

## August 2023





## Harbor Bridge Project – Cable-Stayed Bridge (CSB) Update

August 2023 was filled with day and night activity on the CSB Towers as we transitioned and trained more crews in these specialized technical operations. Here is a recount of recent progress and milestones completed.

**South Tower:** 1) Completed Upper Tower Lift 12 of 20, reaching about 400 feet tall. 2) Installed a set of four temporary stay cables. The stays are 155 feet long from anchor to anchor and consist of 27 epoxy-coated steel strands fed two at a time through a steel plate inside the anchor box and secured with wedges while individually stressed to the desired force at the delta frame base. Temporary stays are encased in black high-density polyethylene pipe (HDPE). 3) Poured the second main/back span (MS/BS) median slabs. 4) Finished all drilled holes and grouted back reinforcement for the waterside footing extension. 5) Removed railroad track to begin work on the northbound footing for a temporary tower built to provide support during the deck construction after Stay 5 cable installation on the back span (landside) of the CSB.

**North Tower:** 1) Completed Upper Tower Lift 13 of 20, reaching about 417 feet tall. 2) Installed the first set of permanent stay cables. The stays are about 185 feet long from anchor to anchor and consist of 70 epoxy-coated steel strands fed two at a time through a steel plate inside the anchor box and secured with wedges while individually stressed to the desired force at the delta frame base. Permanent stays are encased in white HDPE. 3) Erected third pair of MS/BS delta frames. 4) Poured the third MS/BS median slabs. 5) Finished rebar reinforcing for the landside footing extension. 6) Began construction of the third (and last) derrick crane that will be stationary and utilized to lift segments onto the bridge deck once assembly is complete. 7) Completed rebar, poured footings, and erected the first two sections of northbound and southbound temporary towers built to provide support during the deck construction after Stay 5 cable installation on the back span of the CSB.

## More CSB Tidbits:

• As the initial spans advance over the ship channel and landside of the towers, more surface deck becomes available, with the north/southbound lanes taking shape. The additional workspace allows more crews to safely cycle through lifting segments and delta frames, pouring median slabs, and installing stay cables in a repetitive fashion that becomes more rhythmic with each span. Upper tower lift pours will continue day and night while span activity continues beneath.

• Once the third derrick cranes are installed on each tower deck, constructing each MS/ BS and running sets of four permanent stay cables (2-main/2-back) on each tower will take about three to four weeks.

• There will be 152 permanent stays, eight temporary stays, 698 MS/BS segments, and 84 delta frames installed to complete the CSB.

• Approximately 1000 spools of epoxy-coated strand, equivalent to 1,700 miles (distance from Corpus to Washington DC), are carefully staged and transported from our storage facilities to the bridge deck as needed.