



**Welcome to the CLU-IN Internet
Seminar
SRI: Reusing Superfund Sites for Recreational
Purposes**

Sponsored by: U.S. EPA, Office of Solid Waste and Emergency Response, Office of
Superfund Remediation and Technology Innovation

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Instructors:

Melissa Friedland, U.S. EPA, Superfund Program Manager for Redevelopment (friedland.melissa@epa.gov)

Richard Meyers, Broward County Waste and Recycling Services, Solid Waste Operations Division (rmeyers@broward.org)

Tom Bloom, U.S. EPA, Region 5 (bloom.thomas@epa.gov)

Chris Corbett, U.S. EPA, Region 3 (corbett.chris@epa.gov)

Rose Marie Caraway, U.S. EPA, Region 9 (caraway.rosemarie@epa.gov)

Bill Denman, U.S. EPA, Region 4 (denman.bill@epa.gov)

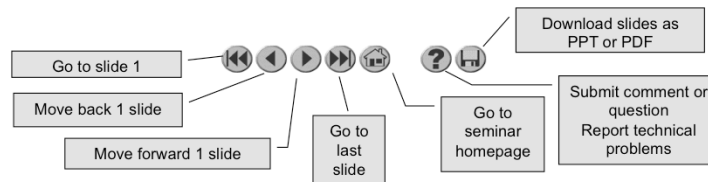
Moderator:

Jean Balent, U.S. EPA Technology Innovation and Field Services Division, (balent.jean@epa.gov)

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2

Although I'm sure that some of you have these rules memorized from previous CLU-IN events, let's run through them quickly for our new participants.

Please mute your phone lines during the seminar to minimize disruption and background noise. If you do not have a mute button, press *6 to mute #6 to unmute your lines at anytime. Also, please do NOT put this call on hold as this may bring delightful, but unwanted background music over the lines and interrupt the seminar.

You should note that throughout the seminar, we will ask for your feedback. You do not need to wait for Q&A breaks to ask questions or provide comments. To submit comments/questions and report technical problems, please use the ? Icon at the top of your screen. You can move forward/backward in the slides by using the single arrow buttons (left moves back 1 slide, right moves advances 1 slide). The double arrowed buttons will take you to 1st and last slides respectively. You may also advance to any slide using the numbered links that appear on the left side of your screen. The button with a house icon will take you back to main seminar page which displays our agenda, speaker information, links to the slides and additional resources. Lastly, the button with a computer disc can be used to download and save today's presentation materials.

With that, please move to slide 3.

Recreational Reuse at Superfund Sites



Good afternoon! My name is Melissa Friedland and I am the Superfund Program Manager for Redevelopment at EPA. Today we are going to talk about redeveloping cleaned up Superfund sites for recreational purposes. We are finding that more and more communities are safely reusing their cleaned up Superfund sites as new playgrounds, sports fields, open spaces and trail systems, providing residents with much-needed outdoor amenities. I am thrilled to be joined today by Bill Denman, Richard Meyers, Chris Corbett, Tom Bloom and Rose Marie Carraway, each of whom are going to talk about specific sites in their Region that have been reused to meet the recreational needs of their communities.

- Introduction to SRI
- Benefits of Reuse
- Types of Reuse
- Case Studies
 - Davie Landfill/Vista View Park
 - Whitmoyer Laboratories/Jackson Recreation Park
 - Kerr-McGee/Reed-Keppler Park
 - Pemaco Maywood/Maywood Riverfront Park
- Getting Started
 - SRI Tools and Resources
 - Contact Information

Before handing things over to them, I'd like to go over how we're planning to spend our time today: I'll begin by introducing EPA's Superfund Redevelopment Initiative and talking about the benefits of Superfund reuse and all the different ways that communities have found to reuse these cleaned up properties.

Then Richard Meyers from Broward County Florida and Bill Denman from EPA Region 4 will then talk about the redevelopment of Davie Landfill in Davie Florida into Vista View Park. We'll go on to hear from Chris Corbett of EPA Region 3 about the sports fields on the Whitmoyers Laboratories site; Tom Bloom of EPA's Region 5 about Reed-Keppler Park; Rose Marie Carraway from EPA's Region 9 about the Maywood Riverfront Park on the Pemaco Maywood Superfund site. Then before finishing up I'd like to share some tools and resources for getting started with Superfund reuse.



Working with communities and other partners in considering future use opportunities and integrating appropriate reuse options into the cleanup process

SRI: EPA's Superfund Redevelopment Initiative

Reuse of formerly contaminated lands is not new - communities have been reusing cleaned up sites for many years.

While EPA has always been supportive of site reuse, it wasn't until 1999 that the Agency launched the Superfund Redevelopment Initiative, or SRI. Our mission at SRI is to develop tools for site stakeholders to help promote reuse and to work with EPA regional offices to provide site-specific assistance.

At the national and regional levels, SRI works with communities, EPA regional offices and other partners in considering future use opportunities and integrating appropriate reuse options into the cleanup process.

- Inform cleanup decisions
- Provides local economic benefits
- Provides social benefits
- Help protect remedies



Description of Picture: *Young players enjoy soccer fields at Avtex Fibers in Front Royal, VA (Region 3); joggers enjoy trails at the Petersen Sand & Gravel site in Libertyville, IL (Region 5); Big Lots is one of many retail outlets on the Cabot Koppers site in Gainesville, FL (Region 4).*

For the next several slides, I am going to share how EPA looks at reuse in the context of providing key environmental and local benefits.

Considering Site Reuse is Part of Protecting Human Health

Developing and understanding a site's reasonably anticipated future land uses informs the entire remedial process:

- Remedial Action Objectives
- Remedy selection
- Remedy design and implementation



EPA worked with the City of Midvale to ensure that the cleanup remedy would not impede redevelopment.



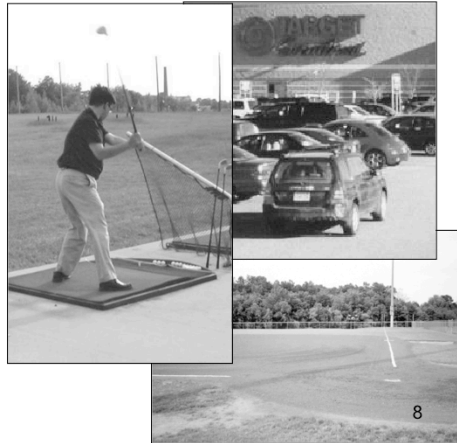
Picture: *The Midvale Slag Superfund site, a former mining site(top), is now the mixed use development Bingham Junction (bottom) in Midvale, UT (Region 8).*

Superfund's authorizing legislation, CERCLA, makes protection of human health and the environment the central consideration in remedy selection and other cleanup decisions. This goal of protectiveness is served by integrating consideration of future site use into the decision process. EPA's long experience cleaning up sites on the NPL has shown that most sites will have some future uses, and that the process of selecting a remedy that will be protective over the long term must include consideration of what those future uses will be. The more successful EPA is in anticipating the future uses of a site, the greater the probability that the remedy chosen will be protective for those uses.

EPA also recognizes that there are other benefits associated with the reuse of sites, for instance: (next slide)

Providing Opportunity: Local Economic Benefits of Reuse

- 29,000 on-site jobs
- \$2.3 billion in annual income
- Over 42,500 acres created, preserved, and restored for recreational and ecological purposes
- Over 500 sites in actual or continued reuse



Pictured:

- The Target store at the redeveloped Industri-Plex site in Woburn, MA. Along with the Target, the site is now home to the Woburn Regional Transportation Center, several businesses, a medical lab, and 75 acres designated as open space and wetlands. Additionally, the site's property value rose \$82,000,000 from 1992 to 2003, which in turn translated to increased property tax revenue for the cities of Woburn, Reading, and Wilmington.
- The driving range at the redeveloped Kane & Lombard Street Drums site in Baltimore, MD. In addition to a safer and more aesthetically appealing property, the site now provides residents with a recreational opportunity in an urban area.
- One of two softball diamonds at the redeveloped Chisman Creek site in York County, VA. The site also has four soccer fields. Between 1986 and 2003, property values within a half-mile of the site increased by \$31 million.

Local Economic Benefits of Site Reuse

- Site reuse provides jobs, income, and recreational and ecological amenities to local communities. It may also increase the value of nearby real estate and local property taxes.

Growing Smarter: Environmental & Social Benefits of Reuse

- Protected remedies
- Protected greenfields
- Minimized infrastructure investments
- Infill development and open space preservation



Picture: *The remedy for the Industri-Plex site in Woburn, MA (Region 1) allowed for the site's reuse, including a regional transportation center and commercial retail district*

Reusing Superfund sites also provides substantial environmental benefits. Today, urban development consumes 160 acres of land an hour in the United States. Wetlands are lost at a rate of 100,000 acres per year.

Most cities are growing faster spatially than they are gaining population, resulting in sprawling development patterns. Unregulated growth, often referred to as urban sprawl, generates pollution, heavy traffic, environmental degradation, and a lowered quality of life for communities. The reuse of Superfund sites can help address these concerns and ensure continued protection of human health and the environment now and in the future. As we discussed on the previous slide, reuse can actually help to protect a site's remedy. This ensures that human health and the environment remain protected. In addition, if there are Superfund sites that can be redeveloped within existing communities, this reduces market pressure to develop greenfields, including undeveloped land, agricultural areas, and wildlife habitat, at the outskirts of urban and suburban jurisdictions. Superfund sites are often located in close proximity to existing infrastructure, including public utilities, water and sewer, and transportation networks, due to prior land uses at the sites, minimizing the need for new infrastructure investments. The development of greenfield areas, in contrast, can require the extension of high-cost infrastructure. And finally, the location of the sites *within* existing communities means that they can provide unique opportunities for infill development and open space within already developed neighborhoods and commercial districts.

Protecting Remedies: Remedial & Long-Term Stewardship Benefits

- Discourages inappropriate activities such as:
 - Vandalism
 - Dumping
 - Trespassing
- Ensures the implementation of appropriate and effective institutional controls
- Encourages responsible stewardship



Picture: Evidence of vagrants and trespassers in an abandoned building at the Solitron Microwave site, Region 4, in Florida (on top). The building has since been demolished and the site now houses the Port Salerno industrial park (on bottom).

Responsible reuse of sites can help to ensure that the remedies remain protective. If a site is being used, it is less likely to become a target for inappropriate or illegal activities, such as vandalism, dumping, trespassing, or activities that could damage a landfill cap. The process of reusing a site can also ensure that institutional controls are implemented appropriately and effectively – many of EPA’s reuse tools, such as Ready for Reuse Determinations, cannot be issued or carried out unless institutional controls are in place. In addition, local organizations using a facility on a regular basis can immediately alert appropriate authorities if repairs need to be made. For example, a local soccer organization may observe that grass needs to be replanted over a portion of a cap.

Involving Communities: Better Process, Better Outcomes

- Improves relationships with local communities
- Establishes reasonable reuse and remediation expectations
- Results in remedies that have local support
- May result in less expensive remedies

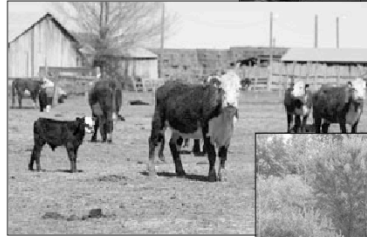


11

Working with communities is an important part of how EPA approaches site cleanup, with SARA, Superfund Reforms, and other EPA efforts focused on how to best do so.

In addition to benefiting communities, the result has benefited the Agency on multiple levels, too.

- Commercial
- Public Service
- Green Space
 - Recreational
 - Ecological
- Agricultural
- Residential
- Industrial
- Mixed Use
- Alternative Energy



12

Pictured: commercial reuse at Denver Radium, CO in Region 8; agricultural reuse at Nebraska Ordinance in Region 7; Recreational reuse at Stoughton, WI in Region 5

Now, in the next few slides, I'll show a few examples of some of the more innovative types of reuse we are seeing. Please keep in mind as I go through these examples that there are so many different types of ways to reuse Superfund sites, and there is no one-size-fits-all solution to determining which reuse type will be most appropriate or how to make sure that the site is best reused.

Public Service Reuse Murray Smelter Region 8: Murray City, Utah



13

Pictured: Murray Smelter site during remediation and Utah Transit Authority Light Rail Station

The Murray Smelter sites is a great example of a public service reuse, housing a medical center, transit station and large retail store. To facilitate reuse, beginning in 1996, EPA participated in a Working Group with city officials, the Utah Department of Environmental Quality, Asarco, and a variety of other groups interested in the reuse of the Murray Smelter site to create a unique partnership that integrated reuse and remedial planning efforts. By actively participating in the Working Group, EPA was able to develop an efficient remedy that was protective of human health and the environment and allowed portions of the site to be rapidly returned to use.

The 142-acre Murray Smelter site is located in Murray City's business district, in the center of Utah's Salt Lake Valley region. The site, once the largest lead smelter in the country, is surrounded by City Hall, residential areas, retail businesses, and schools. Murray Smelter opened in 1872 and was operated by Asarco, the site PRP, from 1902 until 1949. Following 75 years of smelting, the site's soil, surface water, ground water, and sediments were contaminated with lead, arsenic, and other heavy metals.

Today, a portion of the property is currently home to a station for the Utah Transit Authority's Transit Express, a two-line light rail system, that provides easier access to Salt Lake City. Also operating on the property is a retail membership warehouse club that occupies 148,000 square feet; and the Intermountain Medical Center, which opened in 2007. This hospital serves as the main referral center for several surrounding states and health care institutions.

Ecological Reuse Calumet Container Region 5: Hammond, Indiana



From the 1960s until 1982, drum and pail reconditioning and fiber drum processing operations at the former Calumet Container site caused soil contamination throughout the 11-acre site. The site is located within a mixed-use industrial and residential area in Hammond, Lake County, Indiana. Approximately 90 percent of the site lies in Indiana while the remaining 10 percent is located in Illinois. Since 1982, EPA and Indiana's Department of Environmental Management have worked to address onsite contamination through a series of removal actions. The Calumet Container site is located between Wolf Lake and Powderhorn Lake and features several wetland areas. Ecological restoration and wetland mitigation were important goals of the site remediation. As a result, native plants were selected to ensure the site's restoration to a natural ecosystem native to northwest Indiana. Once complete, this former contaminated area will be restored as a native habitat area and could also provide a recreational resource for the community. Potential recreational opportunities included trails and open space. The site's trails could also connect with other local and regional recreational areas and trail networks.

Agricultural Reuse Rose Township Dump Region 5: Rose Township, Michigan



15

The 100-acre Rose Township Superfund site in Rose Township, Oakland County, Michigan, consists of undeveloped rural property that was used as a dumping ground for illegal waste in the 1960s. In the 1980s the site was cleaned up though soil vapor extraction and ground water treatment activities are ongoing. The site was chosen as one of EPA's 2006 Return to Use Demonstration Projects, following interest from the site's potentially responsible parties in using a two-acre portion of the site as an experimental site for the development of alternative fuels. Two acres of the site were seeded in 2006 with soybeans, sunflowers, corn, canola and switchgrass; the harvest was tested for the potential of these crops to be refined into renewable fuels, such as ethanol and biodiesel. Over the course of the next several years project findings will also be used to determine whether these crops can help clean up onsite contamination, a process known as phytoremediation.

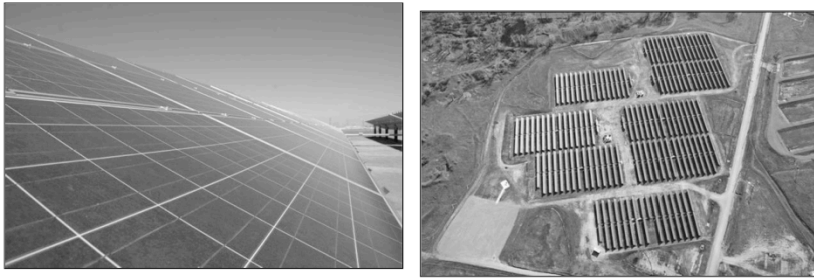
Mixed Reuse Midvale Slag Region 8: Midvale, Utah



16

The 446-acre Midvale Slag Superfund site is located about 12 miles south of Salt Lake City in Midvale, Utah. Since smelting activities began in 1871, five separate smelters were located on or near the site until the last smelter closed in 1958. Studies initiated in 1984 found that ground water and soil were contaminated with heavy metals. In 1990, EPA initiated cleanup actions to excavate and remove contaminated soils on site and from residential yards and put clean soil in its place. Though ground water remediation is on-going, the soil cleanup is complete. Midvale Slag, along with its sister site, Sharon Steel, comprise the majority of the City of Midvale's available land for expansion. The sites presented unique opportunities to create a sustainable community in the heart of Midvale, a rapidly growing bedroom community for Salt Lake City, Utah. EPA worked with site stakeholders to develop a reuse plan entitled the Bingham Junction Reuse Assessment and Master Plan. It presented an innovative community destined to become Bingham Junction, which made the most of its proximity to the Jordan River. The plan called for commercial, residential and recreational uses. The end result is a large scale, mixed-use development that incorporates major retail and office space as well as housing for Midvale City. A light rail line is planned to pass through the site, allowing for Transit Oriented Development opportunities. Midvale City has passed ordinances that implement the institutional controls for the site; these institutional controls will help to ensure the ongoing protectiveness of the site's remedy. In 2008 an Ready for Reuse Determination was issued, confirming the site's suitability for reuse. Minor cleanup work was completed last year along the Jordan River in the riparian zone. This area is now a linear City park, with the trail linking up with the Greater Salt lake area trail system. Ground water monitoring wells are being monitored by Utah Department of Environmental Quality. The well installation was coordinated with the ongoing development.

Alternative Energy Reuse Aerojet General Corporation Region 9: Rancho Cordova, California



17

The Aerojet General Corporation site covers 5,900 acres near Rancho Cordova, 15 miles east of Sacramento. Since 1953, Aerojet and its subsidiaries have manufactured liquid and solid propellant rocket engines for military and commercial applications and have formulated a number of chemicals, including rocket propellant agents, and agricultural, pharmaceutical, and other industrial chemicals. Underlying the site are extensive 40 to 100 foot-deep dredge tailings, a remnant of past gold mining operations. In 1979, volatile organic compounds (VOCs) were found off-site in private wells and in the American River in 1983. The site was added to the National Priorities List in 1986. Ground water treatment systems have been installed on site to address contamination and Aerojet General continues to operate today. A 6 megawatt solar plant has been constructed on 25 acres of the property. Aerojet collaborated with Solar Power Inc. on the installation, which is the largest single-site industrial project of its kind in the US. The plant supplies energy to power the site's remediation and is fed into the local grid.

A CLOSER LOOK AT RECREATIONAL REUSE

18

I'd like to take just a moment to demonstrate the wide range of exciting recreational reuse options that communities are putting to use.

Chisman Creek Site: York
County, VA

19

The Chisman Creek site in York County, Virginia, is now home to softball and soccer fields. EPA, York County, Virginia Power, and the local community teamed up to create a 31-acre recreational complex on the site. The abandoned sand and gravel pits were used from 1957 to 1974 for the disposal of fly ash—a byproduct created by burning fossil fuels—from the Yorktown Power Generating Station. EPA found the ground water and nearby Chisman Creek to be contaminated with heavy metals and developed a cleanup plan to eliminate contact with the fly ash and contaminated water, restore the ground water, and protect nearby wetlands. The county, along with local residents and businesses, actively supported the reuse of the site as a recreational complex. Virginia Power carried out the cleanup, working with EPA, the state, local officials, and the community, to design and build two recreational parks on the site. Construction of the recreational complex was completed in December 1988. Today, the parks support several soccer and softball teams, ponds, and a County Memorial Tree Grove. The cleanup of the site also protects nearby ponds, a creek, and an estuary. This site's cleanup was also part of a larger water quality improvement effort that led to the reopening of the Chisman Creek estuary for private and commercial fishing.

California Gulch: Leadville, CO



20

The California Gulch site in Region 8 is home to the Mineral Belt Trail, a 12.5-mile paved bike path that loops around historic mine tailings piles and mining artifacts within the site; wildlife sanctuary. EPA and the state signed agreements in 1998 that ensured public access to open space on the site. State and local governments have purchased more than 2,300 acres of ranch land that will serve as parks, wildlife habitat and recreation resources. A \$1.5 million public sports complex and soccer field atop a former zinc smelter opened in 2009. The United States Soccer Foundation, one of EPA's national partners, awarded a \$10,000 grant to develop conceptual plans for the facility.

H.O.D. Landfill Site: Antioch, IL



21

The 121-acre H.O.D. Landfill Superfund site in Antioch, Illinois, accepted municipal and industrial wastes from 1963 to 1984. When the Waste Management-operated landfill closed in 1984, the 51-acre landfill area was covered with a clay cap. Undeveloped, uncontaminated buffer land comprised the remaining 70 acres of the landfill property. Initial site reuse discussions began in the community in 1998. Due to rapid population growth in the community and the site's location adjacent to the Antioch Community High School, the community selected multiple recreational land uses, including sports fields, to be located at the site for shared use by the high school and community sports leagues. Twelve tennis courts were completed in 2005, and construction of the site's soccer, field hockey and softball facilities on a 30-acre portion of the site were completed in 2007. In addition, a wetlands area located at the site is being used as an environmental education resource for area schools. Methane gas extracted from the capped landfill also currently supplies heat and electricity to the school, saving the school an estimated \$100,000 per year in energy costs. The U.S. Soccer Foundation donated equipment for the new soccer fields, and Waste Management donates the methane that supplies heat and electricity to Antioch Community High School.

Milltown Reservoir: Milltown, MT



22

From the 1860s until the late twentieth century, the Clark Fork and Blackfoot Rivers area in western Montana was part of one of the richest mining regions in the world. These operations generated mining and milling wastes that have led to one of the largest hazardous waste cleanups in the country. EPA worked with local communities and federal, state and tribal partners on a coordinated approach that linked remediation, restoration and redevelopment at the Milltown Reservoir Sediments Superfund site. Assisted by an EPA Superfund Redevelopment pilot grant and EPA funding, the communities developed a reuse plan that called for the creation of a state park with trails, river access, wildlife habitat and interpretive areas celebrating the region's history and heritage. All parties recognized that redevelopment planning could be integrated with environmental remediation and the ecological restoration of the Clark Fork River, which included the removal of the historic, century-old Milltown Dam. Today, the confluence of the Clark Fork and Blackfoot Rivers flows freely for the first time in a century. In 2010, portions of the site were transferred to the State of Montana for a new state park. Interim redevelopment activities, including several trails and a new pedestrian bridge, have been completed. In 2005, the Clark Fork Coalition also began managing a cattle ranch on the Clark Fork River portion of the site as a showcase for sustainable ranching techniques.

Arlington Blending and Packaging: Arlington, TN



23

Though EPA completed cleanup at the Arlington Blending and Packaging site in 1996 the land remained vacant. For years, neighbors and passersby were barred entrance to the 2.3-acre site. Once home to a pesticide formulation and packaging facility, the land was now ideally situated to serve as a much needed community park. Though ground water monitoring continues to ensure that any lingering contaminants do not pose a threat to human health and the environment, EPA Region 4 worked with the Town of Arlington to develop remedy-friendly schematics for a neighborhood park at the site. In addition, EPA issued a Ready for Reuse Determination for Arlington Blending & Packaging, which was designed to reassure Arlington residents and officials of the site's safety for specified types of reuse. Mary Alice Park, named for the adjacent subdivision, opened on November 15, 2006. It is accessible to all residents of the surrounding residential communities and includes a playground, field space, walking and biking trails, exercise stations, a half-court basketball court, and signs that explain the history of the park and celebrate its successful redevelopment.

Jibboom Junkyard: Sacramento, CA



24

The Jibboom Junkyard Superfund Site, located on the east bank of the Sacramento River in Sacramento, California, spans nine acres. The Site is located in a former industrial area close to downtown Sacramento. The Site property was used by Associated Metals Company for metal salvaging operations from 1950 until 1965. In 1965, the State of California's Department of Transportation purchased a seven-acre area for part of the Interstate 5 freeway and Jibboom Street. EPA discovered contaminants on site in 1981 and the Site was placed on the Superfund National Priorities List (NPL) in 1983. Construction of the Site's remedy was completed in 1987. The Site's remedy included excavation and off-site disposal of contaminated soil, which also prevented contamination of ground water. Clean fill material was used to elevate the Interstate 5 freeway by approximately 20 feet, which further enhanced the protectiveness of the Site's remedy. EPA deleted the Site from the NPL in 1991. The remaining portion of the Site has been successfully reused as part of Jibboom Street Park, a destination attraction along the existing Sacramento River Parkway bicycle trail. Park facilities on the Site include a fountain, parking lot and landscaping.

Southside Sanitary Landfill: Indianapolis, IN



25

The 160-acre Southside Sanitary Landfill in Indianapolis, Indiana was once considered a hazard to human health and the environment. Now the landfill is operating safely and serving as an important source of energy and green space for the nearby businesses and communities. In 1989, EPA learned that toxic chemicals were migrating from the landfill and added the site to the Superfund National Priorities List (NPL). EPA required the owners of the landfill to take measures to prevent further migration of the chemicals and to collect the chemicals and treat them. After these measures were taken, EPA determined that the site was safe and in 1997 deleted it from the NPL. Today, landfill gas recovery wells and an intricate pipeline system collect and transport methane gas produced by the landfill to businesses around the site. The Crossroads Greenhouse, a 6.5-acre glass greenhouse, which opened in April 1998, is the major consumer of landfill gas from the site and grows and supplies nearly 400,000 poinsettias and other plants annually. In addition, the Rolls Royce Allison Aircraft Engine Plant signed a multi-year contract in 1998 to obtain methane gas from the landfill. Because methane burns much more cleanly than other fuels, the use of this energy source has reduced nitrogen oxide emissions from the Allison plant by 22 tons per year. In 1999, a nine-hole golf course was opened on the site and in 2003, the landfill donated land on the site to be used by the Indianapolis School Board for outside environmental education.

FMC Corporation: Fridley, MO



26

The massive River Road Industrial Center, is located in Fridley, Minnesota, just north of the City of Minneapolis. Part of this sprawling industrial site includes an 18-acre parcel of land where solvents, paint sludge, and plating wastes were generated and disposed of in an on-site dump from the 1940s to 1969, contaminating both soils and ground water. The River Road Industrial Center is currently in temporary recreational use by the Minneapolis Piston Poppers aeromodeling club. The site owner, ELT Minneapolis LLC, EPA, and a local flying club came to the conclusion that temporary use of the site as a recreational space makes sense. Two major recreational areas are located due west of the site, and the flat open space of part of the site is a perfect flying field. Utilizing a partnership established with the AMA in 2005, EPA worked closely with the site owner and the interested AMA club, the Minneapolis Piston Poppers, to ensure that aeromodeling would not affect the remedy's ability to protect human health and the environment. The reuse marks the first ground-up success story of the EPA/AMA partnership since its inception in 2005. The site's current owner feels that the Piston Poppers are providing a valuable community service by flying their control line planes on the site. Until it is developed for industrial purposes, the AMA club most likely will continue to fly at the River Road Industrial Center. In exchange for use of the site, the club provides minor maintenance services such as mowing the grass and keeping the field neat and clean. While the cleaned up site awaits industrial development, the Piston Poppers are serving as responsible stewards of the land and their regular presence is helping to deter trespassing and other inappropriate activities. The club's use of the site is also providing daily proof to neighbors and passersby that the site's Superfund legacy is a thing of the past.

CASE STUDIES

Now I'd like to hand things over to Richard and Bill to share the story of Davie Landfill's transformation into Vista View Park.

Case Study

**DAVIE LANDFILL:
CONVERSION TO VISTA VIEW
PARK, BROWARD COUNTY, FL**

28

Florida



Davie Landfill – Vista View Park is located in the Town of Davie in Broward County, approximately 5 miles west of Fort Lauderdale, Florida

- 210 acre site
- Operated as a county landfill for 23 years
- Unlined sludge lagoon onsite
- Landfill stopped taking waste in 1987
- Engineering controls in place by 1995
- Opened as county regional park in 2003
- Park expansion in 2010 (added 61 acres)



Site initially 210 acres

1964 – municipal solid waste incinerator and landfill for the county

Ash from the incinerator, construction debris, and demolition debris were placed in the landfill (68 acres)

1975 - -Incinerator was closed and a sanitary landfill (48 acres) was constructed on the site for disposal of municipal solid waste

Between 1971 and 1981 – a basin area at the landfill was used as a sludge lagoon for disposal of grease trap pump out material, septic tank sludge, and treated municipal sludge

1981 – Sludge lagoon was closed after sludge disposal became a concern regarding groundwater contamination

1987 - Landfill ceased operations

1995 - Engineering controls in place - long-term monitoring permit issued by the State of Florida

2003 – Opened as county regional park

2010 – Park expanded to south adding additional 61 acres



31

Contaminants were found in the sludge and surrounding soils

Vinyl chloride and antimony were the primary contaminants of concern for ground water

Site Cleanup Plan

EPA identified two operable units (OUs) for the site:

OU-1 (source control of contamination from the sludge lagoon)

OU-2 (identification of any additional hot spots at the site, and remediation of ground water, as necessary)

The Record of Decision (ROD) for OU-1 was issued in 1985. Major cleanup elements for the site included: Excavation, dewatering and stabilization of the sludge lagoon contents

Disposal of sludge lagoon source materials in the single-lined sanitary landfill cell #14

Placing a cap over landfill cell #14

The Record of Decision (ROD) for OU-2 was issued in 1994. Major cleanup elements for the site included:

Natural attenuation of vinyl chloride and antimony. Ground water monitoring to confirm natural attenuation

Monitoring of residential wells to determine the impact upon such private wells

Public water supply connections for residents that have been affected by contamination in excess of performance standards



32

1987, when Broward County and the Town of Davie realized that the landfill needed to be closed they began discussions on how to reuse the land

Broward County was one of the fastest growing areas in Florida and there was a growing demand for new park and recreational facilities

Broward County, the Town of Davie, and local stakeholders began the process of transforming the landfill into Vista View Park in the late 1980s

They developed a Master End Use Plan that included detailed site analyses, an inventory of existing parks, and a consideration of county-wide recreational needs and goals

Throughout the planning, design, and construction of the park, diverse stakeholders informed the process, including regulatory agencies, public officials, local residents, and public interest groups.

- Opened in 2003 – amenities included – 2 picnic shelters, fishing dock, paved trails, horse trails, restrooms, airstrip for model planes and paraglider pilots, lookout areas at top of landfill
- In 2010 - 61 acre park expansion completed – additional amenities included – 2 playgrounds, basketball courts, 7 more picnic shelters, fitness stations, boat rentals, equestrian corral, primitive camping areas, additional parking





Walking Trails



Horse trail



36

Airstrip for model planes



37

Picnic shelter



Camping areas and open space



Picnic area



40

Catch and release fishing from the two ponds and use of paddle boats



41

Paragliding area



42

Bicycle racing



Site Aerial – 271 acres

- Initial conversion to park afforded opportunity to expand park beyond original landfill site
- Changed site from a negative stigma as a landfill facility to a beautiful regional park facility with continual increasing use
- Brings great value to community
- Continues to be protective of human health and the environment – facility maintained as a county park and is compliant with the State of Florida long-term monitoring permit

Case Study

WHITMOYER LABORATORIES: LEBANON COUNTY, PA



46

The Whitmoyer Laboratories site, located in Lebanon County, Pennsylvania, occupies 22 acres in a rapidly developing rural residential area. The company manufactured veterinary pharmaceuticals between 1934 and 1984. Arsenic compounds were produced and stored at the site. The site itself featured 17 buildings, 23 storage tanks, a concrete storage vault, 15 lagoons, a waste pit, a petroleum products pipeline and pump station, plus a railroad spur.

In 1964, arsenic was detected in the soils, groundwater, and surface water. The cause of this pollution was previous disposal of wastes in the soils and unlined lagoons. Lagoon sludge was put in a concrete vault built to store highly contaminated sludge, soil, drummed carbon and tar waste and debris. Average arsenic concentration of the waste groups ranged from 9 to 18 percent. The drummed waste also contained aniline at approximately 10 percent.



47

EPA emergency work in 1988 and 1989 removed drums and laboratory chemicals from the abandoned facility. In 1989, EPA removed waste liquids, transported them off-site for treatment, and disposed of tanks, piping and residues.

Long-term cleanup under the remedial program began in the fall of 1993. The initial cleanup focused on decontaminating and demolishing 17 deteriorated buildings. Treating and disposing over 500 tons of hazardous materials removed from the buildings and recycling almost 800 tons of metal debris. Demolition and disposal activities were completed in May 1996.

The vault was remediated in 1995 and 1996 with 3700 tons of sludge sent offsite for stabilization. Approximately 600 drums from the vault were treated and disposed offsite ending in 1997 and 1400 tons of soils from the vault were stabilized and disposed offsite in 1998. The lagoons were excavated in 1998 and 1999, disposing another 10,000 tons of treated hazardous wastes. An additional 28,000 tons of hazardous soil was removed from the site beginning in late 1999 through early 2002. A minimum of 2 feet of clean soil was placed over the lightly and moderately contaminated soil that remained on the site. The groundwater treatment facility was constructed in 1997 and 1998.



48

Two Potentially Responsible Parties funded the \$75 million dollar cleanup, in addition to having to operate the groundwater treatment plant and conducting the long term Operation and Maintenance . To minimize the indefinite long term O&M costs , the PRP was willing to go beyond minimum cleanup measures to fully prepare the site for future use. The site is located in a rapidly developing area in Lebanon County near local schools, and Jackson Township expressed interest in redeveloping it. Before the property could be transferred to the Township, an agreement between EPA, the PRP, and Township needed to be reached. To this end, it was important that EPA, the PRP, and the Township collaborate closely regarding cleanup activities, land use restrictions, and reuse plans. Public meetings with citizens and elected officials were held throughout the cleanup to keep them informed of progress and to discuss the 3 ROD Amendments and 3 ESDs. Trust among the stakeholders increased throughout the 6 year cleanup as they witnessed via video presentations, this highly contaminated site being transformed into a potential asset for the community.

EPA signed a Prospective Purchaser Agreement (PPA) with Jackson Township and the PRP that limited the Township's liability after they accepted the land. The PPA also established appropriate institutional controls and land use restrictions at the site. In return, the PRP fully incorporated the Township's plans for reuse into their remedial activities. EPA played an important role in brokering this arrangement, providing the vision for potential reuse and gaining their trust and acceptance that the site could be safely reused. During the cleanup, the PRP installed infrastructure to support recreational reuse, including sewer, electrical and water lines, the foundation for a concession stand, walking trails along the stream, and attractive landscaping. US Soccer Foundation representatives visited the location to ensure that grading onsite would allow the soccer fields to drain properly.



Jackson Township's recreational park opened at the Whitmoyer site in 2005 and offers ball fields and nature trails to community members and nearby middle and high schools. The Township has successfully maintained the site's remedy and activity on the site deters potential trespassers. Annual meetings with the Township insures their future plans for the facility will not damage the soil cover and the PRP maintains the cover from burrowing animals which live along the stream. Over the last several years, the number of residences surrounding the property have notably increased. EPA remains in regular contact with the Township regarding the site's status and continues to oversee the continuing groundwater cleanup.

Case Study

KERR-MCGEE REED-KEPPLER PARK: WEST CHICAGO, IL

50

Hello everyone! I'm Tom Bloom the Superfund Redevelopment Coordinator in Region 5. The site I'll be talking about today is the Reed Kepler Park located on the on the the 5 Kerr McGee sites in Chicago.



Located in a largely residential area of West Chicago, Reed-Kepler Park is 90 acres in size. The Park District purchased the land from a local rail road company in the early 1930s and developed it as community park. The property included a small municipal landfill, which remained open until 1974. Over a 40-year period, radioactive mill tailings, derived from production processes at the West Chicago Rare Earths Facility, were used as cover material at the landfill, as well as fill material in the surrounding park area.

Though once thought to be safe for general use, U.S. nuclear regulatory agencies raised initial concerns over these radioactive mill tailings in the late 1970s. Following a study of the park area, officials believed that contamination was limited to the former landfill area, which was subsequently fenced in 1978. However, over the next ten years park district workers continued to encounter mill tailings outside the former landfill area during park renovation activities. Remediation of contaminated areas in the park came under EPA jurisdiction 1990, when the the site was listed on the National Priorities List.



52

In spring 1993, EPA began a remedial investigation to determine the nature and extent of contamination at the site. EPA implemented a time-critical removal action to excavate and dispose of the radioactively-contaminated wastes off site.

Kerr-McGee began excavation work at the site in April 1997 and completed the excavation work in late 1999. Restoration work, which included backfilling, grading, re-seeding, replacement of groundwater monitoring wells and road work, was completed in November 2000. Ground water monitoring was completed in 2007.



The West Chicago Park District had plans in place to upgrade the pool facilities at the site before EPA started their Remedial Investigation in 1990. EPA allowed the Park District to conduct a small remedial investigation on the portion of the site that would house the expanded pool facilities in order to determine if it was safe to redevelop the area. The Park District's Remedial Investigation found several small areas of contamination. Fortunately, most of the contamination was located in areas that could be avoided by small changes in the aquatic center's design. EPA later addressed these areas during their remediation of the larger site area. After reviewing the results of the Remedial Investigation, EPA allowed the Park District to proceed with development in 1993, with the stipulation that baseline monitoring of background radiation occur throughout construction.

Construction began in 1994 - concurrent with EPA's larger Remedial Investigation - and the Prairie Oaks Family Aquatic Center opened June 16, 1995.



54

In addition to the family aquatic center with a pool area, water slides, sand volleyball courts, and concession and changing stations.

There are:

Baseball fields

Soccer/football fields

A small lacrosse field

Playgrounds

A dog park

A skateboard park

A nature sanctuary



55

While developing the Prairie Oaks Family Aquatic Center and remediating the Reed-Kepler Park site, the West Chicago Park District and EPA also had to respond to public

concern over the safety of the facilities. In order to reduce these concerns, the Park District published informational articles in the local newspaper and encouraged residents

to call with any questions or concerns (EPA officials subsequently answered many of these questions). EPA also developed a series of fact sheets describing the remedial activities at Reed-Kepler Park. These fact sheets were made available to park and aquatic center users.







Case Study

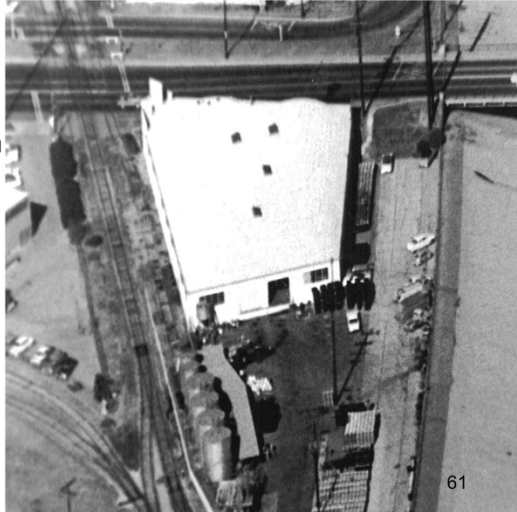
PEMACO MAYWOOD: MAYWOOD, CA



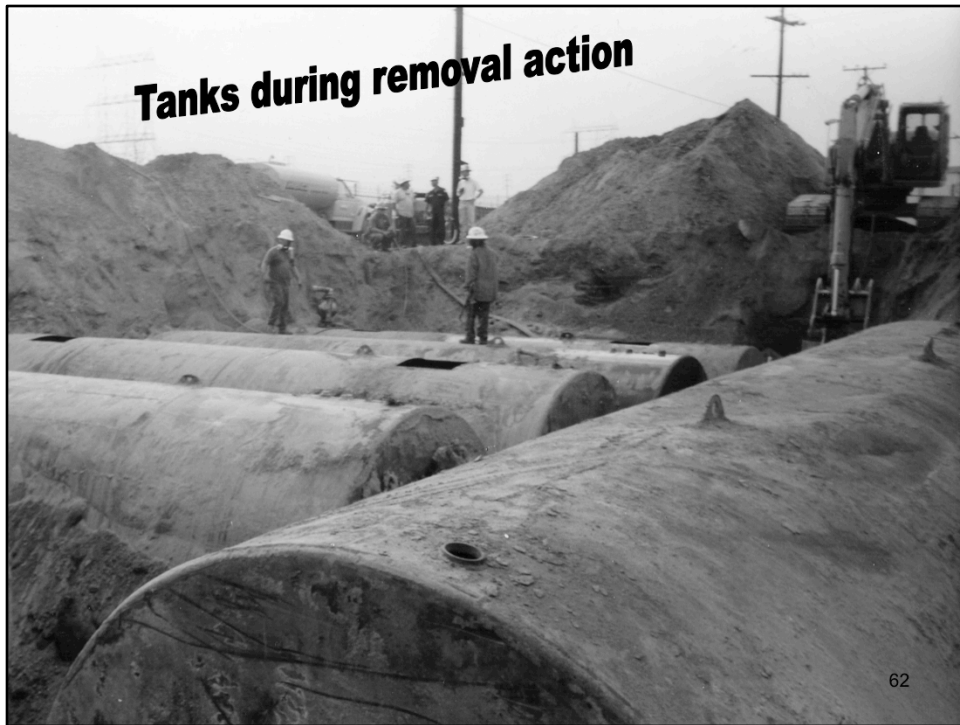
The Pemaco Maywood Superfund site occupies a 4-acre tract of land along the Los Angeles River in Maywood, California. The site operated as a chemical mixing facility from the late 1940s until 1991, when the facility closed. In 1993, a fire destroyed the warehouse and raised safety concerns regarding the 31 underground storage tanks, six aboveground storage tanks and 400 drums that still remained on site.

Pemaco Superfund Site

- Maywood, California, 1.4 acres
- Former custom chemical blender 1950-1991, on site storage of drums, UST, AST
- Chlorinated solvent (TCE) soil and groundwater contamination
- Site Listed on NPL 1999



The plant is located approximately 6 miles south of downtown Los Angeles in the City of Maywood. The company operated as a custom chemical blending facility from 1940s until 1991. Hazardous chemicals were stored onsite in 31 underground storage tanks, 6 aboveground tanks, and over 400 drums. Chemicals were delivered onsite via both truck and rail.



EPA conducted a removal in 1997 and Chemicals in tanks included alcohols, xylene, toluene, acetone, hexane, and other volatile organic compounds

Chemicals in tanks included alcohols, xylene, toluene, acetone, hexane, and other volatile organic compounds.

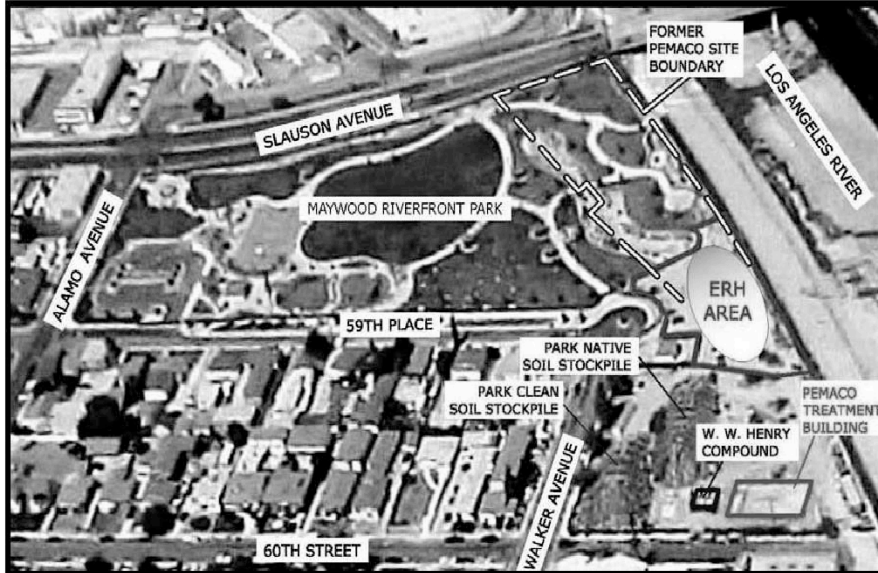


63

An EPA investigation detected hazardous chemicals including chlorinated and aromatic solvents, petroleum hydrocarbons, and flammable liquids present in the soil, as well as dioxin and volatile organic compound emissions from soil and groundwater. In 1997, measures to stabilize the site were implemented, including razing all infrastructure and removing the remaining storage tanks. An expanded EPA site assessment resulted in the site being added to the Superfund National Priorities List in 1999.

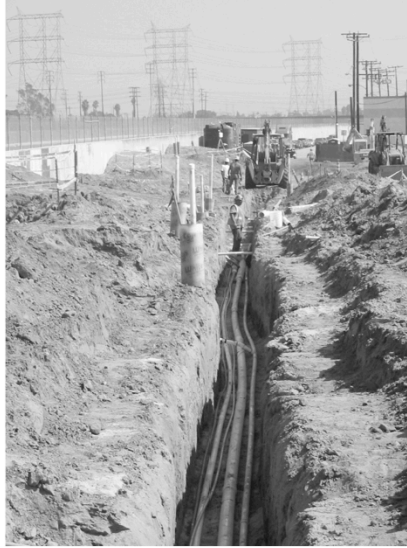
- 1997-EPA removes 29 underground storage tanks
- 1998- 1999 EPA installs a soil vapor extraction system and treated 144, 400 lbs of soil
- 2004- Remedial Investigation/Feasibility Study
- 2005- ROD including public comments signed





65

EPA coordinated construction of the remedy for the Pemaco Superfund site with the construction of the Maywood Riverfront Park. The City and the Trust for Public Land purchased properties bounded by Slauson Avenue, Alamo Avenue, 59th Place, and the Los Angeles River.



EPA coordinated construction of the remedy for the Pemaco Superfund site with the construction of the Maywood Riverfront Park. As a result of this coordination effort, on-site construction of the remedy began on August 5, 2005. On-site construction included the installation of the groundwater extraction wells, vapor extraction wells, and underground piping that would transport both groundwater and vapor to the treatment plant.

EASTERN TRENCH- 10,000 feet of pipe placed in trenches from Pemaco to the treatment plant.

Placement of 10,000 feet of pipe in trenches



One Foot Soil Cover placed on Pemaco with a liner (17,000 yards of soil)





69

During August 2006, EPA continued its construction activities by building the foundation for the treatment plant and raising the walls for the treatment building. Construction of the treatment plant was completed by early December 2006 and EPA continued installation of the vapor recovery wells and electrodes located in the ERH source area. The soil vapor monitoring probes were installed along Walker Avenue during January 2007. EPA conducted indoor air sampling in the homes on 59th, and 60th Street during February 2007. The results showed that the subsurface contamination from the Pemaco site was not impacting the indoor air quality of the homes.



Pemaco ERH Well Field



Six months of treating contaminated soils with electrical resistive heating was completed in April of 2008.



The 3.4 kW photovoltaic solar system was installed on July 3, 2007 and produces about 5,600 kWh / yr. The system offsets about 3.3 tons CO₂ per year, which is equal to saving 2.5 acres trees and 7,600 car miles.



72

Construction of the park continues during summer 2006.

Maywood Riverfront Park Conceptual Design



Conceptual design of park. EPA staff and contractors worked with City of Maywood Planning Department and park designers to come up with the conceptual design. We discussed the location of the various park infrastructure during planning meetings. In addition, EPA coordinated start of site cleanup construction with start of park construction.

- EPA worked with City of Maywood, Trust for Public Lands, California State Coastal Conservancy, California State Water Resources Control Board, local and elected officials between 1998 and 2005 on planned final use for the site.
- Maywood Riverfront Park was completed during May 2006.

- The Park is only the second park for City residents.
- City Council worked with EPA to codify institutional controls so that the area and site is identified as recreational use. No changes to land use can occur without City notifying EPA.

- Park has become an integral to the life of the residents living in the area. It is in constant use and the City is moving forward with plans to try and build other parks within this urban center.



77

Taken June 15, 2006



Taken 6 15 2006



Children playing on playground equipment during the opening ceremony which was held during May 2008.



This view is of the park site from the former Pemaco site. The former chemical plant is incorporated into the park.



81

The City of Maywood and the Trust for Public Land planned to revitalize former industrial lands along the Los Angeles Riverfront into a community park, as part of the Los Angeles River Greenway Project. The best situated lands for this project were eight parcels along the river in Maywood, including the four acres containing the Pemaco Maywood site.



The site's recreational reuse was considered in all EPA's activities, including remedial investigation, sampling, risk assessment, remedial design, and construction. EPA adjusted the placement of the ground water treatment facility to best accommodate the park. The City of Maywood, the Trust for Public Land, EPA, and various city and state stakeholders collaborated closely to assure that the site remedy would be in place for park completion within the scheduled deadline. EPA held bilingual community meetings to keep residents apprised of construction at the site and progress of remediation measures. Ongoing meetings continue to involve community members in site maintenance and address any concerns about site safety.



83

The Maywood Riverfront Park opened in May 2008.



Soccer fields

Playgrounds

Handball courts

Basketball courts

An access pathway to the LA River Bike Path

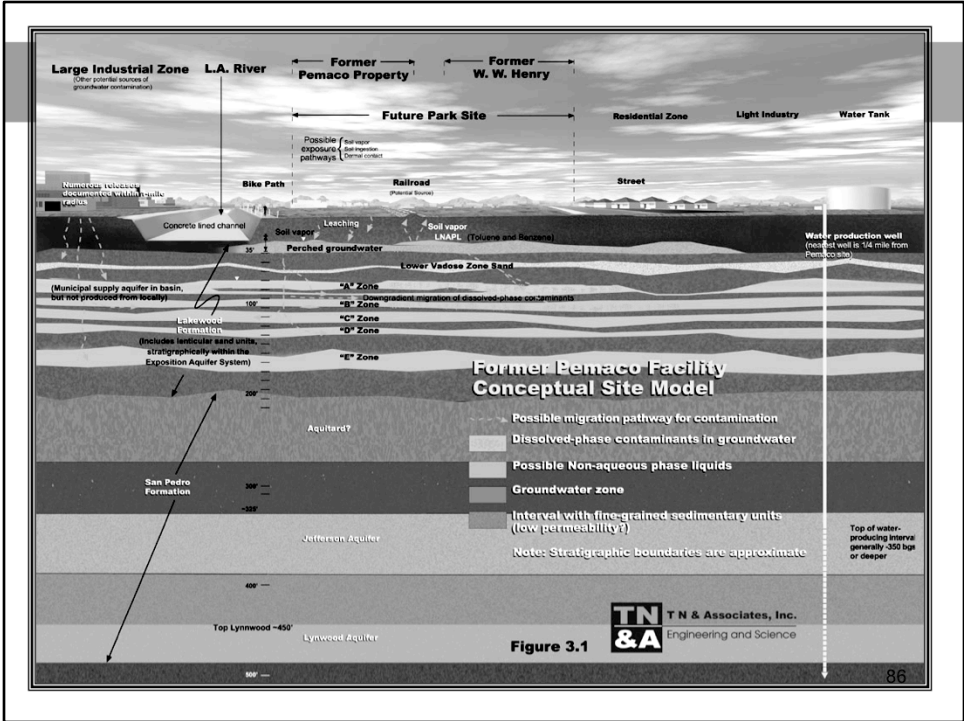
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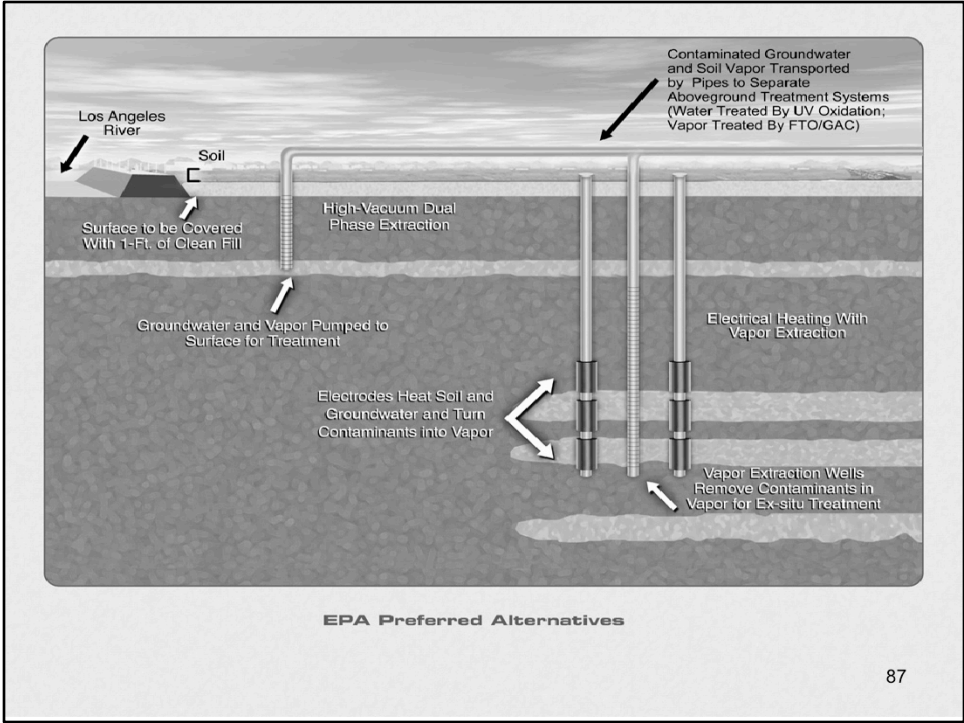
The contractors continued delivering and hooking up the equipment inside the treatment plant during early 2007. EPA turned on the groundwater treatment system during April 2007. The vapor treatment system was turned on during May 2007, and the ERH system was turned on during late August 2007. EPA continues to monitor both the groundwater treatment system and vapor monitoring system on a daily and weekly basis. EPA has collected samples for volatile organic compounds in both the vapor and groundwater waste streams. Sampling includes both instrumental monitoring as well as analysis of samples collected from various components of the treatment plant. EPA has also performed dioxin and furan testing on the vapor before it leaves the treatment plant. The sampling results show that the cleanup is proceeding in a safe manner and cleanup activities are not impacting residents living in the neighborhood close to the site or the park.

Cleanup of the groundwater and vapors will continue until cleanup levels are reached. This cleanup will likely include bioremediation. A pilot test has been conducted to determine the effect of injecting sodium lactate into the groundwater plume. EPA continues to monitor the results of the in-situ bioremediation at the site.

EPA has been conducting community meetings every 4 to 6 weeks. During late 2007 meetings were held during August and October. EPA also held meetings on January 31, 2008, March 27, 2008, September 4, 2008, and February 26, 2009. EPA will continue to discuss the status of the cleanup and various sampling results at community meetings, and will send out email updates, as needed. A meeting will be scheduled during early 2010.

EPA signed the Preliminary Closeout Report for the Pemaco Site in September 2007. This report documents the completion of the construction activities associated with implementing the remedy at the site.

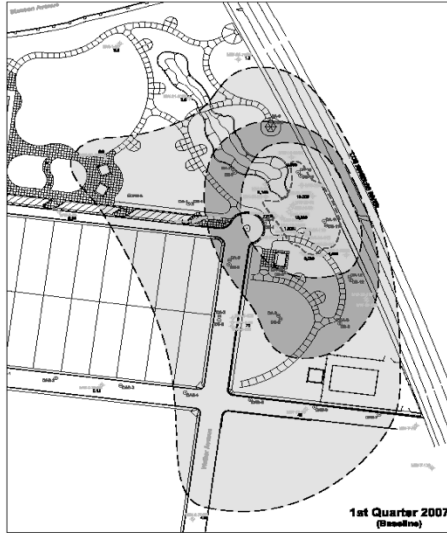






Pemaco Water and Vapor Treatment
Plant





**Baseline: TCE
Plume in B Zone
prior to ERH
(March 2007)**



Groundwater Plume Reduction



**4Q07: TCE
Plume in B
Zone after 3
months of ERH
(December
2007)**





**4Q08: TCE
Plume in B Zone
eight months
after ERH
Shutdown
(December
2008)**



Groundwater Plume Reduction



**4Q09: TCE
Plume in B
Zone 1.75 years
after ERH
Shutdown
(December
2009)**



Groundwater Plume Reduction



**4Q09: TCE
Plume in B
Zone 1.75 years
after ERH
Shutdown
(December
2009)**



Groundwater Plume Reduction



**4Q10: TCE
Plume in B
Zone 2.75
years after
ERH Shutdown
(December
2010)**

**4th Quarter 2010
(HVOPE in Operation)**



GETTING STARTED WITH SUPERFUND REDEVELOPMENT

Thank you all for those great stories!

To conclude, I'd like to offer a numbers of tools that SRI provides for getting started with reuse.

- Outreach
- Community Support
- Ready for Reuse Determinations
- Regional experts



SRI has a diverse range of reuse support tools and resources available that can support smart growth-related outcomes. Our website provides information about all these resources. Because we don't have much time left, I'll like talk briefly about a few of these.

The screenshot shows the EPA Superfund Redevelopment website. At the top left is the EPA logo. The main header reads "Outreach: SRI Website and Resources". Below this is a navigation menu with "Superfund Redevelopment" selected. A search bar is present with "All EPA" and "This Area" options. The main content area features a "Celebrating 11 Years of the Superfund Redevelopment Initiative" section, followed by "Return to Use" and "Superfund Redevelopment in the News". A sidebar on the left contains links for "Superfund Redevelopment Tools", "Basic Information", "Where You Live", "Innovation", "Key Activities", "Accomplishments & Performance Measures", "Tools & Resources", "Policy & Guidance", "Frequent Questions", and "Site Map". On the right, there are "Superfund Redevelopment Webinars" and "Superfund Reuse Success Stories" sections. The page number "97" is visible in the bottom right corner.

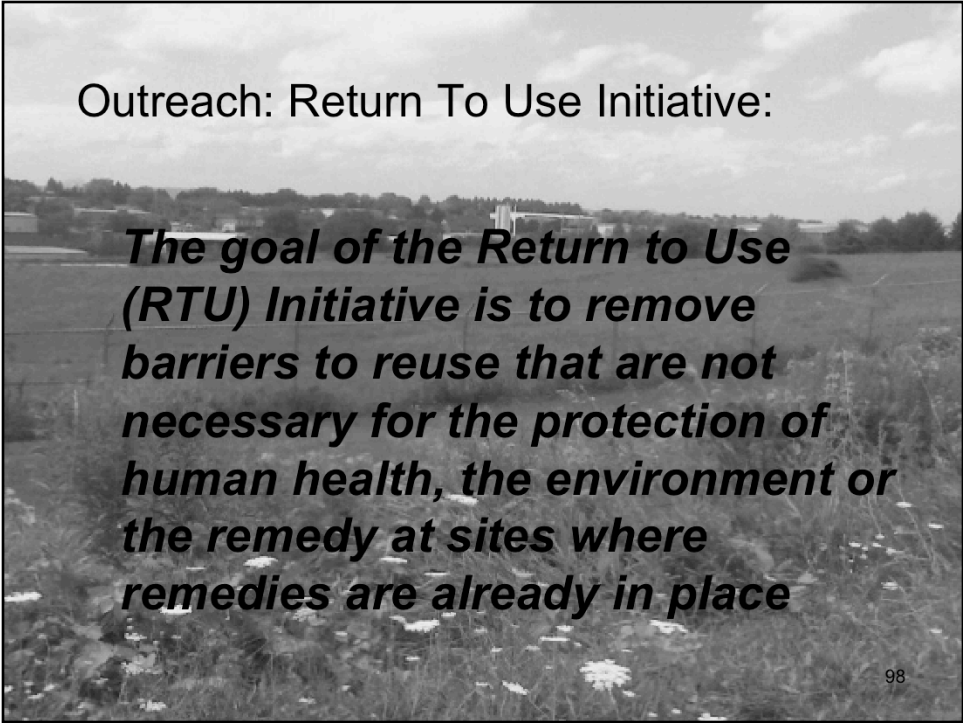
Outreach: SRI Website and Resources

Communication is key. SRI's website is the hub for most of our reuse support tools. In addition to hosting fact sheets and case studies, the website hosts SRI's series of reuse videos and additional information and reuse-related resources.

If a site has been successfully reused, we make sure that its story is available as a resource for others working to return sites to use. To spread the word, we develop fact sheets, case studies, videos and brochures and regularly update the SRI website.

These materials include comprehensive, in-depth case studies for those interested in a detailed understanding of how reuse processes have worked from start to finish. Smart growth-related stories highlighted on SRI's website include the recreational reuse of the H.O.D. Landfill site in Illinois, solar energy facilities at the Aerojet General Corporation site in California, mixed-use redevelopment at the MDI, Inc. site in Texas, mixed-use redevelopment of the Midvale Slag site in Utah, and recreational reuse and ecological restoration of the Milltown Reservoir Sediments site in Montana.

We're working on a new case study for the Former Spellman Engineering site in Florida that will be used by a school for athletic fields – this is another great example of recreational reuse!



Outreach: Return To Use Initiative:

The goal of the Return to Use (RTU) Initiative is to remove barriers to reuse that are not necessary for the protection of human health, the environment or the remedy at sites where remedies are already in place

98

The Return to Use Initiative

The Return to Use Initiative is currently one of SRI's primary efforts. It is focused on construction complete sites, or sites that are partly cleaned up. The Initiative has one major purpose: to remove barriers to reuse that are not necessary for the protection of human health, the environment or the remedy at those sites where remedies are already in place.

As part of the Initiative, we capture the lessons learned at the site and create demonstration projects so other cleaned up sites can benefit from the experiences. We also make an effort to do what we can to address the barriers, and work with the Regions to figure out ways Headquarters could potentially help on a site-by-site basis. Examples include: providing regional seed resources; identifying and sharing examples that promote lessons learned; and helping Regions draft Ready for Reuse determinations.

Reuse Planning: Community Support



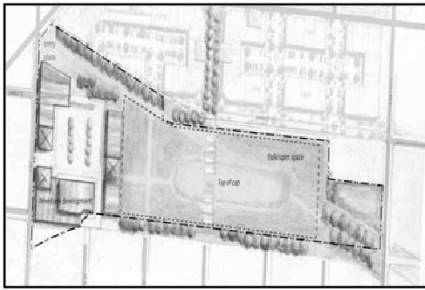
Reuse Planning: Community Support

Through SRI's Community Support pilot projects, we provide start-up funding for reuse planning at Superfund sites. I'd like to take a few minutes to explain this process in more detail over the next couple of slides.

In the upcoming weeks, we'll also be updating our Community Support information on the SRI website and providing examples of the reports generated through reuse planning processes.

Displayed on this slide are maps and photographs from the reuse plan for the Bandera Road Superfund site, which is located in Leon Valley near San Antonio, Texas. Maps like these are instrumental in helping communities and EPA determine a site's reasonably anticipated future land use.

- Help remove barriers to reuse
- Encourage appropriate reuses
- Use site-specific tools and strategies



Community Support: Benefits

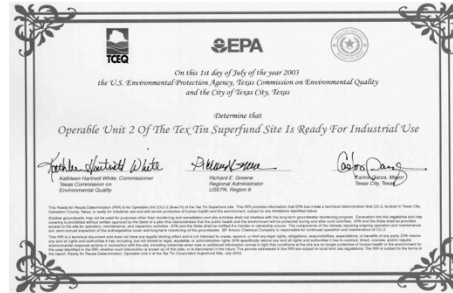
To initiate planning projects, SRI provides startup reuse planning funds to communities around the country. Through this work, we have seen that that well-run, community-based reuse planning has the potential to dramatically improve community relations and the public's perception of the Agency; to streamline the cleanup process by clarifying a site's reasonably anticipated future land use and integrating that information with the site's cleanup plan; and to bring the Agency and communities together around more cost-effective remedies that produce the greatest long-term value for local communities.

Community support funds, or "regional seeds", are resources provided by SRI to communities at the request of EPA regional offices. The seed concept provides an initial investment to bring stakeholders to the table, clarify remedy constraints, and outline suitable reuse options for a local community to pursue. Additional resources to complete the reuse planning process are provided by each Region. As a reuse planning process gains momentum, communities can leverage the initial regional seed investment with local resources to continue the process of returning a local Superfund site to productive use.

SRI recognizes that there is no one-size-fits-all strategy to make reuse happen. Therefore, SRI offers several different types of community support resources to support reuse.

Ready for Reuse Determinations

- Are you wondering:
 - Is the site safe?
 - What did EPA do where?
 - What are the limitations for this site?
 - Where can I get all the key information in one place?
 - Is there something I can share with everyone that says this site is safe?



SRI Website:
<http://www.epa.gov/superfund/programs/recycle>
SRI Help Desk:
434.817.0470
Monday through Friday, 8 AM to 5 PM EST

101

• **Ready for Reuse determinations**, or RfR determinations, can be an excellent tool. They are an environmental status report that says, in plain English, the uses a site can support and the limitations on reuse. Local governments have found them especially useful because it's a tool they can share with community at large that reassures everyone that EPA acknowledges that a site is ready to be returned to use. If you think a tool that answers the questions on this slide might be useful, be sure to talk to us.

Contact	States Served
John Podgurski (podgurski.john@epa.gov) 617-918-1296	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, & Vermont
Gloria Sosa (sosa.gloria@epa.gov) 212-637-4283	New Jersey, New York, Puerto Rico, & Virgin Islands
Christopher Thomas (thomas.christopher@epa.gov) 215-814-5555	Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, & West Virginia
Bill Denman (denman.bill@epa.gov) 404-562-8939	Alabama, Florida, Georgia, Mississippi
Jon Bornholm (bornholm.jon@epa.gov) 404-562-8820	Kentucky, North Carolina, South Carolina, Tennessee
Tom Bloom (bloom.thomas@epa.gov) 312-886-1967	Illinois, Indiana, Michigan, Minnesota, Ohio, & Wisconsin
Casey Luckett Snyder (luckett.casey@epa.gov) 214-665-7393	Arkansas, Louisiana, New Mexico, Oklahoma, & Texas
Tonya Howell (howell.tonya@epa.gov) 913-551-7589	Iowa, Kansas, Missouri, & Nebraska
Fran Costanzi (costanzi.frances@epa.gov) 303-312-6571	Colorado, Montana, North Dakota, South Dakota, Utah, & Wyoming
Gary Riley (riley.gary@epa.gov) 415-972-3003	Arizona, California, Hawaii, Nevada, American Samoa, & Guam
Tim Brincefield (brincefield.timothy@epa.gov) 206-553-2100	Alaska, Idaho, Oregon, & Washington

Each Region has a Superfund redevelopment Coordinator. For reuse questions regarding a specific site or area of the country you are welcome to contact your Regional coordinator.

QUESTIONS?

Are there any questions that we can answer at this time?



Contact Information

Melissa Friedland
Superfund Program Manager for Redevelopment
friedland.melissa@epa.gov
(703) 603-8864

Frank Avvisato
Redevelopment Initiative Project Officer
avvisato.frank@epa.gov
(703) 603-8949

104

If you all have any other questions come up, please do not hesitate to be in touch with me! Thank you very much for your time today and thanks very much to our presenters for sharing their great stories with us!

Resources & Feedback

- To view a complete list of resources for this seminar, please visit the **Additional Resources**
- Please complete the **Feedback Form** to help ensure events like this are offered in the future

U.S. EPA Technical Support Project Engineering Forum
Green Remediation: Opening the Door to Field Use Session C (Green Remediation Tools and Examples)
Seminar Feedback Form

We would like to receive any feedback you might have that would make this service more valuable.
Please take the time to fill out this form before leaving the site.

First Name:

Last Name:

Date:

Daytime Phone Number:

Email Address:

Please send a copy of my feedback confirmation at a record of my participation to this address.

Need confirmation of your participation today?

Fill out the feedback form and check box for confirmation email.