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ARTICLE

DAYLIGHTING SALT LAKE'S CITY CREEK: AN URBAN RIVER UNENTOMBED

RON LOVE¹

INTRODUCTION

City Creek flows out of City Creek Canyon into the northern edge of the Central Business District in downtown Salt Lake City, Utah. City Creek Canyon is contained in low-lying foothills of the Wasatch Mountain Range, which run along the east side and north end of the Salt Lake Valley.² The canyon rises from the valley floor, which sits at 4,200 feet,³ to the head of the canyon at 9,400 feet, and extends twelve miles into the

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² See *Salt Lake City Watershed Management Plan*, Salt Lake City Department of Public Utilities, Nov. 1999 at 5.

³ See *The City of Salt Lake!: Her Relations as a Center of Trade; Manufacturing Establishments and Business Houses; Historical, Descriptive and Statistical* 18 (Ll. Shaw, ed. , Utah, Sylvanus, Stone & Shaw 1890).

foothills of the Wasatch Mountains.⁴ City Creek drains 19.2 square miles of watershed.⁵

City Creek Canyon is the only canyon along the Wasatch Front not affected by faults.⁶ This, coupled with the gentle slope of the mountainous foothills, has resulted in little demand for mitigating depredating effects of the stream flow compared to the flood and erosion mitigation required in the other six streams that flow out of the Wasatch Mountains into Salt Lake City.⁷ After the devastating effects of the great floods of 1983, which drew international attention because a major street running the length of the city was turned into a diversion channel, City Creek required minimal attention.⁸ The aftermath of the flood led to a series of public works projects throughout the valley to ensure that heavy snow melts or unseasonable rains do not produce the same effects in the future.⁹

City Creek Canyon varies from rock outcroppings where alluvial deposits are readily seen, to very lush areas of dense trees; deciduous at the lower elevations and conifers at the canyon head.¹⁰ Shrubs, consisting mostly of scrub oak, and grasses, which cover vast areas of the gently sloping canyon, are prevalent along the middle area of the canyon.¹¹ The mouth of City Creek Canyon with its tall, stately Cottonwood trees, has been part of Salt Lake City since the city was incorporated.¹² The bulk of the creek and the canyon have been annexed in modern times to allow Salt Lake City Public Utilities Department undisputed management of the watershed.¹³

This article addresses the background of this historically significant creek, its encapsulation early in the twentieth century, and a modern-day attempt to daylight the creek using

⁴ See *Salt Lake City Watershed Management Plan*, Salt Lake City Department of Public Utilities, Nov. 1999 at 5.

⁵ *Id.* at 5.

⁶ See *City Creek Master Plan*, Salt Lake City Planning Division, 1986 at 2.

⁷ See *Salt Lake City Watershed Management Plan*, Salt Lake City Department of Public Utilities, Nov. 1999 at 5.

⁸ Interview with Bradley Stewart, Salt Lake City Department of Public Utilities (July 2001).

⁹ See *Id.*

¹⁰ Author's personal observation

¹¹ See *City Creek Master Plan*, Salt Lake City Planning Division, 1986 at 2.

¹² See Edward Tullidge, *History of Salt Lake City 72* (Star Printing Company, Salt Lake City 1886)

¹³ See *City Creek Master Plan*, Salt Lake City Planning Division, 1986 at 2

legislation originally enacted as part of the Clean Water Act. The article also traces the background leading to the national movement towards the current trend of restoring rivers and streams, which began in the 1970s, and has continued to the present time. The article also looks briefly at the Brownfields Showcase Project which spurred the daylighting. It will also explore in detail the US Army Corps of Engineers' ("USACE") efforts under the ecosystem restoration program towards daylighting the creek, as will the Urban Rivers Restoration Initiative ("URRI"), a congressionally-directed joint initiative of the USACE and the Environmental Protection Agency (the "EPA"). Under a pilot grant from the URRI, the Salt Lake City Planning Division has initiated the development of a small area master plan for the neighborhood affected by the creek daylighting project ("Daylighting Project"). The article will explain the Daylighting Project as well. The conclusion aims to provide insight to others who may be anticipating the daylighting of an urban stream.

I. HISTORY AND ENCAPSULATION OF CITY CREEK

Both City Creek and the City Creek Canyon played mayor roles in the cultural and economic development of Salt Lake City. The early Mormon pioneers, lead by Brigham Young, camped at the mouth of the canyon upon their entrance into the Salt Lake Valley,¹⁴ which was part of Mexico at that time.¹⁵ Young's first farm and house in which he and his wives lived was constructed on land that was deeded to him by the territorial legislature in 1857.¹⁶ The pioneers used City Creek as a source of drinking and irrigation water.¹⁷ They also used it to power a sawmill, flour mill, and a silk plant. All such activities

¹⁴ See *The Politics of Water in Utah – Water of Zion* 28 (Dan McCool ed., University of Utah Press 1995).

¹⁵ See *The City of Salt Lake! Her Relations as a Center of Trade; Manufacturing Establishments and Business Houses; Historical, Descriptive and Statistical* 9 (L.I. Shaw, ed., Utah, Sylvanus, Stone & Shaw 1890).

¹⁶ See *City Creek Master Plan* at 2.

¹⁷ See *The City of Salt Lake! Her Relations as a Center of Trade; Manufacturing Establishments and Business Houses; Historical, Descriptive and Statistical* 17 (L.I. Shaw, ed., Utah, Sylvanus, Stone & Shaw 1890).

contributed to the establishment of Salt Lake City as the territorial, and later, the state capital.¹⁸

The excellent quality of City Creek's untreated water also played a major role in the economic development of Salt Lake City from the pioneer days to the middle of the twentieth century, when the first water treatment plant was established five miles up City Creek Canyon.¹⁹ Early in the development of the territory, the overarching role of water became abundantly clear. In 1995, Thora Watson said, in her book, *The Stream That Built a City*, "Control over water has ultimately become tantamount to controlling the destiny of the land and the people who settle on the land."²⁰

The excellent drinking water from City Creek was sold outright or traded for irrigation water from the nearby Jordan River, which was contaminated initially by the various farming and agricultural activities that quickly sprung up along this central-valley river, which was subsequently contaminated by the mining efforts in the foothills and mountains along both sides of the valley.²¹ City Creek water thus became the standard in the valley for quality potable water.

Until the end of the first decade of the twentieth century, City Creek flowed out of the mouth of the canyon at the north end of Salt Lake City, and followed two paths to empty into the Jordan River, two miles west of the mouth of the City Creek Canyon.²² One leg of the creek flowed due west to the Jordan River along what is now North Temple Street; the other leg flowed south for a half-mile before making a right angle turn and flowing to the Jordan River along what has become the right-of-way of 400 South Street.²³ This latter branch of the

¹⁸ See Thora Watson, *The Stream that Built a City: History of City Creek, Memory Grove, and City Creek Canyon Park* 3 (Salt Lake City, 1995).

¹⁹ See *Water—For You: Welcome to Salt Lake City's First Water-Treatment Plant*, Salt Lake City, UT Department of Water Supply and Waterworks, 1955 at 12.

²⁰ See *Id.* at 4.

²¹ See *Utah State Water Plan, Jordan River Basin, Public Review Draft* (October 1996) p 3-18 The Jordan River at 4200 feet elevation is in center of the Salt Lake Valley which drains mountains on both sides rising to 11,000 and 14,000 feet. The Jordan River collects the contamination that travels through the grow water. That contamination is historically from mining at the higher elevations and ranching and agriculture at the lower elevations.

²² See *City Creek Master Plan*, Salt Lake City Planning Division, 1986 at 2.

²³ See *The Politics of Water in Utah – Water of Zion* 29 (Dan McCool ed., University of Utah Press 1995).

stream provided irrigation to the crops that were grown on what is now Washington Square, a ten-acre park where City Hall was constructed between 1891 and 1893.²⁴

The volume of City Creek water has always been subject to seasonal climatic conditions. According to the *Salt Lake City Watershed Management Plan* revised in 1999, “[c]haracteristically, there is a gradual rise in flows throughout April with a marked increase early in May as temperatures increase. Flows decrease through June and July, and stabilize during August. The moderate fluctuations of the Creek are attributed to the nearly constant sun exposure to snow pack on the gentle slopes, and the cavernous nature of the subsurface limestone from which the canyon’s springs rise. The [historic] average annual yield for the creek is 11,749 acre feet.”²⁵

Pictures available from the Utah State Historic Preservation Office show the effects of the fluctuations of City Creek during the first decade of the twentieth century.²⁶ During the peak flows in the spring, flooding of the streets and buildings on streets without sidewalks was quite common on both branches of City Creek below the mouth of the canyon.²⁷ As the water drained from the streets, it carried with it animal waste and harmful bacteria.²⁸ During the drier periods of late summer, mosquito problems appeared when the water formed stagnant pools, which created breeding grounds for these and other pests.²⁹

In 1909, Salt Lake City put City Creek in a culvert that ran from the mouth of City Creek Canyon to the Jordan River underneath North Temple Street.³⁰ *The City Creek Master Plan*, completed by the Salt Lake City Planning Division in 1986, said that this was done to “protect the water supply and prevent accidental drowning.”³¹

²⁴ See Monumental Plaque embedded in wall of building, 1892.

²⁵ See *Salt Lake City Watershed Management Plan* at 6.

²⁶ Photos from Utah State Historic Preservation Office (on file with author).

²⁷ *Id.*

²⁸ See *Water—For You: Welcome to Salt Lake City’s First Water Treatment Plant Salt Lake City’s First Water-Treatment Plant*, Salt Lake City, UT Department of Water Supply and Waterworks, 1953 at 3.

²⁹ Photos from Utah State Historic Preservation Office (on file with author) show stagnant pools along the right of way of the Creek prior to its entombment in 1909.

³⁰ See *City Creek Master Plan* at 2.

³¹ See *Id.* at 2.

II. DEVELOPMENT OF CITY CREEK RESTORATION INITIATIVES

In the absence of attention generated by the modern national wave of daylighting buried streams, City Creek would likely have been destined to remain encapsulated for another century. It is difficult to say exactly when the current movement toward our rivers and streams and restoration of aquatic, riparian ecosystems began. The environmental movement that grew from the activism of the 1960s led to the establishment of the EPA and a string of laws that armed citizens and communities with the means necessary to prevent further degradation of the nation's rivers and streams. Key among these laws was the National Environmental Policy Act ("NEPA") enacted by Congress in 1969 and the Federal Water Pollution Control Act enacted in 1972, which became commonly known as the Clean Water Act.³² In his book *Endangered Rivers and the Conservation Movement*, Tim Palmer explained the movement toward the restoration of our waters in this way: "A revolution in attitudes about rivers moved through the country and touched every stream. The late 1960s and early 1970s brought powerful ingredients for change: a growing sense of scarcity, the environmental movement, activism by conservationists and landowners, application of science and economics coupled with publicity, recreation use, and tight money – all contributing to a nation movement to save threatened rivers."³³

The decade following the enactment of NEPA saw a boom in outdoor recreation throughout the nation. Boaters of non-motorized craft took the rivers and streams, and outfitters cropped up in every state particularly near whitewater

³² See EPA, *Clean Water Act*, available at <http://www.epa.gov/region5/water/cwa.htm>. "Growing public awareness and concern for controlling water pollution led to enactment of the Federal Water Pollution Control Act Amendments of 1972. As amended in 1977, this law became commonly known as the Clean Water Act. The Act established the basic structure for regulating discharges of pollutants into the waters of the United States. It gave EPA the authority to implement pollution control programs such as setting wastewater standards for industry. The Clean Water Act also continued requirements to set water quality standards for all contaminants in surface waters. The Act made it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions. It also funded the construction of sewage treatment plants under the construction grants program and recognized the need for planning to address the critical problems posed by nonpoint source pollution."

³³ See Tim Palmer, *Endangered Rivers and the Conservation Movement* 93 (University of California Press, 1986).

stretches of major rivers.³⁴ In Moab Utah, for example, a number of current-day outfitters' advertisements indicate that they were formed in the 1970s.³⁵ Alcohol and tobacco commercials prominently displayed whitewater activities.³⁶ According to Tim Palmer, "Once they experienced a wild river – any wild river – people could understand conservationists wanting to save a similar place."³⁷ Paddlers and river guides became activists, and like the hikers and climbers of the 1950s who matured into the wilderness preservationists of the 1960s, these river runners forced their way into the political process."³⁸

Citizen involvement throughout the history of the United States increases as people become convinced that a resource that they hold dear is in danger of extinction. The movement to protect wild rivers for recreational uses came about gradually through grass roots activists who were able to gain the attention of members of Congress using various means at their disposal; volunteer campaigns aimed at the latest environmental threat, lawsuits attacking elements of environmental impact statements, and public campaigns typically motivated by a perception that the last vestiges of a particular resource were gravely threatened. Growth in the western United States became the pivotal issue for those involved in saving rivers and streams in general, and led specifically to emphasis on urban riparian issues. Dr. Robert Gottlieb, a dedicated student of water policy in the western states, explained in his book, *A Live of Its own: The Politics and Power of Water*, that in the 1980s and 1990s, "Slow growth positions were increasingly adopted by local community groups operating either on the edges of or separate from the mainstream environmental organizations. The concerns they raised were primarily urban ones, such as congestion, pollution, the lack of green space and the deterioration of everyday life. These movements focused on how their neighborhoods and communities were affected by housing and transportation, toxic dumps, and air and water quality, issues

³⁴ See *Id.* at 95.

³⁵ Author's personal observation

³⁶ See Tim Palmer, *Endangered Rivers and the Conservation Movement* 95 (University of California Press, 1986).

³⁷ See *Id.* at 95

³⁸ See *Id.* at 95.

not ordinarily found within the traditional environmental agenda.³⁹

In 1986 Palmer acknowledged that, "There is a new attitude about rivers, but to make the change permanent will require the energy of all those affected by the loss of special river places: park and wilderness enthusiasts, anglers, landowners, naturalists and ecologists, river runners, people who just like rivers, and those who find metaphysical and spiritual power in the free-flowing water."⁴⁰ Fortunately this attitude enhanced by the growth issues has been embraced and fostered by federal legislation that led to the proposal to daylight City Creek in Salt Lake City.⁴¹ Two key pieces of legislation in the US Congress, and a joint initiative by the EPA and the USACE have been employed in the effort to daylight City Creek.

III. EFFECT OF GATEWAY BROWNFIELDS PILOT PROJECT ON CITY CREEK RESTORATION

Initially, the Brownfields Program,⁴² established in 1995, was an administrative program of the EPA that received the blessing of legislative action in 2001 when Congress passed the Brownfields Revitalization Act.⁴³ Under the program, a mostly-abandoned, 650-acre railroad yard on the western edge of the Central Business District in downtown Salt Lake City was selected as pilot project ("Brownfields Pilot") for the Brownfields Cleanup and Redevelopment Initiative.⁴⁴ The concept of revitalizing the area located in an historic district of Salt Lake City with more than 100 years of recorded industrial use had been bantered about by the Salt Lake City Planning Division since the early 1980s, and started appearing in planning documents

³⁹ See Robert Gottlieb, *A Life of Its Own: The Politics and Power of Water* 276 (Harcourt Brace Jovanovich, 1988).

⁴⁰ See Tim Palmer, *Endangered Rivers and the Conservation Movement* 233-4 (University of California Press, 1986).

⁴¹ See *City Creek Section 206 Aquatic Ecosystem Restoration Detailed Project Report*, Salt Lake City, UT Dec. 2003, para 1.2 (on file with author).

⁴² See EPA, *Brownfields Cleanup and Redevelopment*, available at http://www.epa.gov/swerosps/bf/basic_info.htm.

⁴³ Public Law 107-118; H.R. 2869

⁴⁴ See Redevelopment Agency of Salt Lake City, *What is a Brownfield*, available at <http://www.slcgov.com/CED/RDA/First%20Level/Brownfields.htm>.

in the mid 1980s.⁴⁵ To explore redevelopment options, Salt Lake City contracted for a Gateway Visualization Plan in 1993.⁴⁶ The plan was used to determine what the ultimate redevelopment of the area would be.⁴⁷

The designation of the Gateway Area as a Brownfields Pilot area vastly accelerated the redevelopment of the region with a series of grants totaling \$900,000 and perhaps more importantly the loan to Salt Lake City of an environmental scientist from EPA Region VIII in Denver ("EPA Denver"), Stephanie Wallace.⁴⁸ On her three-year assignment to the Salt Lake City Redevelopment Agency, funded by the EPA, Wallace provided oversight to the environmental cleanup of the Brownfields Pilot area, and coordinated a request with the USACE to daylight City Creek.⁴⁹ She then associated the daylighting of City Creek to the Brownfields Pilot, and encouraged that association in literature distributed on a national scale.⁵⁰ One-third of the proposed daylighting occurs in the designated Brownfields Pilot area.⁵¹ This allowed the use of Brownfields grant money to fund a portion of the environmental and hydrological studies necessary for the completion of a reconnaissance study by the USACE.⁵² More importantly for the Daylighting Project, this tie to the Gateway Visualization Plan brought the daylighting of City Creek to the forefront as it was included in information and presentations made to national audiences.⁵³ The Gateway

⁴⁵ Interview with Doug Dansie AICP, Salt Lake City Planning Division (February 2002).

⁴⁶ *Id.*

⁴⁷ See Salt Lake City, *Gateway and Brownfields Resource Center*, <http://www.ci.slc.ut.us/ced/rda/Brownfields>.

⁴⁸ U.S. EPA Region 8, under the Inter Governmental Personnel Act Assignment, provided an EPA scientist to Salt Lake City Redevelopment Agency for the oversight of the Gateway Brownfields Showcase Project, this agreement also provided up to \$900 in assistance to the project from 1996 to 2002. See Assistance ID No BP – 99860601 -3 on file with EPA Region 8, 999 18th Street, Suite 500 Denver, Co 80202-2466

⁴⁹ See Funding Request from Stephanie Wallace to Tom Rogan, Chairperson, RDA Board of Directors Salt Lake City, Utah (March 3, 2000).

⁵⁰ Ms. Wallace attended various national Brownfield conferences at which she made presentations on both the Gateway Brownfields Showcase Project and the proposal to daylight City Creek.

⁵¹ See *Creating an Urban Neighborhood, Gateway District Land Use & Development Master Plan* (undated) Page 3.

⁵² Interview with Valda E Tarbet, Deputy Director Salt Lake City Redevelopment Agency. (September 2004).

⁵³ Interview with Valda E Tarbet, Deputy Director Salt Lake City Redevelopment Agency. (September 2004).

Visualization Plan is now the poster child of the EPA's Brownfields initiative.⁵⁴

IV. DETAILS OF CITY CREEK RIVER ECOSYSTEM RESTORATION EFFORT

A. ECOLOGICAL VALUATION OF THE CREEK

The City Creek Feasibility Study ("Study") was officially initiated in 2002 under Section 206 of the Water Resources Development Act of 1996 after a preliminary evaluation started in 1998 to determine the merits of the Daylighting Project.⁵⁵ The key language of Section 206 states, "The Secretary may carry out an aquatic ecosystem restoration and protection project if the Secretary determines that the project (1) will improve the quality of the environment and is in the public interest; and (2) is cost-effective."⁵⁶ The purpose and scope of the Study listed in the Study notes, prepared by the USACE, Sacramento District is: "to assess the potential to restore a portion of the ecosystem values once associated with City Creek, thereby improving the fish and wildlife habitat. The scope of the Study includes the formulation, description, and evaluation of a selected city restoration plan."⁵⁷ The Study notes document the following:

- The need and opportunities for the ecosystem restoration;
- The formulation, evaluation, and selection of a restoration plan;
- Benefits, elements of risk, and cost of the selected restoration plan;
- Environmental compliance of the restoration plan with Federal environmental statutes and regulations.⁵⁸

⁵⁴ See EPA, *Brownfields Cleanup and Redevelopment*, available at http://www.epa.gov/brownfields/success/success_scss.htm.

⁵⁵ See Funding Request from Stephanie Wallace to Tom Rogan, Chairperson, RDA Board of Directors Salt Lake City Utah March 3, 2000

⁵⁶ See *City Creek Section 206 Aquatic Ecosystem Restoration Detailed Project Report*, Salt Lake City, UT Dec. 2003, para 1.2 (on file with author).

⁵⁷ See *Id.* para 1.3

⁵⁸ See *Id.* para 1.3 (Bullets added).

One would think that the benefits of daylighting a stream once buried in a culvert would be intuitive, regardless of the location of the daylighting. However, intuitive concepts often become more difficult to justify to government overseers than those less obvious. Correspondence from the USACE, Sacramento District, dated June 1999, refers to challenges to the Daylighting Project's acceptability to the USACE based on drought conditions, the costs of urban land acquisition, and the opportunity costs of the Daylighting Project.⁵⁹ A third party review of an early draft of the Daylighting Project review documentation revealed the following concerns.⁶⁰

Some people have questioned whether City Creek is justified as a restoration project. I think that is a reasonable concern. Although the urban setting severely limits the restoration of natural functions and processes, any restoration of City Creek will be a substantial improvement over existing conditions. As far as I know, we are not foregoing any other restoration project in order to pursue City Creek. Quantifying restoration outputs for City Creek will be more difficult than for more natural projects, but there are benefits to fish, passerine birds, and small mammals like raccoons, opossums, and (yes) skunks that can be quantified. Whether or not the Project is approved will likely be decided by SPD, [Army Corps South Pacific Division], which hasn't been very restrictive lately regarding the approval of restoration projects that meet basic policy requirements. There are no clear criteria by which to decide whether a restoration project is justified or not. Nonetheless, everything possible should be considered to maximize habitat and other ecological values within the constraints of the Project setting.⁶¹

Recommendations from the U.S. Fish and Wildlife Service also pointed to the challenges faced by attempting a restoration in an urban environment:

Because of the urban nature, small scale, and restrictions imposed by a narrow right of way of the project, all the recommendations made here are important in justifying 206 monies

⁵⁹ *See Id.*

⁶⁰ *See Id.*

⁶¹ E-mail from Scott Miner, Ecosystem Restoration Specialist, USACE, to Scott Stoddard (March 17, 2003) (on file with author).

being applied to this endeavor. That is not to say there is no flexibility in the design and implementation of these recommendations, only that the exclusion of one or more of them may reduce the habitat value of the project more than it would if the project area were larger, more diverse, and less impacted by the surrounding environment.⁶²

In an attempt to show the magnitude of support and to reduce adverse criticism of the Daylighting Project, the city of Salt Lake City established an extensive working group of representatives from potentially affected groups including, Community Councils, Trout Unlimited, Union Pacific Railroad ("Union Pacific"), Utah Heritage Foundation, Western Wildlife Conservancy, Save our Canyons, City Creek Coalition, Tree Utah, Utah Departments of Environmental Quality and Fish and Wildlife, Utah Power and Light, and Questar Corporation.⁶³ The latter utility company is a major property owner with a Comprehensive Environmental Response, Compensation, and Liability Act ("CERLA") site in the area.⁶⁴ Initially, when the USACE representatives conferred on the Daylighting Project, Salt Lake City invited these groups to allow them input. More importantly, however, the attendance of these interested parties from both the public and private sector consisting of both for-profit and not-for-profit groups allowed the USACE representatives to see the magnitude of local and state support for the Daylighting Project.

This support, however, was not for the restoration of City Creek where it flowed a century ago. The former creek corridor, according to early proposed language for the Project Documentation Review, through which the original stream "formerly flowed now appears as a major urban heat island on thermal imaging maps created for Salt Lake City by NASA in large part due to the almost complete lack of vegetation in the area."⁶⁵ The proposed daylighting will occur along what is now

⁶² See *Comment on City Creek Section 206 Habitat Improvement Plan*, US Fish and Wildlife Service, undated (on file with author).

⁶³ The Acknowledgement page of the January 2005 Draft of the Euclid SAMP prepared by Mark Reese of URS in Denver list 26 members of the Euclid Neighborhood as contributing to the development of the draft.

⁶⁴ See EPA ID# UTD980667240 Utah Power and Light 5 year Review (Completed in 2001).

⁶⁵ *City Creek Feasibility Study Notes* (US Army Corps of Engineers Sacramento District, Dec. 2003) (on file with author).

a rail road right-of-way through a developed albeit underdeveloped neighborhood.⁶⁶

B. NEGOTIATIONS WITH UNION PACIFIC OVER CREEKSIDE PROPERTIES

The perception that the high cost of urban real estate would threaten the statutory limit in overall cost of the Daylighting Project, set at seven million dollars by Section 206 legislation, was somewhat mitigated when Salt Lake City entered into an agreement with Union Pacific for a donation of 11.5 acres of land necessary for the Daylighting Project.⁶⁷ All the land necessary for the recreation of City Creek, with the exception of one parcel consisting of less than one-third of an acre, historically belongs to either Salt Lake City or to Union Pacific.⁶⁸ The agreement represents neither a magnanimous gesture on the part of the railroad, nor the absence of a problematic relationship between the city and Union Pacific. The relationship between the two has been tenuous at best.

Salt Lake City unsuccessfully sued to stop Union Pacific from reopening an unassociated, previously abandoned section of tract through an economically challenged residential neighborhood at approximately the same time that the city and the USACE needed to access railroad property to perform environmental, geotechnical, and landscape revegetation soil testing.⁶⁹ It was just prior to this that disputes over property ownership between Salt Lake City and Union Pacific also came to a head. The relationship deteriorated to such an extent that the two entities broke off routine coordination meetings.⁷⁰ This challenging relationship may have been responsible for a nearly twelve-month delay in gaining access to the railroad property in the proposed right-of-way for City Creek. This de-

⁶⁶ One indication of the blight in the area is the designation of part of the area as a redevelopment target area. State law requires blighted conditions as a prerequisite for such designation.

⁶⁷ See SLC Contract no. 08-1-04-0319, Sec. 2.b. (Recorded 7 April 2004).

⁶⁸ Interview with Valda E Tarbet, Deputy Director Salt Lake City Redevelopment Agency (September 2004).

⁶⁹ See *Salt Lake City Corporation v. Union Pacific railroad Company*, 02:01-CV-655ST US District Court, District of Utah.

⁷⁰ Interview with Valda E Tarbet, Deputy Director Salt Lake City Redevelopment Agency. (September 2004).

lay may have far reaching impacts on the reality of the Daylighting Project.

The agreement by Union Pacific to deed the necessary property for the Daylighting Project to Salt Lake City proves pragmatic for a couple of reasons. Grant's Tower in downtown Salt Lake City is a well know section of tract that separates the point of daylighting of the creek from the Olympic Fountain in the Gateway development.⁷¹ This section of track has represented a major bottleneck in transcontinental railroad travel for more than a century.⁷² Grant's Tower contains the switching gear that allows the continuity of travel north, south, and west on mainlines through the area.⁷³ The configuration of that curved section of tract is such that trains must slow to a maximum of ten miles per hour to traverse the area.⁷⁴

The agreement for the deeding of the necessary property to Salt Lake City also calls for the city's assistance both politically and monetarily in straightening these major curves. The geometry of the new curve would preclude the use of the Folsom Street rail line and allow speeds of forty miles per hour through what is now a bottleneck. The Folsom Street line, which would no longer have any value for train travel, encompasses 11.5 acres of right-of-way needed for the daylighting of City Creek.⁷⁵

Additionally, the ninety-nine year lease for railroad use of the city-owned right of way for the Folsom Street rail line and most other lines through the city expired in 1999.⁷⁶ In preparation for reissuing the lease, the city's property manager commissioned a title search on the property. The title company could not locate original deeds transferring property to the railroads, and found one instance where the railroad actually sold

⁷¹ Telephone Interview with Steven McClaws, Director of Engineering Services Commercial Facilities, Union Pacific Rail Road (July 2001). According to Mr. McClaws, the section of track that forms a bottleneck in transcontinental rail travel is known as the Grant Tower area because it houses railroad switching gear that controls major east-west, north-south rail traffic through Salt Lake City. The block house which now encloses the electronic switching gear was once a control tower staffed 24 – 7.

⁷² *See Id.*

⁷³ *See Id.*

⁷⁴ *See Id.*

⁷⁵ See SLC Contract no. 08-1-04-0319, Sec. 2.b. (Recorded 7 April 2004).

⁷⁶ Interview with Valda E Tarbet, Deputy Director Salt Lake City Redevelopment Agency. (September 2004).

city-owned property to a third party.⁷⁷ The deeding of the land along the Folsom Street Railroad right-of-way to the city would conveniently put an end to the legal wrangling over that property ownership.

C. PROJECT FUNDING, STAFFING AND PLANNING DETAILS

In addition to the delay in conducting the geotechnical and environmental soils testing of the area, financial matters threatened the completion of the Study. All USACE Section 206 projects without completed feasibility studies were conducted with funds from a continuing resolution passed by Congress in October 2003 for the fiscal year beginning in October 2003.⁷⁸ In early February 2004, the USACE fiscal year budget appropriations for 2004 were announced. The amount funded for incomplete Section 206 projects was woefully insufficient.⁷⁹ The USACE notified Salt Lake City in early February 2004 that funds for the completion of the Study were unavailable.⁸⁰ The Section 206 feasibility project was once again halted.⁸¹ As of this writing, no funds for the completion of the Study have been allocated. The Study is two-thirds complete, and will require an additional \$100,000 to complete.⁸² Salt Lake City is addressing this situation with Utah's congressional delegation.⁸³

The allocation of funds is not the only threatening factor. Once the funds are reallocated, the work on the Study will continue. Historically, the turnover of personnel in the USACE, Sacramento District has adversely affected the Daylighting Project because new members of the team require time to familiarize themselves with the Daylighting Project. Often, the remaining members of the team have had to rehash previous assumptions, combat reoccurring objections and misunderstandings, and deal with numerous differences of opinions in

⁷⁷ *See Id.*

⁷⁸ Telephone Interview with Bradley Hubbard, Army Corp Project Manager (February 2004).

⁷⁹ *See Id.*

⁸⁰ *See Id.*

⁸¹ *See Id.*

⁸² *See Id.*

⁸³ *See* Letter from Ross C. Anderson, Mayor of Salt Lake City, Utah, to Hon. Robert Bennett, Utah Senator (Jan. 20, 2005) (on file with author).

how best to accomplish the complicated business of ecosystem restoration. Occasionally, the personnel turmoil, which has included the change of project managers for the city, leads to the incorporation of ideas that strengthen the feasibility of the Daylighting Project. More often than not, it leads to the re-statement of previous rationale. This turnover is anticipated to have an even more severe impact when the funds are allocated for the continuation of the Daylighting Project. The one salient exception to personnel turnover has been the USACE local project engineer, Scott Stoddard, the Intermountain Representative stationed in Bountiful, Utah. His institutional knowledge and concern for the Daylighting Project has provided continuity in the face of significant personnel changes not only in the USACE, but also in the various state and federal agencies involved.

The negative impacts would perhaps be less weighty if the specifics of ecosystem restoration were better understood. Any miscomprehension of the elements of ecosystem restoration is not derived from any lack of attempt at education by the USACE. A visit to the USACE library online to call up ecosystem restoration yields 447 USACE publications on the subject. An engineering pamphlet entitled, *Ecosystem Restoration – Supporting Policy Information*, provides the following insight on ecosystem restoration:

Ecosystem Restoration is a primary missions [sic] of the Civil Works program. Civil Works ecosystem restoration initiatives attempt to accomplish a return of natural areas of ecosystems to a close approximation of their conditions prior to disturbance, or to less degraded, more natural conditions. In some instances a return to pre-disturbance conditions may not be feasible. However, partial restoration may be possible, with significant and valuable improvements made to degraded ecological resources. The needs for improving or re-establishing both the structural components and the functions of the natural area should be examined. The goal is to partially or fully reestablish the attributes of a naturalistic, functioning and self-regulating system.⁸⁴

⁸⁴ See www.usace.army.mil.

Because of the inordinate number of positive reasons for the creation of the Daylighting Project, it is inappropriate to focus for too long on the drawbacks. The peer review of the Study notes also contains some encouraging information. In his review, Scott Miner, the previous Ecosystem Restoration Specialist in the Planning Division of the USACE, Sacramento District, pointed out a political reason for conducting the Daylighting Project:

There is widespread public interest in the restoration of urban creeks for their aesthetic, recreational and educational, as well as ecological, benefits (see www.urban creeks.org for example). Successful completion of a high-visibility project like City Creek could provide a great deal of positive publicity for the Corps, leading to future restoration projects far beyond Salt Lake City.⁸⁵

The latest draft of the Study notes points to the significance and utility of the Daylighting Project: “[t]his restoration would lead to an increased in the number and diversity of wildlife including small mammals, birds, reptiles, and amphibians. Recreation and aesthetics would also be improved.”⁸⁶ The Study notes also point out national and international reasons for the Daylighting Project:

According to the USFWS, the Jordan River (at the downstream end of City Creek) is a breeding area and an important stop on the migratory route for neotropical migratory songbirds and other species of birds; unfortunately, some of these species are now rare or absent on City Creek. Restoration of riparian habitat along City Creek would once again provide a breeding location and a resting area for migratory birds. It would also contribute to regional, national and international efforts to restore riparian and wetland habitats and benefit wildlife resources.⁸⁷

The Study notes actually address how the restoration of City Creek could “make a significant contribution to the Inter-

⁸⁵ E-mail from Scott Miner, Ecosystem Restoration Specialist, USACE, to Scott Stoddard (March 17, 2003) (on file with author).

⁸⁶ See *City Creek Section 206 Aquatic Ecosystem Restoration Detailed Project Report* at para 2.2.

⁸⁷ See *Id.*

mountain West Joint Venture's (IWJV) goal to protect, restore, and enhance wetlands within its boundaries.⁸⁸ The IWJV is the largest of 11 joint ventures organized in the United States to implement the North American Waterfowl Management Plan (NAWMP).⁸⁹ The NAWMP was created in 1986 by the United States, Canada, and Mexico to conserve wetlands and increase waterfowl and bird populations.⁹⁰ The plan was developed in response to record low waterfowl populations. Waterfowl are the most prominent and economically important group of migratory birds of the North American continent.⁹¹ Annually over \$3 billion is spent to hunt, photograph, observe, or appreciate waterfowl species.⁹²

The Daylighting Project, as it has evolved to date, calls for diverting water from the existing culvert to the point of daylighting just west of a recently completed Brownfields redevelopment project consisting of an outdoor commercial section with ninety shops and restaurants, twelve stories of condominiums, a planetarium, convention space, fountains, twelve movie theaters, and more than 150 apartments.⁹³ The daylighted creek would meander approximately 7,900 linear feet in a dirt lined open channel approximately three-feet deep, ten-feet wide at the top, and two-feet wide at the bottom.⁹⁴ The proposed channel slope would be 2.7 feet horizontal to one foot vertical. The riparian area containing the creek would consist of approximately thirteen acres in a strip that varies from eighty feet to 150 feet wide as it passes under a major freeway, and through an area of the city now in transition.⁹⁵ Zoning in the area is industrial, commercial and residential.⁹⁶ Land uses are generally consistent with zoning; however, the area is fraught with enforcement issues.

⁸⁸ *See Id.*

⁸⁹ *See Id.*

⁹⁰ *See Id.*

⁹¹ *See Id.*

⁹² *See Id.*

⁹³ *See* Center for Brownfields Initiatives, *EPA Region 8*, available at <http://www.brownfields.com/Feature/Feature-Awards2003-region8.htm>.

⁹⁴ *See City Creek Section 206 Aquatic Ecosystem Restoration Detailed Project Report* at para 3.5.2.

⁹⁵ *See Id.*

⁹⁶ *See* Salt Lake City Zoning Map.

The Daylighting Project corridor will be re-vegetated with native, riparian and upland species.⁹⁷ The Daylighting Project alignment will follow an existing railroad track that is to be realigned approximately 330 feet to the north, adjacent to an existing main line track.⁹⁸ A ten-foot wide paved, pedestrian and bike trail would also traverse the area serving as a maintenance road.⁹⁹ This trail would connect downtown Salt Lake City with the Jordan River Parkway, a regional trail that connects to the Bonneville Shoreline Trail, another recipient of Brownfields restoration funds, which, when completed, will run the full length of the Salt Lake Valley, from Brigham City to Provo Utah, a distance of over 100 miles.¹⁰⁰ A planned rails-to-trails, two-mile, project will connect the Jordan River trail to yet another regional trail on a previously used railroad running from the Salt Lake Valley to Evanston, Wyoming.¹⁰¹ The trail along the proposed stream, in addition to providing alternative means of transportation between various far reaching areas of the valley and the downtown areas of the Salt Lake City, according to a fact sheet published by the USACE, South Pacific Division, "would allow ecosystem appreciation opportunities to site visitors."¹⁰²

The major objective of the Daylighting Project is the restoration of approximately thirteen acres of riparian habitat with focus on the creation of emergent, riparian, and upland grasses and trees.¹⁰³ Local native species would be used for the revegetation efforts that would provide appropriate habitat and foraging opportunities for wildlife, insects and, hopefully, fish.¹⁰⁴ Salt Lake City participated in the development of planning objectives upon initiation of the Daylighting Project. These objectives are somewhat technical in nature and were designed to comply with the stated objectives of the ecosystem restoration

⁹⁷ See *City Creek Section 206 Aquatic Ecosystem Restoration Detailed Project Report* at para. 3.5.2.

⁹⁸ See *Id.*

⁹⁹ See *Id.*

¹⁰⁰ Clare Brandt, *Communities Access the Bonneville Shoreline Trail*, *The Trust for Public Lands Utah*, Fall/Winter 2004, at 5.

¹⁰¹ Author's observation

¹⁰² Section 206 Fact Sheet, South Pacific Division Sacramento District, USACE (May 2001).

¹⁰³ See *City Creek Section 206 Aquatic Ecosystem Restoration Detailed Project Report* at para 5.1.1.

¹⁰⁴ See *Id.* at para. 4.2.

authorization legislation. Objectives created with the assistance of the community members, addressed later, are designed to market the Daylighting Project to a completely different audience. The following planning objectives for the aquatic restoration study were established:

- Reestablish a portion of the City Creek aquatic and riparian habitat—lost a century ago—between the regionally significant Jordan River and downtown Salt Lake City;
- Create aquatic and terrestrial habitat with associated wildlife values to target feeding and cover for migratory birds. The habitat will potentially include emergent marsh, riparian forest, and upland native grasslands. Plants will provide a diverse structure to provide foraging opportunities for various guilds of birds such as fruits and seeds, insect and fish. Landscaping will provide shade in order to moderate water temperatures;
- Landscape with low water use plants, using native species where feasible to serve as a model for low water use;
- Provide environmental education and stewardship opportunities in Salt Lake City;
- Increase vegetative open space to improve esthetic values for nearby residents and businesses and preview a connection to regional green space areas;
- Reestablish the surface connection between City Creek and the Jordan River;
- Establish multi-use trail/maintenance access;
- Evaluate the potential for an urban fishery
- Evaluate the potential for improving storm water runoff quality before it enters the creek (wetlands, runoff controls, or pretreatment options);
- Mitigate the local urban heat island effect.¹⁰⁵

¹⁰⁵ See *Id.* at para. 3.1.

Federal law and USACE regulations dictate the criteria for aquatic restoration planning.¹⁰⁶ Those applicable to the Daylighting Project are listed in the Study notes:

- Alternatives considered in detail should be feasible. The total quantitative and non-quantitative beneficial ecosystem effects exceed the total short-term effects associated with construction;
- Benefits and costs should be expressed in comparable terms as completely as possible. Evaluation of alternatives should be based on the same price level, interest rate, and project/economic life;
- Detrimental environmental effects should be avoided;
- Historical, archeological, and other cultural resources should be preserved;
- Consideration should be given to the safety, health, and social well being of the affected communities (flooding, mosquitoes, odors, etc);
- Displacement of residents should be avoided;
- Effects of local income, employment, business and industrial activity, and population distribution should be considered;
- Plans need to be workable within the constraints of present and potential government structure, function, relationships, and associations in the study area;
- The period of analysis for this study is considered to be fifty years. This period includes the time required for the Daylighting Project to be implemented. The actual base year will depend on the timing of authorization and funding for the Daylighting Project.¹⁰⁷

¹⁰⁶ CECW Regulation No. 1165-2-501, *Water Resources Policies and Authorities Civil Works Ecosystem Restoration Policy*, Department of the U.S. Army Corps of Engineers, Washington, D.C. 2314-1000, (Sept. 30 1999).

¹⁰⁷ See *City Creek Section 206 Aquatic Ecosystem Restoration Detailed Project Report* at para 3.2.

Cost-benefit relationships involving intangibles such as the quality of habitat are generally problematic. The USACE guidance addresses that by recognizing its subjective nature and encouraging the development of experience and use of professional judgment in making the analysis.¹⁰⁸ Habitat values are assigned various elements of the ecosystem plan based upon their benefit and harmonious fit with other elements as well as their completeness, effectiveness, efficiency and acceptability.¹⁰⁹ Cost effectiveness is also listed by the USACE guidance as a major player in this analysis:

An ecosystem restoration plan should represent a cost effective means of addressing the restoration problem or opportunity. It should be determined that a plan's restoration outputs cannot be produced more cost effectively by another alternative plan. Cost effectiveness analysis is performed to identify least cost plans for producing alternative levels of environmental outputs expressed in non-monetary terms. Incremental cost analysis identifies changes in costs for increasing levels of environmental output. It is used to help assess whether it is worthwhile to incur additional costs in order to gain increased environmental outputs.¹¹⁰

As mentioned previously, approximately one-third of the Daylighting Project area falls in the Gateway Brownfields Showcase Area. This bodes well for the Daylighting Project. The daylighting of City Creek is found in various briefings and poster displays at national and international Brownfields conferences.¹¹¹ Scott Stoddard, the Intermountain representative of the USACE, stationed in Bountiful, Utah, presented a briefing on the Daylighting Project at the first National Ecosystem Restoration Conference held in Orlando in December 2004.¹¹² Since it is associated with a Brownfields pilot/showcase project

¹⁰⁸ CECW Regulation No. 1165-2-502, *Water resources Policies and Authorities Ecosystem Restoration - Supporting Policy Information*, Department of the Army U.S. Army Corps of Engineers, Washington, D.C. 2314-1000, 30 September 1999 p24

¹⁰⁹ See *Id.* p 16

¹¹⁰ CECW Regulation No. 1165-2-502, *Water resources Policies and Authorities Ecosystem Restoration - Supporting Policy Information*, Department of the Army U.S. Army Corps of Engineers, Washington, D.C. 2314-1000, 30 September 1999 p23

¹¹¹ Interview with Valda E Tarbet, Deputy Director Salt Lake City Redevelopment Agency. (September 2004).

¹¹² See PowerPoint presentation by Scott Stoddard & Ron Love, *Buried Beneath Downtown: Daylighting Salt Lake City's City Creek* (on file with author).

of considerable magnitude, it is featured prominently at Brownfields events. This association has economic benefits as well. Brownfields funds were authorized for some of the environmental and geotechnical and revegetation soil testing required by the Study.¹¹³ The Gateway Brownfields area is also one of the Salt Lake City Redevelopment Agency ("RDA") designated target areas.¹¹⁴ The RDA has budgeted nearly \$1,000,000 to the Daylighting Project, once it is approved for design.¹¹⁵

The geotechnical and landscape/revegetation soil testing was completed under contract with the USACE in December 2002.¹¹⁶ The testing done by MSE Millennium Science & Engineering, Inc. included soil testing and sampling at seven locations along the proposed 1.5 mile City Creek alignment.¹¹⁷ Salt Lake City furnished the surveyors, drilling equipment, equipment operators and trucks to remove the investigation-derived waste from the site.¹¹⁸ Utah regulations do not permit the removal of investigation-derived waste from a sampling site until a laboratory analysis is completed.¹¹⁹ The analysis is a process requiring days even when expediting fees of an additional one hundred percent are paid. Prior to the submission of the access application by Salt Lake City, the railroad had a policy consistent with Utah state regulations.¹²⁰ Apparently as a result of the access application, the railroad changed its national policy, and now requires the immediate removal of investigative-derived waste from sampling sites on its property upon comple-

¹¹³ Interview with Valda E Tarbet, Deputy Director Salt Lake City Redevelopment Agency. (September 2004).

¹¹⁴ *See Id.*

¹¹⁵ The RDA set aside \$900,000 for the development of the Project. The RDA also provided funding toward a Rail Relocation Study and funding to augment the funds available from the Army Corps for the geotechnical and environmental studies of that portion of the Project that falls within the redevelopment target area. *See* US EPA Cooperative Agreement, Aug. 22, 2000.

¹¹⁶ *See Draft Interim Environmental Sampling and Analysis Report for the City Creek Daylighting Project, Salt Lake City, Utah* MSE Millennium Science & Engineering, Inc., Mar. 3, 2003.

¹¹⁷ *See Id.*

¹¹⁸ *See Id.*

¹¹⁹ *See* Letter from author Re: Request for Authority to Remove Incidental Derived Waste (IDW) from Proposed Sampling of UPRR Property Prior to Laboratory Analysis. (19 November 2001) and response, letter from Dennis R. Downs, same subject (17 December, 2001) (on file with author)

¹²⁰ *See* Letter from Bill Ince, Contracts Representative – Real Estate, Folder No. 02049-59 UPRR (22 October, 2002) (on file with author)

tion of the sampling.¹²¹ Salt Lake City was required to get an exception to the regulation from the Utah Department of Environmental Quality, further delaying the sampling.¹²² Drilling activities were screened with an organic vapor monitor to detect any organic vapors.¹²³ None were detected.¹²⁴ Percolation test were conducted at all seven sites. A total of fourteen landscape/re-vegetation samples were collected and sent to the Soil and Plant Laboratory of Orange, California, for analysis.¹²⁵ A greenhouse growth test was conducted to measure the steriliants in the soil and to provide guidance on the type of plants and planting methodology.¹²⁶

Brownfields money was also used to fund a portion of the environmental sampling and analysis along the proposed daylighting right-of-way.¹²⁷ In December 2003, five surface soil samples, six subsurface soil samples, and three groundwater samples were collected at eleven locations in the Daylighting Project area.¹²⁸ Surface samples were collected from within the first two inches of soil, subsurface samples within two feet of the surface, and groundwater samples were taken from the upper aquifer at approximately nine feet below the surface.¹²⁹

The Daylighting Project area is bounded by three Superfund sites, any of which may have impacted the area.¹³⁰ The results of surface soil sampling show that, "With the exception of arsenic, metals concentrations were below USEPA Region 3 RBC¹³¹ for soils at industrial sites. Arsenic concentrations ex-

¹²¹ See Letter from Norm Siler, Manager, Site Remediation UPRR (Oct. 31, 2001) (on file with author).

¹²² This is another example of the poor relationship that existed between Salt Lake City and the railroad. The situation is vastly improved today.

¹²³ See *Draft Interim Environmental Sampling and Analysis Report for the City Creek Daylighting Project, Salt Lake City, Utah* MSE Millennium Science & Engineering, Inc., Mar. 3, 2003, at 5.

¹²⁴ See *Id.*

¹²⁵ See *Geotechnical And Landscape/Revegetation Soil Testing Report*, City Creek Sec. 206 Environmental Restoration Contract No. DACW05-01-P-0166, Feb. 28, 2003, at 4-5.

¹²⁶ See *Id.*

¹²⁷ Interview with Valda E Tarbet, Deputy Director Salt Lake City Redevelopment Agency. (September 2004).

¹²⁸ See *Draft Interim Environmental Sampling and Analysis Report for the City Creek Daylighting Project, Salt Lake City, Utah* at 4.

¹²⁹ See *Id.*

¹³⁰ See *Id.* at 2-3.

¹³¹ Risk Based Concentrations define acceptable levels of concentrations of certain analytes based upon exposure limits

ceeded the Region 3 RBCs in all surface soil samples.”¹³² Sub-surface soil samples showed no cause for concern since, “[w]ith the exception of arsenic, metals concentrations were also below USEPA Region 3 RBCs for soils at industrial sites. Arsenic concentrations exceeded the Region 3 RBCs in all subsurface samples.”¹³³ Experience shows that “naturally occurring arsenic concentrations in soils throughout the Salt Lake Valley are generally high and often exceed the RBC.”¹³⁴ Ground water analysis “conducted for this assessment did not indicate environmental impacts that would warrant additional action.”¹³⁵ In general, the limited environmental sampling that was conducted gave no indication that environmental contaminants in the soil or groundwater along the proposed right of way would have a negative impact on the Daylighting Project.¹³⁶

The RDA also joined with Union Pacific to fund a study to determine the scope of work required and estimated costs to move the Folsom Street rail line to the north adjacent to an existing east-west mainline.¹³⁷ As a result of the intersecting rail lines in the area, there is a significant amount of signalization that must be replaced in order to move the Folsom Street line. The estimated cost, which includes the straightening of a major bottleneck in the area, is \$50,000,000.¹³⁸ The city has teamed up with Union Pacific in an attempt to acquire federal transit funds to assist with the cost.¹³⁹ Upon completion of the rail straitening and movement of the rail line, Union Pacific has agreed to donate the existing right-of-way to the city for the Daylighting Project.¹⁴⁰

The science of ecological restoration is slowly being perfected at various levels nationwide. The more that we under-

¹³² See *Draft Interim Environmental Sampling and Analysis Report for the City Creek Daylighting Project*, Salt Lake City, Utah at 4.

¹³³ See *Id.* at 10.

¹³⁴ See *Id.* at 9.

¹³⁵ See *Id.* at 12.

¹³⁶ See *Id.*

¹³⁷ Interview with Valda E Tarbet, Deputy Director Salt Lake City Redevelopment Agency. (September 2004).

¹³⁸ Telephone Conversation between author and Steven McClaws, Director of Engineering Services Commercial Facilities, Union Pacific Railroad (July 2001).

¹³⁹ Telephone Conversation between author and D.J. Baxter, Senior Advisor, Office of the Mayor, Salt Lake City corporation (10 November 2004)

¹⁴⁰ This agreement was predicated on the assistance of SLC in acquiring federal funds for the relocation of the rail line and is set to expire on September 30, 2007 unless funding is identified for rail relocation by that date.

stand about how ecosystems functioned in the past, the better we will become at restoring them. Often, as is the case with this section of City Creek, the ecosystem must be completely restructured because of natural or manufactured events that wipe them out.¹⁴¹ Restoring ecosystems requires the harmonious work of various disciplines; biologists, engineers, zoologists, and arborists. The Daylighting Project has drawn together these and other disciplines. A properly constructed riparian system is one that will perpetuate itself.¹⁴² The ecosystem will become dynamic as the stream naturally erodes and deposits sediment that contributes to the buildup of natural flora, which in turn provides homes for various fauna.¹⁴³ Since Utah has long been considered the second driest state in The Union,¹⁴⁴ the reestablishment of any riparian habitat should have a critical effect on all species that rely on such habitat.

To ensure the permanence of the work, Salt Lake City will be responsible of the operation, maintenance, repair, rehabilitation and replacement of various elements as necessary.¹⁴⁵ In its application process with the USACE, the city has declared its capability and willingness to do this, and is prepared to sign the required Project Cooperation Agreement with the USACE.¹⁴⁶ That agreement will be signed upon the completion and appropriate findings of the Study.¹⁴⁷ The agreement specifies the cost sharing for the design and construction, 65% federal and 35% local, and the operational and maintenance requirements for the completed Daylighting Project.¹⁴⁸

Because the restoration is designed as a permanent fixture on the landscape of the city, present and future resources must

¹⁴¹ See generally Robert Askins, *Restoring North America's Birds* 2234-39 (New Haven Yale University Press) (2000).

¹⁴² CECW Regulation No. 1165-2-502, *Water resources Policies and Authorities Ecosystem Restoration - Supporting Policy Information*, Depart of the Army U.S. Army Corps of Engineers, Washington, D.C. 2314-1000, 30 September 1999 p24

¹⁴³ See Ann Riley, *Restoring Streams in Cities, A guide for Planners, Policymakers, and Citizens* (Island Press 1998) p97

¹⁴⁴ See Edward Espenshade Jr. Ed. Rand McNally Goode's World Atlas, 17 Edition (Rand McNally & Company 1996) p 120

¹⁴⁵ CECW Regulation No. 1165-2-501, *Water resources Policies and Authorities Civil Works Ecosystem Restoration Policy*, Depart of the Army U.S. Army Corps of Engineers, Washington, D.C. 2314-1000, 30 September 1999

¹⁴⁶ See USACE Draft Model Project Cooperation Agreement (December 2002) Article II – Obligations of the Government and the Non-Federal Sponsor

¹⁴⁷ See *Id.*

¹⁴⁸ See *Id.*

be committed for the operation and maintenance of the ecosystem. This commitment demands citizen input into the entire process. Salt Lake City applied for and received a grant from the federal URRI for citizen outreach associated with this ecosystem restoration.¹⁴⁹ The URRI is a joint initiative of the EPA and the USACE created in the summer of 2002 by the signing of a memorandum of understating ("2002 MOU").¹⁵⁰ The URRI was created to ensure a concerted effort of the two agencies toward remedial water quality and environmental restoration of urban rivers and streams. The URRI has provided grants for eight pilot projects nationwide.¹⁵¹

V. THE URBAN RIVERS RESTORATION INITIATIVE

The Water Resources Development Act of 1992 (the Clean Water Act) contained a Congressional Directive to the EPA to develop a comprehensive assessment of chemical contaminants in waters throughout the United States.¹⁵² The resulting report revealed contamination in major watersheds throughout the country. According to Dr. Jonathan Deason of George Washington University,

In response to this situation, a group of experts in water resources planning and management is proposing a new cooperative program to restore rivers affected by contaminated sediments in the U.S. Congress. This new approach, entitled the Urban Rivers Restoration Initiative, envisions an urban industrial river restoration initiative for the U.S. army Corps of Engineers, working in conjunction with the Environmental

¹⁴⁹ See *Restoration of Degraded Urban Rivers*, Memorandum of Understanding between the U.S. Environmental Protection Agency and the U.S. Department of the Army (July 2, 2002), available at http://www.epa.gov/swerrims/landrevitalization/download/epa-usace_urban_water_mou.pdf.

¹⁵⁰ See *Restoration of Degraded Urban Rivers*, Memorandum of Understanding between the U.S. Environmental Protection Agency and the U.S. Department of the Army (July 2, 2002), available at http://www.epa.gov/swerrims/landrevitalization/download/epa-usace_urban_water_mou.pdf.

¹⁵¹ Jonathan Deason, Ph.D., P.E., *Urban River Restoration Initiative: Key to Brownfields Redevelopment Success in Urban River Corridors*, Sept. 2001, at 2, available at <http://www.gwu.edu/~eemnews/spring2001-images/PDFVersionofBF2000Paper.pdf>.

¹⁵² See EPA, *Region 5 Water*, available at <http://www.epa.gov/region5/water/cwa.htm>.

Protection Agency and other appropriate federal, state and local agencies, to be implemented through the standard civil works project development process.¹⁵³

The Clean Water Act brought a new awareness of the ruination of the rivers, lakes and streams in the United States. The correction of the damage done during and as a result of the industrial revolution in this country was finally initiated. This nation has long had the technology, and now has the will to correct the insults done in the past. In the case of City Creek in Salt Lake City, this means the daylighting of a portion of a previously pristine mountain stream encapsulated so that the area could be used for industrial purposes. In fact, a steel fabrication plant, plating operation, coal gasification plant, and two power generation plants were placed in the urban area where the stream previously ran.¹⁵⁴ As Dr. Deason pointed out,

Under this urban river restoration concept the Army Corps would conduct cooperative project planning and development processes, in conjunction with state and local agencies and other stakeholders, to identify and apply the most feasible technical solutions to achieve environmental restoration economic revitalization in degraded river corridors. Feasible restoration projects would require project specific authorization before implementation.¹⁵⁵

The new initiative has strong synergy with several current major federal initiatives including the Brownfields redevelopment initiative, the total maximum daily load initiative,¹⁵⁶ the natural resource damage assessment and restoration program, new ecosystem restoration and protection, and aquatic ecosystem restoration authorities provided to the USACE in recent Water Resources Development Acts.¹⁵⁷ Article III of the 2002 MOU defines the scope of the program:

¹⁵³ See Deason at 2.

¹⁵⁴ See Tony Kitter, Geologist USACE Env Eng Branch Memorandum for: Guy Brown, CESPK-PM-C *City Creek Field Work 02/07/00 -02/11/00* (February 2000).

¹⁵⁵ See Deason at 2.

¹⁵⁶ According to UPA Region 10 fact sheet on the subject, total maximum daily load (TMDL) is a tool for implementing water quality standards and is based on a relationship between pollution sources and in-stream water quality conditions.

¹⁵⁷ See Deason at 2.

In order to begin an evaluation of this urban rivers cooperative approach it is proposed that eight demonstration pilot projects be announced and undertaken during the next 12 months. The pilot projects will include, but not be limited to, projects for water quality improvement, contaminated sediment removal and remediation and riparian habitat restoration.¹⁵⁸

The eight pilot projects that were selected in addition to the Daylighting Project, are listed below:¹⁵⁹

1. The Anacostia River in the District of Columbia and Maryland is a Brownfields, fresh water restoration project.
2. Blackstone-Woonasquatucket Rivers in Rhode Island and Massachusetts project to clean up contaminates "threatening human health, wildlife, fish habitats and recreational fishing."¹⁶⁰
3. Elizabeth River in Virginia is "contaminated by heavy metals from military and industrial sources that pose threats to human health and wildlife."
4. Tres Rios in Arizona is a riparian habitat restoration project.¹⁶¹
5. Passaic River in New Jersey includes a 17 mile stretch of river encompassing 4 counties. This project stresses inter-governmental and private agency coordination.¹⁶²
6. Gowanus Canal and Bay in New York "includes approximately 130 acres of open water" that is impacted by "sewer outfalls."¹⁶³

¹⁵⁸ See *Restoration of Degraded Urban Rivers*, Memorandum of Understanding between the U.S. Environmental Protection Agency and the U.S. Department of the Army (July 2, 2002), available at http://www.epa.gov/swerrims/landrevitalization/download/epa-usace_urban_water_mou.pdf.

¹⁵⁹ See EPA, *Restoring Urban Rivers*, available at http://www.epa.gov/oswer/landrevitalization/download/urri_brochure.pdf.

¹⁶⁰ See *Id.*

¹⁶¹ See *Id.*

¹⁶² See *Id.*

¹⁶³ See *Id.*

7. Fourche Creek in Arkansas is "located within an EPA Brownfields Assessment Demonstration Pilot"¹⁶⁴

All eight of the pilot projects stress partnership formation among various government, not-for profit, and for-profit entities with the goal of mitigating environmental insults and restoring urban waterways to less contaminated states. At the National URRI Conference in Salt Lake City in June 2003, it was announced that no new pilot projects would be selected under the 2002 MOU set to expire in June 2004.¹⁶⁵ The joint efforts and resources of EPA and the USACE would be focused on existing pilot projects.¹⁶⁶ Ultimately this benefited the Daylighting Project because additional funds were provided to enhance the activities under the URRI Pilot Program.¹⁶⁷

The 2002 MOU is careful to use the disclaimer that nothing in the agreement will not change any statutory or regulatory obligations:

This agreement establishes a mechanism of cooperation and coordination, and expresses the intent of the signatory agencies to work together to resolve any conflicts using, as appropriate, consensus building and collaborative decision-making to find common ground and identify practical solutions. Success of this agreement will be evidenced by the efficient accomplishment of each agency's statutory requirements within areas of mutual concern in a timely manner and by minimizing misunderstandings, and duplication of effort.¹⁶⁸

The initial memorandum of understanding was established with an end date of June 2004.¹⁶⁹ At the time of this writing, a

¹⁶⁴ *See Id.*

¹⁶⁵ Remarks Jane Merger, USACE HQ2, at Urban Rivers Forum Meeting June 22 and 23, 2004 Salt Lake City, Utah (June 2004)

¹⁶⁶ *Id.*

¹⁶⁷ The URRI Coordinator for EPA Denver reported the addition of \$50,000.00, thereby doubling the money committed to the Euclid SAMP. Telephone Interview with Judith McCulley, URRI Coordinator, EPA Denver (Nov. 2004).

¹⁶⁸ *See EPA, Memorandum of Understanding, available at* http://www.epa.gov/swerrims/landrevitalization/download/epa-usace_urban_water_mou.pdf.

¹⁶⁹ *See Restoration of Degraded Urban Rivers, Memorandum of Understanding between the U.S. Environmental Protection Agency and the U.S. Department of the Army* (July 2, 2002), *available at* http://www.epa.gov/swerrims/landrevitalization/download/epa-usace_urban_water_mou.pdf.

new memorandum of understanding, which would allow the extension of the URRI program through October 2005, had been forwarded for signatures.¹⁷⁰

VI. CITIZEN OUTREACH AND THE SMALL AREA MASTER PLAN¹⁷¹

As a result of the link to the Gateway Brownfields project, there was considerable interest in City Creek daylighting at EPA Denver. This, coupled with the Study by the USACE, lead to an invitation for Salt Lake City to apply for a pilot grant. Upon submission of the application outlining the necessity for the grant and explaining how the grant would be used, the Daylighting Project was accepted as a pilot.¹⁷² The following excerpts from the grant application explain how the fund will be used for community outreach:

Salt Lake City intends to use the funds for community outreach and the development of a Small Area Master Plan (SAMP). The SAMP will bring a number of players from local, federal and state agencies, the community, businesses owners, and property owners, and other interested parties together to formulate a plan that will set the tone for the growth and development of the area once the creek is daylighted and allow the community input into the design and planning of the daylighted creek.

The planning area consists of approximately 140 acres currently crisscrossed by rail road tracks, with a mixture of residential, industrial and commercial [uses]. The SAMP will provide a series of integrated recommendations for business and residential land uses, recreation uses, and multi-modal transportation needs in an area that has been in transition for many years.

¹⁷⁰ E-mail from Beverley Getzen Chief, Office of Environmental Policy USACE to author (Dec. 2004) (on file with author).

¹⁷¹ Salt Lake City uses master plans for planning large areas of the City and SAMPs to do detailed planning focused on smaller areas.

¹⁷² See *Restoration of Degraded Urban Rivers*, Memorandum of Understanding between the U.S. Environmental Protection Agency and the U.S. Department of the Army (July 2, 2002), available at http://www.epa.gov/swerrims/landrevitalization/download/epa-usace_urban_water_mou.pdf.

The Daylighting of City Creek will restore an aquatic uses in the area, provide native plant and animal habitat, and provide recreation opportunities that do not now exist in an area that shows sever signs of blight.

Anticipated measures of success: Salt Lake City has embraced the concept of Sustainable Development in its master planning, and land use policies. The benefits of this project will be measured in the reduction of crime in the area, by the expansion of riparian habitat, and by the economic benefits including the revitalization of an area in transition.¹⁷³

Using the URRI pilot grant, Salt Lake City was able to direct the efforts of a firm under contract with EPA Denver toward the development of this SAMP.¹⁷⁴ The initial concept was addressed at an open house held in the target area.¹⁷⁵ The response to the open house in terms of citizens, mainly residents and business owners in the neighborhood, was quite unexpected. Twenty individuals signed up to participate as working group members or steering committing members.¹⁷⁶ At subsequent meetings, that interest has remained high, and citizen participation has exceeded the expectations of city planners.¹⁷⁷ The development of the SAMP is on schedule with presentations anticipated to the City Planning Commission in the spring of 2005.

¹⁷³ URRI grant application submitted by Salt Lake City, Utah to EPA Denver (Aug. 2003).

¹⁷⁴ See Superfund Technical Assessment and Response Team -2 US EPA Contract No. 68-W-00-118, Euclid Small Area Master Plan URS Operating Services, Inc. (December 2004)

¹⁷⁵ Salt Lake City Planning Division held an initial meeting to announce the undertaking of a comprehensive review of the Euclid Neighborhood on 27 May 2004 at the City Front Apartment's Lobby, 631 West North Temple Street, Salt Lake City, Utah

¹⁷⁶ The acknowledgement page of the January 5 draft of the SAMP prepared by Mark Reese of URS in Denver lists twenty-six members of the Euclid neighborhood as contributing to the development of the draft.

¹⁷⁷ The author has been involved in the development of a significant number of master plans for various areas of Salt Lake City over the past seventeen years. A prime example is the Master Plan for the eastern half of Salt Lake City, which the author was involved in the development of from 1997 to 2004. One of the biggest challenges faced was getting consistent community involvement. A maximum of ten community folks remained involved in the process through the City Planning Commission presentation. In the author's experience, this is normal. The sustained involvement of a significant number of individual property and business owners and managers for the Euclid SAMP is highly unusual.

VII. CONCLUSION

After six years of active work on the Daylighting Project, City Creek remains entombed, and its daylighting still only a plan. Design will not officially take place until the completion of the Study if the Daylighting Project remains on the active list with the USACE, Sacramento District. Because of that probability, Salt Lake City has not explored other sources of funding. Under the USACE program, the daylighting would take place in a well-structured environment that would expand the riparian lands in the area creating a significant impact on riparian flora and fauna. Should other funding be arranged and the Daylighting Project move forward without the USACE assistance, the results may be vastly different. Citizens in the area have not completely embraced the concept of a natural riparian strip through their neighborhood, mainly because of a distrust for the unknown.

A river walk, such as the one that has brought so much attention and praise to San Antonio, is a concept that is much better known and therefore, embraced by the citizens of the area. If the Daylighting Project is to go forward under the Section 206 process, funds must be released for the completion of the Study, the design, and the construction of the Daylighting Project. Given the current diversion of Section 206 funding to a war on foreign soil, there is no way to predict when or if the Daylighting Project will continue.

In hindsight, congressional intervention employed early on would most likely have ensured a more continuous process leading to the establishment of a riparian ecosystem. Congressional intervention in the form of encouragement of the completion of the Daylighting Project, or in the earmarking of the necessary funds has not been ruled out. Salt Lake City Mayor, Ross Anderson, in a letter to Senator Bennett, asked for the Senator's assistance to arrange the necessary funding for the completion of the Study.¹⁷⁸

Involving and sustaining the involvement of as many groups, individuals, and agencies as possible is one way to ensure continued attention to a project such as this. Non-

¹⁷⁸ See Letter from Ross C. Anderson, Mayor of Salt Lake City, Utah, to Hon. Robert Bennett, Utah Senator (Jan. 20, 2005) (on file with author).

governmental agencies such as Ducks Unlimited and the Trust for Public Lands have been a huge help in maintaining a high level of interest in the Daylighting Project. The networking performed by local members of these organizations has raised the Daylighting Project to nation wide attention. Networking with like-minded individuals throughout the country is also an excellent source of ideas on how to proceed with projects such as this one.

The author has given guided tours to environmental groups, elected officials at various levels, members of national organizations such as the League of Cities and Towns, and a significant number of press people in all mediums. The Salt Lake City Office of Community Affairs and the City's Public Information Officer are kept advised of the status of the Daylighting Project and understand that the project manager will be available to anyone or any group that may assist in getting this project completed.

The grant from the URRI, with its focus on the future of the area once the Daylighting Project is completed, should have a positive effect on the Daylighting Project as the SAMP goes through the various reviews necessary for its adoption by the City Council. This process will also ensure that the City's Planning Division, the Planning Commission, and the City Council will all become much more familiar with the Daylighting Project and should gain a solid understanding of the wishes of the community. This type of exposure by city leaders can only have a positive effect on the outcome of the Daylighting Project.

Since the URRI has agreed to double the funds available to the SAMP development, planners are looking into the development of a virtual tour of the area. Such a tour would be in the form of a computer-enhanced video that would show the Daylighting Project as envisioned. This type of video would replace a three dimensional table model and could be used in various briefings to garner continual or additional support for the Daylighting Project.

The publicity given this proposed Daylighting Project at local, state and national levels has had a very positive effect and, coupled with the donation of the necessary land to the city by the railroad, will hopefully lead to the eventual daylighting of this stream entombed for the past century.