PROJECT TITLE: Scituate Reservoir, Barden Reservoir-Ponaganset River and Moswansicut Pond NWQI - Watershed Plans

DATE: September 15, 2023

Request for Proposals: Scituate Reservoir, Barden Reservoir-Ponaganset River and Moswansicut Pond NWQI - Watershed Plans.

Northern Rhode Island Conservation District (NRICD) is seeking a Contractor to initiate the below described activities with respect to the project known as Scituate Reservoir, Barden Reservoir-Ponaganset River and Moswansicut Pond NWQI - Watershed Plans. The Contractor will be authorized to spend up to the total funding ceiling noted below on these activities, and to be reimbursed for direct expenses. The nature of this project is described below.

QUESTIONS

Questions about this proposal can be submitted to Molly Allard, NRICD District Manager, by email at mallard.nricd@gmail.com until October 5, 2023. If you are interested in submitting a proposal and would like to receive a summary of answers to all questions submitted, please notify Molly Allard at mallard.nricd@gmail.com on or before October 5, 2023.

PROPOSAL SUBMISSION:

Proposals must be received by 3:00 pm EST on Thursday, October 12. A public proposal opening will be conducted at 3:00 pm EST on Thursday, October 12 at the NRICD office located at 2283 Hartford Avenue, Johnston, RI 02908.

Proposals may be mailed to or dropped off at:

Northern Rhode Island Conservation Distrct
2283 Hartford Avenue
Johnston, RI 02919

If dropping off, please call 401-934-0840 to ensure someone is available to accept the hard copy proposal.

Proposals may also be submitted electronically (in PDF format) to:

Molly Allard
Mallard.nricd@gmail.com

Ms. Allard will respond to confirm receipt of your proposal. If you do not receive confirmation of receipt, please call 401-934-0840 ext. 2 to confirm.

Proposals will be evaluated by a project team consisting of representatives from NRICD and USDA NRCS. NRICD and its partners reserve the right to decline any portion of any proposal, to decline to select a contractor, and/or to select a contractor based on factors including, but not limited to, history of successful completion of similar projects.

The selected contractor will be notified and publicly posted on nricd.org by November 1, 2023.

PROJECT BUDGET:

Total funding ceiling (Including other direct costs and travel): $150,000

PROJECT DESCRIPTION:

Development of three National Water Quality Initiative (NWQI) HUC-12 watershed plans for agriculture in Rhode Island.

Project Location: Scituate Reservoir, Barden Reservoir-Ponaganset River and Moswansicut Pond-Huntinghouse Brook watersheds

Technical Contact(s): Eric Boettger – NRCS, RI

Agreement Administrative Contact(s): Molly Allard – RI Northern District

The U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) identified three National Water Quality Initiative (NWQI) HUC-12 watersheds in Rhode Island; the Scituate Reservoir, Barden Reservoir-Ponaganset River and Moswansicut Pond-Huntinghouse Brook watersheds, which are in Providence County Rhode Island and currently do not have a watershed assessment/watershed plan in place that addresses agriculture. These watersheds need an assessment completed to enter the implementation phase of the National Water Quality Initiative (NWQI). NRCS-RI and the Northern Rhode Island Conservation District developed an agreement to create the watershed assessments for Rhode Island. The contractors selected through this agreement will prepare the three watershed assessments following the NRCS watershed assessment guidance as appropriate (and based on available data). NRCS-RI, and its Partners will identify key existing sources of information for the contractors to use.

The contractor's support will consist of three separate watershed plans and activities. The contractor will:

1. Provide the Watershed Plan for the Scituate Reservoir HUC-12 watershed based on the key technical components outlined below.

2. Provide the Watershed Plan for the Barden Reservoir-Ponaganset River HUC-12 watershed based on the key technical components outlined below.

3. Provide the Watershed Plan for the Moswansicut Pond-Huntinghouse Brook HUC-12 watershed based on the key technical components outlined below.

Activity 1: **Scituate Reservoir** watershed plan key technical components (Note – pages are approximation)

1.A:

I Background and Purpose	**Pages**	**Responsibility**
a. General overview and location of the watershed assessment area	2	Contractor
b. Specific water quality degradation resource concerns and impairments	2	Contractor
c. Constituents of concern	1	Contractor
d. Opportunities and objectives for meeting water quality goals	3	Contractor

1.B:

II Watershed Characterization	Pages	Responsibility
a. Location of watershed within the drainage network.	1	Contractor
b. Landscape characteristics of the MLRA or ecoregion in which the watershed resides. Provide an overview of landscape conditions within which the watershed resides.	2	Contractor
c. Climate. Provide overview that gives context for land cover/uses and a basis for the hydrologic conditions described in section III.	1	Contractor
d. Topography.	2	Contractor
e. Geology, geomorphology, and soils and soil interpretations.	2	Contractor
f. Drainage network (USGS National Hydrographic Dataset link, GIS-derived flow network, National Wetland Inventory, tour and any visual assessments of watershed).	2	Contractor
g. Land cover and land use.	1	Contractor
h. Socioeconomic conditions, including range of agricultural operations in the watershed, range of farm sizes.	1	Contractor
i. Maps of the watershed characteristics, its critical resources, potential hot spots of concern. Maps will be generated via other activities to be carried out under this TO.	TBD	Contractor
j. Other relevant information to characterize the watershed.	1	Contractor

1.C:

III Hydrologic and Water Quality Characterization	Pages	Responsibility
a. Available data and resources.	8	Contractor
i. Discuss available resources of information compiled by others.		
ii. Gaging stations in or near the watershed.		
iii. Surface and groundwater water quality sampling sites.		
iv. Biological monitoring.		
v. Previous sampling results provided by partner to be used in characterizing the watershed.		
b. Runoff and streamflow hydrology, and irrigation. Using streamflow, irrigation and climate data and other watershed information, synthesize hydrological conditions of the watershed.	4	Contractor
i. Methods used in analysis, with specific attention to tools developed within Region 1 that incorporate local precipitation values and runoff curves		
ii. Runoff and streamflow generation processes. What generates runoff?		
Irrigation conveyances and systems.		
iii. Precipitation-runoff budget. How much precipitation and irrigation returns as stream runoff? How much goes to deep groundwater? Evapotranspiration?		
iv. Spatial distribution of runoff. Do certain areas of the watershed generate more runoff, due to soils, geology, topography, or land uses?		
v. Temporal distribution of streamflow—monthly, runoff events, baseflows.		
c. Water quality conditions in the watershed.	6	Contractor
i. What are the general concentrations and loads of major constituents and how do they vary with season, weather, land use, etc.?		
ii. Sediment (if a watershed resource concern).		
iii. Nutrients—N and P (if a watershed resource concern).		
iv. Pathogens (if watershed resource concerns).		
v. Other (pesticides, petroleum products, selenium, etc.).		

1.D:

IV Resource Analysis and Source Assessment	Pages	Responsibility
a. The causes of the resource problem are identified.	3	Contractor
b. What are potential tools available to address the types of resource problems?	3	Contractor
c. Preliminary analysis using Hydrologic modeling, GIS analyses, or both to identify acres with greatest need for treatment (critical acres) based on pollutants of concern and the numbers of acres of conservation to achieve goals. Depending upon the complexity of the watershed, several methods could be used:	10	Contractor
i. Simple spreadsheet mass balance models for nutrients.		
1. Nutrient inputs based upon areas (acres) for given land cover and use.		
2. Nutrient outputs.		
3. Possible conservation measures using the mass balance spreadsheet to input acres of new conservation in and see results in water quality load reductions.		
ii. Simple spreadsheet sediment delivery budget.		
1. Identify the sediment sources in the watershed.		
2. Estimate quantity, sediment delivery ratio, to estimate total sediment.		
iii. Load reduction spreadsheets for best management practices with consideration given to using Region 1 Opti-tool.		
iv. Watershed-based modeling of potential sources and treatment effects.		
v. Grid-based GIS modeling.		
vi. GIS vulnerability analysis – simple GIS analyses using GIS coverages of land use, management, physical attributes, etc., to assist in the identification of critical areas within the watershed.		
vii. Other analyses, including watershed and stream surveys, to identify areas needing treatment.		

1.E:

V Summary and Recommendations	Pages	Responsibility
a. Description and location of water quality impairments and priority resource areas needing treatment.	6	Contractor
b. Description of the goals (usually reduction goals) and practice efficiencies.	2	Contractor
c. Interim metrics to track progress. Both implementation (practices implemented on high priority acres) and effectiveness metrics (estimates of the water quality impacts of implementation – e.g., load reductions, edge-of-field reductions, improvement in biological indicators or physical indicators, monitoring trends) should be selected.	3	Contractor NRCS and partners

Activity 2: **Barden Reservoir-Ponaganset** watershed plan key technical components (Note – pages are approximation)

2.A:

I Background and Purpose	Pages	Responsibility
a. General overview and location of the watershed assessment area	2	Contractor
b. Specific water quality degradation resource concerns and impairments	2	Contractor
c. Constituents of concern	1	Contractor
d. Opportunities and objectives for meeting water quality goals	3	Contractor

2.B:

II Watershed Characterization	Pages	Responsibility
a. Location of watershed within the drainage network.	1	Contractor
b. Landscape characteristics of the MLRA or ecoregion in which the watershed resides. Provide an overview of landscape conditions within which the watershed resides.	2	Contractor
c. Climate. Provide overview that gives context for land cover/uses and a basis for the hydrologic conditions described in section III.	1	Contractor
d. Topography.	2	Contractor
e. Geology, geomorphology, and soils and soil interpretations.	2	Contractor
f. Drainage network (USGS National Hydrographic Dataset link, GIS-derived flow network, National Wetland Inventory, tour and any visual assessments of watershed).	2	Contractor
g. Land cover and land use.	1	Contractor
h. Socioeconomic conditions, including range of agricultural operations in the watershed, range of farm sizes.	1	Contractor
ii. Maps of the watershed characteristics, its critical resources, potential hot spots of concern. Maps will be generated via other activities to be carried out under this TO.	TBD	Contractor
j. Other relevant information to characterize the watershed.	1	Contractor

2.C:

III Hydrologic and Water Quality Characterization	Pages	Responsibility
a. Available data and resources.	8	Contractor
i. Discuss available resources of information compiled by others.		
ii. Gaging stations in or near the watershed.		
iii. Surface and groundwater water quality sampling sites.		
iv. Biological monitoring.		
v. Previous sampling results provided by partner to be used in characterizing the watershed.		
b. Runoff and streamflow hydrology, and irrigation. Using streamflow, irrigation and climate data and other watershed information, synthesize hydrological conditions of the watershed.	4	Contractor

i. Methods used in analysis, with specific attention to tools developed within Region 1 that incorporate local precipitation values and runoff curves		
ii. Runoff and streamflow generation processes. What generates runoff?		
Irrigation conveyances and systems.		
iii. Precipitation-runoff budget. How much precipitation and irrigation returns as stream runoff? How much goes to deep groundwater? Evapotranspiration?		
iv. Spatial distribution of runoff. Do certain areas of the watershed generate more runoff, due to soils, geology, topography, or land uses?		
v. Temporal distribution of streamflow—monthly, runoff events, baseflows.		
c. Water quality conditions in the watershed.	6	Contractor
i. What are the general concentrations and loads of major constituents and how do they vary with season, weather, land use, etc.?		
ii. Sediment (if a watershed resource concern).		
iii. Nutrients—N and P (if a watershed resource concern).		
iv. Pathogens (if watershed resource concerns).		
v. Other (pesticides, petroleum products, selenium, etc.).		

2.D:

IV Resource Analysis and Source Assessment	**Pages**	**Responsibility**
a. The causes of the resource problem are identified.	3	Contractor
b. What are potential tools available to address the types of resource problems?	3	Contractor
c. Preliminary analysis using Hydrologic modeling, GIS analyses, or both to identify acres with greatest need for treatment (critical acres) based on pollutants of concern and the numbers of acres of conservation to achieve goals. Depending upon the complexity of the watershed, several methods could be used:	10	Contractor
i. Simple spreadsheet mass balance models for nutrients.		

1. Nutrient inputs based upon areas (acres) for given land cover and use.		
2. Nutrient outputs.		
3. Possible conservation measures using the mass balance spreadsheet to input acres of new conservation in and see results in water quality load reductions.		
ii. Simple spreadsheet sediment delivery budget.		
1. Identify the sediment sources in the watershed.		
2. Estimate quantity, sediment delivery ratio, to estimate total sediment.		
iii. Load reduction spreadsheets for best management practices with consideration given to using Region 1 Opti-tool.		
iv. Watershed-based modeling of potential sources and treatment effects.		
v. Grid-based GIS modeling.		
vi. GIS vulnerability analysis – simple GIS analyses using GIS coverages of land use, management, physical attributes, etc., to assist in the identification of critical areas within the watershed.		
vii. Other analyses, including watershed and stream surveys, to identify areas needing treatment.		

2.E:

V Summary and Recommendations	**Pages**	**Responsibility**
a. Description and location of water quality impairments and priority resource areas needing treatment.	6	Contractor
b. Description of the goals (usually reduction goals) and practice efficiencies.	2	Contractor
c. Interim metrics to track progress. Both implementation (practices implemented on high priority acres) and effectiveness metrics (estimates of the water quality impacts of implementation – e.g., load reductions, edge-of-field reductions, improvement in biological indicators or physical indicators, monitoring trends) should be selected.	3	Contractor NRCS and partners

Activity 3: **Moswansicut Pond-Huntinghouse Brook** watershed plan key technical components (Note – pages are approximation)

3.A:

I Background and Purpose	**Pages**	**Responsibility**
a. General overview and location of the watershed assessment area	2	Contractor
b. Specific water quality degradation resource concerns and impairments	2	Contractor
c. Constituents of concern	1	Contractor
d. Opportunities and objectives for meeting water quality goals	3	Contractor

3.B:

II Watershed Characterization	**Pages**	**Responsibility**
a. Location of watershed within the drainage network.	1	Contractor
b. Landscape characteristics of the MLRA or ecoregion in which the watershed resides. Provide an overview of landscape conditions within which the watershed resides.	2	Contractor
c. Climate. Provide overview that gives context for land cover/uses and a basis for the hydrologic conditions described in section III.	1	Contractor
d. Topography.	2	Contractor
e. Geology, geomorphology, and soils and soil interpretations.	2	Contractor
f. Drainage network (USGS National Hydrographic Dataset link, GIS-derived flow network, National Wetland Inventory, tour and any visual assessments of watershed).	2	Contractor
g. Land cover and land use.	1	Contractor
h. Socioeconomic conditions, including range of agricultural operations in the watershed, range of farm sizes.	1	Contractor
i. Maps of the watershed characteristics, its critical resources, potential hot spots of concern. Maps will be generated via other activities to be carried out under this TO.	TBD	Contractor
j. Other relevant information to characterize the watershed.	1	Contractor

3.C:

III Hydrologic and Water Quality Characterization	**Pages**	**Responsibility**
a. Available data and resources.	8	Contractor
i. Discuss available resources of information compiled by others.		
ii. Gaging stations in or near the watershed.		
iii. Surface and groundwater water quality sampling sites.		
iv. Biological monitoring.		
v. Previous sampling results provided by partner to be used in characterizing the watershed.		

b. Runoff and streamflow hydrology, and irrigation. Using streamflow, irrigation and climate data and other watershed information, synthesize hydrological conditions of the watershed.	4	Contractor
i. Methods used in analysis, with specific attention to tools developed within Region 1 that incorporate local precipitation values and runoff curves		
ii. Runoff and streamflow generation processes. What generates runoff?		
Irrigation conveyances and systems.		
iii. Precipitation-runoff budget. How much precipitation and irrigation returns as stream runoff? How much goes to deep groundwater? Evapotranspiration?		
iv. Spatial distribution of runoff. Do certain areas of the watershed generate more runoff, due to soils, geology, topography, or land uses?		
v. Temporal distribution of streamflow—monthly, runoff events, baseflows.		
c. Water quality conditions in the watershed.	6	Contractor
i. What are the general concentrations and loads of major constituents and how do they vary with season, weather, land use, etc.?		
ii. Sediment (if a watershed resource concern).		
iii. Nutrients—N and P (if a watershed resource concern).		
iv. Pathogens (if watershed resource concerns).		
v. Other (pesticides, petroleum products, selenium, etc.).		

3.D:

IV Resource Analysis and Source Assessment	**Pages**	**Responsibility**
a. The causes of the resource problem are identified.	3	Contractor
b. What are potential tools available to address the types of resource problems?	3	Contractor
c. Preliminary analysis using Hydrologic modeling, GIS analyses, or both to identify acres with greatest need for treatment (critical acres) based on pollutants of concern and the numbers of acres of conservation to achieve goals. Depending upon the complexity of the watershed, several methods could be used:	10	Contractor

i. Simple spreadsheet mass balance models for nutrients.		
1. Nutrient inputs based upon areas (acres) for given land cover and use.		
2. Nutrient outputs.		
3. Possible conservation measures using the mass balance spreadsheet to input acres of new conservation in and see results in water quality load reductions.		
ii. Simple spreadsheet sediment delivery budget.		
1. Identify the sediment sources in the watershed.		
2. Estimate quantity, sediment delivery ratio, to estimate total sediment.		
iii. Load reduction spreadsheets for best management practices with consideration given to using Region 1 Opti-tool.		
iv. Watershed-based modeling of potential sources and treatment effects.		
v. Grid-based GIS modeling.		
vi. GIS vulnerability analysis – simple GIS analyses using GIS coverages of land use, management, physical attributes, etc., to assist in the identification of critical areas within the watershed.		
vii. Other analyses, including watershed and stream surveys, to identify areas needing treatment.		

3.E:

V Summary and Recommendations	**Pages**	**Responsibility**
a. Description and location of water quality impairments and priority resource areas needing treatment.	6	Contractor
b. Description of the goals (usually reduction goals) and practice efficiencies.	2	Contractor
c. Interim metrics to track progress. Both implementation (practices implemented on high priority acres) and effectiveness metrics (estimates of the water quality impacts of implementation – e.g., load reductions, edge-of-field reductions, improvement in biological indicators or physical indicators, monitoring trends) should be selected.	3	Contractor NRCS and partners

DELIVERABLES:

Watershed Plan #	Activity	Activity Description	Date Needed
1	1.A	I Background and Purpose	7/01/2024
1	1.B	II Watershed Characterization	7/01/2024
1	1.C	III Hydrologic and Water Quality Characterization	7/01/2024
1	1.D	IV Resource Analysis and Source Assessment	7/01/2024
1	1.E	V Summary and Recommendations	7/01/2024
2	2.A	I Background and Purpose	7/01/2024
2	2.B	II Watershed Characterization	7/01/2024

2	2.C	III Hydrologic and Water Quality Characterization	7/01/2024
2	2.D	IV Resource Analysis and Source Assessment	7/01/2024
2	2.E	V Summary and Recommendations	7/01/2024
3	3.A	I Background and Purpose	7/01/2024
3	3.B	II Watershed Characterization	7/01/2024
3	3.C	III Hydrologic and Water Quality Characterization	7/01/2024
3	3.D	IV Resource Analysis and Source Assessment	7/01/2024
3	3.E	V Summary and Recommendations	7/01/2024

A kick-off call will be held among the Contractor, NRCS, and the Northern District to review overall goals of the project and details regarding the schedule, reporting, and implementation of the technical direction. Additional web meetings will be scheduled as needed. The Contractor will be responsible for arranging for web meetings. The Contractor will be responsible for scheduling the time when most if not all needed participants are available.

NRCS, and the Northern District anticipates planning and project discussions to take place via web meetings, and that information collection and analysis (research) can be accomplished without travel.

REPORTS

At the request of the project technical contact(s), the contractor shall provide progress reports on the project status and progress throughout the project duration.

At the end of the project, the contractor shall provide a project summary including description of the services provided, outcome of the services, description of any capacity building or coaching provided to parties, reflections on lessons learned and recommendations for improvement and/or follow-up according to the Statement of Work of this Task Order.