



APAC Surveillance

Area Perimeter Asset Control

contact@apacsurveillance.com

www@APACSurveillance.com

Exclusive Agent for Trident Sea Systems in Australasia.



High-Level Generic Installation Sequence and Design Parameters



**PROTECTING
YOUR MARITIME
ASSETS.**

Gates, Barriers & Access Control Designed & Engineered for Safety & Security



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High-Level Generic Installation Sequence and Design Parameters



Floating Barriers for Waterside Security

Protecting Your Most Valued Maritime
Assets with Engineered Floating
Barriers

Simple Design, Deployment & Operations



1 Initial Survey +
Security
Requirements

2 Engineer +
Manufacture

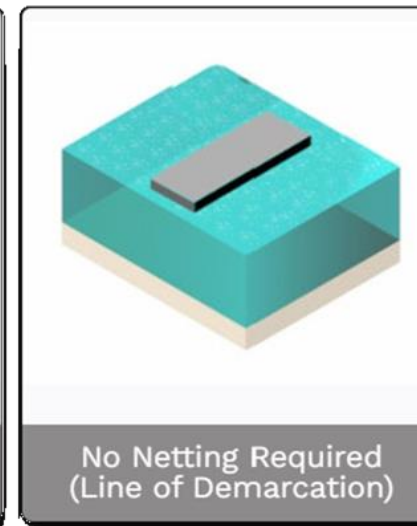
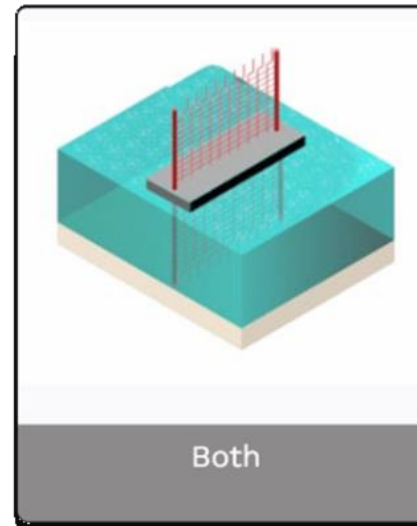
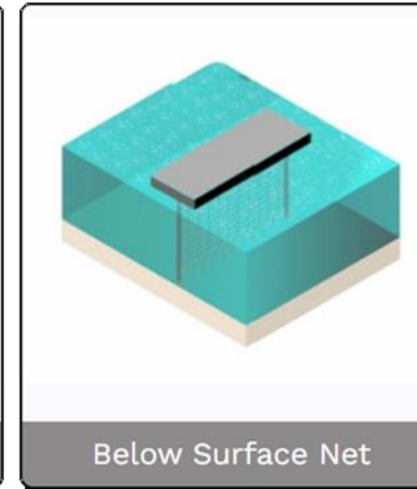
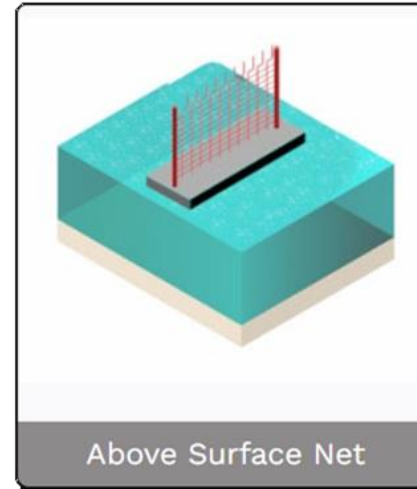
3 Deploy + Protect

APAC Surveillance (APAC) General Service Model For Barrier Installations In Australasia.

- Ⓞ Subsea survey by APAC subcontractor / client / nominated service provider or Main Contractor.
- Ⓞ Barrier Engineering by HALO Innovations / Trident Sea Systems.
- Ⓞ Australian Engineering peer review of Trident's designs by APAC appointed Engineering teams.
- Ⓞ Marine Civil Engineering by Marine Civil Subcontractor / Main Contractor.
- Ⓞ Marine Civil work by Marine Civil Subcontractor / Main Contractor.
- Ⓞ Vessel/s provision by the Main Contractor / Client / or APAC Dive teams. (project specific)
- Ⓞ Dive team operations (barrier installations) by APAC dive team partners, Australia wide coverage.
- Ⓞ Associated additional items such as navigational lights, and other security measures by APAC.



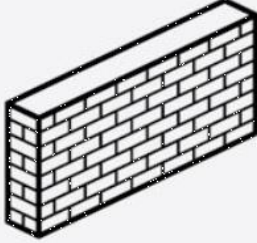
System Selection



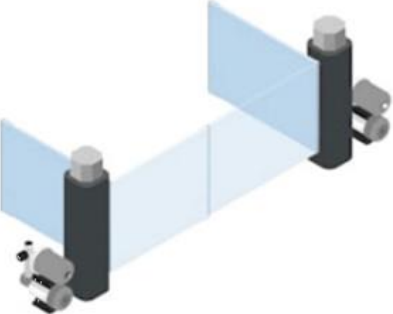
System Selection cont./



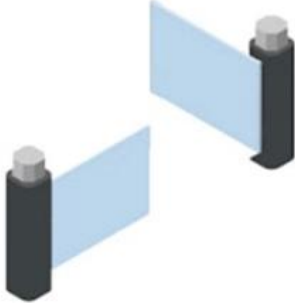
Temporary - Short Term



Permanent - Long Term



Automatic Access




Manual Access



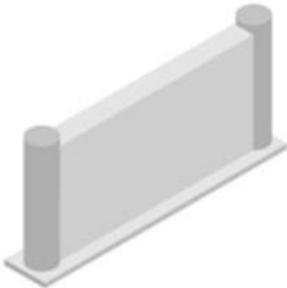
High Threats (High impact rating)



Low Threat Level (low impact rating)



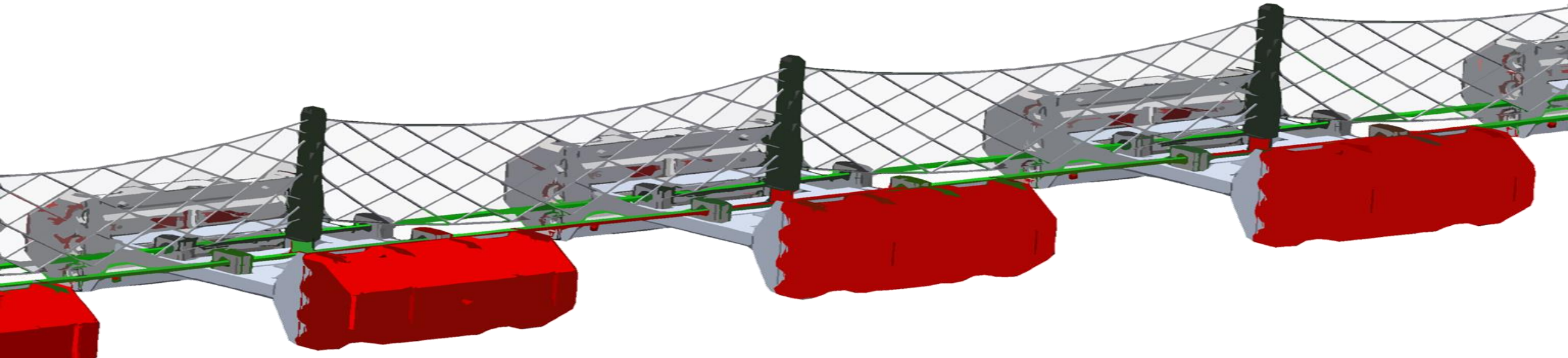
No Impact Rating (Visual Line of Demarcation Only)



Permanent (No Access)

Examples of some Barrier System Selection considerations

- Ⓞ Size of vessels – beam and length
- Ⓞ Frequency of entries / exits
- Ⓞ Are all vessels ‘piloted’ on both Port and Starboard sides when entering exiting?
- Ⓞ Do they sail on ‘any’ tide?
- Ⓞ Is the staffing and availability of small vessel to open/close any proposed ‘gates?’
- Ⓞ Navigation lighting design.
- Ⓞ Ancillary equipment to be mounted on the barrier systems e.g. radars or LR cameras etc.

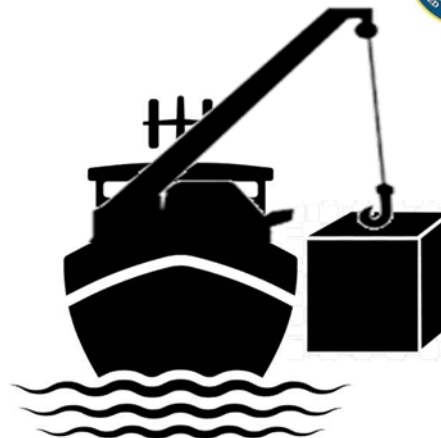




1 Initial Survey + Security Requirements



2 Engineer + Manufacture

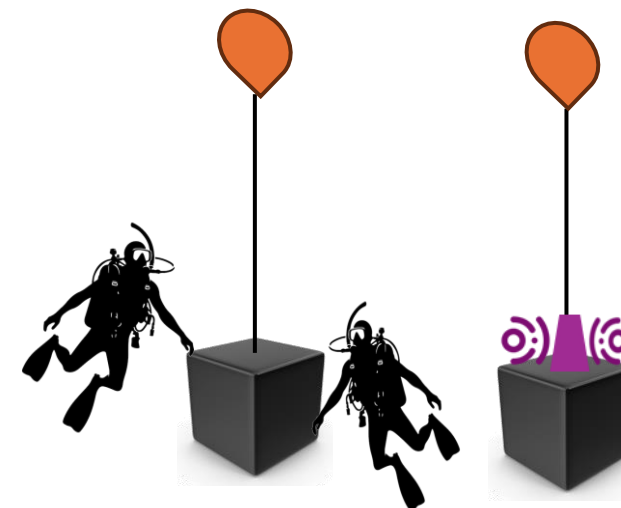


Precast concrete bases / piling placed precisely to exact GPS coordinates with a $\pm 500\text{mm}$ accuracy level.

Sections of barrier are towed into position and tethered permanently to the bases and to the adjoining barrier segment.

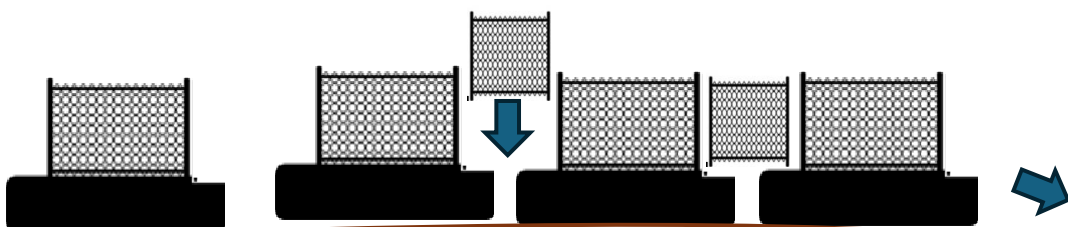
There are options to include both sonar detection and standalone long-range solar powered camera surveillance capabilities on the barrier infrastructure.

3 Position bases (can be permanent piles) and attach buoys

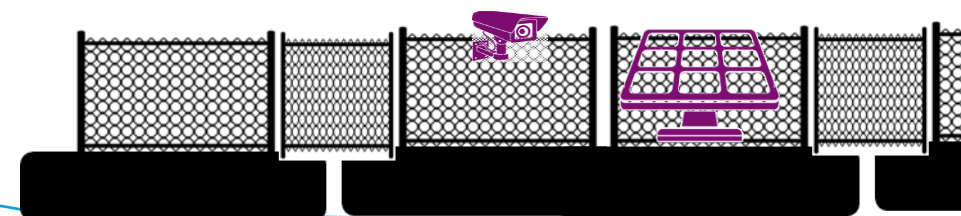


Precast concrete bases are designed to suit local tidal conditions and worst case storm scenarios, their sizes escalate in 5T increments from 5T to 40T.

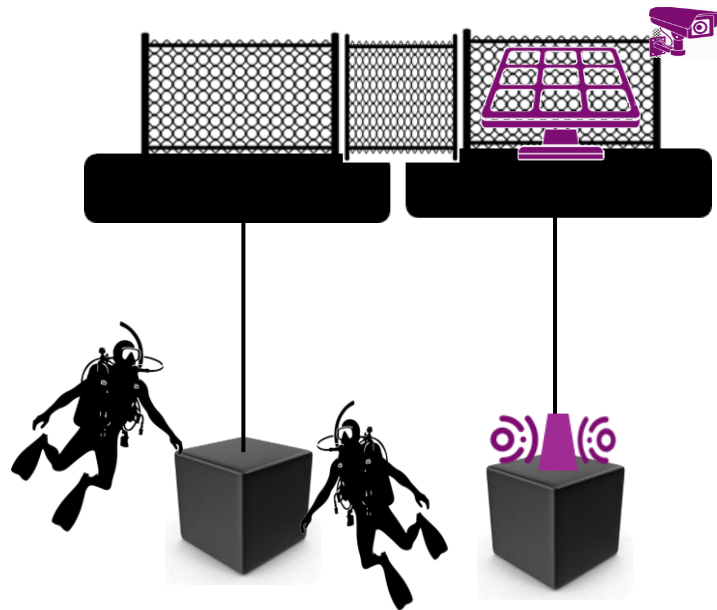
Assemble barrier systems and attach nets etc. and connect sets of barriers and deploy into the water



4 Deploy + Protect



4.1 Deploy + Protect



Precast concrete bases /piles placed precisely.

Sections of barrier are towed into position and tethered permanently to the bases and to the adjoining barrier segment.

Buoys/chains/concrete blocks are attached.

Designs accommodate tidal change and wind forces etc. at the location and the likes of mooring compensators designed if required.



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