

## Case Study

**Conserving a Terra-Cotta  
Cornice and Puerto Rican  
Patrimony:****Dome of the  
Capitol Building****Restoration Project**

San Juan, Puerto Rico

**Project Highlights****Application:**Stabilization of Terra-Cotta cornice at  
the base of the Dome**Completion date:**

Phase I: 2001

Phase II: 2024

**The outcome:**Repairing and protecting the  
Terra-Cotta cornice

Restoration of the Capitol Dome

**About 1500 Cintec anchors,  
between 18" to 60" long****Owners:**

Superintendency of the Capitol of Puerto Rico

**Structural Engineer:**

Structural Consulting Services

**General Contractor:**

Phase I: Conservation Solutions Inc. - CSI

Phase II: Building Preservation Materials

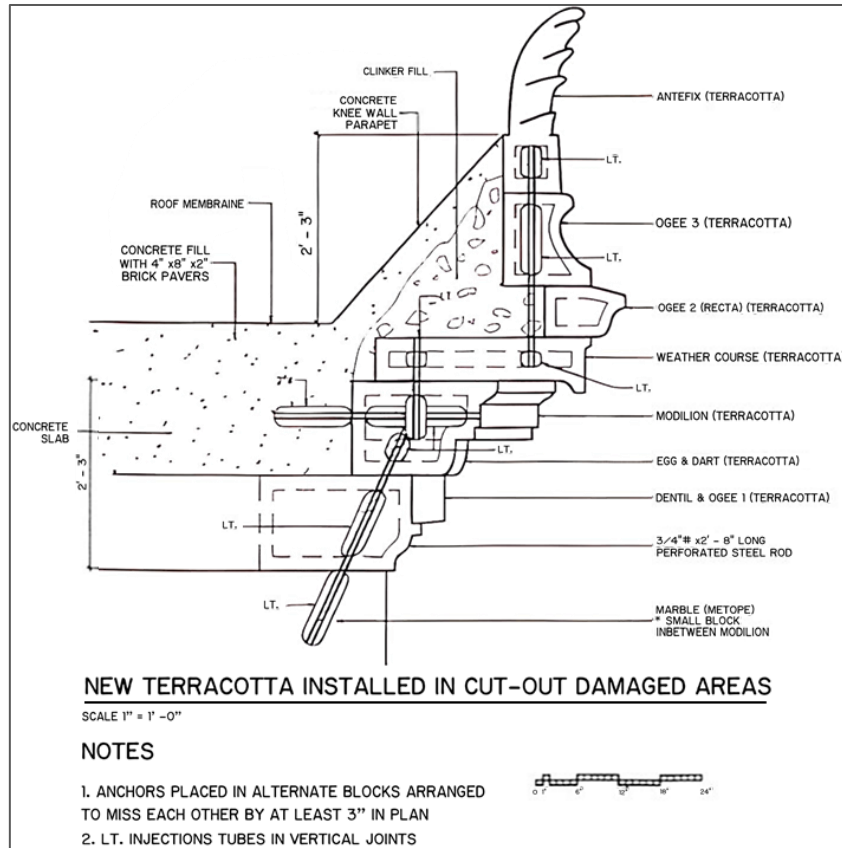
Technologies - BPMT [Based in Puerto Rico]

**The History**Construction of El Capitolio (the Capitol Building of Puerto Rico)  
**began in 1925** in the neighborhood now known as "Old San Juan".The building contains two chambers, with the Senate on one side,  
the House of Representatives on the other, and an array of  
galleries, friezes and mosaics in between. A vast marble staircase  
faces Ponce de Leon Avenue and gives access to the building to  
the south.**The building also boasts an impressive rotunda** in which Puerto  
Rico's 1952 constitution is exhibited. The Rotonda extends  
upwards to the three floors of the building. **The cornice adorns  
the base of the dome**, which rises at the center of the building on  
an octagonal drum.**The Findings**In 1998, an investigation  
revealed **several major  
problems** which were related to  
the ingress of large quantities  
of salt-laden moisture.The **corrosion had been so  
severe** that it was no longer  
possible to establish the exact  
dimensions of any of the  
former steel elements. Some  
had disappeared totally,  
leaving only rusty stains in the  
terra-cotta work.**Severe cracking and  
movement** of the corners were  
also evidence of a **structural  
failure and deterioration**.

## The Solution

It was recommended that all heavily damaged and collapsing areas of the cornice be dismantled and rebuilt using high quality matching new units from a well-established terra cotta manufacturer. To retain as much original material as possible, it was also recommended that the undamaged but unstable areas of terra cotta be stabilized in-situ using the Cintec anchoring system.

The reinforcement solution utilized a **corrosion-resistant metal Cintec anchor**, expertly designed to endure the test of time and environmental factors. This anchor is encased in Presstec® grout, a proprietary mix that **not only provides excellent adhesion but also enhances the overall durability of the system**. The meticulous drilling and insertion of the anchors into the façade was done with precision, ensuring that the structural support was evenly distributed.

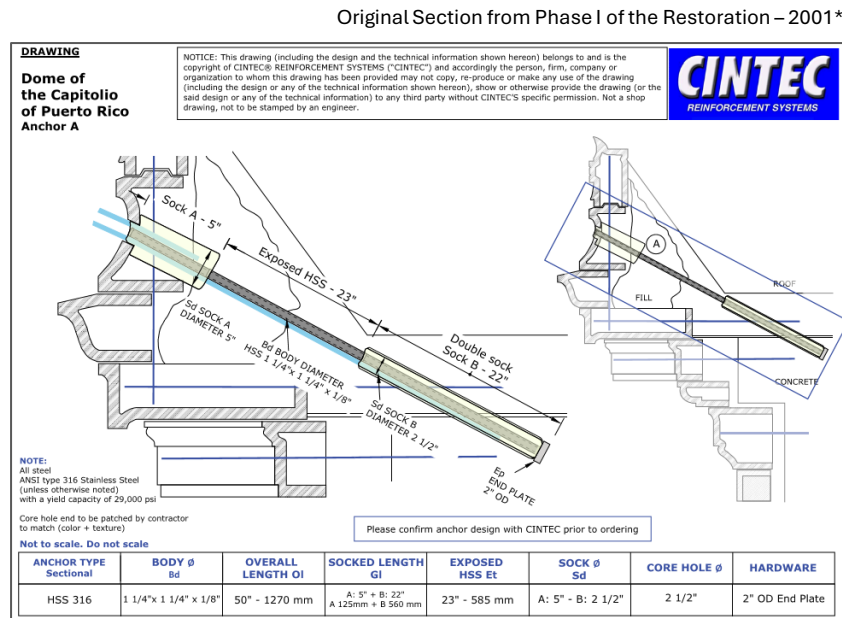


The Cintec system played a vital role in the preservation and reinforcement of the historic terracotta façade of El Capitolio, an architectural treasure that exemplifies historical significance.

This innovative system is **specifically engineered to enhance structures while avoiding any disruption to the original materials**, which is particularly important for maintaining the integrity of such a crucial architectural feature.

By not requiring the removal of the façade, **the Cintec system significantly mitigates the risk of damaging these essential elements, safeguarding their historical and aesthetic value.**

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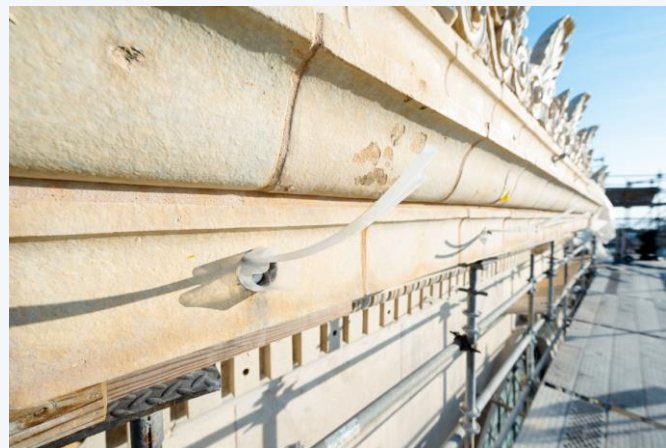


## The Installation



This targeted reinforcement not only **strengthens the façade against potential damage**, but also **preserves its visual and historical integrity**, allowing El Capitolio to continue standing as a testament to its cultural legacy for generations to come.

## The Details



The Cintec system represents a **significant advancement in restoration technology**, demonstrating how modern methods can be harmoniously integrated into the conservation of historic structures. This approach reflects a **growing awareness of the need to protect and maintain our architectural heritage** while addressing contemporary structural challenges.

By utilizing such innovative solutions, we can ensure that **historic sites like El Capitolio remain safe and accessible**, allowing future generations to appreciate their beauty and historical context.

