





# **Kishorn Port & Dry Dock Applecross, Scotland**

**Opportunities for the Oil & Gas &  
Offshore Renewable Energy Sectors**



# **A History of the Kishorn Yard and Dry Dock since 1972**



The Kishorn Yard and Dry Dock lies at the head of the deep fjord-like Loch Kishorn. A deep channel gives access to the North Atlantic via the Sound of Raasay and The Minch





Satellite photo of N. Scotland showing the location of Kishorn







Aerial photo of the Kishorn Yard taken in 2013 with the Applecross mountains in the background and the Bealach na Ba road winding up to the Pass. At 626m, it is the 3<sup>rd</sup> highest road in Scotland





Aerial photo of the Kishorn Yard taken in 2013 with Skye and Raasay in the distance. Loch Kishorn is a deep sheltered sea loch with water depths in excess of 100m





# **The History of the Kishorn Yard from the 1970's to 2019**





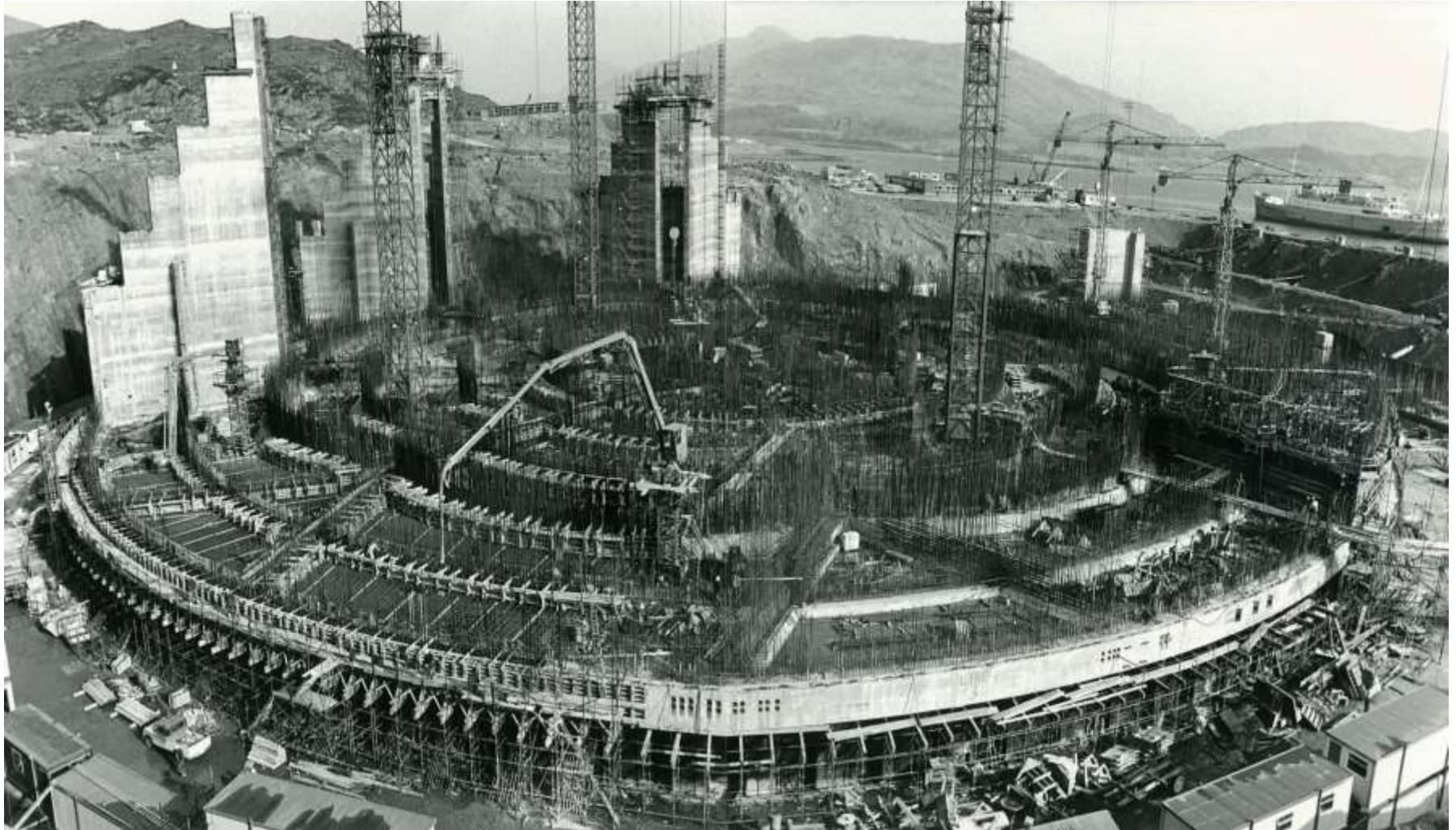
**1975 to 1978**

**The Ninian Central**

**Concrete Production Platform**



In the early 1970's, 1.8 million tonnes of Torridonian Sandstone was blasted out of the mountainside to create the dry dock and Howard Doris Ltd started to build the Ninian Central oil platform in August 1975 for Chevron Petroleum (UK) Ltd





Over 3,000 people were employed to construct the concrete platform. They were locally called the “Kishorn Commandoes” and lived in a camp on the site





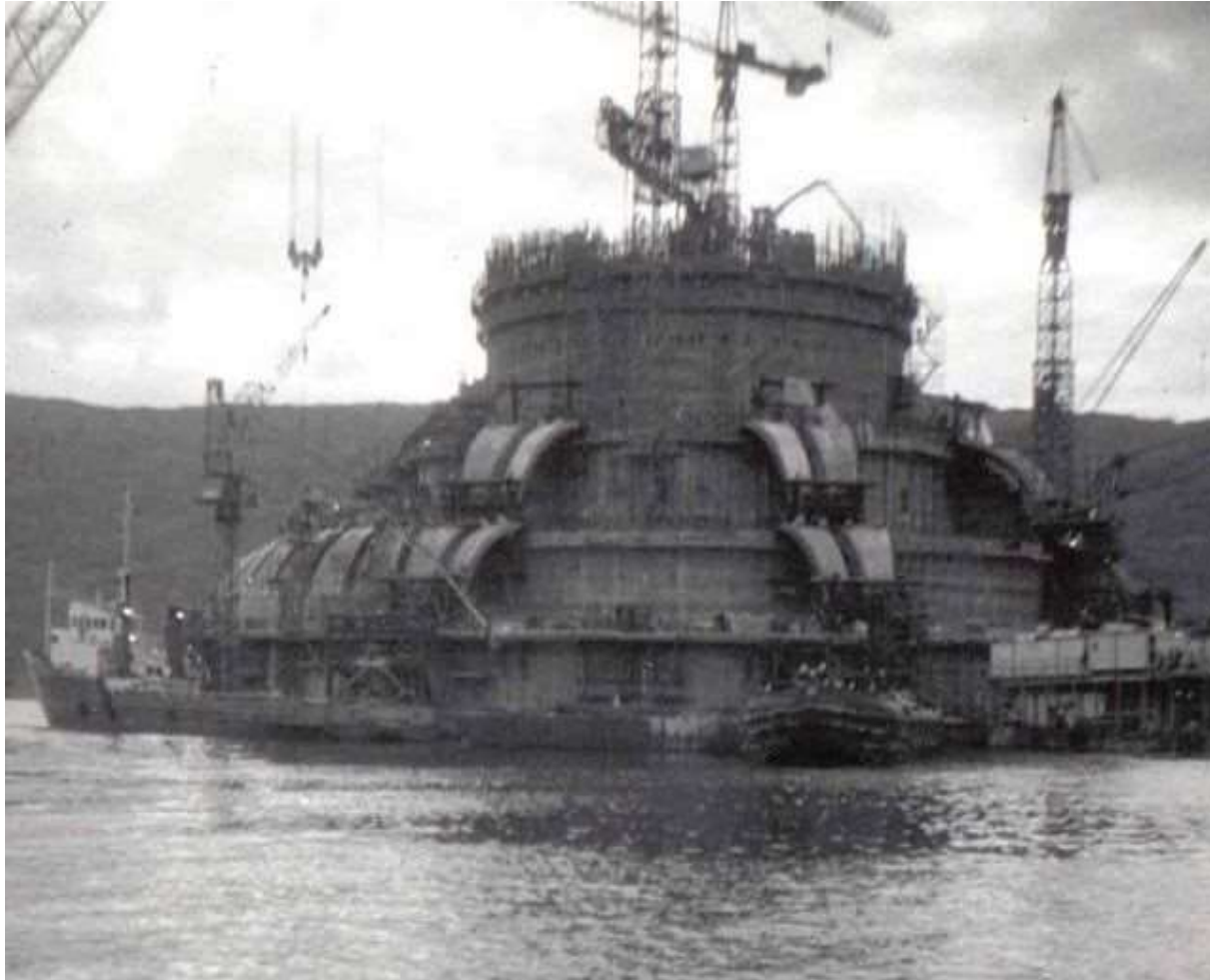


The 140m diameter concrete base weighed 157,000 tonnes when it was floated out into Loch Kishorn in September 1976. Each concrete caisson gate is 84m wide and weighs 11,000t empty and 30,000t when flooded





The construction of the platform continued in the Loch taking advantage of the sheltered conditions and deep water







The completed height of the concrete base was 156 metres and it was built to stand in a water depth of 136 metres in the harsh conditions of the North Sea east of the Shetland Isles





The base was towed into the Inner Raasay Sound in August 1977 where the 6,700t steel deck structure was welded to the platform base. 15 modules totalling 17,000t were then installed bringing her final weight to over 600,000 tonnes







In May 1978 a total of 8 tugs towed the completed platform 480 miles to the Ninian oilfield, east of Shetland. It took 11.5 days. It is the second biggest floating structure ever built and is still in production 40 years later





**1972 to 1988**

**“The Boom Years”**





A photo of the dry dock taken in late 1976. Note the concrete batching plants in the foreground which used aggregates imported from Kyleakin on Skye and cement imported by barge from a rail depot at Strome Ferry







This photo was taken in early 1981 and demonstrates the busy nature of the Yard and its complex infrastructure. The pre-casting yard for the Ninian Central flotation chamber roof domes is in the foreground. The 900t Tog Mor heavy duty floating derrick crane barge is in the background. It could lift a load of 400t at a 72m outreach and is still in service, mainly laying pipelines in the Far East.





Another photo of the Yard from the early 1980's.  
A Heerema barge is berthed against the open  
piled quay and is being used as a platform for steel  
fabrication for the Maureen Alpha





Over 3,000 personnel worked at the site and were accommodated in a camp (in the foreground) and on two floating “hotels” anchored alongside. There was a police station on site and extensive welfare facilities







The Maureen Alpha steel deck structure was fabricated by Howard Doris at the eastern end of the Yard in 1981/83. The platform weighing in at 110,000t was the largest steel gravity structure in the North Sea

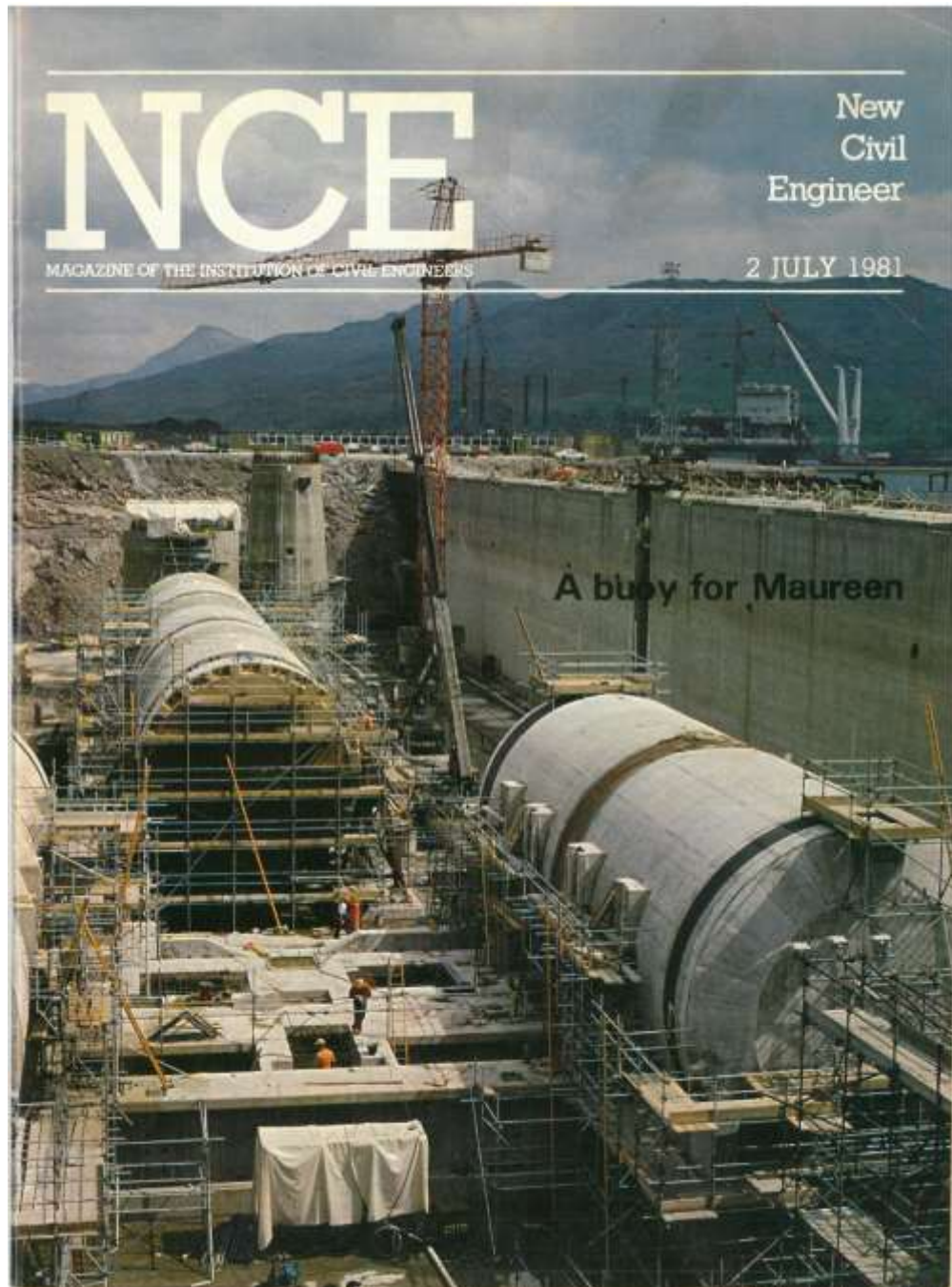




In 1981, Phillips Petroleum contracted Howard Doris to construct an articulated concrete loading column for the Maureen oilfield. 5 concrete sections were cast in the dry dock.

The Maureen Alpha platform was assembled at Kishorn and was floated out in 1983. The Maureen structures were decommissioned in 2001 after producing 200 million barrels of oil.

Many other oil and gas structures were manufactured or assembled at Kishorn







In 1985, Howard Doris was given the contract for re-commissioning the 12 years old 12,000t Buchan Alpha, a semi-submersible production platform. In 2018 the decommissioning of the platform commenced at Dales Voe in Shetland.

Contained in the multiple heavy lift programme was the 253 tonne gas compression module. After being shipped from Nuovo Pignone in Italy, this was lifted in a manoeuvre planned on site by Howard Doris Engineers using a floating derrick.

This major refit on Buchan Alpha meant that extensive preplanning and daily scheduling was essential to fitting new and serviced piping, ducting and wiring into the existing systems. A rigorous and comprehensive programme of testing and reinstatement was monitored by Lloyd's quality assurance personnel on site.

Howard Doris is proud to have served BP in this important refitting and conversion operation, fittingly commemorated by the re-commissioning ceremony on Wednesday 3 April 1985 by Rosalind, Lady Hayes, wife of Vice Admiral Sir John Hayes, Lord Lieutenant of Ross-shire.

### Kishorn: the complete capability.

The Howard Doris Kishorn Yard is one of Britain's leading offshore construction facilities. Kishorn was chosen for its natural deep water characteristics close inshore. It is the ideal place to build, modify, up-date and repair structures for the offshore industry.

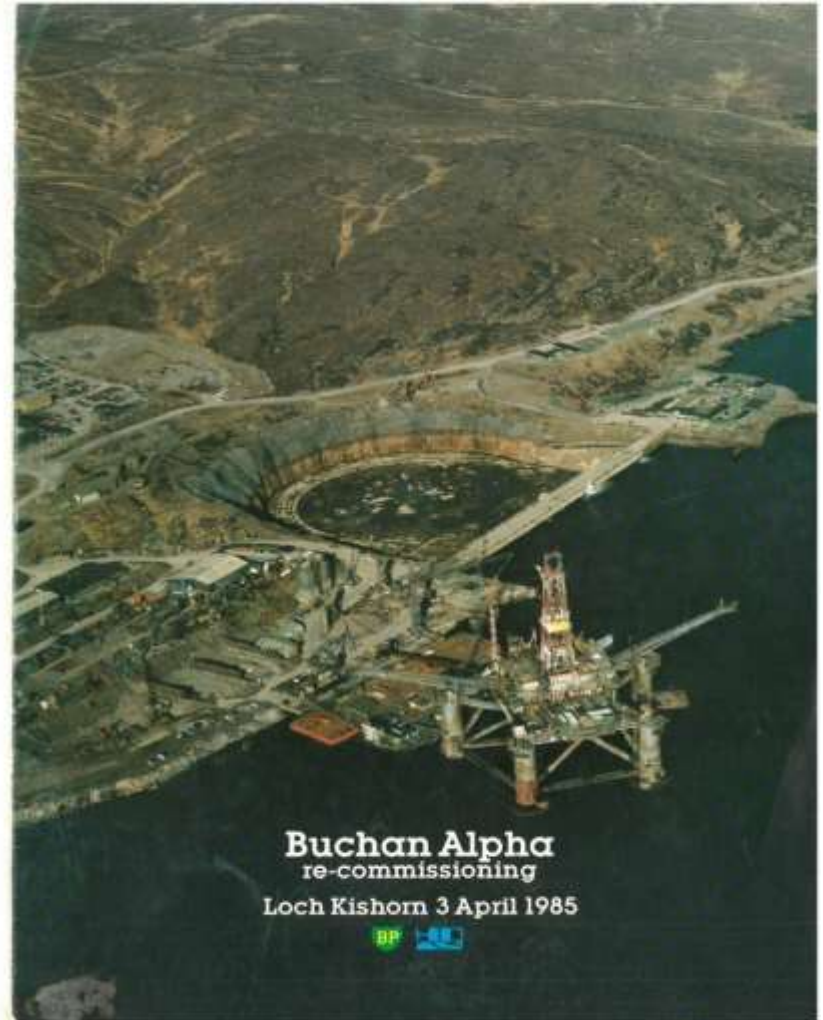
In the past decade Howard Doris has become an important force in the offshore oil industry, Kishorn being the birthplace of some of the main engineering achievements accomplished during North Sea development and throughout the world.

The Company invested more than \$50 million to develop Kishorn. Its design and construction operations are now backed by international diversification which offer even greater resources and flexibility to the global oil industry.



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**1992**

**The Skye Bridge**



In 1992 the dry dock was re-opened to enable two 17m diameter, 13m high concrete caissons to be manufactured. These two caissons each weighed 2,300 tonnes and support the 250m main span of the Skye Bridge. The bridge was built by Miller – Dywidag at a cost of £24m. The caissons were floated out in February 1993 and towed the 15km to the construction site. The bridge was opened in 1995 and carries over 600,000 vehicles per year







The Skye Bridge is 500metres long and is a pre-stressed concrete haunched structure and uses the principle of a balanced cantilever in its design





**1999**

**Ferguson Transport  
arrive at Kishorn**







Ferguson Transport & Shipping is a family owned logistics and shipping business, primarily engaged in the transport of timber and aquaculture products. It has large warehousing facilities at Kishorn together with dock handling machinery





Ferguson Transport & Shipping operate a fleet of vessels delivering fish feed and other dry cargoes throughout the west coast of Scotland





Ferguson Transport & Shipping operate a large HGV fleet that delivers products throughout the UK and has its Head Office at Corpach, near Fort William







**2006**

**Leiths arrive at Kishorn**

**LEITHS**



Leiths (Scotland) Ltd are a family owned quarrying and construction materials company. They operate a Torridonian Sandstone quarry at Kishorn



**LEITHS**



Leiths (Scotland) Ltd operate 14 quarries throughout Scotland and are a major supplier of ready mixed concrete to the construction sector







The Leiths quarry at Kishorn has over 6.5 million tonnes of reserves and can manufacture high quality concrete for oil, gas and renewable energy structures



**LEITHS**



**2008**

# **The Formation of Kishorn Port Ltd**



# **Kishorn Port Limited**

50:50 Joint venture between Ferguson Transport & Shipping and Leiths created in 2008 with the objective of re-generating the Kishorn Yard and Dry Dock as a major facility for the manufacturing and distribution of renewable energy components, decommissioning and support to the oil and gas sector.





**2008/2009**

**The Raasay Ferry Terminal**



In 2008/9 Leiths supplied the concrete to Balfour Beatty for the manufacture of the “lego” building blocks for the new £12m Raasay Ferry Terminal





Ferguson Transport and Shipping provided the logistical support from Kishorn for the construction of the new Ferry Terminal in Churchton Bay, Raasay







The new Ferry Terminal was opened in August 2010 and connects the ferry service from Sconser on the Isle of Skye.





There is a concrete slipway at Kishorn which can be used for loading plant, equipment and supplies onto RO-RO vessels





Barges and vessels can be loaded out at Kishorn with timber, armour stone and other bulk supplies







**2012 / 2013**

**The Masterplan &  
Regeneration of the Kishorn Yard  
and Dry Dock**

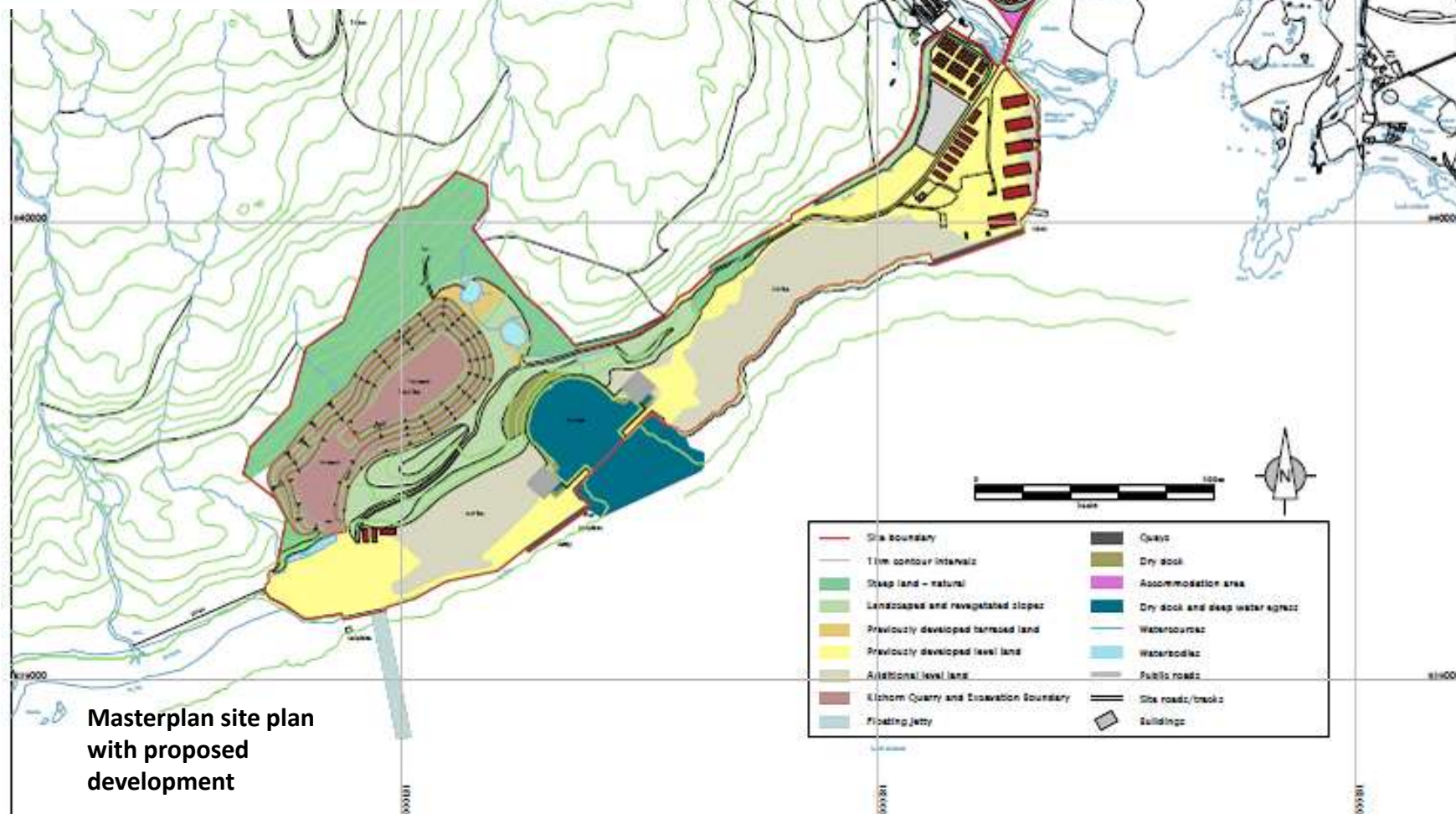


In 2013 Planning Permission and a Marine Licence was granted for the establishment of a renewable energy construction facility at Kishorn.

Permission was granted for the restoration of the quay structures on site; an extension to the quarry; reclamation of 9ha of the coastline; the erection of an accommodation facility, offices and industrial buildings; floating load out quay etc..

Anchorage for floating offshore wind and oil and gas structures were included.

The planning permission anticipated that the Yard would be used to support the offshore renewables industry and for oil and gas fabrication and decommissioning projects.

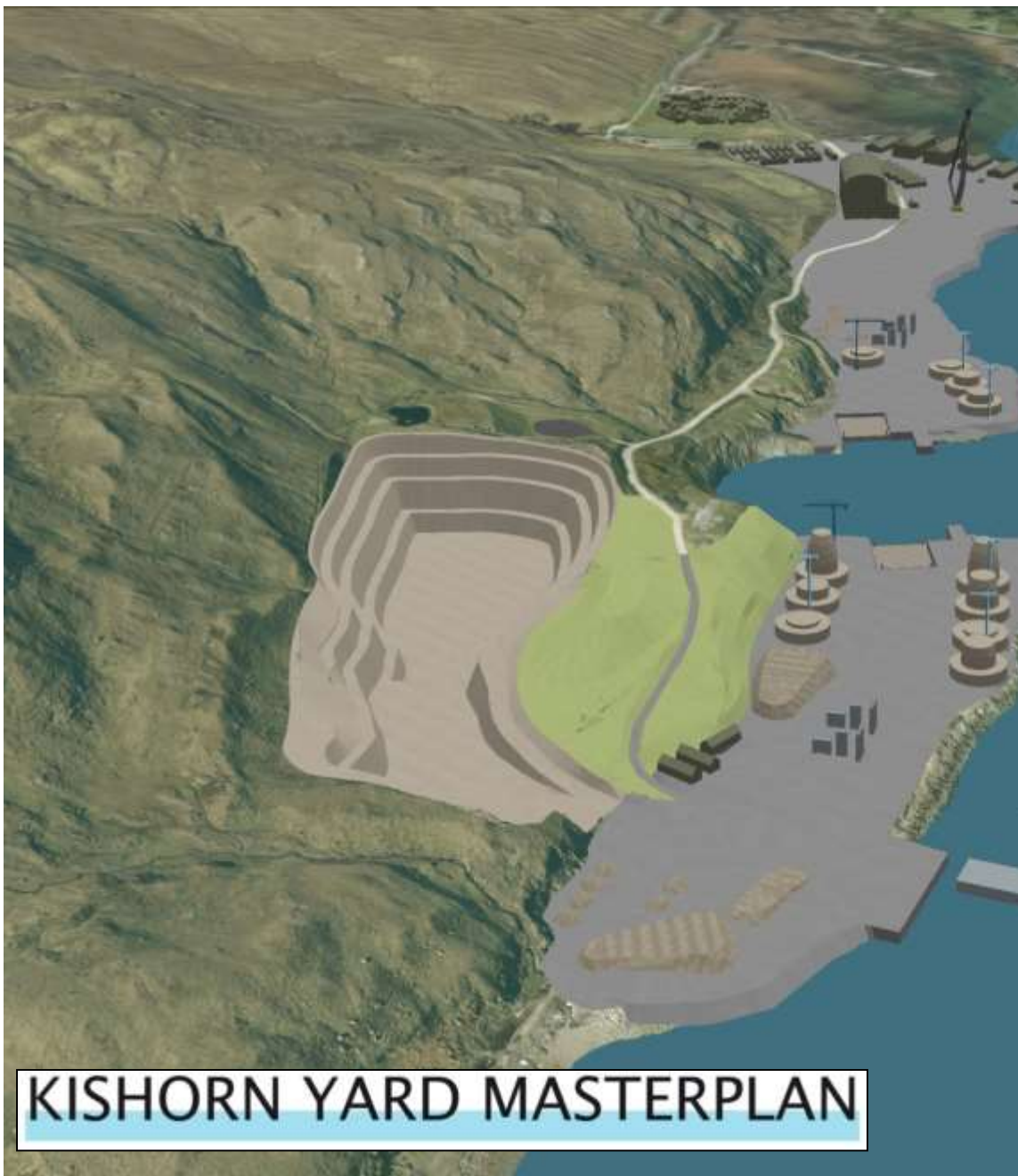






# KISHORN YARD MASTERPLAN





KISHORN YARD MASTERPLAN





Drone photo of the dry dock taken in 2016 prior to the commencement of the contract with Harris Pye to bring the facility back into operation







**2017**

**Regeneration of the Kishorn Yard  
and Dry Dock continues**



## 2017 / 2018

- £2m investment made in infrastructure and proving the dry dock, assisted by funding from HIE and the Decommissioning Challenge Fund (DCF) which included:
  - Fabrication of new gate seals and hatch covers
  - Abutments excavated and strengthened
  - Dock gates pumped out and floated
  - Access ramp completed into the bottom of the dry dock and concrete surface added
  - Installation of fendering to the flooding tubes
  - New internal access roads installed
  - All steel retaining structures given cathodic protection
  - Full set of dewatering pumps purchased and storage shed installed
  - Superficial repairs to the concrete gates undertaken
  - East abutment lay down area repaired and strengthened
  - Dry dock gates certified by Bureau Veritas as fit for purpose



In March 2017 after undertaking repairs to the abutments, installing new seals and checking the buoyancy of the gates, the 6no. 12" pumps were turned on and dewatering of the dry dock commenced.







After 3 days of pumping, the concrete floor of the dry dock was revealed. Note the spectral imprint of the Ninian Central platform. Reflooding the dock takes two tidal cycles.





An 8m wide ramp has been blasted into the floor of the dry dock and concreted to allow easy vehicular access. Only limited pumping is needed to maintain the dock in a dry condition





Late 2018 - the dry dock ready for its first project. Further infrastructure works are in hand to facilitate decommissioning activities and oil and gas support services







**2019**

**KPL secures its first major contract**

**Diamond Offshore's**

**Ocean GreatWhite**



The 118m long, 6274t “Panthera” arrives from Singapore in advance of the Ocean GreatWhite with her multi-million pound cargo of risers and thrusters





Ferguson Transport & Shipping are retained to undertake stevedoring and marine support to the Ocean GreatWhite and offload the cargo onto the floor of the dry dock







Diamond Offshore Drilling International's 60,700t semi-submersible drilling rig, the Ocean GreatWhite arrives in Loch Kishorn in January 2019. She is the largest rig of its type in the world and was anchored in the loch during her mobilisation programme





The Ocean GreatWhite took advantage of the deep sheltered waters of Loch Kishorn and is currently undertaking a number of drilling programs in the harsh Atlantic environment to the West of Shetland





The Ocean GreatWhite from a helicopter with the snow capped Applecross Mountains in the background





A dramatic night photo of the Ocean GreatWhite. She is capable of drilling a 35,000ft borehole in 10,000ft of water.







A drone photograph taken in February 2019 illustrating the increased level of activity at Kishorn





The thrusters and risers are transhipped to the Ocean GreatWhite as she gets ready for departure





The thrusters and risers being craned onto the dry dock gates before being loaded onto the “Balmoral” oil support vessel







The Ocean GreatWhite was supported by a number of vessels during her mobilisation





The Ocean GreatWhite departs Kishorn to the Blackrock prospect off Shetland in early March 2019 accompanied by the Maersk Maker, a brand new anchor handling tug supply vessel





## **Works continue at Kishorn during 2019**

- Access and safety infrastructure for dry dock gates and open piled quay completed
- Completed a further programme of concrete repairs to gates and dry dock floor
- Marine surveys undertaken and anchorage bathymetry confirmed
- Waste Management Licence for decommissioning secured from SEPA – March 2019
- Drainage system/oil interceptors installed during the Spring of 2019
- 360 degree anchors for holding gates manufactured and installed in Loch Kishorn in August 2019





Drainage system and oil interceptors installed in Spring 2019 to meet the requirements of the Waste Management Licence







Two 125t 360 degree swivel anchor arrays with mooring buoy manufactured and installed in Loch Kishorn during August 2019. Capable of holding the 30,000 tonne caisson gates.





The anchors will enable the floating gates to be secured during the cycling of the dry dock and reduce the requirement and costs for tugs in attendance







## **Works planned for Kishorn in 2020 and beyond**

- On site accommodation for 32 personnel, including welfare, canteen, laundry etc
- LIDAR buoy and weather station in Loch Kishorn
- Dock winches for gate manoeuvring
- Reclamation of the foreshore and creation of extra lay down land
- Installation of 400t ground anchors behind the open-piled quay
- Deep water heavy lift quay
- Engineering and fabrication buildings
- Concrete surfacing of the east abutment area for materials storage



**Support to the Offshore Oil & Gas industry, Decommissioning and Offshore Renewable Energy are the three target business sectors**



## **Support to the Offshore Oil and Gas sector**

- In 2019, Kishorn successfully hosted the remobilisation of Diamond Offshores' semi-submersible drilling platform, the Ocean GreatWhite
- Large floating oil and gas structures can be anchored in the deep water of Loch Kishorn, berthed alongside or laid down in the dry dock
- The 160m diameter dry dock with 13.8m of draft is ideal for fabrication, extension of life and survey work
- Large areas of laydown land adjacent to the dry dock
- Stevedoring and marine support available on site through Ferguson Transport and Shipping





## **Decommissioning of Floating Oil and Gas Structures**

- Scotland requires facilities and capacity to handle a range of structures and materials. Kishorn is an ideal containment facility for the decommissioning of floating assets
- Onshore activities will be primarily dismantling and waste management
- Structures will be taken into Kishorn before being broken down into transferable loads and transported to suitably licensed disposal and recycling facilities as part of a circular economy
- A Waste Management Licence (WML) is the appropriate SEPA authorisation for the proposed decommissioning activities at Kishorn. This was secured in March 2019
- Oil interceptors and a dry dock drainage system have been installed



## Offshore renewable energy

- Kishorn dry dock and adjacent land is ideal for the fabrication/manufacture of steel or concrete foundations for floating or gravity based structures for the renewable energy sector
- The deep water channel in Loch Kishorn is ideal for the up-ending of spar-type foundations for floating wind
- Leiths' on-site quarry with over 6.5 million tonnes of reserves is a sustainable source of aggregates and concrete
- The comprehensive Masterplan approved the serial manufacture of 8,000 tonne structures and KPL has marine licences for the temporary anchored storage of completed structures in Loch Kishorn



## **Summary of features and facilities available at Kishorn:**

- 80m deep channel in Loch Kishorn
- 100m+ deep sheltered berths in Raasay Sound
- 160m diameter Dry Dock with 13.8m of water at highest tide
- 3 no. hard edged quays with 8m of water at high tide and 20m+ within a barge length of the open-piled quay.
- On-site quarry with concrete batching facilities and excellent aggregates – 6.5 million tonnes
- Stevedoring, warehousing and transport facilities
- Extensive hard standings and lay down areas
- Full planning permission and marine licencing
- SEPA Waste Management Licence for decommissioning





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A joint venture between **Ferguson Transport (Spean Bridge) Ltd** and **Leiths (Scotland Ltd)**

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