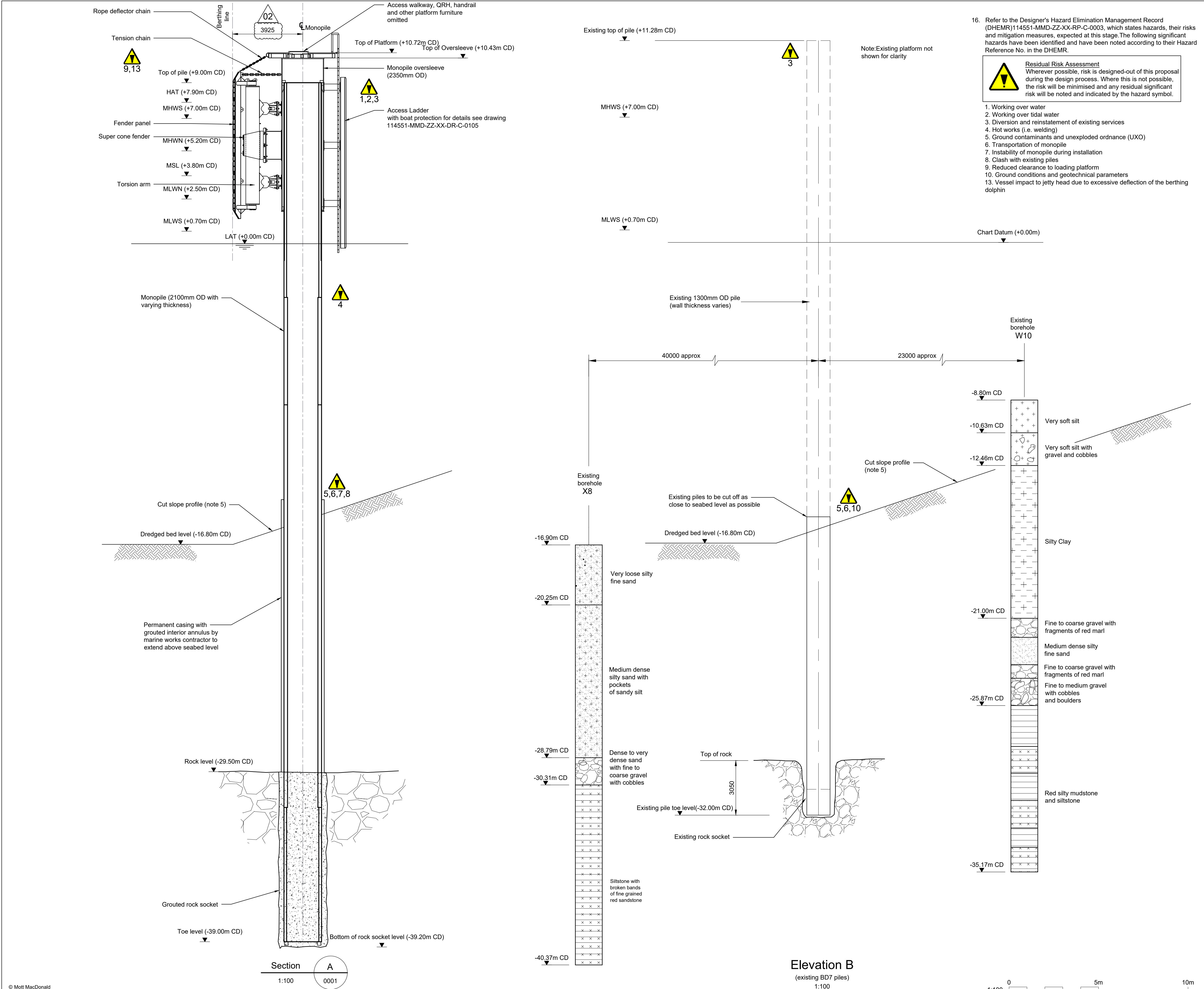




16. Refer to the Designer's Hazard Elimination Management Record (DHEMR) 114551-MMD-ZZ-XX-RP-C-0003, which states hazards, their risks and mitigation measures, expected at this stage. The following significant hazards have been identified and have been noted according to their Hazard Reference No. in the DHEMR.
- Residual Risk Assessment**
Wherever possible, risk is designed-out of this proposal during the design process. Where this is not possible, the risk will be minimised and any residual significant risk will be noted and indicated by the hazard symbol.
- Working over water
 - Working over tidal water
 - Diversion and reinstatement of existing services
 - Hot works (i.e. welding)
 - Ground contaminants and unexploded ordnance (UXO)
 - Transportation of monopile
 - Instability of monopile during installation
 - Clash with existing piles
 - Reduced clearance to loading platform
 - Ground conditions and geotechnical parameters
 - Vessel impact to jetty head due to excessive deflection of the berthing dolphin

Notes

- All dimensions are in millimeters unless noted otherwise.
- All levels are in meters relative to Chart Datum (CD).
- Do not scale any items or information from this drawing set.
- CD is 3.71m below Ordnance Datum (OD) at Milford Haven.
- Cut slope taken from Mott MacDonald drawing "SemLogistics Milford Haven/ Berthing Dolphin 6 Replacement - Monopile General Arrangement Sheet 2" dated March 2009.
- Design dredge level is assumed to be -16.80mCD which can be corroborated by drawing no. Milford Haven Bathymetry Chart ES-2. The design has also assumed an allowance of 0.5m to account for scour.
- All drawings are to be read in accordance with the Specification 114551-MMD-ZZ-XX-RP-C-0007.
- The design is developed in accordance with AIP document 114551-MMD-ZZ-XX-RP-C-0002 (October, 2023).
- These drawings shall be read in conjunction with the Valero Berthing Dolphin 7 Geotechnical Design Report 114551-MMD-ZZ-XX-RP-C-0010 version P01 with specific attention to the geotechnical risk register included within Section 8 of the report.
- Ground conditions are based on borehole records from a site specific ground investigation (November 2022) and Factual Reporting (February 2023). The Contractor shall be responsible for reviewing and acknowledging the ground conditions and associated risks as presented within the Ground Investigation Report (GIR100106506-MMD-REP-0004 version P02). A summary of the nearest boreholes is presented on Elevation B.
- Designer Site Representative (DSR) shall be present at all stages of construction to verify the groundwater and ground conditions against the original design assumptions. The DSR shall supervise the boring and construction of the permanent works.
- The Contractor shall select appropriate methods of construction and appropriate bore diameter to suit the ground conditions present.
- Piles have been designed with the assumption that no bore stabilisation technique impacting the effectiveness of the rock socket, such as support fluids, will be required during construction. Contractor to assess whether bore stabilisation is required and if so, confirm to the Contract Administration what technique is proposed for assessment of implications on design.
- The Contractor shall ensure the pile base is clean with any residual soils or loose debris removed prior to concrete placement.
- The following conditions are anticipated for the rock socket, as shown in table 1 below:

Levels(m CD)		Strata
Top of rock socket level	-29.50 m CD	Bedrock*
Design Pile toe level	-39.00 m CD	Bedrock*

(*) Typical description of bedrock strata: Red silty MUDSTONE and SILTSTONE with occasional green calcareous sandstone.

Key to symbols					
	Centerline		Outer diameter		Quick release hook
	Silt/Sand		Bedrock		Grouted Rock Socket
Reference drawings					
114551-MMD-ZZ-XX-DR-C-0001-General Arrangement - Plan & Location Sheet 1 of 2					
114551-MMD-ZZ-XX-DR-C-0101-Monopile Build-up					
114551-MMD-ZZ-XX-DR-C-0102-Monopile Oversleeve Details					
114551-MMD-ZZ-XX-DR-C-0103-Platform Details Sheet 1 of 2					
114551-MMD-ZZ-XX-DR-C-0104-Platform Details Sheet 2 of 2					
114551-MMD-ZZ-XX-DR-C-0105-Ladder Details					
114551-MMD-ZZ-XX-DR-C-0106-Walkway End Details					
114551-MMD-ZZ-XX-RP-C-0003-Designer's Hazard Elimination Management Record					

P02	02.02.2024	SS	Minor Amendments	JPF	RT
P01	31.01.2024	SS	First Issue	JPF	RT
Rev	Date	Drawn	Description	Ch'k'd	App'd

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Title

Valero Berthing Dolphin Replacement
Berthing Dolphin 7
General Arrangement - Section & Elev.
Sheet 2 of 2

Designed	J. Rees	JR	Eng check	J. Fernandes	JPF
Drawn	S. Sahoo	SS	Coordination	J. Fernandes	JPF
Dwg check	R. Jones	RJ	Approved	R. Teixeira	RT
Scale at A1	Status	Rev	Security		
As Shown	CON	P02	STD		

Drawing Number

114551-MMD-ZZ-XX-DR-C-0002