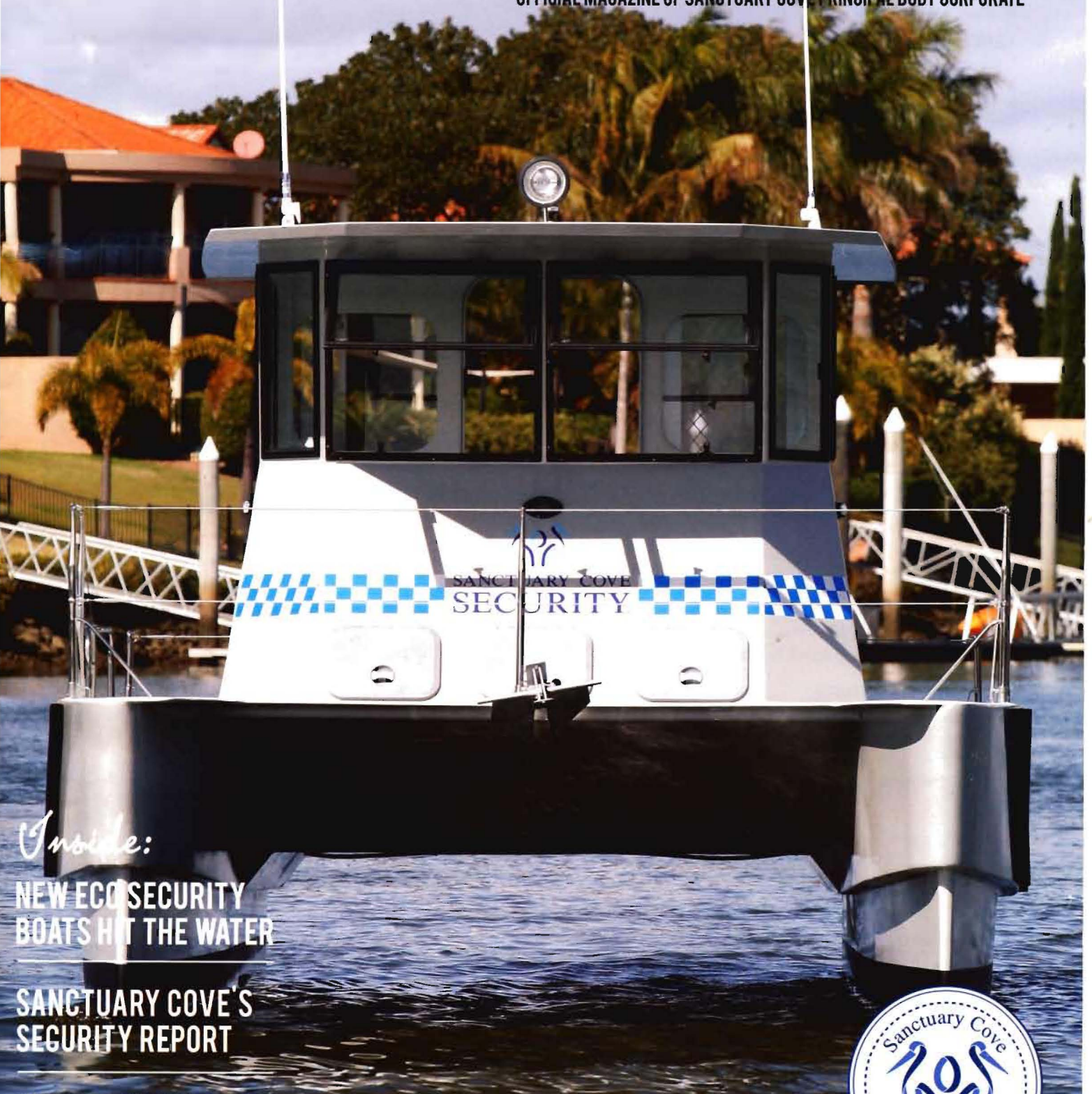


Our SANCTUARY

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ELECTRIC *security*



Photograph Cary Leabeater

SANCTUARY COVE SECURITY

The latest members to join Sanctuary Cove's security team, 'Eden' and 'Haven', are almost ready to go to work.

Sanctuary Cove's two new electric-powered security boats are finally ready to hit the waterways after three years of planning, including building. At a special *Our Sanctuary* photo shoot in early September, the boats' sleek design made it easy to forget the many hours of painstaking research and planning that went into building these new boats for Sanctuary Cove.

Not only are the purpose-built boats environmentally friendly, they are also near-silent when in operation, will deliver significant cost-saving benefits to residents (an estimated \$900,000 over a 20-year period) and provide a more appropriate work platform for Sanctuary Cove's security officers.

It all began back in 2008 when the security team was about to purchase two new vessels to replace the existing security boats, and an outside group put a proposal to the body corporate for an electric security boat.

"At the time there was a bit of publicity around electric boats and so we began looking at a couple of options, including the unsolicited proposal," Sanctuary Cove resident and former PBC chairman, Paul Whiteman said.

A cost-benefit analysis determined that

the existing security boats, which patrol Sanctuary Cove's waterways and spend 36 hours in operation during each 24-hour period, were costing a significant amount of money. In fact, between the two boats, the average running and replacement costs were around \$85,000 annually: a figure which included \$23,000 for petrol, \$24,000 to replace the outboard motors each year and the cost of new hulls every five years.

By comparison, the two new electric-powered boats have a predicted average annual cost of less than \$30,000 a year with the breakeven point on the additional capital cost in five years. In addition, residents and security staff will benefit from a far superior product with the electric-powered boats.

After a year of considering the third party proposal, which, while an attractive design, did not meet the commercial requirements of the bodies corporate, the PBC decided to have a design drawn up by naval architect Mathew Morgan to obtain independent

pricing for the boats.

The parameters required a slender hulled catamaran to minimise power consumption, yet provide a sizeable work platform. The overall weight of the boat was critical to support the use of efficient electric propulsion. The boats have also been specifically designed for one to two officers onboard during normal patrols and up to four people in an emergency. The design combines strength with light construction, operational flexibility and the ability to provide a comfortable, all-weather, stable work platform for officers.

During the design phase Mathew collaborated with Nathan Stanton of Stanton Multihulls to produce the design and specifications of the finished product.

Stanton Multihulls were eventually awarded the construction contract and Nathan said he was thrilled with the final result of the two vessels.

"It's come together very, very well," Nathan said.



THE TWO NEW ELECTRIC-POWERED BOATS HAVE A PREDICTED AVERAGE ANNUAL COST OF LESS THAN \$30,000 A YEAR WITH THE BREAKEVEN POINT ON THE ADDITIONAL CAPITAL COST IN FIVE YEARS.

PBC FEATURE



Sanctuary Cove residents Bruce Holwell and Paul Whiteman were critical in getting the new boats off the ground and into the water
Photograph Cary Leabeater: www.cleabeaterphotography.com.au

"It has all been on time and on budget so we're very pleased with it."

The construction of the two six-metre (in-survey) catamarans took just over four months to complete, with Nathan likening the building phase to "putting a giant jigsaw puzzle together".

One of the boats was launched on the morning of 5 September for a photo opportunity to meet the deadline of *Our Sanctuary*. While the boats were ready to go at that time, the batteries were still in transit from Germany so the vessel could not be tested under power.

On hand to mark the momentous occasion was the small team which has been critical to getting the project off the ground, including Sanctuary Cove's chief of security, Barry Hildebrand, and residents Bruce Holwell and Paul Whiteman who are tactical 'hands-on' boaties with many years of experience between them.

"The boats are beautiful and they're very functional watercraft. It's a credit to the architect and the builder for the outcome that we've got," Paul said.

"These boats will also be much quieter than the previous security vessels, so residents should hardly hear them," he said.

"They also look more like a police boat than a simple tinnie so I think they'll also have a larger impact and be a bigger deterrent for people that might be contemplating coming into Sanctuary Cove by water when they shouldn't be."

Over three years, Paul, Bruce and Barry spent many hours researching various options for the vessels including different motors, materials, builders, designers, batteries, comparing similar working vessels and much more.

They finally settled on a design that is eco-friendly, efficient and cost-effective.

Key features of the boats include.

- fibreglass hulls;
- in-survey;
- electric-powered Torquedo outboards;
- lithium iron phosphate batteries that have a rapid recharge rate from fully discharged to 90 per cent in approximately 30 minutes;
- full protection from the elements for the crew;
- six metres in length;
- a top speed of better than 10 knots;
- full standing head room for two people;
- the side panel of the boat is easily removable for easy access during rescue operations;
- permanent weatherproof ventilation within the cabin;
- design features that allow for future technological advances such as inboard electric motors and solar power; and
- like all security vehicles, the boats are equipped with a full medical kit, complete with oxygen and defibrillators.

Solar power was one consideration that the electric boats advisory group also considered and has been closely monitoring as the technology develops.

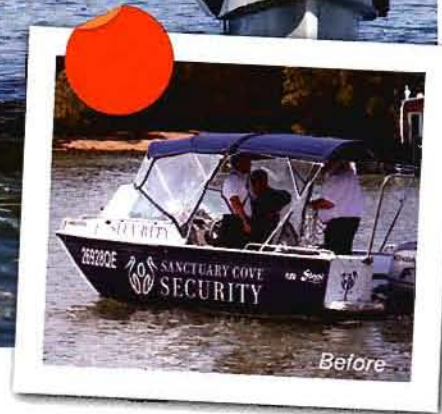
As it currently exists, the cost for solar power is still relatively high and there are also weight and output factors which made the option for solar power unfeasible.

"While the boats are weight sensitive, we have some reserve buoyancy and a very large roof space capable of holding a large area of panels once a viable and efficient solar power option becomes available," Barry said.



The electric-powered Torquedo outboard engine

Did you know?
 Five members of the security team have in excess of 65 years' service to the Sanctuary Cove community between them.



FACTS AND FIGURES

- The total cost savings of the new boats (including initial purchase price and ongoing maintenance costs) over a 20-year period is estimated at \$900,000.
- The new boats will save Sanctuary Cove more than \$24,000 in petrol costs each year.
- The boats' fibreglass hulls have a life expectancy of more than 20 years. The old boats' hulls had to be replaced every five years due to hull corrosion caused by electrolosis.
- The electric motors are overhauled/replaced on a two-year cycle compared to the petrol motors that require replacement every 12 months.

"We do not consider that we will initially be able to run the boats on solar power, it is hoped that in time to come we will be providing electrical energy power for the boat from the sun."

An official commissioning ceremony for the two boats will be held in October adjacent to the harbor masters office and the Sanctuary Cove Yacht Club (SCYC).

At the event, SCYC Commodore, Bruce Mitchell, will officially christen the boats, one being named 'Eden' and the other 'Haven'.

'Eden' is named after the largest environmental project in the world and symbolises Sanctuary Cove's commitment to minimising environmental impacts with these new eco-friendly vessels.

Another meaning for Eden is 'a delightful place; a paradise', which is quite fitting for a boat in Sanctuary Cove.

In keeping with this same environmental theme, the second boat will be named 'Haven', which was also prompted by Bruce Mitchell's suggestion.

The meaning of the word is 'a shelter serving as a place of safety or sanctuary – a safe harbour', which couldn't be more true for a security boat in Sanctuary Cove.

Details of the official launch event will be posted to residents at a later date.

ANNUAL BOAT COSTS COMPARISON (IN 2011 DOLLARS)

