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October 4, 2012

Andrew Hummel, P.E.
City of Sparks Community Services Department
431 Prater Way
Sparks, Nevada 89431

**Re: 2012 Rock Park Remaining Monitoring And Reporting
Scope of Work and Cost Estimate
JBR Project Code B.A11484.00**

Dear Mr. Hummel:

JBR Environmental Consultants, Inc. (JBR) would like to express our appreciation and pleasure of working with the City of Sparks over the past few years as JBR assisted in the execution of the necessary annual monitoring and reporting associated with the Rock Park project. JBR would also appreciate the opportunity to provide the City of Sparks with a scope-of-work and cost estimate to continue the necessary annual monitoring and reporting for the 2012 period. Please find the scope-of-work and cost estimate provided as attachments to this letter.

Please do not hesitate to contact me at 7775-747-5777 should you may have any questions or concerns following your evaluation of the attached document.

Sincerely,

JBR ENVIRONMENTAL CONSULTANTS, INC.

A handwritten signature in blue ink that reads "T. Branzell".

Travis Branzell
Project Manager

Scope-of-Work and Cost Estimate 2012 Rock Park Monitoring Program

In compliance with the U.S. Army Corps of Engineers (USACE) Section 404 Permit (SPK-2005-009), which provided the City of Sparks (City) the authorization to construct the Rock Whitewater Park in the Truckee River, ongoing monitoring efforts are being conducted as required by the associated Biological Opinion (BO) and Monitoring and Reporting Plan (MRP).

Monitoring efforts for 2012 were initiated by JBR Environmental Consultants, Inc. (JBR) during August and are continuing. These have been funded by the remaining 2011 Rock Park Monitoring and Reporting budget. The residual 2011 budget has been exhausted and additional funds will be needed to continue the 2012 monitoring and reporting. The remaining work to be conducted for 2012 and the necessary budget to carry out the work are as follows:

Updating Monitoring and Reporting Plan (MRP)

The MRP (JBR 2008) provides a detailed plan for the data collection methodology, parameter analysis, and data management systems to be employed during the five year project duration. This MRP is intended to be a “living document,” and as such, the document must be updated to incorporate all newly acquired data and to reflect any changes in methodology. JBR anticipates the need to alter the approach for monitoring fish passage at Rock Park during 2012. Existing monitoring plans for the additional elements should remain current. The need for the MRP updates will be incorporated into the reporting budget for the 2012 period.

Monitoring Elements

The monitoring elements follow the format of the Draft Mitigation and Monitoring Plan prepared for the City of Sparks by ECORP Consulting, Inc. It is proposed that each monitoring element function as a stand-alone assessment and each be included in the Annual Monitoring Report. Additional information generated through letter and email correspondence discussing multiple elements will also be included in the Annual Monitoring Report. The necessary Riparian Vegetation Monitoring and Pioneer Fish Passage Monitoring elements have been completed for 2012. The remaining monitoring and reporting needed to meet USACE compliance requirements are described below.

Structural Stability

During the 2009 through 2011 monitoring periods, a structural stability survey was conducted using an underwater camera and stadia rod for documentation. Each of the grouted areas will be visually inspected and survey points will be taken for areas that are deemed to pose potential instability. Measurements will be taken at the sediment rock/gout interface, undercuts, and cracks in the grout. Special attention will be paid to the “piping” of water through the grout area

and any adverse flow patterns causing scour under the grouted portions of the structure will be documented.

Aggradation of Bedload

As conducted during the 2011 monitoring period, the bedload elevations will be documented by survey methodology and incorporated into a project topographic file. This file will be used to evaluate the changes between the Rock Park final grade measurements and those from the previous year. The methodology presented in the MRP will be utilized to identify changes in bedload aggradation. An assessment of the potential maintenance implications will be included, and the collected survey data will be summarized in the Annual Monitoring Report.

Water Quality

Water quality data will not be collected on a scheduled basis as part of the 2011 monitoring and reporting period. Water quality data at nearby monitoring stations (Desert Research Institute [DRI] and Nevada Division of Environmental Protection [NDEP]) will be gathered and presented as background information for the 2012 year. This water quality data will be analyzed for potential correlations with river flows, precipitation and runoff events, and in-river construction activities if any have occurred over the course of 2012.

Velocity Profile

As conducted during the 2011 monitoring period, flow velocities at each of the drop structures will be provided with the use of an acoustic Doppler current profiler. Collected velocity data will be analyzed and incorporated into the fish passage, flood flows, bedload aggradation, and sediment transport monitoring element discussions to assist in the assessments of trends and the drawing of conclusions.

Sediment and Debris Transport

Established survey points of the channel bottom throughout Rock Park will be visited and surveys will be conducted with underwater photography. A gravelometer will be used to establish channel substrate data suitable for year-to-year comparative analysis. The hydraulic modeling combined with sediment transport modeling elements will be used to estimate the sediment transport function at various levels of river flow.

Flood Flows

Data resulting from the sediment and debris transport, the velocity profile, and the bedload aggradation surveys will be utilized to form a discussion of potential impacts to flood flow performance throughout the river.

Fish Passage

As described above, JBR has successfully performed the necessary fish passage monitoring at the Pioneer project site. However, the required reporting associated with the Pioneer fish passage has yet to be completed. Upon receiving verbal approval from the USACE, JBR conducted the process of transitioning monitoring equipment to Rock Park, and has acquired, tagged, and released fish for monitoring purposes.

A portion of the fees necessary to conduct the equipment installation at Rock Park, including the purchase associated the equipment, were included within the 2011 Monitoring and Reporting budget. However, additional time and materials were needed to finalize the equipment installation, to acquire fish, and to tag and release fish for monitoring purposes. Additional time and materials are anticipated to be needed for equipment adjustments and data downloads from the antenna receivers during the 2012 monitoring period.

Benthic Macroinvertebrates

As discussed in the MRP, benthic macroinvertebrate (BMI) sampling is scheduled for every other year. Because sampling was conducted during the 2011 monitoring period, sampling will not be conducted during the 2012 monitoring period. However, due to the long laboratory time required for identification, the results of the 2011 sampling efforts will be included in the 2012 Monitoring Report.

Aquatic Habitat

The data used for the assessment and evaluation of aquatic habitat, suitability, quantities and quality will be collected as a result of the aggradation of bedload monitoring and the riparian vegetation monitoring. Particular attention will be paid toward over-hanging vegetation and shading, the BMI monitoring, fish passage monitoring, and the sediment transport monitoring. In addition, efforts will be made to map the aquatic vegetation existing throughout the channel of Rock Park. These monitoring results will be compared to the preconstruction baseline assessments of Rock Park for trend evaluations, and compared against various other parameters to qualify the health of the habitat.

Riparian Vegetation

As described above, the necessary riparian vegetation surveys and assessments were completed during August 2012. Representatives from the regulatory agencies including the City of Sparks, and JBR, met to discuss the current success status of the riparian vegetation at Rock Park. It was determined that additional mitigation measures within Planting Area 6 should be proposed and executed prior to the 2013 monitoring period. JBR plans to assist the City of Sparks in executing these tasks by proposing and submitting a plan for a approval to the USACE. With City approval, a landscaping company will be subcontracted to construct the improvements.

Bank Erosion

The river banks will be evaluated using a subset of the Pfrankuch Channel Assessment protocol. The evaluation will be focus on; stability, migration, suitability for vegetation establishment, sediment composition, and cross sectional channel area. As set forth in the MRP, each transect will be surveyed and additional data will be collected 25 feet upstream and downstream of each transect. This will extend from the waterline to upland habitat where present, or above the elevation of identified riparian vegetation. This will ensure evaluation of near-channel stability as well as trends occurring in the upper portions of the associated riparian corridor.

Reporting

The annual report will be formatted per USACE submittal requirements set forth in the 404 permit and document distribution to the regulatory agencies will be made in compliance with that permit. The report will include all of the 2012 monitoring results, analysis, and conclusions associated with the required compliance monitoring for Rock Park. Prior to submittal to the USACE, a draft report will be provided to the City of Sparks for review and comment by December 1, 2012. JBR expects to receive comments from the City within two weeks following submittal, and a final draft of the report will be produced and submitted to the regulatory agencies by January 1, 2013.

JBR plans to draft a letter for submittal to the City of Sparks describing the results and providing a conclusion of the Pioneer Fish Passage Monitoring. JBR plans to submit this draft by December 1, 2012. JBR expects to receive comments and revision requests from the City of Spark within two weeks following the submittal of the draft. Any comments and requests for revision with be addressed, and a final draft will be submitted to the City of Sparks and associated regulatory agencies.

Based on the results and following the submittal of the 2012 Monitoring Report to the Monitoring Oversight Group (MOG), JBR will propose to the MOG to relieve the City from most, if not all, monitoring and reporting duties following the 2012 Monitoring and Reporting period.

Cost Estimate

To perform the remaining monitoring and reporting elements described above, JBR estimates a total cost of \$97,869. This cost is presented on a time and materials basis. In the event that it takes less time and/or fewer materials to complete the services described above, the cost would be less. It should be noted that JBR included \$10,000 into the estimated budget to subcontract a landscaping company to plant and reclaim Planting Area 6, as required by the USACE.

Cost Estimate - City of Sparks Rock Park 2012 Monitoring and Reporting



JBR Environmental Consultants, Inc.

October 4, 2012		Professional Time (hours)						Travel	Equipment Rental, Supplies, and Thrid Party Costs	Shipping/ Deliverables*	Total
		a	b	c	d	e	f				
Task		Senior QA/QC	PM Enviro	Hydrologist	Biologist	GIS/CAD	Admin				
Project Management		24	12								\$4,156
Subtotal =		24	12					\$100			\$ 4,156
Monitoring Elements											
Aggradation of Bedload				32		24		\$50	\$3,800		\$8,218
Velocity Profile				96		2		\$50	\$3,200		\$11,174
Flood Flows				5		4					\$701
Fish Passage				115	155	8		\$300	\$7,000		\$31,157
Aquatic Habitat					12	4		\$50			\$1,426
Bank Erosion				10				\$20			\$830
Sediment and Debris Transport				48		6		\$50			\$4,382
Riparian Vegetaion		8	12						\$10,000		\$12,072
Subtotal =		56	36	306	167	48	0	\$520	\$24,000		\$ 69,960
Reporting											
Annual Compliance Monitoring Report / MRP Updates		20	40	80	45	40	12	\$25		\$180	\$20,495
Subtotal =		20	40	80	45	40	12	\$25		\$180	\$ 20,495
Meetings and Reporting											
Project Meetings		6	10					\$25			\$1,669
Annual Compliance Monitoring Meeting		6	6					\$25		\$280	\$1,589
Subtotal =		12	16	0	0	0	0	\$50		\$280	\$ 3,258
Subtotal (hours)		64	80	386	212	88	12	\$695	\$24,000	\$460	\$97,869
Rate		\$124	\$90	\$81	\$90	\$74	\$60				
Subtotal (costs)		\$7,936	\$7,200	\$31,266	\$19,080	\$6,512	\$720	\$695	\$24,000	\$460	\$97,869