

Technical Note

CLIENT:	Port of Mostyn Limited
PROJECT:	MEP Landside Development
SUBJECT:	Technical Note relating to development at Mostyn Energy Park
JOB NO.:	ST20348
DATE:	31 July 2023
PREPARED BY:	Jo French - Principal Transport Planner
REVIEWED BY:	Ian Cronshaw – Associate Director, Transport Planning
ISSUE	Final

1 INTRODUCTION

1.1 Overview

1.1.1 Wardell Armstrong has been commissioned by Port of Mostyn Limited to prepare a Technical Note to support a planning application for the proposed new development at Mostyn Energy Park within the Port of Mostyn. Mostyn is located in Flintshire, North Wales. The Port has access to the Irish Sea via the River Dee estuary. In recent years Mostyn has been developed to become one of Europe’s most important ports for the offshore renewable energy sector.

1.1.2 The development site is located off the A548 between Chester and Prestatyn. The Port and Energy Park is also served by a spur to the national rail network. Due to the nature of the offshore wind turbine business, most freight traffic to the development site will be by sea.

1.1.3 The planned development is for change of use from a port to undertaking manufacture of concrete gravity bases and steel structures for offshore wind turbines. It complements a Marine Works Application previously submitted in February 2023 for a marine Berth Extension with an adjoining 5 hectare component storage and turbine assembly area. This proposal extends landside development across a 32 hectare site to include workshops and warehousing (up to 8000m²), cement and aggregate storage and batching plants, with a car park for up to 200 vehicles. Construction and operation of the new development will require a workforce of up to 1000 workers.

1.1.4 This technical note addresses likely traffic generation to and from the site both during 5-6 year construction and operation period. The impact assessment will focus on traffic on the A548.

2 BASELINE HIGHWAY CONDITIONS

2.1 Baseline traffic

2.1.1 Highway access to Mostyn Energy Park is provided via the single carriageway A548. The A548 has a signal-controlled junction with Dock Road, signed to the Port and Business Area. Dock Road crosses a railway line via an overbridge at the junction. There are no signed weight restrictions. However, it is understood there is a 12-tonne per axle weight restriction on the overbridge that would prevent access for abnormal loads. A secondary gated access to the port site is available from A548 circa 1km west of the Dock Road/A548 junction. This provides access to the site via a level crossing for any traffic that exceeds the 12-tonne per axle weight restriction.

2.1.2 Traffic flow data is available from the UK Department for Transport¹. The nearest sites to Mostyn Port and Energy Park on the A548, which have data available via the UK Department for Transport, are located at Gronant (Department for Transport site reference 10619) and Greenfield (site reference 30621). Gronant is located around 5 miles from Mostyn and Greenfield is 3.5 miles distant. Given that the A548 is a main road it is likely that traffic conditions at the junction with Dock Road Mostyn are similar to the two count sites. The most recent traffic data is summarised below.

Location	Traffic Count Year	Hourly flows (%)			Daily flow (vehicles)
		8-9am	2-3pm	4-5pm	
A548 Gronant	2016	8%	8%	11%	10107
A548 Greenfield	2020	8%	10%	10%	8632
Average of both sites	N/A	8%	9%	10.5%	9370

¹ Available at <https://roadtraffic.dft.gov.uk/>

Table 1 **Summary of DfT data**

2.1.3 Table 1 shows that the peak hour for traffic is 4-5pm, accounting for around 10% of the daily traffic. Other UK Department for Transport data also suggests that traffic flows on the A548 have been broadly stable over recent years. For example, the previous equivalent traffic counts showed 8060 vehicles per day at Gronant in 2010 and 9354 vehicles in 2012 at Greenfield.

2.2 Permitted use traffic on the site

2.2.1 Current traffic to and from the site can be assessed on its permitted use as a port. Ro-ro ferries (which used the port up until 2020) at Mostyn had up to 98000 container lorries per annum using the site. This equates to an average of 268 HGVs per day, although clearly there would be material variation in this number from day to day. In addition, staff trips associated with the Ro-ro operation were undertaken to/from the site.

3 **TRAFFIC IMPACT**

3.1.1 It is proposed to change the use of the development site from port to manufacturing of offshore wind turbine bases, as detailed above. The main traffic consequence of this change of use is that port employee travel will change to manufacturing worker travel to and from the site.

3.1.2 Up to 1000 workers are estimated to be required on site, and this is the worst-case scenario. Generally, construction/manufacturing workers are accommodated locally, travel to the site by coach or minibus and working in shifts to expedite the construction/manufacture phase. The site will operate over 24-hours with two 12-hour shifts, and a maximum of 500 workers per shift at peak production, although the number of workers will be less for the majority of shifts.

3.1.3 Assuming one third of construction workers travel by car (average occupancy of 1.6 people), another third by minibus (average occupancy 12) and the final third by coach (average occupancy 49), total traffic generated during a shift changeover period is estimated at 241 vehicles, or 482 vehicles taking account of both shift changes during a 24-hour period.

3.1.4 It is anticipated that shift changes will occur outside the peak hours on the A548. Therefore, not material traffic generation will occur at peak times.

- 3.1.5 Daily Background traffic on the A548 is estimated as above in Table 1 at approximately 9370 vehicles. In this worst case scenario the traffic impact of the construction of the development is 5.1%. This is substantially below the 30% threshold figure provided in the Institute of Environmental Management and Assessment (IEMA) guidance on environmental impact assessment. Below the 30% threshold the traffic impacts of the proposal are unlikely to be significant.
- 3.1.6 This traffic generation should be considered in the context, significant HGV traffic generation of the previous Ro-ro use of the site. Based on the annual use of the Ro-ro facility equating to 281 HGVs per day, plus light vehicle movements for staff traffic, the daily traffic generation at peak use will be a reduction compared with the existing use, when compared as PCU values.
- 3.1.7 However, the impact will depend on actual travel behaviour and in particular the likely share of traffic by cars to the site. An active approach to managing use of construction workers' cars could help ensure that traffic impacts are minimised, and this is proposed by operating shuttle buses from off-site workers accommodation.

4 CONCLUSIONS

- 4.1.1 Wardell Armstrong (WA) has been commissioned by Port of Mostyn Limited to prepare a traffic Technical Note in support of the planning application for the change of use to manufacture of offshore wind turbine foundations at Mostyn Energy Park from the operation as a port. Construction of the facility and operation as a manufacturing facility is estimated to take place over a 5-6 year period.
- 4.1.2 The site is located on the A548. Primary access to the Port is via Dock Road, which forms a signal-controlled junction with A548. Circa 1km west, there is a secondary direct gated access from A548 via a level crossing of the railway, for loads which exceed weight restrictions on a railway overbridge on Dock Road.
- 4.1.3 The majority of materials for construction of facility and for manufacture of turbine foundation will be brought to site by sea. Therefore, this assessment is primarily focussed on the potential impact of staff trips on the highway network.
- 4.1.4 Our analysis makes use of UK Department for Transport data on background traffic on nearby sites on the A548. Our estimates of traffic generated by the development and its construction find that traffic impacts are substantially below the 30% threshold that would make a perceptible difference to current conditions and are therefore unlikely to be significant.

4.1.5 However, managing access to the site for construction workers and in particular minimising use of construction worker cars could help ensure traffic impacts are minimised. Proposals to operate a shuttle bus service between the site and off-site worker accommodation will help ensure that private vehicle trips are practically minimised.

4.1.6 It is concluded that the proposed development will have no material impact on the operation of the local highway network, and there is no traffic or transport reason for the refusal of the planning application.