CASE STUDY
HOBBS BAY ENVIRONMENTAL PROTECTION

PAC, SILTFENCE, ENVIROFORCE, T-BAR DECANT BAR SYSTEM, BARRIER MESH, AQUADUCT

ADVANCED GEOSYNTHETIC SOLUTIONS

PROJECT INFORMATION

Nestled in Hobbs Bay opposite Gulf Harbour Marina, Hobbs Bay Estate is an exclusive residential development constructed by Hopper Construction. With breathtaking panoramic coastal views, the first two stages of the development includes 40 premium lots, with a further 48 lots scheduled for development in future stages.

Given its 14-hectare coastal location, sloping terrain and proximity to the harbour, robust environmental controls were critical to the project's success. Hopper Construction placed strong emphasis on implementing a comprehensive Erosion and Sediment Control Plan and had significant input into its design to ensure the surrounding environment was protected throughout construction.

DESIGN

Key to the sediment management strategy was the installation of two Sediment Detention Ponds. These ponds were engineered to collect and treat site runoff before any water was discharged into the environment. Site runoff was directed toward the ponds through carefully sculpted land contours, ensuring maximum water capture and control. The ponds included forebays for primary treatment, before flowing into the main detention area. To ensure durability and minimise erosion in areas of high waterflow, the ponds were lined with EnviroForce for a robust scour protection solution.

A T-Bar Decant System was installed to aid the discharge of clean and compliant water. These decant systems are adjustable, allowing water to be released based on rainfall and sediment load. To prevent downstream erosion, water was transported through AquaDuct and released onto a rock layer and pooling bay constructed at each pond outlet, effectively reducing water velocity and minimising environmental impact. A secondary overflow channel, also lined with EnviroForce, was installed to handle extreme rain events, ensuring clean water overflow remained within compliance limits.

INSTALLATION

From the outset, the team at Hopper recognised the importance of dynamic, on-site water management. Variations in soil characteristics required regular bench testing to optimise coagulant dosing for rainfall-activated chemical treatment systems. With support and training provided in collaboration with Cirtex, the project team were able to adapt dosing rates in real time, ensuring ongoing compliance.

Perimeter controls were critical. SiltFence and Super SiltFence were used extensively across the site, particularly near cliff edges and on steeper slopes where runoff could not be diverted to the detention ponds. The site team also implemented ongoing stabilisation measures, including grassing, hay mulching and diligent maintenance of bunds and silt controls. Housing lots were grassed early to prevent sediment generation during construction of the roading network.

Through a collaborative approach with Cirtex and proactive site management, the development has consistently maintained compliant discharge levels throughout construction, safe in the knowledge that development of the residential infrastructure was not harming the local environment.

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