| Project 5             | Negative Fork Lift Wharf |
|-----------------------|--------------------------|
| Stage                 | 1                        |
| Commencement          | Mid 2028                 |
| Project Duration      | 9 Months                 |
| Project Cost Estimate | \$250,000                |



#### **Project Description**

The proposed maintenance facility and vessel movement operation utilising a submersible trailer and tractor operation at the Swan Yacht Club (SYC) is considered a long-term, albeit temporary, solution for efficiently handling vessel movements within the maintenance and boat stacking facility.

Recognising the need for a more robust and permanent solution, SYC envisions designing and constructing a concrete wharf that will replace the trailer option for vessel transportation. This concrete wharf will be specifically designed to accommodate a negative fork truck, which will have the necessary reach and lifting capacity to handle vessels up to 12 meters in length and weighing up to 8 tonnes.

The inclusion of a negative fork truck in the design of the concrete wharf is driven by the future plans of SYC to implement a Stage 2 Dry Sack development, projected to occur in the early 2030s. This development will be subject to a separate Part 5 development application. The negative fork truck will play a crucial role in efficiently lifting and launching vessels in and out of the Stage 2 Dry Stack facility and existing maintenance facility, ensuring seamless operations and improved workflow.

Strategically located alongside the boat ramp facility, the proposed concrete wharf will be designed and constructed to accommodate heavy loads of up to 30 tonnes. This ensures that it can withstand the weight and forces associated with the lifting and launching operations, guaranteeing a safe and reliable infrastructure for vessel handling.

By planning for the future implementation of a concrete wharf and the integration of a negative fork truck, SYC demonstrates its commitment to continuously improving the functionality and efficiency of the maintenance and boat stacking facility. This long-term solution aligns with the club's vision for streamlined vessel movements and sets the stage for future developments, such as the Stage 2 dry stack facility, enhancing the overall capabilities and services offered by SYC.

#### **Proposed Design & Engineering**

Dry Stack Australia has provided SYC with preliminary designs for the dry stacking structures and a compliant wharf that meets the necessary capacity requirements for a negative fork truck. The wharf design is in its preliminary stages as construction is not expected to begin until 2028/29.

The design will feature precast concrete slab sections that will be secured by concrete headstocks. These headstocks will be held in place by steel piles that are embedded in the riverbed. This design is intended to meet all relevant Australian Standards, including AS3962-2020 Guidelines for Design of Marinas and AS4997-2005 Guidelines for Design of Maritime Structures.

The use of precast concrete sections will likely make construction more efficient and may reduce the overall construction time. The use of steel piles will provide a sturdy foundation for the wharf while also allowing for flexibility in the design. The overall goal of this proposed design is to create a safe and efficient dry stacking facility that can accommodate vessels up to 12m in length and 8 tonnes in weight, while also meeting all relevant safety standards.

As the project progresses and moves into the construction phase, the preliminary designs will undergo further refinement and scrutiny to ensure they meet all necessary criteria and are tailored to the specific needs of SYC. The final design will provide a reliable and efficient dry stacking facility, along with a compliant wharf, enhancing the overall functionality and services offered by the club.





### 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.

| ltem | Description                                   | Page # |
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| 2    | SYC Master Plan Drawings                      | 51-54  |
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| 4    | Jetty 5 Attenuator & Jetty Information        | 59-63  |
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| 7    | Negative Fork Wharf Information               | 71-74  |

## **NEGATIVE FORK WHARF INFORMATION**

|           |                    |                    |    |  | -  | ISSUE    | D FOR R | EVIEW.  |
|-----------|--------------------|--------------------|----|--|--|----------|---------|---------|
|           | No REVI            | SION DATE          | BY | Owner<br>NEGATIVE FORK & BOAT RAMP ELEVATION                           | PROPOSED NEW RAMP & PONTOON.<br>FOR: SWAN YATCH CLUB |          |         |         |
| IDJA      | A ISSUED FOR CLIEN | TAPPROVAL 31.10.22 | ML |  |  |          |         |         |
| DDWOTLAOW | B TRAILER MOVEMEN  | T ADDED. 06.12.22  | ML |  | Project number                                       | 213722   |         | 7       |
| DRYSTACK  |                    |                    |    |  | Date   | 22.07.22 | 5       | ./      |
| AUSTRALIA |                    |                    |    | WWW.AUSTRALIANPORTSANDMARINAS.COM.AU                                   | Drawn by   | Author   |         |         |
| $\sim$    |                    |                    |    | PHONE: +61 2 9282 9926<br>EMAIL: info@australianportsandmarinas.com.au | Checked by   | Checker  | Scale   | 1 : 100 |





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| DCA           | No | REVISION                   | DATE     | BY | Owner<br>JETTY LONG ELEVATION                | PROPOSED<br>FOR: SWAN |
|---------------|----|----------------------------|----------|----|--|-----------------------|
| DJA           | A  | ISSUED FOR CLIENT APPROVAL | 31.10.22 | ML |  | AT: RIVERS            |
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| DRYSTACK      |    |                            |          |    |  | Date                  |
| AUSTRALIA     |    |                            |          |    | WWW.AUSTRALIANPORTSANDMARINAS.COM.AU         | Drawn by              |
| $\sim$        |    | <u> </u>                   |          |    | EMAIL: info@australianportsandmarinas.com.au | Checked by            |



| SED NEW RAMP & PONTOON.<br>WAN YATCH CLUB<br>ERSIDE ROAD, EAST FREMANTLE, WA 6158 |          |       |         |  |  |  |
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## ISSUED FOR REVIEW.

# Swan Yacht Club-Negative Fork Wharf

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