

Executive Summary

Since the early 1940s, the area now known as the Strother Field Industrial Park Superfund site has played an important role in the history and commerce of Cowley County, Kansas. During World War II, the U.S. Army Air Corps used the area as an air base and flight training facility. Following the war, it became a bustling industrial park and municipal airport. Military and industrial activities and waste disposal practices resulted in the contamination of area soil and groundwater. Potentially responsible parties (PRPs) worked with the U.S. Environmental Protection Agency (EPA) and state officials to ensure the safe commercial and industrial use of the site, during and after cleanup.

Today, the area is home to the Strother Field Airport and Industrial Park. The industrial park supports a wide variety of commercial and industrial businesses, as well as organizations and agencies that provide public and social services to the community. This case study explores the area’s cleanup, reuse and continued use, illustrating the opportunities and beneficial effects of Superfund redevelopment in action.

Beneficial Effects

- Twenty-seven commercial, industrial and public service businesses and organizations are currently active at the site.
- Site businesses employ about 1,270 people, providing annual employment income of over \$53 million to the community.
- In 2014, site properties generated about \$176,000 in tax revenues and had an estimated property value of nearly \$20 million.

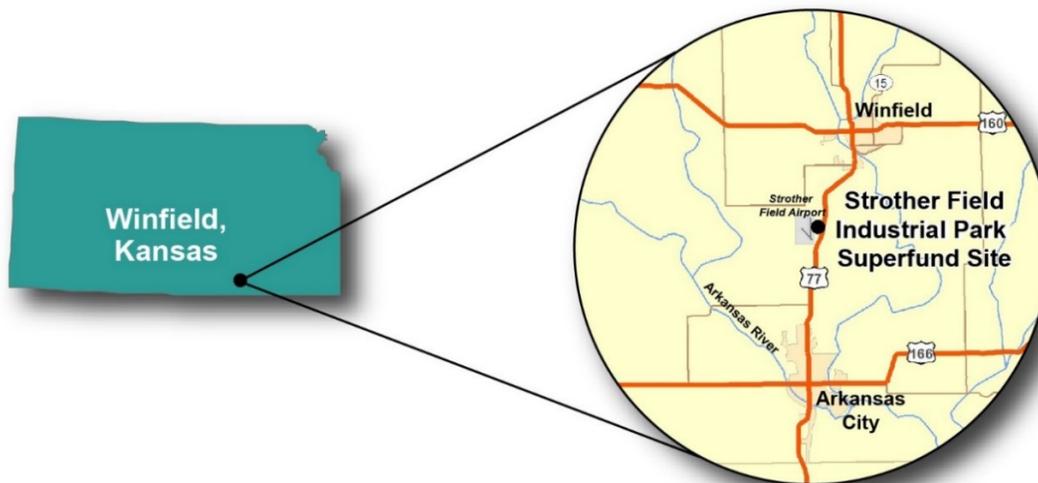


Figure 1. The site’s location in Winfield, Cowley County, Kansas.

Introduction

Site restoration and reuse can revitalize a local economy with jobs, new businesses, tax revenues and spending. Cleanup may also take place while there are active land uses on site. This case study captures the beneficial effects of the continued use and redevelopment at the Strother Field Industrial Park Superfund site.

The site occupies about 2.25 square miles between Winfield and Arkansas City in Cowley County, Kansas. It is located immediately west of U.S. Highway 77. Agricultural lands surround the site to the north, south and west. The village of Hackney and the Hackney Agricultural Cooperative (a farmer's cooperative) are located east of the site. The site includes the Strother Field Airport and Industrial Park. About 2,300 people live within a 3-mile radius of the site.

Site History

The cities of Arkansas City and Winfield purchased the site property to build a municipal airport in 1940. Work had already begun on the air strip in 1942 when the U.S. Army Air Corps asked the cities to purchase additional land and lease the property to the federal government for use as a military air base. Later that same year, the U.S. Army Air Corps began leasing the property. The Army constructed an air base and operated a basic flight training school and fighter pilot training facility at the site from 1942 until 1945. At its height, 3,400 Army Air Force personnel and 400 civilian employees worked at the Strother Army Air Field.

As World War II drew to a close, the training base became unnecessary. The Army deactivated the Strother Army Air Field in July 1945 and used it as an auxiliary field until the war officially ended six months later. In 1946, the Army returned the land, with improvements, to Arkansas City and Winfield. The cities then developed the site into an industrial park. Many of the structures built by the Army during World War II are still in use by current tenants on site.

Site activities in the 1940s included aircraft construction and maintenance. These Army operations included the use of solvents and the disposal of industrial wastes and solvents at two former onsite landfill areas. Additional site activities included the generation and storage of hazardous wastes and the use of above ground and underground storage tanks to store fuel. Later, industrial park tenants used paint thinners and strippers, degreasers and cleaning compounds in their industrial operations.

In August 1982, the Kansas Department of Health and Environment (KDHE) detected dissolved organic solvents in water supply wells at the site. Over the next several years, KDHE directed several additional investigations and monitoring programs to better assess site conditions.



Figure 2. Strother Army Air Field in the 1940s. Image source: All photos above are courtesy of the Cowley County Historical Society Museum.

Site Cleanup – Protecting Human Health and Supporting New and Continued Uses

Site tenants originally obtained water from downgradient wells along the site's eastern boundary. The nearby community of Hackney and the Hackney Agricultural Cooperative also obtained water from wells east of the site. Following the discovery of volatile organic compounds (VOCs) in these wells in 1982, the property owner, the Strother Field Commission, provided clean drinking water to affected areas by truck. The Commission later installed four wells upgradient of the groundwater contamination to provide a safe and permanent supply of drinking water to the area.

In 1985, General Electric (GE), one of the site's PRPs, installed groundwater extraction wells and air stripping towers to remove VOCs from the groundwater under an Administrative Order with KDHE. EPA added the site to the Superfund program's National Priorities List (NPL) in May 1986.

In 1990, GE entered into an agreement with KDHE to fully assess site contamination and explore possible cleanup options. GE's investigation determined that previous activities and waste disposal practices contaminated area soil and groundwater with VOCs. Activities at several different site areas resulted in five separate plumes of contaminated groundwater.

EPA selected a cleanup plan to address soils and groundwater contamination in the site's 1994 Record of Decision (ROD), and later updated the plan in the site's 1998 Explanation of Significant Differences (ESD). Throughout the cleanup process, EPA regularly met with site stakeholders to share information and bring community feedback into the Superfund process. Cleanup included pumping and treatment of the most highly contaminated groundwater, and monitoring the natural breakdown of other groundwater contamination over time. The pumping of contaminated groundwater also helps contain the plumes, preventing the movement of contaminated groundwater beyond the site's boundaries.

Cleanup also included covering two areas of contaminated soil with asphalt caps. The caps stop rainwater from moving down through contaminated soil and further contaminating the groundwater beneath. The two capped areas cover a small footprint and are located at the southern end of the site, near the facility now occupied by Greif Brothers Corporation (Figure 3). Due to the location of the areas, capping activities did not impact ongoing business operations at the facility. Groundwater use restrictions protect human health by preventing the use of site groundwater for drinking purposes. The Strother Field Commission and other PRPs cleaned up the site between 2002 and 2008. EPA documented the successful completion of all soil cleanup activities in a 2008 Remedial Action Report.



Figure 3. The Strother Field Industrial Park Superfund site and on-site businesses.

Beneficial Effects

The non-invasive nature of the selected remedy enabled the continued operation of the Strother Field Airport and industrial park businesses with no impact on business operations. The selected remedy also protects human health and the environment while making new development possible. What was once a busy flight-training base is now a thriving industrial park home to several industrial, aviation and public service businesses?

Today, 27 site businesses support about 1,270 jobs and contribute over \$53.2 million in annual employment income to the community. Together, new and long-time businesses at the site bolster the region's economy, provide valuable services to the community, and help generate local and state sales and property tax revenues. The section below describes the specific beneficial effects of several businesses at the site.

General Electric Aviation Services

This manufacturing plant develops advanced aviation technology and manufactures airplane parts for private companies and the military. It provides over \$28 million in estimated annual employment income.

Cowley County Economic Development Partnership

The Cowley County Economic Development Partnership, also referred to as Cowley First, is a partnership between Cowley County, City of Arkansas City and the City of Winfield. Funded by the three government entities and a host of local business partners, this onsite business represents and serves the entire county. Cowley First focuses on economic and community development. This county-wide partnership focuses on the retention and expansion of existing businesses, supporting local entrepreneurs and attracting new businesses and industries to the area. Cowley First hosts workforce and professional development classes and offers development incentives to qualified business and industries considering moving to Cowley County.

Western Industries

Operating in a 66,633-square-foot facility, Western Industries' KSQ Division is a manufacturer of premium, private label finished products, and metal and large plastic components. It serves the appliance, outdoor living, recreational goods and select industrial markets. The company provides nearly \$6.7 million in estimated annual employee income.

Morton Buildings

Morton Buildings specializes in post-frame construction buildings, including residential, agricultural, equestrian, commercial and community structures. This on-site business branch operates as a shipping center. It provides over \$3.4 million in estimated annual employee income. Estimated 2014 sales reached \$20 million.



Figure 4. GE Aviation Services is the site's largest employer.



Figure 5. Western Industries, KSQ Division.



Figure 6. Morton Buildings operates this shipping center at Strother Field Industrial Park.

Strother Field Commission – Strother Field Airport and Industrial Park

The Commission is made up of representatives from the City of Winfield and Arkansas City. The Strother Field Airport and Industrial Park are jointly owned by the two cities and managed by the Commission. The general aviation airport recently completed a \$1.75 million runway improvement project, making it one of the most modern small airports in the Midwest. The airport has two lighted, pilot-controlled runways and provides self-service aviation fuel. This municipal airport is an important regional transportation asset, supports the operation of several industrial park businesses, and also serves as a location for pilot flight instruction. The facility contributes over \$330,000 in estimated annual income to the community. Total 2014 sales reached \$410,000.

Winfield Consumer Products

Operating under the common name of “Husky Liners,” Winfield Consumer Products manufactures custom-fit floor liners, including front seat, rear seat and cargo area liners. Operating in a 167,000-square-foot facility, the company contributes over \$4.3 million in estimated annual employee income to the community. Estimated 2014 sales exceeded \$56 million.

Ark Valley Distributing (Budweiser)

This distribution company is one of the largest businesses in Kansas to utilize solar energy. According to the National Renewable Energy Laboratory, of states with the greatest energy potential from solar power, Kansas is ranked eighth. In 2014, the business decided to take advantage of the area’s ample supply of sunshine and solar tax incentives, and installed solar panels at its facility to help reduce the company’s overall environmental impact. The solar array is expected to reduce the company’s carbon footprint by 56 metric tons a year, the equivalent of planting 46 acres of mature forest.¹ This business is a role model for environmental sustainability and also provides over \$561,000 in estimated annual employee income. Estimated 2014 sales reached \$1.6 million.

Columbia Elevator Solutions

Operating out of an 80,000-square-foot facility, Columbia Elevator Solutions designs, manufactures and markets architectural cabs, entrance and door systems, and replacement parts for the North American elevator industry. It provides nearly \$2 million in estimated annual employee income. Estimated 2014 sales exceeded \$15.8 million.



Figure 7. The Strother Field Commission



Figure 8. This Budweiser distribution business uses solar power to help minimize its carbon footprint.

¹ Information from: Sydney Bland. “Ark Valley Distributing, Inc. Going Green.” September 14, 2014. http://www.arkcity.net/news/local_news/ark-valley-distributing-inc-going-green/article_8e1bdcfc-2427-11e4-b5e4-001a4bcf887a.html.

Greif Brothers Corporation

This packaging and container manufacturing company is a leader in sustainable industrial packaging products and services. Greif is committed to minimizing the impact of business operations on the environment through the innovation and implementation of methods and processes that are socially responsible and economically sound. For example, the business strives to reduce waste throughout product design and manufacturing while minimizing consumption of natural resources and using environmentally responsible materials. The business also performs life cycle assessments to better understand the environmental impacts of its products. Operations at its on-site facility provide nearly \$2 million in estimated annual employee income. Estimated 2014 sales reached \$10 million.

Four County Mental Health & Counseling Center

The Four County Mental Health & Counseling Center is a private, non-profit community mental health center serving the southeast Kansas counties of Chautauqua, Cowley, Elk, Montgomery and Wilson. Established in 2004, the center provides over \$1.2 million in estimated annual employee income.

Signpast

This business specializes in the reproduction of vintage steel signs. It provides over \$44,000 in estimated annual employee income. Total 2014 sales reached \$140,000.



Figure 9. The Four County Mental Health & Counseling Center provides valuable social services to the community.

Property Values and Tax Revenues

On-site properties help generate property tax revenues that support local government and public services. Today, the site properties have a combined value of nearly \$20 million. In 2014, the properties generated over \$176,000 in total property tax revenue. On-site businesses that produce retail sales and services also generate tax revenues through the collection of sales taxes, which support state and local governments.²

Future Site Use

Located in the center of the United States and just a short hop from Wichita – the “Aviation Capital of the World” – Strother Field Industrial Park remains a vital resource for aviation and industry. The site’s proximity to major transportation routes makes it an ideal location for new businesses, as well as for those looking to expand or relocate facilities. Extensive site infrastructure, including natural gas, electricity, water and sewer, also makes the industrial park an attractive location for a wide range of commercial and industrial businesses. The Cowley County Economic Development Partnership is actively marketing undeveloped lots and building space currently available for sale and lease at the site. Looking forward, EPA will continue to work with stakeholders to support protective reuses and continued uses, and ensure the long-term stewardship of the remedy.

² The Kansas retailers’ sales tax, or Kansas use tax rate, is a combination of the state rate of 6.50 percent plus any local tax percentage levied by a county or a city. The combined sales tax rate in Winfield is 8.15 percent. For more information, see the Kansas Sales & Use Tax Jurisdiction Code Booklet, available from the Kansas Department of Revenue at <http://www.ksrevenue.org/pdf/pub17001015.pdf>.

Conclusion

Cooperation among EPA, the state and PRPs has been key to the successful cleanup, reuse and continued use of the Strother Field Industrial Park Superfund site. Cleanup was compatible with the continued operation of several site businesses and set the stage for new development in the future. Today, the site is an important commerce and transportation hub for the area and surrounding cities. It supports a wide variety of commercial and industrial businesses, as well as organizations and businesses that provide valuable public and social services to the community. On-site businesses also support local economic growth, providing about 1,270 jobs and over \$53 million in estimated annual employee income.

*For more information about EPA's Superfund Redevelopment Initiative (SRI), visit:
<http://www.epa.gov/superfund-redevelopment-initiative>.*



www.epa.gov

Reuse and the Benefit to Community Strother Field Industrial Park Superfund Site

Technical Appendix

Employment Information for On-site Jobs

Information on the number of employees and sales volume for on-site businesses came from the Hoovers/Dun & Bradstreet ([D&B](#)) database. EPA also gathered information on businesses and corporations from D&B. D&B maintains a database of over 225 million active and inactive businesses worldwide. Database data include public records, financials, private company insights, extensive global information, telephone numbers and physical addresses. The Data Universal Numbering System (DUNS) number is a unique nine-digit identification number assigned by D&B to each business and its location within the database for identifying each business. When Hoovers/D&B database research could not identify employment and sales volume for on-site businesses, EPA used the [Manta](#) database. Both databases include data reported by businesses. Accordingly, some reported values might be underestimates or overestimates. In some instances, business and employment information came from local newspaper articles. While sales values typically exceed estimated totals of annual income, sales can sometimes be lower than estimated income. This could be attributed to a number of business conditions and/or data reporting. Data included in this Technical Appendix are obtained directly from reputable sources, and reported as presented by those sources.

Wage and Income Information for On-site Jobs

EPA obtained wage and income information from the U.S. Bureau of Labor Statistics (BLS). Part of the U.S. Department of Labor, the BLS is the principal federal agency responsible for measuring labor market activity, working conditions and price changes in the economy. Its mission is to collect, analyze and disseminate essential economic information to support public and private decision-making. All BLS data meets high standards of accuracy, statistical quality and impartiality.

EPA used the BLS Quarterly Census of Employment and Wages database to obtain average weekly wage data for businesses at the Strother Field Industrial Park Superfund site. Average weekly wage data were identified by matching the North American Industry Classification System (NAICS) codes corresponding with each type of business with weekly wage data for corresponding businesses in Cowley County. If weekly wage data were not available at the county level, EPA sought wage data by state or national level, respectively. In cases where wage data were not available for the six-digit NAICS code, EPA used higher-level (less-detailed) NAICS codes to obtain the wage data.

To determine the annual wages (mean annual) earned from jobs generated by each of the selected businesses at the Strother Field Industrial Park Superfund site, EPA multiplied the average weekly wage figure by the number of weeks in a year (52) and by the number of jobs (employees) for each business.

Table 1. Strother Field Industrial Park Superfund Site: Information for On-Site Organizations and Businesses

On-site Business	NAICS Code ^a	NAICS Title	Number of Employees ^b	Average Weekly Wage (2014) ^c	Annual Wage (Mean Annual) per Employee	Total Annual Income ^d	Annual Sales (2014) ^b
Aero Completions LLC	488119	Other Airport Operations	16 ^e	\$1,594	\$82,888	\$1,326,208	\$100,000 ^{e,f}
Ark Valley Distributing Inc. (Budweiser)	424810	Beer and Ale Merchant Wholesalers	12	\$900	\$46,800	\$561,600	\$1,600,000
Arkansas City/ Winfield Recycling Center	924110 ^g	Administration of Air and Water Resource and Solid Waste Management Programs	1 ^e	\$643	\$33,436	\$33,436	NA
B Four Flying Inc.	481219	Other Nonscheduled Air Transportation	2	\$994	\$51,688	\$103,376	\$500,000
BMK Sandblasting	238990	All Other Specialty Trade Contractors	5	\$439	\$22,828	\$114,140	\$600,000
Columbia Elevator Solutions	423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	33	\$1,103	\$57,356	\$1,892,748	\$15,870,000
Cowley County Economic Dev Partnership (Cowley First)	921110	Executive Offices	2	\$483	\$25,116	\$50,232	NA
Cowley County (Four County) Mental Health & Counseling Center	624190	Other Individual and Family Services	67	\$347	\$18,044	\$1,208,948	\$2,200,000
Eccell-Buden	999990	Unclassified Establishments	1 ^e	\$945	\$49,140	\$49,140	NA

On-site Business	NAICS Code ^a	NAICS Title	Number of Employees ^b	Average Weekly Wage (2014) ^c	Annual Wage (Mean Annual) per Employee	Total Annual Income ^d	Annual Sales (2014) ^b
GE Engine Services, LLC	811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic Repair and Maintenance)	654 ^h	\$825	\$42,900	\$28,056,600	\$10,000,000 ^{e,f}
Greif, Inc. (Greif Brothers)	332439	Other Metal Container Manufacturing	40	\$878	\$45,656	\$1,826,240	\$10,000,000 ^e
IUE-CWA Local 1004	813930	Labor Unions & Similar Labor Organizations	10 ^e	\$382	\$19,864	\$198,640	NA
Kansas Department of Revenue (Kansas Driver's License Station)	926120 ^e	Regulation and Administration of Transportation Programs	NA	\$819	\$42,588	NA	NA
Landing Strip	722511	Full-service Restaurants	5 ^e	\$291	\$15,132	\$75,660	NA
Liberty Engine Solutions LLC	423860	Transportation Equipment and Supplies (except Motor Vehicle) Merchant Wholesalers	4	\$1,027	\$53,404	\$213,616	\$310,000
Morton Buildings, Inc.	332311	Prefabricated Metal Building and Component Manufacturing	72	\$914	\$47,528	\$3,422,016	\$20,000,000 ^e
O&P Heartland	561499	All Other Business Support Services	1 ^e	\$737	\$38,324	\$38,324	\$500,000 ^e
QP Distribution	561910 ^g	Packaging and Labeling Services	NA	\$387	\$20,124	NA	NA
Range Oil Co Inc.	211111	Crude Petroleum and Natural Gas Extraction	2	\$1,328	\$69,056	\$138,112	\$1,000,000 ^e
Signpast	423990	Other Miscellaneous Durable Goods Merchant Wholesalers	1	\$853	\$44,356	\$44,356	\$140,000

On-site Business	NAICS Code ^a	NAICS Title	Number of Employees ^b	Average Weekly Wage (2014) ^c	Annual Wage (Mean Annual) per Employee	Total Annual Income ^d	Annual Sales (2014) ^b
Strother Field Commission (Strother Field Airport & Industrial Park)	488119	Other Airport Operations	4	\$1,594	\$82,888	\$331,552	\$410,000
Tru Position Automation, Inc.	326199	All Other Plastics Product Manufacturing	3	\$802	\$41,704	\$125,112	\$10,000 ^f
Twin Rivers Developmental Supports, Inc.	623220	Residential Mental Health and Substance Abuse Facilities	58	\$522	\$27,144	\$1,574,352	\$3,760,000
Vector Technologies Inc.	333514	Special Die and Tool, Die Set, Jig and Fixture Manufacturing	18	\$833	\$43,316	\$779,688	\$3,250,000
Western Industries, Inc. (KSQ Division)	326199	All Other Plastics Product Manufacturing	160	\$802	\$41,704	\$6,672,640	NA
Winfield Consumer Products, Inc. (Husky Liners)	423120	Motor Vehicle Supplies and New Parts Merchant Wholesalers	100	\$841	\$43,732	\$4,373,200	\$56,390,000
Winfield Enterprises LLC	525920	Trusts, Estates, and Agency Accounts	2	\$650	\$33,800	\$67,600	\$88,000
Total			1,273			\$53,277,536	\$126,728,000

a NAICS code provided in the D&B database, unless otherwise noted.

b Data are from the D&B database, unless otherwise noted.

c Average weekly wage per employee based on BLS 2014 Average Weekly Wage data.

d Total annual income figures derived by multiplying "Number of Employees" by "Annual Wage (Mean Annual) per Employee."

e Value provided by Manta.

f While sales values typically exceed estimated totals of annual employee income, annual reported sales can sometimes be lower than estimated annual income. This atypical condition of estimated income exceeding sales can be a result of business conditions, estimated business wages not accurately reflecting actual wages for the site-specific business, annual sales being under-reported, a business loss for the year, or a combination of those factors.

g NAICS code assumed, based on business type.

h Data from Winfield Daily Courier news article, "GE wins \$220M Navy contract." May 16, 2014. Webpage link: http://www.winfieldcourier.com/news/article_e41c9c0e-dcab-11e3-ac92-001a4bcf887a.html.

NA Not available

Property Values and Local Tax Revenue Generated from Property Taxes

EPA obtained data on the most recently assessed values for property parcels at the Strother Field Industrial Park Superfund site in September 2015 through property records accessible through Cowley County's online property appraisal database (<http://www.cowleycounty.org/taxes>). The Cowley County Assessor's Office provided 2014 property tax information for the site parcels.

Table 2. Property Value and Tax Summary for Taxes Payable in 2014

Parcel ID No.	Total Market Value of Land and Improvements (2015)	Total Property Tax Paid (2014)
018-204-18-0-00-02-001.00-0	\$5,002,020	exempt
018-204-18-0-00-02-002.00-0	\$81,500	\$2,831
018-204-18-0-00-02-003.00-0	\$163,060	\$5,661
018-204-18-0-00-02-001.02-0	\$431,990	\$12,163
018-204-18-0-00-02-004.00-0	\$1,230,720	\$43,015
018-204-19-0-00-02-001.11-0	\$183,330	\$6,380
018-204-19-0-00-02-002.00-0	\$2,600,010	exempt
018-204-19-0-00-02-001.00-0	\$6,092,140	exempt
018-204-19-0-00-02-003.00-0	\$558,860	exempt
018-204-19-0-00-02-001.09-1	\$8,220	exempt
018-204-19-0-00-02-001.10-0	\$309,140	\$10,800
018-204-19-0-00-02-004.00-0	\$503,020	\$9,228
018-204-19-0-00-02-001.06-0	\$452,210	\$15,647
018-204-19-0-00-02-006.00-0	\$46,210	\$1,592
018-204-19-0-00-02-007.00-0	\$89,230	\$3,150
018-204-19-0-00-02-008.00-0	\$35,370	exempt
018-204-19-0-00-02-001.01-0	\$953,690	\$22,738
018-204-19-0-00-02-010.00-0	\$528,660	\$18,717
018-204-19-0-00-02-009.00-0	\$217,370	\$17,737
018-204-19-0-00-02-001.05-0	\$184,960	\$6,535
	\$19,671,710	\$176,194