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Frances Appleton Bridge, Boston, MA

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Abstract:

The Frances Appleton Bridge is a 750' long multi-use walkway located on the banks of the Charles River in Boston, MA. The bridge consists of a contemporary tubular steel arch with a span of approximately 222' over a parkway with a width of 14'. The steel superstructure including approach ramps of 550' in length is continuous without any joints and its shape in plan follows a curvilinear alignment in two directions which was a challenge during construction. The arch and approach spans follow a distinct architectural theme of slender steel piers and struts for visual consistency and aesthetic appeal. The Appleton bridge placement and overall geometry was carefully selected to comply with the ADA maximum slope requirements and avoid impacting large trees in the parkland as much as possible. The overall length of the bridge includes several entry points and connections to the existing network of walkways along the Charles River Esplanade. Paper will explain the goals and objectives of this innovative bridge from conceptual design until completion of construction. The footbridge exemplifies the true art of bridge engineering balancing structural and architectural objectives and achieving a reasonable construction cost.

