

# MAINE STATE LEGISLATURE

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TRAFFIC AND REVENUE REPORT  
ON  
PROPOSED TOLL BRIDGE AND CAUSEWAYS  
TO  
CHEBEAGUE ISLAND  
CASCO BAY, MAINE

CHEBEAGUE ISLAND BRIDGE COMMITTEE  
CHEBEAGUE ISLAND, MAINE

NOVEMBER 1956

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FROM OFFICE OF  
FAY, SPOFFORD & THORNDIKE, INC.  
ENGINEERS  
BOSTON, MASSACHUSETTS

MAR 05 1985

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ENGINEERS  
BOSTON

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AUGUSTA, MAINE

TRAFFIC AND REVENUE REPORT  
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PROPOSED TOLL BRIDGE AND CAUSEWAYS  
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CASCO BAY, MAINE  
  
CHEBEAGUE ISLAND BRIDGE COMMITTEE  
CHEBEAGUE ISLAND, MAINE

NOVEMBER 1956

Chebeague Island  
Maine

30 November 1956

To the Honorable Members of the  
State of Maine Legislature, and  
Legislative Highway Committee

Subject: Chebeague Island Bridge Project

Gentlemen:

The people of Chebeague Island respectfully request that the State of Maine Legislature pass an "ACT AUTHORIZING THE CONSTRUCTION OF A CAUSEWAY CONNECTING COUSINS ISLAND WITH LITTLEJOHN ISLAND, AND A TOLL BRIDGE AND CAUSEWAY CONNECTING LITTLEJOHN ISLAND WITH CHEBEAGUE ISLAND, IN CASCO BAY, MAINE".

Detailed studies indicate that construction of this direct highway route between the mainland and Littlejohn and Chebeague Island will be beneficial not only to the present inhabitants and summer residents of these communities, but to the economy of the City of Portland and the State of Maine:

- 1 -- It will halt the decline in the population of Chebeague, which, over the past years, has dropped from approximately 1200 year-round and 3000 summer residents to 300 year-round and 2000 summer residents. Estimates are that if the causeway and bridge are built, the number of summer residents will increase to about 5200 and the permanent population to a minimum of about 1400, by 1980.
- 2 -- It will significantly increase property valuation, which currently is at a low of \$500,000.

- 3 -- It will open up a 2000 acre area for suburban development. Residents will be able to reach Portland and environs in a matter of minutes regardless of weather or season of the year.
- 4 -- It will provide the fishing industry with easier access to markets.
- 5 -- It will stimulate business in one of the state's most important commercial and industrial areas. The use of goods and services always expand in relation to the ease by which these goods and services are made available to people. We feel, therefore, that a bridge to Chebeague Island will be beneficial to all business in the area from Portland to Cousins Island.
- 6 -- It will attract more vacationers, in addition to a larger number of summer residents to the area. Many summer people are greatly disturbed with the difficulties of ferry transportation, especially when contrasted with the possibility of driving directly to their summer places. Moreover, a highway-bridge link will open up a scenic drive from the mainland to Cousins, Littlejohn, and Chebeague Island, that would make the Portland area a must stop on the vacationers' route.

In short, we firmly believe that such construction will make a significant contribution to the growth and development of the State of Maine in general and to the Portland area in particular. Moreover, the project will, over a period of years, be self-liquidating.

In presenting this petition, we beg to submit the following information and considerations:

Geographical. Great Chebeague Island, in the Town of Cumberland, is situated in Casco Bay, approximately 8 miles northeast of Portland, Maine, 4 miles easterly of Falmouth Foreside on the mainland, and 0.6 mile southeast of Littlejohn Island and Cousins Island, the latter being connected to the mainland by a recently completed twin-lane highway bridge located between Sandy Point and Drinkwater Point.

The accompanying map shows the relationship of these islands and their location in Casco Bay. They are of irregular shape, but orientated in a general northeast-southwest location.

Between Littlejohn Island and Cousins Island the area consists of a sandy grass covered section which is flooded at high tide to provide a channel about 600 feet wide. This channel is presently bridged by an old timber trestle, single-lane bridge. Between Littlejohn and Chebeague is a narrow navigational channel close inshore, and low-lying mud flats and rocky outcrops that are exposed at low tide. The maximum charted depth of the navigational channel is 46 feet at Mean Low Water, but the northeast approach has a controlling depth of only 19 feet. On the eastern side of Chebeague Island, there is a deep water navigational channel with a controlling depth of 37 feet, while channels of greater depth lie only slightly farther east.

Area and Population. Great Chebeague Island is the largest island in the southern part of Casco Bay. It is approximately 4 miles in length and 1.4 miles at its widest point, with an area of about 3 square miles or some 2,000 acres.

Most of the land area lies between Elev. 50 and 150 feet above sea level and consists mainly of woods and clearings.

In earlier times, the population of the island comprised about 1200 year-round and nearly 3000 summer residents. In recent years, however, the island population has decreased, primarily because of inadequate transportation facilities; it now comprises about 300 year-round and 2000 summer residents. In contrast, the population of the adjacent mainland has increased over the years and is now estimated at about 165,000 within a 15 mile radius and 300,000 within a 25 mile radius of Chebeague Island.

Present Island Economy. The economy of Chebeague Island is based primarily upon its fishing industry and its summer vacationists. At present there are on the island 212 summer and 110 year-round homes, together with 68 other buildings, with an assessed property value approaching \$500,000.

The fishing industry consists of lobstering, ground fishing and seining, with a lobster catch amounting to approximately 100,000 pounds annually.

The over-all economy of the island has declined during the past years and this fact can be attributed to transportation difficulties between the island and the mainland.

Proposed Highway Toll Bridge and Causeways. For many years past the idea of a modern highway connection between Chebeague Island and the mainland has been advanced by the people in the general area. This proposal received greater impetus when construction commenced on the new Cousins Island bridge in 1954-55. This bridge, costing about \$1,000,000, was financed by the Central Maine Power

Company which is constructing a \$20,000,000 steam power plant on Cousins Island. The Cousins Island Bridge would be the initial link in the Chebeague Island access.

In October 1954, local preparations were commenced to prepare a petition to the State Legislature. This petition was embodied in Legislative Bill No. 239 to authorize a study by the State Highway Commission as to the desirability of a highway bridge and causeways from Chebeague Island to Cousins Island. This bill was brought before a Legislative Hearing Committee in February 1955 but did not advance to passage.

In March 1956 the residents of the island appointed a four-member Chebeague Island Bridge Committee for the purpose of furthering the project. At that time, the Town of Cumberland appropriated the sum of \$1,000 for the purpose of engaging a firm of engineers to prepare a planning and feasibility report on the proposed facility. In September 1956 the Bridge Committee retained Fay, Spofford, & Thorndike, Inc., of Boston, Massachusetts, to carry out the investigation work and preparation of such a report.

The report by the engineers indicates that the over-all project will cost in the neighborhood of \$3,000,000, based upon a bridge having a 50-foot vertical clearance at Mean High Water, and that estimated toll revenues will be sufficient to cover operation, maintenance, and amortization of the revenue bonds in a 50 year period. This is possible, however, only if the bonds are backed by the faith and credit of the State, thereby insuring a relatively low rate of interest.



Necessity for Highway Connection. The proposed highway connection to Chebeague Island will enable the island to be developed into a most desirable and enlarged residential and vacation area, enhancing the attractiveness of Maine as "VACATIONLAND". Furthermore, the island will provide needed and desirable home sites for many Greater Portland Area workers who prefer semi-rural living within commuting distance of their work. This mode of living, a definite national trend resulting from the mass ownership of automobiles and improvements to the highway system of the country, is well under way in this region.

Given this proposed highway connection, it is estimated that the island population will grow to about 1400 year-round and about 5200 summer residents by the year 1980. A large proportion of the summer residents will come from out-of-state, thereby adding substantially to the economy of the State.

The recent opening of the highway bridge from the mainland to Cousins Island has brought about an increasing interest in the acquisition of building sites on that island. Because of location and other factors, similar or even greater interest would apply to Chebeague Island in the event that the proposed highway connection were constructed.

In the case of the fishing industry, it is estimated that a saving to fishermen of as much as ten (10) cents per pound could be attained if adequate highway transportation facilities were provided to connect the island with the mainland. Such a saving will place the lobster industry in a particularly strong position in relation to competitive importations from Nova Scotia.

Accompanying this petition is the engineering report which gives details of the proposed construction, additional economic factors, and methods of financing the project.

We believe that there is strong support for this project by the people of the mainland in this regional area and we submit this petition with the firm expectation that it will be favorably received and acted upon by the Legislature.

Respectfully submitted,

Citizens of Chebeague Island

By

Chebeague Island Bridge Committee



H. L. Beehler, Chairman

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LeRoy H. Hill

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Clifford M. Leonard

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Dr. Herman C. Petterson

Attachments:

- (1) Aerial Photograph Cut from the "Portland Evening Express" of October 17, 1956
- (2) Engineering Report by Fay, Spofford, & Thorndike, Inc., Boston, Mass.

REPORT OF THE  
SCHOOL COMMITTEE

TOWN OF  
CUMBERLAND, MAINE

Cumberland Center, Maine  
December 27, 1956

Chebeague Island Bridge Committee  
Chebeague Island  
Maine

Attention: Mr. Howard L. Beehler, Chairman

Gentlemen:

Your Committee's Chairman, Mr. Howard L. Beehler, has asked the Superintending School Committee of the Town of Cumberland to make a statement regarding the effect of the construction of a bridge connecting Chebeague Island to the Mainland. It is the opinion of the Committee that if such a bridge were built the following would result:

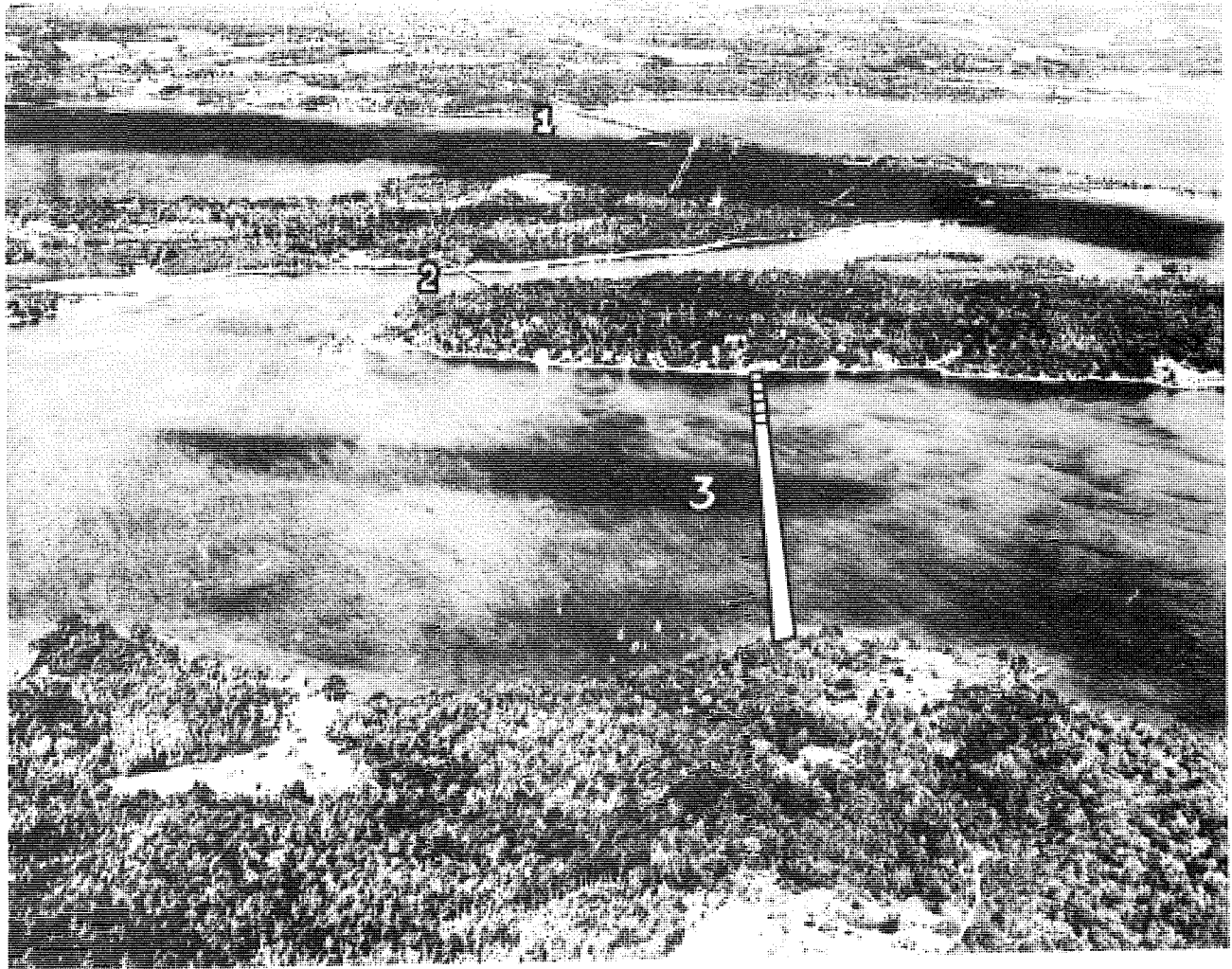
1. High School pupils now attending Portland High School would attend the Town's own High School, Greely Institute, with transportation by some type of school bus. This would result in savings in school costs (a) by eliminating tuition charges and (b) by reducing transportation costs.
2. Because the costs of transportation by boat to and from the Island always add considerably to the expenditure for supplies and materials necessary to operate a school system, a bridge would reduce these costs and result in a substantial saving in such items as fuel oil, gasoline, bus repairs, school lunch supplies, etc.
3. Although the Island has been fortunate in obtaining teachers, it has always been difficult to persuade good teachers to go to the Island. A bridge would greatly improve the attractiveness of teaching on the Island and reduce the chances of being without a teacher sometime in the future.

The School Committee wishes to express its appreciation for the opportunity to comment on this possible aspect of its school program.

Sincerely yours,

*Mabel I. Wilson*

Mabel I. Wilson  
Chairman  
Supt. School Committee  
Cumberland, Maine



### ***One-Two-Three—And You'll Be On Chebeague***

Aerial photo of Chebeague, Littlejohn and Cousins Islands show bridge links with the mainland (background). Figure 1 shows the steel-piered bridge between the mainland and Cousins Island financed by the Central Maine Power Co. which has constructed a \$20,000,000 steam plant on the island. Cost of the two-fifths-of-a-mile-long structure was about \$1,000,000.

Figure 2 shows the 125-foot-long wooden-piered bridge between Cousins and Littlejohn Islands and figure 3 represents the dream of Chebeague Islanders, a combination bridge and causeway from Littlejohn Island. Solid portion of line, about 2,598 feet, would be causeway, and broken portion of line pinpoints bridge, about 550 feet long, which would be built over the present channel between the two islands to allow room for small boat navigation.

Cost of construction of this combination causeway-bridge and conversion of the present rickety bridge between Littlejohn and Cousins Islands into

a causeway has been estimated at about \$2,000,000. The Town of Cumberland, of which Chebeague Island is a part, has appropriated \$1,000 and islanders have added another \$1,000 for an engineering survey to obtain facts to be presented to the State Legislature in January. Engineers will start taking test borings Oct. 22.

A committee will ask the Legislature for necessary funds to link Chebeague Island with the mainland, stipulating that the Littlejohn-to-Chebeague link be a toll bridge. Chebeague has an area of 2.964 square miles, Cousins, 1.006 and Littlejohn, .330.

Proponents of the Littlejohn-Chebeague bridge emphasize that the mainland to Cousins Island link has already led to a real estate boom on Cousins and Littlejohn Islands. A similar boom, they point out, would be certain on Chebeague, largest of the three, with resulting increased tax revenues to town, county and state. (By Staff Photographer Roberts)

FAY, SPOFFORD & THORNDIKE, INC.  
ENGINEERS  
BOSTON

TRAFFIC AND REVENUE REPORT  
ON  
PROPOSED TOLL BRIDGE AND CAUSEWAYS  
TO  
CHEBEAGUE ISLAND  
CASCO BAY, MAINE  
  
CHEBEAGUE ISLAND BRIDGE COMMITTEE  
CHEBEAGUE ISLAND, MAINE

NOVEMBER 1956

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TRAFFIC AND REVENUE REPORT ON  
PROPOSED TOLL BRIDGE AND CAUSEWAYS  
TO CHEBEAGUE ISLAND, CASCO BAY, MAINE

Description and Location of Chebeague Island. Chebeague Island is located in Casco Bay approximately 8 miles northeast of Portland, 4 miles east of Falmouth Foreside and 0.6 miles east of Littlejohn Island. The island is 4 miles long with a maximum width of 1.4 miles and a total land area of approximately 3.2 square miles. Plate I - Location Plan - Proposed Bridge and Causeways, shows the island and the adjacent Casco Bay area.

Present Conditions. At the present time there are 300 year-round residents and 2,000 summer residents living on Chebeague Island. Most of the traffic to the island is carried by the Casco Bay Lines, which maintains a year-round scheduled passenger service between Portland and Chebeague Island, and a summer passenger service between Falmouth Foreside and Chebeague Island. The regular passenger boats carry a limited quantity of freight and no vehicles on their scheduled trips, but the carrier does maintain an unscheduled freight and vehicle ferry service. Coal, gasoline, fuel oil and freight are barged to the island by private boats and other carriers.

The existing ferry service to the island, like most other boat services, is continually being hampered and retarded by the uncertainties and inherent dangers that accompany such uncontrollable factors as fog, bad weather and mechanical failure. The inability of the existing system to provide fast, convenient,



uninterrupted service consistent with modern-day requirements has been responsible, to a very large degree, for the alarming decrease in the island's population from approximately 1,200 year-round residents and 3,000 summer residents in the twenties to the present-day figures.

Proposed Bridge and Causeways. Because of the present unsatisfactory transportation facilities, the Chebeague Island Bridge Committee was appointed to investigate the feasibility of constructing a toll bridge connection between Chebeague Island and the mainland. An investigation has been carried out and this report has been prepared at the direction of this committee. The investigation included the making of borings at the bridge site to determine foundation conditions to permit the more accurate estimating of construction costs.

Plate II - Site Plan - Proposed Bridge and Causeways, and Plate III - Proposed Bridge and Causeways - Elevation and Details, show the extent and details of the project under consideration. The proposed construction includes a causeway between Cousins Island and Littlejohn Island and a bridge and causeway between Littlejohn Island and Chebeague Island. The causeways will have an earth-filled core and will be provided with a riprap surface protection. The bridge will be a cantilever truss structure approximately 1,050 feet long with a 50-foot vertical clearance above Mean High Water.

In addition to the bridge and causeways noted above, it will be necessary to construct approximately 1,400 feet of

highway on Cousins Island, approximately 1,400 feet of highway across Littlejohn Island, and approximately 1,600 feet of highway on Chebeague Island to connect the proposed bridge with the existing highways.

Before the proposed construction can be undertaken, a permit must be obtained from the War Department, which Department will specify the actual channel widths and overhead clearances required. The vertical clearance of 50 feet provided by the proposed bridge is insufficient for the naval vessels which have occasionally used the channel between Littlejohn and Chebeague Islands, but the cost of a high level bridge to accommodate such vessels is about 50 per cent greater than that of the proposed structure. The higher priced bridge could not be justified as a self-liquidating project. There is little or no traffic in this waterway, at present, which could not be accommodated by the proposed bridge.

Estimated Existing Traffic Potential. The Casco Bay Lines reported a passenger revenue in 1955 for Chebeague and Cliff Islands of \$26,442.67 which is estimated to cover 55,435 passenger trips. Dividing the traffic between the two islands according to average population, 77 per cent or 42,685 trips were made to Chebeague Island. It is believed that the passenger trips made between the island and the mainland by private boats throughout the year are at least 15 per cent of the Casco Bay Lines traffic, making a total of 49,000 passenger trips during the year. It would require 19,600 vehicle trips per year to

carry these passengers if the average occupancy per car is 2.5 people.

In addition to the passenger revenue, it is estimated that in 1955 the Casco Bay Lines collected more than \$5,000 in freight revenue from the Chebeague Island traffic. The freight required to produce this revenue is sufficient to generate at least 2,000 truck trips per year. The freight carried by private boats and other carriers was adequate to provide for another 2,000 truck trips to bring the total to 4,000 truck trips per year.

Mail delivery and the public utilities will generate at least an additional 1,300 truck trips per year.

The total 1955 truck traffic potential of Chebeague Island was therefore in excess of 5,300 trips per year. Since the toll rate for trucks will average at least 20 per cent higher than the passenger car rate, this truck potential is equal to 6,400 car trips per year.

The 1955 total vehicle potential is, therefore, 26,000 vehicles per year.

As soon as the bridge construction is undertaken and it is apparent that the existing transportation system is being replaced, people will start moving back to the property they own on the island. It is estimated that during the two years that the bridge is under construction, the Chebeague Island traffic potential will increase by at least 15 per cent over that of 1955 to 29,900 vehicles per year.

Estimated Traffic. The initial traffic over the proposed bridge should be considerably greater than the traffic on the existing ferry system it will replace, mainly due to a saving in time, 24-hour service for both passengers and freight, and increased safety. The first-year traffic over the Deer Isle-Sedgewick Bridge was 236 per cent greater than the preceding year's ferry traffic. Similarly, there was a 600 per cent increase at the Waldo-Hancock Bridge in Bucksport and a 443 per cent increase at the Jamestown Bridge in Rhode Island. The usual experience where a toll bridge replaces a ferry is that traffic increases immediately two to four times. There have been cases, however, where the increase has been considerably below the usual figure, such as the Westport-Wiscasset Bridge, which experienced a 12 per cent increase.

To be conservative, it has been estimated that on the proposed bridge to Chebeague Island, the traffic the first year of operation will be only 44,800 vehicles, or approximately 50 per cent more than the total potential ferry traffic the preceding year.

Plate IV - Toll Bridge Project - Consolidated Statement of Estimated Revenue and Expenses, at the end of the report gives the predicted vehicular traffic by years. The yearly rate of increase has been taken as 12.5 per cent for the first 12 years, then 6.25 per cent for the next five years

and 2.68 per cent for the next five years with no additional increase over the last 25 years of the bond issue. The total estimated rate of increase for the first 23 years of operation has been taken as 295 per cent.

Plate V - Maine Toll Bridge Vehicular Traffic as a Percentage of First Year's Traffic shows the actual yearly vehicular traffic compared to that of the first year for the Deer Isle-Sedgewick, Richmond-Dresden, Waldo-Hancock and Westport-Wiscasset Bridges and the estimated yearly vehicular traffic compared to the estimated first-year volume for the proposed Chebeague Island Bridge. It should be noted that the Deer Isle-Sedgewick Bridge had an average yearly increase of 11.7 per cent, the Richmond-Dresden 23.2 per cent, and the Waldo-Hancock 11.0 per cent, all of which are higher than the estimated rate of 8.86 per cent for the estimated growth period of the proposed Chebeague Island Bridge.

The traffic growth characteristics of the Chebeague Island Bridge should resemble those of the Deer Isle-Sedgewick Bridge because, unlike the other bridges mentioned above, neither is on a through route, but each leads to an island which has a summer population much larger than the year-round population.

The normal growth curve of the Deer Isle-Sedgewick Bridge was considerably retarded because of the war and the resulting restrictions on vehicular travel that accompanied gasoline rationing. If the pre-war portion of the Deer Isle-Sedgewick curve is ignored and the first thirteen years of the

estimated curve for Chebeague Island is compared to the post-war portion (7th year on) of the Deer Isle-Sedgewick curve, it can be seen that the curves are fairly parallel and therefore have normal growth rates that are somewhat similar. The main difference between the curves is that the growth period on the Deer Isle-Sedgewick curve has extended over a longer period of time than is estimated for Chebeague Island. It is believed that the tendency for the Chebeague Island curve to level off earlier than the Deer Isle-Sedgewick curve is reasonable since there is less land available for development on Chebeague Island.

Because it is closer to Portland and the other thickly populated areas, the Chebeague Island Bridge may very well experience a more rapid rate of growth in vehicular traffic than the Deer Isle-Sedgewick Bridge. If such is the case, the estimated revenue should be considerably higher than that indicated on the accompanying table.

Plate VI - Chebeague Island Estimated Population Trend, shows the estimated increase in population on Chebeague Island if a bridge is provided. It will be noted that 25 years after the start of bridge construction (23 years of bridge operation) the year-round population has been taken as 1,400 and the additional population as 5,230. For purposes of estimating toll revenue, no allowance has been made for an increase in population after the 25th year. Plate IV Toll Bridge Project - Consolidated Statement of Estimated Revenues and Expenditures,

shows that at this time the estimated traffic will be 132,000 vehicles per year, or 362 vehicles per day.

During 1955, Harpswell Neck, with an average population less than that now on Chebeague Island, recorded an average of 600 vehicular trips daily between the neck and mainland. In the same year, Orrs and Bailey Islands, with an average population slightly larger than that currently on Chebeague Island, recorded an average of 590 vehicular trips between the mainland per day. The traffic at these locations is considerably in excess of the ultimate predicted traffic for the proposed bridge. However, since traffic travels to Harpswell Neck, Orrs and Bailey Islands toll free, it is believed the predicted lower figures for Chebeague Island are realistic estimates, bearing in mind the anticipated Chebeague Island population growth.

The existing average population density on Chebeague Island is only 20 per cent of that currently on Peaks Island. The similar figure estimated for Chebeague Island 25 years hence is approximately 60 per cent of that currently on Peaks Island. Since both Peaks Island and Chebeague Island are located in Casco Bay in the Greater Portland area, it is believed that the estimate of the future growth that will accompany the proposed toll bridge is reasonable.

Estimated Toll Rates and Revenue. It is believed that a \$1.25 toll for passenger cars and a slightly higher rate for trucks is reasonable and consistent with the fares being charged by the existing carrier.

Plate IV Toll Bridge Project - Consolidated Statement of Estimated Revenues and Expenditures, shows a breakdown of the estimated vehicular traffic, income, expenditures and bond payments for the proposed facility over a 50-year bond life. The bond interest payments are based on a 2-3/4 per cent interest rate, which is slightly higher than that which the State of Maine is currently paying on its obligations.

Operating Expenses. The initial yearly operating expenses have been estimated as follows:

Toll collectors	\$15,000
Clerical expenses	800
Printing and supplies	600
Lighting	600
Maintenance and repairs	1,500
Advertising	1,000
Miscellaneous	<u>500</u>
Total Operating Expense	\$20,000

To allow for future increases, the yearly operating expenses have been increased each year by an amount equal to one per cent of the initial figure. It is felt that this increase will take care of any future salary increases and will provide sufficient funds to pay for any additional personnel required to take care of the increased traffic volume. Periodically, a total of \$220,000 has been provided over the 50-year bond period, to take care of painting the bridge and other major maintenance items.



Conclusions. The proposed bridge with 50-foot clearance, causeways and connecting roads can be constructed at an estimated cost of \$2,700,000.

A bond issue of \$3,000,000 will be required to cover this construction cost and interest payments during construction and the first years of operation.

The estimated traffic and income will be sufficient to cover operating costs, interest at 2-3/4 per cent and bond amortization within a period of 50 years.

FAY, SPOFFORD & THORNDIKE, INC.  
ENGINEERS  
BOSTON

PLATES

70°-15'W

70°-10'W

PLATE I

MAP FROM U. S. C. & G. S. CHART NO. 1204  
MONHEGAN ISLAND TO CAPE ELIZABETH



SCALE IN FEET

DEPTHS SHOWN IN FEET  
BELOW M. L. W.



43°-45'N

FALMOUTH SPUR

ROUTE 1

43°-40'N

PORTLAND

SOUTH PORTLAND

Peaks I.

GREAT CHEBEAGUE I.

COUSINS ISLAND  
BRIDGE

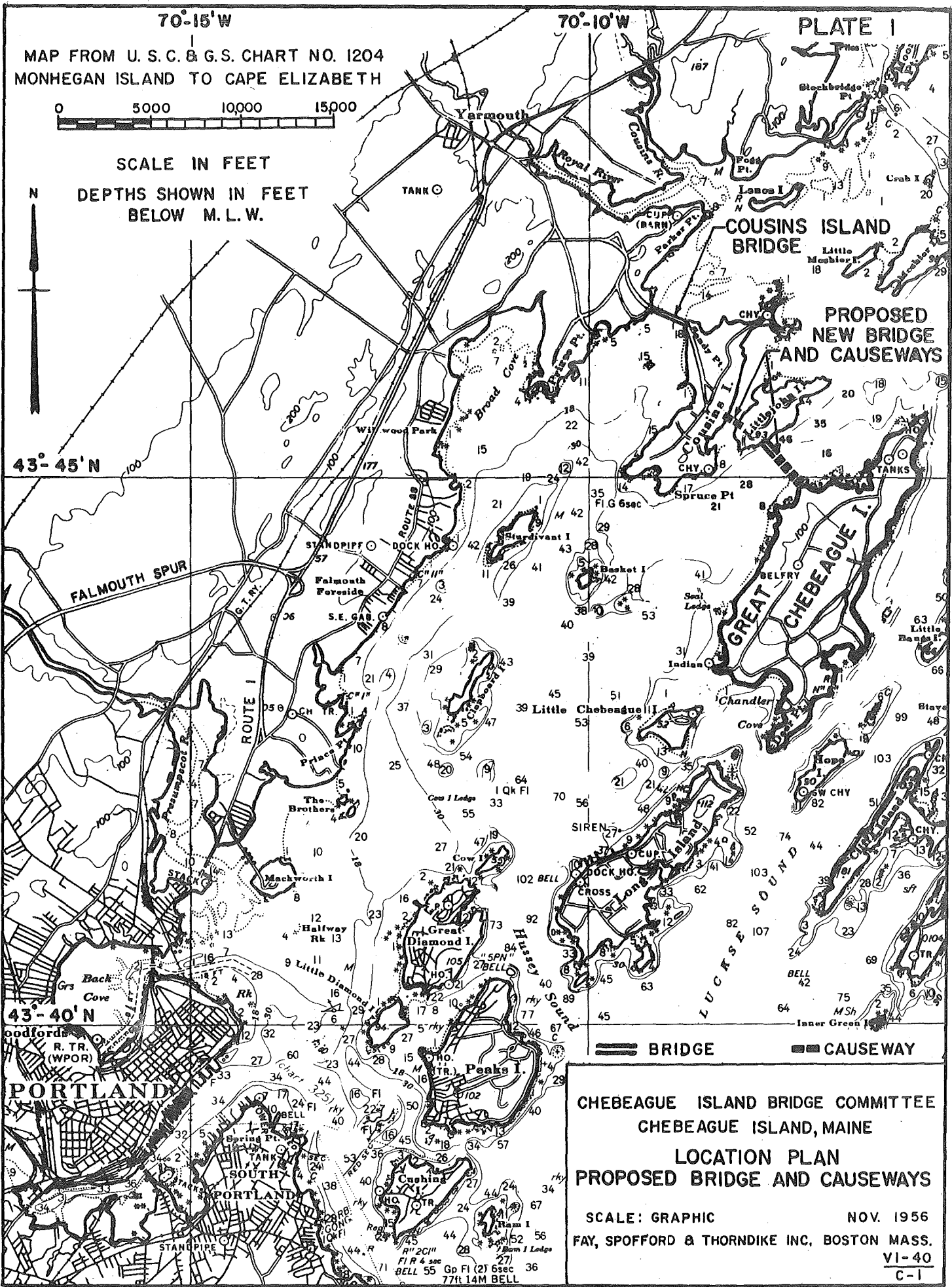
PROPOSED  
NEW BRIDGE  
AND CAUSEWAYS

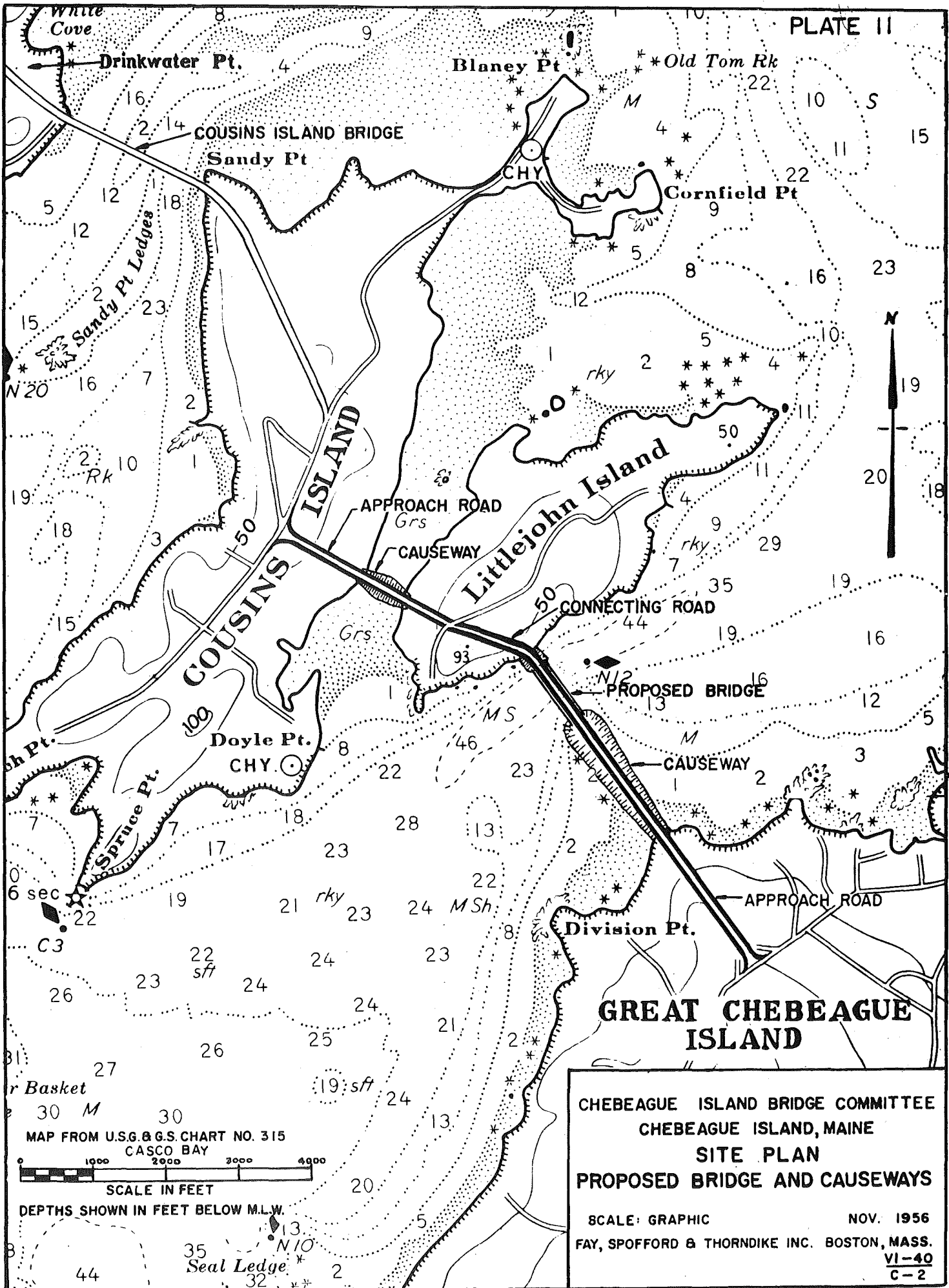
BRIDGE CAUSEWAY

CHEBEAGUE ISLAND BRIDGE COMMITTEE  
CHEBEAGUE ISLAND, MAINE  
LOCATION PLAN  
PROPOSED BRIDGE AND CAUSEWAYS

SCALE: GRAPHIC NOV. 1956  
FAY, SPOFFORD & THORNDIKE INC, BOSTON MASS.

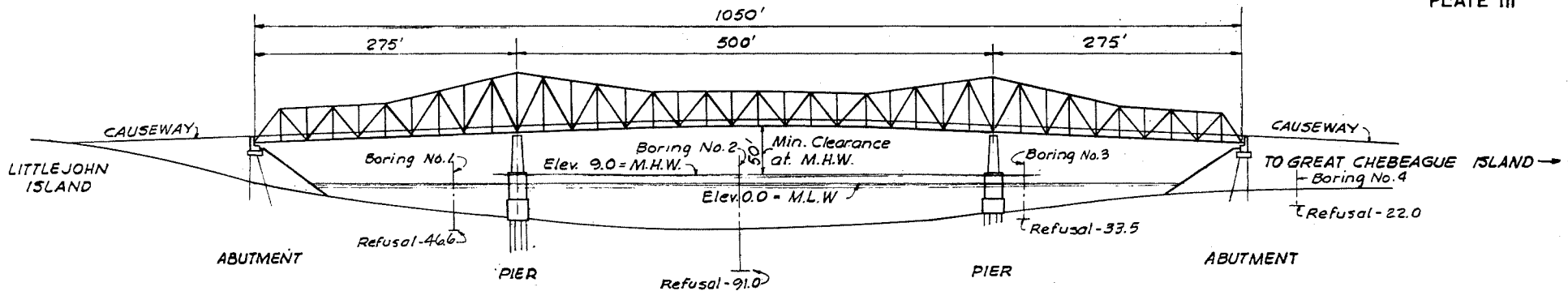
VI-40  
C-1



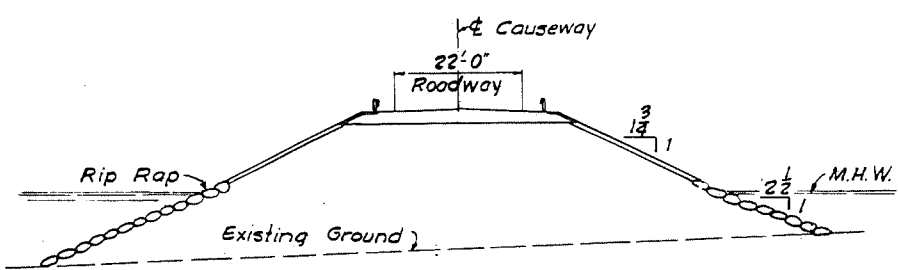


CHEBEAGUE ISLAND BRIDGE COMMITTEE  
 CHEBEAGUE ISLAND, MAINE  
 SITE PLAN  
 PROPOSED BRIDGE AND CAUSEWAYS

SCALE: GRAPHIC NOV. 1956  
 FAY, SPOFFORD & THORNDIKE INC. BOSTON, MASS.  
 VI-40  
 C-2

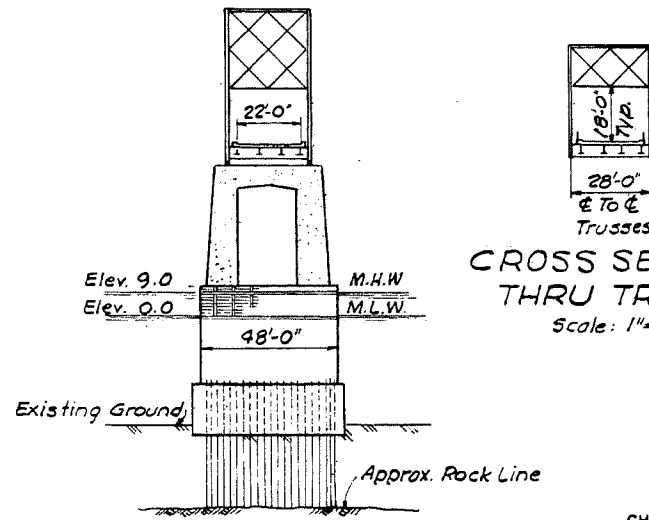


**BRIDGE ELEVATION**  
Scale: 1"=100'



**TYPICAL SECTION THRU CAUSEWAYS**

For Location of Causeways, See Plate II



**CROSS SECTION-AT PIER**  
Scale: 1"=40'

**CROSS SECTION THRU TRUSS**  
Scale: 1"=40'

CHEBEAGUE ISLAND BRIDGE COMMITTEE  
CHEBEAGUE ISLAND, MAINE

PROPOSED BRIDGE AND CAUSEWAYS  
ELEVATION AND DETAILS

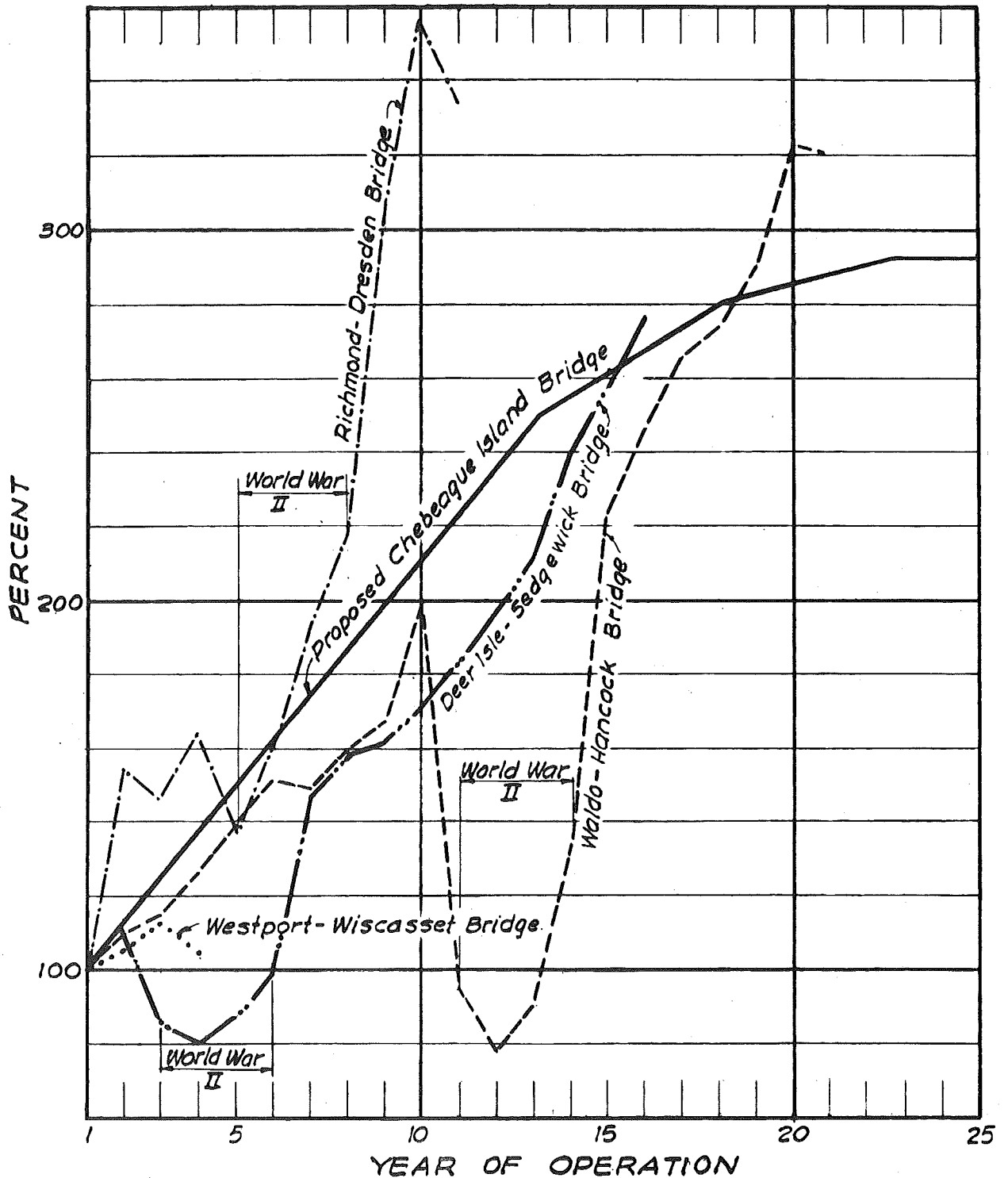
SCALE: AS NOTED NOV. 1956

FAY, SPOFFORD & THORNDIKE INC., BOSTON, MASS.

CHEBEAGUE ISLAND BRIDGE COMMITTEE  
TOLL BRIDGE PROJECT  
CONSOLIDATED STATEMENT OF ESTIMATED REVENUES AND EXPENDITURES

(1) Bond Year	(2) Estimated Vehicles Per Year	(4) Estimated Income			(5) Total	(6) Bonds Outstanding	(8) Estimated Expenditures			(10) Estimated Net Income	(11) Bonds Redeemed	(12) Funds Available
		(3) Tolls or Bond Sale	Reinvestment Proceeds	Total			(7) Interest at 2-3/4%	(8) Operational Costs				
								Total	Total			
1	None	3,000,000	40,000	3,040,000	3,000,000	82,500	1,204,000*	1,286,500	1,753,500	None	1,753,500	
2	None	None	14,000	14,000	3,000,000	82,500	1,504,000**	1,586,500	-1,572,500	None	181,000	
3	44,800	56,000	2,800	58,800	3,000,000	82,500	20,000	102,500	- 43,700	None	137,300	
4	50,400	63,000	2,000	65,000	3,000,000	82,500	20,200	102,700	- 37,700	None	99,600	
5	56,000	70,000	1,400	71,400	3,000,000	82,500	20,400	102,900	- 31,500	None	68,100	
6	61,600	77,000	800	77,800	3,000,000	82,500	20,600	103,100	- 25,300	None	42,800	
7	67,200	84,000	500	84,500	3,000,000	82,500	20,800	103,300	- 18,800	None	24,000	
8	72,800	91,000	200	91,200	3,000,000	82,500	21,000	103,500	- 12,300	None	11,700	
9	78,400	98,000	100	98,100	3,000,000	82,500	21,200	103,700	- 5,600	None	6,100	
10	84,000	105,000	100	105,100	3,000,000	82,500	21,400	103,900	1,200	None	7,300	
11	89,600	112,000	100	112,100	3,000,000	82,500	21,600	104,100	8,000	None	15,300	
12	95,200	119,000	300	119,300	3,000,000	82,500	21,800	104,300	15,000	None	30,300	
13	100,800	126,000	600	126,600	3,000,000	82,500	42,000	124,500	2,100	None	32,400	
14	106,400	133,000	600	133,600	3,000,000	82,500	22,200	104,700	28,900	20,000	41,300	
15	112,000	140,000	800	140,800	2,980,000	81,950	22,400	104,350	36,450	20,000	57,750	
16	114,800	143,500	1,100	144,600	2,960,000	81,400	22,600	104,000	40,600	40,000	58,350	
17	117,600	147,000	1,100	148,100	2,920,000	80,300	22,800	103,100	45,000	40,000	63,350	
18	120,400	150,500	1,200	151,700	2,880,000	79,200	23,000	102,200	49,500	40,000	72,850	
19	123,200	154,000	1,400	155,400	2,840,000	78,100	23,200	101,300	54,100	60,000	66,950	
20	126,000	157,500	1,300	158,800	2,780,000	76,450	23,400	99,850	58,950	60,000	65,900	
21	127,200	159,000	1,300	160,300	2,720,000	74,800	23,600	98,400	61,900	60,000	67,800	
22	128,400	160,500	1,300	161,800	2,660,000	73,150	53,800	126,950	34,850	60,000	42,650	
23	129,600	162,000	800	162,800	2,600,000	71,500	24,000	95,500	67,300	60,000	49,950	
24	130,800	163,500	1,000	164,500	2,540,000	69,850	24,200	94,050	70,450	60,000	60,400	
25	132,000	165,000	1,200	166,200	2,480,000	68,200	24,400	92,600	73,600	80,000	54,000	
26	132,000	165,000	1,000	166,000	2,400,000	66,000	24,600	90,600	75,400	80,000	49,400	
27	132,000	165,000	1,000	166,000	2,320,000	63,800	24,800	88,600	77,400	80,000	46,800	
28	132,000	165,000	900	165,900	2,240,000	61,600	25,000	86,600	79,300	80,000	46,100	
29	132,000	165,000	900	165,900	2,160,000	59,400	25,200	84,600	81,300	80,000	47,400	
30	132,000	165,000	900	165,900	2,080,000	57,200	25,400	82,600	83,300	80,000	50,700	
31	132,000	165,000	1,000	166,000	2,000,000	55,000	55,600	110,600	55,400	80,000	26,100	
32	132,000	165,000	500	165,500	1,920,000	52,800	25,800	78,600	86,900	80,000	33,000	
33	132,000	165,000	600	165,600	1,840,000	50,600	26,000	76,600	89,000	80,000	42,000	
34	132,000	165,000	800	165,800	1,760,000	48,400	26,200	74,600	91,200	80,000	53,200	
35	132,000	165,000	1,000	166,000	1,680,000	46,200	26,400	72,600	93,400	100,000	46,600	
36	132,000	165,000	900	165,900	1,580,000	43,450	26,600	70,050	95,850	100,000	42,450	
37	132,000	165,000	800	165,800	1,480,000	40,700	26,800	67,500	98,300	100,000	40,750	
38	132,000	165,000	800	165,800	1,380,000	37,950	27,000	64,950	100,850	100,000	41,600	
39	132,000	165,000	800	165,800	1,280,000	35,200	27,200	62,400	103,400	100,000	45,000	
40	132,000	165,000	900	165,900	1,180,000	32,450	27,400	59,850	106,050	100,000	51,050	
41	132,000	165,000	1,000	166,000	1,080,000	29,700	27,600	57,300	68,700	100,000	19,750	
42	132,000	165,000	300	165,300	980,000	26,950	27,800	54,750	110,550	100,000	30,300	
43	132,000	165,000	600	165,600	880,000	24,200	28,000	52,200	113,400	120,000	23,700	
44	132,000	165,000	400	165,400	760,000	20,900	28,200	49,100	116,300	120,000	20,000	
45	132,000	165,000	400	165,400	640,000	17,600	28,400	46,000	119,400	120,000	19,400	
46	132,000	165,000	300	165,300	520,000	14,300	28,600	42,900	122,400	120,000	21,800	
47	132,000	165,000	400	165,400	400,000	11,000	28,800	39,800	125,600	120,000	27,400	
48	132,000	165,000	500	165,500	280,000	7,700	29,000	36,700	128,800	120,000	36,200	
49	132,000	165,000	700	165,700	160,000	4,400	29,200	33,600	131,100	120,000	48,300	
50	132,000	165,000	900	165,900	40,000	1,100	129,400	130,500	35,400	40,000	43,700	
		9,961,500	94,300	10,055,800		2,895,500	4,113,600	7,012,100		3,000,000		

Note: \*Includes \$1,200,000 for construction and \$4,000 for administration.  
\*\*Includes \$1,500,000 for construction and \$4,000 for administration.



CHEBEAGUE ISLAND BRIDGE COMMITTEE  
CHEBEAGUE ISLAND, MAINE.

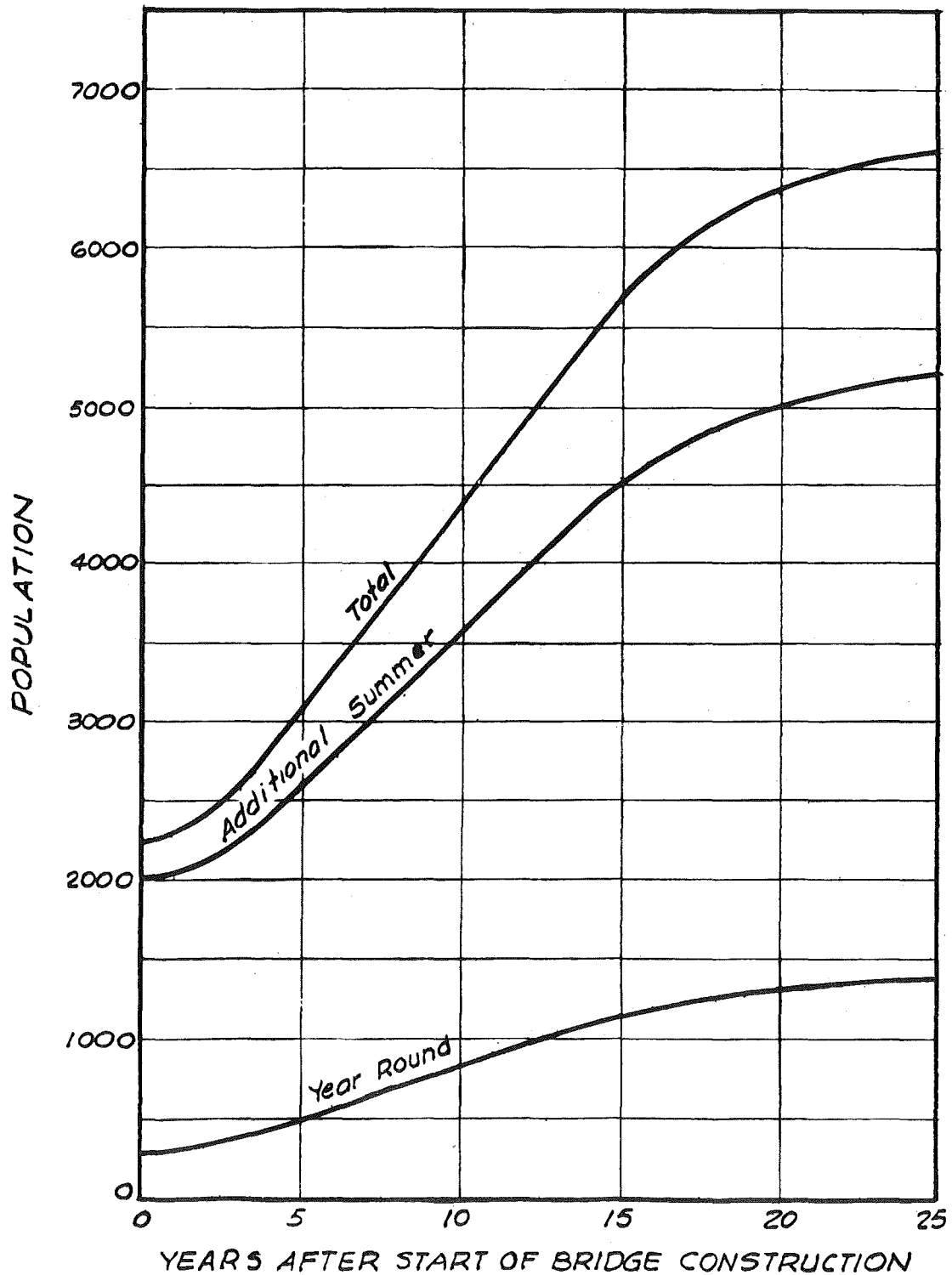
**MAINE TOLL BRIDGE VEHICULAR TRAFFIC  
AS A PERCENTAGE OF FIRST YEARS TRAFFIC**

SCALE: GRAPHIC

NOV. 1956

FAY, SPOFFORD & THORNDIKE, INC. BOSTON, MASS.

VI-40  
C-5



CHEBEAGUE ISLAND BRIDGE COMMITTEE  
CHEBEAGUE ISLAND, MAINE

**CHEBEAGUE ISLAND  
ESTIMATED POPULATION TRENDS**

SCALE: GRAPHIC NOV. 1956.  
FAY, SPOFFORD & THORNDIKE INC., BOSTON, MASS.