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## Southern Seawater Desalination Project – Reduced Potential Impacts

Feature	Previously proposed worst case (in PER)	Currently proposed design
Site vegetation clearing	Up to 20 ha.	15 ha.
Seawater pump station	<p>Minimum DPI setback from high tide of 250m.</p> <p>Continuous dewatering for duration of construction (4-6 months) of pump station (cone of depression estimated at 600-850m).</p>	<p>Located 450m from beach.</p> <p>Diaphragm walls constructed, so minimal pumping to initially empty the excavation after diaphragm walls are installed. No cone of depression.</p>
Marine pipelines (seawater intake and brine outlet)	<p>Up to 4 intake and up to 4 outlet pipes, of up to 3m diameter.</p> <p>Dredged trenches to install pipes from seawater pumpstation for entire length. Dunes disturbed for construction.</p> <p>Maximum benthic disturbance 1300m long by 200m wide = 26ha.</p> <p>End of diffuser at 1100m from offshore.</p> <p>Temporary (18 months) jetty.</p> <p>Beach closed for public safety 200m north and south of central pipe alignment for up to 18 months.</p>	<p>2 intake pipes (2.4m diameter) and 1 outlet pipe (2m diameter).</p> <p>Pipes tunnelled from seawater pump station to intake structures (500m offshore). Dunes and beach not disturbed. Dredged trench from intake to end of diffuser (500m long).</p> <p>Maximum benthic disturbance 500m long by 50m wide = 2.5ha.</p> <p>End of diffuser at 950m from offshore.</p> <p>No jetty.</p> <p>Beach closed for public safety for 2-3 weeks at a time when tunnelling machine is directly below beach.</p>
Seawater pre-treatment (prior to reverse osmosis process)	Ferric sulphate/chloride for coagulant. Generates iron oxide in sludge to be disposed of off-site to landfill.	Microfiltration used. No ferric compounds, therefore no iron oxides in sludge.
Boundary berm	8m high (12m AHD). Straight along southern and eastern boundary.	8m high (12 m AHD). Curved along southern and eastern boundary to better match existing landscape.
Site rehabilitation and vegetation offsets	<p>All cleared construction areas not required for infrastructure to be replanted.</p> <p>3.5 ha berm to be planted.</p>	<p>All cleared construction areas not required for infrastructure to be replanted.</p> <p>7 ha berm and 1 ha of north south corridor to be planted with tuarts and peppermints.</p>

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	12.6 ha additional rehabilitation of degraded areas (not disturbed by construction) as offset.	12.6 ha additional rehabilitation of degraded areas (not disturbed by construction) as offset.
Fauna north-south access impact during construction	Temporarily disturbed by construction of pipes from plant to pump station and then to ocean.	Temporarily disturbed between plant and seawater pump station. Not disturbed between pump station and ocean (450m wide terrestrial corridor untouched).  In order to allow the fauna movement through these areas with open trenches, at least one corridor will always be open between the pump station works and the main desalination plant site. Regular inspections are required as part of the fauna management actions developed in the Construction Environmental Management Framework.
Fauna north-south access impact during operation	Security fencing around main plant. Stock fencing around Lots 32, 33 and Part Lot 8 to allow free movement of fauna across site.	Fencing as originally proposed, and enhanced rehabilitation of peppermints and tuarts to re-established link disturbed during construction.
Low Ecological Protection Area <i>(where we have to demonstrate that salinity level have been met)</i>	100m either side of diffuser pipe.	50m either side of diffuser pipe.
Marine mammal exclusion area	500m north and south of marine pipe corridor (as per marine vessel safety exclusion area).	1km north and south of marine pipe corridor (marine vessel safety exclusion area remains at 500m north and south of pipe corridor).
Impact on part of Conservation Category Wetland extending into Part Lot 8	Approximately 3 hectares impacted on Part Lot 8 (total unimpacted wetland beyond Part Lot 8 approximately 150 ha in extent).	Approximately 1 ha impacted on Part Lot 8 (total unimpacted wetland beyond Part Lot 8 approximately 150 ha in extent).