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New Bern, waking up at long last to the vast potential its tourist trade offers, has a great stake in the Lower Chesapeake Bay Bridge-Tunnel that will link the lower tip of the Delmarva Peninsula with the Hampton Roads-Norfolk area. It will eliminate the last water barrier on the popular Ocean Hiway, and speed Eastern Seaboard travel.

The two tunnels, each more than a mile long, that will form the underwater portions of the Lower Chesapeake Bay Bridge-Tunnel, literally will be built on shore and assembled under water.

In engineering terms they are known as trench-type tunnels—so named because the tunnel is constructed in a huge, open trench that is dredged across the bottom rather than bored through it. Giant, watertight sections of double-walled steel casing, prefabricated ashore on ways and launched like ships, are lowered one by one into the trench and joined together by divers, much like an underwater pipeline. Then construction crews, working toward the middle from opposite shores, progressively break through the bulkheads at the ends of the sections and complete the interior work under water.

Here is a sidewalk superintendent's preview of how it is being done in the case of the two underwater stretches of the Lower Chesapeake Bay Bridge-Tunnel—the Thimble Shoal Tunnel, 5,738 feet long, and the Baltimore Channel Tunnel, 5,450 feet long.

Under an inter-company agreement among the four contractors who are building the crossing as a joint venture, the two tunnels and four man-made islands linking them to the bridge sections will be constructed by Merritt-Chapman & Scott Corporation, of New York. Construction methods will be much the same as those used by Merritt to build two other trench-type crossings at Norfolk, Va — the Hampton Roads Tunnel (completed in 1957) and the first Elizabeth River Tunnel (completed in 1952).

Except for variations in distance and grade, Chesapeake Bay's two tunnels are identical in design. The core of both will be fashioned from sections of double-walled steel casings, each about 300 feet long, with an octagonal-shaped outer shell 37 feet wide and a circular shell 34 feet in diameter.

Thimble Shoal Tunnel, constructed beneath the channel that leads to the Ports of Hampton Roads, will require 19 sections; Baltimore Channel Tunnel, beneath the channel serving Upper Chesapeake Bay, will take 18.

Nearly 600 tons of structural steel will be used to build each tube section. They are being fabricated and assembled, complete with an inner webbing of reinforcing steel, under subcontract by American Bridge Division of United States Steel Corporation at Orange, Tex. As each is launched, it is towed 1700 miles to a special "shape-up" basin at Norfolk, where most of the outfitting is completed.

By the time the section is ready to be lowered to the bottom of the bay, the interior will have been lined with a solid layer of concrete and fitted with a roadway slab. It will also be equipped with pipelines for water supply and drainage, conduits for power and communications, ventilation ducts and flues, and electrical boxes and outlets. The open hatches along the top through which materials are lowered into the tube will then be sealed.

As a final step at the "shape-up" basin, carefully calculated tons of concrete will be placed between the outer and inner shells of the section until it is barely afloat. It is then floated to the tunnel site and shackled to a specially designed

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A TRIP TO LEARN—Pictured here, just before departure, are city officials and a cross-section of citizens who visited Norfolk to become enlightened on the gigantic urban renewal program there. Similar community improvement, on

a smaller scale, is visualized for New Bern, with financial assistance in prospect from the Federal government. Norfolk's mayor and other dignitaries gave the group a royal welcome.—Photo by Wray Studio.



AN ADDED SURPRISE—New Bernians who made the journey to Norfolk got a thrill they hadn't counted on. Their bus was permitted to venture three and one-half miles along a still-incomplete trestle to the first man-made island in Chesapeake Bay, where the Chesapeake Bay

Bridge and Tunnel is being constructed. Never before had a bus been allowed to motor to the island. Seen is Chief Engineer Leon Johnson giving the Mirror's editor some astronomical figures on the remarkable project.—Official Photo by Roy.