# Cawelo Pump Station Demonstrates EFCO's Solutions for Complex Utility Projects

Fresno, California

## Supporting California's Agricultural Heartland

In California's Central Valley, where agriculture drives the regional economy, reliable water infrastructure sustains thousands of acres of farmland and the communities that depend on them. The Cawelo Water District serves this agricultural heartland by treating water from oil production operations and redistributing it for irrigation throughout the region. When the district needed a new pump station in Wasco, California, the scope introduced significant geometric complexity. Strategic EFCO formwork planning and engineering enabled the project team to address these challenges efficiently, creating repeatable construction cycles that supported productivity and accuracy while keeping the project on schedule.

## Building on Partnership and Performance

W.M. Lyles Co., a California-based contractor with multiple offices throughout the state, took on the Cawelo Pump Station project through their Bakersfield location. While this marked the first collaboration between EFCO and W.M. Lyles Co., the contractor's lead foreman, Joel Garcia, brought familiarity with EFCO LITE® from previous projects. The project required a strategic combination of EFCO systems: *PLATE GIRDER*® formwork for exterior walls, EFCO LITE® for interior sections and finger walls, Round Column forms for curved end caps, SUPER STUD® with scaffold arms and pipe braces for stability, and E-Z DECK® shoring for the overhead lid. Working together, these systems enabled W.M. Lyles to cycle equipment efficiently between pours while maintaining the structural integrity needed for 17-foot-tall walls.

## Solving Tie Removal in Tight Spaces

The pump station's finger walls presented an engineering challenge that required creative problem-solving. These parallel walls, extending from the main structure, had such tight spacing that standard tie-removal methods proved impossible. When crews attempted to extract conventional ties after concrete placement, the long tie rods would strike the adjacent finger wall before clearing the formwork.



Tall walls mean high pressures. Learn how to pour these walls safely with EFCO's Concrete Pour Pressure Videos.




Multiple EFCO systems worked together to maximize efficiency while maintaining strength and stability throughout construction.

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EFCO's solution centered on she-bolt assemblies equipped with inner rods. This configuration allowed workers to remove ties from the narrow spaces without damaging either the formwork or the finished concrete surfaces, demonstrating how selecting the right hardware components directly impacts construction efficiency.

## Adapting Standard Systems to Complex Geometry

Rather than developing custom formwork for the pump station's varied wall configurations, the EFCO engineering team specified strategic combinations of standard catalog products. For exterior walls requiring dimensional flexibility, *PLATE GIRDER*® formwork provided the necessary adjustability. Interior sections and finger walls used EFCO LITE®, which provided the precision required for uniform concrete surfaces. At the finger wall terminations, round columns replaced what would traditionally require complex wood forming, eliminating field carpentry while delivering the curved end caps specified in the design. The cycling strategy allowed crews to pour one corner section and one straight wall section simultaneously, then move the same formwork to mirror positions for the second pour. For the overhead lid, E-Z DECK® shoring supported the concrete that enclosed the pump station chamber. Crews assembled EFCO LITE® forms into large gangs incorporating SUPER STUD® for alignment, scaffold arms for safe working platforms, and pipe braces for lateral stability. These preassembled units were constructed in a nearby staging area and then flown into position using a telehandler with sufficient reach to span over the excavation.

## Engineering Support That Delivers Results

EFCO's comprehensive engineering package went beyond equipment delivery to include detailed construction documentation that guided every phase of the project. Detailed erection drawings showed step-by-step gang assembly procedures, including bolt patterns, safety requirements, and pour sequences specific to the 17-foot wall heights. Pour charts specified exactly when each section needed to be placed to manage concrete head pressures on the tall walls, while pressure calculations ensured the formwork could safely contain the liquid concrete loads during placement and curing. This level of detail proved especially

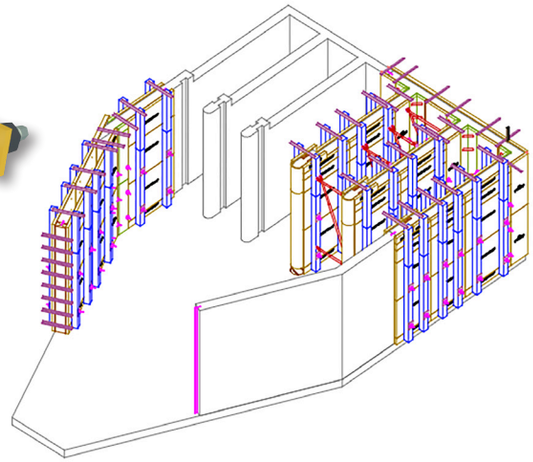


Round Column® forms replaced traditional wood framing to create curved end caps while eliminating time-consuming field carpentry.





She Bolt with Inner Rod



valuable given the tight site conditions that left little room for improvisation. With forms staged just yards from the pour location, crews needed to execute the assembly sequence correctly the first time. Responsive field support from EFCO's Fresno office—just one hour away—ensured that questions could be resolved quickly, keeping the construction schedule moving forward without costly delays or rework.

## Why W.M. Lyles Chose EFCO

W.M. Lyles selected EFCO for the Cawelo Pump Station because the project demanded more than rental equipment—it required an engineering partner capable of developing practical solutions to real-world construction challenges. By combining innovative problem-solving with standard catalog products rather than expensive custom formwork, EFCO delivered cost efficiency without compromising the precision needed. This approach exemplifies how EFCO consistently achieves the Lowest In-place Concrete Cost (LIPCC) through engineering expertise, responsive super service, and quality equipment designed for real-world adaptability. For contractors managing utility projects with complex geometries and tight schedules, the Cawelo Pump Station demonstrates that the right formwork partner turns technical challenges into construction advantages.

### EFCO EQUIPMENT

*PLATE GIRDER*®, SUPER STUD®, EFCO LITE®, E-Z DECK®

### EFCO FORMWORK SPECIALISTS - FRESNO

Cody O'Neil ..... Regional Manager
Andrew Huang ..... District Manager
Carlos Rodriguez ..... Territory Manager
Jorge Gonzales Ruiz ..... Engineer
Fernando Mendoza ..... Field Supervisor

### CONTRACTOR: W.M. LYLES CO.

Ryan Fowler ..... Assistant Project Manager
Gary Nicholson ..... Superintendent
Joel Garcia ..... Lead Foreman

