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December 31, 2015

Mr. James D. Dotchin
Chief, Bureau of Industrial Site Cleanup
Nevada Division of Environmental Protection
2030 East Flamingo Road, Suite 230
Las Vegas, Nevada 89119

Subject: Work Plan (#2015-150) for Initial Surface Water Sampling Plan, Historic Locations – NERT Remedial Investigation, Downgradient Study Area, Henderson, Nevada

Dear Mr. Dotchin:

As requested by the Nevada Division of Environmental Protection (NDEP), AECOM is pleased to provide this work plan for developing the initial surface water sampling plan (Sampling Plan) in support of the Downgradient Study Area component of the Nevada Environmental Response Trust (NERT) Remedial Investigation in Henderson, Nevada. The objective of the sampling plan is to describe procedures for the collection of surface water samples to assess current surface water conditions, specifically the concentrations of perchlorate in the Las Vegas Wash (LVW) at historic locations. These data will be used to select areas of the LVW where additional surface water samples and transects are needed, to be defined under the scope of AECOM Work Plan #2015-151. The initial surface water sampling described in this Work Plan (#2015-150) followed by the detailed surface water transect sampling and level measurements outlined in Work Plan #2015-151 will focus future groundwater investigations in the Downgradient Study Area, including where to conduct full-scale geophysical investigations and install groundwater monitoring wells, which will eventually lead to measures to be undertaken to control the flux of perchlorate entering the LVW via groundwater seepage. This work plan includes a brief summary of the scope of work, and a preliminary budget estimate and schedule to prepare the Sampling Plan.

SCOPE OF WORK

AECOM will prepare a Sampling Plan to conduct the initial surface water sampling activities in support of the NERT Remedial Investigation. The scope of work to be addressed in the Sampling Plan includes collection of 21 surface water grab samples from previously sampled locations as depicted on **Figure 1**. All work will be conducted under the supervision of a Nevada Certified Environmental Manager. The work defined in this scope will be conducted in the first quarter of 2016, with sampling occurring in one week, and analyses and reporting to follow.

Many of the surface water locations in the LVW have not been sampled since 2007 or earlier. As directed by NDEP the scope of work and cost estimate are based on one-time sampling of 21 surface water locations (**Table 1**).

It is anticipated that the work will be conducted in conformance with the Quality Assurance Project Plan (QAPP) and Field Sampling and Analysis Plan (FSAP) as described in AECOM Work Plan #2015-130. The QAPP, FSAP, and Health and Safety Plan (HASP) will be updated to specifically address this scope of work, including updating the HASP for potential hazards associated with on-water and near-water work. Under this work plan, Standard Operating Procedures (SOPs) will be developed to specifically address sampling of surface water from land- and boat-based operations.

Reporting

A Sampling Plan will be prepared that will include descriptions of field methods, proposed sampling locations, analytical program, and other procedures to implement the initial surface water investigation. A draft Sampling Plan will be prepared for review by NDEP. Upon receipt of NDEP comments, the Sampling Plan will be submitted to NERT and USEPA for comment. Upon the finalization of the document, the Sampling Plan will be submitted to NDEP, USEPA and the NERT Stakeholders.

Deliverable(s): Surface Water Sampling Plan – Historic Locations (Draft and Final) including SOPs.

PRELIMINARY SCHEDULE AND ESTIMATED COSTS


The following summarizes the preliminary work plan implementation schedule and estimated cost:

Task Order and Title	Approximate Schedule	Estimated Cost
2015-150-01 –Initial Surface Water Sampling Plan (AECOM)	December 2015 – January 2016	\$26,304
Work Plan Total		\$26,304

Scope of work and cost details for this work plan have been uploaded in the NDEP BMI financial database. If this work plan meets with your approval, please send AECOM your authorization at your earliest convenience.

If you have any questions regarding this work plan, or if AECOM may be of further assistance, please contact Carmen Caceres-Schnell at (805) 764-4031 or either of the undersigned.

Sincerely,



Sally Bilodeau, CEM
Project Manager



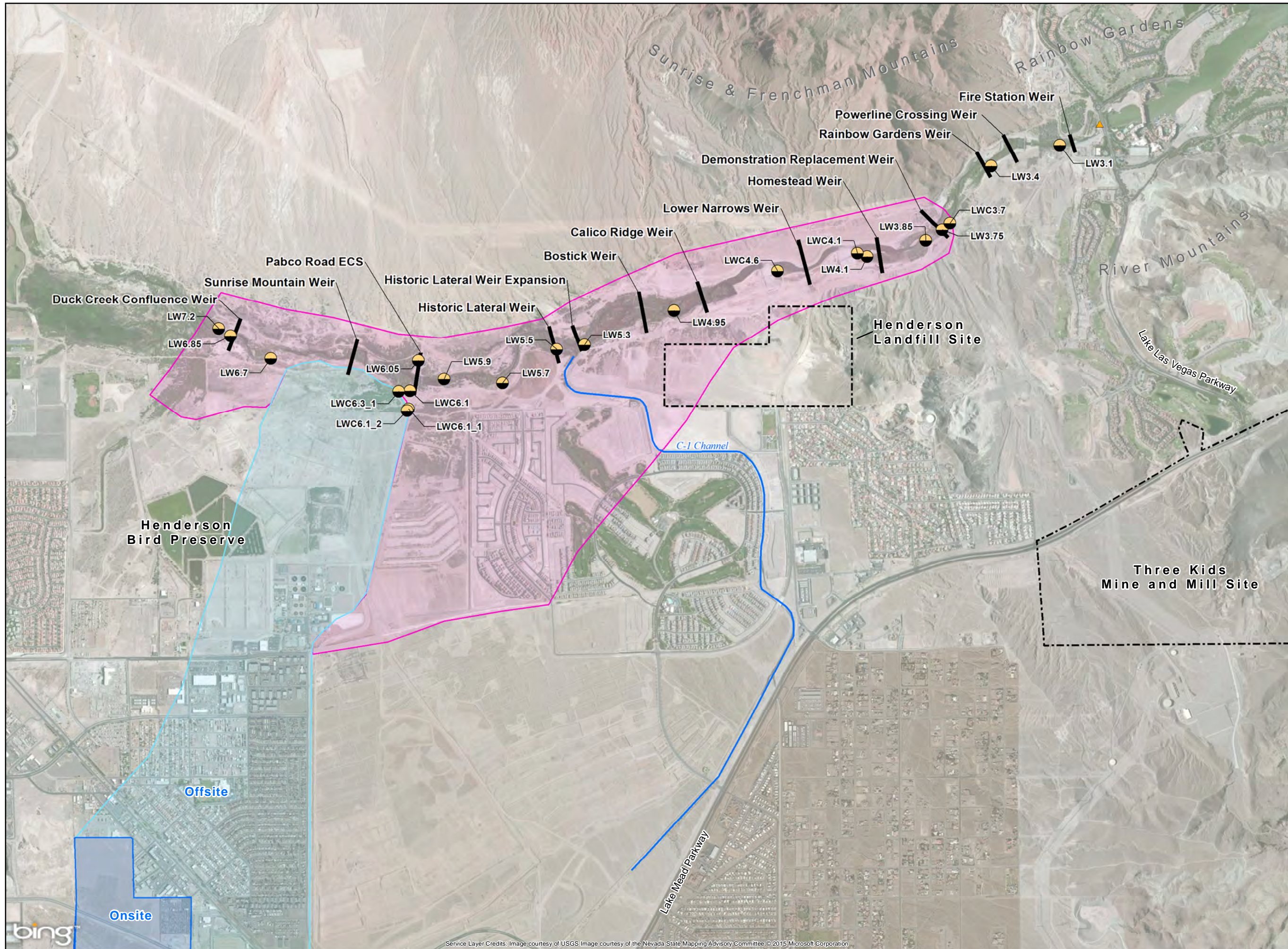
Harry Van Den Berg, PE
Principal-in-Charge

Attachments: Table 1 - List of Surface Water Sampling Locations
Table 2 – Initial Surface Water Sampling Plan Cost Estimate
Figure 1 – Surface Water Sampling Locations

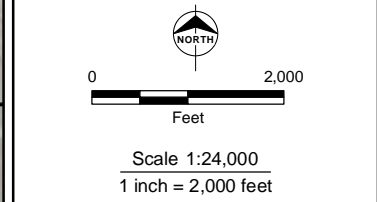
Table 1 List of Surface Water Locations Proposed for Sampling
 NERT Regional Groundwater Remedial Investigation
 Henderson, Nevada

Surface Water Location Sample ID	Description of Location	Target Location ⁽¹⁾	
		Longitude	Latitude
LW3.1	Fire Station Weir	-114.9374811	36.10173043
LW3.4	Near Powerline Crossing Weir	-114.942616	36.10049065
LWC3.7	Near Demonstration Replacement Weir	-114.9457275	36.09704899
LW3.75	Near Demonstration Replacement Weir	-114.9463175	36.0966525
LW3.85	Upstream of Demonstration Replacement Weir	-114.9475306	36.09601536
LW4.1	Dwonstream of Lower Narrows Weir	-114.9519108	36.09507867
LWC4.1	Dwonstream of Lower Narrows Weir	-114.9526444	36.09526627
LWC4.6	Upstream of Lower Narrows Weir	-114.9586059	36.09422822
LW4.95	Calico Ridge Weir	-114.9663297	36.09185999
LW5.3	Downstream of Historic Lateral Weir	-114.9730294	36.08982729
LW5.5	Upstream of Historic Lateral Weir	-114.9751197	36.08955999
LW5.7	Between Historic Lateral and Pabco Weirs	-114.9791563	36.08756346
LW5.9	Downstream of Pabco Weir	-114.9835214	36.08781077
LW6.05	Upstream of Pabco Weir	-114.9854297	36.08893999
LWC6.1	Wastewater Tributary Upstream of Pabco Road	-114.9860781	36.08710671
LWC6.1_1	Wastewater Tributary Upstream of Pabco Road	-114.9861896	36.08601586
LWC6.1_2	Wastewater Tributary Upstream of Pabco Road	-114.9862897	36.08589999
LWC6.3_1	Wastewater Tributary Upstream of Pabco Road	-114.9869079	36.08707229
LW6.7	Downstream of Duck Creek Confluence Weir	-114.9964458	36.08912947
LW6.85	Near Duck Creek Confluence Weir	-114.9994344	36.09050391
LW7.2	Upstream of Duck Creek Confluence Weir	-115.0002987	36.09096

(1) Location obtained from Neptune database



- Legend**
- Lake Las Vegas Intake
 - Surface Water Sampling Location
 - Channels
 - Area of Interest
 - Weir



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NERT
Regional Groundwater
Remedial Investigation

**SURFACE WATER
SAMPLING LOCATIONS**

Date: 12/14/2015 Project: 60477365

AECOM **Figure 1**