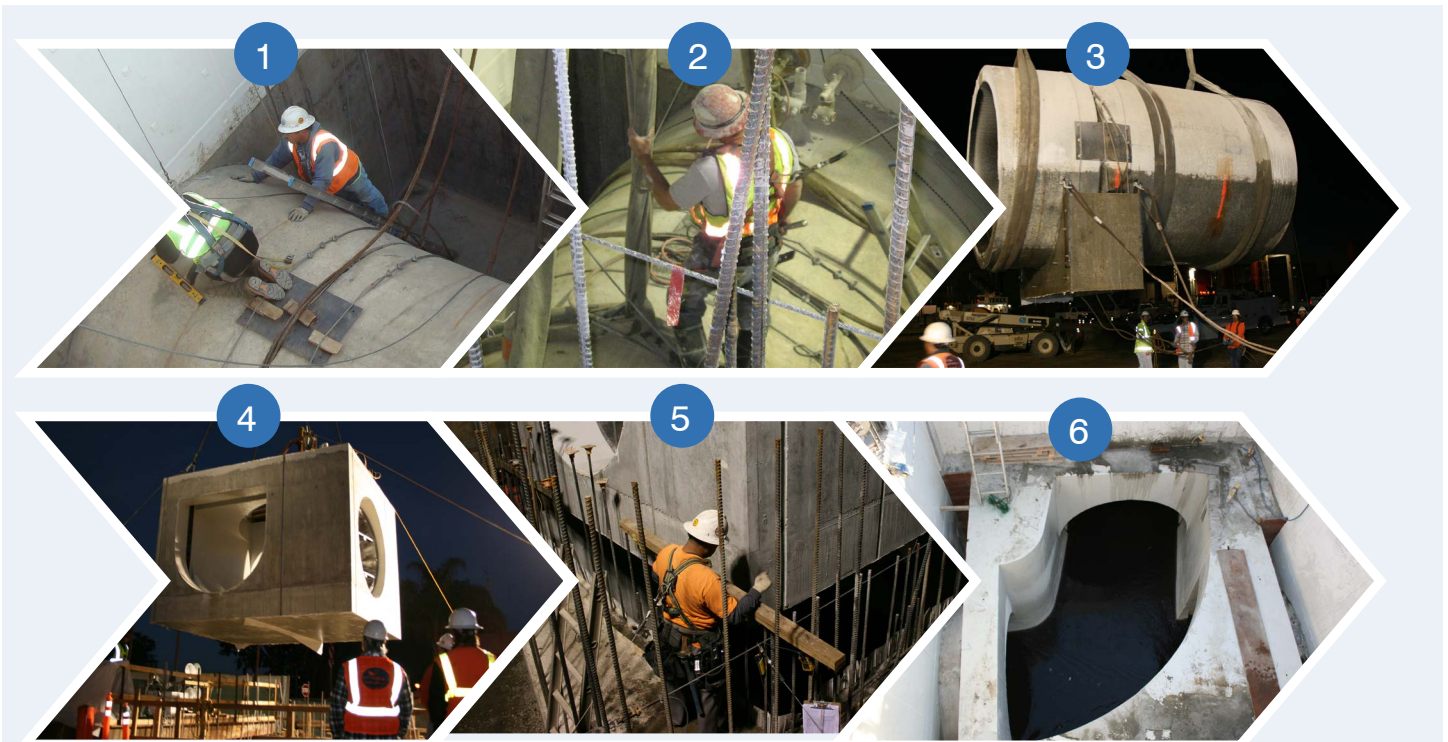


## Trunk Sewer Tie-ins

One of the major challenges of the project was how to intercept the five major trunk sewers entering the plant and connect them to the new headworks facility. Since bypass pumping was impractical because of the high flows and high risk, a concept to construct junction boxes around the live pipes and make live tie-ins was developed during design constructability review and implemented during construction. The live tie-in process was completed during the few hours of low flow in the early morning and is depicted in photos below. A unique feature of the junction box is a precast concrete insert that was designed to provide a smooth flow path and minimal headloss through the box. It was installed in the box after removal of the pipe and the space around it was filled with grout.



- 1 Junction box cast around existing reinforce concrete pipe trunk sewer.
- 2 Setting up slings and cable saws for cutting and removal of existing pipe.
- 3 Removal of existing 96" diam. pipe section from junction box during low flow.
- 4 106 ton precast reinforced concrete insert.
- 5 Placement of concrete insert after pipe section removal.
- 6 Junction box with diverted flow.