FORMER DEMOLITION & BURNING FACILITY AREA GROUNDWATER INVESTIGATION REPORT

STEWART INTERNATIONAL AIRPORT

Contract Number D008871
Project Identification Number 8915.73.101

Prepared for

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&
Office of Program Development and Management

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Prepared by

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CHAPTER 1

1.0 BACKGROUND

A site assessment subsurface investigation was performed by Henningson, Durham & Richardson Architecture and Engineering P.C. in association with HDR Engineering, Inc. (HDR) for New York State Department of Transportation (NYSDOT), Aviation Services Bureau (ASB) and the Office of Program Development and Management (OPDM) in November-December 2009. The investigation focused on an area referred to as the former Demolition & Burning Facility (DBF) area at Stewart International Airport (SWF). HDR currently has a term contract with NYSDOT to provide environmental assessment services for SWF (NYSDOT Project Identification Number 8915.73.101). The site is located on the property of SWF in the Town of Newburgh, Orange County, New York (Figure 1). The investigation was conducted in accordance with our revised June 2009 Site Assessment Work Plan for the DBF. NYSDOT requested that HDR collect a second round of groundwater samples from the monitoring wells in this area in December 2010.

HDR together with Shumaker Consulting Engineering and Land Surveying, P.C. (SCE) have conducted previous investigations of the SWF property in an area referred to as the Southern Landfill Complex (SLC) under the Preliminary Environmental Site Assessment of the Southern Landfill Area at Stewart International Airport (PESA), dated June 21, 2001, and prepared by Montgomery Watson Harza (formerly Harza Engineering Company), Alpha Geoscience, Resolution Resources Incorporated, and General Ammunition Consultations. The SLC is made up of four areas (Areas A through D). Previous investigations included the collection of soil, groundwater, surface water, and sediment, and soil gas from the SLC area. The results of which have been presented to the NYSDOT under separate cover.

The DBF had been referred to in the PESA as an area of concern based on the previous investigations of this area. Information documenting site usage and history of the DBF area was presented in the Environmental Site Assessment Report, Stewart International Airport prepared by Golder Associates, Inc., dated October 1998.

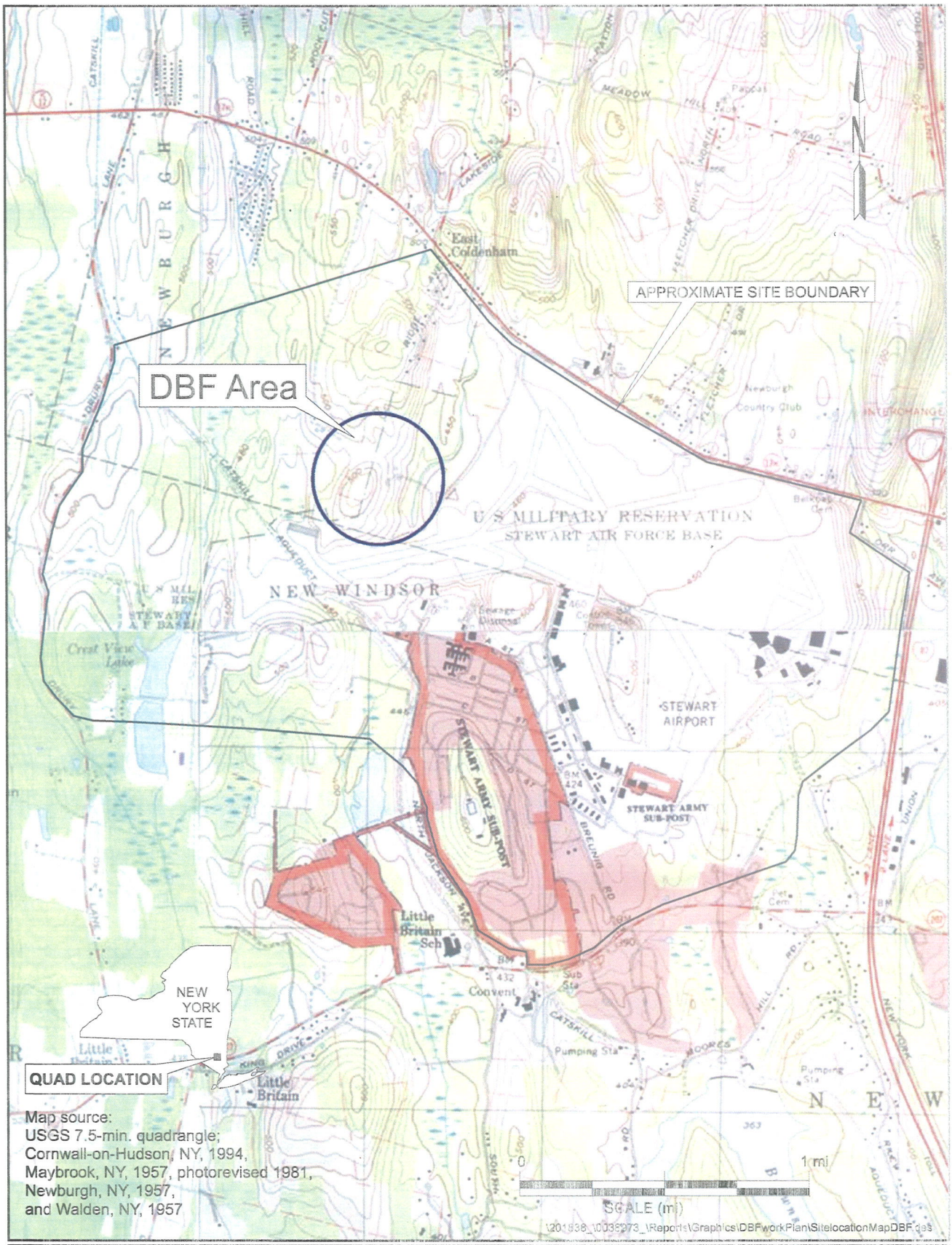
The DBF area presents a potential environmental concern with regard to its former use as a fire-fighting training area, and a detonation area for waste materials, and it also contained rifle and skeet ranges. As presented by Golder, fuels used for training may have included Jet A, Jet B, waste oils, solvents, and unknown chemicals brought from off-site. With respect to the former rifle and skeet ranges, both lead shot and live ammunition rounds may be expected to exist in this area. In addition, this area is suspected to have been used for the destruction of off-spec or unwanted ordnance and explosives (OE) and could contain unexploded ordnance (UXO). A large portion of the western section of the DBF area has since been overlain with 50 to 80 feet of silty-

sandy gravelly soils from construction projects on the airport that required the removal of native material in the 1980's and 1990's to level areas for expansion.

A historic aerial photo review was completed for this area by Alpha Geoscience. Photos from 1942 to 1998 were reviewed and ortho-rectified to a base map. Based on observations of disturbances, structures, and general activities in this area, as documented on the photos, it appears that the center of the DBF is not located as indicated in the 1964 base drawing (revised in 1969) as shown in Figure 2. It appears that the majority of activities and/or disturbances in the DBF area, as interpreted from the ortho-rectified aerial photos, took place to the west of the area designated on the base plans as the center of the DBF, a portion of which is currently under a large lobe of soil. This area was possibly mapped incorrectly on the airport base map or it was shifted westward during actual usage of the area for DBF activities. The center of the DBF area as designated on the base plans is located in a wooded area east of the lobe of fill and west of a small tributary which runs through the airport property that revealed very little activities or disturbances during military operation of the airport based on the review and interpretation of the historical aerial photographs. It appears from the historical maps that this low-lying area was north of a former skeet range that is now covered with fill and debris and is currently used to park/store tractor trailers. Figure 3 shows the areas of potential concern (AOPCs) as interpreted by Alpha Geoscience from the ortho-rectified aerial photos.

There is a narrow, generally flat, corridor between the large lobe of soil and the low lying area of trees. At the edge of the wooded area there is a slight drop off (4-6 feet). This slope reveals some areas of exposed military and construction and demolition (C&D) debris such as concrete and metal debris, a rotting parachute shroud, ammunition boxes, etc. Observations of an inspection and walkover in this area by General Ammunition Consultations (GAC) and NYSDOT-Environmental Science Bureau (ESB) are presented in the Surface Clearance of Ammunition Scrap & Inspection of the Demolition and Burning Facility Report; prepared by GAC.

Based on the suspected uses of the former DBF area and the locations where the activities and disturbances occurred in this area, four overburden borings and associated overburden monitoring wells installed in the fall of 2009 along the western edge of the wooded area, topographically in the area of or downgradient from the site AOPCs as interpreted by Alpha Geoscience to assess the condition of the soils and groundwater in the general vicinity of the AOPCs in the former DBF area. In addition, two overburden borings were advanced and associated monitoring wells installed topographically upgradient of the AOPCs in this area to provide background soil data and water quality data. Figure 3 shows the locations of the monitoring wells and associated soil boring locations.



Map source:
USGS 7.5-min. quadrangle;
Cornwall-on-Hudson, NY, 1994,
Maybrook, NY, 1957, photorevised 1981,
Newburgh, NY, 1957,
and Walden, NY, 1957

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HDR	Henningson, Durham & Richardson Architecture and Engineering, P.C. One Blue Hill Plaza Pearl River, NY 10965	**Site Location Map** Stewart International Airport Demolition & Burn Facility Investigation NYSDOT PIN: 8915.73.101	Figure 1