Independent Peer Review of Complex Bridge Design

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Overview

• FDOT requirements for independent peer review
• Louis Berger’s lack of qualification to conduct peer review and incomplete review
• Inadequate FDOT oversight of peer review process
FDOT Requirements for Peer Review

• Independent firm must:
  - Be prequalified for complex, concrete bridge design (work type 4.3.1)
  - Have FDOT prequalification letter specific to each work type
  - Have at least 3 professional engineers on staff with minimum 5 years each of complex concrete bridge design experience

• Review firm cannot have any involvement with design project
FIU Bridge Independent Peer Review Process

- FIGG’s technical proposal stated peer review was to be performed by different office within FIGG
- FDOT required outside firm with no involvement
- FIGG then hired Louis Berger
- FDOT peer review was to be a comprehensive, thorough, and independent verification of design
  - Not a simple check of original plans and calculations
Louis Berger Peer Review

- Louis Berger not qualified for FIU bridge review
  - Applied in 2013; FDOT did not approve the application
  - Never prequalified by FDOT for 4.3.1 work type
- FDOT website erroneously listed Louis Berger as prequalified
  - Postcollapse, FDOT identified technical error
  - Stated FDOT website is for informational purposes only
Quality of Louis Berger Peer Review

- Louis Berger analyzed overall bridge structure
  - Did not analyze different stages of construction and nodal areas
  - Exceeded budget and required additional time
- FIGG initially failed to provide for FDOT-required independent peer review
- Louis Berger did not identify significant under-design of bridge, and under-design led to structural failure and bridge collapse
• FDOT requires peer review firms to–
  - Certify bridge design at 90% plan submittal
  - Certify, sign, and seal bridge design at 100% plan submittal
• FDOT did not require 90% certification for FIU bridge
  - Missed critical step in oversight
• FDOT failed to identify that Louis Berger was unqualified for independent peer review of FIU bridge project design
Summary

• Louis Berger not qualified to perform the review
• FIGG’s failure to adhere to FDOT requirements resulted in Louis Berger’s inadequate peer review
• Louis Berger failed both to perform a comprehensive peer review and to identify significant design errors
• FDOT did not recognize Louis Berger as unqualified to certify, sign, and seal review of FIU bridge plans