



SITE SELECTION MEMORANDUM/ TABLE 1 PERFORMANCE OBJECTIVES GUIDANCE

Resource Conservation and Resiliency Projects

November 2017

OVERVIEW

This document provides general guidance for preparing Site Selection Memorandums for projects that receive funding under the Environmental Security Technology Certification Program (ESTCP) Resource Conservation and Resiliency (RC) program area. The guidance provided in this document will help ensure that sites selected for ESTCP RC demonstrations provide optimal conditions for demonstration of the selected technology or methodology.

A Site Selection Memorandum is required for some ESTCP-funded RC projects. **Demonstrators should submit a Site Selection Memorandum at least two months prior to submittal of the Demonstration Plan to allow for review and discussion. Several portions of the approved site selection memorandum can be implemented later as part of the Demonstration Plan.**

Format

The following general formatting parameters are recommended for Site Selection Memorandums:

Cover	Use the cover of this document as a template; include project name and number, your organization's project number (if applicable), date (month/year), document version number, and the researcher(s) name(s) and organization.
Font	Times New Roman proportional font
Cover Main Title	26 pt, bold, flush right
Cover Title	18 pt, bold, flush right
Section headings	14 pt, bold, flush left
Subsection headings	12 pt, bold, flush left
Text	12 pt
Margins	1" top, left, right, bottom
Page Numbering	Bottom center Cover page: none Front matter: i, ii, iii, iv... Body of document: 1, 2, 3, 4...
Word processing software	Use either Microsoft Word or provide a PDF document
Figures, tables, and photographs	Insert in the document on the same or first page following the first reference. Liberal use is highly recommended.

How to Submit a Site Selection Memorandum

A Site Selection Memorandum must be submitted to the ESTCP Support Office using *one of the methods* indicated below:

- For files that are 100MB or less: Submit the report in SEMS 2.0 (<https://sems2.serdp-estcp.org>). Follow the instructions below for uploading your document:
 - From the project dashboard, click “Overview & Plan” in the left-hand panel, then click “Project Plan”.
 - Scroll down to the document milestone and click “Upload” in the milestone box.
 - Select the file you would like to upload and click the “Upload” button.
 - Click “Submit” in the bottom right corner of the milestone box.
- For files larger than 100MB: Contact serdp-estcp.documents@noblis.org to receive an email with the web link that will allow access to the system to upload your file(s). Please make sure you include the project number and the title(s) of the document(s) to allow identification of your files.

Please do not submit documents directly to the ESTCP Program Manager.

SECTION-BY-SECTION SITE SELECTION MEMORANDUM AND TABLE 1 GUIDANCE FOR RESOURCE CONSERVATION AND RESILIENCY TECHNOLOGIES OR METHODOLOGIES

Cover Page: See Page 1 for instructions.

1.0 OBJECTIVES OF THE DEMONSTRATION

Describe the overarching objective(s) of the demonstration, such as to validate the technology/methodology in the field at the appropriate scale of implementation/operation. If other validations are contemplated besides the field validation, describe the relationship of those validations to the field validation including any dependencies.

2.0 TECHNOLOGY/METHODOLOGY DESCRIPTION

Briefly describe the technology or methodology to be demonstrated and the issues to be validated.

3.0 PERFORMANCE OBJECTIVES

A Performance Objectives table is required in the Demonstration Plan. Please provide a draft of this table as part of the Site Selection Memorandum (or separately if the memorandum is not required for your project) to enable a: (1) preliminary review of your performance objectives prior to submittal of your Demonstration Plan and (2) more thorough evaluation of the validation issues that may affect site selection considerations.

Note that the performance objectives are a critical component of the Demonstration Plan. They provide the basis for evaluating the performance and costs of the technology or methodology. Performance objectives are the primary criteria established by the investigator for evaluating the innovative technology or methodology. Meeting these performance objectives is essential for successful demonstration and validation of the technology or methodology. An early review of these objectives helps to ensure that the ESTCP office and project team are “on the same page” regarding the critical aspects of the proposed demonstration prior to the team preparing the detailed Demonstration Plan.

Performance objectives may be *qualitative and quantitative parameters*. In your draft Table 1 (sample provided), describe the associated metric information, data requirements, and success criteria for each performance objective. Performance objectives should include, but are not limited to, such things as end-point criteria, performance time, and analytical sensitivity. In Sections 5.0 and 6.0 of the Demonstration Plan, details will be required on the methods for collecting and analyzing the data required to assess the performance objectives listed in Table 1. In addition, narrative supporting the information presented in Table 1 also will be required as part of Section 3.0 of the Demonstration Plan.

Table 1. Performance Objectives
[SAMPLE ONLY-Performance objectives must be specific to the

technology/methodology being demonstrated.]

Performance Objective	Metric	Data Requirements	Success Criteria
Quantitative Performance Objectives			
Improve species habitat/ecosystem restoration (<i>Natural Resources</i>)	<ul style="list-style-type: none"> • Correspondence with listed species habitat structure requirements • Reduction in non-native invasive species abundance • Increase in the number of breeding pairs 	<ul style="list-style-type: none"> • Tree size class and basal area measurements • Vegetation presence/absence data and cover estimates • Population demographic data 	<ul style="list-style-type: none"> • < 10 ft²/acre basal area of trees < 10 inches in diameter • Non-native invasive species cover < 10% • > 250 effective breeding pairs
Improve erosion control (<i>Natural Resources</i>)	Soil loss per unit area	Soil loss measurements via calibrated pin markers	Reduce soil loss in kg/m ³ by > 25% compared with current approaches
Qualitative Performance Objectives			
Ease of use	Ability of a technician-level individual to use the technology	Feedback from the technician on usability of the technology and time required to use	A single field technician able to effectively take measurements with minimal training

4.0 SITE SELECTION CRITERIA

When selecting a site or sites for demonstrations, you should consider: (1) environmental conditions necessary to fully evaluate the “operating envelope” within which the proposed technology or methodology can successfully meet its performance objectives and associated success criteria, (2) logistical issues (are needed resources available, is travel to the site feasible in terms of cost and time, and so on), and (3) host site willingness to participate (even if this is passive participation) as a demonstration site.

Develop criteria addressing considerations 1 and 2 for either (1) sites identified in the proposal or (2) identifying and selecting candidate demonstration sites. For demonstrations involving multiple sites, develop criteria that will ensure complementarity across sites and avoid redundant sites. The criteria should justify the number of demonstration sites needed to fully evaluate the technology or methodology. Finally, some projects may defer selecting a particular site until later in the project’s execution. This could arise when the input of stakeholders is desired prior to selecting all demonstration sites. In that case draft criteria should be specified now to help guide selection of the final site(s).

Provide a table that lists the site selection criteria in terms of specific parameters or site conditions that must be met, the corresponding range of values that demonstration sites should fall within (or exceed or fall below, if stated in that manner), relative importance of the parameter, and, if available, parameter values for candidate demonstration sites. Please see Table 2 for an example.

SAMPLE

Table 2. Site Selection Criteria: Watershed Model Validation Project

Parameter (units)	Preferred Value(s)	Relative Importance (1-5, with 1 being highest)	Site 1	Site 2
Drainage Area (mi ²)	10 to 2000	5	100	1750
Stream Length (mi)	5 to 250	3	50	120
Peak Daily Discharge (cfs)	100 to 50000	1	4000	35000

Please note that these parameters and associated values are examples. List any parameters of consideration, including specific site characteristics as well as logistical issues. Please provide the site name(s) and include all sites that were evaluated.

If you have not done so as part of your proposal submittal, provide a letter of support from the recommended site(s) signed by an individual with the authority to grant access to the installation or otherwise commit installation involvement in the demonstration.

5.0 SITE CHARACTERISTICS

Provide any other information about the candidate sites that may be relevant to the selection process.

6.0 SITE SELECTION

Based on application of the site selection criteria, summarize the final selection of the demonstration site(s). Describe how the criteria were used in selecting the demonstration site(s) and meeting the project's overarching objectives. In addition, discuss how the selection of the demonstration site(s) relates to the technology or methodology to be demonstrated. For example, describe how the demonstration site provides the conditions needed to successfully demonstrate the technology or methodology across the proposed operating envelope, achieves complementarity and avoids redundancy, provides the necessary infrastructure to support the demonstration, and meets the regulatory or end-user community's requirements for the demonstration and subsequent implementation. Finally, summarize the criteria to be used to select any demonstration site that may be TBD.