

CASE STUDY

PILOT TUBE METHOD | GUIDED AUGER BORING



Project Name:
DFW Runway 17C-35C Rehabilitation Project

Prime Contractor:
BorTunCo

Location:
Dallas Fort Worth Airport

Owner:
Dallas Fort Worth International Airport Authority

Ground Conditions:
Soft Sand, Clay, Marl and Peat

Akkerman Equipment:
GBM 240A Jacking Frame & Guidance System

Pipe:
24, 28 and 32-in. OD Steel Casing

Total Length/Longest:
3,945-lf./429-lf.

PROJECT OVERVIEW

The DFW Runway 17C-35C Rehabilitation project replaced 6,000-feet of runway, including resurfacing and a weather-resistant asphalt overlay, shoulder reconstruction, the addition of a new parallel high-speed taxiway, and upgraded runway status lighting and electrical as the primary objectives.

Minimization of closures and minimized disruption was pertinent to all construction goals for the project owner.

BorTunCo's contract included the installation of 3,945-feet of 24, 28 and 32-inch outside diameter steel casing pipes which were filled with 10-to 20-way, two-inch electrical conduits under the taxiways connecting to runway 17C/35C.

was viable and helped to identify differing ground conditions or obstructions. When the pilot tube string's steering head reached the reception shaft, steel casing installation commenced with the auger boring machine and a sequence of tooling. The use of the pilot tube system eliminated the risks associated with uncontrolled line and grade.

OUTCOME

- All 16 bores completed accurately, and ahead of schedule without disruption to airport activity
- Multiple crews and two shifts to contend with weather conditions for project completion in 93 working days

THE CHALLENGES

- 16 bores under runway 17C-35C's connecting taxiways
- Potential risk on longest bore of 429-lf.
- Average of five foot of cover above the pipe crown
- Limited allowable work zones
- Owner dictated construction sequences and schedules
- Daily airport security clearances required for the crew
- Atypical, seasonally difficult weather

THE SOLUTION

Guided auger boring was selected as the ideal means of installation for the casing. Installation of pilot tubes ahead of the steel casing served as a probing tool to confirm that the path of the bore

