

# Cathodic Protection Extends the Life of Caesar's Bay Shopping Center

BROOKLYN, NEW YORK

SUBMITTED BY VECTOR CORROSION SERVICES, INC.

The site of Caesar's Bay Shopping Center is forged into the history of the Bath Beach neighborhood of Brooklyn. Lore has it that originally, this location along the Lower New York Bay had a bulkhead structure for loading and unloading ships with coal.



Eventually a pier was added for public use. Later, an elevated L-shaped wharf was built out over the bay in phases to create space for a large retail complex. Today, Caesar's Bay Shopping Center houses significant retailers such as Toys R Us, Kohl's, Best Buy and Modell's. Portions of these retail buildings are supported by four distinct elevated reinforced concrete structures over the Gravesend Bay.

The elevated building floor sections consist of a concrete overlay on precast double tee beams that sit on cast-in-place concrete beams that span between cast-in-place concrete pedestals. The beams are subject to both airborne chloride as well as splashing when waves crash into the bulkhead.



Despite previous repairs, the structure continued to degrade over time. After a comprehensive analysis, impressed current cathodic protection was selected to provide long term protection to the corroding chloride-contaminated concrete beams.

Before the scheduled repairs and cathodic protection could begin, the whole facility was closed in 2012-2013 to repair structural and water damage caused by Hurricane Sandy. The program included concrete repair, rehabilitating the bearing surfaces for the double tee beams, beam replacement, and overlay repair.

Despite winter conditions, difficult access, and various trades working in the same location, the cathodic protection system was successfully installed over a 10-month period. The system was energized in the Fall of 2015.

## Caesar's Bay Shopping Center

OWNER

**SALTRU Associates JV**  
Wayne, NJ

OWNER'S REPRESENTATIVE

**ProjectEye LLC**  
Livingston, NJ

PROJECT ENGINEER/DESIGNER

**COWI Marine**  
Trumbull, CT

GENERAL CONTRACTOR

**Simpson & Brown, Inc.**  
Cranford, NJ

CATHODIC PROTECTION DESIGNER

**Vector Corrosion Technologies, Inc.**  
Wesley Chapel, FL

CATHODIC PROTECTION CONTRACTOR

**Vector Construction, Inc.**  
Decatur, IL

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