



Release Abatement Measure Plan
62 Whittemore Avenue, Cambridge, MA
CAM 400 Sewer Improvements Project
Release Tracking Number 3-0277
March 10, 2011

TABLE OF CONTENTS

INTRODUCTION

1. RESPONSIBLE PARTY INFORMATION..... 1

2. UTILITY PROJECT DESCRIPTION 2

3. NATURE AND EXTENT OF CONTAMINATION 2

4. RELEVANT REGULATIONS 3

 4.1. MCP PUBLIC INVOLVEMENT PLAN..... 3

 4.2. CAMBRIDGE ASBESTOS PROTECTION ORDINANCE 3

5. OBJECTIVES 4

6. RAM PLAN 4

 6.1. SOIL MANAGEMENT 5

 6.2. GROUNDWATER MANAGEMENT 6

 6.3. SITE RESTORATION..... 6

7. HEALTH & SAFETY PLAN 6

 7.1. ENCLOSURE VENTING 7

 7.2. DUST CONTROL..... 7

 7.3. AIR MONITORING 8

8. REMEDIATION WASTE MANAGEMENT 8

9. IMPLEMENTATION SCHEDULE 9

10. PERMITS..... 9

11. REPORTING 9

12. PUBLIC INVOLVEMENT REQUIREMENTS 9

13. LICENSED SITE PROFESSIONAL 10

FIGURES

- Figure 1 Site Locus
- Figure 2 Site Sketch
- Figure 3 Site 2 Sewer Separation Engineering Detail

APPENDIX

- Appendix A: Activity and Use Limitation – RTN 3-0277
- Appendix B: Hazardous Materials Health & Safety Plan for the Excavation of Soil and Hazardous Materials, Environmental Management Professionals and Covino Environmental Associates, February 2011.
- Appendix C: Asbestos Soil Management Plan for the Excavation of Soil and Hazardous Materials, Environmental Management Professionals and Covino Environmental Associates, February 2011.
- Appendix D: Public Notification Letters

INTRODUCTION

Kleinfelder ▪ S E A is providing engineering design and construction support to the City of Cambridge, Massachusetts for the CAM 400 Sewer Improvements Project in Cambridge, Massachusetts. The CAM 400 project is being constructed to reduce the potential for sewer backup during periods of heavy rain and discharge of combined sewer overflows (CSO) to the Alewife Brook. The project area includes locations associated with the separation of storm and sewer lines in an area bounded to the south by Whittemore Avenue, to the west and north by Alewife Brook Parkway and Massachusetts Avenue, and to the east by Magoun Street. The General Contractor for the construction of CAM 400 is P. Gioioso & Sons, Inc. (PGS).

As part of the CAM 400 improvements, excavation will occur on the property of W.R. Grace & Co.-CONN (W. R. Grace) within the limits of an easement held by the City of Cambridge.

Under Release Tracking Number (RTN) 3-0277, W. R. Grace completed investigations and remedial actions to address a release of VOC's and oil and asbestos fibers in soil. A Class A-3 Response Action Outcome (RAO) for RTN 3-0277 was filed by W. R. Grace on March 13, 2006. As part of the RAO, an Activity and Use Limitation (AUL) restricting use and activities on the property was recorded by W. R. Grace (attached as Appendix A).

CAM 400 excavation and construction activities on W.R. Grace property are subject to the requirements of the AUL. Work on the W. R. Grace property that will require excavation below the existing protective cover includes installation of a new manhole structure, 40 linear feet (lf) of drain line, and a new pipe below an existing utility vault.

Pursuant to 310 CMR 40.1067, remedial actions conducted after submittal of a Class A-3 RAO must be conducted under a Release Abatement Measure (RAM) Plan.

Bureau of Waste Site Cleanup (BWSC) Transmittal Form BWSC-106 (Release Abatement Measure (RAM) Transmittal) was submitted electronically concurrent with this written Plan utilizing eDEP. Figure 1, Site Locus, indicates the project location. Figure 2, Site Sketch, indicates the general limits of the RAM activities in Sites # 1 and # 2 on the W. R. Grace property.

1. RESPONSIBLE PARTY INFORMATION

This RAM is being implemented by the City of Cambridge, Department of Public Works.

Contact: Mr. Owen O'Riordan
Assistant Commissioner for Engineering and City Engineer

Address: Department of Public Works
147 Hampshire Street
Cambridge, MA 02139

Tel.: 617-349-4800

2. UTILITY PROJECT DESCRIPTION

The CAM 400 project includes the separation of existing storm drain and sanitary sewer systems; the rehabilitation of existing drain and sewer pipe; the installation of new storm drain pipe and structures; the installation of new sanitary sewer pipe and structures; the relocation of existing water mains; and, surface improvements including curb, sidewalk and roadway construction / restoration.

Within the limits of the W. R. Grace property, work shall be conducted in two areas, designated as W.R. Grace & Co. - Conn Sites #1 and #2 as shown on Figure 2. At W.R. Grace & Co. - Conn Site # 1, the work includes the cured in place pipe (CIPP) lining of an existing 18 inch x 26 inch drain pipe for a distance of approximately 150 linear feet. The CIPP work does not require excavation to complete. Within Site 1 there is also a common manhole removal, which shall include excavation to install a new drain manhole, 40 linear feet of 24-inch diameter PVC drain pipe, and a 12-inch diameter drain connection to existing Grace lines.

At W.R. Grace & Co. - Conn Site # 2, work will be conducted within an existing combined sewer/drain concrete vault. In order to complete sewer/drain separation, modifications must be made inside the vault. As part of this task the concrete bottom of the vault will be saw-cut to create a 2.5' long by 2' wide trench. This will be hand dug to approximately 20-inches deep to allow for installation of a short section of new piping. The trench will be filled with concrete after pipe installation. Access to the vault will be through the existing top slab and following the flow modifications, a new cast-in-place wall and top slab with new manhole covers will be constructed. See Figure 3.

3. NATURE AND EXTENT OF CONTAMINATION

An area of 24 acres, consisting of 18 individual land parcels owned by W. R. Grace, is subject to an AUL recorded under RTN 3-0277. According to the AUL Opinion prepared by Haley & Aldrich (H&A) under contract to W. R. Grace, the Disposal Site was listed by Massachusetts Department of Environmental Protection (MassDEP) following the detection of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), petroleum, and metals during subsurface investigations conducted in 1984 and 1985. Asbestos was added to the list of contaminants of concern in 1998 following completion of additional investigations. A total of 905 soil and split soil samples were collected by W. R. Grace to evaluate the extent of asbestos fibers in soil; 882 of these samples were submitted for laboratory analysis using polarized light microscopy (PLM) and/or transmission electron microscopy (TEM). According to H&A reports, the highest levels and most consistent detections of asbestos fibers in soil were located in areas where buildings had been located.

While the presence of asbestos fibers in soil or asbestos containing material has not been confirmed in the RAM area, the presence of such is assumed, and excavation and health and safety procedures are being conducted in a manner consistent with the requirements of the AUL and protective of public health.

Detailed information on the nature and extent of contamination is contained with Appendix A, Activity and Use Limitation, RTN 3-0277.

4. RELEVANT REGULATIONS

As noted above, the recording of the AUL and presumed presence of asbestos fibers in soil requires that the excavation and utility installations be conducted in accordance with the requirements of the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000, the Public Involvement Plan, and the Cambridge Asbestos Protection Ordinance (APO), Chapter 8.61.

The AUL requires preparation of a Soil Management Plan by a Licensed Site Professional (LSP), and Health & Safety Plan by an LSP and a Certified Industrial Hygienist (CIH) when work is to be conducted that is likely to disturb soil below the Protective Cover. In certain instances, i.e., when work other than allowed by the AUL are planned, a Airborne Asbestos, Dust, and Odor Management Plan is also required. Work planned under this RAM Plan is allowed in the AUL in Section 1(vi): limited short term utility work. However, the Asbestos Soil Management Plan and the Hazardous Materials Health & Safety Plan prepared for this work include the actions that would be included in a separate Airborne Asbestos, Dust, and Odor Management Plan.

4.1. MCP PUBLIC INVOLVEMENT PLAN

RTN 3-0277 was also a Public Involvement Plan (PIP) Site and a final PIP was submitted to MassDEP in July 2006. While PIP requirements typically cease following the submittal of a Response Action Outcome (RAO) Statement, the AUL for RTN 3-0277 mandates that the PIP requirements remain in force in the event that certain activities, which includes the activities outlined in this RAM, occur. Specifically, the PIP requires preparation and public comment on a RAM Plan, an Asbestos Soil Management Plan (ASMP) and a Hazardous Materials Health & Safety Plan (HMH&SP). The ASMP and HMH&SP have been prepared by the Contractor; a 30-day public comment period on these documents was held and all comments were reviewed and considered prior to finalization of the HMH&SP and ASMP (attached to this report as Appendices B and C).

4.2. CAMBRIDGE ASBESTOS PROTECTION ORDINANCE

The Cambridge Asbestos Protection Ordinance (APO), Chapter 8.61, also applies to activities to be conducted under this RAM Plan. Any property found by the Cambridge Commissioner of Public Health to contain asbestos-contaminated soil or documented to the Commissioner's satisfaction to have been the site of past on-site handling, disposal, manufacturing or processing of asbestos are subject to the provisions of the Ordinance.

The Ordinance addresses soil intrusive activities that have the potential to release particulate matter into ambient air, and regulates excavation, grading, tilling or any other such activity that may cause the release of fugitive dust. Implemented under the direction of the Commissioner of Public Health, it requires particulate dust mitigation and assurance measures.

Of specific relevance to the implementation of the RAM is the APO requirement in 8.61.040.c(c) that mitigation measures (a) (iv) and/or (a) (v) must be implemented if "the proposed soil disturbance is in close proximity to residential areas or children's play areas, i.e. within 500 feet." 8.61.040.a.(iv) requires "covering the site with a layer of clean fill, which must be of sufficient depth such that the proposed disturbance of the soil would occur in and affect only that clean fill layer; 8.61.040.a.(v) requires "erecting a permanent or temporary

structure maintained at partial vacuum sufficient to contain all fugitive dust, with off gas from the evacuation system treated with HEPA filtration."

The APO also requires that a *Draft* Asbestos Soil Management Plan be prepared and submitted to the City for review by the Commissioner. Following the Commissioner's review, a Draft Decision on the ASMP is issued and a 20-day public comment period on the decision document and the Draft ASMP is held. This comment period was held concurrent with the PIP comment period; all comments were reviewed and considered prior to finalization of the attached ASMP.

5. OBJECTIVES

The objectives of the RAM are to:

- Manage the excavation of soils presumed to be impacted by asbestos fibers and, potentially, by other OHM in a manner that is protective of public health and the environment. This RAM Plan allows for management of up to 250 cy of soils;
- Re-use excavated soil to the extent feasible and practical based on geotechnical considerations; and
- Manage surplus soils in accordance with MassDEP and other applicable regulations and policy.

6. RAM PLAN

This Release Abatement Measure (RAM) Plan has been prepared in accordance with 310 CMR 40.0440 to serve as written notification to MassDEP that the City of Cambridge, Massachusetts Department of Public Works (DPW) intends to implement a RAM. The RAM is related to separation of sewer and storm drains within a City-held utility easement on property owned by W. R. Grace.

Work at the site will be performed in accordance with all applicable federal, state, and local regulations, including, but not limited to the Massachusetts Contingency Plan (MCP), local ordinances (including the APO), and OSHA regulations (including, but not limited to, 29 CFR 1910.1000, 29 CFR 1926, and CFR 1910.120), and other applicable state and federal regulations regarding health and safety.

A detailed Asbestos Soil Management Plan has been prepared for the Contractor by Environmental Management Partners (EMP) and Covino Environmental Associates, Inc. The ASMP was prepared by Scott D. Herzog, Certified Industrial Hygienist (CIH), Covino Associates, and by Timothy A. Toomey, LSP, Subsurface Remediation Technologies (SRT)m Rowley, MA, under contract to EMP, and reviewed for consistency with the MCP and the AUL requirements by LSPs for the City of Cambridge (Richard K. Quateman, LSP, CHMM) and for W. R. Grace (John Kastrinos, LSP, P.G., Haley & Aldrich). The ASMP is attached to this RAM Plan as Appendix B.

A detailed Hazardous Materials Health and Safety Plan (HMH&SP) has been prepared for the Contractor by Environmental Management Partners and Covino Environmental Associates, Inc. The HMH&SP was prepared by Scott D. Herzog, CIH, and Timothy Toomey, LSP, under contract to EMP, and reviewed for consistency with the MCP and the AUL requirements by

the LSPs for the City of Cambridge and for W. R. Grace as named above. The HMH&SP is attached to this RAM Plan as Appendix C.

6.1. SOIL MANAGEMENT

In accordance with 8.61.040.a.(v) of the APO, excavation for the installation of utility upgrades will be conducted under negative air enclosures.

Site 1

Site 1 includes the installation of 40 linear feet of new piping and a new manhole structure. An excavator and critical construction materials will be staged in the exclusion zone on the easement prior to the commencement of work and an enclosure constructed around them. The airtight enclosure will be constructed in a way that covers the entire perimeter of the excavation. The enclosure will be constructed of heavy-duty plastic sheeting supported by rigid scaffolding or other framing. The enclosure will be designed to be weather-resistant and will use one or more layers of flame and smoke resistant sheeting. The dimensions of the enclosure will be 30 feet in width, 20 feet in height and 50 feet in length. The enclosure will be designed with two entrances to permit entry of personnel and equipment. Negative air pressure will be maintained utilizing air filtration devices fitted with high efficiency particulate air (HEPA) filters. See the attached Asbestos Soil Management Plan and HMH&SP for greater detail on the enclosure operations.

Excavated soils will be temporarily placed at the edge of the excavation (within the enclosure) during excavation. If soils are staged on unpaved areas the underlying area will be excavated to a depth of six inches (6") following removal of the stockpiled soils to ensure that underlying soils are not impacted by residue asbestos fibers that could potentially be present in subsurface soils.

Surplus soils remaining after backfilling of the trench will be placed in lined roll-off containers that will be brought into the enclosure. The lining will be draped over the side of the containers prior to loading to minimize the potential for soils to fall onto the outside of the container during loading.

The containers will be sealed and decontaminated prior to being removed from the enclosure. It is anticipated that the containers will be removed from the loading area and onto transport trucks using a steel cable on the truck, keeping the transport trucks out of the work area. While it is not anticipated that the trucks used to load the containers will come in contact with soils, they will be inspected to ensure that tires are clean of dirt that may be present on the ground within the enclosure. If evidence of soil is observed, the tires will be cleaned using a high pressure washer before leaving the enclosures.

Following backfill within existing materials to within six inches of the bottom of the previously existing grade (assuming the soil is geotechnically suitable) the excavation and any other excavated area will be backfilled with six-inches (6") of imported clean soil. If the existing soil is geotechnically unsuitable, additional clean fill will be used as required to restore the pre-existing grade. Contract specifications require that soil proposed for import and use for backfill be analyzed for the potential presence of OHM and these results submitted to the City of Cambridge and the City's LSP for review; imported soils must be approved by the LSP. The results will also be furnished to Grace and their LSP for review and approval.

Site 2

Site 2 requires installation of a new pipe and connections below the concrete bottom of an existing utility vault. Based on discussions with the Contractor, the bottom of the vault will be cut with a hand held cut-off saw and the trench necessary for installation of the pipe will be hand dug. Following pipe installation the vault bottom will be resealed with concrete. Prior to the start of work an enclosure will be constructed over or within the utility vault. Negative air pressure will be maintained utilizing HEPA air filtration units. The volume of soil to be generated through trench digging is anticipated to fit within one or two 5-gallon plastic buckets. The bucket(s) will be sealed and decontaminated prior to removal from the containment at the completion of work. The surplus soil shall be disposed of as asbestos waste.

See the attached Asbestos Soil Management Plan and Health and Safety Plan for details on the enclosure operations.

6.2. GROUNDWATER MANAGEMENT

Groundwater is not anticipated to be encountered during utility installations. In the event that groundwater is encountered it will be managed in accordance with applicable U.S. Environmental Protection Agency (EPA) and MassDEP regulations, including the requirements of the National Pollution Discharge Elimination System (NPDES).

Based on the presumed presence of asbestos fibers in soil, groundwater collected for construction dewatering would be filtered prior to discharge to capture asbestos fibers potentially present in sediment. Solids collected by the filters would be consolidated with the surplus soil and disposed of as an asbestos waste; containers used for the surplus soils will be sealed and decontaminated prior to being removed from the enclosure.

6.3. SITE RESTORATION

In accordance with the AUL obligations, the existing Protective Cover shall be restored to a condition equal to that in place prior to the start of work and in accordance with the Asbestos Soil Management Plan.

7. HEALTH & SAFETY PLAN

A detailed Hazardous Materials Health & Safety Plan has been prepared for the Contractor by Environmental Management Partners and Covino Environmental Associates, Inc. As noted above, the HMH&SP was prepared by Scott D. Herzog, CIH, and Timothy Toomey, and reviewed for consistency with the MCP and the AUL requirements by LSPs for the City of Cambridge and for W. R. Grace. The HMH&SP documents methods to protect workers and the public during construction activities on the W. R. Grace property. As part of this work, air monitoring within the enclosures and surrounding the enclosures will be conducted. This program is summarized in this RAM Plan; for additional details on the air monitoring program and other actions being taken to protect worker and public health, please refer to the attached HMH&SP in Appendix B. Note that the HMH&SP satisfies the requirements of an Airborne Asbestos, Dust and Odor Management Plan referenced in the AUL

The HMH&SP indicates the following general precautions to be taken during utility installation:

- Construction of a 30 x 50 foot enclosure prior to soil excavation in Site 1 and an appropriately sized enclosure in Site 2;
- Venting of enclosures with HEPA filter controls;
- Dust control and air monitoring within the enclosures;
- Odor control;
- Dust control and perimeter air monitoring;
- Contingency plans for work stoppage based on review of air monitoring data;
- Misting/Adequately wetting of site soils;
- Placement of excess soil into lined and covered roll-off containers prior to removal from the structure(s);
- Removal of covered roll-off containers within 48 hours of date of generation; and
- Backfilling trench with site soil and placement of six inches of imported clean fill and asphalt pavement for final cover in Site 1 and backfilling of the trench with concrete in Site 2.

When excavation within the enclosure is conducted workers will wear Level C personal protective equipment (PPE) – half face respirator. Changes in the PPE level may be recommended by the CIH based on the results of air monitoring data collected from within each enclosure.

7.1. ENCLOSURE VENTING

Each enclosure will be maintained under a pressure differential and vented using air filtration devices fitted with HEPA filters. The venting system will be designed to exchange sufficient air to allow normal working conditions with respect to emissions from construction equipment within the enclosure. The air filtration devices will be cleaned and have new HEPA filters installed and sealed before arrival at the work area. The air filtration devices will be sealed to the enclosure and will vent air outside the enclosure. Additional air filtration devices may be installed based on the results of air testing inside the enclosure, as well as visual indicators (smoke and odor associated with construction equipment located within the enclosure).

A manometer will be installed at each entrance to the enclosure to insure the pressure differential between the inside of the enclosure and the outside is maintained. The goal will be to maintain a pressure differential of 0.02 inches water gauge at all times when personnel are working in the enclosure. A pressure differential will be maintained throughout the construction period and until post excavation clearance is conducted within the enclosure(s).

7.2. DUST CONTROL

Water will be used inside the enclosure to control the potential for airborne dust. A fire hose and fogging nozzle(s) will be located inside the enclosure. The soil will be adequately wetted to control dust generation during excavation and before being either backfilled into the excavation(s) or loaded into lined roll-off containers. The containers will be sealed, covered, and decontaminated prior to be removed from the enclosure.

At the conclusion of each working day any stockpiled soil and any open trench will be securely covered with polyethylene sheeting to minimize the potential for off-hours disturbance of soils.

7.3. AIR MONITORING

Dust monitoring will be performed hourly using a TSI Dust-Trak respirable particulate monitor or equivalent when soil intrusive activities are underway in the enclosure. Measurements will also be collected upwind, downwind and crosswind of the enclosure. In the event two consecutive hourly readings for respirable particulate at the perimeter of the enclosure exceed 75 micrograms per cubic meter of air (75 µg/m³) a dust suppression program will be implemented as discussed in the HMH&SP. In the event any two hourly readings in a twenty-four hour period for respirable particulate exceed 150 µg/m³ (National Ambient Air Quality standard) shall result in a temporary stoppage of work and a review of the dust control practices.

Continuous asbestos monitoring will be performed in and around the perimeter of the enclosure including samples on the upwind, downwind and side-wind sides within 50 feet of the enclosure. The samples will be collected in accordance with NIOSH Method 7400 using 0.8 micron MCE filters. The samples will be collected open-face at breathing zone height for a minimum of two hours. The samples will be analyzed on site by an inspector licensed by DOS in the Commonwealth of Massachusetts. The analyst shall be a successful participant in the Asbestos Analyst Registry (AAR). The samples will be analyzed using phase contrast microscopy using standard counting rules. In the event two consecutive samples within a twenty-four hour period exceed 0.01 fibers per cubic centimeter (f/cc), site activities will temporarily stop and the dust control program reviewed. Work may recommence when containment measures deemed sufficient by the Commissioner to prevent further exceedances have been implemented.

8. REMEDIATION WASTE MANAGEMENT

All surplus excavated soil and fill material will be characterized prior to disposal. The characterization requirements may vary depending on the site selected to receive soil for disposal. At this time, excess soil is anticipated to be disposed of at the Waste Management, Inc. (WMI) Turnkey Landfill located in Rochester, New Hampshire.

Because the soil will be excavated from an industrial/urban setting, the WMI operating permit requires that the soil be analyzed for fill characteristics including total petroleum hydrocarbons (TPH), polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), RCRA 8 metals, pH, flashpoint, reactivity and corrosivity. Due to an agreement between PGS, the City and W.R. Grace that the soil will be assumed to contain asbestos fibers, WMI will not require any additional site specific sampling and analysis of the excess soil for its asbestos fiber concentration.

Characterization samples will be collected from the roll-off containers while they are within the negative air enclosure and prior to sealing of the containers.

Soil will be tracked using either a Bill of Lading (BOL) or an asbestos shipping manifest. Soil will be transported to the landfill within 48-hours following the completion of the excavation. All protective gear, decontamination fluids (for both personnel and equipment), and other

disposal materials will be disposed of in accordance with the asbestos soil management plan and applicable regulations. Soiled personal protective equipment will be collected and placed in drums for later disposal.

9. IMPLEMENTATION SCHEDULE

Work under this RAM at the W. R. Grace property is scheduled to begin on or after March 1, 2011 and be completed within two weeks.

The table below summarizes the anticipated RAM schedule.

Initiation of RAM Activities	March 2011
Completion of RAM activities	March 31, 2011
RAM Completion Report	Within 120 days of completion of RAM activities.

10. PERMITS

In accordance with the requirements of the Cambridge Asbestos Protection Ordinance, the Asbestos Soil Management Plan has been reviewed and will be approved by the Commissioner of Health, City of Cambridge, MA prior to RAM implementation.

An Asbestos Notification Form (ANF-001) has also been submitted to MassDEP by the Contractor for excavation of soils presumed to be impacted by asbestos.

No other approvals or permits are required to conduct the work.

11. REPORTING

A RAM Completion Report will be prepared and submitted to MassDEP within 60-days of completion of RAM activities. The report will document activities at the site and will include:

- A succinct summary of information and data pertaining to the discovery, location and evaluation of encountered contamination, and of all response actions undertaken;
- Documentation on the management of Remediation Waste, Remedial Additives and/or Remedial Wastewater managed at the site; and
- Details on any proposed or ongoing active or passive remedial systems that will remain in place at the site.

If a RAM Completion Report is not submitted to MassDEP within 120-days following initiation of RAM activities, a RAM Status Report will be submitted prior to the RAM Completion Report.

12. PUBLIC INVOLVEMENT REQUIREMENTS

In accordance with the requirements of 310 CMR 40.1400, the Chief Municipal Officer and the Commissioner of Public Health of the City of Cambridge have been notified of the intent of the City of Cambridge to implement this RAM Plan. The public notification also includes notification that Site workers are anticipated to be wearing Level C personal protective

equipment (PPE) while within the enclosures. Copies of the notification letters are provided as Appendix D.

As noted above, the AUL for RTN 3-0277 requires that the public be provided the opportunity to comment on a draft of the RAM Plan. A public comment period on this RAM Plan was held between January 28 and March 2, 2011. All comments received during this period reviewed and considered prior to finalizing this RAM Plan.

13. LICENSED SITE PROFESSIONAL

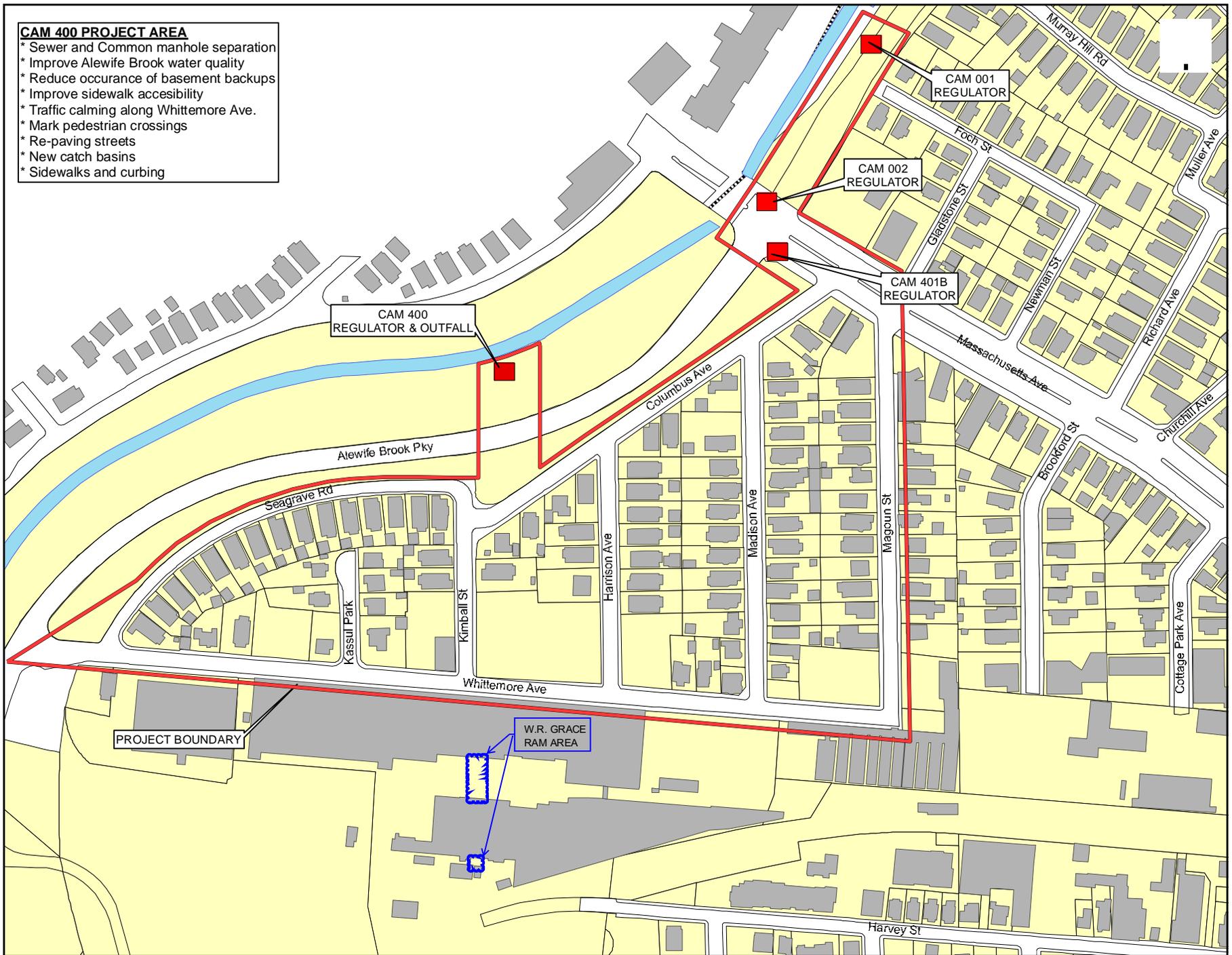
The LSP responsible for overseeing the work for this RAM is:

Richard K. Quateman
LSP License No. 7716
Kleinfelder • S E A Consultants, Inc.
215 First Street, Suite 320
Cambridge, MA 02142
Telephone: 617.497.7800

FIGURES

CAM 400 PROJECT AREA

- * Sewer and Common manhole separation
- * Improve Alewife Brook water quality
- * Reduce occurrence of basement backups
- * Improve sidewalk accessibility
- * Traffic calming along Whittemore Ave.
- * Mark pedestrian crossings
- * Re-paving streets
- * New catch basins
- * Sidewalks and curbing



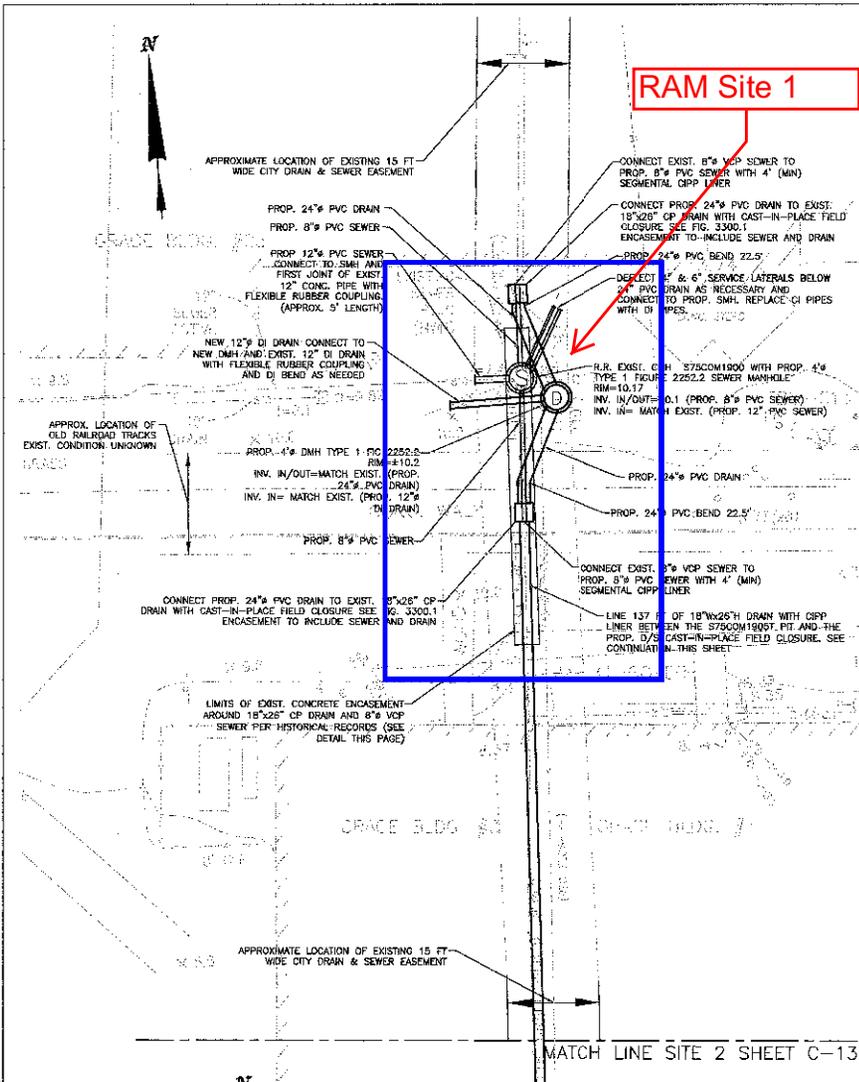
CAM 400 SEWER SEPARATION/ FLOATABLES CONTROL PROJECT AREA

CITY OF CAMBRIDGE, MA

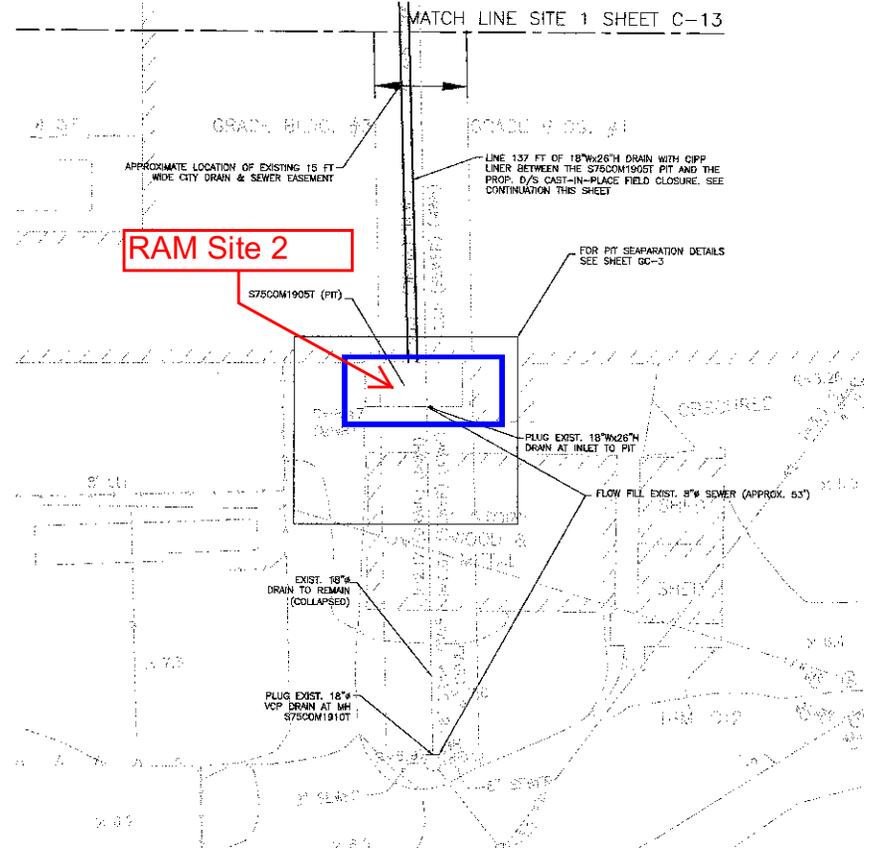
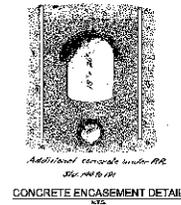
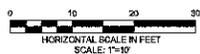
SEA

SEA CONSULTANTS INC.
Sewer & Stormwater Solutions





WR GRACE PROPERTY SITE 1
PLAN



WR GRACE PROPERTY SITE 2
PLAN

CONFORMED SET

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**FIGURE 2
SITE SKETCH**



Scale	1"=10'			
Date	JANUARY 15, 2010			
Job No.	1006790			
Designed by	AMF			
Drawn by	AMF			
Checked by	CHC	No.	Description	Date
Approved by	WCP		REVISIONS	



CITY OF CAMBRIDGE, MA ALEWIFE BROOK FLOATABLES CONTROL (CONTRACT 4) AND CAM 400 SEWER SEPARATION PROJECT (CONTRACT 13)
GRACE PROPERTY PLAN

Sheet No. C-13
File No.

W.R. Grace
RAM Site 2

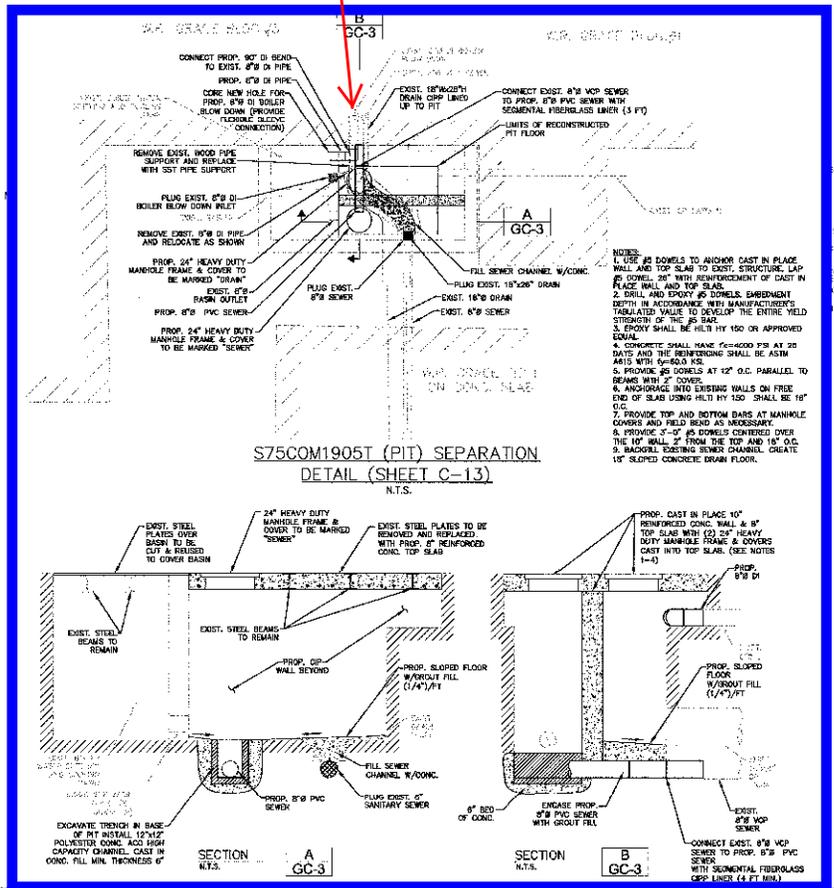


FIGURE 3 - Site 2
Sewer Separation
Engineering Detail

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 SEA <small>CONSULTANTS INC.</small> <small>CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE</small> <small>ROCKY HILL, CONNECTICUT AUGUSTA, MAINE</small> <small>FRANKLIN, MASSACHUSETTS</small>	 MWH <small>BOSTON MASSACHUSETTS</small>		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>State</td> <td>AS NOTED</td> <td></td> <td></td> </tr> <tr> <td>Date</td> <td>JANUARY 16, 2010</td> <td></td> <td></td> </tr> <tr> <td>Job No.</td> <td>100520</td> <td></td> <td></td> </tr> <tr> <td>Designed by</td> <td>AMF</td> <td></td> <td></td> </tr> <tr> <td>Drawn by</td> <td>AMF</td> <td></td> <td></td> </tr> <tr> <td>Checked by</td> <td>DHC</td> <td>No.</td> <td>Description</td> </tr> <tr> <td>Approved by</td> <td>WCF</td> <td></td> <td>REVISIONS</td> </tr> </table>	State	AS NOTED			Date	JANUARY 16, 2010			Job No.	100520			Designed by	AMF			Drawn by	AMF			Checked by	DHC	No.	Description	Approved by	WCF		REVISIONS		CITY OF CAMBRIDGE, MA ALEWIFE BROOK FLOATABLES CONTROL (CONTRACT 4) AND CAM 400 SEWER SEPARATION PROJECT (CONTRACT 13) GENERAL CIVIL - STRUCTURE DETAILS CONTINUED	Sheet No. File No.
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Approved by	WCF		REVISIONS																															

APPENDIX A

Activity & Use Limitation RTN 3-0277

UNDER SEPARATE COVER

APPENDIX B

Hazardous Materials Health & Safety Plan for the Excavation of Soil and Hazardous Materials

UNDER SEPARATE COVER

APPENDIX C

Asbestos Soil Management Plan **for the Excavation of Soil and Hazardous Materials**

UNDER SEPARATE COVER

APPENDIX D

Public Notification Letters

February 28, 2011

Robert W. Healy, City Manager
Cambridge City Hall, 2nd Floor
795 Massachusetts Avenue
Cambridge, MA 02139

Mr. Sam Lipson
Director of Environmental Health
Cambridge Public Health Department
119 Windsor Street, Ground Level
Cambridge, MA 02139

RE: Notice of Release Abatement Measure
Notice of Level C Personal Protective Equipment
CAM 400 Sewer Improvements Project
MassDEP Release Tracking Number (RTN) 3-0277
62 Whittemore Avenue, Cambridge, MA
W.R. Grace & Co.-CONN Property
KLF/SEA Reference No.: 2008288.01-A

Dear Messer's Healy and Lipson:

This letter is transmitted as required in the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000 to inform you of the intent of the City of Cambridge Department of Public Works (DPW) to conduct a Release Abatement Measure (RAM) Plan on the property of W. R. Grace & Co-CONN (W.R. Grace). The planned construction activity on the W.R. Grace property is being performed as a part of the City of Cambridge DPW CAM 400 Sewer Separation/Alewife Floatables Control Project, a larger upgrade of the entire sewer system that serves the Alewife area, to reduce the potential for sewer backup during periods of heavy, rain and discharge of combined sewer overflows (CSO) to the Alewife Brook.

The work to be conducted consists of the excavation of a 40 foot long trench to install two new manhole structures and associated piping. It also includes a small excavation inside an existing concrete vault to install a trench measuring approximately 2.5 feet long and 2 feet wide.

An Activity and Use Limitation (AUL) recorded by W. R. Grace encompasses the area in which the work is to be conducted. The AUL addresses the potential for the presence of asbestos fibers in soil and establishes conditions to ensure ongoing protection of public health and the environment. The MCP, in 310 CMR 40.1067, requires that excavation of soils within an area covered by an AUL be conducted as a Release Abatement Measure (RAM) Plan. This RAM will be implemented assuming that asbestos fibers are present in subsurface soils.

Accordingly, this work will be conducted within temporary containment structures to be placed over each planned work area. The structures will be maintained at a partial vacuum to contain any fugitive dust during soil excavation and handling and piping and structure installation. Exhaust from the vacuum system will be treated with HEPA filtration. Perimeter air monitoring surrounding the containment area will be conducted to ensure the efficacy of the containment system. The precautions being taken, particularly the temporary containment structures, exceed the state standards for containment, but are intended to comply with the strictest interpretation of the Cambridge Asbestos Protection Ordinance.

Robert W. Healy, City Manager
Sam Lipson, Director of Environmental Health
February 28, 2011
Page 2



The MCP also requires that you be notified if work on a residential property is to be conducted by workers wearing respirators (Levels A, B, and C personal protective equipment (PPE)). While the W.R. Grace work is not a residential property, the work will be conducted in proximity to a residential neighborhood; we are providing this notification as an additional courtesy so that you will be aware that workers within the enclosures are anticipated to be wearing Level C PPE. This is a conservative precaution to ensure worker safety.

Should you have any questions regarding the CAM 400 project or the work specifically to be conducted on the property of W.R. Grace, please do not hesitate to contact us or Ms. Catherine Daly Woodbury at the City DPW (617-349-4818).

Respectfully yours,

KLEINFELDER/S E A CONSULTANTS

A handwritten signature in blue ink that reads 'R. K. Quateman'. The signature is written in a cursive style with a long, sweeping underline.

Richard K. Quateman, LSP, CHMM
Principal Scientist

cc: Ms. Catherine Daly Woodbury, City of Cambridge DPW
Mr. Michael Cunningham, Kleinfelder · S E A
file