

# PROJECT PROFILE

## MANUFACTURING SITE DEVELOPMENT AND PERMITTING

Redland Brick, Inc. retained D'Appolonia to provide engineering and permitting services related to construction of a state-of-the-art brick making facility located within a 20-acre area bounded by Federal Emergency Management Agency (FEMA) defined flood plains and delineated wetland areas. The new brick making facility was located adjacent to their existing brick manufacturing plant and a raw material surface mine.

D'Appolonia performed a site assessment study to evaluate the economic feasibility for alternative site locations that incorporated the costs of raw material transport. The work included a structural evaluation of an existing railroad crossing above a concrete roadway tunnel and the parallel Deer Creek stream tunnel.

Upon selection of the site location, D'Appolonia developed a site grading plan that minimized, to the extent possible, wetland impacts and infringement of the FEMA defined flood plain. The building finished floor elevation was chosen to minimize flooding impacts and to provide the largest possible bench area for the building and for the exterior handling and storage of bricks.

A Joint Permit Application was prepared for the flood plain impacts related



*Aerial view of Redland Brick manufacturing plant in Allegheny County, Pennsylvania.*

to the raw material storage building fill placement adjacent to Little Deer Creek and to remediation of existing erosion behind the west wingwall of the stream tunnel. The Application included the results of wetlands delineation and alternatives analysis required for minor wetland impacts. This permit application was reviewed and approved by the Pennsylvania DEP.

An erosion and sedimentation control plan for the discharge of storm water during construction activities was prepared by D'Appolonia. This plan was reviewed and approved by the Allegheny County Conservation District.

Local municipal approval for the new plant required the preparation of a storm water management plan. The hydrologic analysis for the Little Deer Creek and Deer Creek Watersheds indicated that the release of storm water runoff from the plant site would occur prior to the peak watershed discharge. It was therefore concluded that there would be no impacts upstream or downstream of the site.

D'Appolonia prepared the Pennsylvania DEP Surface Mine Permit Application for the raw material surface mine, the new brick-making plant and the existing brick facilities. D'Appolonia also conducted design and permitting activities related to the various site utilities including water supply and sewerage.



*New structures and brick storage at the Redland Brick manufacturing plant.*