

## **EXHIBIT A**

### **South Platte River Vision - Schedule B: Frontier Riparian Floodplain Design & Construction**

#### **Scope of Work**

*August 13, 2014*

#### **INTRODUCTION AND BACKGROUND**

The South Platte River flows through the middle of Denver and is a source of water delivery and storm drainage control for a large portion of the Metro area. It is also Denver's most underdeveloped natural and recreational corridor. Recent master planning efforts by the City and County of Denver and a host of public and private partners has renewed interest in restoring and reclaiming the South Platte River as an urban recreation and natural resource corridor for the 21<sup>st</sup> Century.

The South Platte River once stretched across a floodplain a mile wide, but as Denver grew, the river was soon channelized into a steep-banked, trapezoidal section to control the flow and maximize the real estate around it. Roads were built along the top of the banks to maintain the slopes and provide quick vehicular access along the river's length. Industrial land uses became the norm along the corridor, with many of the businesses pumping their waste directly into the river, untreated. Landfills were another common land use. The native riparian vegetation along the river was replaced over time with a mix of non-native and invasive species. Water quality was poor, habitat was degraded and the river was regarded as a liability.

The River was also dangerous. The disastrous floods of 1965 left scars on the landscape and made a deep psychological impression on the City, destroying hundreds of structures and costing millions of dollars to clean up and rebuild in its wake. The 1965 flood ultimately led to the construction of Chatfield Reservoir to control flooding and increase the water supply for the growing metropolitan region.

By the 1970s, attitudes about the river were starting to change. A non-profit organization called The Greenway Foundation was established, with a mission "to reclaim the South Platte River and its tributaries from a virtual cesspool to a place of environmental and recreational pride." During the past forty years the City has worked with The Greenway Foundation and the Urban Drainage and Flood Control District to invest over \$100 million to revitalize the river corridor, cleaning up trash and debris, creating new parks and natural areas and building over 100 miles of recreation trails within the South Platte River watershed. Investing in the river as a public amenity has facilitated over \$10 billion of private residential and commercial development in the Denver metropolitan area.

#### **Current Planning Efforts**

Most recently, in 2008, the City and its key partners and stakeholders began an aggressive visioning and master planning process that led to the River South Greenway Master Plan (RISO) for the South Platte River upstream of the confluence with Cherry Creek. RISO establishes a long-term vision and priorities for the River, creating a framework to direct ongoing investment, making the river fishable and swimmable, and developing a first-class urban river corridor that will position Denver as a national model.

Using the framework established by RISO, the South Platte River Vision Implementation Plan (RVIP) was developed. The overall goal of RVIP is to maximize the health and safety of the river corridor for all users, improve the ecological health and sustainability of the river, enhance visibility and accessibility to the river corridor for the public, and create opportunities and facilities for environmental education. RVIP will continue the environmental and economic transformation of the corridor. Specific RVIP improvements include environmental education features, environmental play experiences, enhanced access for fishing and boating, bank stabilization, restoration of native riparian habitat, in-river habitat structures and extensive enhancements of regional and local trail systems.

## **PARTNERSHIPS**

A project of this ambition and scope requires a strong network of advocates, stakeholders and funding partners. The City and County of Denver (CCD), along with longtime partners Urban Drainage and Flood Control District (UDFCD) and The Greenway Foundation (TGF), has brought together over a dozen separate funding streams to implement S. Platte River Vision, including a variety of federal, state, local and private sources:

- Great Outdoors Colorado
- Colorado Department of Public Health and Environment and Department of Natural Resources– Natural Resource Damage funds including Shattuck and Rocky Mountain Arsenal settlements
- Colorado Water Conservation Board
- Colorado Division of Parks and Wildlife
- Environmental Protection Agency
- Urban Drainage and Flood Control District funding
- City and County of Denver 1998 Bond, capital improvement and various other City-wide funding sources
- Cash grants from a variety of private foundations

## **OBJECTIVES**

The Schedule B: River Improvements Along Overland Golf Course project encompasses the area of the South Platte River from Overland Pond, at W. Florida Ave. south to approximately W. Jewell Ave. (see Exhibit D). The overall concept for this portion of the project is the restoration of habitat, both in-river and along its banks, and improvements of the South Platte Regional Trail.

In-river structures will be constructed to adjust the hydrology and create fish habitat, including rock vanes, riffles and snags. The existing 8' drop structure at Florida will be removed and a series of 2'-3' drops will be constructed in its place. A low flow channel and series of wetland and riparian benches will provide greater habitat.

A soft-surface trail system will create access to the river and to the various restored native landscapes. Irrigation will be provided for establishment of native vegetation; after a period of two years the native areas will be self-sustaining and irrigation will cease. A series of concrete jetties for fishing and boating access will be constructed along the length of the project, and non-native and invasive species will be removed. The underpass of the South Platte Regional Trail at Florida Ave. will be reconstructed to a 12' wide integral color concrete trail in accordance with CCD's new trail standard.

## **PROJECT DELIVERY**

The River Vision project will be delivered using UDFCD's Best Value Bid Process. A 60% design package was issued to a group of contractors pre-qualified by UDFCD to perform work of this type and scale. Three contractors submitted proposals, and Naranjo Civil Constructors was selected in June 2014 to perform the work.

## **SCOPE**

### **TASK 1 – Construction Management / Project Management**

Description of Task – Contractor mobilization, project-wide construction management and project management

- Methods + Deliverables
- Mobilization of equipment, materials and personnel
- Construction Surveying
- Traffic control and bike trail detours
- Erosion control
- Tree protection
- Monthly meetings
- Project reporting
- Grant administration

### **TASK 2 – Water Control**

Description of Task – Manage river surface water during in-river and bank work

#### Methods + Deliverables

- Install sheet-pile cofferdams to longitudinally channelize river for construction
- Install sheet-pile as necessary to prevent scour
- Perform continuous dewatering operations in active construction cells
- Employ BMPs to prevent erosion
- Test and monitor dewatering activities for sediment loads as required

### **TASK 3 – Removals, Grading + Excavation**

Description of Task – Removal of existing structures, pavement, debris and invasive plants prior to

construction; perform excavation and removal of material from river bed

#### Methods + Deliverables

- Removal of asphalt, concrete and other miscellaneous structures and obstructions
- Removal of exotic invasive tree species including stump removal
- Clearing and grubbing of all native revegetation areas
- Herbaceous weed control and management
- Removal of existing drop structure south of Florida Ave.
- Excavate and dispose of material accumulated behind existing drop structure south of Florida Ave.
- Excavate steep bank slopes to create emergent and riparian habitat benches
- Grade all areas of disturbance in preparation for revegetation

### **TASK 4 – In-River Work**

Description of Task – Modification of the river channel to alter the hydrology, improve aquatic habitat and enhance recreation opportunities

#### Methods + Deliverables

- Regrading of river channel to establish a new, sinuous low-flow channel
- Establishment of low-flow floodplain benches (gravel bars) to maintain sinuous channel
- Construction of a multipurpose grade control structure at Florida including boat chute
- Construction of in-river habitat structures: riffles, snaps, rock vanes and boulder clusters

### **TASK 5 – Bank Work**

Description of Task – Regrade river banks where possible (with minimal impact to existing trees) to expand floodplain and enhance access; stabilize and reinforce toe of slope with soil riprap

#### Methods + Deliverables

- Installation of soil riprap at toe of slope, keyed into riverbed, to provide armored edge secured by plant root growth through soil/riprap matrix
- Construction of sculpted concrete jetties for safe, accessible access to river edge for recreation
- Rebuilding overviews and access points along east side of river

## **TASK 6—Trail Improvements**

Description of Task – Create detached, soft-surface trail system along Overland Golf Course; reconstruct South Platte River Trail underpass at Florida Ave.

### Method/Procedure

- Excavation and grading for new trail alignment
- Construction of 5' detached soft surface (stabilized crusher fines) pedestrian trail adjacent to regional trail
- Construction of 'Big-block' gravity retaining wall at underpass to manage grade changes
- Installation of 12' integral color concrete regional trail with 3' integral colored rumble strips at Florida Ave. underpasses
- Trail striping and regulatory signage to meet MUTCD standards
- Installation of safety railings adjacent to steep grades

## **TASK 7—Planting + Revegetation**

Description of Task – Revegetate banks with native plant species appropriate to the various soil-water relationships, including: emergent, riparian and upland zones

### Method/Procedure

- Soil preparation including amendment, tilling, and final grading
- Installation of riparian and upland prairie native seed mixes with hydro-mulch
- Planting wetland plants on emergent bench
- Planting native trees and shrubs including containers, B&B (balled and burlaped), willow stake bundles and cottonwood poles

## **TASK 8—Wet Well Replacement**

Description of Task – Reconstruct existing water intake and pumping facility for Overland Golf Course

### Method/Procedure

- Remove existing wet well and pump
- Installation of new wet well and pump elements in revised location
- Reconnect distribution piping

## **SCHEDULE**

Anticipated schedule is as follows:

Construction Start	October 1, 2014
In-River Work	November 2014 - April 2015
Construction Completion	June 2015
Vegetation Establishment	August 2016

## Grant Funding Allocation Summary

*August 13, 2014*

Task	Description	Target Start Date	Target Completion Date	NRD - Shattuck Chemical	Great Outdoors Colorado	CWCB - WSRA 2013	Parter Match	Total
1	Construction Management / Project Management	10/8/2014	6/1/2015	\$ 215,000.00	\$ 200,000.00	\$ 43,750.00	\$ 232,910.00	\$ 691,660.00
2	Water Control	10/1/2014	5/1/2015	\$ 250,000.00	\$ 245,669.00	\$ -	\$ -	\$ 495,669.00
3	Removals, Grading + Excavation	10/1/2014	3/1/2015	\$ 303,382.00	\$ 285,752.00	\$ 41,110.00	\$ 155,729.00	\$ 785,973.00
4	In-River Work	11/1/2014	5/1/2015	\$ 585,130.00	\$ -	\$ -	\$ -	\$ 585,130.00
5	Bank Work	1/1/2015	6/1/2015	\$ 215,725.00	\$ 57,610.00	\$ 164,775.00	\$ 47,788.00	\$ 485,898.00
6	Trails	1/1/2015	6/1/2015	\$ -	\$ 210,969.00	\$ -	\$ -	\$ 210,969.00
7	Planting + Revegetation	3/1/2015	6/30/2016	\$ -	\$ -	\$ 100,365.00	\$ -	\$ 100,365.00
8	Wet Well Replacement	1/1/2015	3/1/2015	\$ -	\$ -	\$ -	\$ 219,400.00	\$ 219,400.00
<b>TOTALS</b>				<b>\$ 1,569,237.00</b>	<b>\$ 1,000,000.00</b>	<b>\$ 350,000.00</b>	<b>\$ 655,827.00</b>	<b>\$ 3,575,064.00</b>

Note: Budget numbers shown are taken from the initial bid from Naranjo Civil  
 Constructor's proposal dated May 23, 2014. Budget numbers may change as scope and  
 schedule are finalized.BB

**EXHIBIT C**

**South Platte River Vision - Schedule B: River Improvements along Overland Golf Course**

**Budget - Grant Funding Allocation Detail**

8/13/2014

BID ITEM	DESCRIPTION	Naranjo Bid				Funding Sources					
		QUANTITY	PAY UNIT	UNIT PRICE	TOTAL COST OF BID ITEM	NRD - Shattuck Chemical	Great Outdoors Colorado	CWCB - WSRA 2013	Urban Drainage + Flood Control District	City and County of Denver	
<b>Task 1</b>	<b>Construction Management</b>										
0	Project Management	1	LS	\$43,750.00	\$43,750.00			\$43,750.00			
2	Mobilization	1	LS	\$345,200.00	\$345,200.00	\$ 100,000.00	\$ 100,000.00		\$ 145,200.00		
3	Surveying	1	LS	\$29,000.00	\$29,000.00	\$ 15,000.00			\$ 14,000.00		
4	Traffic Control	1	LS	\$250,000.00	\$273,710.00	\$ 100,000.00	\$ 100,000.00		\$ 61,796.00	\$ 11,914.00	
	<b>Task 1 Total</b>					<b>\$691,660.00</b>	<b>\$ 215,000.00</b>	<b>\$ 200,000.00</b>	<b>\$43,750.00</b>	<b>\$ 220,996.00</b>	<b>\$ 11,914.00</b>
<b>Task 2</b>	<b>Water Control</b>										
5	Dewatering Operations	1	LS	\$495,669.00	\$495,669.00	\$ 250,000.00	\$ 245,669.00				
	<b>Task 2 Total</b>					<b>\$495,669.00</b>	<b>\$ 250,000.00</b>	<b>\$ 245,669.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Task 3</b>	<b>Removals, Grading + Excavation</b>										
1	Clearing and Grubbing	2	AC	\$19,935.00	\$39,870.00			\$ 39,870.00			
6	Concrete Washout Area	1	EA	\$1,700.00	\$1,700.00				\$ 1,700.00		
7	Sediment Control Log	115	LF	\$5.80	\$667.00				\$ 667.00		
8	Silt Fence	2770	LF	\$2.10	\$5,817.00				\$ 5,817.00		
9	Stabalized Staging Area	10000	SY	\$13.20	\$132,000.00				\$ 132,000.00		
10	Vehicle Tracking Control	35	SY	\$70.00	\$2,450.00				\$ 2,450.00		
11	Remove Structures and Obstructions	1	LS	\$99,124.00	\$99,124.00	\$ 99,124.00					
12	Remove Concrete Sidewalk / Trail	1175	SY	\$9.60	\$11,280.00		\$ 11,280.00				
13	Earthwork, Excavation and Fill On-Site	2700	CY	\$12.40	\$33,480.00		\$ 33,480.00				
14	Earthwork, Excavation and Haul Offsite	13700	CY	\$32.50	\$445,250.00	\$ 204,258.00	\$ 240,992.00				
15	Topsoil, Excavate, Stockpile, and Replace	100	CY	\$12.40	\$1,240.00			\$ 1,240.00			
37	Overlook Areas Demolition	3	EA	\$4,365.00	\$13,095.00				\$ 13,095.00		
	<b>Task 3 Total</b>					<b>\$785,973.00</b>	<b>\$ 303,382.00</b>	<b>\$ 285,752.00</b>	<b>\$ 41,110.00</b>	<b>\$ 155,729.00</b>	<b>\$ -</b>
<b>Task 4</b>	<b>In River Work</b>										
16	Boulder, Feature, 36-Inch	22	EA	\$386.00	\$8,492.00	\$ 8,492.00					
27	Rock Vane #1	1	LS	\$19,601.00	\$19,601.00	\$ 19,601.00					
28	Riffle Structure #1	1	LS	\$62,693.00	\$62,693.00	\$ 62,693.00					
29	Riffle Structure #2	1	LS	\$68,097.00	\$68,097.00	\$ 68,097.00					
30	Riffle Structure #5	1	LS	\$55,347.00	\$55,347.00	\$ 55,347.00					
31	Florida Ave Multi-Purpose Drop	1	LS	\$268,600.00	\$268,600.00	\$ 268,600.00					
32	Floodplain Bench Toe Protection	1100	CY	\$93.00	\$102,300.00	\$ 102,300.00					
	<b>Task 4 Total</b>					<b>\$585,130.00</b>	<b>\$ 585,130.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

<b>Task 5</b>	<b>Bank Work</b>										
17	Rock Stabilization Under Concrete Jetties	160	CY	\$69.85	\$11,176.00					\$ 11,176.00	
18	Soil Riprap, Type L	3000	CY	\$72.00	\$216,000.00	\$ 215,725.00		\$ 275.00			
34	Overlook #1	1	LS	\$17,892.00	\$17,892.00		\$ 17,892.00				
35	Overlook #2	1	LS	\$12,028.00	\$12,028.00		\$ 12,028.00				
36	Overlook #3	1	LS	\$12,028.00	\$12,028.00		\$ 12,028.00				
38	Sculpted Concrete Jetties	2	EA	\$26,137.00	\$52,274.00		\$ 15,662.00		\$ 36,612.00		
39	Riparian Edge Treatment (Soil Filled Geotextile Fabric) -50%	500	LF	\$224.00	\$112,000.00			\$ 112,000.00			
40	Riparian Edge Treatment (Log) -50%	500	LF	\$105.00	\$52,500.00			\$ 52,500.00			
<b>Task 5 Total</b>				<b>\$485,898.00</b>		<b>\$ 215,725.00</b>	<b>\$ 57,610.00</b>	<b>\$ 164,775.00</b>	<b>\$ 47,788.00</b>	<b>\$ -</b>	
<b>Task 6</b>	<b>Trails</b>										
19	Concrete Sidewalk / Trail, 6-Inch Thick to 8-Inch Thick	1650	SY	\$69.00	\$113,850.00		\$ 113,850.00				
20	Retaining Wall, Redi - Rock	660	SF	\$59.90	\$39,534.00		\$ 39,534.00				
21	Trail, Crusher Fines, 4-Inch Thick	1920	SY	\$26.75	\$51,360.00		\$ 51,360.00				
22	Temporary Trail, Asphalt, 4-Inch Thick	100	SY	\$62.25	\$6,225.00		\$ 6,225.00				
<b>Task 6 Total</b>				<b>\$210,969.00</b>		<b>\$ -</b>	<b>\$ 210,969.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	
<b>Task 7</b>	<b>Planting + Revegetation</b>										
23	Remove Invasive Species	1	LS	\$25,000.00	\$25,000.00			\$ 25,000.00			
23	Seeding, Riparian, Broadcast	0.65	AC	\$5,200.00	\$3,380.00			\$ 3,380.00			
24	Seeding, Upland, Broadcast	4.95	AC	\$5,500.00	\$27,225.00			\$ 27,225.00			
25	Seeding, Wetlands, Broadcast	0.8	AC	\$5,500.00	\$4,400.00			\$ 4,400.00			
26	Erosion Control Blanket, Straw/Coconut	4850	SY	\$6.20	\$30,070.00			\$ 30,070.00			
41	Tree Protection	4900	LF	\$2.10	\$10,290.00			\$ 10,290.00			
<b>Task 7 Total</b>				<b>\$100,365.00</b>		<b>\$ -</b>	<b>\$ -</b>	<b>\$ 100,365.00</b>	<b>\$ -</b>	<b>\$ -</b>	
<b>Task 8</b>	<b>Wet Well Replacement</b>										
33	Remove and Replace Wet Well & Pump	1	LS	\$219,400.00	\$219,400.00					\$ 219,400.00	
<b>Task 8 Total</b>				<b>\$219,400.00</b>		<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 219,400.00</b>	
<b>BID TOTAL</b>				<b>\$3,575,064.00</b>		<b>\$ 1,569,237.00</b>	<b>\$ 1,000,000.00</b>	<b>\$ 350,000.00</b>	<b>\$ 424,513.00</b>	<b>\$ 231,314.00</b>	