

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER

2

21. TITLE AND LOCATION (City and State)

Greensburg Pike Bridge Replacement (TL06-3409) over Turtle Creek
Turtle Creek, PA

22. YEAR COMPLETED

PROFESSIONAL SERVICES
2012

CONSTRUCTION (if applicable)
On-going

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

Allegheny County

b. POINT OF CONTACT NAME

Steve Shanley, P.E.

c. POINT OF CONTACT TELEPHONE NUMBER

412 350-5877

AWK Consulting Engineers, Inc. was responsible for the geotechnical work coordination and inspection of multiple drill rigs during the subsurface investigation for the project; development of geotechnical and geochemical laboratory testing programs; performing various geotechnical analyses; evaluation of both shallow and deep foundation alternatives; and writing the geotechnical engineering reports for final design including design/build foundation guidance reports for the associated retaining walls at Abutment 2. The geotechnical analyses included; performing computerized slope stability calculations for earth slopes in landslide prone terrain; providing recommendations for roadway approach pavement design parameters; developing deep foundation single and multiple drilled shaft systems for the proposed bridge including associated negative skin friction conditions along with recommendations for load testing and drilled shaft inspection by cross hole sonic logging and utilizing a mini-SID inspection device; and developing the geotechnical design parameters for the retaining wall foundation design guidance reports to be utilized by the design/build contractor at the Abutment 2 location and southern roadway approaches to the bridge.

The new structure is a four span continuous, composite, steel plate girder bridge with span lengths of 100'-6" (Abutment 1 to Pier 1), 126'-6" (Pier 1 to Pier 2), 209'-6" (Pier 2 to Pier 3) and 226'-6" (Pier 3 to Abutment 2). It will span the Turtle Creek Floodway and multiple main lines of the Norfolk Southern Railroad. The spans will carry two (2) 12'-0" wide travel lanes, two (2) 8'-0" wide shoulders, two (2) 1'-6" wide bridge barriers, a 5'-0" wide sidewalk and a 1'-0" wide associated pedestrian railing for a total out-to-out

dimension of approximately 49'-0". Retaining Wall Nos. 1 And 2 at the Abutment 2 location of the bridge will be constructed under design/build contracts. The foundations for Abutments 1 and 2 consist of multiple drilled shafts connected by a concrete cap and socketed into bedrock. The single column for Piers 1 –3 are founded on a single drilled shaft socketed into bedrock. The geotechnical subsurface conditions particular to this project include deep alluvial soils in the vicinity of the Turtle Creek Floodway in addition to underlying relatively weak claystone bedrock, which necessitated drilled shaft lengths from approximately 85 to 120 feet in length and 3.0 to 9.5 feet in diameter. Also, the underlying weak colluvial soils in the vicinity of Abutment 2 and Retaining Walls 1 and 2 are landslide prone, which were accounted for in the design of Abutment 2 and the development of the design parameters for Retaining Wall Nos. 1 and 2 along with the associated temporary shoring system requirements



25. FIRM'S FROM SECTION C INVOLVED IN THIS PROJECT

(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a. AWK Consulting Engineers, Inc.	Pittsburgh, PA	Sub-Consultant
b.		
c.		
d.		