AECOM
40 British American Boulevard
Latham, NY 12110
www.aecom.com

518-951-2200 tel
518-951-2300 fax

October 31, 2011 **SENT VIA ELECTRONIC MAIL**

Ms. Heather Bishop
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-7015

Subject: **Proposed Well Abandonment Plan**
Site 2 Former Pesticide Pit Burial Area, Stewart Air National Guard Base
Site #: 3-36-022

Dear Ms. Bishop:

On behalf of National Guard Bureau (NGB/AQ-E), AECOM has prepared this letter to describe the abandonment of wells associated with the closure of Site 2 Former Pesticide Pit Burial Area (Site). The Site number is 3-36-022. The Site is located on the Stewart Air National Guard Base (ANGB), Newburgh, Orange County, New York (Figure 1). The Base occupies approximately 268 acres and is located in both the Town of Newburgh and the Town of New Windsor. Stewart ANGB is located southeast of the airport complex at the Stewart International Airport (IAP) as shown in Figure 1.

SITE BACKGROUND

Site 2 was used to dispose of pesticide containers in the late 1960s. The location of Site 2 is shown in Figure 2. An inactive sanitary landfill (Site 1), located east of the Site 2, was operated by the United States Air Force from circa 1960 to 1979 for disposal of domestic refuse, food wastes, and waste from aircraft maintenance operations. The landfill at Site 1 was lined and capped circa 2000.

In 1988, Site 2 was excavated and the containers and pesticide-impacted soil were disposed off-site to a regulated landfill facility. The residual pesticides detected in soils and groundwater at an upgradient monitoring well (MW-01) were the primary contaminants of concern (COCs) for Site 2.

The Record of Decision (ROD) issued by the New York State Department of Environmental Conservation (NYSDEC) in March 2000 selected No Further Action, with semi-annual groundwater sampling at three monitoring wells (MW-01, MW-16 and MW-17 as shown in Figure 2) for at least two years. During the first two years of semi-annual groundwater sampling (2000-2002), pesticide concentrations above the NYSDEC Ambient Water Quality Standards (AWQS) were only detected in the upgradient monitoring well, MW-01. Subsequent groundwater sampling events at Site 2 (2002-2005) indicated that no pesticides remain in the site monitoring wells MW-16 and MW-17 while pesticide contamination persists at the upgradient well MW-01.

Currently, Site 2 (NYSDEC Site #3-36-022) is being closed for removal from the NYSDEC Site Registery of Inactive Hazardous Waste Sites.

SITE ACTIVITIES

As part of site closure activities, the two wells associated with Site 2 will be abandoned in accordance with Federal, State and local regulations and specifically with NYSDEC Commissioner Policy 43 (CP-43) Groundwater Monitoring Well Decommissioning Policy (November 3, 2009).

The two well propsed for abandonment within the Site 2 boundary are MW-16 and MW-17 (Figure 2); the upgradient well (i.e., MW-01) will not be abandoned as this well has pesticide levels above groundwater standards and may be used in the future for the investigation of the source of contamination at this well.

Both MW-16 and MW-17 are 2-inch PVC wells installed into the shallow bedrock to an approximate depth of 55-feet below ground surface. According to CP-43, these wells will be abandoned by grouting in-place. A standard grout mix will be used: one 94-pound bag of Portland cement, 3.9 pounds of powdered bentonite and 7.8 gallons of potable water. the well screen and riser pipe for each well will be grouted using a tremie pipe. The surface protective casing and concrete surface collar will be removed, and the PVC riser pipe will be cut off at 5 feet below grade and removed. The ground surface will then be restored consistent with site conditions. Three steel protective bollard posts around both MW-16 and MW-17 will also be removed as part of the abandonment process.

Details of Wells to be Abandoned

Well	GPS Northing	GPS Easting	Diameter (inches)	Material	Total Well Depth (feet)
MW-16	971083.7	606480.0	2	PVC	58.50
MW-17	971078.7	606658.6	2	PVC	55.09

A well decommissioning form found in CP-43 will be completed once each well has been successfully decommissioned (Attachment A). A Task Hazard Analysis (THA) is included in Attachment B. Since no contaminated material will be encountered during well abandonment, no community air monitoring will be performed.

Waste management will include water generated during the abandonment process and the removed casings and steel bollards. Since the water from the monitoring wells does not contain any contamination above groundwater criteria, any water displaced from the well during abandonment will be discharged directly to the ground. The casing and other material cut off from the monitoring well and the steel bollards will be disposed of as solid waste or recycled.

REPORTING

Upon completion of the well abandonment, a letter report will be submitted to the NYSDEC describing field activities. The letter report will also include completed Well Abandonment Report forms.

The field activities are anticipated to begin in November 2011. The NYSDEC will be notified at least one week prior to mobilization. Should you have any questions or require additional information in the meantime, please do not hesitate to call me at (518) 396-7638 or Ms. Jody Murata at (240) 612-8120.

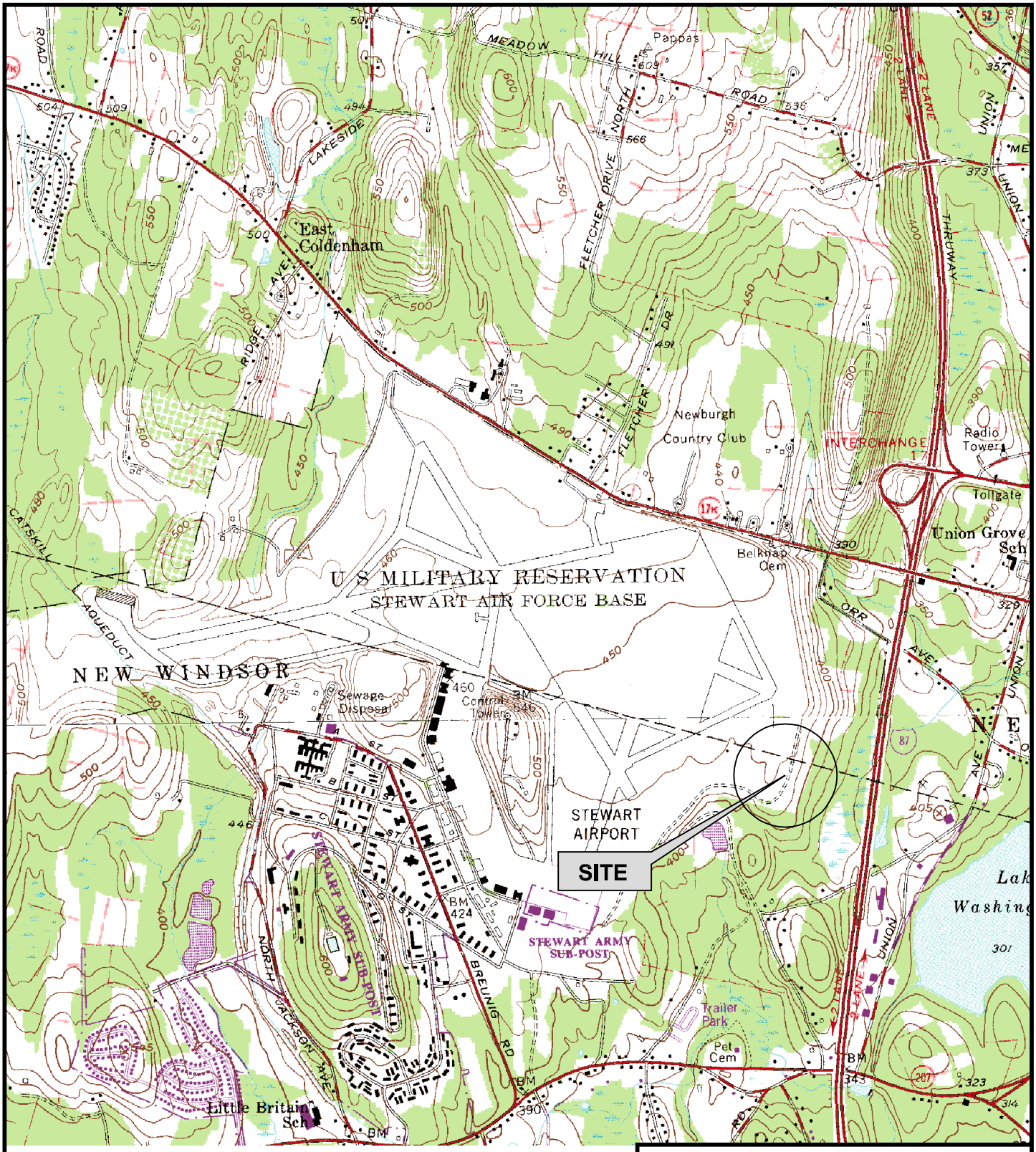
Yours sincerely,

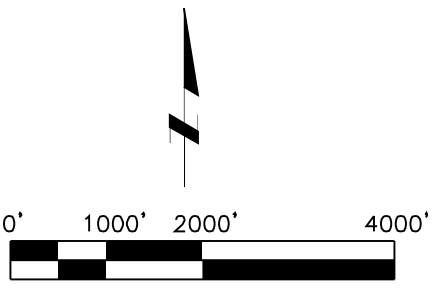
Scott Underhill

Scott Underhill, P.E.
Project Manager

cc: Jody Murata, NGB/AQ-E
Lt. Col. Mona Johnson, Stewart ANGB EM
Veronica Allen, BB&E

FIGURES





Map Reference:
Study area can be found on the 7.5 minute quadrangle Newburgh and Cornwall on the Hudson series.

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Figure 1
Site Location Plan
Site 2
Former Pesticide Burial Pit Area
STEWART AIR NATIONAL GAURD BASE
ORANGE COUNTY, NEWBURGH, NEW YORK

FILE NAME:	DRN	PROJECT NO.	DATE	FIGURE NO.
	—	113753	10 / 2011	1

Plotted By: meisterk
Layout-Sheet Name: 1
Plot File Date Created: Oct/19/2011 12:15 PM

Filename: L:\WORK\113753\CADD\REF\OCTOBER_2011\QUAD.DWG

Note: Site and monitoring well locations are approximate.

0' 1000' 2000' 4000'

Map Reference:
Study area can be found on the 7.5 minute quadrangle Newburgh and Cornwall on the Hudson series.

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Figure 2
Well Abandonment Locations
Site 2
Former Pesticide Burial Pit Area
STEWART AIR NATIONAL GAURD BASE
ORANGE COUNTY, NEWBURGH, NEW YORK

FILE NAME:	DRN	PROJECT NO.	DATE	FIGURE NO.
	—	113753	10 / 2011	2

Plotted By: meisterk
Layout-Sheet Name: 2
Plot File Date Created: Oct/28/2011 4:05 PM

Filename: L:\WORK\113753\CADD\REF\OCTOBER_2011\QUAD.DWG

ATTACHMENT A
CP-43 Well Decomissioning Report

FIGURE 3

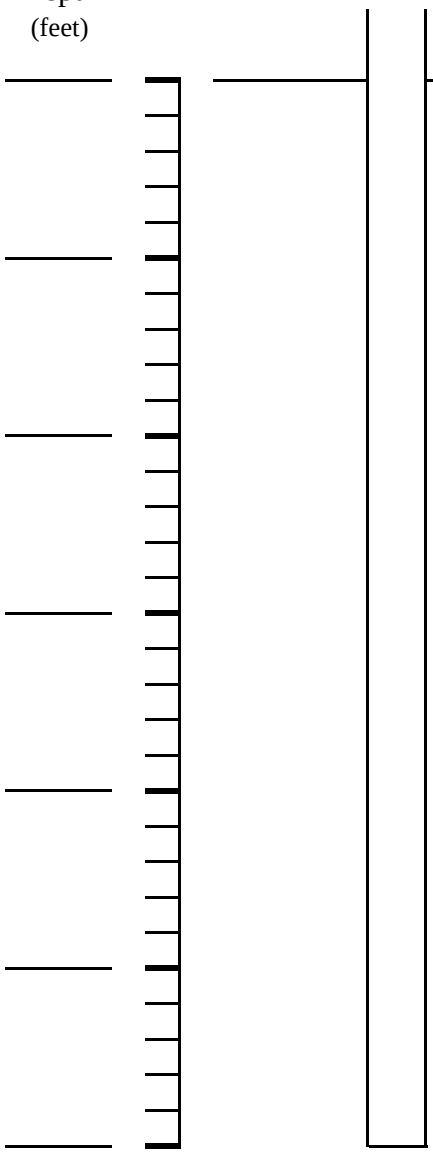
WELL DECOMMISSIONING RECORD

Site Name:	Well I.D.:
Site Location:	Driller:
Drilling Co.:	Inspector:
	Date:

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	
Drilling Method(s)	
Borehole Dia. (in.)	
Temporary Casing Installed? (y/n)	
Depth temporary casing installed	
Casing type/dia. (in.)	
Method of installing	
CASING PULLING	
Method employed	
Casing retrieved (feet)	
Casing type/dia. (in)	
CASING PERFORATING	
Equipment used	
Number of perforations/foot	
Size of perforations	
Interval perforated	
GROUTING	
Interval grouted (FBLS)	
# of batches prepared	
For each batch record:	
Quantity of water used (gal.)	
Quantity of cement used (lbs.)	
Cement type	
Quantity of bentonite used (lbs.)	
Quantity of calcium chloride used (lbs.)	
Volume of grout prepared (gal.)	
Volume of grout used (gal.)	

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

ATTACHMENT B
Task Hazard Analysis

AECOM TECHNICAL SERVICES, INC.
Stewart ANG Site 2 Closure Activities
TASK HAZARD ANALYSIS FORM

ADMINISTRATIVE INFORMATION

Job/Task Name: Groundwater Monitoring Well Decommissioning

Project Name: Stewart ANG Site 2 Closure	Project Location: Stewart ANGB, Newburgh, NY
Project Manager: Scott Underhill	Analysis adapted by: Scott Underhill
Date Job/Task to be performed: November 2011	Type of Job/Task: ☒ One time ☐ Routine job/task
Responsible Organization: Aquifer Testing and Drilling (ADT)	Job Supervisor: Greta White or Mark Howard

JOB EVENT SEQUENCE

LIST ONE STEP OF THE JOB FOR EACH LINE. (*ATTACH ADDITIONAL JOB EVENT SEQUENCE FORM(S) AS NECESSARY*) PAGE __1_ OF __1_

1. Locate wells included in scope of work and identify access issues including owner notification, traffic, fencing, etc. Determine order of work.	5. Document decommissioning activities using form from NYSDEC CP-43 policy.
2. Oversee drillers access wells, prepare grout mixture, and grout two monitoring wells in place.	6. Observe cleanup and restoration activities.
3. Remove casing and top five feet of PVC well below grade.	7. Dispose of well casings and steel bollards as solid waste or recycle if possible.
4. Remove steel bollards around the two wells.	8.

CHEMICAL HAZARDS

- ☐ Asbestos
- ☐ Acids
- ☐ Caustics
- ☐ Chlorinated hydrocarbons (TCE) in groundwater (gw)
- ☐ Lead
- ☐ Gasoline or diesel fuel in gw
- ☐ BTEX in gw
- ☐ Jet fuel (JP-4, JP-5, JP-8) in gw
- ☐ PCBs
- ☐ Cadmium
- ☐ Compressed gases/asphyxiants
- ☐ PAHs
- ☐ Welding fumes
- ☐ Hydrogen sulfide
- ☐ Other metals
- ☐ Bunker fuel/oil
- ☐ Explosives (TNT)
- ☐ Dust
- ☐ Dioxins
- ☐ Pesticides/Herbicides
- ☐ MTBE
- ☐ Methylene chloride
- ☐ Waste oil
- ☐ Hydraulic fluid
- ☐ Petroleum hydrocarbons in gw

PHYSICAL HAZARDS

- ☐ Electricity/High voltage
- ☐ Elevated work areas (fall hazard)
- ☐ Non-ionizing radiation (RF/UV/IR)
- ☐ OE/UXO
- ☒ Hand tool usage
- ☒ Power tool usage
- ☐ Heavy equipment operations
- ☐ Drill rig (HSA, DP, Air Rotary)
- ☐ Excavations (engulfment/collapse)
- ☐ Confined space entry
- ☐ Ionizing radiation
- ☒ Eye hazards (impact, light, etc.)
- ☒ Slips, trips, and falls
- ☐ Hazardous noise
- ☒ Heat or cold stress
- ☐ Oxygen-deficient atmosphere
- ☐ Oxygen-enriched atmosphere
- ☐ Explosive atmosphere
- ☐ Powder-actuated tools
- ☒ Vehicular traffic

Other Chemical/Physical Hazards (*List*): Wells to be decommissioned contain groundwater that meets water quality objectives; therefore, chemical exposure is not a current hazard. Biological hazards (poison ivy, ticks, etc.) should be evaluated.

PERSONAL PROTECTIVE EQUIPMENT (PPE) REQUIRED

Boots:
- ☐ Rubber (safety-toe)
- ☒ Leather (safety-toe)

General:
- ☐ Coveralls _____(*type*)
- ☒ Hearing protection (plugs/muffs)
- ☐ FF APR _____(*cartridges*)
- ☐ ½-face APR _____(*cartridges*)
- ☐ Safety harness & lanyard
- ☒ ANSI approved Hard hat

Eye Protection:
- ☐ Faceshield
- ☒ Safety glasses or goggles
- ☐ Welder's helmet/goggles

Gloves:
- ☒ Chemically-protective Nitrile rubber (*type*)
- ☐ Leather/cloth
- ☐ Welder's

Other (*List*):

OTHER SAFETY EQUIPMENT/CONSIDERATIONS

- ☒ Fire ext. _____(*rating*)
- ☒ First-aid kit
- ☐ Dust control/mitigation
- ☒ Portable eyewash
- ☐ Fire watch
- ☐ Traffic control measures

Other (*List*):

INSPECT/PERMIT REQUIREMENTS	EQUIPMENT TO BE USED

APPLICABLE SH&E'S

SH&E 101, SH&E 112, SH&E 113, SH&E115, SH&E 201, SH&E 506, SH&E 509, SH&E 601, SH&E 607, SH&E 610, SH&E 615

TRAINING REQUIREMENTS

40-hr HAZWOPER and Annual Refresher

AECOM TECHNICAL SERVICES, INC.
Stewart ANG Site 2 Closure Activities
TASK HAZARD ANALYSIS FORM

ADMINISTRATIVE INFORMATION	
Job/Task Name: Groundwater Monitoring Well Decommissioning Procedures	
Project Name: Stewart ANG Site 2 Closure	Project Location: Stewart ANGB, Newburgh, NY
Project Manager: Scott Underhill	Analysis adapted by: Scott Underhill
Date Job/Task to be performed: November 2011	Type of Job/Task: ☒ One time ☐ Routine job/task
Responsible Organization: Aquifer Testing and Drilling (ADT)	Job Supervisor: Greta White or Mark Howard

MONITORING PROCEDURES
No monitoring procedures.

HAZARD MITIGATION PROCEDURES		
JOB STEP	**HAZARD**	**MITIGATION**
Mobilize/Traverse Site	-Pinch/Crush/Mangle Points -Slips/Trips/Falls -Biological -Weather -Contact with Utilities -Vehicle traffic	-Use signage -Identify tripping hazards and remove or mark them -Inspect route for holes and obstacles before moving rig -Maintain clear paths around/thru work area -Always put rig mast down prior to moving rig -Use spotters whenever vehicles are in motion -Secure all equipment prior to moving -Be aware of local wildlife and scour for poisonous plants -Do not work outdoors if thunder and lightning is observed -Vehicles should be inspected prior to use, using appropriate forms -Be aware of climatic conditions -Identify any overhead and underground utilities/structures prior to start of event
Grouting with tremie line	-Pinch/Crush/Mangle Points -Overhead hazards -Vehicle traffic -Cold Stress -Slips/Trips/Falls -Biological	-Don't proceed with grouting if there are signs of thunder and lightning -Identify and mitigate any overhead lines prior to start of event -Keep 10 foot clearance from all overhead lines -Be aware of the effects wind may have on the equipment -AECOM personnel must not perform any of the driller's duties -AECOM personnel must maintain safe distance from the drill rig to avoid head hazards or swinging equipment -Maintain safe distance (minimum 10 feet) from roadways. When working in parking lot, stay within clearly marked work zone (deploy cones, use work vehicles to isolate work area and seal off. -Do not wear loose clothing or accessories -Long hair should be secured up
Removing steel casing	-Pinch/Crush/Mangle Points -Exposure -Eye Injuries -Sparks/Fire -Electrical Hazards -Cold Stress -Slips/Trips/Falls -Biological -Vehicle traffic	-Do not wear loose clothing or accessories -Long hair should be secured up -AECOM personnel must not perform any of the driller's duties -AECOM personnel must maintain safe distance from the drill rig and moving parts to avoid head hazards or swinging equipment -AECOM personnel must maintain safe distance from electrical hazards and equipment capable of sparking -Maintain safe distance (minimum 10 feet) from roadways. When working in parking lot, stay within clearly marked work zone (deploy cones, use work vehicles to isolate work area and seal off.

AECOM

AECOM TECHNICAL SERVICES, INC.
Stewart ANG Site 2 Closure Activities
TASK HAZARD ANALYSIS FORM

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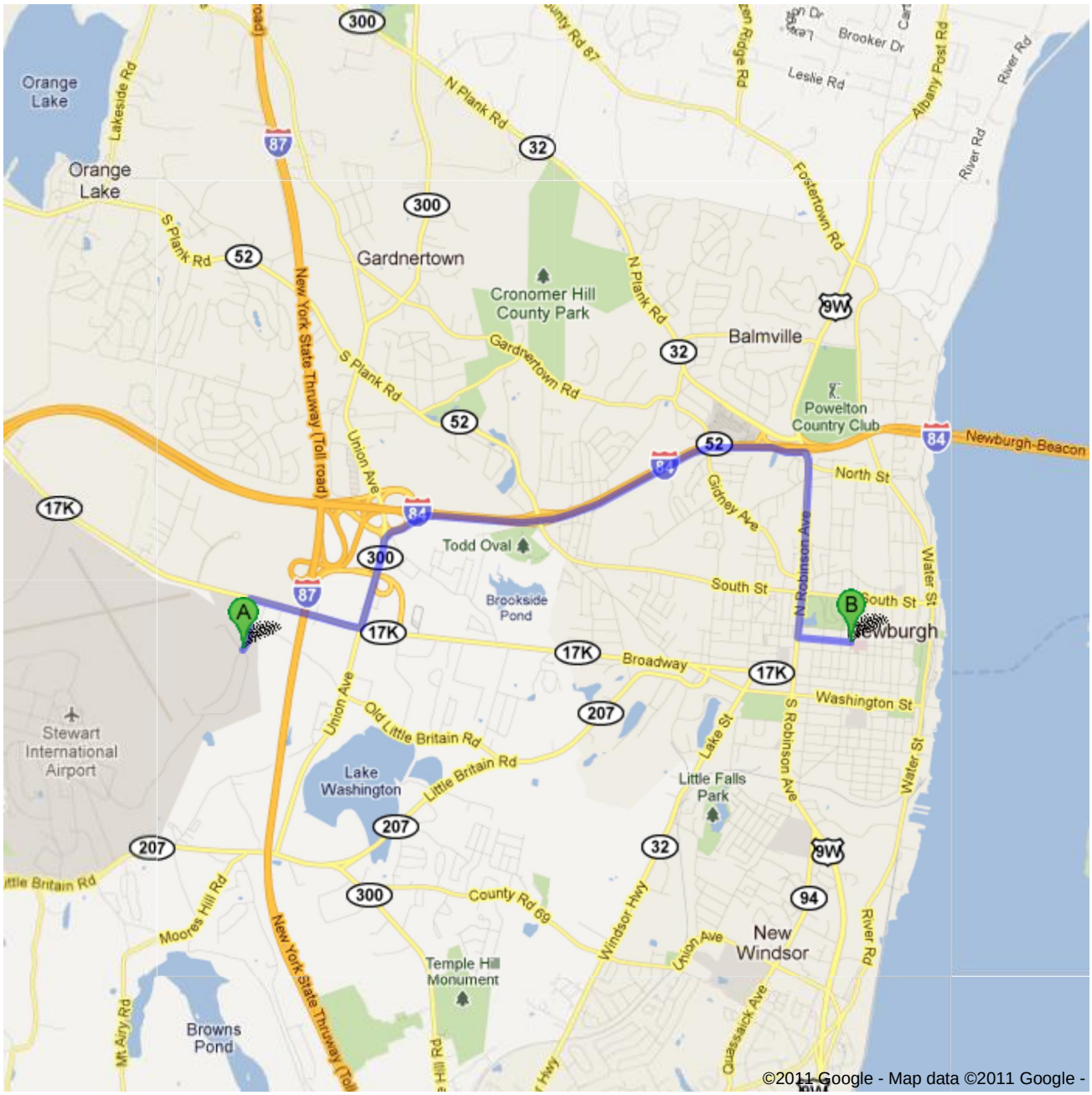
HAZARD MITIGATION PROCEDURES (CONTINUED)		
Site Restoration	-Pinch/Crush/Mangle Points	-Identify tripping hazards and remove or mark them
	-Cold Stress	-Inspect route for holes and obstacles before moving rig
	-Slips/Trips/Falls	-Maintain clear paths around/thru work area
	-Biological	-Always be careful when moving vehicles and heavy equipment
	-Vehicle traffic	-Use spotters whenever vehicles are in motion
		-Secure all equipment prior to moving
		-Be aware of local wildlife and scour for poisonous plants
		-Vehicles should be inspected prior to use, using appropriate forms
		-Be aware of climatic conditions
		-Maintain safe distance (minimum 10 feet) from roadways. When working in parking lot, stay within clearly marked work zone (deploy cones, use work vehicles to isolate work area and seal off.
		-Do not lift any objects greater than 50 pounds without help. Use knees for lifting and not back

I HAVE READ OR BEEN BRIEFED ON THE HAZARDS AND PROTECTIVE MEASURES IDENTIFIED FOR THE ABOVE-LISTED JOB/TASK AND FULLY UNDERSTAND THE JOB/TASK-SPECIFIC REQUIREMENTS THAT HAVE BEEN ESTABLISHED FOR IT.

DATE	EMPLOYEE NAME	EMPLOYEE SIGNATURE	EMPLOYER NAME

Directions to St. Luke's Cornwall Hospital
70 Dubois Street, Newburgh, New York 12550 - (845) 561-4400
5.4 mi – about **11 mins**



A 1 Militia Way, Newburgh, NY 12550

	1. Head **southeast** on **Militia Way** toward **McDonald St**	go 13 ft total 13 ft
	2. Take the 1st left onto **McDonald St** About 1 min	go 0.3 mi total 0.3 mi
17K	3. Turn right onto **New York 17K E** About 2 mins	go 0.7 mi total 1.0 mi
300	4. Turn left onto **NY-300/Union Ave** About 2 mins	go 0.5 mi total 1.5 mi
84	5. Slight right to merge onto **I-84 E** toward **Beacon** About 3 mins	go 2.3 mi total 3.8 mi
	6. Take exit **10** for **US 9W S/New York 32 S**	go 0.2 mi total 4.0 mi
	7. Turn right onto **N Robinson Ave** About 2 mins	go 1.1 mi total 5.1 mi
	8. Turn left onto **Carter St** About 2 mins	go 0.3 mi total 5.4 mi

B **St. Luke's Cornwall Hospital**
70 Dubois Street, Newburgh, New York 12550 - (845) 561-4400

105th Airlift Wing, Stewart Air National Guard
Monitoring Well Photos
October 2009
(Courtesy of BB&E)

MW-16 at Site 2

MW-17 at Site 2