C&S Companies
141 Elm Street
Suite 100
Buffalo, NY 14203
p: (716) 847-1630
f: (716) 847-1454
www.cscos.com

October 2, 2017

Michael J. Hinton, P.E.
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 9
270 Michigan Avenue, Buffalo, NY 14203-2915

Re: Pre-Remedial Investigation Sampling Report
Westwood Golf Course, Amherst, New York

Dear Mike,

At the request of Mensch Capital Partners, LLC (Mensch), C&S Engineers, Inc. (C&S) conducted additional soil sampling on the Westwood County Club (Site) in Amherst New York. In response to the identification of elevated concentrations of metals in the surface soils, the Site was entered into the Brownfield Cleanup Program on March 10, 2015. As part of the BCP, a Remedial Investigation (RI) Work Plan submitted to the New York State Department of Environmental Conservation (NYSDEC) and accepted on October 5, 2015. However, prior to the implementation of the full RI Work Plan across the entire Site, portions of the Site were selected to further evaluate soil conditions and help determine if the proposed approach to the RI is the most appropriate.

In 2015 and 2016, two pilot studies were conducted on a 10-acre portion of the Site. The results of these Pilot Studies were discussed with the NYSDEC, Mensch and C&S on March 22, 2017. It was agreed during that meeting that further assessment of the entire golf course would be necessary to determine if metal contaminants observed in the area of the initial Pilot Studies will also be encountered throughout other portions of the Site. As such, C&S conducted limited soil sampling in areas away from the maintenance garage area. This document summarizes the approach and findings of that additional work.

I. SITE DESCRIPTION

The 170-acre Site is located at 772 North Forest Road, 385 Maple Road and 391 Maple Road in the south-central portion of the Town of Amherst, Erie County, New York. The Site is bounded by Sheridan Drive (State Route 324) on the south; Maple Road (County Road 192) on the north; North Forest Road (County Road 294), Ellicott Creek, and the Audubon Par 3 Golf Course on the east; and Frankhauser Road and Fairways Boulevard on the west.

The Site is relatively flat with some minor topographic relief commonly associated with golf courses. The Site's fairways, greens, and rough remain visible although the Site has not been maintained as a golf course since 2014.

II. BACKGROUND

Pre-BCP sampling at the Site demonstrated a prevalence of arsenic at elevated concentrations in various portions of the Site. The RI Work Plan was therefore created to focus on arsenic as the primary contaminant of concern, although the RI Work Plan also included the analysis of a subset of samples for a variety of other contaminants. Sampling locations focused on areas in which the historical application of chemicals was the most common: tee boxes and greens. Fairways were assumed to have received less frequent chemical treatments and rough areas were assumed to have

received few or no treatments. The highest arsenic concentrations were also assumed to be present at the surface with diminishing concentrations at depths due to that metal's relative immobility.

The RI Work Plan includes the collection of a very large number of samples (more than 2,000). In order to most effectively implement the RI, C&S discussed with Mensch Capital Partners and the NYSDEC the potential to perform the NYSDEC approved RI Work Plan on a subset of the entire Site, essentially conducting Pilot Studies for the RI. The intent of the Pilot Studies was to determine if the RI Work Plan was appropriately designed to characterize the concerns at the Site, or if modifications to the sampling program were warranted.

Two pilot studies were conducted in 2015 and 2016 on a 10-acre portion of the Site, in the area of Hole #6. This area was selected due to its proximity to the maintenance garage, presumably where the most intense applications of golf course maintenance chemicals were applied. Soil samples were collected from the area of Hole #6 to evaluate the type, concentration and depth of contaminants of soil contamination that may be encountered across the Site. Results from the 2015 Pilot Study indicated that metals other than arsenic would be present in the soils of Hole #6. To confirm this finding additional soil samples were collected from the area of Hole #6 in 2016.

The following summarizes the findings of the 2015 and 2016 Pilot Studies:

- The findings from the 2015 and 2016 Pilot Studies confirmed that the tee boxes and greens are significantly impacted by heavy metal contamination, and this contamination includes concentrations of arsenic and mercury above Industrial Use Soil Cleanup Objectives (SCOs). The remaining areas of the Site were also shown to contain elevated concentrations of metals.
- The metals at concentrations above the SCOs in at least one sample included:
  - Arsenic
  - Cadmium
  - Chromium
  - Copper
  - Cyanide
  - Lead
  - Manganese
  - Mercury
  - Selenium
  - Silver
  - Zinc
- Although elevated, the concentrations of metals in the soils do not suggest the presence of hazardous waste levels of contamination.

The 2017 sampling described in the sections below was conducted to augment the data generated during the 22016 Pilot Study and provide additional information relative to the occurrence and distribution of various metals throughout the various portions of the Site.

III. SAMPLING METHODS

C&S conducted the pilot study on June 15, 2017. TREC Environmental, Inc. was contracted to drill 24 soil borings from ground surface to approximately 4 feet below ground surface (bgs). Drilling was conducted using a track mounted Geo-probe drilling unit. Each boring location was sampled to four feet using a one-inch by four-foot steel sampling tube fitted with a disposable acetate liner. All non-disposable sampling equipment was decontaminated between drilling locations to avoid potential cross contamination of samples. Material description and physical evidence of contamination (staining or sheen) of each direct-push sample was recorded on soil boring logs provided in *Appendix A.*

The RI Work Plan included two sampling grids for the Site. For the green, fairway and tee box borings were spaced across a 50-foot by 50-foot grid. A 100-foot by 100-foot grid was used for the rough areas surrounding the green, fairway and tee box. **Figure 1 Sample Locations** shows the locations that were drilled for this pilot study.

- Greens, Fairways and Tee Boxes
  - One location was sampled in each of the greens at Hole 15, on the northern end of the Site, and Hole 9, on the southern end of the Site.
  - Two locations were sampled in each of the tee boxes on Hole 15 and Hole 9.
  - Four locations were sampled in each of the fairways on Hole 15 and Hole 9, based on the 100-foot by 100-foot sampling grid.
  - The samples from the greens, fairway and tees were collected from the following intervals:
    - 0-6 inches
    - 6-12 inches
    - 12-18 inches
    - 18-24 inches
    - 24-30 inches
    - 30-36 inches
    - 36-42 inches
    - 42-48 inches
  - The upper two samples (0-6 and 6-12 inches) were analyzed for Part 375 List metals, and:
    - The remaining samples were held in case the bottom-most sample contains metals above the SCOs.
    - Where the 6-12-inch sample contained one or more analytes at concentrations above the SCOs, the immediately underlying sample was analyzed for only the analyte(s) that exceeds the SCOs.

- This process was repeated for additional underlying samples if the SCOs are contravened until all concentrations meet the SCOs.

- Rough Areas
  - Ten locations were sampled in the former golf course rough. These locations were dispersed across the Site and were based on the 100-foot by 100-foot sampling grid used for the rough.
    - Two locations targeted the two clusters of trees that are planned to remain during the development.
    - Grid location U1-75 (within the maintenance garage area) contained metal concentrations above Restricted Residential Use in the deepest sample interval (18-24 inches). This location was re-sampled every six inches starting at 24 inches below ground surface down to 48 inches below ground surface.
  - Samples were collected from the rough areas from the following intervals:
    - 0-2 inches
    - 2-4 inches
    - 4-6 inches
    - 6-8 inches
    - 8-10 inches
    - 10-12 inches
    - 12-18 inches
    - 18-24 inches
    - 24-30 inches
    - 30-36 inches
    - 36-42 inches
    - 42-48 inches
  - The upper two samples (0-2 and 2-4 inches) were analyzed for Part 375 List metals, and:
    - The remaining samples were held in case the bottom-most sample contains metals above the SCOs.
    - Where the 2-4-inch sample contained one or more analytes at concentrations above the SCOs, the immediately underlying sample was analyzed for only the analyte(s) that exceeds the SCOs.
    - This process was repeated for additional underlying samples if the SCOs are contravened until all concentrations meet the SCOs.

Additionally, Quality Assurance/Quality Control (QA/QC) samples were collected including Matrix Spike/Matrix Spike Duplicate (MS/MSD) and blind duplicate samples.

The laboratory results for the samples were reported in a Category B deliverables package to facilitate validation of the data, and a third party validator will review the laboratory data and prepare a Data Usability Summary Report (DUSR). The DUSR has not yet been completed for these samples.

IV. SAMPLING RESULTS

A. Surface and Subsurface Soil Conditions

Pilot Study surface soils generally consist of silty clay loam, and the upper two inches of soil in the greens also contained trace amounts of fine sand. Subsurface soils are predominately brown dense clay with organic matter. No petroleum odors or visual evidence of contamination were observed in the samples.

B. Surface and Subsurface Soil Analytical Results

A total of 143 soil samples were collected and submitted to the laboratory from the green, fairway, rough and tee box. The two uppermost intervals from each boring were analyzed by the laboratory. As described in the approved Work Plan, if metal concentrations exceeded Unrestricted Use SCOs the next sample intervals was analyzed. If metal concentrations were below Unrestricted Use SCOs, no deeper samples were analyzed. From the 143 soil samples collected from the Site, a total of 63 soil samples were analyzed by the laboratory.

Soil results are discussed below in comparison to the NYSDEC's Soil Cleanup Objectives ("SCOs") outlined in 6NYRR Part 375-6.8(b). The Remediation Program Soil Cleanup Objectives, effective December 14, 2006, includes SCOs that are based on protection of human health, groundwater, and ecological resources. The SCOs are based on the following site uses:

> Unrestricted Use: This land use category is intended to be representative of pre-disposal conditions and requires no restrictions on the use of the site. The unrestricted use soil cleanup objectives represent the concentration of a contaminant in soil which will require no use restrictions on the site for the protection of public health, groundwater and ecological resources due to the presence of contaminants in the soil.
>
> Residential Use: This land use category is intended for single family housing and requires the fewest restrictions on the use of the site. It allows only two restrictions: a groundwater use restriction and / or a prohibition against producing animal products for human consumption.
>
> Restricted-Residential Use: This land use category is intended for apartments, condominium, co-operative or other multi-family / common property control residential development. In addition to the restrictions for residential use, this use prohibits vegetable gardens, unless planted in gardens where the soil achieves the residential use soil cleanup objectives; and a prohibition of single-family housing. Restricted-Residential use is the appropriate use category for the following:

- Day care or other child care facilities;
- Elementary or secondary schools; or
- College or boarding school residential buildings; and

This use allows for active recreational uses, which includes recreational activities with a reasonable potential for soil contact, such as:

- Designated picnic areas;
- Playgrounds; or
- Natural grass sports playing fields, including surrounding unpaved spectator areas.

Commercial Use: This land use category anticipates use by businesses with the primary purpose of buying, selling or trading of merchandise or services. It is the appropriate use category for:

- Health care facilities, including hospitals, clinics etc.; or
- College academic and administrative facilities.

This use allows for passive recreational purposes, which includes recreational uses with limited potential for soil contact, such as:

- Artificial surface fields;
- Outdoor tennis or basketball courts;
- Other paved recreational facilities used for roller hockey, roller skating, shuffle board, etc.;
- Outdoor pools;
- Indoor sports or recreational facilities;
- Golf courses; and
- Paved (raised) bike or walking paths.

Industrial Use: The industrial use category anticipates use for the primary purpose of manufacturing, production, fabrication or assembly processes and ancillary services. The industrial use category allows the use of the site only for industrial purposes with access to the site limited to workers or occasional visitors;

Table 1 summarizes the laboratory results and compares these results to the various NYSDEC SCOs. The sample results from each area are discussed below:

Hole 15

Green

- One soil sample was collected at N1-4 grid location.

- The surface and subsurface soil contained concentrations of metals above NYSDEC SCOs for the following parameters:
    - Arsenic
    - Cadmium
    - Total Chromium
    - Lead
    - Mercury
- Metal concentrations were below the Unrestricted Use SCOs at 12 - 18 inches.

Fairway

- Four borings were advanced in this area.
- The subsurface soil contained concentrations of metals above NYSDEC SCOs for the following parameters:
    - Arsenic
    - Cadmium
    - Total Chromium
    - Mercury
    - Zinc
- Metal concentrations were below Unrestricted Use SCOs at 6 – 12 inches in all four samples.

Tee Box

- A total of two soil borings were advanced in this area.
- Only one metal, mercury, was detected above Unrestricted Use in the 0-6-inch interval from L1-13; all other samples were below Unrestricted Use.

Hole 9

Green

- One soil sample was collected at N1-46 grid location.
- Metal concentrations were below the Unrestricted Use SCOs in the samples at 0 – 6 and 6 – 12 inches.

Fairway

- Four borings were advanced in this area.
- The subsurface soil contained concentrations of metals above NYSDEC SCOs for the following parameters:
    - Cadmium
    - Total Chromium
    - Mercury

- Metal concentrations were below Unrestricted Use SCOs at 6 – 12 inches in all four samples.

Tee Box

- A total of two soil borings were advanced in this area.
- Metal contaminants were detected in one grid location, B1-47, at levels that exceed Residential and Restricted Residential Uses. Concentrations appear to be below Unrestricted Use at the 18-24-inch interval.

Rough Areas

- A total of nine soil borings were advanced in the rough.
- The surface and subsurface soil contained concentrations of metals above NYSDEC SCOs for the following parameters:
    - Cadmium
    - Total Chromium
    - Lead
    - Mercury
    - Silver
    - Zinc
- Metal concentrations were below Unrestricted Use SCOs at the following depths:
    - One grid location, B1-28, contained metals concentrations below the Unrestricted Use at the 0-2-inch interval.
    - Three grid locations contained metals concentrations below the Unrestricted Use at the 4-6-inch interval.
    - Four grid locations contained concentrations below Unrestricted Use SCOs in the 6-8-inch interval.
- Two rough sample locations were located within wooded areas that are expected to remain intact during and after site redevelopment. The sample results show metal concentrations were below Unrestricted Use SCOs at the 6 – 8-inch interval.
- One location, U1-75, (within the maintenance garage area) was sampled during the 2016 Pilot Study and contained metal concentrations above Restricted Residential Use in the deepest sample interval (18-24 inches). Based on a change in the sampling grid spacing and, consequently, nomenclature, this location is now referred to as K1-38. Metals concentrations were below Unrestricted Use at 30-36-inches.

V. DISCUSSION AND CONCLUSIONS

The Pre-RI soil sampling identified the presence of a number of metals in soils at concentrations above the NYSDEC SCOs throughout the Site. The following summarizes and discusses the data generated during the 2015, 2016, and 2017 Pilot Studies:

- The presence of these metals is consistent with the historic use of pesticides, herbicides, and fungicides at the Site. Although these metals are no longer commonly used in

pesticides, herbicides, and fungicides, these metals once formed the basis for these products.

- Areas from the northern and southern portions of the Site contained lower metal contaminants in the greens, fairways and tee boxes that the concentrations observed in Hole 6 Pilot Studies. As an example, Hole 9 green sample contained no concentrations above NYSDEC standards. This finding may be related to the close proximity of Hole 6 to the maintenance area and the distal locations of Holes 9 and 15.
- Pilot Studies from Hole 6 indicates metal contaminations are present generally six inches below ground surface in the rough areas. Results from this 2017 sample collection event confirm that metal contaminants can be expected up to six inches below ground surface throughout the Site.
- Samples collected from wooded portions of the Site that are planned to remain as green space contained metal concentrations above Unrestricted Use SCOs up to 6-8-inches below ground surface.
- Tables 2 through 5 were prepared to provide a summary of the data from the 2015, 2016, and 2017 results. The following conclusions are drawn from the Pilot Study results. However, because the volume of data for the Site is limited, additional sampling may modify or negate these conclusions.
    - The upper two inches of soil generally show the greatest degree of impacts, and the immediately underlying soil (two to six inches) show lower, but still significant, impacts.
    - Generally, the depths of elevated metals concentrations (above Unrestricted Use SCOs) are:
        - Greens: within the top 12 to 18 inches
        - Fairways: within the top six inches
        - Tee boxes: within the top six to 12 to 18 inches
        - Rough: within the top two to six inches
    - Contaminant concentrations are generally highest in the greens, followed by the tees and fairways. Although the concentrations in the rough are lower than in other areas, concentrations above the least strict guidelines, Industrial Use SCOs, are present in the rough in limited locations.
    - In accordance with NYSDEC guidance, redevelopment for any type of use will require some level of remediation.

VI. RECOMMENATIONS

Based on the findings of the 2015, 2016, and 2017 Pilot Studies, the approach to the Remedial Investigation for the remainder of the Site should include:

- Greens, tee boxes, and fairways:
    - Frequency:

        - One sample from each green
        - Two samples from each tee box
        - Sampling in the fairways using a 100-foot by 100-foot grid
    - Depths:
        - Assuming that the top six inches of soil will be removed from the greens, tee boxes, and fairways, the collection of samples in six-inch intervals starting at six inches below grade down to three feet below grade
        - The analysis of the uppermost sample for NYSDEC Part 375 metals
        - The analysis of the immediately underlying sample for any metal that contravenes the Unrestricted Use SCOs
        - Repetition of the process until all concentrations meet the SCOs
- Rough:
    - Frequency:
        - Sampling in the rough using a 200-foot by 200-foot grid
    - Depths:
        - The collection of samples in two-inch intervals starting at grade down to two to three below grade
        - The analysis of the uppermost sample for NYSDEC Part 375 metals
        - The analysis of the immediately underlying sample for any metal that contravenes the SCOs
    - Repetition of the process until all concentrations meet the SCOs

No other changes to the Remedial Investigation are recommended.

Please feel free to contact me at (716) 847-1630 at your earliest convenience if you have any questions or comments.

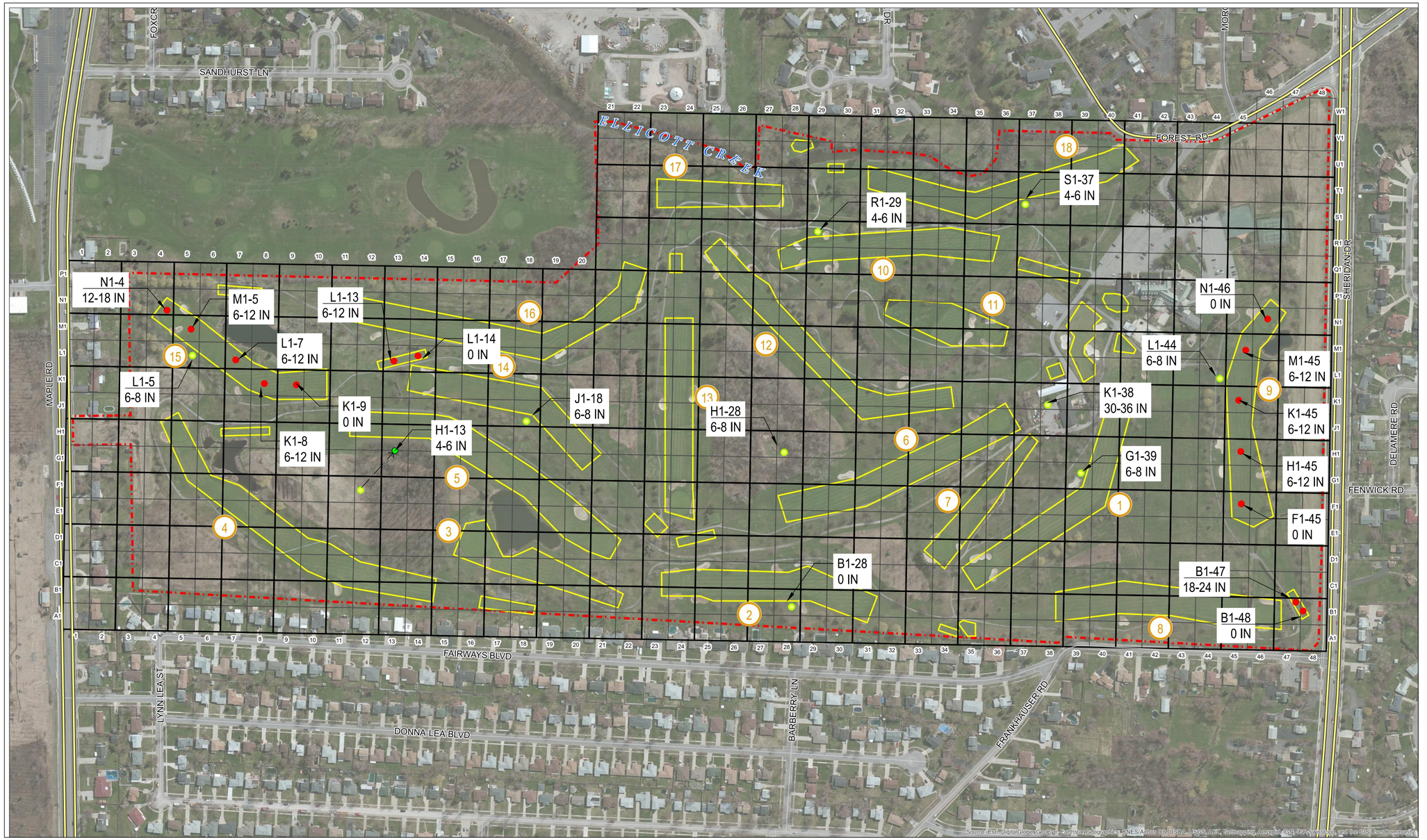
Sincerely,

C&S ENGINEERS, INC.

Daniel E. Riker, P.G.
Department Manager – Environmental Services

cc: Matt Roland, Hamister Group, LLC
Andrew Shaevel, Mensch Capital Partners

FIGURES



LEGEND

- BROWNFIELD CLEANUP PROGRAM ("BCP") BOUNDARY AND PROPERTY LINE
- (10) GOLF COURSE HOLE NUMBER
- SAMPLE LOCATION - GREEN, FAIRWAY AND TEE BOX
- SAMPLE LOCATION - ROUGH AREA

NOTES

1) BCP BOUNDARY CREATED FROM PROPERTY BOUNDARY. PROPERTY BOUNDARY PROVIDED IN "A.L.T.A. SURVEY FOR WESTWOOD COUNTRY CLUB," NUSSBAUMER & CLARK, INC., JULY 19, 2005.

2) ELEVATION CONTOURS OBTAINED FROM NEW YORK STATE, ERIE COUNTY LiDAR DATASET, 2008. VERTICAL COORDINATE SYSTEM: NORTH AMERICAN DATUM 1988 (GEOID 03). ORIGINAL DATASET IN METERS CONVERTED TO US SURVEY FEET.

0 50 100 200 400 FEET

C&S COMPANIES®
C&S Engineers, Inc.
141 Elm Street.
Buffalo, New York 14203
Phone: 716-847-1630
Fax: 716-847-1454
www.cscos.com

MENSCH Capital Partners, LLC
5477 Main Street
Williamsville NY 14221

WESTWOOD COUNTRY CLUB
BROWNFIELD CLEANUP PROGRAM
PRE-RI SOIL SAMPLING
AMHERST, NEW YORK

MARK	DATE	DESCRIPTION

REVISIONS

PROJECT NO:	O76.001.001
DATE:	AUGUST 1, 2017
DRAWN BY:	C. MARTIN
DESIGNED BY:	C. MARTIN
CHECKED BY:	D. RIKER

SAMPLE LOCATION & DEPTH TO UNRESTRICTED USE SCO

FIGURE 1

F:\Project\O76 - Mensch Capital Partners\O76001001 - Westwood Sampling\Planning-Study\CADD\Sheet Files\FIGURE 1 SAMPLE RESULTS.dwg

TABLES

TABLE 1 - SUMMARY OF SOIL SAMPLING RESULTS

						Hole 15 - Green			Hole 15 - Fairway		Hole 15 - Fairway		Hole 15 - Fairway		Hole 15 - Fairway		Hole 15 - Tee Box		Hole 15 - Tee Box		Hole 9 - Green		Hole 9 - Fairway		Hole 9 - Fairway	
					Location ID	N1-4	N1-4	N1-4	M1-5	M1-5	L1-7	L1-7	K1-8	K1-8	K1-9	K1-9	L1-13	L1-13	L1-14	L1-14	N1-46	N1-46	M1-45	M1-45	K1-45	K1-45
					Sample Depth (inch)	0 - 6	6 - 12	12 - 18	0 - 6	6 - 12	0 - 6	6 - 12	0 - 6	6 - 12	0 - 6	6 - 12	0 - 6	6 - 12	0 - 6	6 - 12	0 - 6	6 - 12	0 - 6	6 - 12	0 - 6	6 - 12
					Date Sampled	06/14/2017	06/14/2017	06/14/2017	06/14/2017	06/14/2017	06/14/2017	06/14/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017
					Sample Matrix	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
					Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use																					
Arsenic	13	16	16	16	16	41.8	17.5	0.827	17.2	6.32	8.20	6.20	6.94	3.39	6.05	5.84	6.77	5.35	6.14	5.56	0.583	0.527	3.11	2.49	4.52	3.24
Barium	350	350	400	400	10000	66.2	71.0		154	79.6	94.6	101	60.5	88.0	67.8	91.9	90.8	103	95.8	70.8	13.5	22.7	32.2	21.8	46.2	37.9
Beryllium	7.2	14	72	590	2700	0.458	0.568		1.13	0.570	0.616	0.659	0.417	0.580	0.524	0.630	0.550	0.549	0.487	0.412	0.073 J	0.056 J	0.225	0.208	0.329	0.414
Cadmium	2.5	2.5	4.3	9.3	60	4.8	1.91		1.37	0.066 J	4.41	0.307 J	0.484	ND	2.44	ND	1.66	0.208 J	0.759	0.055 J	1.58	0.081 J	6.73	0.250 J	3.31	1.23
Chromium, Total	30	36	180	1500	6800	87.9	38.4	6.22	39.9	18.9	21.6	23.9	33.8	19.3	20.4	24.4	26.8	19.9	29.6	14.7	2.64	2.78	19.1	7.59	24.7	8.52
Copper	50	270	270	270	10000	22.4	14.7		29.9	12.3	15.3	15.2	13.4	14.5	12.5	19.9	23.2	21.4	17.8	18.7	13.6	6.65	18.2	8.36	11.2	6.70
Cyanide	27	27	27	27	10000	ND	ND		1.3 J	ND	0.34 J	0.24 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead	63	400	400	1000	3900	125	49.3		53.0	11.7	22.4	12.5	16.1	10.8	21.4	9.12	14.5	11.7	15.8	9.93	0.921 J	0.829 J	14.9	7.75	18.7	10.3
Manganese	1600	2000	2000	10000	10000	419	743		827	309	584	690	167	130	241	120	968	408	695	400	103	46.9	214	302	86.4	114
Mercury	0.18	0.81	0.81	2.8	5.7	21	10	0.02 J	0.16 J	0.04 J	0.11	0.06 J	0.07 J	0.04 J	0.082 J	0.06 J	0.18	0.04 J	0.05 J	0.04 J	ND	ND	1.2	0.10	0.10	0.05 J
Nickel	30	140	310	310	10000	12.4	13.2		29.9	15.2	14.6	19.0	12.6	17.0	13.1	16.2	21.9	21.3	19.4	19.0	3.47	2.12	7.67	5.63	7.74	5.87
Selenium	3.9	36	180	1500	6800	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.203 J	ND	ND	ND
Silver	2	36	180	1500	6800	0.634	0.209 J		ND	ND	ND	ND	0.153 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.181 J	ND	ND	ND
Zinc	109	2200	10000	10000	10000	73.0	67.3		135	50.8	89.0	58.4	47.1	45.0	66.5	55.4	50.7	88.9	55.9	47.5	18.8	9.75	42.8	36.8	45.7	28.5

						Hole 9 - Fairway		Hole 9 - Fairway		Hole 9 - Tee Box				Hole 9 Tee Box		Former U1-75		Rough Areas				Rough Areas				Rough Areas	
					Location ID	H1-45	H1-45	F1-45	F1-45	B1-47	B1-47	B1-47	B1-47	B1-48	B1-48	K1-38	K1-38	L1-5	L1-5	L1-5	L1-5	H1-13	H1-13	H1-13	B1-28	B1-28
					Sample Depth (inch)	0 - 6	6 - 12	0 - 6	6 - 12	0 - 6	6 - 12	12 - 18	18 - 24	0 - 6	6 - 12	24 - 30	30 - 36	0 - 2	2 - 4	4 - 6	6 - 8	0 - 2	2 - 4	4 - 6	0 - 2	2 - 4
					Date Sampled	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/14/2017	06/14/2017	06/14/2017	06/14/2017	06/14/2017	06/14/2017	06/15/2017	06/15/2017	06/15/2017	06/14/2017	06/14/2017
					Sample Matrix	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
					Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use																					
Arsenic	13	16	16	16	16	6.44	3.13	4.26	3.42	4.55	4.73			4.31	6.36	5.73	3.49	5.23	4.40			6.24	7.90		4.33	4.31
Barium	350	350	400	400	10000	76.6	163	71.0	69.3	63.2	54.3			19.4	40.3	60.0	72.4	52.8	51.1			45.4	56.8		66.1	67.4
Beryllium	7.2	14	72	590	2700	0.540	0.750	0.554	0.594	0.221	0.274			0.133 J	0.295	0.344	0.461	0.411	0.293			0.255	0.329		0.451	0.473
Cadmium	2.5	2.5	4.3	9.3	60	3.92	0.063 J	0.200 J	ND	6.81	3.71	0.570		0.666	1.05	0.275 J	0.226 J	0.510	0.789			1.74	1.91		0.182 J	0.203 J
Chromium, Total	30	36	180	1500	6800	53.9	21.8	16.1	16.0	106	88.5	44.2	24.6	4.63	15.3	9.48	10.0	26.9	18.4			32.7	36.4	8.89	13.8	14.2
Copper	50	270	270	270	10000	17.6	22.1	16.3	16.5	20.8	23.2			7.17	12.6	14.0	6.94	13.0	17.4			14.5	16.2		10.9	11.5
Cyanide	27	27	27	27	10000	ND	ND	ND	ND	ND	ND			ND	ND	ND	ND	0.27 J	0.27 J			ND	ND		ND	ND
Lead	63	400	400	1000	3900	25.1	8.46	13.9	9.84	35.4	43.3			6.59	26.5	46.2	36.9	29.7	29.5			58.4	69.1	27.6	21.7	21.8
Manganese	1600	2000	2000	10000	10000	421	542	281	270	310	243			161	196	203	1300	325	271			144	126		242	238
Mercury	0.18	0.81	0.81	2.8	5.7	0.17	0.05 J	0.05 J	0.03 J	0.53	0.17			0.04 J	0.10	0.34	0.10	0.18	0.21	0.18	0.06 J	1.8	2.2	0.14	0.07 J	0.07 J
Nickel	30	140	310	310	10000	12.8	27.8	16.4	18.6	8.75	10.6			4.62	9.67	10.6	8.23	10.5	13.6			10.2	12.0		11.0	11.3
Selenium	3.9	36	180	1500	6800	ND	ND	ND	ND	0.145 J	0.209 J			0.138 J	ND	0.182 J	ND	ND	0.469 J			0.476 J	0.380 J		ND	ND
Silver	2	36	180	1500	6800	0.272 J	ND	ND	ND	0.822	0.701			ND	ND	ND	ND	ND	ND			0.231 J	0.255 J		ND	ND
Zinc	109	2200	10000	10000	10000	59.5	54.0	50.4	47.1	82.9	86.1			18.3	50.1	63.7	38.6	56.0	78.5			59.5	70.2		54.7	55.6

						Rough Areas				Rough Areas				Rough Areas			Rough Areas			Rough Areas				Rough Areas			
					Location ID	J1-18	J1-18	J1-18	J1-18	H1-28	H1-28	H1-28	H1-28	K1-29	K1-29	K1-29	S1-37	S1-37	S1-37	G1-39	G1-39	G1-39	L1-44	L1-44	L1-44	L1-44
					Sample Depth (inch)	0 - 2	2 - 4	4-6	6-8	0 - 2	2 - 4	4 - 6	6 - 8	0 - 2	2 - 4	4 - 6	0 - 2	2 - 4	4-6	0 - 2	4 - 6	6 - 8	0 - 2	2 - 4	4 - 6	6 - 8
					Date Sampled	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017	06/15/2017
					Sample Matrix	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
					Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use																					
Arsenic	13	16	16	16	16	4.17	6.15			3.01	3.26			6.20	3.97		7.19	6.93		5.54	5.36		8.00	10.8		
Barium	350	350	400	400	10000	42.6	90.7			30.4	36.0			58.0	51.4		73.4	72.8		60.4	58.6		68.0	74.4		
Beryllium	7.2	14	72	590	2700	0.377	0.744			0.198 J	0.214 J			0.400	0.351		0.621	0.622		0.412	0.427		0.328 J	0.428		
Cadmium	2.5	2.5	4.3	9.3	60	1.07	0.787			1.67	2.06			1.07	0.776		1.18	1.22		1.40	1.03		19.9	16.3	4.58	1.42
Chromium, Total	30	36	180	1500	6800	44.1	56.4	32.1	24.5	18.0	22.1			81.6	18.0		33.2	32.1	21.2	39.1	26.3		325	230	85.6	17.2
Copper	50	270	270	270	10000	15.6	18.3			14.7	14.5			14.2	19.7		16.5	17.6		14.9	10.9		33.1	30.8		
Cyanide	27	27	27	27	10000	0.22 J	ND			0.23 J	ND			0.70 J	0.28 J		0.22 J	ND		ND	ND		0.68 J	0.99 J		
Lead	63	400	400	1000	3900	33.7	30.9			18.7	20.5			49.4	28.6		29.1	28.1		29.6	21.2		84.8	83	34.3	
Manganese	1600	2000	2000	10000	10000	261	612			203	179			411	274		258	240		131	132		58.2	53.6		
Mercury	0.18	0.81	0.81	2.8	5.7	0.24	0.19	0.17		0.57	0.68	0.47	0.12	1.1	0.2	0.15	0.16	0.17		0.26	0.23	0.14	0.76	0.66	0.07 J	
Nickel	30	140	310	310	10000	10.8	17.9			6.83	8.00			12.2	13.5		18.6	18.3		10.9	10.4		11.0	12.4		
Selenium	3.9	36	180	1500	6800	0.599 J	ND			0.599 J	0.272 J			0.978 J	0.504 J		ND	ND		ND	ND		0.588 J	0.479 J		
Silver	2	36	180	1500	6800	0.275 J	0.242 J			ND	ND			0.572 J	ND		ND	ND		0.214 J	ND		2.11	1.61		
Zinc	109	2200	10000	10000	10000	62.5	80.6			162	76.6			71.7	79.8		73.2	69.3		60.7	50.1		83.3	92.2		

TABLE 2
SUMMARY OF SOIL CLEANUP OBJECTIVES CONTRAVENTIONS - UNRESTRICTED USE
WESTWOOD PILOT STUDY
772 NORTH FOREST ROAD
AMHERST, NEW YORK

GREENS	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	T1-71							
6	2016	S1-71							
6	2016	S1-72							
6	2016	T1-71							
6	2016	T1-72							
15	2017	N1-4							
9	2017	N1-46							
TEES	**PILOT STUDY**	**SAMPLE**	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	H1-48							
6	2016	H1-47							
6	2016	H1-48							
6	2016	H1-49							
15	2017	L1-13							
15	2017	L1-14							
9	2017	B1-47							
9	2017	B1-48							
FAIRWAYS	**PILOT STUDY**	**SAMPLE**	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	P1-65							
6	2016	K1-56							
6	2016	K1-57							
6	2016	L1-56							
6	2016	L1-57							
6	2016	L1-58							
6	2016	L1-59							
6	2016	L1-60							
6	2016	L1-61							
6	2016	M1-57							
6	2016	M1-58							
6	2016	M1-59							
6	2016	M1-60							
6	2016	M1-61							
6	2016	M1-62							
6	2016	M1-63							
6	2016	N1-62							
6	2016	N1-63							
6	2016	N1-64							
6	2016	N1-65							
6	2016	P1-64							
6	2016	P1-65 (Metals)							
6	2016	P1-65 (Pest/PCBs)							
6	2016	P1-66							
6	2016	P1-67							
6	2016	Q1-65							
6	2016	Q1-66							
6	2016	Q1-67							
6	2016	Q1-68							
6	2016	Q1-69							
6	2016	R1-67							
6	2016	R1-68							
6	2016	R1-69							
6	2016	R1-70							
6	2016	S1-69							
6	2016	S1-70							
15	2017	M1-5							
15	2017	L1-7							
15	2017	K1-8							
15	2017	K1-9							
9	2017	M1-45							
9	2017	K1-45							
9	2017	H1-45							
9	2017	F1-45							
ROUGH	**PILOT STUDY**	**SAMPLE**	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	K1-62							
6	2016	G1-46							
6	2016	K1-54							
6	2016	K1-59							
6	2016	K1-62							
6	2016	L1-51							
6	2016	P1-69							
6	2016	Q1-58							
6	2016	Q1-62							
6	2016	R1-66							
6	2016	T1-66							
6	2016	U1-70							
6	2016	U1-75							
6	2017	Former U1-75 (K1-38)							
15	2017	L1-5							
5	2017	H1-13			4-6				
14	2017	J1-18			6-8				
6	2017	H1-28							
10	2017	K1-29			4-6				
18	2017	S1-37			4-6				
2	2017	B1-28							
1	2017	G1-39							
9	2017	L1-44							

denotes at least one analyte concentration above Unrestricted Use SCOs
denotes no concentration above Unrestricted Use SCOs
blank space denotes no sample collected
Only samples submitted for analysis for complete metals list are included in this table.

TABLE 3
SUMMARY OF SOIL CLEANUP OBJECTIVES CONTRAVENTIONS - RESTRICTED RESIDENTIAL USE
WESTWOOD PILOT STUDY
772 NORTH FOREST ROAD
AMHERST, NEW YORK

GREENS	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	T1-71							
6	2016	S1-71							
6	2016	S1-72							
6	2016	T1-71							
6	2016	T1-72							
15	2017	N1-4							
9	2017	N1-46							

TEES	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	H1-48							
6	2016	H1-47							
6	2016	H1-48							
6	2016	H1-49							
15	2017	L1-13							
15	2017	L1-14							
9	2017	B1-47							
9	2017	B1-48							

FAIRWAYS	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	P1-65							
6	2016	K1-56							
6	2016	K1-57							
6	2016	L1-56							
6	2016	L1-57							
6	2016	L1-58							
6	2016	L1-59							
6	2016	L1-60							
6	2016	L1-61							
6	2016	M1-57							
6	2016	M1-58							
6	2016	M1-59							
6	2016	M1-60							
6	2016	M1-61							
6	2016	M1-62							
6	2016	M1-63							
6	2016	N1-62							
6	2016	N1-63							
6	2016	N1-64							
6	2016	N1-65							
6	2016	P1-64							
6	2016	P1-65 (Metals)							
6	2016	P1-65 (Pest/PCBs)							
6	2016	P1-66							
6	2016	P1-67							
6	2016	Q1-65							
6	2016	Q1-66							
6	2016	Q1-67							
6	2016	Q1-68							
6	2016	Q1-69							
6	2016	R1-67							
6	2016	R1-68							
6	2016	R1-69							
6	2016	R1-70							
6	2016	S1-69							
6	2016	S1-70							
15	2017	M1-5							
15	2017	L1-7							
15	2017	K1-8							
15	2017	K1-9							
9	2017	M1-45							
9	2017	K1-45							
9	2017	H1-45							
9	2017	F1-45							

ROUGH	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	K1-62							
6	2016	G1-46							
6	2016	K1-54							
6	2016	K1-59							
6	2016	K1-62							
6	2016	L1-51							
6	2016	P1-69							
6	2016	Q1-58							
6	2016	Q1-62							
6	2016	R1-66							
6	2016	T1-66							
6	2016	U1-70							
6	2016	U1-75							
6	2017	Former U1-75 (K1-38)							
15	2017	L1-5							
5	2017	H1-13			4-6				
14	2017	J1-18							
6	2017	H1-28							
10	2017	K1-29			4-6				
18	2017	S1-37			4-6				
2	2017	B1-28							
1	2017	G1-39							
9	2017	L1-44							

denotes at least one analyte concentration above Restricted Residential Use SCOs
denotes no concentration above Restricted Residential Use SCOs
blank space denotes no sample collected
Only samples submitted for analysis for complete metals list are included in this table.

TABLE 4
SUMMARY OF SOIL CLEANUP OBJECTIVES CONTRAVENTIONS - COMMERCIAL USE
WESTWOOD PILOT STUDY
772 NORTH FOREST ROAD
AMHERST, NEW YORK

GREENS	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	T1-71							
6	2016	S1-71							
6	2016	S1-72							
6	2016	T1-71							
6	2016	T1-72							
15	2017	N1-4							
9	2017	N1-46							
TEES	**PILOT STUDY**	**SAMPLE**	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	H1-48							
6	2016	H1-47							
6	2016	H1-48							
6	2016	H1-49							
15	2017	L1-13							
15	2017	L1-14							
9	2017	B1-47							
9	2017	B1-48							
FAIRWAYS	**PILOT STUDY**	**SAMPLE**	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	P1-65							
6	2016	K1-56							
6	2016	K1-57							
6	2016	L1-56							
6	2016	L1-57							
6	2016	L1-58							
6	2016	L1-59							
6	2016	L1-60							
6	2016	L1-61							
6	2016	M1-57							
6	2016	M1-58							
6	2016	M1-59							
6	2016	M1-60							
6	2016	M1-61							
6	2016	M1-62							
6	2016	M1-63							
6	2016	N1-62							
6	2016	N1-63							
6	2016	N1-64							
6	2016	N1-65							
6	2016	P1-64							
6	2016	P1-65 (Metals)							
6	2016	P1-65 (Pest/PCBs)							
6	2016	P1-66							
6	2016	P1-67							
6	2016	Q1-65							
6	2016	Q1-66							
6	2016	Q1-67							
6	2016	Q1-68							
6	2016	Q1-69							
6	2016	R1-67							
6	2016	R1-68							
6	2016	R1-69							
6	2016	R1-70							
6	2016	S1-69							
6	2016	S1-70							
15	2017	M1-5							
15	2017	L1-7							
15	2017	K1-8							
15	2017	K1-9							
9	2017	M1-45							
9	2017	K1-45							
9	2017	H1-45							
9	2017	F1-45							
ROUGH	**PILOT STUDY**	**SAMPLE**	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	K1-62							
6	2016	G1-46							
6	2016	K1-54							
6	2016	K1-59							
6	2016	K1-62							
6	2016	L1-51							
6	2016	P1-69							
6	2016	Q1-58							
6	2016	Q1-62							
6	2016	R1-66							
6	2016	T1-66							
6	2016	U1-70							
6	2016	U1-75							
6	2017	Former U1-75 (K1-38)							
15	2017	L1-5							
5	2017	H1-13			4-6				
14	2017	J1-18							
6	2017	H1-28							
10	2017	K1-29			4-6				
18	2017	S1-37			4-6				
2	2017	B1-28							
1	2017	G1-39							
9	2017	L1-44			4-6				

denotes at least one analyte concentration above Commercial Use SCOs
denotes no concentration above Commercial Use SCOs
blank space denotes no sample collected
Only samples submitted for analysis for complete metals list are included in this table.

TABLE 5
SUMMARY OF SOIL CLEANUP OBJECTIVES CONTRAVENTIONS - INDUSTRIAL USE
WESTWOOD PILOT STUDY
772 NORTH FOREST ROAD
AMHERST, NEW YORK

GREENS	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	T1-71							
6	2016	S1-71							
6	2016	S1-72							
6	2016	T1-71							
6	2016	T1-72							
15	2017	N1-4							
9	2017	N1-46							

TEES	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	H1-48							
6	2016	H1-47							
6	2016	H1-48							
6	2016	H1-49							
15	2017	L1-13							
15	2017	L1-14							
9	2017	B1-47							
9	2017	B1-48							

FAIRWAYS	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	P1-65							
6	2016	K1-56							
6	2016	K1-57							
6	2016	L1-56							
6	2016	L1-57							
6	2016	L1-58							
6	2016	L1-59							
6	2016	L1-60							
6	2016	L1-61							
6	2016	M1-57							
6	2016	M1-58							
6	2016	M1-59							
6	2016	M1-60							
6	2016	M1-61							
6	2016	M1-62							
6	2016	M1-63							
6	2016	N1-62							
6	2016	N1-63							
6	2016	N1-64							
6	2016	N1-65							
6	2016	P1-64							
6	2016	P1-65 (Metals)							
6	2016	P1-65 (Pest/PCBs)							
6	2016	P1-66							
6	2016	P1-67							
6	2016	Q1-65							
6	2016	Q1-66							
6	2016	Q1-67							
6	2016	Q1-68							
6	2016	Q1-69							
6	2016	R1-67							
6	2016	R1-68							
6	2016	R1-69							
6	2016	R1-70							
6	2016	S1-69							
6	2016	S1-70							
15	2017	M1-5							
15	2017	L1-7							
15	2017	K1-8							
15	2017	K1-9							
9	2017	M1-45							
9	2017	K1-45							
9	2017	H1-45							
9	2017	F1-45							

ROUGH	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	K1-62							
6	2016	G1-46							
6	2016	K1-54							
6	2016	K1-59							
6	2016	K1-62							
6	2016	L1-51							
6	2016	P1-69							
6	2016	Q1-58							
6	2016	Q1-62							
6	2016	R1-66							
6	2016	T1-66							
6	2016	U1-70							
6	2016	U1-75							
6	2017	Former U1-75 (K1-38)							
15	2017	L1-5							
5	2017	H1-13			4-6				
14	2017	J1-18							
6	2017	H1-28							
10	2017	K1-29			4-6				
18	2017	S1-37			4-6				
2	2017	B1-28							
1	2017	G1-39							
9	2017	L1-44			4-6				

denotes at least one analyte concentration above Industrial Use SCOs
denotes no concentration above Industrial Use SCOs
blank space denotes no sample collected
Only samples submitted for analysis for complete metals list are included in this table.