MAG910183

## B. Suggested Form for Notice of Intent (NOI) for the Remediation General Permit

**1. General site information.** Please provide the following information about the site:

| | | | | |
|---|---|---|---|---|
| a) Name of **facility/site**:<br>Murphy Residence | | **Facility/site** address:<br>42 Bayley Street, Westwood, MA 02090-9230 | | |
| Location of **facility/site**:<br>longitude: 42.21 latitude: 71.22 | Facility SIC code(s):<br>n/a | Street:<br>42 Bayley Street | | |
| b) Name of **facility/site owner:** Patricia Murphy | | Town: Westwood | | |
| Email address of owner:<br>n/a | | State:<br>MA | Zip:<br>02090 | County:<br>Norfolk |
| Telephone no.of facility/site **owner**: (781) 329-3359 | | | | |
| Fax no. of facility/site **owner**: | | **Owner** is (check one): 1. Federal____ 2. State/Tribal____<br>3. Private ✓ 4. other, if so, describe: | | |
| Address of **owner** (if different from site): | | | | |
| Street: | | | | |
| Town: | State: | Zip: | County: | |
| c) Legal name of **operator**:<br>LFR Levine-Fricke, Inc. | **Operator** telephone no: (401) 738-3887 | | | |
| | **Operator** fax no.: (401) 732-1686 | **Operator** email:<br>Rick.Sullivan@lfr.com | | |
| **Operator** contact name and title: Rick Sullivan, Senior Engineer | | | | |



JAN 5 2006

| Address of **operator** (if different from owner): | Street: 300 Metro Center Blvd. Suite #250 | | |
|---|---|---|---|
| Town: Warwick | State: RI | Zip: 02886 | County: Kent |

d) Check "yes" or "no" for the following:
1. Has a prior NPDES permit exclusion been granted for the discharge? Yes ✓ No___, if "yes," number:
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Yes___ No ✓, if "yes," date and tracking #:
3. Is the discharge a "new discharge"as defined by 40 CFR 122.2? Yes ✓ No___
4. For sites in Massachusetts, is the discharge covered under the MA Contingency Plan (MCP) and exempt from state permitting? Yes ✓ No___

e) Is site/facility subject to any State permitting or other action which is causing the generation of discharge? Yes ✓ No___
If "yes," please list:
1. site identification # assigned by the state of NH or MA: RTN #3-24626
2. permit or license # assigned: n/a
3. state agency contact information: name, location, and telephone number:
Paul Giddings, MA DEP Northeast, One Winter St., Boston, MA 617-292-5500

f) Is the site/facility covered by any other EPA permit, including:
1. multi-sector storm water general permit? Y___ N ✓, if Y, number:
2. phase I or II construction storm water general permit? Y___ N ✓, if Y, number:
3. individual NPDES permit? Y___ N ✓, if Y, number:
4. any other water quality related permit? Y___ N ✓, if Y, number:

**2. Discharge information.** Please provide information about the discharge, (attaching additional sheets as needed) including:

a) Describe the discharge activities for which the owner/applicant is seeking coverage:

A remedial system was implemented to capture and treat impacted groundwater resulting from a release of #2 fuel oil beneath a basement floor and into a residential perimeter drain that ultimately discharges into a wetland and stream.

| b) Provide the following information about each discharge: | 1) Number of discharge points: 1 | 2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, $ft^3/s$)? Max. flow 0.02 Average flow 0004 Is maximum flow a **design value**? Y ✓ N___ For average flow, include the units and appropriate notation if this value is a design value or estimate if not available. |
|---|---|---|

3) Latitude and longitude of each discharge within 100 feet: pt.1:long. 42.20 lat. 71.21; pt.2: long.___ lat.___; pt.3: long.___ lat.___; pt.4:long.___ lat.___; pt.5: long.___ lat.___; pt.6:long.___ lat.___; pt.7: long.___ lat.___; pt.8:long.___ lat.___; etc.

| | |
|---|---|
| 4) If hydrostatic testing, total volume of the discharge (gals): | 5) Is the discharge intermittent ✓ or seasonal _____?<br>Is discharge ongoing Yes ✓ No _____? |
| c) Expected dates of discharge (mm/dd/yy): start 03/21/05 end 12/15/06 | |
| d) Please attach a line drawing or flow schematic showing water flow through the facility including:<br>1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s). | |

3. Contaminant information. In order to complete this section, the applicant will need to take a minimum of one sample of the untreated water and have it analyzed for **all** of the parameters listed in Appendix III. Historical data, (i.e., data taken no more than 2 years prior to the effective date of the permit) may be used if obtained pursuant to: i. Massachusetts' regulations 310 CMR 40.0000, the Massachusetts Contingency Plan ("Chapter 21E"); ii. New Hampshire's Title 50 RSA 485-A: Water Pollution and Waste Disposal or Title 50 RSA 485-C: Groundwater Protection Act; or iii. an EPA permit exclusion letter issued pursuant to 40 CFR 122.3, provided the data was analyzed with test methods that meet the requirements of this permit. Otherwise, a new sample shall be taken and analyzed.

a) Based on the analysis of the sample(s) of the untreated influent, the applicant must check the box of the sub-categories that the potential discharge falls within.

| | | | | | | |
|---|---|---|---|---|---|---|
| Gasoline Only | VOC Only | Primarily Metals | Urban Fill Sites | Contaminated Sumps | Mixed Contaminants | Aquifer Testing |
| Fuel Oils (and ✓ Other Oils) only | VOC with Other Contaminants | Petroleum with Other Contaminants | Listed Contaminated Sites | Contaminated Dredge Condensates | Hydrostatic Testing of Pipelines/Tanks | Well Development or Rehabilitation |

b) Based on the analysis of the untreated influent, the applicant must indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach additional sheets as needed.

| PARAMETER | Believe Absent | Believe Present | # of Samples (1 min-imum) | Type of Sample (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value | | Avg. daily value | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| **1. Total Suspended Solids** | ✓ | | 1 | grab | 2540D | 10000 | <1000 | | | |
| **2. Total Residual Chlorine** | ✓ | | 1 | grab | 4500 | 40 | <40 | | | |
| **3. Total Petroleum Hydrocarbons** | | ✓ | 11 | grab | 418.1 | 400 | 23.6 | .00013 | 12.7 | .000011 |
| **4. Cyanide** | ✓ | | 1 | grab | 4500 | 10 | 11 | .00006 | 11 | .00006 |
| **5. Benzene** | | ✓ | 11 | grab | 8260 | 1 | 19.6 | .00011 | 3.4 | .000003 |
| **6. Toluene** | | ✓ | 11 | grab | 8260 | 1 | 155 | .000879 | 49.1 | .000045 |
| **7. Ethylbenzene** | | ✓ | 11 | grab | 8260 | 2 | 59.1 | .00033 | 14.7 | .000013 |
| **8. (m,p,o) Xylenes** | | ✓ | 11 | grab | 8260 | 2 | 508 | .00288 | 167.5 | .000155 |
| **9. Total BTEX[4]** | | ✓ | 11 | grab | 8260 | 2 | 741.7 | .00421 | 234.7 | .000217 |

[4] BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

| PARAMETER | Believe Absent | Believe Present | # of Samples (1 min-imum) | Type of Sample (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value | | Avg. daily value | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| 10. Ethylene Dibromide (1,2- Dibromo-methane) | ✓ | | 1 | grab | 504.1 | 0.02 | <0.02 | | <0.02 | |
| 11. Methyl-tert-Butyl Ether (MtBE) | | ✓ | 11 | grab | 8260 | 1 | 94 | .00053 | 28.4 | .000026 |
| 12. tert-Butyl Alcohol (TBA) | ✓ | | 1 | grab | 8260 | 20 | <20 | | <20 | |
| 13. tert-Amyl Methyl Ether (TAME) | ✓ | | 3 | grab | 8260 | 1 | 1.5 | .000008 | 0.5 | .0000004 |
| 14. Naphthalene | | ✓ | 11 | grab | 8270 | 5 | 508 | .002883 | 119.8 | .000110 |
| 15. Carbon Tetra-chloride | ✓ | | 1 | grab | 8260 | 2 | <2 | | <2 | |
| 16. 1,4 Dichlorobenzene | ✓ | | 1 | grab | 8260 | 1 | <1 | | <1 | |
| 17. 1,2 Dichlorobenzene | ✓ | | 1 | grab | 8260 | 1 | <1 | | <1 | |
| 18. 1,3 Dichlorobenzene | ✓ | | 1 | grab | 8260 | 1 | <1 | | <1 | |
| 19. 1,1 Dichloroethane | ✓ | | 1 | grab | 8260 | 1 | <1 | | <1 | |
| 20. 1,2 Dichloroethane | ✓ | | 1 | grab | 8260 | 1 | <1 | | <1 | |
| 21. 1,1 Dichloroethylene | ✓ | | 1 | grab | 8260 | 1 | <1 | | <1 | |
| 22. cis-1,2 Dichloro-ethylene | ✓ | | 1 | grab | 8260 | 1 | <1 | | <1 | |
| 23. Dichloromethane (Methylene Chloride) | ✓ | | 1 | grab | 8260 | 5 | <5 | | <5 | |
| 24. Tetrachloroethylene | ✓ | | 1 | grab | 8260 | 2 | <5 | | <5 | |

| PARAMETER | Believe Absent | Believe Present | # of Samples (1 min-imum) | Type of Sample (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value | | Avg. daily Value | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| **25. 1,1,1 Trichloroethane** | ✓ | | 1 | grab | 8260 | <1 | <1 | | <1 | |
| **26. 1,1,2 Trichloroethane** | ✓ | | 1 | grab | 8260 | <1 | <1 | | <1 | |
| **27. Trichloroethylene** | ✓ | | 1 | grab | 8260 | <1 | <1 | | <1 | |
| **28. Vinyl Chloride** | ✓ | | 1 | grab | 8260 | <2 | <2 | | <2 | |
| **29. Acetone** | ✓ | | 1 | grab | 8260 | <50 | <50 | | <50 | |
| **30. 1,4 Dioxane** | ✓ | | 1 | grab | 8260 | <100 | <100 | | <100 | |
| **31. Total Phenols** | ✓ | | 1 | grab | 8270 | <40 | <40 | | <40 | |
| **32. Pentachlorophenol** | ✓ | | 1 | grab | 8270 | <10 | <10 | | <10 | |
| **33. Total Phthalates [5] (Phthalate esthers)** | ✓ | | 1 | grab | 8270 | <20 | <20 | | <20 | |
| **34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]** | ✓ | | 1 | grab | 8270 | <10 | <10 | | <10 | |
| **35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)** | | ✓ | | grab | 8270 | <5 | 4.2 | .000023 | .3545 | .0000003 |
| **a. Benzo(a) Anthracene** | | ✓ | | grab | 8270 | <5 | 0.89 | .000005 | .0809 | .00000007 |
| **b. Benzo(a) Pyrene** | | ✓ | | grab | 8270 | <5 | 0.65 | .000003 | .059 | .00000005 |
| **c. Benzo(b)Fluoranthene** | | ✓ | | grab | 8270 | <5 | 0.87 | .000004 | 0.079 | .00000007 |
| **d. Benzo(k) Fluoranthene** | | ✓ | | grab | 8270 | <5 | 0.43 | .000002 | 0.039 | .00000003 |
| **e. Chrysene** | | ✓ | | grab | 8270 | <5 | 1.07 | .000005 | 0.091 | .00000008 |

[5] The sum of individual phthalate compounds.

| PARAMETER | Believe Absent | Believe Present | # of Samples (1 min-imum) | Type of Sample (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value | | Average daily value | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| **f. Dibenzo(a,h) anthracene** | ✓ | | 11 | grab | 8270 | 5 | <5 | | <5 | |
| **g. Indeno(1,2,3-cd) Pyrene** | | ✓ | 11 | grab | 8270 | 5 | 0.35 | .000001 | 0.031 | .000000 |
| **36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)** | | ✓ | | grab | 8270 | 5 | 200.5 | .001135 | 69.50 | .000063 |
| **h. Acenaphthene** | | ✓ | 8 | grab | 8270 | 5 | 17.3 | .000098 | 6.02 | .000005 |
| **i. Acenaphthylene** | | ✓ | 11 | grab | 8270 | 5 | 4.4 | .000024 | 0.4 | .000000 |
| **j. Anthracene** | ✓ | | 11 | grab | 8270 | 5 | <5 | | <5 | |
| **k. Benzo(ghi) Perylene** | | ✓ | 11 | grab | 8270 | 5 | 0.25 | .000001 | 0.022 | .000000 |
| **l. Fluoranthene** | ✓ | | 11 | grab | 8270 | 5 | <5 | | <5 | |
| **m. Fluorene** | | ✓ | 11 | grab | 8270 | 5 | 24.5 | .000139 | 7.9 | .000007 |
| **n. Naphthalene-** | | ✓ | 10 | grab | 8270 | 5 | 122 | .000692 | 44.8 | .000040 |
| **o. Phenanthrene** | | ✓ | 11 | grab | 8270 | 5 | 28.3 | .000160 | 9.98 | .000009 |
| **p. Pyrene** | | ✓ | 11 | grab | 8270 | 5 | 3.79 | .000021 | 0.334 | .000000 |
| **37. Total Polychlorinated Biphenyls (PCBs)** | ✓ | | 1 | grab | 8260 | 2 | <2 | | <2 | |
| **38. Antimony** | ✓ | | 1 | grab | 200.7 | 30 | <30 | | <30 | |
| **39. Arsenic** | ✓ | | 1 | grab | 200.7 | 50 | <50 | | <50 | |
| **40. Cadmium** | ✓ | | 1 | grab | 200.7 | 0.5 | <0.5 | | <0.5 | |
| **41. Chromium III** | ✓ | | 1 | grab | 200.7 | 4 | 9 | | 9 | |
| **42. Chromium VI** | ✓ | | 1 | grab | 200.7 | 4 | <4 | | <4 | |

| PARAMETER | Believe Absent | Believe Present | # of Samples (1 min-imum) | Type of Sample (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value | | Avg. daily value | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| **43. Copper** | ✓ | | 1 | grab | 200.7 | 0.5 | <0.5 | | <0.5 | |
| **44. Lead** | ✓ | | 1 | grab | 200.7 | 2 | <2 | | <2 | |
| **45. Mercury** | ✓ | | 1 | grab | 245.1 | 0.04 | <0.04 | | <0.04 | |
| **46. Nickel** | ✓ | | 1 | grab | 200.7 | 2 | <2 | | <2 | |
| **47. Selenium** | ✓ | | 1 | grab | 200.7 | 50 | <50 | | <50 | |
| **48. Silver** | ✓ | | 1 | grab | 200.7 | 5 | <5 | | <5 | |
| **49. Zinc** | ✓ | | 1 | grab | 200.7 | 5 | <5 | | <5 | |
| **50. Iron** | ✓ | | 1 | grab | 200.7 | 20 | <20 | | <20 | |
| **Other (describe):** | | | | | | | | | | |

c) For discharges where **metals** are believed present, please fill out the following:

| | |
|---|---|
| *Step 1:* Do any of the metals in the influent have a **reasonable potential** to exceed the effluent limits in Appendix III (i.e., the limits set at zero to five dilutions)? Y____ N____ | If yes, which metals? |
| *Step 2:* For any metals which have **reasonable potential** to exceed the **Appendix III** limits, calculate the **dilution factor (DF)** using the formula in Part I.A.3.c) (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI.<br>What is the dilution factor for applicable metals?<br>Metals:_____<br><br>DF: _____ | Look up the limit calculated at the corresponding dilution factor in **Appendix IV.** Do any of the metals in the **influent** have the potential to exceed the corresponding **effluent** limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)?<br>Y____ N____ If "Yes," list which metals: |

**4. Treatment system information.** Please describe the treatment system using separate sheets as necessary, including:

a) A description of the treatment system, including a schematic of the proposed or existing treatment system:

The system consists of a sump where the impacted groundwater from the perimeter drain is collected. Level control sensors, alarms, and an auto off switch are installed in the transfer sump. The impacted groundwater is pumped to a 24-gallon-per-minute oil/water separator to collect the free-phase fuel oil. The oil/water separator discharges to a transfer sump and then to a 300 lb. anthracite/bentonite vessel to remove the emulsified fuel oil. The waste stream is discharged from the vessel to two 200 lb. liquid phase granulated activated carbon vessels for treatment of dissolved petroleum constituents before discharging into the storm water sewer.

| b) Identify each applicable treatment unit (check all that apply): | Frac. tank | Air stripper | Oil/water separator ✓ | Equalization tanks | Bag filter | GAC filter ✓ |
|---|---|---|---|---|---|---|
| | Chlorination | Dechlorination | Other (please describe): | | | |

c) Proposed **average** and **maximum flow rates** (gallons per minute) for the discharge and the **design flow rate**(s) (gallons per minute) of the treatment system:
Average flow rate of discharge 0.17 Maximum flow rate of treatment system 10 Design flow rate of treatment system 10

d) A description of chemical additives being used or planned to be used (attach MSDS sheets):

No chemical additives will be used.

**5. Receiving surface water(s).** Please provide information about the receiving water(s), using separate sheets as necessary:

| a) Identify the discharge pathway: | Direct____ | Within facility__ | Storm drain ✓ | River/brook____ | Wetlands_____ | Other (describe): |
|---|---|---|---|---|---|---|

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:

The system discharges to downgradient catch basins along Fisher Street. This storm sewer system then discharges to an open water channel between Fisher and Colburn Streets and then discharges to a wetland system behind 163 Colburn Street. This wetland system ultimately discharges to a tributary of Germany Brook.

******Murphy Residence******
**42 Bayley Street**
**Westwood, Massachusetts**

ATTACHMENT A

The discharge(s) referenced in the accompanying letter must be in accordance with the following provisions:

1. No discharge of oil, sufficient to cause a sheen (as defined in 40 CFR 110), occurs to the drainage system. The discharge of a sheen of oil or gasoline constitutes an oil spill and must be reported immediately to the National Response Center (NRC) at (800) 424-8802.

2. Security provisions are maintained to assure that system failure, vandalism, or other incidents will be addressed in a timely fashion, preventing the loss of oil or contaminated water to the drainage system.

3. The flow rate shall be maintained within acceptable operating parameters and shall not exceed the design flow of the treatment system. There shall be no bypass of the treatment system unless unavoidable to prevent loss of life, personal injury, or severe property damage. No filter backwash or other maintenance waters shall be discharged without treatment.

4. Sampling and analysis, in accordance with EPA Methods, must be performed for the following chemicals with the listed limits being applicable:

| | |
|---|---|
| Total Petroleum Hydrocarbons (TPH) | 5 ppm |
| Polynuclear Aromatic Hydrocarbons (PAHs), Group II Total Isomers | 100 ppb |
| Benzene | 5 ppb |
| Toluene | * |
| Ethyl Benzene | * |
| Xylenes | * |
| The total for Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) | 100 ppb |
| Naphthalene | 20 ppb |

Should sampling indicate the presence of additional chemicals, discharge concentrations should not exceed the Federal Drinking Water Standards (MCL's) or 100 ppb, whichever is lower, in the effluent.

**Solids** - These waters shall be free from floating, suspended, and settleable solids in concentrations or combinations that would impair any use assigned to this class, that would cause esthetically objectionable conditions, or that would impair the benthic biota or degrade the chemical composition of the bottom sediments.

**Color and Turbidity** - These waters shall be free from color and turbidity in concentrations or combinations that are esthetically objectionable conditions or that would impair the use assigned to this class.

Laboratory samples must be obtained from the influent to treatment, and from the effluent to the drainage system once each day for the first, third and sixth day of discharge. These samples must be analyzed with a 72-hour turnaround time. If the system is working properly, sampling for the remainder of the month shall be weekly and then monthly. Thereafter. The turnaround time for these samples shall ensure that no more than seven days pass between the sampling event and when the results are received and reviewed by the contractor.

If analysis indicates that the effluent limits have been exceeded, then the system must be shut down immediately and the problem corrected. Upon restarting the system, a sample must be taken and there must be 24 hour turnaround for the results. If the analysis indicates that the problem has been corrected, then the sampling schedule shall resume. If not, then the system shall be shut down again and repaired.

5. Analytical Reports, with quality control information, are to be reported to EPA and the MADEP or NHDES Project Manager by the 28th of the following month. Reports to EPA should be sent to:

Municipal Permits Branch (CMP)
ATTN: Michael J. O'Brien
Office of Ecosystem Protection
U. S. Environmental Protection Agency
One Congress St., Suite 1100
Boston, MA 02114-2023

Please include assigned reference # on all correspondence.

6. You, or your contractor, must maintain copies of all analytical reports, and quality control information for a period of 3 years from the date of the report.

You should consider these requirements to be in effect immediately.

LFR
LEVINE•FRICKE

December 1, 2005

Mr. Michael Amaral
Chief, Endangered Species Division
U.S. Fish and Wildlife Service
70 Commercial Street, Suite #300
Concord, NH 03301

Re: Endangered Species Consultation for 42 Bayley Street, Westwood, MA

Dear Mr. Amaral:

LFR Levine-Fricke, Inc. is currently preparing a Notice of Intent (NOI) as required by the Remediation General Permit (RGP) for a National Pollution Discharge Elimination System (NPDES) located at 42 Bayley Street in Westwood, MA (the "Site"). Part of the requirement for this permit states that a consultation with Federal Services must be undertaken to ensure that the potential discharge will not adversely affect endangered species, designated critical habitat, essential fish habitat, or national historic places that are in proximity to the potential discharge.

The system in question was designed to remediate the release of #2 fuel oil to the environment via discharge to a storm sewer. A treatment system was implemented at the Site to treat impacted groundwater, which is then discharged to downgradient catch basins to an open water channel, through two culverts into a wetland system, and ultimately, an unnamed tributary of Germany Brook.

The system consists of a sump where the impacted groundwater from a perimeter drain is collected. A vertical "T" is attached to the effluent discharge pipe in the collection sump to prevent discharge of oil to the storm sewer system in the event of a power failure. Level control sensors (high-high and high-low), alarms, and an auto off switch are installed in the transfer sump. Electrical service is segregated to a dedicated sub panel. The impacted groundwater is pumped into a 24-gallon-per-minute oil/water separator to collect the free-phase fuel oil. The oil/water separator discharges to a transfer sump and then to a 100-pound anthracite/bentonite vessel to remove the emulsified fuel oil. The waste stream is then discharged from the anthracite/bentonite vessel to two 200-pound liquid phase granulated activated carbon (GAC) vessels for treatment of dissolved petroleum constituents before discharging the effluent through a flow meter to a storm sewer. Pressure gauges are located up-stream of each GAC vessel unit. Inline sample ports are installed at the influent, midpoint, and effluent sides of the GAC units.

Please advise as to whether discharge from this system will adversely affect any species or habitat located in proximity to the discharge.

If you have any questions regarding this letter, please feel free to contact me at (401) 738-3887.

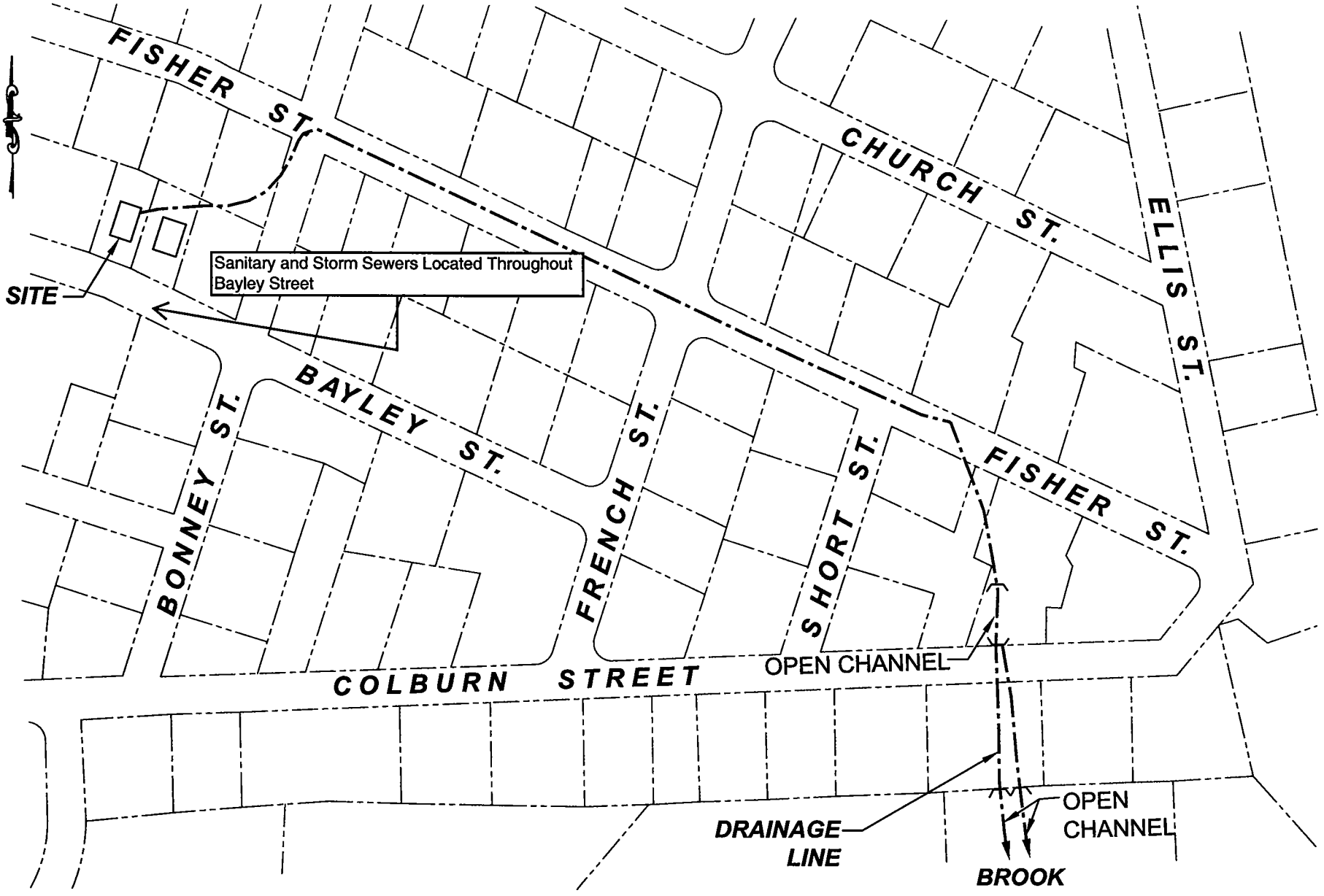
Sincerely,

Janelle Bonn

Janelle Bonn
Staff II Scientist

Attachments:

Figure 1: Site Locus




Notes:

LFR
250 Centerville Road
Building E, Suite 12
Warwick, Rhode Island 02886
Phone: (401) 738-3887
Fax: (401) 732-1686

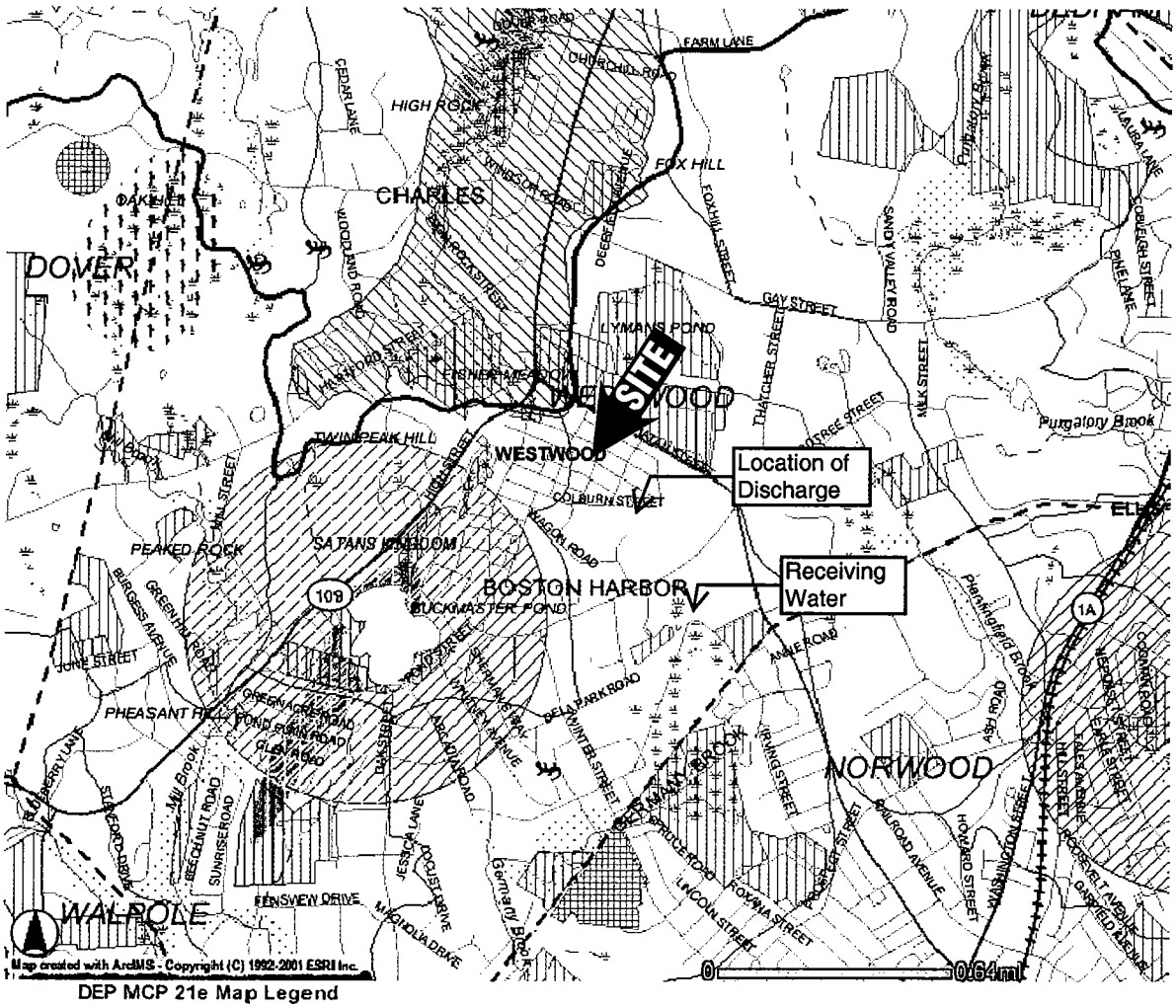
| | |
|---|---|
| DATE: | 4/1/05 |
| DRAWN BY: | C.T. |
| REVIEWED BY: | R.S. |
| APPROVED BY: | R.S. |
| SCALE: | NOT TO SCALE |
| FILE NO: | 081-12304-00 |
| JOB NO: | 081-12304-00 |
| SHEET SIZE: | A |

TITLE:
**STORMWATER DRAINAGE PLAN**

LOCATION:
**MURPHY RESIDENCE**
**42 BAYLEY STREET**
**WESTWOOD, MASSACHUSETTS**

FIGURE:
**3**

H:\CAD Files\081-Files\081-12304-00.dwg Apr 07,2005-8:10pm




DEP MCP 21e Map Legend

- Zone IIs
- IWPAs
- Zone A
- Sole Source Aquifers
- Solid Waste Sites
- Protected Openspace
- ACECs
- NHESP Estimated Habitat of Rare Wildlife in Wetland Areas
- Certified Vernal Pools 2003 NHESP
- Subbasins
- Mass Major Basins
- DEP Region
- Town Arcs
- County Boundaries

Public Water Supplies

- COMMUNITY PUBLIC WATER SUPPLY - GROUNDWATER
- COMMUNITY PUBLIC WATER SUPPLY - SURFACE WATER
- NON COMMUNITY PUBLIC WATER SUPPLY

Aquifers, By Yield

- HIGH YIELD
- MEDIUM YIELD

Non Potential Drinking Water Source Area

- HIGH YIELD
- MEDIUM YIELD

FEMA Floodplains

- 100 YEAR FLOODPLAIN

Hydrography

- WATER
- RESERVOIR
- WETLANDS
- SALT WATER WETLANDS
- FLATS,SHOALS

Rivers and Streams

- PERENNIAL
- INTERMITTENT
- SHORELINE
- MAN MADE SHORE
- DAM
- AQUEDUCT

MHD Roads

- LIMITED ACCESS HIGHWAY
- MULTI LANE HWY, NOT LIMITED ACCESS
- OTHER NUMBERED HWY
- MAJOR ROAD - COLLECTOR
- MINOR STREET OR ROAD, RAMP

Tracks and Trails MHD

- TRACK
- TRAIL

Transmission Lines

- PIPELINE
- POWERLINE
- TRAIN

MASS GIS

LFR
250 Centerville Road
Building E, Suite 12
Warwick, Rhode Island 02886
Phone: (401) 738-3887
Fax: (401) 732-1686

| | |
|---|---|
| DATE: | 4/1/05 |
| DRAWN BY: | C.T. |
| REVIEWED BY: | R.S. |
| APPROVED BY: | R.S. |
| SCALE: | N.T.S. |
| FILE NO: | 081-12304-00 |
| JOB NO: | 081-12304-00 |
| SHEET SIZE: | A |

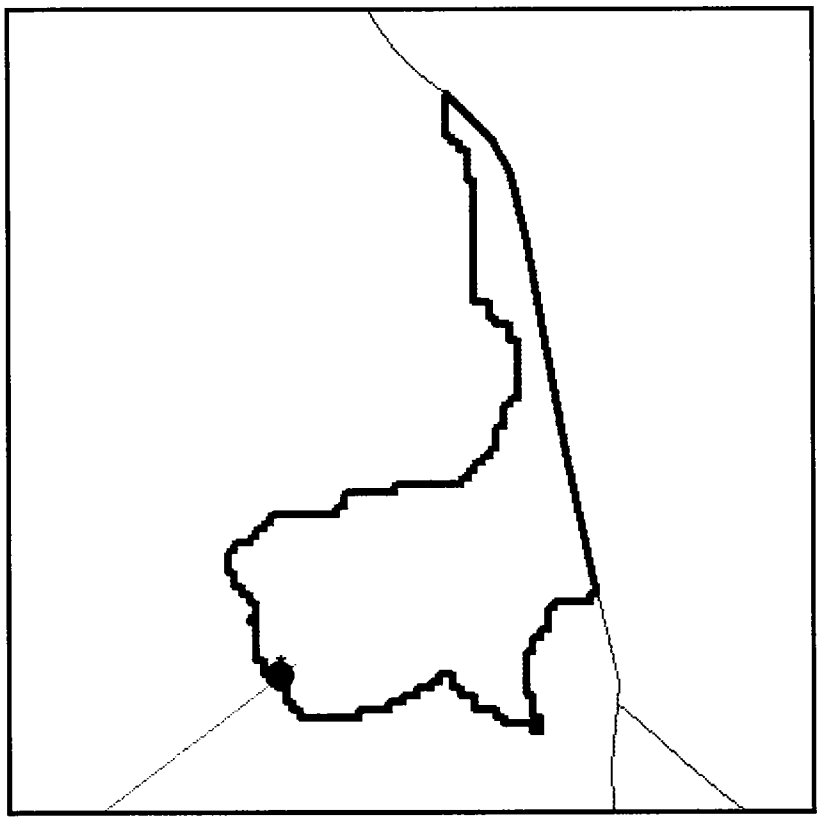
TITLE:
**MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION (MADEP) GEOGRAPHIC INFORMATION MAP**

**MURPHY RESIDENCE**
**42 BAYLEY STREET**
**WESTWOOD, MASSACHUSETTS**

FIGURE:
**4**

H:\CAD Files\081-Files\081-12304-00.dwg Apr 07,2005-9:00pm

# Streamflow Statistics Report



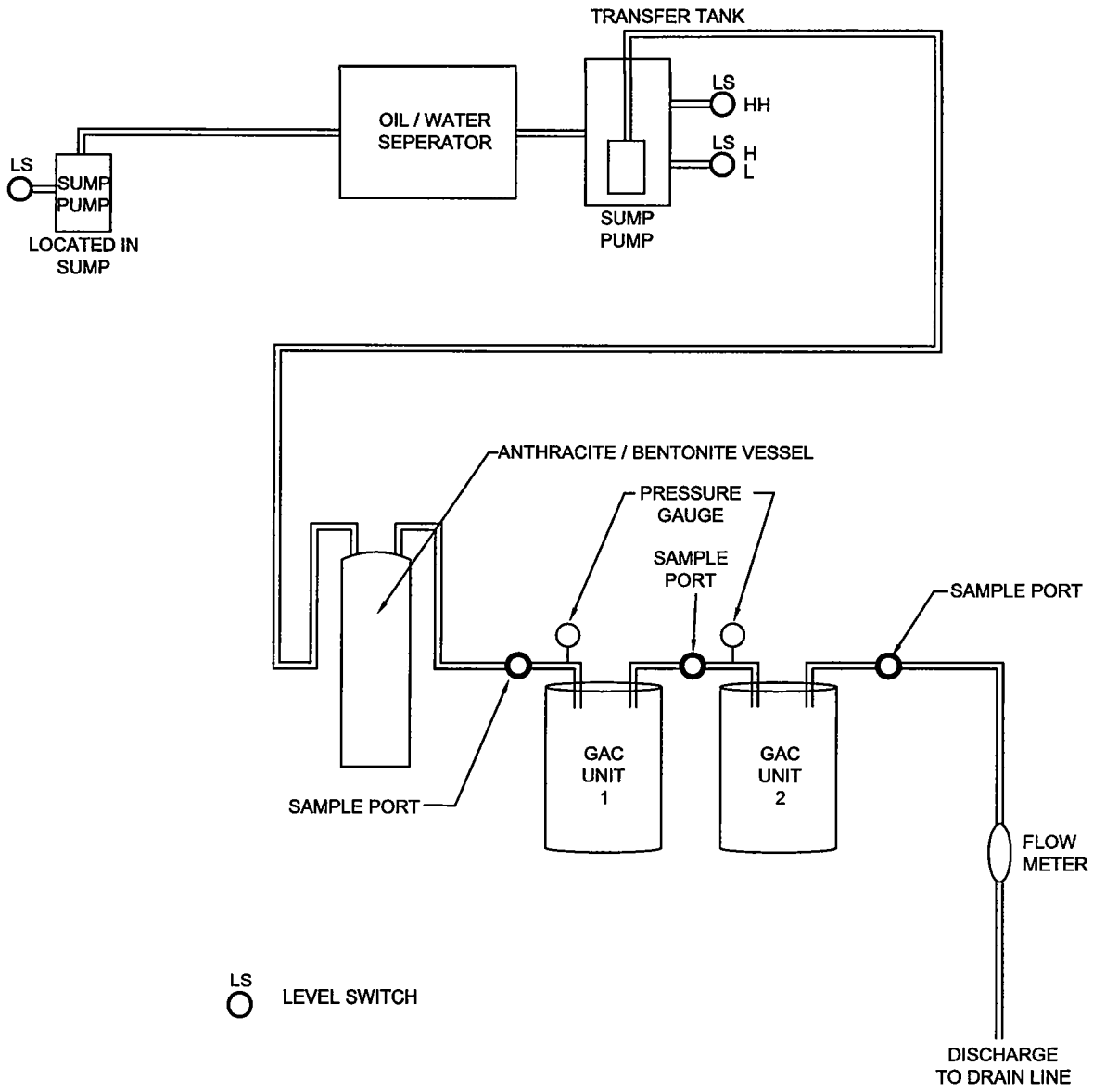
**Date: Mon Dec 12 13:46:31 2005**
***Warning! Drainage Area outside allowable range. Prediction intervals not calculated.***
**Latitude: 42.2037**
**Longitude: -71.2132**
**Measured Basin Characteristics:**
**Drainage Area (square miles): 0.06**
**Stratified Drift Area (square miles): 0.00**
**Stream Length (miles): 0.02**
**Slope (percent): 0.30**
**Region: 0**

| Statistic | Estimated streamflow, $ft^3/s$ | 90% Prediction interval | |
|---|---|---|---|
| | | Minimum | Maximum |
| **99-percent duration flow** | 0.00 | | |
| **98-percent duration flow** | 0.00 | | |
| **95-percent duration flow** | 0.00 | | |

| | | | |
|---|---|---|---|
| 90-percent duration flow | 0.00 | | |
| 85-percent duration flow | 0.00 | | |
| 80-percent duration flow | 0.00 | | |
| 75-percent duration flow | 0.01 | | |
| 70-percent duration flow | 0.01 | | |
| 60-percent duration flow | 0.03 | | |
| 50-percent duration flow | 0.06 | | |
| 7-day, 2-year low flow | 0.00 | | |
| 7-day, 10-year low flow | 0.00 | | |
| August median flow | 0.00 | | |

U.S. Department of the Interior, U.S. Geological Survey
10 Bearfoot Road
Northborough, MA 01532
(508) 490-5000

Maintainer: webmaster@mass1.er.usgs.gov




Notes:

LFR
250 Centerville Road
Building E, Suite 12
Warwick, Rhode Island 02886
Phone: (401) 738-3887
Fax: (401) 732-1686

| | |
|---|---|
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TITLE: **GROUNDWATER TREATMENT SYSTEM PROCESS & INSTRUMENTATION DIAGRAM**

LOCATION: **MURPHY RESIDENCE**
**42 BAYLEY STREET**
**WESTWOOD, MASSACHUSETTS**

FIGURE: **3**

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