

HEAVYLIFT TRANSPORT ENGINEERING & PROJECT SERVICES

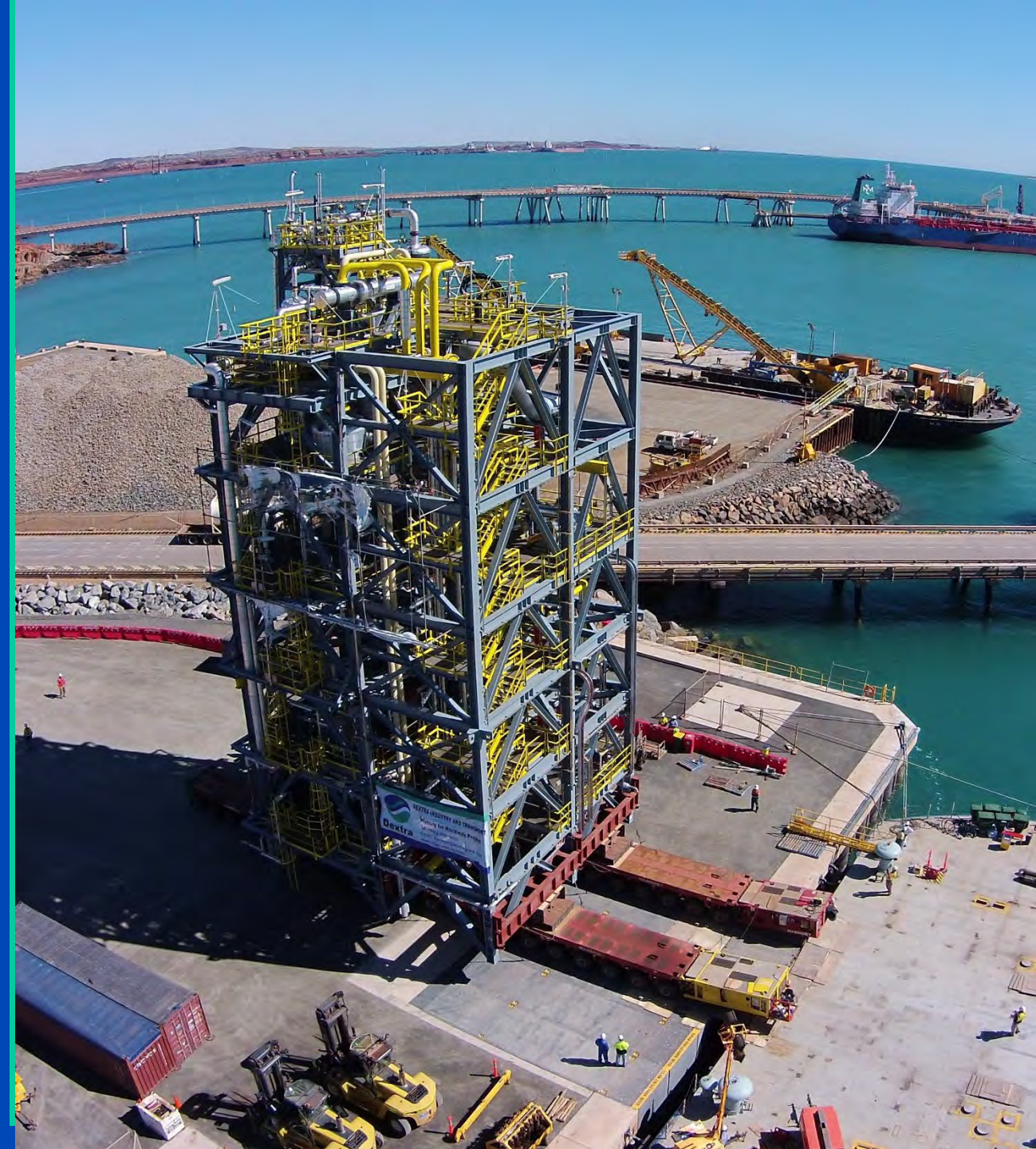


Dextra Transport

August 2024

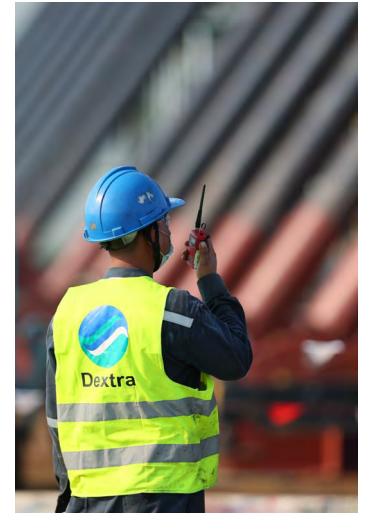
AGENDA

1. INTRODUCTION
2. ENGINEERING SERVICES
 - a) Marine Heavy Lift and Transport Operations
 - b) Land based Heavy Transport Operations
 - c) Heavy Lifting Operations
 - d) Industrial Relocation
3. PROJECT SERVICES
 - a) Project Management
 - b) Planning
 - c) Budgeting
 - d) Surveys and Inspections
4. MAJOR PROJECT TRACK RECORDS



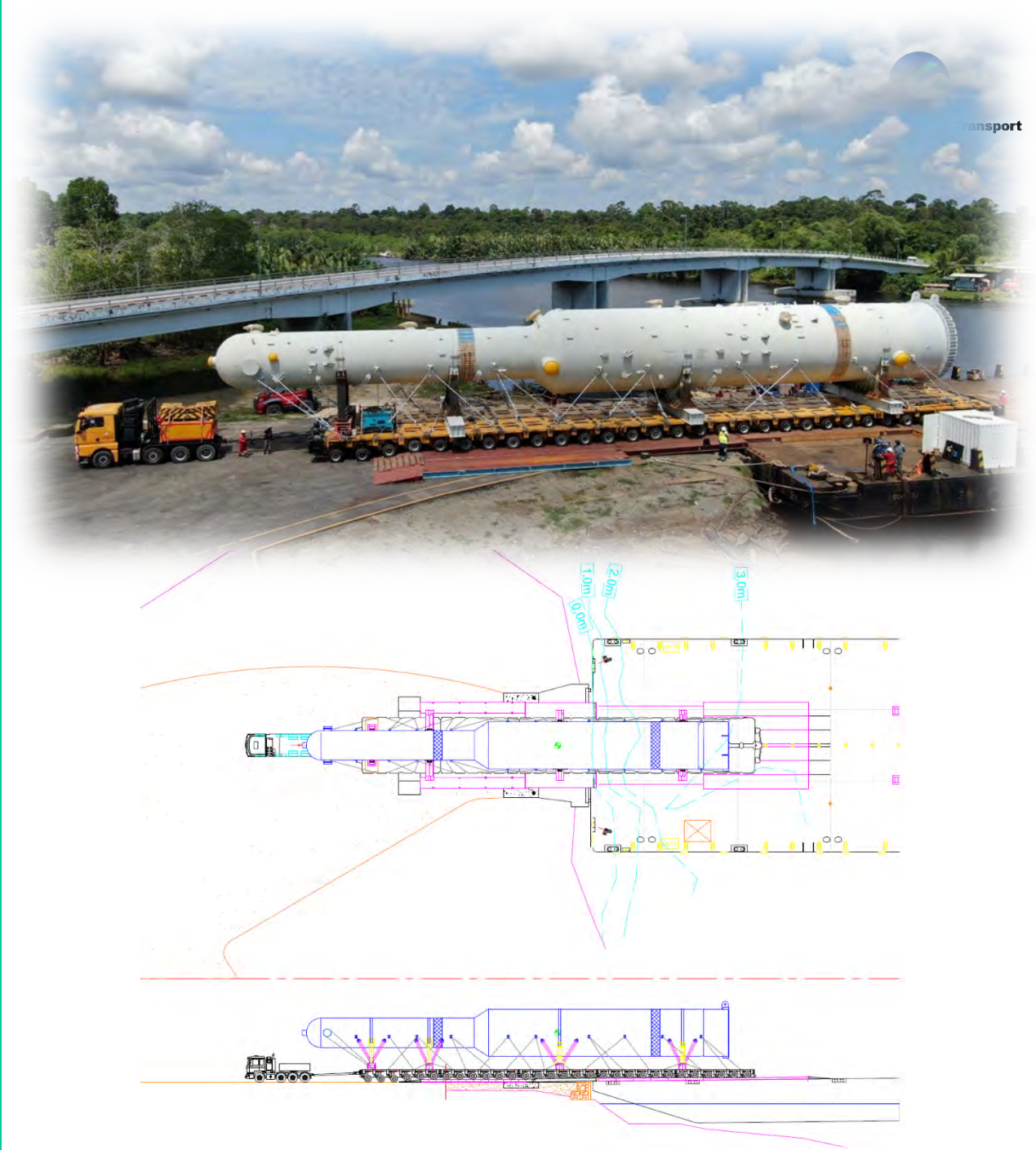
INTRODUCTION

- Dextra Engineering team is a dynamic, multidisciplinary, hands on team, consisting of enthusiastic, flexible, young and experienced engineers.
- Problem solvers with practical solutions, creative, initiative and possesses good communication skills.
- A good grasp of fundamental physical laws and mathematics, taking into consideration important factors such as sustainability, efficiency, costs, reliability and safety to satisfy all stakeholders.
- Dedicated to lifelong learning and development to stay up to date with latest technologies.



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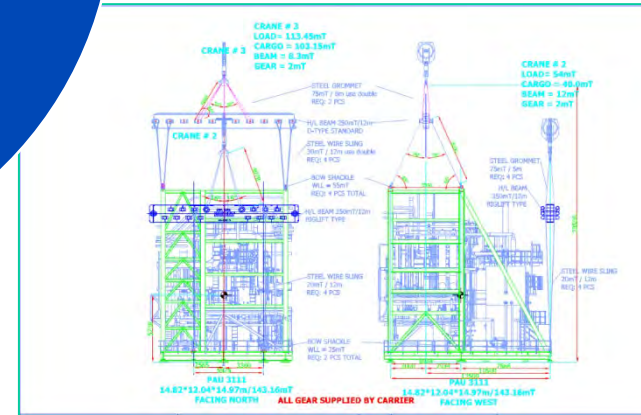
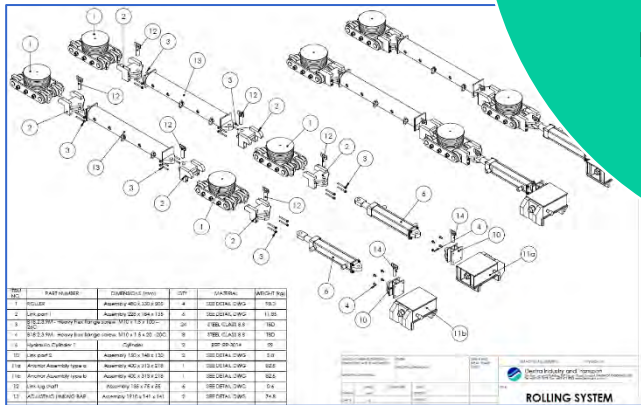
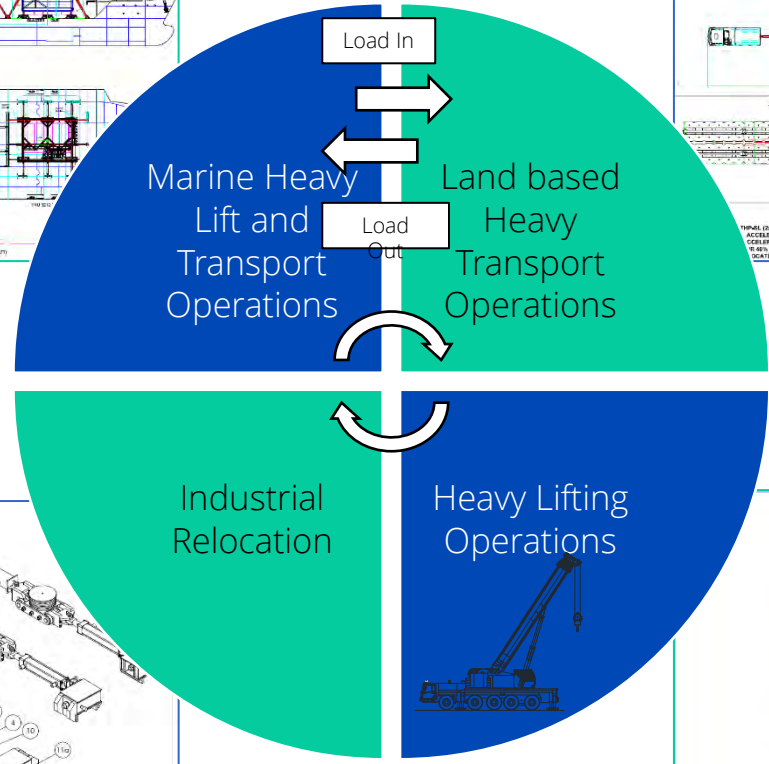
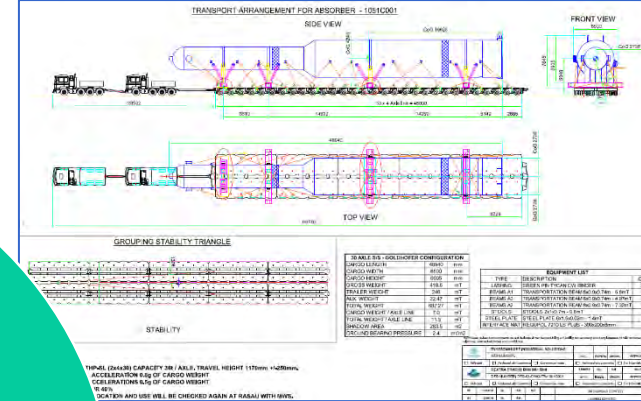
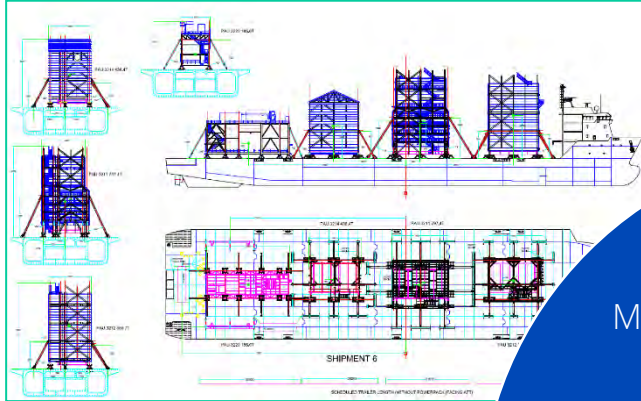


ENGINEERING SERVICES

OVERVIEW



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ENGINEERING SERVICES

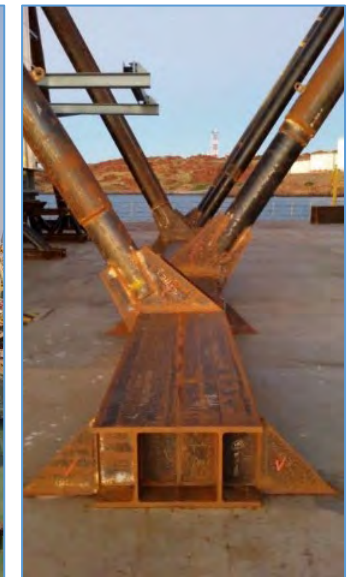
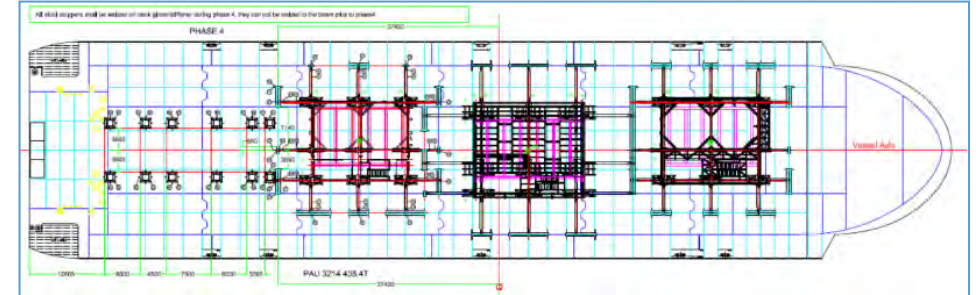
Marine Heavy Lift and Transport Operations



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Range of our Marine Heavy Lift and Transport Operations include:

- Motion and seakeeping analysis
- Environmental considerations and restrictions for Sea transport
- Bollard Pull calculations
- Barge and Vessel Stowage Plan
- Hard and Soft Sea-fastening design
- Load staging design (stools, beams, etc)
- Mooring Calculations
- Longitudinal strength assessment



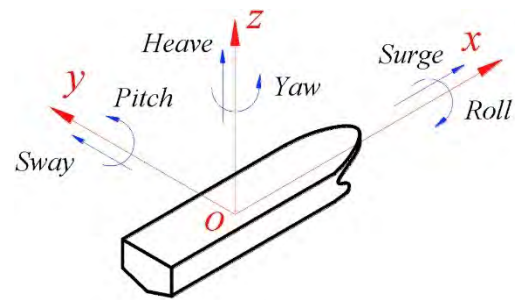
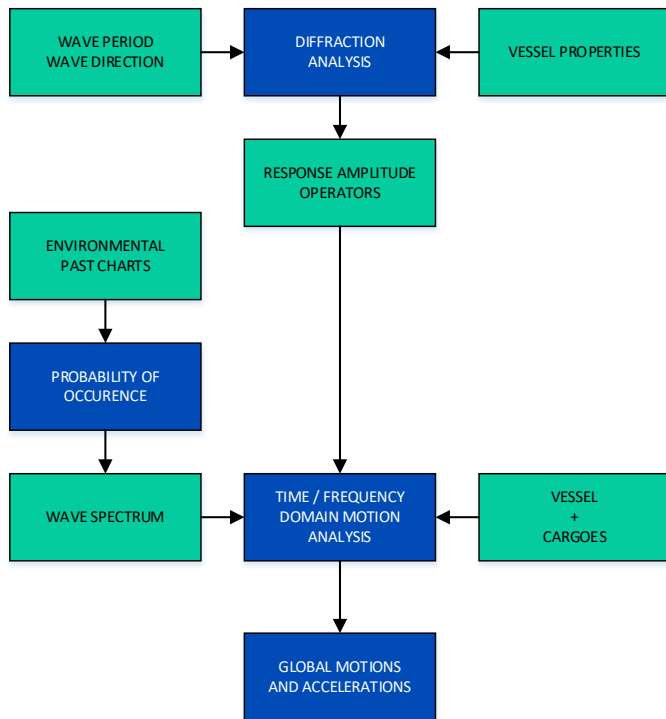
ENGINEERING SERVICES

Marine Heavy Lift and Transport Operations

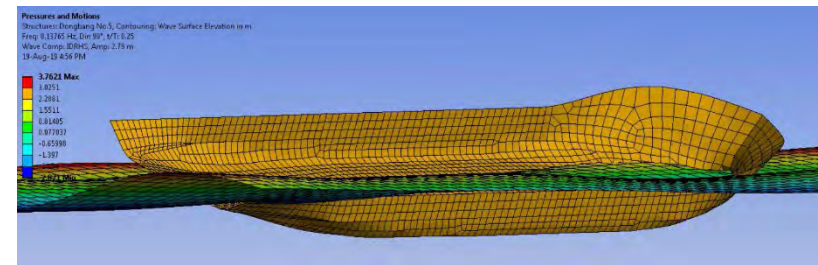
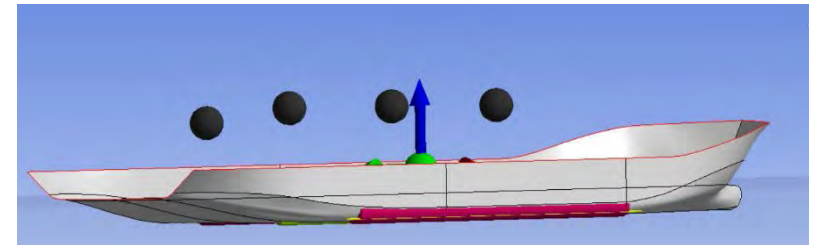
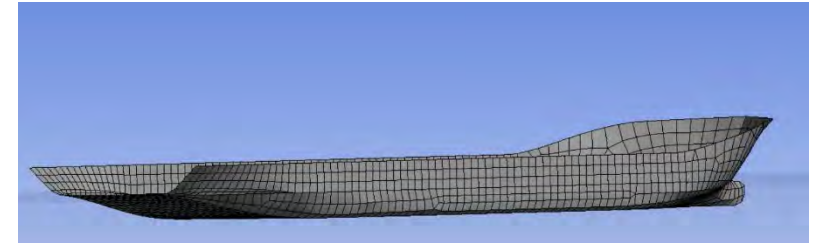


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MOTIONS / SEA KEEPING ANALYSIS



6 DEGREES OF FREEDOM MOTIONS



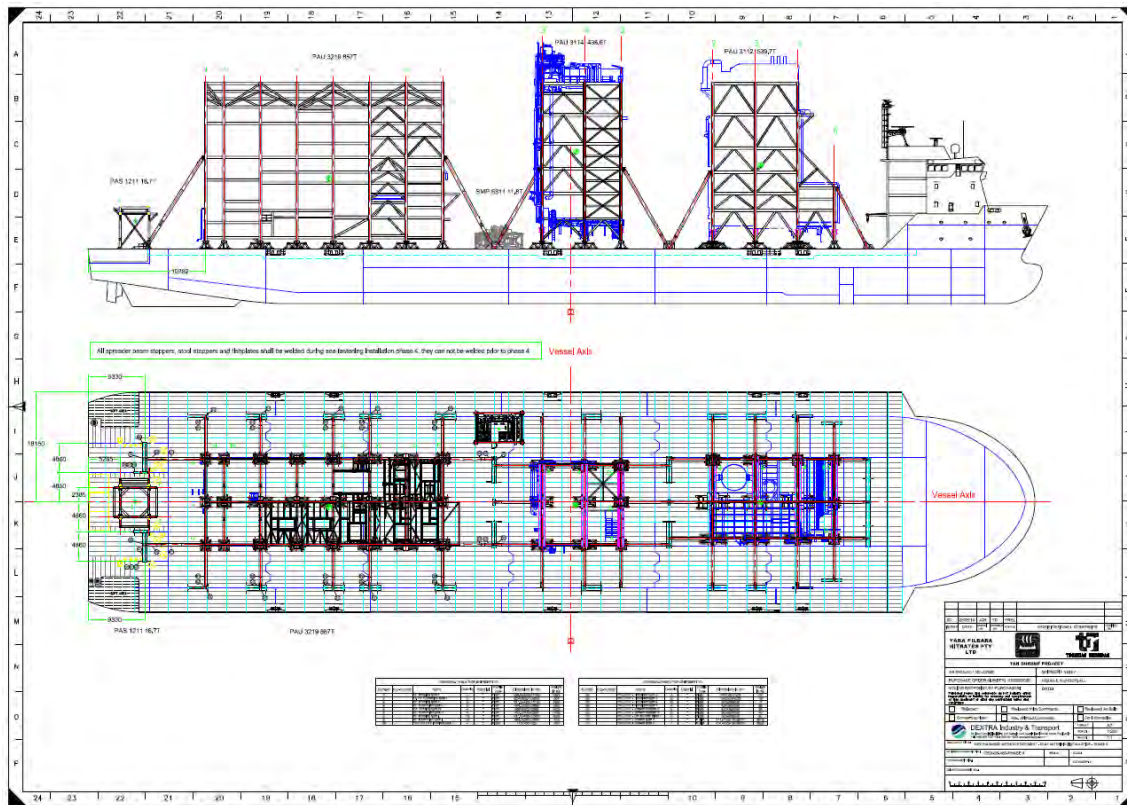
ENGINEERING SERVICES

Marine Heavy Lift and Transport Operations



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BARGE AND VESSEL STORAGE PLAN:



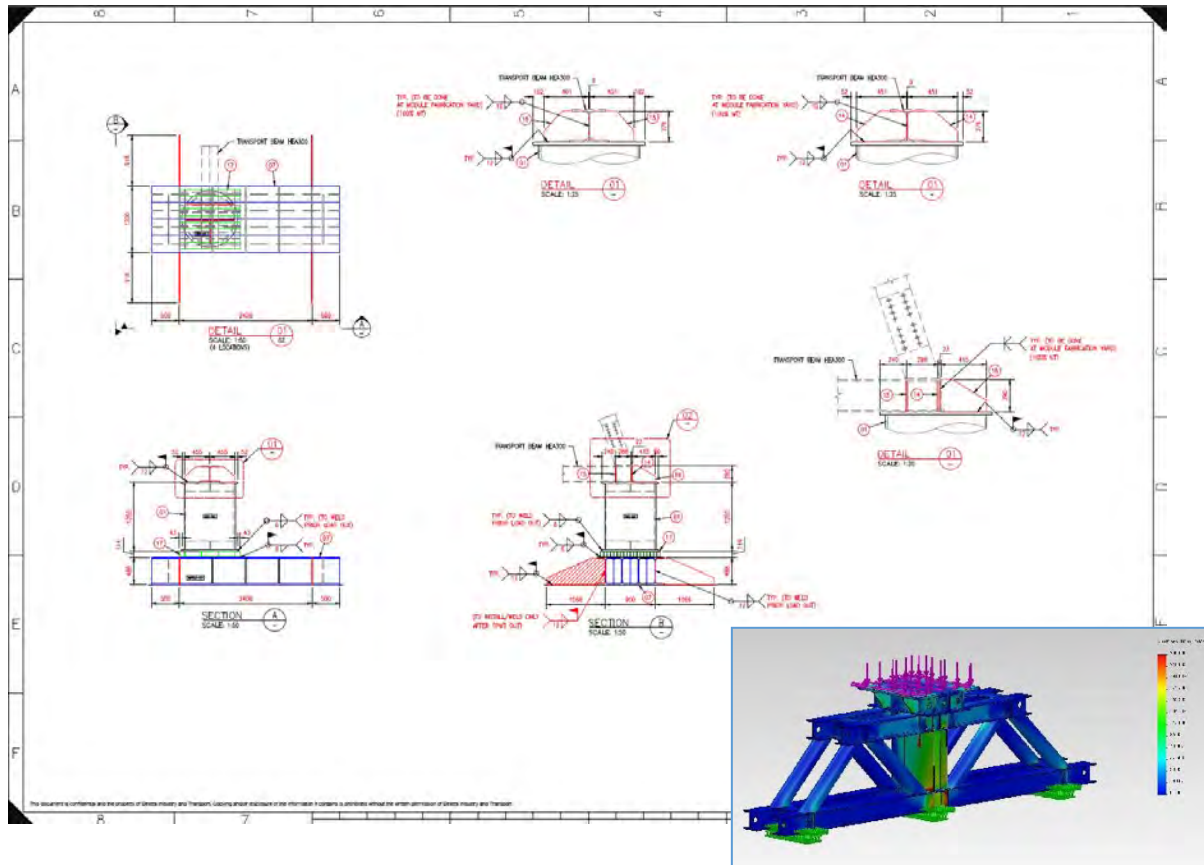
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Marine Heavy Lift and Transport Operations



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HARD SEAFASTENING DESIGN:



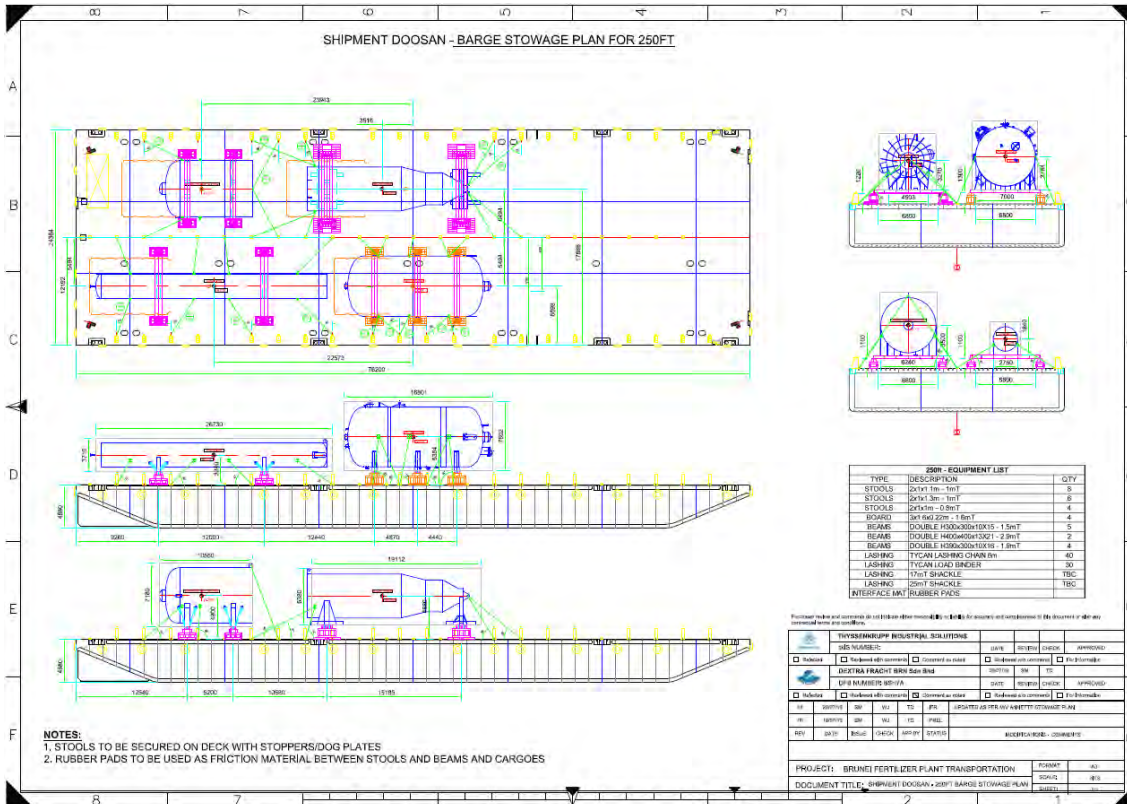
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Marine Heavy Lift and Transport Operations



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SOFT SEAFASTENING DESIGN:



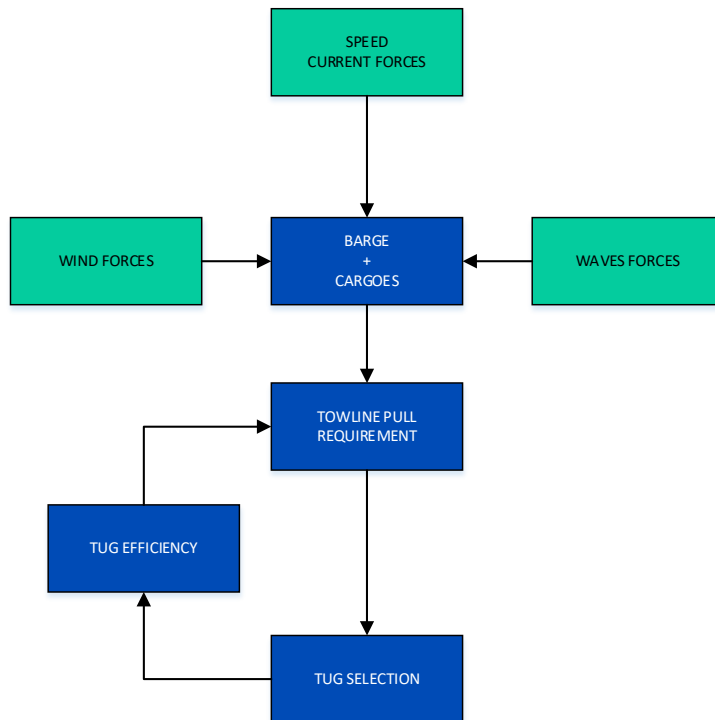
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Marine Heavy Lift and Transport Operations



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BOLLARD PULL CALCULATIONS:



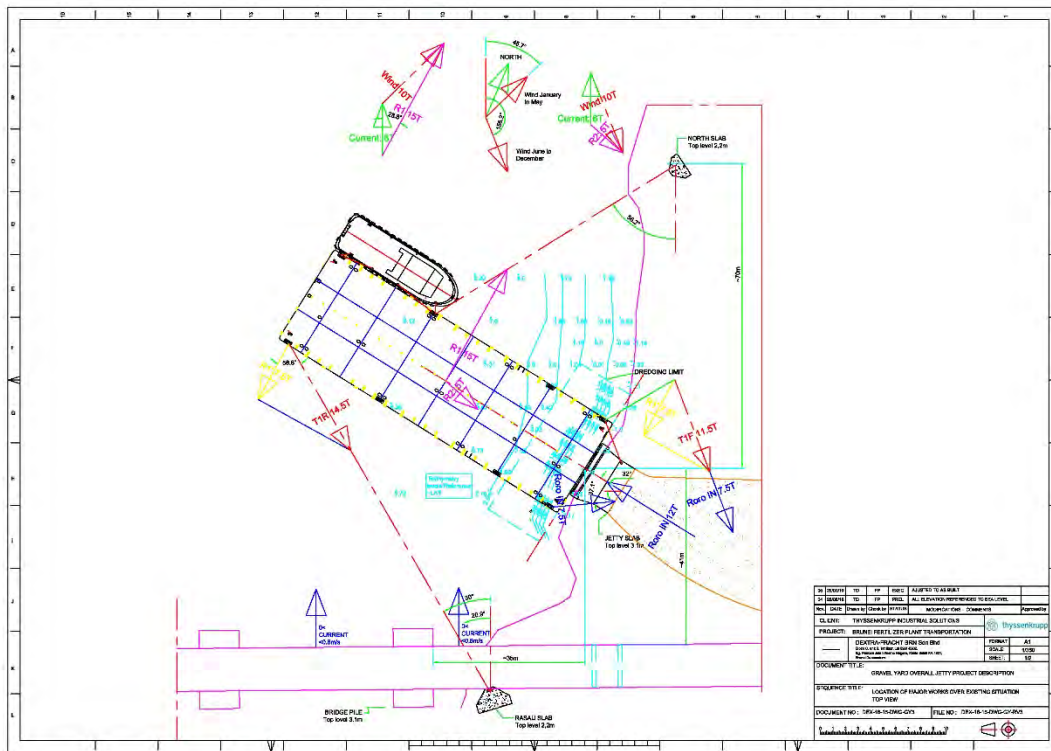
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Marine Heavy Lift and Transport Operations



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MOORING CALCULATIONS:



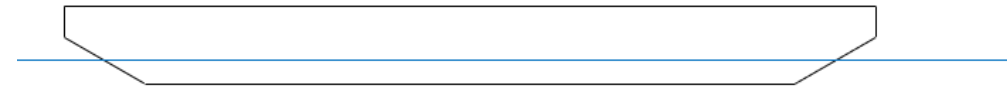
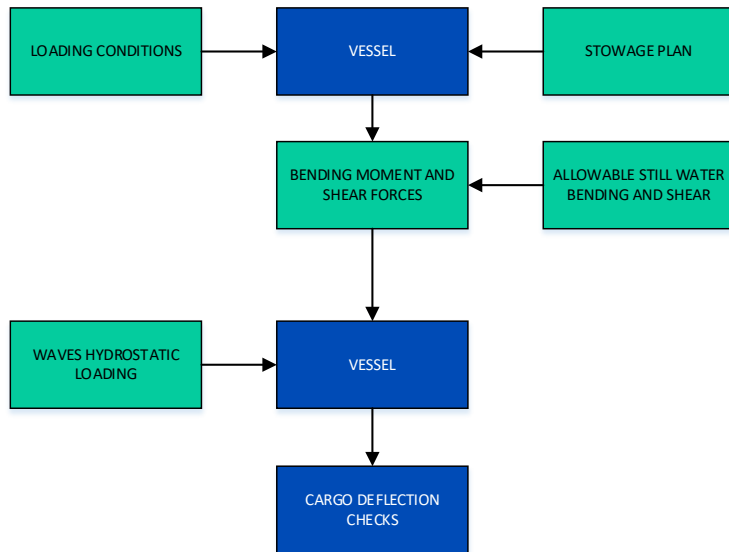
ENGINEERING SERVICES

Marine Heavy Lift and Transport Operations



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LONGITUDINAL STRENGTH ASSESSMENT / HOGGING SAGGING



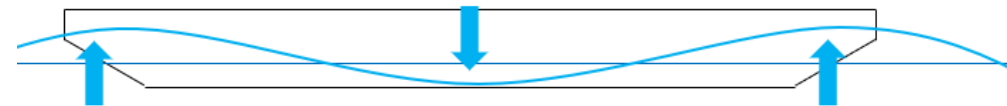
CASE 1 – STILL WATER

The vessel may hog or sag depending on the weight and buoyancy distribution



CASE 2 – WAVE WITH CREST AT MIDSHIP

Buoyancy force is higher in midship and lower at ends causing hogging to increase compared to still water condition



CASE 3 – WAVE WITH CREST AT ENDS

Buoyancy force is lower in midship and higher at ends causing sagging to increase compared to still water condition

ENGINEERING SERVICES

Land based Heavy Transport Operations



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Range of our Land based Heavy Transport Operations include:

- Transport Survey and feasibility studies
- Transportation studies
- Transportation auxiliary equipment design
- Lashing and stability calculations
- Load In and Load out studies - Ballasting
- Jetty Design and Construction
- Bridge Reinforcements



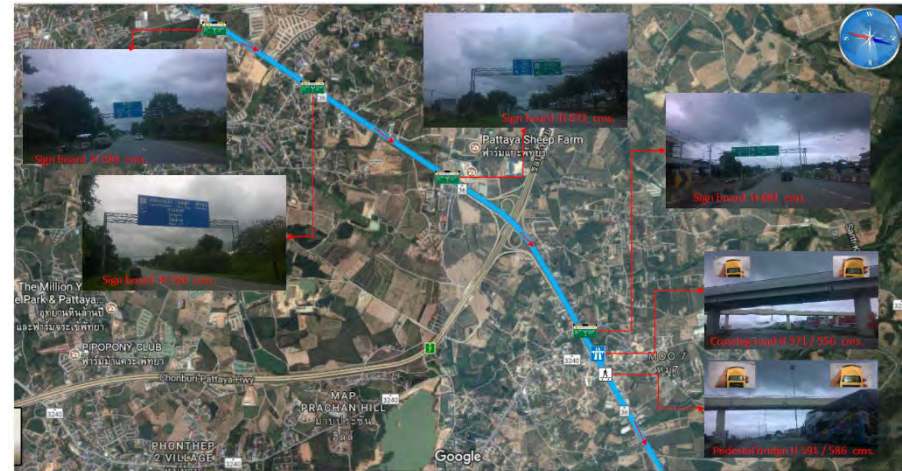
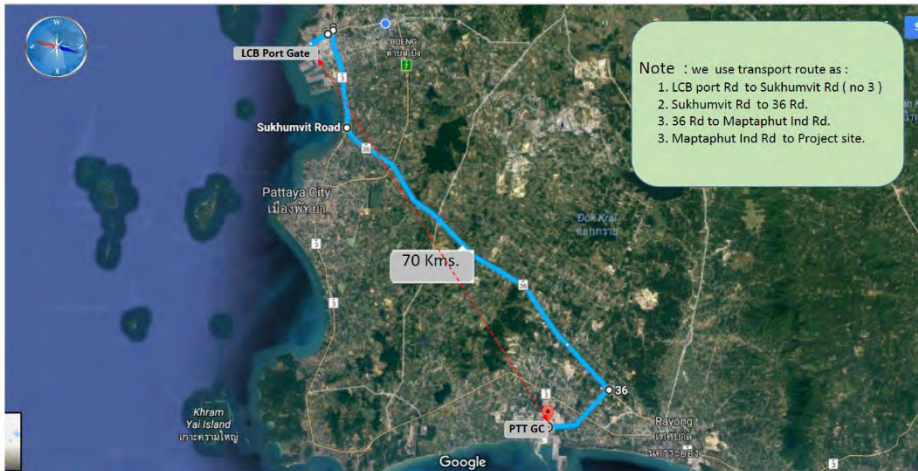
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Land based Heavy Transport Operations



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ROAD SURVEY:





ENGINEERING SERVICES

Land based Heavy Transport Operations



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TRANSPORT FEASIBILITY:

4.10 INT 109 - POWER POLE AND SIGN BOARD

INT 109

KM 0.42 ELECTRIC POLE AND SIGN BOARD - SHOULDER



TECHNICAL DATA:

Description: Electric pole and Sign Board

Location: King Bay Road - 420 Meters after Junction A

INTERFERENCES WITH:

Cargo over 14 meters wide - See Section G1-G1

SOLUTION:

Option 1: To remove sign board

REMEDIAL WORKS:

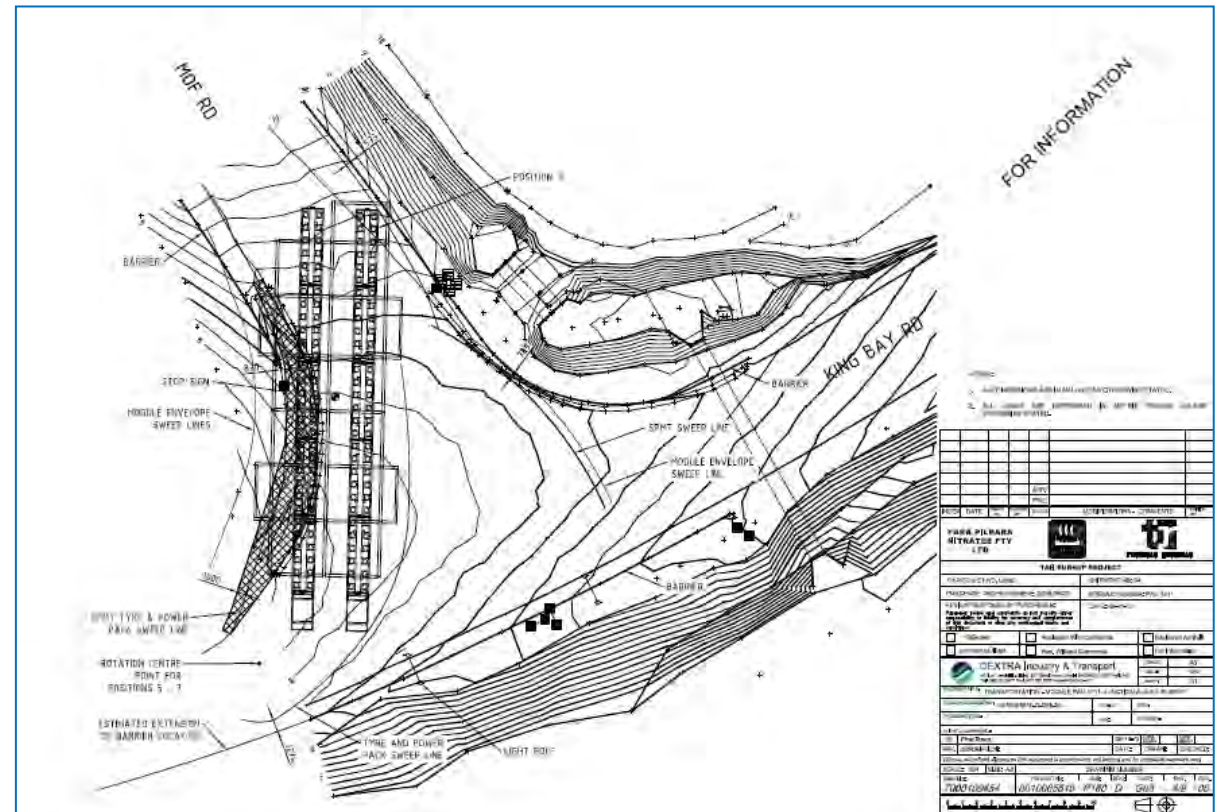
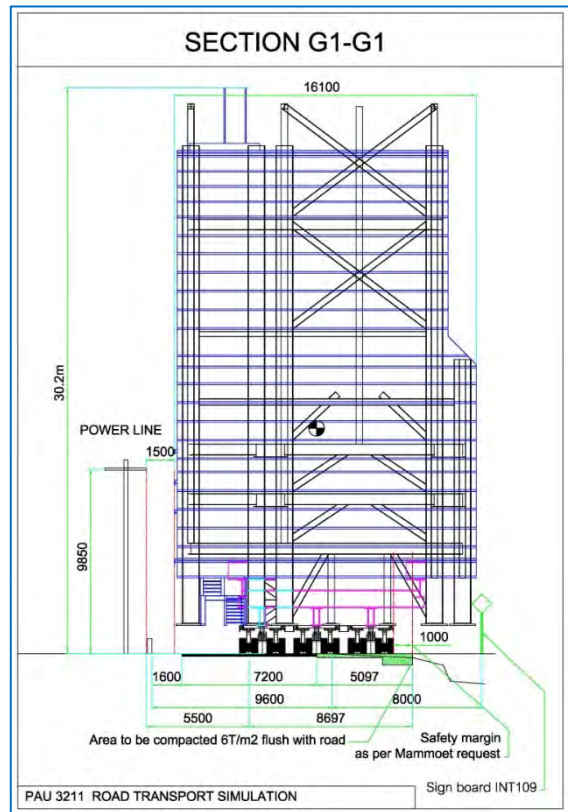
Option 1: To extend shoulders of the right hand side of the road as per G1-G1

Note: Convoy on right hand side with respect to the culvert must be considered

**MINOR
and
MAJOR**

Ref: DEX - 00 - 034 - 0000000 REV 2 - TAN BURRUP ROAD SURVEY JUNCTION A TO SITE

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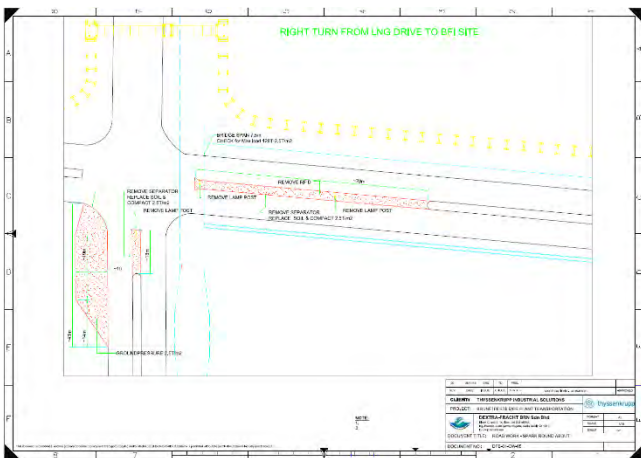
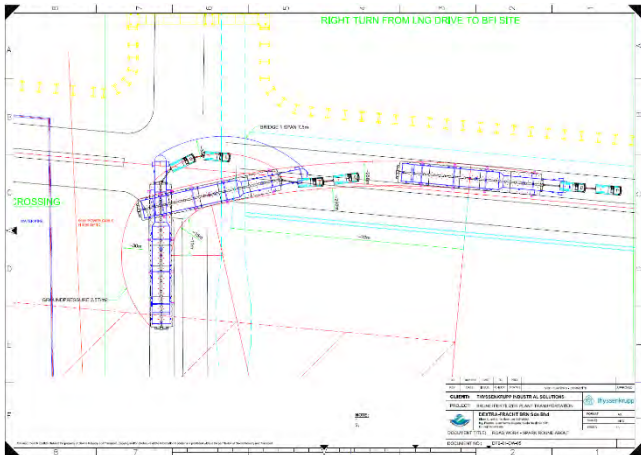
ENGINEERING SERVICES

Land based Heavy Transport Operations



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TRANSPORT SIMULATION/ROAD WORKS CONVENTIONAL TRAILER:



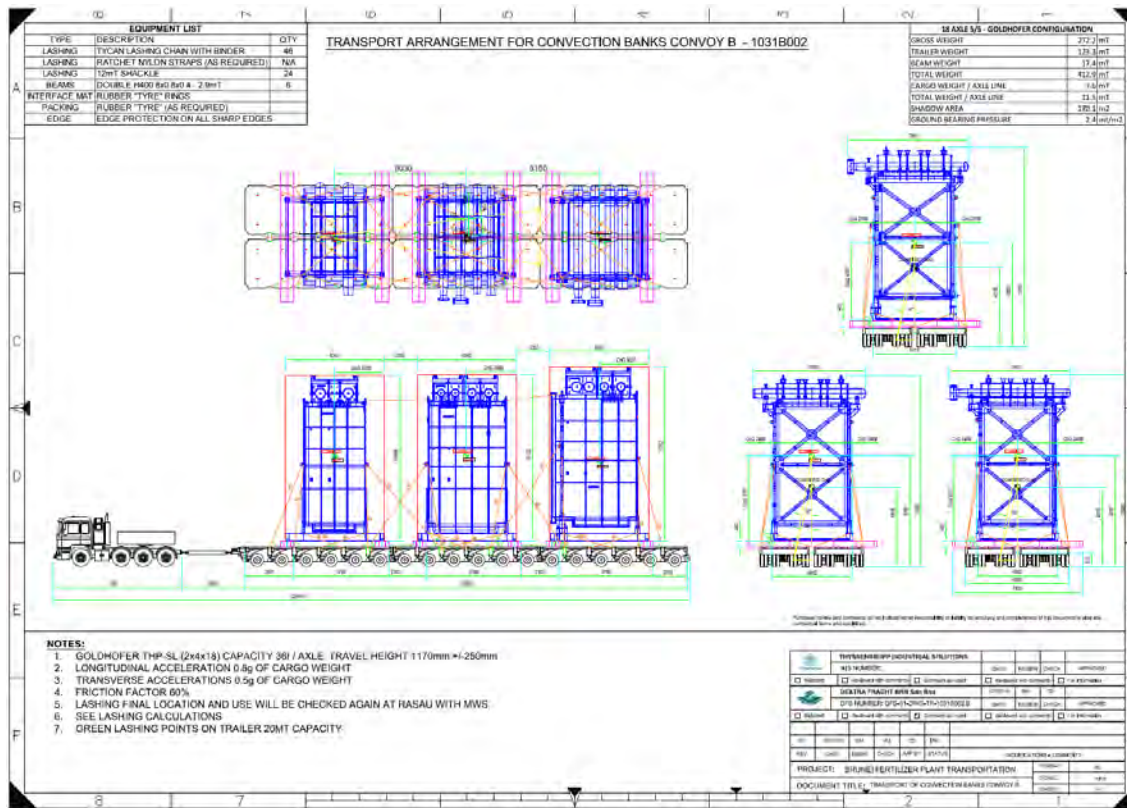
ENGINEERING SERVICES

Land based Heavy Transport Operations



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TRANSPORT STUDY CONVENTIONAL TRAILER:



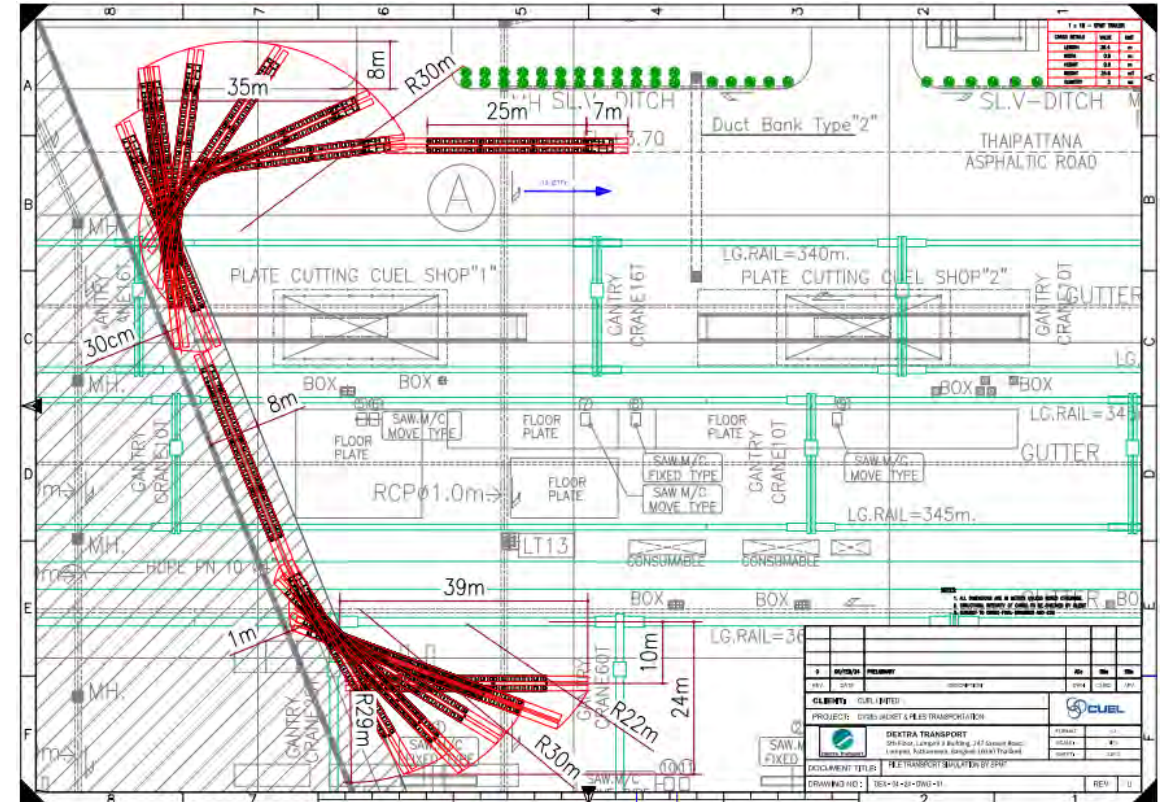
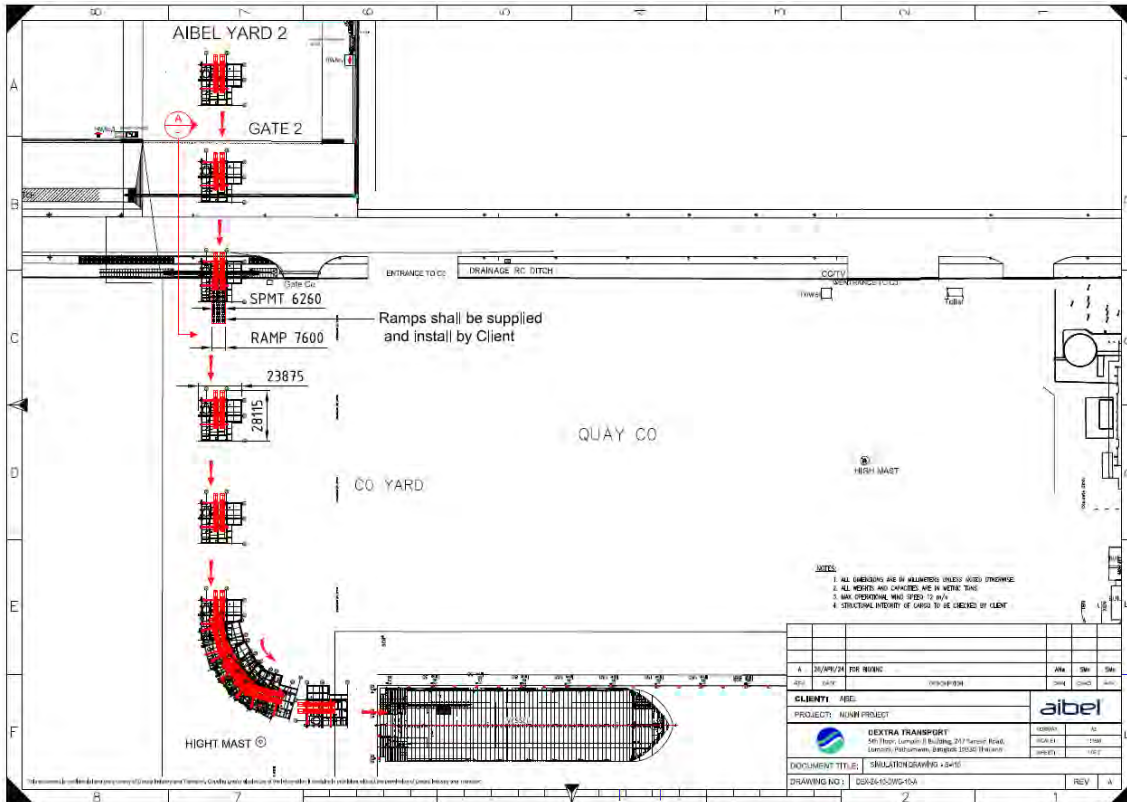
ENGINEERING SERVICES

Land based Heavy Transport Operations



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TRANSPORT SIMULATION/ROAD WORKS SPMT:



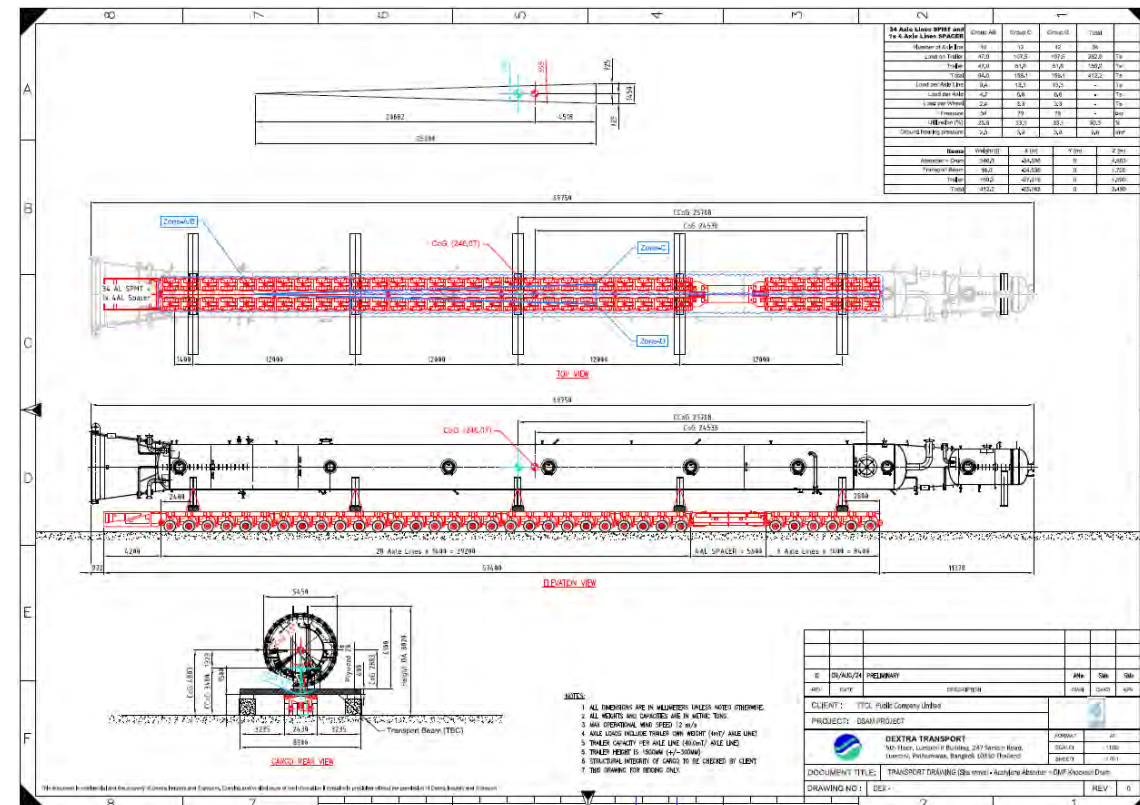
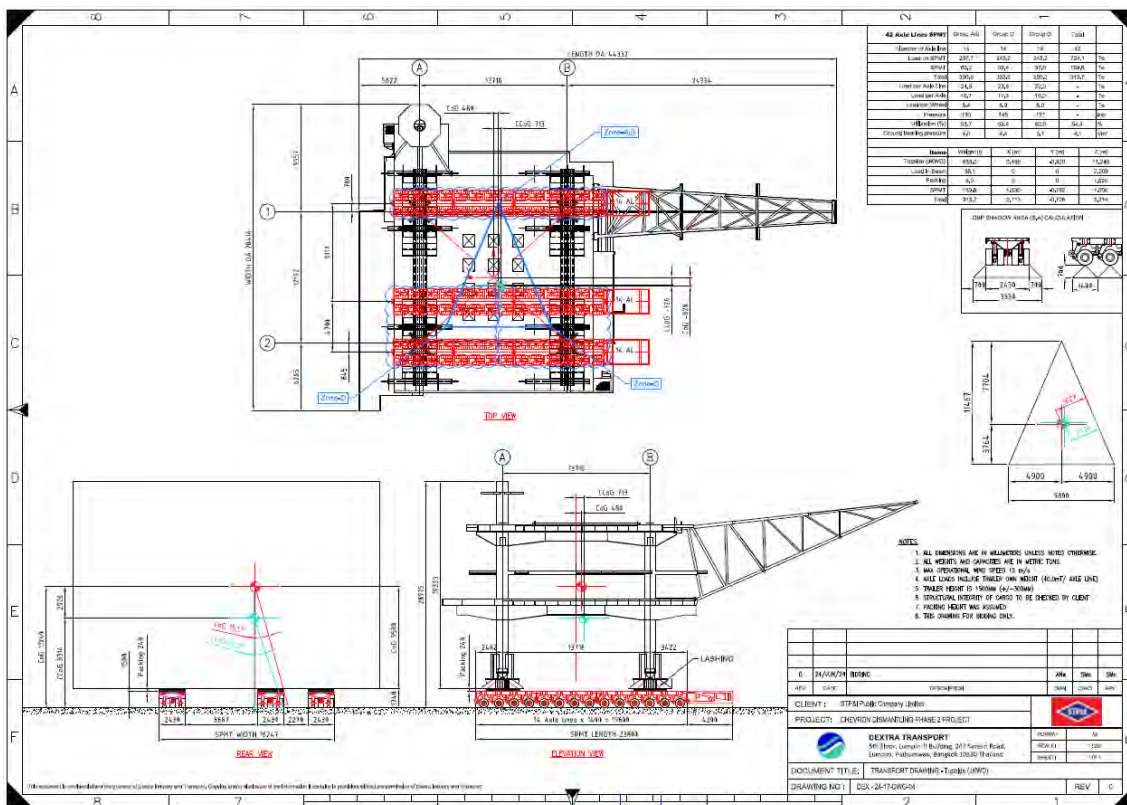
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Land based Heavy Transport Operations



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TRANSPORT STUDY SPMT:



ENGINEERING SERVICES

Land based Heavy Transport Operations

LOAD IN/OUT - BALLAST CALCULATIONS:

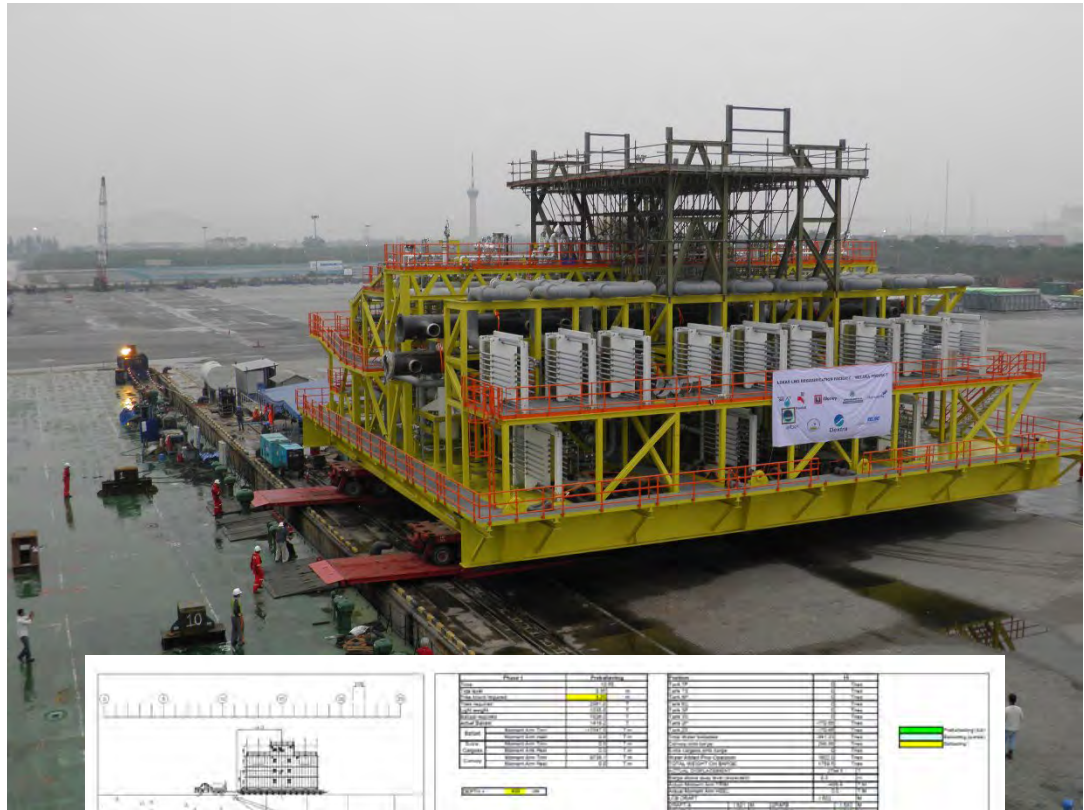
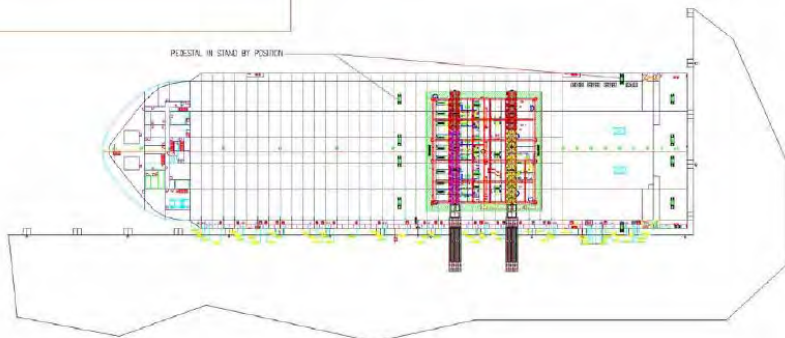
LOAD OUT SEQUENCE 4 DATE: 27 MARCH - 18:00 PM

REGAS TRAILER POSITIONING
BARGE 250 mm above quay



LOAD OUT SEQUENCE 5 DATE: 27 MARCH - 19:00 PM

REGAS LOAD OUT



Phase	Configuration	Weight	CG	BM
1.0	Empty	10000	1.5	10.0
2.0	Ballast	20000	1.5	10.0
3.0	Ballast	20000	1.5	10.0
4.0	Ballast	20000	1.5	10.0
5.0	Ballast	20000	1.5	10.0
6.0	Ballast	20000	1.5	10.0
7.0	Ballast	20000	1.5	10.0
8.0	Ballast	20000	1.5	10.0
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10.0	Ballast	20000	1.5	10.0
11.0	Ballast	20000	1.5	10.0
12.0	Ballast	20000	1.5	10.0
13.0	Ballast	20000	1.5	10.0
14.0	Ballast	20000	1.5	10.0
15.0	Ballast	20000	1.5	10.0
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22.0	Ballast	20000	1.5	10.0
23.0	Ballast	20000	1.5	10.0
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25.0	Ballast	20000	1.5	10.0
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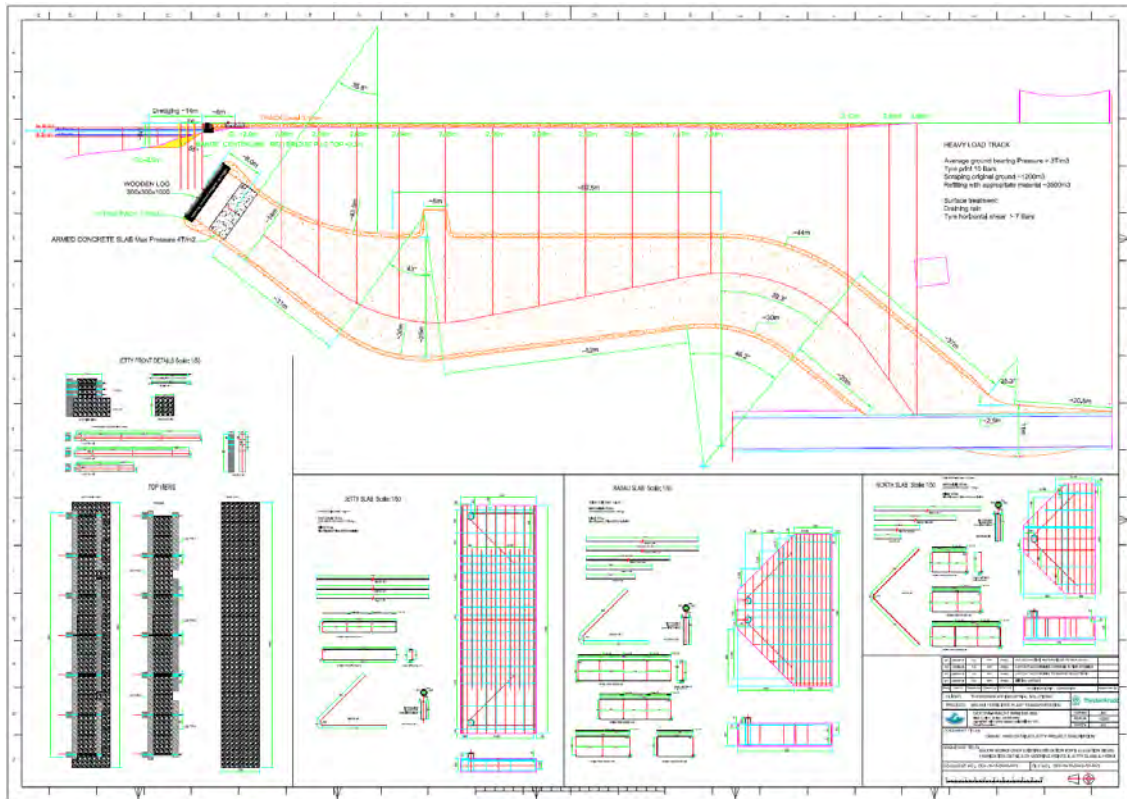
ENGINEERING SERVICES

Land based Heavy Transport Operations



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JETTY DESIGN/CONSTRUCTION:



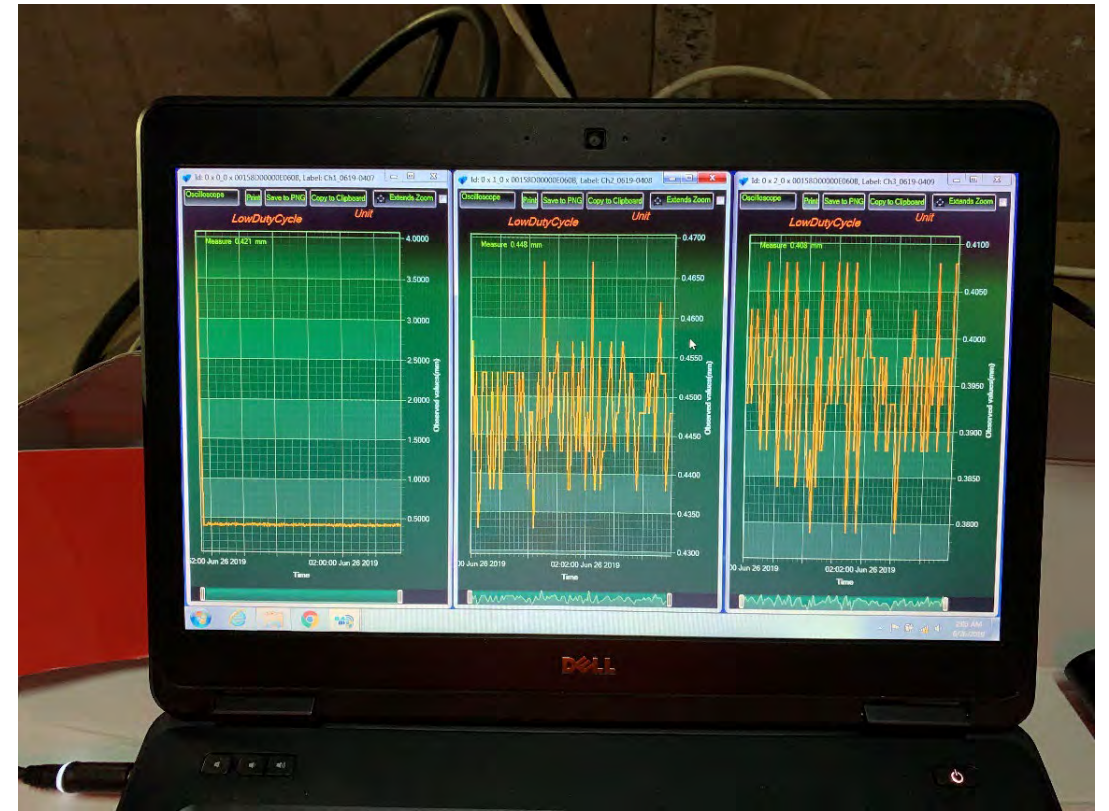
ENGINEERING SERVICES

Land based Heavy Transport Operations



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BRIDGE REINFORCEMENT WORK AND MONITORING:



ENGINEERING SERVICES

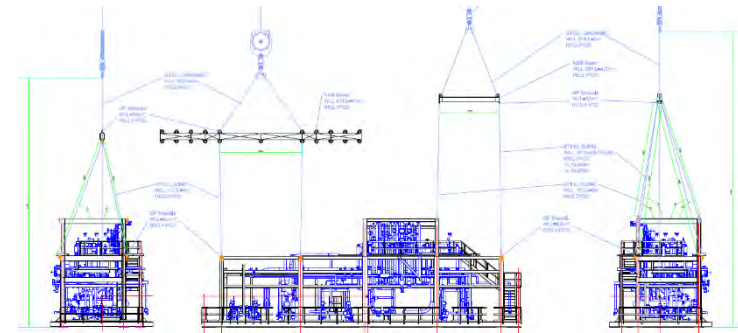
Heavy Lifting Operations



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Range of our Lifting services include:

- Onshore and Offshore Lifting
- Lifting equipment selection (mobile crane, crawler crane, ringer crane)
- Single crane, dual crane lift, top and tail Lifting studies
- Construction site lifting consulting
- Rigging and lifting equipment design, selection and inspection (frame, spreader, linkplates, etc)



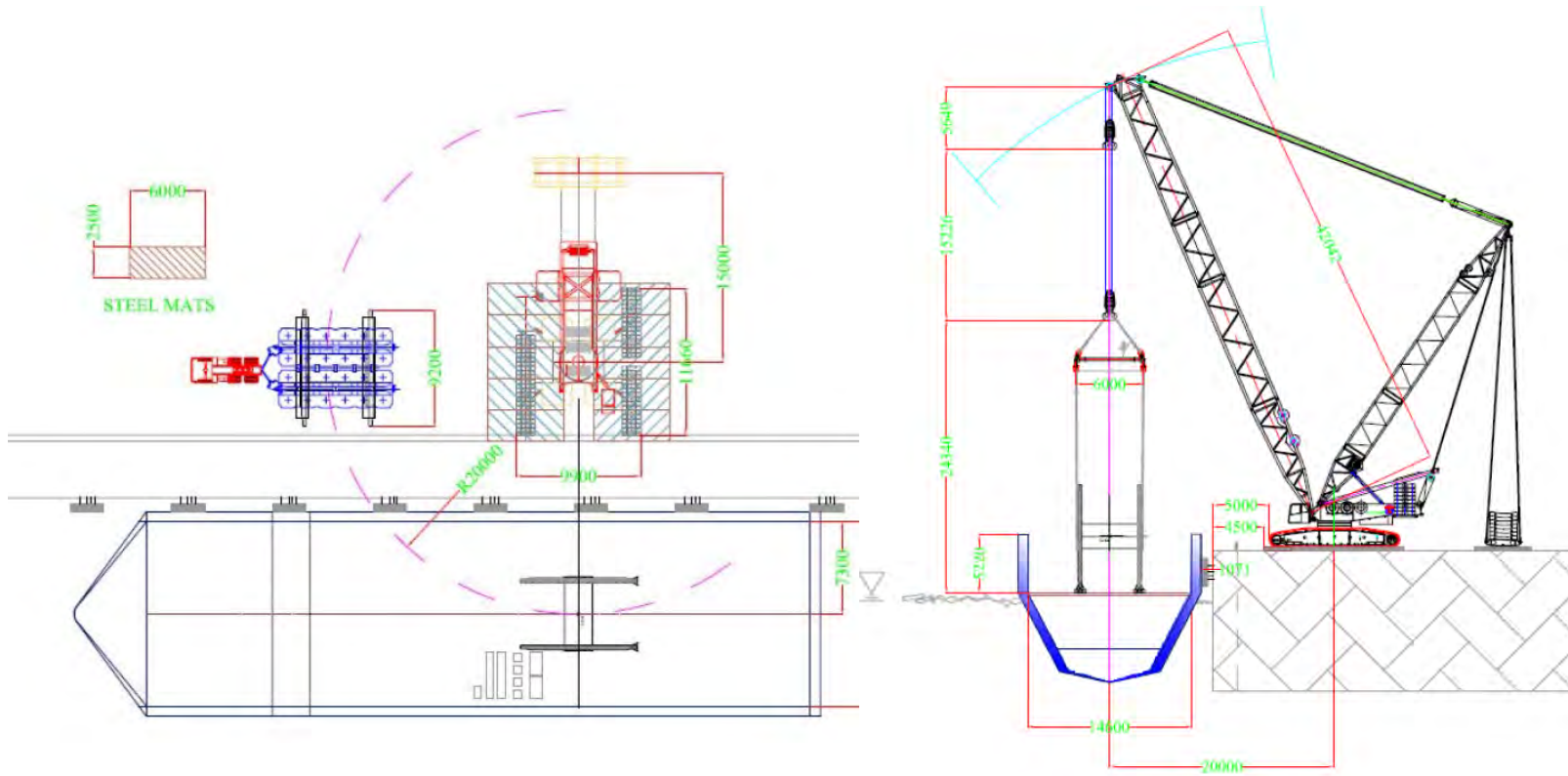
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Heavy Lifting Operations



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CRAWLER CRANE: 168mT Drum



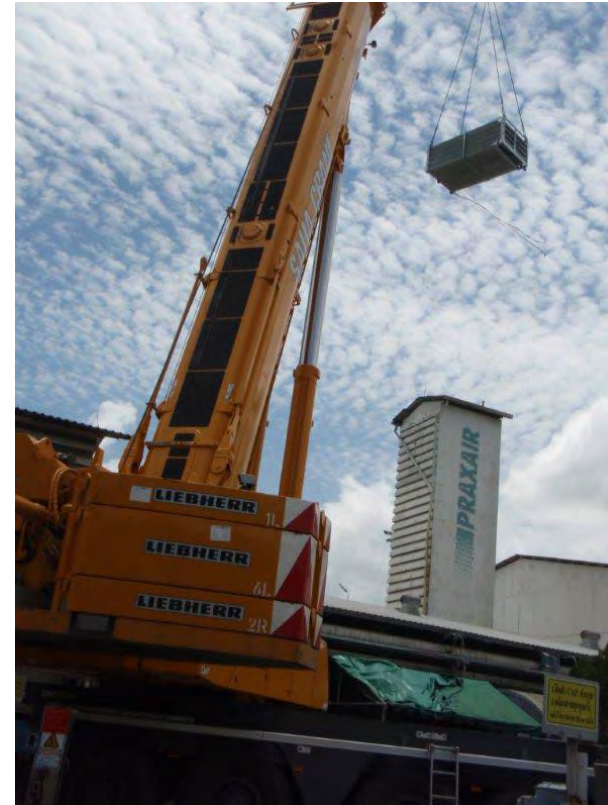
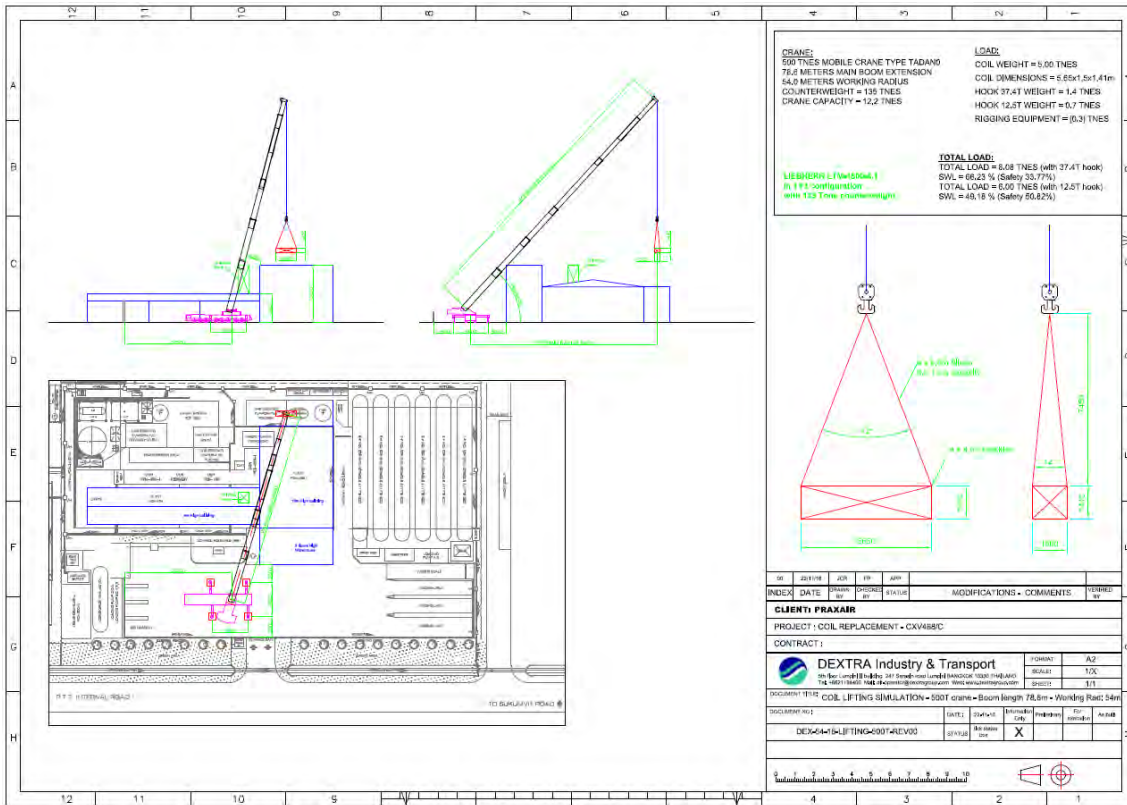
ENGINEERING SERVICES

Heavy Lifting Operations



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MOBILE CRANE:



ENGINEERING SERVICES

Heavy Lifting Operations

FLOATING CRANE:



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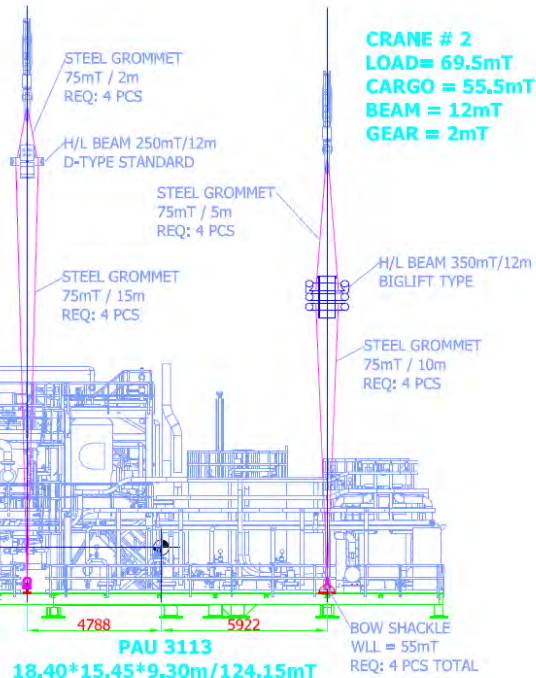
Heavy Lifting Operations



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GEARED VESSEL:

CRANE # 3
LOAD = 78.95mT
CARGO = 68.65mT
BEAM = 8.3mT
GEAR = 2mT



ALL GEAR SUPPLIED BY CARRIER



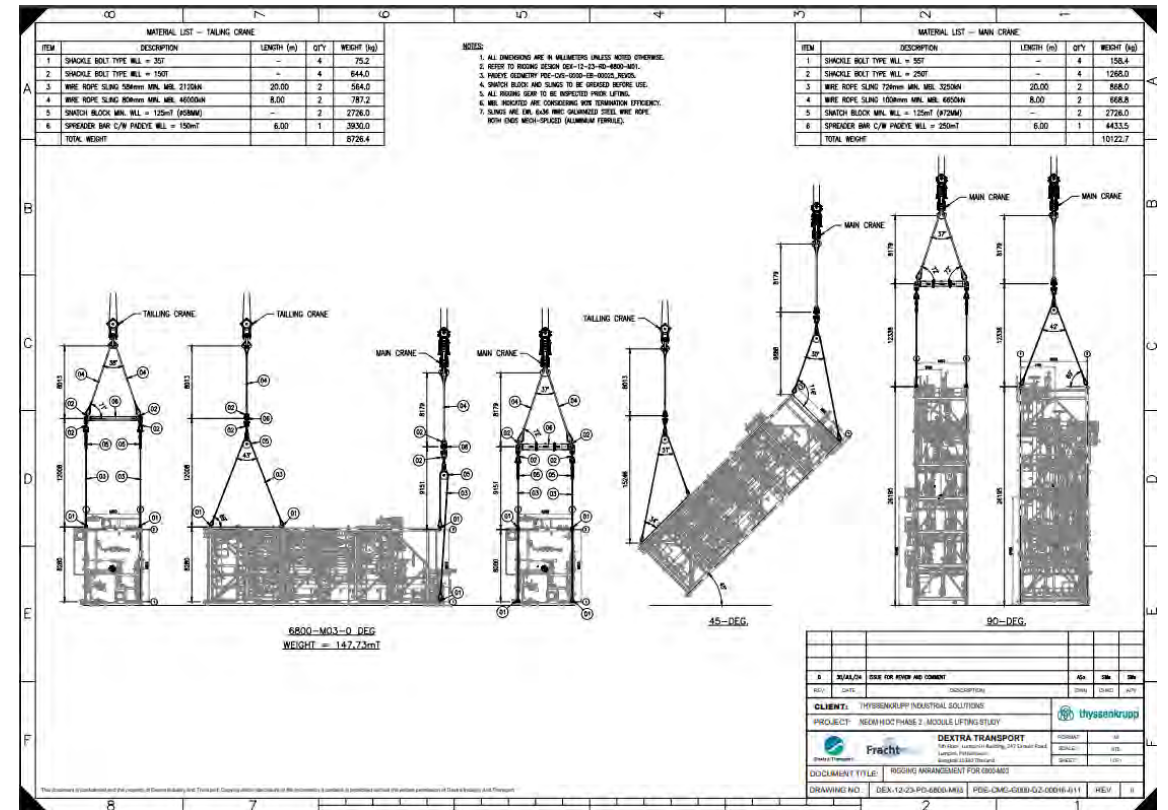
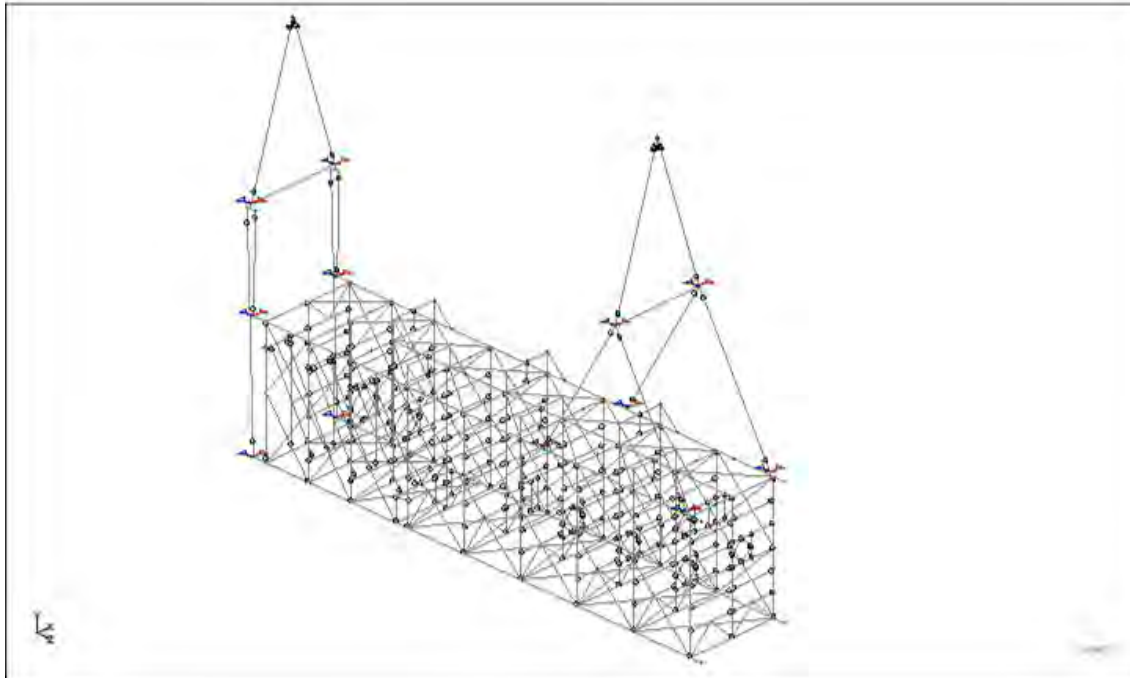
ENGINEERING SERVICES

LIFTING STUDIES



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LIFTING ANALYSIS:



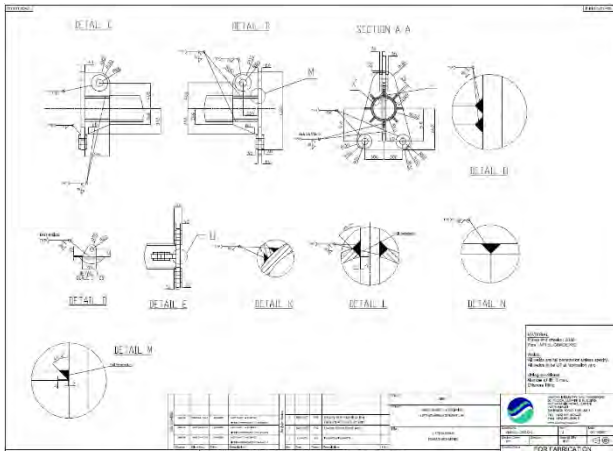
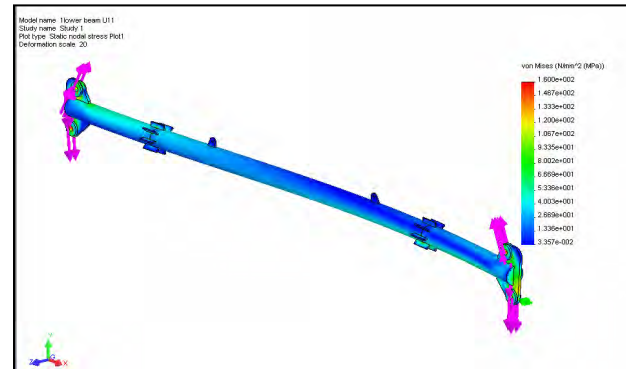
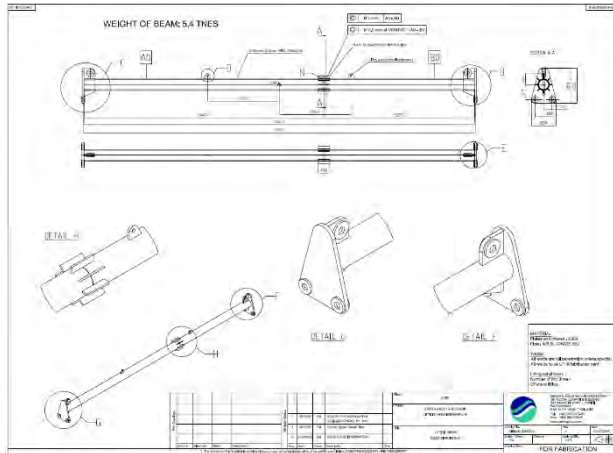
ENGINEERING SERVICES

LIFTING STUDIES



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LIFTING EQUIPMENT DESIGN:



ENGINEERING SERVICES

INDUSTRIAL RELOCATION



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Other engineering services that we could provide:

- Plant Dismantlement and Relocation
- Packaging and Packing
- Gantry crane study for machinery installation
- Tailor made handling equipment design and fabrication
- Jacking and skidding studies



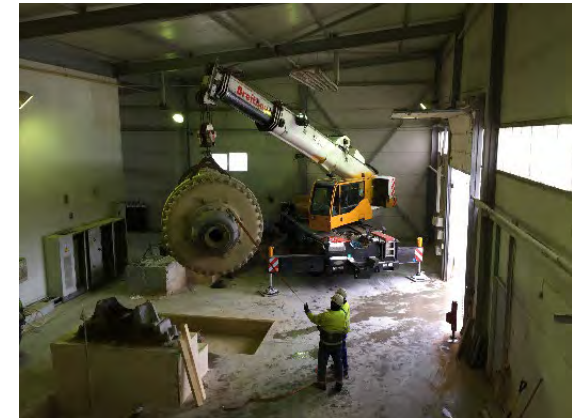
ENGINEERING SERVICES

INDUSTRIAL RELOCATION



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PLANT DISMANTLEMENT AND RELOCATION:



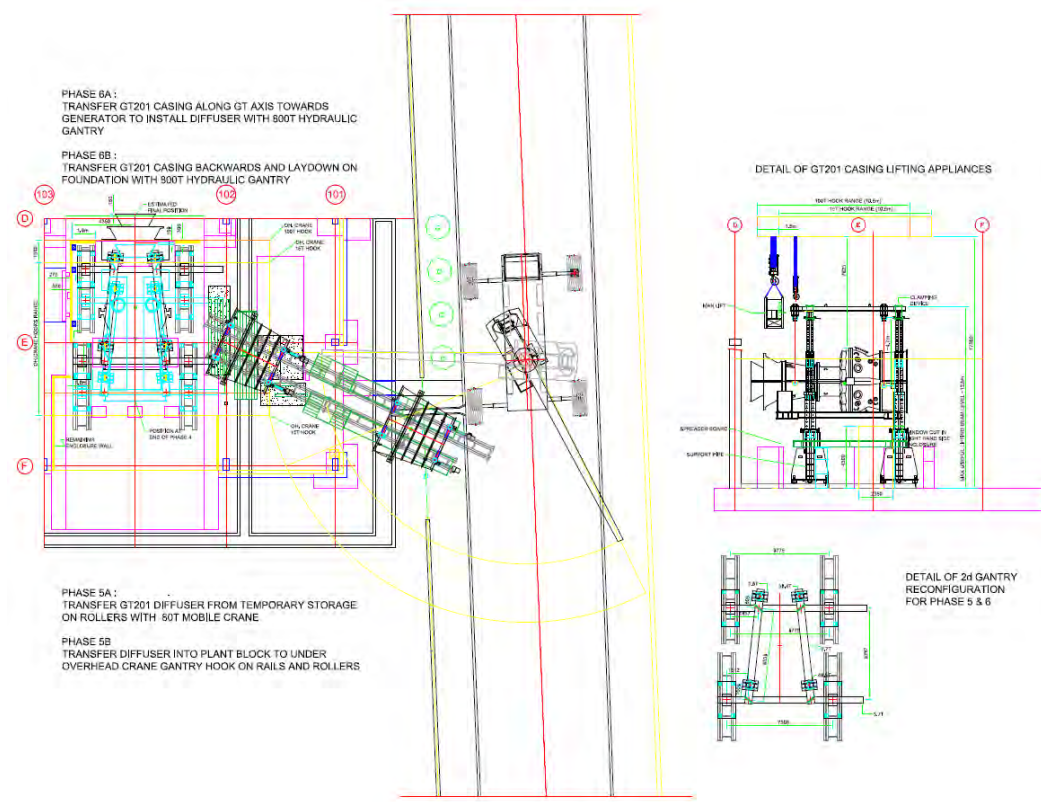
ENGINEERING SERVICES

INDUSTRIAL RELOCATION



Dextra Transport

MACHINERY INSTALLATION:



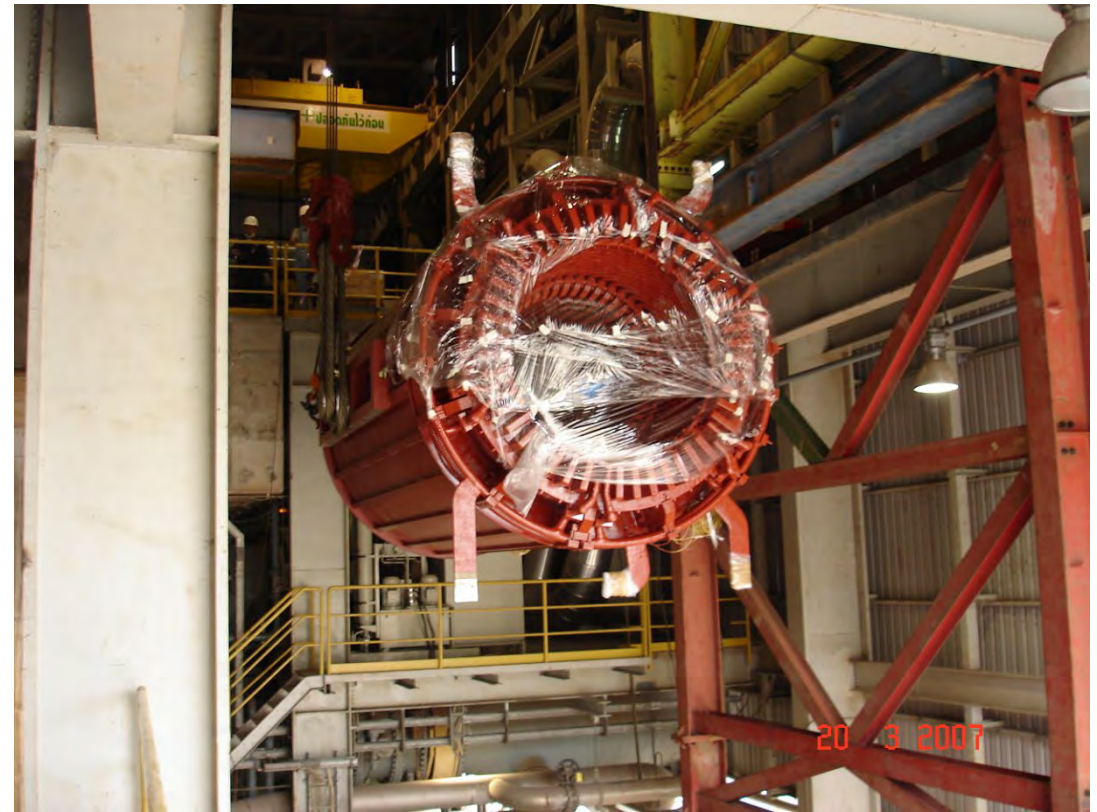
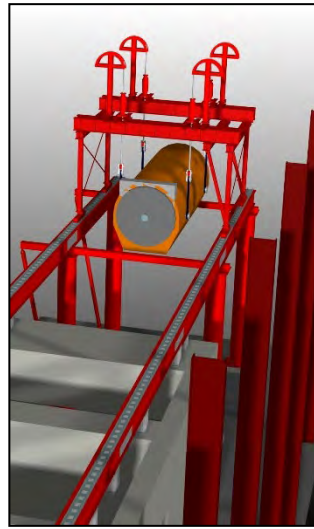
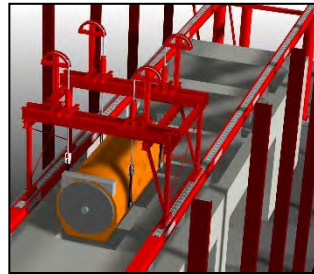
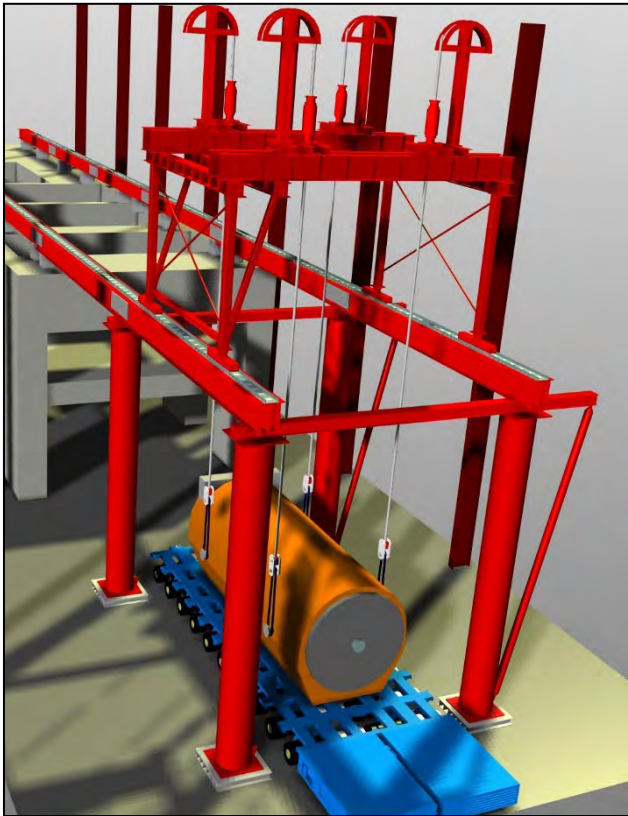
ENGINEERING SERVICES

INDUSTRIAL RELOCATION



Dextra Transport

MACHINERY INSTALLATION:



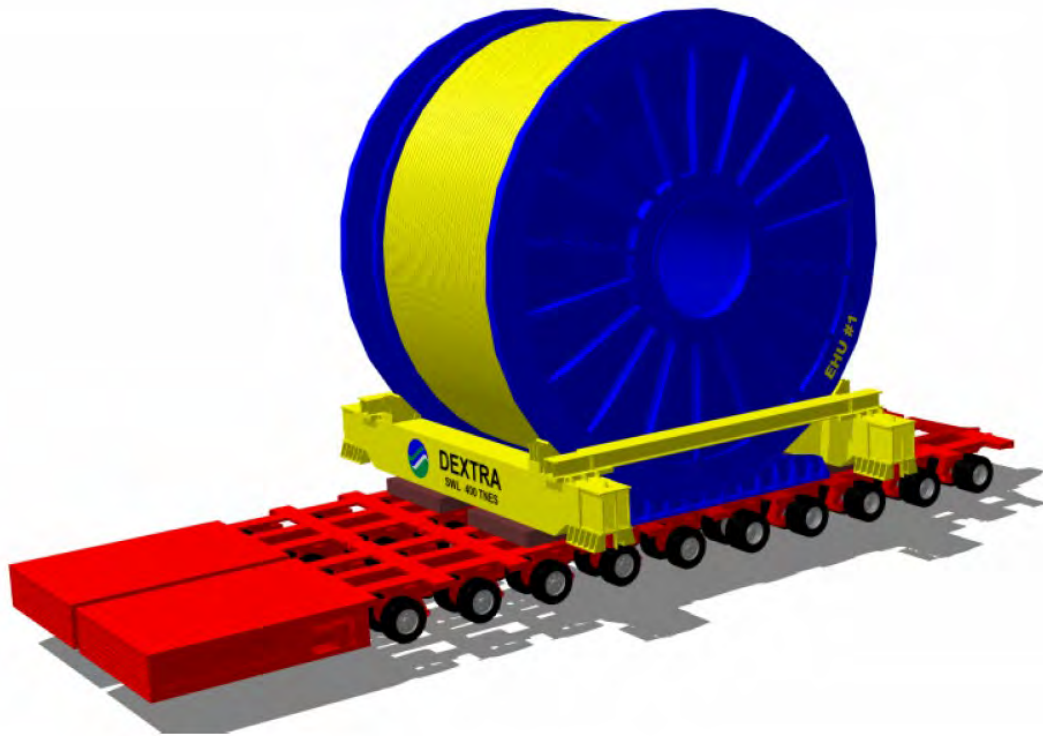
ENGINEERING SERVICES

INDUSTRIAL RELOCATION



Dextra Transport

HANDLING EQUIPMENT:



ENGINEERING SERVICES

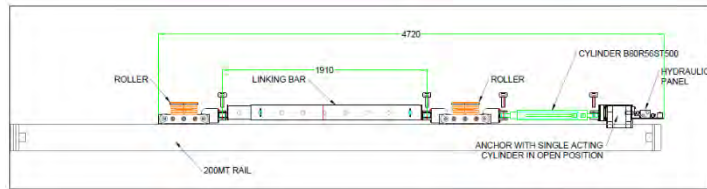
INDUSTRIAL RELOCATION



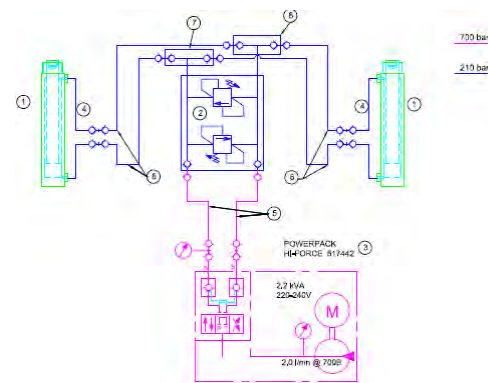
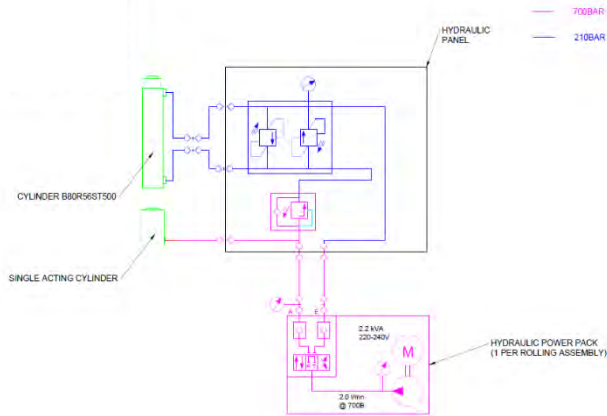
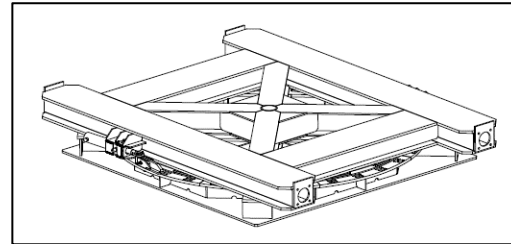
Dextra Transport

HANDLING EQUIPMENT:

Rolling System



Turntable



AGENDA

1. INTRODUCTION
2. ENGINEERING SERVICES
 - a) Marine Heavy Lift and Transport Operations
 - b) Land based Heavy Transport Operations
 - c) Heavy Lifting Operations
 - d) Industrial Relocation
3. PROJECT SERVICES
 - a) Project Management
 - b) Planning
 - c) Budgeting
 - d) Surveys and Inspections
4. MAJOR PROJECT TRACK RECORDS



PROJECT SERVICES

OVERVIEW



Dextra Transport



PROJECT SERVICES

Project Management

Dextra Engineering team can provide Project Management Services specialized in Heavy Lift and Transport projects Worldwide including but not limited to:

- Early Involvement, leading kickoff meetings
- Project preparations phase, equipment and personnel selection and assessment
- Execution phase, ensure operations will be done as per engineered studies and Method Statements
- Completion and handover to client
- Evaluation and close out, lessons learned session

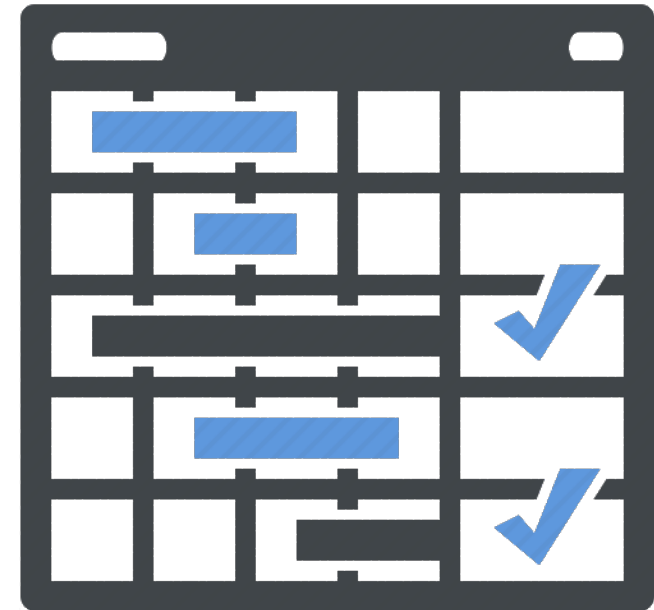


PROJECT SERVICES

Planning

Our team can support you efficiently during bidding and/or project execution on the planning aspects of your Project or partial scopes

- Identify the project objectives
- Present clear deliverables and deadlines to Project Team
- Provide detailed Project schedule, advise on equipment and personnel needs and numbers
- Define roles and responsibilities amongst the Project Team
- Use the right Processes and Systems to monitor and manage the Project



PROJECT SERVICES

Budgeting

Our team has the skills to provide an accurate Project Budget with clear cost centers identified and recommendations for savings

- Investigate resource information and follow Project Policies
- Forecasting the price of the complete project with a defined scope, clearly showing estimates basis
- Regularly reporting to Management to identify changes and potential budget risks using simple and easy one view sheets
- Measure Project performance based on expense, progress and commitments



PROJECT SERVICES

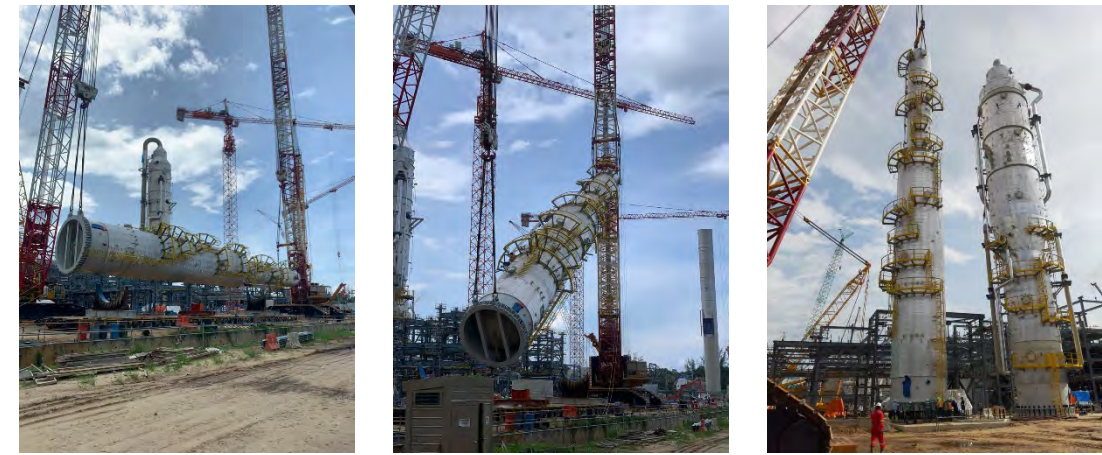
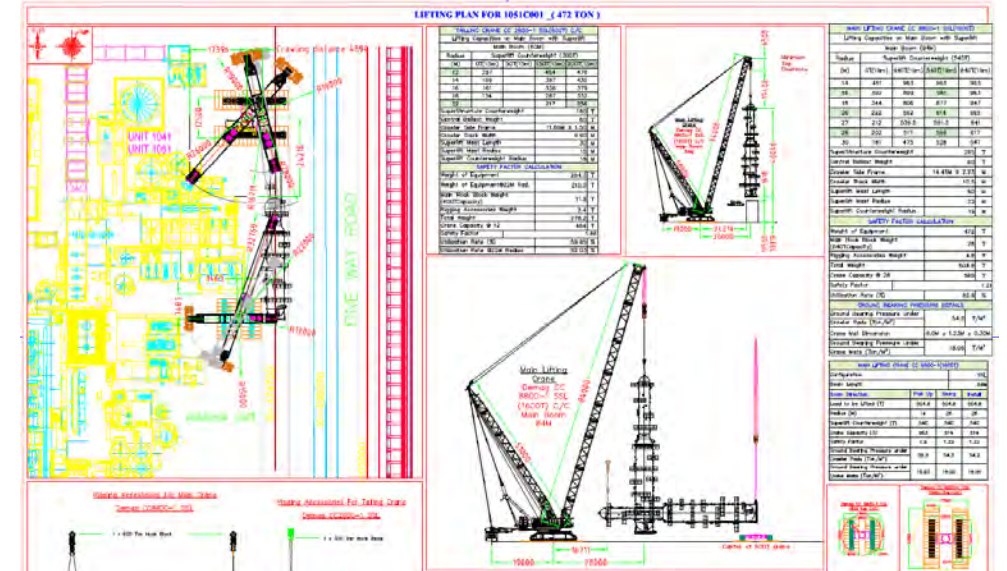
Surveys/Inspections and Consultancies



Dextra Transport

Our team has the skills and flexibility to bridge the engineering and the operations by:

- Design and manufacturing consultancy to ensure cargo suitability for intended transport
- Shipment planning and Preloading surveys
- Cargo Inspection damage and reports
- Marine assets survey and control of documentation and certificates
- Installation Supervision; verify, review and approve installation plans e.g. lifting- and rigging studies
- Two of our staff are Qualified Lloyd's Maritime Academy Marine Surveyors



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MAJOR PROJECT TRACK RECORDS



CRISP Package B & C
Tecnicas Reunidas
22 shipments of furnaces
& Modules (up to 4300mT)
Thailand to Singapore



Due Care Removal
General Motors
Transfer of engine block
and production lines
Thailand to Brazil



MAJOR PROJECT TRACK RECORDS



RAPID package 3
Tecnicas Reunidas
Crossover ducts hydrogen
production facility
Malaysia



Gas Turbine outage
EGAT / General Electric
Gas Turbine casings
installation
Thailand

Tan Burrup Project
Tecnicas Reunidas
Numerous sea/land
module shipments (up to
800mT)
Indonesia to Western
Australia



ARTHIT Project
CO2 separator offshore
modules
Thailand



PROJECT TRACK RECORDS



AAC factory dismantlement
Remote Group
1250mT of equipment to
be dismantled and pack in
containers
Latvia



Apache Reel Umbilical
JDR Cables
Numerous sea/land
drums shipments
Thailand

Brunei Fertilizer Project
thyssenkrupp Industrial
Solutions
Transshipments of project
equipment (300,000
freight tons)
Brunei



Lekas LNG Regasification
Aibel / Petronas
900mT module Load in
Thailand



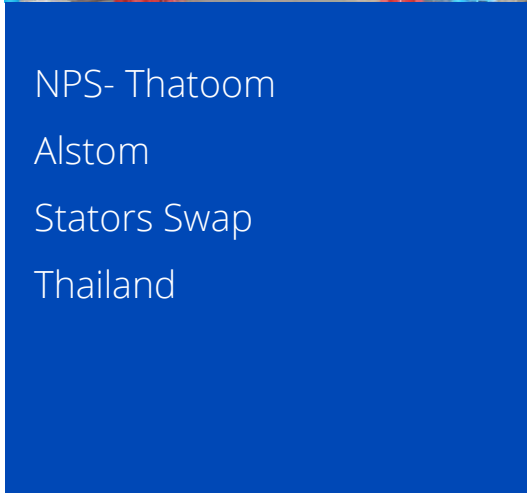
PROJECT TRACK RECORDS



MTB HP JV
Toyothai
Columns Transport
Korea



Bang Pakong Combined
Cycle
Vogt Power
Superheaters shipments
Thailand



NPS- Thatoom
Alstom
Stators Swap
Thailand



Cracker Project
MOC
Project Equipment
Shipments
Japan / Thailand





Dextra Transport

Thank you

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