

# Murray City, Utah:

## *Responding to Site Remediation and Reuse Challenges, Finding New Answers*

### Introduction

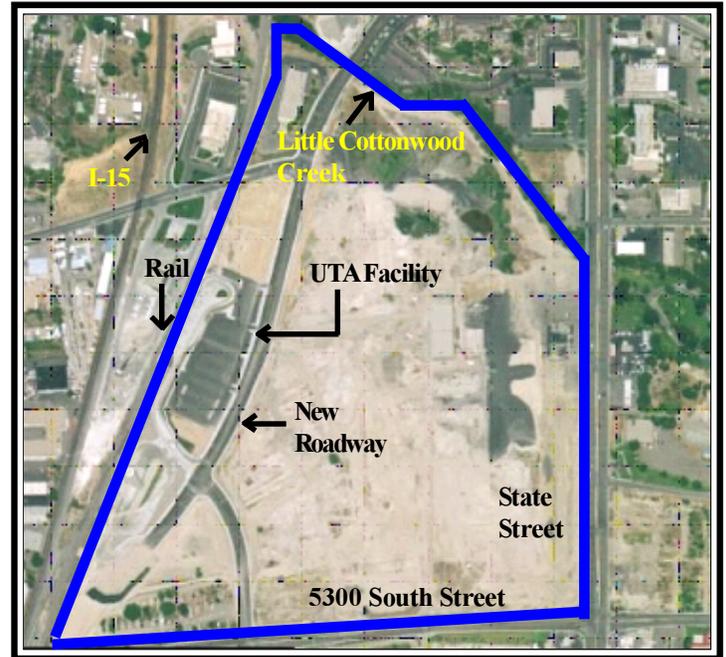
In 1996, Murray City, a community located in the center of Utah's Salt Lake Valley region, faced a substantial opportunity and challenge. Murray Smelter, a 142-acre former mineral processing site, was located within the City's central business district, surrounded by City Hall, residential areas, retail businesses, and schools. Once the largest lead smelter in the country, Murray Smelter opened in 1872 and was operated by the mining company Asarco, the site PRP, between 1902 and the smelter's closure in 1949. Adjacent to rail and highway access points, the site clearly offered a substantial reuse opportunity.

However, the site's soil, surface water, ground water, and sediment were heavily contaminated with lead, arsenic, and other heavy metals. Following more than 75 years of smelting and refining, the on-site contaminants also threatened surrounding areas – the site's contaminated ground water, for example, was slowly moving towards Little Cottonwood Creek, along the site's northern boundary.

Today, the Murray Smelter site contains a Utah Transit Authority (UTA) light rail station with a 300-space parking lot and a designated connector road. The construction of a major retail membership warehouse club on the site is scheduled to begin in late 2002. Groundbreaking for a one-million-square-foot hospital facility is planned for 2003. The site is being redeveloped as several multi-use properties that address Murray City's need for regional health care facilities, public transit access, and diversified economic development.

This case study describes the innovative partnerships and community leadership efforts that have led to the rapid redevelopment of the Murray Smelter site. In particular, the case study examines Murray City's active partnership role working with EPA on the site's remediation and redevelopment. The case study also explores the roles of the site's various stakeholders, including EPA, the Utah Department of Environmental Quality (UDEQ), the Utah Transit Authority (UTA), Asarco, prospective site owners, community residents, and Murray City's public officials. The redevelopment process at the Murray Smelter site highlights how local community involvement, active PRP engagement, sustained stakeholder communication, and ongoing education efforts can be powerfully combined to create positive change that enhances a community's quality of life and protects human health and the environment.

Below, the case study provides a brief introduction to Murray City's history and then discusses the evolution of remediation and redevelopment efforts at the Murray Smelter site between its proposed listing on the National Priorities List (NPL) in 1994 and the finalization of site redevelopment plans in 2001. This case study is intended to provide site stakeholders interested in reusing abandoned mine lands with relevant information and lessons learned from the Murray Smelter site.



**Aerial view of the Murray Smelter Site  
During Remediation and Redevelopment**

### Community Profile

Originally known as South Cottonwood, Murray City and its residents have anticipated and adapted to economic and social change several times over the past 150 years. The City was originally an agricultural center that produced livestock and grains to meet the needs of the western territories' rapidly growing populations. By 1869, beginning with the Woodhill Brothers Smelter, industrial mining and mineral processing dominated the area, taking advantage of abundant local gold, silver, copper, and lead deposits. The mining and processing industries began to falter in the 1930s, during the Great Depression, and by the time the Murray Smelter plant closed in 1949, Murray City had become a residential suburb of Salt Lake City.

Today, Murray City is a residential suburb with its own thriving, diversified economy. Located at the geographic center of the Salt Lake Valley, Murray City describes itself as the "Hub of the Valley." In the past decade, Murray City's government has attracted new economic development using two strategies: the construction of City-owned power and water plants and the installation of a comprehensive, City-owned fiber optic network. The Murray City Power Gas Turbine Electrical Generation Facility, completed in the summer of 2001, produces 40 megawatts of power for City residents and use by other cities in the state. The project's innovative design won the 2001 Industrial Project of the Year award from the Utah Chapter of the Associated General Contractors.

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Murray City's government has also established a reputation for innovative environmental management. The Murray Parkway golf course, completed in 1986, was built using excess fill dirt from a highway construction project and relies on highway runoff water for irrigation. The highway runoff is filtered through holding ponds on the course – water quality monitoring indicates that, upon leaving the golf course and joining the nearby Jordan River, the runoff is 90% cleaner. The project won EPA's National Stormwater Control Award and a Water Conservation Award from the Bureau of Reclamation.

In the same year that the golf course was completed, EPA discovered the contamination at the Murray Smelter site, determining that the site did not pose a significant threat to human health or the environment. At that time, the site was occupied by various commercial, industrial, and residential uses, including an inactive asphalt plant, a pipe distributor, a concrete manufacturer, and two trailer parks. Beginning in 1994, when further testing by EPA indicated that the site warranted listing on the NPL, City officials embarked on a seven-year journey that would ultimately result in the site's remediation and successful reuse.

EPA's regional office first approached Murray City about partnership possibilities based on the City's innovative approach to the Murray Parkway golf course. Lynn Pett, then-Mayor of Murray City, responded positively to the idea that Murray City could work in partnership with EPA to address the site's remediation. "We knew this would be a major undertaking," Pett recalled, "but we were willing to do it because it was a very high priority for our community." Mayor Pett had one stipulation: the Murray Smelter site would need to be "fast-tracked" so that it could be ready for remediation before he left office in 1998. Together with his Executive Assistant, Jack DeMann, and the Murray City Attorney, Craig Hall, Mayor Pett began to work with EPA to consider remediation strategies and reuse options for the site.

### *Comparison Between Demographics of Murray City and the State of Utah (2000 Census Data)*

	Murray City	State of Utah
Population	34,024	2,269,789
% Population Change, 1990-2000	8.8%	29.6%
% Population Non-White	8.4%	10.8%
Median Income	\$33,361	\$38,884
Median Age	31 years	27 years

### *Stakeholders/Involved Parties*

#### *Murray City:*

Lynn Pett, Mayor  
Jack DeMann, Executive Assistant  
Craig Hall, City Attorney

*EPA RPM:* Bonnie Lavelle

*EPA Attorney:* Matt Cohn

*Utah DEQ:* Michael Storck

*PRP:* Asarco

#### *Property Developers:*

Intermountain Health Care (IHC)  
Utah Transit Authority (UTA)  
Costco

## **Project History**

### **January 1994 - April 1996**

#### *Taking the Initiative*

The journey to successfully remediate and redevelop the Murray Smelter site began in January 1994. Within two years, City officials developed a unique partnership with EPA, UDEQ, and Asarco that established the City as one of the oversight agencies for the site's remediation and redevelopment. Assistance and oversight would be provided by EPA and the site's Remedial Project Manager (RPM) Bonnie Lavelle, Asarco's remedial team, and UDEQ.

In April 1996, Murray City and EPA finalized the arrangement, signing a Memorandum of Understanding (MOU). The MOU created a formal role for the City in the assessment of potential future land uses at the site, the development of cleanup options, and the enforcement of institutional controls required by EPA's cleanup decisions. With the agreement in place, three additional EPA issues could now be addressed. How could a remediation plan be developed that would have the support of EPA, UDEQ, Asarco, Murray City, and all site property owners? How could these site stakeholders work together to create a redevelopment plan? Finally, could the remediation and redevelopment plans be coordinated to ensure timely action and successful reuse?

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### October 1996 - August 1998

#### *Meeting Stakeholder Needs, Coordinating Remediation and Reuse Plans*

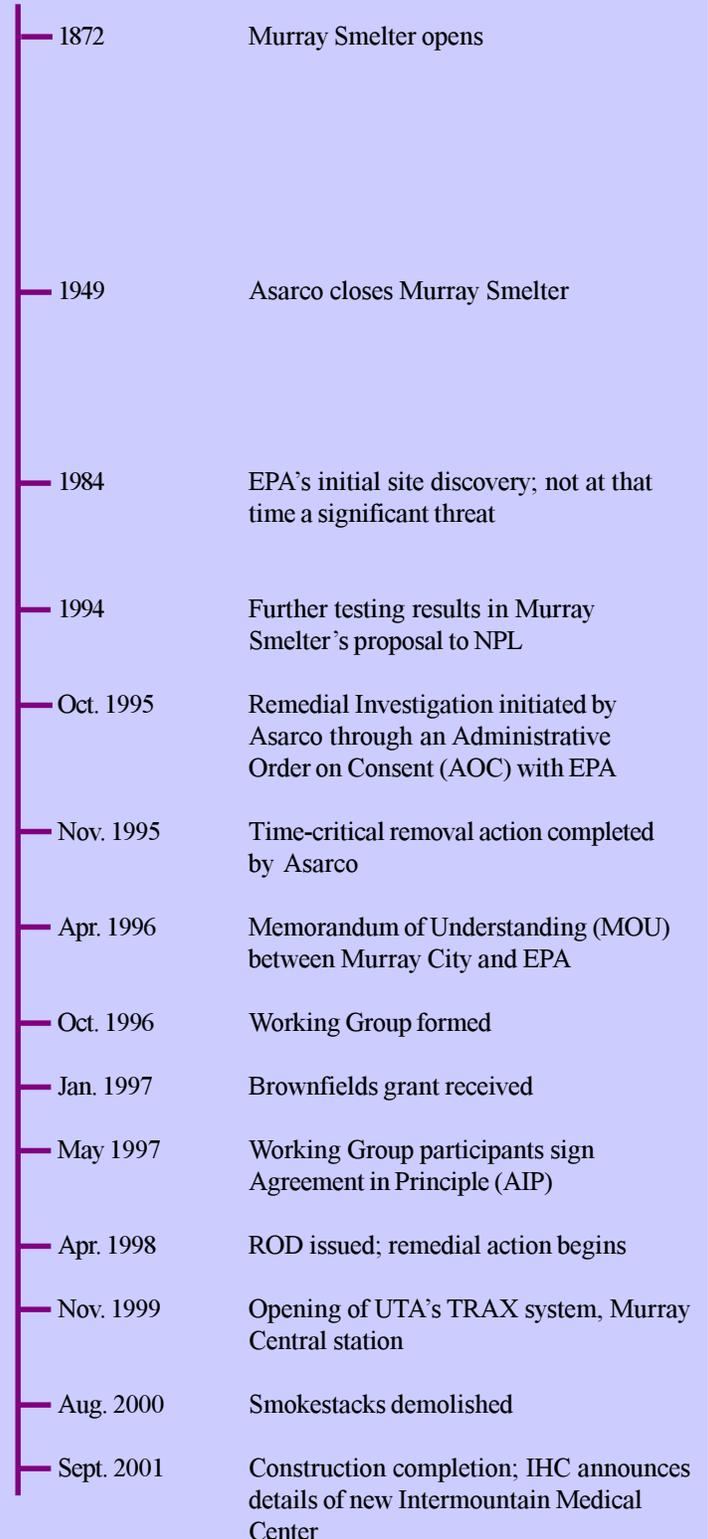
A Working Group was formed in October 1996 to address these difficult questions. In addition, in January 1997, Murray City received a \$176,000 Brownfields grant, which was used to pay for a seismic analysis and a real estate consultant to advise on potential reuse opportunities. Between October 1996 and August 1998, the Working Group addressed the site's remediation and redevelopment. In the first phase, between October 1996 and April 1997, the Murray Smelter Working Group developed:

- a remediation plan supported by EPA, UDEQ, Asarco, Murray City, and all property owners;
- a plan for the site's redevelopment benefitting the City, the community, and the property owners; and
- a commitment to integrate the implementation of remedial actions into redevelopment activities.

Site RPM Bonnie Lavelle recommended that the Working Group use a facilitated discussion process to address the site's remediation and reuse issues. Using a facilitated process funded by EPA, the site stakeholders entered into an agreement to cooperate and do "whatever it took" to make the project a success. The facilitation allowed stakeholders to express their views in an open, neutral forum, and laid the groundwork for cooperation throughout the reuse process. "It was a definite help to have [the facilitator] there," recalled Grantley Martelly of the Utah Transit Authority. "The [discussions] among all the parties helped keep property owners cooperating with each other." As a result, by the conclusion of the Working Group's first phase, EPA could address the site's remediation within the context of the site's likely future land use.

The second phase of the Working Group, which accelerated between April and August of 1998, following issuance of the site's Record of Decision (ROD), addressed the site's redevelopment. In this phase, the Working Group included Murray City, two local development companies – the Boyer Company and Johansen Thackeray – UTA, and Intermountain Health Care (IHC), a non-profit health care organization based in Salt Lake City. Murray City hoped that the Murray Smelter site's redevelopment would provide a wide range of social and economic benefits to the local community, including increased tax revenues, as well as a new north-south connector road that would ease the City's traffic congestion. Both local developers envisioned commercial opportunities – restaurants, retail activities, and a movie theater – at the site. UTA was interested in building a TRAX light rail station, as called for in the region's long-term transportation plan, to provide area commuters with transit access to Salt Lake City. IHC's initial plans called for construction of a satellite health care facility at the site.

### Project Timeline



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From the outset, despite the wide range of interests, Working Group participants continued their willingness to work together in new and innovative ways. To maximize the available acreage and enable the construction of the new north-south connector road, the Working Group proposed that a soil repository for low-level contaminants could be placed under the roadway. Site landowners, following discussions with the City Attorney and Asarco, agreed to dedicate the land necessary for the road in lieu of contributing to the site's remediation costs. The City agreed to build and maintain the road and install a storm water management system.

In a similar spirit, UTA and IHC agreed to exchange land parcels so that the UTA light rail station could be optimally located along the site's western boundary. In addition, to help coordinate the development of the transit station with the TRAX system's region-wide opening and to ease traffic congestion, the Working Group collaborated to ensure that UTA's property would be remediated as rapidly as possible. The Murray Central TRAX station opened in 1999, concurrent with the region's new light rail system.

Asarco also made critical contributions to the site's successful remediation and reuse, committing from the outset to design a cleanup strategy consistent with Murray City's General Land Use Plan for the site. In addition to paying for the majority of the remediation work, Asarco agreed to reimburse the City for operation and maintenance costs (estimated at \$140,000 annually) at the site for five years. "What was amazing about Asarco ... was their willingness to do a lot of small things that eased this process, that went beyond their responsibilities under CERCLA," noted EPA attorney Matt Cohn. "That made the process much easier, and terrific to be a part of." Bonnie Lavelle was equally pleased with Asarco's involvement, noting that "they took a risk ... everyone understood that in order for things to work on this site, the cleanup activities had to move very quickly ... we had not drafted and signed the Record of Decision, and nevertheless Asarco began a remedial design."

Working Group meetings were open to the local community, and EPA also held open community meetings and information sessions to receive community input on the remediation and reuse of the Murray Smelter site. The local community was already knowledgeable about the Superfund process and the problems associated with mining site remediation, having watched neighboring communities go through similar experiences. Community meetings and information sessions were not heavily attended, but EPA was satisfied that the City's involvement reflected the needs of the citizens. "The City government had the trust of the people – which enabled them to make decisions and act in the community's best interests without a lot of back-and-forth," said Bonnie Lavelle.

In May 1997, Working Group participants signed an Agreement in Principle (AIP). The document established the presumption that the Murray Smelter site would be available for commercial and light

industrial reuse. The AIP affirmed the stakeholders' agreement on the construction of the new road, UTA's land-exchange with IHC, and the implementation of institutional controls. The AIP enabled EPA to evaluate site remediation options based on the site's anticipated future land uses. With the agreement in place, EPA issued a final Record of Decision in April 1998. In August 1998, all site property owners signed the site's Consent Decree (CD) and Prospective Purchaser Agreements (PPAs) with EPA, which together formally settled all site liability issues, allowing the site's property owners to finalize their redevelopment plans, and site remediation began.

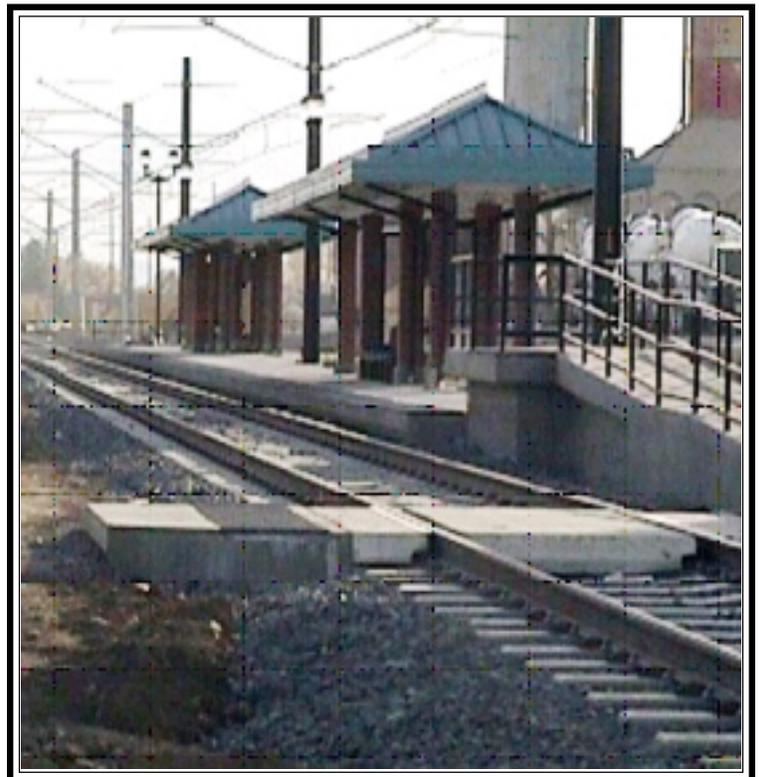
#### **April 1998 - September 2001**

#### *Remediation and Reuse in Action: Moving Forward, Adapting to Change*

##### *Site Remediation*

In April 1998, EPA issued the Record of Decision (ROD) for the Murray Smelter site. To address the site's soil, ground water, surface water, and sediment contamination, EPA's selected remedy relied on excavation of contaminated soils, off-site disposal of highly contaminated soils, on-site consolidation of lower-level contaminated soils, and monitoring.

#### **Murray Central TRAX Light Rail Station**



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Monitored natural attenuation will address the site's ground water contamination, and Little Cottonwood Creek will be monitored to ensure that arsenic levels are reduced to water quality standards.

To address the site's soil and sediment contamination, soil heavily contaminated with lead and arsenic was taken to authorized off-site waste facilities, while less-contaminated soil was placed in encapsulated repositories under the site's new proposed roadway and the UTA station parking lot. The safe containment of these wastes on-site reduced remediation costs and maximized the site acreage available for redevelopment. In September 2001, the Murray Smelter site achieved construction completion.

Murray City assisted directly with the site's institutional controls, implementing restrictive easements and developing a Brownfields Overlay District that today stands as a national example of innovative zoning. The purpose of the City's Smelter Site Overlay District (SSOD) is to "promote public health, safety, and general welfare through redevelopment of the site, while minimizing public and private exposure to risks." The SSOD:

- Ensures that appropriate uses are allowed on the site while still encouraging redevelopment of the land;
- Provides flexibility to property owners to create redevelopment plans for the site and phasing of development consistent with remediation plans;
- Provides for future redevelopment and changes in uses on the site while ensuring long-term protection of the caps and barriers on the site;
- Assures cohesive development within the boundaries of the SSOD; and
- Ensures that monitoring and maintenance plans are prepared and followed for the overlay district.

The SSOD accomplishes these goals using several tools. To protect the site remedy, the overlay district prevents residential and/or contact-intensive industrial uses, restricts excavation, and requires maintenance of remedy barriers and controls within the District. Prospective developers must also provide grading, drainage, and monitoring and maintenance plans that directly address the site remedy. To protect human health and the environment, the District prohibits construction of new wells and the use of existing wells, except for EPA-approved monitoring wells.

As a result, by September 2001, the implementation of the SSOD and the construction completion of the site remedy meant that the reuse of the Murray Smelter site could become a reality. Plans for the site's redevelopment, however, changed in several ways over the same period.

### **Reuse Plans**

In addition to the TRAX station and IHC's health care facility, the initial redevelopment plans, proposed by the Boyer Company and Johansen Thackeray, envisioned a "high-end" retail shopping center and movie theater at the Murray Smelter site. The development was to be named "Chimney Ridge," referencing the smelter's historic, towering double smokestacks that remained on-site.

However, the companies' original site development plans were complicated by the site's remediation schedule and by unexpected negative community feedback about the smokestacks. EPA analysis of the smokestacks indicated that arsenic contamination posed a significant health threat and that the smokestacks' seismic risk – Murray City is located in a fault zone – meant that the smokestacks would either have to be stabilized or demolished. Community residents strongly supported the stabilization of the smokestacks, but voted against a special City-wide ballot issue that would have raised taxes to pay for the stabilization. Many community residents believed that the burden of the substantial stabilization costs should be borne by site owners, not by taxpayers. EPA was not involved in the site owners' choice to stabilize or demolish the smokestacks.

In August 2000, the smokestacks were demolished, with EPA oversight to ensure the safety of the surrounding community and the environment. As a result of the controversy over the site's smokestacks, relations between the local community and the site's prospective developers had become severely strained, eventually resulting in the abandonment of the Chimney Ridge project. Community education and outreach efforts did not sufficiently convey the technical and financial challenges presented by the preservation of the historic smelter smokestacks. Grantley Martelly of UTA summarized the potential difficulties with communicating technical limitations to the general public: "It's important to translate technical needs into public relations. Both elected officials and community members need to understand why some things are technically necessary, and why their ideas may not be possible."

Despite the failure of the Chimney Ridge project, new reuse options quickly developed for the Murray Smelter site. IHC, already planning to build on a 45-acre portion of the site, was looking for a large, convenient location for their new flagship hospital. With their premier LDS Hospital crowded onto a 17-acre lot in the north end of Salt Lake City, IHC welcomed the opportunity to purchase the remaining 45 acres of the Murray Smelter site. Tom Uriona, IHC's Corporate Real Estate Manager, also recalled that the site's location was critically important: "The site is at the center – both north-south and east-west – of the Wasatch Front community, and is very accessible through the I-15 corridor, I-215, and the UTA rail."

Trusting that the site would be remediated to safe levels, IHC signed prospective purchaser agreements (PPAs) with EPA and the Utah DEQ

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and took ownership of the majority of the site in December 2000. In turn, citing community needs and additional tax revenues for Murray City, IHC leased a portion of its property to Costco, a major membership warehouse club, for retail development.

### **September 2001 - Today** *Breaking New Ground*

Since the Murray Smelter site achieved construction completion in September 2001, plans for the site's reuse as a retail center and health care facility are moving ahead. Costco has completed site grading and is currently preparing for construction. The club has applied for a building permit, which is being evaluated against the City's SSOD and EPA's site requirements. Construction on the 148,000 square foot facility, which is expected to generate \$100 million in annual sales and \$1 million in annual

Consent Decree. Murray City continues to work directly with EPA and the site's developers and oversees the implementation and coordination of the site's institutional controls.

### **Challenges and Keys to Success**

Today, the Murray Smelter site's journey from a toxic former smelting site through to its successful remediation and reuse is largely complete. The journey involved a wide range of stakeholders, disparate perspectives, and an overriding willingness on the part of Murray City, EPA, Asarco, site stakeholders, and community members to work together to create innovative remediation and reuse solutions.

The journey was not always easy – the path to reuse involved reaching consensus on difficult issues and adapting to change. Significant challenges to the process involved changes in key personnel and the unexpected community debate over the future of the smelter's smokestacks. Midway through the process, for example, new City officials were elected, replacing officials like Mayor Pett who had initiated the process and worked with site stakeholders from the beginning. Pett addressed this known eventuality by stipulating at the outset that, in return for Murray City working in partnership with EPA to address the site's remediation, EPA would work to ensure that the remedy would be selected and remediation would be on track prior to his retirement. EPA and other site stakeholders addressed this challenge by providing information and training sessions for the new City officials to highlight the importance of the ongoing remediation and reuse efforts at the Murray Smelter site.

The demolition of the Murray Smelter smokestacks caused an uproar in the local community that culminated in legal proceedings and a special city-wide ballot, and permanently altered the site's original redevelopment plans. The contentious debate highlights the importance of assessing all site resources, including historic resources, and gathering community input at the outset of any process intended to foster site reuse. Greater community education might have helped to explain the health dangers posed by the smokestacks and the prohibitive costs associated with their stabilization. Delineation of stakeholder responsibility for the smokestacks early in the process might also have helped to address community concerns.

tax revenues, is scheduled to begin in late 2002. The facility is expected to open in June 2003. IHC plans to begin construction on its \$350 million medical center campus, called the Intermountain Medical Center, at the Murray Smelter site in late 2002 or early 2003. The Center will be the largest construction project in Utah. The facility is expected to open in late 2005 or early 2006.

EPA's current role at the Murray Smelter site is focused on ground water monitoring, assisting Murray City with the management of the site's institutional controls, and monitoring the enforcement of the site's

Alongside these challenges, a wide range of factors contributed to the successful remediation and reuse of the Murray Smelter site. The site's central location and existing infrastructure reduced the need for public investment and proved extremely attractive to potential developers. The establishment of the Working Group and the provision of an independent facilitator allowed stakeholders to express their views in an open, neutral forum, and laid the groundwork for cooperation throughout the reuse process. Site stakeholders were willing to work together to meet each other's needs and adapt to new challenges. Perhaps most importantly, the sustained efforts of individuals, constant

### ***Economic, Social, and Environmental Site Reuse Benefits***

- \$1 million in annual local tax revenues from membership warehouse club
- Increased local business and additional tax revenues from hospital employees and visitors
- Presence of a quality regional health care facility
- Reduced congestion and improved access to Salt Lake City via TRAX light rail facility
- Quality-of-life benefit for City residents from remediation and beautification of previously contaminated site
- Protection of Little Cottonwood Creek and the shallow aquifer underlying the site from further contamination

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communication, and the involvement of community members meant that EPA requirements, site stakeholder requirements, and the project's time frame could be coordinated. As Jay Bell, attorney for a former landowner at the site, stated, "It didn't so much matter which agency you were working with – it was the people in each position who could make the biggest difference."

Murray City, for example, led by Mayor Pett and his team of City officials, provided responsive local leadership and served as a critical link between EPA and other site stakeholders. Asarco, in addition to paying for most of the remediation, agreed to reimburse the City for operation and maintenance costs at the site for five years. "I think all [Asarco] asked for in return during our negotiations on the Consent Decree," recalled EPA attorney Matt Cohn, "[was] that we use common-sense language that gave them relief from liability at various points through the process instead of just at the end. And I think by virtue of us being flexible enough ... it was a win-win for everybody."

EPA's support of the Working Group and its facilitated process, as well as its flexibility in responding to site priorities so that, for example, remediation of the UTA's property could be finished in time for construction of the TRAX light rail system in 1999, also contributed directly to the site's successful reuse. EPA's support for the identification of potential future land uses prior to remedy design and development of the Agreement In Principle between the stakeholders were also critically important. Finally, Bonnie Lavelle, EPA's remedial project manager for the site, has been highly praised for her creativity, perseverance, and sustained involvement. Lavelle was in constant contact with other stakeholders, educating others, and keeping all parties informed about the process. Many of the stakeholders believe Murray Smelter would not have been a reuse success without her active involvement.

### Conclusions

Today, the Murray Smelter site's journey into successful reuse continues. Over the next several years, community residents will gain access to a new, centrally-located retail warehouse club and a regional medical care facility. Community residents already enjoy improved access to downtown Salt Lake City via the site's TRAX light rail station, while the site's new roadway provides access to the station and its parking facilities and reduces the City's traffic congestion. Contamination has been addressed, protecting human health and the environment, and the remedy has been safely integrated into the site's infrastructure. Above all, a wide range of stakeholders have come together to create an effective approach to remediation and reuse efforts that emphasizes local leadership, EPA innovation and facilitation, and sustained cost- and time-savings that directly result in community-wide economic, social, and environmental benefits.

**Case Study Sources:** Photos and maps for this case study were obtained from EPA Region 8.

### *Lessons Learned*

- Strong local government involvement and leadership led to the successful development and implementation of the Working Group partnership.
- The continued involvement of stakeholder representatives over time created an atmosphere of shared purpose and trust.
- EPA's emphasis on the importance of local decision-making enhanced Murray City's ability to work with site stakeholders and provided an effective link between EPA and the local community.
- EPA's site RPM was involved, creative, and had adequate time to devote to the site's remediation and reuse planning.
- Asarco's active and willing participation was critically important, while EPA's approach reduced the PRP's remediation costs and protected human health and the environment.
- Coordinated community input and education and outreach efforts must be implemented at the outset of remediation and reuse planning efforts. Particular emphasis needs to be placed on working with communities to explain the technical remediation issues related to a site and the limitations that this information may place on site reuse options.

### Resources

Superfund Redevelopment Initiative:  
[www.epa.gov/superfund/programs/recycle/index.htm](http://www.epa.gov/superfund/programs/recycle/index.htm)

Brownfields Initiative:  
[www.epa.gov/swerosps/bf/index.html](http://www.epa.gov/swerosps/bf/index.html)

Murray City government link:  
[www.ci.murray.ut.us](http://www.ci.murray.ut.us)

IHC link:  
[www.ihc.com/xp/ihc](http://www.ihc.com/xp/ihc)

EPA Region 8 link:  
[www.epa.gov/region8](http://www.epa.gov/region8)

SSODLink:  
[municipalcodes.lexisnexis.com/codes/murray](http://municipalcodes.lexisnexis.com/codes/murray)