APPLICATION NUMBER 4-
Salt Lake City
Project Title: Jordan River Corridor Restoration

UTAH DIVISION OF WATER QUALITY
195 North 1950 West
PO Box 144870
Salt Lake City, Utah 84114-4870

Red Butte Creek Project Proposal Form

NOTE: Proposal must be no longer than 6 pages. Supplemental documents such as letters of support, information to demonstrate previous project implementation and other relative supportive documents may be submitted in addition to this form.

Applicant Name: Salt Lake City Corporation

Co-Applicant Name (if applicable): _____

Agency or Business Name (if applicable): Salt Lake City Department of Public Services

Mailing Address: P.O. Box 145470 City: Salt Lake City State: UT Zip: 84114-5470

Phone: (801) 535 - 7774 E-mail: rick.graham@slcgov.com

☐ Individual ☐ Non Profit ☑ Govt. Agency ☐ Business ☐Commercial ☐ Other

1. Estimated Project Costs:

Labor	$ 1,528,600
Materials	$ included in Labor
Equipment	$ 0
Administration	$ 5,000
Miscellaneous	$ 349,695
TOTAL	$ 1,878,295
Total funding request	**$ 1,095,234**

Other sources of project funding

Salt Lake City Corporation	$788,061	_____	$0
Source	Amount	Source	Amount
_____	$0	_____	$0
Source	Amount	Source	Amount
_____	$0	_____	$0
Source	Amount	Source	Amount
_____	$0	_____	$0
Source	Amount	Source	Amount

Total project cost including other sources of funding: $ 1,878,295
(please include bids for labor, equipment, rentals, etc.)

2. Describe the purpose and need of the project:

Purpose. The goal of the Jordan River Corridor Restoration is to restore 55 acres of critical riparian habitat in a northern section of the Jordan River to improve the ecosystem functions that will support a high level of ecosystem services and the public's experience. Natural ecosystem functions become services when the system is balanced to supply resources and processes to the public such as clean water, climate stability, support for nutrient cycles, and cultural benefits such as recreation and connection to nature. The proposed Jordan River Corridor Restoration Project is an opportunity to bring a section of degraded riparian habitat to a level of improvement to support a healthy, self-sustaining ecosystem with natural function and a predominance of native species. The Jordan River Corridor Restoration will serve as a significant restoration demonstration project on the Jordan River that will improve conditions for water quality, wildlife species (macro-invertebrates, fish, and birds) and their critical habitat, and the ecosystem services of the Jordan River. The six habitats proposed for restoration include: 1) off channel wetlands; 2) graminoid slope wetland; 3) emergent bench wetland; 4) riparian forest complex; 5) upland grassland; and 6) upland shrubland.

Need. In the summer of 2010, a significant stretch of the Jordan River south of the proposed project area was impacted by the Red Butte Creek oil release. The release flowed from the spill site, down Red Butte Creek, into the city storm drain system, and finally reaching the Jordan River at the 1300 South, 900 South and 800 South storm drain discharge locations. Oil-adsorbent booms were placed at storm drain outfalls and other strategic locations from 1300 South to 600 North, in an effort to capture the released oil before it could reach the Great Salt Lake. While oil recovery efforts concentrated on the Jordan River between 1300 South and 600 North, it is assumed that petroleum contamination reached to and beyond the proposed project area (1800 North to 2500 North), especially in the early hours of the spill before containment efforts began. Reports of sheen in Farmington Bay were never confirmed, but (along with oil-spill travel-time estimates) further indicate that the proposed project area was within the affected area of the spill. The Red Butte Creek oil release was particularly critical to the Jordan River because it is already listed as water quality impaired on the State of Utah 2008 303(d) list for low dissolved oxygen, high sediment, high levels of total suspended solids, high temperature, and high bacteria levels.

Anticipated Benefits. Although the proposed restoration project can not address all of the oil release impacts, it will restore important riparian habitat along the Jordan River and Parkway trail at the north end of the city. The Jordan River Restoration is an opportunity to bring a section of degraded riparian habitat to a healthy, self-sustaining ecosystem with natural function and a predominance of native species. The restoration project will serve the community through three primary benefits: 1) ecological benefits associated with improved water quality and wildlife habitats; 2) recreation benefits in the form of an enhanced trail experience and wildlife viewing opportunities from land and water trails on the Jordan River Parkway; and 3) natural and cultural historical benefits resulting from the conservation of critical ecosystem function of the Jordan River.

3. Estimate time frame of the project with significant milestones (Note: Project must be completed with final reports filed by November 10, 2014).

The estimated time frame for the Jordan River Restoration is 33 months (2.75 years) with a start date of February 2012 and a completion date of October 2014.

Interim Milestones	Start Date	Completion Date
Develop qualified consultant list	February 2012	February 2012

Issue RFP to qualified consultant list	February 2012	March 2012
Select riparian design consultant	March 2012	April 2012
Final design and specification documents	April 2012	June 2012
Issue RFP to qualified bidders	July 2012	September 2012
Select riparian restoration specialist	September 2012	September 2012
Permits, due diligence, and public outreach (Phase 1)	October 2012	February 2013
Riparian restoration site work	March 2013	September 2013
Conduct public outreach (Phase 2)	May 2013	September 2013
Fall planting	October 2013	November 2013
Spring planting	April 2014	May 2014
Fall planting	October 2014	October 2014

4. Describe the location of the project with attached location map, including details on the total area that will be directly enhanced by the project:

   The proposed restoration area is located along the Jordan River between 1700 North and 2500 North. The restoration area is comprised of three sites: 1) 23 acres on the west-side river bank; 2) 22 acres on the east-side river bank; and 3) the 10-acre Riverview parcel. The total area that will be directly enhanced by the proposed project is 55 acres.

5. Describe how the project will specifically enhance and protect waterways affected by the Red Butte release and improve the conditions of one or more of the following: wildlife, habitat, natural vegetation, water quality or emergency response:

   The proposed restoration project is designed to enhance and protect this affected portion of the Jordan River in the following ways:

   Waterway Protection. The Jordan River Corridor Restoration Project will enhance and protect the sections of the Jordan River flowing between 1700 North and 2500 North. Protection of the Jordan River has direct benefits to the Great Salt Lake ecosystem, which is one of the most significant habitats in North America for migrating neotropical birds. The conservation and restoration of this critical riparian stretch through public land supports the ecosystem services of the waterway to the urban core and allows for continued public access and education. The proposed project plan includes several public outreach efforts to educate the public on the value of the Jordan River and to engage the public in the long-term stewardship and protection of the waterway. The installation of interpretive signage along the east side of the Jordan River in the restoration area will provide additional educational opportunities and help foster environmental stewardship through a better understanding of the ecology of the Jordan River.

   Improved Conditions for Wildlife. The restoration area contains upland, riparian, and wetland habitats that are generally low functioning due to high percentage of weed cover and lack of human access restrictions. Wildlife is inextricably connected to the quality and availability of habitat. The critical ecological role of riparian habitat is disproportionate to their small size. Lowland river and stream banks are rare in Utah, covering just 0.2 percent of the state[1] and 1.2 percent of Salt Lake City's land area[2]. Riparian areas occupy less than three percent of the land area of Utah and comprise about 1.2 percent of the land area of Salt Lake City[1]. In Utah, approximately 75 percent of the state's bird species rely on riparian habitat[3]. In the western United States, up to 80 percent of all

[1] State of Utah Natural Resources Division of Wildlife Resources. 2005. *Utah Comprehensive Wildlife Conservation Strategy*. Pg K-2.
[2] Salt Lake City. 2010. Salt Lake City Riparian Corridor Study: Final Red Butte Creek Management Plan. Pg 1-4.

mammal and bird species rely on riparian corridors for some part of their lifecycle[3]. The proposed restoration project will increase biodiversity and will thereby provide wildlife habitat that serves as breeding, nesting, feeding, and resting habitat for a diversity of species.

Improved Conditions for Habitat and Natural Vegetation. The habitat is primarily complex riparian vegetation including tree canopy, understory vegetation, and upland grasses, shrubs, and trees on the streambanks. Russian olive and tamarisk or salt cedar trees now dominate the Jordan River floodplain where native willow trees and cottonwood trees were once found. Plant species such as foxtail barley, saltgrass, rabbitbrush, cattails, and other reeds are still found in small pockets along the river, however, the understory vegetation, off-channel wetlands and emergent bench wetlands are dominated by weedy grasses and invasive species such as commond reed and reed canarygrass. In 2003, the Utah Department of Wildlife Resources estimated that less than half the vegetative cover in the restoration area was made up of native plants. As part of the restoration project, the existing habitat will be improved through removal of highly invasive and noxious weeds as well as excavation in select areas. The excavation is required for the creation of graminoid slope wetland, emergent benches, and off-channel wetlands. The weed removal and grading will improve soil conditions to support native plantings. The project will increase native plant populations by restoring the following six critical habitat zones:

1) 8.2 acres of off-channel wetland restored with wetland plugs and seed mix;
2) 1 acre of graminoid slope wetland created with wetland plugs and seed mix;
3) 2.5 acres of emergent bench wetland restored with wetland plugs and seed mix;
4) 8.4 acres of riparian forest complex restored with trees, shrubs, pole plantings, and seeds;
5) 21.6 acres of upland grassland restored with seeding grasses and forbs; and
6) 13.3 acres of upland shrub restored with seeding grasses, forbs, and high-end shrubs

The restoration area currently contains all of the habitat types listed above, except for graminoid slope wetlands. An irrigation system will be installed and will be calibrated for water efficiency and for appropriateness to the native plant palette.

Improved Conditions for Water Quality. Water quality will be addressed through reestablishment of diverse riparian habitat zones. Re-establishing native habitat along the streambanks will support soil stabilization, erosion control, and prevention of nutrient loading. Physical soil stabilization of 13,730 linear feet of stream bank will be achieved through increasing vegetation cover and will result in reduced sediment loads to the river bed and reduced total suspended solids in the water column. Vegetative streambanks will filter nutrient loads, particulate matter, and other potential pollutants from entering the stream. Stream temperature will be also be regulated by the reestablishment of a complex riparian habitat. These best-management practices will support the elimination of water quality impairments of low dissolved oxygen, high sediment, high levels of total suspended solids, high temperature, and high bacteria levels. The Jordan River TMDL identifies dissolved oxygen and *E. coli* as impairments in this stretch of the Jordan River.

6. Describe project's connectivity to other natural areas or projects that further enhance wildlife, habitat, natural vegetation, water quality or emergency response:

The Jordan River Corridor Restoration has physical connectivity and planning connectivity to the other natural areas and projects in the Salt Lake Valley.

[3] Krueper D.J. 1993. Effects of land use practices on western riparian ecosystems in status and management of neotropical migratory birds. *In*: Finch D.M., Stangel P.W., editors. Status and management of neotropical migratory birds. General technical report RM-229. Fort Collins (CO): U.S. Forest Service. p. 331–338

Physical Connectivity. The Jordan River is a 50 mile waterway flowing from Utah Lake north to the Great Salt Lake, which is an ecosystem of hemispheric significance, providing resting, staging, and nesting habitat for migratory bird populations. The Jordan River corridor is a key connection between the Utah Lake and the Great Salt Lake habitats. Improved habitat and water quality resulting from this proposed restoration project of the Jordan River has a direct impact on these other critical natural areas. Restoring and enhancing the habitat, natural vegetation, and water quality associated with Jordan River will increase biodiversity, improve public awareness, and increase opportunities for recreation and education.

Planning Connectivity. The proposed scope of restoration work was developed from the Regional Athletic Complex Riparian Restoration Plan prepared for the City by SWCA Environmental Consultants in June 2010. Also, the restoration project is consistent with the recommendations in the *Blueprint Jordan River* (Envision Utah, 2009), which serves as a guide for conservation, restoration, and recreational projects along the Jordan River corridor. In addition, the restoration area is 1.5 miles upstream of the Legacy Nature Preserve and is one of the last tree-dominated riparian zones before the river enters the marshy lowlands of the Great Salt Lake's Farmington Bay to the north. One stated goal of the *Blueprint Jordan River* is to enhance the connectivity of riparian habitat along the Jordan River through increased riparian vegetative cover and improved habitat quality, as proposed by this project. Other guiding principles identified in the *Blueprint Jordan River* involve establishing buffers between the river and the built environment, restoration of riparian and in-stream habitat, and stormwater management. The proposed restoration will support the implementation of the goals and guiding principles of the *Blueprint Jordan River* while balancing the needs for recreation and public access. The City will work with Jordan River Commission to provide educational opportunities and data for use by other jurisdiction as a case study for implementation of Jordan River Total Maximum Daily Loads (TMDLs).

7. Describe any additional social benefits of implementing this project:

Jordan River Corridor Restoration will provide high quality riparian experiences for the public. The site is a fixture in the local community, functioning as an important corridor of open space within an otherwise urbanized city environment. The relatively lush vegetation within the riparian corridor is visually distinct from the remainder of the city's landscape and has a unique aesthetic and cultural value. The restored open space provides opportunities for residents to experience and learn about the unique natural processes and ecology of riparian corridors as well as opportunities for active and passive recreation. Additionally, this project will enhance community values collected through the Blueprint Jordan River survey, which identified the following in order of most supported: trails, wildlife watching, boating, and parks and other recreation opportunities.

8. Project plans and details, including rights to work on specified piece(s) of land:

The proposed scope of restoration work is provided above in the response to Question 5. A detailed conceptual plan is attached. If the project grant is awarded, the City will secure the services of a qualified riparian restoration design consultant to draw up final detailed design plans and restoration specifications. In addition, the City will secure the services of a qualified riparian restoration specialist to conduct the site restoration work. The City owns these properties and has the right to conduct work on them. As with all projects that could affect a riparian system or flood plain, the City will coordinate with appropriate jurisdictions to secure any necessary permits.

9. Describe your experience in implementing projects of similar scope and magnitude:

Three restoration projects of similar scope and magnitude that the City is in the process of implementing include: 1) City Creek Canyon (100-acre restoration); 2) Wasatch Hollow Open Space (10-acre restoration); and 3) Parley's Historic Nature Park (63-acre restoration). Additionally, the City recently completed stream bank re-grading and establishment of native habitat at four restoration sites along the Jordan River with funding from the State Division of Water Quality. The Jordan River Corridor Restoration will be overseen by the City's Parks and Public Lands Division and City's Department of Public Services in collaboration with the City's Department of Public Utilities. With the inter-department collaboration, the project will have access to professionals within each department with experience in riparian restoration, open space lands management, and implementing water quality best management practices. The project budget was developed with cost effectiveness in mind and based on local rates for professional services. Salt Lake City Council has expressed their intent to support the proposed restoration of this section of the Jordan River. The City has paid for the development of the 2010 *Regional Athletic Complex Riparian Restoration Plan,* which was adopted by the Salt Lake City Council. This specifically plans for the restoration of 45 acres of the 55 acres proposed with this project. The additional 10 acres has been included as a result of a recent acquisition by the City. Through direct enhancement and expected allocation of specific funds, the City has $788,061 of leveraged funds proposed for this area. Upon selection of this project, the City Council will be approached for the allocation of said funds.

10. Describe how ongoing maintenance of the project will be funded and carried out:

The City will maintain the 13,730 linear feet of streambank as part of the general maintenance and upkeep of the Jordan River Parkway which is primarily owned and operated by the City through the Parks and Public Lands Division. The ongoing maintenance of the restoration area will incorporate the best-management practices that the City uses to actively steward the 2,574 acres of open space within its municipal boundaries. Restoration maintenance will include replacing plants, replacing irrigation parts, weeding, monitoring, and/or other site modifications required to ensure that the restoration work is healthy into the future. On-going monitoring and management of noxious and invasive weeds will follow strategies outlined in the City's Integrated Pest Management Plan. The City will budget for the maintenance and monitoring for the site beyond the grant period through the City's Parks and Public Lands Division annual operating budget.

11. List consultants or agency partners that have participated in project development (below):

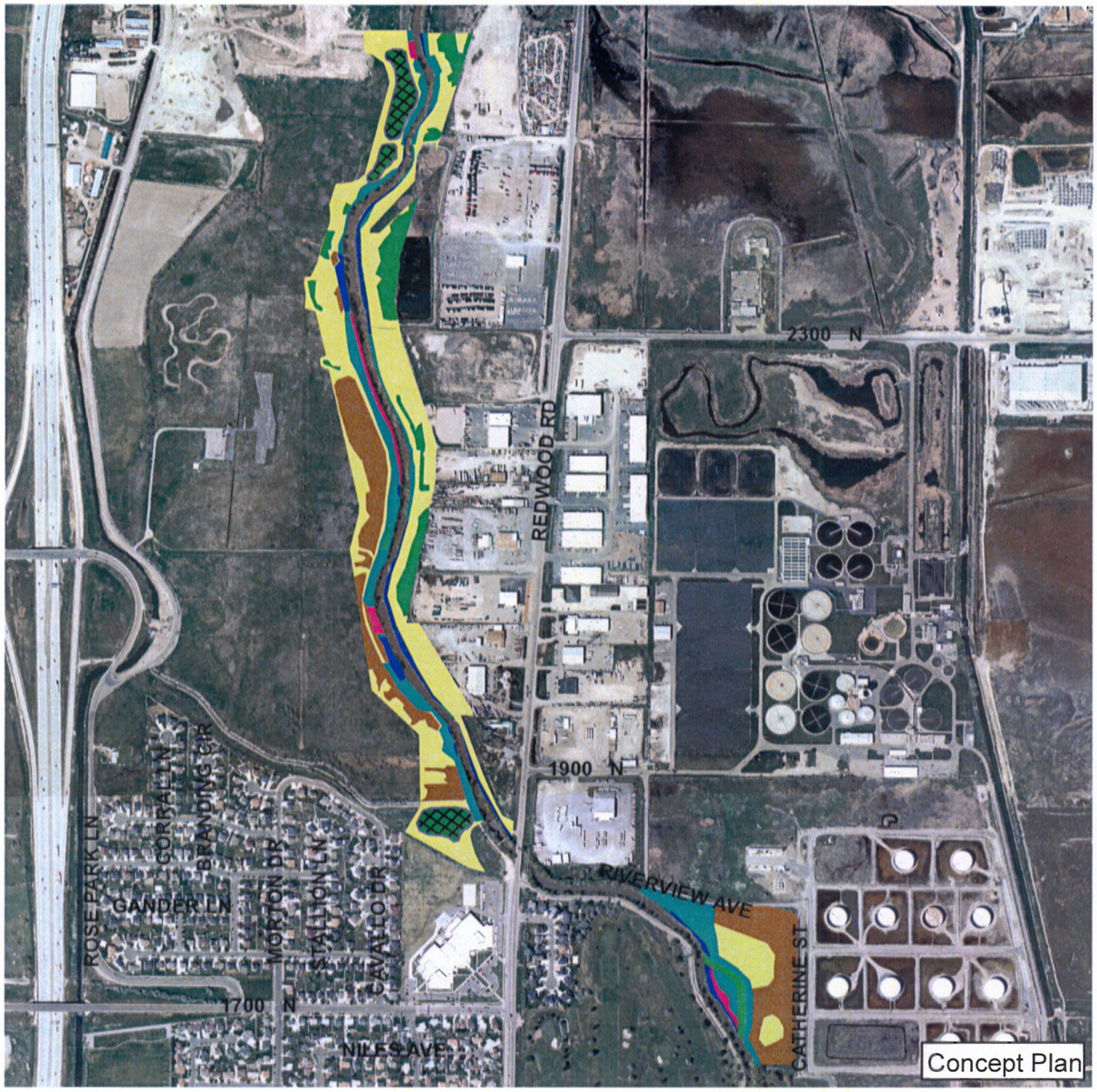
SWCA Environmental Consultants 257 East 200 South Salt Lake City, UT 84111 (801) 322-4307
Name/Company Address Phone

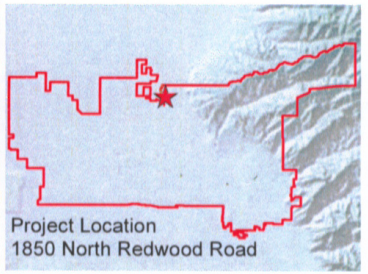
I am willing to: (1) comply with all applicable laws and work with designated technical personnel as assigned to the above–referenced project in preparation of project implementation; (2) submit detailed project information to the Utah Division of Water Quality as requested to evaluate water quality improvements; (3) not to apply any practices which would tend to defeat the purpose of the project; and (4) allow continued monitoring and evaluation of the project activities implemented on my property.

Signature Ann Graham Date 12-13-11
Applicant

Signature _____ Date _____
Co-Applicant (if applicable)

APPROVED AS TO FORM
Salt Lake City Attorney's Office
Date 12/12/11
By _____





Jordan River Restoration

SALT LAKE CITY

Legend

- Emergent Bench Wetland-2.62 ac.
- Graminoid Slope Wetland-0.93 ac.
- Off Channel Wetland-5.31 ac.
- Off Channel Wetland-Mitigation-2.97 ac.
- Riparian Forest Complex-8.38 ac.
- Upland Grassland-21.29 ac.
- Upland Shrubland-11.14 ac.

NORTH

0 375 750 1,500 Feet

JORDAN RIVER COMMISSION

Jordan River Commission
195 North 1950 West, P.O. Box 144870
Salt Lake City, Utah 84114
801.536.4158
www.jordanrivercommission.org

December 13, 2011

Ms. Hilary Arens
Division of Water Quality
PO Box 144870
Salt Lake City, UT 84114

Re: Red Butte Creek Request for Proposals

Dear Hilary,

The Jordan River Commission is please to provide this letter of support to accompany Salt Lake City's Jordan River Corridor Restoration proposal for riparian and stream bank restoration along the northern section of the Jordan River.

The Jordan River Commission is an interlocal cooperation of three counties, eight cities, two special districts and invested community partners. The Commission was formed to implement the ideas and concepts outlined in a regional visioning document, the Blueprint Jordan River. This visioning process involved nearly 3,000 individuals and built consensus around an ambitious vision for the Jordan River corridor. The vision includes habitat restoration, preservation of open space, education and interpretation, water quality improvements and management of flooding and stormwater.

Salt Lake City's proposed project, restoring nearly 55 acres of Jordan River stream bank, is the type of project that brings us one significant step closer achieving the vision outlined in the Blueprint. The project includes several elements that will contribute to the overall health and quality of the Jordan River corridor, including stabilizing stream banks, enhancing riparian habitat, protecting water quality, and helping to reduce in-stream flow velocities. We believe that funding this proposed will ultimately help strengthen the Jordan River corridor as a whole, and we are happy to provide our voice of support.

Sincerely,

Councilman Corey Rushton
West Valley City Council
Jordan River Commission Chair

Laura Hanson, AICP
Executive Director

cc: Mayor Ralph Becker
Salt Lake City Council Members

Jordan River Corridor Restoration Project Budget

Category	Cost Detail / Scope of Work	Requested Amount	Salt Lake City Leverage (not yet allocated)	Total Project Cost
Personnel				
Grants Program Administrator	$27.60 per hour x 181.17 hours	$5,000	$0	$0
Total Personnel		**$5,000**	**$0**	**$0**
Fringe Benefits				
None.	None.	$0	$0	$0
Travel				
None.	None.	$0	$0	$0
Equipment				
None.	None.	$0	$0	$0
Materials and Supplies				
None.	None.	$0	$0	$0
Contractual	*Scope of Work* *			
Riparian Designer	To include developing schematic design and creating restoration specifications and plans. Calculation based on 10% of riparian restoration.	$138,964	$0	$138,964
	Total Riparian Designer	**$138,964**	**$0**	**$138,964**
Riparian Restoration Specialist				
Site Preparation	To include: 1)invasive weed treatment; 2) modifications of existing irrigation; and 3) structure refurbishment.	$260,000	$0	$260,000
Habitat Restoration	To include: 1) excavating and planting for off channel wetland, off channel wetland mitigation, graminoid slope, and emergent bench habitats; 2) planting for riparian forest complex, upland grassland, and upland shrubland habitats; and 3) installation of interpretive signage. Total acreage estimated at 55 acres.	$316,575	$788,061	$1,104,636

Jordan River Corridor Restoration Project Budget

Category		Cost Detail / Scope of Work	Requested Amount	Salt Lake City Leverage (not yet allocated)	Total Project Cost
	Permitting		$25,000	$0	$25,000
		Total Riparian Restoration Specialist	**$601,575**	**$788,061**	**$1,389,636**
	Total Contractual		**$740,539**	**$788,061**	**$1,528,600**
Other					
	Contingency	15% of riparian restoration	$208,445	$0	$208,445
	Design Oversight	2% of riparian restoration	$27,793	$0	$27,793
	Restoration Oversight	6% of riparian restoration	$83,378	$0	$83,378
	Restoration Establishment	3% of riparian restoration specialist	$18,047	$0	$18,047
	Public Outreach	To include: 1) website development and updating; 2) onsite signage; and 3) educational materials. Calculation 2% of riparian restoration specialist.	$12,032	$0	$12,032
	Total Other		**$349,695**	**$0**	**$349,695**
Total Jordan River Corridor Restoration			**$1,095,234**	**$788,061**	**$1,878,295**

* Estimated costs include materials and installation/labor.