VIA ELECTRONIC MAIL

December 22, 2011

Mr. Jaspal S. Walia
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203

Re: MW-09 Abandonment and Well Installation
Former Buffalo Service Center Site, Buffalo, New York

Dear Jaspal:

On behalf of QLT Buffalo LLC, WSP Engineering of New York, P.C. (WSP Engineering) has prepared the following work plan for the decommissioning/abandonment of monitoring well MW-09 and the installation of replacement well MW-09R. MW-09 is to be replaced due to reduced well yield and data variability as detailed in the WSP Engineering Performance Monitoring Report, December 9, 2011, and as approved by your letter of December 12, 2011. WSP Engineering has prepared this plan in accordance with New York State Department of Environmental Conservation (DEC), Groundwater Monitoring Well Decommissioning Policy (CP-43) and Groundwater Monitoring Well Design (6 NYCRR Subpart 360-2.11).

Pre-Field Activities

Prior to the commencement of the field activities, the state utility locating service will be contacted to notify subscribing underground utility owners of the planned work. WSP will retain a private utility contractor. The proposed well location will be surveyed with ground penetrating radar (GPR) and a magnetometer to confirm that no underground utilities are present.

MW-09 Abandonment

MW-09 was installed to a depth of 19 feet below ground surface on May 11, 1998. It is WSPs understanding that the well was installed in overburden sediment above the bedrock. The well was constructed of 12 feet of 2-inch inside diameter (ID), 0.010-inch slotted, Schedule 40 polyvinyl chloride (PVC) well screen extending from 7 feet to 19 feet below ground surface (bgs), and 2-inch ID, Schedule 40 PVC well riser extending from the ground surface to seven feet bgs. The annular space encompassing the PVC well consists of a sand filter pack extending from 5 feet to 20 feet bgs, bentonite chips from 2 feet to 5 feet bgs, and cement bentonite grout from 2 feet up to the surface completion at the ground surface (well pad and flush-mount cover).

The drilling contractor retained by WSP Engineering will remove the monitoring well pad and flush-mount surface cover before removing the PVC well. This procedure will involve breaking the cement grout surrounding the protective cover and removing the cover from the ground. This process will be conducted as carefully as possible to attempt to remove only the protective

WSP Engineering of New York. P.C.
11190 Sunrise Valley Drive, Suite 300
Reston, VA 20191
Tel: (703) 709-6500
Fax: (703) 709-8505
www.wspenvironmental.com/usa

cover and not disturb the PVC well. If the PVC well begins to move during removal of the surface casing, the PVC bottom cap will first be removed from the bottom of the well prior to lifting. The PVC will then be cut off after the base of the surface casing is lifted above the ground surface.

The well will be abandoned by over drilling. An expandable cap will be placed on the PVC, and the casing over-drilled using 4.25-inch inside diameter hollow stem augers (HSA) to 20 feet bgs. Once the termination depth is reached, the casing will be removed from inside the augers. The over drilling of the MW-09 well will allow examination of the well screen and portions of the sand pack to determine if there has been an accumulation of Klozur residuals in these materials. Grout will be pumped through the augers using a tremie-pipe during their removal from the borehole.

The surface of the borehole will be patched with concrete of the same type and thickness as the area surrounding the borehole. All solid waste materials generated during the decommissioning will be contained in Department of Transportation (DOT)-compliant 55-gallon drums, labeled, and either moved to a staging area on site or transported directly to a permitted landfill.

MW-09R Installation

The replacement monitoring well MW-09R will be located approximately 10 feet east of MW-09. MW-09R will be installed to the top of bedrock (approximately 20 feet bgs) in accordance with the standard operating procedures used for the installation of the post-remediation monitoring wells. The proposed MW-09R location is shown on the figure provided in Enclosure A.

If required, prior to drilling, WSP will cut a 2-foot square in the concrete slab. To install MW-09R, a borehole will be advanced to a depth of approximately 19 feet bgs using 4.25-inch ID HSA to create a nominal 8-inch diameter borehole. Continuous split-barrel soil samples will be collected during the drilling of the well borehole. The soil material will be described for lithology and screened using a photoionization detector (PID). The lithologic descriptions and PID measurements will be recorded in a field book and on a soil boring log. All solid waste materials generated during drilling will be contained in DOT-compliant 55-gallon drums, labeled, and either moved to a staging area on site or transported directly to a permitted landfill.

The well will be constructed using 2-inch ID Schedule 40 PVC screen and riser pipe. The screen will be 12 feet in length with 0.010-inch factory-machined horizontal slots and a threaded end cap. The well screen is projected to be installed from 7 feet to 19 feet bgs and the remainder of well casing will be solid PVC. Clean silica sand of suitable grade for 0.010-inch horizontal slots will be placed around the slotted PVC and extend 2 feet above the top of the screen. A finer-grained sand pack (100% passing the No. 30 sieve and less than 2% passing the No. 200 sieve) 6 inches thick must be placed at the top of the sand pack between the sand and the bentonite seal. A 2-foot thick bentonite seal will be installed above the sand pack, and the remainder of the annular space will be filled with hydrated cement bentonite grout to an approximate depth of one foot bgs. The well will be secured with an expansion-grip well cap and covered with a flush-mount protective steel cover set in concrete.

MW-09R will be developed by first surging the screened interval to remove fine sediments and ensure effective communication between the well screen and surrounding saturated zone. Well development will be completed using a submersible or peristaltic pump or hand bailer. Development will continue until the well discharge is relatively free of suspended sediments or until the well is purged dry. If purged dry, the well will be allowed to recharge before a

subsequent attempt to develop. The purging and recharge cycles will be repeated until the water is relatively free of sediment. All purge water will be contained in DOT-compliant 55-gallon drums, labeled, and either moved to a staging area on site or transported directly to a permitted treatment facility. Investigation derived waste will be promptly characterized and disposed of in accordance with applicable federal and state requirements.

Estimated Schedule

WSP Engineering will mark and clear utilities at the MW-09R location on December 27, 2011 and will commence abandonment and well installation on December 28, 2011. The well will be sampled after a minimum of 30 days elapses after installation. Two rounds of sampling will be conducted from the new replacement well MW-09R in accordance with the Pre-Design Investigation Report and Chemical Oxidation/Enhanced Bioremediation Injection Work Plan (dated July 31, 2009). If you have any questions regarding the scope of work, please contact me at 703-709-6500.

Sincerely yours,

John P. Black, P.E.

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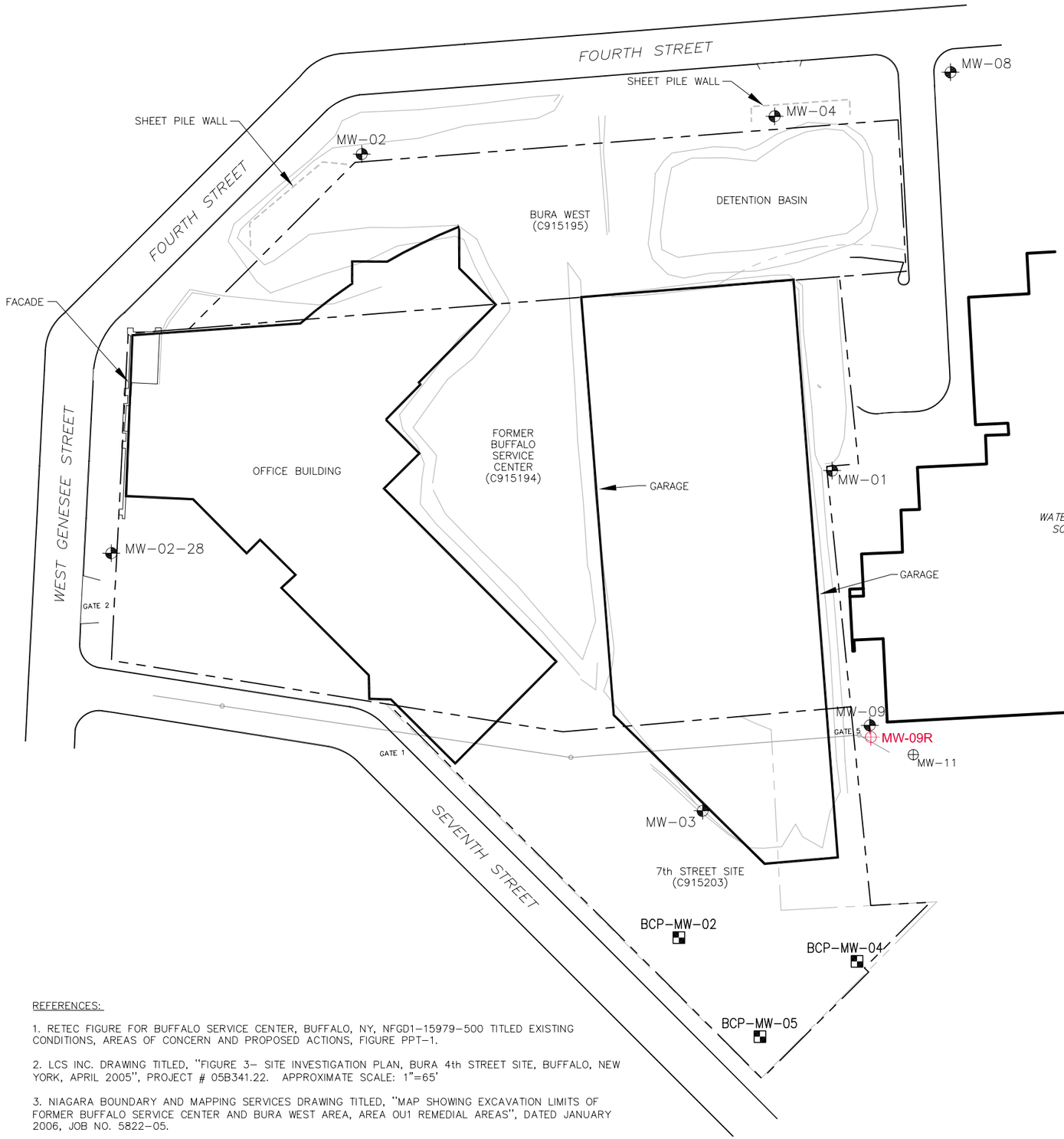
Enclosure

cc/encl.: Gordon Adkison, Duke Construction
Tanya Alexander, National Fuel Gas
Maura Desmond, Esq., NYDEC
Martin Doster, NYSDEC
Morgan G. Graham, Esq., Phillips Lytle LLP
John Manzi, QLT of Buffalo, LLC
Dennis P. Harkawik, Esq., Jaeckle, Fleischmann & Mugel, LLP
Cameron O'Connnor, New York State Department of Health
Yvette Gordon, Buffalo Board of Education
Dennis Sutton, City of Buffalo
Barbara Schifeling, Esq., Damon & Morey LLP
Michael D Spear, REM Ltd
John Hannon, City of Buffalo
Kelly Eisenried, City of Buffalo School District
John Heffron, City of Buffalo
Scott Billman, City of Buffalo
Reynolds Renshaw, Renshaw Consulting Group
Craig Slater, Harter, Secrest & Emery LLP

Figure



LEGEND

MW-11	EXISTING MONITORING WELL
MW-4	MONITORING WELL NETWORK
BCP-MW-02	SEVENTH STREET MONITORING WELL (PART OF WELL NETWORK)
MW-09R	PROPOSED MONITORING WELL
	PROPERTY LINE
	BUILDING/GARAGE FOOTPRINT

NOTE:

THE WATERFRONT SCHOOL FOOTPRINT EXTENDS FURTHER TO THE SOUTH BUT IS NOT DEPICTED ON THIS FIGURE.

REFERENCES:

1. RETEC FIGURE FOR BUFFALO SERVICE CENTER, BUFFALO, NY, NFGD1-15979-500 TITLED EXISTING CONDITIONS, AREAS OF CONCERN AND PROPOSED ACTIONS, FIGURE PPT-1.

2. LCS INC. DRAWING TITLED, "FIGURE 3- SITE INVESTIGATION PLAN, BURA 4th STREET SITE, BUFFALO, NEW YORK, APRIL 2005", PROJECT # 05B341.22. APPROXIMATE SCALE: 1"=65'

3. NIAGARA BOUNDARY AND MAPPING SERVICES DRAWING TITLED, "MAP SHOWING EXCAVATION LIMITS OF FORMER BUFFALO SERVICE CENTER AND BURA WEST AREA, AREA OU1 REMEDIAL AREAS", DATED JANUARY 2006, JOB NO. 5822-05.

4. NIAGARA BOUNDARY AND MAPPING SERVICES DRAWING TITLED, "MAP SHOWING BACKFILLED EXCAVATION AREA OF FORMER BUFFALO SERVICE CENTER AND BURA WEST AREA, OU1 REMEDIAL AREA", DATED FEBRUARY 2006, JOB NO. 5822-05.

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THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

DRAFT

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SCALE IN FEET

Drawn By: EGC
Checked: 12/16/2011
Approved: 12/16/2011
DWG Name: 00003313-001

FORMER BUFFALO SERVICE CENTER SITE
BURA WEST SITE - BUFFALO, NEW YORK

PREPARED FOR
QLT BUFFALO LLC
BUFFALO, NEW YORK

Figure 1

PROPOSED REINSTALLATION OF MW-09/MW-09R

WSP Environment & Energy, LLC
11190 Sunrise Valley Drive, Suite 300
Reston, Virginia 20191
(703) 709-6500
www.wspenvironmental.com/usa