

History of the site

The ASARCO Globe Plant is a proposed National Priorities List site located in an area known as Globeville, an approximate 90-acre stretch that straddles northeast Denver and south Adams Counties. Approximately 2,000 residents, the majority of whom are Hispanic, live in Globeville.¹ The ASARCO Globe Plant is near several industrial facilities. An estimated 90 percent of land use in Globeville is industrial or commercial, and less than 10 percent is residential.² The concentration of industrial facilities is of particular concern, given the potential health threats to the residential population of Globeville.

Smelting operations began at the Globe Plant in 1886 and continue today. Currently, the plant produces litharge (lead oxide), bismuth oxide, test lead, and high-purity metals. Pollution from smelting operations has resulted in elevated levels of cadmium, lead, arsenic, and zinc in the groundwater, surface water, sediments, and soil. Contaminated soils extend from the plant for several hundred feet in all directions and underlie homes of nearly 300 Globeville residents.³ People may become exposed to these metals by ingesting contaminated soils (or vegetables grown in contaminated soils) and by inhaling air-borne particles. Exposure can potentially cause cancers and damage to the central nervous system, reproductive system, kidneys, and digestive track.

In addition to the pollution from the smelter, the Globeville neighborhood was plagued with a brownfields site—the old Denver wastewater treatment plant, which was virtually abandoned in 1984.⁴ The wastewater treatment plant, which covered more than 14 acres, had become contaminated with heavy metals from the adjacent ASARCO Globe Plant. Contamination, however, was not the only problem with the old wastewater treatment plant. It had deteriorated into “a ransacked, looted, and graffiti’d place of refuge for all types of criminals and miscreants.”⁵ Windows were shot out and everything of value was stolen from the plant, including copper wire, aluminum stairs, and the entire front entrance of the facility’s administration building. Thieves were using the plant as a base of operations to burglarize and rob nearby properties. Although police patrolled and monitored the site, its isolated location lent itself to illegal and nuisance activities. While many residents and local organizations supported a redevelopment that would rid them of a neighborhood trouble spot, several attempts at attracting developers were unsuccessful because of the obvious and perceivably insurmountable problems with the site.

As owner of the property, the city undertook an initiative to take down the old wastewater treatment plant. The city worked with the Colorado National Guard, the

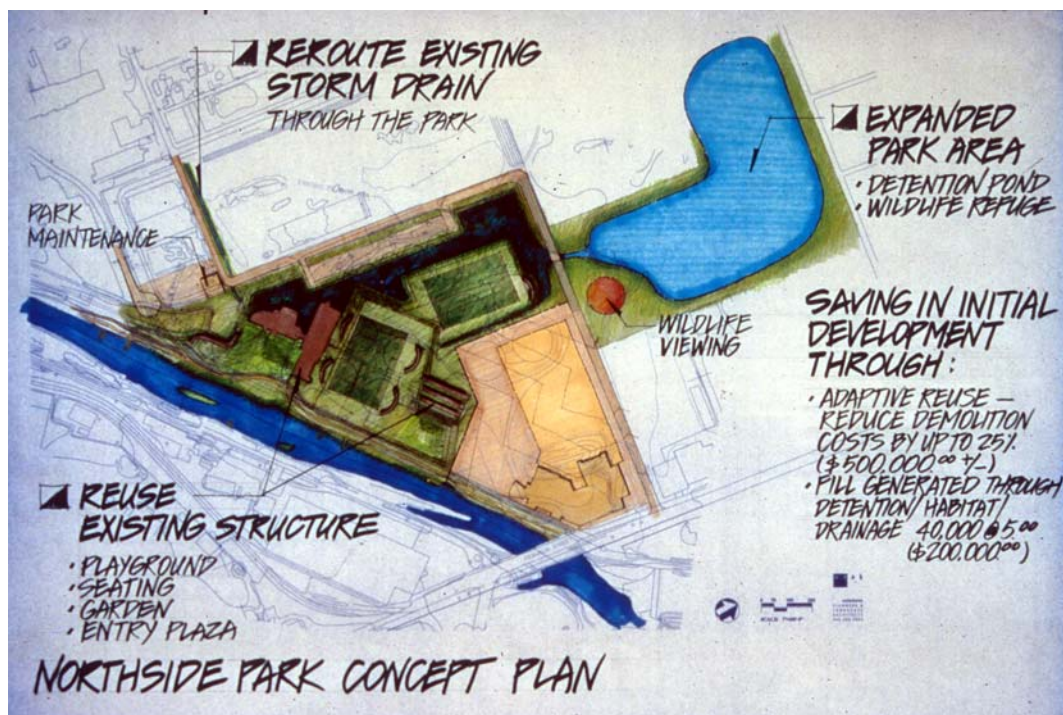
Globeville Civic Association, and various other public and private organizations to design a redevelopment plan for the site. The community identified park space and jobs as priority issues to integrate in the redevelopment. The resulting plan was to remediate 75 acres of industrial wasteland and replace it with open space, parkland, wetlands, a National Guard Armory, and an industrial park. The latter addition was essential to addressing the community's interest in neighborhood job opportunities.

Addressing Contamination

In 1983, the Colorado Department of Public Health and Environment (CDPHE) sued ASARCO under the Comprehensive Environmental Response, Compensation, and Liability Act. As a result of the suit, CDPHE and ASARCO entered into an

agreement in 1987 to conduct joint studies for determining the extent and nature of contamination. By 1993, the state of Colorado reached a settlement with ASARCO, part of which included the company paying for natural resource damage. These natural-resource damage funds were applied to cleanup of the former wastewater treatment plant.

A 25-acre property adjacent to the wastewater treatment plant, in neighboring Adams County, was also involved in the ASARCO settlement. The property, known as the Heller property, had a history of industrial uses. At one time it was a rendering plant, and most recently it served as a slag dump for the Globe Plant. There was concern that the eventual reuse of the brown-fields property would not be compatible with the redevelopment plan for the wastewater treatment plant.



Northside Park Concept Plan, by Wenk Associates

The city of Denver worked with Adams County officials and the owners of the Heller property to acquire the land and to remediate and redevelop it as an expansion to the wetlands planned for the neighboring wastewater treatment plant property. The partnership with Adams County was also advantageous in that the county, which would benefit from open space and storm-water retention, was able to help fund the wetlands expansion.

After remediation of Superfund-related contamination at the old wastewater treatment plant was completed in 2000, the city used its U.S. Environmental Protection Agency (EPA) Brownfields Showcase Community funding to assess dirt and materials that were illegally dumped on the Heller property. This assessment only tested below the surface since EPA Superfund efforts had previously assessed from the surface to two feet in depth. Since brownfields money cannot be used on Superfund sites, the city assessed below Superfund test areas.

Applying a Co-location Approach

The ASARCO settlement was a turnkey for the redevelopment of the former wastewater treatment plant, but the subsequent remedial response efforts were significant factors in determining the timeline under which the redevelopment of the wastewater treatment plan could occur. For example, under the consent decree, ASARCO was addressing contamination on several different types of properties, which, in turn, received different prioritization in the remediation timeline. Naturally, the cleanup of residen-

tial properties was the first priority, followed by commercial, and finally industrial. To the benefit of the city, ASARCO was very cooperative and shared information readily, which allowed the city and its project partners to coordinate development timelines on the wastewater treatment site and stage development along with ASARCO's plans and progress.

Timing and partnerships proved crucial to the success of the redevelopment plan. Each component of the redevelopment plan was linked to another, which required the timelines for certain aspects of the redevelopment to be coordinated. An important partnership was with the Mayor's South Platte River Commission, which, in conjunction with the Public Works and the Urban Drainage and Flood Control District, was involved in a floodplain mitigation and river revitalization project that ran beside the wastewater treatment plant. Through this partnership, the old wastewater treatment plant redevelopment and river restoration project were unofficially linked, as "the plant redevelopment fed off the river [project], and the river project's success became dependent upon the plant redevelopment."⁶ This type of strategic coordination made it possible to leverage the success of one redevelopment component to facilitate the progress of another on the site.

Another strategic coordination involved securing the National Guard Armory. The city leases the property to the National Guard for one dollar a year. Congresswoman Pat Schroeder initiated the arrangement because the Guard was consolidating facilities statewide and there was no Guard



Before and After: The old wastewater treatment plant (*above*) was redeveloped into Northside Park (*below*).



presence in Denver. Furthermore, recent Armory projects across the country blended a community center activity into the armories, which was an attractive feature for this site and neighborhood.

The success in attracting the National Guard Armory to the site created an immediate need for remediation and demolition, which in turn stimulated design of the park. The partnership with the National Guard

also created the opportunity to obtain the natural resource damage funding to acquire the adjacent open space⁷ necessary for the full project. However, the National Guard was only willing to participate in the redevelopment after the city of Denver agreed to assist the Guard in addressing environmental problems that might arise. A landfill was discovered on the site during pre-construction activities, and, consequently, the city had to assume a costly cleanup.

Redevelopment Result

Northside Park is the result of a four-and-a-half year redevelopment project that consists of:

- A 13-acre park, including wetlands, two playing fields, and a trail next to the Platte River
- A 10-acre National Guard Armory that doubles as a community center
- Twenty-acres for economic development, which will include an industrial park
- A 50-acre wildlife area including Heron Pond, which, in addition to serving as one of the finest wildlife resource areas in the Denver area, holds and filters stormwater and runoff before it dumps into the river.

The landscape architecture was environmentally sensitive as well as unique. Existing structures of the plant were adapted

and reused in the design and development of the park in a way that revealed the recent history of the place and the natural processes at work there. Wenk Associates, the planning and landscape architecture firm for the Northside Park project, created urban sculptures with the bold geometric shapes of the remaining infrastructure and foundations of the wastewater treatment plant. For example, the arcs from the shape of water chlorinators and clarifiers were left in place and now serve as benches and seating throughout the park. According to Billy Gregg of Wenk Associates the “challenge was to leave many elements in place while creating a park that would be beautiful and inviting.”⁸

Notably, the firm saved the city an estimated 30 percent in demolition costs by adaptively reusing features of the site in the redevelopment plan. In addition, Wenk Associates recycled many components of the wastewater treatment plant in their design and approach to the redevelopment: Nearly 30,000 yards of the plant’s concrete were crushed and used as fill for various aspects



A number of structures from the old wastewater treatment plant were left in place and integrated into the park design for function and aesthetics. The top of the walls of the inlet to the plant serve as benches and seating throughout the park (*left*). Valve gates serve as urban sculpture: Valve gates were always above grade with treatment tanks below grade; the valve gate housing is seen above (*right*) as viewed from down in the initial treatment tanks, which were partially exposed to create the unique aesthetic.

of the redevelopment; rebar (concrete-reinforcing steel bars) was recycled at a plant within view of Northside Park.

A significant portion of the funding for the park was the result of an agreement reached by CDPHE and ASARCO in the settlement of the 1983 natural resource damages lawsuit against the company. In December 1998, trustees of the state's natural resources award granted \$1.246 million⁹ to Adams County and the city and county of Denver to apply to the development of the 28-acre wetlands wildlife habitat (known as the Heron Pond preserve) and park. In addition to being a wildlife habitat, the wetlands will serve as a holding pond for backup stormwater runoff for the city and county of Denver and for Adams County.

The community surrounding Northside Park is experiencing an economic resurgence. Redevelopment of the site, in combination with the river restoration, has created a ripple effect of economic development throughout the neighborhoods. In addition to the industrial park planned for the 22-acre site owned by the city, there has been construction of enterprises at three properties near Northside Park, and several properties are on the market or have traded hands. It has been years since the neighborhood has witnessed this level of investment.

Conclusion

The creation of Northside Park, which has been described as "an effort in which all of the many participants [have taken] great pride,"¹⁰ has been recognized with many professional accolades since its completion.

In 2000, Denver was selected as a recipient of a Phoenix Award, which recognizes innovative yet practical remediation projects that bring blighted, old commercial and industrial sites back to productive use and can serve as models for other communities. In the same year, Wenk Associates received an Honor Award for built works with a construction budget over \$50,000 from the Colorado Chapter of the American Society of Landscape Architects.

The project required coordination among various people and efforts. A key component of the project's success was collaboration among partners, who would meet regularly to update one another on progress and next steps and to brainstorm on how to overcome various challenges. In addition, coordination enabled project leaders to link different efforts of the redevelopment so that progress on one aspect could help launch other components of the redevelopment project. Similarly, the coordination of Superfund and brownfields efforts was essential for moving along timelines as efficiently as possible, as well as planning for and acquiring the right resources at the right time.

While the project was neither quick nor easy, the redevelopment effort that yielded Northside Park ridded the community of a brownfields and mitigated contamination from a proposed National Priorities List site. In this way, the park has not only redeveloped a brownfields, but has also transformed the landscape to provide a new public amenity that will improve the quality of life in the Globeville neighborhood and the entire city. ●

Endnotes

¹ <http://www.atsdr.cdc.gov/HAC/PHA/asarco/asa.p1.html>

² <http://www.atsdr.cdc.gov/HAC/PHA/asarco/asa.p1.html>

³ <http://www.epa.gov/superfund/sites/npl/nar1365.htm>

⁴ The wastewater treatment plant was essentially abandoned in 1984 due to the opening of the regional Metropolitan Wastewater Facility; minimal wastewater activities continued on site until 1994, after which all wastewater operations on site ceased.

⁵ http://www.dep.state.pa.us/hosting/phoenixawards/Presentations/present_00/win_00.8.htm

⁶ http://www.dep.state.pa.us/hosting/phoenixawards/Presentations/present_00/win_00.8.htm

⁷ http://www.dep.state.pa.us/hosting/phoenixawards/Presentations/present_00/Executive%20Summaries/summary_8.htm

⁸ Wenk Associates, press release

⁹ http://www.dep.state.pa.us/hosting/phoenixawards/Presentations/present_00/Cases/case_00.8.htm

¹⁰ http://www.dep.state.pa.us/hosting/phoenixawards/Presentations/present_00/Executive%20Summaries/summary_8.htm

Bibliography

2000 – *Northside Treatment Plant: Denver, Colorado*. (n.d.) Retrieved March 3, 2003, from http://www.dep.state.pa.us/hosting/phoenixawards/Presentations/present_00/Cases/case_00.8.htm.

American Society of Landscape Architects. *Merit Award – DESIGN: Northside Park, Denver, CO*. (n.d.) Retrieved March 3, 2003, from <http://www.asla.org/meetings/awards/awds01/northside.html>.

Architecture & Engineering Quarterly – Company News Update: Wenk Wins Two ASLA Awards. (n.d.) Retrieved March 3, 2003, from <http://www.fwdodge.com/dcp/COCN/AEQtrly/AEcompanynews/AEcompanynewsmay01.htm>.

Asarco Globe Plant Site. (n.d.) Retrieved March 3, 2003 from <http://www.u.arizona.edu/~nsirikul/Asar.html>.

Brian Lane, personal communication, January 27, 2003.

Brian Lane, personal communication, March 4, 2003.

Brian Lane, personal communication, April 1, 2003.

Brownfields: Denver's Brownfields Program. (n.d.) Retrieved March 3, 2003, from <http://www.denvergov.org/admin/template3/forms/Brownfields%20%20%20page%20brochure%20new.doc>.

Colorado Awards \$1.246 Million for Wetlands, Wildlife Habitat. (December 17, 1998) Retrieved March 3, 2003, from <http://www.cdphe.state.co.us/release/1998/121798.html>.

Colorado Department of Public Health and Environment. *Hazardous Materials and Waste*

- Management Division, ASARCO Globe Plant.* Retrieved March 3, 2003, from <http://www.cdphe.state.co.us/hm/rpglobe.asp>.
- Dan Scheppers, personal communication, April 1, 2003.
- From Pirate Island to Riverside Treasure: Northside Treatment Plant Redevelopment, 2000 – Executive Summary.* (n.d.). Retrieved March 3, 2003, from http://www.dep.state.pa.us/hosting/phoenixawards/Presentations/present_00/Executive%20Summaries/summary_8.htm.
- Ned Burke, personal communication, April 1, 2003.
- Ned Burke, personal communication, June 20, 2003.
- Public Health Assessment: ASARCO Incorporated (Globe Plant), Denver, Denver County, Colorado.* (n.d.). Retrieved March 3, 2003, from http://www.atsdr.cdc.gov/HAC/PHA/asarco/asa_p1.htm.
- The Phoenix Awards: History.* (n.d.) Retrieved March 3, 2003, from <http://www.dep.state.pa.us/hosting/phoenixawards/History/History.htm>.
- Trust for Public Land. *Northside Treatment Plant, Denver, CO.* (n.d.) Retrieved March 3, 2003, from http://tpl.org/tier3_cdl.cfm?content_item_id=928&folder_id=729.
- U.S. Environmental Protection Agency. *National Priorities List: NPL Site Narrative for ASARCO, Inc. (Globe Plant).* Retrieved March 3, 2003, from <http://www.epa.gov/superfund/sites/npl/nar1365.htm>.
- U.S. Environmental Protection Agency. *Region 8 – Active NPL Sites: Asarco Inc., Globe Plant.* Retrieved March 3, 2003, from <http://www.epa.gov/region8/superfund/sites/co/asarcoglb.html>.
- Wenk Associates. *Denver's Northside Park Recognized with Two National Awards.* (press release, October 17, 2001).
- Wenk Associates. *Northside Park.* (n.d.) Retrieved March 3, 2003, from http://www.wenkla.com/parks_2/.