

APPROVAL

SENT VIA ELECTRONIC MAIL

October 26, 2023

The Honorable Fred Camillo
First Selectman
Town of Greenwich
101 Field Point Road
Greenwich, Connecticut 06830

Re: Remedial Action Plan
Western Middle School
1 Western Junior Highway, Greenwich
Rem ID 14385

Dear First Selectman Camillo:

The Remediation Division of the Bureau of Water Protection and Land Reuse (the Department) has reviewed the reports listed below. The reports outline the remedial approach to protect human health and the environment by physically isolating pollutants in soil located beneath and immediately adjacent to the athletic fields at the rear of Western Middle School using an Engineered Control, or otherwise remediating those soils in accordance with the requirements of Connecticut's Remediation Standard Regulations at the Western Middle School property.

- Remedial Action Plan, dated August 2022;
- Response to Public Comments Remedial Action Plan, dated February 22, 2023; and
- Remedial Action Plan Addendum, dated June 2, 2023.

The reports identified above were prepared by Langan on behalf of the Town of Greenwich and were submitted pursuant to the requirements of Section 22a-133x of the Connecticut General Statutes.

The reports identified above are hereby approved.

Nothing in this conditional approval shall affect the Commissioner's authority to institute any proceeding, or take any action to prevent or abate pollution, to recover costs and natural resource damages, and to impose penalties for violations of law. If at any time the Commissioner determines that the approved actions have not fully characterized the extent and degree of pollution or have not successfully abated or prevented pollution, the Commissioner may institute any proceeding, or take any action to require further investigation or further action to prevent or abate pollution. This conditional approval relates only to pollution or contamination identified in the above referenced reports.

In addition, nothing in this approval shall relieve any person of his or her obligations under applicable federal, state, and local law.

If you have any questions pertaining to this matter, please contact Jeffrey Wilcox of my staff at (860) 424-3902.

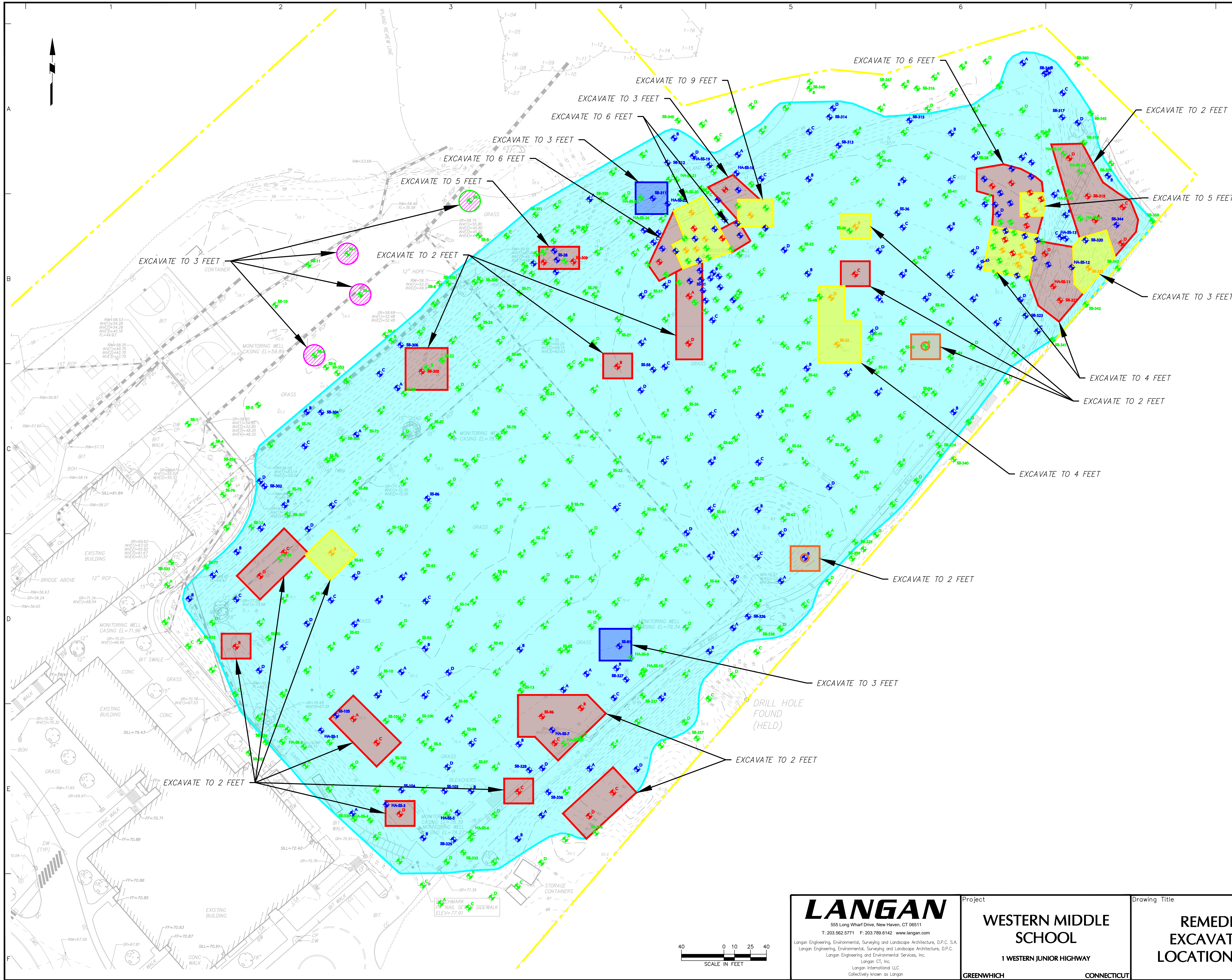
Sincerely,

A handwritten signature in black ink, appearing to read 'Raymond Frigon', with a stylized flourish at the end.

Raymond Frigon
Director
Remediation Division
Bureau of Water Protection and Land Reuse

RF:jbw

c: Amy Siebert, Commissioner, Greenwich Department of Public Works
Peter Bernstein, Chair, Board of Education, Greenwich Public Schools
Caroline Calderone Baisley, Director, Greenwich Department of Public Health
Attorney Jane Warren, McCarter and English, LLP
Katherine Woodward, US EPA, Region 1
Amber Trahan, CT DEEP, Emergency Response and Spill Prevention Division
Ryan Wohlstrom, LEP, Langan



LEGEND

PROPERTY BOUNDARY

SOIL BORING LOCATIONS WITH PCBs < 1 MG/KG

SOIL BORING LOCATIONS WITH PCBs > 1 AND < 10 MG/KG

SOIL BORING LOCATIONS WITH PCBs > 10 AND < 50 MG/KG

SOIL BORING LOCATIONS WITH PCBs > 50 MG/KG

SOIL BORING LOCATIONS WITH THE VOC TRICHLOROETHYLENE > CTDEEP GB PMC

APPROXIMATE EXTENT OF ENGINEERED CONTROLS

EXCAVATION AREAS OF PCBs > 50 MG/KG
(EXCAVATION DEPTHS RANGE FROM 2 TO 9 FEET BGS)

EXCAVATION AREAS OF PCBs > 10 MG/KG AND < 50 MG/KG
(EXCAVATION DEPTHS RANGE FROM 2 TO 6 FEET BGS)

EXCAVATION AREAS OF ELEVATED LEAD
(EXCAVATION DEPTHS EXTEND TO 3 FEET BGS)

EXCAVATION AREAS OF TRICHLOROETHYLENE > CTDEEP GB PMC
(EXCAVATION DEPTHS EXTEND TO 2 FEET BGS)

AOC-2 EXCAVATION AREAS OF ELEVATED ARSENIC
(EXCAVATION DEPTHS EXTEND TO 3 FEET BGS)

AOC-2 EXCAVATION AREA OF ELEVATED ARSENIC & PESTICIDES
(EXCAVATION DEPTH EXTENDS TO 3 FEET BGS)

NOTES

1. THE PROPOSED REMEDIAL APPROACH FOR AOC-1 CONSISTS OF THE EXCAVATION AND OFFSITE DISPOSAL OF TOPSOIL AND ORGANIC MATERIALS UNIT FOR GEOTECHNICAL PURPOSES TO A DEPTH OF APPROXIMATELY 0.5 FEET BGS ACROSS AOC-1, PLUS THE REMOVAL OF PCBs IN SOIL ≥ 10 MG/KG AND VOCs IN SOIL EXCEEDING THE CTDEEP RSR GB PMC (REGARDLESS OF DEPTH). ANY REMAINING IMPACTED SOIL (WITH PCBs IN SOIL ≥ 1 MG/KG AND < 10 MG/KG) WOULD REMAIN IN PLACE UNDER ONE OF THE FOLLOWING ENGINEERED CONTROLS (EC):
A. ARTIFICIAL TURF EC - A MINIMUM 24-INCH THICK EC CONSISTING OF A HIGH VISIBILITY NON-WOVEN GEOTEXTILE FABRIC DEMARCATION LAYER ABOVE REMAINING IMPACTED SOIL, A MINIMUM OF 23 INCHES OF CLEAN CRUSHED DRAINAGE STONE, A FLAT DRAIN WHERE REQUIRED, AND FINISHED WITH A MINIMUM 1 INCH OF CRUSHED FINISHING STONE. ABOVE THE EC WILL BE A SHOCK PAD LAYER FOLLOWED BY THE SURFICIAL ARTIFICIAL TURF FIELD COMPONENTS TO THE FINISHED GRADE.
B. ASPHALT AND CONCRETE EC - A MINIMUM 24-INCH THICK EC CONSISTING OF A HIGH VISIBILITY DEMARCATION LAYER ABOVE REMAINING IMPACTED SOIL, A LAYER OF COMPACTED CLEAN FILL BETWEEN 11 AND 16 INCHES THICK, A LAYER OF CRUSHED STONE SUBBASE BETWEEN 2 AND 6 INCHES THICK, AND FINISHED WITH A 2 TO 12 INCH THICK LAYER OF ASPHALT AND/OR CONCRETE TO FINISHED GRADE.
C. CLEAN SOIL CAP EC - A MINIMUM 24-INCH THICK EC CONSISTING OF A HIGH VISIBILITY AND HIGH TENSILE STRENGTH WOVEN GEOTEXTILE DEMARCATION LAYER ABOVE REMAINING IMPACTED SOIL, A MINIMUM 18 INCHES OF COMPACTED CLEAN FILL, A HIGH VISIBILITY DEMARCATION LAYER, AND FINISHED WITH A MINIMUM 6 INCHES OF CLEAN TOPSOIL FOLLOWED BY NATURAL GRASS TO FINISHED GRADE. PLACEMENT OF A TOTAL OF 24 INCHES OF TOPSOIL WILL BE COMPLETED IN AREAS OF NEWLY INSTALLED TREES.
2. THE PROPOSED REMEDIAL APPROACH FOR AOC-2 CONSISTS OF THE EXCAVATION AND OFFSITE DISPOSAL OF ARSENIC AND PESTICIDE IMPACTED SOIL BENEATH THE RECREATIONAL AREA TO A DEPTH OF 3 FEET.
3. BASEMAP TAKEN FROM THE EXISTING CONDITIONS SURVEY "PARTIAL TOPOGRAPHIC SURVEY - VT102," COMPLETED BY LANGAN AND DATED 12 MAY, 2021.
4. AOC = AREA OF CONCERN
5. PCB = POLYCHLORINATED BIPHENYLS
6. VOC = VOLATILE ORGANIC COMPOUNDS
7. SVOC = SEMIVOLATILE ORGANIC COMPOUNDS
8. MG/KG = MILLIGRAMS PER KILOGRAM
9. BGS = BELOW GROUND SURFACE
10. SF = SQUARE FEET
11. PPM = PARTS PER MILLION
12. EC = ENGINEERED CONTROL
13. WCZ = WASTE CHARACTERIZATION ZONE
14. CTDEEP = CONNECTICUT DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION
15. RSRs = REMEDIATION STANDARD REGULATIONS
16. GB PMC = GB POLLUTANT MOBILITY CRITERIA
17. RDEC = RESIDENTIAL DIRECT EXPOSURE CRITERIA

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Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan International LLC
Collectively known as Langan

Project
WESTERN MIDDLE SCHOOL
1 WESTERN JUNIOR HIGHWAY
GREENWICH CONNECTICUT

Drawing Title
REMEDIAL EXCAVATION LOCATION PLAN

Project No.
140148201

Date
MAY 2023

Scale
1" = 40'

Drawn By
JPH

Checked By
RJW

Submission Date
MAY 2023

Drawing No.
4

Sheet 4 of 7

Filename: C:\Users\jhall\Desktop\140148201-Western Middle School-RAP-Addendum-2023.05.dwg Date: 6/2/2023 Time: 16:21 User: jhall Style Table: Langan.sbt Layout: Fig4-RemExcPlan