



Structures Congress 2020



Proceedings of the
Structures Congress 2020

St. Louis, Missouri

April 5–8, 2020

Edited by
James Gregory Soules, P.E., S.E., P.Eng.

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Structures Congress 2020

SELECTED PAPERS FROM THE STRUCTURES CONGRESS 2020

April 5–8, 2020
St. Louis, Missouri

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EDITED BY
James Gregory Soules, P.E., S.E., P.Eng



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Preface

The Structures Congress has a robust technical program for Structural Engineers focusing on topics important to practitioners, academics and researchers at all levels of their career. The papers submitted for publication in the proceedings represent some of the topics covered in the technical program but not all. For details on all the sessions held at the congress look on the conference website www.structurescongress.org

The papers in the proceeding are on the following topics

- Blast & Impact Loading & Response of Structures
- Bridges, Tunnels and other Transportation Structures
- Buildings
- Education
- Forensic Investigation
- Nonbuilding and Special Structures
- Research

Acknowledgments

Preparation for the Structural Engineering Institutes (SEI) Structures Congress required significant time and effort from the members of the National Technical Program Committee, the Local Planning Committee and staff. Much of the success of the conference reflects the dedication and hard work by these volunteers.

The SEI National Technical Program Committee, the Local Planning Committee and staff would like to acknowledge the critical support of the sponsors, exhibitors, presenters, and moderators who contributed to the success of the conference through their participation.

Thank you for spending your valuable time attending the Structures Congress. It is our hope that you and your colleagues will benefit greatly from the information provided, learn things you can implement and make professional connections that last for years.

Sincerely,

J. G. (Greg) Soules, P.E., S.E., P.Eng., SECB, F. SEI, F. ASCE
CB&I Storage Tank Solutions
Chair, National Technical Program Committee

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