

**EXECUTIVE OFFICE OF ENERGY &  
ENVIRONMENTAL AFFAIRS**

**Matthew A. Beaton, Secretary  
Grant Announcement**

**BID ENV 16 DCS 04  
Posting Date: June 2, 2015**

**Drinking Water Supply Protection Grant  
FY 2016**



## **1. GRANT OPPORTUNITY SUMMARY:**

**A. PROPOSALS SOUGHT FOR:** Financial assistance for the purchase of land in existing Department of Environmental Protection (DEP)-approved drinking water supply protection areas, or land in estimated protection areas of identified and planned future water supply wells or intakes, or land identified and planned to be used for groundwater recharge to an aquifer.

**B. OVERVIEW AND GOALS:** The Executive Office of Energy and Environmental Affairs (EEA) protects, conserves, and restores the natural resources of the Commonwealth. To fulfill this mission, Matthew A. Beaton, Secretary of EEA, announces the Fiscal Year (FY) 2016 Drinking Water Supply Protection (DWSP) Grant Program. This grant provides funds to assist in protecting and conserving the quality and quantity of public drinking water supply sources in the Commonwealth. This is a reimbursement program.

**C. ELIGIBLE PROJECTS:**

- 1) Purchase of land in fee
- 2) Purchase of a Conservation Restriction (CR)
- 3) Purchase of a Watershed Preservation Restriction (WPR)

See further detail on eligible projects in section 2B.

**D. ELIGIBLE APPLICANTS:** This BID is open to municipalities, water districts, and non-profit public water systems (PWSs) authorized by the Commonwealth to provide drinking water to the public. See further detail on eligible applicants in section 2A.

**E. APPLICATION DEADLINE: Wednesday, September 30, 2015 at 3:00 pm**

See further detail on deadlines and grant program calendar in section 4.

**F. FUNDING AVAILABILITY:** Maximum reimbursement available: \$350,000.

See further detail on funding availability in section 2E.

**G. BUDGET REQUIREMENT:** Applicants selected to receive grant funding must show authorization to expend funds equal to the total project amount, and to accept the grant award. They must show the use of funds from non-state sources. Only approved project costs incurred within the contract period will be eligible to receive reimbursement. See further detail on budget requirement in section 2F.

**H. TOTAL ANTICIPATED DURATION OF CONTRACT(S):** The contract period will begin on the date that EEA signs the contract. Contracts issued pursuant to this BID must purchase the property and expend 100% of the approved project costs on or before the end of the fiscal year (June 30, 2016 for FY2016 awards; June

30, 2017 for FY2017 awards) to be eligible for reimbursement. See further detail on anticipated duration of contract(s) in section 2F.

**I. REGULATIONS, STATUTES, OR AUTHORIZATION GOVERNING THIS GRANT PROGRAM:** This BID is issued according to M.G.L. c. 40, §39B and 41. It is funded through Chapter 312 of the Acts of 2008, § 2A, 2200-7017. All properties for which grant assistance is provided will become protected open space under Article 97 of the Amendments to the Constitution of the Commonwealth of Massachusetts, dedicated to water supply protection and land conservation. This program provides funding for acquisitions of interests in land only; funding through the DWSP program does not replace or constitute approval of any proposed development of new drinking water sources or groundwater recharge or wastewater discharge. Applicants must adhere to all relevant DEP regulations and approval processes.

**J. CONTACT INFORMATION:** Melissa Cryan  
Executive Office of Energy and Environmental Affairs  
100 Cambridge Street – Suite 900  
Boston, MA 02114  
617-626-1171  
melissa.cryan@state.ma.us

## 2. Performance and Contract Specifications

### A. ELIGIBLE APPLICANTS:

Municipalities, water districts, and non-profit public water systems (PWS). The Massachusetts Water Resources Authority and state agencies are not eligible for funding.

#### Applicants must have:

1. **Authorization to acquire the property**, expend funds, and accept the grant award, through a town meeting or city council vote, or through a vote of a Board of Water Commissioners, or Selectboard acting as such.  
The vote must identify the specific parcel to be acquired and contain authorization to seek funding under the DWSP grant (Chapter 312 of the Acts of 2008, § 2A, 2200-7017), and to enter into any contracts for the project, as well as permit the conveyance of a conservation restriction (CR) if a CR is applicable to the project, or conveyance of a license for maintenance or other compatible property use. It is not advisable to restrict the vote to a specific dollar amount of state funding or property acreage, as these may change. The Water Department (or Board of Selectmen/City Council authorized as such under M.G.L. c. 40, §39A) must be designated to hold and manage the property for water supply protection and land conservation purposes under M.G.L. c. 40, §39B and 41, and Article 97 of the Amendments to the Massachusetts Constitution. The vote may be contingent upon receiving grant funding.
2. **Department of Environmental Protection (DEP) approval** of the acquisition of land for public drinking water supply purposes. A DWSP grant award constitutes preliminary DEP approval to acquire the property, however, it must be finalized through a public hearing at a DEP regional office. Details are available at <http://www.mass.gov/eea/agencies/massdep/service/approvals/brp-ws-26.html>.  
The following is a summary of the steps:
  1. Grantee submits a Permit Application (form BRP WS-26) for Land Acquisition and

- requests a public hearing date.
2. DEP schedules a public hearing in the appropriate regional office and provides grantee with public hearing instructions.
3. Grantee notifies abutters and places a public notice in the newspaper.
4. Grantee submits draft documents and proof of abutter notification to DEP.
5. Public hearing is held at DEP regional office.
6. DEP issues Grantee a final approval letter.

Further, open space protection may qualify as mitigation for increased water withdrawal under the Sustainable Water Management Initiative framework (<http://www.mass.gov/dep/water/resources/swmi.htm>), and as regulated by the MA Water Management Act. Care should be taken to understand the implications any anticipated additional withdrawals from the subwatershed may have under the framework.

3. **No unresolved protected open space conversion issues** with EEA (see EEA Article 97 Disposition Policy at: <http://www.mass.gov/eea/agencies/mepa/about-mepa/eea-policies/eea-article-97-land-disposition-policy.html>).
4. **No current enforcement orders** or orders of non-compliance related to land protection or management. Applicants with outstanding enforcement orders may receive grant awards, with payment contingent upon their satisfactory resolution, at the sole discretion of EEA.

## **B. ELIGIBLE PROJECT(S)/SCOPE(S) OF WORK:**

EEA seeks to further the conservation of lands contributing to and protective of drinking water supplies within the Commonwealth. Applications may be to purchase land in fee simple or a Conservation Restriction (CR) or Watershed Preservation Restriction (WPR). All applicants must specify whether their proposed acquisition will protect an existing well or intake, a planned new well or intake, or will be used for groundwater recharge.

### **The Property must:**

1. **Be primarily located in an appropriate area to achieve stated objectives.** This requirement is met in different ways depending upon whether the project is to protect an existing well or intake, a planned future well or intake, or a groundwater recharge area.
  - a. **Projects to protect existing wells or intakes:** Fifty percent (50%) or more of the parcel(s) to be acquired must be located in a DEP-approved Zone I, II, or III (groundwater) or Interim Wellhead Protection Area (IWPA), or Zone A, B or C (surface water). Properties to protect groundwater that contain more than 50% Zone II will be viewed most favorably. Applicants may use the Water Supply Protection Areas available from MassGIS or use the online map located here: <http://maps.massgis.state.ma.us/images/dep/omv/wspviewer.htm>.
  - b. **Projects to protect future wells or intakes:** property must be primarily located within an area identified as of value for anticipated future water supply use through an appropriate process, or that has been tested and included in an application to DEP for a site exam under the new source review approval process. Appropriate planning processes include locally-developed and accepted plans such as: drinking water resource management plan, integrated water resource management plan, wastewater resource management plan, regional watershed plan, water assets report, or direct testing. Documentation of this planning should be

submitted with the application. Priority will be given to projects that have already submitted an application to DEP for new source review.

- c. **Projects to protect groundwater recharge areas:** property must
- i. Be predominantly classified as hydrologic soil Groups A or B (gravel, sandy, sandy loams) (see NRCS publication *Hydrologic Soil Groups*, available here: <http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>. You may access soil survey data for specific geographies at the NRCS Web Soil Survey: <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>. Hydrologic soil group is under the “Soil Properties and Qualities” tab, in the “Soil Qualities and Features” section).
  - ii. Have an infiltration rate of less than 30 minutes per inch (more than 2 inches per hour)
  - iii. Be otherwise suited to the purpose
  - iv. Have been identified through an appropriate planning process as a priority for groundwater recharge and likely to be suitable for such purposes (see § VI in *Guidelines for the Design, Construction, Operation, and Maintenance of Small Wastewater Treatment Facilities with Land Disposal*, available from DEP, and 314 CMR 05, for site evaluation and criteria for discharge). Documentation of this planning must be submitted with the application.

**Ineligible recharge projects:** Properties will be deemed ineligible for acquisition for groundwater recharge purposes under any of the following conditions:

- i. Projects to acquire land for groundwater recharge that lie within Zone I or Zone A and other activities specifically restricted in 314 CMR § 5.06.
- ii. Projects with soils that are predominantly classified as hydrologic soil Groups C or D (silty clay loam, silty clay, or clay), as classified by the USDA Natural Resources Conservation Service (NRCS). In cases of incomplete or potentially inaccurate NRCS soil data, applicants may procure an independent soil analysis; if NRCS has classified the project parcel(s) soils as Group C or D, the results of the independent analysis must be included in the application.
- iii. Projects with an average site infiltration rate of greater than 30 minutes per inch (fewer than 2 inches per hour).
- iv. Projects with less than a one year travel time to the nearest drinking water supply well.

A summary of hydrologic soil groups and infiltration rates is located in Attachment E.

**Note: this grant does not provide funding for infrastructure planning, design, or construction.**

2. **Not include Zone I designated after 1990.** Parcels located in a Zone I are eligible to receive funding only if well construction was approved by DEP prior to June 6, 1990. Projects including Zone I land for wells approved after this date may receive funding only for the portion of the property lying outside of Zone I. The appraiser should estimate the value of the Zone I area and subtract this from the total property value.
3. **Be currently unprotected.** Land that is already protected for any purpose under Article 97 is ineligible for funding. Article 97 status may be conferred on a property through an EEA grant program (Local Acquisitions for Natural Diversity (LAND), Parkland Acquisition or Renovation for Communities (PARC), Conservation Partnership, Landscape Partnership, or Land and Water Conservation Fund (LWCF)); a Conservation Restriction (CR); Agricultural Preservation Restriction (APR); or by virtue of its acquisition by a government entity for any Article 97 purpose. Lands enrolled in Chapter 61, 61A or 61B are not classified as permanently protected land and are eligible to receive funding.

4. **Not already be owned by the applicant.** Land already owned by the applicant, regardless of purpose (eg, general municipal land), is not eligible. Otherwise eligible land that an applicant purchased prior to receiving an executed contract from EEA is not eligible.

**Additional notes on eligible projects:**

- Multiple applications will be accepted from the same entity. Landholdings that are in a single, contiguous tract may be packaged in the same application. Unrelated, separate landholdings must be submitted as individual applications.
- Municipalities may apply for funds to protect drinking water supply land on behalf of any PWS.
- Municipalities may apply for funds to protect water supply land that is partially or wholly located within another municipality.

**Allowable uses of property acquired with DWSP funds:**

While the primary purpose of this grant is to protect public drinking water supplies, an additional goal of the program is to encourage multiple compatible uses of protected open space. Property acquired with the help of funds from this program must be open to the public for appropriate passive recreational use including hunting, as consistent with applicable federal, state, and local regulations, including 310 CMR 22. The unique characteristics of each property will guide what specific activities are appropriate, but the specific mix of permitted recreational uses will be determined by the grantee, with EEA approval. Public access is not required within Zone I areas or surface waterbodies.

**Permitted uses:** Watershed protection, groundwater recharge, passive recreation, limited forestry and agriculture.

Examples of acceptable non-water supply uses: hiking, hunting, Nordic skiing, wildlife viewing, educational programs, sustainable timber management under an approved forest management plan, haying.

**Prohibited uses:** Active recreation, intensive agriculture, or developed uses; uses prohibited in 310 CMR 22.00.

Examples: athletic fields, motorized vehicles, row crops, feedlots, large-acreage clear-cutting, swimming pools, play structures, golf courses, buildings, etc.

**Article 97 protection:** Any property acquired with EEA grant assistance becomes permanently protected open space, dedicated to water supply protection and land conservation, in accordance with M.G.L. Chapter 40, § 38, 39B, 41 and 15B, and Article 97 of the Amendments to the Massachusetts Constitution. This must be stated in the deed. Property interests must be placed under the control of the applicant’s Board of Water Commissioners (or Board of Selectmen authorized as such); properties acquired by private water suppliers must be subject to a conservation restriction held by an eligible government entity. The property may not be sold, disposed of, altered, or subject to a change in use without the prior approval of the Secretary of EEA, both houses of the Massachusetts Legislature, and the Governor, and appropriate mitigation.

***Previously developed land and brownfields:***

Communities may receive DSWP funding to acquire property that requires removal of buildings or impervious surfaces, remediation, or other environmental restoration, and are encouraged to submit applications for such projects. Properties must be adequately remediated prior to final reimbursement. This

requires careful planning and timely action on the part of the applicant.

A brownfield is a property where real or perceived environmental contamination complicates redevelopment or reuse efforts. These properties are typically abandoned or underutilized commercial or industrial sites, although other lands may also be brownfields. Often, these sites have been reported to the DEP because contamination has been found (search sites at <http://public.dep.state.ma.us/SearchableSites2/Search.aspx>). In other cases, sites may not have been assessed due to insufficient resources or fear of liability for possible contaminants.

Developed, previously developed, or brownfield sites which will be remediated and restored as part of the project are eligible for acquisition under the DWSP grant program. To receive funding, the applicant must:

1. If the site has been reported to MassDEP under M.G.L. c. 21E, include in the application a copy of the most recent environmental site assessment report (Massachusetts Contingency Plan (MCP) Phase I or Phase II). These reports are available online and/or are on file with the appropriate MassDEP regional office (see: <http://www.mass.gov/dep/about/regional.htm>). If the site has not been reported to MassDEP, the most recent ASTM Phase I or II site assessment report may be substituted. Applications to acquire properties for which no report is available will be accepted, however, no contract will be awarded until a report has been provided to EEA.
2. Demonstrate their ability to complete any remaining required environmental response actions through the submission of a budget outlining sources of assessment/remediation funding and a timeline for completion. If another liable party (e.g., the current owner or a causally responsible party) will be completing any required response actions after the property is transferred, include any legal agreements to that effect. If selected to receive funding, the applicant must submit a site-specific environmental cost estimate (or MCP Phase III Completion Report including a cost estimate) from a Massachusetts Licensed Site Professional (see <http://public.dep.state.ma.us/LSP/lspsearch.htm> for a list of LSPs).
3. Prior to reimbursement, grant Awardee must ensure that the site achieves closure under 21E through either a Response Action Outcome (RAO) or Remedy Operation Status (REMOPS). Site closure must precede opening the property to the public. (For text of M.G.L. 21E legislation, see: <http://www.mass.gov/legis/laws/mgl/gl-21e-toc.htm>). Remediation must be appropriate for the intended conservation and/or passive recreational use as described in the Project Narrative.
4. Submit a copy of all Activity and Use Limitation (AUL) deed clauses with the RAO. AULs can indefinitely exclude certain land uses based on the level of cleanup attained at a site or portion of a site. If there are AULs associated with the site, the management plan must demonstrate that it accommodates them without significantly compromising public access.
5. **Remediation MUST be completed to the full satisfaction of EEA and DEP.**

Assessment, demolition, and remediation costs are eligible for limited reimbursement (up to \$15,000) under the DWSP grant program. More information on brownfields, state and federal brownfields grant and loan programs and liability protection is available from DEP at:

<http://www.mass.gov/dep/cleanup/brownfie.htm>.

EEA is committed to working with grant awardees whose projects include remediation and restoration, and will strive to assist and accommodate awardees with particularly complex or challenging projects, however, EEA reserves the right to withhold reimbursement where site remediation is unsatisfactory.

### **C. APPRAISAL REPORTS:**

Applications must include the appropriate type of appraisal. Appraisals must be dated no earlier than one year prior to the grant application deadline. The Applicant or one of the Applicant's project partners must be the client for the appraisal; the owner of the property cannot be the client. All appraisal reports must be prepared

in accordance with the EEA Specifications for Analytical Narrative Appraisal Reports. See the Division of Conservation Services website for detailed Appraisal Report Specifications at [www.mass.gov/eea/dcs-grants](http://www.mass.gov/eea/dcs-grants).

- 1. Parcels with an estimated value of under \$40,000:**  
One certified appraisal report, restricted appraisal report, or contracted realtor's market analysis.
- 2. Parcels with an estimated value of between \$40,000 and \$99,999:**  
One certified appraisal report or restricted appraisal report.
- 3. Parcels with an estimated value of between \$100,000 and \$1,000,000:**  
One certified appraisal report.
- 4. Parcels with an estimated total value of over \$1,000,000:**  
One certified appraisal report. Applicants are strongly encouraged to obtain a second appraisal report or review appraisal.

EEA reserves the right to request additional or review appraisals, as it deems necessary.

#### **D. EVALUATION CRITERIA:**

Each application will be scored using the criteria below. See the full application in Attachment A for more detailed description.

- **Project quality – 74 points**
- **Resource management – 18 points**
- **Demographics – 8 points**

This program encourages the completion of projects to serve Environmental Justice populations, to help address the disproportionate share of environmental burdens borne by lower-income and racial minority communities. In Massachusetts, Environmental Justice populations are defined as neighborhoods that meet one or more of the following criteria:

- Block group whose annual median household income is equal to or less than 65 percent of the statewide median (\$62,072 in 2010); or
- 25% or more of the residents identifying as minority; or
- 25% or more of the residents are lacking English language proficiency (refers to households that do not have an adult proficient in English).

More information, including a list of communities and maps, can be found at:

<http://www.mass.gov/eea/grants-and-tech-assistance/environmental-justice-policy.html>

A project Selection Committee composed of EEA and DEP staff members will review all applications, conduct site visits, and make funding recommendations.

#### **E. FUNDING AVAILABILITY, BUDGETING GUIDELINES & ALLOWABLE EXPENDITURES:**

Reimbursement rate:	50% of the total approved project cost
Maximum award amount:	\$350,000

Applicants must submit the appropriate type of appraisal(s) (see Section 2C), provide an itemized budget estimate, and a specific grant request. The maximum award for any single project may be increased at the

discretion of the Secretary. Only expenditures for eligible items made within a grant recipient's contract period will be reimbursed.

**Eligible project costs:**

Property acquisition	Recording fees
Title research and certification	Survey or plan of land
Baseline Documentation Report & Land Management Plan (up to \$3,000)	21E compliance, brownfield cleanup, or demolition costs (up to \$15,000)

Expenditures must be incurred and paid within contract period.

**Ineligible project costs:**

Staff salaries	
Legal fees other than title research & certification	
Application preparation and submission costs	Equipment or goods
Buildings, pumps, or other infrastructure	Appraisal
	Other items as determined by EEA

All contracts shall be subject to available funding, whether through the appropriation and authorization of sufficient funds or the receipt of sufficient revenues. If available funding ceases for any reason, a contract shall be deemed under suspension and contract performance must halt. A contractor will not be entitled to compensation for any performance provided during the period of contract suspension. EEA may lift the suspension if additional funding is received. In the absence of foreseeable available funding, EEA may terminate the contract.

**F. BUDGET REQUIREMENT:**

Applicants selected to receive grant funding must show the use of funds from non-state sources, such as PWS funds, other grants from private or non-profit foundations, and cash contributions from local partners or individuals. Reimbursement payments are made based on the total amount spent, *as shown by cancelled checks, transfer statements, and Treasurer's statement from the Grantee*. Only expenditures from the contracted grantee's account will be reimbursed. Funds from other state land acquisition grant programs, or the federal Land and Water Conservation Fund (LWCF), may not be paired with this grant. Community Preservation Act (CPA) payments and other federal funds including those administered by state agencies, may be used. Other state funding sources may be used for site remediation, brownfields compliance, well development, and things not eligible for funding from the DWSP grant, may be used. Only those eligible project expenses incurred within the contract period will be considered for reimbursement.

**G. PROJECT TERMS:**

1. **Ownership and control:** Real property acquisitions resulting from this BID must be held by the municipal water department, water district, public water supplier, or selectboard acting as such.
2. **Project Agreement:** A DWSP Project Agreement must be recorded and appropriately cross-referenced with all property interests acquired using grant funds.
3. **Survey:** External property boundaries, and the boundaries of any internal easements or rights-of-way, must have a recent, modern survey. The survey must be recorded and appropriately cross-referenced to the Project Agreement and all property interests acquired using grant funds.
4. **Title:** Applicants selected to receive an award through this program must demonstrate, as a condition of reimbursement payment, that they possess good, clear, marketable title to the interest acquired. Title

research should be conducted well in advance of anticipated closing, to allow for resolution of any issues that may arise. Research must be brought up to time of acquisition. Where clear title is unavailable, applicants may acquire the property by a friendly taking (eminent domain) process to clear the title. At the sole discretion of EEA, title insurance may be accepted where title research reveals unresolvable flaws in title.

5. **Public access:** All DWSP grant-funded properties must be open to the general public for appropriate passive recreational uses, including hunting, as consistent with all applicable federal, state, and local regulations.
6. **Baseline Documentation Report and Land Management Plan:** A Baseline Documentation Report and Land Management Plan must be completed for the property prior to reimbursement.
7. **Acknowledgement sign:** A sign acknowledging receipt of public funding through the DWSP Grant Program, and describing the terms of public access, must be installed and maintained in a prominent location on all funded-properties.
8. **Vegetative cover:** Properties must be maintained in a natural vegetated state to the greatest extent possible.
9. **Permanent protection:** Property acquired using DWSP grant funds is permanently protected open space land under Article 97. Conversion to another use or transfer to another ownership is prohibited.

Grantees must abide by the Standard Commonwealth of Massachusetts Terms and Conditions and the EEA Supplemental Terms and Conditions. All contracts are subject to successful negotiation of a Final Scope of Services. EEA does not guarantee that any contracts may result from this BID, or that any particular funding level will be awarded. Property purchased outside of the contract period will not be reimbursed.

**Environmentally Preferable Products and local wood use:** Where building materials are required to meet obligations for signage, access, or to serve any other allowable use, Grantees should seek to minimize the environmental impact of the work and materials (see Executive Order 515, <http://www.mass.gov/courts/docs/lawlib/eo500-599/eo515.pdf>) and to use locally-grown and produced wood products, unless the grantee can demonstrate that wood is not a suitable material, or that Massachusetts grown and manufactured products are not available, or will cost more than 10% more than equivalent products ( see M.G.L. C. 7, §23B and M.G.L. C. 30, §4(d)). Where possible, municipalities should use firms that are certified by the Massachusetts Department of Agricultural Resources as part of the Commonwealth Quality Program (see <http://www.mass.gov/agr/cqp/>), which verifies their sustainable practices and that the products are grown and manufactured in Massachusetts.

## **H. ANTICIPATED DURATION OF CONTRACTS:**

Contracts for FY16 will be in effect from the date of execution until June 30, 2016. Contracts for FY16 projects will be in effect from the date of execution or July 1, 2015, whichever is later, until June 30, 2016. It is anticipated that projects selected to receive awards for FY16 could commence immediately upon EEA's announcement; projects selected to receive awards for FY17 could begin no earlier than July 1, 2016. The awarded contracts will be reviewed during their course and, upon request by the Grantee (Contractor), may be extended or otherwise amended at the sole discretion of EEA.

## **I. DELIVERABLES, OWNERSHIP, AND CREDIT DUE:**

EEA must be notified in advance of, and its representatives must be invited to, any public events sponsored by the grant recipient in celebration of a project that has received a DWSP grant award. Receipt of funding from the DWSP program must be acknowledged in any press issued by the applicant or its partners.

## **J. REPORTING:**

Grantees are expected to communicate regularly with EEA staff, and must promptly inform EEA of any expected delays or significant complications. No interim reports are required, however, grantees are subject to contract performance review by the EEA grant administrator without advance notice.

## **K. INVOICING:**

The DWSP program is a **reimbursement** program. Applicants selected to receive grant funding will be required to submit a State Standard Contract, billing forms, and documentation of expenditure. These forms will be sent to Grantees with their contract. See also EEA Supplemental Terms and Conditions.

## **3. Instructions for Application Submission**

### **A. APPLICATION SUBMISSION:**

Applications must be received in hard copy by **3:00 pm, September 30, 2015**. Applications received after the deadline will be rejected. A postmark will not be accepted for verification of date of submission. Applications will not be accepted by fax or email. The outside of the package should be marked BID ENV 16 DCS 04. Applications must contain one original (clearly identified as an original) and one digital submission (on CD, DVD, or flashdrive) to be considered. Printed proposals must be prepared using 12 point font and printed using double-sided format. Please avoid unnecessary documentation. Submit applications to:

Melissa Cryan, Grant Administrator  
RE: ENV 16 DCS 04  
Executive Office of Energy and Environmental Affairs  
100 Cambridge Street – Suite 900  
Boston, MA 02114

*Help reduce waste—print double sided when possible. Use the minimum packaging necessary for good organization.*

### **B. REQUIRED DOCUMENTS:**

A complete application package includes a completed Application Form and supporting documentation.

Applications should include:

1. Cover letter signed by an authorized signatory for the applicant(eg, Chair of the Selectmen, Mayor), authorizing the project manager to apply for the grant on behalf of the municipality, district, or PWS
2. Application form
3. Project narrative
4. Parcel maps showing the location and context of the project. Applicants may use the Water Supply Protection Areas online map located here:  
<http://maps.massgis.state.ma.us/images/dep/omv/wspviewer.htm>
5. Documentation of the location of the project parcels in water supply protection area:
  - Projects to protect existing water supplies: Parcel is located in a DEP-approved drinking water supply protection area or Interim Wellhead Protection Area

- Projects to protect planned future wells/intakes: Parcel is located in the estimated supply area, as identified through an appropriate planning process (refer to section 2B). Include copies of the relevant parts of the plan
  - Projects to acquire land for planned groundwater recharge sites: Parcel is located in an area identified as suitable for groundwater recharge, and has been designated as a potential recharge site through an appropriate planning process. Include copies of the relevant parts of the plan.
    - Parcel soil type is appropriate for infiltration
    - Estimated travel time to nearest public drinking water supply well
6. Appraisal report(s) *(only one copy required; application copies may include just the appraisal summary letter)*
  7. Conservation Restriction draft *(if applicable)*
  8. Most recent brownfield site assessment MCP Phase I or II, or ASTM Phase I or II *(if applicable)*
  9. Preliminary brownfield remediation plan and timeline *(if applicable)*

See the Application Form for more detail.

### C. DOCUMENTATION REQUIRED IF SELECTED TO RECEIVE FUNDING:

If selected, the Applicant will be required to submit the following forms to receive an executed contract:

- Commonwealth Standard Contract Form
- Commonwealth Standard Terms and Conditions
- Commonwealth Scope and Budget Form
- Completed Contractor Authorized Signatory Listing

Respondents should review the Commonwealth Standard Contract Form, Commonwealth Scope and Budget Form, and Contractor Authorized Signatory Listing..

### D. APPLICATION STEPS AND PROCEDURES:

- 1.
2. **Submit application.**
3. Applicant will be contacted by EEA to schedule a **site inspection**.
4. **Application evaluation:** See Attachment B for rating system.
5. **Awards announced:** Project approval letter, unexecuted Commonwealth Standard Contract Form, and billing forms for approved projects are sent to Participants by EEA. State funds are obligated by the Commonwealth upon execution of contract documents for approved projects. Applicants not selected to receive funding will receive a brief explanation of why the project was rejected.
6. **Conservation Restriction review:** projects that involve a CR or WPR must have a draft CR reviewed by EEA-Division of Conservation Services (DCS). Send draft CRs/WPRs, along with a CR review application form (available on the DCS website: [www.mass.gov/eea/dcs](http://www.mass.gov/eea/dcs)), separately to:
 

Nicole Sicard  
Division of Conservation Services  
Executive Office of Energy & Environmental Affairs  
100 Cambridge St., Suite 900  
Boston, MA 02114
7. **Contract execution:** Commonwealth Standard Contract Form is signed by Grantee and returned to EEA. Grantee will be contacted once contract is executed.

8. **Municipal, district, or PWS Board vote** to acquire property.
9. **Survey the property.**
10. **Conduct title research.** Title must be certified up to the point of transfer..
11. **Secure DEP approval of acquisition.**
12. **Follow state procurement law:** Acquisition projects must adhere to the state's procurement laws, M.G.L. c. 30B (Uniform Procurement Act). DWSP projects fall under Section 16(2)(e). Work with your procurement officer to ensure that your project conforms to the law, including advertising in the Central Register 30 days prior to closing. Communities using CPA funds for the acquisition are exempt from this requirement.
13. **Purchase property.** Grantee records deed, CR, DWSP Project Agreement, and survey.
14. **Prepare the property:** Grantee completes contract conditions and performs site cleanup as needed.
15. **Submit Baseline Documentation Report and Land Management Plan:** Grantee prepares a Baseline Documentation Report and Land Management Plan that documents the conditions of the property at the time of acquisition (but after removal of debris, buildings, etc) and describes allowable use and management plans. A template document will be provided to Grantees. EEA must review and approve the report.
16. **Request reimbursement:** Grantee submits reimbursement request to EEA.
17. **Reimbursement payment is made.**

## 4. Deadlines and Procurement Calendar

**A. RELEASE OF BID:** June 2, 2015

**B. INFORMATION SESSIONS:** No information sessions will be offered for this grant BID. Potential applicants are encouraged to contact the grant manager with any questions.

**C. QUESTIONS:**

Responses to questions will be posted on Comm-Pass.

**D. APPLICATION DUE DATE:** 3:00 pm, September 30, 2015

**E. ESTIMATED AWARD DATE:**

Grant awards are estimated to be announced about 100 days after the application deadline, subject to budget finalization.

**F. ESTIMATED CONTRACT START DATE:**

Notwithstanding any verbal representations by the parties, or an earlier start date listed on the EEA executed contract, and only after an award is issued and a final scope of services has been negotiated, the effective start date shall be the latest of the following dates: the date the of the contract executed by an authorized signatory of the contractor and the procuring department; the date of secretariat or other approval(s) required by law or regulation; or a later date specified in the EEA executed contract.

## Miscellaneous

**A. TYPE OF PROCUREMENT:** Grant

**B. USE OF THIS PROCUREMENT BY SINGLE OR MULTIPLE DEPARTMENTS:** This BID is a single department procurement. All contracts awarded under this BID will be utilized solely by EEA.

**C. REQUEST FOR SINGLE OR MULTIPLE CONTRACTORS:** This BID may result in multiple contracts.

**D. BID DISTRIBUTION METHOD:** This BID has been distributed electronically using the Commbuys system. It is the responsibility of every Applicant to check Commbuys for any addenda or modifications to an BID to which they intend to respond. The Commonwealth of Massachusetts and its subdivisions accept no liability and will provide no accommodations to Applicants who fail to check for amended BIDs and submit inadequate or incorrect responses. Potential Respondents are advised to check the “last change” field on the summary page of BIDs for which they intend to submit a response to ensure they have the most recent BID files.

Respondents may not alter BID language or any BID component files. Those submitting a proposal must respond in accordance to the BID directions and complete only those sections that prompt a Respondent for a response. Modifications to the body of this BID, specifications, terms and conditions, or which change the intent of this BID are prohibited. Any unauthorized alterations will disqualify response. The EEA Supplemental Terms and Conditions are hereby incorporated into this BID by reference.

**E. LIST OF ATTACHMENTS TO THIS BID:**

- A. Application Form
- B. DWSP program acquisition selection and rating system
- C. Appraisal report requirements
- D. Requirements for use of Community Preservation Act funds
- E. Summary of Hydrologic Soil Groups and Infiltration Rates for Groundwater Recharge Projects
- F. EEA Supplemental Terms and Conditions

**Massachusetts Executive Office of Energy and Environmental Affairs  
Drinking Water Supply Protection (DWSP) Grant Program  
APPLICATION FORM – FY2016**

**Deadline: Wednesday, September 30, 2015 at 3:00 pm**

*Please print double-sided*

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**1. APPLICANT INFORMATION**

**Applicant:**

**Project name:** \_\_\_\_\_

Public Water System ID#: \_\_\_\_\_

Municipalities served: \_\_\_\_\_

Number of connections served: \_\_\_\_\_

Do you serve an identified Environmental Justice community? (see <http://www.mass.gov/eea/agencies/massdep/service/justice/#2> for information)

Yes

No

Do you currently have any enforcement orders or orders of non-compliance issued for water resource management?

Yes

No

*Note: Applicants with outstanding or unresolved orders will not receive funding.*

**Project manager:**

This is the person who will be the day-to-day contact for the project and who will represent the Applicant in communication with EEA.

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Mailing address: \_\_\_\_\_

Phone number: \_\_\_\_\_

Email address: \_\_\_\_\_

**2. PROJECT DETAILS**

**Project type:** What is the purpose of your proposed acquisition (select one)?

**A. Protect land serving an existing well or intake**

What is the Water Supply Source ID# (list all sources to be protected by this acquisition, eg, 01G, 02G): \_\_\_\_\_

**B. Protect land that will serve a planned future well or intake**

**C. Acquire land to be used for groundwater recharge**

**Parcel information:**

Parcel	Acres	Assessor's map/lot #	Interest to be acquired (fee/CR/WPR)	Parcel location (street, town)	Current owner
1					
2					
3					
4					
5					
6					

**Total project acres:** \_\_\_\_\_

Watershed: \_\_\_\_\_

**“Highest and best use” as determined in appraisal:**

- Industrial/manufacturing
- Commercial/institutional/mixed use
- High-density residential (8 or more units per acre)
- Medium density residential (1-7 units per acre)
- Low-density residential (under 1 unit per acre)
- Agriculture
- Conservation Water supply protection

**Present use(s):** \_\_\_\_\_

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**Past use(s):** \_\_\_\_\_

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**Proposed use(s) if acquired by applicant** (must permit public access for passive recreation, except

in Zone I and around sensitive areas):

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**Are there buildings, structures, or debris on the property?**       Yes       No

If yes, list each. DWSP Program funds may not be used purchase buildings. Existing structures, buildings, and debris must be removed prior to receipt of grant payment.

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**Is contamination present or suspected on the property?**       Yes       No

Proposed remediation plans must be appropriate. If a brownfield, attach a copy of the most recent site assessment, either MCP Phase I or II, or ASTM Phase I or II, indicating the nature of the contamination and the remediation required. Discuss in the Project Description the importance of remediating the site, the plan for remediation, clear identification of disbursement of liability (e.g., will the town take it or will it reside with the current owner?), and any specific stewardship that will be undertaken to ensure that currently existing contamination on the site does not in the future pose undue risk to the public. Include a remediation timeline and funding sources. Site remediation must be completed before reimbursement.

### 3. ACQUISITION AND FUNDING DETAILS

<b>Appraisal Report #1 REQUIRED</b>		<b>Appraisal Report #2/Review Appraisal</b> (optional, recommended for projects valued over \$1,000,000)	
Valuation	\$	Valuation	\$
Appraiser		Appraiser	
Valuation		Valuation	
Date		Date	

Buildings are not eligible for funding; their value may not be included in the value of the subject property.

**Acquisition details:**

Negotiated Sale:  Yes  No  
 Do you have a Purchase & Sales Agreement or Agreed Price?  Yes  No  
 If yes, amount: \$ \_\_\_\_\_

Is Clear Title available?  Yes  No  
 If no, is an eminent domain taking anticipated?  Yes  No  
 If yes, proposed pro tanto award amount: \$ \_\_\_\_\_

*If clear title is not available, the applicant may decide to acquire the property by a friendly taking (eminent domain) process to clear the title. It is best to know if there is a potential title problem as soon as possible since this can complicate the acquisition process.*

Can this project be completed next fiscal year, FY2017 (July 1, 2016 – June 30, 2017)?

Yes, but FY16 is preferable  Yes, and FY17 is preferable  No

**Project budget:**

Item	Amount	Grant request amount (not to exceed 50%)
Property acquisition*	\$	\$
Recording fees	\$	\$
Title certification	\$	\$
Survey	\$	\$
Baseline & Management Plan (up to \$3,000)	\$	\$
<b>Total</b> (maximum award is \$350,000)	\$	\$

\*Acquisition amount must be the appraised value or agreed upon purchase price, whichever is less.

Will funds from the Community Preservation Act (CPA) be used?  Yes  No  
*Use of CPA funds require the conveyance of a permanent Conservation Restriction (CR), within the meaning of Ch. 184, to an eligible non-profit organization.*

Have you identified an organization willing to hold the CR?  Yes  No  
 Name of organization: \_\_\_\_\_

Are you seeking funds from other sources or partners? Please list:

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**4. PROJECT DESCRIPTION**

Describe in a 1-2 page attachment the following:

- Property characteristics and its value for water supply
- How this project promotes water conservation, resource planning, and management measures already in place

- Threat of development to the property
- Proposed uses; proposed terms if project is for a CR/WPR
- Type of passive public recreation to be permitted. If hunting will not be allowed, explain why.
- Plans for property management and vegetative cover
- Arrangements with any project partners
- Project timeline

**5. RESOURCE MANAGEMENT**

Applicants may be requested to provide supporting documentation,

What is your service area’s current rate of water use?  
 \_\_\_\_\_ residential gallons per capita per day

What is your service area’s current percentage of unaccounted-for water?  
 \_\_\_\_\_ %

What is your current water rate structure?  
 Flat rate     Flat fee     Ascending     Tiered     Seasonal

**6. PROJECT QUALITY**

Supporting documentation **MUST** be included to receive credit.

**Water resource planning:**

Is project located in an area identified as a priority for protection in one of the following plans?

Municipal/PWS Source Water Assessment and Protection (SWAP) report, wellhead protection plan, surface water supply protection plan, community master plan, water resources management plan, wastewater resource management plan, regional watershed plan, water assets report, or an analysis of lands utilizing established water assets GIS screening methodology  
 (See <http://www.mass.gov/eea/waste-mgmt-recycling/water-resources/preserving-water-resources/water-supply-protection/water-assets.html>).

Yes                       No

**Resource protection:** complete only the section that corresponds to your proposed project type.

**A. Projects to protect land serving existing well sites/intakes:**

How much of the property is located within Zone I/II or A/B drinking water supply area, or Interim Wellhead Protection Area? \_\_\_\_\_ acres

How much of the property is located within Zone III or C drinking water supply area?  
 \_\_\_\_\_ acres

Distance from property to wellhead or intake: \_\_\_\_\_ feet

**B. Projects to protect land serving planned future well sites/intakes:**

How much of your project lies within the estimated Zone I/II or A/B drinking water supply area?

\_\_\_\_\_ acres

How much lies within the estimated Zone III or C?

\_\_\_\_\_ acres

Have you submitted an application to DEP for a New Source Review?

Yes  No

**C. Projects to acquire land to be used for groundwater recharge:**

Portion of property in each hydrologic soil group (HSG):

A (gravel, sand): \_\_\_\_\_ acres

B (loamy sand, sandy loam): \_\_\_\_\_ acres

C (loam, silt loam, sandy clay loam, clay loam, silty clay loam): \_\_\_\_\_ acres

D (clay): \_\_\_\_\_ acres

*Soil classification information is available from the USDA Natural Resources Conservation Service (NRCS), web soil survey (<http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>). Applications to acquire properties for which NRCS data is lacking or believed to be inaccurate may conduct an independent analysis of the soil composition and conductivity specific to the property.*

Infiltration rate: \_\_\_\_\_ inches per hour

Test type:  infiltration  percolation

Estimated travel time to nearest public drinking water supply well: \_\_\_\_\_ year(s)

*Note: Recharge projects with predominantly C or D soils HSG, an infiltration rate exceeding 30 minutes/inch (2 inches/hour), or that have an estimated travel time of less than one year to the nearest public drinking water supply well are NOT eligible for funding as a recharge project.*

**Recreation:**

What low-impact, passive public recreational activities will be permitted on the property?

- Hunting
- Trail-based activities (example: hiking)
- Wilderness activities (example: bird watching)
- Other (describe): \_\_\_\_\_

*Public access for passive recreation is a requirement of this grant. Necessary and reasonable restrictions to public access may be made in Zone I and other sensitive areas.*

**7. MUNICIPAL OR PWS BOARD OF COMMISSIONERS APPROVAL**

Does this acquisition have town meeting/city council/PWS board approval?

- Yes                       No

If not, what is the date for the vote? \_\_\_\_\_

The proposed land acquisition must have approval. Attach a certified copy of the vote, or draft language.

**8. OTHER DOCUMENTATION**

**I. Maps:**

- a) **Topographic map** with an outline of the Project boundary. Identify nearby water supply lands and other protected open space
- b) **Drinking Water Supply Protection Areas map** indicating Project location in relation to Zones I/II/III or A/B/C. An online mapping tool is available here: <http://maps.massgis.state.ma.us/images/dep/omv/wspviewer.htm>
- c) **Plot plan or survey map** showing the Project boundary. The Project area must be shown in enough detail to be legally sufficient to identify the lands to be protected. A survey plan with deed references or assessor’s map with block and lot number are acceptable.
- d) **Hydrogeologic Soil Group (HSG) map** (recharge projects only)

**9. CERTIFICATION**

This application was prepared by:

Name: \_\_\_\_\_

Title/organization: \_\_\_\_\_

Mailing address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

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Email:

Telephone:

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*The information and data that has been included in this application to the Drinking Water Supply Protection Grant application is true and correct to the best of my knowledge.*

Signed:

Date:

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## ATTACHMENT CHECKLIST

- Authorization from CEO identifying project manager
- Maps
- Project narrative
- Supporting documentation (infiltration rate; brownfields, etc.)
- Appraisal report. *Applications lacking the correct type of appraisal report(s) will not be considered.*
- Town meeting, city council, or PWS board authorization to apply to this grant and acquire the subject parcel(s) for water supply and land conservation purposes (see Section 2A of the BID for details)

### Contract documents

Applicants selected to receive funding under this BID will be required to submit the following forms in order to execute a contract with the Commonwealth. Forms will be provided. They are also available from the Operational Services Division at <http://www.mass.gov/anf/budget-taxes-and-procurement/oversight-agencies/osd/osd-forms.html>.

- Commonwealth Standard Contract
- Commonwealth Standard Terms and Conditions
- Scope of Services and Additional Terms and Conditions
- Contractor Authorized Signature Verification Form
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## Attachment B: Land Acquisition Project Selection System

### Drinking Water Supply Protection Grant Program

In reviewing applications for land acquisition and developing funding recommendations, the grant review committee considers:

#### 1. **Demographics**

- Population served, measured by number of service connections
- Environmental Justice: whether the applicant serves an Environmental Justice Community, defined according to income, race, and English language proficiency

#### 2. **Resource Management**

- PWS rate of water use: residential gallons per capita per day
- PWS percentage of unaccounted-for water
- PWS water rate structure

#### 3. **Project Quality**

- Identification of property as priority for acquisition in appropriate plan
- Importance of parcel(s) proposed for acquisition to the water resource. Separate criteria for each of three project types:
  - A. Land to protect current wells/intakes:
    1. Portion of land within Zone I/II or A/B
    2. Distance of parcel from wellhead or intake
  - B. Land to protect proposed future wells/intakes:
    1. Portion of land within estimated Zone I/II or A/ B or Interim Wellhead Protection Area
    2. New source approval submission to DEP
  - C. Lands to provide groundwater recharge areas:
    1. Estimated travel time for recharged water to nearest public drinking water supply well
    2. Infiltration rate
- Highest and best use of project parcel(s)
- Location over aquifer
- Removal of structures, development, or brownfield remediation
- Project size
- Public recreational opportunities
- Overall quality

#### **SELECTION NOTES:**

##### **Preservation of Agricultural Land**

Executive Order #193 discourages the irreversible conversion of the Commonwealth's productive agricultural land base. State Grants shall not be used to encourage the irreversible conversion of agricultural land to other uses when feasible alternatives are available. In the event that all feasible alternatives have been explored, and the conversion of suitable agricultural lands to non-agricultural use remains the only feasible alternative to protection of open space, a mitigation plan must be developed to be eligible for reimbursement under a state grant. Project which would convert any prime agricultural lands should consult with the Department Agricultural Resources at (617) 626-1700 prior to submitting an application.



## Attachment D: Requirements for acquisition projects funded through the Community Preservation Act (CPA)

The Community Preservation Act (CPA) states that land acquired with CPA funds must be bound by a permanent restriction (see excerpt of act below). Property acquired with the help of the DWSP grant program is protected Article 97 conservation land, however, this does not supersede the requirements of the Community Preservation Act. The CPA requires that, for fee acquisitions, the municipality convey a Ch. 184 CR to a qualified 501(c)(3) organization whose purpose is land and/or water conservation (e.g., land trusts). It may not be an internal deed restriction. Fulfillment of the CPA is the responsibility of the municipality. **Conveyance of a CR to a qualified entity is required for reimbursement under this grant program.**

Conveying a conservation restriction over water supply land or “parkland” normally would trigger the formal “Article 97” disposition process requiring a 2/3 vote of the legislature. However, for guidance, EEA refers municipalities to the opinion of the Massachusetts Land Trust Coalition Attorney Referral Panel that states: “If a municipality acquires property under the CPA statute, it is required to impose a restriction on the property as a matter of law and thus the imposition of the restriction should be considered part of an integrated plan for dealing with the property. Therefore, the imposition of the restriction should not be considered a “disposition” of an interest in the property within the meaning of Article 97.”<sup>1</sup> All municipalities should seek final advice on this issue from its town counsel or its city solicitor.

### **Points to remember when conveying a Conservation Restriction:**

1. At the same time that it votes to acquire the property, the municipality should vote to authorize the grant of the CR and also indicate that the purchase of the property and conveyance of the CR be a simultaneous closing.
2. The deed to the municipality should indicate that the municipality may grant a CR to the specific entity identified to hold it or to an entity authorized to hold a CR under M.G.L. Ch. 184.
3. As long as a restriction is recorded **after** the recording of the deed of acquisition (even if immediately after), the unrestricted value (and therefore higher value) of the property is used for funding determinations in DCS grant programs.
4. The fact that the funding statute *requires* the restriction may mean that a party seeking a charitable contribution deduction in connection with a bargain sale of property may not be able to use the unrestricted value of the property in calculating the tax benefit.
5. The “proceeds” clause of the conservation restriction, if conveyed at no cost to the grantee, must provide that the municipality (as the fee owner) receives all of the proceeds of an extinguishment or taking, and the grantee receives none of such proceeds. In the event that the land ever is converted to non-conservation use, the municipality would still be responsible for replacing the converted property with land of equal or greater monetary value and conservation use and described in the Program Regulations, as though the land were owned in fee simple. Applicants should consult with DCS for guidance on drafting conservation restrictions for the appropriate language.

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<sup>1</sup> Attorney Greg Bialecki and the Attorney Referral Panel of the Massachusetts Land Trust Coalition – Visit the Massachusetts Land Trust Coalition website at [www.massland.org](http://www.massland.org), or <http://www.massland.org/pages/resources/legaladvisory3.html> for this legal advisory.

## **Community Preservation Act**

### **Section 12 of the Chapter 44B Real property interest; deed restriction; management**

(a) A real property interest that is acquired with monies from the Community Preservation Fund shall be bound by a permanent restriction, recorded as a separate instrument, that meets the requirements of sections 31 to 33, inclusive, of chapter 184 limiting the use of the interest to the purpose for which it was acquired. The permanent restriction shall run with the land and shall be enforceable by the city or town or the commonwealth. The permanent restriction may also run to the benefit of a nonprofit organization, charitable corporation or foundation selected by the city or town with the right to enforce the restriction. The legislative body may appropriate monies from the Community Preservation Fund to pay a non-profit organization created pursuant to chapter 180 to hold, monitor and enforce the deed restriction on the property.

(b) Real property interests acquired under this chapter shall be owned and managed by the city or town, but the legislative body may delegate management of such property to the conservation commission, the historical commission, the board of park commissioners or the housing authority, or, in the case of interests to acquire sites for future wellhead development by a water district, a water supply district or a fire district. The legislative body may also delegate management of such property to a nonprofit organization created under chapter 180 or chapter 203.

## **Attachment E: Summary of Hydrologic Soil Groups and Infiltration Rates For Groundwater Recharge Projects**

Hydrologic soil groups (HSGs) are based on estimates of runoff potential. Groupings are made under the premise that soils found within a climatic region that are similar in depth to a water impermeable layer or water table, water transmission rate, structure, texture, and degree of swelling when saturated, will have similar runoff responses. Soils are assigned to one of four groups based upon the rate of water infiltration when the soils are thoroughly wet, not frozen, unvegetated, and under maximum swelling of expansive clays. There are four HSGs (A, B, C, and D), and three dual classes (A/D, B/D, and C/D), defined below:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

The following summary is drawn from US Department of Agriculture, Natural Resources Conservation Service. 2007. *National Engineering Handbook, Part 630 Hydrology, Chapter 7, Hydrologic Soil Groups*. 210-VI-NEH, For more detailed information, go to <http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>.