

Design & Engineering for Marine Construction Industry



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About Us

Cybermarine is a leading Marine Design & Engineering Enterprise with global operations. Cybermarine is headquartered in Singapore and controls the worldwide operations through the offices at Houston, UAE, Kualalumpur and Mumbai.

Cybermarine as a company built from scratch, has developed innovative technology and processes over the years and is in a position to deliver wide ranging design and engineering solutions to the marine construction industry. Cybermarine, by utilizing its proficiency in engineering & extensive design experience has successfully delivered a range of designs for jack-up barges and Lock gates/Caisson Gates.



Projects are executed using innovative and well-developed technology, which include Work Break-Down, Design-Spirals and 3D Space Arrangements/Models. The execution is augmented by well laid-down processes consisting of work specification spreadsheets and process checklists.

Our technical teams are organized as project teams and operations' teams.

Project teams comprise of project managers and project engineers responsible for project management and client interaction. Project teams are stationed in all our offices in various geographical locations.

Operations' teams comprising of Naval Architects/Engineers/Designers are responsible for project Deliveries and class approvals. They are stationed in Mumbai, India and Singapore. We also have an Oil & Gas Division catering to the Design and Engineering of Drilling assets.

Services Offered

We have successfully designed a variety of vessels taking into account various functional requirements and constraints related to operations, the vessel dimensions and the water depth limitations that these vessels operate. These designs have been successfully used to build the vessels with considerable economy in the construction cost.

We offer Design services to

- Marine Construction companies
- Bridge building companies
- Port construction companies
- Shipyards

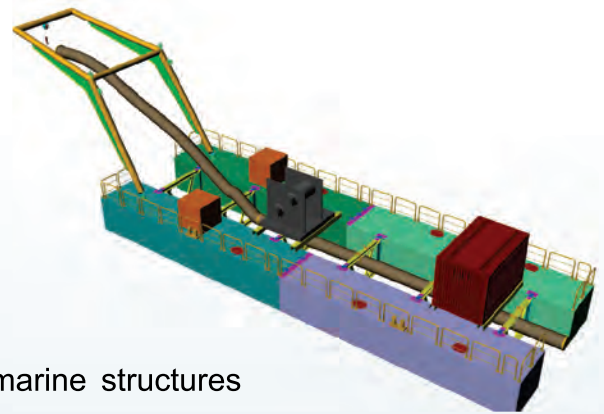


Our designs have been used successfully over the last few years to build about 50 vessels in South-East Asia and Middle East Asia.

Our designs extend to the following types of vessels

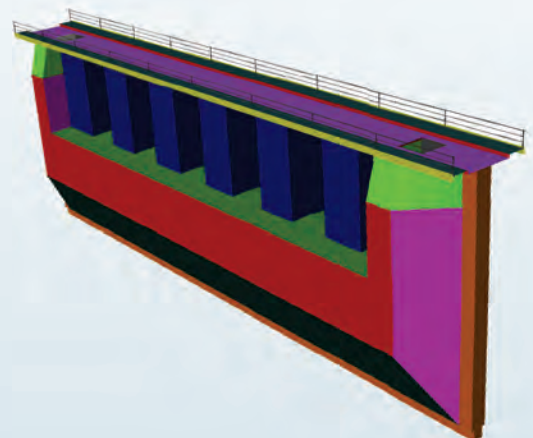
Marine Construction Industry

- Jack-up Construction Barges for Geotechnical Investigation and piling
- Bridge Girder Lifting Barges
- A-frame/Shear Leg Barges
- Crane Pontoons
- Caissons for Seawater Intake wells and other marine structures
- Special Structures viz pile guides



Port Construction Industry

- Lock Gates
- Caisson Gates
- Floating Jetties
- Berthing pontoons with linkspans



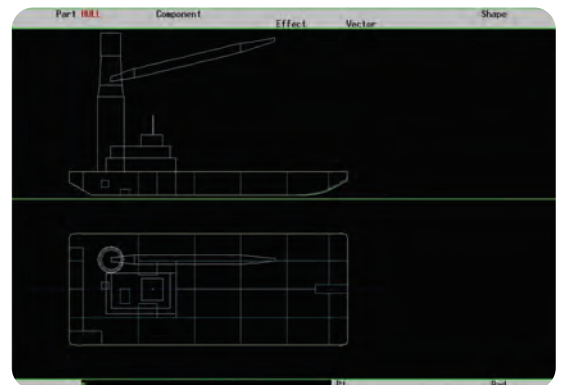
Domain Knowledge

We have strong teams in several disciplines as follows:

- Naval Architecture
- Structural Engineering
- Marine Engineering
- Electrical & Instrumentation
- Safety Engineering

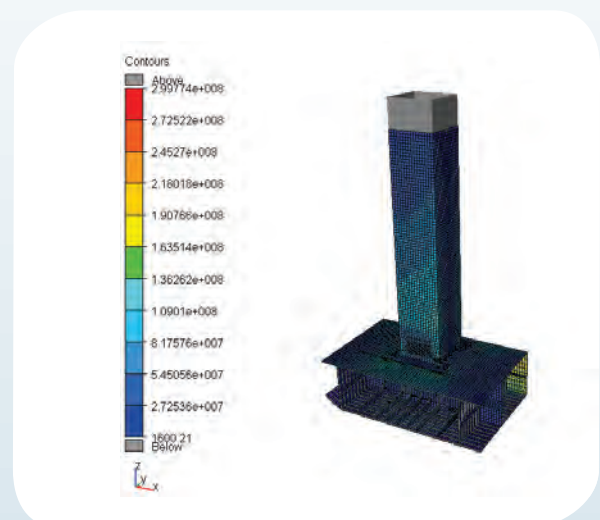
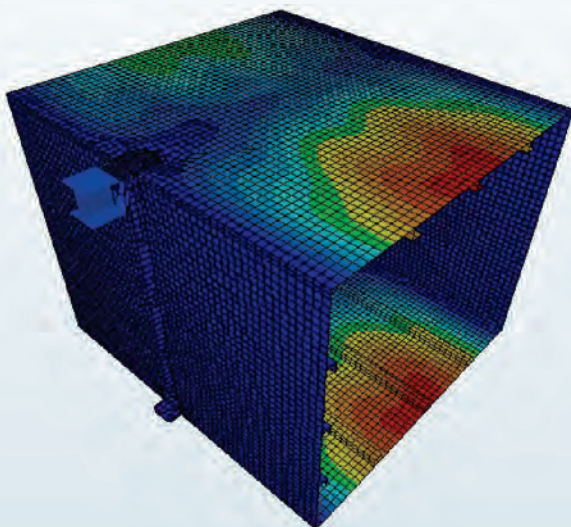
Naval Architecture

- Hullform
- Space arrangements
- Design for Loadline compliance (Freeboard/Bow Height)
- Design for watertight integrity & subdivision
- Intact & Damage Stability compliance
- Weight & COG determination/Monitoring



Structural Engineering

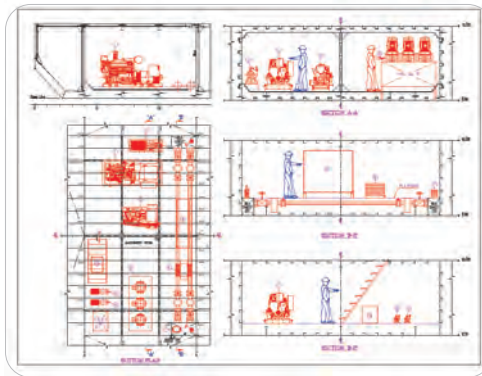
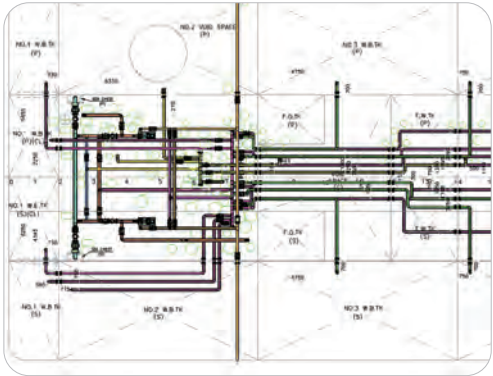
- Structural Design & Arrangements
- Scantling calculations as per class rules
- Longitudinal & Transverse Strength Analysis
- Direct Analysis using Finite Element Techniques
- Analysis of Foundations/Crane Pedestals and other structures



Domain Knowledge

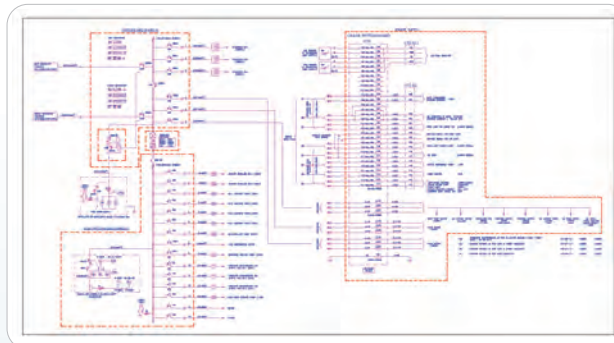
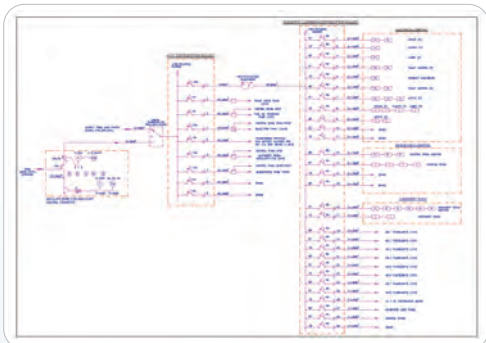
Marine Engineering

- Ship Systems
- Pump Sizing
- Pipe Flow & Piping System Design
- Layout Engineering in 2-D & 3-D



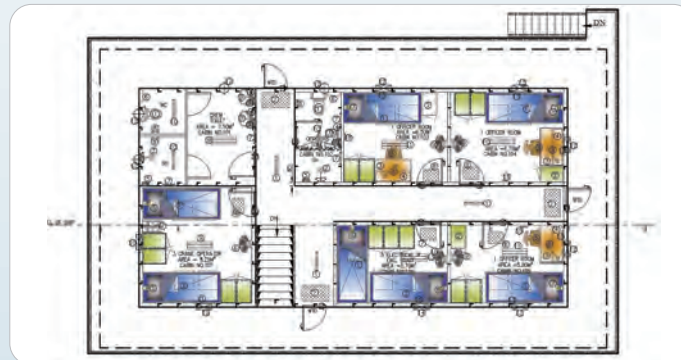
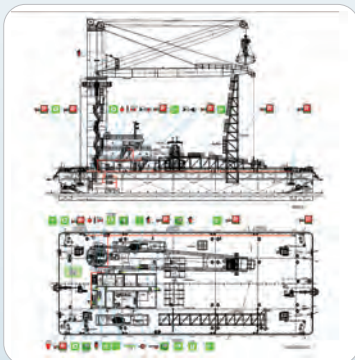
Electrical & Instrumentation

- Load Lists & Power Balance
- Cable Schedules
- Cable Tray Routing
- Control Room Design



Safety Engineering

- Safety Equipment Layouts
- Accommodation Design along with Fire Detection & Protection



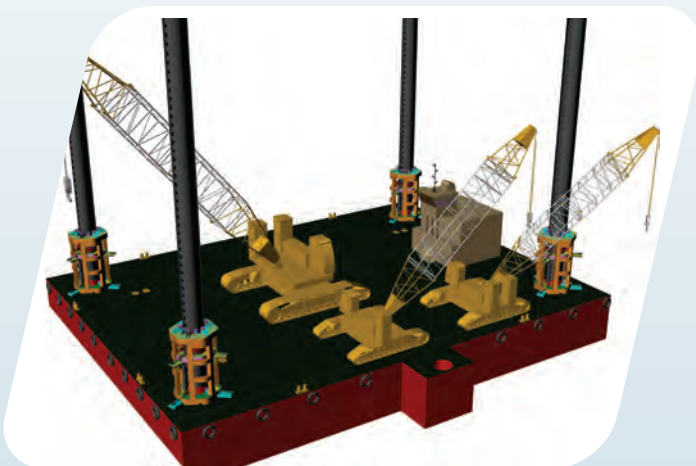
Project Gallery

Jack-up Barges - MonoHull

We have designed a number of Jack-up Barges which have been used for Geotechnical Investigation and Construction. JUB's have been used for both concrete and steel piling by mounting a piling rig and crane on the JUB. JUB's have been used in soft soil either by allowing a large penetration or by providing a spud can to reduce penetration.

Our Design portfolio is as under :

LENGTH	22m	26m	32m	40m
Payload	200t	300t	400t	500t
Water	18m	25m	35m	40m
DepthUtility	Geotechnical/piling	Piling	Piling	Piling



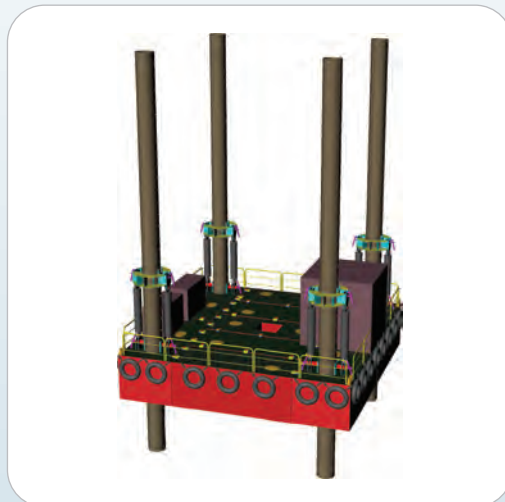
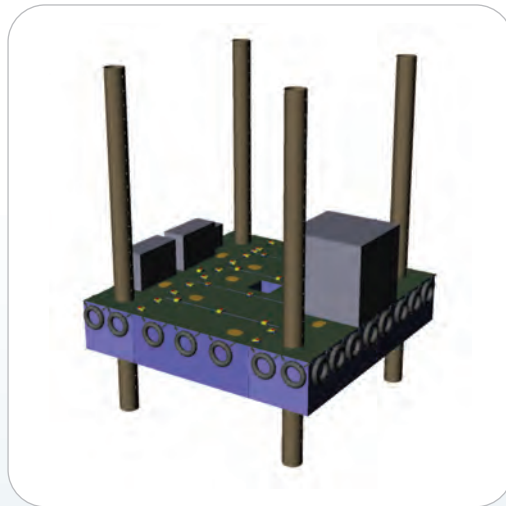
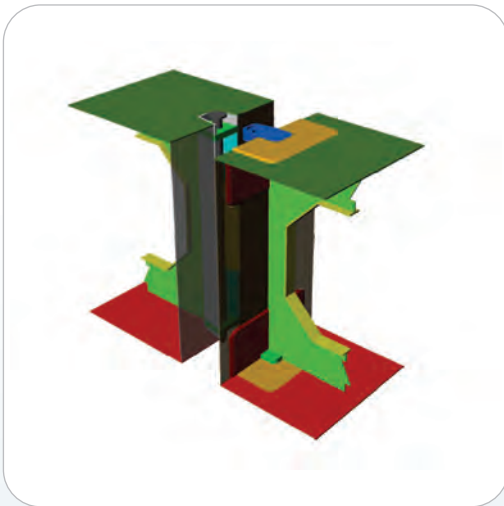
Project Gallery

Jack-up Barges - Modular

We have designed modular Jack-up Barges which have been used for Geotechnical Investigation. Couplings have been developed to withstand the loads and also easy to fabricate.

Our Design portfolio is as under :

LENGTH	22m	26m
Payload	25t	60t
Water Depth	8m	18m
Utility	Geotechnical	Geotechnical



Project Gallery

Girder Lifting Barge

We have designed a Bridge Girder Lifting barge capable of lifting the girder from the casting location, transporting to the specified location and erecting it in location.

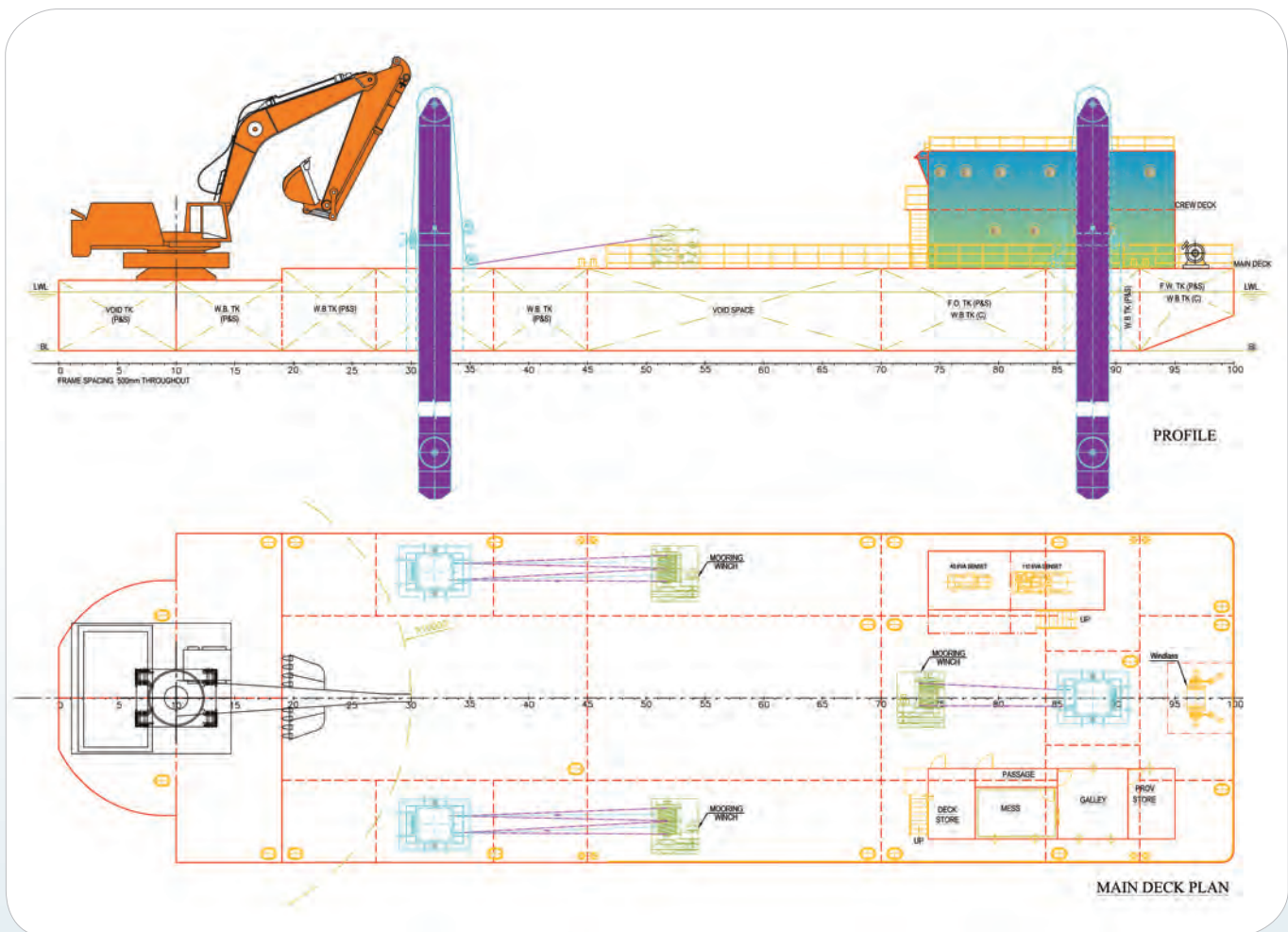
This barge is of length 35m with a carrying capacity of 300t and capable of operating to a height of 20m from the water level.



Project Gallery

Spud Barge

We have designed Spud Barges in the range of 35m-40m. These Spud barges have legs/spuds upto 750mm diameter which are used to keep the floating barge in position. Spud barge can be used for different operations such as dredging , excavation, marine construction support etc. The barges shown here is capable of excavating mud from shallow water depth of 20m with maximum digging force 15m Tons.

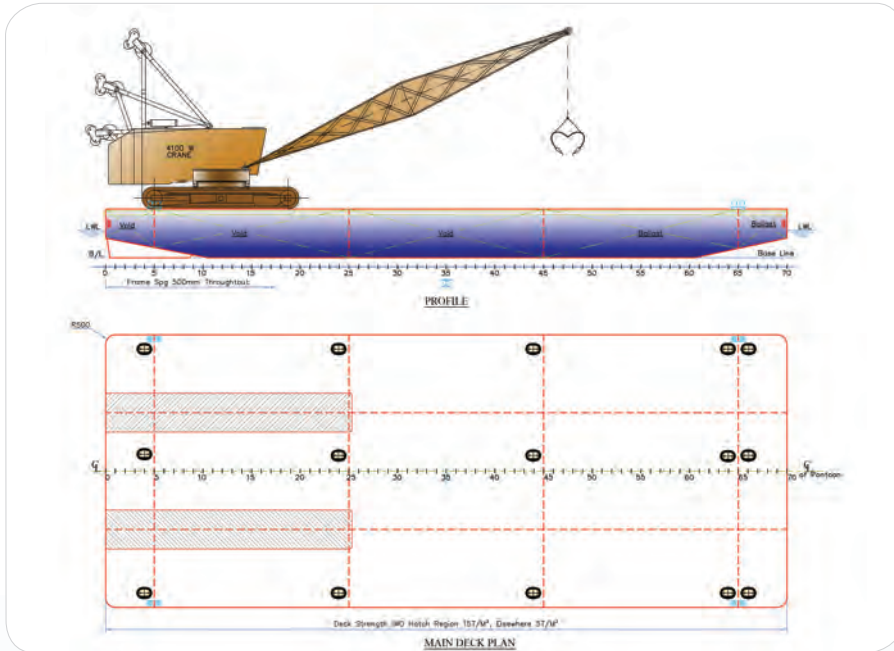


Project Gallery

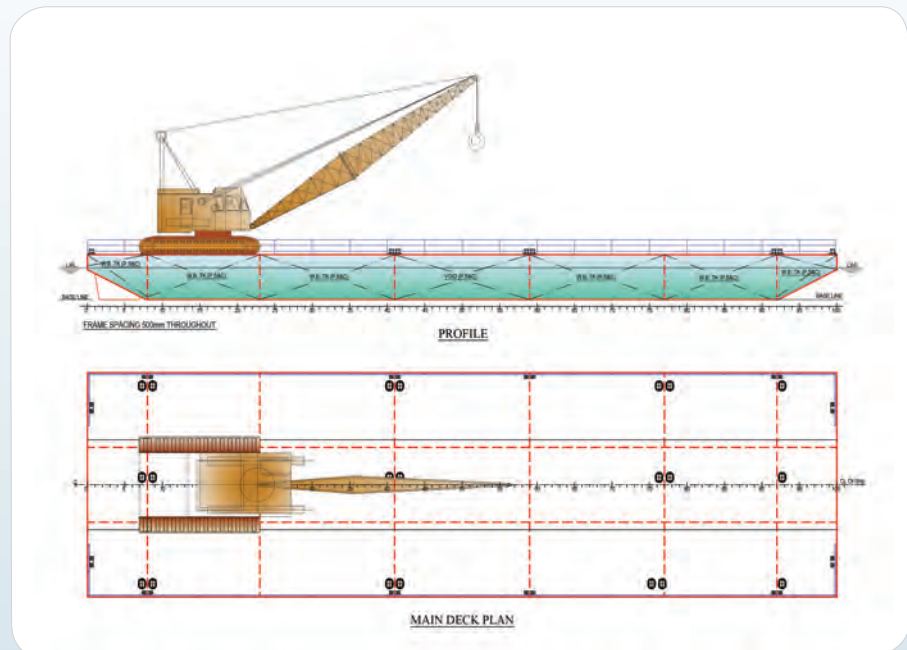
Pontoons

A large number of pontoons used in the marine construction industry have been designed. These pontoons have been used for mounting cranes of capacity from 25t to 150t. A-frames have been fitted for various operations.

Crane Capacity 25t

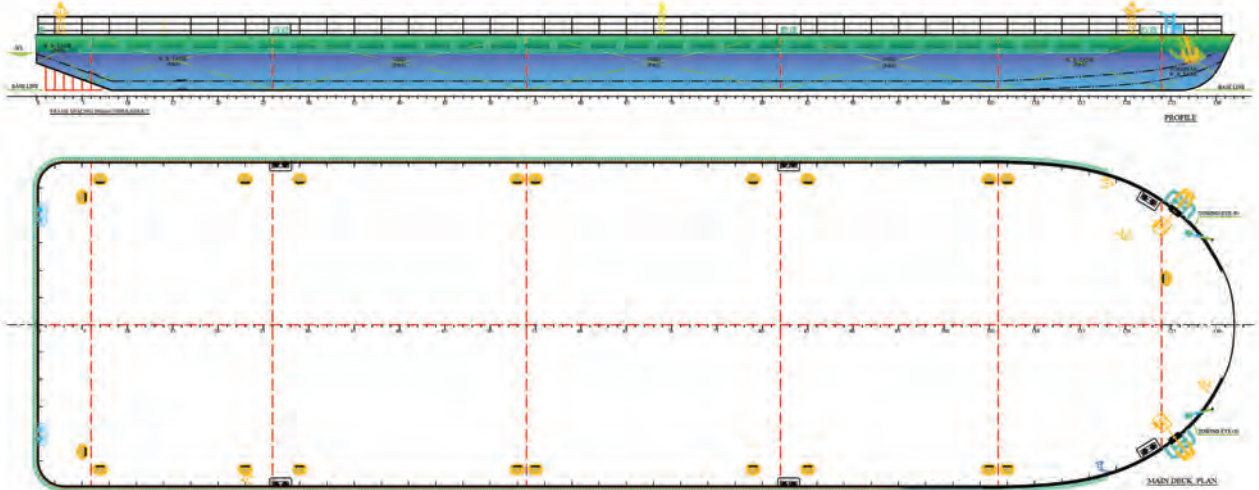


Crane Capacity 150t

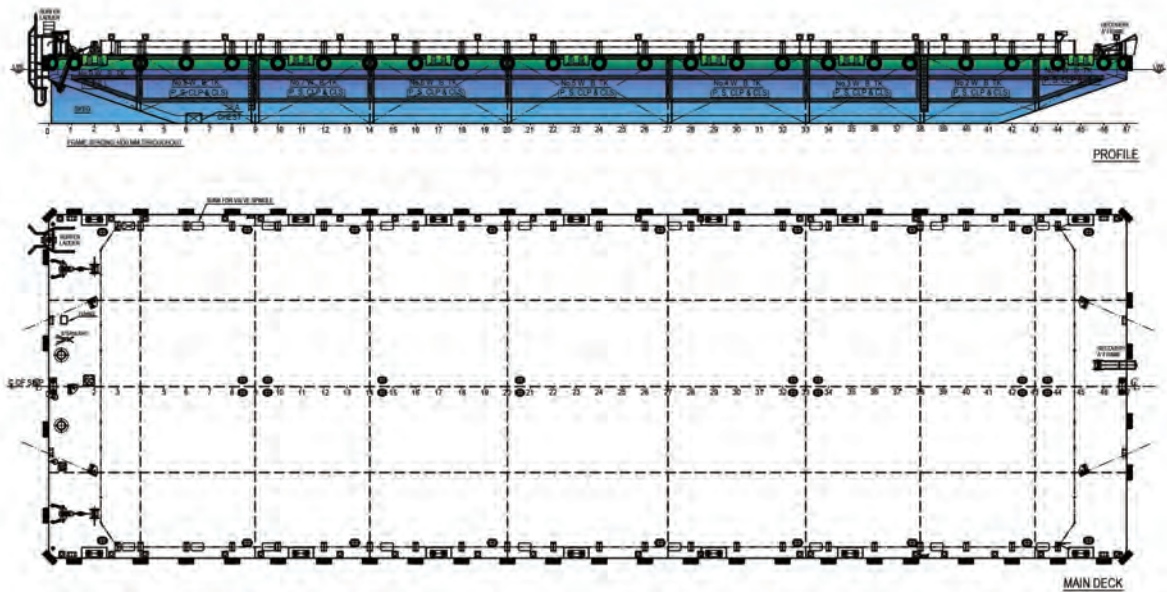


Project Gallery

Length : 66m



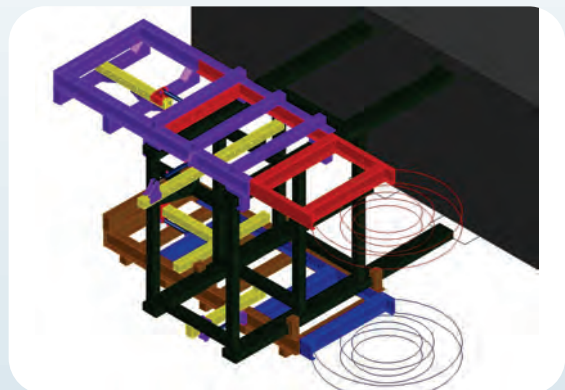
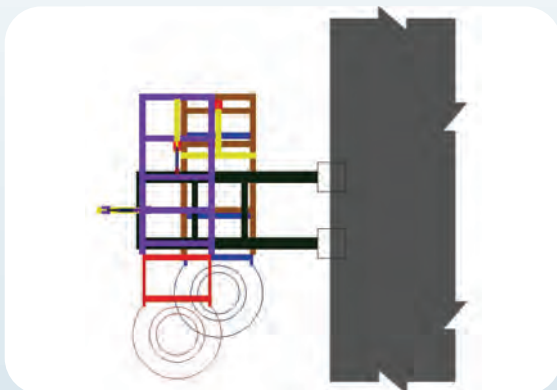
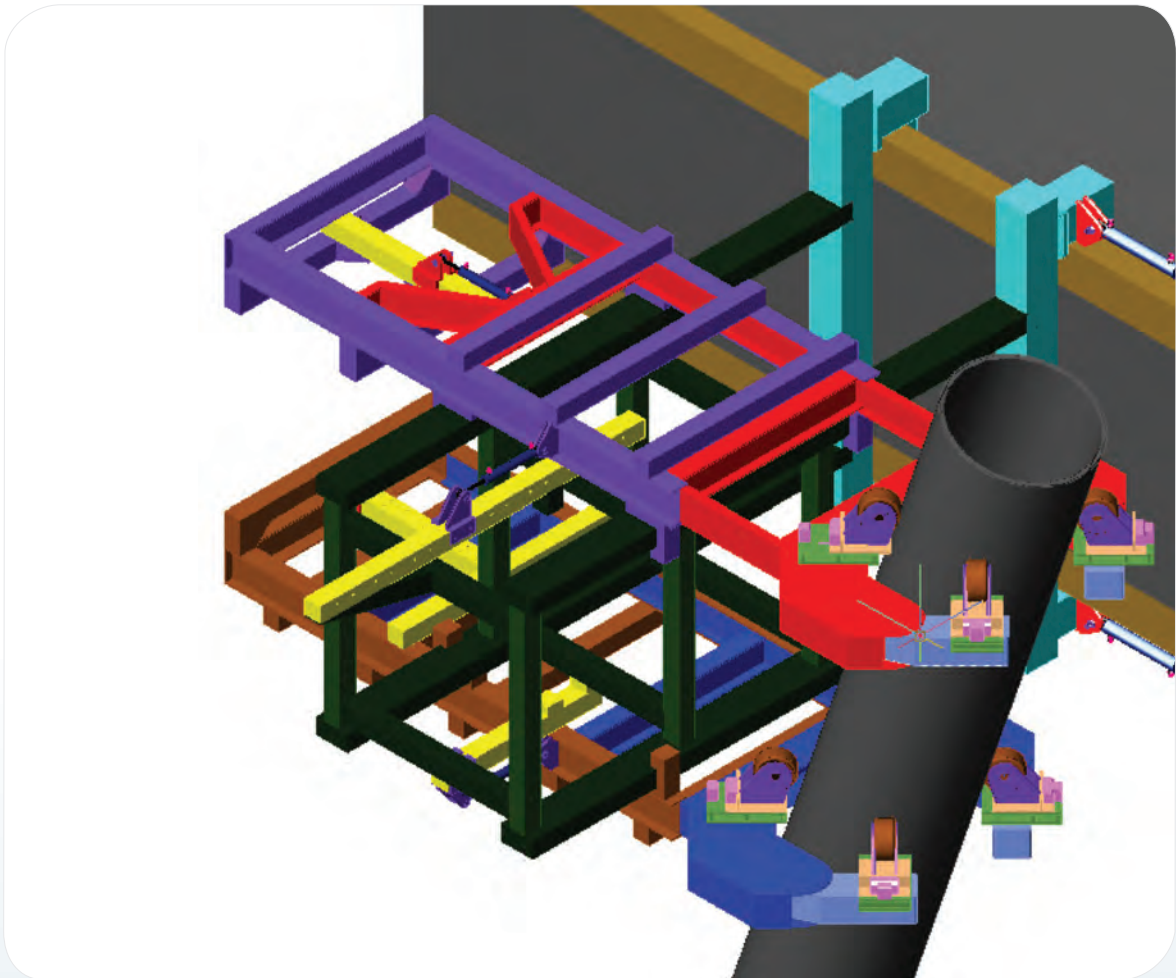
Length : 86.01m



Project Gallery

Pile installation guide

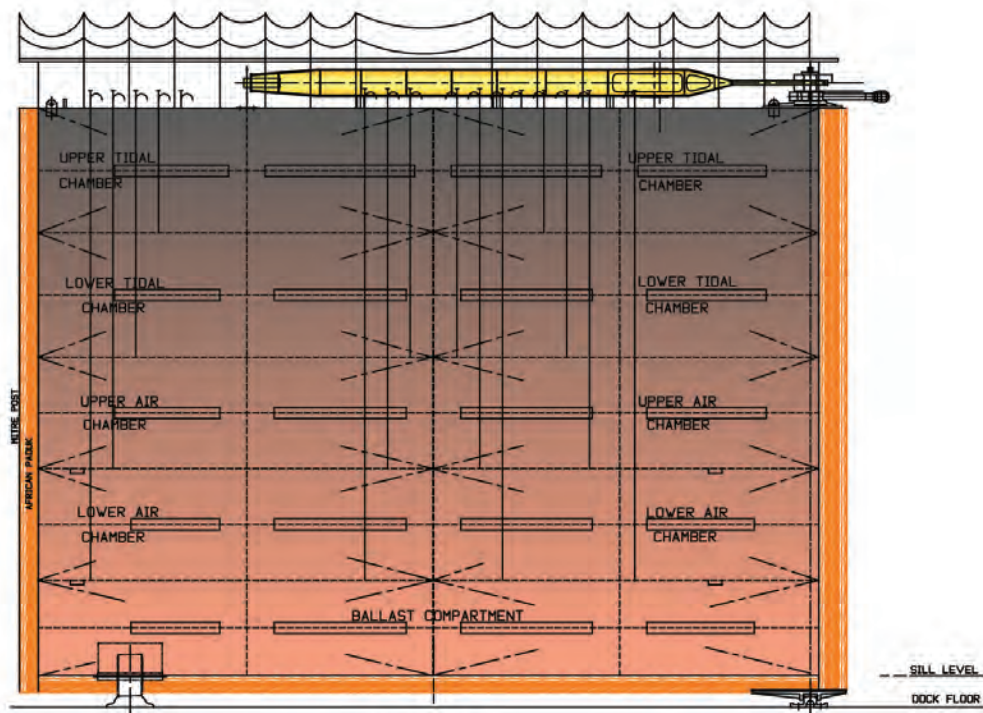
We have designed and analysed complex pile guides usable for both vertical and raked piles. These Guides are used for piling from a jack up barge.



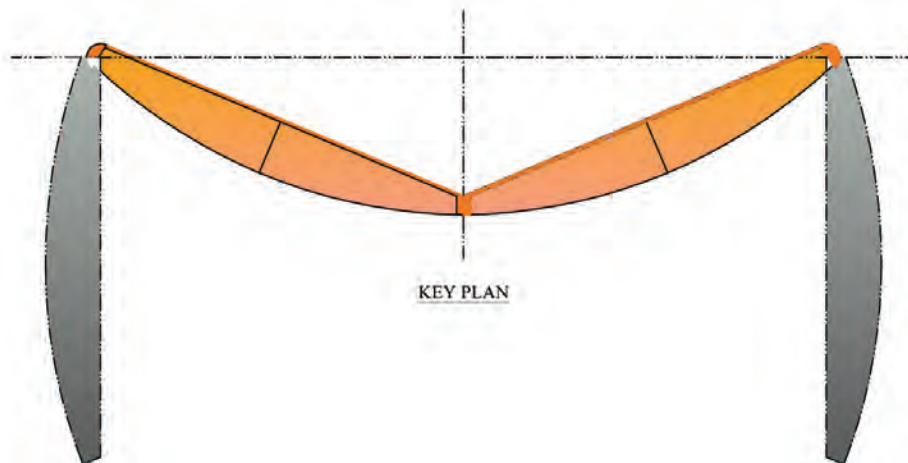
Port Construction Industry

Lock Gate

We have redesigned an existing lock gate of width 100'. This design was done taking into consideration existing quoins in the dock wall and the bottom roller paths. Further as the gate was fabricated in the horizontal position for ease of work, transportation, upending and installation methods were also developed by us.



ELEVATION



KEY PLAN

Port Construction Industry

Caisson Gate

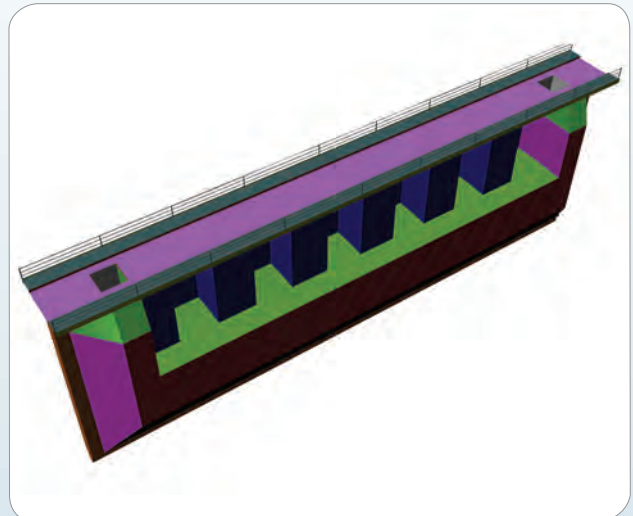
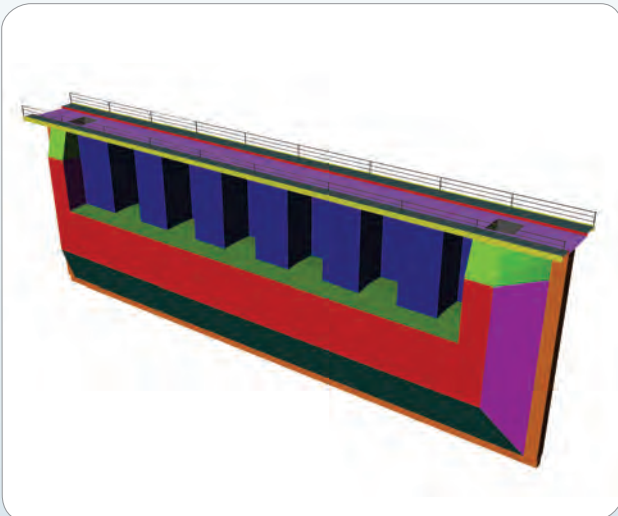
We have designed a Caisson Gate of width 67m for installation in the Drydock of a shipyard. As part of the design we have developed the installation methodologies, interface/sealing systems with the dock sill and the quoin.

We are also working on the design of another Caisson Gate of width 46m for installation in a Drydock.

Length : 67m



Length : 46m

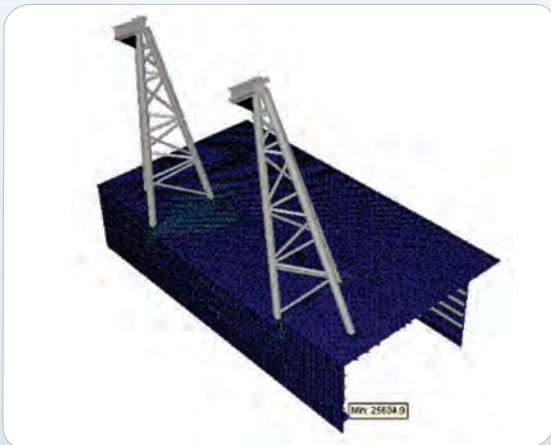
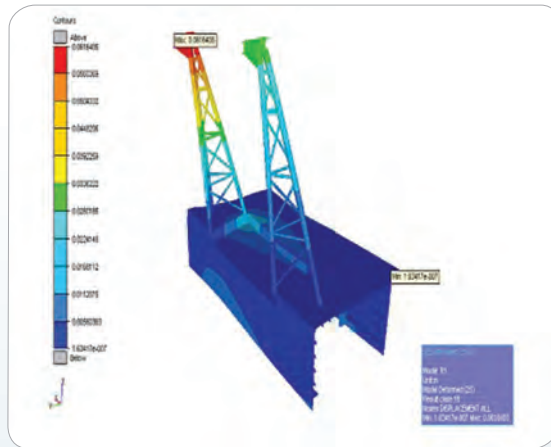
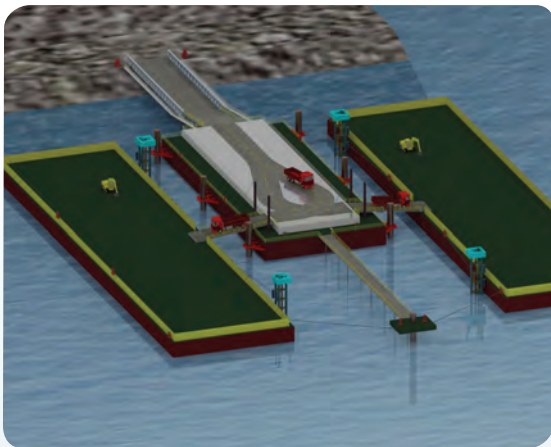
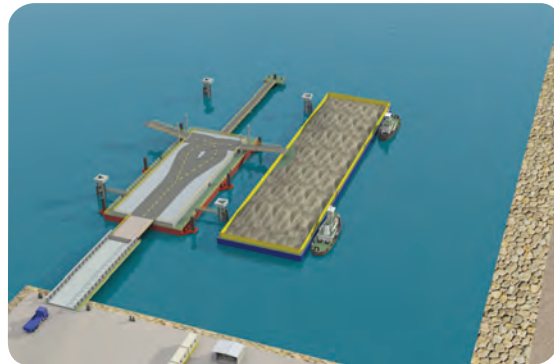


Port Construction Industry

Floating Jetty

We are designing a floating jetty for loading & unloading of Cargo for a port in Qatar.

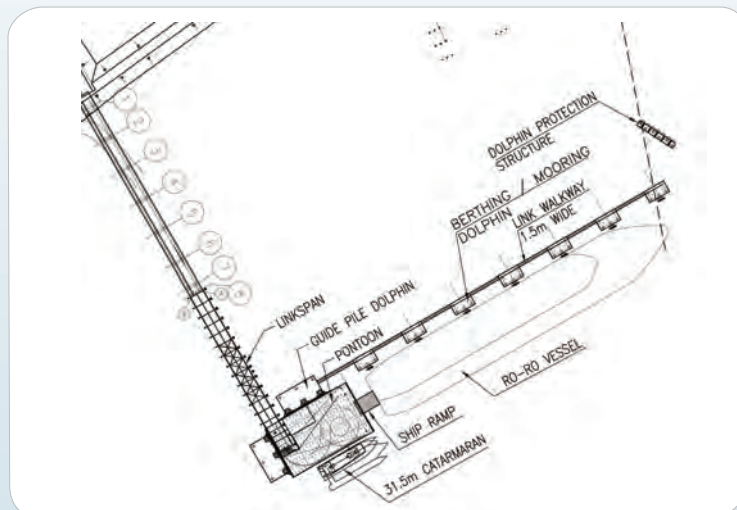
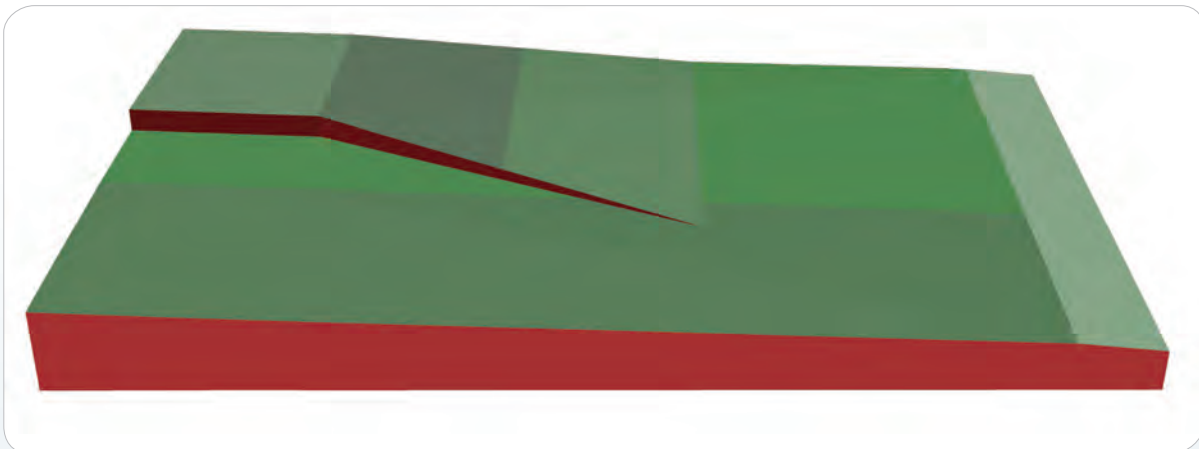
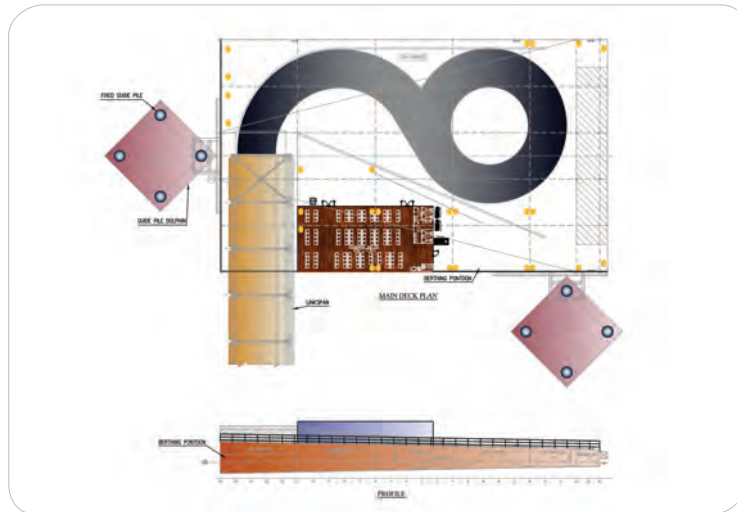
Floating jetty comprises of berthing pontoon with Ramp arrangement for transporting cargo through trucks. Jetty will also be provided a walkway, dolphin platform and steel bridge.



Port Construction Industry

Berthing Pontoon with a Linkspan

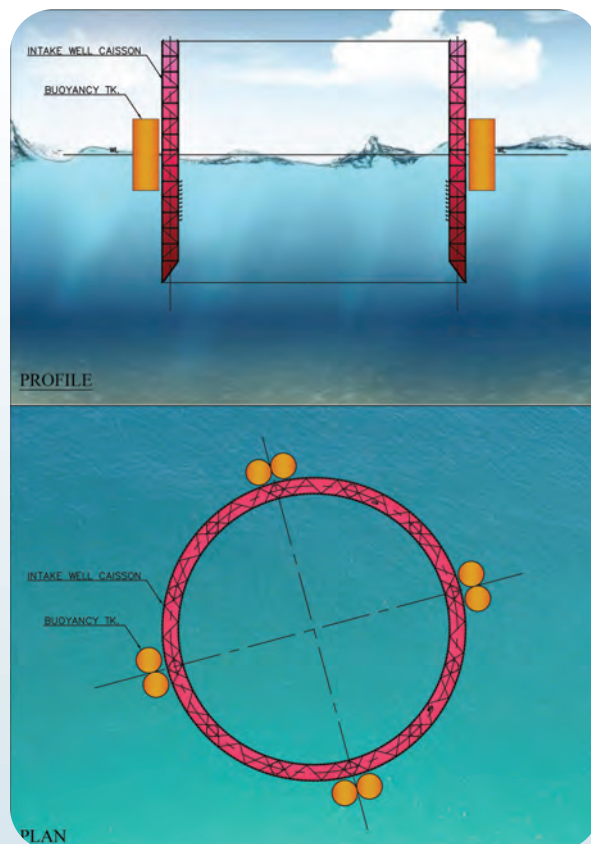
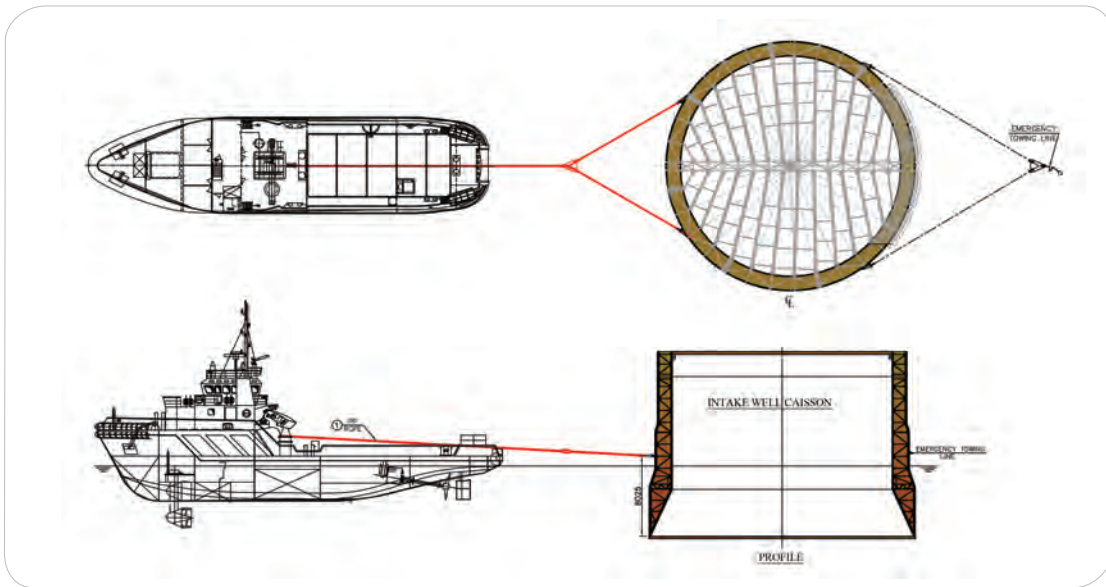
We have designed a 50m x 30m berthing pontoon along with the linkspan. This arrangement is used for movement of trucks between jetty to Ro-Ro vessel jetty via Link span.

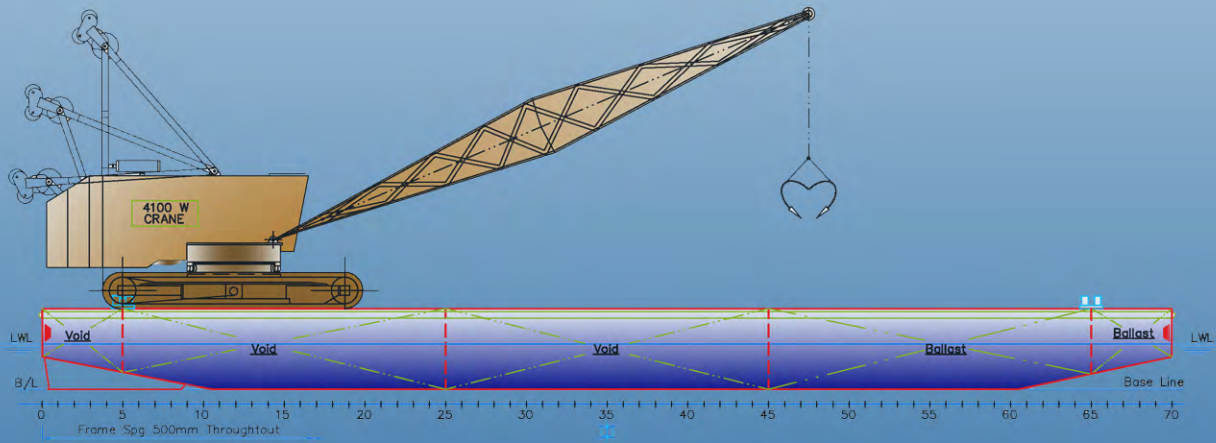


Port Construction Industry

Intake well Caisson

We have done towing studies comprising Stability analysis, motion analysis and towing arrangement for various caissons used in breakwater construction and intake wells.





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