



**VERTEX**

## River's Edge Development 484-490 Boston Post Road, Wayland, MA

**DRAFT Release Abatement Measure Completion Report  
DRAFT Downgradient Property Status Opinion Report  
Massachusetts Department of Environmental Protection  
(MassDEP) Release Tracking Number (RTN) 3-36013 & TBD**

**7:00PM, February 17, 2022**  
**Zoom**

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**VERTEX** **Project Team Members and Introductions**



William J. "Bill" Gibbons, PG, LSP  
The Vertex Companies, Inc.  
Senior Project Manager



Kristen Sarson  
The Vertex Companies, Inc.  
Project Manager

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**OWNER AND ENVIRONMENTAL CONSULTANT**



**WOOD**  
PARTNERS

Alta River's Edge, LLC.  
A subsidiary of Wood Partners

woodpartners.com



**VERTEX**

The Vertex Companies, Inc.


vertexeng.com

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**Meeting Information**



- Meeting Platform: Zoom
  - Future meetings may be in person
- Simulcast on WayCam Public Access
- Meeting notices provided by mail and in the Weston/Wayland Town Crier
- Call in Number: 646-558-8656
  - Member ID 884 9836 5549 and passcode 01778
- Raise Hand:
  - Zoom by clicking reaction -> raise hand at bottom of screen
  - From Phone: \*9

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## AGENDA

- Meeting Information
- Purpose of Meeting
- Release Abatement Measure (RAM) Completion Report
- Downgradient Property Status (DPS) Opinion
- Next Steps
- Question and Answer Period

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## Purpose of Public Meeting

- Opportunity to discuss and seek public comment about the two recently completed draft environmental reports.
  - Draft Release Abatement Measure (RAM) Completion Report
  - Draft Downgradient Property Status (DPS) Opinion Report
- Both draft reports are available for review at:
  - <https://vertexeng.com/rivers-edge-public-involvement-plan-public-repository/>
  - Hard copy available for viewing at Wayland Town Clerk Office



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## River's Edge Development Location

- Located at 484-490 Boston Post Road
- Approximately 7 acres
- Adjacent to former Sudbury Landfill
- Formerly occupied by:
  - Town of Wayland Firing Range
  - Town of Wayland Septage Treatment Facility
  - Wayland Department of Public Works storage
- Soon to be a 218-unit Class-A luxury apartment community

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## Site Features

**LEGEND:**

- v-103 (mw) VERTEX Monitoring Well
- v-113 Soil Boring
- mw-3 Monitoring Well installed by Others
- v-90-101 Soil Vapor Sample Point
- Approximate Location of Former USTs
- 32,000 cy Stockpile Material Management Area
- Approximate Configuration of 4,500 cy Stockpile
- Former Firing Range Material Management Area
- Approximate Site Boundary
- RAM Area

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## Release Abatement Measure Completion Report



- Purpose of Release Abatement Measure (RAM)
  - Remediate polycyclic aromatic hydrocarbons and lead in 32,000 cubic yard stockpile
  - Remediate lead and antimony in former firing range soils
- Remediation Method
  - Excavation and off-site transport and disposal, recycling, or reuse


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## 32,000 Cubic Yard Soil Pile Remediation




The 32,000 soil stockpile was loaded and transported off-site to approved facilities between March and July 2021




Number of samples collected from the stockpile and analyzed:

103




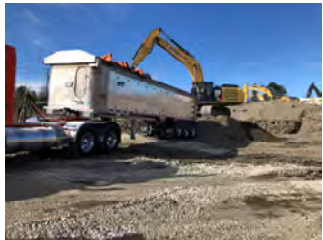


Total confirmatory soil samples collected below the stockpile:

9



Total number of facilities soil was transported to for approved off-site reuse, recycling, or disposal:

4


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## Soil Reuse, Recycling, and Disposal



Soil excavated from the RAM Area was transported off-site for reuse, recycling, or disposal at the following locations:

Facility	Total Volume (Tons)
Dudley Reclamation Facility	56,542.11
Southbridge Landfill	7,173.89
Winchendon Landfill	4,056.69
Ondrick Recycling Facility	2,074.35
Turnkey Landfill	1,141.08
Total of Soil Exported Off-Site	70,988.12

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## Firing Range Soil Remediation



**Potentially leachable lead was stabilized in-situ with Phos-75 solution**



**Total horizontal delineation samples collected and analyzed: 13**

**Total vertical samples collected and analyzed: 15**



**Groundwater was monitored both before and after in-situ stabilization**



**Total post-stabilization confirmatory soil samples collected and analyzed following stabilization of leachable lead: 12**



**971.93 tons of stabilized firing range soil was transported to Waste Management Turnkey Landfill in Rochester, NH**









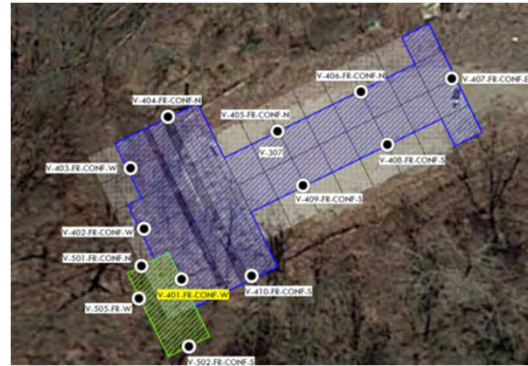
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## Firing Range Remediation

- Following initial stabilization of firing range soils (blue on figure), vertical confirmation samples were collected. Based on results, an additional area (green on figure) also required stabilization and excavation.
- Stabilized soil was excavated and disposed off-site at Waste Management Turnkey Landfill in Rochester, New Hampshire.
- Based on vertical delineation samples, impacts did not extend deeper than 2 feet.

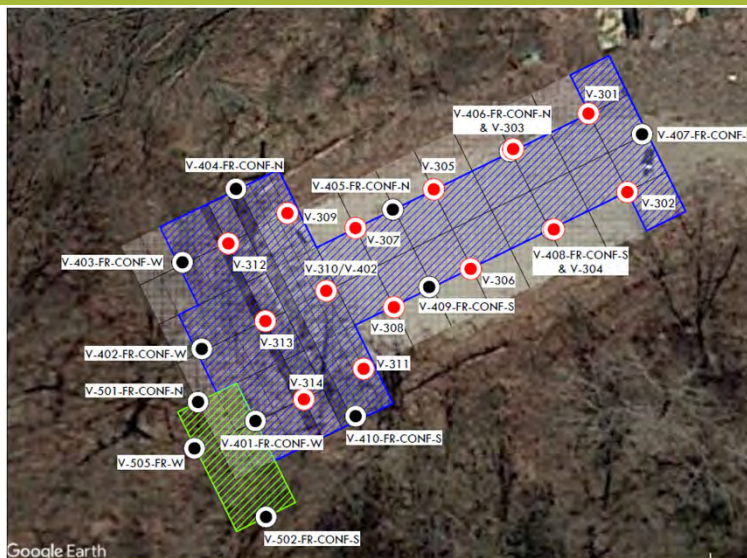


## Firing Range Confirmatory Soil Sample Locations


LEGEND:

-  Approximate Area Stabilized & Disposed at TREE
-  Additional Area Stabilized & Disposed at TREE
-  Horizontal Extent Confirmatory Sample Locations
-  Vertical Extent Confirmatory Sample Locations

Based on the laboratory analytical results, remediation of the firing range area is complete









## Groundwater Evaluation

- To confirm stabilization activities did not impact groundwater:
  - Groundwater samples collected from three monitoring wells before and after stabilization.
  - 1 hydraulically upgradient well
  - 2 wells between the stabilization locations and nearest wetlands
  - Groundwater was analyzed for:
    - Dissolved antimony, copper, and lead.
    - Total phosphorus & pH.




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## Groundwater Evaluation - Results

Location ID Sample Date	MCP RCGW-1 Reportable Concentration	Units	V-106		V-201		V-202		
			3/29/2021 V-106 (MW)- 2021-03-29 21C1453-01	4/16/2021 V-106 (MW)- 2021-04-16 21D0885-01	3/29/2021 V-201 (MW)- 2021-03-29 21C1453-03	4/16/2021 V-201 (MW)- 2021-04-16 21D0885-03	3/29/2021 V-202 (MW)- 2021-03-29 21C1453-02	4/16/2021 V-202 (MW)- 2021-04-16 21D0885-02	5/24/2021 V-202(MW)- 20210524 21E1391-01
<b>Metals, Dissolved</b>									
Antimony	5	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Copper	NSE	µg/L	5.3	3.6	7.4	4.6	2.8	1.1	3.5
Lead	10	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Nickel	100	µg/L	--	--	--	--	--	--	12
<b>General Chemistry</b>									
pH	NSE	S.U.	5.8	6.0	6.4	6.5	6.4	6.6	6.7
Phosphorus	NSE	µg/L	ND(50)	150	ND(50)	ND(50)	67	ND(50)	87



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# DOWNGRAIDENT PROPERTY STATUS OPINION

RTN 3-36013 & RTN TBD

**River's Edge**  
484 - 490 Boston Pike Road  
Wayland, Massachusetts  
RTN 3-36013 & RTN TBD

DRAFT - DOWNGRAIDENT PROPERTY STATUS OPINION

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# Monitoring Well Installation

In October 2021  
VERTEX installed 6  
new monitoring wells  
V-301(MW)  
Through  
V-306(MW)

Approximate Groundwater Flow Direction

WATLAND TRASH OPS STATION

BLORRY LAFCOPLY TRASH OPS STATION

V-301(MW) through V-306(MW)


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**Groundwater Survey**



- Monitoring well locations and elevations were surveyed
  - Depth to groundwater in each well measured
  - Elevation of the water calculated using the well elevation
  - Contours of equal groundwater elevation mapped
  - Direction of groundwater flow determined

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**Monitoring Well Sampling**

State: MA	V-302-MW
Well Construction	Moisture % (parts per million by volume)
M TO COARSE SAND, No Obs	Moist 0.4
ND, No Obs	Well 0.3
ND, No Obs	Well 0.3

- In October and November 2021, groundwater samples were collected from the 6 new wells and from 2 existing monitoring wells [V-201(MW) and V-202(MW)] for laboratory analysis of:
  - Ammonia as nitrogen;
  - Dissolved arsenic and dissolved nickel;
  - n-Nitrosodimethylamine; and ,
  - 14 Per and polyfluoroalkyl substances (PFAS)

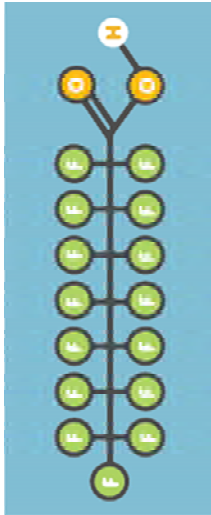
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## 14 Per- and Polyfluoroalkyl Substances



- \*Perfluorodecanoic acid (PFDA)
  - \*Perfluoroheptanoic acid (PFHpA)
  - \*Perfluorohexanesulfonic acid (PFHxS)
  - \*Perfluorononanoic acid (PFNA)
  - \*Perfluorooctanesulfonic acid (PFOS)
  - \*Perfluorooctanoic acid (PFOA)
- } Sum of these substances = PFAS6
- Perfluorododecanoic acid (PFDoA)
  - Perfluorotetradecanoic acid (PFTA)
  - Perfluorotridecanoic acid (PFTTrDA)
  - Perfluoroundecanoic acid (PFUnA)
  - N-ethyl perfluorooctanesulfonamidoacetic acid (NETFOSAA)
  - N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)
  - Perfluorobutanesulfonic acid (PFBS)
  - Perfluorohexanoic acid (PFHxA)

\* = MCP Standards are promulgated for these substances

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## October and November 2021 Groundwater Analysis Results



- PFAS6 sum concentration exceeded the 0.00002 mg/L Reportable Concentration and cleanup standard in groundwater samples collected from 7 of the 8 monitoring wells.
- Dissolved arsenic concentration exceeded the 0.01 mg/L Reportable Concentration and cleanup standard in groundwater samples collected from 3 of the 8 monitoring wells.
- NDMA and dissolved nickel were not detected above their Reportable Concentrations of 0.1 mg/L. Ammonia as nitrogen was detected, but there is no Reportable Concentration.

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## New Reportable Condition



- The detection of PFAS6 sum concentration exceeding the Reportable Concentration was a new reporting condition.
- The release was reported to the MassDEP on February 8, 2022.
- Release was reported via electronic submittal of a Release Notification Form.



Massachusetts Department of Environmental Protection  
 Bureau of Waste Site Cleanup  
**RELEASE NOTIFICATION FORM**  
 Pursuant to 310 CMR 40.0371 (Subpart C)

**BWSC103-120 DAY**  
 Release Tracking Number  
 assigned upon receipt and  
 review by the Department

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### LEGEND

**0.14 ug/L**

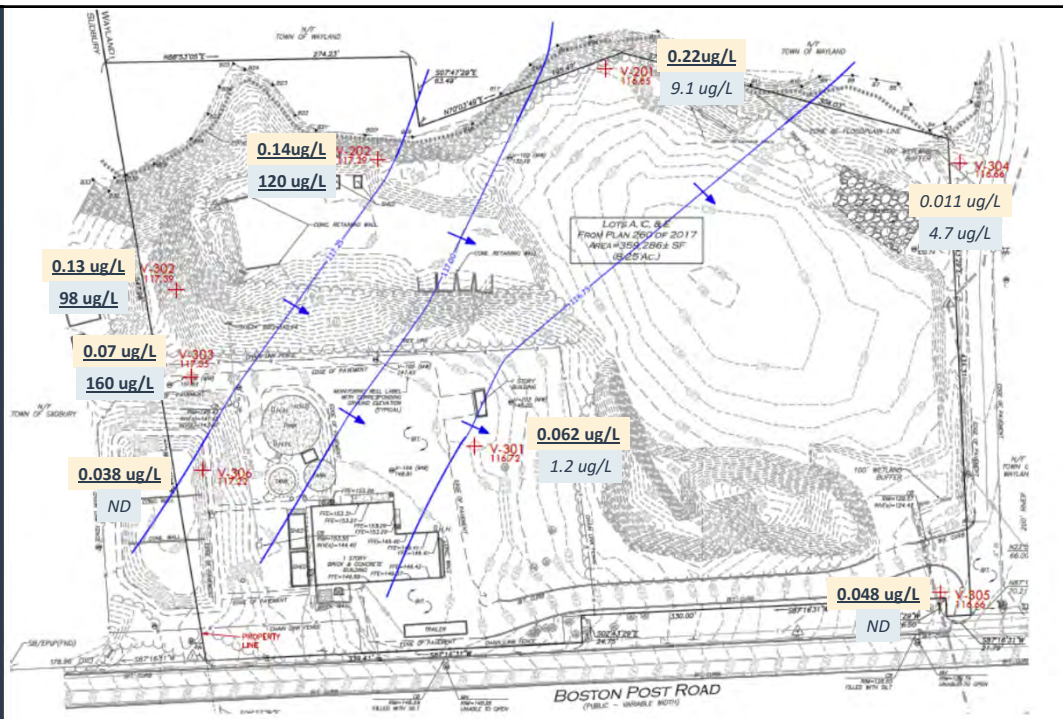
Highest PFAS6 concentration detected Oct/Nov '21

**120 ug/L**

Highest dissolved arsenic concentration detected Oct/Nov '21

**Bold & Underlined:**  
 Exceeded MCP RCGW-1 Reportable Concentration

*Italic:*  
 Below MCP RCGW-1 Reportable Concentration



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### History of OHM Releases at Upgradient Properties

- Former Sudbury Landfill and current Town of Sudbury Transfer Station
  - Dissolved arsenic detected exceeding MCP Reportable Concentrations in 3 of the 4 monitoring wells installed at the landfill, including GMMW D-3, which is located closest to the Property

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### Downgradient Property Status Opinion

- The highest detected concentrations of dissolved arsenic, dissolved nickel, and PFAS6 have been along upgradient borders of the Property.
- According to groundwater elevation surveys, groundwater flows across the Property from west-northwest to east-southeast.
- Dissolved arsenic and dissolved nickel were not detected in groundwater samples collected from former infiltration beds at concentrations greater than MCP Reportable Concentrations. Detected PFAS concentrations in the infiltration bed were lower than those detected in other on-site wells (other than V-304 (MW)).

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## Next Steps

- Finalize the RAM Completion Report
- Finalize the Downgradient Property Status Opinion Report
- Prepare the Draft Permanent Solution Report



## Opportunity for Public Involvement

The **Draft RAM Completion Report** and **Draft Downgradient Property Status Opinion Report** are open for public comment starting **February 18, 2022** until **March 10, 2022**. To submit comments on the reports, for additional information, or to be added to the PIP Group Mailing list please contact either:

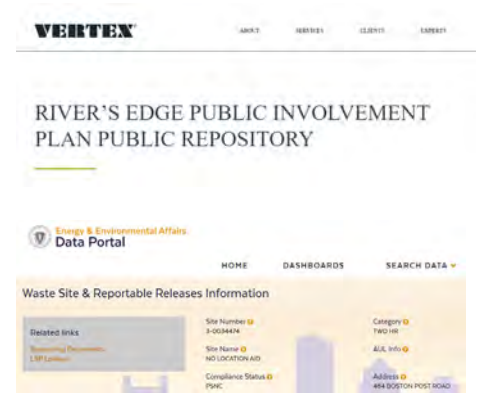
Bill Gibbons  
The Vertex Companies, Inc.  
100 North Washington Street, 302  
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Email: [bgibbons@vertexeng.com](mailto:bgibbons@vertexeng.com)

Kristen Sarson  
The Vertex Companies, Inc.  
100 North Washington Street, 302  
Boston, MA 02114  
Email: [ksarson@vertexeng.com](mailto:ksarson@vertexeng.com)

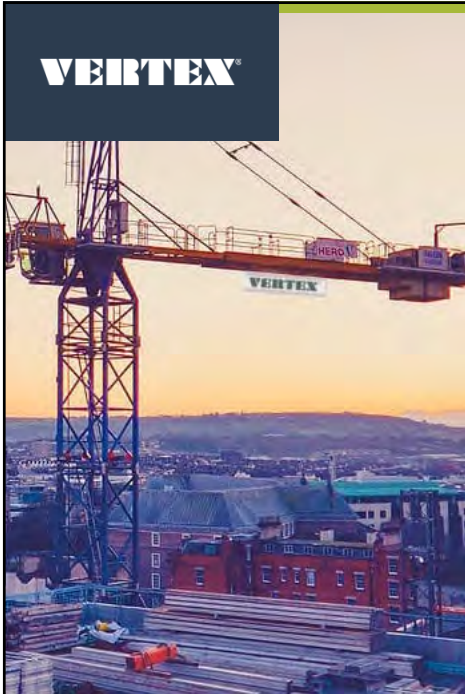
Public notices will be published in the Weston/Wayland Town Crier 14-days prior to future public meetings

Notices of public meetings will be mailed to those specified in the Public Involvement Plan, including all those on the PIP mailing list and emailed to everyone on the list who has provided an email address

- Documents will be available for download from:
  - The online VERTEX repository:  
<https://vertexeng.com/rivers-edge-public-involvement-plan-public-repository/>
  - The Massachusetts DEP Online File Viewer:
    - <https://eeaonline.eea.state.ma.us/portal#!/wastesite/3-0034474>
    - <https://eeaonline.eea.state.ma.us/portal#!/wastesite/3-0036013>
- Hard copies are available for review at the Town of Wayland Town Clerk located at 41 Cochituate Road in Wayland, MA



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## QUESTIONS?

**BY ZOOM:** Reaction button -> Raise Hand  
**BY PHONE:**

**Call in Number: 646-558-8656**

**Member ID: 884 9836 5549#**

**Passcode: 01778**

**Dial: \*9 (to raise hand)**

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