



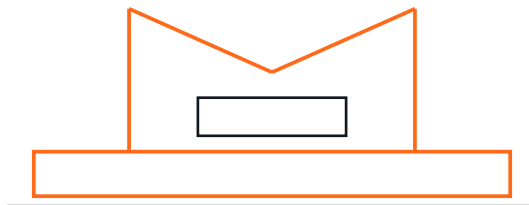
**JMR LIFTING SOLUTIONS**

Certified Heavy Lift Engineering

# LIFT PLAN

## Offshore Platform Living Quarters Module Lift

Plan number: LP-2026-005



|                    |                                                   |
|--------------------|---------------------------------------------------|
| CLIENT             | [CLIENT CONFIDENTIAL]                             |
| LOCATION           | [LOCATION CONFIDENTIAL]                           |
| REVISION           | Rev 0 — SAMPLE                                    |
| DATE               | 02 August 2026                                    |
| PREPARED BY        | Muthuraj Jeyabal, LEEA Certified Appointed Person |
| AP CERTIFICATE NO. | 8234-13608-8667-27-1                              |
| REVIEWED BY        | JMR Lifting Engineering                           |
| STANDARDS          | BS 7121 · LOLER 1998 · ASME B30                   |

## 01 Executive Summary & Scope

Single lift installation of a Living Quarters (LQ) module from cargo barge onto a fixed jacket platform using a semi-submersible heavy-lift vessel within a defined weather window.

### Key Parameters

| Parameter              | Value                                        |
|------------------------|----------------------------------------------|
| Load weight (t)        | <b>380 t</b>                                 |
| Dimensions (L × W × H) | <b>22 m x 18 m x 8 m</b>                     |
| Lift radius (m)        | <b>32 m</b>                                  |
| Lift height (m)        | <b>45 m</b>                                  |
| Duration (est.)        | <b>8 hrs total</b>                           |
| Location               | <b>Offshore fixed platform (West Africa)</b> |

### Critical Risks

- Load overload beyond crane rated capacity at working radius
- Loss of control during dynamic/weather-sensitive lift phases
- Rigging failure due to incorrect sling angle or WLL selection
- Ground/foundation bearing failure under crane or outrigger loads

## 02 Load Data, Centre of Gravity & Dimensions

Fully outfitted Living Quarters module, lifted from transport barge and set directly onto jacket support structure.

### Weight Breakdown

| Component                    | Weight  |
|------------------------------|---------|
| Module structural steel      | 298.0 t |
| Outfitting & equipment       | 70.0 t  |
| Lifting padeyes/attachments  | 4.0 t   |
| Uncertainty allowance (2.1%) | 8.0 t   |
| Total                        | 380.0 t |

### Centre of Gravity

| Parameter | Value                             |
|-----------|-----------------------------------|
| X-axis    | 11.0 m from module centreline (X) |
| Y-axis    | 9.0 m (Y)                         |
| Z-axis    | 4.0 m above base (Z)              |

### Lift Points

4 no. heavy padeyes at module corners, rated for offshore dynamic loading

### Dimensional Sketch

Simplified load outline with centre-of-gravity marker (not to scale):



## 03 Crane Selection & Configuration

### Selected Crane: HLV Saipem 7000 (semi-sub)

| Parameter                  | Value                                      |
|----------------------------|--------------------------------------------|
| Rated capacity             | 7000 t                                     |
| Boom length                | See configuration                          |
| Configuration              | Main hook 7000 t capacity, aux hook 2500 t |
| Working radius             | 32 m                                       |
| Capacity at working radius | 7000 t                                     |

### Utilization Calculation

$(380 \times 1.25) / 7000 = 6.8\%$ . Sea state  $H_s < 2.0$  m required.

Utilization result: **6.8%** (within 85% safe working threshold)

### Ground Bearing Pressure

Not applicable - floating heavy-lift vessel; hull ballast and mooring system react all lift loads.

### Standing / Pick Radius

Working radius maintained at 32 m throughout the critical lift phase.

## 04 Load Chart & Utilization Calculation

Manufacturer load chart extract for the selected boom/jib configuration:

| Radius                      | Capacity      |
|-----------------------------|---------------|
| 20 m                        | 7000 t        |
| <b>32 m → WORKING POINT</b> | <b>7000 t</b> |
| 40 m                        | 6200 t        |
| 48 m                        | 5100 t        |
| 56 m                        | 4300 t        |

### Dynamic Amplification Factor (DAF)

DAF applied: **1.25**

### Total Lifted Load Including DAF

$(380 \times 1.25) / 7000 = 6.8\%$ . Sea state  $H_s < 2.0$  m required.

### Ground Pressure Calculation

Not applicable - floating heavy-lift vessel; hull ballast and mooring system react all lift loads.

## 05 Rigging Configuration

| Parameter              | Value                                                             |
|------------------------|-------------------------------------------------------------------|
| Sling type             | <b>4-point wire rope spreader beam sling set, offshore-rated</b>  |
| Sling angle (min.)     | <b>70°</b>                                                        |
| Number of slings       | <b>4</b>                                                          |
| WLL per sling          | <b>150 t</b>                                                      |
| Shackle grade          | <b>Crosby G-2140 200 t bow shackle, offshore certified</b>        |
| Spreader / master link | <b>4-point spreader beam, rated 600 t, dynamic-load certified</b> |

### Rigging Schematic (Summary)

| Component                   | Specification                                                 |
|-----------------------------|---------------------------------------------------------------|
| Hook / block                | Rated to crane main hoist capacity, latch-equipped            |
| Master link / spreader      | 4-point spreader beam, rated 600 t, dynamic-load certified    |
| Sling legs                  | 4 × 4-point wire rope spreader beam sling set, offshore-rated |
| Shackles                    | Crosby G-2140 200 t bow shackle, offshore certified           |
| Sling angle from horizontal | 70° (minimum safe angle 60° unless noted)                     |

### Sling Length Calculation

With a sling angle of 70° from horizontal, sling length is derived from headroom and spread geometry per rigging arrangement drawing; angle maintained  $\geq$  the minimum safe angle for the configuration.



## 06 Rigging Load Calculations

### Individual Sling Load

Formula: Sling load = (Load × DAF) ÷ (n × sin θ)

$(380 \times 1.25) / (4 \times \sin 70\text{deg}) = 126 \text{ t per sling} \rightarrow \text{select } 150 \text{ t WLL sling}$

| Parameter                      | Value              |
|--------------------------------|--------------------|
| Calculated sling load          | <b>126 t</b>       |
| Selected sling WLL             | <b>150 t</b>       |
| Sling utilization              | <b>84.0%</b>       |
| Sling safety factor (design)   | <b>5:1 minimum</b> |
| Shackle safety factor (design) | <b>4:1 minimum</b> |

### Safety Factor Basis

All wire rope slings are selected to a minimum design factor of 5:1 against minimum breaking load, in accordance with LEEA COPSULE guidance. All shackles are selected to a minimum design factor of 4:1. Working load limits (WLL) are marked and certificated per item.

## 07 Ground Bearing & Site Layout

### Ground Bearing Pressure

Not applicable - floating heavy-lift vessel; hull ballast and mooring system react all lift loads.

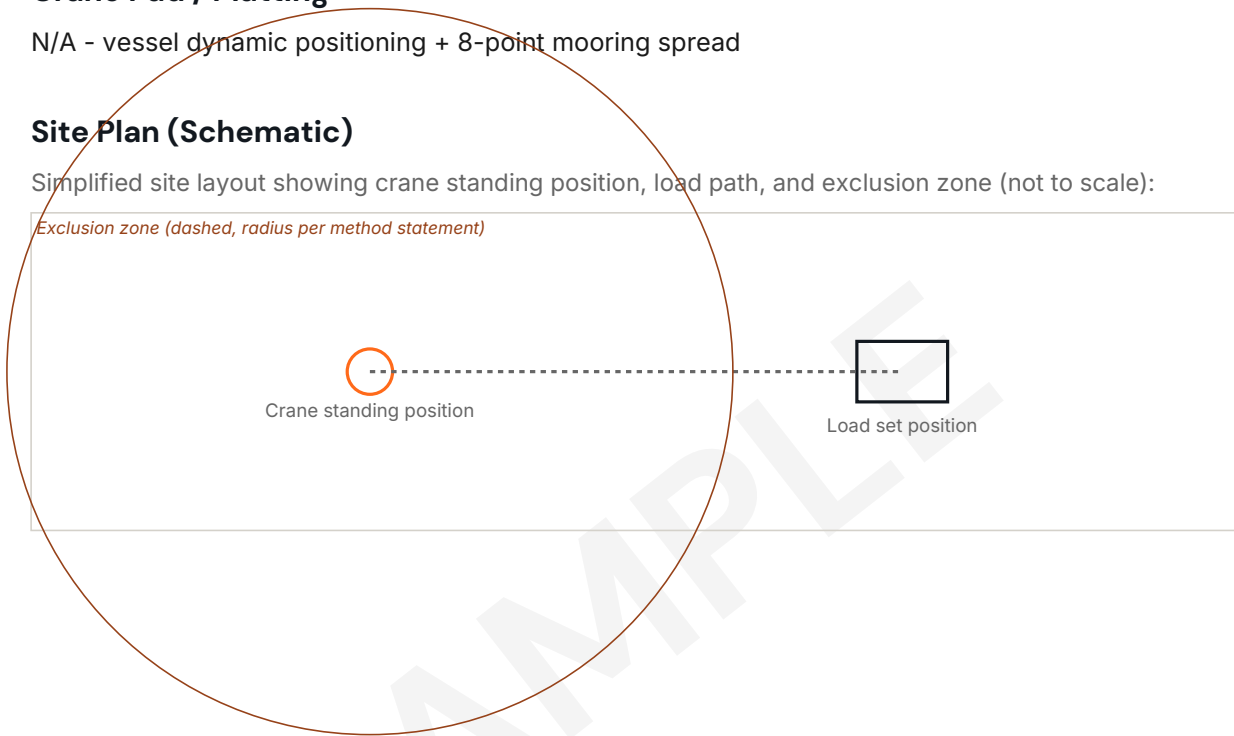
### Crane Pad / Matting

N/A - vessel dynamic positioning + 8-point mooring spread

### Site Plan (Schematic)

Simplified site layout showing crane standing position, load path, and exclusion zone (not to scale):

*Exclusion zone (dashed, radius per method statement)*



## 08 Risk Assessment (BS 7121 Format)

Risk scoring uses Likelihood (L) × Severity (S), each rated 1–5. Residual score after controls is shown in the right-hand columns.

| Hazard                              | L | S | Score | Controls                                                                              | L | S | Score |
|-------------------------------------|---|---|-------|---------------------------------------------------------------------------------------|---|---|-------|
| Overload beyond crane capacity      | 3 | 5 | 15    | Load chart verified; utilization capped below 85%; independent AP check               | 1 | 5 | 5     |
| Crane mechanical/structural failure | 2 | 5 | 10    | Pre-use inspection; current LOLER thorough examination certificate                    | 1 | 5 | 5     |
| Load drop during lift               | 2 | 5 | 10    | Certified rigging, redundant sling legs, trial lift at 25% load                       | 1 | 5 | 5     |
| Adverse weather conditions          | 3 | 3 | 9     | Weather forecast monitoring; defined go/no-go thresholds                              | 1 | 3 | 3     |
| Personnel struck by load/rigging    | 3 | 4 | 12    | Exclusion zone enforced; banksman control; no personnel under suspended load          | 1 | 4 | 4     |
| Ground/foundation failure           | 2 | 5 | 10    | Ground bearing calculation verified; crane mats/pads sized to load                    | 1 | 4 | 4     |
| Sling/shackle failure               | 2 | 5 | 10    | Certified rigging to 5:1 (sling) / 4:1 (shackle) design factor; pre-use inspection    | 1 | 5 | 5     |
| Overhead obstruction contact        | 2 | 4 | 8     | Route survey completed; spotter assigned; boom angle indicator monitored              | 1 | 3 | 3     |
| Sea state exceedance                | 3 | 5 | 15    | Weather window forecast 12 hr calm; Hs < 2.0 m hard limit; DP2 vessel station-keeping | 1 | 5 | 5     |

Risk score key: **1–6 Low** · **7–12 Medium** · **13–25 High** — all residual scores must be Low or Medium with documented additional controls before lift authorization.

## 09 Method Statement

1. Confirm current LOLER thorough examination certificates for crane(s), rigging, and lifting accessories.
2. Conduct toolbox talk with all lift personnel; confirm roles per Section 11.
3. Establish exclusion zone and barrier the lift area; brief banksman and signaller.
4. Position crane(s) on verified ground bearing / matting per Section 07; set outriggers (if mobile) to full extension.
5. Rig load per configuration in Section 05; attach taglines; conduct visual rigging inspection.
6. Perform trial lift: raise load approximately 300 mm, hold at 25% of test criteria for a minimum dwell to verify rigging geometry, crane response, and brake holding.
7. Confirm sling angles, load indicator readings, and COG behavior match plan before proceeding.
8. Execute main lift at working radius 32 m
9. Travel/luff/slew load along planned path, maintaining radius and load chart compliance throughout.
10. Position load over set point; lower under controlled taglines to final bearing/foundation.
11. Confirm secure landing, release rigging tension gradually, and inspect for damage.
12. De-rig, remove accessories, and return crane to travel/stow configuration.
13. Conduct post-lift debrief and close out permit-to-work documentation.

## 10 Roles & Responsibilities

| Role                | Assignment                                                                                                                |
|---------------------|---------------------------------------------------------------------------------------------------------------------------|
| Appointed Person    | Muthuraj Jeyabal, LEEA Certified Appointed Person (Cert. No. 8234-13608-8667-27-1) — overall lift planning responsibility |
| Lift Supervisor     | [TBD — assigned at mobilization, LEEA/CPCS certified]                                                                     |
| Crane Operator(s)   | [Certified operator(s), current CPCS/NPORS or equivalent license]                                                         |
| Slinger / Signaller | [Certified slinger/signaller per LEEA/CPCS standard]                                                                      |
| Banksman            | [Certified banksman — controls exclusion zone and ground personnel]                                                       |
| Reviewed by         | JMR Lifting Engineering                                                                                                   |

### Contact

JMR Lifting Solutions — [contact@jmrlifting.com](mailto:contact@jmrlifting.com)

SAMPLE

## 11 Approvals & References

### Signature Block

| Role                   | Name                                              | Signature / Date |
|------------------------|---------------------------------------------------|------------------|
| Appointed Person       | Muthuraj Jeyabal, LEEA Certified Appointed Person |                  |
| Client Representative  | [CLIENT CONFIDENTIAL]                             |                  |
| HSE Representative     | [TBD]                                             |                  |
| Client Project Manager | [CLIENT CONFIDENTIAL]                             |                  |

### References

- BS 7121-1:2016 — Code of practice for the safe use of cranes
- LOLER 1998 — Lifting Operations and Lifting Equipment Regulations (UK)
- ASME B30.5 — Mobile and Locomotive Cranes
- LEEA COPSULE — Code of Practice for the Safe Use of Lifting Equipment
- Crane manufacturer load chart (referenced Section 04/05)

This document is a SAMPLE lift plan produced for demonstration purposes only. It does not constitute an approved lift plan for any live lifting operation. Actual JMR Lifting Solutions project deliverables include site-specific surveys, certified equipment schedules, and a signed authorization prior to any lift.