



# COMMAND CENTER RELIABLY MONITORS TEMPERATURES IN HISTORIC BRIDGE REPLACEMENT

SPS New England needed to meet internal temperature and temperature gradient specifications in a historic drawbridge replacement project in Massachusetts. The equipment the team used in the past proved unreliable and time-consuming, so SPS New England decided to switch to COMMAND Center for mass placement and cold weather temperature monitoring on the project.



## The Goal: Reliable Temperature Monitoring

The historic Mitchell River drawbridge in Chatham, Massachusetts was one of the last remaining timber drawbridges in the US. After it was deemed structurally deficient, an extensive process for a new design began. The winning design incorporated the traditional materials along with newer, more durable materials. The new bridge is made with an engineered lumber superstructure and a steel and concrete substructure.

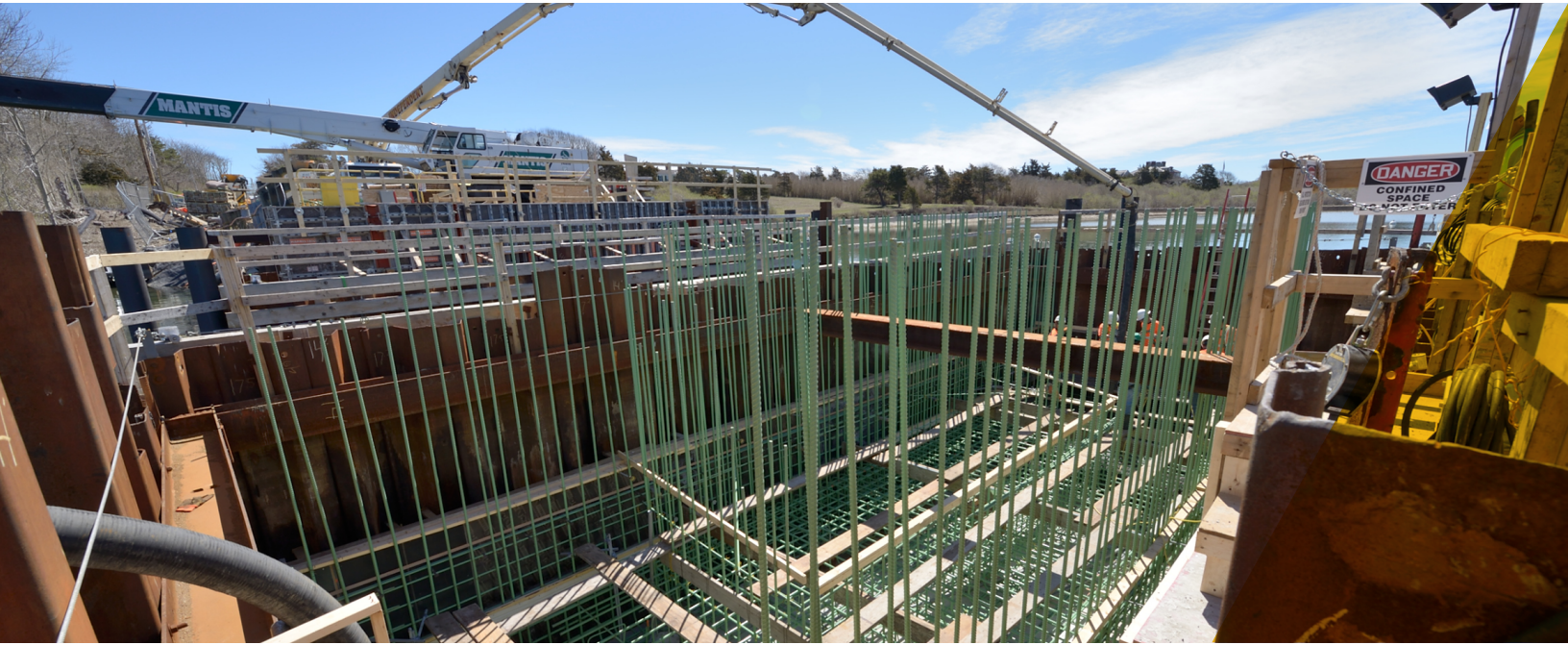
The project required multiple mass placement concrete pours—with the largest at 165 cubic yards—as well as cold weather placements. SPS New England was required to monitor the concrete's internal temperature and temperature gradients. Logging the temperature ensures the owner knows the placement conforms to their specifications.

MassDOT specifications say the maximum internal temperature for a mass placement is 154°F and the maximum differential is 38°F. SPS New England needed reliable data to show the project was meeting these specifications. Frustrated with thermocouples and USB dataloggers that were faulty and unreliable, SPS New England decided to use COMMAND Center on this bridge project.

## The COMMAND Center System

COMMAND Center helps construction firms like SPS New England collect reliable data to meet specifications and generate automatic reports. The system employs small sensors placed in poured concrete at the job site that automatically log temperature data at predetermined intervals. COMMAND Center sensors record and store the temperature data internally. Construction teams can download the data and use the free COMMAND Center software to generate reports of temperature history and temperature differential data for easy disbursement.

SPS New England implemented COMMAND Center when replacing the 195-foot-long, 41-foot-wide Mitchell River drawbridge. They used COMMAND Center to record and log temperature data to meet MassDOT's temperature specifications for mass placement and cold weather concrete pours.



## The Result: Reliable Data, Client-Friendly Reports, Time Saved

SPS New England used COMMAND Center sensors on all concrete parts of the bridge, including pier caps, footings, and retaining walls. They also used COMMAND Center to perform a test to build a hydration analysis. MassDOT requires a hydration analysis before mass placements to show if concrete will exceed maximum core or gradient temperatures. SPS New England's test showed they would not exceed maximum temperatures and thus would not need to develop a temperature control plan. They poured the larger mass placements in the winter to help avoid critical maximum temperatures.

George Andes, Assistant Project Manager for SPS New England, said one of benefits of using COMMAND Center was the reassurance of using a product they trusted and knew was going to work.

 “It’s reliable, easy to use, and our clients really like the reports that the software can generate.”

The team was able to provide data to the owner on a daily basis to prove they were reaching the temperatures required for cold weather curing. Andes said COMMAND Center software gave them the exact data the owner was looking for.

“The owners of the project really liked the output that COMMAND Center gave, and that’s huge for us to be able to give the client something they like looking at,” Andes said. “Plus, COMMAND Center makes it easy for us to provide.”

Andes said they also saw a significant time savings on field supervision staff because recording temperatures was much faster with COMMAND Center. Andes said they can now go out, take a full set of recordings, and generate reports in less than half the time it took before.

“I can’t say enough how reliable, easy to use, and time saving it is compared to what we’ve done in the past,” Andes said.

### GET STARTED TODAY

To learn more about how COMMAND Center can accelerate schedules and cut costs on your next construction project, visit [www.COMMANDCenterConcrete.com](http://www.COMMANDCenterConcrete.com) or call +1 (888) 451 6233.



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