

Alumni Hall at Georgia State University

Background

Georgia State University (GSU) contacted TEC Services to discuss issues with the stone façade at GSU's Alumni Hall building. TEC Services was informed that pieces of the stone façade had fallen from the building due to corrosion. Provided information to date indicates the Alumni Hall building was originally constructed circa 1907 as part of an Auditorium structure. Extensive modifications to the building were performed in 1938. Additional façade renovations were reported in 1943. The latest available as built drawings were dated 4-2-84.

Services Provided

A TEC Services Structural Engineer visited Alumni Hall to observe the stone façade and to discuss areas of distress with GSU maintenance personnel. Severe spalling and cracking of the stone façade was observed at the eyebrow near the roof line over the main entrance of the building. TEC Services consulted with GSU via phone conversation to assist in forming an appropriate scope of engineering evaluation services.

TEC Services reviewed available architectural and structural drawings to observe typical stone façade



Distress Stones at Eyebrow.

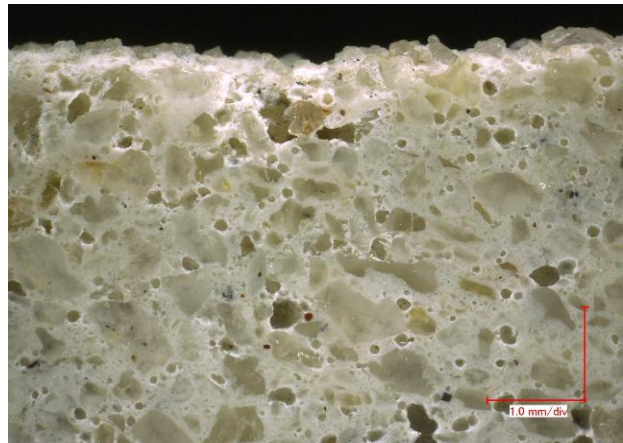
connection methods. Particular focus was directed to stone connections of the front entrance eyebrow which exhibit severe cracks.

A visual condition survey was conducted for the front and two side stone facades as well as the rear elevation which consists of Exterior Insulation and Finish System (EIFS) façade. The façade was ob-



Distressed EIFS facade.

served from the ground level using binoculars. Areas of distress were noted on a copy of the provided elevation drawings. Selected samples of mortar from between the stones were obtained for laboratory evaluation. The mortar evaluation was



Mortar evaluation was performed at TEC Services' AASHTO accredited materials testing laboratory.

performed in accordance with ASTM C1324, *Standard Test Method for Examination and Analysis of Hardened Masonry Mortar* and included a chemical and microscopic evaluation of the mortar. Our testing determined the volumetric proportions in-



Failed Stone at eyebrow.

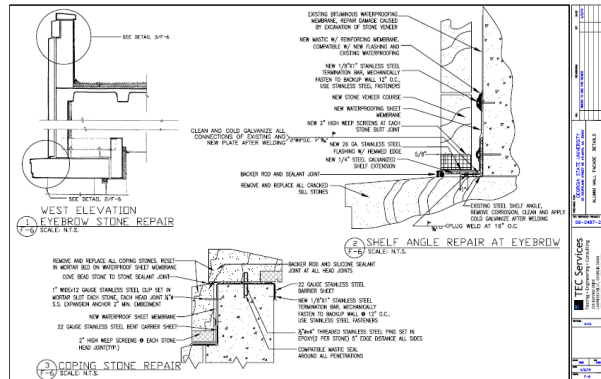
cluding the ratio of cementitious material to sand and the abundance of free lime. The testing also determined the aggregate characteristics and ASTM C270 mortar type. This testing was required to develop recommendations for replacement mortar.

Close up inspections of the distressed eyebrow stone facade at the front entrance were performed. The stones that required removal and replacement or repair were identified on a plan or elevation view sketch. TEC Services consulted with specialty repair contractors to assist in the evaluation and development of conceptual repairs of the stone facade.

A report presenting our findings was developed. The report documented our observations and included photos as well as conceptual recommendations for repairs for the front eyebrow and the remaining façade components. This concluded the initial phase of this project.

The second phase of the project consisted of performing openings in the stone façade and preparing project documents for the restoration of the façade. The openings were performed to document the type, size, and condition of the connections and the backup wall waterproofing materials. A brief field report of our findings at these two openings was submitted.

Based on our findings from our previous work, data gathered from the openings discussed above, and information provided by GSU representatives, we developed elevation view drawings and typical section view details of the recommended façade repairs presented in our previous report. The drawings developed were of sufficient detail to obtain bids and perform the listed scope of façade repairs. Technical specifications were developed for the execution of the façade repair work. We consulted with available manufactures to review currently available products, warranties, and approved applicators. Recommended products were incorporated into the technical specification for review and approval of GSU.



Example Detail Provided by TEC Services.