

Replacement of Bridge No. 1300-E14, East Main Street over Pemberton Creek



Client/Owner: Monmouth County Engineering
Project Location: Borough of Oceanport, NJ
Construction Cost: \$2 million

Monmouth County Bridge No. 1300-E14 was structurally deficient, functionally obsolete, had a substructure which was in poor condition and was posted with a 10-ton weight limit. The project involved the replacement of this structure and the reconstruction of the approach roadways and presented geotechnical challenges due to the presence of thick layers of soft, compressible soils. The new structure consists of adjacent prestressed concrete slab beams supported by reinforced concrete abutments which in turn are founded on concrete filled, steel pipe piles. To prevent excessive settlements on the widened approach roadway, the soft soils were excavated and replaced with gravel below the water table and granular fill above the water table. In addition, driven steel sheeting was used to support the approach embankment in lieu of conventional reinforced concrete retaining walls. The new bridge carries two lanes of traffic and is approximately 40-ft-wide with 12-ft travel lanes and eight-ft shoulders. The project included structural and roadway design, survey, geotechnical investigations, utility relocation, and permit preparation including waterfront development, coastal wetlands, USACOE nationwide, U.S. Coast Guard, and green acres parkland and community involvement.