



WHERE BUSINESS AND THE ENVIRONMENT CONVERGE

588 Silver Street, Agawam, MA 01001 tel 413.789.3530 fax 413.789.2776 www.ecsconsult.com

United States Environmental
Protection Agency (USEPA)
Dewatering GP Processing
Municipal Assistance Unit (CMU)
1 Congress Street, Suite 1100
Boston, MA 02114

July 12, 2010
Project No. 214350
Document No. 39192

RE: Dewatering General Permit Application
Greenfield Community College
Division of Capital Asset Management
One College Drive
Greenfield, Massachusetts 01301

Dear Sir or Madam:

Environmental Compliance Services, Inc. (ECS) has prepared this application for permission to discharge under the National Pollution Discharge Elimination System (NPDES), General Permit for Dewatering Activity Discharges, Massachusetts General Permit No: MAG07000, on behalf of our client Greenfield Community College and the Massachusetts Division of Capital Asset Management (DCAM). The completed Notice of Intent (NOI) application form is included as Attachment I

The project is located on the campus of Greenfield Community College (the Site) located in Greenfield, Massachusetts. A topographic locus plan is included as Figure 1. A plan indicating the outfall locations is included as Figure 2. The campus is owned and operated by the State of Massachusetts. As part of a facility upgrade being conducted by DCAM, an approximately 6,100 square foot addition is being added to the eastern side of the existing building complex and the existing heating, ventilation and air conditioning (HVAC) system is being updated to incorporate a geothermal heating and cooling component. The geothermal system will utilize six, approximately 1,500-foot deep "standing column wells" for heat exchange. The wells will be located approximately 50 feet west of the building complex in a north south line measuring approximately 300 feet in length. Construction of the building footings and geothermal wells will temporarily generate excess water which is proposed to be discharged under this permit to the existing on-Site storm water drainage system.

Drilling of the wells will be conducted by a Massachusetts-licensed water well contractor, Skillings & Sons, Inc of Amherst, New Hampshire. It is anticipated that only one well at a time will be drilled. Drilling may take a week or more per well depending on conditions encountered. It is anticipated that work will be conducted at a rate of approximately one work shift per day. As part of the well system installation, well development, drawdown testing and consolidated well system flow testing will occur resulting in intermittent discharges until the system is commissioned for regular use. Flow rates during certain aspects of the project (72 hour concurrent pump test) could range up to 75 gallon per minute (gpm) for short durations, with a more typical daily flow expected to be considerably less. The maximum expected daily discharge at the 75 gpm flow rate is 108,000 gallons per day (gpd). The typical daily average flow rate is expected to be less than 45 gpm or approximately 21,600 gpd presuming an 8 hour work shift. Total flow volumes will be calculated either from flow volumes based on timed steady-state

discharge rates multiplied by discharge duration or by use of mechanical flow meters. Work under this discharge permit is expected to be completed by November 30, 2010.

Construction of the building foundations may also require intermittent short-term dewatering due to possible water accumulation caused by groundwater infiltration and rainfall within the excavated area. Possible surface storm water runoff at the Site is being addressed under a storm water pollution prevention plan (SWPPP).

Due to the layout of the proposed well locations and foundation excavations, discharge will be to catchbasins located to the north or south of the well installation, as follows:

- Water discharged to the northern catchbasin (from well drilling) eventually discharges through a 30-inch diameter outfall, designated for the purposes of this permit as DW01, to a forested shrub wetland area designated "Wetland Area C" which is located to the northeast of the work area. Water entering the wetland eventually exits to the north entering Arms Brook, the Green River, then the Deerfield River which then meets the Connecticut River.
- Water entering the southern catchbasin (from drilling and foundation dewatering) eventually discharges to the east of the Site through a 42-inch outfall, designated for the purposes of this permit as DW02, to an unnamed brook which then meets the Green River.

Given the large size of the outfalls and therefore their presumed large design flows, the minimal discharge rate for the short and intermittent duration of the proposed dewatering operation, dewatering is expected to have no measurable affect on the environment at the discharge points. Discharge point locations, planned geothermal well locations and the planned building addition location are generally indicated on Figure 2.

Water collected from the drilling operations and foundation dewatering will be processed to allow suspended solids to settle by gravity in a settling basin. Should gravity settling not be able to achieve required total suspended solids (TSS) discharge requirements, two additional methods may be employed to achieve desired discharge goals. These methods will be mechanical filtration through bag or filter cartridges and/or the use of a polymer flocculent. If a flocculent is employed, the product used will be an "APS 706b Floc Log", a product of Applied Polymer Systems, Inc. of Woodstock, Georgia. The Floc Log is designed to be utilized in stormwater systems. A copy of the product specification sheet and material safety data sheet (MSDS) is included as Attachment II. A schematic diagram of the proposed water treatment system is included as Figure 3.

Groundwater samples from the proposed discharge and an upstream water sample have been collected and analyzed as prescribed in Section 4.4.5 of the permit application. The laboratory certificate of analysis is included as Attachment III.

The first listed receiving water based on a review of Figure 5, is the 0.6-8.4 mile point of the Green River. This segment of the river and its tributaries are designated as Class "B", cold water, high quality.

The waters at the outfall discharge points to the brooks are not classified as "Outstanding Resource Waters" based on a review of information available on the MassGIS online mapping website. The Green River is not designated as a Wild and Scenic River.

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Based on the location and nature of the proposed discharges, the applicant contends that there will be no detrimental affects to Essential Fish Habitat (EFH). This contention is also based upon the information contained within Part IV.B of the permit fact sheet, Section B pages 10 through 12 and Section C pages 15 and 16. No consultation has occurred or is planned with the National Oceanic and Atmospheric Agency (NOAA) Fisheries Service Northeast Regional Office.

Based on consultation with Ms. Emily Holt at the Massachusetts Natural Heritage Endangered Species Program (NHESP) office, since the outfall and work locations are not within a listed Area of Critical Environmental Concern (ACEC) based on the most recent NHESP list (June 2009), NHESP will not need to review the submittal. There are no areas of Critical Environmental Concern in Greenfield based on listings currently available at <http://www.mass.gov/dcr/stewardship/acec/listACEC.pdf>. Review of available information on the MassGIS online mapping website indicated no Priority and Estimated Habitats, Core Habitat Supporting Natural Landscapes, Priority Habitats of Rare Species or Estimated Habitats of Rare Wildlife to be present at or within close proximity of the project and outfall areas.

Based on a review of available data, it is contended that this application satisfies Criterion "D" regarding the Endangered Species Act. Mr. Tony Tur at the United States Fish and Wildlife Service (USFWS) New England Field Office was contacted and confirmed that since Greenfield does not appear on the "Federally Listed Endangered and Threatened Species in Massachusetts" list, the standard "no species present" letter may be used for the application and is included as Attachment IV. Per Section 4, Item F, a copy of the most recent federal endangered and threatened species listing is include as Attachment V.

Based on a review of the permit eligibility criteria (Section C) as related to the impact for locations listed on the National Register of Historical Places, this project satisfies criteria 1 - no historic properties were identified in the drainage path.

A copy of this permit is being submitted as required to the Massachusetts Department of Environmental Protection (MassDEP), Division of Watershed Management. A copy of the transmittal form for the submission is included as Attachment VI.

If there are any questions regarding this submittal, please contact the undersigned at (413) 789-3530.

Sincerely,
ENVIRONMENTAL COMPLIANCE SERVICES, INC.



Richard A. Starodaj
Environmental Analyst

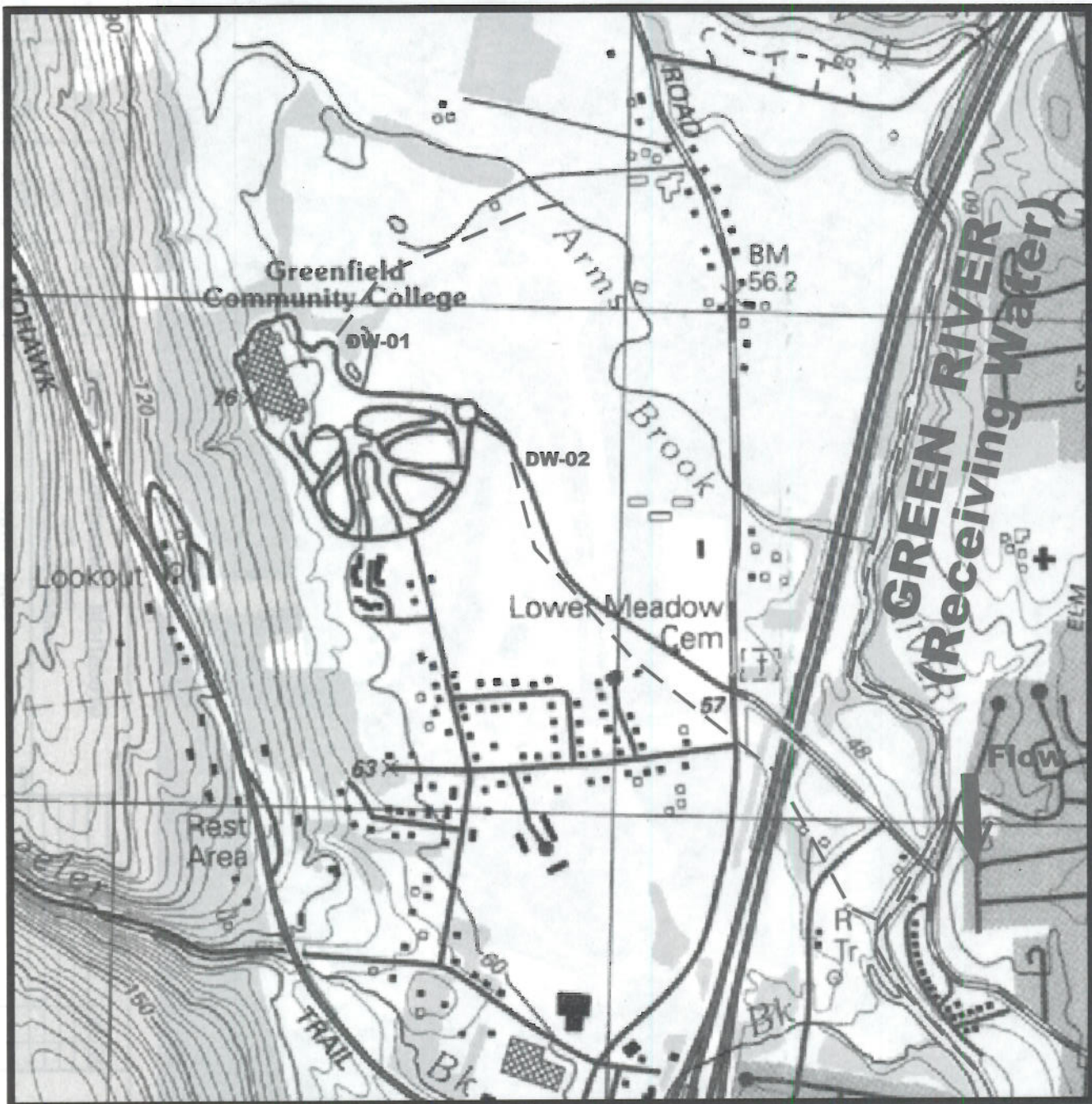


Daniel W. Felten, P.E., LSP, LEP
Chief Technical Officer

RAS/DWF/ras
Attachments

FIGURES





Base Map: U.S. Geological Survey; Quadrangle Location: Greenfield, MA
 Map Edited: 1990 Photorevised: None Photoinspected: None

Lat: 42° 35' 59" N
 Long: 72° 37' 59" W
 NAD27



588 Silver Street • Agawam, MA 01001
 Phone: 1-800-789-3530 Fax: 413-789-3530
 eesconsult.com

PROJECT:

Greenfield Community College
 College Way
 Greenfield, Massachusetts

TITLE:

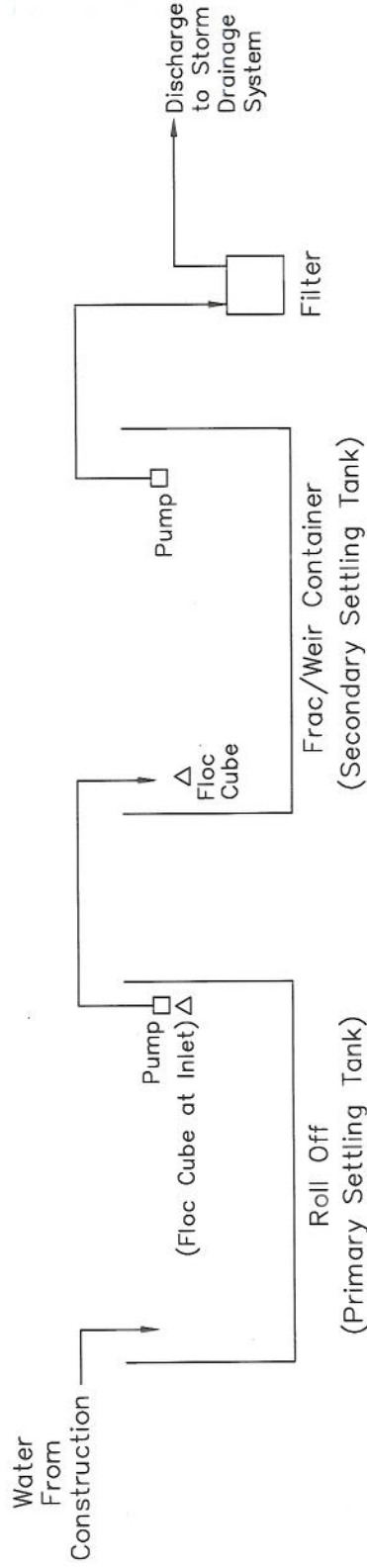
Site Locus

COMPUTER CADFILE : 214350e.dwg

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
RAS	RAS		
SCALE:	DATE:	JOB NO.:	FIGURE NO.:
1"=1000'	6/10/10	----	1



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NTS		6/10/10		214350		2		2		2																																		



Components of the system may be added or reduced as necessary to meet water quality standards.

 568 Silver Street • Agawam, MA 01001 Phone: 1-800-789-8890 Fax: 413-789-8890 www.ccsconsult.com		PROJECT: Greenfield Community College College Way Greenfield, Massachusetts		COMPUTER CADFILE : 214350e.dwg																						
		TITLE: Water Processing Schematic		DRAWN BY: RAS DESIGNED BY: CHECKED BY: APPROVED BY:																						
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ATTACHMENT I
USEPA NOTICE OF INTENT FORM

II. Suggested Notice of Intent (NOI) Form

1. General facility information. Please provide the following information about the facility.

a) Name of facility: Greenfield Community College		Mailing Address for the Facility: One College Drive, Greenfield, MA 01301	
b) Location Address of the Facility (if different from mailing address):		Facility Location longitude: 72deg 37' 52" latitude: 42deg 35' 59"	Type of Business: College Facility SIC codes: 8222
c) Name of facility owner: Commonwealth of Massachusetts - Division of Capital Asset Management (DCAM) Owner's email: stephen.oconnor@state.ma.us Owner's Tel #: 617-727-4030 Owner's Fax #: 617-724-5363 Address of owner (if different from facility address) McCormack Bldg, One Ashburton Place, Boston, MA 02108 Owner is (check one): 1. Federal ☐ 2. State ☒ 3. Tribal ☐ 4. Private ☐ 4. Other ☐ (Describe) Legal name of Operator, if not owner: Operator Contact Name: Barr & Barr, Inc. (Jeff Lloyd, Construction Manager on Site) Operator Tel Number: 413-774-2497 field office, 617-839-3258 cell Fax Number: Operator's email: illoyd@barrandbarr.com Operator Address (if different from owner) Barr & Barr, Inc., 32 Hampden St., Springfield, MA 01103-1399			
d) Attach a topographic map indicating the location of the facility and the outfall(s) to the receiving water. Map attached? ☒			
e) Check Yes or No for the following: 1. Has a prior NPDES permit been granted for the discharge? Yes ☐ No ☒ If Yes, Permit Number: _____ 2. Is the discharge a "new discharge" as defined by 40 CFR Section 122.22? Yes ☐ No ☒ 3. Is the facility covered by an individual NPDES permit? Yes ☐ No ☒ If Yes, Permit Number _____ 4. Is there a pending application on file with EPA for this discharge? Yes ☐ No ☒ If Yes, date of submittal: _____			

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

a) Name of receiving water into which discharge will occur: un-named brook leading to Green River
State Water Quality Classification: Class B, Cold Water Freshwater: X Marine Water: _____

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

1. Construction dewatering of groundwater intrusion and/or storm water accumulation.

c) Number of outfalls : Two, 1.) Outfall DW01 - to northern brook. 2.) DW-02 to eastern brook. Both to Green River

For each outfall:

d) Estimate the maximum daily and average monthly flow of the discharge (in gallons per day – GPD). Max Daily Flow: 108,000 GPD
Average Monthly Flow: 21,600 GPD

e) What is the maximum and minimum monthly pH of the discharge (in s.u.)? Max pH: 8.3 Min pH: 6.3

f) Identify the source of the discharge (i.e. potable water, surface water, or groundwater). If groundwater, the facility shall submit effluent test results, as required in Section 4.4.5 of the General Permit. Source is Groundwater. Results of analytical testing area attached.

g) What treatment does the wastewater receive prior to discharge? Settling of suspended solids by gravity and use of "floc log".

h) Is the discharge continuous? Yes _____ No X If no, is the discharge periodic (P) (occurs regularly, i.e., monthly or seasonally, but is not continuous all year) or intermittent (I) (occurs sometimes but not regularly) or both (B) B
If (P), number of days or months per year of the discharge 87 and the specific months of discharge: 4 (Aug - Nov, during construction ;
If (I), number of days/year there is a discharge: 87 (This is a short term construction project only)
Is the discharge temporary? Yes X No _____
If yes, approximate start date of dewatering: 8/2/2010 Approximate end date of dewatering: 11/30/2010

i) Latitude and longitude of each discharge within 100 feet (See http://www.epa.gov/tri/report/siting_tool): Outfall 1: long.72d37'49"lat.42d36'03"
Outfall 2: long.72d37'30" lat.42d35'52"

j) If the source of the discharge is potable water, please provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water and attach any calculation sheets used to support stream flow and dilution calculations _____ cfs
(See Appendix VII for equations and additional information)

MASSACHUSETTS FACILITIES: See Section 3.4 and Appendix 1 of the General Permit for more information on Areas of Critical Environmental Concern (ACEC):

k) Does the discharge occur in an ACEC? Yes ☐ No ☒
If yes, provide the name of the ACEC: _____

3. Contaminant Information

- a) Are any pH neutralization and/or dechlorination chemicals used in the discharge? If so, include the chemical name and manufacturer; maximum and average daily quantity used as well as the maximum and average daily expected concentrations (mg/l) in the discharge, and the vendor's reported aquatic toxicity (NOAEL and/or LC₅₀ in percent for aquatic organism(s)). None used
- b) Please report any known remediation activities or water-quality issues in the vicinity of the discharge. None known

4. Determination of Endangered Species Act Eligibility: Provide documentation of ESA eligibility as required at Part 3.4 and Appendices III and IV. In addition, respond to the following questions.

- a) Are any listed threatened or endangered species, or designated critical habitat, in proximity to the discharge? Yes ☐ No ☒
- b) Has any consultation with the federal services been completed? Yes ☒ No ☐
- c) Is consultation underway? Yes ☐ No ☒
- d) What were the results of the consultation with the U.S. Fish and Wildlife Service and/or NOAA Fisheries Service (check one): a "no jeopardy" opinion ☒ or written concurrence ☐ on a finding that the discharges are not likely to adversely affect any endangered species or critical habitat.
- e) Which of the five eligibility criteria listed in Appendix 2, Section B (A,B,C,D,or E) have you met? ☐ D ☐
- f) Please attach a copy of the most current federal listing of endangered and threatened species, found at USF&W website.

5. Documentation of National Historic Preservation Act requirements: Please respond to the following questions:

- a) Are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility site or in proximity to the discharge? Yes ☐ No ☒
- b) Have any State or Tribal historic preservation officers been consulted in this determination? Yes ☐ or No ☒ If yes, attach the results of the consultation(s).
- c) Which of the three National Historic Preservation Act requirements listed in Appendix 3, Section C (1,2 or 3) have you met? ☐ 1 ☐

6. Supplemental Information: Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit

7. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22 (see below) including the following certification:

I certify under penalty of law that (1) no biocides or other chemical additives except for those used for pH adjustment and/or dechlorination are used in the dewatering system; (2) the discharge consists solely of dewatering and authorized pH adjustment and/or

dechlorination chemicals; (3) the discharge does not come in contact with any raw materials, intermediate product, water product or finished product; (4) if the discharge of dewatering subsequently mixes with other permitted wastewater (i.e. stormwater) prior to discharging to the receiving water, any monitoring provided under this permit will be only for dewatering discharge; (5) where applicable, the facility has complied with the requirements of this permit specific to the Endangered Species Act and National Historic Preservation Act; and (6) this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility Name: Greefield Community College - Core Modernization Project

Operator signature: 

Title: Site Superintendent, Barr & Barr, Inc.

Date: 7/16/10

Correct date is actually 7/12/10

Federal regulations require this application to be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For partnership or sole proprietorship, by a general partner or the proprietor, respectively, or,
3. For a municipality, State, Federal or other public facility, by either a principal executive officer or ranking elected official.