Mackintosh

Dear Mr James Mackintosh

2014 - PART 5 - LOT 302 ON PLAN 47452 ASCOT - RESERVE 48325 - AYRES BUSHLAND BOARDWALK - GARVEY PARK - DEMOLITION OF THE EXISTING BOARDWALK AND CONSTRUCTION OF A NEW BOARDWALK - CITY OF BELMONT

A draft report on the above mentioned application has been prepared and released for public comment by the Swan River Trust (the Trust) for a period of twenty one (21) days. In accordance with Section 75(3)(a) of the *Swan and Canning Rivers Management Act 2006* please find enclosed a copy of the report for your consideration.

Should you wish to comment on the draft report, please forward your submission to the Trust prior to **8 January 2015**. Submissions received outside this time may not be accepted. The Trust will accept an email response to planning@swanrivertrust.wa.gov.au. Alternatively you may view the report and lodge a submission on the Trust's website.

Submissions made will be considered by the Trust before the report is finalised and a recommendation made to the Minister for Environment; Heritage.

If you have any queries regarding this matter, please contact Tammy Kostas, environmental officer, on 9278 0973. In all correspondence please quote the above reference number.

Yours sincerely

Rod Hughes
General Manager

Encl.



Swan-Avon Region

Returned referral
Assessed-
No comments

Signed
Date 29/12/2014



Government of Western Australia
Department of Aboriginal Affairs



ENQUIRIES : Simon Keenan- Ph 6551 8118

OUR REF: 2014/0089-04

YOUR REF: SRT6018

Mr Rod Hughes
General Manager
Swan River Trust
PO Box 6829
EAST PERTH WA 6892

Dear Mr Hughes

**RE: 2014 - PART 5 - LOT 302 ON PLAN 47452 ASCOT - RESERVE 48325 -
AYRES BUSHLAND BOARDWALK - GARVEY PARK - DEMOLITION OF
EXISTING BOARDWALK AND CONSTRUCTION OF NEW BOARDWALK - CITY
OF BELMONT**

Thank you for your letter of 19 December 2014 inviting the Department of Aboriginal Affairs (DAA) to comment upon the draft report for the proposed demolition of an existing boardwalk and construction of a new boardwalk within Garvey Park, City of Belmont.

I have reviewed the draft report and confirm that the report accurately captures the advice provided by DAA with respect to the project. Accordingly, there is no known information to suggest that an approval for the proposed works is required under the *Aboriginal Heritage Act 1972* (AHA). However, the Department reiterates its suggestion that the City of Belmont keeps the Whadjuk native title claimants, and any other Aboriginal heritage custodian who may not be represented by these claimants, informed of the planned commencement, progress and finalisation of the works.

Please do not hesitate to contact Simon Keenan on 6551 8118 or at simon.keenan@daa.wa.gov.au should you wish to discuss this matter further.

Yours sincerely

Tanya Butler
REGISTRAR OF ABORIGINAL SITES

7 January 2015