

Figure 2

Brine Discharge Flow Schematic (San Diego RWQCB Order No. R9-09-0038)

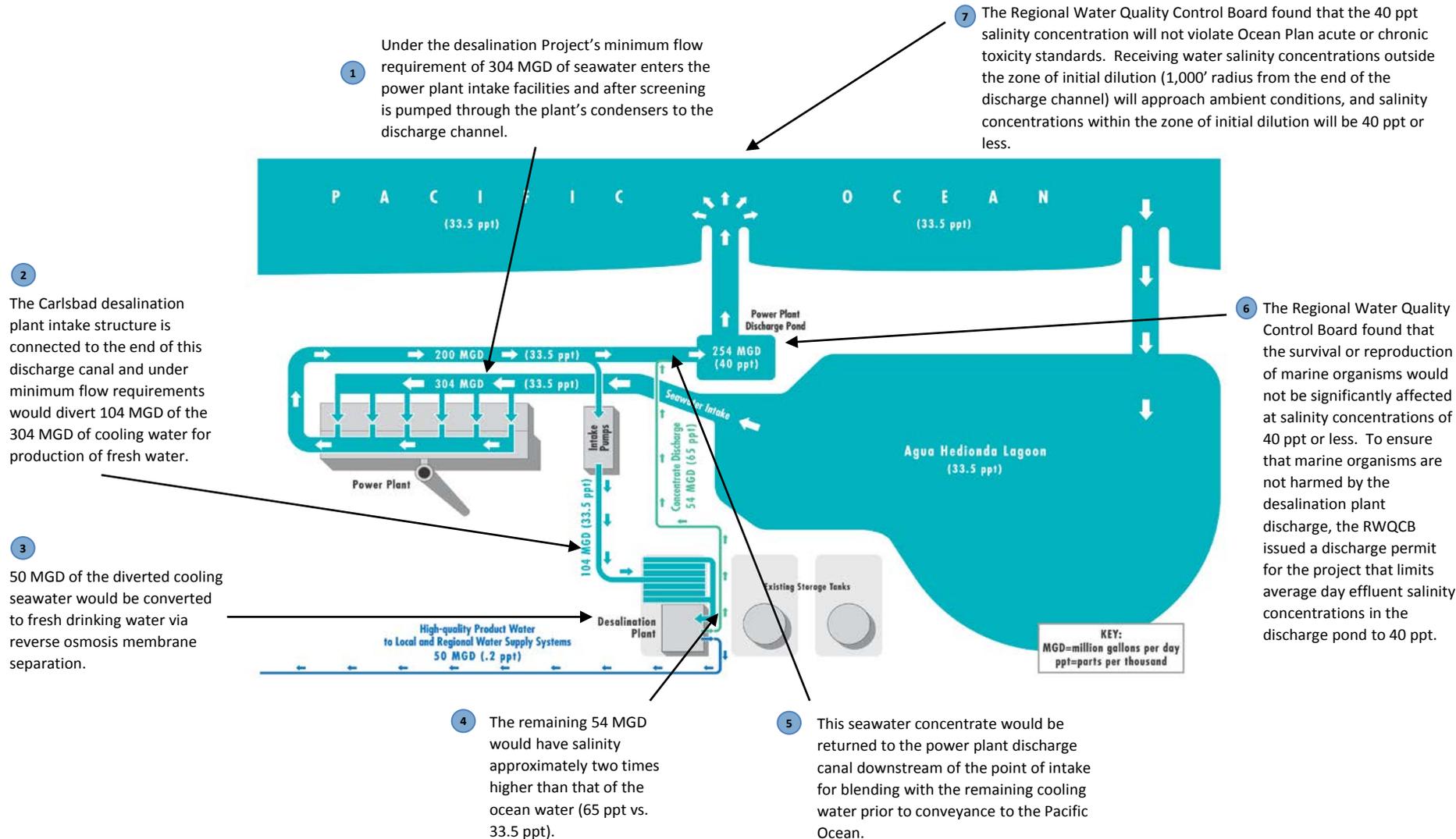


Figure 1 Ocean Outfall/Diffuser System



**Comparison of Environmental Impacts of Brine Discharge Alternatives
Carlsbad Desalination Project Permit Conditions vs. Brine Panel Recommended High
Pressure Diffuser**

	Carlsbad Desalination Project Permit Conditions	Brine Panel Recommended High Pressure Diffuser
Brine Discharge Salinity	67.0 ppt	67.0 ppt
Receiving Water Salinity	33.5 ppt	33.5 ppt
Salinity Reduction Requirement	Reduce salinity from 67 ppt to sub-lethal level of 40 ppt prior to discharge through in-plant dilution, remainder of dilution achieved through passive mixing in receiving water (1,000 foot zone of initial dilution)	Reduce salinity to from 67 ppt to 35 ppt through high velocity turbulent mixing in receiving water (300 foot zone regulatory mixing zone)
Volume of seawater exposed to entrainment impacts to achieve required salinity level	204 MGD	204 MGD assumed for ETM analysis. If State Policy requires 20 to 1 dilution, the volume of entrained water increases to 950 MGD
Organisms in entrained water	Over eighty percent of the larval fish entrained are gobies and blennies that have saturated Agua Hedionda Lagoon; less than 0.5% of the entrained organisms recreationally or commercially important; no threatened or endangered species present.	Due to the proximity to the Carlsbad kelp bed, it is anticipated that the high-pressure jet diffuser would entrain large numbers of commercially and recreationally important species of fish larvae.
Receiving water exposed to lethal level of brine concentration	No	Yes
Potential for increased turbidity and sediment flux down coast from the discharge to create a long-term negative effect on kelp reproduction in the nearby Carlsbad kelp bed	No	Yes
Environmentally superior alternative	Yes	No
Additional cost to achieve compliance with Ocean Plan	None	Approximately \$200 million