Executive Summary

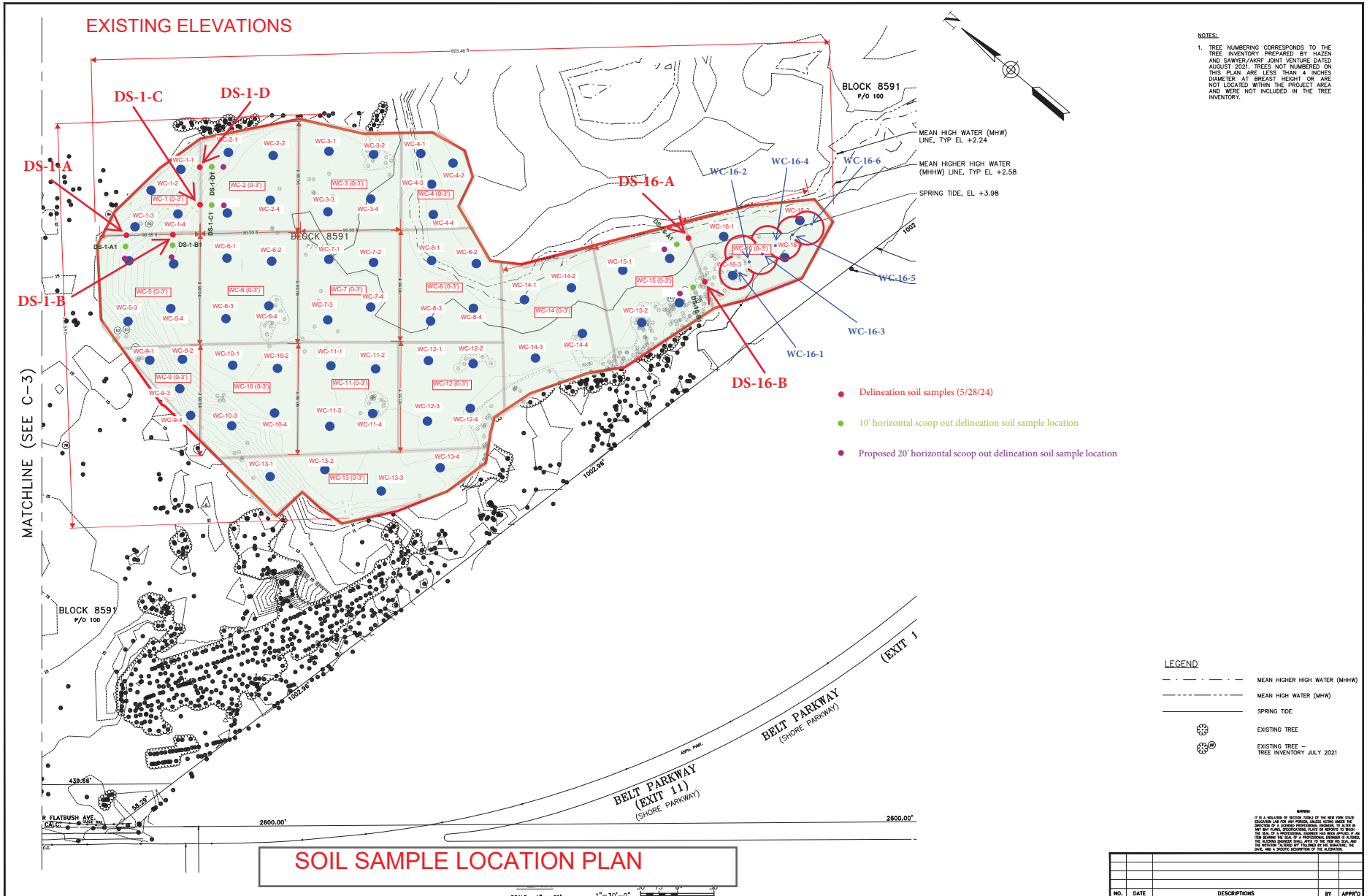
During construction activities for the Installation of Four Sparrow Marsh Tidal Wetland Mitigation, project ID WTM4SPRW, Brooklyn NY, (NYC) Department of Design and Construction's (DDC) Contractor collected 16 waste characterization soil samples (WC-1 to WC-16) on April 25, 2024 to characterize an estimated 8,000 cubic yards of soil matrix. None of the samples exceeded USEPA's Toxicity Characteristic Leaching Procedure (TCLP) hazardous waste limits. However, TCLP lead levels of 3.4 mg/L in WC-1 and 4.16 mg/L in WC-16 were noted (USEPA limit is 5 mg/L). To address Pennsylvania Department of Environmental Protection's (PADEP) review comments, the contractor conducted additional sampling at the WC-1 and WC-16 locations due to the TCLP lead detections.

On May 29, 2024, as WC-16 had already been excavated and stockpiled, six discrete soil samples (WC-16- 1 through WC-16-5) were taken from the stockpile along with two delineation samples (DS-16-A & WC- 16-B) at the boundary of WC-15 and WC-16 and identified as shown on the attached figure. These samples were taken at final grade, 6 inches deep from the current ground elevation. The results of these samples showed hazardous levels of TCLP lead at sample locations DS-16-B, WC-16-5, and WC-16-C, with detections at 13.4 mg/L, 8.02 mg/L, and 6.94; respectively. To address the delineation of WC-1 for PCB, total lead and TCLP lead, four delineation samples DS-1A, DS-1B, DS-1C and DS-1D were collected as identified on the attached figure. These samples were taken at final grade, 3-feet deep from the current ground elevation.

On June 6, 2024, to further delineate the hazardous soil in WC-16 and elevated levels of PCBs, total lead and TCLP lead in WC-1, soil samples were collected at 10-feet step outs at each location shown on the attached figure as green dots and noted in the legend. From WC-16, samples DS-16-A1 & DS-16-B1 were collected at final grade, 6 inches deep from the current ground elevation. From WC-1, samples DS-1-A1, DS-1-B1, DS-1-C1 and DS-1-D1 were taken at final grade 3 feet deep from the current ground elevation. All Samples were analyzed and reported by York Analytical Laboratories Inc and a summary of the levels of PCB, total lead and TCLP lead for WC-1 and WC-16 are shown in the attachment extracted from the FSSR showing the levels of contaminants from the tests collected (2 pages extracted from the FSSR have been attached only to show contaminant levels from each sample). The additional samples collected on June 6, 2024, did not detect hazardous lead exceeding the USEPA limit of 5 mg/ L.

The hazardous material located in cell WC-16 will be taken off site and disposed at a hazardous facility once PADEP review is completed. During loading operations a Community Air Monitoring Plan (CAMP) will be implemented as per DDC Specifications when contaminated / hazardous soil exists at the project site. In addition, a Material Handling Plan (MHP) and Environmental Health and Safety Plan (EHASP) must be reviewed and accepted by DDC OEHS prior to removal and disposal of the Hazardous Material. Material from cell WC-16 will be taken for off-site disposal as hazardous waste.

The full project scope for WTM4SPRW consists of excavating and disposing of existing material from the Four Sparrow wetland and importing clean sand and soil to support native planting and natural habitat. The existing area will be lowered from the current grade in order for the new wetland to be subjected to tidal inundation.



NOTES:

1. TREE NUMBERING CORRESPONDS TO THE TREE INVENTORY PREPARED BY HAZEN AND SAWYER/AKRF JOINT VENTURE DATED AUGUST 2021. TREES NOT NUMBERED ON THIS PLAN ARE LESS THAN 4 INCHES DIAMETER AT BREAST HEIGHT OR ARE NOT LOCATED WITHIN THE PROJECT AREA AND WERE NOT INCLUDED IN THE TREE INVENTORY.

SOIL SAMPLE LOCATION PLAN

SCALE: 1" = 30'

1"=30'-0"

NO.	DATE	DESCRIPTIONS	BY	APPR'D
		REVISIONS		

Hazen | AKRF

FINAL DESIGN PREPARED BY:
SANDEEP MEHROTRA P.E. 5/31/2023
HAZEN AND SAWYER PROJECT MANAGER DATE:

DRAWN BY IK
DESIGNED BY EM
CHECKED BY KW
CADD FILE C-2

SCALE AS SHOWN

CITY OF NEW YORK
DEPARTMENT OF DESIGN + CONSTRUCTION
DIVISION OF INFRASTRUCTURE
BUREAU OF DESIGN

EXISTING CONDITIONS (2 OF 2)

FOUR SPARROW MARSH
TIDAL WETLAND MITIGATION
BOROUGH OF BROOKLYN

PROJECT ID: WTM4SPRW | DATE: 5-31-2023 | SHEET 4 OF 15 | C-4 / L-15

CAPITAL PROJECT WTM4SPRW

CONSULTANT DESIGN

Soil Sampling Program- May 29 & June 6, 2024

ECOTERRA conducted soil sampling activity on **May 29, 2024** to address PADEP's review comments. On sampling day, it was noted that WC-16 grid was already excavated and stockpiled on site. Hence, six discrete soil samples WC-16-1 to WC-16-6 were collected at six discrete locations from the stockpile as shown in Figure 1. Moreover, two delineation samples at the boundary of WC-16 and WC-15 were collected and identified as DS-16-A & DS-16-B. Please refer Figure 1 for each location. All these soil samples were analyzed for Total & TCLP Lead. The results are summarized below:

Sample ID	Total Lead(ppm) Protection to Ecological SCOs-63 ppm	TCLP Lead(mg/l) USEPA's Haz. Waste limit-5 mg/l
DS-16-A	795	1.03
DS-16-B	946	13.4
WC-16-1	172	2.1
WC-16-2	292	2.18
WC-16-3	44.3	0.547
WC-16-4	20.8	0.17
WC-16-5	383	8.02
WC-16-6	2280	6.94

To address the delineation of WC-1 for PCB and Lead, four delineation samples DS-1A, DS-1B, DS-1C and DS-1D were collected as identified in figure 1. All these samples were analyzed for PCBs, Total and TCLP lead. The results are summarized below :

Sample ID	Total Lead(ppm) Protection to Ecological SCOs-63 ppm	TCLP USEPA's Haz. Waste limit-5 mg/l Lead(mg/l)	PCB's(ppm) Protection to Ecologica SCOs-1 ppm
DS-1-A	1020	1.04	8.9
DS-1-B	77.4	0.0797	0.46
DS-1-C	874	0.645	46.0
DS-1-D	1470	1.03	1.3

On June 6, 20204, to further delineate the hazardous soil in WC-16 and Elevated PCBs and Lead in WC-1, soil samples were collected at 10' feet step out at each location identified below. Extending another 10' step out samples were collected and kept on hold for further analysis. The results are summarized below :

Sample ID	Total Lead(ppm) Protection to Ecological SCOs-63 ppm	TCLP USEPA's Haz. Waste limit-5 mg/l Lead(mg/l)	PCB's(ppm) Protection to Ecologica SCOs-1 ppm
DS-1-A1	**628**	0.614	**1.6**
DS-1-B1	**493**	1.05	**1.9**
DS-1-C1	120	0.191	0.42
DS-1-D1	**703**	0.529	**1.2**
DS-16-A1	5.7	0.0313	NA
DS-16-B1	15.5	0.0242	NA