Barnstable, MA

Barnstable County Fire & Rescue Training Academy

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May 2021

PUBLIC COMMENT DRAFT
IMMEDIATE RESPONSE ACTION PLAN
MODIFICATION NO. 3

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IMMEDIATE RESPONSE ACTION PLAN MODIFICATION NO. 3

Prepared by: BETA GROUP, INC.
Prepared for: MassDEP - SERO

cc: Barnstable County
Steve Tebo, County Interim Assistant Administrator and Director of Facilities

May 2021

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

1.0 INTRODUCTION

BETA Group Inc. (BETA) has prepared this Immediate Response Action (IRA) Plan Modification (Mod) No. 3 to the original September 2016 IRA Plan and the December 2019 IRA Plan Modification (No. 2) that address a release of potentially hazardous materials related to fire-fighting foams and attributed to the Barnstable County Fire and Rescue Training FTA facility located at 155 South Flint Rock Road in Barnstable, Massachusetts (the FTA or facility).

This document is being submitted to the Massachusetts Department of Environmental Protection (MassDEP) – Bureau of Waste Site Cleanup (BWSC) in response to the detection of elevated concentrations of per- and polyfluoroalkyl substances (PFAS), including perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA), in soil and groundwater at the facility and in adjacent areas, in particular to the east, southeast of the facility. This IRA Plan Modification No. 3 has been prepared on behalf of our client, Barnstable County, for the FTA Disposal Site. It has been prepared at the request of the Massachusetts Department of Environmental Protection for an IRA Plan Modification that presents the select building demolition as an amendment to the previously proposed and approved December 2019 IRA Plan Modification.

In December 2019, BETA submitted a final IRA Plan Modification following the receipt of public comment in response to the Notice of Audit Findings/Compliance and Technical Assistance/Interim Deadline, dated November 21, 2018 issued by the Massachusetts Department of Environmental Protection (MassDEP). The December 2019 IRA Plan Modification was the second IRA Plan modification proposed and approved for the Disposal Site and will therefore be described as IRA Plan Modification No. 2 in this IRA Plan Modification No. 3 document. Modification No. 2 described in detail plans to cap much of the FTA facility to prevent infiltration of precipitation through the soils as well as the expansion of the groundwater recovery and treatment system. Final design and local permitting proceeded for the capping component of the IRA Plan Modification. However, based on the public comment received during the Town of Barnstable Conservation Commission approval process and the decision by the county to permanently end live-fire training at the FTA, the County opted to include the demolition of the two former, live-fire training buildings at the FTA as part of the capping project.

Based on the decision to upgrade the project by including select building demolition, MassDEP requested the filing of an IRA Plan Modification. Therefore, this IRA Plan Modification No. 3 has been prepared in accordance with the Massachusetts Contingency Plan, 310 CMR 40.0000 (MCP) as an amendment to both the original (September 2016) IRA Plan and the December 2019 IRA Plan Modification. IRA Plan Modification No. 3 presents the select building demolition design revisions to the capping IRA plan. In addition, several minor additions to the capping project, added during the local approval process, are included in this IRA Plan Modification.

A completed BWSC 105 Immediate Response Action (IRA) Transmittal Form is being used to submit this IRA Plan Modification to MassDEP electronically via the eDEP system. A copy of this form prior to electronic signature is included in Appendix A.

As current owners of the FTA, Barnstable County, as represented by the Barnstable County Commissioners, have been named as the Potentially Responsible Party (PRP) for this release. The current contact person for the Disposal Site and release is:

Steve Tebo, Asset and Infrastructure Manager
Barnstable County
3195 Main Street
Barnstable, MA 02630

Telephone: 508-375-6603
Email: stebo@barnstablecounty.org

BETA is performing MCP Response Actions on behalf of the Barnstable County Commissioners. The Licensed Site Professional (LSP) overseeing Response Actions for this release is:

Roger Thibault, P.E., LSP No. 1443
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Lincoln, RI 02865

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2.0 GENERAL DISPOSAL SITE INFORMATION

2.1 PROPERTY AND SITE DESCRIPTION

The Barnstable County Fire and Rescue Training FTA (FTA or facility) is located on South Flint Rock Road in the Town of Barnstable. It appears on the United States Geological Survey (USGS) Topographic Quadrangle – Hyannis, Massachusetts. See Figure 1 – Site Location map, prepared from a portion of the referenced USGS Topographic Quadrangle map. The Site is currently zoned for industrial use.

For the purposes of this and future MCP submittals, the property on which the Barnstable County Fire and Rescue Training FTA is located will be referred to as the FTA or facility. FTA or facility will also refer to the structures, land, and functions of the FTA. In accordance with the MCP definitions, where contamination attributable to the PFAS releases associated with firefighting foams and training on the FTA have come to be located will be referred to as the Disposal Site or Site.

The 6.2 acre FTA is improved by three primary buildings: an auxiliary fire station and training building (with two classrooms, administrative offices, and two apparatus bays), a classroom building, and a burn building (for live fire suppression training), along with several sheds and outbuildings used for fire and rescue training activities. Recently, a wood framed house-like structure formerly used for smoke training was demolished. Refer to Figure 2. The FTA is secured by chain link fencing and a locked gate. The FTA is listed on the Town of Barnstable Assessor's on-line records as Map 313, Lot 007. The current owner-of-record is the County of Barnstable, who acquired the facility from the Town of Barnstable in 1983 by deed recorded June 3, 1983, Barnstable Registry of Deeds, Book 3759, Page 39. Utilities servicing the FTA include municipal water, a private underground septic system, aboveground electricity, and telecommunications.

The FTA was first constructed on land donated to the Town of Barnstable by the Cobb Trust in 1955. The FTA had been used for public safety training since the 1950's.

The FTA had been used for public safety training by fire departments and fire districts from throughout Barnstable County, fire departments outside of Barnstable County, and other public and private institutions. Live fire training using firefighting foams, including aqueous film forming foams (AFFF), was conducted at the FTA for decades by fire districts and departments that used their own foam brought to the FTA in the apparatus of the organization participating in the training. Foam training exercises at the FTA ceased in 2009 according to FTA officials. Water training activities ceased in June 2019. Currently, the FTA periodically hosts classroom training sessions.

Land surrounding the FTA is primarily undeveloped, wooded land within a public water supply protection area. Flintrock Pond occupies approximately 6 acres directly to the west of the FTA. Several public water supply wells and their related facilities are located to the east, southeast, and west of the FTA.

At this time, the preliminary MCP Disposal Site (the Site) associated with RTN 4-26179 is considered to comprise approximately most of the FTA, the westerly adjacent Flintrock Pond, and a large woodland area to the southeast of the FTA, approaching Mary Dunn Pond.
The southeastern portion of the Site includes land owned by the Town of Barnstable, which is crossed by two electric power transmission lines running presumably within easements. Private industrial properties and related structures are located approximately 500 to 1,000 feet south of the Site. The Barnstable Municipal Airport is located to the west (runway 15 – 33) and south of the Site and the FTA.

The nearest residential properties are located approximately ¼ mile to the north of the Site. Based on 2010 U.S. Census data, the residential population located within a ½ mile radius of the Site is estimated to be less than 150 people. There are no known Institutions located within 500 feet of the Site. The FTA currently has approximately 2 to 5 workers who may be considered full-time. During training activities, which now is restricted to classroom training activities only, 20 to 30 fire fighters or rescue personnel and training personnel may temporarily use the facility. The municipal well pumping facilities are not staffed full-time.

2.2 Latitude and Longitude / Universal Transverse Mercator's

The coordinates for the Site are shown below. For simplicity, these coordinates are for the southerly end of the FTA.

Latitude/Longitude	Latitude:	41º 40' 41.53"
	Longitude:	70º 17' 7.82"
UTM Coordinates	Easting:	393,002
	Northing:	4,614,847

2.3 Environmental Setting and Sensitive Receptors

BETA's review of the Massachusetts GIS Priority Resources (21E) mapping revealed that the Site is located within a Zone II Public Water Supply Protection Area and a Medium-Yield Sole Source Aquifer.

The FTA is situated to the west and most likely upgradient of the Mary Dunn public water supply wells 1, 2, and 3 under pumping conditions. Mary Dunn Wells 1, 2, and 3 are located within the preliminary Disposal Site boundary at this time due to the detections of PFAS in the groundwater at those wells. See Figure 4 – Phase I Site Assessment Map. There are no known private potable water wells located within 500 feet of the Site.

Mary Dunn Well 3 (MD-3), which is the nearest public water supply well to the facility, has been documented to pump at an average rate of 380 to 450 gallons per minute (gpm). Mary Dunn Wells 1 and 2 (MD-1 and MD-2) are located approximately 1600 feet and 1800 feet, respectively, southwest of the FTA. These wells have been reported to have been pumped at rates of 400 gpm, each. Airport Well 1, is also periodically used according to MassDEP Drinking Water Program but is located further to the southeast of the Site, south of Mary Dunn Pond. Two other public water supply wells, identified as the Barnstable Fire District (BFD) wells BFD-2 and BFD-5, are located to the west and most likely upgradient of the Site. The BFD wells are not operated by or part of the Hyannis Water System (such as the Mary Dunn public water supply wells).

According to the USGS Topographic Quadrangle – Hyannis, Massachusetts, elevations at the Site are approximately 30 to 50 feet above mean sea level (MSL). Topography of the Site can be categorized as generally flat with slight to moderate slopes downward to the west and southeast, toward Flintrock Pond and Mary Dunn Pond, respectively.

The nearest surface water bodies to the Site are Flintrock Pond and an unnamed Pond, Flintrock Pond is located west adjacent to the FTA and the unnamed Pond is located northeast adjacent to the FTA. A portion of Flintrock Pond is located within the preliminary MCP Disposal Site Boundary based on the detection of PFAS in sediment and surface water. There are no streams or wetlands located at the Site.

2.4 MASSDEP METHOD 1 CATEGORIES

2.4.1 GROUND WATER CATEGORY

As noted, the Site is located within a Zone II Public Water Supply Protection Area and a Medium-Yield Sole Source Aquifer. Therefore, MCP Method 1 Ground Water Category 1 (GW-1) applies to the Site. Groundwater at the Site is also categorized as Method 1 GW-2 because groundwater has been measured at depths less than 15 feet below grade and an occupied building is located within the FTA facility. All ground waters within the Commonwealth are considered a potential source of discharge to surface waters and shall be categorized, at a minimum, as Method 1 GW-3. Therefore, the applicable Method 1 Ground Water Categories for the Site are GW-1, GW-2, and GW-3.

2.4.2 SOIL CATEGORY

Soil categorization is based upon the type of human receptor and three potential exposure criteria: frequency of use, intensity of use, and accessibility of soil. The FTA portion of the Site is occupied by a fire and rescue training facility. Based on the nature of the facility, children are assumed to be "not present." Adults who work at the site as staff members are assumed to be present at "high frequency." Impacted soils have been identified beneath unpaved areas at depths ranging from approximately less than 3 to 15 feet below the ground surface. Therefore, impacted soils at the FTA are considered "potentially accessible."

Only groundwater impacts at significant depths below the ground surface have been identified at the remainder of the Site (outside of the FTA), which consists of undeveloped, industrially zoned land, a portion of a utility easement, and three unmanned public water supply well stations.

Intensity of use in regard to soil disturbance in the release area for adults at the Site is considered "high" because the area of impact at the FTA could potentially be disturbed during firefighting / rescue training activities; however, on-Site training activities involve a relatively short duration of high intensity use. Therefore, for current Site uses, soils at the Site are categorized as Soil Category S-2. The applicable Soil Categories for current Site uses have been identified as S-2/GW-1, S-2/GW-2, and S-2/GW-3.

The applicable Soil Categories for unrestricted future Site uses are S-1/GW-1, S-1/GW-2, and S-1/GW-3.

3.0 DISPOSAL SITE HISTORY

The Site has historically been the subject of four MassDEP RTNs: 4-190, 4-11707, 4-20021, and 4-26179. This IRA Plan Modification is being submitted for RTN 4-26179 only. The original RTN, 4-190, is being managed separately; closure has been achieved for the remaining two RTNs.

3.1 RELEASE HISTORY AND DESCRIPTION - RTN 4-26179 (PFAS RELEASE)

In May 2012, USEPA issued their final rule "Revisions to the Unregulated Contaminant Monitoring Rule (UCMR3) for Public Water Systems," which was a national sampling mandate for "emerging contaminants" in public water supplies. The required sampling list included several PFAS compounds, including but not limited to PFOS and PFOA. In November 2013, samples were collected from Mary Dunn supply wells MD-1, MD-2 and MD-3 and analyzed for PFAS. At the time of the testing, the US EPA Provisional Health Advisory (HA) was 0.20 micrograms per liter (µg/L) for PFOS. Analytical results revealed evidence of PFOS contamination in all three wells sampled. MD-1 and MD-2 were temporarily removed from service. MD-3 was apparently not in use at that time. A treatment system that utilizes granular activated carbon (GAC) was later implemented for MD-1 and MD-2 [July 2015] by the Hyannis Water Department. In 2016, GAC treatment was also implemented for MD-3. [See below].

In November 2013, Barnstable County personnel also collected soil and groundwater samples from the FTA property, located approximately 1,000 feet west of the Mary Dunn wells, and submitted them for laboratory analysis of PFAS. Groundwater analytical results revealed that FTA groundwater was impacted by PFOS and MassDEP was subsequently notified. PFOS was also detected in soil at the FTA and in surface water and sediment within the adjacent Flintrock Pond. As summarized in the Notice of Responsibility (NOR) issued by MassDEP on August 4, 2016 (see below), based on the detected PFAS concentrations in soil and groundwater at the FTA and the inferred groundwater flow direction being to the southeast (toward the Mary Dunn wells), MassDEP determined that the releases of PFAS from the use of AFFF at the FTA is a source of PFAS detected in the Mary Dunn wells.

As a voluntary measure, Barnstable County refurbished the former perchlorate pump and treat system located at the FTA to help remediate and contain the PFOS apparently migrating from the facility.

The groundwater pumping and treatment system (GWPTS) was re-started using GAC for treatment in July 2015. The system utilizes a groundwater recovery well, PRW-4, located approximately 800 feet southeast of the FTA. The groundwater treatment system (GWTS) itself is located in a structure on the FTA grounds.

In August 2015, Barnstable County funded a more detailed hydrogeological assessment, continued implementation of a groundwater pump and treat system to capture PFOS upgradient of the Mary Dunn wells, and additional assessment and immediate response actions. The Cape Cod Commission evaluated subsurface soil and groundwater conditions at the FTA facility as part of the IRA assessment activities. The soil results indicated a broad area of PFOS contamination throughout the subsurface. The highest PFOS concentrations were detected near the southwestern corner of the FTA, a location subsequently referred to as the hot spot.

Groundwater analytical results from the 2015 assessment revealed PFOS contamination ranging from less than 0.070 µg/L) (the current US EPA HA) to greater than 70 µg/L. The groundwater samples were collected from monitoring wells across the Site, located between the FTA and the Mary Dunn wells. Like the soil results, the highest PFOS concentrations were detected near the southwestern corner of the FTA.

In May 2016, US EPA revised/lowered its HA for PFAS from 0.20 µg/L of PFOS and PFOA to 0.070 µg/L for either compound or the total of the two.

EPA noted that the HA was for drinking water exposures only. In response to the lowered HA PFAS concentrations, on August 4, 2016, MassDEP issued a Notice of Responsibility (NOR) to Barnstable County and required submittal of an Immediate Response Action (IRA) Plan no later than September 15, 2016. MassDEP requested that the Site owner evaluate potential Imminent Hazards relative to downgradient public and private water supply wells. MassDEP indicated that this evaluation should include identification of all nearby public and private water supply wells, review of any existing analytical data for those wells, and sampling and analysis of any nearby wells that have not been sampled for PFAS. MassDEP also stated that the IRA Plan should include measures to prevent, eliminate, and/or abate any hazards associated with the consumption of drinking water impacted by PFAS above the HA level of 0.070 ug/L.

MassDEP also required, as part of the IRA, activities to reduce the mass of PFAS at the FTA and the concentrations of PFAS in groundwater migrating from the FTA facility, such as excavating the soil hot spot and expanding the existing groundwater treatment system to decrease the mass of PFAS in groundwater.

On September 27, 2016, on behalf of Barnstable County, the Cape Cod Commission submitted an IRA Plan to MassDEP to address the PFOS/PFOA impacts. The IRA Plan included an evaluation of imminent hazards to downgradient public and private water supplies, specific plans for a Hot Spot removal action, and plans for an interim expansion of the existing groundwater pump and treatment system. The IRA Plan also contained an evaluation of water supply alternatives. The proposed IRA to address the soil Hot Spot was to excavate up to 200 cubic yards from a 400 square foot area for off-Site disposal.

The Hot Spot soil was removed in January 2017, reducing the primary source of PFOS contamination leaching into groundwater. However, post-removal grading and settling of the backfill in the Hot Spot area left it prone to infiltration of runoff from the southern portion of the FTA.

Between December 2016 and February 2018, the Cape Cod Commission submitted 15 IRA Status and Remedial Monitoring Reports (RMRs) to MassDEP for the PFAS release.

The RMRs addressed the FTA GWPTS, which is recovering and treating approximately 50,000 gallons per day (gpd) of groundwater from well PRW-4. The upgradient on-Site groundwater pump and treat system is also working to reduce PFAS concentrations in the aquifer before it reaches the Mary Dunn treatment system. Refer to Section 3.2 for further information regarding the on-Site GWPTS.

The GAC treatment of the Mary Dunn wells is actively preventing a potential Imminent Hazard to the Hyannis community by removing the PFAS compounds from the water supply. A Settlement Agreement is in place between the Town of Barnstable and Barnstable County that requires the County to fund a portion of the costs associated with operating the Mary Dunn wells treatment systems. Timely exchange of pumping and performance data related to the treatment of the Mary Dunn well water supplies to verify effectiveness of the IRA is noted in the settlement agreement between the parties. On behalf of Barnstable County, BETA has submitted IRA Status reports and RMRs since March 2018. IRA Status and RMR reports have been submitted monthly since December 13, 2016.

As detailed in the recent Reporting Period IRA Status and RMR reports, groundwater monitoring data for locations across the Disposal Site, confirm that elevated PFAS concentrations are still present in Site groundwater. Analytical data from select monitoring wells indicate that PFAS concentrations in groundwater sampled in the former Hot Spot area have significantly decreased (following the Phase 1 stormwater improvements repair of the cap under the June 28, 2018 IRA Plan Modification); PFAS concentrations remain stable in groundwater sampled from wells east of the FTA; and PFAS concentrations remain elevated in groundwater sampled from within the area southeast of the FTA between the facility and the Mary Dunn wells.

3.2 GROUNDWATER PUMP AND TREAT SYSTEM

Response actions to address the early 1990s petroleum releases and the later detection of perchlorate included extensive subsurface assessment including installation of a significant network of monitoring wells. In addition, to help remediate and control migration from the petroleum and perchlorate releases, in 1998 and 2007, respectively, response actions included the installation/upgrade and/or renovation of a GWPTS in July 2015 to help remediate and contain the PFAS migration from the FTA. The operational GWPTS was later noted in the NOR issued by MassDEP in August 2016 as part of the on-going IRAs. The NOR also requested that Barnstable County install additional recovery wells or increase the groundwater recovery rate to increase PFAS removal. The approximate locations of key components of the GWPTS that are located on the FTA are shown on Figure 2 – Site Plan Detail, updated for this submittal. The location of the operating recovery well, PRW-4, and the approximate route of the force mains (two, 2-inch polyethylene pipes) are shown on Figure 3 – Site Plan.

In July 2015, the primary influent/recovery well pump installed in recovery well PRW-4 was repaired, a new variable frequency drive (VFD) unit pump was installed in the treatment system, and all accompanying electrical components were evaluated and repaired. The system was restarted in July 2015 upon the installation of 1500 pounds (lbs.) of aqueous phase GAC (Filtrasorb 400 virgin GAC) into each of the two, existing Siemens treatment vessels. The "capture zone" of PRW-4 was reportedly estimated to be 200 ft. at 40 gallons per minute (gpm). Groundwater is pumped from recovery well PRW-4, through an eight-hundred-foot force main to the treatment building on the FTA; see Figures 2 and 3.

The groundwater is discharged to an equalization tank, then filtered through a 5–10-micron size bag filter and pumped through the two (in series) GAC vessels and discharged to the several large recharge chambers located in the center of the FTA, upgradient of the recovery well and approximately cross-gradient of the highest levels of PFAS contamination detected at the FTA property. See Fig. 2B for the location of the recharge basins. As appropriate to prevent breakthrough of the PFAS compounds of current concern, the GAC is periodically changed out. Since the inception of treatment for PFAS in 2015, the spent GAC is collected by the supplier, Calgon Carbon Corp., during the changeout procedure and transported to their facility for standard thermal regeneration. As noted above, the FTA GWPTS uses virgin GAC supplied by Calgon.

Currently, Groundwater Treatment Technologies, LLC (GWTT) is contracted by Barnstable County to provide O&M of the GWTS, including but not limited to, bag filter checks and replacements, VFD pump monitoring, carbon vessel backwashing, and GAC replacement oversight.
Additionally, BETA collects monthly samples for PFAS from the system to check the system's treatment performance (See section 4.1).

3.3 Phase I Initial Site Investigation and Tier Classification

In May 2018, a Phase I Initial Site Investigation (ISI) Report and Tier Classification Submittal was submitted to MassDEP by BETA (formerly Nover-Armstrong Associates) on behalf of Barnstable County in response to the discovery of concentrations of PFAS compounds in soil and groundwater exceeding applicable USEPA Health Advisory (HA) levels. The Phase I ISI confirmed that the primary contaminant of concern is PFOS and, to a lesser extent, PFOA.

Based on the compiled Phase I Initial Site Investigation data, BETA opined in the Phase I report that continuation of the IRA activities and additional assessment and, potentially, additional remedial Response Actions are warranted at the Disposal Site. A Phase II Conceptual Scope of Work (SOW) was submitted with the Phase I ISI outlining the scope, nature of investigation, and sample programs proposed to characterize the risk of harm posed to health, safety, public welfare, and the environment (for regulatory closure). The Phase II SOW proposed additional remedial and/or response actions such as continued monitoring of the Site groundwater conditions, potential soil removal or modifications to the existing groundwater treatment system to be implemented in the near future.

A Tier Classification was submitted to MassDEP concurrently with the Phase I Report. Based on the need to continue remedial actions as IRAs under the current IRA Plan, and on the continuing need to abate a potential Imminent Hazard condition related to impacts to public water supplies, the RTN 4-26179 release was classified as Tier I.

3.4 Flintrock Pond Assessments

Per the Order of Conditions: Special Conditions of Approval (SE3-5606), Item 17, the Town of Barnstable Conservation Commission pending "new testing results for PFAS in Flintrock Pond." From November 2019 to October 2020, BETA has conducted surface water and sediment sampling at Flintrock Pond.

Elevated concentrations of the total summed of the five PFAs chemicals (PFOS, PFOA, PFNA, PFHxS, and PFHpA) were documented in the pond sediments and surface water; however, no MassDEP or US EPA regulatory standards or guidelines for sediment and surface water are available for comparison.

Concentrations of PFAS documented within Pond sediments are dominated by the PFOS and PFHxS fractions and increase with distance from the Pond's bank and appear to be consistent with the 2015 data. Refer to the previously completed IRA Status Reports submitted to MassDEP for complete information on the ongoing assessment of Flintrock Pond.

3.5 SAMPLING AND ANALYSIS FOR PFAS

Following the collection of aqueous and/or soil samples for the analysis of PFAS compounds, BETA submits all samples to Bureau Veritas Laboratories (BV Labs) (formerly Maxxam Analytical) for the analysis of PFAS via USEPA Method 537 modified.

BV Labs is an accredited laboratory located in Mississauga, Ontario that has performed the PFAS analyses for all samples collected from the Disposal Site since the assessment for PFAS impacts began. BV Labs reports the concentrations of 23 PFAS compounds from aqueous and soil samples with laboratory detection limits as low as 2.0 ng/L (ppt). However, for the purposes of achieving the low laboratory detection limits to compare against the MCP GW-1 Standard of 20 ppt for the monthly performance samples collected at the treatment systems, BV Labs is only able to report 21 PFAS compounds; two additional fluorotelomers are not reported.

Upon receipt of a laboratory report, BETA reviews the concentration data as well as the laboratory case narrative and quality assurance report to ensure no bias is present. BETA summarizes and tabulates the analytical results of six PFAS compounds (PFOS, PFOA, PFNA, PFHxS, PFHpA, and PFDA) based on the MassDEP MCP PFAS risk standards (December 2019). BETA presents the tabulated data and includes the laboratory analytical reports (or Certificates of Analysis) for that reporting period in the monthly IRA Status and RMR reports; the summary data tables, and laboratory analytical reports are included as attachments to these reports.

3.6 PUBLIC INVOLVEMENT

In January 2019, a petition from a group of residents of Barnstable and Hyannis, MA was received, requesting that the Site be designated a Public Involvement Plan (PIP) Site. In response to the request from the local petitioners, Barnstable County designated the Site as a PIP site and has begun PIP activities in accordance with 310 CMR 40.01404. Notification of the Site Designation and the initial public meeting was provided to all petitioners and the Town of Barnstable officials in writing in February 2019.

On May 2, 2019, a public meeting was held, and a Draft Public Involvement Plan (PIP) was prepared, presented, and distributed. Public comments (as they relate to the response actions implemented for the release of PFAS at the Site and are in accordance with 310 CMR 40.01404) have been incorporated into the final Plan, which was finalized on June 27, 2019.

4.0 HISTORICALLY AND RECENTLY COMPLETED IRA ACTIVITIES

Since the submittal of the IRA Plan in September 2016 (as described in section 3.0), remedial response actions and assessment activities have continued to address the PFAS impacts at the Site.

Most notably, the Barnstable County and the Cape Cod Commission implemented response actions to refurbish and re-start an existing, but not operating groundwater pump and treatment system in 2015 and oversaw the excavation of 200 cubic yards of PFAS impacted soils from the former "Hot Spot" area (a 400 square foot area) for off-Site disposal in January 2017.

From December 2018 through February 2019, Barnstable County implemented the regrading and temporary capping of the southwest corner of the FTA, including the former Hot Spot area, with related stormwater controls, termed the Phase I Stormwater Management Improvements/IRA Plan Modification. Additional details regarding the Phase I Stormwater Management Improvements were included in the February 2019 Reporting Period IRA Status No. 27 Report.

In November 2019, the County procured and started a temporary treatment system in an effort to increase the treatment capacity of groundwater from PRW-4. As a result groundwater conveyed from PRW-4 was split and re-piped and to both GWTS #1 and the temporary treatment system, GWTS #2.

The following is a summary of the historic, continuing, and recent IRA response actions completed at the Site. Additional details regarding these IRA response actions can be found in previous IRA Status submittals.

4.1 Continuing Operation & Maintenance of GWTS

Cape Cod Commission oversaw and documented the GWPTS performance on behalf of Barnstable County from July 2015 through February 2018. The Cape Cod Commission also conducted groundwater monitoring and operation of the recovery well, PRW-4.

Monthly performance monitoring samples have been collected since the system startup in July 2015, from the influent (PRW-4), midpoint, and effluent sample locations.

Periodic monitoring of the system is required to maintain operation of the VFD and recovery well pump including carbon exchanges, regular backwashing of the carbon vessels, force mains cleanouts, and replacement of the recovery well pumps. This work is currently performed by a wastewater treatment system operator, GWTT, under contract with the County. Since November 2019, GWTT maintains and operates both GWTS#1 and GWTS#2 systems.

IRA activities related to the operation and maintenance of the GWPTS conducted during earlier reporting periods have been described in detail in previously completed IRA Status Reports submitted to MassDEP. Refer to those submittals for complete information. The previously submitted documents are available in MassDEP Sites Database; refer to the follow link to access these reports.

https://eeaonline.eea.state.ma.us/portal#!/wastesite/4-0026179.

4.2 Quarterly Groundwater Monitoring

Groundwater monitoring activities related to the documented PFAS Release on Site have been ongoing since November 2013; BETA has conducted groundwater monitoring activities since June 2018.

In November 2018, BETA proposed In November 2018 MassDEP approved of a long-term monitoring sampling plan for Site-wide groundwater monitoring on a quarterly and annual basis.

In summary, PFAS concentrations detected in groundwater across the Disposal Site during 2019 sampling rounds have been similar to historic ranges. Although the sum of the total PFAS concentrations (currently the PFAS6) documented in groundwater within the Disposal Site are significantly above the current applicable MassDEP MCP GW-1 Groundwater Standards, concentrations have trended towards a significant decrease since PFAS assessment activities started at the Site in 2015.

PFAS concentrations noticeably decreased within the Hot Spot remediation area following the impacted soil removal action (January 2017), and again, following construction of the Phase I cap and stormwater diversion in the Hot Spot area in December 2018 through February 2019.

4.3 SOIL ASSESSMENT

In August 2019, May 2020, and January 2021, BETA conducted additional soil assessment at the property as part of a percolation tests and soil evaluation to support the design of expanded capping of the FTA and the related, required stormwater management facilities. Soil samples were collected from the surface to approximately 10 ft (just above the soil-water interface on that date) and submitted to Bureau Veritas Laboratories in Mississauga, Ontario, for the laboratory analysis of PFAS via the ASTM Modified Method D7968-17a for PFAS in solids. Select samples were also collected for Total Iron and Total Organic Carbon (TOC) via USEPA Methods.

Elevated concentrations of the total summed of the six PFAS chemicals (PFOS, PFOA, PFNA, PFHxS, PFHpA, and PFDA) were documented in the soil samples above the applicable MCP S-1 Soil Standards Concentrations of PFAS documented within these soil samples are dominated by the PFOS and PFHxS compounds and were higher at the shallower depths (surface to 5 ft bgs). PFOS, PFOA, and PFHxS compounds have been documented as the dominant PFAS compounds in historic AFFF and show greater retention in the surface/shallow soils (Hunter Anderson, 2015). Furthermore, these concentration trends are similar to the historic soil sampling conducted in 2015.

Additional details regarding the can be found in previous IRA Status submittals.

4.4 EXPANSION OF GROUNDWATER TREATMENT CAPACITY USING TEMPORARY UNIT

As part of IRA Status Report No. 27 for February 2019, the feasibility of expanding groundwater pumping, and treatment was evaluated. The evaluation indicated that a short-term expansion of groundwater recovery via a new temporary well pumping to a temporary (rental) treatment unit was feasible. Later status reports and May 31, 2019 correspondence to MassDEP indicated the intention of the County to proceed with expanding treatment capacity as rapidly as feasible by procuring (via a rental contract) and installing a temporary treatment system.

The secondary system was been delivered to the FTA in late October 2019 and final steps to energize and start-up the system, designated as GWTS #2 for Site reporting purposes, and divert groundwater to it were completed on November 11, 2019. Groundwater flow and operation through the temporary system was estimated to begin on November 12, 2019.

Currently, groundwater from PRW-4 is conveyed through two 2-inch ID force mains to the treatment building on the FTA property.

One force main continues to discharge to the GWTS #1 equalization tank. The second force main has been re-piped and is now connected via hose and hard piping to the temporary treatment system, GWTS #2.

The rental treatment system GWTS #2 is housed in a heated, weather-tight temporary structure, i.e., a former shipping container. The system is designed to treat PFAS-impacted groundwater at a target flow rate of approximately 30 gpm and discharges to one of the existing north basins for recharge. The temporary groundwater treatment system includes the following components:

a. 1000-gallon, equalization/iron precipitation tank
b. Integrated, automatically controlled transfer pump
c. conventional bag filter filtration (5 µm) to collect precipitated iron
d. two granular activated carbon (GAC) adsorption vessels in series, each with approximately 40 cubic feet (1,300 pounds) of virgin, coal based GAC
e. Flow totalizer and additional instruments, as required
f. Integrated control panel and new electrical service
g. Ancillary equipment including sampling ports, heaters, and lighting.

The system is fully winterized and capable of 12 month per year, continuous operation. The temporary treatment system operates simultaneously with the current treatment system. The operation and maintenance of the system is currently performed by a wastewater treatment system operator, GWTT, under contract with the County.

5.0 IRA EVALUATIONS

In accordance with the MCP, this section presents evaluations of potential IRA conditions at the Site.

5.1 ASSESSMENT FOR SUBSTANTIAL RELEASE MIGRATION (SRM)

Due to the documentation that PFAS has most likely migrated more than 200 feet downgradient and has been detected in a public water supply well and surface water body, the Site meets the criteria for a Condition of Substantial Release Migration (SRM), as defined by 310 CMR 40.0006.

5.2 IDENTIFICATION OF CRITICAL EXPOSURE PATHWAYS (CEP)

No Critical Exposure Pathways, as defined by 310 CMR 40.0006, currently exist at the Disposal Site.

5.3 IMMINENT HAZARD (IH) EVALUATION

Based on the concentrations of PFOS exceeding the USEPA HA level in the Mary Dunn wells in 2013, the Cape Cod Commission identified the presence of an Imminent Hazard (IH) condition pursuant to 310 CMR 40.0321(2)(c).

The GAC treatment of the Mary Dunn Wells has been assumed to be actively preventing a potential Imminent Hazard to the Hyannis community by removing the PFAS compounds from the water supply. The Mary Dunn wells are monitored on a regular basis by the Hyannis Water Department to ensure that exposure to humans is less than the USEPA HA and MassDEP ORS Guidance level.

5.4 Assessment of Need for Immediate Response Actions (IRA)

The operation of the on-Site groundwater pumping and treatment system to reduce PFAS concentrations downgradient of the FTA will continue as an IRA. Continuation of assessment IRAs is warranted; specifically, periodic monitoring of groundwater at the Site and monitoring the PFAS treatment of the output of the Mary Dunn Wells. In addition, additional technologies to treat / remove PFAS from soil and groundwater at the FTA may be evaluated in the near future. The results of such evaluations would be reported in appropriate IRA submittals or MCP phase reports.

6.0 PROPOSED IRA PLAN MODIFICATION NO. 3

6.1 IRA Plan Modification No. 2 – Site Capping

In the December 2019 IRA Plan Modification No.2, a plan was presented that included covering/capping approximately 55,000 square feet (SF) of the currently unpaved portion of the FTA facility with hot-mixed asphalt (HMA) pavement following mounding (regrading) the central portion of the FTA to promote stormwater flow to a proposed gravity stormwater collection and drainage system that included a water quality pretreatment unit. The entire area within the existing paved "track" that encircles the training facility will be re-graded as required and paved. Existing concrete pads and existing impervious/paved surfaces will be preserved, if the grading is compatible, or paved over as part of the capping design. The paving was to be installed over new, compacted granular fill and relocated soil.

The design called for stormwater flow/runoff to be captured through a series of deep sump catch basins installed along the western portion of the existing track. The flow would be conveyed through a water quality pretreatment unit and then to a large level spreader that will dissipate the energy in the discharge flow and spread the discharged volume over a wide area.

The plan called for imported clean soil to be used on the FTA property to adjust grades to those proposed in the preliminary plan to promote the desired sheet flow patterns.

6.2 IRA Plan Modification No. 3 - Site Capping Revisions

Since the presentation of the capping plan in the December 2019 and finalization of the IRA Plan Mod. No. 2, the capping plan, and design has been revised. A lengthy approval process was conducted with the Town of Barnstable Conservation Commission and MassDEP (as part of the Clean Water Trust (CWT) State Revolving Fund (SRF) financing application process). Final approval was received in November 2020 and February 2021, respectively. Additionally, in February 2021, BETA unexpectedly had a change in personnel in charge of the capping design, resulting in an internal review and a secondary stamping process. Subsequently, minor revisions were made to the piping and stormwater discharge structure; these revisions were brought before the Town of Barnstable Conservation Commission. The Commission approved the final design plan on April 6, 2021. The final design plan and construction documents are included in Appendix B.

The design changes described below were incorporated into the project in response to public and Conservation Commission comments.

- The capping of the currently unpaved portion of the Site with 3.5-inches of HMA was expanded to approximately 59,000 square feet (SF).

- The select demolition, removal, and off-site disposal of two former live fire training buildings, the marine fire training prop, and confined space entry training props at the FTA were added to the project. The structures are collectively referred to herein as the former Live-Fire Training Buildings or Subject Buildings. The work includes the demolition of two concrete and concrete block structures containing detectable concentrations of PFAS and/or other potentially hazardous substances and one structure, assembled from multiple steel shipping containers, retrofitted as a marine fire training prop. BETA completed a pre-demolition hazardous materials survey on these structures in 2020; building materials were assessed for asbestos containing materials (ACM), polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and PFAS .

- Due to a potential conflict between proposed storm drain piping and the existing water main on site, the design now includes cutting and capping the water main, one hydrant will be permanently removed; they will no longer be needed because live fire training has permanently ceased at the facility.

- The previous design consisted of a stormwater discharge structure consisting of perforated level spreader embedded in crushed stone. The new revision includes the construction of open pipe with a headwall (pulled up-slope slightly, away from the 50-foot buffer) and a longer, stone-armored channel. The channel will be built with a stone check dam across the channel approx. 12 feet downstream of the headwall. The armored channel is approximately 37 feet (in total length) and disturbance for construction of the channel will extend approximately 17 feet into the 50 ft. buffer.

Storm drain piping sizes will not change, nor will the treatment components: catch basins with hoods and 4 ft. sumps, and a Stormceptor. Some pipe materials and inverts have been revised, as has the alignment of the last reach of piping to achieve a simpler layout and increase ground cover to reduce the necessity of ductile iron pipe throughout the drainage system.

6.3 IRA Plan Mod. No. 3 FTA Capping Construction Implementation Schedule

This IRA Plan Modification amendment is subject to public comment. The County will accept written comments up to 21 days following the submission of this IRA Plan Modification to MassDEP vie the eDEP system. However, as noted above, the Modification No. 3 design changes expand the remediation at the Site and include other limited improvements that were the result of public and agency comments during the local and state approval process.

Due to the nature of the project and the need to complete the cap during 2021, based on funding availability and approval from the CWT SRF, all revisions to the design have been finalized and the project was made ready for bidding. The project was advertised for public bidding in April 2021. At this time, bids are expected on May 14, 2021. The construction will not commence until the public comment period has ended. Public comments will be addressed in an appropriate submittal in accordance with the final Public Involvement Plan for the Site; however due to the nature of this project and its source of financing it is not feasible to incorporate additional public comments into the final report.

As previously stated, several iterations of public and agency comments were incorporated into the final design of this project. Simultaneously, the final IRA Plan Modification No. 3 will be submitted to MassDEP.

The implementation schedule for this IRA Plan Modification No. 3 and the overall capping and select demolition project is presented in Table 1, below.

Table 1 – IRA Plan Mod. No. 3 - Site Capping Construction Implementation Schedule

No.	Task or Component	Public Comment Period & MassDEP Review	Initiate Implementation	Task or Component Completed	Comments
1.	Submission of Design Plans and Contract Specifications for Public Bid	NA	04/08/2021 Notice Published	04/14/2021 Contract documents available	
2.	IRA Plan Mod No. 3	21 days	05/24/2021	06/14/2021	Written or email public comment to be received.
3.	Final Bid Submissions for Construction	NA	04/14/2021	05/14/2021	Close of bidding period
4.	Evaluate bids, prepare award of construction contract	NA	05/14/2021	05/26/2021	Contract award is subject to evaluation of bids and final approval by the County and Engineer
5.	Mobilization and preliminary work	NA	Upon receipt of the contract award and notice to proceed	06/30/21 assumed	
6.	Demolition of structures and construction of storm drain systems and HMA cap	NA	06/30/21 Assumed	08/30/21	
6.	Construction Closeout	NA	08/30/21	09/31/21	The construction contract has a term of 120 days for completion

7.0 PUBLIC NOTIFICATIONS

Copies of public notification letters regarding the proposed IRA activities are sent to officials of the Town of Barnstable in accordance with MCP 310 CMR 40.1403(3) (a) requirements and are included as Appendix C. Per the Final PIP, email and written notifications regarding the submittal of this public comment Draft IRA Plan Modification No. 3 to MassDEP and the availability of the Plan at the Site repository will be sent to those listed on the PIP Mailing List. Notifications of this submission will be made to the PIP Mailing List within three days of this filing. As previously indicated and as written in the Final PIP document, written comments will be received for 21 days. Following the closure of this comment period, BETA and the County will receive and review all comments. As previously stated, it is not feasible to incorporate additional public comments into this amended IRA Plan Modification; however several additional response actions and assessment related to the PFAS Release at the FTA are ongoing and will be subject to additional public comment in the near future.

FIGURES

Figure 1
Site Location
Barnstable County Fire & Rescue Training Academy

155 South Flint Rock Road
Hyannis, Massachusetts

NOVER-ARMSTRONG ASSOCIATES, INC.

RTN 4-26179 April 2018

ROCK (APPROX. CENTERLINE)

ROAD

PARCEL: 31/007
6.2± AC.

APPROXIMATE LOCATION OF SEPTIC SYSTEM

PC-37
SED-8A
SED-8B
12" RCP
HDWL
=29.3
POND 2S/2D
SED-7A
SED-7B
OW-2S
OW-2D
B9
PFW-4
MW-201
SB-203
SB-202
PFW-5
OW-8I
OW-8A
MW-28S
MW-28D
MW-215
SB-205
SB-206
SB-207
PFW-3
B10
SB-208
FS1-C
FS1-A
FS1-B
MW-3S
PFW-6
SB-209
B7
SB-211
RW-1
MW-9D
MW-9S
MW-2
MW-1
MW-8C
SB-210
SB-212
MW-104
MW-7
SB-214
SB-213
PFW-1
MW-6
B1
SB-102
MW-103
SB-101
HSW-6
HSW-1
PFW-2
B3
B2
HS1
HS4
SED-6
POND 1S/1D
SED-501
SED-5
SED-4
SED-401
POND 1S/1D
SW-501S/D
SW-201
SW-301
SED-301
SED-201
POND FR
SED-3
SED-2
SED-101
SED-1
POND DELTA
PC-35D
PC-35S
PC-34S
PC-34D
PC-36S
PC-36D
PHASE I IMPROVEMENTS
FORMER HOT SPOT AREA

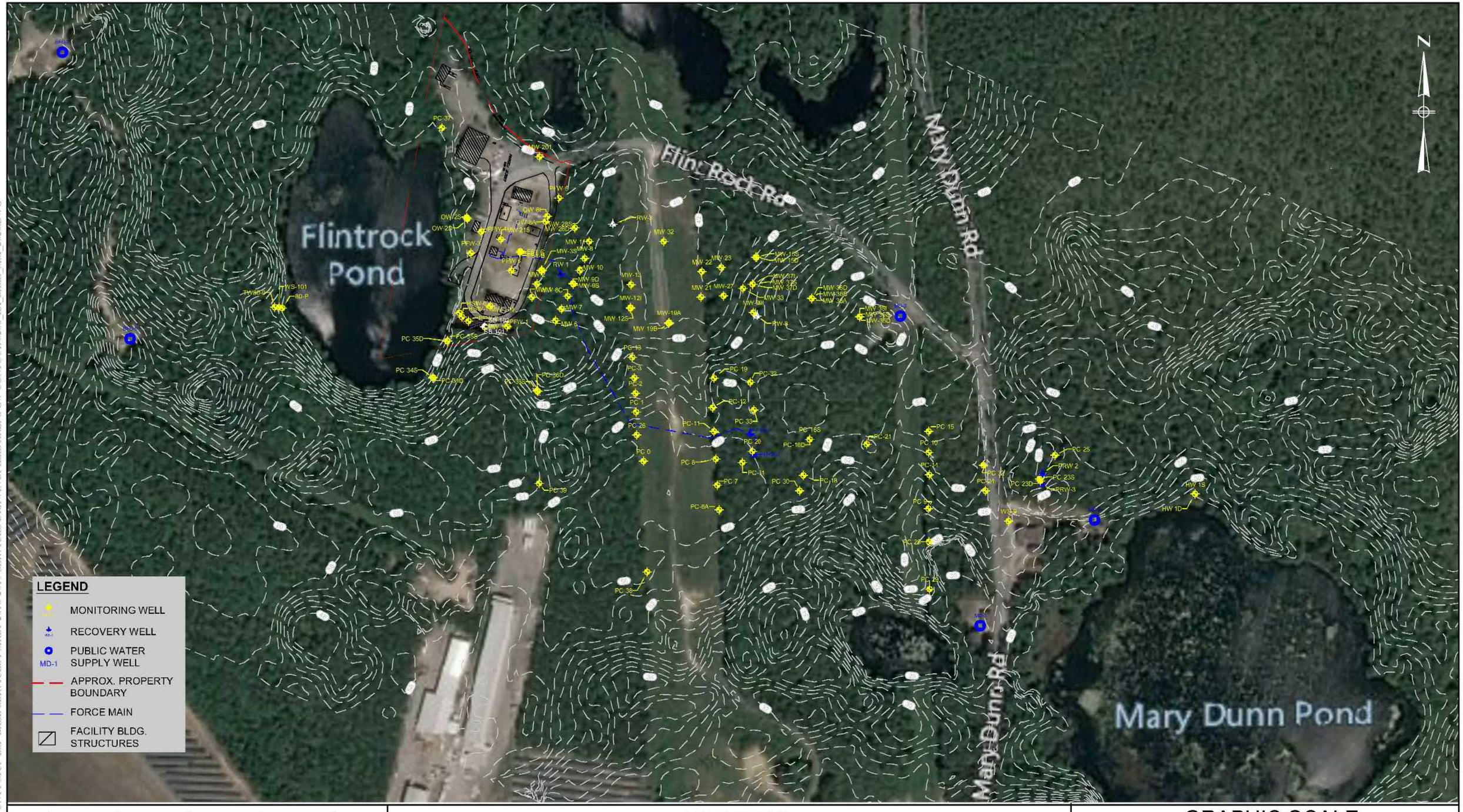
LEGEND

PFW-1	MONITORING WELL	SW-201	SURFACE WATER SAMPLE
RW-1	RECOVERY WELL		APPROX. PROPERTY BOUNDARY
SB-101	SOIL BORING		FORCE MAIN
SED-1	SEDIMENT SAMPLE		FACILITY BLDG. STRUCTURES

BETA
www.BETA-Inc.com

BARNSTABLE FIRE & RESCUE TRAINING ACADEMY
BARNSTABLE, MA
Scale:1" = 60'
60 45 30 15 0 30 60 120

FIGURE 2
SITE PLAN DETAIL
FTA FACILITY



BETA

www.BETA-Inc.com

FIGURE 3
DISPOSAL SITE PLAN

Barnstable County Fire & Rescue Training Academy
155 South Flint Rock Road, Barnstable, MA

GRAPHIC SCALE

250 125 0 125 250 500

(IN FEET)

1 inch = 250 ft.

K:\6206 BARNSTABLE COUNTY\MCP LSP BASE SERVICES FMRLY 2018-2019 SERVICES\DRAWINGFILES\XREFS\GW CONTOUR\6206_EX_BASE_MM_2020.DWG

MassDEP - Bureau of Waste Site Cleanup

Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

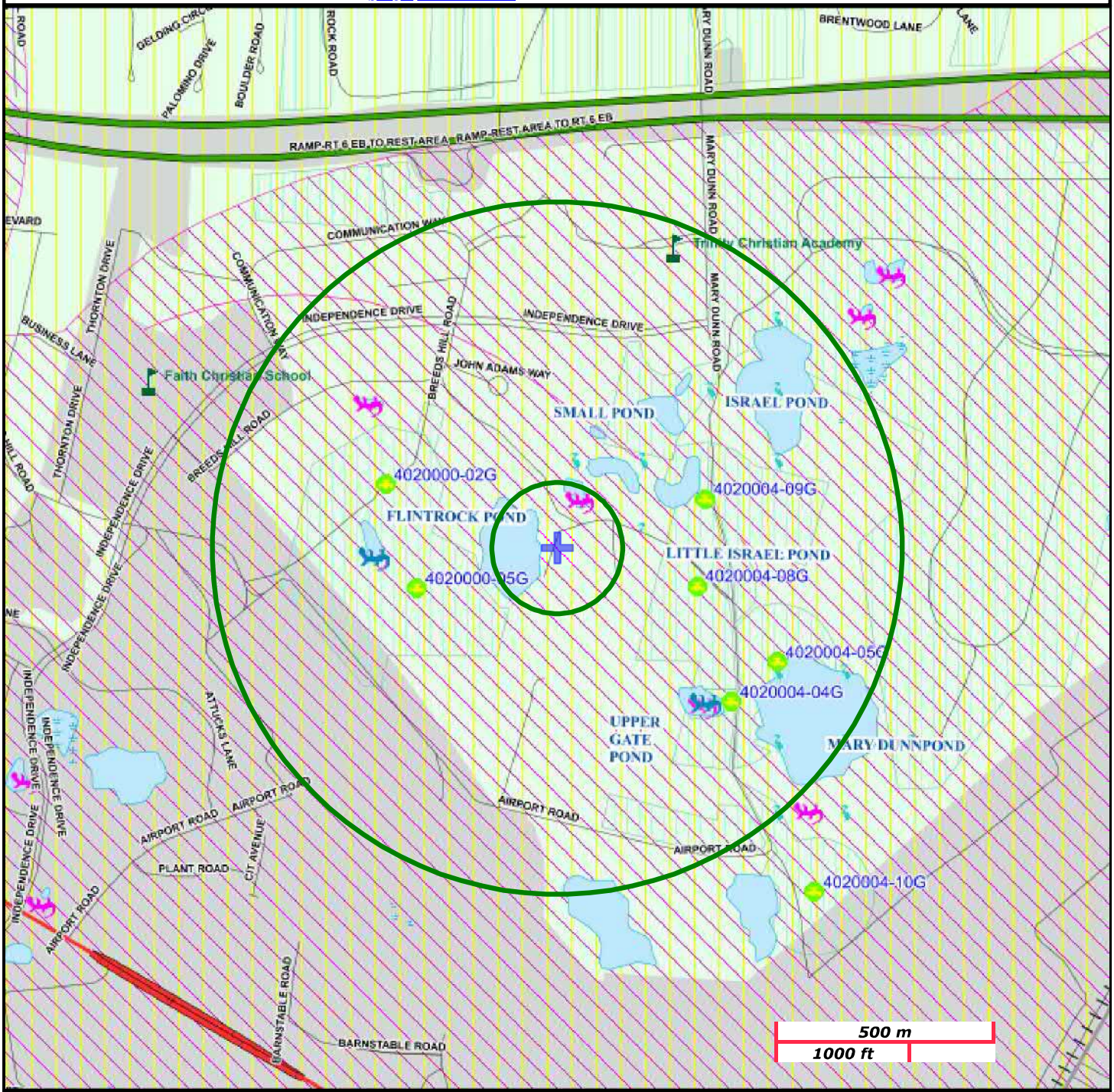
FIGURE 4

Site Information:
BARNSTABLE COUNTY FIRE & RESCUE TRAINING ACADEMY
155 SOUTH FLINT ROCK ROAD BARNSTABLE, MA
4-000026179

NAD83 UTM Meters:
4614868mN , 393038mE (Zone: 19)
April 23, 2021

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at: https://www.mass.gov/orgs/massgis-bureau-of-geographic-information.

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct
Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam
Aquifers: Medium Yield, High Yield, EPA Sole Source
Non Potential Drinking Water Source Area: Medium, High (Yield)
PWS Protection Areas: Zone II, IWPA, Zone A
Hydrography: Open Water, PWS Reservoir, Tidal Flat
Wetlands: Freshwater, Saltwater, Cranberry Bog
FEMA 100yr Floodplain; Protected Open Space; ACEC
Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential
Solid Waste Landfill; PWS: Com.GW,SW, Emerg., Non-Com.

APPENDIX A

Copy of BWSC Transmittal Form

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

Immediate Response Action (IRA) Transmittal Form
Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

BWSC 105

Release Tracking Number
4 - 26179

A. SITE LOCATION:

1. Release Name/Location Aid: BARNSTABLE COUNTY FIRE TRAINING ACADEMY

2. Street Address: 155 SOUTH FLINT ROCK ROAD

3. City/Town: BARNSTABLE 4. Zip Code: 026300000

☐ 5. Check here if this location is Adequately Regulated, pursuant to 310 CMR 40.0110-0114.

☐ a. CERCLA ☐ b. HSWA Corrective Action ☐ c. Solid Waste Management

☐ d. RCRA State Program (21C Facilities)

B. THIS FORM IS BEING USED TO: (check all that apply)

1. List Submittal Date of Initial IRA Written Plan (if previously submitted): 9/26/2016

☐ 2. Submit an **Initial IRA Plan**.

☑ 3. Submit a **Modified IRA Plan** of a previously submitted written IRA Plan.

☐ 4. Submit an **Imminent Hazard Evaluation**. (check one)

☐ a. An Imminent Hazard exists in connection with this Release or Threat of Release.

☐ b. An Imminent Hazard does not exist in connection with this Release or Threat of Release.

☐ c. It is unknown whether an Imminent Hazard exists in connection with this Release or Threat of Release, and further assessment activities will be undertaken.

☐ d. It is unknown whether an Imminent Hazard exists in connection with this Release or Threat of Release. However, response actions will address those conditions that could pose an Imminent Hazard.

☐ 5. Submit a request to **Terminate an Active Remedial System or Response Action(s) Taken to Address an Imminent Hazard**.

☐ 6. Submit an **IRA Status Report**

☐ 7. Submit a **Remedial Monitoring Report**. (This report can only be submitted through eDEP.)

a. Type of Report: (check one) ☐ i. Initial Report ☐ ii. Interim Report ☐ iii. Final Report

b. Frequency of Submittal: (check all that apply)

☐ i. A Remedial Monitoring Report(s) submitted monthly to address an Imminent Hazard.

☐ ii. A Remedial Monitoring Report(s) submitted monthly to address a Condition of Substantial Release Migration.

☐ iii. A Remedial Monitoring Report(s) submitted every six months, concurrent with an IRA Status Report.

☐ iv. A Remedial Monitoring Report(s) submitted annually, concurrent with an IRA Status Report.

c. Number of Remedial Systems and/or Monitoring Programs: _____

A separate BWSC105A, IRA Remedial Monitoring Report, must be filled out for each Remedial System and/or Monitoring Program addressed by this transmittal form.

☐ 8. Submit an **IRA Completion Statement**.

☐ a. Check here if future response actions addressing this Release or Threat of Release notification condition will be conducted as part of the Response Actions planned or ongoing at a Site that has already been Tier Classified under a different Release Tracking Number (RTN)

b. Provide Release Tracking Number of Tier Classified Site (Primary RTN): _____ _____

These additional response actions must occur according to the deadlines applicable to the Primary RTN. Use the Primary RTN when making all future submittals for the site unless specifically relating to this Immediate Response Action.

☐ 9. Submit a **Revised IRA Completion Statement**.

☐ 10. Submit a **Plan for the Application of Remedial Additives** near a sensitive receptor, pursuant to 310 CMR 40.0046(3).

(All sections of this transmittal form must be filled out unless otherwise noted above)

C. RELEASE OR THREAT OF RELEASE CONDITIONS THAT WARRANT IRA:

1. Media Impacted and Receptors Affected: (check all that apply)
☐ a. Paved Surface ☐ b. Basement ☐ c. School
☑ d. Public Water Supply ☑ e. Surface Water ☑ f. Zone 2 ☐ g. Private Well ☐ h. Residence ☑ i. Soil
☑ j. Groundwater ☑ k. Sediments ☐ l. Wetland ☐ m. Storm Drain ☐ n. Indoor Air ☐ o. Air
☐ p. Soil Gas ☐ q. Sub-Slab Soil Gas ☐ r. Critical Exposure Pathway ☐ s. NAPL ☐ t. Unknown
☐ r. Others Specify: _____

2. Sources of the Release or TOR: (check all that apply)
☐ a. Transformer ☐ b. Fuel Tank ☐ c. Pipe
☐ d. OHM Delivery ☐ e. AST ☐ f. Drums ☐ g. Tanker Truck ☐ h. Hose ☐ i. Line
☐ j. UST Describe: _____ ☐ k. Vehicle ☐ l. Boat/Vessel
☐ m. Unknown ☑ n. Other: FIRE FIGHTING FOAMS

3. Type of Release or TOR: (check all that apply)
☐ a. Dumping ☐ b. Fire ☐ c. AST Removal ☐ d. Overfill
☐ e. Rupture ☐ f. Vehicle Accident ☐ g. Leak ☐ h. Spill ☐ i. Test failure ☐ j. TOR Only
☐ k. UST Removal Describe: _____
☐ l. Unknown ☑ m. Other: HISTORIC FOAM USE

4. Identify Oils and Hazardous Materials Released: (check all that apply)
☐ a. Oils ☐ b. Chlorinated Solvents
☐ c. Heavy Metals ☑ d. Others Specify: PFAS

D. DESCRIPTION OF RESPONSE ACTIONS: (check all that apply, for volumes list cumulative amounts)

☑ 1. Assessment and/or Monitoring Only
☑ 2. Temporary Covers or Caps
☐ 3. Deployment of Absorbent or Containment Materials
☐ 4. Temporary Water Supplies
☐ 5. Structure Venting System/HVAC Modification System
☐ 6. Temporary Evacuation or Relocation of Residents
☐ 7. Product or NAPL Recovery
☐ 8. Fencing and Sign Posting
☑ 9. Groundwater Treatment Systems
☐ 10. Soil Vapor Extraction
☐ 11. Remedial Additives
☐ 12. Air Sparging
☐ 13. Active Exposure Pathway Mitigation System
☐ 14. Passive Exposure Pathway Mitigation System

D. DESCRIPTION OF RESPONSE ACTIONS: (cont.)

☑ 15. Excavation of Contaminated Soils.

☐ a. Re-use, Recycling or Treatment ☐ i. On Site Estimated volume in cubic yards _____

☐ ii. Off Site Estimated volume in cubic yards _____

iia. Receiving Facility: _____ Town: _____ State: _____

iib. Receiving Facility: _____ Town: _____ State: _____

iii. Describe: _____

☐ b. Store ☐ i. On Site Estimated volume in cubic yards _____

☐ ii. Off Site Estimated volume in cubic yards _____

iia. Receiving Facility: _____ Town: _____ State: _____

iib. Receiving Facility: _____ Town: _____ State: _____

☑ c. Landfill ☐ i. Cover Estimated volume in cubic yards _____

Receiving Facility: _____ Town: _____ State: _____

☑ ii. Disposal Estimated volume in cubic yards 200

Receiving Facility: TAUNTON LANDFILL Town: TAUNTON State: MA

☐ 16. Removal of Drums, Tanks, or Containers:

a. Describe Quantity and Amount: _____

b. Receiving Facility: _____ Town: _____ State: _____

c. Receiving Facility: _____ Town: _____ State: _____

☐ 17. Removal of Other Contaminated Media:

a. Specify Type and Volume: _____

☐ 18. Other Response Actions:

Describe: _____

☐ 19. Use of Innovative Technologies:

Describe: _____

E. LSP SIGNATURE AND STAMP:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisionsof 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> if Section B of this form indicates that an **Immediate Response Action Plan** is being submitted, the response action(s) that is(are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is(are) appropriate and reasonable to accomplish thepurposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B of this form indicates that an **Imminent Hazard Evaluation** is being submitted, this Imminent Hazard Evaluation was developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and the assessment activity(ies) undertaken to support this Imminent Hazard Evaluation comply(ies) with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000;

> if Section B of this form indicates that an **Immediate Response Action Status Report** and/or a **Remedial Monitoring Report** is(are) being submitted, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000,(ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B of this form indicates that an **Immediate Response Action Completion Statement** or a request to **Terminate an Active Remedial System or Response Action(s) Taken to Address an Imminent Hazard** is being submitted, the response action(s) that is(are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is(are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP #: 1443

2. First Name: ROGER P 3. Last Name: THIBAULT

4. Telephone: 508-331-2700 5. Ext: 6. Email:

7. Signature:

8. Date: *(mm/dd/yyyy)* 9. LSP Stamp:

F. PERSON UNDERTAKING IRA:

1. Check all that apply: ☑ a. change in contact name ☐ b. change of address ☐ c. change in the person undertaking response actions

2. Name of Organization: BARNSTABLE COUNTY COMMISSIONERS

3. Contact First Name: STEVE 4. Last Name: TEBO

5. Street: 3195 MAIN ST 6. Title: ASSET AND INFRASTRUCTURE MANAGER

7. City/Town: BARNSTABLE 8. State: MA 9. Zip Code: 026301105

10. Telephone: 508-375-6643 11. Ext: 12. Email: STEBO@BARNSTABLECOUNTY.ORG

G. RELATIONSHIP TO RELEASE OR THREAT OF RELEASE OF PERSON UNDERTAKING IRA:

☐ Check here to change relationship

☑ 1. RP or PRP ☑ a. Owner ☐ b. Operator ☐ c. Generator ☐ d. Transporter

☐ e. Other RP or PRP Specify Relationship:

☐ 2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ 3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ 4. Any Other Person Undertaking Response Actions: Specify Relationship:

H. REQUIRED ATTACHMENT AND SUBMITTALS:

☐ 1. Check here if any Remediation Waste, generated as a result of this IRA, will be stored, treated, managed, recycled or reused at the site following submission of the IRA Completion Statement. If this box is checked, you must submit one of the following plans, along with the appropriate transmittal form.

☐ a. A Release Abatement Measure (RAM) Plan (BWSC106) ☐ b. Phase IV Remedy Implementation Plan (BWSC108)

☑ 2. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by MassDEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

☑ 3. Check here to certify that the Chief Municipal Officer and the Local Boardof Health were notified of the implementation of an Immediate Response Action taken to control, prevent, abate or eliminate an Imminent Hazard.

☐ 4. Check here to certify that the Chief Municipal Officer and the Local Boardof Health were notified of the submittal of a Completion Statement for an Immediate Response Action taken to control, prevent, abate or eliminate an Imminent Hazard.

☐ 5. Check here if any non-updatable information provided on this form is incorrect, e.g. Release Address/Location Aid. Send corrections to BWSC.eDEP@state.ma.us.

☑ 6. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

Immediate Response Action (IRA) Transmittal Form
Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

BWSC 105

Release Tracking Number
4 - 26179

I. CERTIFICATION OF PERSON UNDERTAKING IRA:

1. I, _____, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form; (ii) that, based on my inquiry of the/those individual(s) immediately responsible for obtaining the information, the material information contained herein is, to the best of my knowledge, information and belief, true, accurate and complete; (iii) that, to the best of my knowledge, information and belief, I/the person(s) or entity(ies) on whose behalf this submittal is made satisfy(ies) the criteria in 310 CMR 40.0183(2); (iv) that I/the person(s) or entity(ies) on whose behalf this submittal is made have provided notice in accordance with 310 CMR 40.0183(5); and (v) that I am fully authorized to make this attestation on behalf of the person(s) or entity(ies) legally responsible for this submittal. I/the person(s) or entity(ies) on whose behalf this submittal is made is/are aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

2. By: _____ 3. Title: ASSET AND INFRASTRUCTURE MANAGER

4. For: BARNSTABLE COUNTY COMMISSIONERS 5. Date: _____ (mm/dd/yyyy)

☐ 6. Check here if the address of the person providing certification is different from address recorded in Section F.

7. Street: _____

8. City/Town: _____ 9. State: _____ 10. Zip Code: _____

11. Telephone: _____ 12. Ext: _____ 13. Email: _____

YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO $10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Date Stamp (DEP USE ONLY:)

APPENDIX B

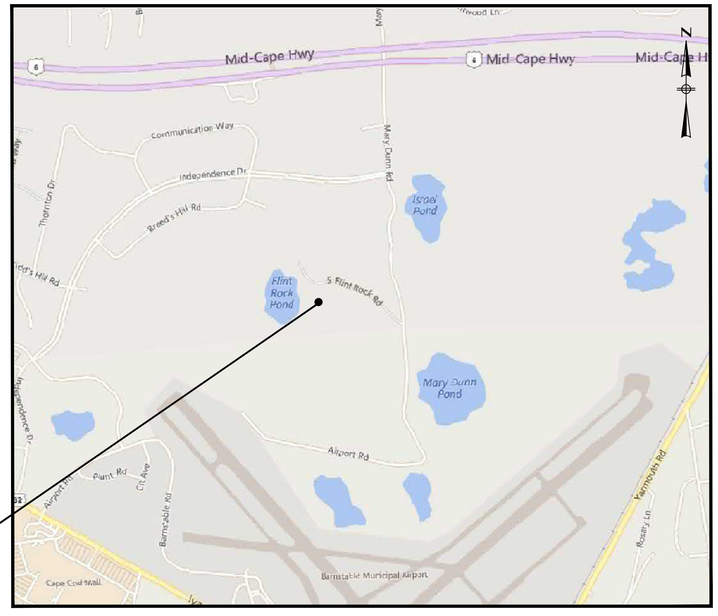
Proposed Site Capping Plans Construction Documents

BARNSTABLE COUNTY COMMISSION

BARNSTABLE COUNTY FIRE & RESCUE TRAINING ACADEMY
PROPOSED SITE CAPPING PLANS

CONSTRUCTION DOCUMENTS

IFB No. 7921



LOCATION MAP
NOT TO SCALE

PLAN INDEX

CONSULTANT

BETA GROUP, INC.

701 GEORGE WASHINGTON HIGHWAY

LINCOLN, RI 02865

PREPARED BY:

BETA

www.BETA-Inc.com

ISSUE DATE: APRIL 2021

KEVIN M. AGUIAR, CHRIS, REGISTERED PROFESSIONAL ENGINEER

4.9.21

REGISTERED PROFESSIONAL

4/9/2021

DATE

LEGEND

GENERAL SYMBOLS

EXISTING	PROPOSED	
		CURB OR BERM (TYPE AS NOTED)
		EDGE OF PAVEMENT
CB	CB	CATCH BASIN (OR GUTTER INLET)
DMH	DMH	DRAIN MANHOLE
GV	GG	GAS VALVE
WG	WG	WATER VALVE
HYD	HYD.	HYDRANT
F A		FIRE ALARM BOX
L.P.		STREET LIGHT
UP		UTILITY POLE
		SIGN
D	D	DRAIN PIPE (SIZE AS NOTED)
S	S	SEWER MAIN (SIZE AS NOTED)
E		ELECTRIC DUCT
G	G	GAS MAIN (SIZE AS NOTED)
W	W	WATER MAIN
T	T	TELEPHONE DUCT
MB		MAIL BOX
		HIGHWAY GUARD (TYPE AS NOTED)
		STONE WALL
		RETAINING WALL (TYPE NOTED)
BND	BND	HIGHWAY/PROPERTY BOUND (TYPE AS NOTED)
Date of Layout	Bearing & Legth or Radius	STATE HIGHWAY LAYOUT LINE
Date of Layout	Bearing & Legth or Radius	CITY OR TOWN LAYOUT LINE
Date of Layout	Bearing & Legth or Radius	COUNTY LAYOUT LINE
		PROPERTY LINE
		EASEMENT LINE (TYPE NOTED)
	2+00	CONSTRUCTION BASELINE
		TREE
x	x	FENCE (SIZE AND TYPE AS NOTED)
WF–1		BORDERING VEGETATED WETLAND FLAGS
		EDGE OF RIVER/STREAM LINE
		100-FT. WETLAND BUFFER LIMIT
		100-FT. RIVER FRONT LIMIT
		200-FT. RIVER FRONT LIMIT
		WOODED AREA / LIMIT OF CLEARING
		SAW CUT LINE
	TP–1	TEST PIT
	B–1	BORING
W		MONITORING WELL

ABBREVIATIONS

ABAN.	ABANDON
ADJ.	ADJUST
APPROX.	APPROXIMATE
B&B	BALLED AND BURLAPPED
BIT.	BITUMINOUS
BS	BOTTOM OF SLOPE
CB	CATCH BASIN
CEM.	CEMENT
CIP	CAST IRON PIPE
C.I.T.	CHANGE IN TYPE
CL	CENTER LINE
CLF	CHAIN LINK FENCE
COND	CONDUIT
CONC.	CONCRETE
CONT.	CONTINUOUS
CONST.	CONSTRUCTION
CPP	CORRUGATED PLASTIC PIPE
DIA.	DIAMETER
DIP	DRAIN MANHOLE
DMH	DUCTILE IRON PIPE
DWY.	DRIVEWAY
EL.	ELEVATION
EOP	EDGE OF PAVEMENT
EXIST.	EXISTING
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FDN.	FOUNDATION
GG	GAS GATE
GRAN.	GRANITE
HMA	HOT MIX ASPHALT
HYD.	HYDRANT
INV.	INVERT
LP	LOW POINT
MAX.	MAXIMUM
MH	MANHOLE
MIN.	MINIMUM
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
PEB	PERMANENT EASEMENT BOUNDARY
P.G.L.	PROFILE GRADE LINE
PROP.	PROPOSED
PVMT.	PAVEMENT
PWW	PAVED WATER WAY
R&D	REMOVE & DISPOSE
RCP	REINFORCED CONCRETE PIPE (CLASS III UNLESS NOTED)
REM.	REMOVE
RET.	RETAINING
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
ROW	RIGHT OF WAY
STA.	STATION
SDWK.	SIDEWALK
S.H.L.	STATE HIGHWAY LAYOUT LINE
SMH	SEWER MANHOLE
TEB	TEMPORARY EASEMENT BOUNDARY
TEMP.	TEMPORARY
TS	TOP OF SLOPE
TYP.	TYPICAL
UP	UTILITY POLE
WCR	WHEELCHAIR RAMP
WG	WATER GATE

GENERAL NOTES

1. THE ACCURACY AND COMPLETENESS OF UNDERGROUND UTILITIES AS SHOWN ON THE PLANS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATION, SIZE, TYPE ETC. OF ALL UNDERGROUND UTILITIES THAT MAY BE AFFECTED BY THE WORK. ALL UTILITY STRUCTURES, WITHIN AREAS AFFECTED BY THE WORK SHALL BE ADJUSTED TO NEW LINE AND GRADE AS DIRECTED BY THE ENGINEER. ANY UTILITY POLES AND/OR GUY POLES, WITHIN AREAS AFFECTED BY THE WORK, SHALL BE REMOVED AND RESET BY THE RESPECTIVE UTILITY COMPANY. ALTERATIONS TO UTILITIES NOT OWNED BY THE TOWN SHALL BE MADE BY THE RESPECTIVE UTILITY OWNERS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WORK IN ADVANCE WITH THOSE UTILITY OWNERS.
2. CONTRACTOR SHALL VERIFY EXISTING GRADES. IF ANY ADJUSTMENT IS REQUIRED DUE TO DIFFERENT EXISTING GRADES FOUND IN THE FIELD, THE CONTRACTOR SHALL NOTIFY AND SEEK THE APPROVAL OF THE ENGINEER PRIOR TO PERFORMING THE WORK.
3. IN AREAS OF NEW SIDEWALK, NEW EDGE OF PAVEMENT OR CURB WITHOUT SIDEWALK OR ANY WORK ADJACENT TO EXISTING GRASS AREAS, EVEN WHEN NO SLOPE-MATCHING OR GRADING IS NECESSARY AND THE EXISTING GRADE IS MET, LOAM AND SEED SHALL BE PROVIDED AS NECESSARY TO REPAIR AND COMPLETE ANY DAMAGE TO THE GRADE CAUSED BY THE CONSTRUCTION PROCESS.
4. WHEN WORKING NEXT TO EXISTING TREES, WALLS OR FENCES, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION NOT TO DISTURB THE EXISTING WALL, TREE OR FENCE. IF THE CONTRACTOR DAMAGES EXISTING TREES, WALLS OR FENCES AS A RESULT OF THE CONSTRUCTION PROCESS IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR ALL DAMAGES AS DIRECTED BY THE ENGINEER. ALL WORK ASSOCIATED WITH THE REPAIR OR REPLACEMENT OF EXISTING TREES, WALLS OR FENCES SHALL BE CONSIDERED AS INCLUDED IN THE BID PRICE AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED THEREFORE.
5. THE CONTRACTOR SHALL CALL DIGSAFE A MINIMUM OF 72 HOURS PRIOR TO THE START OF ANY WORK.
6. ORIGINAL SURVEY PERFORMED BY LAND PLANNING, INC. IN 2017. SUPPLEMENTAL SURVEY PERFORMED BY LAND PLANNING, INC. IN JULY, 2018. HORIZONTAL COORDINATE SYSTEM IS NAD83. THE VERTICAL DATUM IS NAVD88.

TREE PRESERVATION NOTES

1. TREES WITHIN THE LIMITS OF GRADING SHALL NOT BE REMOVED UNLESS APPROVED BY THE ENGINEER.
2. PRIOR TO CONSTRUCTION PROTECT TREES WITHIN THE LIMITS OF WORK IN ACCORDANCE WITH DETAIL.
3. BRANCHES OR LIMBS DAMAGED DURING CONSTRUCTION SHALL BE CUT BACK TO THE TRUNK OR A LATERAL BRANCH.
4. MAKE EVERY EFFORT TO MAINTAIN EXCAVATION ACTIVITIES OUTSIDE LIMITS OF THE TREE CANOPY.
5. ROOTS LARGER THAN 1.5" IN DIAMETER ENCOUNTERED IN EXCAVATIONS SHALL BE CUT OFF SQUARELY USING A SHARP ARBORIST SAW.
6. STRIP AND SEGREGATE TOPSOIL PRIOR TO EXCAVATING IN UNPAVED AREAS. FOLLOWING BACKFILL OPERATIONS PLACE TOPSOIL BACK IN THE APPROPRIATE PLACE WITHOUT COMPACTION AND VERTICALLY MULCH ROOT SYSTEM. NO AMENDMENTS SHALL BE ADDED.
7. IMMEDIATELY FOLLOWING BACKFILL OPERATIONS PROVIDE DEEP WATERING OF THE ROOT SYSTEM, APPLICATION OF FERTILIZER, AND VERTICAL MULCHING.
8. MAINTAIN STORAGE OF EQUIPMENT AND MATERIALS A DISTANCE AT LEAST TWO (2) TIMES THE DISTANCE OF THE RADIUS OF THE TREE CANOPY.

DEMOLITION NOTES

1. THE CONTRACTOR IS DIRECTED TO THE CONTRACT SPECIFICATIONS THAT DESCRIBE DEMOLITION CONDITIONS, CONSTRAINTS, AND PROCEDURES AND REGULATORY REQUIREMENTS FOR DEMOLITION OF BURN BUILDING 1, BURN BUILDING 2, AND THE MARINE FIRE TRAINING PROPS.
2. ALL CONCRETE, CMU, WOOD, AND INTERIOR MATERIALS OF BURN BUILDING 1 AND BURN BUILDING 2 TO BE DEMOLISHED SHALL BE ASSUMED TO BE CONTAMINATED WITH PER AND POLYFLUOROALKYL SUBSTANCES (PFAS). ALL INTERIOR MATERIALS OF THE MARINE FIRE TRAINING PROP SHALL BE ASSUMED TO BE CONTAMINATED WITH PFAS. SEE THE HAZARDOUS MATERIALS SURVEY APPENDED TO THE CONTRACT SPECIFICATIONS.
3. ALL DUST, DEBRIS, AND LIQUIDS GENERATED DURING DEMOLITION ACTIVITIES SHALL BE COLLECTED FOR PROPER DISPOSAL.
4. LAY DOWN, PROCESSING, AND LOADING OF MATERIALS FROM BUILDING DEMOLITION SHALL ONLY OCCUR IN THE DEMOLITION MATERIAL HANDLING ZONE SHOWN ON THE PLANS.
5. SOILS WITHIN THE DEMOLITION MATERIAL HANDLING ZONE MAY BE AFFECTED BY DEMOLITION AND CONSTRUCTION. FOLLOWING COMPLETION OF ALL DEMOLITION MATERIALS HANDLING AND TRANSPORT OFF SITE, 3 INCHES OF SOIL SHALL BE STRIPPED FROM THE DEMOLITION ZONE AND DISPOSED OFF SITE WITH DEMOLITION MATERIALS.
6. ALL SOILS LOCATED WITHIN THE PROJECT AREA HAVE BEEN IDENTIFIED AS CONTAMINATED WITH PFAS AND OTHER HAZARDOUS MATERIALS. THE CONTRACTOR IS DIRECTED TO THE CONTRACT SPECIFICATIONS AND HAZARDOUS MATERIALS GENERAL NOTES.

HAZARDOUS MATERIALS NOTES

1. THE SITE IS CURRENTLY LISTED AS A HAZARDOUS WASTE DISPOSAL SITE WITH THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION UNDER RELEASE TRACKING NUMBER (RTN 4-26179) DUE TO THE RELEASE OF PER AND POLYFLUOROALKYL SUBSTANCES (PFAS) TO SOIL AND GROUNDWATER ON SITE. THE RELEASE AND EXISTING CONDITIONS ARE SUBJECT TO THE REQUIREMENTS OF THE MASSACHUSETTS CONTINGENCY PLAN.
2. THE CONTRACTOR IS DIRECTED TO THE CONTRACT SPECIFICATIONS THAT DESCRIBE THE EXISTING ENVIRONMENTAL AND HAZARDOUS MATERIALS CONDITIONS, CONSTRAINTS, PROCEDURES, AND REGULATORY REQUIREMENTS FOR DISRUPTING, HANDLING, AND MANAGING OF ALL MEDIA WITHIN THE PROJECT. ALL MEDIA WITHIN THE PROJECT AREA IS ASSUMED TO BE CONTAMINATED WITH PFAS.

RESOURCE AREA NOTES

1. EXCESS STUMPS, TREES, ROCKS, BOULDERS, AND OTHER REFUSE SHALL BE DISCARDED OFF-SITE IN AN APPROPRIATE UPLAND LOCATION, OUTSIDE OF ALL REGULATED WETLAND AREAS. TREE STUMPS, ROCKS, BOULDERS, AND OTHER REFUSE IS PROHIBITED FROM LEAVING THE SITE UNTIL ALL EXCESS SOIL IS REMOVED.
2. THE COMPOST FILTER SOCK CALLED FOR ON THESE PLANS IS TO BE STAKED IN THE FIELD PRIOR TO CONSTRUCTION, AND SHALL SERVE AS THE STRICT LIMITS OF DISTURBANCE FOR THE PROJECT WITHIN OR ADJACENT TO REGULATED WETLAND AREAS. NO ALTERATIONS, INCLUDING VEGETATIVE CLEARING OR SURFACE DISTURBANCE, SHALL OCCUR BEYOND THIS EROSION CONTROL LINE.
3. THE LIMITS OF CLEARING, GRADING, AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. AREAS OUTSIDE OF THESE LIMITS, AS DEPICTED ON THE PROJECT SITE PLANS, SHALL REMAIN UNDISTURBED, IN A COMPLETELY NATURAL CONDITION.
4. SOIL EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED PRIOR TO THE INITIATION OF PROJECT CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AND INSPECTION OF SUCH CONTROLS DURING CONSTRUCTION. SEE SOIL EROSION AND SEDIMENTATION CONTROL NOTES.
5. NO HEAVY MACHINERY MAY BE USED WITHIN THE RESOURCE AREAS.
6. EXCESS SOIL REMOVED FROM TREE STUMPS, ROCKS, BOULDERS, AND REFUSE ENCOUNTERED WITHIN THE PROJECT AREA SHALL BE REUSED AS BACKFILL ON-SITE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. ALL EXCESS SOIL ENCOUNTERED AND/OR GENERATED WITHIN THE PROJECT AREA IS ASSUMED TO BE CONTAMINATED WITH PFAS AND OTHER HAZARDOUS MATERIALS.

SOIL EROSION AND SEDIMENTATION CONTROL NOTES

1. THE CONTRACTOR SHALL FOLLOW THE ORDER OF CONDITIONS AND DIRECTION OF THE ENGINEER WITH REGARD TO INSTALLATION, MAINTENANCE, AND REPAIR OF ALL SESC MEASURES ON THE PROJECT SITE FOR THE FULL DURATION OF THE CONSTRUCTION PERIOD. TEMPORARY SESC MEASURES MAY INCLUDE, BUT SHALL NOT BE LIMITED TO, CONSTRUCTION ENTRANCE PADS, COMPOST FILTER SOCKS, HAY/STRAW BALES, SILT FENCE, CATCH BASIN INSERTS, ETC. PLEASE REFER TO THE ORDER OF CONDITIONS FOR ADDITIONAL INFORMATION.
2. ALL SESC MEASURES SHALL BE INSTALLED BY THE CONTRACTOR AND INSPECTED BY THE ENGINEER PRIOR TO THE START OF CONSTRUCTION. THE SESC MEASURES SHALL BE REGULARLY INSPECTED, CLEANED AND MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION OPERATIONS IN ACCORDANCE WITH THE ORDER OF CONDITIONS. SESC MEASURES SHALL ALSO BE INSPECTED AND CLEANED AFTER ALL SIGNIFICANT STORM EVENTS AS STIPULATED BY THE SESC PLAN AND AT THE DIRECTION OF THE OWNER OR ENGINEER.
3. CONTRACTOR SHALL MAINTAIN AN ADEQUATE SUPPLY OF SESC MEASURE MATERIALS ON SITE TO BE INSTALLED IN AREAS WHERE EXISTING SESC MEASURES HAVE FAILED OR ARE NECESSARY AS DETERMINED BY THE ENGINEER. NO WORK OR STORAGE OF CONSTRUCTION EQUIPMENT WILL BE PERMITTED OUTSIDE THE LIMIT OF DISTURBANCE.
4. THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER FOR REGULAR INSPECTION AND REPORTING REQUIREMENTS.
5. SESC MEASURES SHALL BE MAINTAINED UNTIL SITE WORK IS COMPLETE AND ALL EXPOSED SOILS ARE SATISFACTORILY STABILIZED. UPON PERMANENT STABILIZATION OF ALL DISTURBED SOILS, THE SESC MEASURES SHALL BE REMOVED AND PROPERLY DISPOSED. PROVIDE SESC MEASURES AT PERIMETERS OF ALL EXCAVATION AREAS, DISTURBED SURFACES AND AT ALL CATCH BASINS ADJACENT TO DISTURBED AREAS. PROVIDE COMPOST FILTER SOCKS IN ACCORDANCE WITH DIVISION 2 SPECIFICATION REQUIREMENTS AND AS SHOWN ON THE CIVIL DETAIL DRAWINGS.
6. ALL MITIGATIVE FEATURES, FACILITIES AND SYSTEMS OF TREATMENT AND CONTROL THAT MAY BE INSTALLED OR USED SHALL BE PROPERLY MAINTAINED TO PREVENT HARM TO AREAS ADJACENT TO THE SITE.

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: TD
DESIGNED BY: TD
CHECKED BY: KMA

REGISTERED PROFESSIONAL
KEVIN M. AGUIAR, CIVIL, COMMONWEALTH OF MASSACHUSETTS
4-9-21

PREPARED BY
BETA
www.BETA-Inc.com

SUBCONSULTANT

SCALE: NONE
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE
BARNSTABLE COUNTY FIRE TRAINING ACADEMY
LEGEND, ABBREVIATIONS, & GENERAL NOTES
BARNSTABLE, MA

BETA JOB NO. 6206
ISSUE DATE 4/14/2021
SHEET NO. 2

4/12/2021 11:24 AM N:\6200\S\6206 BARNSTABLE FIRE ACAD\DRAWINGFILES\PLANSET\6206 LEGEND AND ABBREVIATIONS.DWG (BETA STB BW.STB)

N

50' WETLAND OFFSET

100' WETLAND OFFSET

UNNAMED POND

PARCEL: 313008B00
N/F
TOWN OF BARNSTABLE

EXISTING WELL

489±

S12°36'21"W

EXISTING PAVED ACCESS ROADWAY

TP-1

TP-2

TP-3

TP-4

TP-5

EX. PAVEMENT (TYP.)

CONFINED SPACE ENTRY TRAINING PROPS

STORAGE TRAILERS

FORMER BURN BUILDING #1
NO LONGER IN USE

FORMER BURN BUILDING #2
NO LONGER IN USE

TEMP. TREATMENT SYSTEM

GW TREATMENT BUILDING

EXIST. PHASE 1 DENSE GRADE GRAVEL BERM

EXIST. PHASE 1 CAP AREA

N14°18'43"E

367.49'

BENCHMARK:
NAIL SET IN PAVEMENT
ELEV.=39.11 NAVD88

PARCEL: 313007
6.2± AC.

FABRIC STORAGE STRUCTURE ON PAD

EXIST. CAPE COD BERM (TYP.)

APPROX. LOCATION OF SEPTIC SYSTEM

EXIST. PHASE 1 LEVEL SPREADER

MARINE FIRE TRAINING PROPS

STORAGE SHED

PAVED RAMP TO SHED

PARCEL: 332010002
N/F
TOWN OF BARNSTABLE
(COBB TRUST)

ROCK
(APPROX. CENTERLINE)

SOUTH FLINT ROAD

FLINTROCK POND

BORDERING VEGETATED WETLAND (BANK) DELINEATION BY NOVER-ARMSTRONG ASSOCIATES, INC.

N10°09'02"E 814.18'

N13°26'49"E
161'±

NOTES
1. PROPERTY LINE AND SURVEY DATA FROM "EXISTING CONDITIONS PLAN" BY LAND PLANNING, INC. DATED JULY 26, 2018
2. ONSITE TEST PIT AND SOIL EVALUATION CONDUCTED ON AUGUST 8, 2019 BY BETA GROUP, INC.
3. EX. UTILTIES SHOWN ARE APPROXIMATE AND MUST BE VERIFIED IN THE FIELD.

LEGEND
EXISTING BUILDING
PREVIOUSLY CONSTRUCTED TEMPORARY CAP

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS
1	4/26/21	TD	KMA	ADDENDUM 1 REVISIONS

DRAWN BY: TD
DESIGNED BY: TD
CHECKED BY: KMA

REGISTERED PROFESSIONAL
KEVIN M. ANDRUS
COMMONWEALTH OF MASSACHUSETTS
REGISTERED PROFESSIONAL ENGINEER
4-9-21

PREPARED BY
BETA
www.BETA-Inc.com

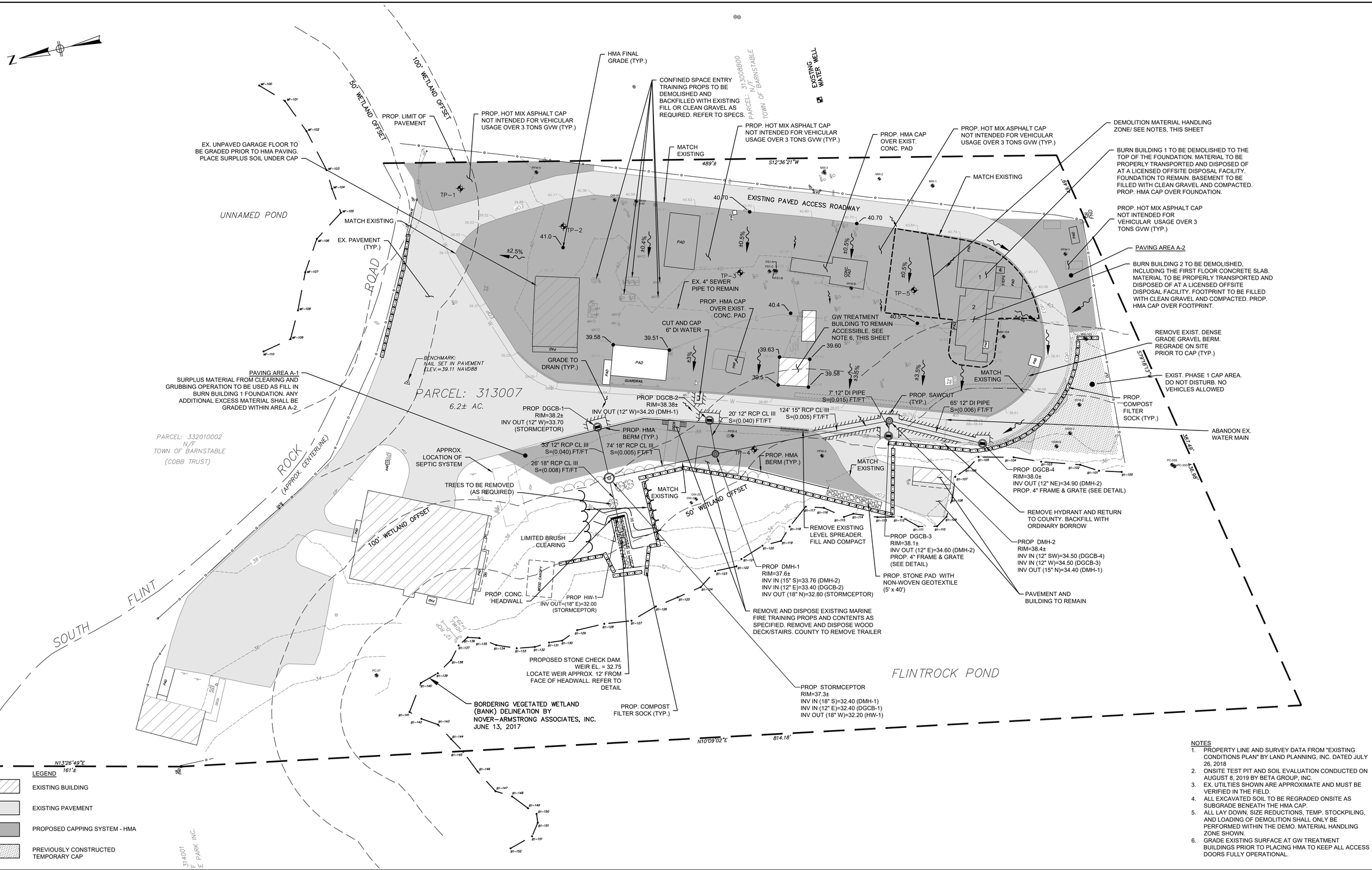
SUBCONSULTANT

SCALE
GRAPHIC SCALE
30 15 0 15 30 60
(IN FEET)
1 inch = 30 ft.
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE
BARNSTABLE COUNTY FIRE TRAINING ACADEMY
EXISTING CONDITIONS PLAN
BARNSTABLE, MA

BETA JOB NO. 6206
ISSUE DATE 4/14/2021
SHEET NO. 3

4/26/2021 2:20 PM N:\6200\S\6206 BARNSTABLE FIRE ACAD\DRAWINGFILES\PLANSET\6206 EXISTING CONDITIONS PLAN.DWG (BETA STB BW STB)



LEGEND

- EXISTING BUILDING
- EXISTING PAVEMENT
- PROPOSED CAPPING SYSTEM - HMA
- PREVIOUSLY CONSTRUCTED TEMPORARY CAP

NOTES

1. PROPERTY LINE AND SURVEY DATA FROM "EXISTING CONDITIONS PLAN" BY LAND PLANNING, INC. DATED JULY 26, 2018
2. ONSITE TEST PIT AND SOIL EVALUATION CONDUCTED ON AUGUST 8, 2019 BY BETA GROUP, INC.
3. EX. UTILITIES SHOWN ARE APPROXIMATE AND MUST BE VERIFIED IN THE FIELD.
4. ALL EXCAVATED SOIL TO BE REGRADED ONSITE AS SUBGRADE BENEATH THE HMA CAP.
5. ALL LAY DOWN, SIZE REDUCTIONS, TEMP. STOCKPILING, AND LOADING OF DEMOLITION SHALL ONLY BE PERFORMED WITHIN THE DEMO. MATERIAL HANDLING ZONE SHOWN.
6. GRADE EXISTING SURFACE AT GW TREATMENT BUILDINGS PRIOR TO PLACING HMA TO KEEP ALL ACCESS DOORS FULLY OPERATIONAL.

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS
1	4/26/21	TD	KMA	ADDENDUM 1 REVISIONS

DRAWN BY: TD
DESIGNED BY: TD
CHECKED BY: KMA

REGISTERED PROFESSIONAL: KEVIN M. AUBIN, 24, REGISTERED PROFESSIONAL ENGINEER, COMMONWEALTH OF MASSACHUSETTS, 4.9.21

PREPARED BY: BETA, www.BETA-Inc.com

SUBCONSULTANT

SCALE: GRAPHIC SCALE 30 15 0 15 30 60 (IN FEET) 1 inch = 30 ft.
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

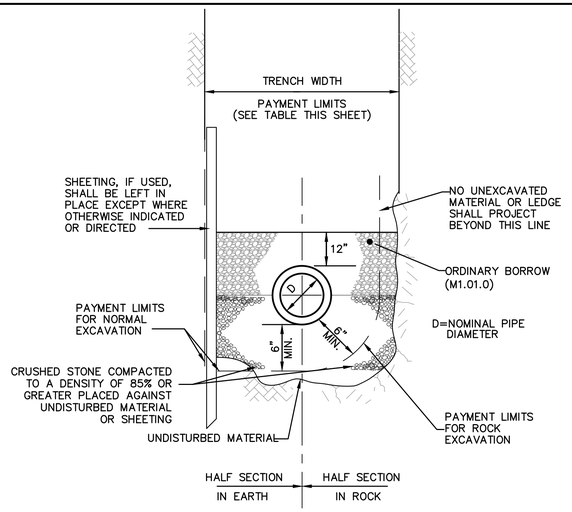
BARNSTABLE COUNTY FIRE TRAINING ACADEMY

PROPOSED SITE CAPPING PLAN

BARNSTABLE, MA

BETA JOB NO. 6206
ISSUE DATE 4/14/2021
SHEET NO. 4

4/26/2021 2:20 PM N:\6200s\6206 BARNSTABLE FIRE ACAD\DRAWINGFILES\PLANSET\6206 CONSTRUCTION PLAN ALT 5 - FINAL.DWG (BETA STB BW STB)



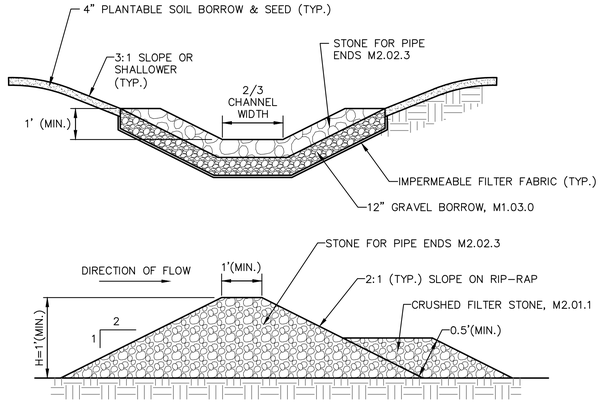
DRAIN TRENCH SECTION

MAXIMUM PAYMENT LIMITS			
DIAMETER OF PIPE D IN INCHES	TRENCH WIDTH IN FEET	TEMPORARY PAVEMENT IN FEET, TRENCH DEPTH < OR = 10'	TEMPORARY PAVEMENT IN FEET, TRENCH DEPTH > 10'
12 AND SMALLER	6.00	7.00	8.00
15	6.25	7.25	8.25
18	6.50	7.50	8.50
21	6.75	7.75	8.75
24	7.00	8.00	9.00
27	7.25	8.25	9.25
30	7.50	8.50	9.50
36	8.00	9.00	10.00
42	8.50	9.50	10.50
48	9.00	10.00	11.00
54	9.50	10.50	11.50

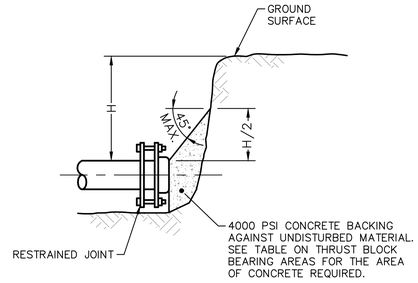
CLASS B ROCK EXCAVATION

MAXIMUM PAYMENT LIMITS	
DIAMETER OF PIPE D IN INCHES	TRENCH WIDTH IN INCHES
12 AND SMALLER	28.00
15	31.00
18	34.00
24	40.00

*NOTE: MAXIMUM 6" ROCK EXCAVATION BELOW PIPE.

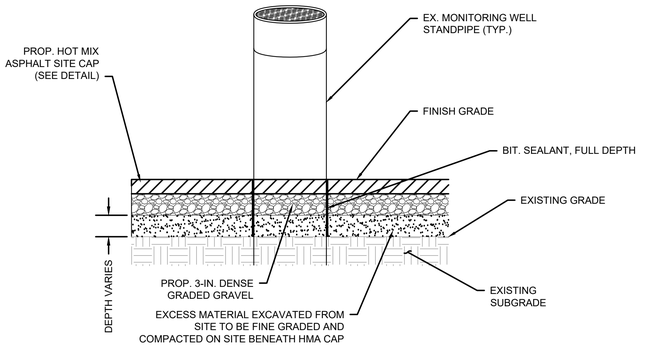


STONE CHECK DAM DETAIL
NOT TO SCALE



NOTES:
1. 2 RESTRAINING RODS (MIN.) OR SUBSTITUTE RESTRAINING GASKET COMPATIBLE WITH PIPE MANUFACTURER

DI PIPE CAP WITH THRUST BLOCK DETAIL
NOT TO SCALE



NOTES:
1. PROTECT STANDPIPE AND WELL DURING BUILDING DEMOLITION AND CONSTRUCTION.
2. PAVEMENT SHALL BE IN ACCORDANCE WITH SECTION 460 OF THE MASSACHUSETTS STANDARD SPECIFICATIONS.
3. GRAVEL SHALL BE IN ACCORDANCE WITH SECTION 405 AND M1 OF THE MASSACHUSETTS STANDARD SPECIFICATIONS.

TYPICAL MONITORING WELL PROTECTION DETAIL
NOT TO SCALE

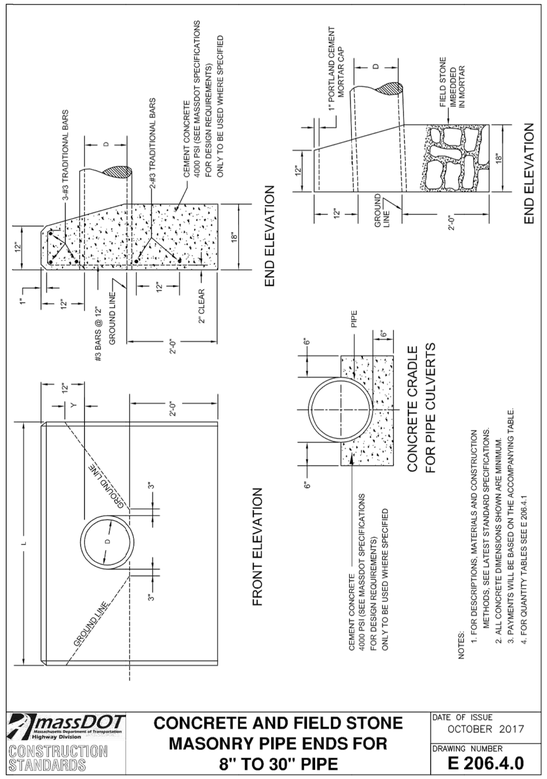
massDOT Highway Division — CONSTRUCTION STANDARDS

QUANTITY TABLES FOR CONCRETE AND FIELD STONE MASONRY PIPE ENDS

DATE OF ISSUE: OCTOBER 2017
DRAWING NUMBER: **E 206.4.1**

ENGLISH UNITS

PIPE DIAM. D	1 1/2 : 1 SLOPE L	CONC. OR F.S.M. CU. YDS.	STEEL LBS.	TRENCH EXCAV. 1'-0" DEPTH CU. FT.	2 : 1 SLOPE L	CONC. OR F.S.M. CU. YDS.	STEEL LBS.	TRENCH EXCAV. 1'-0" DEPTH CU. FT.
8"	4'-2"	0.77	15	21.60	5'-10"	1.08	21	27.40
10"	4'-10"	0.92	20	23.91	6'-8"	1.28	23	30.35
12"	5'-6"	1.08	21	26.25	7'-6"	1.49	29	33.25
15"	6'-6"	1.34	24	29.75	8'-9"	1.82	32	37.63
18"	7'-6"	1.61	30	33.25	10'-0"	2.18	39	42.00
21"	8'-6"	1.95	34	37.35	11'-6"	2.62	43	47.25
24"	9'-3"	2.16	35	39.38	12'-6"	2.97	50	50.75
30"	10'-6"	2.63	44	43.75	15'-0"	3.86	62	59.50
	Y	4" FOR 1 1/2 : 1 SLOPE						
		6" FOR 2 : 1 SLOPE						



massDOT Highway Division — CONSTRUCTION STANDARDS

CONCRETE AND FIELD STONE MASONRY PIPE ENDS FOR 8" TO 30" PIPE

DATE OF ISSUE: OCTOBER 2017
DRAWING NUMBER: **E 206.4.0**

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: TD
DESIGNED BY: TD
CHECKED BY: KMA

REGISTERED PROFESSIONAL: KEVIN M. AGUIAR, CIVIL, No. 49334, REGISTERED PROFESSIONAL ENGINEER, 4.9.21

PREPARED BY: BETA www.BETA-Inc.com

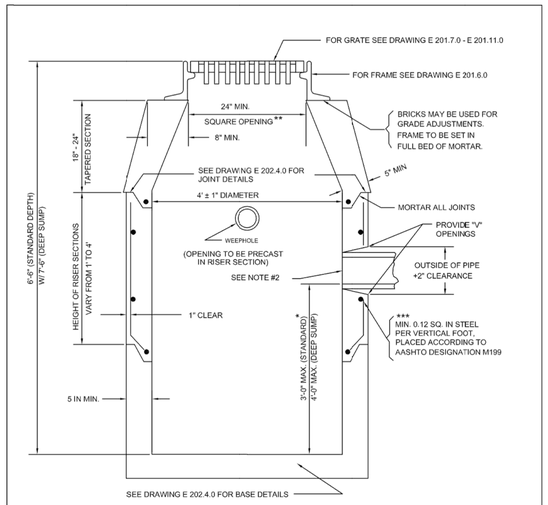
SUBCONSULTANT

SCALE: AS SHOWN
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: **BARNSTABLE COUNTY FIRE TRAINING ACADEMY**
CONSTRUCTION DETAILS
BARNSTABLE, MA

BETA JOB NO. 6206
ISSUE DATE 4/14/2021
SHEET NO. 5

4/12/2021 11:25 AM N:\6200\S\6206 BARNSTABLE FIRE ACAD\DRAWINGFILES\PLANSET\6206 CONSTRUCTION DETAILS.DWG (BETA STB BW.STB)



* MINIMUM DEPTH OF SUMP TO BE 2 FT.
** WHEN A CURB INLET IS INSTALLED, THE OPENING IS TO BE 24"±1" X 27"±1"
*** REINFORCING STEEL BASED ON A WALL THICKNESS OF 5".

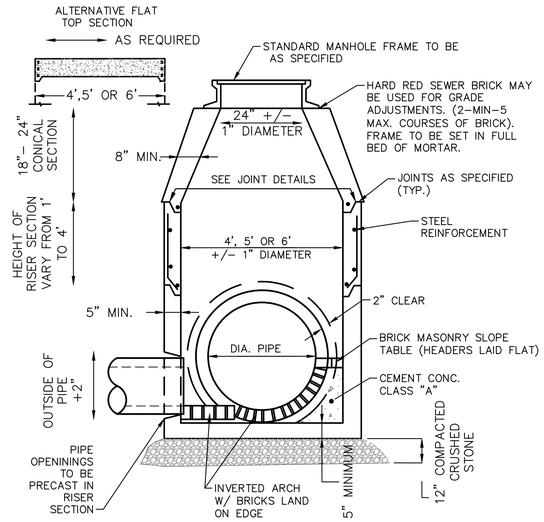
NOTES:

1. DETAILS NOT INDICATED ABOVE ARE TO BE SIMILAR TO THOSE SHOWN ON E 201.3.0
2. FACE OF PIPE FLUSH OR NOT TO PROJECT MORE THAN 4" FROM FACE OF WALL ALONG CENTERLINE OF PIPE.
3. FOR DESCRIPTION, MATERIALS AND CONSTRUCTION METHOD, SEE STANDARD SPECIFICATIONS.
4. ALL CONCRETE TO BE AIR ENTRAINED

massDOT Highway Division — CONSTRUCTION STANDARDS

PRECAST CONCRETE CATCH BASIN

DATE OF ISSUE: OCTOBER 2017
DRAWING NUMBER: E 201.4.0



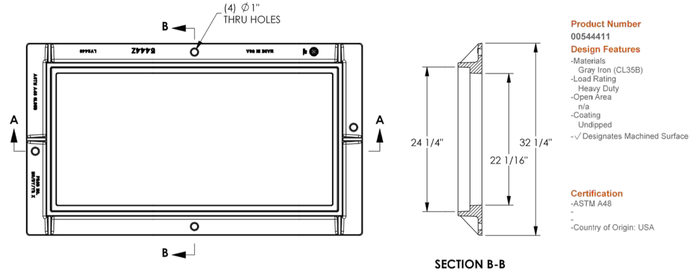
NOTES

1. COMPONENTS OF MANUFACTURING OF PRECAST CONCRETE MANHOLE SHALL CONFORM TO THE REQUIREMENT OF ASTM C-478 LATEST EDITION.
2. ALL PRECAST CONCRETE STRUCTURES TO BE SUFFICIENT TO WITHSTAND AASHTO HS20-44 LOADING.

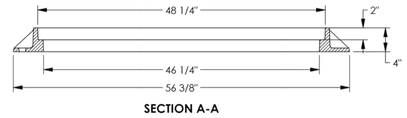
PRECAST 4', 5' OR 6' DRAIN MANHOLE

NOT TO SCALE

5444Z Frame



SECTION B-B



SECTION A-A

Product Number
00544411

Design Features
-Materials
Gray Iron (CL35B)
-Load Rating
Heavy Duty
-Open Area
n/a
-Coating
Undipped
-√ Designates Machined Surface

Certification
-ASTM A48
-
-
-Country of Origin: USA

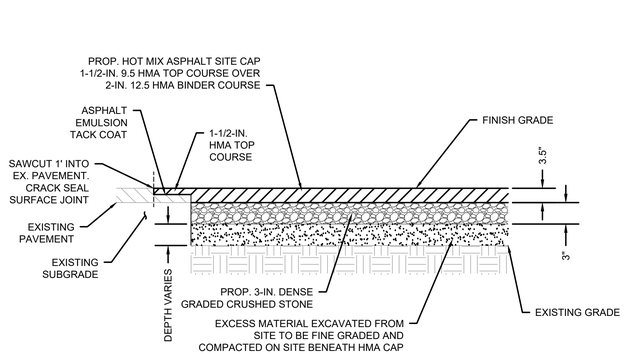
Drawing Revision
6/17/2011 Designer: DEW
8/27/2019 Revised By: DEF

Disclaimer
Weights (lbs/kg), dimensions (inches/mm) and drawings provided for your guidance. We reserve the right to modify specifications without prior notice.

Contact
800 626 4653
ejco.com

TYPICAL 4-INCH DOUBLE GRATE FRAME DETAIL

NOT TO SCALE



Notes:
1. Inlet & Outlet Connections To Be Grouted After Installation.
2. The Cover Should Be Positioned Over The Inlet Drop Pipe And The Vent Pipe.
3. The Stormceptor System Is Protected By One Or More Of The Following U.S. Patents: #4985148, #5498332, #5725760, #5753115, #5849181, #6068765, #6371690.
4. Contact Northern Concrete Pipe, Inc. For Further Details Not Listed On This Drawing.

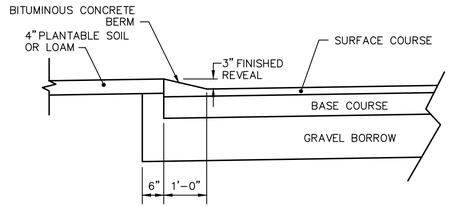
TYPICAL PRECAST STORMCEPTOR STC 900

NOT TO SCALE

NOTES:
1. PAVEMENT SHALL BE IN ACCORDANCE WITH SECTION 460 OF THE MASSACHUSETTS STANDARD SPECIFICATIONS.
2. DENSE GRADED CRUSHED STONE SHALL BE IN ACCORDANCE WITH SECTION 402 AND M2 OF THE MASSACHUSETTS STANDARD SPECIFICATIONS.
3. NATIVE IN-SITU MATERIAL AND EXCESS MATERIAL EXCAVATED FROM THE SITE FOR REUSE UNDER THE DENSE GRADED GRAVEL SHALL MEET THE REQUIREMENTS OF SECTION M1.03.0 TYPE D

TYPICAL HOT MIX ASPHALT CAP DETAIL

NOT TO SCALE



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 470 OF THE MASSDOT STANDARD SPECIFICATIONS.
2. BITUMINOUS BERM CAN BE PLACED AT THE SAME TIME THAT THE SURFACE COURSE LAYER IS PLACED ON THE PROJECT ROADWAY, OR IT CAN BE INSTALLED IN A SEPARATE OPERATION.

BITUMINOUS BERM DETAIL

NOT TO SCALE

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: TD
DESIGNED BY: TD
CHECKED BY: KMA

REGISTERED PROFESSIONAL — KEVIN M. AGNEW, COMMONWEALTH OF MASSACHUSETTS, REGISTERED PROFESSIONAL ENGINEER — 4.9.21

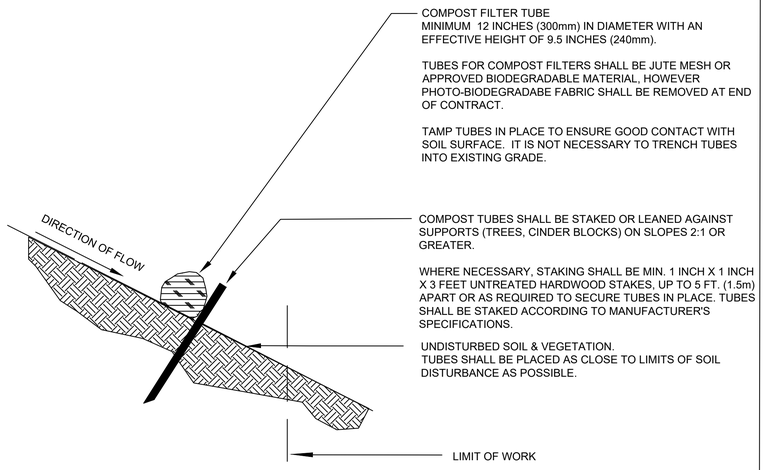
PREPARED BY: BETA — www.BETA-Inc.com

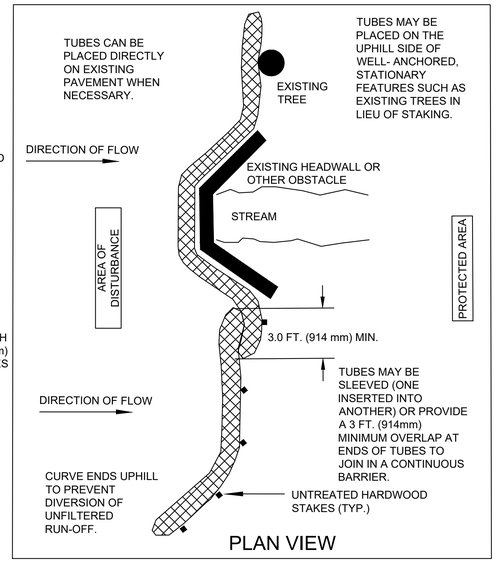
SUBCONSULTANT

SCALE: AS SHOWN
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: **BARNSTABLE COUNTY FIRE TRAINING ACADEMY**
CONSTRUCTION DETAILS
BARNSTABLE, MA

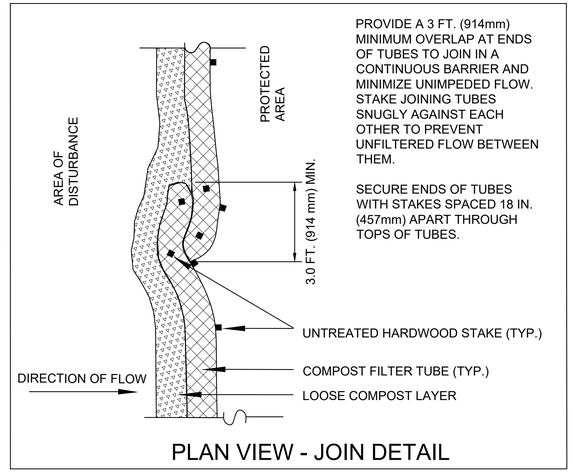
BETA JOB NO. 6206
ISSUE DATE 4/14/2021
SHEET NO. 6





GENERAL NOTES:

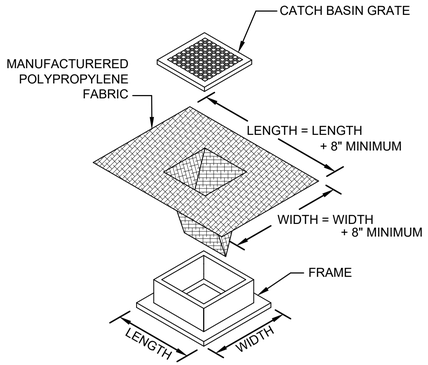
1. PROVIDE A MINIMUM TUBE DIAMETER OF 12 INCHES (300mm) FOR SLOPES UP TO 50 FEET (15.24m) IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER TUBE DIAMETER OR ADDITIONAL COURSING OF FILTER TUBES TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATIONS WITH LONGER OR STEEPER SLOPES.
2. INSTALL TUBES ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
3. TUBE LOCATION MAY BE SHIFTED TO ADJUST TO LANDSCAPE FEATURES, BUT SHALL PROTECT UNDISTURBED AREA AND VEGETATION TO MAXIMUM EXTENT POSSIBLE.
4. DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
5. ADDITIONAL TUBES SHALL BE USED AT THE DIRECTION OF THE ENGINEER.
6. ADDITIONAL STAKING SHALL BE USED AT THE DIRECTION OF THE ENGINEER.



SEDIMENT CONTROL BARRIER

NOT TO SCALE

20150226_MassDOT_rev7



NOTES

1. LENGTH AND WIDTH OF POLYPROPYLENE FABRIC MUST EXCEED EXISTING CATCH BASIN FRAME DIMENSIONS BY A MINIMUM OF 8".
2. REMOVE CATCH BASIN GRATE AND INSTALL POLYPROPYLENE FABRIC OVER CATCH BASIN FRAME. REPLACE CATCH BASIN GRATE TO SECURE POLYPROPYLENE FABRIC IN PLACE.
3. CATCH BASIN EROSION CONTROL TO BE PLACED AT ALL CATCH BASIN WITHIN PROJECT LIMITS.

TYPICAL CATCH BASIN EROSION CONTROL PROTECTION

NOT TO SCALE

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: TD

DESIGNED BY: TD

CHECKED BY: KMA

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: AS SHOWN

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

BARNSTABLE COUNTY FIRE TRAINING ACADEMY

CONSTRUCTION DETAILS

BARNSTABLE, MA

BETA JOB NO. 6206

ISSUE DATE 4/14/2021

SHEET NO. 7

APPENDIX C

Municipal Notifications

May 2021

Mark S. Ells, Town Manager
Town of Barnstable
200 Main Street
Hyannis, MA 02601

Re: Immediate Response Action Plan Modification No. 3
Barnstable County Fire and Rescue Training Academy
155 South Flint Rock Road
Barnstable, Massachusetts
DEP Release Tracking No. 4-26179
Project File [6206]

Dear Mr. Ells:

As required by the Massachusetts Contingency Plan (MCP) 310 CMR 40.1403(3)(e) and 40.1403(6), BETA Group, Inc. (BETA) is notifying you on behalf of our client, Barnstable County, that a public comment Draft Immediate Response Action (IRA) Plan Modification (Mod) No. 3 is being submitted to the Massachusetts Department of Environmental Protection – Bureau of Waste Site Cleanup (MassDEP – BWSC) for the release Site referenced as the Barnstable County Fire and Rescue Training Academy (BCFRTA) located at 155 South Flint Rock Road in Barnstable, Massachusetts (the Site).

This public comment Draft IRA Plan Modification No. 3 is an amendment to the IRA Plan Mod. No.2 (that was finalized and submitted in December 2019). This IRA Plan Mod. No. 3 details the minor revisions and additions made to the capping measures at the Site as a result of a lengthy approval process with the Town of Barnstable Conservation Commission and MassDEP.

At this time, IRA activities are ongoing. Continuing IRA activities will include operation and monitoring the on-Site Groundwater Pump and Treatment System (GWPTS), including performance sampling of GWPTS, review and evaluation of the on-Site GWPTS operation and maintenance activities as they affect groundwater treatment, and periodic groundwater monitoring.

The public comment Draft IRA Plan Modification document is available electronically via the searchable sites database of the MassGOV / MassDEP website via the following link:

https://eeaonline.eea.state.ma.us/portal#!/wastesite/4-0026179.

A copy of the Report is available upon request by contacting the undersigned at BETA at (401) 333.2382. It is also available for review at MassDEP Southeast Regional Office (SERO), 20 Riverside Drive in Lakeville, Massachusetts 02347. You also have the right to request additional Public Involvement activities under 310 CMR 40.1403(9).

BETA GROUP, INC.
701 George Washington Highway, Lincoln, RI 02865
P: 401.333.2382 | F: 401.333.9225 | W: www.BETA-Inc.com

If you have any questions or comments, please do not hesitate to contact our office.

Sincerely,

BETA Group, Inc.

Roger P. Thibault, P.E., LSP

Senior Environmental Engineer

Enclosures

CC: Mass Department of Environmental Protection
Southeast Regional Office
20 Riverside Drive
Lakeville, MA 02347

Thomas Mckean, Director
Town of Barnstable Health Division
200 Main Street
Hyannis, MA 02601

Hans Keijser, Supervisor
Town of Barnstable Water Supply Division
47 Old Yarmouth Road
Hyannis, MA 02601

DRAFT

May 2021

Public Involvement Plan Petitioners/Interested Citizens
Public Involvement Plan Mailing List

Re: Notice of Submittal of
Public comment Draft Immediate Response Action Plan Modification No. 3

Site: Barnstable County Fire & Rescue Training Academy Site
155 South Flint Rock Road
Barnstable, MA
RTN 4-26179

Dear Sir or Madam:

Pursuant to the Massachusetts Contingency Plan (MCP) - 310 CMR 40.1405(6) and the final Public Involvement Plan, dated June 27, 2019, the purpose of this letter is to inform you that an Immediate Response Action (IRA) Plan Modification No. 3 has been submitted electronically to MassDEP and is available for public comment. This IRA Plan Modification No. 3 is an amendment to the IRA Plan Mod. No.2 (that was finalized and submitted in December 2019). This IRA Plan Mod. No. 3 details the minor revisions and additions made to the capping measures at the Site as a result of a lengthy approval process with the Town of Barnstable Conservation Commission and MassDEP.

The IRA Plan Modification No. 3 document is available electronically via the searchable sites database of the MassGOV / MassDEP website and the Barnstable County's website via the following links respectively for your review:

https://eeaonline.eea.state.ma.us/portal#!/wastesite/4-0026179

https://www.barnstablecounty.org/bcfta-history/

Copies of the IRA Plan Mod No. 3 are also available at the Hyannis Public Library.

As a listed person on the Barnstable County Fire & Rescue Training Academy (BFTA) PIP Mailing list you are receiving this notice. Per section 4.3 of the final PIP, "Public Comment Periods" you have the opportunity to submit comments on IRA Plan Mod No. 3. Comments on this IRA Plan Modification No. 3 document can be submitted in writing to Mr. Steve Tebo, the Barnstable County Assistant Administrator, or Roger Thibault, the BFTA Site LSP-of-Record via the following contact information.

Steve Tebo, Barnstable County Asset and Infrastructure Manager
Barnstable County
3195 Main Street, PO Box 427
Barnstable, MA 02630
stebo@barnstablecounty.org

Roger Thibault, P.E., LSP, Associate
BETA Group, Inc.
701 George Washington Highway
Lincoln, RI 02865
rthibault@beta-inc.com

Sincerely,

Steve Tebo, Asset and Infrastructure Manager, Barnstable County

CC: Mass Department of Environmental Protection
Southeast Regional Office
20 Riverside Drive
Lakeville, MA 02347