

Memo

To: Rachna Balakrishna
From: Catherine Johnson, P.G., LSP
c: Doug Aghjayan, P.E.
Date: May 14, 2019
Re: Environmental Conditions:
1180 Boylston Street
Brookline ,MA
DEP RTN 3-19813
GEI Project No. 1702642

The purpose of this memo is to summarize the current environmental conditions at the former Gulf Service Station at 1180 Boylston Street in Brookline and their effect on the planned redevelopment activities.

Summary

- The Development is located within the boundary of a former Gulf service station site at 1180 Boylston Street, a Massachusetts Department of Environmental Protection (MassDEP), Contingency Plan (MCP; 310 CMR 40.0000) disposal site listed under Release Tracking Number (RTN) 3-19813. The disposal site is associated with releases of petroleum from former gas station operation.
- The disposal site is currently in “Phase V Remedy Operations” status. The selected remedy is Monitored Natural Attenuation (MNA). Cumberland Farms, Inc., the Responsible Party, files semi-annual groundwater monitoring reports for the site; the most recent Remedy Operations Status Report was filed with MassDEP on March 18, 2019. These reports will be prepared semi-annually until the site is closed by Cumberland Farms.
- Petroleum is present in groundwater wells at the site. Petroleum and volatile organic compounds (VOC) concentrations measured in the monitoring wells have been declining over the past several years. Oil, in the form of Light Non-Aqueous Phase Liquid (LNAPL) was last measured in a monitoring well in 2016. Because this project is located within the boundary of a known MCP disposal site, subsurface work that will involve the management of soil and groundwater will be conducted as a Release Abatement Measure (RAM) under the MCP.
- Dewatering will be required for the proposed redevelopment and dewatering effluent may contain contaminants associated with the MCP site. A U.S. Environmental Protection Agency(EPA) National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) will be required for the discharge of dewatering effluent. The dewatering effluent will need to be treated to meet the RGP effluent limits prior to discharge to a storm drain. A permanent dewatering system is not planned for the Development.

- The proposed Development will not impede the ongoing groundwater remediation occurring at the site and will not exacerbate the extent or migration of groundwater contamination. The construction activity will result in the removal of more contaminated soil and groundwater from the Site.

Property Background

The Development is located at the corner of Boylston Street and Hammond Street in Brookline (Fig. 1). The Development is located in a sand and gravel aquifer over bedrock. Based on extensive site investigations, groundwater at the Development is known to flow west-northwest toward Boylston Street.

Based on our review of the Massachusetts Department of Environmental Protection (MassDEP) Geographic Information System (GIS) maps, the Development is not located within any public water supply protection areas or environmentally sensitive areas.

Regulatory Status

The Development area is entirely within the boundaries of a former Gulf service station. The former Gulf station is an open disposal site listed under MCP RTN 3 19813 and Cumberland Farms, Inc., is the Responsible Party for the disposal site. Extensive remediation, including the removal of the petroleum underground storage tanks (USTs), soil excavation, and groundwater treatment has previously been conducted at the site beginning in 2002. The result has been the removal of over 11,000 gallons of LNAPL and water and to reduce VOC concentrations in groundwater at the property.

The disposal site is now in Phase V Remedy Operation Status (REMOPS), with Monitored Natural Attenuation (MNA) as the selected remedy. Monitoring wells at and downgradient of the site are sampled semi-annually for volatile petroleum hydrocarbons (VPH) and parameters associated with MNA; the most recent sampling event was in January 2019. The last time LNAPL was measured in a monitoring well was in December 2016.

In December 2015, a soil vapor point was installed at the site and sampled for air phase hydrocarbons. The results identified petroleum hydrocarbons present at low concentrations, well below the MassDEP residential and commercial screening values. Since the development includes an underground parking garage and commercial/retail space on the first floor, a vapor mitigation system is not warranted.

A RAM Plan will be required for construction. The RAM Plan will include provisions for screening and evaluation of exposed soil for evidence of contamination following the removal of subsurface utilities and the existing building slab, disposal of remediation waste and management of dewatering effluent.

Groundwater Conditions

The results of groundwater sampling of monitoring wells at the site are provided in semi-annual groundwater monitoring reports that are submitted to MassDEP by Cumberland Farms. Groundwater sampling in the vicinity of the Development indicates that the contaminants in groundwater are limited to petroleum (gasoline) hydrocarbons and the VOCs associated with gasoline: benzene,

toluene, ethyl benzene, xylenes (BTEX), naphthalene, and methyl-tert-butyl-ether (MTBE). The petroleum and VOC concentrations measured in monitoring wells at the Development have declined substantially over the last 14 years. This reduction in VOC concentrations is due to remediation conducted at the site, including removal of LNAPL and groundwater treatment, and the removal of the underground storage tanks (USTs).

ATC Group, on behalf of Cumberland Farms, filed the most recent Remedy Operations Status Report was filed with MassDEP on March 18, 2019. The report summarized the January 2019 groundwater sampling round for this parcel and another former Gulf station across Boylston Street. Conditions at the 1180 Boylston Street Site were unchanged compared to the last sampling rounds in 2018. Groundwater at the Site continues to have low levels of VPH and petroleum compounds, at concentrations below the applicable MCP groundwater standards of GW-2 and GW-3.

There is now no continuing source of groundwater contamination at the site and MNA has been chosen as the remedy. MNA requires semi-annual monitoring of selected wells on the property. As part of construction, a well management plan will be prepared that identifies which monitoring wells can be decommissioned and which ones need to be preserved or replaced.

The Development will not adversely affect the MNA being conducted at the site, nor will the construction of the new building adversely affect contaminant concentrations or migration. The construction activity will in fact result in the removal of more contaminated soil and groundwater from the Site.

A U.S. EPA Remediation General Permit (RGP) will be required for the discharge of dewatering effluent. The dewatering effluent will need to be treated to meet the RGP effluent limits prior to discharge to the storm drain. There are no plans for a permanent dewatering system.