



Work for Others (Reimbursable Services)

The Corps is a unique federal agency in that its technical capabilities can be applied to a wide array of applications. In addition to multiple engineering disciplines, its expertise is well suited to “environmental and project management issues.”¹ In the later twentieth century and entering the twenty-first, the Corps found its services increasingly in demand by other government agencies that had need of these capabilities.

While Congress determined the authorities and annual funding for the Corps’ civil works and military construction programs, the Corps was authorized to perform work for others in the public sector—such as state and local governments, federal agencies outside the Department of Defense,

foreign countries, and international agencies—on a reimbursable basis. In this role, the Corps operated essentially as a global engineering, environmental, and construction firm, although one that belonged to the United States government.

In 1984, as its work for other agencies outside the Department of Defense continued to expand, the Corps centralized management in the reimbursable arena by establishing its Support for Others (SFO) program. SFO became the Corps’ reimbursable support platform and quickly grew to constitute a significant share of the Philadelphia District’s workload.²

The goal of SFO was to “apply its capabilities to assist others in the execution of their missions.” By centralizing program management, SFO facilitated the use of the

Facing page: Inside the groundwater pump-and-treat operation at the Vineland Chemical Company site, one of the District’s largest EPA Superfund projects

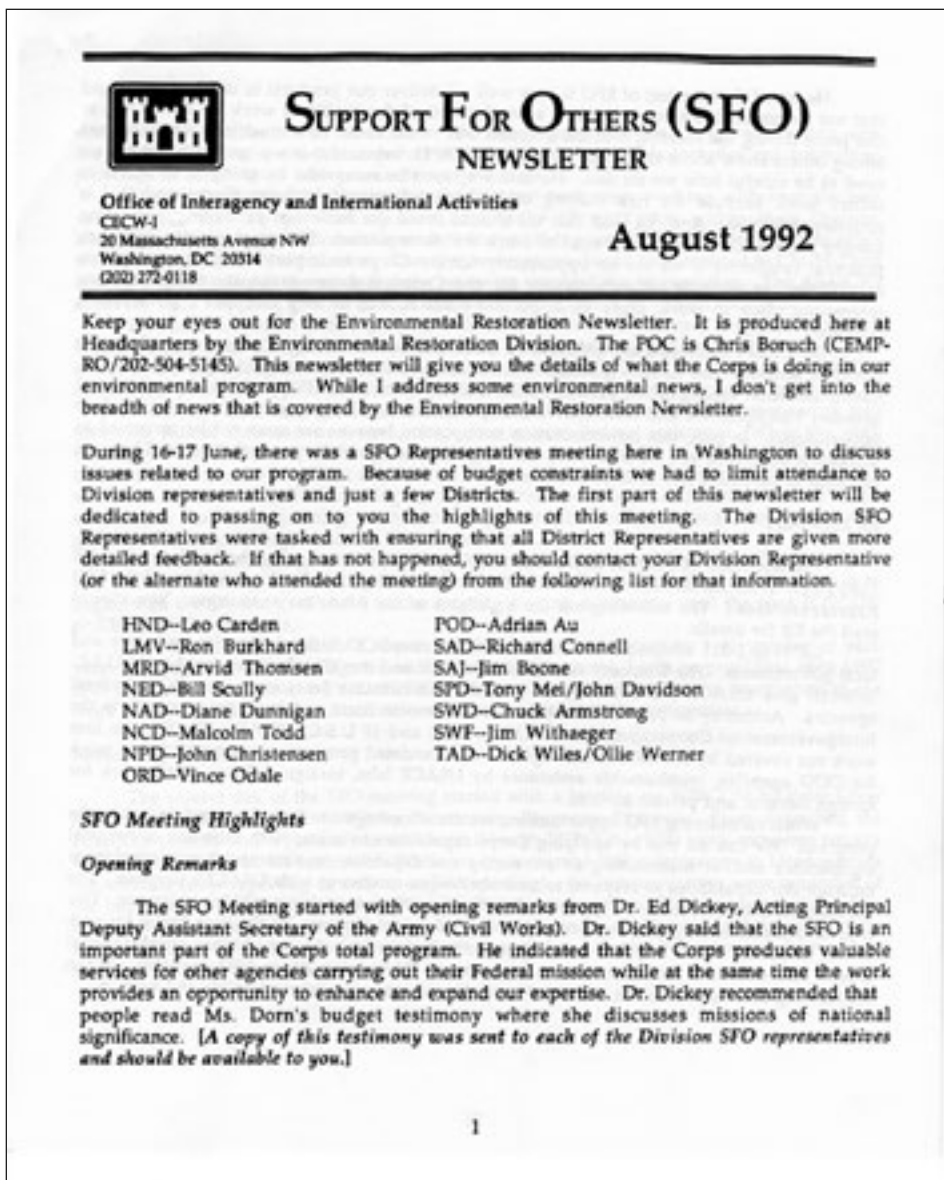
Corps' technical resources by other government agencies—customers now had a formal path to securing the Corps' assistance on a reimbursable basis. All entities involved benefited from the program. The customer funding the project received Corps services while retaining control and responsibility

for its program; in turn, SFO “enable[d] the Corps to maintain and enhance its capabilities.”³

The Office of Interagency and International Activities, Directorate of Civil Works, manages the SFO program. Under this umbrella, the Corps uses a number of program authorities for its reimbursable work. Work for other federal agencies is done under authority provided in the Intergovernmental Cooperation Act of 1968 and the 1935 Economy in Government Act, as amended. In addition, the Foreign Assistance Act of 1961 allows the Corps to provide support to foreign nations and international organizations. The Corps is authorized to initiate work for other agencies when either “funds or reimbursable orders” are received.⁴

Since the formalization of SFO in 1984, the Corps has had a steady flow of work for outside entities. A number of the projects have involved EPA Superfund support (also mentioned in Chapter Five); in 1995, this was the single largest program in the Corps' environmental work for

Because of the increase in the Support for Others Program in the 1980s and 1990s, the Corps began publishing a newsletter devoted to that mission



others, comprising \$322 million in contracts.⁵ The numbers reflect the success of SFO. By 1989, just five years after its inception, the Corps had managed \$207 million in SFO projects. Seven years later, that figure had ballooned to over \$700 million and was projected to hit \$800 million by fiscal year 1997.⁶ The district's involvement in SFO reflected a larger Corps-wide trend. At the close of 2007, the district managed nearly \$60.5 million in SFO work, \$58.8 million of which was in EPA Superfund projects. Through SFO, the Corps has provided assistance to nearly sixty federal agencies, as well as international entities such as the North Atlantic Treaty Organization and foreign governments that include Sweden, Argentina, and the Republic of Belarus.⁷

Work for the U.S. Postal Service

The Philadelphia District's involvement in SFO predated the centralization of the Corps function in the 1984. In the early 1970s, the district assisted the U.S. Postal Service with the construction of a



Philadelphia Bulk Mail Center (now Philadelphia Network Distribution Center), U.S. Postal Service

bulk mail center in Philadelphia, a cutting-edge facility designed to incorporate the transition to automated mail sorting sweeping throughout the Postal Service in that decade. As former District Engineer Col. Harry Dutchyshyn explained, because the Postal Service was not “in the business of building post offices . . . they had asked the Corps to help solve the problem of building major facilities all over the country all at the same time.”⁸ The Philadelphia bulk mail center involved innovative automated equipment, upgrading the agency's work “from a pen and pencil post office to a computerized system.”⁹ However, the complicated nature of the project proved problematic for the contractors

involved, leading to delays and increased costs. In addition, government-furnished equipment was delivered to the district in random order rather than according to a planned implementation schedule. Dutchyshyn, as the district's chief contracting officer, had the task of managing the myriad problems and reconciling legitimate contract costs with discrepancies in charges. Nevertheless, in November 1975, two years after the start of construction, the bulk mail center was successfully completed; it began operating early the following year.¹⁰

The district also helped the Postal Service renovate older post offices in the Philadelphia area. Through the first half of the 1970s, the district oversaw the "rehabilitation and expansion of existing postal facilities, building of training facilities, and installation of sprinkler systems, mail sorting machines, and service counters with bullet-proof screens." The district's work on the smaller facilities concluded in 1976 when the Postal Service took sole control of the rehabilitation effort.¹¹

Work for Qatar and Gabon

In addition to its work in the United States, the Philadelphia District provided technical support to governments overseas. In 1978, the emir of Qatar contacted the U.S. Department of State for assistance in investigating the legitimacy of dredging surveys and their associated costs completed by private contractors for the emirate. At issue were two locations: the Doha harbor and marine facilities at Umm Said. The State Department contacted the Corps, which delegated the project to the Philadelphia District owing to its expertise in dredging operations.¹²

District personnel sent to review the work conducted "comparative surveys over selected sites" at Umm Said and ultimately judged the surveys to be accurate and the expenses comparable to other projects of that scale. "At Doha, however," according to one account, "the District team concluded that additional costs being charged to the government of Qatar were not justified." The emir was pleased with the district's work

and paid the Corps \$32,000 plus all expenses for its assistance.¹³

The following year, the Philadelphia District took on a more comprehensive project for the government of Gabon, Africa. Located along the equator in central-west Africa, the nation sought economic growth and development through the use of its vast natural resources, especially its extensive reserves of iron ore and manganese. On 10 January 1979, President Omar Bongo of Gabon sent a letter to the U.S. ambassador “requesting that a team of American experts be sent to make a survey and give recommendations for maintenance and upgrading of the National Road System, improvement of port facilities and forestry development.” The work in Gabon’s ports included dredging and development, while investigations into Gabon’s forestry incorporated “evaluating and exploiting native timberlands.”¹⁴ The ambassador transmitted Gabon’s request to the Agency for International Development (AID), U.S. Department of State. In a letter dated 5 February 1979, AID

“authorized the Chief of Engineers to undertake an exploratory mission as provided by Section 661 of the Foreign Assistance Act.”¹⁵ Lt. Gen. John W. Morris, then Chief of Engineers, assigned the mission to the Philadelphia District on the basis of its broad experience in maintaining one of America’s major waterways, the Delaware River, and its expertise in building and relocating highways in conjunction with flood control and Chesapeake and Delaware Canal work.¹⁶

Map of the Republic of Gabon





Bridge conditions in Gabon

Given the scope of the request, the U.S. and Gabon governments agreed on a two-phase mission—a preliminary reconnaissance followed by more detailed site investigations—over the course of two trips in 1979. The first trip occurred in March; the second in July. The project teams quickly discovered that significant work was required if the government of Gabon was to begin exploiting its natural resources, as the country’s road network was barely developed. Of approximately 1,740 miles of state roads in Gabon, only 180 miles—roughly 10 percent—were paved.¹⁷ The remaining roads were primarily dirt, subject to

frequent damage and even closure from the average annual rainfall of a hundred inches.¹⁸ Massive construction would be necessary to provide a stable system to transport forestry products and iron and manganese ore, found mostly inland, to the coast for export. In addition, even if the Gabonese had been able to get the ore to the shore, none of the ports had channels deep enough to accommodate the deeper draft vessels necessary to transport the heavy loads. The proposed location, the Port of Owendo, proved problematic—preliminary investigations “found significant rock deposits in the channel area, formations that could make dredging either impractical or more difficult.” Additional hydrographic surveys would be necessary before initiating any development of Gabon’s port facilities.¹⁹ It became increasingly clear that the costs to develop Gabon’s commerce infrastructure would be immense.

Following its in-country investigations, the Philadelphia District compiled technical reports on the three issues: roads, ports, and

forestry development. The reports detailed the need for improvements to the infrastructure, such as deeper channels at the ports for shipment of natural resource products and an enhanced and extended road system to access resources. The district's conclusions and recommendations were to be used to obtain international funding. But as project team member Vince Calvarese recalled, "It never went any further than the report."²⁰

Support for the EPA Superfund Program

Congress established the Superfund program with the passage of the landmark Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), signed by President Jimmy Carter on 11 December 1980. The new law, which arrived on the heels of the highly publicized environmental disaster at Love Canal, N.Y., created a trust fund (the Superfund) to pay for federal cleanup activities at selected sites across the country and authorized

the EPA to develop and manage the program. Although the Clean Water Act and Clean Air Act of the early 1970s ended outright dumping of pollutants into the nation's rivers and streams, industrial producers of toxic wastes continued to pour chemical residues and other hazardous compounds into large underground tanks or into barrels warehoused onsite, buried offsite, or dumped on abandoned property. As the unmonitored storage tanks and barrels began to leak, a plethora of highly toxic materials escaped into streams and lakes, turning them into death traps for aquatic species. Toxins also seeped into the water table, where they became a

Soil sampling to assess Superfund site conditions



hidden threat to public drinking water supplies. Congress established the Superfund program to address these biological and public health hazards.

Superfund attempted to identify the most highly polluted areas where, for the most part, dumping had already occurred. Federal taxes on the chemical and petroleum industries formed the initial pool of \$1.6 billion to pay for cleanup projects; in 1986, Congress amended CERCLA to

increase the amount in the trust to \$8.5 billion. In addition to the original trust fund, CERCLA allowed the government to collect mitigation payments from individuals and companies found liable for creating or dumping pollutants at designated Superfund sites.²¹

The EPA divided Superfund cleanup activity into two programs. The first involved short-term removal of toxic substances, while the second encompassed long-term remedial actions that addressed

The Krysowaty Farm Site, the first Superfund cleanup completed by the Philadelphia District for EPA Region 2



a wide range of cleanup and restoration work. The Philadelphia District's Superfund projects were almost all long-term remedial actions. The EPA also developed a three-part administrative framework to organize toxic waste response and cleanup activities. The components were the National Contingency Plan, the Hazard Ranking System, and the National Priorities List. The EPA used the Hazard Ranking System to determine which sites required the most immediate or extensive action. In 1983, the agency issued the first Superfund National Priorities List (NPL), which identified specific toxic/hazardous waste sites that were "national priorities for receiving further investigation and long-term cleanup actions."²²

In the meantime, interagency agreements signed in 1982 and 1984 authorized the EPA to seek support from the Corps for tasks that included research and development, environmental assessments, five-year reviews, real estate activities, and other technical assistance.²³ According to James Woolford, director of the Office

of Superfund Remediation and Technology Innovation, "EPA has relied on the USACE to provide construction support for the Superfund program based on their expertise as both constructors and construction contract and project administrators." Woolford said the Corps' support included "an on-site Federal presence at Superfund sites, along with expertise in contract administration, field level management and management of construction change orders and claims." The Corps also provided "overall construction expertise."²⁴

At the outset of the program, the EPA did not designate the Philadelphia District for Superfund work. However, the large number of NPL sites in the Northeast put a heavy load on the Corps districts in that region that were responsible for EPA projects: the New England, New York, and Baltimore districts. To reduce its Superfund workload, the New York District decided to "broker" individual projects in New Jersey to the Philadelphia District.²⁵

The district's first completed Superfund remediation was at Krysowaty Farm in Somerset

County, N.J. (in the New York District). Cleanup at Krysowaty Farm involved excavating and removing contaminated soil and debris from the one-acre site where five hundred drums of toxic paints, dyes, and other chemicals were

An EPA publication about successful remediation of the Krysowaty Farm Site

United States
Environmental Protection
Agency

Solid Waste and
Emergency Response
(5502a)

EPAS20-F-92-011
Fall 1992

Superfund At Work

Hazardous Waste Cleanup Efforts Nationwide

Krysowaty Site Profile

Site Description:
Hazardous waste dump in rural Hillsborough Township, New Jersey

Site Size: 1 acre

Primary Contaminants:
Volatile organic compounds (VOCs), pesticides, and polychlorinated biphenyls (PCBs)

Potential Range of Health Risks Without EPA Cleanup:
Skin irritation; increased risk of cancer

Nearby Population:
1,200 within one mile

Ecological Concerns:
Raritan River

Year Listed on NPL: 1982

Year Deleted from NPL: 1989

EPA Region: II

State: New Jersey

Congressional District: 12

Success In Brief
Krysowaty Farm...Cleaned Up

The one-acre dump at Krysowaty Farm was small in size compared to some other Superfund sites. But five years of dumping proved to be a challenge when designing an appropriate cleanup. Nevertheless, the U.S. Environmental Protection Agency (EPA) quickly and efficiently alleviated immediate and potential dangers to the community of Hillsborough, New Jersey. In less than five months, Superfund staff:

- Worked closely with community members and Hillsborough Township officials to ensure an effective solution;
- Funded a permanent alternate water supply for residents threatened by contaminated well water; and
- Completed a permanent cleanup of hazardous wastes at the site.

Krysowaty Farm is a good example of how an active community, coupled with EPA responsiveness and expertise, can eliminate the dangers posed by the unauthorized dumping of hazardous substances.

The Site Today

Krysowaty Farm was once considered one of the worst uncontrolled hazardous waste sites in the United States. It was deleted from the National Priorities List (NPL) in 1989, after all known contaminants were removed. The cleanup effort meets established safety standards and no further actions are required at the site. A local health official said, "I couldn't be more pleased" with the "state-of-the-art" cleanup of Krysowaty Farm.

Superfund financed and conducted the site cleanup because the owner of the Krysowaty property was deceased, and the identity of other contributing parties was unknown.

Five Years of Uncontrolled Dumping

The Krysowaty Farm site had hazardous material strewn over a one-acre area of a ravine. Tires, demolition debris, and many corroded drums of paint, pesticides and dye wastes were illegally dumped.

U.S. Environmental Protection Agency
Region 5, Library (PL-12J)
77 West Jackson Boulevard, 12th Floor
Chicago, IL 60604-3590

dumped and buried between 1965 and 1970.²⁶ When the state of New Jersey first investigated the site in 1979, it found that volatile organic compounds, pesticides, acids, and polychlorinated biphenyls (PCBs) had seeped into the groundwater and contaminated numerous local wells. EPA Region 2 developed the cleanup strategy (excavation, removal, and monitoring) in 1984 and tapped the Corps to begin the cleanup operation in 1985. Philadelphia District staff and the contractor completed work at the site in 1987; in 1989, Krysowaty Farm became one of the first Superfund sites to be "delisted" from the NPL.²⁷

Although the effort at Krysowaty Farm was relatively small compared with those that followed, it gave the district's Superfund team valuable experience. The quality of the district's performance also convinced EPA Region 2 to begin delivering NPL cleanup sites directly to the Philadelphia District. As retired program chief John Bartholomeo explained, "Philadelphia District had a great Superfund team and

had a wealth of knowledge... [therefore,] EPA Region 2 always turned to Philadelphia when they had something that was tough.”²⁸ The district obtained larger and more difficult Superfund projects, some of which included long-term, high-profile cleanup activities. To meet this larger workload, the district created a dedicated Superfund staff of five employees.²⁹

In May 1989, the district began work on one of its largest and possibly most complex Superfund projects, the cleanup and disposal effort at the Bridgeport Rental and Oil Services property on the Delaware River in southwestern New Jersey. Bridgeport was number 15 on the NPL when the project launched and remained on the list until waste removal work ended in early 1996. The total cost of the cleanup came to \$174 million, the largest single-site total in district Superfund history to date. But the significance of the Bridgeport work went well beyond the price tag. Bridgeport was one of the district’s highest-profile Superfund projects: the huge oil lagoons were featured in magazine articles, making the

site a poster child for America’s legacy of industrial toxic waste and a symbol for the entire Superfund program.³⁰ Bridgeport also became a “giant lessons learned project for the District” as well as for the Superfund program nationwide.



Remediation of the Vineland Chemical Company site would eventually eclipse both Bridgeport and Lipari in scope and complexity



Jeanne Fox, EPA Region 2 administrator at the time, observed that Bridgeport “was the classroom for the nation—the laboratory where we wrote the formula on how to

clean up hazardous waste sites.” Fox said one unique and innovative aspect of the project—the onsite incineration of PCBs—subsequently became “a standard item in the cleanup toolbox for Superfund.”³¹

The Bridgeport property had been a toxic dump site since the 1940s, but the problem was compounded when an oil reprocessing facility operated there from 1959 to 1980. By the time the oil operation closed, the site contained detritus of four decades of industrial waste releases, including “a 13-acre waste oil lagoon, more than 100 storage tanks and process vessels interconnected by miles of piping, seven concrete-block-and-steel buildings, a number of abandoned vehicles (including an entire school bus later found *in the lagoon*), and a large quantity of discarded drums and other debris.” Additionally, PCBs were present at the site.³² As John Bartholomeo said, “It was disgusting.”³³

And these items were only the hazards visible from surface surveys and testing. As work continued, the discovery of additional



The Bridgeport Rental & Oil Services Superfund Site during remediation (above) and afterward (below)



materials submerged in the lagoon revealed an even bleaker environmental picture. When contractors began to pump oil out of the lagoon, site managers realized that waste drums lined the lagoon's entire embankment. Instead of the original estimate of approximately one hundred drums of waste to process, "it turned out to be thousands of them."³⁴ The remediation contractor had to process each drum, which involved identifying the contents, recording all visible marks on the barrels, draining them, and neutralizing the toxic compounds.

The precedent-setting decision to incinerate the PCBs onsite made the Bridgeport cleanup a technically challenging project and a potential public affairs dilemma for the district. Bartholomeo called it "a baptism by fire" for the district's Superfund team. He said the process the district had to negotiate to obtain approval for the incinerator (which at one point included meeting with approximately forty different New Jersey agencies and citizens' groups) was "worse than a root canal."³⁵

When construction of the incinerator was finally completed, district staff and the contractor had to perform test burns of PCBs to ensure that no contaminants would be released into the atmosphere, a major concern of local residents. In what must have been an irony for the Superfund team, regulations required that they had to obtain permission to bring PCB-contaminated material from another location onto the highly toxic Superfund site; the team described this as an "administrative nightmare."³⁶ After a half-year delay, the contractor was finally able to conduct trial burns in March 1991. The incinerator went online in November 1991; it was the first time an incinerator was permitted to burn PCB-contaminated material at a Superfund site.³⁷

To burn the enormous amount of contaminated oil, sludge, and soil in the lagoon and to keep the project on schedule, the contractor for that phase of the cleanup operated the incinerator twenty-four hours a day, seven days a week, for four years. The "thermal

destruction facility” incinerated the material at extremely high temperatures, reducing the oil and sludge to an inert ash residue that was eventually used to backfill the lagoon after it was emptied of all pollutants. Excavation of the lagoon sludge was completed in October 1995; by early 1996, 172,000 tons of contaminated material had been incinerated.³⁸

As the full extent of the Bridgeport cleanup became clear, and as the district began to tackle other Superfund projects in the vicinity, it opened a civil works and Superfund office adjacent to the Bridgeport site in the summer of 1989. By that time, the district was already engaged in another massive Superfund cleanup project at the Lipari Landfill in Pitman, N.J.³⁹

Cleanup tasks at Lipari Landfill were almost as staggering as those at Bridgeport, and the materials at the site were even more toxic. When the district assumed responsibility for the cleanup, Lipari Landfill was number 1 on the NPL—the most contaminated Superfund site in the country. Lipari contained three

million gallons of liquid waste and twelve hundred cubic yards of solid waste, which included “solvents, paints and thinners, formaldehyde, dust collector residues, resins, and solid press cakes from the industrial production of paints and solvents.”⁴⁰ Studies showed that the plume of contaminants had reached underlying aquifers and leached into the area’s marshlands, streams, and lakes. Before the New Jersey Department of Environmental Protection was able to close the landfill in 1971, nearby residents had reported at least one large explosion and two fires at the site.⁴¹

The district’s Superfund team tackled cleanup tasks that consisted of a batch flushing system and treatment plant (completed in January 1992) for liquid contaminants extracted from the soil and groundwater. At the completion of the initial phase in 1993, the contractor had extracted and treated a total of “150 million gallons of landfill leachate containing approximately 55 tons of contaminants.”⁴² In 2000, the district team and contractor adapted the batch flushing system “for



*Aerial view of the cleaned-up Lipari
Landfill site*

simultaneous soil vapor extraction to enhance the removal of volatile, less water soluble site contaminants.”⁴³ By 2002, more than 330 million gallons of leachate that held roughly seventy-seven tons of chemical contaminants had been extracted and treated. The Lipari Landfill Superfund project also entailed offsite extraction, treatment, and monitoring tasks; in 2008, the district was still looking ahead to a significant operation and maintenance role at this site.

Lt. Col. Robert Keyser,
Philadelphia District Commander

in 1997, said the Superfund team’s management of the enormous Bridgeport and Lipari cleanup projects “gained nationwide recognition” for the district.⁴⁴ The team’s success was a boon for the continued growth of the Superfund program and brought the Support for Others program, of which Superfund was the biggest part, into greater prominence.

The Philadelphia District further solidified its Superfund position in 1993, when EPA Region 2 decided that it would assign all new Superfund sites in New Jersey



The batch flushing and treatment plant at the Lipari Landfill site

south of Trenton to the district. All sites north of Trenton would go to the New York District, although Philadelphia would retain responsibility for the projects it was already conducting north of the line. Technically, the Philadelphia District did not have a bona fide Superfund “mission,” but the quality of its early work helped it carve out a niche in the program. From 1989 to 1993, the average value of the district’s Superfund projects was roughly \$25 million a year; in fiscal year 1994 it was \$45 million, and in fiscal year 1995 it was \$73 million.⁴⁵

Another challenging Superfund project was the Tranguch Gasoline

site in Hazleton, Pa. The project site was in the center of the town, where gasoline vapors from nearby storage tanks were escaping from cracked sewer lines and seeping into the basements of hundreds of houses. The airborne vapors released several toxic compounds, including dissolved benzene, a confirmed carcinogen.⁴⁶ Project planning was complicated by the fact that the contractor would have to dig a ditch down one of the town’s main streets, risking the release of potentially hazardous fumes into the adjacent houses and the surrounding neighborhood. The district’s project design team created a remediation system that was both novel and effective.⁴⁷

The construction contractor carried out a three-tiered cleanup strategy that included sewer replacement, groundwater retention, and “soil vapor extraction,” all in a single trench. After removing the old clay sewer pipes, workers installed a new sewer line and two other sets of pipes: one to collect the contaminated groundwater and another to collect the gasoline vapor. Sumps transported

the contaminated groundwater to a nearby mobile treatment facility, while the soil vapor was passed through a vacuum pump and carbon filters. To keep toxic fumes from escaping from the trench, the contractor sprayed a foam suppressant over the soil as it was unearthed, then sealed the trench with an impermeable plastic liner before refilling the ditch. Throughout the process, crews carefully monitored basements for fumes from the trench.⁴⁸

All the cleanup work in Hazleton was completed between May and September 2001, and subsequent testing revealed that the air in all previously affected properties was within state and federal safety levels. The Superfund team's dynamic cleanup design for the Tranguch project was highly lauded and landed the district a spot as one of the four finalists for an OPAL (Outstanding Projects and Leaders) award, which the American Society for Civil Engineers bestows for "innovation and excellence in civil engineering design." Although the district did not win, the nomination

garnered national acclaim and boosted morale.⁴⁹

Perhaps more than any other single program in terms of sheer dollars committed, Superfund emerged as a mainstay of the Philadelphia District's workload going into the twenty-first century. As of 2008, in addition to the projects already mentioned, the district had carried out EPA Region 2 remediation work at the following sites in New Jersey (county in parentheses): D'Imperio Property and the adjacent South Jersey Clothing Co. and Garden State Cleaners Co. sites (Atlantic); Helen Kramer

Workers conduct drilling operations in Hazleton, Pa. during remediation of EPA Region 3's Tranguch Gasoline site



Landfill (Gloucester); Industrial Latex Corp. (Bergen); Pepe Field (Morris); Vineland Chemical Co. (Cumberland); and Welsbach & General Gas Mantle (Camden). The last two multiphase cleanups were still under way in 2008 and

ultimately surpassed Bridgeport and Lipari in cost and scope.⁵⁰

Work for the U.S. Coast Guard

While most of its installation support for the Army and Air Force fell under the MILCON program, the district also provided reimbursable services to the U.S. Coast Guard. One project of particular interest (and visibility, owing to its close proximity to Interstate 95) was the renovation in 2004 of a vertical lift bridge at the site of the Philadelphia Naval Business Center (formerly the Philadelphia Naval Shipyard). The approximately \$23 million contract involved the disassembly of the horizontal span for a full overhaul of the bridge's mechanical, electrical, and structural components, complete with a fresh coat of paint and new decking. The Philadelphia District oversaw design and construction of the project, including the removal of the horizontal span via a float-out, using barges and tugboats to remove the section. As resident engineer Mark Wheeler recalled, the float-out was the most significant



Groundwater treatment plant, Cosden Chemical Coatings Superfund Site

Cleanup of the Welsbach & General Gas Mantle site in and near Camden, N.J., involved a multi-year, multi-phase project to remove radiological contamination





challenge of the project, requiring “three tries over two days until we were successful.” The project was a significant success, completed in close to a year and preparing the vertical lift bridge for an indefinite amount of future service.⁵¹

Work for the Federal Aviation Administration

The Philadelphia District was also engaged by the Federal Aviation Administration (FAA) for remediation services at the Atlantic City International Airport in Pomona, N.J. John Bartholomeo

recalled that the district started out conducting “little hazardous cleanups, not major stuff” for the FAA, after which the agency became a regular customer for a wide variety of tasks, including building renovations, maintenance work, and minor construction.⁵²

This connection helped the district land a much larger project with the FAA: the construction of a runway pavement test facility at the airport.

In 1994, recognizing the constantly advancing nature of technology in the field of aeronautical engineering, the FAA

Float-in of the renovated main span for the Coast Guard’s Vertical Lift Bridge project at the former Philadelphia Naval Shipyard (above)

Remediation of the Roebling Steel Company Superfund site involved preservation and restoration of historic artifacts, such as the old gatehouse and this 124-ton, 28-foot-diameter flywheel, both now part of the Roebling Museum



determined that “airport design standards may not accommodate” larger, heavier aircraft “with more complex landing gear.”⁵³ Of primary concern was Boeing’s B-777, scheduled for release in 1995, with a set of six wheels on each rear landing gear that “presented a challenge to establish its compatibility with existing runways.”⁵⁴ With an investment of nearly \$4 billion per year on pavement maintenance for a runway infrastructure valued at over \$100 billion, the need existed to protect the landing strips from potential harm. To resolve the problem, the FAA and Boeing developed a plan for an innovative airport runway test facility in New Jersey that would “collect real-time data to create new pavement standards.”⁵⁵

The FAA asked the district to act as its agent “in the design, construction and operation/ prove-out of the facility.” The district was involved in the project on a daily basis throughout design and construction, providing a project manager and resident engineer who successfully

implemented management decisions at ground level and facilitated communication between the cooperative entities, streamlining project management. The result was the successful completion of a \$21 million, state-of-the-art test facility for the FAA in 1999, “delivered on time with an unprecedented cost growth of only \$50,000.”⁵⁶ The William J. Hughes Technical Center was the world’s “largest, enclosed, full-scale pavement test facility dedicated solely to pavement research” and has been in continuous operation since its completion.⁵⁷

Work for the City of Philadelphia

The district also completed an award-winning runway project for the city of Philadelphia at Philadelphia International Airport. In 1996, the city applied for a permit for a runway construction project that affected federally regulated wetlands.⁵⁸ In the course of reviewing permit applications, attentive Operations Division employees recognized a win-win possibility: the potential

to use material dredged from the Delaware River as fill in the construction of the new runway.⁵⁹ The district pitched the plan to the city and a deal was made.

Both sides benefited from the project. The city of Philadelphia saved \$7 million by using the locally procured dredged material, and the contract saved the district (and thus the federal government) about \$8 million in channel maintenance costs. The cooperative project eliminated the need for expensive transport from inland fill sources and reduced the pollution that would have occurred in moving the material via highway. Approximately two and a half million cubic yards of dredged material were moved from the Delaware River channel to the airport. The project was a notable achievement. On 21 July 1998, the project team, including the city of Philadelphia and district staff, received the Vice President Gore Hammer Award, in recognition of “teams of federal employees who have helped reinvent government according to the President’s four National Performance Review



Construction of the Airport Pavement Test Facility at the FAA's William J. Hughes Technical Center



principles: (1) putting customers first, (2) cutting red tape, (3) empowering employees and (4) getting back to basics.”⁶⁰

The district also worked on infrastructure for the city of Philadelphia. In 1985, district staff completed a technical study of water mains throughout the city to assess “the current and



The Philadelphia International Airport Runway Project under construction

Dredging the “Reserve Basin” at the mouth of the Schuylkill River for the Department of the Navy

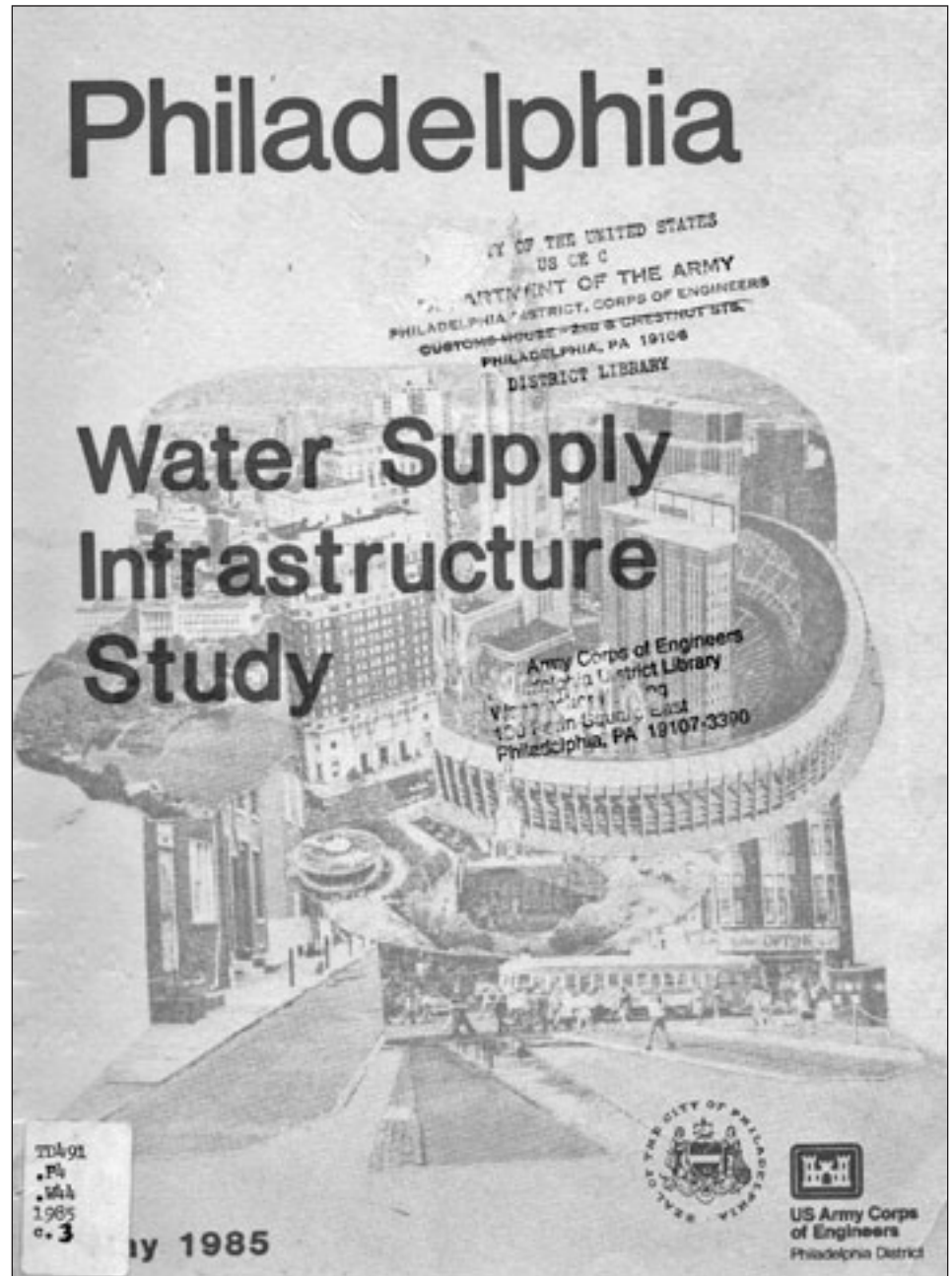


likely future condition of the City of Philadelphia’s water distribution system.” The project included analyzing water main problems through the use of computer models and pipe samples to establish “primary structural causes of main breaks” and “develop a profile of mains which are likely to break.” The overarching goal was the creation of a computerized information system for the maintenance of the city’s water infrastructure.⁶¹ The district completed the study at the request of the Pennsylvania Department of Environmental Resources as part of a program for the development and conservation of Pennsylvania’s water resources.⁶²

Additional assignments from the city of Philadelphia covered a broad range of projects. For example, in 1997, the district completed an inspection report of homes on Osage Avenue at the city’s request and on a reimbursable basis. Three years later, the district used this information in the rehabilitation and repair of the inspected homes. It prepared “plans, specifications and cost

estimates” for the rehabilitation of housing units, including the replacement of “roofs, windows, sliding doors, cedar siding and exterior brick, drywall repairs, painting, and mechanical and electrical repairs.” District personnel provided design services and oversaw construction of the renovations, conducting onsite inspections and schematic reviews.⁶³

The city also requested assistance in investigations of residence demolition. In the late 1990s, the district participated in engineering studies regarding houses in the Logan and Wissinoming sections of Philadelphia that were built on foundations of cinder, ash, and “varying amounts of construction debris.”⁶⁴ The severe differential settlement of the fill material resulted in “sinking homes,” rendering the structures uninhabitable and necessitating demolition.⁶⁵ The city called on the district to analyze each area; this involved preparing a development scenario to replace demolished homes in Logan and further examining the extent



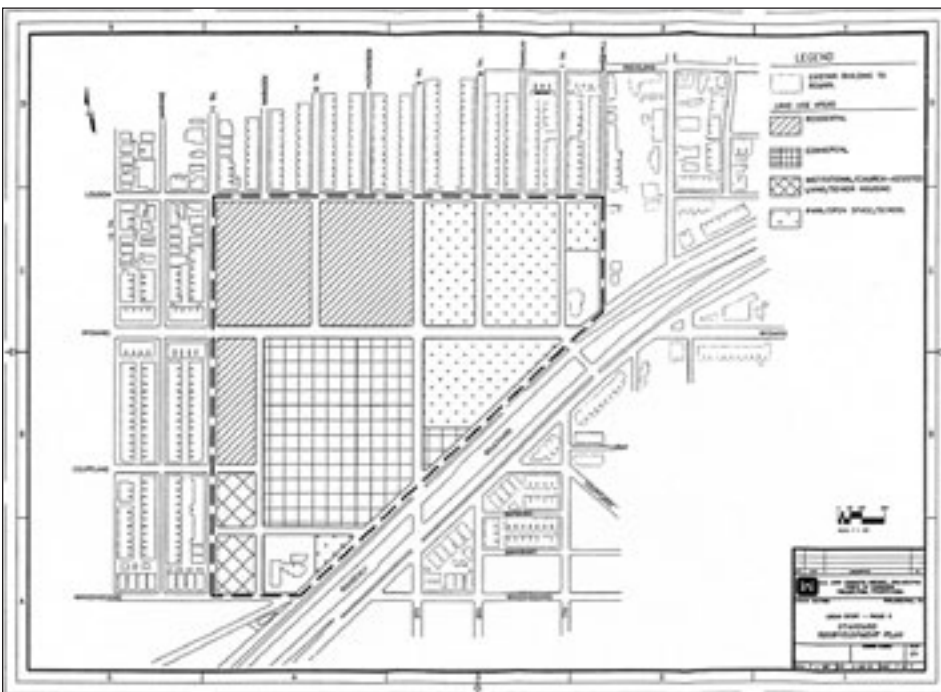
of potential damage to the Wissinoming section. The district researched historical records, mapped the depth of the fill—including a topographic change map to record shifts in surface elevation—and assessed the effects

Cover of the Philadelphia District's report on the City of Philadelphia's water supply infrastructure



Visible settlement cracks characterized “sinking homes” such as this one in Philadelphia’s Wissinoming section

The District’s standard redevelopment plan for the Logan neighborhood in Philadelphia



of Philadelphia’s water, gas, and sewer infrastructure on the fill material. The district reported its findings to the city, along with recommendations to address the problems.⁶⁶

The district carried its partnership with the city of Philadelphia into the twenty-first century. In 2000, it participated in a cost-share project for the demolition of the East Central Incinerator, which was “built in the 1960s and operated as a municipal trash incinerator until July 1988” but had since become an obstacle to development along Penn’s Landing, at the heart of the city’s

Delaware River waterfront. The district removed hazardous waste from the site, then demolished the inactive facility. Ultimately, the area was slated to provide “much-needed additional parking for growing retail activity in the area.”⁶⁷

* * * * *

The district’s SFO program has encompassed a wide array of services across a large territory. From within walking distance of the district’s offices in Philadelphia to locations in the Middle East and Africa, the district has carried out missions in conjunction and cooperation with a variety of government agencies—both before and since the establishment of the Corps-wide program known as Support for Others. The district’s ongoing overseas missions ensured opportunities for future support projects, while its successful work within its own footprint created a lasting connection between the district and its hometown, illustrating again the responsiveness that has always been a hallmark of Philadelphia District work. 🏰



Demolition of the East Central Incinerator along Philadelphia's Penn's Landing waterfront area



Another federal customer was the U.S. Department of Veterans Affairs, which engaged the District's services to repair and upgrade the roads inside Beverly (N.J.) National Cemetery

¹ Department of the Army, Corps of Engineers, "Support for Others Program," March 1993, Support for Others (SFO) Files in temporary holdings, U.S. Army Corps of Engineers, Office of History, Alexandria, Virginia (hereafter referred to as Office of History).

² Arthur E. Williams, Major General, USA, Director of Civil Works, Policy Guidance Memorandum, Conduct of International Activities, 3 April 1992, 2, SFO Files in temporary holdings, Office of History; Donita M. Moorhus and Gregory Graves, "The Limits of Vision: A History of the U.S. Army Corps of Engineers, 1988-1992," April 2000, 96, unpublished manuscript, copy provided by Office of History; Al Bertini, "Information Paper, SUBJECT: Support for Others, FY 95," 18 April 1996, SFO Files in temporary holdings, Office of History; Department of the Army, Corps of Engineers, Support for Others (SFO) Program, "Annual Report for FY 96," n.d., page 1, SFO Files in temporary holdings, Office of History; Edward Voigt, Chief, Public & Legislative Affairs, Philadelphia District, personal communication with Joshua Pollarine, 18 April 2011.

³ Department of the Army, Corps of Engineers, Support for Others (SFO) Program, "Annual Report for FY 96," n.d., 1-2, SFO Files in temporary holdings, Office of History.

⁴ Williams, Policy Guidance Memorandum; Bertini, "Information Paper, SUBJECT: Support for Others, FY 95."

⁵ Bertini, "Information Paper, SUBJECT: Support for Others, FY 95."

⁶ Moorhus and Graves, "The Limits of Vision," 97; Department of the Army, Corps of Engineers, Support for Others (SFO) Program, "Annual Report for FY 96," 1, 21.

⁷ The district's 2007 SFO figures were provided by Mark S. Wheeler, Chief, Interagency and International Services, Environmental Programs Branch, Philadelphia District; Department of the Army, Corps of Engineers, Interagency and Intergovernmental Support (IIS) Program, "Annual Report, Fiscal Year 97," n.d., 22, SFO Files in temporary holdings, Office of History; Department of the Army, Corps of Engineers, Support for Others (SFO) Program, "Annual Report for FY 96," 20; "International Activities News," *Support For Others (SFO) Newsletter* (November 1993): 2-4; U.S. Army Corps of Engineers, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, "Support for Others" <<http://www.crrl.usace.army.mil/rsgisc/sfo.htm>> (21 May 2010).

⁸ Dutchyshyn interview, 5.

⁹ Dutchyshyn interview, 8.

¹⁰ Unpublished Morgan Draft District History, 120; Dutchyshyn interview, 5-8.

¹¹ Unpublished Morgan Draft District History, 120-121.

¹² Unpublished Morgan Draft District History, 130.

¹³ Unpublished Morgan Draft District History, 131.

¹⁴ U.S. Army Corps of Engineers, Philadelphia District, "Technical Report to the Republic of Gabon, Part 2, Roads and Bridges, Section A - Report," December 1979, 1-1, Philadelphia District-Library; U.S. Army Corps of Engineers, Philadelphia District, "Technical Proposal to the Republic of Gabon, Part 1 - Dredging and Port Development, Section B - Proposals," January 1980, 1, 4-5, Philadelphia District-Library.

¹⁵ U.S. Army Corps of Engineers, Philadelphia District, "Technical Report to the Republic of Gabon, Part 2, Roads and Bridges, Section A - Report," 1-1. Section 661 was an amendment to the original 1961 act. Act of 30 December 1974 (88 Stat. 1795).

¹⁶ U.S. Army Corps of Engineers, Philadelphia District, "Technical Proposal to the Republic of Gabon, Part 1 - Dredging and Port Development, Section B - Proposals," January 1980, 1, Philadelphia District-Library; Unpublished Morgan Draft District History, 125-126.

¹⁷ U.S. Army Corps of Engineers, Philadelphia District, "Technical Proposal to the Republic of Gabon, Part 1 - Dredging and Port Development, Section B - Proposals," 1; U.S. Army Corps of Engineers, Philadelphia District, "Technical Report to the Republic of Gabon, Part 2, Roads and Bridges, Section A - Report," 1-2, 1-5.

¹⁸ Unpublished Morgan Draft District History, 126.

¹⁹ U.S. Army Corps of Engineers, Philadelphia District, "Technical Proposal to the Republic of Gabon, Part 1 - Dredging and Port Development, Section B - Proposals," 7-9; Unpublished Morgan Draft District History, 129.

²⁰ "Minutes, Corps of Engineers Marine Engineering Board, 24-26 April 1979, Philadelphia, PA," 8, Minutes of the Marine Design Engineering Board, Sept 77 thru Apr 79, Marine Design Center Library, Philadelphia District; Calvarese interview, 2.

²¹ Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (94 Stat. 2797).

²² EPA, "Superfund: 20 Years of Protecting Human Health and the Environment," 13 <<http://www.epa.gov/superfund/20years/20yrpt1.pdf>> (3 March 2010).

²³ Environmental Protection Agency and U.S. Army Corps of Engineers, "Interagency Agreement Between the USACE and the USEPA in Executing P.L. 96-510, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)," Memorandum of Understanding, December 3, 1984, available at Army Corps of Engineers Environmental Community of Practice site, <https://environment.usace.army.mil/what_we_do/superfund/prg_docs> (29 March 2010).

²⁴ James Woolford, Director, Office of Superfund Remediation and Technology Innovation, to Superfund National Policy Advisors, Memo, 3 April 2008, 2, available at <https://environment.usace.army.mil/downloadbfile.cfm?file_id=53AEEA04-188B-313F-1B4CE180A876BEC3&CFID=26606635&CFTOKEN=76037752> (3 March 2010).

²⁵ Bartholomeo interview, 10.

²⁶ EPA Region 2, "Krysowaty Farm, New Jersey," EPA fact sheet, 5 March 2008 <<http://www.epa.gov/region02/superfund/npl/0200670c.pdf>> (14 April 2010).

²⁷ "District Gets Added Superfund Role," *The Observer* (May 1993): 1. In 1983, district personnel (working out of the Engineering Division's Construction Branch) began two projects at Superfund sites: installing a wall and cap to contain contamination at the Lipari Landfill site and pumping out the lagoon at the Bridgeport Rental and Oil Services site, both located in Gloucester County, N.J. The district's primary role in Superfund remediation at these locations did not begin in earnest until a later date. Voigt personal communication.

²⁸ Bartholomeo interview, 9.

²⁹ Maraldo interview, 32. The district's Superfund work came under its Support for Others program.

³⁰ Bartholomeo interview, 9.

³¹ Jeanne Fox quoted in "Superfund 'Poster Child' Moves On to New Phase," *The Observer* (March 1996): 8.

³² "Superfund 'Poster Child' Moves On to New Phase," 8. Emphasis in original.

³³ Bartholomeo interview, 6.

³⁴ Bartholomeo interview, 13.

³⁵ Bartholomeo interview, 12.

³⁶ Bartholomeo interview, 13.

³⁷ U.S. Army Corps of Engineers, Philadelphia District, "Superfund," Powerpoint slide, no date, copy provided by John Bartholomeo, U.S. Army Corps of Engineers-retired, Philadelphia District.

³⁸ "Superfund Projects Get Underway," *The Observer* (September 1989): 2.

³⁹ "Superfund Projects Get Underway," 2.

⁴⁰ EPA, Region 2, "Lipari Landfill, New Jersey," NPL fact sheet, April 2002 <<http://www.epa.gov/superfund/sites/nplfs/fs0200557.pdf>> (19 May 2010).

⁴¹ EPA, "Lipari Landfill, New Jersey," 1.

⁴² EPA, "Lipari Landfill, New Jersey," 1.

⁴³ EPA, "Lipari Landfill, New Jersey," 2.

⁴⁴ Lt. Colonel Robert Keyser, "As I See It," *The Observer* (February 1997): 2.

⁴⁵ U.S. Army Corps of Engineers, Philadelphia District, "NAD Superfund Placement," Powerpoint presentation, n.d., copy provided by John Bartholomeo.

⁴⁶ EPA, "Tranguch Gasoline, Current Site Information," 26 June 2008 <<http://epa.gov/reg3hwmd/npl/PA0001409671.htm>> (24 February 2009).

⁴⁷ Bartholomeo interview, 24.

⁴⁸ "Tranguch Emergency Response Remediation System," *The Observer* (Winter 2004): 4.

⁴⁹ Bartholomeo interview, 23; American Society of Civil Engineers, "Outstanding Projects And Leaders (OPAL) Awards" <<http://content.asce.org/handa/opal.html>> (23 April 2010).

⁵⁰ In the same year that Congress passed CERCLA (1980), it also passed the Resource Conservation and Recovery Act (RCRA). In contrast with Superfund, which dealt mostly with pollution at abandoned or inactive sites, RCRA focused on identifying and halting companies that were actively releasing toxic wastes into the environment. The Philadelphia District oversaw RCRA operations not just within its own boundaries but throughout EPA Region 3. Although on a significantly smaller scale than the Superfund work it carried out in support of EPA Region 2, the district was managing RCRA cleanups for EPA Region 3 over much the same time period. Voigt personal communication.

⁵¹ "Restoring a Bridge for the Coast Guard," *The Observer* (Winter 04/05): 11–13.

⁵² Bartholomeo interview, 19.

⁵³ Paul Gaudini, untitled draft document composed for the tenth anniversary of the FAA test facility (hereafter referred to as FAA anniversary draft document), document provided by Paul Gaudini, Philadelphia District.

⁵⁴ Federal Aviation Administration, "The National Airport Pavement Test Facility, July 2009," document provided by Paul Gaudini, Philadelphia District.

⁵⁵ Quotations from Gaudini, FAA anniversary draft document; Federal Aviation Administration, "The National Airport Pavement Test Facility, July 2009."

⁵⁶ Gaudini, FAA anniversary draft document.

⁵⁷ Federal Aviation Administration, "The National Airport Pavement Test Facility, July 2009."

⁵⁸ "The Runway Built from a River is Now Open for Business in Award-winning Example of 'Beneficial Use' Dredging," *The Observer* (November/December 1999): 5.

⁵⁹ "One Good Idea from the Philadelphia District Amounts to \$7 Million Cost Savings for the City of Philadelphia," *The Observer* (July 1996): 4; "2 for 1 – Maintain a Waterway, Create a Runway," *The Observer* (February 1997): 5.

⁶⁰ "The Runway Built from a River is Now Open for Business in Award-winning Example of 'Beneficial Use' Dredging," 5.

⁶¹ Richard A. Weiss, Theresa M. King, and D. Kelly O'Day et al., "Philadelphia Water Supply Infrastructure Study," May 1985, 1, Philadelphia District-Library.

⁶² According to one report, "Section 22 of the Water Resources Development Act of 1974 (PL 93-251) as amended, authorizes the Corps of Engineers to provide Planning Assistance to States for the development, utilization, and conservation of the state's water and related resources." Weiss, King, O'Day et al., "Philadelphia Water Supply Infrastructure Study," May 1985, 1, Philadelphia District-Library.

⁶³ "City, District Working Together on Multiple Fronts," *The Observer* (January/February 2000): 3.

⁶⁴ U.S. Army Corps of Engineers, Philadelphia District, "Wissinoming Sinking Homes Study, Philadelphia, PA," May 2000, 1, document provided by Paul Gaudini, Philadelphia District.

⁶⁵ "City, District Working Together on Multiple Fronts," 3

⁶⁶ "City, District Working Together on Multiple Fronts," 3; U.S. Army Corps of Engineers, Philadelphia District, "Wissinoming Sinking Homes Study, Philadelphia, PA," 2–4.

⁶⁷ "City, District Working Together on Multiple Fronts," 3; Voigt personal communication.