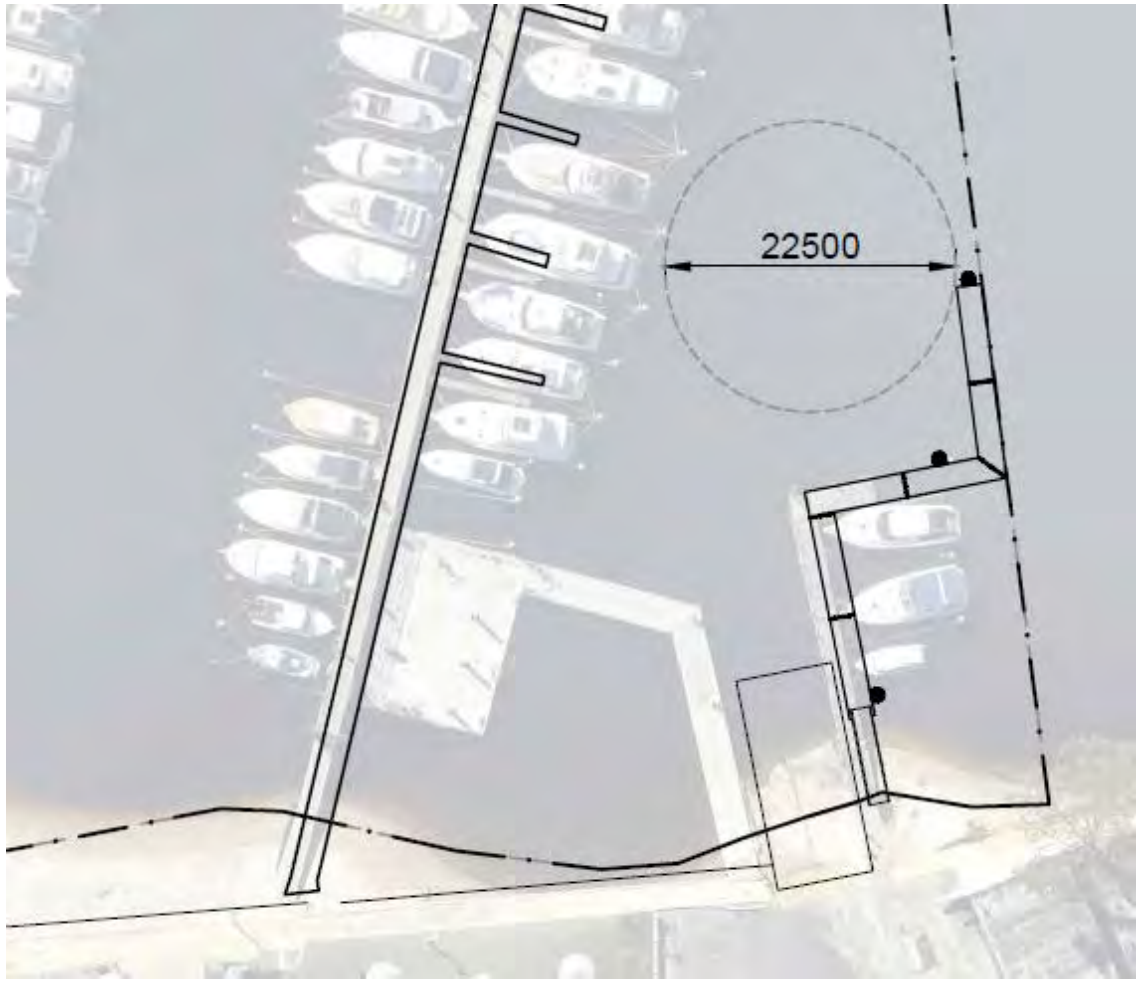
Project 4	Boat Ramp Works
Stage	1
Commencement	2nd Half of 2027
Project Duration	6 months
Project Cost Estimate	$500,000



Project Description

The current boat ramp infrastructure (jetty 7), along with Jetty 5, has reached the end of its lifespan and requires immediate restoration and replacement. It is important to note that SYC will submit a separate Form 7 application to DBCA for the demolition and replacement of Jetty 7. The proposed works outlined in this section relate to the removal of the existing concrete boat ramp and the extension of the floating jetty.

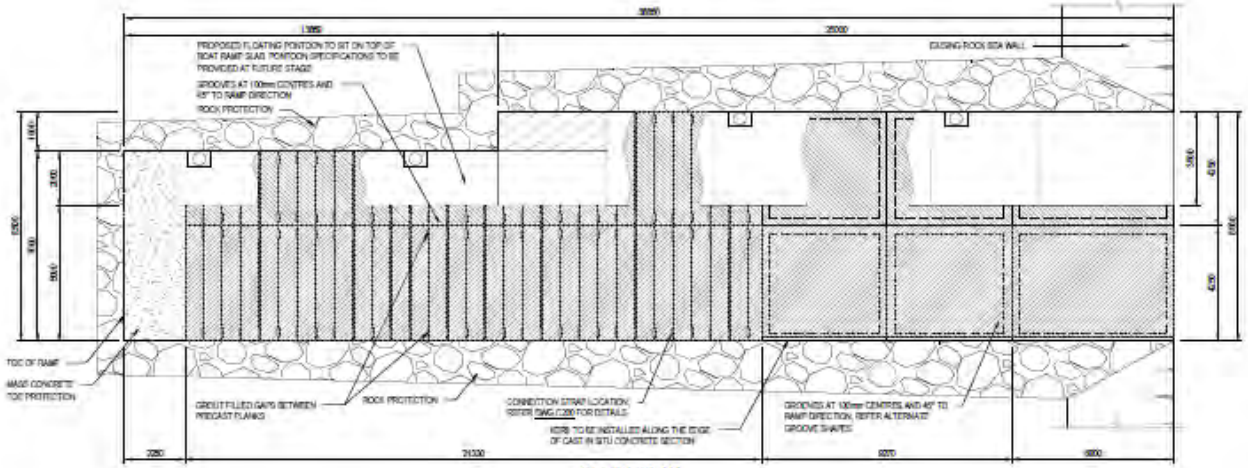
The upgraded boat ramp will be designed to cater for trailer boat launch and retrieval, as well as lift and launch operations for the new maintenance facilities. A tractor /submersible trailer will be used to maneuver vessels in and out of the water. The concrete ramp will be extended in length to accommodate larger vessels and will be designed and constructed as a two-lane facility in accordance with Australian Standards AS3962-2020.

The second stage of the boat ramp development will involve the construction of a collector jetty that extends from the newly installed boat ramp floating pontoon jetty.

The collector jetty will follow an easterly path until it reaches the lease boundary and then head north for approximately 50 metres. This jetty will provide berthing for the proposed dry stack vessels, as well as visitor access to the club's facilities.

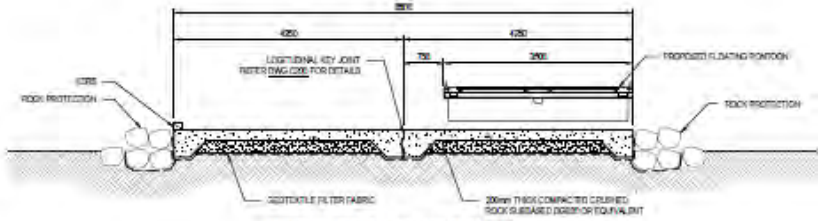
The proposed boat ramp infrastructure upgrades and collector jetty construction will significantly improve the club's facilities and increase access to the river for members and visitors. These works are essential to ensuring the longevity of the club's boating infrastructure and services for the foreseeable future.

Boat Ramp Works



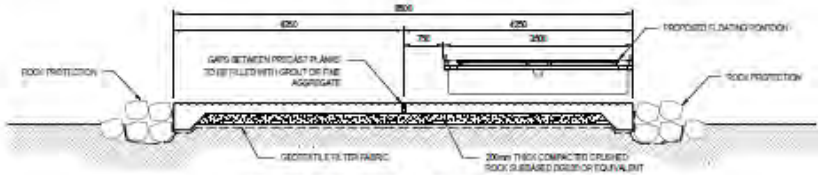
DETAIL PLAN

SCALE 1:100



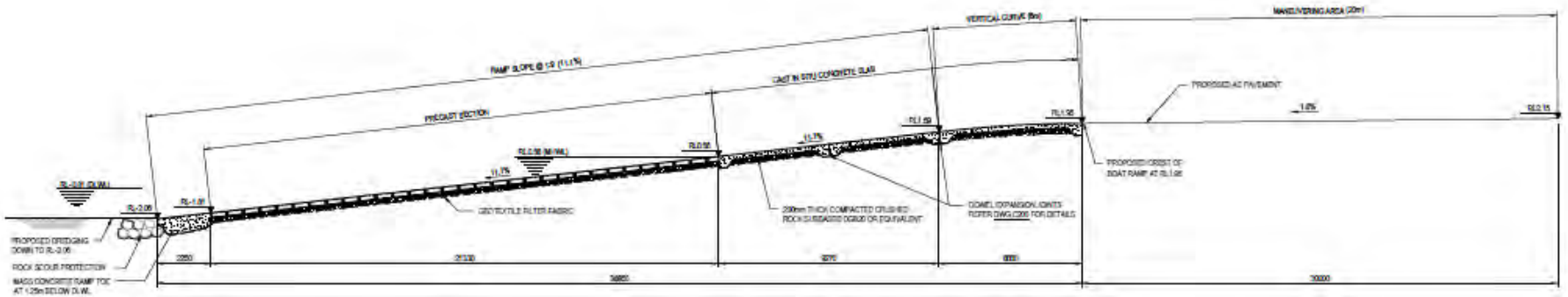
TYPICAL CROSS SECTION-CAST INSITU

SCALE 1:50



TYPICAL CROSS SECTION-PRECAST PLANKS

SCALE 1:50



SECTION A

SCALE: 1:100 C100

LEGEND

CAST IN-SITU CONCRETE

PRECAST CONCRETE

BASE COURSE

Proposed Design & Engineering

SYC have engaged the services of Searle Consulting to design and engineer the clubs concrete boat ramp facilities given their previous experience and knowledge in boat ramp design. The scope of works will include the following aspects-

Ramp Dimensions: The dimensions of the boat ramp, including width, length, and slope, should be determined based on the anticipated boat traffic and the size and type of vessels expected to use the ram meeting all relevant Australian Standards.

Strength and Durability: The concrete used for the boat ramp must be designed to withstand the expected loads, including the weight of boats, trailers, and vehicles. It should have adequate compressive and flexural strength to resist cracking, abrasion, and erosion caused by water currents and waves. Durability measures should be taken to protect the concrete from the corrosive effects of saltwater and other environmental factors.

Slip Resistance: To ensure safe boat launching and retrieval, the boat ramp surface should provide sufficient slip resistance to prevent vehicles and pedestrians from slipping, especially when wet. The selection of appropriate surface textures or coatings should be considered to enhance traction.

Alignment and Transitions: The boat ramp should be aligned and profiled to facilitate smooth and safe boat launching and retrieval. The transition from the ramp to the water should be designed to minimize the risk of grounding or damage to the vessels.

Drainage: Proper drainage is crucial to prevent the accumulation of water on the boat ramp, which can affect its functionality and safety. The design should incorporate adequate drainage systems, including slope, curbs, and channels, to efficiently remove water and prevent ponding or erosion.

Accessibility: Consideration should be given to accessibility requirements, ensuring that the boat ramp is accessible to people with disabilities. The design should adhere to relevant accessibility standards, including appropriate slope gradients, handrails, and provisions for wheelchair access.

Navigational and Safety Markings: The boat ramp design should incorporate necessary navigational and safety markings, such as channel markers, signage, and lighting, to assist boaters in safely maneuvering their vessels during launching and retrieval operations.

Environmental Considerations: Environmental impacts should be minimised through the use of environmentally friendly materials, erosion control measures, and consideration for local habitats and ecosystems. Sediment and erosion control should be implemented during construction to prevent harm to nearby water bodies.

Maintenance and Longevity: The design should take into account ease of maintenance to ensure the longevity of the boat ramp. Consideration should be given to factors such as access for cleaning, repair, and regular inspections to address any potential issues promptly.

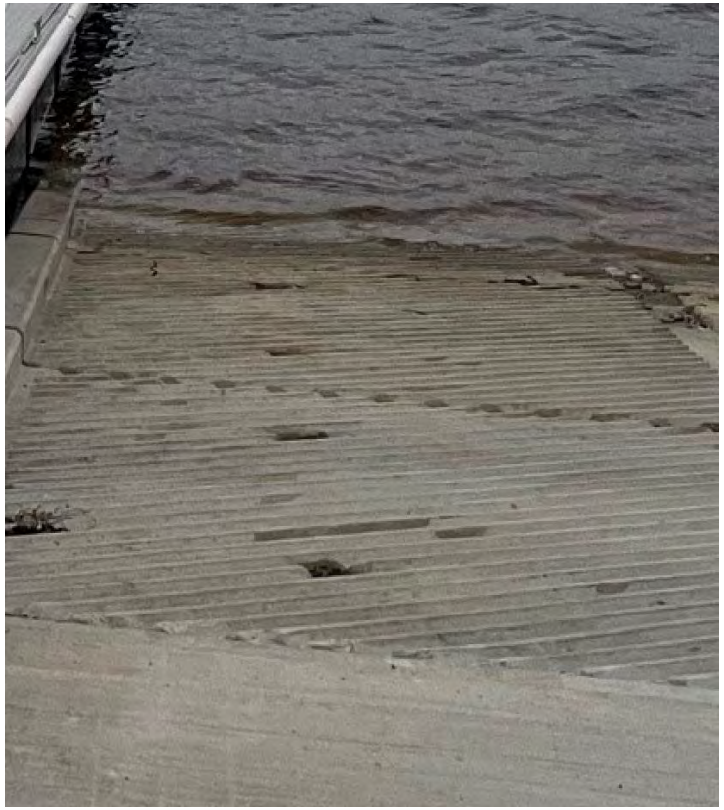
Compliance with Regulations: The boat ramp design must comply with all applicable local, regional, and national regulations, including safety, environmental, and accessibility standards.

These design parameters serve as a starting point for the development of a concrete boat ramp design that will be completed prior to construction and submitted to ToEF and DBCA prior to commencement of works for approvals.

Construction Methodologies

Upon approval of the Part 5 Application, SYC will approach market via a Request for Quote [RFQ] process where makers will provide final designs and costings for consideration and subsequent appointment.

Throughout the construction process, the Contractor will ensure that the concrete works are executed with precision, following the approved shop drawings, design requirements, and relevant Australian Standards. Quality control measures, including proper curing and testing, should be implemented to ensure the durability and longevity of the concrete elements.



Scope of Work:
The concrete works encompass the supply, forming, placement, finishing, and curing of in-situ and precast concrete panels, including associated reinforcement and connections. The construction of concrete elements shall be carried out as indicated in the drawings, specified in the project's documentation, or as instructed by the Superintendent.

Compliance with Standards:
All concrete works shall adhere to the latest editions, at the time of tender closing, of the reference documents governing concrete construction. This includes following the requirements outlined in the relevant Australian Standards.

Shop Drawings:
The Contractor is responsible for providing shop drawings necessary for the fabrication and installation of precast concrete panels. Prior to fabrication, all shop drawings must be submitted to the Superintendent for approval.

Concrete Materials:
The concrete used in the project must contain the specific types of materials specified in the provided table and clauses. Chemical admixtures may only be used if listed in the specifications or approved by the Superintendent.

Concrete Design:
The concrete mix design should be formulated to achieve the properties listed in Table 4.2. It is essential that the concrete exhibits suitable durability to withstand the marine environment for a minimum service life of 50 years.

Proportioning and Mixing:
The selection, proportioning, and mixing of concrete materials must result in a mix that can easily fill corners, angles, and voids within the forms and around reinforcement. The chosen method of placement should prevent segregation or the accumulation of excess free water on the concrete surface. The final concrete mix should be structurally sound and possess the specified qualities.

Premixed Concrete:
All premixed concrete used in the project must be manufactured and supplied in accordance with the requirements stated in AS 1379, the Australian Standard for specifications and supply of concrete.

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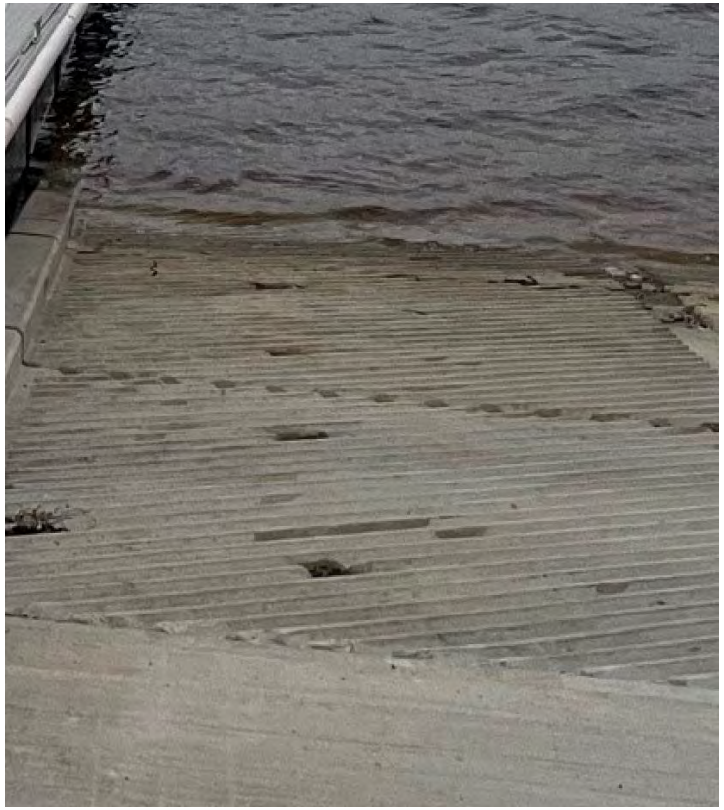

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DRAWINGS/SPECIFICATIONS/PROGRAMS

This section of the Development Application submission documentation serves to present project-specific details and "typical" design information, giving an overview of the projects planned for Stage 1 of SYC's master plan. It also includes indicative project timelines, providing a sense of the expected progression for each project.

It is important to note that due to the anticipated lead time for project commencement, which could be up to 5 years after obtaining approvals, the detailed designs for these projects will not be produced until closer to the actual start dates. Therefore, the information provided in this documentation represents a close approximation of the infrastructure that will ultimately be constructed at our site.

While the designs are subject to further refinement and fine-tuning during the detailed design phase, the information presented here offers a reliable representation of the intended scope, scale, and functionality of the proposed projects. It allows stakeholders, authorities, and the community to gain a clear understanding of the planned developments and their potential positive impact on the site.

SYC remains committed to ensuring that the final infrastructure aligns closely with the information provided in this submission, taking into account any necessary adjustments or enhancements that may arise during the detailed design and construction phases.

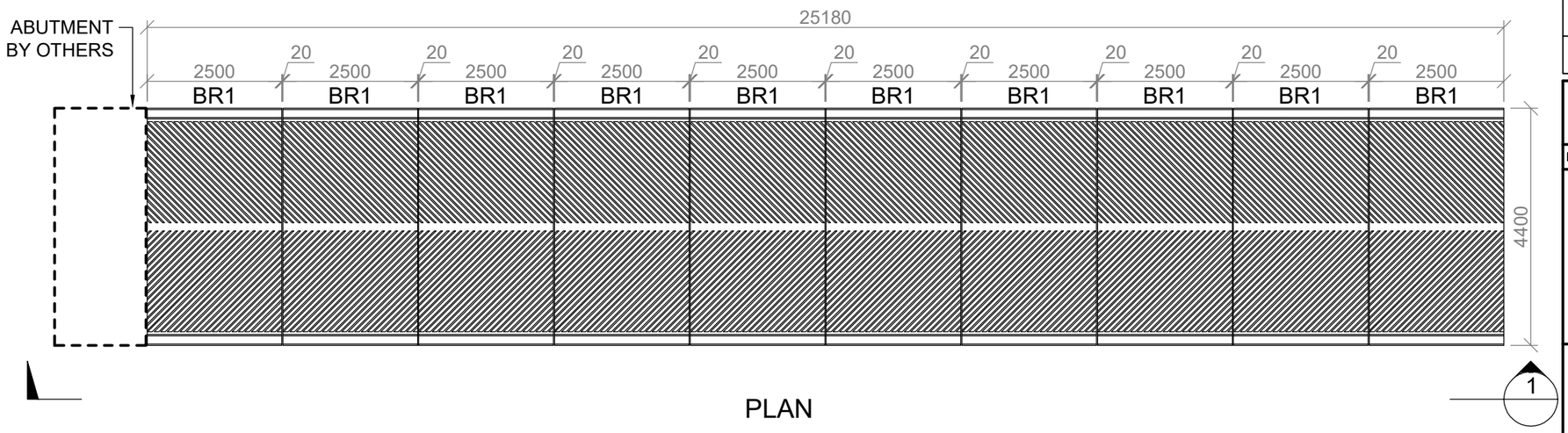
As the projects progress and the actual start dates approach, more comprehensive and detailed design documentation will be prepared and submitted for approval. This will ensure that the final infrastructure meets the highest standards of quality, safety, and compliance with all applicable regulations and guidelines.

By providing this project-specific and indicative design information, along with projected timelines, SYC aims to foster transparency and informed decision-making among all stakeholders involved.

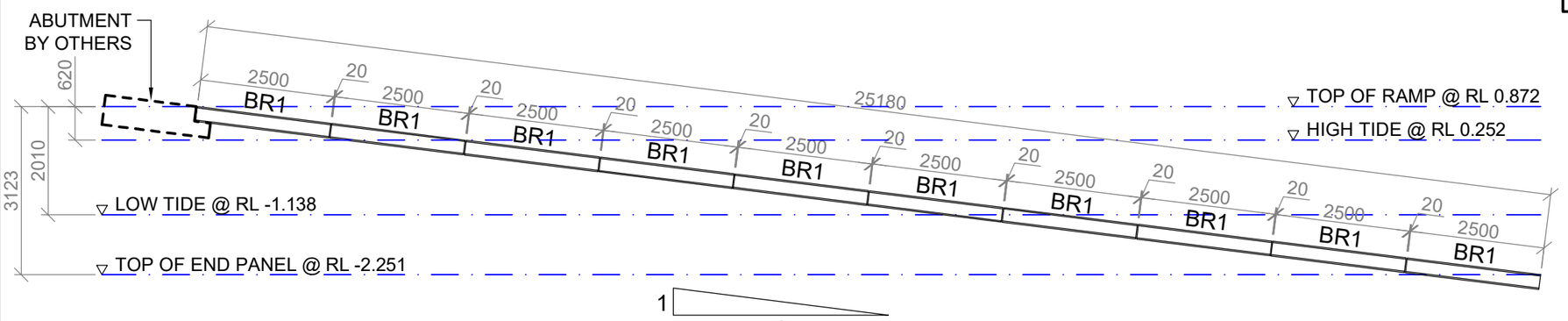
BOAT RAMP INFORMATION

GENERAL ARRANGEMENT

MARK	QTY	LENGTH	WIDTH	VOLUME(m3)	MASS (t)
GA	–	–	–	–	–



PLAN



ELEVATION 1

ITEM		INITIAL / DATE	
		SUPERVISOR	QC
PRODUCTION DATE			
PRE - POUR INSPECTION	DIMENSIONS		
	REINFORCEMENT		
	CAST IN		
	BLOCKOUTS		
	BONDING AGENT		
	LIFTERS		
	POUR CONCRETE		
POST - POUR INSPECTION	DEMOULDING STRENGTH	15MPa	
	BLOCKOUTS REMOVED		
	CAST INS		
	FINISHES		
	DELIVERY		

GENERAL NOTES:

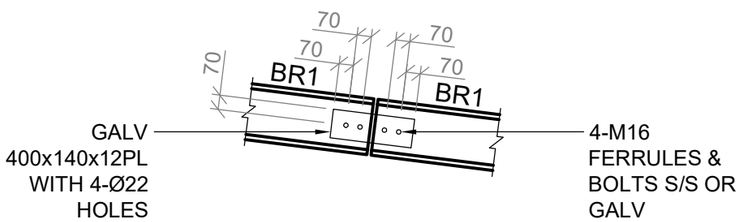
PANEL THICKNESS	–mm
CONCRETE STRENGTH	S50
CONCRETE STRENGTH AT LIFTING	15MPa

GENERAL NOTES:

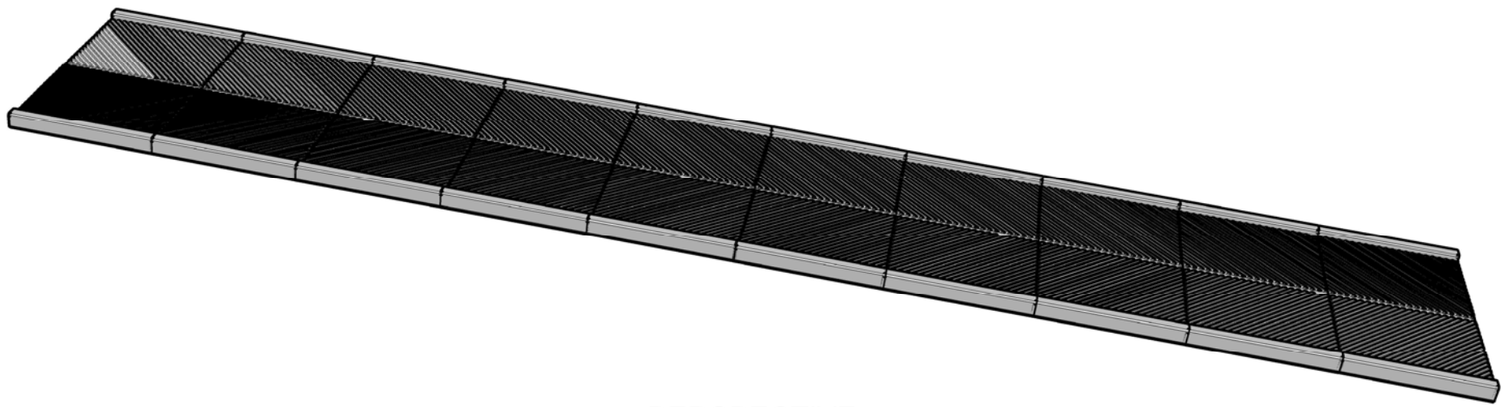
NF – NEAR FACE
FF – FAR FACE
TF – TROWEL FACE
MF – MOULD FACE
19mm CHAMFER TO ALL TOP EDGES TYP, UNO
50mm COVER TYP, UNO

ITEM DESCRIPTION			TOLERANCE (mm)
DIMENSIONS OF FLAT PANELS	LENGTH OR WIDTH	<3m	3
		≥3m	6
PANEL THICKNESS AT ANY LOCATION			3
DIMENSIONS OF ALL OTHER ITEMS	CROSS–SECTION OVERALL DIMENSIONS	<600m	3
		≥600m	6
ALL ITEMS	POSITION OF CAST IN ITEMS (FERRULES, PLATES, BOLTS)		3

FOR DALLCON REFERENCE ONLY



TYPICAL BR1 TO BR1 DETAIL



PERSPECTIVE

DALLCON
PH (08) 9661 1264 ; FAX (08) 9661 1066 ; EMAIL sales@dallcon.com
Cnr Hugget Drive & Garland St. (PO BOX 112) Dalwallinu, WA 6609

ISO 9001 Quality System — Quality Endorsed Company

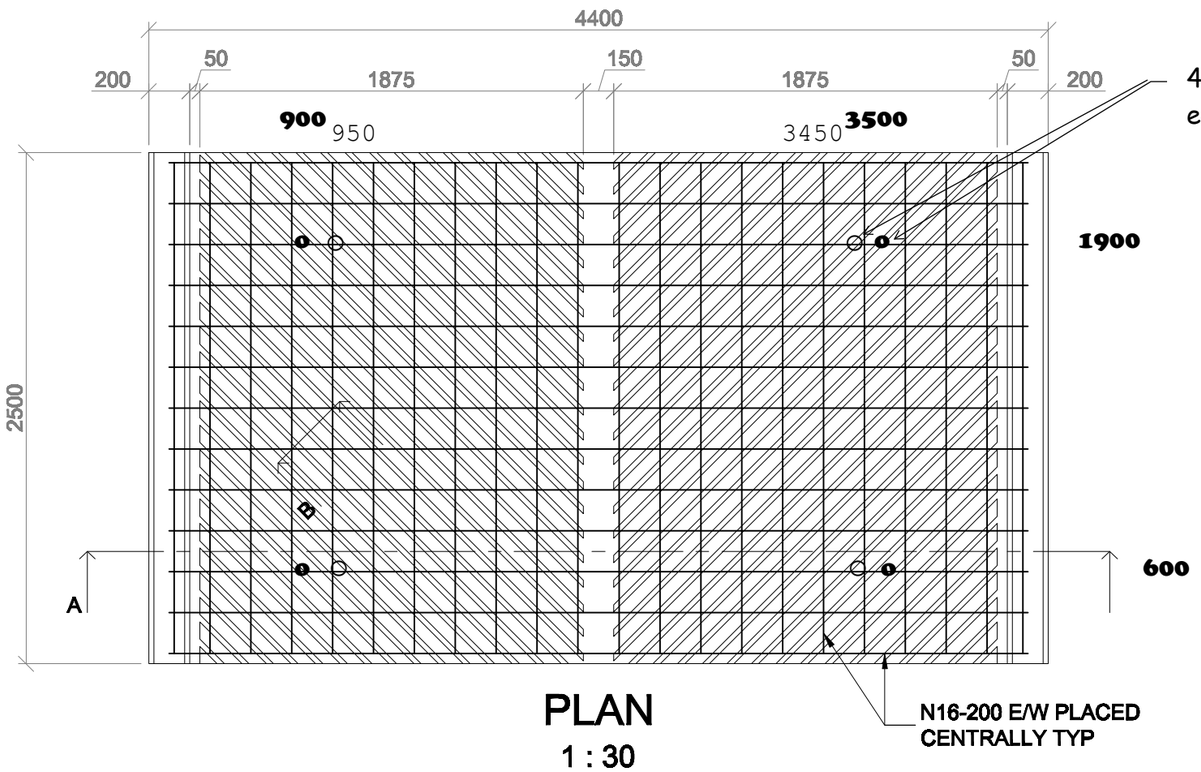
REVISION	BY	CHKD	NO	DATE
ISSUED FOR APPROVAL	RD	BM	F	17.05.21
ISSUED FOR APPROVAL	RD	BM	E	06.05.21
ISSUED FOR APPROVAL	RD	BM	D	06.05.21
ISSUED FOR APPROVAL	RD	BM	C	05.05.21

MARINE CONSTRUCTIONS

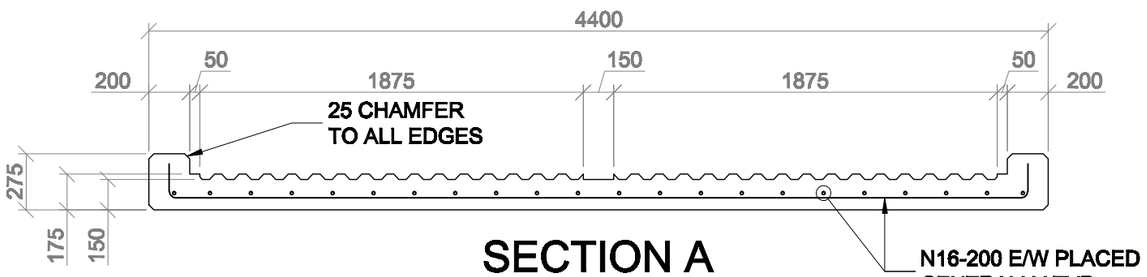
BOAT RAMP
GENERAL ARRANGEMENT

DETAILER		JOB	6503
DRAWN	RD		
CHECKED	BM	DWG	GA
SCALE	NTS AT SIZE A3	REV	F
DATE	15.04.21		

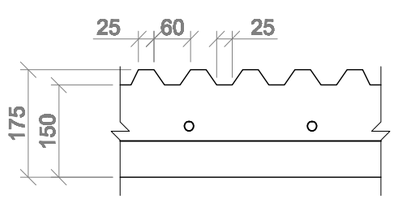
RAMP SLAB



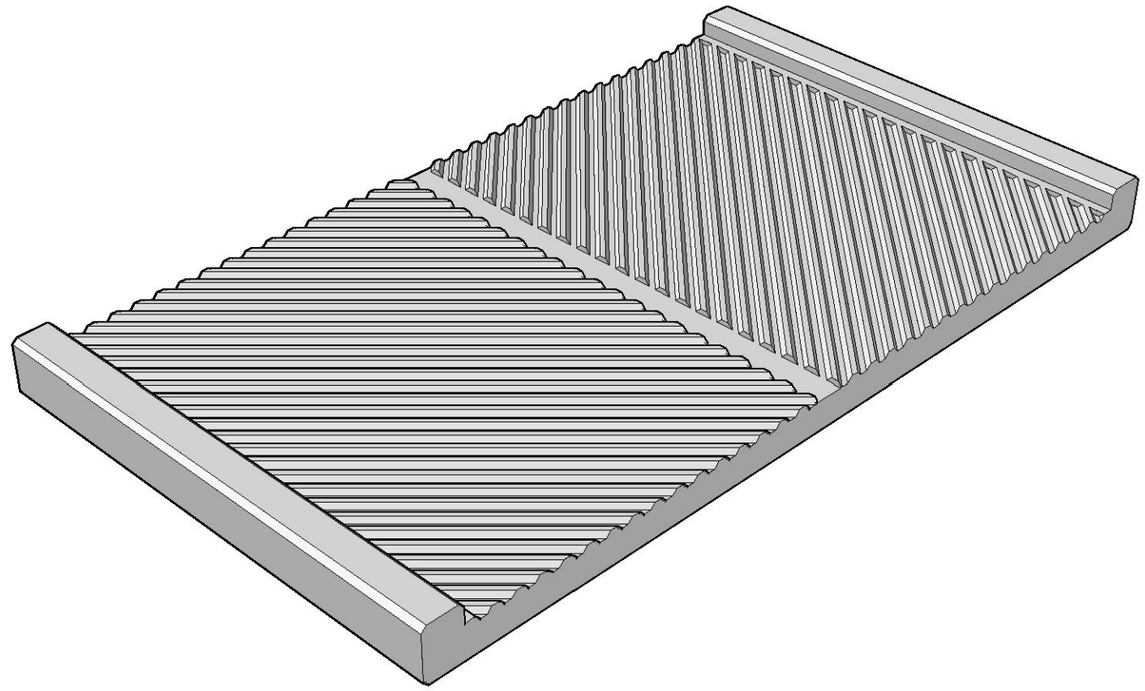
PLAN
1 : 30

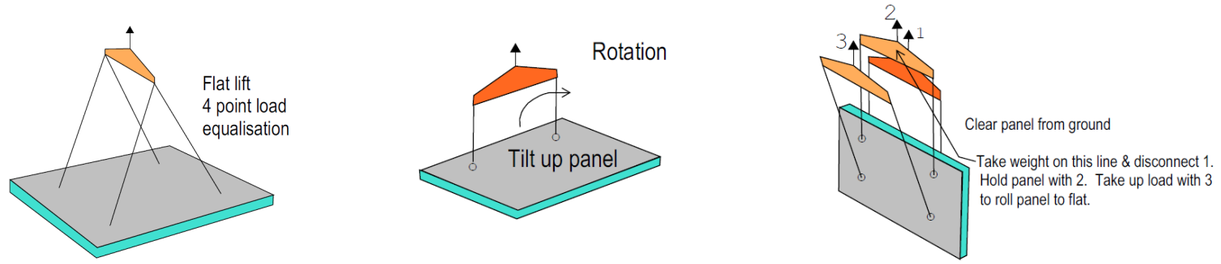


SECTION A
1 : 30



SECTION B
1 : 10





PERSPECTIVE

ramsetreid
innovative construction solutions
LIFTING DESIGN CERTIFICATION

Brian F. Craig B.E.
PRINCIPAL ENGINEER
19th May 2016

REVISIONS								
REV	DATE	DESCRIPTION	DRW	DES	CHK	APPD		
0	08/05/16	ISSUED FOR CONSTRUCTION	RD	-	MS	RS		

CLIENT	CITY OF KARRATHA	DRAWN	RD
		DESIGNED	-
PROJECT	KARRATHA BACK BEACH	CHECKED	MS
PROJECT No.	-	APPROVED	RS
PRODUCT CODE	-	SCALE @ A3	AS SHOWN
MODEL DRG No.	-	TOTAL WT.	-

DALLCON
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ISO 9001 Quality System
Quality Endorsed Company

DRAWING TITLE / PRODUCT NAME
RAMP SLAB
PLAN, SECTIONS & PERSPECTIVE

DRAWING No. DC-JXXX-001

REV 0

Swan Yacht Club-Boat Ramp Works