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Additional Resources in MSEL
Chesapeake and Baltimore Area Bridges

Books

Title: A Brief statement of facts, shewing the importance of a bridge over the river Susquehanna, at Connowingo Creek: and of the roads to the river Susquehanna, to the growth of the city of Baltimore, and to the comfort and convenience of its inhabitants; with a map, shewing the different routes to Lancaster and Philadelphia. 1816.
MSEL Call Number Garrett Library - Library Room F187.P9 D8 1854

Title: The Chesapeake bay bridge; engineering report submitted to the governor, State roads commission of Maryland, State highway advisory council.
MSEL Call Number Libraries Service Center QE122.C4G8 1948 QUARTO

Title: Historic bridges of Maryland / Dixie Legler and Carol M. Highsmith.
MSEL Call Number Libraries Service Center TG24.M3 L44 2002 QUARTO

Title: Probable economic effects of the Chesapeake Bay Bridge on the Eastern Shore Counties of Maryland. Maryland. State Planning Commission.
MSEL Call Number Libraries Service Center HC107.M3 A5 no.62

Tips on finding these and more books on structures in the MSEL.

http://www.library.jhu.edu/researchhelp/engr/structures/books.html

Journal Articles

Title: Chesapeake & Delaware Canal Bridge
In: Concrete International
Volume: 17 Issue: n 2 Feb 1995 p 28-32
Abstract: The Chesapeake & Delaware Canal Bridge is an excellent example of the efficient use of precast, prestresses concrete cable-stayed bridges with a single plane of stays for long spans and wide roadway sections. This project has demonstrated that precast segmental bridges can be erected economically. The focus on the esthetic value of the bridge resulted in an elegant and attractive structures.
MSEL Call Number Eisenhower Stacks TA680.C772
Database: Compendex

Title: Innovative design and construction of Chesapeake and Delaware Canal Bridge
In: Transportation Research Record
Volume: 2 Issue: n 1696, 2000 p 44-48
Abstract: An outstanding accomplishment of bridge design, construction, and management, the Chesapeake and Delaware (C and D) Canal Bridge demonstrates that precast, segmental, cable-stayed bridges can be an economical and aesthetically pleasing solution in an area of the country where steel bridges are predominant. The C and D Canal Bridge is the first major concrete segmental cable-stayed bridge structure to be completed in the

Northeast. The $58 million C and D Canal Bridge is a precast concrete, segmental structure 1417 m (4,650 ft) in length. Twin parallel box girders were designed to provide six lanes of travel with a total bridge width of 38.7 m (127 ft), with each precast box girder containing three 3.56-m (12-ft) lanes and two 3-m (10-ft) shoulders. Innovative construction techniques, economy, and aesthetics were the primary focus of the construction and design solutions used for the 229-m (750-ft) cable-stayed main-span crossing. The bridge was completed on schedule, with no claims or suits, at a cost slightly under the original bid. A quality-based selection process for the bridge designer, a prequalification process for the selection of the contractor, a disputes review panel, and informal partnering during construction all contributed greatly to a very successful project. The use of precast concrete elements provided an efficient and timesaving technique for the construction of this bridge. In addition, precast concrete box girders, box piers, and delta frames were designed to anchor the cable stays and make the parallel trapezoidal box girders monolithic throughout the main span.
MSEL Call Number Libraries Service Center TE1.H54
Database: Compendex

Title: Chesapeake Bay bridge-tunnel construction
In: Civil Engineering (New York)
Volume: v 32 Issue: n 1 Jan 1962 p 26-29
Abstract: Description of 14 mi of steel and concrete bridges and trestles, plus more than 2 mi of manmade islands and tunnels across Chesapeake Bay shipping channels in one of world's largest water-crossing projects; details of 12.5 mi long trestle made of precast prestressed concrete components.
MSEL Call Number Libraries Service Center TA1.C59
Database: Compendex

Title: Chesapeake Bay bridge
In: Engineer
Volume: 195 Issue: 5069 Mar 20 1953 p 416-419
Abstract: Bridge forms link in system of highways along East Coast of United States; shore-to-shore distance 22,990 ft, of which 21,286 ft are covered by bridge structures; suspension bridge over main ship channel has central span of 1600 ft; factors influencing adoption of curved bridge crossing; superstructure involves 27,000 tons of steelwork; many truss and girder spans were assembled at temporary erection dock and floated into their respective positions on barges. (See also - n 5068 Mar 13 1953 p 377-81; Civ and Structural Engrs Rev v 7 n 10 Oct 1953 p 386-8)
MSEL Call Number Gilman Stacks TA1.E56
Database: Compendex

Title: Six contractors tackle first bridge over Chesapeake
In: Engineering News-Record
Volume: 145 Issue 17 Oct 26 1950 p 32-34
Abstract: Steel truss bridge, 21,286 ft long contains 1600 ft suspension span 450 to 780 ft cantilevers, and 255 to 305 ft deck truss spans; 600 H piles are required at each anchorage; bridge is strung out for 4 mi between Sandy Point and Kent Island, Maryland; typical construction stages illustrated.
MSEL Call Number Gilman Stacks TA1.E63
Database: Compendex

Title: Ingenuity and heavy equipment combine to build 4.3-mile Chesapeake bay bridge
In: Civil Engineering
Volume: 21 Issue: 5 May 1951 p 48-51

Abstract: Illustrated data on structure, and technical details of foundation of piers; structure embodies decked girders, trusses, cantilever, and suspended span 1600 ft long; bridge, which connects Sandy Point with Kent Island, Maryland, will be link in New England to Florida expressway.
MSEL Call Number TA1.C59
Database: Compendex

Title: Chesapeake bay highway bridge and its effect on traffic
In: Traffic Quarterly
Volume: 7 Issue: 2 Apr 1953 p 163-178
Abstract: 21,286-ft bridge extends from Sandy Point, Md, to point on eastern shore near Stevensville; traffic data show ferry crossings and number of vehicles using various facilities and highways in network affected by bridge.
MSEL Call Number TE1.T76
Database: Compendex

Title: Vibration frequencies of Chesapeake Bay bridge
In: American Society of Civil Engineers Proceedings, Journal of the Structural Division
Volume: 93 Issue: ST2 Apr 1967 p 237-245
Abstract: Aerodynamic causes of suspension bridge oscillations, i.e., vortex theory, flutter theory, and negative slope theory are examined; 13 factors to be considered in design of suspended span are listed; mathematical studies are confined to suspended span; seismic studies give mean fundamental period for suspended span of 4.5 sec (13.3 cpm) and peak to peak amplitudes as high as 1.0 in. under influence of brisk cross wind and heavy traffic; this period agrees well with calculated period of 4.51 sec (13.31 cpm); cantilever span of extremely stiff design shows fundamental period of 0.26 sec (231 cpm)
MSEL Call Number Libraries Service Center TA1.A49ST
Database: Compendex

Title: Emergency surgery needed on pier caps to reopen Maryland bridge
In: Public Works
Volume: 120 Issue: 1 Jan 1989 p 65
Abstract: The article discusses rehabilitation of the 1.4-mile long Governor Thomas Johnson Memorial Bridge, which carries Maryland State Route 4 over the lower Patuxent River. An extensive network of cracks in the pier caps necessitated the remedial measures. McLean Contracting, in combination with specialty contractor, Structural Preservation Systems, (SPS), both of Baltimore, won the bid. Their plan was to construct braces for the eight mid-stream piers to provide the fastest possible assured strength these elements needed. Once a 35,000-lb grillage was positioned and the swing stage was hooked on, SPS crews placed Sika Corporation's Sikadur 33 epoxy in all areas where the framework met concrete. To achieve a grout pad between the concrete surface and the grillage, SPS crews pumped in Sikadur 52. Additional aspects of the repair work are discussed.
MSEL Call Number Gilman Stacks TD1.P97
Database: Compendex

Title: Bridge on Chesapeake and Delaware canal
In: Engineer
Volume: v 174 Issue: n 4528 Oct 23 1942 p 333-334
Abstract: Illustrated description; main span, which has length of 540 ft, is of type of tied arch originally attributed to Langer, Austrian engineer; north and south approaches to tied arch span are plate girder spans. (See also - Oct 16 1942 n

4527 p 314-6)
MSEL Call Number Gilman Stacks TA1.E56
Database: Compendex

Title: Details of Maryland prestressed concrete bridge
In: Public Works
Volume: v 84 Issue: n 7 July 1953 p 62 + 66
Abstract: Nine T-shaped girders placed side by side with small space between top flanges, later to be filled with cast-in-place concrete, support 30-ft roadway with sidewalk 3-ft 1 in. wide and safety curb 1-ft 7-in. wide; girders are stiffened at each end, at quarter points, and midspan with concrete diaphragms; girders are 60-in. deep, top flange 44 in.; bottom flange 20-in. wide.
MSEL Call Number Gilman Stacks TD1.P97
Database: Compendex

Title: Maryland bridge collapse attributed to over-stressing of damaged members, J.E. Greiner Co.
In: Engineering News-Record
Volume: v 105 Issue: n 4 July 24 1930 p 150-151
Abstract: Abstract of report on failure of highway bridge over Monocacy River, near Frederick, Md.; verticals bent in prior accident failed under heavily loaded truck; posted weight limit exceeded; structure was two-span pin-connected through Pratt truss bridge, built in 1889; span was 153 ft. long and comprised nine 17-ft. truss panels.
MSEL Call Number Gilman Stacks TA1.E63
Database: Compendex

Tips for finding these articles and more journal articles like these.

http://www.library.jhu.edu/researchhelp/engr/structures/journalarticles.html