



Waianae Police Station Replacement



OWNER: City and County of Honolulu
DESIGNER: Architects Hawaii Limited
FACILITY: Waianae Police Station
ADDRESS: 85-939 Farrington Highway, Waianae, Hawaii 96792
PROJECT TITLE: Waianae Police Station Replacement
TMK: 8-5-008:051,043,044,041,040

REFERENCES:

1. City and County of Honolulu Stormwater Best Management Practice Manual, New and Redevelopment, July 2014.
2. NPDES Permit for City and County of Honolulu, MS4, Small MS4, Industrial Facilities; HI S000002; effective February 16, 2015; Part D.1.e.(1)(iii) which requires management practices prioritized to favor infiltration, evapotranspiration, or harvesting/reuse follow by treat and release practices.

PROJECT SUMMARY:

The Waianae Police Station Replacement project was a complete rebuild of the entire facility. The design for the project was done prior to the City's Storm Water Best Management Practices (BMP) Manual for New and Redevelopment¹ and the new MS4 permit². However, the project's design did include a post construction treatment control BMP in the facility's parking lot to improve water quality of nearby Pokai Bay. The treatment control BMP consists of approximately 23,600 ft² of pervious concrete (seven inch depth) over a permeable base (eight inch depth). Pervious concrete is a permeable pavement surface that is often built with an underlying stone reservoir to temporarily store surface runoff prior to infiltration into subsoil. Pervious concrete has enough void space to allow rapid percolation of liquids through the pavement. The surface and subsurface infrastructure can remove both the soluble and fine particulate pollutants that occur within urban runoff. Roof runoff is also directed to the permeable pavement for storage and infiltration.

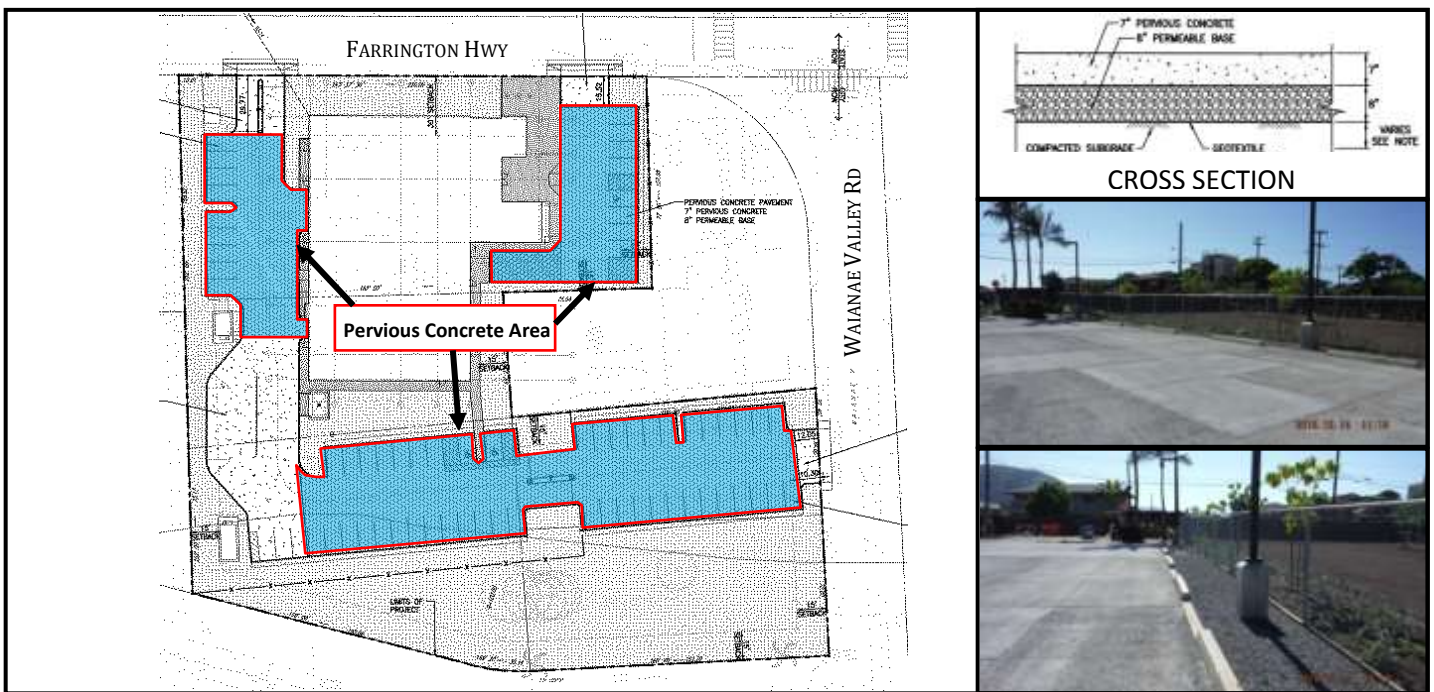


Figure 1: Waianae Police Station Treatment Control BMP

The blue shaded areas with red borders depict the areas of the parking lots where pervious concrete were installed. The pictures show the rear parking lot where the pervious concrete is installed. Pervious paving is used for light vehicle loading in parking areas, replacing traditional pavement and allowing parking lot storm water to infiltrate directly and receive water quality treatment. From the surface, the pervious concrete appears to be the same as traditional pavement, but instead of having fine material, as in traditional pavement, pervious concrete has air voids that encourage infiltration.