



## TSHD Proposed Overflow Screens (Cornelis Zanen)

### Purpose

During Trailer Suction Hopper Dredge (TSHD) operations there is potential for marine turtle interaction with the drag head or turtle entrainment in the dredged material resulting in turtle fatality. The purpose of the overflow screens is to ensure that in the event of a turtle fatality that marine turtles or marine turtle remains are captured and the incident can be identified. It is envisioned that identification of turtle fatality will be by inspection at the conclusion of each dredging cycle.

### Overflow and Screen Description

The overflow arrangement and screens are pictured in the following drawings and described below:

- Drawing 09-001681-01 rev 0
- Drawing 09-001681-02 rev 0

The TSHD Cornelis Zanen has 2 telescopic overflows at the forward end of the hopper which can be adjusted individually in height. These overflows will have screens with the following dimensions and features installed:

- Each overflow intake will be fitted with a grating with a square internal maze width of 100x100mm.
- The grating consists of a horizontal and vertical surface.
- Overall dimensions of the horizontal grating per overflow: 5900mm x 1800mm with a rectangular opening in the centre of 500mm x 4800mm. This opening is provided to ensure that a safe route for overflow disposal is provided in the event of the overflow screens becoming completely blocked (not expected).
- The rectangular opening in the horizontal grating is surrounded by a vertical grating with a height of 1m.
- During inspection of the grating the vertical position of the overflow will be adjusted to allow the inspectors to have sufficient height below the deck for walking on the grating.
- At the centre of the ship a vertical ladder with a safety cage will be installed to allow safe access from the deck to the overflow.
- Safety lines will be provided above both overflows to secure the inspector with a safety harness during the inspections.
- The horizontal grating is surrounded by a handrail on the outside of the overflow intake to provide safe access.
- A hoisting basket with proper hoisting equipment will be provided to be able to safely remove any objects from the grating up to deck level.



## Technical Note

Gorgon Project

Summary of Screen Dimensions per overflow outlet:

- Screen Length: 5900 mm
- Screen Width: 1800 mm
- Screen Height: 1000 mm

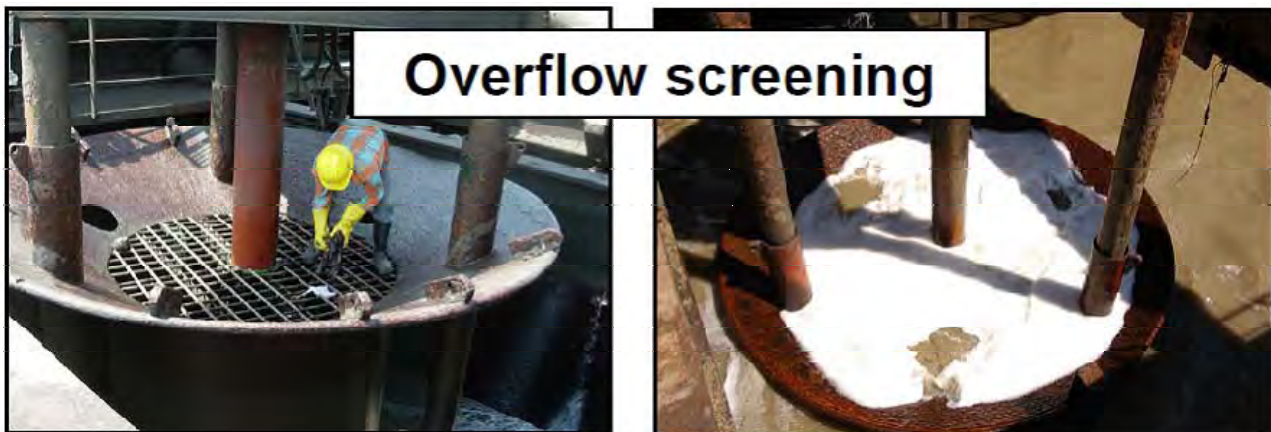
Screen Opening Dimensions:

- Opening Length: 4800 mm
- Opening Width: 500 mm

Screen Grating Dimension:

- Grating: 100 mm x 100 mm

**Note:** All measurements provided are approximations provided by the CONTRACTOR (Boskalis Australia) for design evaluation purposes.

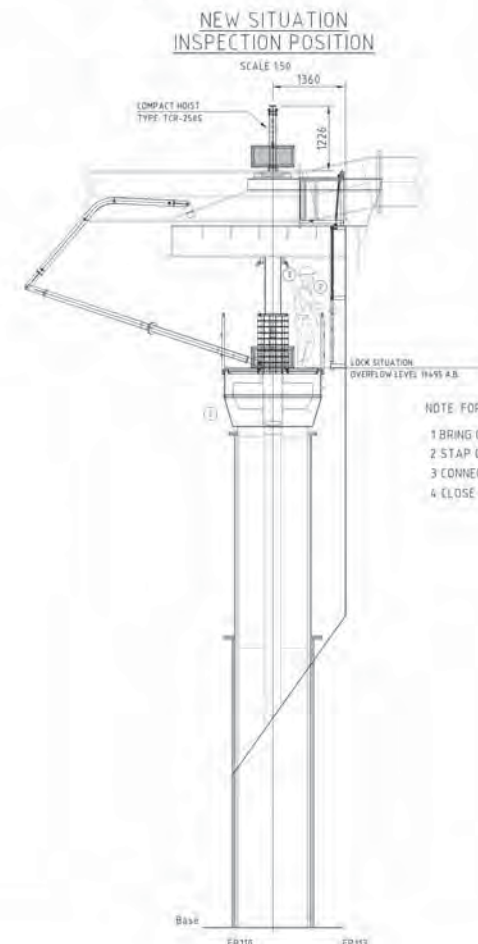
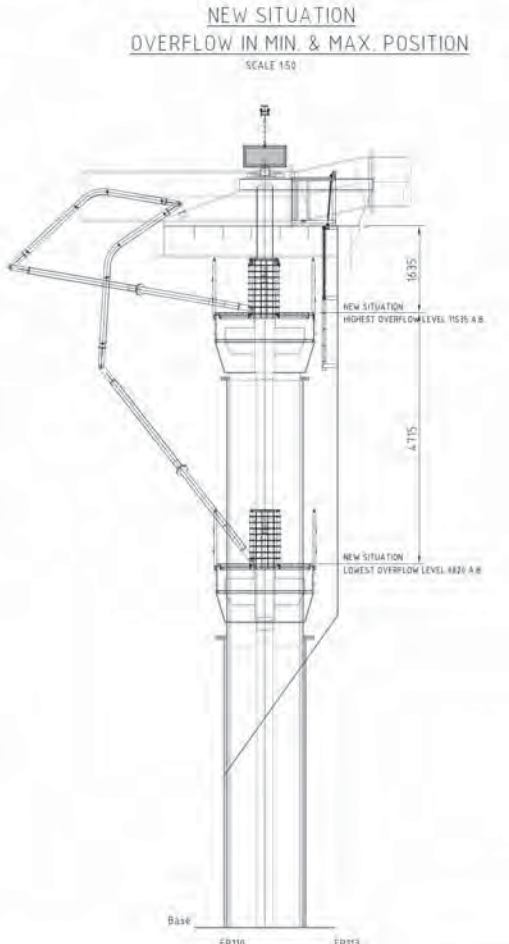
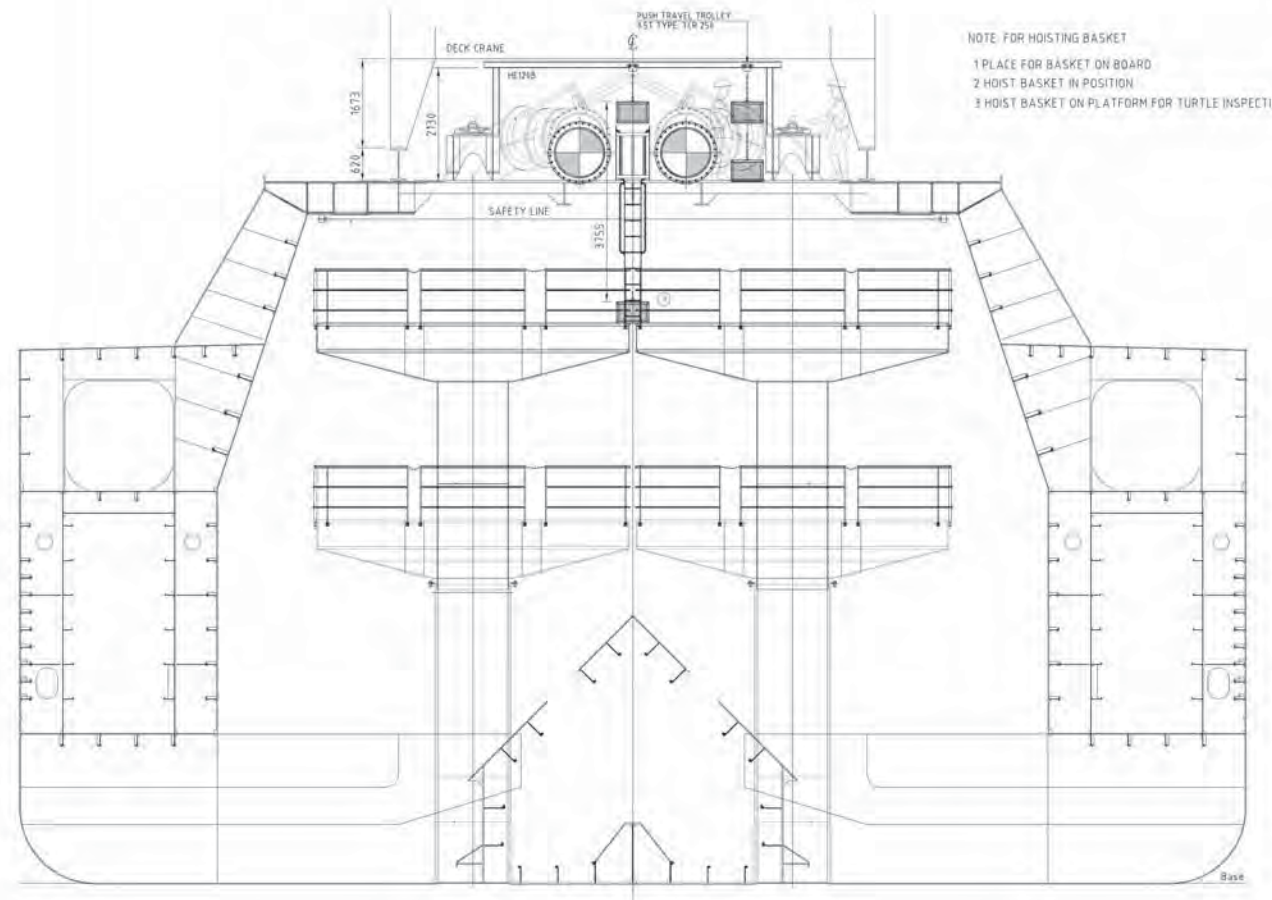
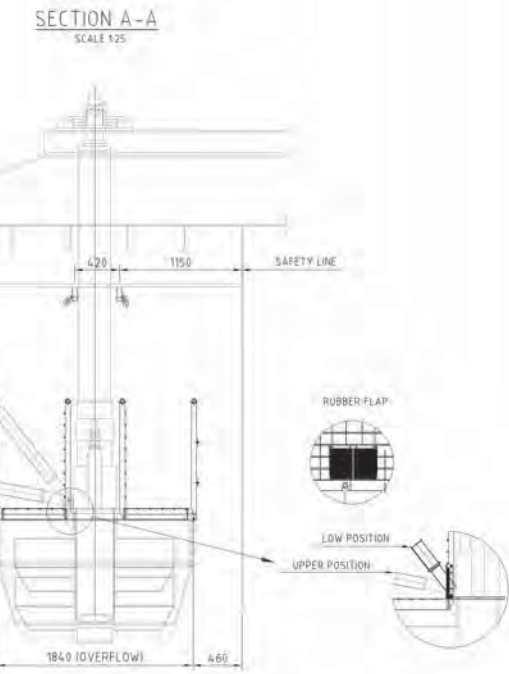
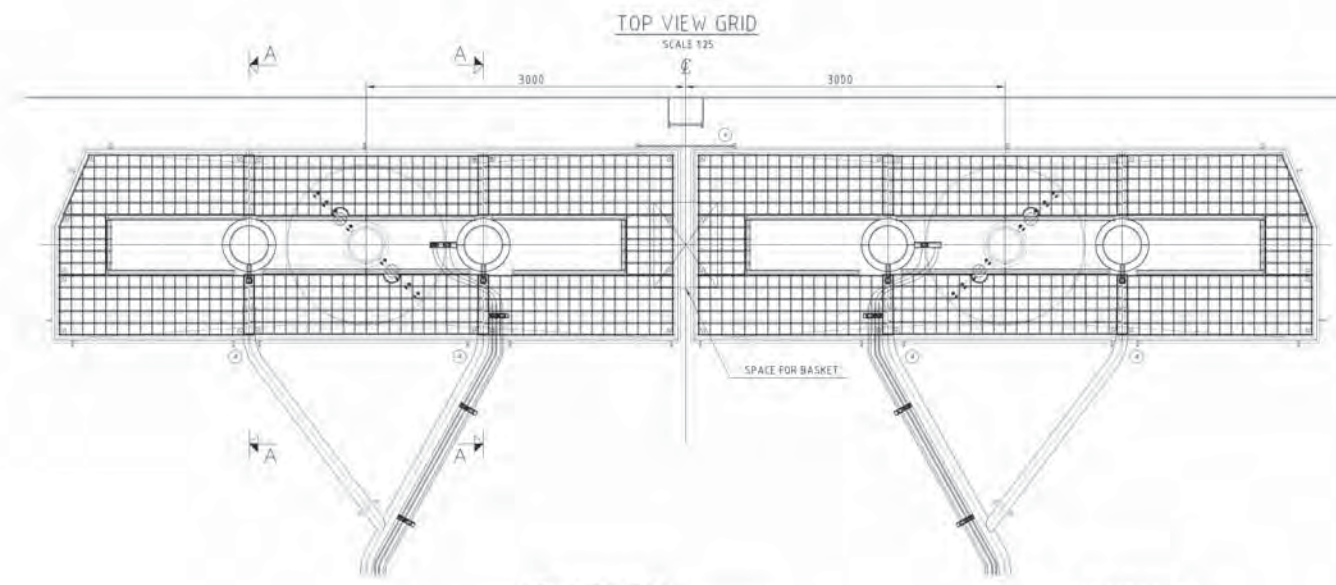
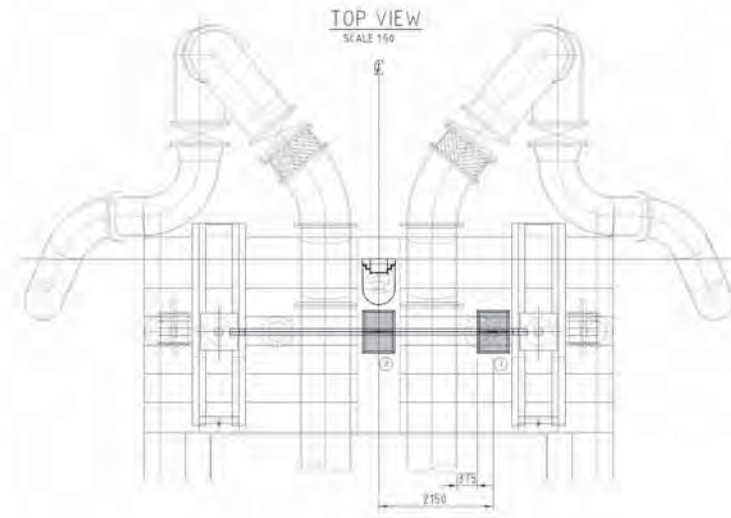
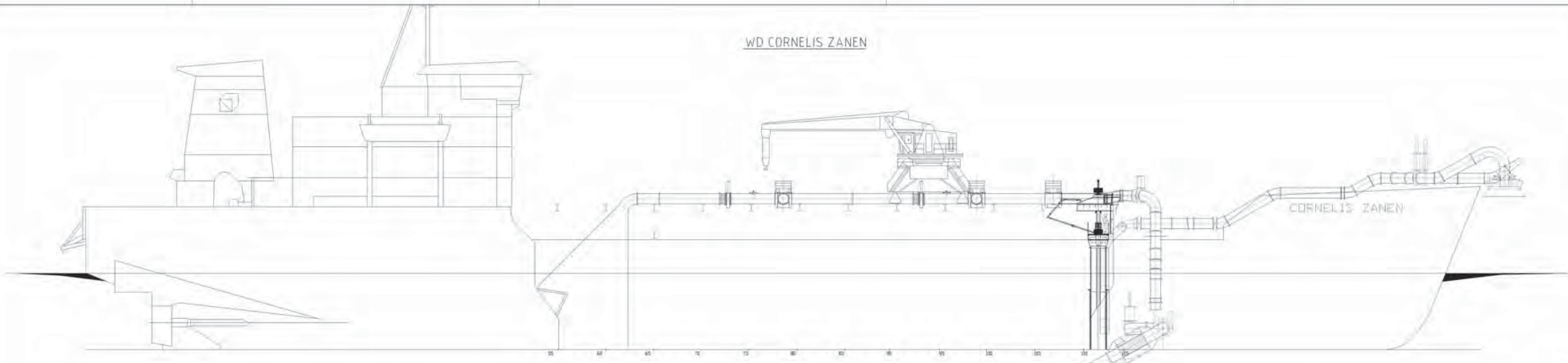


**Figure 1:** Example of overflow screens installed on a Trailing Suction Hopper Dredge used for the Dhamra Port Expansion, India

### Reference

Boskalis Australia Pty Ltd. 2009. *Memo: Overflow Modifications Cornelis Zanen*. Reference: 036-00347/ST3/WROM/M/14A/0381. 25 November 2009.

WD CORNELIS ZANEN



NOTE:  
- FOR DIMENSIONS BASKET SEE DWG 09-001681-03  
- FOR DIMENSIONS HOISTING BEAM SEE DWG 09-001681-04  
- FOR DIMENSIONS GRATING IN OVERFLOW FOR TURTLE INSPECTION SEE DWG 09-001681-05  
- FOR GRATING LIST SEE DWG 09-001681-06

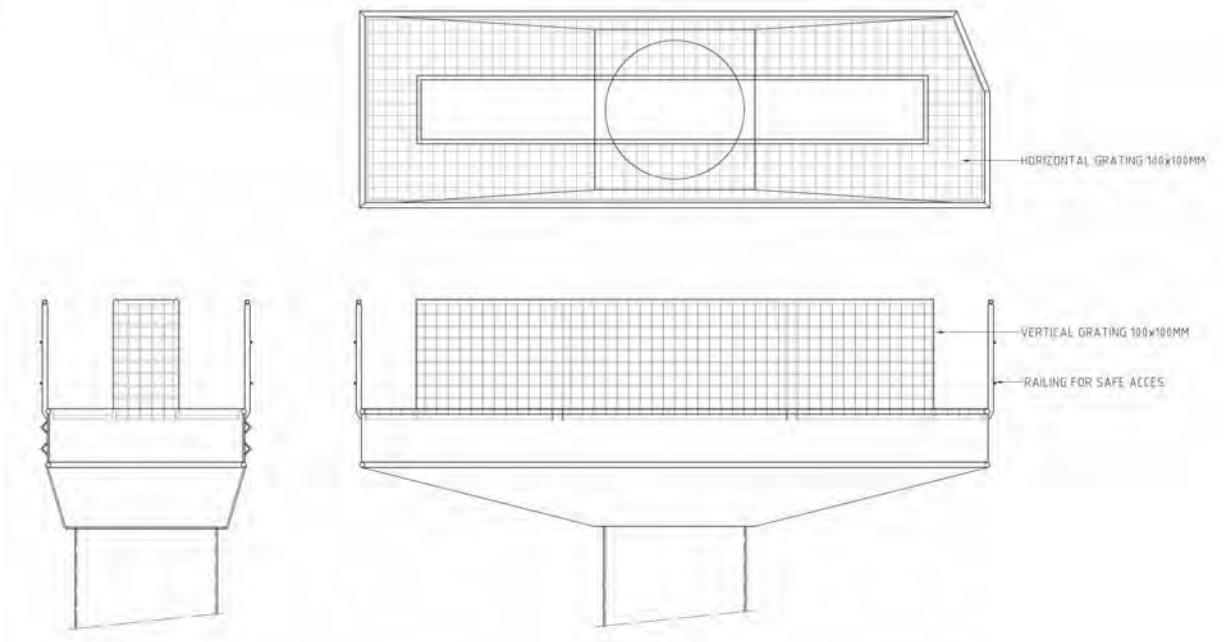
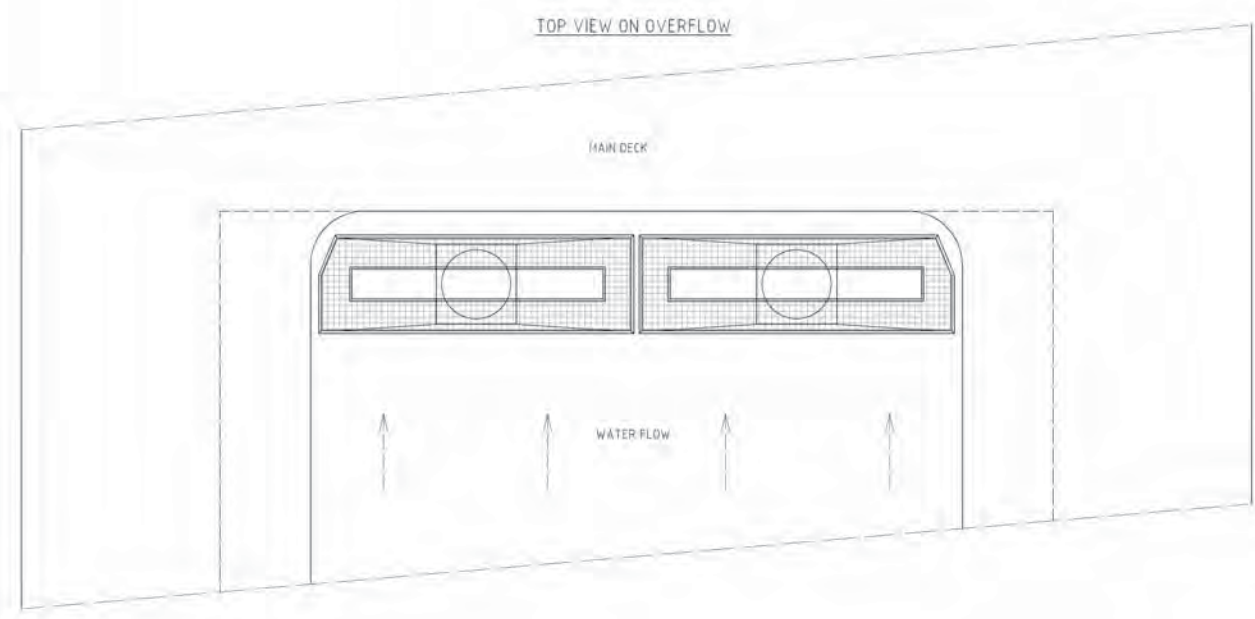
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1	STAR	GRATING IN OVERFLOW FOR TURTLE INSPECTION ARRANGEMENT	STAR			

**Royal Boskalis Westminster nv**  
 International Dredging Contractors  
 P.O. Box 13  
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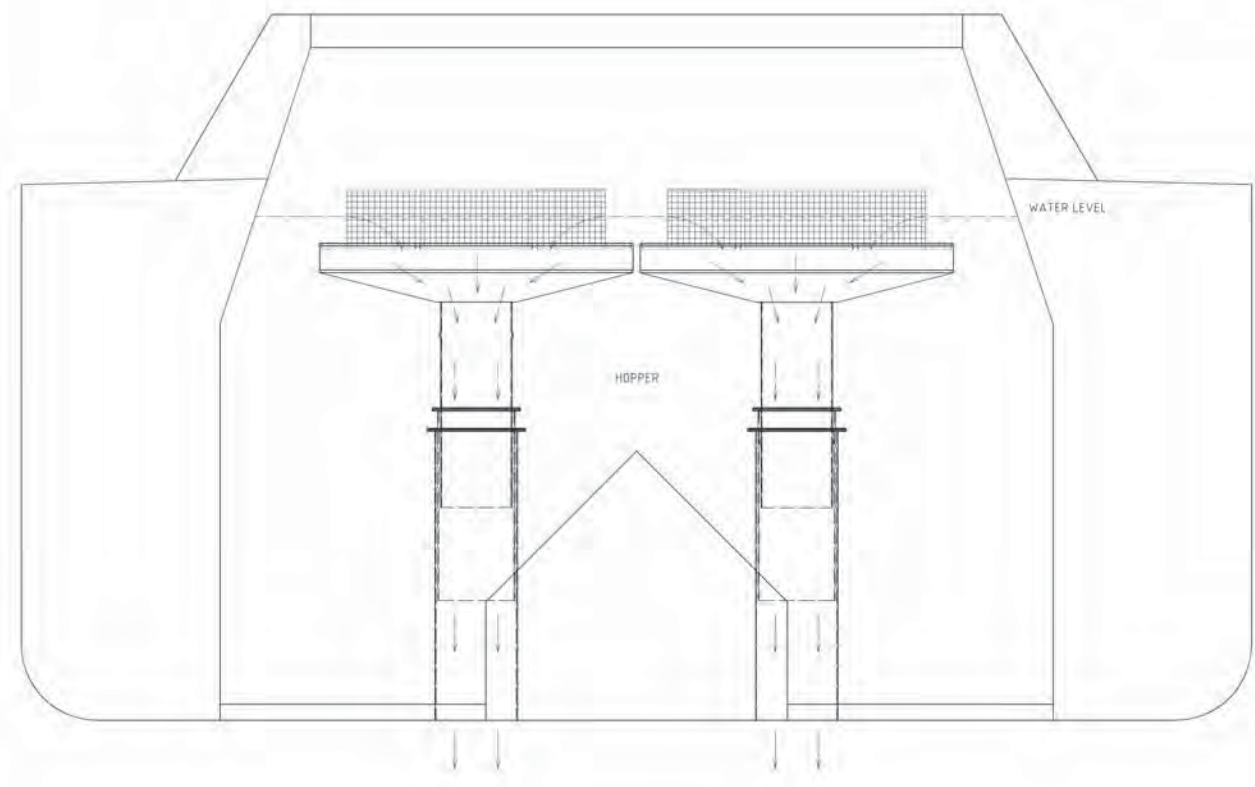
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 Drawing No.: 09-001681-01  
 Page: 0

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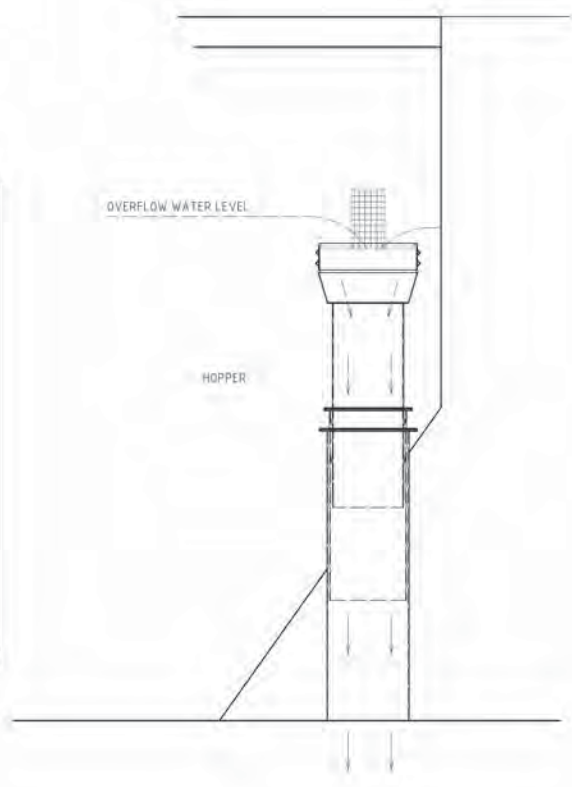
DETAIL OF OVERFLOW BASSIN



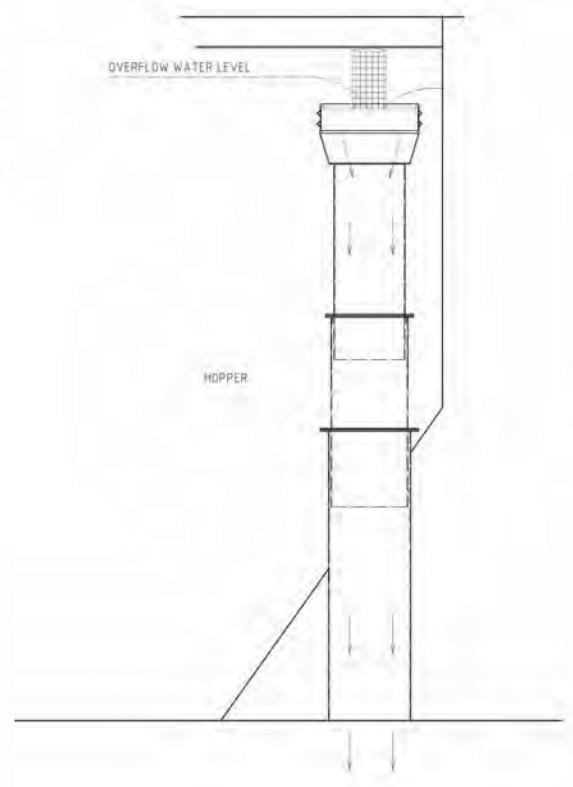
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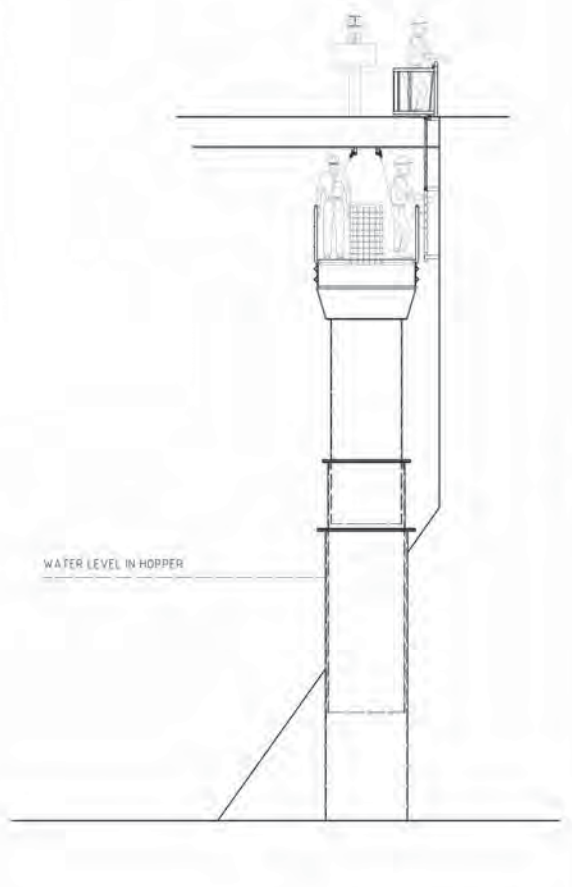
OVERFLOW AT INTERMEDIATE POSITION DURING DREDGING



OVERFLOW AT HIGHEST POSITION DURING DREDGING



OVERFLOW IN POSITION FOR INSPECTION



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Title: GRATING IN OVERFLOW FOR TURTLE INSPECTION					
Scale	1:50	Date	10-11-09	Drawn	ATAN
Sheet	SHT 1 OF 1		Drawing no.	09-001681-02	