The Louisville Engineer District

by Charles Parrish

At the time of the Japanese attack on Pearl Harbor and the subsequent entry of the United States into World War II, the Corps of Engineers was caught up in the throes of reorganization. Only days before, the President had ordered merger of the Construction Division of the Quartermaster Corps into the Corps of Engineers. In December 1941, the Louisville Engineer District, then engaged in the initial phase of constructing several local flood protection projects, suddenly got responsibility for managing a crucial military construction mission, receiving perhaps its most demanding challenge ever. However, the district was not totally unprepared for this bold mission. The Corps had been assigned part of the airport construction program for the Civil Aeronautics Administration (CAA) in October 1940 and one month later was given the job of constructing installations for the Army Air Force to provide airfields and training schools for thousands of pilots.

The Louisville District's activities in the airfield construction program for the CAA involved projects at Kokomo, Indiana, and at Bowling Green and Paducah, Kentucky. In addition, the district had undertaken construction at Standiford Field in Louisville adjacent to land the county had made available to Vultee Aircraft Corporation and Curtiss–Wright Corporation for factories to produce aircraft. Initial work at Standiford Field, begun in June 1941, consisted of construction of runways, fencing, lighting, and drainage systems. Typically, a CAA project in the Louisville District consisted of construction of runways 150 feet wide and 3,900 feet long, with a limestone base and asphalt surface, together with auxiliary structures. Several of these airfields became the basis for large commercial airline operations after the war. The present terminal facilities at Standiford Field in Louisville evolved from such a beginning.

Early airfield construction activity for the Army Air Force in the district included Godman Field at Fort Knox and

Completed hangar for Air Corps operations, Godman Field, Fort Knox, Kentucky, 6 October 1941.

Bowman Field at Louisville. Originally used as a commercial airfield on the outskirts of Louisville, the Army Air Force took over Bowman Field in August 1940. The Louisville District constructed additional runways along with over 100 buildings allowing the field to serve as a supply depot, air crew and combat glider training base, and near the end of the war, as a convalescent hospital for wounded flyers. The Quartermaster Corps initiated work at Godman Field with Works Progress Administration (WPA) labor in 1940, and the district took over in 1941. It completed several runways 150 feet wide and 5,400 feet long for use by an observation squadron attached to the armor force at Fort Knox. In addition, it constructed a large aircraft hangar with observation tower that still serves certain base functions today.

The district's Navigation Branch administered the newly assigned military construction mission in the district until early 1942 when it set up a separate Military Branch to oversee the projects transferred from the Quartermaster Corps in 1941. The district carried out the transfer from the Quartermaster Corps rather smoothly; the general procedure was to appoint the former constructing quartermaster at the project location as area engineer. He reported to the district engineer.

The huge military mission meant substantial increases in personnel and adjustments in office space, requiring various district elements to relocate in buildings scattered throughout Louisville. As an indicator of rapid personnel turnover, by 1945 nearly 575 former district employees were serving in the armed forces, 5 of whom died while on active duty. The urgency of the military buildup required major reassignment of district personnel from civil works projects, resulting in their near suspension. In fact, in 1942 the only significant civil works activities under construction were flood protection projects at Paducah, Kentucky, and at Jeffersonville and Evansville, Indiana.

At each major project site, fiscal management was a prime concern with an internal organization set up to handle accounting. Project personnel reported to the Accounts and Audits Unit at the district office, and that unit prepared consolidated district fiscal reports. The scope of mission expansion reached nearly overwhelming proportions in 1942—the peak year for military construction in the district—when daily expenditures often exceeded $1 million, a figure nearly as much as the district had expended on civil works in an entire year prior to the start of flood control projects in the Ohio River basin. The district's accounts and audits unit prepared monthly cost analysis reports for the few civil works projects and for as many as 50 military projects.

The major mission of the Corps of Engineers in 1942 was in support of a national effort to train, house, and equip Army troops headed for the battlefields. Initially, the geographic boundary for military activity conformed closely to a district's civil works boundary, based on river drainage area. However, in late 1942 an administrative realignment was instituted to make Corps division military construction boundaries conform to Army Service Command boundaries. The Ohio River Division, which included the Louisville District, assumed construction responsibility for the Fifth Service Command headquartered in Columbus, Ohio. The Corps then transferred its division offices to that location. Army Service Commands generally followed state boundaries; therefore, the realignment meant a substantial increase in the geographic area of the Louisville District for military construction. The district took charge of certain airfield and ordnance plant

construction in Indiana while losing some projects in Illinois to the Chicago District. It did retain work at Chanute Field in Rantoul, Illinois.

In the early stages of the war, the Corps built many projects, particularly housing, according to standardized plans. However, each might have peculiar requirements for utilities placement. Generally, construction of military projects was initiated by a directive from the Office of the Chief of Engineers specifying the nature of work at a particular installation along with an allocation of funds. The Louisville District had a diversified military construction mission in World War II consisting chiefly of troop cantonment structures, munitions and ordnance plants, supply depots, airfields, hospitals, modification centers, and the renovation of buildings for special use.

In addition to airfield projects initiated in 1940 and 1941 for the CAA and Army Air Force, the district constructed and expanded additional airfields during World War II including two of particular note. In June 1942 construction began on the Air Force Advanced Twin Engine School at Seymour, Indiana. A massive venture, it consisted of construction of technical and operational buildings together with housing for a school of 380 officers, 475 cadets, 13 nurses, and 2,324 enlisted men. In addition, the district built Freeman Army Airfield, consisting of four runways and parking aprons and five auxiliary landing fields. The Corps completed the project within one year at a cost of $15 million. The Twin Engine School at Lawrenceville, Illinois, consisted of similar facilities, including George Army Airfield and three auxiliary fields. The Corps completed the project in late 1942 at a cost of around $10 million.

In addition, the Louisville District received several vast construction projects at Fort Knox and Camp Breckinridge, Kentucky, and Camp Atterbury and Fort Benjamin Harrison, Indiana, and continued work on various facilities at each of these installations throughout the war. The Corps added Camp Campbell, Kentucky, and Camp Thomas Scott at Fort Wayne, Indiana, to the Louisville District in late 1942. Initial mobilization construction at these bases involved the quick erection of frame barracks for troop housing, along with support facilities such as kitchens and mess halls, fire houses,

Additional housing for 1,325 enlisted soldiers, Camp Atterbruy, Indiana, 14 November 1942.

roads, warehouses, utilities, fencing, motor vehicle storage and maintenance areas, and in some instances, field exercise training areas.

Through able administration of construction contracts, the number of structures at Fort Knox tripled by the end of 1942. In addition to the typical cantonment facilities described above, as late as June 1945 the district constructed a training area at Fort Knox known as "Little Tokyo." It duplicated structures normally found in a Japanese village in order to familiarize invasion troops with what to expect in the event of a landing.

The Corps designed Camp Atterbury near Indianapolis and Camp Breckinridge near Morganfield as motorized, triangular division cantonments. Construction of initial basic facilities at Camp Atterbury consisted of 520 mobilization-type buildings and a semipermanent hospital on about 40,000 acres of land to house a division of 35,816 enlisted men and 1,642 officers. One contractor designed the camp while five contractors constructed it. An area engineer with a 53-member staff supervised the work. The Inspector General's report in April 1942 noted that at Camp Atterbury, "Work in place was well performed and materials being used were in compliance with contract requirements. Buildings and other structures showed evidence of careful inspection."

Semipermanent hospital buildings in various stages of completion, Camp Atterbury, Indiana, 25 April 1942.

Following construction of essential structures and utilities at Camp Atterbury, additional projects there consisted of an airfield, a gunnery range, and the alteration of the base hospital to a general hospital complete with classrooms, housing, recreation facilities, and laboratories for medical staff. At Camp Breckinridge and other troop training bases, the district completed similar construction programs.

To properly equip and arm American troops, the Corps of Engineers constructed a number of ordnance and munitions plants, some on a "crash" basis in preparation for the invasions in Europe and the strikes on the Pacific islands. The hurried projects of 1941 and 1942 tapered off during the next two years, but in 1945, ammunition requirements exceeded production, and a resurgence of munitions plant construction occurred. From 1941 to 1945 the Louisville District supervised the construction at numerous such facilities, some covering vast acreages and requiring hundreds of buildings.

Significant projects included: the Ohio River Ordnance Works, Henderson, Kentucky; Hoosier Ordnance and Indiana Ordnance, Charlestown, Indiana; Evansville Ordnance Plant, Evansville, Indiana; Bluegrass Ordnance Depot, Richmond, Kentucky; Fall Creek Ordnance, Indianapolis, Indiana; Vigo Ordnance Plant and Terre Haute Ordnance Depot, Terre

Construction and alterations to existing Village Fighting Course, Easy Gap area, Fort Knox, Kentucky, 3 July 1945.

Haute, Indiana; and Kingsbury Ordnance near La Porte, Indiana. District personnel also oversaw construction of many related projects such as ordnance testing facilities at Jefferson Proving Ground near Madison, Indiana.

Several projects typify the general character and scope of the district's work at ordnance and munitions plants. Activity at the Ohio River Ordnance Works consisted of the design, engineering, construction, and preparation of production equipment for the manufacture of anhydrous ammonia on an 832-acre site. Construction began in late April 1941 and was completed in September 1942 ahead of schedule. The project was constructed within the original cost estimate in spite of inflationary rises in material costs, the added cost of increased security after the declaration of war, and extensive use of overtime charges. Buildings at the plant were of a temporary nature (five-year life). The plant had a production capacity of 150 tons of liquid anhydrous ammonia per day.

Indiana and Hoosier Ordnance Plants were located close to each other in Clark County along the Ohio River. Indiana Ordnance was a vast $75 million facility for the production of smokeless powder. The E.I. Dupont de Nemours Company constructed the plant in 1941 and placed it in operation in

early 1942. Said to be the largest powder-producing plant in the world, its six production lines each had a capacity of 100,000 pounds per day. The district built a variety of structures there, and in 1945 used German prisoners of war to construct a plant for the production of rocket powder. Also completed in 1942, Hoosier Ordnance was designed for loading artillery powder charges.

At Evansville, the ordnance project consisted of renovation of a Chrysler Corporation plant and construction of facilities for the production of .45-caliber ammunition. Vigo Ordnance, completed in 1942, supplied shell detonators and primers to the military. Fall Creek Ordnance produced armor plate. Another project exemplifying the diversity of the district's military mission was construction of the Jefferson Proving Ground. The proving ground tested ammunition, artillery, bomb components, and pyrotechnics.

Other important facilities in the military buildup included hospitals and associated structures. The Louisville District constructed several such large-scale projects. Work at Billings General Hospital at Fort Benjamin Harrison involved construction of a 1,060-bed hospital, a medical technician school, and a field hospital unit. Construction of the 70-building complex began in 1941 and was completed in November 1942 although it opened its doors for service in June. The district leased Darnell General Hospital at Danville from the Commonwealth of Kentucky and converted it to military use in 1942. The same year, the Corps built Nichols General Hospital at Louisville, a multistructure facility with a 1,000-bed capacity. It constructed buildings with a five-year life expectancy that were still in use in the late 1960s, although not by the district.

Although work at the munitions plants proceeded throughout the war, the military construction program of the district began to taper off in 1944–45. In 1944 the district centralized its military program to reduce administrative costs. It closed some of the area engineer offices at major projects and provided construction inspection to projects in Kentucky by mobile teams from the Louisville Office. An area engineer office at Columbus, Indiana, provided inspection teams to projects in that state.

By 1944, the Army Corps of Engineers had proven its construction and management expertise, leading General Eugene Reybold, Chief of Engineers, to declare that by 1943 the Corps "could move the Army and the Air Force any damn place there were Germans and Japs to destroy; whether it meant building a truck road around the Himalayan Hump, rebuilding wrecked ports of Italy, or ferrying heavy tanks across the flooded river. We were the men who could do it, because, by God, we were getting it done."

One special assignment illustrates the relentless pressures on the district in the construction program. On a Friday the district received notification that German prisoners would arrive in Indiana the following Tuesday, and that two internment camps had to be ready for occupancy by their arrival. Specifications for each camp called for tent platforms, mess halls, security fencing, water supply, and sewage facilities. Personnel worked long hours over the eventful weekend and completed the two camps within the 72-hour period.

During the war the district functioned in a near emergency status, led by aggressive and capable district engineers, Colonels Henry Hutchings, Jr., Henry F. Hannia, Jesse A. Veal, and Gilbert Van B. Wilkes. The district constructed mammoth works under orders which called for completion in 30, 60, or 90 days, and in the face of labor, material, and equipment shortages. The district workforce persevered, using available materials, employing large numbers of women to supplement the office staff, and even resorting to the use of prisoners of war to complement the labor force. With such constraints, the district accomplished the largest construction program in its history.

Sources for Further Reading

The major source of data for this essay is Leland R. Johnson, *The Falls City Engineers: A History of the Louisville District Corps of Engineers United States Army* (Louisville, Kentucky, 1975).

National Archives Records Group 77 contains construction completion reports for numerous military installations.

A helpful general source on Corps construction in World War II is Lenore Fine and Jesse A. Remington, *United States Army in World War II. The Technical Services. The Corps of Engineers: Construction in the United States* (Washington, DC: Office of the Chief of Military History, 1972).