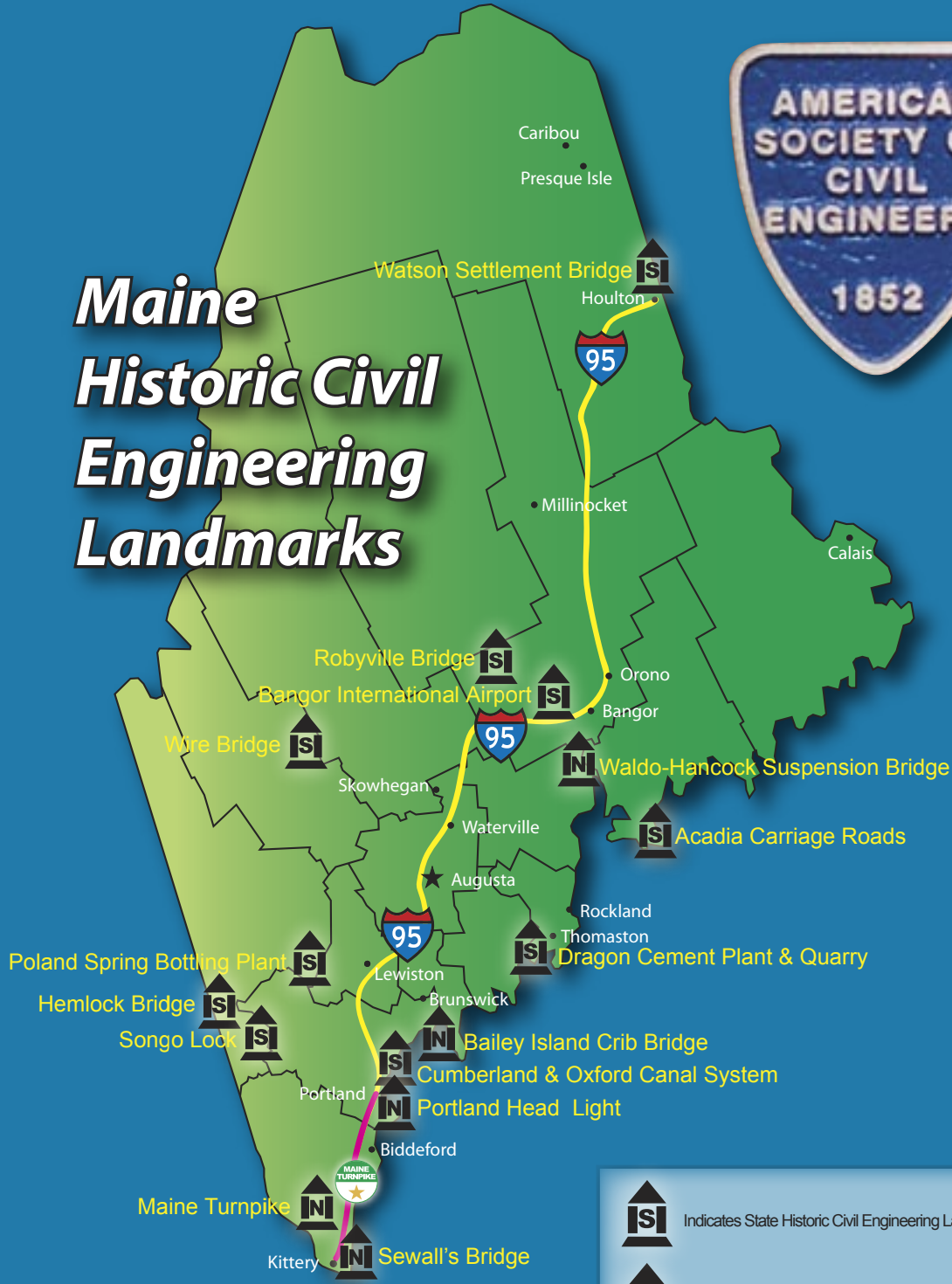


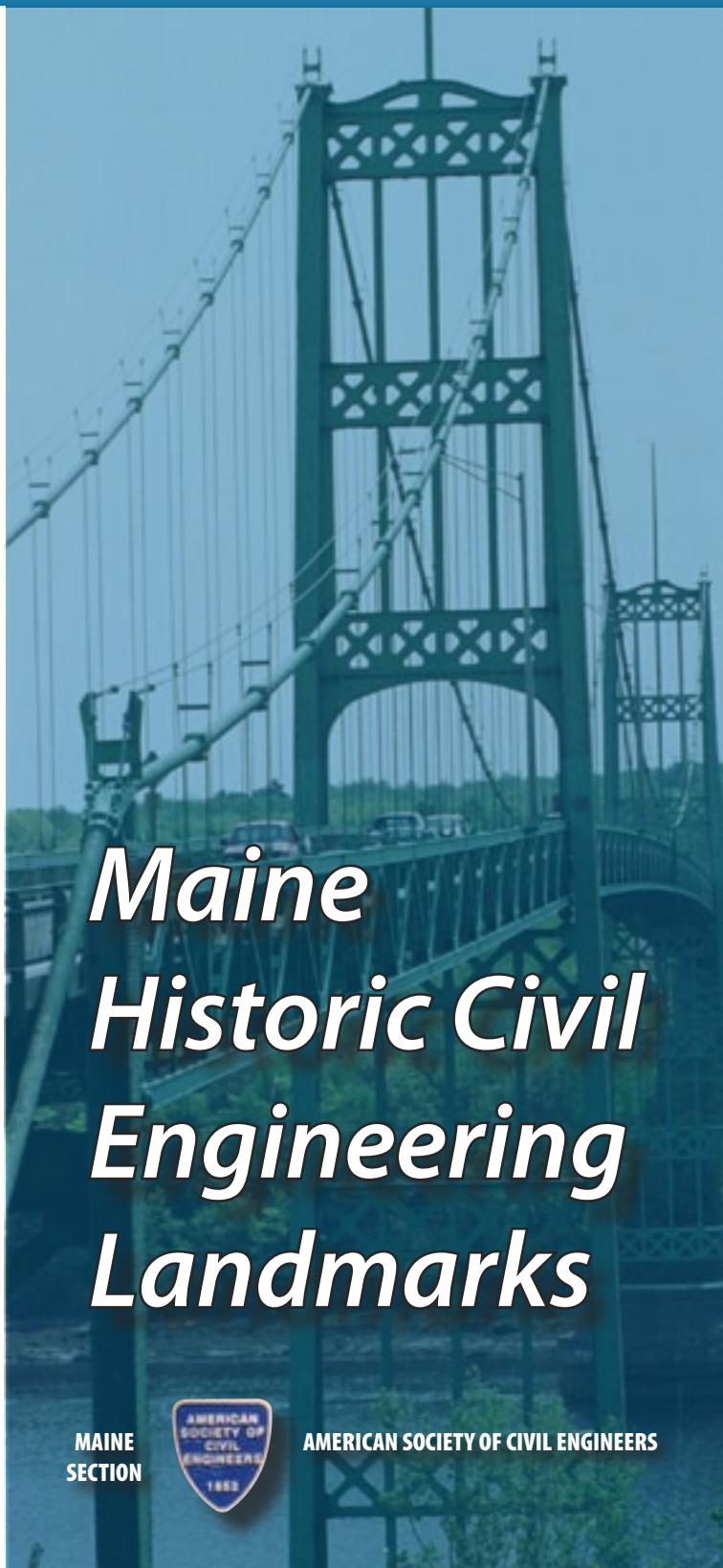
# Maine Historic Civil Engineering Landmarks



**S** Indicates State Historic Civil Engineering Landmark  
**N** Indicates National Historic Civil Engineering Landmark

*Illustration created by Maine Department of Transportation, Mapping & Media Services, Office of Communications*

MAINE SECTION  
 AMERICAN SOCIETY OF CIVIL ENGINEERS  
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## Maine Historic Civil Engineering Landmarks

Maine's built environment is made up of many diverse and innovative civil engineering projects. These constructed civil works are a reflection of the colorful and talented civil engineers who have lived or worked in Maine since the 1700's. The projects highlighted in this brochure are some of the early contributions of these civil engineers which have been recognized and commemorated by the Maine Section of the American Society of Civil Engineers. Today, civil engineers continue to improve the quality of life for Maine's general public by designing and building clean drinking water facilities, efficient structures with regard to energy use and construction materials, wastewater treatment plants, highways and bridges, waste containment facilities, energy production facilities, and more. We encourage you to visit these historic civil works sites to appreciate the ingenuity of Maine's early civil engineers.

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**Bailey Island Cribstone Bridge (N), Route 24 Harpswell, Maine** - Completed in 1928, the Bailey Island Bridge is an exceptional example of an engineering solution to meet extremely unusual conditions and is the only bridge of its kind in the world. The innovative open granite-stone cribwork design carrying a concrete deck over existing bedrock permits the free flow of swift tidal currents and boat traffic, and withstands severe saltwater exposure and heavy winter ice floes. The bridge continues to serve its essential function without impeding tidal flow. The project engineer was L.N. Edwards. Dedicated in July 1984 with a commemorative plaque located at the north bridge approach on Route 24.



**Sewall's Bridge (N), Organug Road, York, Maine** - Completed in 1761, this bridge is the first pile structure for general highway traffic constructed in accordance with an engineering plan based upon a site survey. It is also the first pile-trestle bridge for which an authentic construction record exists, and is the oldest for which the builder's drawings survive. It was the first of several structures attributed to Major Samuel Sewall, a Civil Engineer and famed New England bridge builder. Dedicated in July 1986 with a commemorative plaque located in a small traffic island just north of the bridge.



**Maine Turnpike, I-95 York to Portland (N)** - The Maine Turnpike was designed as a state-of-the-art highway when opened to traffic in 1947. It became a model for the construction of the entire Interstate Highway System. It was the first "Super Highway" in New England and the second modern toll highway built in the United States. This was the first project of its kind to be financed entirely by revenue bonds, enabling the highway to be built and maintained entirely by toll revenue. The Maine Turnpike has not required a single cent of taxpayer money for maintenance and operation since opening in 1947. The turnpike spurred on untold economic growth for all Maine industries, but particularly tourism. Dedicated in December 1999, a commemorative plaque has been placed at Maine Turnpike Authority headquarters at 430 Riverside Street, Portland, Maine.



**Songo Lock (S), Casco, Maine** - Songo Lock, located on the Songo River adjacent to Sebago Lake State Park in Casco, is the last navigation lock in Maine and what was the Cumberland and Oxford Canal System completed in 1830. Originally built of stone masonry, Songo Lock was one of 28 locks in the 50 mile long waterway from Harrison at the head of Long Lake, through Sebago Lake, and on to Portland Harbor. A total of 27 similar locks were constructed in the canal to compensate for the 260-foot difference in elevation between Sebago Lake and sea level. This lock remains as a service to boaters and a reminder of a bygone era. Dedicated in January 2001, a commemorative plaque was placed at the Songo Lock site in Casco.



**Acadia Carriage Roads (S), Acadia National Park, Mount Desert Island, Maine** - The 57 miles of broken stone carriage roads and 16 stone-faced bridges within Acadia National Park were built on Mount Desert Island from 1913 to 1940 under the direction of John D. Rockefeller, Jr. Great care was taken during planning, development, and construction to preserve the natural environment on the island and make accessible the beauty of the mountains, ponds, and forests of Mount Desert Island. Three million people from around the world visit Acadia National Park each year and access the carriage road system for walking, hiking, biking, horseback riding, cross-country skiing, and carriages. Charles and Paul Simpson were the chief engineers and a third engineer Walters G. Hill also worked on the roads. Welles Bosworth designed most of the earlier bridges and Charles Stoughton designed the later bridges. The carriage roads were built to the best rural standards of the time complete with elaborate drainage systems, stone arch bridges, stone retaining walls, and "coping stones" for roadside safety. The carriage roads in Acadia are considered to be the best example of broken stone roads left in America.



**Cumberland and Oxford Canal System (S), Cumberland County, Maine** - When the Cumberland and Oxford Canal System was authorized, Maine became part of a nationwide boom in canal building that followed the War of 1812. The 50-mile long system from Harrison, Maine, at the head of Long Lake to Portland Harbor comprised 30 miles of natural waterways, 20 miles of hand-dug canal and 28 locks. The locks and hand-dug canal compensated for the 260-foot drop in elevation from Sebago Lake to Portland Harbor. Irish laborers were imported to do most of the canal excavation, using picks, shovels, and wheelbarrows. When excavation was complete, carpenters and masons constructed dams, bridges, and the locks required to lift canal boats from tidewater to Sebago Lake. The canal was completed in 1830 and remained in operation until 1872. Traces of the old 30-foot wide canal can still be seen at various places between Sebago Lake and Portland. The photo above shows a surviving section of canal crossing Route 35 in Standish. The Cumberland and Oxford Canal System was built primarily so that valuable timber from inland could be transported to coastal sawmills and shipping ports. Dedicated in 1978 with a plaque placed at the park on the corners of Congress and Waldo Streets in Portland, Maine.



**Bangor International Airport - Former Dow Air Force Base (S), Godfrey Blvd., Bangor, Maine** - The Bangor International Airport (BIA) has a long significant history dating back to the formation of a landing strip in 1927. Pan American Airways used the airport for commercial aviation as early as 1931. Amelia Earhart flew inaugural flights for the Boston-Maine Airway service in 1933. In the 40's and 50's the facility was converted to military use for Transport and Bombardment Groups. Now a commercial aviation center, BIA sports the second longest runway on the eastern seaboard. Commemorated in June 2001 with a plaque mounted in the terminal.



**Wire Bridge (S), New Portland, Maine** Wire Bridge is a cable suspension bridge over the Carrabasset River located on Wire Bridge Road about one mile east of Route 27 in New Portland, Maine. It is the oldest remaining wire cable suspension bridge still in use in the northeast. There is a good deal of local legend about the bridge, but the available records seem to indicate the bridge was constructed between 1864 and 1866. An inspection of the cables showed that they were not wrapped where they pass over the saddles, indicating that the cables were spun in place instead of arriving prefabricated as legend claims. The Town of New Portland maintained the wire bridge until 1959 when they could no longer afford to pay for its repairs. In 1960, the bridge underwent extensive repairs including deck replacement, underpinning and jacketing the west abutment, capping the tower bases with concrete, adjusting the wire cables, and re-shingling the towers. The original wire cables, anchorages, and most of the original tower framing were preserved. The bridge was dedicated in 1990 with a plaque placed at the bridge site.



**Portland Head Light (N), Cape Elizabeth, Maine** - Portland Head Light is located on Shore Road about three miles east of Route 77. A maritime tragedy in 1787 prompted the Massachusetts legislature to appropriate \$750 to begin construction of a 58-foot tower of rubble-stone set in lime at Portland Head. The Lighthouse Act of 1789 transferred responsibility for navigation aids from the individual states to the Federal Government. In 1790, under authorization from President George Washington, \$1500 was appropriated for the completion of Portland Head Light. The lighthouse served a major roll in protecting the economic investment made in the area. When constructed in 1790, Portland was the 6th largest port in the country, the closest port to Europe, and had significant trade to the Caribbean. This was the first lighthouse constructed in Maine and only the 14th constructed in the United States. It is unique in that the rocks for the foundation were excavated from the site for the lighthouse tower and the tower has remained essentially unchanged since 1790. Because it was the first lighthouse constructed under the Federal Government's jurisdiction, President Washington gave it his personal attention. He ordered that Portland Head Light be constructed of rubble-stone taken from the fields and shores of Cape Elizabeth and stated that the stone could be "handled nicely when hauled by oxen on a drag."



**Waldo-Hancock Suspension Bridge (N), Prospect/Verona, Maine** - The Waldo-Hancock Bridge is located on Route 1 between Prospect and Verona, Maine. It was designed by David B. Steinman who is considered one of the most important bridge designers of the 20th century. The Waldo-Hancock bridge was one of two concurrent bridge projects that were first to use prestressed wire rope strand cables eliminating the time consuming process of spinning the cables in place. The Waldo-Hancock Bridge was also the first suspension bridge built with the Vierendeel truss. Named after Belgian engineer Arthur Vierendeel, the chief characteristic is the absence of diagonals. Rigid frame construction connects the posts to the chords. Advantages of this design are economy of material and construction as well as aesthetics. Opened in 1931, the bridge facilitated growth and tourism along the Maine coast east of Bucksport. The bridge was dedicated in January 2003 with a commemorative plaque placed at the scenic overlook along the south approach.



**Watson Settlement Bridge (S), Littleton, Maine** - Watson Settlement Bridge is located on Carson Road about three miles east of Route 1 in Littleton, Maine. This bridge, built in 1911, is the farthest north and the last original covered bridge built in Maine. It has Howe type timber trusses and has two spans with a total length of 170 feet. In 1984 the bridge was closed to traffic when a new bridge was built. The bridge is located on the road to Woodstock from Littleton over Meduxnekeag Stream in the town of Littleton. The bridge was commemorated in January 2002 and a plaque was placed at the bridge site.



**Hemlock Bridge (S), Fryeburg, Maine** - Hemlock Bridge is located on Hemlock Bridge Road about three miles north of Route 302 in Fryeburg and crosses over an old channel of the Saco River. It was built in 1857 and comprises a 109 foot Paddleford type truss strengthened with laminated wooden arches. The bridge was reinforced to carry local traffic in 1988. This bridge is one of two that share the distinction of being the oldest surviving covered bridges in Maine. The other is Lowes Bridge in Guilford-Sangerville. The Hemlock Bridge was commemorated in January 2002 and a plaque was placed at the bridge site.



**Robyville Bridge (S), Corinth, Maine** - Robyville Bridge is located in Robyville Village in the Town of Corinth, Maine. The bridge crosses Kenduskeag Stream off Cushman Road about one and one-half miles east of Route 15. Built in 1876, the supporting members incorporate the Long type truss design and span 73 feet between the stone abutments. The bridge was reinforced in 1984 and still carries local traffic. Robyville Bridge was commemorated in January 2002 and a plaque was placed at the bridge site.



**Poland Spring Bottling Plant and Spring House (S), Poland Spring, Maine** - The original Poland Spring Bottling Plant and Spring House are located on Route 26 about one and one-half miles north of the intersection of Routes 122 and 26. Jabez Ricker first came to Poland Spring in 1794. In 1800, his son Wentworth became ill and his case was declared hopeless by the doctor. After drinking from the spring on the hill, he made a miraculous recovery. From that time, the spring's reputation for medicinal properties grew until it became world renowned. The water issues from a fissure in a mound of sedimentary rock at the site. In 1827, a 30 X 60 foot wood house was built to enclose the spring. In 1877, the hotel Poland Spring House was built to accommodate guests who came to drink the water. The hotel hosted presidents, actors, singers, and painters. President Taft and Vice President Calvin Coolidge were two of the celebrities staying at the hotel. In 1907, the Spring House and Bottling Plant were built in Italian renaissance style with light tan bricks, green tile roof and ashlar granite foundations. The Bottling Plant was an example of sanitary construction which was purportedly the best in the world at the time.



**Dragon Cement Plant and Quarry (S), Thomaston, Maine** - The Dragon Cement Plant and Quarry are located on Route 1 in Thomaston, Maine. It is the only cement plant in New England, and it has been in continuous operation since 1928 when the Lawrence Portland Cement Company built the first Dragon Cement plant at the Thomaston location. Dragon's primary raw materials come from the adjacent limestone quarry, which is the largest limestone body in the state of Maine. Concrete is one of the major Civil Engineering materials used to build projects that improve the quality of life for Americans. Cement is the key ingredient to concrete and project construction costs in Maine and the region have been moderated as a consequence of having a local cement plant. Many Civil Engineering projects built during the expansive infrastructure growth period of the post depression era were built using Dragon Cement. These included dams, paper mills, buildings, and concrete roads and bridges throughout Maine and New England. Under its current ownership by Cementos Portland and Cementos Lemona of Spain, the Dragon plant was recently modernized to convert to a more energy efficient dry process. The modernization secures the future of the plant for another generation and Dragon will continue to provide high quality cement products used in many of the region's infrastructure projects. The site was commemorated in May 2005 with a plaque mounted in front of the main entrance to the plant in Thomaston.



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