



DEPARTMENT OF ADMINISTRATIVE
SERVICES

Milwaukee County

Date: February 18, 2019

Project: Mitchell Park Horticultural Conservatory – Material Testing

By: Julie Bastin, P.E.

Project No.: P684-18607

Subject: Summary Report for REQUEST FOR PROPOSALS (R.F.P.)

Part A: The Concrete Material Testing

The RFP was released in 2018 and the chosen Consultant is a team headed by the local structural engineering firm, Pierce Engineering. They are teaming up with Vector Corrosion Services, Inc., a company from the Chicago area that specialized in concrete science, structural investigation, repairs and corrosion prevention. The team will also include a local construction company, Arteaga Construction, Inc. Arteaga will be aiding in taking samples from the Show Dome and patching cores. Milwaukee County is in the process of completing the contract for this work presently.

The tests will address issues such as carbonation and aging of the original concrete structure and will include:

1. Foundation visual inspection and sounding for deterioration.
2. Concrete frame sampling for chloride concentration.
 - a. Concrete frame visual and sounding inspections.
3. Concrete frame electrical continuity testing.
4. Corrosion potential survey identifying location and extent of active corrosion beyond delamination and spalls.
5. Cover-depth survey to compare the depth of steel reinforcement with the depth of carbonation front and chloride contamination.

This study will assess the actual concrete dome framing and make recommendations for extending its life and/or project when the key structural components may need to be re-cast and replaced in order to keep the structure safe for future decades. This report is expected to be completed by late spring 2019.

Part B: The Glazing System Renovation Investigation

The RFP is currently being finalized and will be advertised in early March of 2019 for proposals. This investigation is geared toward glazing and curtain wall system manufacturers more than consulting firms, so it will require an approach to determine a best practice (methods and means) for repairs to the existing totally custom glazing system.

It is expected that the selected team will:

1. Will make recommendations for repairs and/or replacement.
2. Provide actual shop drawing style details.
3. Provide probable budget cost estimates for a minimum of two repair solutions.
4. Provide a mock-up of the repair and/or replacement preferred by the owner.
5. Perform testing on mock-up to demonstrate performance against leakage, or weakness in glazing system, etc. (i.e. is it so rigid that movement of the frame cracks glass?)

The proposal will include the selected services broken into two parts and two separate cost proposals.

Part I – includes a repair/material recommendations report, detail drawings, a summary of the repair process and procedures (including caring for warm climate plants during construction) and estimates of cost.

Part II – includes actual shop drawings for one of the proposed repair scenarios, manufacturing of any custom parts, full mock up of at least three glazing panels and testing of repair.

It is expected that Part I will be completed by August 2019. Should the budget allow Part II to be awarded, it is expected that it should be complete between November 2019 and late spring 2020. This would depend upon the complexity of any custom components such as gaskets, seals or custom aluminum extrusions.