



# ACCESS SOLUTIONS



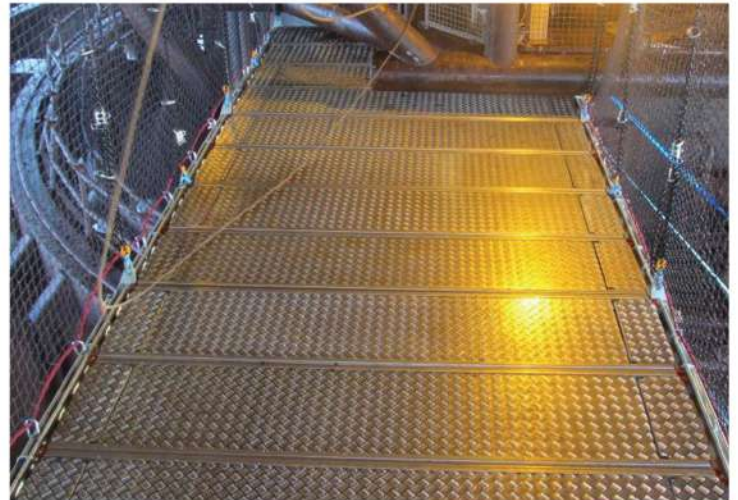
Safe, Economical, Effective

## SCAFFOLDING SERVICES

- OSHA & CIRIS Certified Scaffolders
- Certified Scaffolding Equipment
- Scaffolding Inventory (>1000 tonnes)
- Engineered Scaffolding
- Rental of Scaffolding
- Workforce Assessment Centre for TTNVQ—(Level 1 & Level 2 Scaffolding)

## V-DECK SOLUTIONS

- Reduces Labour Costs
- Reduces Exposure to Work at Height
- 5 x Lighter
- Reduces Load on the Structure
- Improves Efficiency of Access to Helidecks, Pipe Bridges and Other Weak Structures
- Reduces Manual Handling
- 79% Reduction in Components
- Reduces Dropped Objects Risk
- Stronger—Higher Factor of Safety (FoS)



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V-DECK™



*INNOVATION IN ACCESS*



## COMPANY BACKGROUND



- Velo Tech Systems (VTS) is a trusted and experienced developer of access and containment solutions.
- We have extensive inhouse expertise in developing & delivering innovative access solutions over the last 20 years.
- The team has extensive expertise in the successful design of V-Deck™ solutions for the O&G market.
- We provide all engineering, design and training services required to safely plan and install our products.
- We provide a high level of customer support to ensure our clients are successful.
- We understand the challenges our customers face and enjoy assisting them in solving their access requirements.
- We collaborate closely with all partners involved in a project to ensure successful project execution.
- We partnered with **TOSL Engineering Limited** to deliver the best solution for any given project in the Caribbean.
- Our foremost thought is always “what is the best solution” for any given project.
- Exceptional unique products and our inhouse technical expertise coupled with extensive industry knowledge makes Velo Tech Systems Ltd the ideal choice for your access requirements.

## APPLICATIONS

**V-Deck**

- OFFSHORE HELIDECKS
- OFFSHORE UNDERDECKS
- OFFSHORE PIPE BRIDGES
- PIPE RACKS
- FPSO TANKS
- JETTIES / WHARVES



*“IT’S VERY QUICK TO INSTALL, VERY SAFE AND WHILST WE’VE TRIED ALTERNATIVE SUSPENDED ACCESS SYSTEMS, THE V-DECK™ IS THE BEST AND IS NOW OUR STANDARD METHOD OF ACCESS”*

OIL & GAS CLIENTS



# THE SCAFFOLD PROBLEM

**V-Deck**



- SLOW TO INSTALL
- HEAVY
- WEAK

# THE UNDER DECK SUSPENDED SCAFFOLD PROBLEM

**V-Deck**



# THE UNDER DECK SUSPENDED SCAFFOLD PROBLEM

**V-Deck**



- SLOW TO INSTALL
- HEAVY
- WEAK

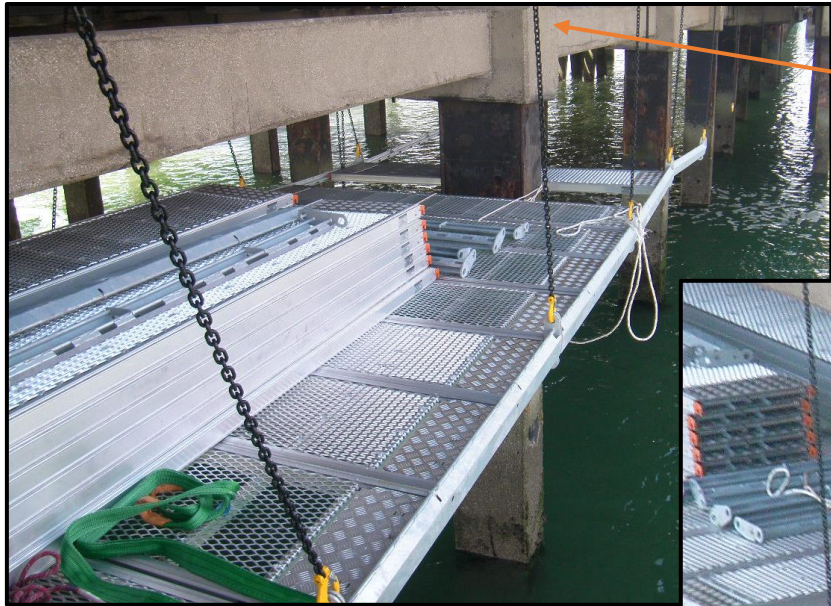


## V-DECK™ BENEFITS ANALYSIS COMPARED TO TUBE & FIT SCAFFOLD



- ✓ UP TO 88% TIME SAVINGS
- ✓ 5 X LIGHTER
- ✓ 75% LESS VOLUME
- ✓ 100% LESS CONTACT POINTS
- ✓ 80% REDUCTION IN COMPONENTS
- ✓ STRONGER
- ✓ HIGHER FACTOR OF SAFETY (FOS)

# INSTALLATION METHODOLOGY



V-CLAMPS™ ATTACH TO STRUCTURE



V-CHAINS™ ATTACH TO V-TRUSS™

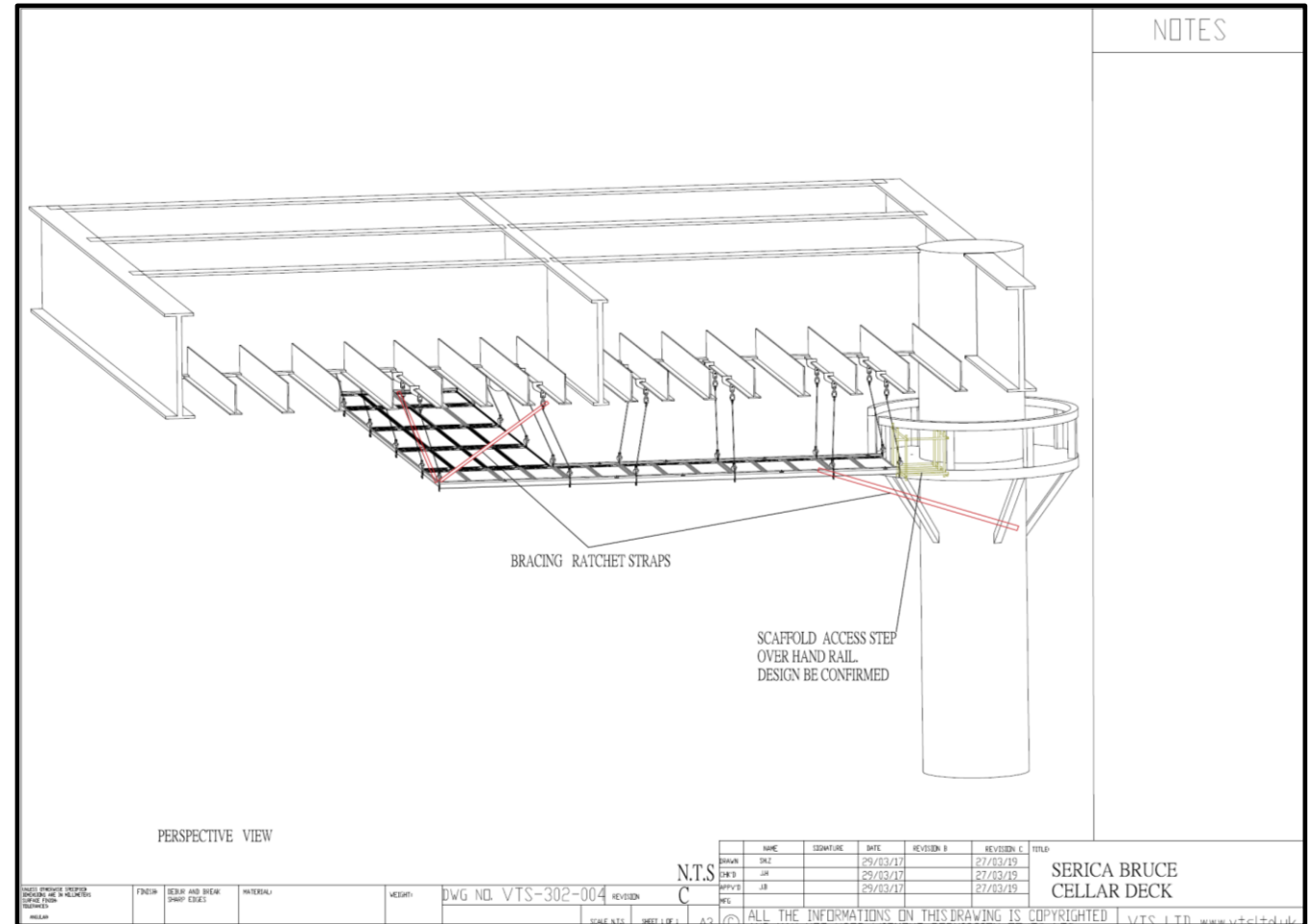


V-DECK™ LATCH ON TO V-TRUSS™

# ENGINEERING & SUPPORT



- **VTS PROVIDE ALL ENGINEERING AND DESIGN SERVICES REQUIRED.**
- **YOU WILL NEED TO COMPLETE A FORM FOR EVERY PROJECT DETAILING YOUR ENGINEERING REQUIREMENTS WHICH WE WILL BASE OUR CALCULATIONS ON.**
- **IF YOU REQUIRE ADDITIONAL SUPPORT, THEN WE CAN PROVIDE A V-DECK™ SPECIALIST AVAILABLE ON A DAY RATE TO BE AVAILABLE FOR SITE SUPPORT.**



# STANDARDS



Product	Material	Corrosion Protection/Durability	Standards
V-Deck™	Marine Grade Aluminium	Aluminium 10 year lifespan	<ul style="list-style-type: none"> <li>• <b>UKAS Certified</b></li> <li>• BS EN 1004: 2004 Class 4</li> <li>• BS EN 12811-3: 2003 Class 4</li> <li>• UDL Max 5kN/m<sup>2</sup></li> </ul>
V-Chains™	Grade 80 Steel	Sherardizing to BS EN ISO 17668: 2016	<ul style="list-style-type: none"> <li>• EN1677-1-4</li> <li>• EN818-2</li> </ul>
V-Truss™	High Tensile Steel	EN ISO 1461 Galvanising 10 year lifespan	<ul style="list-style-type: none"> <li>• <b>UKAS Certified</b></li> <li>• BS 1139-1.2: 1990</li> <li>• BS EN 12811-3: 2003</li> </ul>
V-Clamps™	High Tensile Steel	EN ISO 1461 Galvanising 10 year lifespan	<ul style="list-style-type: none"> <li>• BS 1139-1.2: 1990</li> <li>• BS EN 12811-3: 2003</li> </ul>
V-Net™	High Tenacity Polyester HTPE	Polyester PVA UV stabilised Flame Retardant to BS 5867-2:2008 5 year lifespan	<ul style="list-style-type: none"> <li>• BS EN1263-1: 2014</li> <li>• ANSI A10.11-2010 (R 2016)</li> </ul>
Scaffold Clamps	Steel	ISO 2018 Zinc Passivation 25µ	<ul style="list-style-type: none"> <li>• BS EN74 Class</li> </ul>

## V-Deck™ System Identification

All VTS components V-Deck™, V-Net™, V-Clamps™, V-Truss™ and V-Chain™ have a unique Identification Plate or Tag attached. The ID plate/tag details the unique serial number, year of manufacture, SWL or MBL.

## V-Deck™ System Testing

Independent Testing of the components was undertaken by a third party which is a UKAS accredited independent testing company.



# TOSL CERTIFIED INSTALLATION TEAM





# TOSL CERTIFIED INSPECTORS





**CASE STUDIES  
&  
PAST EXPERIENCE**



# OFFSHORE HELIDECKS



# CENTRICA, DPPA: UK



## V-DECK™

- CLIENT REQUIRED ACCESS TO HELIDECK UNDERDECK FOR BLASTING AND COATING.
- THE CLIENT WAS IMPRESSED BY THE QUALITY OF THE COATING DUE TO THE ELIMINATION OF CONTACT POINTS.

400M <sup>2</sup> 2kN/M <sup>2</sup> UDL	V-DECK™	SCAFFOLD	SAVING
SHIFTS INSTALL & DISMANTLE	88 MAN DAYS	536 MAN DAYS	84%





# OFFSHORE UNDERDECKS

# SHELL, SHEARWATER: UK

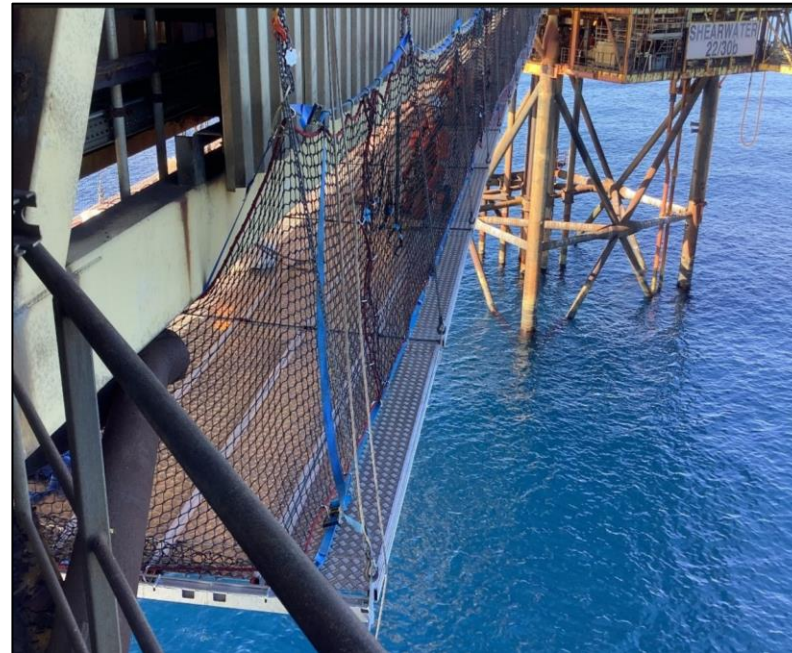
## V-Deck

### V-DECK™

- CLIENT REQUIRED 300M<sup>2</sup> OF ACCESS PLATFORM UNDER THE SHEARWATER BRIDGE.
- “MOVING THE CONTACT POINTS MADE THE WORK REALLY EASY.”

300M <sup>2</sup> 2KN/M <sup>2</sup> UDL	V-DECK™	SCAFFOLD	SAVING
SHIFTS INSTALL & DISMANTLE	66 MAN DAYS	300 MAN DAYS	78%

“ WE USED V-DECK TO GREAT SUCCESS AND ARE ALWAYS LOOKING FOR SCOPES THAT MAY SUIT YOUR PRODUCT ”



# SPIRIT ENERGY, DPPA UNDERDECK: UK

## V-DECK™

- A SUSPENDED WORK PLATFORM WAS REQUIRED TO PROVIDE ACCESS TO THE UNDERDECK FOR CUI INSULATION REPAIR WORKS UNDER DECK.

**V-Deck**

96M <sup>2</sup> 1.5kN/M <sup>2</sup> UDL	V-DECK™	SCAFFOLD	SAVING
SHIFTS INSTALL & DISMANTLE	22 MAN DAYS	96 MAN DAYS	77%



# SERICA ENERGY, BRUCE: UK



## V-DECK™

- CLIENT REQUIRED ACCESS TO AN UNDERDECK WORK LOCATION FOR PIPEWORK REPLACEMENT.
- THE PROJECT WAS SO SUCCESSFUL THAT THE CLIENT REQUESTED AN EXTENSION TO THE DECK TO REACH ANOTHER WORK AREA.

83M <sup>2</sup> 3kN/M <sup>2</sup> UDL	V-DECK™	SCAFFOLD	SAVING
SHIFTS INSTALL & DISMANTLE	52 MAN DAYS	336 MAN DAYS	85%



# REPSOL SINOPEC, MONTROSE ALPHA: UK

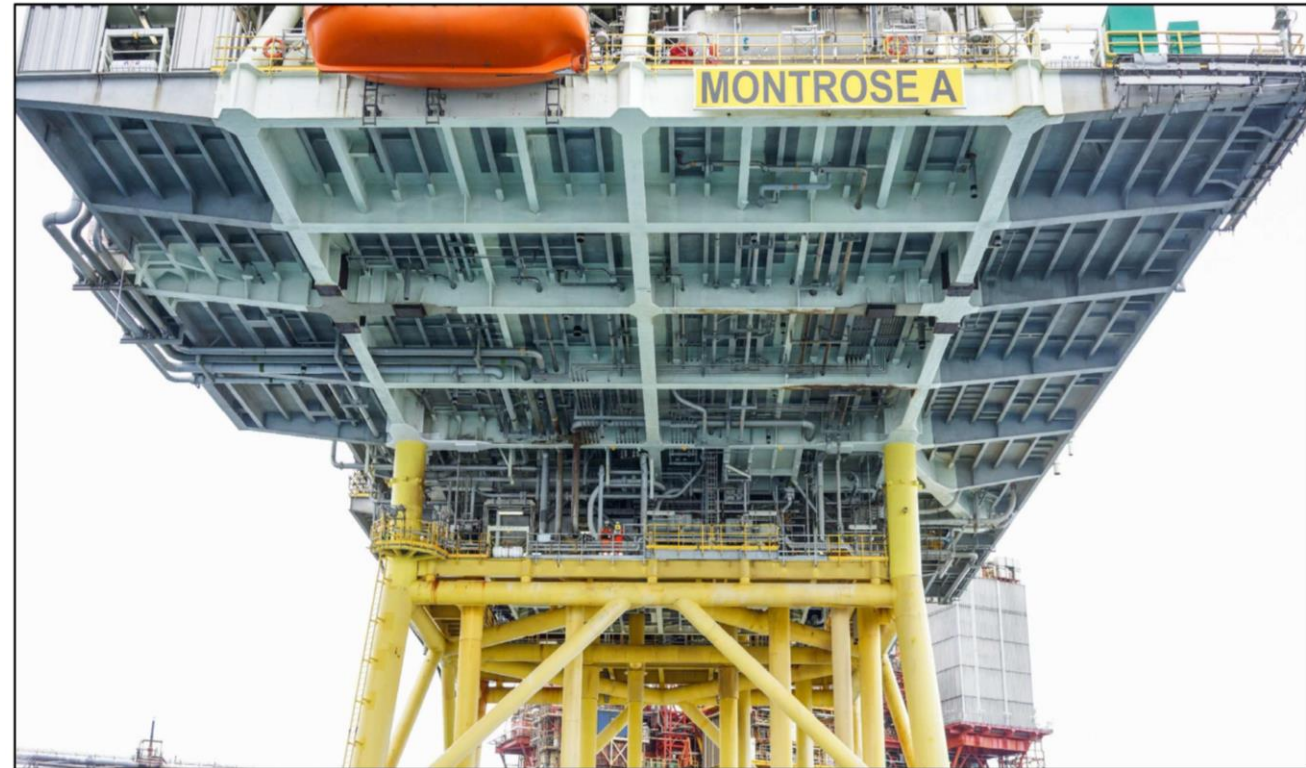
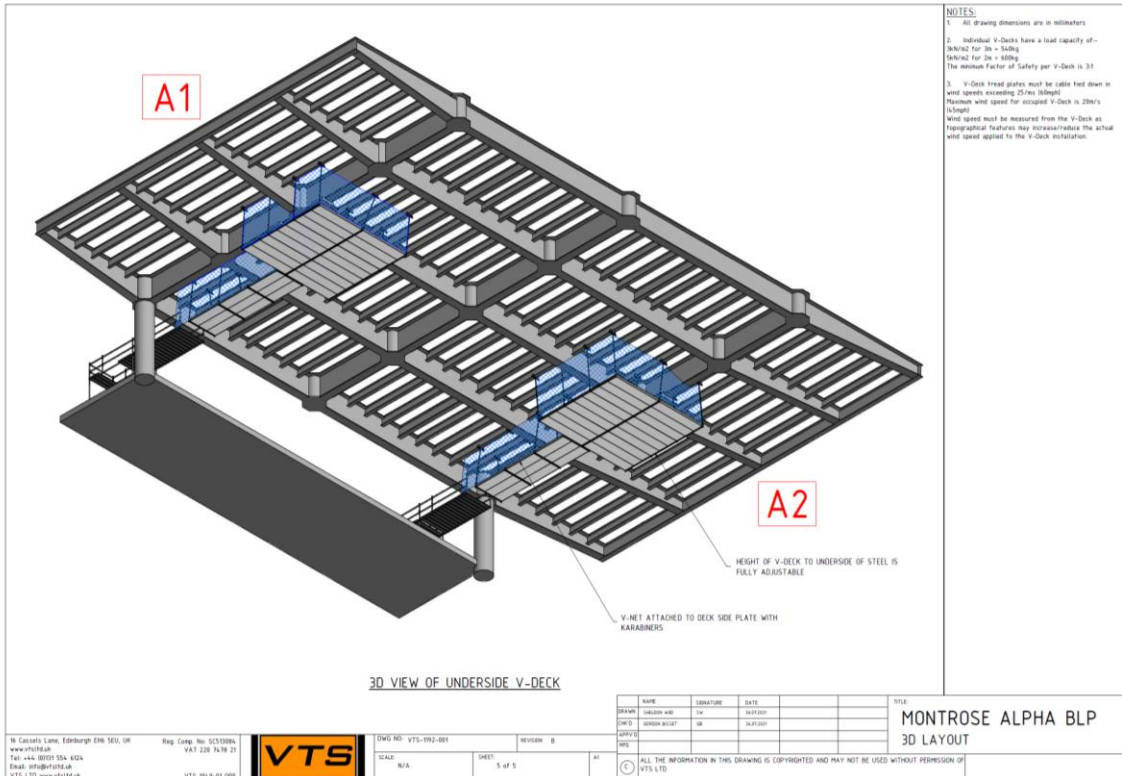


## V-DECK™

- CLIENT REQUIRED ACCESS TO AN UNDERDECK WORK LOCATION FOR PFP REPAIRS TO NODES.

## ➤ COST MODELS

SCAFFOLD:	35 DAYS	£85k
V-DECK™:	12 DAYS	£38.8k



# ENQUEST, KITTIWAKE: UK



## V-DECK™

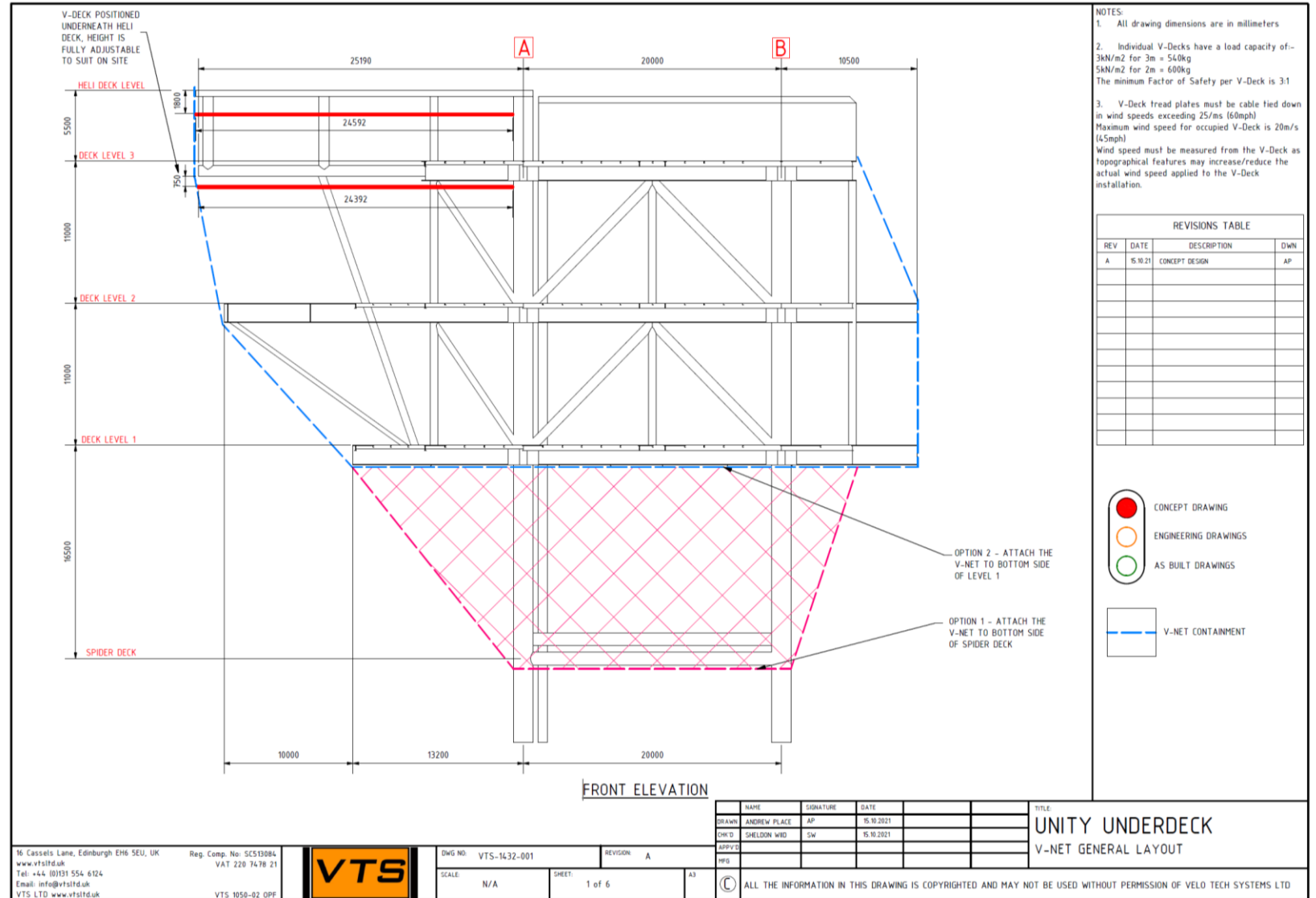
- ACCESS REQUIRED TO CELLAR DECK FOR A WORK SCOPE ON DRAIN LINES.
- SCAFFOLD WOULD HAVE TO BE ERECTED AND STRIPPED 3 TIMES DUE TO THE EXTENDED PROJECT DURATION OVER HIGH WINDS.
- THE V-DECK COULD WITHSTAND THE WINDS.





## V-DECK™ & V-NET CONTAINMENT™ CONCEPT DESIGN

- INEOS REQUIRES ACCESS TO THE UNDERDECK OF THE UNITY HELIDECK.
- THE CONCEPT DESIGN PROPOSES A 2 LEVEL V-DECK™ TO PROVIDE ACCESS.
- V-NET CONTAINMENT™ IS ALSO SPECIFIED. ONCE INSTALLED ALL WORKS CARRIED OUT UNDERDECK WITHIN THE SYSTEM CAN BE CLASSIFIED AS INBOARD. THIS REDUCES THE REQUIREMENT FOR SAFETY BOAT COVER AND MEANS THAT WORK CAN CONTINUE AT TIMES WHEN IT MIGHT OTHERWISE BE STOPPED. FOR EXAMPLE, WHEN THE SEA STATE IS TOO HIGH FOR THE SAFETY BOAT.







# OFFSHORE PIPES & BRIDGES

# REPSOL SINOPEC, FULMAR CAISSONS: UK

## V-Deck

### V-DECK™

- ACCESS WAS REQUIRED TO THE CAISSONS ON THE FULMAR FOR REPAIR WORKS.
- 35M2 OF 3kN UDL V-DECK™ WAS INSTALLED IN 7 SHIFTS WITH A 4 PERSON TEAM PROVIDING A VERY STABLE PLATFORM.

36M <sup>2</sup> 3kN/M <sup>2</sup> UDL	V-DECK™	SCAFFOLD	SAVING
SHIFTS INSTALL & DISMANTLE	28 MAN DAYS	85 MAN DAYS	67%
PLATFORM WEIGHT (T)	0.875	5.25	83%



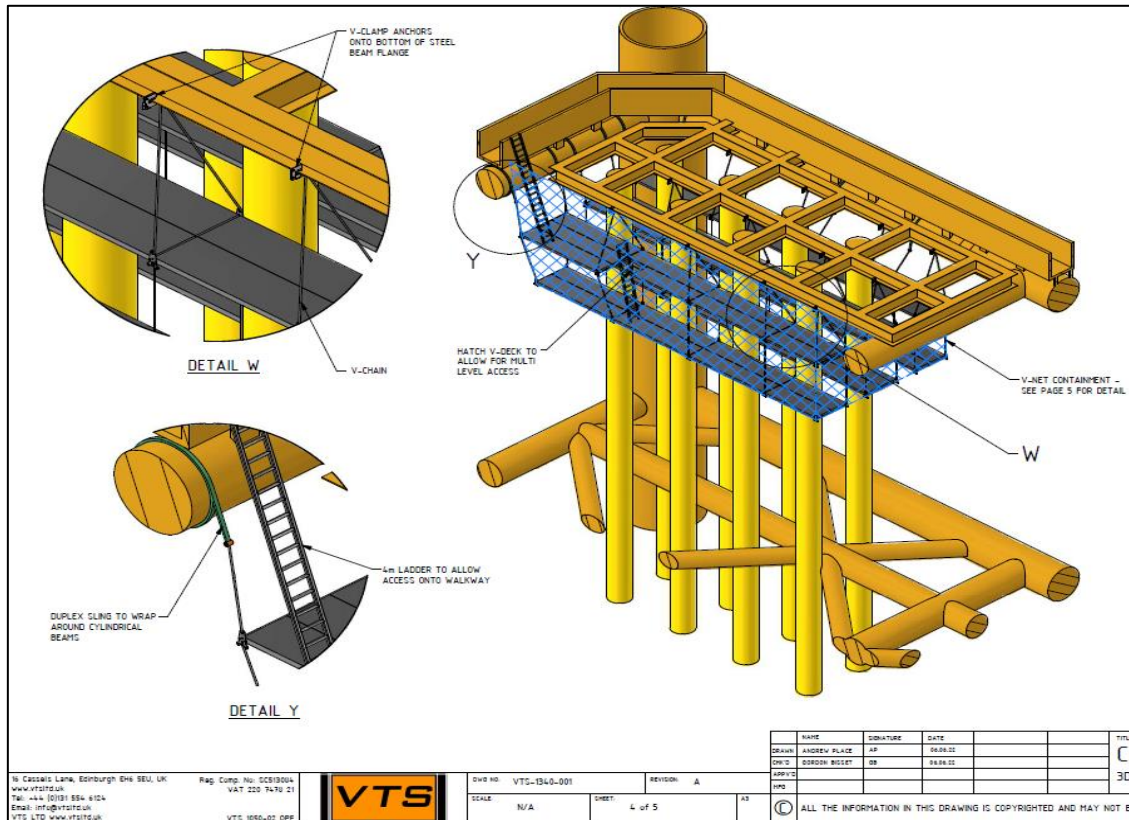
# HARBOUR ENERGY, MARINER A, CAISSONS: UK



## V-DECK™

- ACCESS WAS REQUIRED TO THE CAISSONS ON THE MARINER A UNDERNEATH THE ESD FOR COATING APPLICATION TO CAISSONS.
- PROJECT UNDERWAY WITH APPROXIMATELY 60% TIME SAVINGS COMPARED TO SCAFFOLDING.

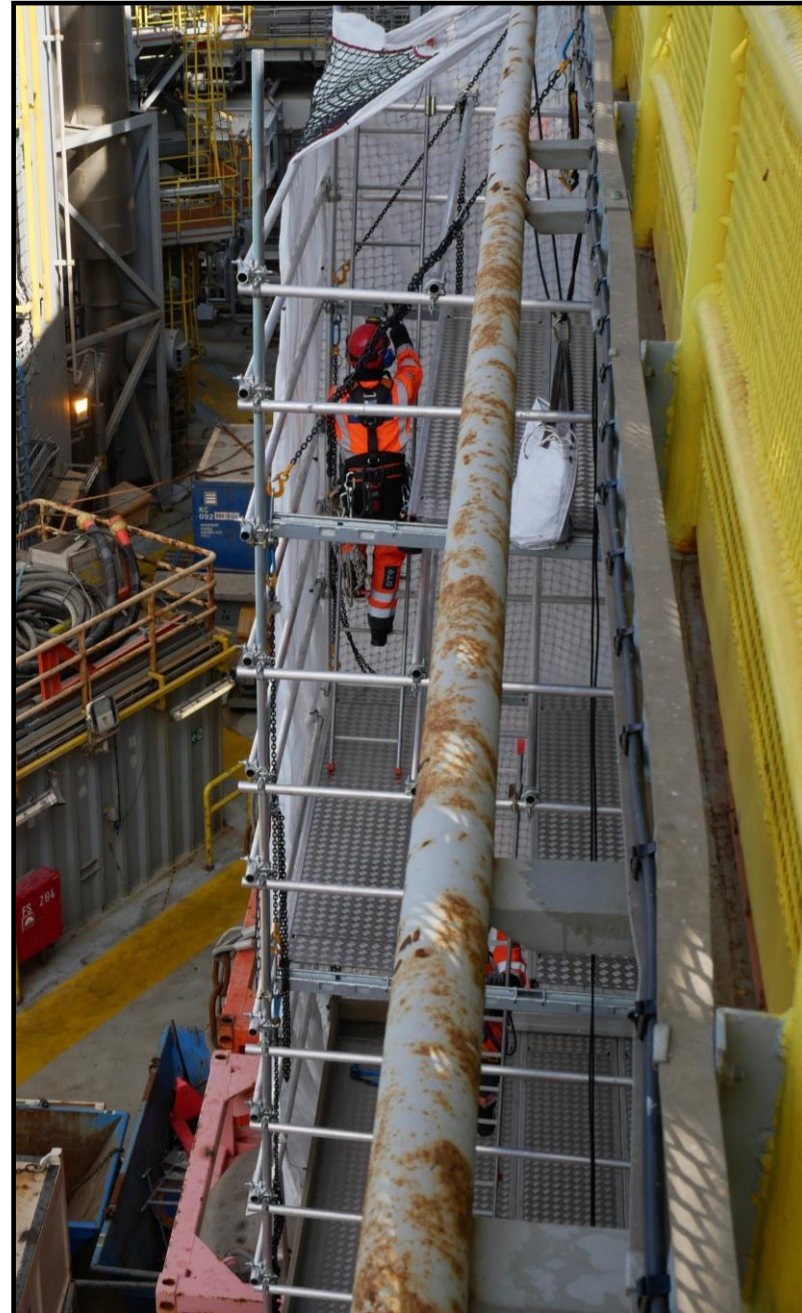
1.5kN/M2 83M <sup>2</sup>	V-DECK™	SCAFFOLD	SAVING
<b>SHIFTS</b> INSTALL & DISMANTLE	40 MAN DAYS	120 MAN DAYS	<b>67%</b>



# MAERSK, INTERCEPTOR: NORWAY

## V-DECK™

- CLIENT REQUIRED ACCESS FOR CHANGING OUT THE BRAKE RESISTOR CABLES ON A DRILLING MODULE.
- THE DRILLING MODULE REMAINED OPERATIONAL WITH THE V-DECK™ SAVING SIGNIFICANT COSTS.



**V-Deck**

# CHRYSAOR, NORTH EVEREST: UK



## V-DECK™

- CLIENT REQUIRED A 472M<sup>2</sup> ACCESS PLATFORM TO PROVIDE TWO LEVELS TO THE PIPE BRIDGE ON THE NORTH EVEREST FOR STEELWORK REPAIRS.
- THE V-NET™ PROVIDED FULL CONTAINMENT RESULTING IN NO SAFETY BOAT COVER REQUIREMENT.

472M <sup>2</sup> 1 kN/M <sup>2</sup> UDL	V-DECK™	SCAFFOLD	SAVING
SHIFTS INSTALL & DISMANTLE	64 MAN DAYS	170 MAN DAYS	62%
PLATFORM WEIGHT (T)	10.8T	70T	85%



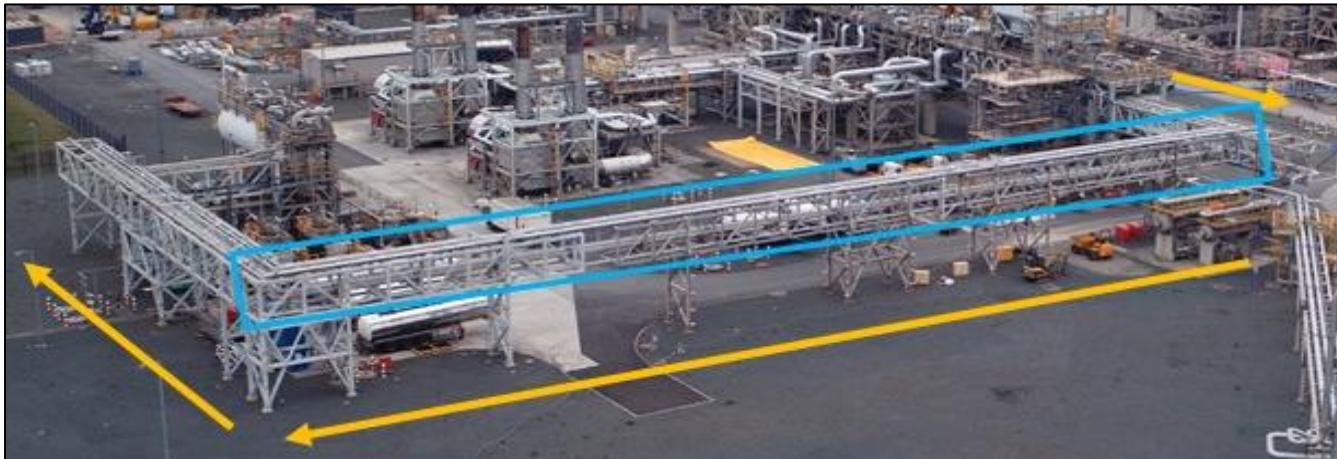
# SPIRIT ENERGY, BARROW-IN-FURNESS GAS TERMINAL PIPE RACK: UK



## V-DECK™

➤ CLIENT REQUIRED ACCESS FOR CUI INSULATION SCOPE.

**“FEEDBACK FROM THE TEAM AND SUPERVISORS IS THAT ONCE ERECTED THE V-DECK™ ALLOWS AROUND 30 - 40% IMPROVEMENT IN SPEED & EFFICIENCY AROUND THE WORKING AREA WHEN COMPARED TO ROPE ACCESS”**



# PIPE RACK



**FRONT ELEVATION**

**SIDE ELEVATION**

**NOTES:**

- All drawing dimensions are in millimeters
- Individual V-Decks have a load capacity of -  
3kN/m<sup>2</sup> for 3m = 540kg  
5kN/m<sup>2</sup> for 2m = 600kg  
The minimum Factor of Safety per V-Deck is 3:1
- V-Deck tread plates must be cable tied down in  
wind speeds exceeding 25/m/s (60mph)  
Maximum wind speed for occupied V-Deck is 20m/s  
(45mph)  
Wind speed must be measured from the V-Deck as  
topographical features may increase/reduce the actual  
wind speed applied to the V-Deck installation.

DUPLEX SLING WRAPPED AROUND ALUMINUM TRUSS USED FOR ANCHORING

ALUMINUM TRUSS RECTANGULAR - 4m LENGTH

**DETAIL D**

NAME	SIGNATURE	DATE	TITLE
DRAWN ANDREW PLACE	AP	18.10.2021	PIPE RACK SHOWCASE TRUSS ANCHOR SYSTEM
CHK'D SHELDON WIG	SW	18.10.2021	
APP'D MFG			

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DWG NO: VTS-PIPE RACK SHOWCASE-002 REVISION A

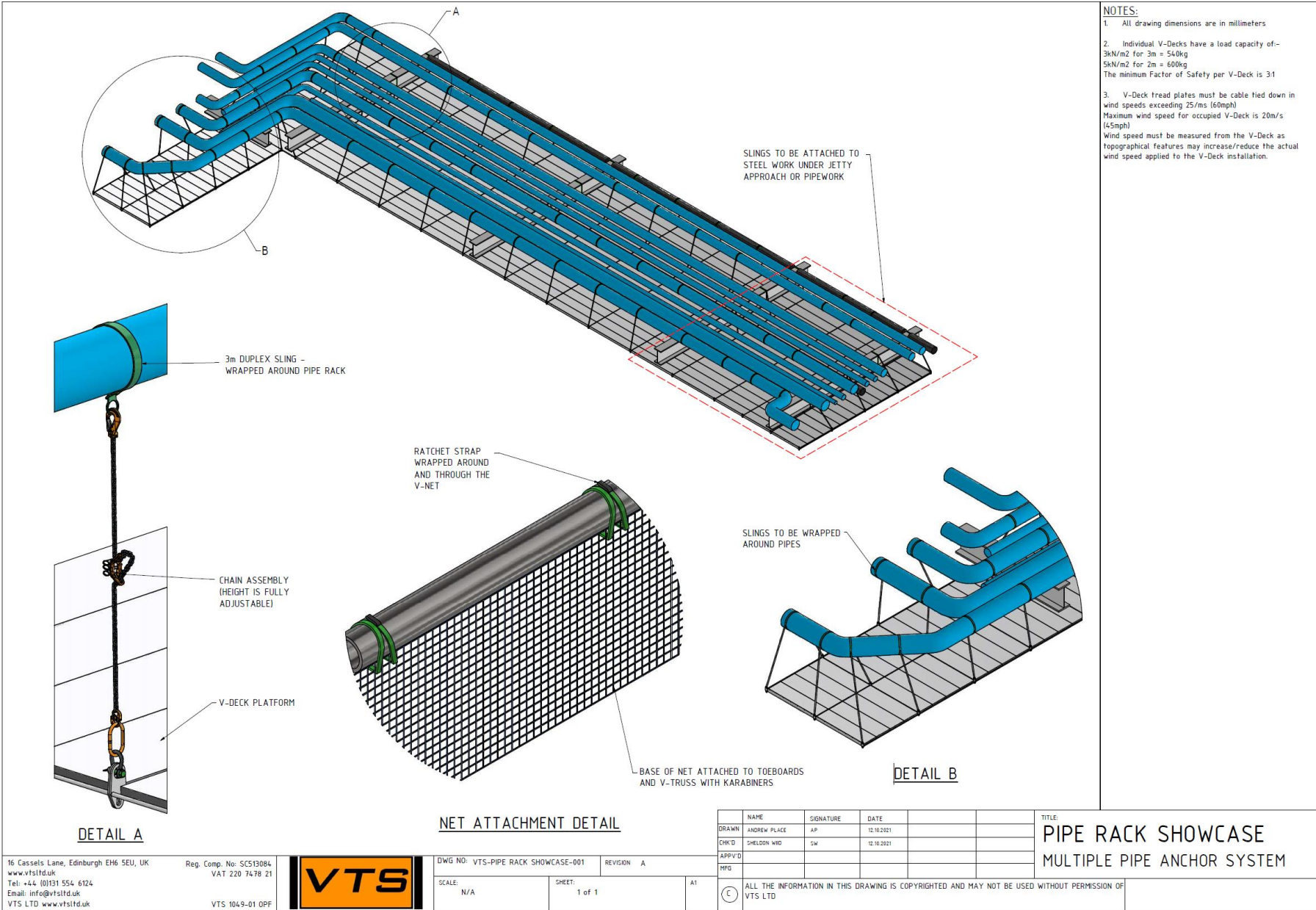
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Reg. Comp. No: SC513084  
VAT 220 7478 21

VTS 1049-01 OPF

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# PIPE RACK







**FPSO TANKS,  
DOME TANKS,  
SILOS & BOILERS**

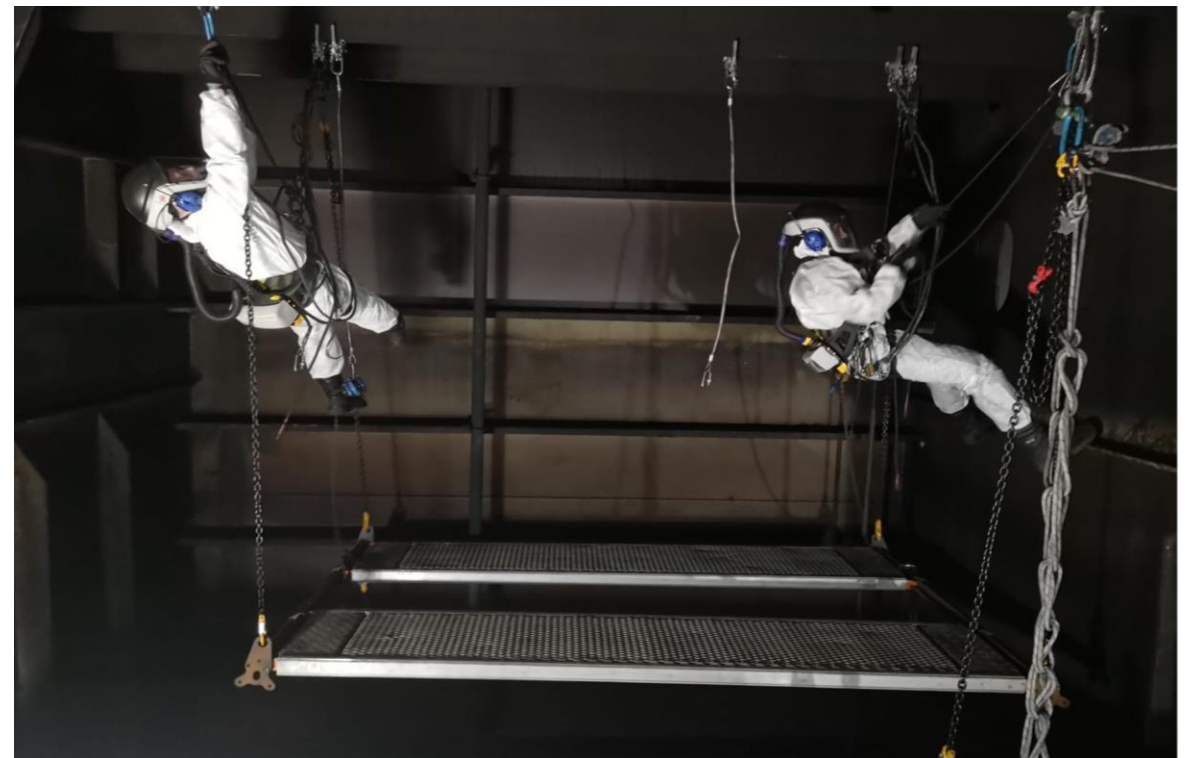
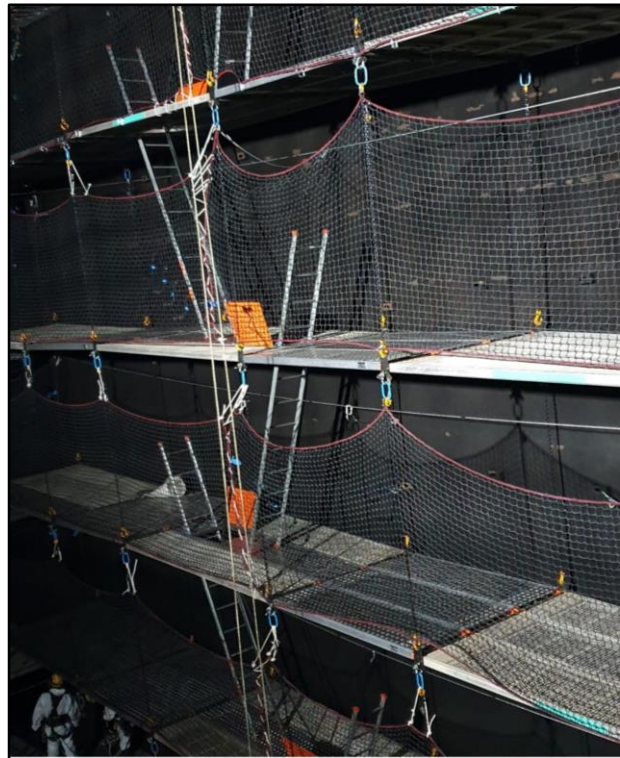
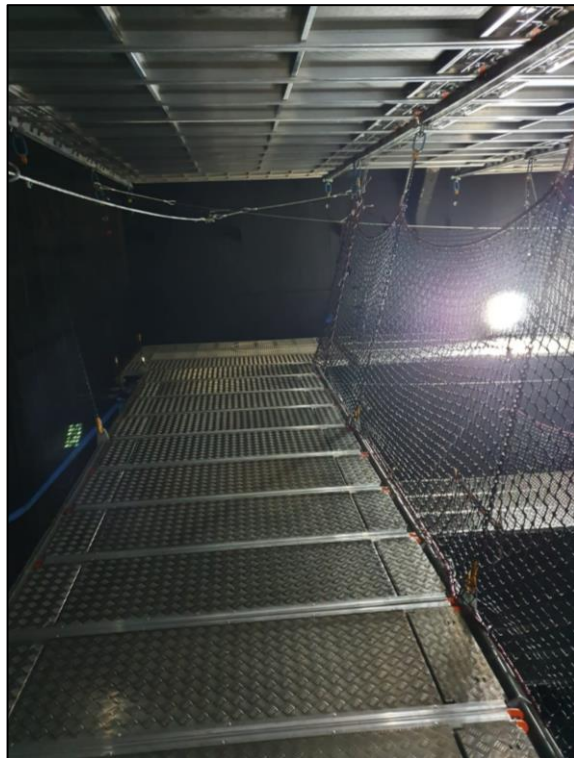
# SHELL, CURLEW FPSO TANKS: UK



## V-DECK™

- A SUSPENDED WORK PLATFORM WAS REQUIRED TO PROVIDE ACCESS TO THE DECKHEAD AND ALL INTERNAL WALLS OF THE TANKS ON THE CURLEW FPSO.
- INSTALLATION WAS CARRIED OUT BY PERSONNEL IN FULL BREATHING APPARATUS.

2kN/M <sup>2</sup> UDL	V-DECK™	SCAFFOLD	SAVING
SHIFTS INSTALL & DISMANTLE	102 MAN DAYS	540 MAN DAYS	81%
PLATFORM WEIGHT (T)	15T	174T	90%



# ENQUEST, FPSO TANKS: UK

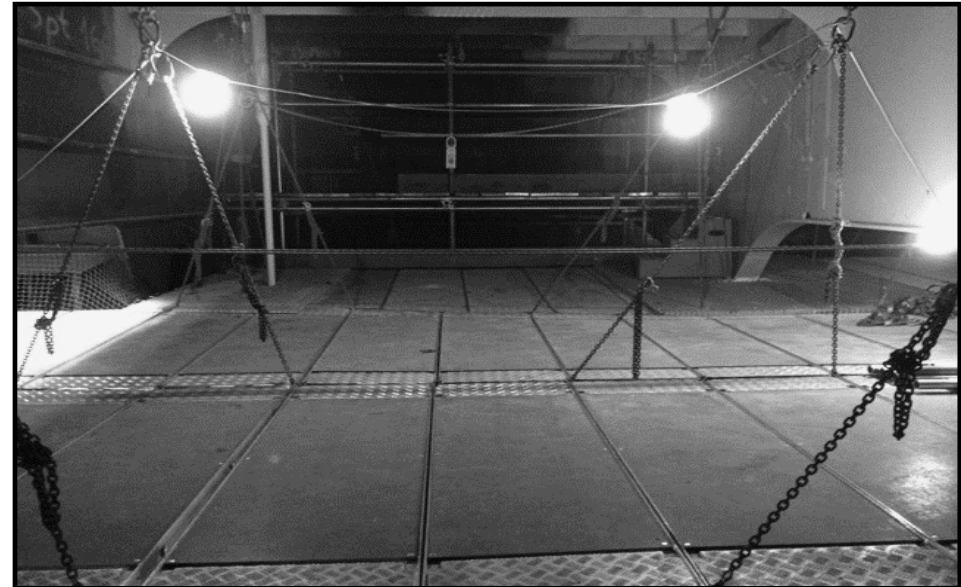


## V-DECK™

- ACCESS WAS REQUIRED TO THE DECKHEAD STEELWORK OF THE 20M DEEP FPSO TANKS.
- THE V-DECK™ PROVIDED AN ACCESS SYSTEM 10 TIMES LIGHTER THAN THE SCAFFOLD SOLUTION.
- THE V-DECK™ COULD BE INSTALLED WHILE THE VESSEL IS AT SEA, ALTHOUGH IN THIS CASE IT WAS IN DOCK.



480M <sup>2</sup> 2kN/M <sup>2</sup> UDL	V-DECK™	SCAFFOLD	SAVING
SHIFTS INSTALL & DISMANTLE	48 MAN DAYS	120 MAN DAYS	60%
PLATFORM WEIGHT (T)	7.5	80	90%

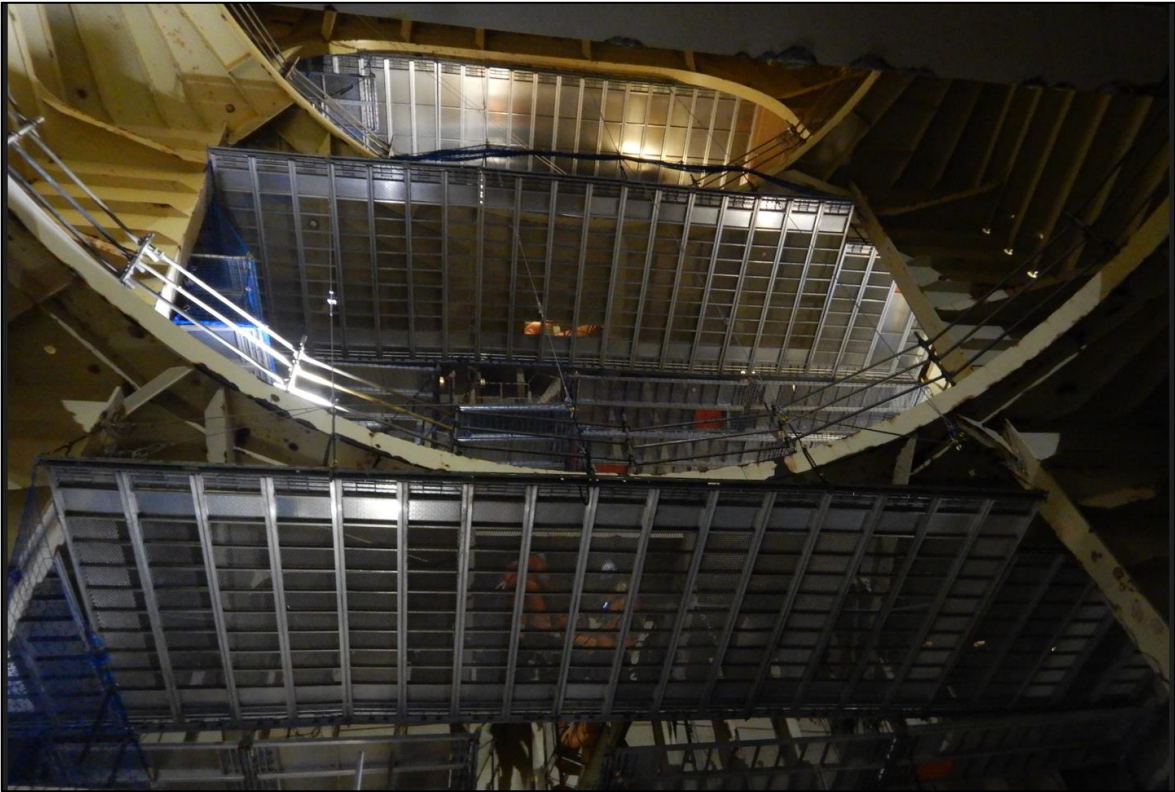
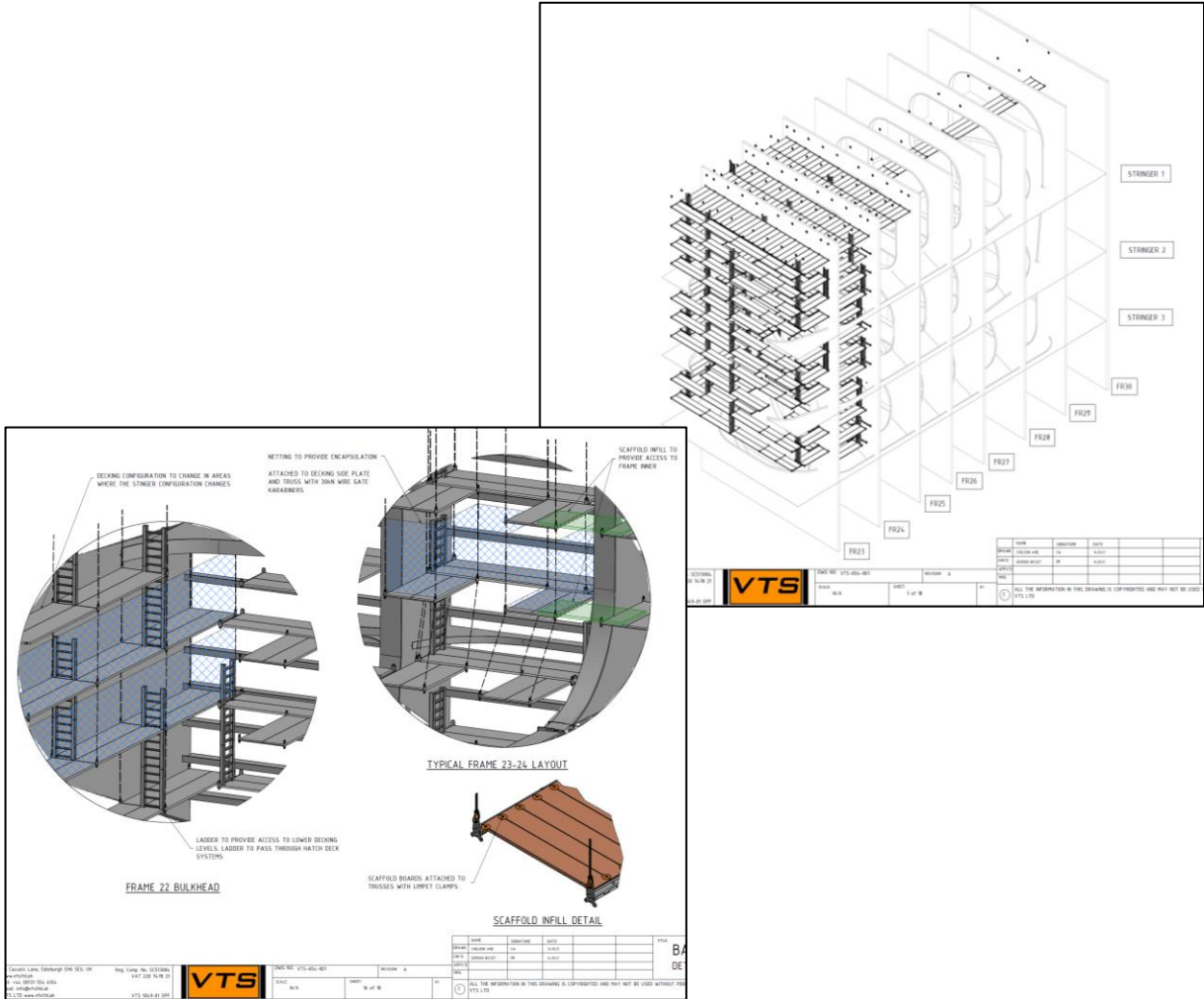


# TOTAL, FSO UNITY BALLAST TANKS: NIGERIA



V-DECK™

➤ ACCESS IS REQUIRED TO UNITY WATER BALLAST TANKS FOR NDT, STEEL REPAIRS AND COATINGS.



# FPSO HULL: UK 2017

**V-Deck**

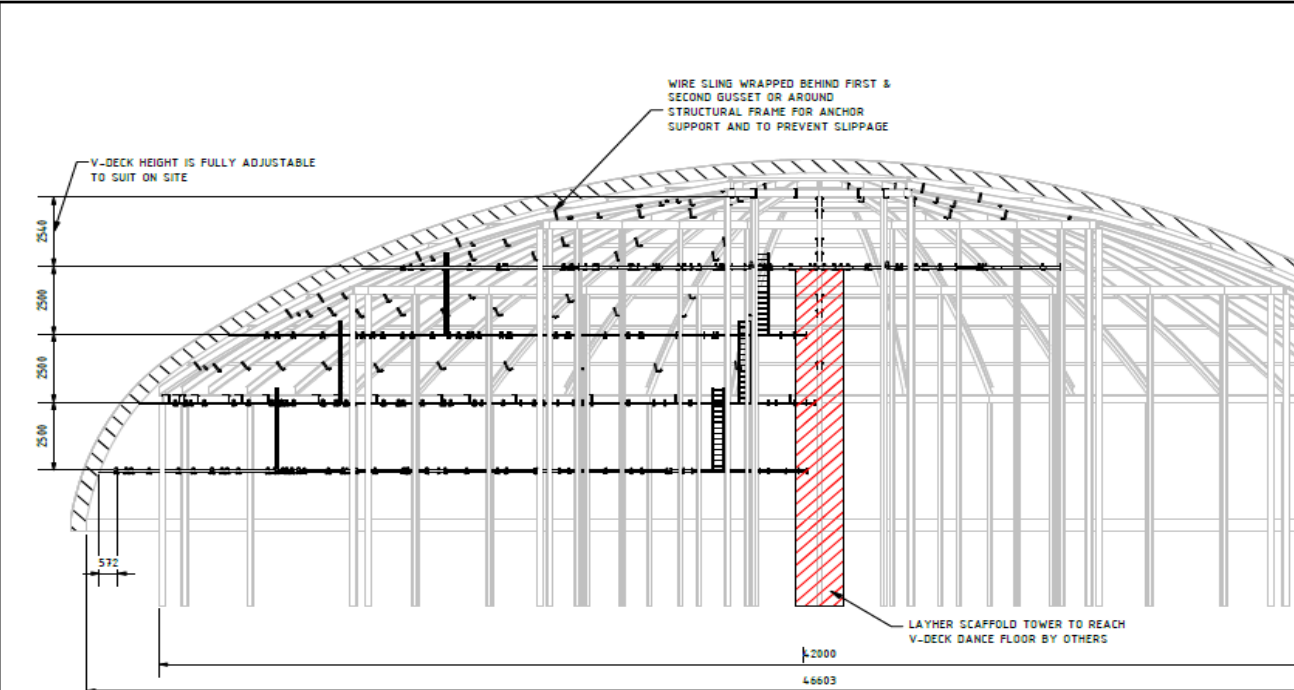
## V-CRADLE™

- CLIENT REQUIRED ACCESS TO THE HULL AT SEA LEVEL.
- THE SUBMERSIBLE CRADLE ALLOWED WAVES TO PASS THROUGH THE CRADLE ENABLING WORK AT THIS LEVEL.
- DELIVERED WITHIN ONE WEEK TIMEFRAME TO MEET CLIENTS URGENT NEEDS.



# KAEFER, HINCKLEY POINT C DOME CONCEPT DESIGN: UK

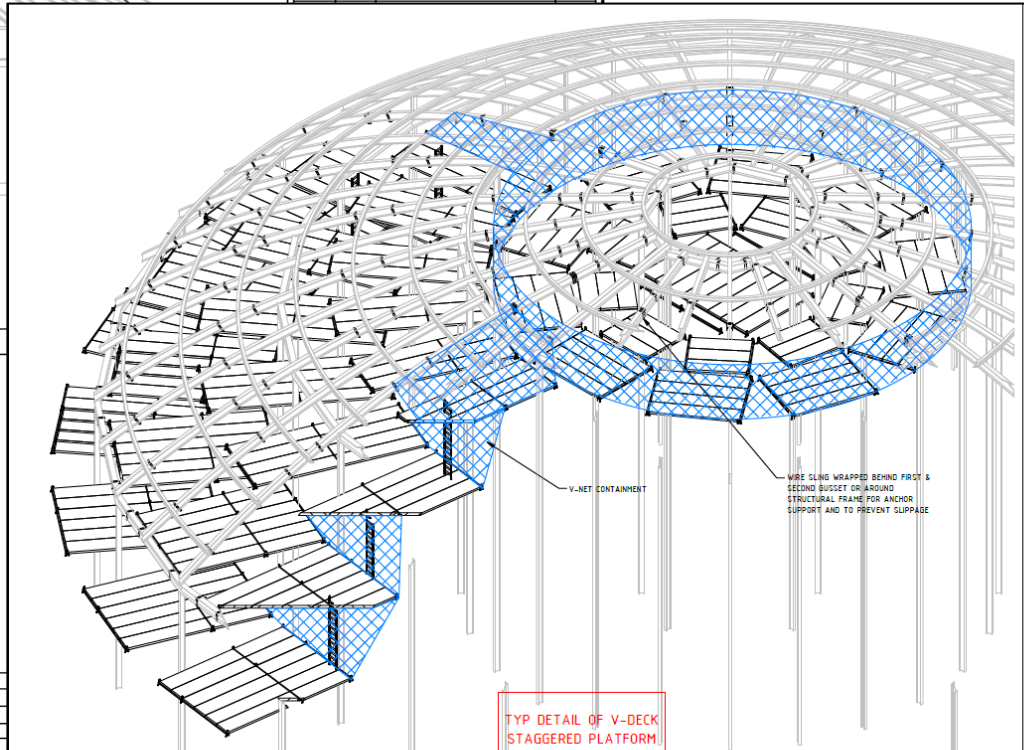
V-DECK™



FRONT ELEVATION

NOTES:  
 1. All drawing dimensions are in millimeters  
 2. Individual V-Decks have a load capacity of:-  
 3kN/m<sup>2</sup> for 3m = 540kg  
 5kN/m<sup>2</sup> for 2m = 600kg  
 The minimum Factor of Safety per V-Deck is 3:1  
 3. V-Deck tread plates must be cable tied down in wind speeds exceeding 25/m/s (60mph)  
 Maximum wind speed for occupied V-Deck is 20m/s (45mph)  
 Wind speed must be measured from the V-Deck as topographical features may increase/reduce the actual wind speed applied to the V-Deck installation.

REVISIONS TABLE			
REV	DATE	DESCRIPTION	DWN
A	27.09.21	CONCEPT DESIGN - QUARTER	AP



NOTES:  
 1. All drawing dimensions are in millimeters  
 2. Individual V-Decks have a load capacity of:-  
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REV	DATE	DESCRIPTION	DWN
A	27.09.21	CONCEPT DESIGN - QUARTER	AP

- CONCEPT DRAWING
- ENGINEERING DRAWINGS
- AS BUILT DRAWINGS

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HINCKLEY POINT C DOME  
 3D LAYOUT

# SHELL, TANK 37: CANADA



## V-DECK™

- ACCESS WAS REQUIRED TO THE INTERNAL & EXTERNAL WALLS OF THE STORAGE TANKS FOR SHELL.

## SCAFFOLDING

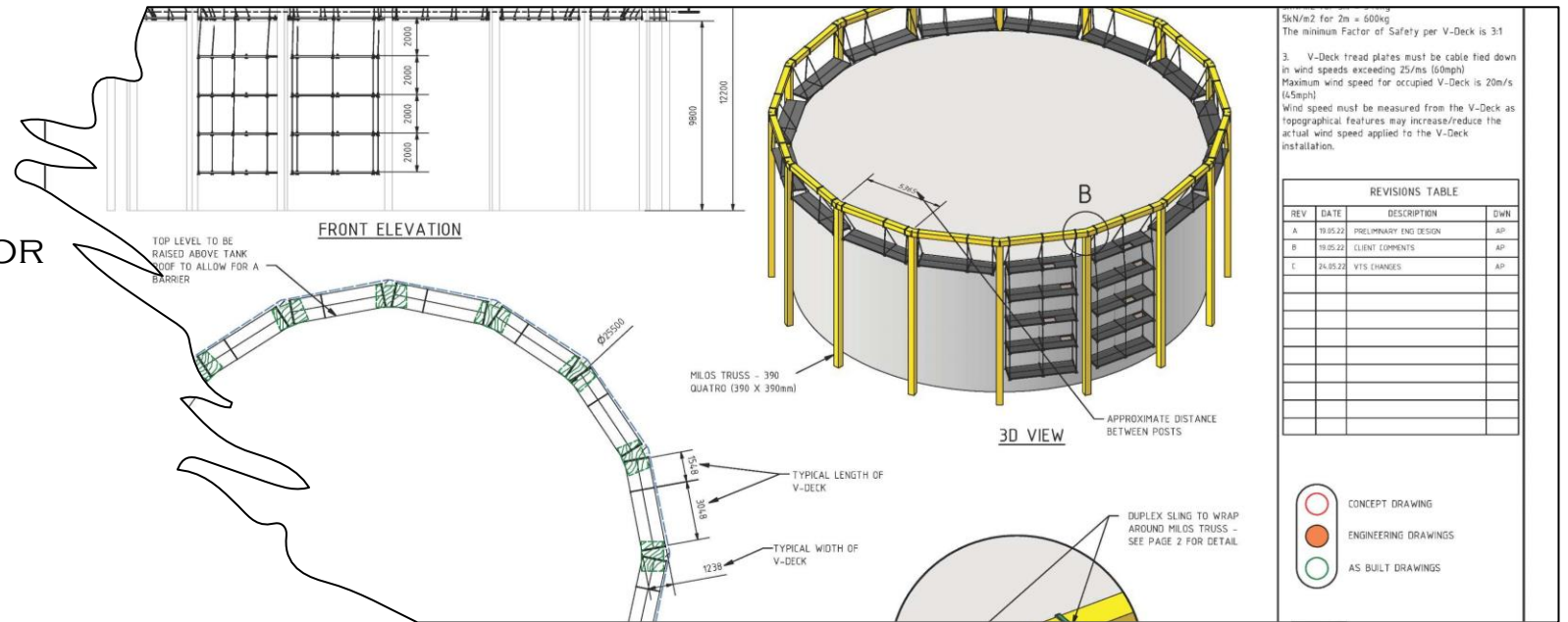
- 4000 HOURS
- 67 DAYS EXTERIOR & 69 DAYS INTERIOR

## V-DECK™

- 21 DAYS
- 840 HOURS

## SAVINGS

- 115 DAYS



# SANTOS, BUTANE TANKS: AUSTRALIA

**V-Deck**

## V-DECK™

### WORK POSITIONING PLATFORM

- ACCESS WAS REQUIRED TO THE TOPMOST STRAKE OF THE BUTANE TANK (33M HIGH) TO UNDERTAKE MAINTENANCE AROUND THE FULL PERIMETER (33.5M).
- THE V-DECK™ WAS USED AS A WORK POSITIONING PLATFORM AS THE TIME TO INSTALL THE SIDE CONTAINMENT WAS NOT CONSIDERED USEFUL GIVEN THAT THE WORKS WERE BEING CARRIED OUT BY ROPE ACCESS TECHNICIANS.

58M <sup>2</sup> 1.5kN/M <sup>2</sup> UDL	V-DECK™	SCAFFOLD	SAVING
SHIFTS INSTALL & DISMANTLE	20 MAN DAYS	120 MAN DAYS	83%



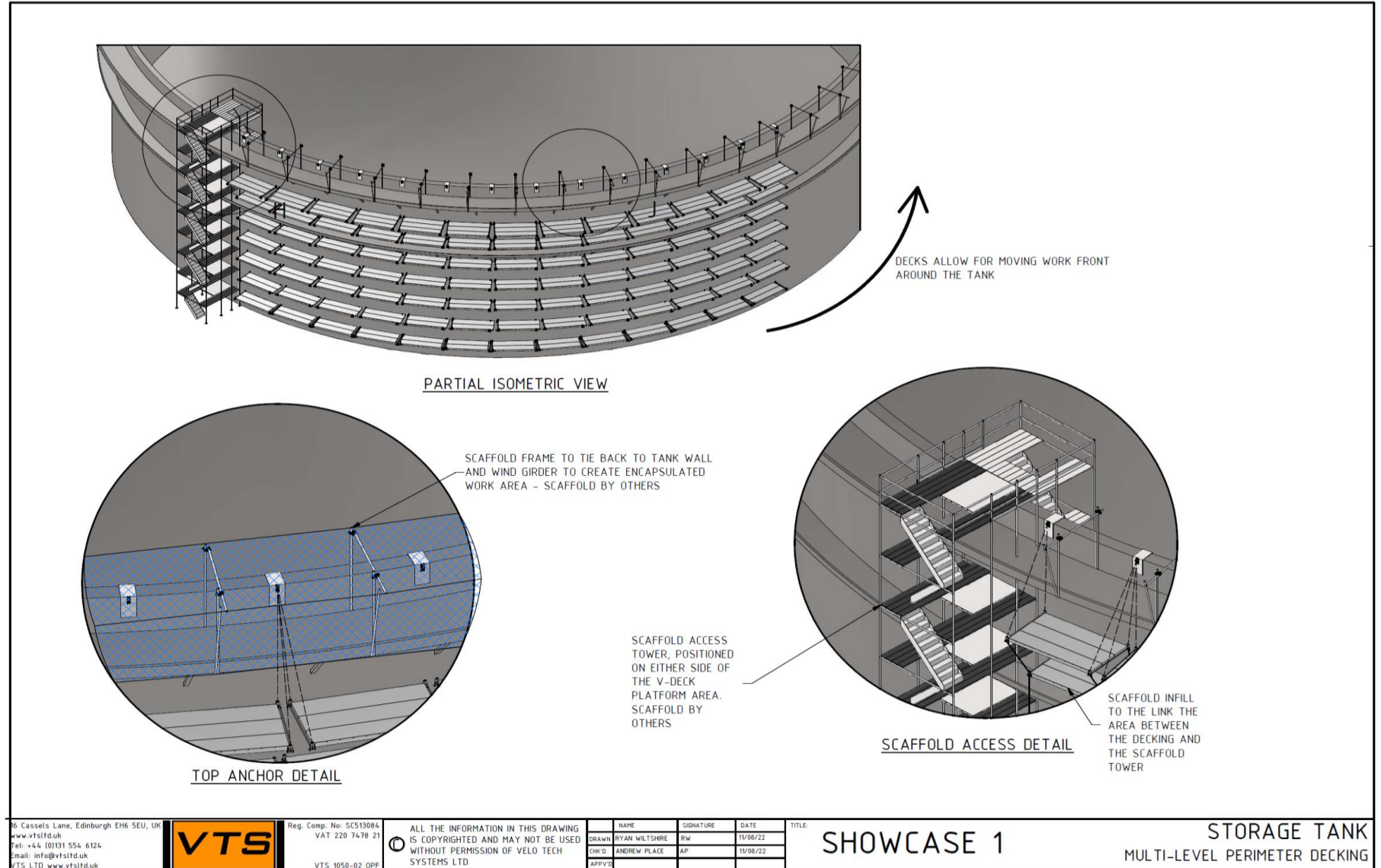


# TANKS

## V-DECK™

**V-Deck**

- ACCESS CAN BE PROVIDED TO INTERNAL AND EXTERNAL WALLS OF TANKS WITH A MULTI LEVEL V-DECK™ SYSTEM.
- THIS DESIGN INCLUDES CONTAINMENT MATERIAL FOR A BLASTING AND SPRAYING WORK SCOPE.



# TECK RESOURCES, COAL SILO: CANADA

## V-DECK™



- INSPECTION, SAND BLASTING, COATING AND WELD REPAIRS TO COAL SILO.

### V-DECK™

- 4 SHIFTS INSTALL – 10 TECHNICIANS

### TUBE AND FIT SUSPENDED SCAFFOLD

- 18 SHIFTS - 12 SCAFFOLDERS
- MODIFICATIONS THROUGHOUT SCOPE

### V-DECK™ SAVINGS

- 14 DAYS OF PRODUCTION
- \$262,320 OF LABOUR COST
- 2112 EXPOSURE HOURS IN ACCESS COST



TECK RESOURCES, COAL SILO: CANADA

V-DECK™

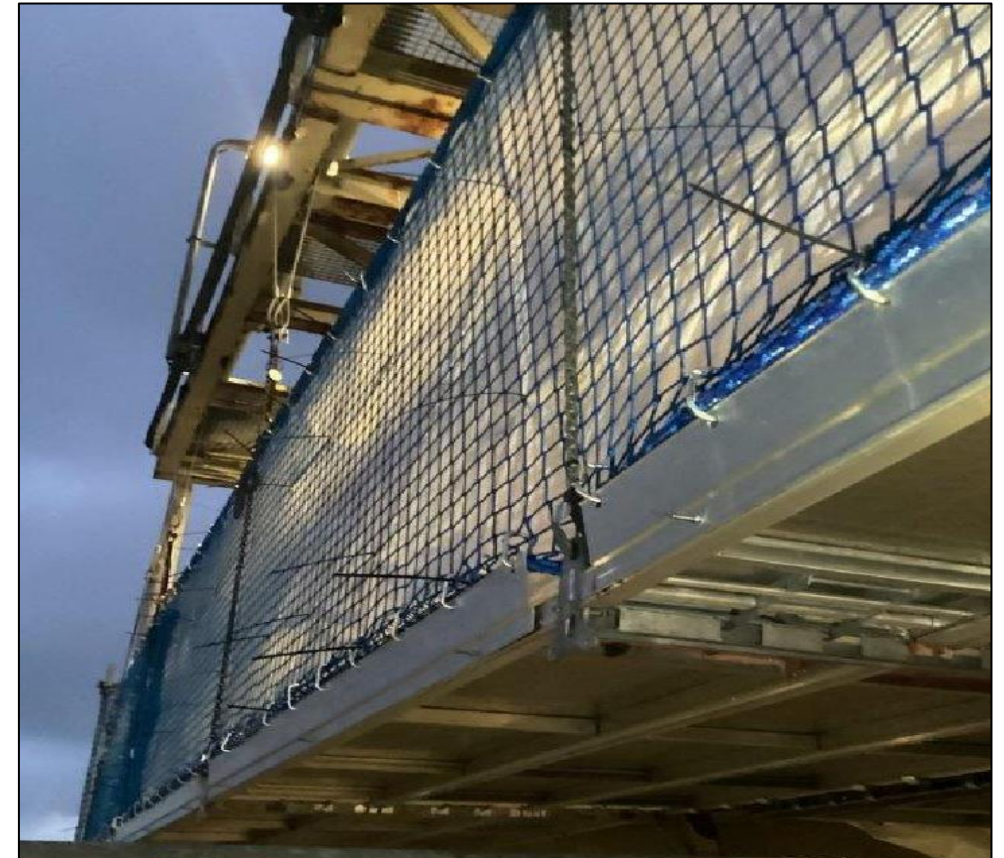
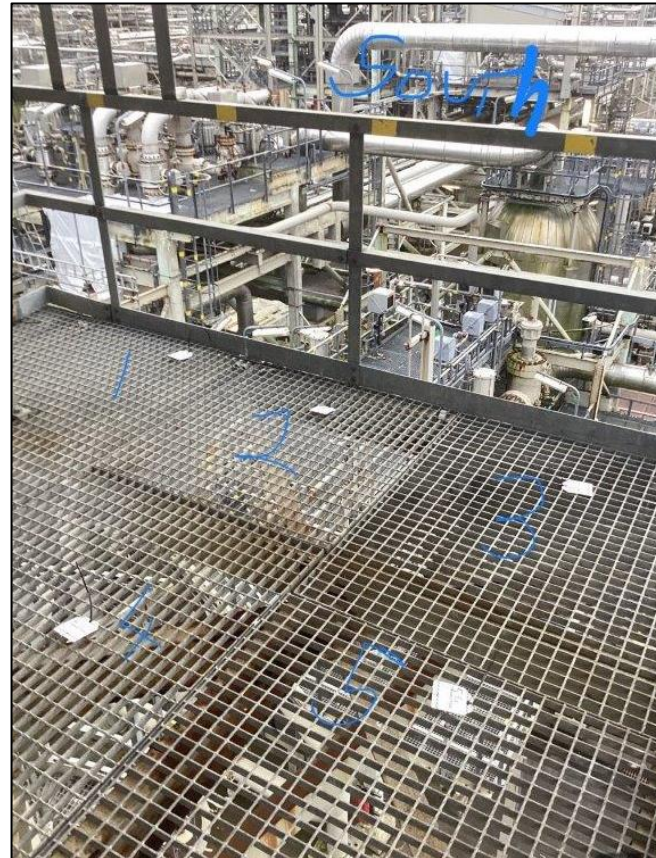


# SHELL, ST FERGUS TANK: UK

**V-Deck**

## V-DECK™

- CLIENT REQUIRED ACCESS TO TANK FOR REPAIRS OF WALKWAY AT 14M HEIGHT.



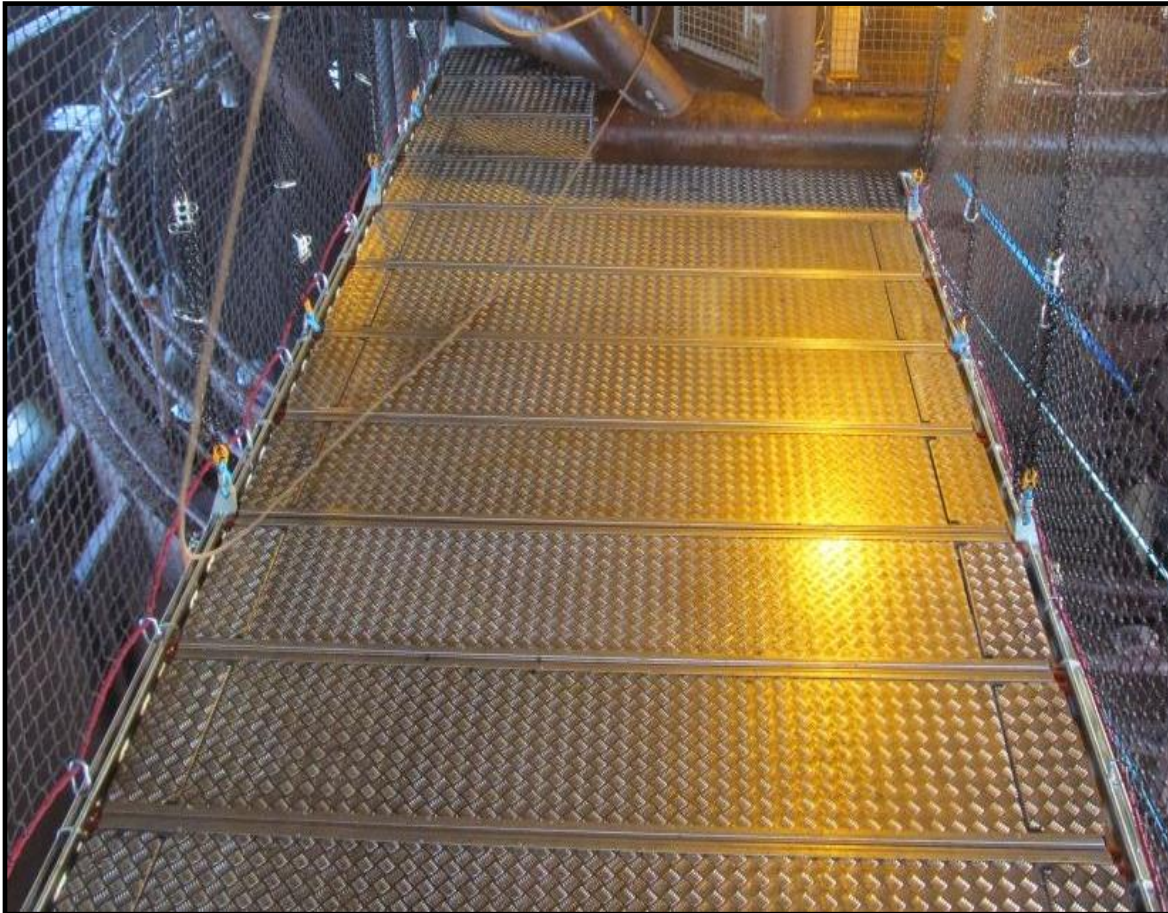
35M <sup>2</sup> 1.5kN/M <sup>2</sup> UDL	V-DECK™	SCAFFOLD	SAVING
SHIFTS INSTALL & DISMANTLE	56 MAN DAYS	180 MAN DAYS	69%

# CNR, NINIAN CENTRAL: UK



## V-DECK™

- CLIENT REQUIRED 1.5T PIG LAUNCHER TO BE POSITIONED AT THE EXACT LEVEL OF THE PIPE ENTRY 7.5M UNDER THE CELLAR DECK.



27M <sup>2</sup> 3KN/M <sup>2</sup> UDL	V-DECK™	SCAFFOLD	SAVING
SHIFTS INSTALL & DISMANTLE	12 MAN DAYS	50 MAN DAYS	76%
PLATFORM WEIGHT (T)	0.675	4.05	83%

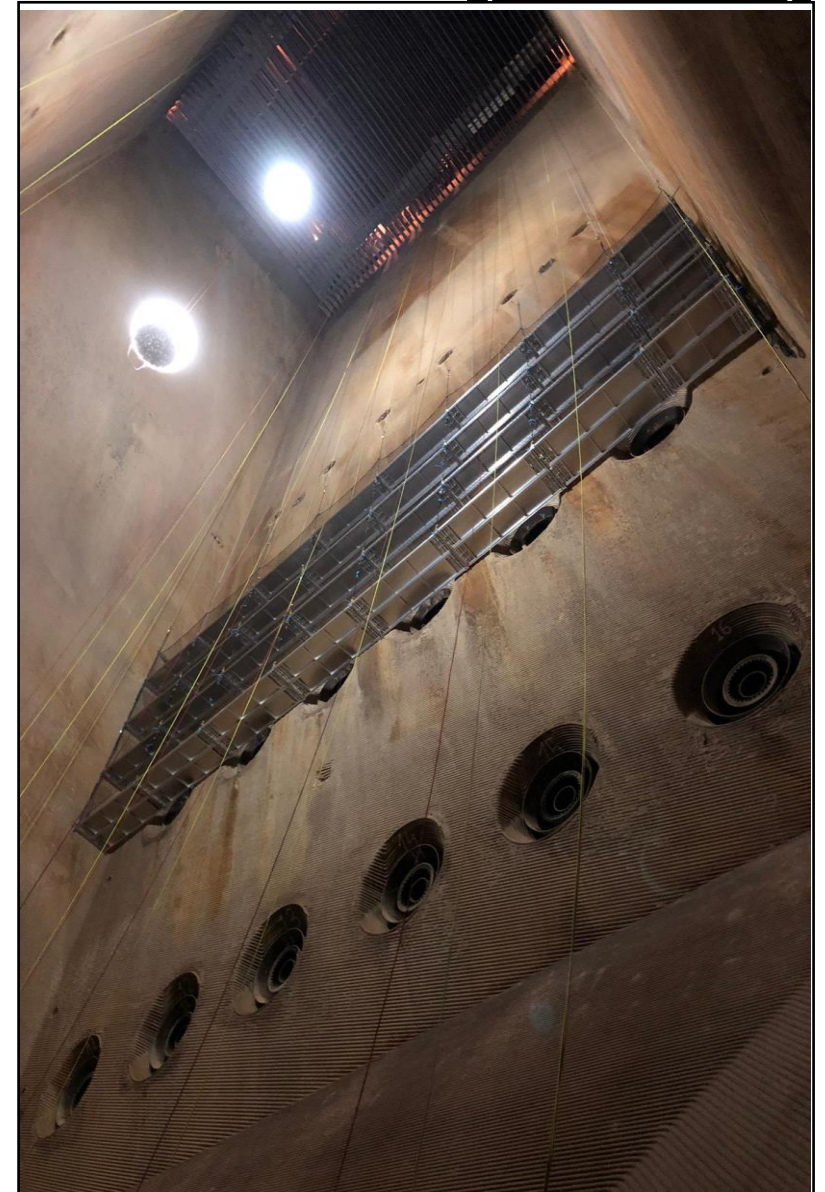
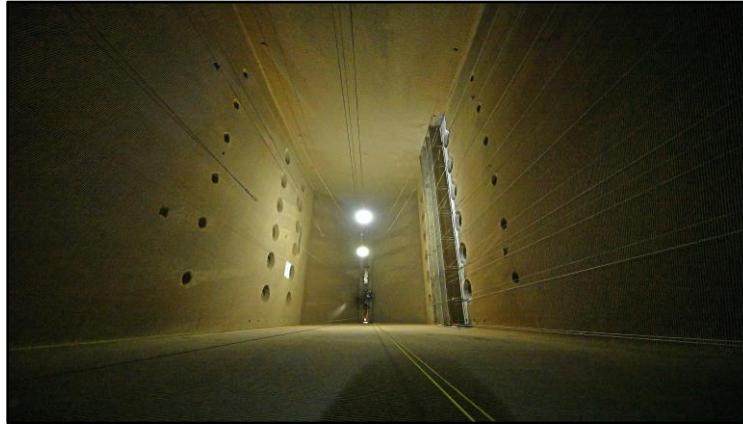


# UNIPER, BOILER: EUROPE

**V-Deck**

## V-DECK™

- CLIENT REQUIRED A 120M<sup>2</sup> ACCESS PLATFORM TO PROVIDE FOUR LEVELS TO THE INTERNALS OF A BOILER FOR WELDING REPAIRS. THE CLIENT REQUIRED A PLATFORM AT THE 35M LEVEL IN ORDER TO GAIN ACCESS TO THE BURNERS.
- THE BOILER IS 25M WIDE BY 76M DEEP, TAPERED AT THE BOTTOM.
- THE V-DECK™ WAS SUSPENDED OFF VTS DYNEEMA ROPES WHICH ALLOWED FOR BEST MANUAL HANDLING.



120M <sup>2</sup> OF 1kN/M <sup>2</sup> UDL	V-DECK™	SCAFFOLD	V-DECK™ SAVING
SHIFTS INSTALL & DISMANTLE	30 MAN DAYS	250 MAN DAYS	88%
PLATFORM WEIGHT (T)	2.6T	36T	93%

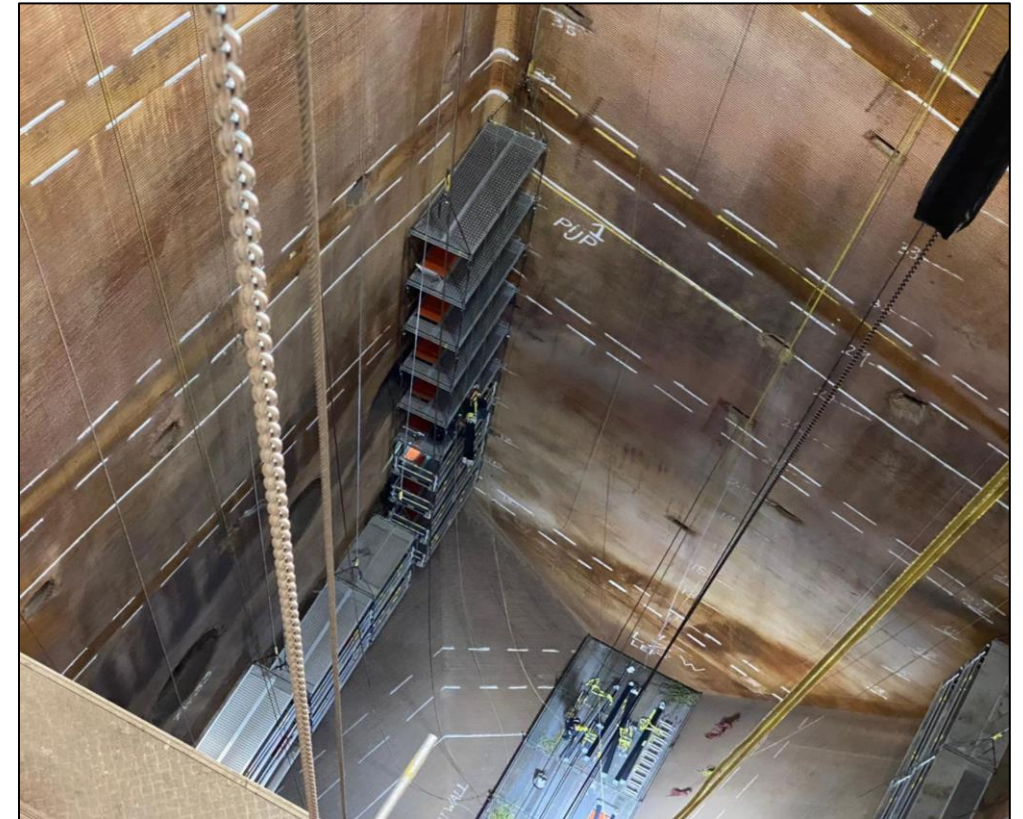
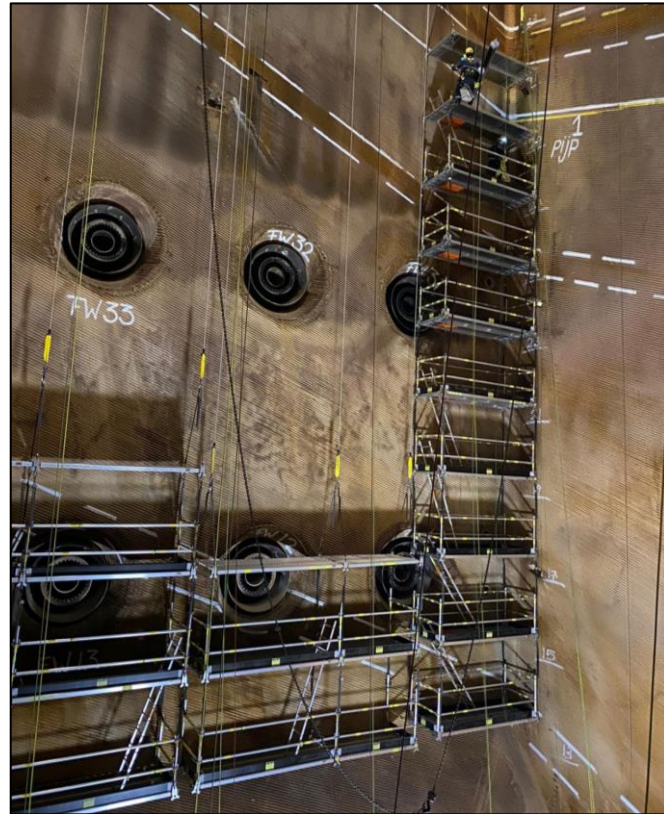
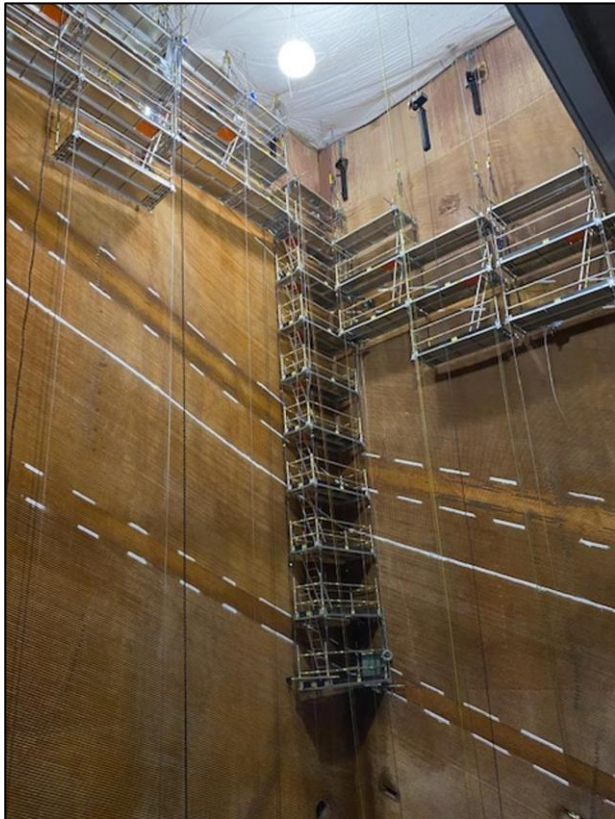
# ONYX, BOILER: EUROPE



## V-DECK™

- PROJECT IN A BOILER WITH THE V-DECK™ PROVIDING ACCESS TO ALL 4 INTERNAL FACES OF THE BOILER.
- V-DECK™ SYSTEMS MOVED INDEPENDENTLY OF EACH OTHER.

2.5 kN/M <sup>2</sup> UDL	V-DECK™	SCAFFOLD	SAVING
SHIFTS INSTALL & DISMANTLE	80 MAN DAYS	570 MAN DAYS	86%



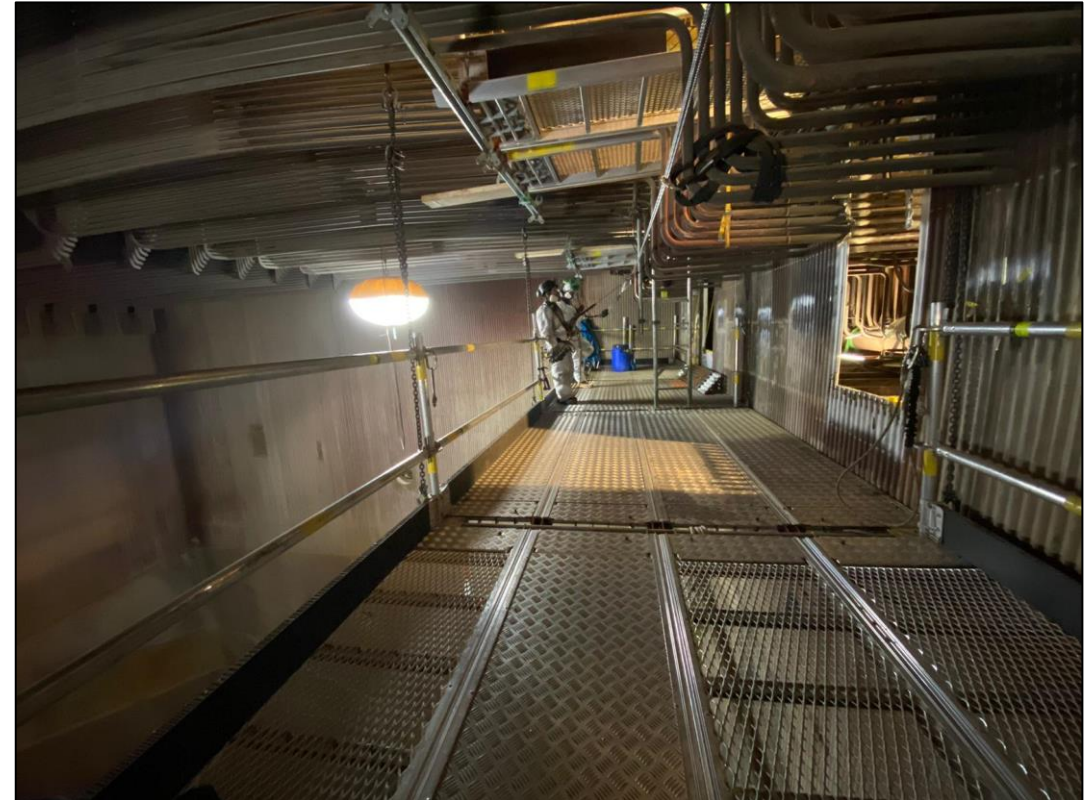
# ONYX, BOILER: EUROPE



## V-DECK™

- PROJECT IN A BOILER WITH THE V-DECK™ PROVIDING ACCESS ALONGSIDE CRADLES AND ROPE ACCESS.
- WORK LOCATION WAS AT THE TOP OF THE 76M HIGH BOILER.

100M2 1 kN/M <sup>2</sup> UDL	V-DECK™	SCAFFOLD	SAVING
SHIFTS INSTALL & DISMANTLE	30 MAN DAYS	570 MAN DAYS	95%







**BRIDGES,  
JETTIES &  
WHARVES**

# ASSOCIATED PETROLEUM TERMINALS, REFINERY JETTY CASE STUDY : UK

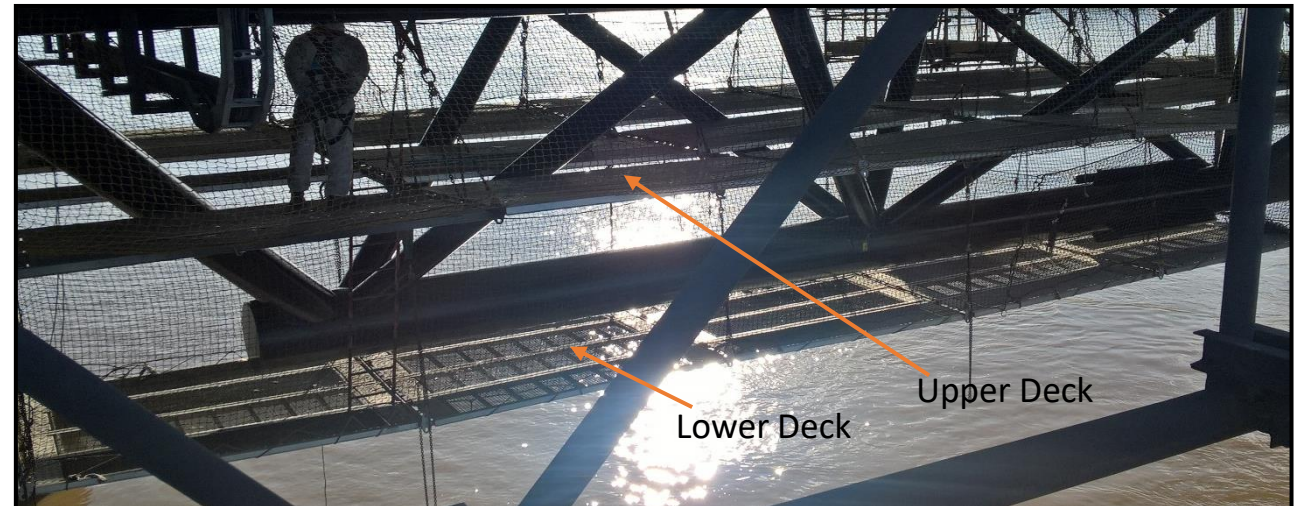
**V-Deck**

## V-DECK™

- CLIENT REQUIRED ACCESS TO A JETTY ROADWAY TUBULAR SUPPORT TRUSS TO CARRY OUT SURFACE PREPARATION AND COATING APPLICATION WORKS.
- ALL CONTACT POINTS WERE PREPARED AND COATED FROM THE V-DECK™ RESULTING IN ZERO RETURN WORKS FOR CONTACT POINTS AND A HIGH QUALITY FINISH.
- THE V-DECK™ SYSTEM PROVIDED FULL OVERSIDE CONTAINMENT SO THE WORKS WERE CLASSED AS INBOARD

432M <sup>2</sup> OF 1.5kN/M <sup>2</sup> UDL	V-DECK™	SCAFFOLD	SAVING
SHIFTS INSTALL & DISMANTLE	40 MAN DAYS	144 MAN DAYS	72%

“THE V-DECK™ WAS THE BEST ACCESS SOLUTION”



# FREMANTLE PORT, DOLPHIN ACCESS CASE STUDY: AUSTRALIA

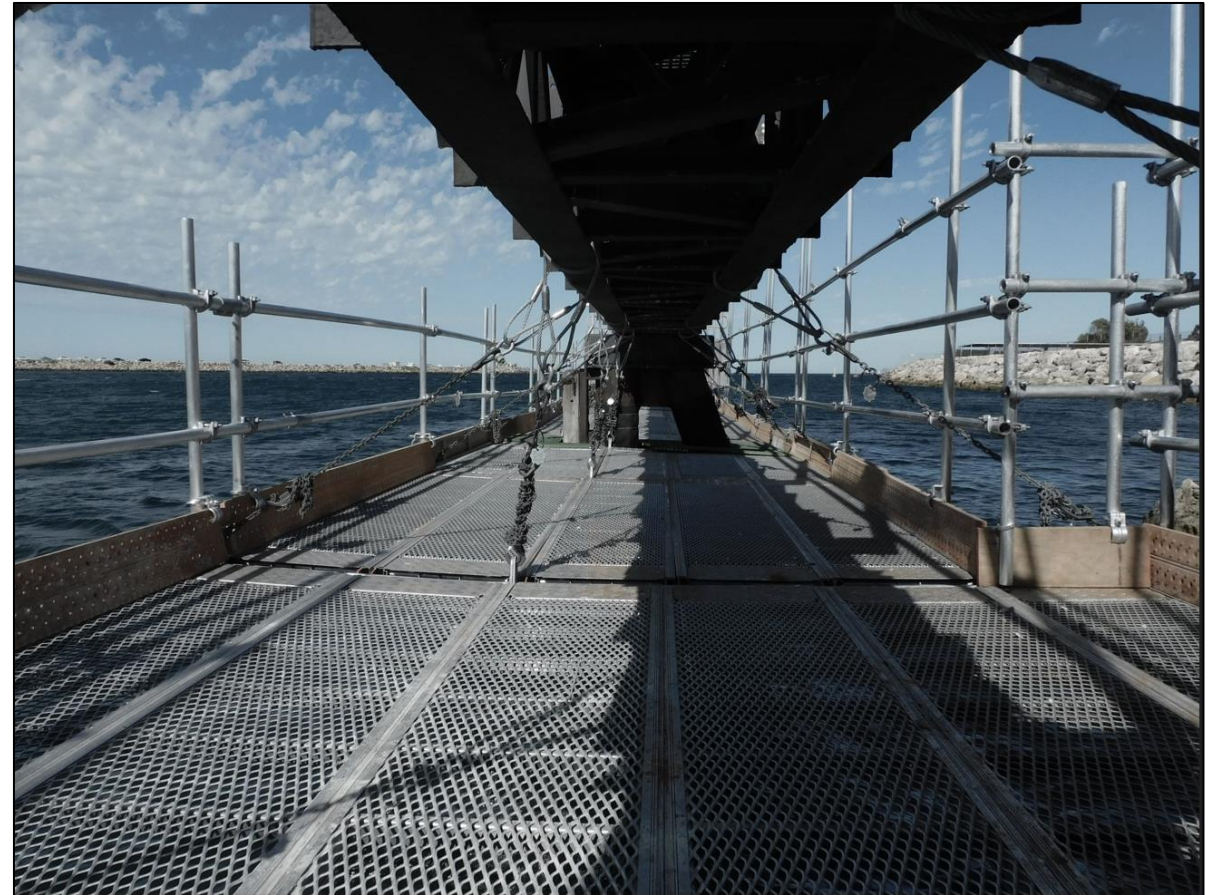


## V-DECK™

- CLIENT REQUIRED ACCESS FOR STEELWORK REPAIRS TO DOLPHIN ACCESS WALKWAY.



99M2 UDL 1.5kN	V-DECK™	SCAFFOLD	SAVING
WEIGHT KGS	2,500	12,000	79%



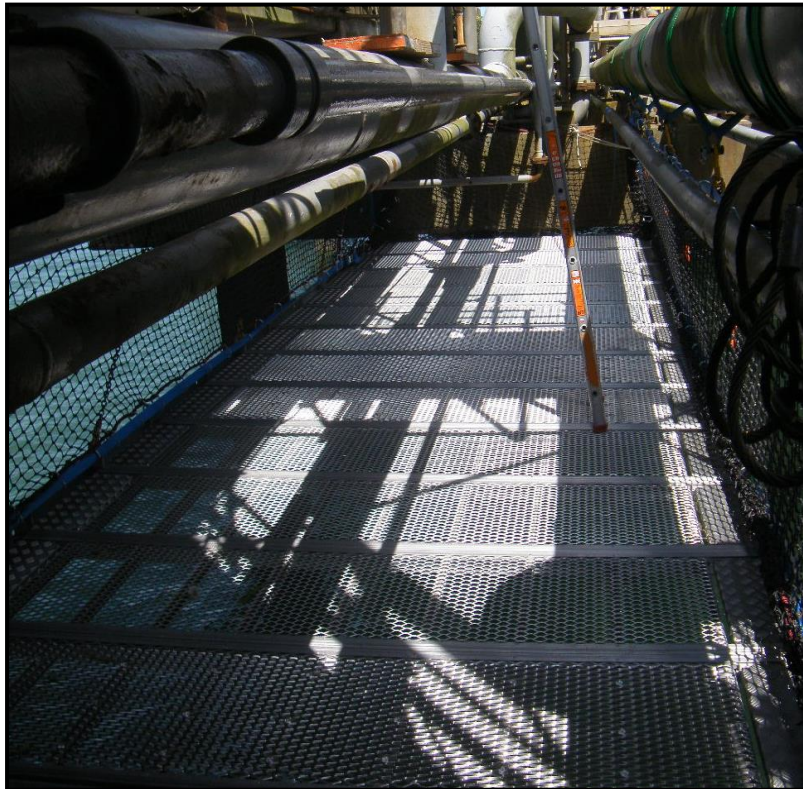
# VALERO ENERGY JETTY CASE STUDY : UK



## V-DECK™

- CLIENT REQUIRED A 1,600M X 3M WORK PLATFORM WHICH COULD BE QUICKLY ERECTED IN MULTIPLE WORK AREAS ON THE LARGE JETTY FOR PIPE DYELINE REPLACEMENT WORKS.
- ONLY A LIMITED AMOUNT OF EQUIPMENT COULD BE STORED ON THE JETTY.

72M <sup>2</sup> 2kN/M <sup>2</sup> UDL	V-DECK™	SCAFFOLD	SAVING
SHIFTS INSTALL & DISMANTLE	20 MAN DAYS	85 MAN DAYS	76%



**“V-DECK JOBS WERE A HUGE SUCCESS AND MADE IT BACK TO SAN ANTONIO (VALERO HQ) AS PEOPLE WERE SO IMPRESSED”**



# SHIPLOADER, AUSTRALIA



## V-DECK™

- ACCESS WAS REQUIRED TO THE UNDERDECK OF THE SHIPLOADER FOR NDT AND STRUCTURAL REMEDIATION.

2 kN/M <sup>2</sup> UDL	V-DECK™	SCAFFOLD	SAVING
<b>SHIFTS</b> INSTALL & DISMANTLE	15 MAN DAYS	240 MAN DAYS	<b>94%</b>



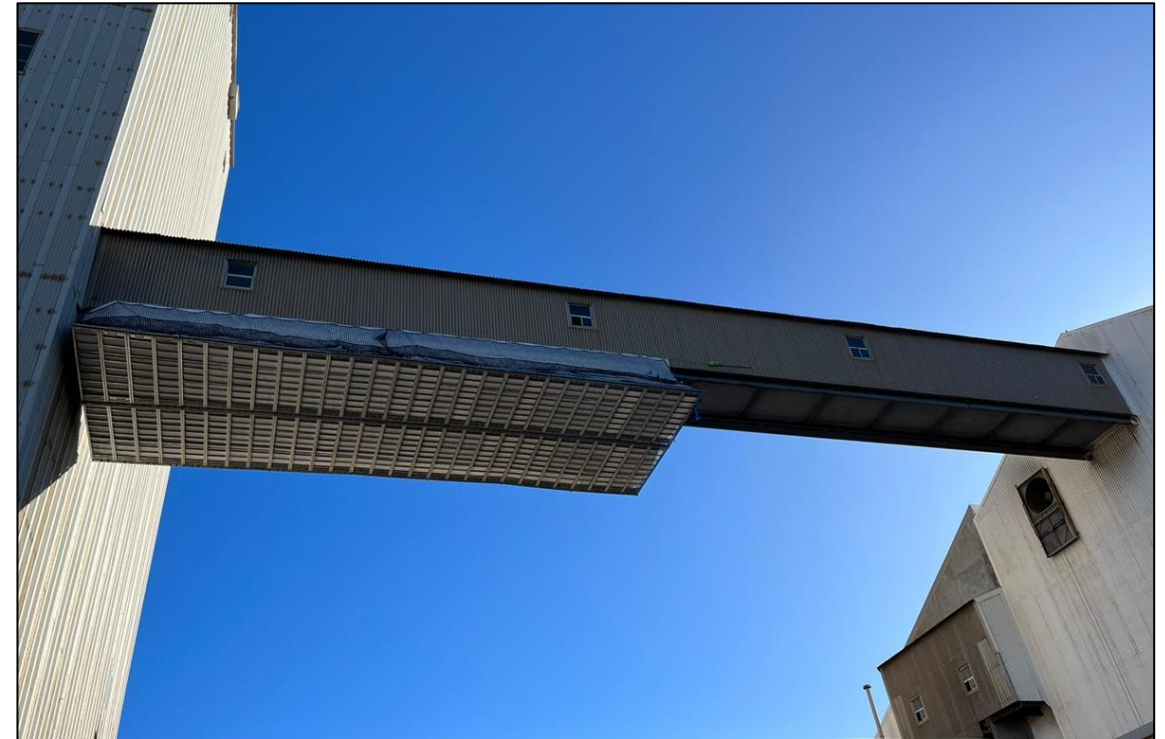
# CONVEYOR, AUSTRALIA

## V-DECK™

- ACCESS WAS REQUIRED TO THE UNDERDECK OF THE CONVEYOR FOR FABRIC MAINTENANCE.
- COULD NOT SCAFFOLD DUE TO LOAD CAPACITY OR BLOCK THE ROAD WITH SCAFFOLD.
- ONLY HALF V-DECK™ DUE TO LOAD CAPACITY.
- INSTALLATION TIME INCLUDED ENCAPSULATION.

**V-Deck**

<b>360M2</b> <b>1.5 kN/M<sup>2</sup> UDL</b>	<b>V-DECK™</b>	<b>SCAFFOLD</b>
<b>SHIFTS</b> INSTALL & DISMANTLE	<b>15</b> MAN DAYS	<b>COULD NOT</b> <b>SCAFFOLD</b>



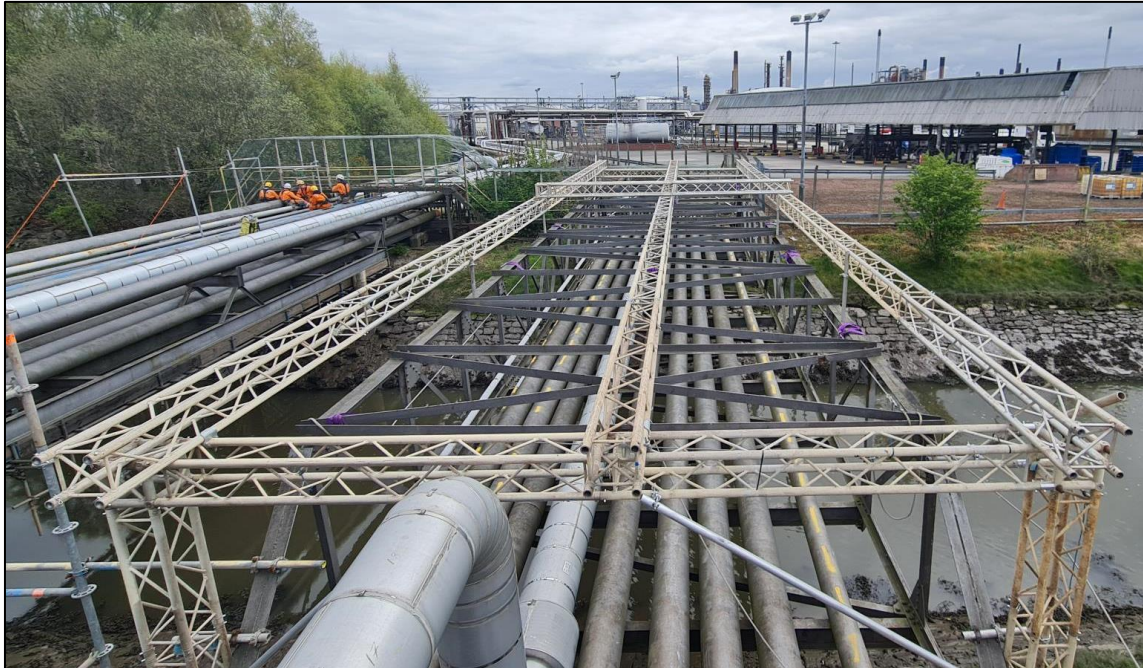
# INEOS, GRANGE BURN PIPE BRIDGE, GRANGEMOUTH PIPE BRIDGE: UK



V-DECK™

- ACCESS WAS REQUIRED FOR PIPEWORK REPAIRS.
- VTS SPECIFIED QUAD TRUSS SYSTEM ALLOWED FOR NO ATTACHMENTS TO THE PIPE BRIDGE

1.5kN/M <sup>2</sup> UDL	V-DECK™	SCAFFOLD	SAVING
SHIFTS	18	96	81%
INSTALL & DISMANTLE	MAN DAYS	MAN DAYS	



# PIPE BRIDGES: SARNIA, CANADA

**V-Deck**

## V-DECK™

- ACCESS WAS REQUIRED FOR MAINTENANCE ON TWO PIPE BRIDGES WITH A 2KN UDL PLATFORM.
- THE (5MX35M) BRIDGES COULD NOT TAKE THE LOAD OF A FULL HANGING SCAFFOLD.





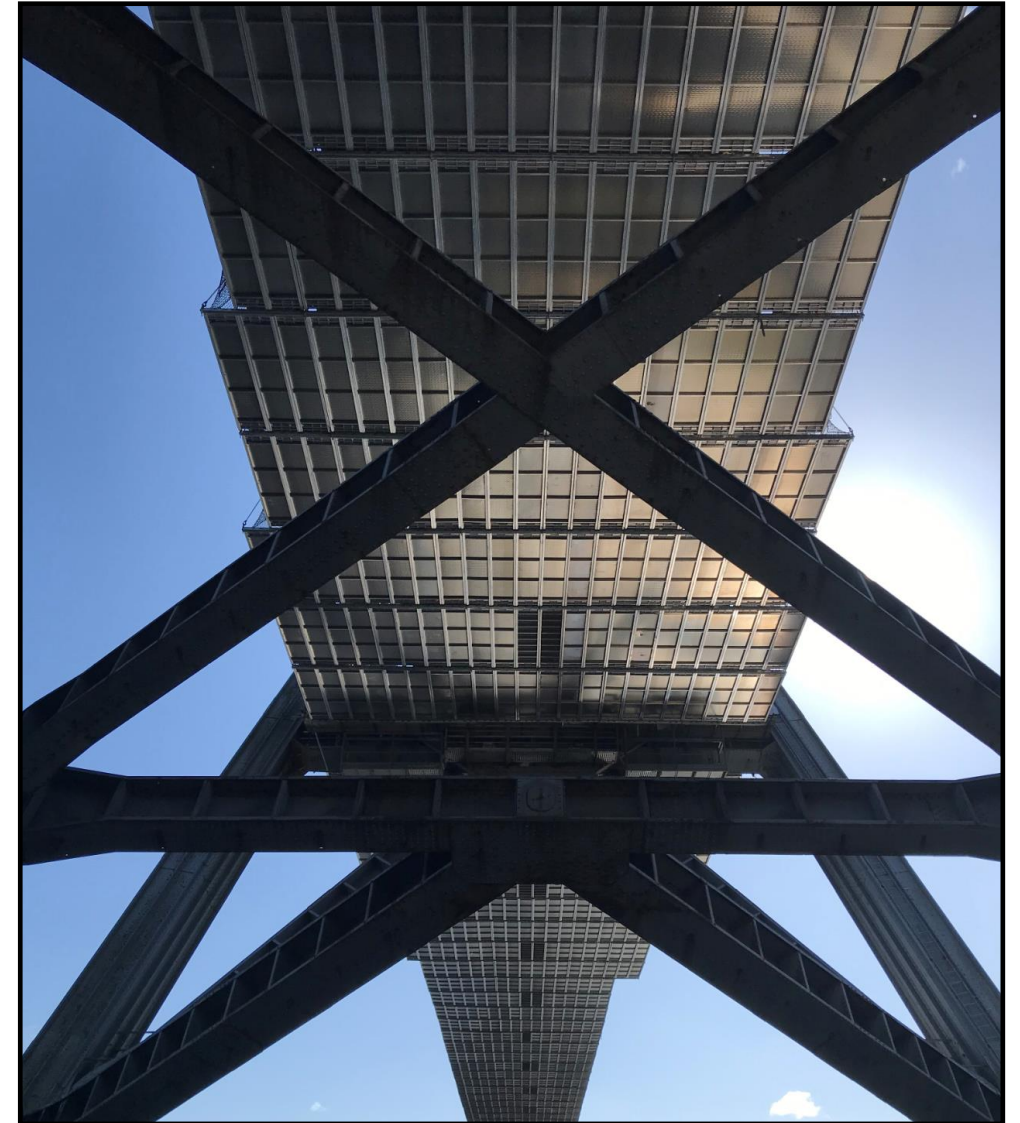
# TRANSPORT SCOTLAND, CONNELL BRIDGE: UK

**V-Deck**

## V-DECK™

- CLIENT REQUIRED ACCESS FOR THE INSTALLATION OF NEW ROAD DECK, STEELWORK REPAIRS AND COATINGS APPLICATION TO ROAD BRIDGE.
- DESIGNED TO TAKE WIND SPEEDS UP TO 99MPH (44M/S) AND A 3kN UDL LOAD.
- ROAD CLOSURES WERE REDUCED SIGNIFICANTLY COMPARED TO THE PROPOSED SCAFFOLDING SOLUTION

“V-DECK™ FITTED EVERY PART OF THIS PROJECT, THE REDUCED INSTALLATION TIME BEING A MAJOR TICK!”



# TRANSPORT SCOTLAND, FINDHORN BRIDGE: UK



## V-DECK™

- WORK PLATFORM REQUIRED FOR COATING APPLICATION TO THE TWO OUTERMOST BEAMS ON ROAD BRIDGE.
- V-DECK™ WAS STEPPED TO FOLLOW THE CURVE OF THE BRIDGE.
- ENCAPSULATION PART OF THE VTS DESIGN.
- DESIGNED TO 99MPH (44M/S) WIND SPEEDS.



2,220M2 2 KN/M <sup>2</sup> UDL	V-DECK™	SCAFFOLD	SAVING
SHIFTS INSTALL & DISMANTLE	250 MAN DAYS	980 MAN DAYS	75%



# TRANSPORT SCOTLAND, SPEY BRIDGE: UK

V-DECK™

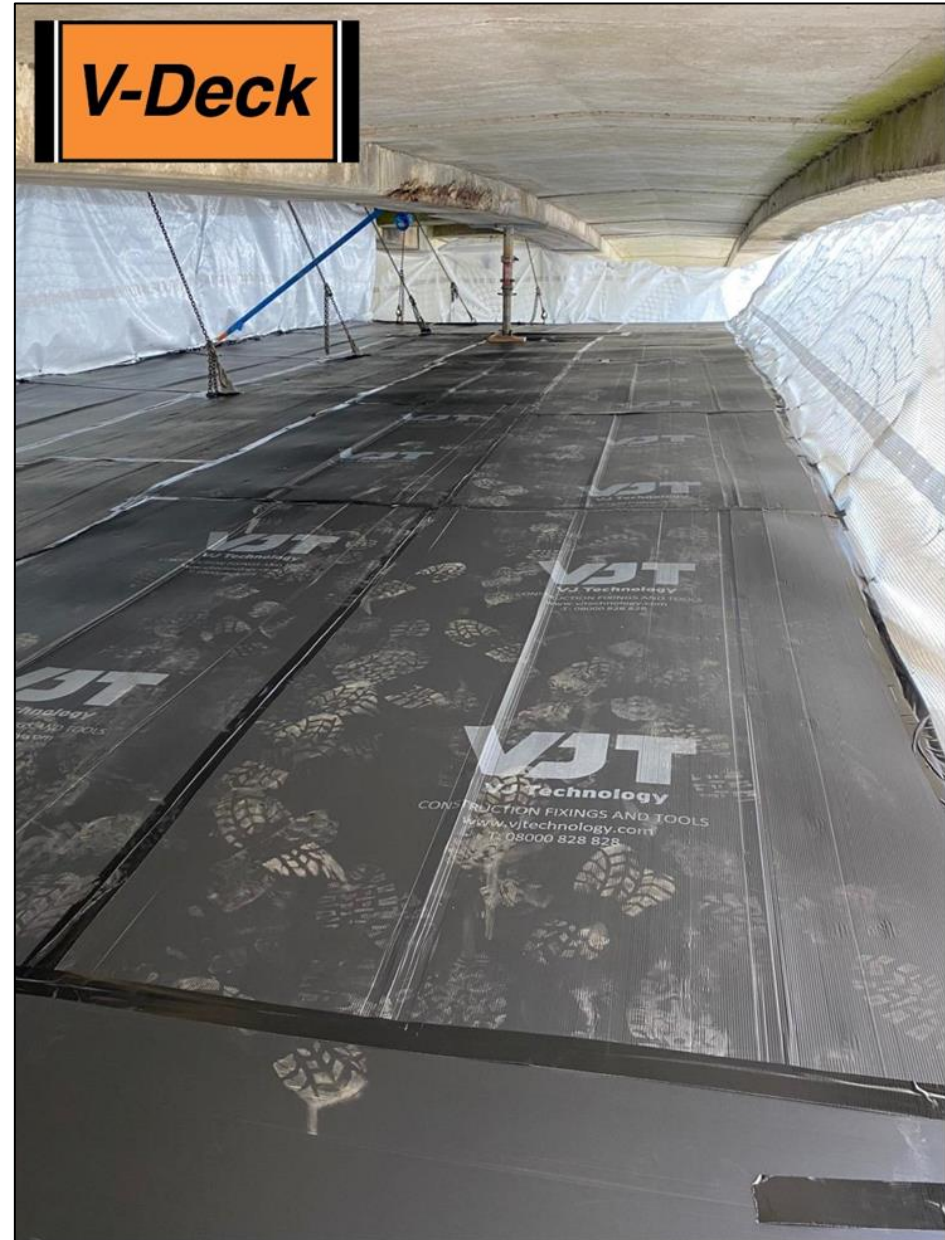
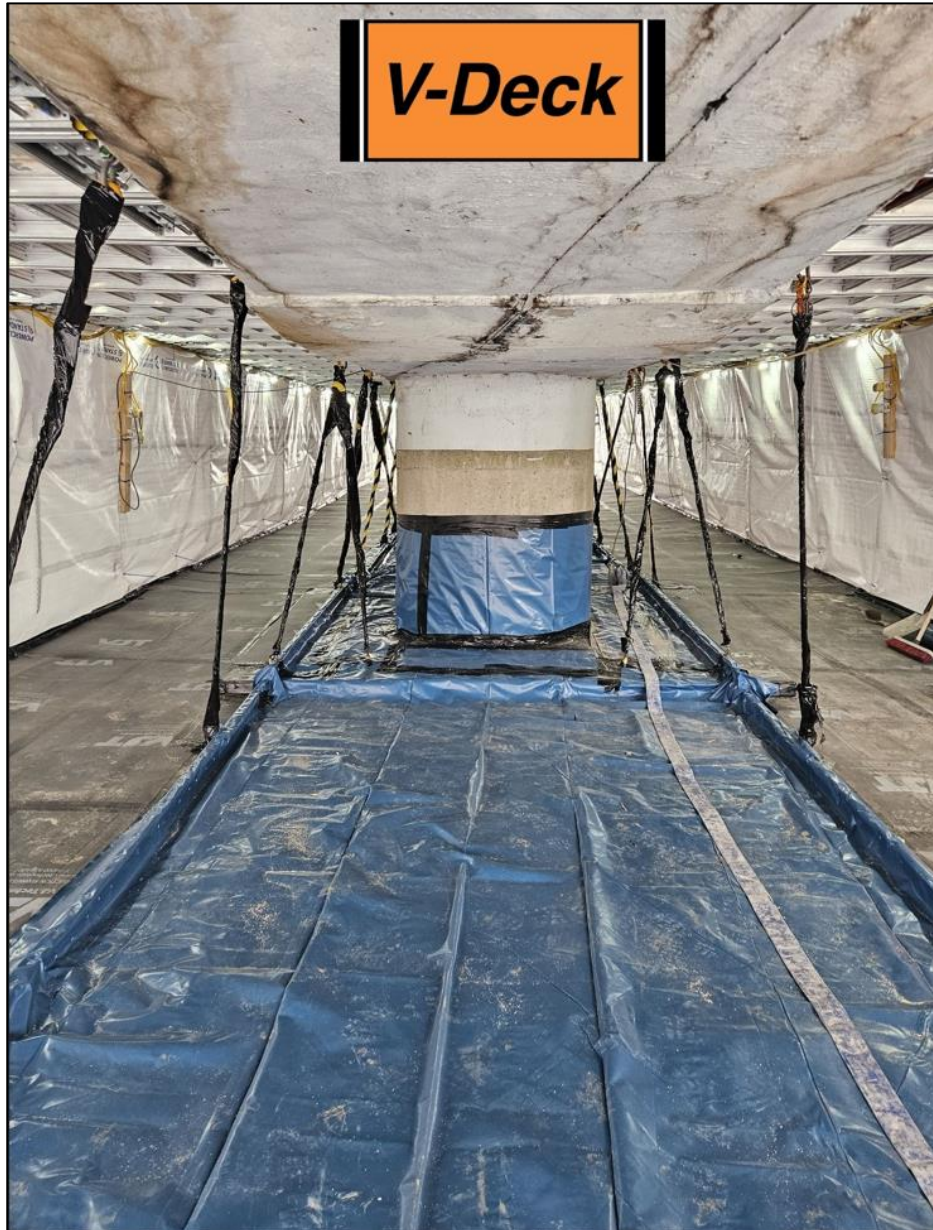
- A FOUR LEVEL ACCESS PLATFORM WAS REQUIRED FOR CONCRETE REPAIRS TO ARCH BRIDGE.



852M2 2 kN/M <sup>2</sup> UDL	V-DECK™	SCAFFOLD	SAVING
SHIFTS INSTALL & DISMANTLE	1 05 MAN DAYS	295 MAN DAYS	65%



# CONTAINMENT

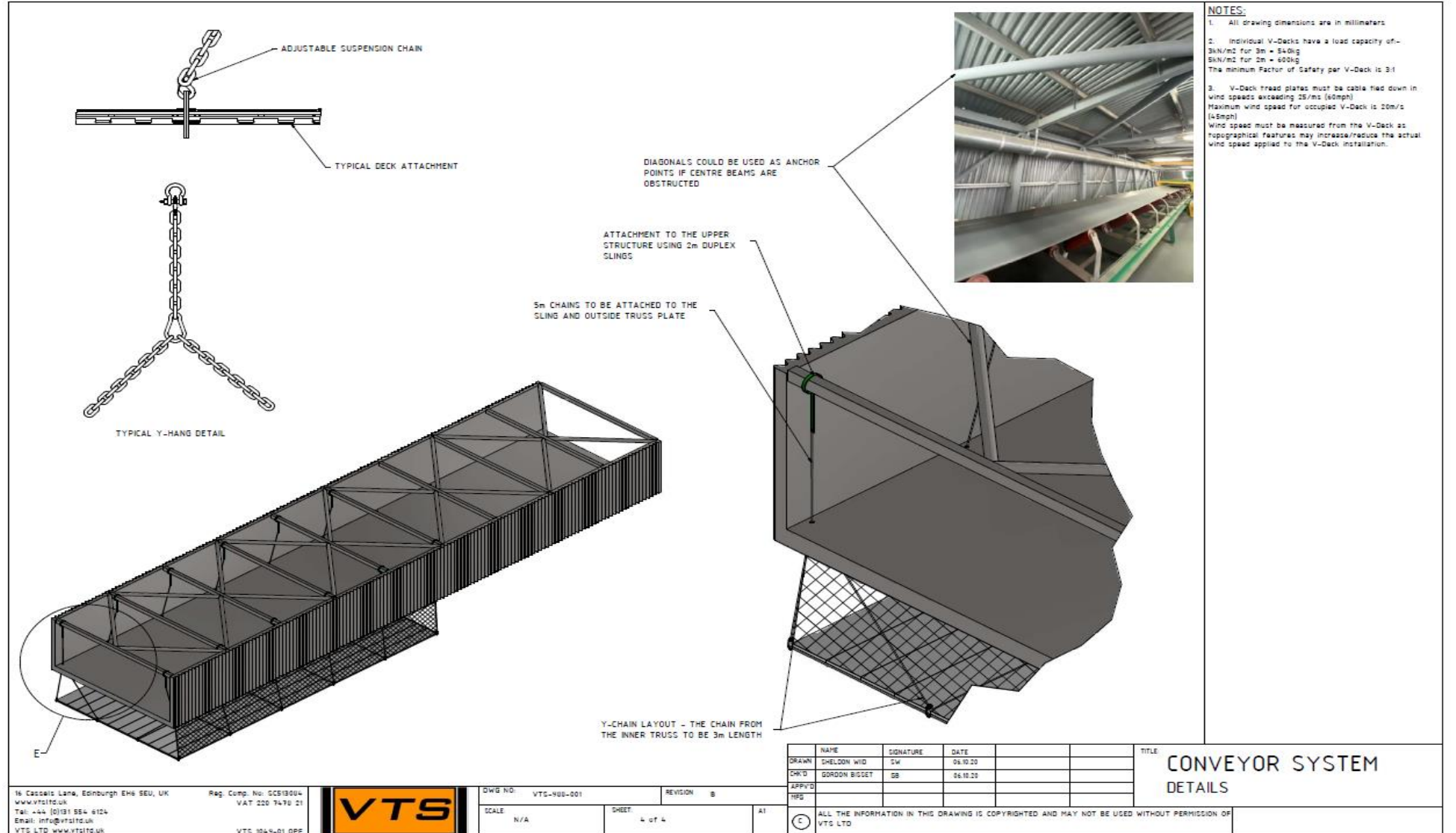


# CONVEYOR UNIT: AUSTRALIA



## V-DECK™

- A ONE LEVEL ACCESS PLATFORM WAS REQUIRED FOR ACCESS TO UNDERSIDE OF CONVEYOR UNIT.
- PROJECT YET TO START.





# CONTAINMENT SOLUTIONS

# CONTAINMENT OF NETWORK RAIL JETTY

- CONTAINMENT OF CONCRETE, GRIT AND DEBRIS.
- CONTAINMENT SYSTEM PROVIDED A TOTAL SEAL FOR HYDRO-DEMOLITION OF SPALLING CONCRETE.
- LARGE UNOBSTRUCTED OPEN PLATFORM ALLOWS EFFICIENT COLLECTION OF DEBRIS AND WATER.
- PLATFORM CAN BE ADAPTED TO PROVIDE A GUTTER TO ALLOW COLLECTION OF FLUIDS.



## V-CONTAINMENT NET™

- CLIENT REQUIRED A CONTAINMENT SYSTEM ON THE DERRICK DURING FABRIC MAINTENANCE WORKS.
- THE V-NET CONTAINMENT™ PROVIDED A SOLUTION CAPABLE OF CONTAINING FALLING DEBRIS & CREATING WORK SEPARATION.
- WITHSTOOD WINDS OF 40M/S WHICH THE SCAFFOLD INSULATION COULD NOT WITHSTAND AS PER THE ABOVE PHOTO.
- PROVIDED PROTECTION AGAINST BAD WEATHER SIGNIFICANTLY REDUCING DOWNTIME.

“HAD WE NOT INSTALLED V-NET CONTAINMENT™, WE WOULD HAVE ENCOUNTERED MANY DAYS OF DOWNTIME DUE TO INCLEMENT WEATHER”





# DOLPHIN ENERGY, BIDEFORD DOLPHIN - NORWAY



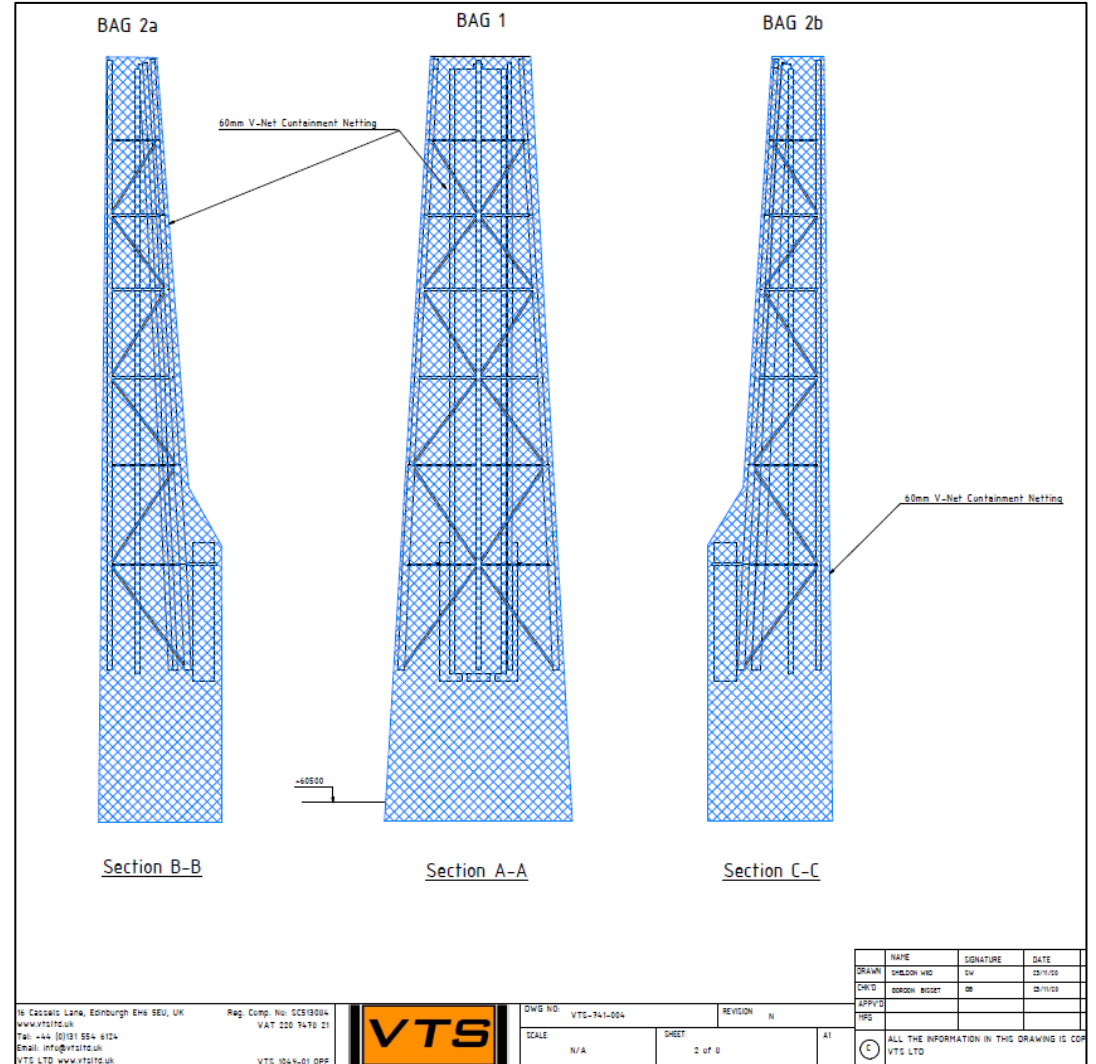
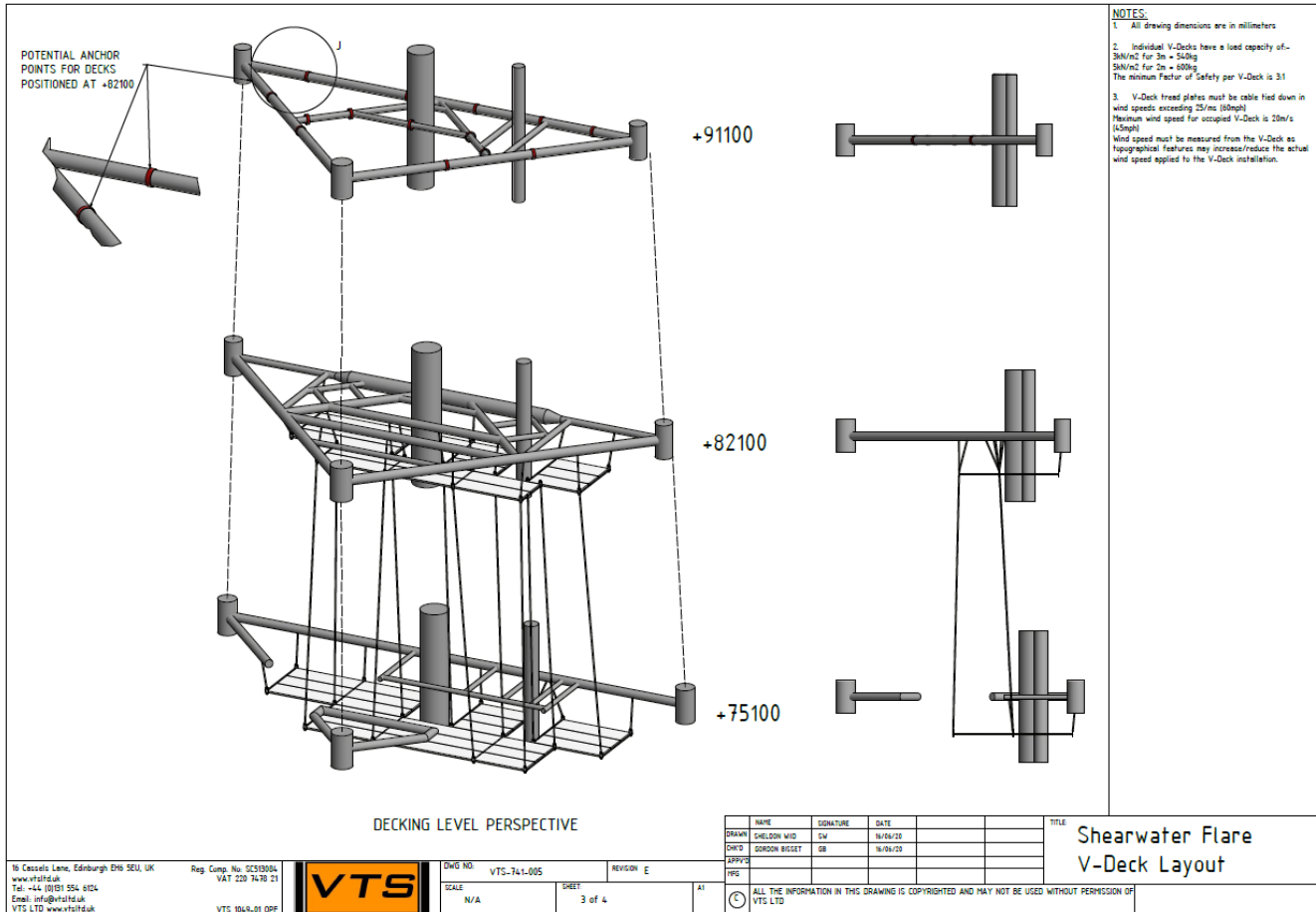
## V-NET CONTAINMENT™

- CLIENT REQUIRED A CONTAINMENT SYSTEM ON THE DERRICK DURING FABRIC MAINTENANCE WORKS TO CONTAIN DROPPED OBJECTS FROM FALLING ON THE DRILL FLOOR AND ADJACENT AREAS. THIS ALLOWED WORKS TO CONTINUE ON THE PLATFORM DURING THE SHUTDOWN.
- THE V-NET CONTAINMENT™ SOLUTION WAS A DOUBLE LAYER NETTING SYSTEM MADE UP OF AN OUTER LAYER OF HIGH STRENGTH FILTER SHEETING AND STANDARD V-NET™.
- WIND LOADING WAS REDUCED BY USING HIGH STRENGTH FILTER SHEETING ATTACHED TO STRUCTURAL SAFETY V-NETS
- DRAG CO-EFFICIENT FOR FILTER SHEETING SYSTEM  $C_D = 1.0$
- SOLIDITY RATIO = 0.91-0.18
- DRAG CO-EFFICIENT FOR STANDARD SHEETING  $C_D = 1.5$
- SOLIDITY RATIO = 1.0
- STANDARD SHEETING WIND LOAD CAN BE REDUCED BY 40 - 80%



# SHELL, SHEARWATER FLARE: UK

## V-DECK™ & V-NET CONTAINMENT™

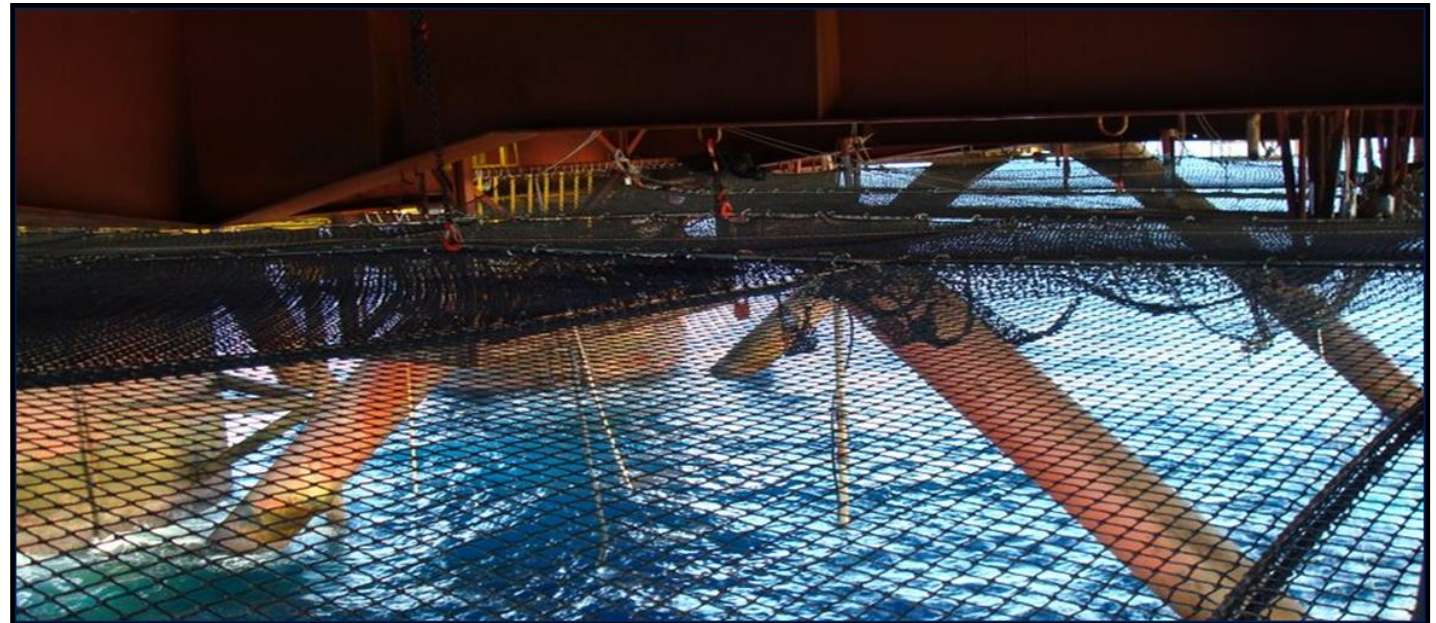


# TRANSOCEAN, NETTING: UK



## V-NET™

- ACCESS WAS REQUIRED TO CARRY OUT BLASTING AND COATING APPLICATION TO THE UNDER DECK OF THE DRILL RIG WHILE IN TRANSIT FROM DRILL LOCATION OFFSHORE TO THE YARD IN BRAZIL FOR RE-FIT.
- V-NET™ WAS DESIGNED TO HOLD UP TO 10 PERSONNEL CARRYING OUT BLASTING AND SPRAYING WORKS.
- V-NET™ PROVIDED A MINIMUM DEFLECTION NETTING WORK PLATFORM.
- V-NET™ PROVIDED A FAST, SAFE AND TIME EFFECTIVE TEMPORARY WORKS PLATFORM.



1,000m <sup>2</sup>	V-Net™
Time (shifts)	6 installers 14 shifts

# V-NET: THAILAND



## V-NET™

- AN 8 PERSON TEAM INSTALLED 3,100M<sup>2</sup> OF A 1.5kN/M<sup>2</sup> V-NET™ IN 38 SHIFTS.
- V-NET™ WAS DEPLOYED ON A MOVING WORK FRONT, BASED ON AN AVERAGE 40M X 40M WORK FRONT.
- V-NET™ PROVIDED A VERY SIMPLE, SAFE AND FAST TO INSTALL WORK PLATFORM FOR THIS DIFFICULT ACCESS WORK SITE.
- V-NET™ IS A LOW VOLUME PRODUCT WHICH IS EASILY TRANSPORTED AND STORED ON SITE. THE REDUCED VOLUME OF PRODUCT WAS PARTICULARLY BENEFICIAL FOR THIS WORK SITE.
- CLIENT REQUIRED AN UNDER DECK ACCESS WORK PLATFORM FOR BLASTING AND SPRAYING THE SMOOTH UNDER DECK HULL OF A JACK-UP OFFSHORE.

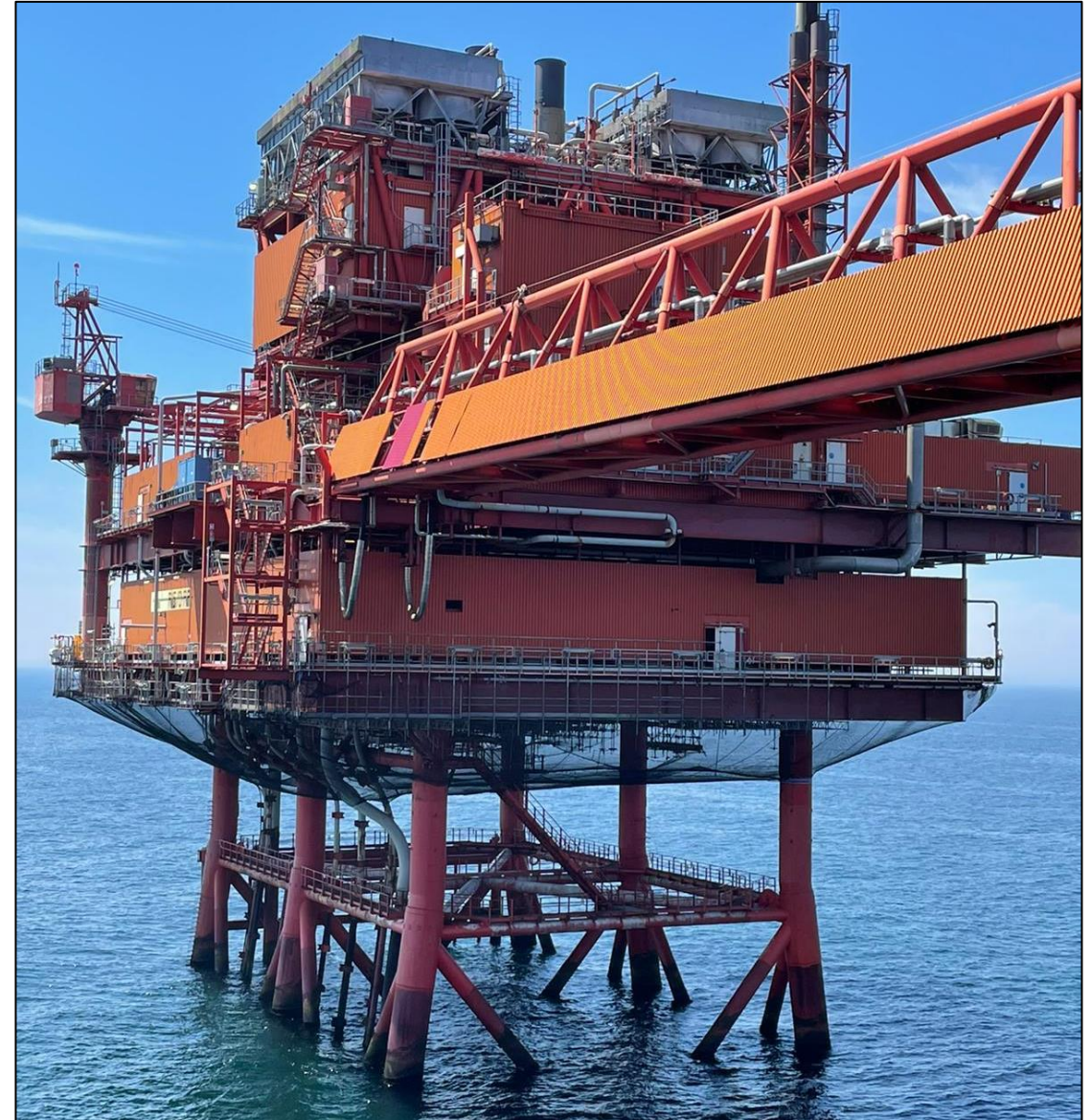
“V-NET PROVIDED THE BEST, FASTEST SOLUTION”



TAQA, DIRA GROUP: EUROPE



V-CONTAINMENT NET™



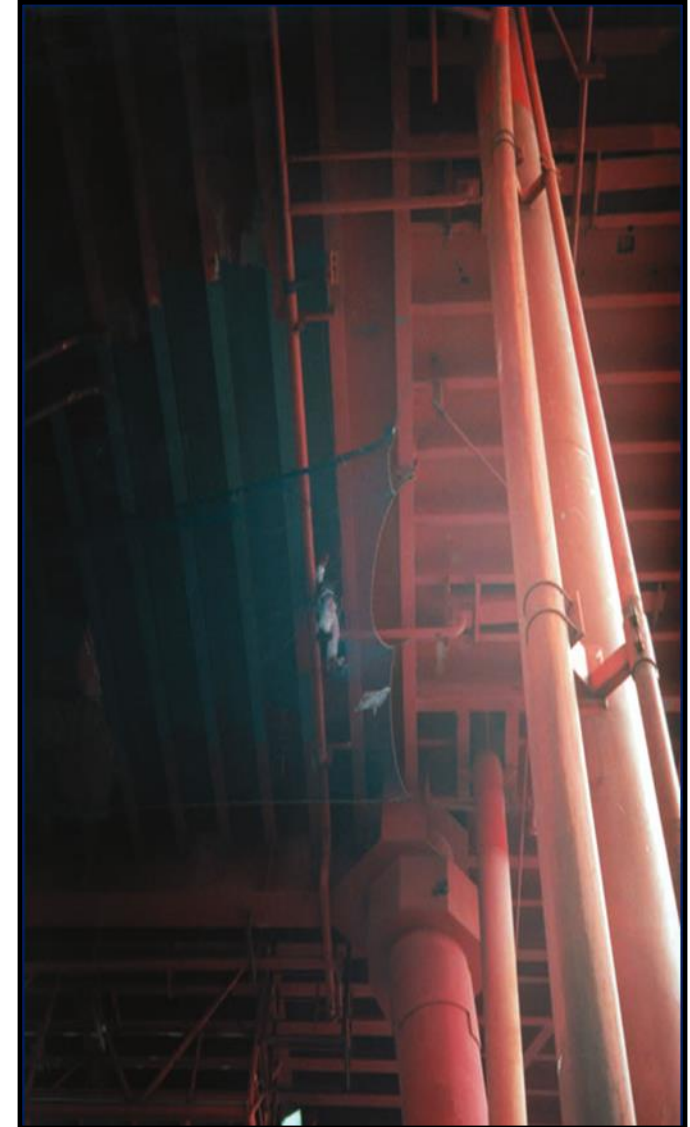
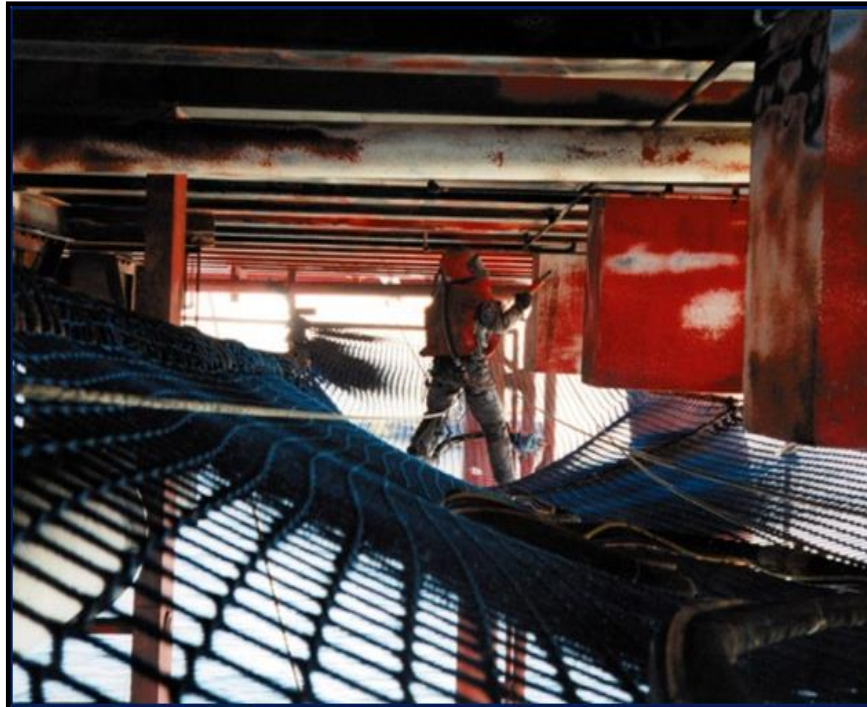
# JS MCCARTHY, MARATHON UNDERDECK OFFSHORE - IRELAND



## V-NET™

- CLIENT REQUIRED ACCESS PLATFORM TO CARRY OUT BLASTING AND COATINGS APPLICATIONS.
- A 4 BAY MOVING WORKFRONT OF V-NET™ PROVIDED A FAST TO INSTALL SOLUTION.
- IN THE 38 DAY PROGRAMME THE 5 PERSON TEAM INSTALLED 2,400M<sup>2</sup> OF V-NET, CARRIED OUT THE BLASTING AND SPRAYING AND DE-RIGGED THE V-NET™.

“  
*V-NET™  
WAS EXTREMELY FAST*  
”



## V-NET™

- 900M<sup>2</sup> OF WORK POSITIONING V-NET™ WAS REQUIRED FOR DRY ICE BLASTING OF THE WOOD TRUSS BEAMS PRIOR TO RECOATING WITH A WATERPROOFING SEALER.
- THE FAST TO INSTALL LIGHTER WEIGHT V-NET™ WAS INSTALLED ON A MOVING WORK FRONT TO COVER 2,700M<sup>2</sup> IN TOTAL.

900M <sup>2</sup> OF 1.5kN/M <sup>2</sup> UDL	V-NET™	SCAFFOLD	SAVING
SHIFTS INSTALL & DISMANTLE	25 MAN DAYS	72 MAN DAYS	65%
PLATFORM WEIGHT (T)	1,080	157,500	99%

“  
*A FAST ACCESS PLATFORM*  
”



# CONTAINMENT OF HEYSHAM B NUCLEAR STATION JETTY



- V-DECK™ CAN BE FULLY ENCAPSULATE TO PREVENT OUTFLOW OF DEBRIS AND FLUIDS INTO THE MARINE ENVIRONMENT.
- HEAVY GAUGE PVC SHEETING E.G. MONARFLEX CAN BE INSTALLED VERY QUICKLY AND SIMPLY WITHIN THE DECKING AND SIDE CONTAINMENT SYSTEM.
- THE HEAVY GAUGE PVC SHEETING CAN BE SEALED TO PREVENT LOSS OF FLUIDS E.G. WATER OR OIL.
- ABSORBENT PADS CAN BE LAID OVER THE SHEETING TO SOAK UP ANY HYDROCARBON RELEASE.
- V-DECK™ CAN BE DESIGNED TO HOLD A LARGE AMOUNT OF SPILLAGE, UP TO 300MM DEPTH OF FLUID PER M<sup>2</sup>.





# V-NET™ MATERIALS



Material	Steel	Dyneema	HT Polyester	Polypropylene EN1236-1	Filter Sheet
STRENGTH	3mm-1250kg 1770N/mm <sup>2</sup>	4.5mm – 1,125kg	4.5mm – 500kg	5mm -300kg	1000N per 50mm <sup>2</sup>
UDL/ Point Load	50-150kN/m <sup>2</sup>	2000kg	1000kg	Max Load 100kg	
LIFE SPAN	5-15 years Corrosion Protection	6-10 years UV Resistance	4-7 years UV Resistance	Max 2 years UV Resistance	2-4 Years UV resistance
MESH SIZE	65mm- 120mm	10mm- 1000mm	20mm-150mm	45mm-100mm	0.3mm-0.5mm
CUT / ABRASION RESISTANCE	High Tensile Steel- EXCELLENT	UHMWPE- EXCELLENT	HT PES- GOOD	POOR	GOOD



QUESTIONS  
&  
DISCUSSION