WASTOP®

PREVENTING TIDAL FLOODING AT PLANTATION ISLAND RESORT

Location: Malolo Island, Fiji
Customer: Plantation Island Resort, Fiji

PROBLEM:

Tidal flooding occurring at Plantation Island Resort, was causing damage to the property and flooding in some rooms.



SOLUTION:

3 WaStop non-return valves were installed at the stormwater outfall and were tested immediately. The first day of operation saw a 2.4m tide - the highest level that is seen at Malolo Island. This was combined with 47mm rain which created flooding in the usual areas.

It was anticipated that the valves would create some upstream flooding given the extreme high tide but with only 100mm differential opening pressure, the valves functioned even when underwater.

Even with 2,4m tide, and heavy rain flooding was not experience in the resort. The last time a 2.4m tide occurred prior to the installation of the valves, the incoming sea water was level with the top of the little bridge over the open drain pit near room 341 which caused flooding.

One concern was that coconuts floating down the drains might jam under the valves and prevent them closing. There often is a significant build-up of coconuts floating in the concrete manhole in the arrivals area.

“When we checked the valves at low tide, the flood waters had gone, and they were operating minimally (open about 2%) with no jammed coconuts”.

When maintenance staff lifted the membrane, several coconuts did flow out and it appeared there was approx. 50-100mm of rain water upstream.

The WaStop valves therefore stopped the high tide from flooding the rooms and resort, allowed the rain water to flow out to the sea, and were no fouled by coconuts. A great success!

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