





Swan and Canning Rivers Management Act 2006

## PART 5

## **DETERMINATION OF DEVELOPMENT APPLICATION**

FILE NUMBER

2019/3067

**APPLICANT** 

Mr Nathan Stronach, Bosun, Royal Freshwater Bay Yacht Club

APPLICANT'S ADDRESS

1 Hobbs Place, Peppermint Grove

LANDOWNER

Department of Biodiversity, Conservation and Attractions

(Conservation Commission of Western Australia)

LAND DESCRIPTION

Royal Freshwater Bay Yacht Club, Lot 2534 on Plan 222326

(Reserve 17060), 1 Hobbs Place, Peppermint Grove

DEVELOPMENT

Removal and replacement of western wharf and associated

structural beams and piles

VALID FORM 1 RECEIVED

19 November 2019

**DETERMINATION** 

APPROVAL WITH CONDITIONS

The application to commence development in accordance with the information received on 19 November 2019 is APPROVED subject to the following conditions:

## CONDITIONS

1. Approval to implement this decision is valid for two (2) years from the date of the approval. If substantial on-site works have not commenced within this period, a new approval will be required before commencing or completing the development.

## Prior to the commencement of works

- 2. The applicant shall notify the Department of Biodiversity, Conservation and Attractions in writing not less than seven (7) days prior to the commencement of works (see **Advice Note 1**).
- 3. A Construction Environmental Management Plan shall be submitted to and approved by the Department of Biodiversity, Conservation and Attractions (see **Advice Notes 1 and 2**).
- 4. Final design plans/drawings and technical specifications, including details of the colours, finishes and materials for the new wharf, shall be submitted to and approved by the Department of Biodiversity, Conservation and Attractions (see **Advice Notes 1 and 4**).
- 5. The applicant shall ensure that all contractors and personnel involved in the wharf replacement works are familiar with the requirements of this approval prior to the commencement of works and during the works at all times.

## **During works**

6. All works shall be implemented in accordance with the plans approved under **Conditions** 3 and 4.

- 7. The applicant shall take appropriate preventative measures during the works to ensure that no soil, runoff, construction material or any other deleterious matter is allowed to enter the river.
- 8. The applicant shall install at a minimum double silt curtains and take appropriate measures to contain turbidity to the riverbed lease area and prevent, where practicable, sediment plumes from moving outside the immediate area of the works. If sediment plumes are visible beyond the riverbed lease area, the wharf replacement works shall cease until the issue has been resolved to the satisfaction of the Department of Biodiversity, Conservation and Attractions (see **Advice Note 3**).
- 9. Silt curtains are to be checked regularly to ensure they are correctly attached and performing as intended.
- 10. Piling operations shall include a soft start up procedure at the commencement of each piling sequence (see **Advice Note 7**). No pile driving shall start if dolphins are within 200 metres of the site.
- 11. Piling activity shall cease if a dolphin comes within 50 metres of the site and shall not recommence until any dolphin has moved away more than 200 metres or has not been observed for 20 minutes.
- 12. The applicant shall ensure that no damage to the riverbank or waterway occurs beyond the scope of the approved works. If any inadvertent damage occurs, the applicant is required to notify the Department of Biodiversity, Conservation and Attractions within 48 hours of the damage occurring and rectify the damage at its expense.

## On completion of works

- 13. Upon completion of the works, all waste materials, equipment and machinery shall be removed, and the site cleaned up to the satisfaction of the Department of Biodiversity, Conservation and Attractions.
- 14. Within six months of the completion of works, as constructed drawings for the wharf shall be submitted to the satisfaction of the Department of Biodiversity, Conservation and Attractions.

## **ADVICE NOTES**

- 1. Notifications and plans can be emailed to rivers.planning@dbca.wa.gov.au.
- 2. The Construction Environmental Management Plan required under **Condition 3** shall describe how the proposed works will be managed to minimise potential environmental impacts and shall address, but not be limited to:
  - a. scope of works, including demolition and construction methodology;
  - b. site access and management, including temporary fencing requirements;
  - c. management of machinery and equipment, including a refuelling procedure and spill response;
  - d. on-site storage and bunding of materials, equipment, chemicals and fuel;
  - e. waste management;
  - f. air quality and dust management;
  - g. protection of the river from inputs of debris, rubbish or other deleterious material:
  - h. wildlife management, including minimising noise and vibration impacts, seahorse protection and/or relocation and use of a marine mammal observer;

- i. access and safety;
- j. hours of operation and schedule of works;
- k. complaints and incidents; and
- I. management actions to address acid sulfate soils and/or contaminated sediments should they be encountered.

A site map showing the laydown area and vehicle entry/exit points shall be included. Emergency spill kits shall be onsite at all times and it is preferable that refuelling of land-based vehicles or machinery is undertaken outside the Swan Canning Development Control Area at a licensed refuelling facility. In the case of pollution events, the Department of Biodiversity, Conservation and Attractions shall be contacted immediately on 9278 0981 (Riverpark Duty Officer) or 9480 9924 (Marine Pollution Response).

- 3. With regard to **Condition 8**, in the case of sediment plumes extending beyond the area of works, the Department of Biodiversity, Conservation and Attractions shall be contacted immediately on 9278 0981 (Riverpark Duty Officer) or 9480 9924 (Marine Pollution Response). The applicant shall provide a record of the incident with proposed contingency actions.
- 4. To allow sufficient time for the Department of Biodiversity, Conservation and Attractions to consider and approve the plans and details required under Conditions 3 and 4, the documents must be submitted to the Department of Biodiversity, Conservation and Attractions at least 42 days before the expected works commencement date.
- 5. The wharf engineering drawings are to be approved and certified by a Maritime Engineer in accordance with AS4997-2005 Guidelines for the Design of Maritime Structures, and AS3962-2001 Guidelines for the Design of Marinas.
- 6. The applicant shall apply for and obtain a modification to its jetty licence from the Department of Transport, Coastal Facilities Management.
- 7. With regard to **Condition 10**, to minimise underwater noise, it is preferred that a vibration pile driver with a soft start-up, rather than a drop hammer, be used to install the piles. This should reduce noise impacts, including that to dolphins.
- 8. The Department of Water and Environmental Regulation, Contaminated Sites advises that the site is classified under the *Contaminated Sites Act 2003* as 'possibly contaminated investigation required'. It is recommended that adequate safety measures are implemented to minimise the risk of disturbing suspected contaminated soils.
- 9. The proposed works are located adjacent to an area mapped as having a moderate to low acid sulphate soil risk. The Acid Sulphate Soils Guideline Series for guidance on the identification, assessment and management of acid sulphate soils in Western Australia is available from the Department of Water and Environmental Regulation website at <a href="https://www.dwer.wa.gov.au">www.dwer.wa.gov.au</a>. If any acid sulphate soils are exposed during the works, the Contaminated Sites Branch of the Department of Water and Environmental Regulation shall be contacted for further advice on 1300 762 982.
- 10. The Department of Planning, Lands and Heritage (DPLH), Heritage Operations has advised the proposed works are situated within Aboriginal site ID 3536, being the Swan River. These works can be conducted via Regulation 10 of the Aboriginal Heritage Regulations 1974. DPLH recommends that the applicant consults with the South West Aboriginal Land and Sea Council to obtain a letter of support on behalf of the Native Title claim group.

11. All noise levels produced by the works are to comply with the provisions of the Environmental Protection (Noise) Regulations 1997 (as amended).

Hon Stephen Dawson MLC
MINISTER FOR ENVIRONMENT

Date: 11/6 /20

FILE No. : 2019/3067

## DEPARTMENT OF BIODIVERSITY, CONSERVATION AND ATTRACTIONS REPORT

PROPOSAL Removal and replacement of western wharf, and associated

structural beams and piles

LOCATION Royal Freshwater Bay Yacht Club, Lot 2534 on Plan 222326

(Reserve 17060) and Lot 7364 on Plan 168202 (Reserve 17113),

1 Hobbs Place, Peppermint Grove

COST \$1,500,000

APPLICANT Mr Nathan Stronach, Bosun, Royal Freshwater Bay Yacht Club

LANDOWNER Department of Biodiversity, Conservation and Attractions

(Conservation Commission of Western Australia)

LOCAL GOVERNMENT

Shire of Peppermint Grove

MRS CLASSIFICATION

Parks and Recreation Reserve

**DECISION TYPE** 

Part 5, Swan and Canning Rivers Management Act 2006 -

Ministerial Determination

**ATTACHMENTS** 

1. RFBYC location and boundary plan

2. Wharf replacement site photographs

3. Technical drawings

RECOMMENDATION

**APPROVAL WITH CONDITIONS** 

## **REPORT**

## 1.0 INTRODUCTION

- 1.1 The Department of Biodiversity, Conservation and Attractions (DBCA) has received an application from Mr Nathan Stronach, Bosun, Royal Freshwater Bay Yacht Club (RFBYC), for the removal and replacement of the western extent of the main wharf, structural beams and piles at RFBYC, Lot 2534 on Plan 222326 (Reserve 17060) and Lot 7364 on Plan 168202 (Reserve 17113), 1 Hobbs Place, Peppermint Grove (Attachment 1 and 2).
- 1.2 As the works are located entirely within a lot that is in the Swan Canning Development Control Area (DCA), the application is being processed pursuant to Part 5 of the Swan and Canning Rivers Management Act 2006 (SCRM Act).
- 1.3 The Director General of DBCA has prepared this report in accordance with section 76 of the SCRM Act.

## 2.0 CONSULTATION

## **Shire of Peppermint Grove**

2.1 The development application was endorsed by the Shire of Peppermint Grove's Chief Executive Officer and returned to DBCA with no comments on the proposal.

## Department of Water and Environmental Regulation, Contaminated Sites

- 2.2 The Department of Water and Environmental Regulation (DWER), Contaminated Sites advised that the site is currently classified as 'possibly contaminated investigation required' under the *Contaminated Sites Act 2003*. Further discussion on historical contamination is contained in Section 7.23 to 7.25 of the report.
- 2.3 DWER Contaminated Sites has assessed the proposal and advises that it has no objections to the proposed redevelopment provided that soil or sediment disturbance is minimised. DWER further recommends that a site management plan be in place to mitigate the potential risks associated with sediment disturbance.

## **Department of Transport, Maritime Planning**

2.4 The Department of Transport (DoT), Maritime Planning advised it has no objections to the proposed redevelopment provided RFBYC obtains a modification to its jetty licence from DoT and the wharf engineering drawings are approved and certified by an experienced Maritime Engineer in accordance with AS4997-2005 Guidelines for the Design of Maritime Structures and AS3962-2001 Guidelines for the Design of Marinas.

## Department of Planning, Lands and Heritage

- 2.5 The Department of Planning, Lands and Heritage (DPLH), Heritage Operations has advised the proposed works are situated within Aboriginal site ID 3536, being the Swan River. Therefore, to be consistent with other wharf and jetty replacement projects, these works could be conducted via Regulation 10 of the Aboriginal Heritage Regulations 1974.
- 2.6 DPLH recommends RFBYC consults with the South West Aboriginal Land and Sea Council to obtain a letter of support on behalf of the Native Title claim group.

## 3.0 PUBLIC CONSULTATION - SUBMISSIONS ON DRAFT REPORT

- 3.1 In accordance with the requirements of Part 5 of the SCRM Act, a copy of the draft report and proposed recommendation was provided to the applicant and relevant stakeholders being the Shire, DWER, DoT and DPLH. A copy was also published on the DBCA website for a period of 17 days between 8 May 2020 and 26 May 2020 with an invitation for public submissions.
- 3.2 One submission was received from DWER Flood Management advising that, despite the location of the wharf being within the 1 in 100 Annual Exceedance Probability (AEP) flood level and the 1 in 100 AEP for expected significant wave height, the proposal is not considered to have any potential to cause significant impact to the existing flood regime. RFBYC had already addressed this requirement

in its application and measures to address changes in sea level are discussed under section 7.7 below.

## 4.0 RELEVANT POLICIES AND PLANS

- ♦ State Planning Policy 2.10 Swan-Canning River System (SPP 2.10)
- ♦ Corporate Policy Statement No. 42 Planning for Land Use, Development and Permitting Affecting the Swan Canning Development Control Area (Policy 42)
- ♦ Corporate Policy Statement No. 43 Planning for Marinas, Yacht Clubs and Aquatic Clubs in the Swan Canning Development Control Area (Policy 43)

## 5.0 ENVIRONMENTAL AND PLANNING CONSIDERATIONS

- Environmental Protection
- Visual Amenity
- Heritage
- ♦ Acid Sulphate Soils
- Contamination

## 6.0 BACKGROUND

- 6.1 The RFBYC covers approximately 2.2ha of land and approximately 5.24ha over water (see **Attachment 1**). RFBYC has a land lease from the Western Australian Conservation and Parks Commission for its land-based facilities (e.g. clubroom, car park, storage and fuel facilities) and a River reserve lease from the Swan River Trust for its river-based facilities (e.g. jetties and mooring pens). The wharf is confined to within the land lease boundary only.
- 6.2 The wharf is a free standing structure over water and therefore the replacement works will include in-water activities.

## 7.0 DISCUSSION

- 7.1 The western extent of the existing wharf was originally constructed in 1970. As a result of investigations into the wharf's structural integrity, RFBYC determined the wharf has reached the end of its 50 year design life and that it is not economically, or from an engineering perspective, feasible to conduct further maintenance works.
- 7.2 As the wharf is a free standing structure over water the replacement works will involve in-water activities.
- 7.3 The major aspects of the wharf demolition will involve the deconstruction and removal of the wharf's concrete deck slabs, removal of the land-wharf interface abutment, removal of the wharf's concrete structural supporting beams, cutting of the existing 32 steel piles at seabed level and removal of two cranes attached to the wharf (used for the launching and retrieval of yachts and other vessels from the water) (see **Attachment 3**).

- 7.4 The major aspects of the wharf replacement include the installation of the wharf decking using precast concrete slabs, 11 new steel piles, re-instatement of the land-wharf interface abutment, construction of a new underwater rock revetment (to mitigate erosion and stabilise the river bank), new kerbing using recycled plastics and the re-installation of the two lifting cranes (see **Attachment 3**).
- 7.5 The wharf and the associated ring road that abuts the wharf is deemed essential infrastructure by RFBYC as it enables the safe and unencumbered launching and retrieval of yachts and other vessels from the water.
- 7.6 The replacement wharf will use like-for-like materials, will remain within the wharf's existing footprint and the colours and finishes will match existing themes.
- 7.7 The height of the wharf decking will be raised by 100mm to allow for sea level change. To compensate, there will be some minor level adjustments, contouring and fill required to the western boundary road and areas immediately land side of the wharf to maintain surface levels.
- 7.8 The proposed wharf replacement will extend its lifespan, functionality and benefit RFBYC's land-based and river users.
- 7.9 No dredging or excavation of the riverbed is required as part of the replacement works.
- 7.10 A new rock revetment is proposed to be installed over the existing revetment under the wharf. Final engineering drawings on this aspect of the works are pending.
- 7.11 Potential impacts on the river and reserve from construction activities are to be managed through a construction environmental management plan (CEMP).

## **Environmental Protection**

- 7.12 Policy 42 aims to ensure that land use and development adjacent to the river system maintains and enhances the quality and amenity of the river environment.
- 7.13 The construction works have the potential to impact on the foreshore and waterway, including wildlife (noise and displacement) impacts.
- 7.14 To ensure that all potential environmental risks and impacts are identified and managed appropriately, it is recommended that a CEMP be included as a condition of approval. The CEMP will be required to include details of demolition and construction methodology, protection of water quality, machinery and equipment management (including refuelling), site access and management, safety, waste management and spill response, foreshore protection, management actions to address acid sulfate soils and/or contaminated sediments if encountered, and minimisation of potential noise and displacement impacts to fauna.

## **Visual Amenity**

- 7.15 Policy 42 states that the design, materials and colour scheme of developments adjacent to the river and foreshore should complement and protect the character and landscape setting of the river.
- 7.16 As noted in 6.5 above, the replacement wharf will use like-for-like materials, will remain within the wharf's existing footprint and the colours and finishes will match existing themes, that being raw off-form concrete, white kerbing and the two lifting cranes remaining blue. The visual amenity of the site, particularly when viewed from the river, will not be altered.
- 7.17 A condition of approval will require the provision of final design drawings, including colours and finishes.

## Heritage

- 7.18 Policy 42 states that places of cultural and heritage significance, both Aboriginal and European, and of natural heritage are to be conserved.
- 7.19 As noted in 2.5 to 2.6 above, DPLH has advised that the works are situated within Aboriginal site ID 3536, being the Swan River. The wharf replacement works can be conducted under Regulation 10 of the Aboriginal Heritage Regulations 1974. RFBYC should consult with the South West Aboriginal Land and Sea Council to obtain a letter of support on behalf of the Native Title claim group.

## **Acid Sulphate Soils**

- 7.20 The site of the proposed works has not been assessed for acid sulphate soils (ASS), however, the works are to be undertaken adjacent to an area mapped as having a high to moderate ASS disturbance risk, within 3m of the natural surface.
- 7.21 ASS becomes an issue when affected soil sediment is exposed to the air, however, this is not likely to occur. The in-water works will only involve the cutting of the old piles at the riverbed level and removal, and the installation of new piles.
- 7.22 The potential for disturbance of ASS during the works is considered to be relatively minor, and can be addressed through the conditioned CEMP and advice notes on the approval.

## Contamination

- 7.23 DWER's Contaminated Sites unit has advised the river sediments adjacent to the proposed redevelopment have been classified as 'possibly contaminated investigation required' under the *Contaminated Sites Act 2003* due to a series of assessments detecting antifouling agents (such as those found in marine vessel antifouling paint), which is likely attributed to slipway maintenance of boats and other vessels at RFBYC.
- 7.24 As advised under 2.3 above, DWER Contaminated Sites has assessed the proposal and advises that it has no objections to the proposed redevelopment provided that soil or sediment disturbance is minimised. DWER further recommends that a site

management plan be in place to mitigate the potential risks associated with sediment disturbance.

It is proposed the on-land works involving the wharf-land abutment and contouring and fill to the western boundary road and areas immediately land side of the wharf will only involve shallow disturbance of previous imported fill.

7.25 The potential for disturbance of any contaminated soils or sediment during the construction works is considered to be relatively minor and can be addressed through the conditioned CEMP and advice notes on the approval.

## 8.0 SWAN RIVER TRUST ADVICE

8.1 In accordance with section 75(3A) of the SCRM Act, the Swan River Trust (the Trust) considered DBCA's draft report at a meeting on 7 April 2020, where the Trust resolved to advise the Director General of DBCA that it recommends the application be approved subject to the conditions outlined in DBCA's draft report.

## 9.0 CONCLUSION

- 9.1 The proposed works are replacing like-for-like and not considered to be excessive in scale or bulk and will extend the usable life of the wharf and its functionality.
- 9.2 Potential environmental impacts from the works are considered low and can be addressed through the implementation of an approved CEMP.
- 9.3 For these reasons, the wharf replacement proposal is recommended for approval, subject to conditions and advice.

## 10.0 RECOMMENDATION - APPROVAL WITH CONDITIONS

That the Director General of the Department of Biodiversity, Conservation and Attractions advises the Minister for Environment that the Royal Freshwater Bay Yacht Club's proposal to remove and replace the western wharf on Lot 2534 on Plan 222326 (Reserve 17060) and Lot 7364 on Plan 168202 (Reserve 17113), 1 Hobbs Place, Peppermint Grove, as described in the application received on 19 November 2019 and amended plans received on 19 March 2020, be approved, subject to the following conditions and advice notes:

## CONDITIONS

1. Approval to implement this decision is valid for two (2) years from the date of the approval. If substantial on-site works have not commenced within this period, a new approval will be required before commencing or completing the development.

## Prior to the commencement of works

- 2. The applicant shall notify the Department of Biodiversity, Conservation and Attractions in writing not less than seven (7) days prior to the commencement of works (see **Advice Note 1**).
- 3. A Construction Environmental Management Plan shall be submitted to and approved by the Department of Biodiversity, Conservation and Attractions (see **Advice Notes 1 and 2**).

- 4. Final design plans/drawings and technical specifications, including details of the colours, finishes and materials for the new wharf, shall be submitted to and approved by the Department of Biodiversity, Conservation and Attractions (see **Advice Notes 1 and 4**).
- 5. The applicant shall ensure that all contractors and personnel involved in the wharf replacement works are familiar with the requirements of this approval prior to the commencement of works and during the works at all times.

## **During works**

- 6. All works shall be implemented in accordance with the plans approved under **Conditions 3 and 4.**
- 7. The applicant shall take appropriate preventative measures during the works to ensure that no soil, runoff, construction material or any other deleterious matter is allowed to enter the river.
- 8. The applicant shall install at a minimum double silt curtains and take appropriate measures to contain turbidity to the riverbed lease area and prevent, where practicable, sediment plumes from moving outside the immediate area of the works. If sediment plumes are visible beyond the riverbed lease area, the wharf replacement works shall cease until the issue has been resolved to the satisfaction of the Department of Biodiversity, Conservation and Attractions (see **Advice Note 3**).
- 9. Silt curtains are to be checked regularly to ensure they are correctly attached and performing as intended.
- 10. Piling operations shall include a soft start up procedure at the commencement of each piling sequence (see **Advice Note 7**). No pile driving shall start if dolphins are within 200 metres of the site.
- 11. Piling activity shall cease if a dolphin comes within 50 metres of the site and shall not recommence until any dolphin has moved away more than 200 metres or has not been observed for 20 minutes.
- 12. The applicant shall ensure that no damage to the riverbank or waterway occurs beyond the scope of the approved works. If any inadvertent damage occurs, the applicant is required to notify the Department of Biodiversity, Conservation and Attractions within 48 hours of the damage occurring and rectify the damage at its expense.

## On completion of works

- 13. Upon completion of the works, all waste materials, equipment and machinery shall be removed, and the site cleaned up to the satisfaction of the Department of Biodiversity, Conservation and Attractions.
- 14. Within six months of the completion of works, as constructed drawings for the wharf shall be submitted to the satisfaction of the Department of Biodiversity, Conservation and Attractions.

## **ADVICE NOTES**

- 1. Notifications and plans can be emailed to rivers.planning@dbca.wa.gov.au.
- 2. The Construction Environmental Management Plan required under **Condition 3** shall describe how the proposed works will be managed to minimise potential environmental impacts and shall address, but not be limited to:
  - a. scope of works, including demolition and construction methodology;
  - b. site access and management, including temporary fencing requirements;
  - c. management of machinery and equipment, including a refuelling procedure and spill response;
  - d. on-site storage and bunding of materials, equipment, chemicals and fuel;
  - e. waste management;
  - f. air quality and dust management;
  - g. protection of the river from inputs of debris, rubbish or other deleterious material;
  - h. wildlife management, including minimising noise and vibration impacts, seahorse protection and/or relocation and use of a marine mammal observer;
  - i. access and safety;
  - j. hours of operation and schedule of works;
  - k. complaints and incidents; and
  - I. management actions to address acid sulfate soils and/or contaminated sediments should they be encountered.

A site map showing the laydown area and vehicle entry/exit points shall be included. Emergency spill kits shall be onsite at all times and it is preferable that refuelling of land-based vehicles or machinery is undertaken outside the Swan Canning Development Control Area at a licensed refuelling facility. In the case of pollution events, the Department of Biodiversity, Conservation and Attractions shall be contacted immediately on 9278 0981 (Riverpark Duty Officer) or 9480 9924 (Marine Pollution Response).

- 3. With regard to **Condition 8**, in the case of sediment plumes extending beyond the area of works, the Department of Biodiversity, Conservation and Attractions shall be contacted immediately on 9278 0981 (Riverpark Duty Officer) or 9480 9924 (Marine Pollution Response). The applicant shall provide a record of the incident with proposed contingency actions.
- 4. To allow sufficient time for the Department of Biodiversity, Conservation and Attractions to consider and approve the plans and details required under **Conditions 3 and 4**, the documents must be submitted to the Department of Biodiversity, Conservation and Attractions at least 42 days before the expected works commencement date.
- 5. The wharf engineering drawings are to be approved and certified by a Maritime Engineer in accordance with AS4997-2005 Guidelines for the Design of Maritime Structures, and AS3962-2001 Guidelines for the Design of Marinas.
- 6. The applicant shall apply for and obtain a modification to its jetty licence from the Department of Transport, Coastal Facilities Management.
- 7. With regard to **Condition 10**, to minimise underwater noise, it is preferred that a vibration pile driver with a soft start-up, rather than a drop hammer, be used to install the piles. This should reduce noise impacts, including that to dolphins.

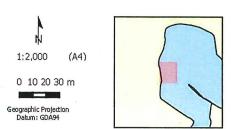
- 8. The Department of Water and Environmental Regulation, Contaminated Sites advises that the site is classified under the *Contaminated Sites Act 2003* as 'possibly contaminated investigation required'. It is recommended that adequate safety measures are implemented to minimise the risk of disturbing suspected contaminated soils.
- 9. The proposed works are located adjacent to an area mapped as having a moderate to low acid sulphate soil risk. The Acid Sulphate Soils Guideline Series for guidance on the identification, assessment and management of acid sulphate soils in Western Australia is available from the Department of Water and Environmental Regulation website at <a href="https://www.dwer.wa.gov.au">www.dwer.wa.gov.au</a>. If any acid sulphate soils are exposed during the works, the Contaminated Sites Branch of the Department of Water and Environmental Regulation shall be contacted for further advice on 1300 762 982.
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- 11. All noise levels produced by the works are to comply with the provisions of the Environmental Protection (Noise) Regulations 1997 (as amended).

FINAL REPORT E	ENDORSI	ĒD
Signed:	Date:	10/6/2020

## Royal Freshwater Bay Yacht Club - Property and Lease boundaries and location of wharf replacement







Produced by jr, Department of Biodiversity, Conservation and Attractions



Department of Biodiversity, Conservation and Attractions

Job Ref: part5 Produced at 12:38 PM on March 20, 2020

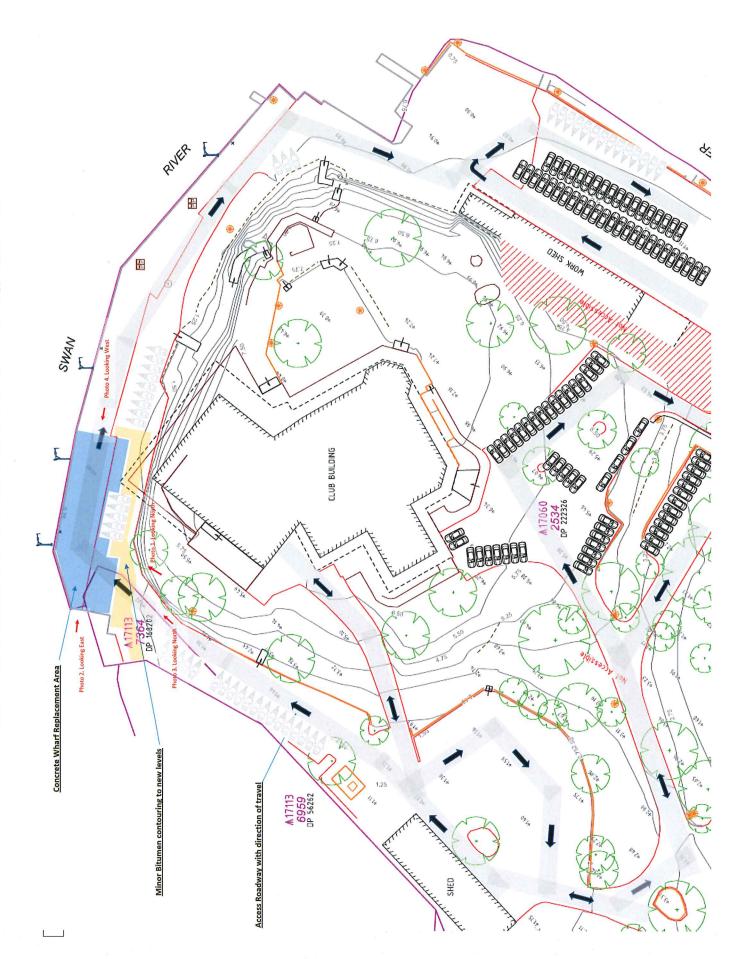
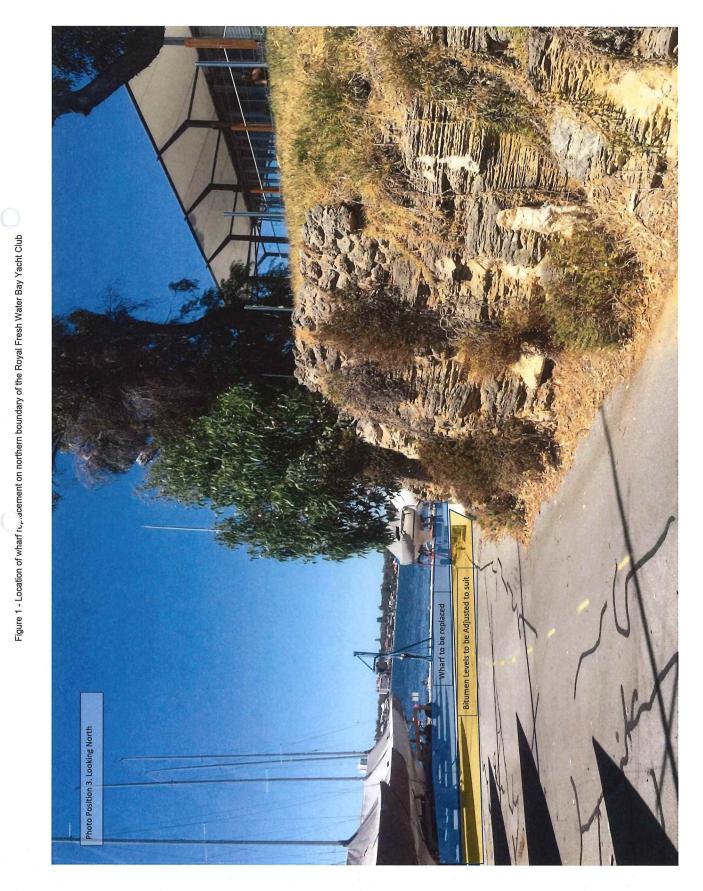


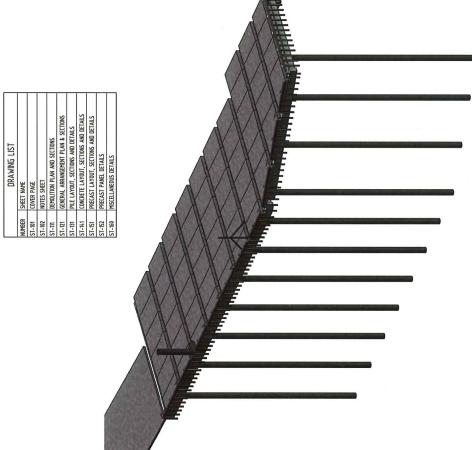
Figure 1 - Location of wharf regradement on northern boundary of the Royal Fresh Water Bay Yacht Club







# RFBYC MAIN WHARF REPLACEMENT



30 VIEW - MAIN WHARF REPLACEMENT

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EXTENT OF WHARF REPLACEMENT	CLUB HOUSE	
RIVERBED LEASE BOUNDARY	KEY PLAN	

# PRECAST CONCRETE NOTES

GENERAL NOTES

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- CONTRACTOR SHALL PROVIDE ALL NECESSARY BISENTS, TEUPORARY SUPPORTS AND JETING GEAR NECESSARY FOR SAFE AND PROPER TRANSPORTATION, ENECTION, JETING AND PROPPING. SUBSTITUTIONS SHALL BE APPROVED BY THE ENGINEER IN WRITING PRIOR TO USE REFOR DISCREPANCIES TO THE ENGINEER FOR RESOLUTION BEFORE PROCEEDING WITH THE WORK.
  - SHOP DETAILS OF ALL PRECAST PAMELS ARE TO BE CRAWIN AND SUBMITTED TO THE SUPERINTODEIT AND LOTS PROMERES TO DEMOGRAE INSPECTION AND LITERATIONS (FRECESSART) PRIOR TO COMMENCEMENT OF MANUFACTURE REFER ALSO TO SPECIFICATIONS, ALLOW TRAT WORKING DAYS FOR WAS REVIRE OF SHOP

ANY DISCREPANCIES DISCOVERED DURING CONSTRUCTION ACTIVITIES BETWEEN THE BUSTING STRUCTURE. AND THE DRAWINGS SHALL BE REPORTED TO THE ENGINEER. PARTIFIER ADVICE. YERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION & FABRICATION. ALL PROPRIETARY PRODUCTS SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH MANAFACTLARENS RECOMMENDATIONS.

8 5 8

- ACCETIANCE OF THE COMPLETED PRECAST PANELS WILL BE UPON BELICREY TO THE THE ATAP PANELS CANCORD OR POLABOLINA HIT MANHERS WHEN THE FRECTED THOS TO EFECTION LICENSES ANY PAILES DAMAGED TO ATAPASS OF CHARLOWING CRECTION. THE REDUPLES METHOD TO THE CONTRACTION OF WHESE APPROVED. SHALL BE REDUPLES DA ACCORDANCE WITH THE SPECTION OF THE THE PROVIDED. PAMELS REQUISING MANDATORY BISPECTIONS BY WGA SHALL BE NOTED ON THESE DGAMINGS OR RETLANED SHOP DRAWINGS, PAIRLS NOTED SHALL NOT BE POURD UNTL. RISPECTED. MINIBLIA NOTICE OF 1 WORKING DAY SHALL BE PROVIDED PRIOR 1 ALL NOSECTIONS. 52
- THE CONTRACTOR SHALL REFER TO ALL OTHER TRACES TO ENSURE THAT OPENINGS ARE LEFT WHERE RECESSARY AND THAT FOINIOS, FITTINGS AND ASSOCIATED COMPONENTS REQUIRED TO BE INSTALLED ARE PROVIDED AND BULLT IN AS THE WORK 22
- REFER TO TABLE POT FOR PRECAST CONCRETE PROPERTIES. FLAL MIX DESIGN TO BE SUBMITTED TO WOLF FOR INSPECTION PRIOR TO CONSTRUCTION OF PAREAS. REFER TO TABLE FOR PORTING CLEAR COVER TO REINFORCEMENT IN WALL PAREAS.

62

URAL ELEMENTS = 50 YEARS
ARNOED INSPECTION STRATEGY IS AN ADVANCED VISUAL CONDITION ASSESSMENT

1 ACCORDANCE WITH ASLEST 2005
Y DISTRIBUTED LOAD
ATED LOAD (OVER 400mm FOOTPR
EXCLUSION ZORE OF 4m SURFOUNDING
ED LOADS)

DESIGN CRITERIA - (TABLE G1)

ANCE LEVEL: L PROBABILITY OF EXCEEDANCE:

LEVEL DATUM = CHART DATUM UNIO

630

- FRANCS, FERRULES, BOLTS, MJS, WASHERS, LIFTERS, CAST IN ITEMS ETC AFE SIS STANLESS STEEL ULLESS OTHERWISE SPECPEID. USE ONLY GALDE 45 OR THE AS SPECPFED. DO NOT WELLD, INCLUDING TACK WELD, 8.8 BOLTS OR NUTS ANY GRICQUASTIANCES. PC 10 15 PC12

PC13

= 31 AT 3m

MAX WAVE HEIGHT (Hmax

PC14 PC15 PC16

MINIMUM CONCRETE CHARACTERISTIC COMPRESSIVE STRENGTH, CONFIR	STING, AT TIME OF UFTING SHALL BE 25MPs.	ROVIDE 20mm CHAMFERS TO ALL PANEL EDGES U.N.O.	
MINIMUM CONCRETE CHAR	TESTING, AT TIME OF LIFTI	PROVIDE 20mm CHAMFERS	

OPERTIES - (TABLE PC1)	420 light*	850	20mm	60mm±15mm	(TABLE PC2)	60
PRECAST CONCRETE PROPERTIES - (TABLE PC1)	MINIMUM CEMENT CONTENT	GRADE (MPa)	MAXIMUM AGGREGATE	STUMB	COVER (mm) - (TABLE PC2)	Control Control

THING.

WITH ALL SEED ISSUED IN ACCORDING THE WAY ZAN VESSEL

WITH ALL ACTORD CONTROLLY SEED ISSUED IN ACCORDING THE WAY ZAN VESSEL

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9	REINFORCEMENT NOTATION - (TABLE C6)	DENOTES	BARS IN BOTTOM FACE	BARS IN FAR FACE	EACHWAY	BARS IN EACH FACE	BARS IN SIDE FACE	BARS IN NEAR FACE	BARS IN TOP FACE	BOTTOM MOST BOTTOM BARS	TOP MOST TOP BARS	BOTTOM BARS PLACED FIRST	BOTTOM BARS PLACED SECOND	TOP BARS PLACED FIRST	TOP BARS PLACED SECOND	MAXIMUM	MENIMUM	AT CENTRES (SPACING)
END BEAMS	REINFORCEME	ABBREVIATIONS	B, BF	Ŧ	EW	ъ	25	NF	T.TF	88	H	181	82	TI	21	MAX	MIN	CTS

\*1098 PEHW +0.993 PEHW

\*1356 HAT

	ALL WORKMANSHIP AND MATERALS SHALL BE IN ACCO SPECIFICATION AND THE DRAWFINGS.	FORMADRY SHALL BE TO AUSTRALIAN STANDARD AS:
	5	8
ı	N. A. I.S.	

CONCRETE NOTES

- FORMYOR SHALL BETO AUSTRALLAN STAUDARD ASSIO.

  REBUIDEN SHALL CO-ORDINATE WITH ALL TRAGES TO BISURE THAT PROVISION IS

  MADE FOR ALL NECESSARY REBATES OR OFBERISS IN CONFERE. AND CASTING IN OF

  CONDUTS, WHETHER OR NOT SPECIFICALLY DETAILED ON THE DRAWINGS. DANCE WITH AS3600, THE
  - RETE COVER TO REINFORCEMENT FOR CONCRETE ELEMENTS SHALL BE
    - SURFACE FINISH AND CLASS OF FOROMORK FOR CONCRETE SHALL WITH TABLE C2 UNLESS OTHERWISE NOTED.
- ALL REINFORCEILENT IN BLABS AND BEAMS SHALL BE SUPPORTED ON INERT CHAIRS TO SLAB RESINFORCEIJEOTT FOR GAN. THE REQUIRED FONCES BACKING OF THE CHAIRS TO SLAB RESINFORCEIJEOTT WHILL NOT EXCELED SOMM IN EACH DIRECTION.
  INCA, SHALL BE GIVEN A MIRMAM OF 72 HOURS PROCN NOTICE FOR ALL REQUIRED ALL CONCRETE IN CONTACT WITH GROUND SHALL BE POURED ON A 0.2mm DAMP PROOF MEMBRANE U.N.O.
- ALL CONCRETE SHALL BE CURED FOR A JAMBALAN OF 7 DAYS AFTER POURING BY COPERING WITH A PROMEDIEWHE WEIGHED DOWN TO PREVENT AIR TOWN BEIGHT IN CANING COMPOUNDS ARE TO BE USED THE CONTRACTOR IS TO SUBJIT DETAILS FOR WOA'S APPROVAL PROOF TO USE.
  - NE FOR FOR REDIFFORCEMBNT SHALL BE AS PER TVELE CI.
    STANTO DE NO SECENTER THAN 1 IN 6 U M.O.
    SHALL BE USED FOR STANTER SHAS TO COLUMAS AND H.D. BOLTS, ALL
    TO BE SECHED TO FRAINFOR. GROCELEN SHALL BE MANEFACTURED BY COMPANIES ACCREDITED WINDS HOLD A YALLO CERTIFICATE OF APPROVAL, ISSUED BY THE WINDS HOLD A YALLO CENTRACTE OF APPROVED AND ACCREDITED THAN ALL CERTIFICATION ALMORATY E WAS TRESPECTATED AND STRUCTURAL COST, BUTCHED COMPANIES, BUTCHED SHALL BUTCHED AND ACCREDITED THAN A STRUCTURAL OF SHE THANK TO.
    - PLACING IN SEVERE WEATHER FOR LANGE FLAT AREAS OF CONCRETE, EXCEDING 15m² IN AREA. WHEN.

Cit

- THE > 20' AND THE FORECAST WIND SPEED > 40km/hr OR THE > 25' AND THE FORECAST WIND SPEED > 25km/hr OR THRE > 30' AND THE FORECAST WIND SPEED > 15km/hr
  - ALL BE CHAMFERED FOR RE-BITRANT ANGLES AND FILLETED FOR WHENE THESE WILL BE EXPOSED TO VIEW IN THE COMPLETED PROJECT OF THE BEVEL IN EACH CASE SHALL BE 20mm WIDE U.N.O. CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF ANY APPLIED
    - UCTION JORTS, WHERE NOT SHOWN ON THE DRAWINGS, SHALL BE LOCATE UPPROVAL OF WGA.
      - e destrabation ouchs the Enderf inductability unto Beint Feuces Shall ind Elmoe in Positions other hum those the Shirouthau, Daviniss inthout The Procy APPROVAL OF Wea, TO CLEAR SPACINE SHIPMEN COMUSING, CALLES ENDE AND BARS SHY FRD BY ASSAGE ONLY FOULTES THAN THEE BAR DIAMETERS UN.O.

83 2

MED BY

C17

- 200 DENOTES BAR SPACING IN MILLIMETRES BF ABBREVIATION (REFER TABLE C6. FOR TYPICAL ABBREVIATIONS)
- ALL CONSTRUCTION POUR JOINTS TO BE SCABBLED AND CLEANED UNLESS NOTED OTHERWISE.

22

88

PROVIDE TÄTITIN MINLOF LEAN MIN CONCRETE TO BOTTOM OF ALL TRENCHES AND / OR PADS POURED THE SAME DAY WHEN EXCAVATED. CAETE SHALL BE MECHANICALLY VIBRATED. AND PENETRATIONS, OTHER THAN THOSE SHOWN ON THE STRUCTURAL SS, SHALL NOT BE MADE IN CONCRETE MEMBERS UNLESS APPROVED BY

525

	COVER (r	COVER (mm) - (TABLE C1)		
LOCATION		TOP	BOTTOM	SIDES
ABUTNENT		95	50	99
	SURFACE	SURFACE FINISH - (TABLE C2)	(23)	
LOCATION	SURFACE	TYPE OF FINISH		CLASS OF FORMWORK
ABUTMENT	ALL	OFF-FORM		7
	CONCRETE PR	CONCRETE PROPERTIES - (TABLE C3)	SLE C3)	
	LOCATION	GRADE (MPa)	MAX. AGGREGATE (mm)	SLUMP

ABUTAENT SSO CONCRETE SHALL COMPLY WITH THE FOLLOWING REQUIREMENT ARRIANJA CEMENTITIOUS CONTENT OF 400kg/bu.m

LAP.	600mm	BOOmm	1000mm	1300mm	2 CROSS WIRES + 25mm
BAR SIZE	112	116	N20	10	FABRIC

\*0422 MLW

+0209 LAT

+0527 ME.W

+0.760 MSL

	1111000
N16	800mm
02N	1000mm
N24	1300mm
FABRIC	2 CROSS WIRES + 25mm
REINFORCEM	REINFORCEMENT - (TABLE C5)
BARS	GRADE SOON TO ASSIST
FABRIC	GRADE 500L TO AS4671
CATHRES AND THE	HARD DRAWN WIRE GRADE 450W TO AS1303

## | (SID) AEUTH AND SAFETY ACT WGA HAS UNDERTAKEN A AEUTH FOR THIS PROJECT. AS DESIGNERS WE ARE TO TION TO OAR CLIENT THAT SPECIFIES THE HAZAROS OF WABLY AWARE, THAT. SAFETY IN D' AS REQUIRED UNDER Th. SAFETY IN DESIGN (SID) AS:

SID1

- PRIOR ADVICE FROM WGA. A GREATE A RISK TO THE HEALTH OR SAFETY OF PERSONS WHO ARE INVOLVED BY THE CONSTRUCTION, OPERATION, MAINTENANCE, AND DECOMMISSIONING OF THE PROJECT, AND
  - ASSESSABLE TO SEASON CEST. OLD BELLY ALL CONSTRUCTION SITE WAZAS COMMANY TO SEASON CEST. OLD SEASON CEST. B) THAT ARE SPECIPLT TO THIS PROJECT.
    THE SCHOOL SCH WASHESBARD IT RUITED TO HAZHOS THAT ARE
    RESCOURD. Y FORESELEALE AT THE THILE OF DESIGNA MAD THAT COULD RESULT FROM
    DESIGN ASPECTS OF THE PROJECT THAT WOA ARE RESPONSIBLE FOR

SID2

SID3

ANY ADDITIONAL HAZARDS OR RISKS THAT MAY ARISE DIRING THE PROJECT LIFE NOT COFFEED IN THESE NOTES SHOULD BE ROUGHT TO THE ATTENTION OF WGA FOR ROYERS AND DEPENDENT.

SID4

- O ROMERONE RESPONSE.

  REMAINS OF CONTROL MESSIES TO MITCHE RISK
  E RECORDONATION OF CONTROL MESSIES INTO DESIGN OF HOUSING FINANCIA.
  F. RISK GENNING OF HOUSING.
  F. RISK GENNING OF HOUSING. SIDS
- THE PRINCIPAL MUST PROVIDE A COPY OF THIS ASSESSMENT TO CONTRACTORS TENDERING ON THIS PROJECT, MAINTENANCE PERSONNEL AND BUILDING USERS. SID6

PROJECT HAZARDS - (TABLE SID1)	S - (TABLE SID1)		
NUMBER	(EXTREME/HIGHMODERATE/LOW)	KEY RESIDUAL PROJECT HAZARD DESCRIPTION	S15 S16
-	MODERATE	Condition of existing wharf deck panels severely deteriorated. No construction loads allowed on existing wharf deck areas.	S17 S18
~	MODERATE	Demolition is inherently dargerous. Demolition melthod statement to be reviewed by a shuchtral engineer and submitted to the superintendent.	
	MODERATE	Deck units are to have designed and approved lifting logs & lifting methodology to be submitted to the superintendark.	
•	MODERATE	Potential fall risk from edge of wharf dule to leck of handeals. Design is consistent with typical functional marinas elsewhere, and nisk must be known and understood.	818
	MODERATE	Condition and arrangement of existing wharf abutment unknown. Risk of subsidence due to outrigger loads if orshore cranes used.	2 8
•	том	Pling operation to be reviewed and submitted to superintendant in accordance with specification. Acceptance criteria for pile embediments to be submitted to superintendant.	ı
1	мот	Rubble revetment under wharf has the potential contain submerged objects hazardous to divers.	

WE	WELDING REQUIREMENTS - (TABLE S1)	(TABLE S1)
TYPE	MINIMUM REQUIREMENTS	TESTING REQUIREMENTS
SHOP BUTT WELDS	RULL PENETRATION BUTT WELD (F.P.B.W.) CATEGORY SP TO AS1554 UALO.	100% -VISUAL SCAN 50% -VISUAL EXAMINATION 5% -ULTRASONICALLY AND MAGNETIC PARTICLE TESTED
SHOP FILLET WELDS	MINIMAN Smm C.F.W. E48xx U.N.O. CATEGORY SP U.N.O.	100% -VISUAL SCAN 25% -VISUAL EXAMINATION 5% -MAGNETIC PARTICLE TESTED
SITE BUTT WELDS	FULL PENETRATION BUTT WELD (F.P.B.W.) CATEGORY SP TO AS1554 U.N.O.	100% -VISUAL EXAMINATION 100% -ULTRASONICALLY AND MAGNETIC PARTICLE TESTED
SITE FILLET WELDS	MINIMUM Brem C.F.W E48xx U.N.O. CATEGORY SP U.N.O.	100% -VISUAL SCAN 25% -MAGNETIC PARTICLE TESTED

	חסרו ווגרא (ועתר אי)
A470IS	GRADE 316 STAINLESS, 700MPs, SNUG TIGHTENED
A4-80/S	GRADE 316 STAINLESS, BOOMPs, SNUG TIGHTENED
166	COMMERCIAL BOLTS TO AS1111, SNUG TIGHTENED.
8.8%	HIGH STRENGTH STRUCTURAL BOLTS, WITH BOLTS, NUTS AND HARDENED WASHERS TO AS1252, SIVIG TIGHTENED.
8.8/TB	HIGH STRENGTH STRUCTURAL BOLTS AS ABOVE, FULLY TENSIONEE TO ASIS11 IN A BEARING TYPE JOINT.
8.8TF	HIGH STRENGTH STRUCTURAL BOLTS AS ABOVE, FULLY TENSIONEE TO ASISII IN A FRICTION TYPE JONT AND U.N.O. WITH FACING SURFACES LEFT UNCOATED.

SURFACE	SURFACE PROTECTION REQUIREMENTS - (TABLE S2)	ITS - (TABLE S2)
TYPE	SURFACE PREPARATION	ANTI-CORROSION COATING
TUBULAR STEEL PILES	GRIT BLAST TO CLASS 2.5 TO AS 1627	INTERZONE 954 TO A MINIMUM DRY FILM THICKNESS OF 700 MICRONS IN 2x350 MICRONS COATS
ALL OTHER STEELWORK	PRE-CLEAVED BY ACCORDANCE WITH AS 1827; FOLLOWED BY ACID PICKLING TO AS 1827; ABRASIVE BLAST CLEANING TO CLASS 2 FINISH BY ACCORDANCE WITH AS 1827.4	HOT DIP GALVANIZED TO AS 4580. SKREP BLAST IN ACCORDANCE WITH AS 2122 CLAUSE T.5.1 PRUGET O PARATING. WITEZONE SET OA MINIMUM REY FILM PHOCNESS OF TO MINICONE IN 2-250 MICHONS OOATS
SITE WELDS	MECHANICAL PREP TO ASSISZY 2	INTERZONE 954 TO A MINIMUM DRY FILM THICKNESS OF 700 MICRONS IN 25.350 MICRONS COATS
NJTS, BOLTS & WASHERS CHEMICAL	СНВИСАТ	HOT DIP GALVANISNG, AFTER TIGHTEUING, EXPOSED FACES OF NATS, BOLTS AND WASHERS SHALL BE DEEPARED AND COATED AS SPECIFIED FOR ADJACENT STEELWORK.

PRELIMINARY ISSUE

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Level 1, 66 Kings Park Road, West Perth Western Autoria 6005 Talephone 08 9336 6528 Email perth@wgs.com.au WALLBRIDGE GILBERT AZTEC WGA

ROYAL FRESHWATER BAY YACHT CLUB PEPPERMINT GROVE, SWAN RIVER MAIN WHARF REPLACEMENT

NOTES SHEET

3	COMPLIANCE WITH SPECIFIED CONSTRUCTION TO LERANCES - REFER SPECIFICATIONS
88	ALL ROLLED STEELWOOK SECTIONS SHALL BE GRADE 300 PLUS IN ACOORDANICE WITH AS 3/8704579. PART 1. ANY TELEBROWS KONDEDS FROM MILLS LOCATED OUTSIDE ALSISTEDALA AE TO BE ROWINGED WITH CERTIFICATES PROVINGS ABOVE REQUIREDED BY WAITA REGISTERED OKCAMISATIONS.
25	ALL HOLLOW SECTIONS SHALL BE GRADE CASO IN ACCORDANCE WITH AS 1163 U.N.O.

ALT NOTE OF THE WORK SOURCE FOUND TO THE WORK SOURCE AND THE WORK SOURCE PROJECT TO THE WORLD WITH CERTIFICATES PROVING ABOVE REQUIREMENTS VERIFIED BY NATA REGISTERED ORGANISATIONS.	ALL HOLLOW SECTIONS TO BE FULLY SEALED, UNLESS NOTED OR APPROVED OTHERWISE.	ALL PLATEWORK (CLEATS, ETC.) TO BE GRADE 250 TO ASS678 U.N.O.
---	---	---

	11 ALL LIFTING LUGS TO BE STAMPED WITH WILL		SALE BOLTS TO BE GRADE BLS UNIO. STUD BOLTS RICHEDED SANLE BE CRADE 4.6S (REFER TO DETAIL). HOLDING DOWN BOLTS SHALL BE GRADE 4.6S HD. GALY. U.N.O. REFER TO TABLE SJ FOR BOLT TIYPES.
200	5	55	S

	STAINLESS STEEL WASHERS AND CARBON STEEL PLATES TO BE ISOLATED WIT
	SEPARATOR TAPE
2	BOLT TYPES TO BE AS PER TABLE S3.
9	ALL BOLTS SHALL HAVE AT LEAST ONE FULL THREAD EXPOSED BEYOND THE N
	AFTER TIGHTERING.
	STATE AT LEAST CARE WAS USED THE NATION OF A STATE OF THE PARTY OF THE

	SIS PROPRIE SHALL COMPI THE FABRICA TEST CERTIFI COUNTRY OF PREPARED BY	HANDER LED ORE NESSE RECHESTER HIS AND STOCKEN WESTERS SHUL CONFINENTIAL SOIS BOTS, CLASS HINTS AND SECONDER WESTERS SHUL CONFINENTIAL SOIS BOTS. SHUL CONFINENTIAL SOIS BOTS FOR CONFINENTIAL REPUBLIC AND AND AND THE RECHESTERS FOR CONFINENTIAL REPUBLIC AND AND AND THE RECHESTERS AND AND AND THE SECONDER WITH A PROSECUTION AND AND AND AND AND AND AND AND AND AN
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COMMITY OF MAME/FOUTHE, TOGETHEN WITH A ESTETIENCH TO COMPLIANCE PRESPACED BY AN INCEPTIONENT WITH ACCREDITED TESTING LAGICATORY YEARY! COMPLIANCE OF EACH BATTON OF BOLTS TO THE ABOVE AUSTRALIAN STANDARD.	COMPINE Y MANACOURT CONSTRUCTION STREAM CONTROLLARS COMPINED FOR INSERTION FRANCOURT STREAM CONTROLLARS COMPINED FOR INSERTION FRANCOURT STREAM CONTROLLARS COMPINED FOR COMPINE WAS THE FALLY PRECEDED FOR INSERTION FOR COMPINED FOR FALLY AND ADDRESS CHEMACH, AND INSERSIONAL AND FOR STREAM CONTROLLARS AND THE PRECEDING FOR THE PRECEDING FOR THE PROPERTY AND ADDRESS CHEMACH, AND INSERSIONAL AND FOR THE PROPERTY OF THE PROPERTY OF THE PRECEDING FOR THE PROPERTY AND ADDRESS CHEMACH, AND INSERSIONAL AND FOR THE PROPERTY OF THE
	THE CERTIFICATE OF COMPLANCE MUST BE PULLY TRACE/BLE TO BIOTYDUAL BATCHES OF BULTS, AND ADDRESS CHEMCAL NECHWICAL, NO DIMENSIONAL COMPLANCE.
THE CERTIFICATE OF COMPLIANCE MUST BE FULLY TRACEABLE TO NIDWIDUAL BATCHES OF BOLTS, AND ADDRESS CHEDICAL, MECHANICAL, AND DIMENSIONAL COMPLIANCE.	ANY BOLTS NOT MEETING THE REQUIREMENTS OF ASNZS 1232 WILL BE REJECTED. BOLTS NOT POSSESSING BOTH A MANUFACTURER'S TEST CERTIFICATE AND

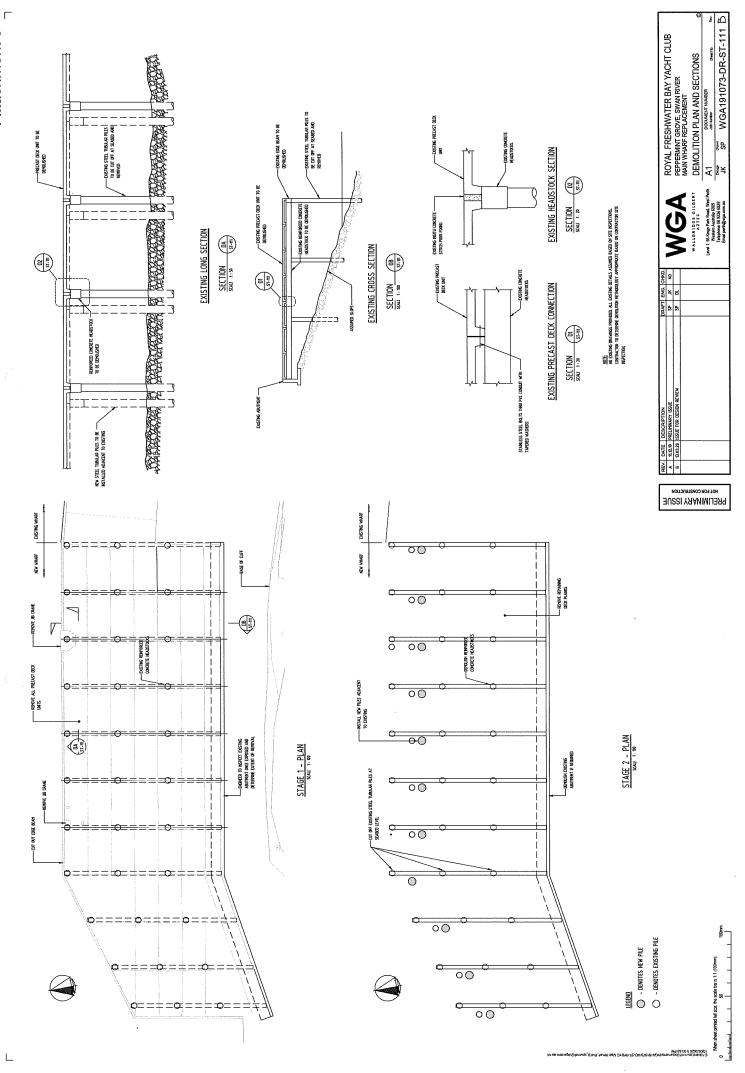
CERTIFICATE OF COMPLIANCE WITH ASNZS 1252 WILL BE REJECTED.
CONTACT SURFACES BETWEEN DISSIMILAR METALS (eg. ALUMINIUM, CARBON STEE)
STAINLESS STEEL) SHALL BE ISOLATED WITH SEPARATOR TAPE OR FIBRE WASHERS
SURFACE PREPARATION AND PRIMING OF SURFACES SHALL CONFORM WITH TABLE 82.
THE CONTRACTOR SHALL ENSURE THAT THE CORROSION PROTECTION COATING IS PROTECTED FROM DAMAGE DURING ERECTION OF STEEL.
ALL GROUT UNDER BASEPLATES SHALL BE 20mm NOM. THICK, NON-SHRINK, WITH MII Fc=40 MPs.

SURFACE	SURFACE PROTECTION REQUIREMENTS - (TABLE S2)	(TS - (TABLE S2)
TYPE	SURFACE PREPARATION	ANTI-CORROSION COATING
NBULAR STEEL PILES	GRIT BLAST TO CLASS 2.5 TO AS 1627	INTERZONE SS4 TO A MINIMUM DRY FILM THICKNESS OF 700 MICRONS IN 22350 MICRONS COATS
ALL OTHER STEELWORK	PRE-CLEAVED IN ACCORDANCE WITH AS INST.1 FOLLOWED BY ACID PICKLING TO AS 16275. ABRASIVE BLAST CLEANING TO CLASS 2 FINISH IN ACCORDANCE WITH AS 1627.4	HOT DIP GALVANIZED TO AS 4580. WITH AS 23122 CLAUSE T.5.12 PRIOR TO PARITHG, INTERZONE SET OA ANNIMAL MET FILM THICKNESS OF TOO MICRONIS IN 2.350 MICRONIS COATS
SITE WELDS	MECHANICAL PREP TO AS1627.2	INTERZONE 954 TO A MINIMUM DRY FILM THICKNESS OF 700 MICRONS IN 2x350 MICRONS COATS
NUTS, BOLTS & WASHERS   CHEMICAL	СИВМСИТ	HOT DIP GALVANISMG, AFTER TIGHTEHANG, EXPOSED FACES OF NITS, BOLTS AND WASHERS SHALL BE PREPARED AND COATED AS SPECIFED FOR ADJACENT

When sheet printed full size, the scale bar is 1:1 (100mm).

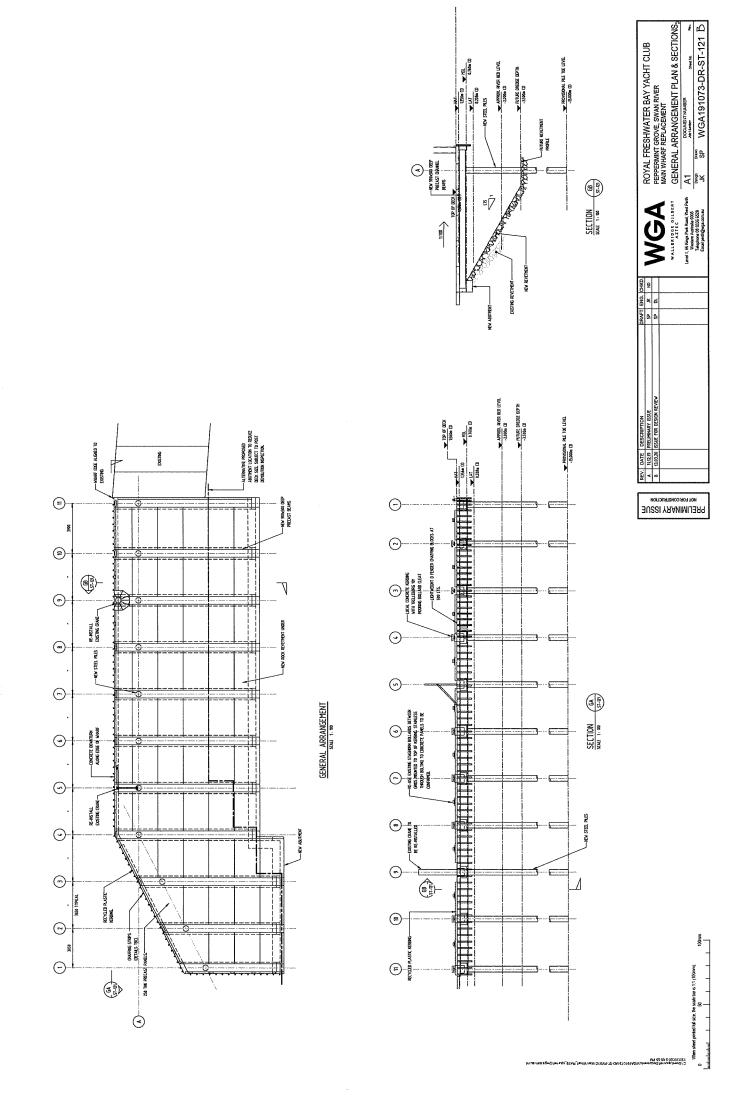
DATUMS AND TIDAL DATA

+0.000 CHART DATUM +0.000 APD = +0.76m CD

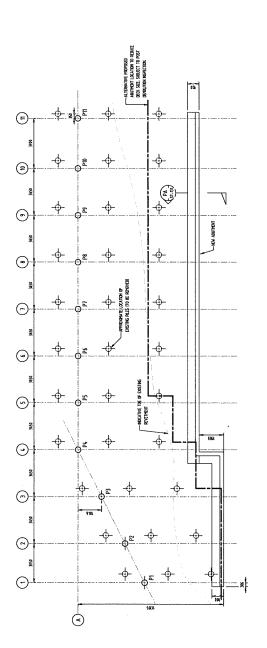


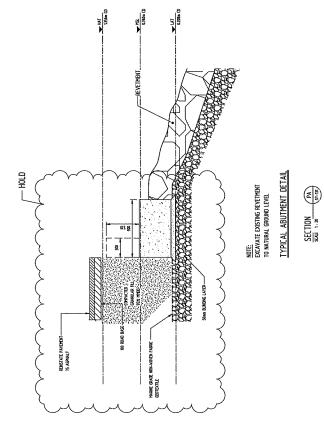
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NORTHING EASTING (m):

900

235

0.655

DESIGN COORDINATES

PILE CUT-OFF ULTIMATE D
AT MIN. PILE
EMBEDMENT CAPACITY N
(m): (kN):

PROVISIONAL PILE LENGTH (m):

PILE CUTOFF LEVEL (m CD):

TARGET TOE LEVEL (m CD):

APPROX MIN. PILE EMBEDMENT SEABED LEVEL BELOW SEABED LEVEL (m CD): (m)

PILE GRADE (MPa)

SIZE

MARK

PILE SCHEDULE

PILE AND ABUTMENT LAYOUT



SP WGA191073-DR-ST-131 B

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ROYAL FRESHWATER BAY YACHT CLUB
PEPPEMMIN GROVE, SWAR RVER
MAIN WHARF REPLACEMENT
PILE LAYOUT, SECTIONS AND DETAILS
A1 DOCUMENTALMENT
PLANCE CONTRACTOR AND DETAILS

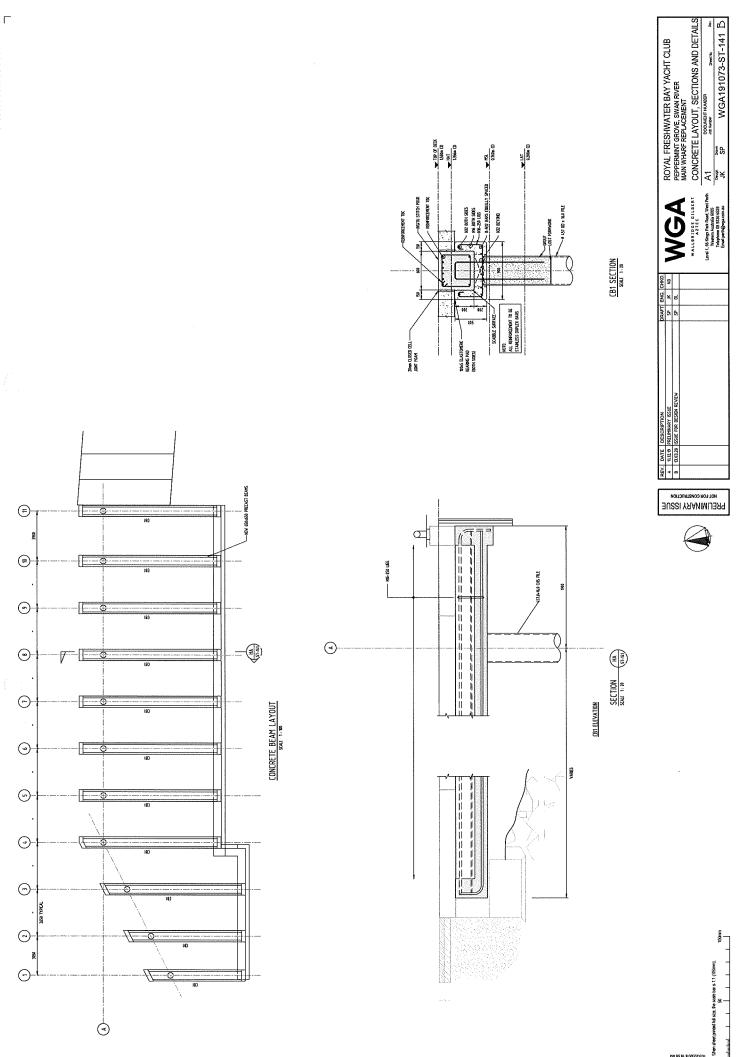
WGA WALLBRIDGE GILBERT AZTEC



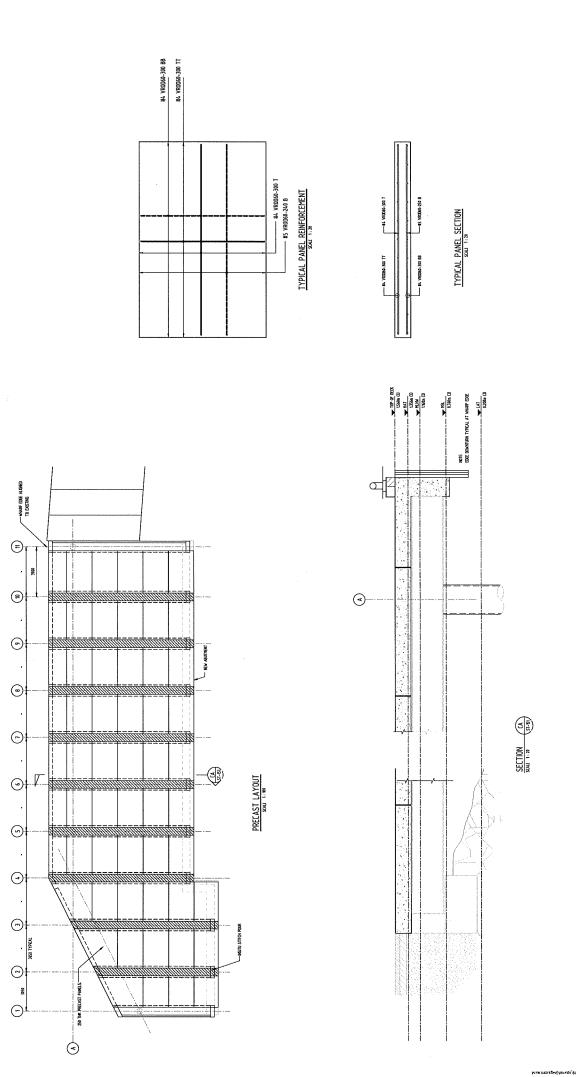
When sheet printed full size, the scale bar is 1:1 (10kmm), 50



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ROYAL FRESHWATER BAY YACHT CLUB PEPDERMIT GROVE SWAN RUVER MAIN WHARF REPACEMENT

PRECAST LAYOUT, SECTIONS AND DETAILS E COMMENT MAIN SECTIONS AND DETAILS E COMMENT MAIN STANDARD STAN Level 1, 66 Kings Park Road, West Perth Western Austrials 6005 Telephone 08 9006 6028 Ernal perth@ega.com.su WALLDRIDGE GILDERT AZTEC PRELIMINARY ISSUE

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