

# PLACEMENT OF THE THIRD STAGE OF THE SELF-ANCHORED SUSPENSION SPAN (SAS) TOWER

The signature element that bestows “world-class” status to the new East Span of the San Francisco-Oakland Bay Bridge is the single 525-foot-tall tower of the Self-Anchored Suspension (SAS) Span. The tower, one of several unique elements to the new bridge, will echo the towers of the West Span while giving the SAS a unique profile.

The latest sections will bring the tower up to nearly three-quarters of its final 525-foot-tall height. From building the erection tower and tower crane to tipping up these 1.1-million-pound tower leg sections, this vertical construction has added a new dimension to the already astonishing and unprecedented engineering and construction that is synonymous with the seismic retrofit of the Bay Bridge.

The tower is made up of four independent steel legs, each of which is composed of five vertical sections. Cross bracing and shear link beams will connect the four legs. The shear link beams are designed to move independently of the tower to absorb seismic energy during an earthquake and to protect the tower from catastrophic damage. The damaged beams can be individually removed and replaced.

## ERECTING THE TOWER SECTIONS

The leg sections are floated on barges to the construction site and erected one at a time. The barge, equipped with rails, positions itself on the open east side of the erection tower.

Strand jacks positioned atop the erection tower lift the top of the tower segment, while a winch-assisted tipping cart stabilizes the bottom as it moves down the rails. The tower section is pivoted from a horizontal to a vertical position. The strand jacks then lift the segment off the barge and into position on top of the second stage segments.

For the latest information, visit [BayBridgeInfo.org/projects/sas-tower](http://BayBridgeInfo.org/projects/sas-tower)



## THE SAS TOWER BY THE NUMBERS

Stage 6: Elevation 525 ft (160.0M)

Stage 5: Elevation 495 ft (151.0M)

Stage 4: Elevation 480 ft (146.28M)

Stage 3: Elevation 374 ft (114.0M)

Stage 2 Elevation 272 ft (83.0M)

Stage 1 Elevation 165 ft (50.3M)

**101.7 feet** – Length of each leg in Lift 3

**551 tons (1.1 million pounds)** – Weight of each leg of Lift 3

**1,455 tons (2.9 million pounds)** – Lifting capacity of strand jack

**443 feet** – Elevation of the operator cab on the tower crane

**429 feet** – Elevation of the gantry on the erection tower

**374 feet** – Height of tower after third lift is in place

**525 feet** – Final height of tower when complete

**85 ft x 73 feet** – Dimensions of tower's footing box (marine foundation)

**21 feet** – Thickness of footing box

**13** – Number of concrete-filled steel piles supporting footing box

**196 feet** – Depth of piles anchored into bedrock

**Sather Tower at UCB**  
Elevation 307 ft (93.6M)

**Oakland Federal Building**  
Elevation 268 ft (82.0M)

**Coit Tower**  
Elevation 272 ft (83.0M)

