

NEW YORK STATE  
DEPARTMENT OF AGRICULTURE AND MARKETS  
AND SOIL AND WATER CONSERVATION COMMITTEE

RFP0291 - REQUEST FOR PROPOSALS

**Climate Resilient Farming Program**

**Round 7**

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## I. GENERAL PROGRAM INFORMATION

### 1. Introduction

The New York State Soil and Water Conservation Committee (State Committee) invites Soil and Water Conservation Districts to submit proposals for funding to the Climate Resilient Farming Program. Funds are available for projects that mitigate the impact of agriculture on climate change and enhance the on-farm adaptation and resiliency to projected climate conditions. Applications must be for **ONE** of the following:

- **Track 1:** Livestock Management: Alternative Waste Management and Precision Feed Management;
- **Track 2:** Adaptation and Resiliency;
- **Track 3:** Healthy Soils NY (Systems and BMPs that support soil health and agroforestry).

Project proposals must have originated through the Agricultural Environmental Management (AEM) framework. Cost share funds will be provided through Soil and Water Conservation Districts for the implementation of Best Management Practice (BMP) Systems. Availability of funding for this program is from the State Fiscal Year 2022-2023 Environmental Protection Fund, within the “Climate Change Mitigation and Adaptation” account.

### 2. Proposal Submission Requirements

Proposals for funding under the Climate Resilient Farming Program must conform to the format provided in Section IV of this RFP.

**PROPOSALS MUST BE SUBMITTED via SharePoint by 4:30 p.m. local time on August 7, 2023 to be considered for funding.** Proposals received after the scheduled date and time will not be accepted.

Applicants, and not computers or servers, are responsible for the timely submission of proposals. Mailed, delivered or faxed proposals will not be accepted. If delays or other upload issues are experienced when submitting to SharePoint, proposals may be e-mailed to the Program Manager at [Jennifer.clifford@agriculture.ny.gov](mailto:Jennifer.clifford@agriculture.ny.gov). A notification e-mail must be sent to the Program Manager documenting the inability to upload to SharePoint prior to submitting the application via e-mail. The Department reserves the right to request paper copies as necessary.

### 3. Questions and Answers

Prospective applicants with questions concerning this RFP should present those questions to:

Jennifer Clifford  
NYS Soil and Water Conservation Committee  
10B Airline Drive  
Albany, NY 12235  
[Jennifer.clifford@agriculture.ny.gov](mailto:Jennifer.clifford@agriculture.ny.gov)

All questions must be submitted to Jennifer Clifford in writing by June 5, 2023. Applicants should note that all clarifications are to be resolved prior to the submission of a proposal. A list of questions about the RFP, answers to those questions, and any addenda to the RFP, will be added to the Questions and Answers document posted on the Department website and the State Committee’s SharePoint site along with the electronic version of this RFP and other program attachments. A complete Questions and Answers document will be posted no later than June 26, 2023. All questions and answers shall be incorporated into the RFP as a formal addendum.

#### 4. Proposal Timeline

<b>RFP Release:</b>	<b>March 2023</b>
<b>Questions Submittal Due Date:</b>	<b>June 5, 2023</b>
<b>Questions and Answers Final Posting:</b>	<b>June 26, 2023</b>
<b>Proposal Due Date:</b>	<b>August 7, 2023</b>
<b>Awards Announced</b>	<b>October 2023</b>

#### 5. Background and Goal of the Climate Resilient Farming Program

Led by the New York State Soil and Water Conservation Committee, in coordination with the New York State Department of Agriculture and Markets, the goal of the Climate Resilient Farming Program is to reduce the impact of agriculture on climate change (mitigation) and to increase the resiliency of New York State farms in the face of a changing climate (adaptation).

Preference will be given to projects that can demonstrate strong potential in mitigation and adaptation.

##### *Mitigation*

Estimates of annual GHG emissions from agriculture (apart from agricultural energy use, which is classified differently) in New York State are 21 million metric tons of carbon dioxide equivalent<sup>1</sup>. Livestock is responsible for roughly 92% of the emissions and emissions from soils are 8% . This represents a major opportunity to reduce emissions. For example, transitioning from open liquid manure storage systems to manure storage systems with covers and flares would allow methane (CH<sub>4</sub>), a gas with 84 times the global warming footprint<sup>2</sup> of carbon dioxide (CO<sub>2</sub>), to be captured and destroyed. Soil health practices can sequester carbon from the atmosphere as soil organic matter and allow for more efficient use of nitrogen by crops, thereby reducing nitrous oxide (N<sub>2</sub>O) emissions from soils (N<sub>2</sub>O has 264 times the global warming potential of CO<sub>2</sub> on a 20-year timescale).

##### *Adaptation*

Climate projections for New York State include increased summer and winter temperatures, increased overall precipitation, increased intense precipitation events, and more instances of short duration summer droughts. New York farms will likely face more frequent dry periods in the summer as well as more frequent and severe flood events — possibly in the same season. Manure storage covers, enhanced water management systems, and soil health efforts all have the potential to reduce the impacts of climate change on farms by preparing farms for these predicted changes. This program intends to capitalize on the opportunities to mitigate agriculture’s GHG emissions while strengthening the resiliency of New York State’s farms.

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<sup>1</sup> New York State Climate Action Council. 2022. “New York State Climate Action Council Scoping Plan.” [Climate.ny.gov/ScopingPlan](https://climate.ny.gov/ScopingPlan)

<sup>2</sup> IPCC report. 2014. Fifth Assessment Report (AR5), <https://www.ipcc.ch/assessment-report/ar5/>

## 6. Funding

Available funding will be assigned by Track as follows:

Track	Funding Available
Track 1: Livestock Management: Alternative Waste Management & Precision Feed Management	\$5,000,000
Track 2: Adaptation & Resiliency	\$6,000,000
Track 3: Healthy Soils NY (Systems & BMPs that support soil health and agroforestry)	\$4,000,000
<b>Total Available Funding</b>	<b>\$15,000,000</b>

### *Reallocation of Funds*

Within each track, available funds will be awarded to eligible projects in ranked order. Any remaining funds from each track will be pooled and redistributed to the track(s) based on the original allocation as illustrated below. Those funds will then be awarded to the next eligible projects in ranked order that can be fully funded. Funds will continue to be reallocated until all funding has been awarded. Partial awards may be offered as necessary after reallocation if remaining funds are not enough to fully fund the next eligible projects in ranked order.

**If funds remain for Track 1, the leftover funds will be allocated toward the ranked lists for Track 2 and Track 3 according to the following method:**

- Track 2 Re-Allocation Percentage (to the nearest hundredths place) = Original Track 2 Percentage / (Original Track 2 Percentage + Original Track 3 Percentage)
- Track 3 Re-Allocation Percentage (to the nearest hundredths place) = Original Track 3 Percentage / (Original Track 2 Percentage + Original Track 3 Percentage)
- If all eligible projects are then funded within a track such that only one track remains, the leftover funds will be reallocated to the remaining track.

## II. ELIGIBILITY

### 1. Applicant Eligibility

Proposals for funding will be accepted from Soil and Water Conservation Districts (Districts). Proposals may be for multiple projects and/or on multiple farm operations but must be for one Track only. Districts may submit more than one application, including separate applications for multiple Tracks on the same farm operation.

*Note:* Some Tracks have overlapping eligible systems. Applicants must choose the most appropriate Track for their proposal based on the overall goals and outcomes of the proposed project.

A “farm operation” shall be as defined in section 301(11) of the New York Agriculture and Markets Law, which is “the land and on-farm buildings, equipment, manure processing and handling facilities, and practices which contribute to the production, preparation and marketing of crops, livestock, and livestock products as a commercial enterprise ...” For the purposes of this program, a “farm operation” shall also include urban agriculture, which is the cultivation, processing, and distribution of agricultural products in

urban and suburban areas. Community gardens, rooftop farms, hydroponic, aeroponic, and aquaponic facilities, and vertical production are all examples of urban agriculture.

## **2. New Participant and Beginning Farmer Benefit**

The NYS Soil and Water Conservation Committee (SWCC) and NYS Department of Agriculture and Markets (AGM) are committed to supporting diversity and inclusion in agriculture. The SWCC and AGM encourage Districts to increase program outreach and encourage new participants or beginning farmers in the SWCC programs. Increasing outreach will increase farmer awareness of the CRF program and increase interest for SWCD technical assistance. Encouraging new farmers to participate in SWCC cost-share programs will increase farm diversity within the CRF program. Proposals that include farm operations that have not previously participated in SWCC cost-share programs or beginning farmers as defined below will receive 5 preference points to be applied to the overall application score. Preference points will be added to multi-landowner applications where a new participant or beginning farmer qualifies. Preference points will be applied by SWCC staff at application review based on information provided on the application form and by utilizing the SWCCs internal database of past participants.

- New Participant – a farm operation that has never been awarded a CRF or AgNPS grant.
- Beginning Farmer – an individual or entity who has not operated a farm for more than 10 consecutive years.

## **3. Conflict of Interest**

If the project application includes eligible participating landowner(s) who are also District employees or District directors or have a business or family relation to a District employee or director, the potential conflict of interest must be disclosed. A person with a potential conflict of interest must disclose the existence of such an interest and be given the opportunity to disclose all material facts to the SWCD Board.

The person with a potential conflict of interest must recuse themselves from all discussions regarding the application. A recusal means NOT acting in their official capacity. This is accomplished by leaving the meeting space during any discussions, questioning, commenting, and voting on the issue while operating in their official capacity, whether during a Board meeting or, for employees, while logging hours as District staff. When in a Board meeting setting, the recusal must be reflected in the meeting minutes and shall occur every time the CRF application and contract is mentioned. Such recusals are intended for discussion and decision making related to a specific project within the CRF contract.

The Project Sponsor must submit a copy of the official Board Meeting minutes that reflect the process for the selection of the farm(s), disclosure of potential conflicts of interest, and necessary recusals from the authorizing resolution. The names of the persons who were present for discussions and votes relating to the CRF project shall be noted in the meeting minutes. When a recusal is made to avoid a conflict of interest, this shall be noted in the minutes with the name(s), reason(s) for recusal, and times when the person left and returned to the meeting.

## **4. Project Eligibility**

Proposed projects must address GHG emission reduction, carbon sequestration, and/or on-farm resiliency and adaptation to climate change in one of the three Tracks outlined below. Applications may be for one landowner or for multiple landowners. Projects should have defined measurable outcomes and deliverables for reducing GHG emissions, increasing carbon sequestration, or improving resiliency. Strong proposals will show opportunities both in terms of mitigation and adaptation/resiliency. See Appendices A, B, and C (Guidance Documents 1, 2, and 3) for more detailed information about eligible practice systems and components for each Track.

**All applications must be for ONE of the following Tracks:**

- Track 1: Livestock Management: Alternative Waste Management & Precision Feed Management;
- Track 2: Adaptation & Resiliency; OR
- Track 3: Healthy Soils NY (Systems & BMPs that support soil health and agroforestry.)

*Track 1: Livestock Management: Alternative Waste Management & Precision Feed Management*

The following practice systems from the Agricultural Best Management Practice Systems Catalogue are eligible for cost share under Track 1:

- Waste Storage and Transfer System, may include but not limited to:
  - Compost bedded pack
- Short-Term Waste Collection and Transfer System
- Manure and Agricultural Waste Treatment System, may include but not limited to:
  - Solid / liquid separation equipment (e.g., mechanical screw press, sand separation)
  - Bedding alternatives to sand for cover and flare preparation (e.g., livestock stall adjustments or conversions)
  - Waste management through composting
  - Innovative manure treatment technologies
- Prescribed Rotational Grazing System
- Nutrient Management System – Cultural
- Feed Management System, may include:
  - Services, Equipment, and Monitoring necessary to implement precision feed management plan

*Track 2: Adaptation & Resiliency*

The following practice systems from the Agricultural Best Management Practice Systems Catalogue and Practice components from the Green Infrastructure chapter of the New York State Stormwater Management Design Manual are eligible for cost share under Track 2:

- Riparian Buffer System
- Stream Corridor and Shoreline Management System
- Erosion Control System – Structural
- Green Infrastructure Systems – NYS Stormwater Management Design Manual
- Irrigation Water Management System, may include:
  - Weather monitoring systems and tools
- Access Control System
- Prescribed Rotational Grazing System
- Integrated Pest Management System, may include:
  - Weather monitoring systems and tools

*Track 3: Healthy Soils NY (Soil health management and agroforestry practice systems.)*

The following practice systems from the Agricultural Best Management Practice Systems Catalogue are eligible for cost share under Track 3:

- Soil Health Systems (*Note: cover crop practices will be awarded on a per acre basis for a three-year term*), may include:

- Weather monitoring systems and tools
- Equipment to prevent or reduce soil compaction from farm vehicle traffic
- Erosion Control System – Structural
- Nutrient Management System - Cultural, may include:
  - Application equipment for manure incorporation/injection or reduction in synthetic fertilizer use with an existing Nutrient Management Plan
  - Forage or grain yield monitor systems with GPS, mass flow meter, and dry matter sensing capabilities to improve nutrient management planning and implementation
  - Weather monitoring systems and tools
- Prescribed Rotational Grazing System
  - may include silvopasture
- Riparian Buffer System
- Agroforestry System

### III. PROJECT COSTS

#### 1. Eligible Expenses:

- Personal services for contract administration.
- Outreach and technical assistance costs for soil health training, cover crop signs, etc.
- Architectural, engineering, consultant, and legal services.
- Best Management Practice (BMP) system implementation costs.
- Other Direct Expenses related to implementation (*e.g.* funding for cultural resource impact determinations for ground disturbing BMPs, custom application services, equipment directly related to the function of the BMP) – **must be itemized and explained in application or as a separate attachment to the application.**

**Equipment** - State assistance payments may only be used to cover the lease or purchase of equipment that is directly related to the function of the BMP.

**Per Unit Rates** - Certain BMPs and/or BMP components are eligible for per unit/acre reimbursement rates. Please see the Soil Health Policy and Guidance Document for Healthy Soils NY for more information. Soil Health and manure tests are also listed as set rates and can be included with Other Direct Expenses.

**Rented Land** - If BMPs are proposed to be implemented on rented property the farm operator must have a written lease agreement for the use of the property that extends for the life span of the proposed practices.

**Operation & Maintenance** - All costs associated with the operation and maintenance of BMPs will be the sole responsibility of the landowner and/or operator and cannot be used as a match to State funding. The project sponsor must require that the landowner and/or operator maintain the practice during its expected life span. For information on BMP life spans please refer to the NYS Agricultural BMP Practice Systems Catalogue.

Any questions or requests for clarification regarding eligible costs should be asked during the open question and answer period, and all determinations will be added to the Questions and Answers document.

## 2. Match Requirements

The State may fund up to 80 percent of the total eligible costs for BMP implementation. The State may fund up to 100 percent of the costs for outreach and technical assistance relating to the project (e.g. soil health training, cover crop signs, etc.). The State funded contribution in dollars or percentages cannot increase due to budget changes or variations.

Landowner or operator contributions used as match may be in the form of cash, or in-kind services which are calculated using an assigned cash value. This cash value of services must be reasonable and is subject to adjustment by the State Committee. Project Sponsor match, if applicable, may be in the form of in-kind services and/or cash (non-state funds).

Funds from the Climate Resilient Farming Program will be provided contingent upon the sponsor obtaining necessary funds to provide the required match.

Sponsor and landowner contributions and expenditures made or incurred prior to the contract start date or after contract completion, as designated by AGM, may not be utilized as matching funds or reimbursed by the State.

**PLEASE NOTE: A combination of state funds and match funds may not result in a payment to the Landowner that is greater than 100% of the final project costs.**

*Note for Track 1—Livestock Management: Alternative Waste Management & Precision Feed Management: Manure liquid/solid separation equipment may be cost-shared by State funds as a standalone project.* CNMP development costs may be utilized as landowner or operator match when applying for funding under Track 1. Updates to an existing CNMP for the purpose of implementing the Agricultural Waste Storage Cover and Flare System may also be utilized as landowner or operator match. See Appendix A/Guidance Document 1 for more information.

## 3. Hourly Rate Recommendations

The following rates were derived from an inquiry of hourly rates for each of the listed positions from SWCDs as part of the 2021 annual reports submitted. The new hourly rates which can be used by SWCDs, in lieu of providing justification for calculating their actual salary, benefit and overhead, to calculate total personnel services costs for Round 7 of the Climate Resilient Farming Grants are as follows:

	<b>Hourly Rate</b>	<b>Overhead</b>	<b>Total</b>
<b>Managerial</b>	\$64.00	\$5.00	\$69.00
<b>Senior Technical*</b>	\$48.00	\$5.00	\$53.00
<b>Technical</b>	\$41.00	\$5.00	\$46.00
<b>Secretarial</b>	\$41.00	\$5.00	\$46.00
<b>Engineer</b>	\$69.00	\$5.00	\$74.00

\*10 years or more of experience

In the above figures, the \$5 per hour overhead cannot be paid with State funds and needs to be shown in the Sponsor column within Overhead Expenses. The budget form provides a column for the \$5 per hour overhead figures. The remainder of the hourly rate figures for each category can be requested for State funding if there is adequate match in the grant.

Districts may use their actual salary, benefit, and overhead figures in lieu of the above set rates. In those cases, full documentation must be provided to obtain payment. In cases where interns, seasonal, or part-time employees are used, actual hourly rates will have to be used and justified. If a SWCD Engineer opts to use their actual salary, overhead expenses cannot be used.



These rates, including overhead expenses, can also be used for local agency personnel (e.g., NRCS, CCE) as well as private sector consultants. These individuals will also have the option to use and fully justify their own actual rates. Overhead expenses cannot be used for actual rates.

Hourly rates have not been specified for landowners wishing to contribute in-kind match. Districts may name a reasonable hourly rate based on the work the landowner will be performing. The \$5 per hour overhead cannot be used for landowners.

## IV. PROPOSAL FORMAT

### 1. Application Submittal

The application will be made available through the AGM website and the State Committee SharePoint site. To be considered complete, the entire application packet must consist of:

- Application PDF form with the signed proposal checklist
- SW Excel forms (see details below)
- Description and itemized costs of Other Direct Expenses
- Board Resolution supporting the application (approved at a Board Meeting and signed)
- SHPO map (optional)
- Additional/supporting materials (optional)

#### **Board Resolution**

The Board Resolution should be voted upon, approved, and signed during a board meeting with a quorum, complying with Open Meeting Law.

#### **Support Letters**

Support letters should not be included with proposals. Support or partners for the project should be clearly detailed in the application narrative.

#### **Submittal Process**

The applications are time stamped by SharePoint! **Do NOT delete or re-upload documents following the grant deadline.** To submit the application, please open your District's folder within the SharePoint District Upload Folder. Open (or, if necessary, create) a "Climate Resilient Farming" subfolder and create subfolders for each application you will be submitting. All application materials should be named with the District name and application number/project ID. The Project ID should be in the following format: **District# - track# - prioritization#**. Any questions regarding the SharePoint system should be directed to the SharePoint administrator or CRF Program Manager.

All applicants must also submit Excel Forms SW-1, SW-2, SW-3, and SW-4. The sheets are protected and will not allow changes to formulas — contact the Program Manager if something needs to be changed. This should reduce administrative time both for the applicant and for AGM by streamlining the process and reducing the risk of errors. There will also be the opportunity for applicants to upload supporting documents such as floodplain maps, documentation of past or current storm damage, Emergency Management Plans, COMET-Planner estimations (or other tools such as COMET-Farm, RUSLE2, etc.), etc.

#### *Documents to Submit:*

- *All the documents being submitted should be uploaded as a single PDF document.*
- *SW forms should also be submitted in their original format as excel sheets.*

## 2. GHG Reduction Estimation

An estimation of the reduction in GHG emissions must be calculated for applicable practices using acceptable quantification methodology. Quantification methodologies are outlined in the guidance document for each Track. (See Appendices A, B & C.)

## 3. Budget

The SW forms will provide the budget and implementation details of each application. The SW forms must be completed and submitted for each proposal submitted. These forms should indicate State assistance payments requested by expenditure category, as well as the amount, type (cash or in-kind) and source (SWCD, landowner, EQIP) of the Project Sponsor's and landowner's matching contribution. Please refer to the "Match Requirements" section of this RFP for additional information.

- **Please make sure that the amounts specified in the RFP application form match the SW forms exactly.**
- **All numbers should be rounded up to the nearest whole number.**

### Contingency

The proposed budget may include a "Contingency Account" of up to 10 percent of **BMP expenditures** to cover cost overruns **unless funding is requested with an approved per unit rate payment. Practices using per unit rates cannot request contingency.** Contingency will require a sponsor and/or landowner contribution that is the same as the match percentages of the BMP(s). **Contingency funds may be used only with prior approval** by the Director of the Division of Land and Water Resources, the Assistant Director, or the appropriate regional Associate Environmental Analyst. Please indicate whether the sponsor and/or landowner contribution match will be cash or in-kind.

## V. EVALUATION CRITERIA & METHOD OF AWARD

### 1. Evaluation Criteria

Proposals will be evaluated and ranked by Track. Funds will be allotted separately to each Track as detailed in the "Available Funding" section (I.6). Each proposal will be scored based on the following criteria:

Criterion	Description	Points
GHG Emission Reduction and Resiliency	<ul style="list-style-type: none"> <li>• Project clearly demonstrates capacity to decrease GHG emissions.</li> <li>• GHG emissions reductions are estimated using COMET-Planner/COMET-Farm or other tool or methodology.</li> <li>• Project clearly demonstrates opportunity to increase farm resiliency to a changing climate.</li> <li>• Proposal clearly demonstrates how the farm will be adapting to climate change through implementation of the proposed project.</li> <li>• Proposal addresses risks due to climate change (increased flooding, more frequent short droughts, more severe storms, and overall increased precipitation) and proposes methods of reducing their negative impact on the farm operation and local environment.</li> <li>• Co-benefits of BMP being implemented are described.</li> </ul>	30

Adequate Scope of Work	<ul style="list-style-type: none"> <li>• Feasibility of project is clearly demonstrated.</li> <li>• Proposal clearly defines what is to be done, how it will be done, and how it aligns with program goals.</li> <li>• The shovel-readiness of the project is described.</li> </ul>	10
Budgeting and Cost Effectiveness	<ul style="list-style-type: none"> <li>• The project is cost effective relative to greenhouse gas mitigation and/or adaptation benefits.</li> <li>• The budget accounts for unexpected costs.</li> </ul>	10
<b>TOTAL</b>		<b>50</b>

## 2. Method of Award

Evaluators will record proposal scores in each of the three scoring categories. The scores of the evaluators will be aggregated and preference points (see section II.2) will be assessed on the aggregated score to make up the proposal's grand total score. Proposals will then be ranked by their grand total score from highest to lowest to make up the Ranked List for awards within each Track. The maximum available aggregated score is 200 points based on four evaluators awarding a maximum score of 50 points each. Proposals that receive a score of less than 100 or 50% of the maximum available aggregated score, before preference points are assigned, will not be considered for funding. With preference points earned the maximum grand total score is 205.

The advisory members of the State Committee will recommend projects for funding to the full State Committee. The voting members of the State Committee, through adoption of a written resolution, will authorize funding for projects based on the recommendations of the advisory members until the scoring threshold has been reached or available funds are exhausted. Consideration will be given to any provisions governing or restricting the use of the available funds. The resolution shall be made available as part of the SWCC official meeting minutes. The State Committee shall notify in writing those districts selected for funding.

## VI. AWARDS

### 1. Award Notification

Sponsors whose proposals are selected for funding will be notified as soon as possible. Selected proposals must comply with all applicable Federal, State, and local laws and rules and regulations for funding to be awarded. Evidence of such compliance may be required.

### 2. Review by the NYS Office of Parks, Recreation and Historic Preservation (OPRHP)

Proposals selected for funding that include ground disturbing activities will be subject to further review by the NYS Office of Parks, Recreation and Historic Preservation (OPRHP) prior to development of a contract. The State Committee reserves the right to request such additional information from sponsors as is necessary to allow the OPRHP to decide regarding the impact of a project.

### 3. Debriefing of Non-Awardees

Following the announcement of the applicants awarded funding agreements under this RFP, unsuccessful applicants may request a debriefing from the Program Manager no later than fifteen (15) days from the date of the non-award notification. This briefing will be limited to a discussion of the failed aspects of the subject application. To request a review of an unsuccessful application, contact Jennifer Clifford, CRF Program Manager via e-mail at [jennifer.clifford@agriculture.ny.gov](mailto:jennifer.clifford@agriculture.ny.gov).

## **VII. CONTRACTS & PAYMENT TERMS**

### **1. Contracts**

Once an application has been selected for funding, the State Committee will notify the sponsor of the need to provide information necessary to complete the contract.

If the State Committee and AGM are unsuccessful in negotiating a contract which will achieve the deliverables in a manner consistent with the proposal as approved by the State Committee, the RFP, and any applicable laws or regulations, the Committee reserves the right to rescind its approval of the proposal for funding and instead award the funding to other eligible unfunded project proposals.

The standard term for projects will be four years. The State Committee reserves the right to modify the standard contract term. The contract term will be provided to each awardee in the Plan of Work Memo. Funding of proposals that extend over more than one State fiscal year will be subject to the reappropriation of funds.

Any awards for projects under \$10,000 may be subject to a Letter of Agreement rather than a full contract process, subject to the discretion of the State Committee.

#### ***Subcontracts***

Any subcontract utilized by the SWCD shall be in writing and shall clearly describe the goods or services to be provided and the total cost of such goods or services. Subcontracts for services shall separately state the rate of compensation on a per-hour or per-day basis.

The SWCD must have an executed funding agreement with each participating landowner prior to submitting claims for payment for implementation funds under this Agreement. The landowner must acknowledge and agree that they will be responsible for the total BMP implementation costs and that all state assistance payments will be made on a reimbursement basis. The funding agreement must also state that all cost overruns will be the responsibility of the landowner. The amount and source of all landowner contributions must be identified, and a commitment of match for contingency funds must be included. If the source of the landowner contribution originates from a Federal or local program the amount and specific source should be identified. The landowner must also acknowledge and agree that the total amount of state assistance payments and matching funds received from Federal or local sources cannot exceed 100% of the final project costs and that state assistance payments may be reduced accordingly.

For all subcontracts with a farm landowner and/or operator involving the purchase of goods and/or services for BMP implementation projects, the Contractor shall require the landowner and/or operator to obtain 3 written quotes for all purchases over \$20,000. The Contractor shall require the landowner and/or operator to document all quotes and justify in writing any instances where purchases were not made from the lowest responsible bidder. Additionally, the Contractor shall notify AGM if either the farm landowner or the Contractor intends to perform any of the BMP Implementation Work when such work is valued at \$20,000 or more. The Contractor shall retain documentation of all purchases in a manner that is readily available for review if requested by AGM. For all other subcontracts the Contractor shall follow its own procurement policies.

### **2. Payment**

Payments cannot be made until the contract is fully executed. A minimum of 10 percent of the State assistance payment will be withheld pending satisfactory completion of the contract.

Payment for invoices submitted by the Contractor shall only be rendered electronically unless payment by paper check is expressly authorized by the Commissioner, in the Commissioner's sole discretion, due to extenuating circumstances. Such electronic payment shall be made in accordance with ordinary State procedures and practices. The Contractor shall comply with the Comptroller of the State of New York's

procedures to authorize electronic payments. The Contractor acknowledges that it will not receive payment on any invoices submitted under this Agreement if it does not comply with the Comptroller of the State of New York's electronic payment procedures, except where the Commissioner has expressly authorized payment by paper check as set forth above.

Monies received pursuant to the contract shall be deposited by the Contractor in a separate interest-bearing account. Prior to the final payment, the Contractor must submit to the Department a statement of interest earned during the term of this Agreement. The final payment will be offset by the amount of any interest earned.

### **3. Reporting Requirements**

State Committee staff will monitor the progress of each funded project. The State Committee reserves the right to modify the reporting requirements during the course of the project. When submitting a payment request other than the initial advance, a progress report shall be filed with the Committee. A progress report must also be submitted when submitting a contract amendment request. A comprehensive final report must be submitted no later than sixty (60) days following completion of the project or contract end date.

The final report shall include a final budget report detailing expenditures; a Climate Resilient Farming Project Completion Report (reviewed and signed by SWCC staff); a description of the work completed, and problems encountered, if any, and such other information as the State Committee may deem necessary. The Climate Resilient Farming Project Completion Report will also include photographs of the work site before and after construction, BMP Procurement Records, Project Expenditure Summary Form, Consultant Engineer's Certification of BMPs (if needed) and details of the operation of the funded systems regarding greenhouse gas mitigation and climate adaptation as specified in the application.

The State Committee reserves the right to conduct a follow-up evaluation of funded projects to determine long-term impacts.

AGM and the Office of the State Comptroller reserve the right to audit the Project Sponsor's books and records relating to the performance of the project during and up to six (6) years after the completion of the project.

### **4. NYS Master Contract**

New York State has developed a standard "Master Contract" containing standard clauses required in all State Contracts. The Master Contract will be executed for all projects awarded under the Climate Resilient Farming Grant Program, and applicants are responsible for complying with the terms and conditions contained therein.

### **5. Liability**

The State will not be held liable for any costs incurred by any District for work performed in the preparation of and production of a proposal, or for any work performed prior to the formal execution of a contract.

## **VIII. OTHER CONSIDERATIONS**

### **1. Reserved Rights**

The State Committee reserves the right to:

- Modify proposal submission requirements as deemed necessary with appropriate written notice to all potential applicants.
- Reject any or all proposals received in response to this RFP.

- Withdraw the RFP at any time, at the State Committee’s sole discretion.
- Make an award under the RFP in whole or part.
- Disqualify any applicant whose conduct and/or proposal fails to conform to the requirements of the RFP.
- Seek clarifications and revisions of proposals.
- Prior to the deadline for proposals, amend the RFP specifications to correct errors or oversights, or to supply additional information, as it becomes available and with appropriate written notice to all potential applicants by posting amendments on the [Department's website](#).
- Prior to the deadline for proposals, direct applicants to submit proposal modifications addressing subsequent RFP amendments.
- Change any of the scheduled dates.
- Eliminate any mandatory, non-material specifications with which all applicants cannot comply.
- Waive any requirements that are not material.
- Require clarification at any time during the grant process and/or require correction of arithmetic or other apparent errors for the purpose of assuring a full and complete understanding of an applicant’s proposal and/or to determine an applicant’s compliance with the requirements of the RFP.
- Waive or modify minor irregularities in proposals received after prior notification to the applicant.
- Award more than one funding agreement to the same successful applicant resulting from this RFP.
- Negotiate with successful applicants any matter within the scope of the RFP in the best interests of the State.
- Make all final decisions with respect to the amount of State funding and the timing of payments to be provided to an applicant.

All eligible proposals submitted in response to this RFP will become the property of the New York State Soil and Water Conservation Committee.

## **2. Freedom of Information**

All proposals submitted and all related contracts and reports may be subject to disclosure under the Freedom of Information Law.

## Appendix A: Track 1 Guidance Document – Livestock Management: Alternative Waste Management & Precision Feed Management

### Goal of Track 1:

Reduce methane emissions from livestock operations including manure management through the collection and destruction of methane or methane avoidance and the reduction of methane from enteric fermentation. **Projects must demonstrate a reduction or avoidance in methane emissions.**

### Cover and Flare System

Emphasis and prioritization will be given to manure storage cover and flare systems within Track 1. Prioritization will specifically be given to manure storage cover and flares that have been provided cost-share for the construction of the manure storage through AgNPS and the CAFO Manure Storage Program. Manure storages which reduce daily spreading by farmers have been utilized to meet water quality goals. Methane is produced when volatile manure solids are stored in wet, anaerobic conditions within a storage. Conditions that lead to methane production must currently exist at a dairy or livestock operation for methane emission reductions to be achieved through a CRF project. Agricultural waste storage cover and flare systems have the capacity to immediately impact both the GHG emissions from the farm and the farm's resiliency to major precipitation events.

### What are cover and flare systems and what components do they require?

Cover and flare systems involve installing an impermeable cover over a manure storage facility, piping the emitted methane and other gases away from the facility, and burning the gas in a flare (*see next page for BMP system components*). The following attributes should be considered for the flare component: auto-ignition powered by battery/solar or direct connection to electrical service, wind shield, and potential for remote data collection by the farmer and/or District.

A manure solids separator is a critical component of the covered and flared manure storage to reduce solids accumulation in the storage (equipment is eligible for state cost-share). A non-sand organic bedded dairy farm is an ideal candidate for a cover and flare system. The SWCC has developed a cover and flare assessment tool to help determine if this practice would be a good fit for the farm.

**NOTE:** Cover and flare system may not work for every farm other manure management system that reduce methane emissions or provide methane avoidance are also eligible for Track 1.

### Greenhouse Gas Mitigation and Quantification

Agricultural waste storage covers capture the methane emitted from the waste, and the flare component converts the methane (CH<sub>4</sub>) into carbon dioxide (CO<sub>2</sub>). Since CH<sub>4</sub> has 84 times the global warming potential of CO<sub>2</sub>, this conversion results in significant GHG emission savings, as equated in CO<sub>2</sub> equivalents (CO<sub>2</sub> eq). The annual amount of CO<sub>2</sub> eq saved through the process depends on the volume of the storage, number and type of animals the storage services, shape of the storage, and feed management.

GHG emission reductions may be estimated using the following method (IPCC 2006) for dairies:

$$\begin{aligned} \text{Methane emissions per cow, annually} &= VS \times B_0 \times 0.67 \times (\text{MCF}/100) \times 365 \\ \rightarrow &= 117 \text{ kg CH}_4/\text{cow annually, on average}^1 \rightarrow 3987 \text{ kg CO}_2 \text{ eq/cow annually} \end{aligned}$$

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<sup>1</sup> Where VS = total volatile solids in manure (kg/cow/day) = 7.7 kg/cow/day average for NY cows  
B<sub>0</sub> = Maximum CH<sub>4</sub> producing capacity for manure = 0.24 m<sup>3</sup> CH<sub>4</sub>/kg VS (for dairy cow manure)  
MCF = CH<sub>4</sub> conversion factor for the manure management system (%) = 17% NY winter, 35% NY summer

Track 1 projects should illustrate the mitigation of methane. Projects will be judged on mitigation based on the size of the storages, animal numbers, flare capacity, commitment to tracking/testing the system, and the farm's commitment to GHG emission reductions overall.

### **Quantification of Non-Cover and Flare Practices**

Net GHG emission reductions are calculated by subtracting estimated post-project GHG emissions from the baseline scenario or current emissions. The project boundary includes both methane emissions from manure as well as fossil fuel-based carbon dioxide emissions associated with manure management activities. Tools that may be useful include COMET-Farm or other tools such as COMET-Planner, RUSLE2, Cornell Net Carbohydrate and Protein System (CNCPS), etc.

### **Adaptation**

Climate change predictions for New York State include increased overall precipitation as well as more severe and more common storm/flooding events. The cover component of the cover and flare system prevents rainwater from entering the storage, reducing the volume of manure to be stored by 300,000-700,000 gallons/year per acre of storage covered (Shepherd et al., 2008). Those gallons of rainwater will remain clean water not mixed or contaminated with manure, preventing potential pollution, and the manure storage is significantly less likely to overtop in a storm or as the result of a wet season. Water savings and plans for reuse should be highlighted in the proposal.

### **Co-Benefits**

In addition to the emissions reduction, preventing rainwater from entering the storage eliminates the need to pump or haul rainwater leading to energy reductions and increased resiliency. It also increases the nitrogen available to crops from manure by 30-50% (Steinberg, et al., 2015) by eliminating rainwater dilution and NH<sub>3</sub> emissions. Potential fuel savings in addition to other co-benefits should be highlighted in the proposal.

### **Eligible Practice Systems**

The following manure management practices, from the Ag BMP Catalogue for manure collection/separation and storage/treatment methods are currently incentivized through CRF. Practice systems described are guidelines and not an exclusive list. If, however, an applicant chooses systems or components not identified below, application must include detailed explanation in the narrative section.

Applications may propose complete systems or components of a system with quantifiable mitigation benefit. The following manure management practices, i.e., combinations of manure collection/separation and storage/treatment methods are currently incentivized through CRF:

Eligible systems and BMPs may include:

- **Waste Storage and Transfer System**
  - Roofs and Covers (NRCS 367)
  - Waste Transfer (NRCS 634)
  - Pumping Plant (NRCS 533)
  - Waste Treatment (NRCS 629; includes the flare component and waste processing and nutrient recovery systems)
  - Compost bedded pack
- **Short-Term Waste Collection and Transfer System,**
- **Manure and Agricultural Waste Treatment System,**
  - Solid / liquid separation equipment (e.g., mechanical screw press, sand separation)



- Bedding alternatives to sand for cover and flare preparation (e.g., livestock stall adjustments or conversions)
- Waste management through composting
- Innovative manure treatment technologies
- **Nutrient Management System – Cultural**
- **Prescribed Rotational Grazing System**
  - Conversion of non-pasture dairy or livestock operation to pasture-based management, Existing system enhancements should be applied for under Track 2 or 3)
  - Pasture-based management projects must currently manage/store some manure in wet/anaerobic conditions and introduce new practices that reduce the quantity of manure management under such conditions.
- **Precision Feed Management System**
  - Feed Management (NRCS 592)
  - Use of Precision Feed Management tools (i.e., Cornell CNCPS - <https://cals.cornell.edu/animal-science/outreach-extension/publications-resources-software/cornell-net-carbohydrate-and-protein-system>)

BMPs eligible for cost-share in conjunction with a cover and flare systems:

- Nutrient Management (NRCS 590; for plan updates)
- For water conveyance off the manure storage cover:
  - Pond (NRCS 378) (ponds must consider design conditions to reduce methane i.e., proper siting, bubblers)
  - Critical Area Planting (NRCS 342)
  - Grass Waterway (NRCS 412)
  - Lined Waterway or Outlet (NRCS 468)

### **New York State Department of Environmental Conservation, Division of Air Resources - Operating Permit Program**

Per 6 NYCRR 201-3.2(c)(49) covered manure storage exhausting to a flare or other appropriate control device is an exempt activity.

Intergovernmental Panel on Climate Change (IPCC), 2006. Guidelines for National GHG Inventories, Volume 4, Chapter 10, Tier 2 method.

Shepherd, T., C.A. Gooch, K.J. Czymmek, J. Karszes. 2008. Covers for Long-Term Dairy Manure Storages Part 2: Estimating Your Farm's Annual Cost and Benefit. Available at <https://prodairy.cals.cornell.edu/environmental-systems/manure-management/storage/> (verified 16 December 2019).

Steinberg, S, C.A. Gooch, K.J. Czymmek. 2015. Covered manure storage systems: Tangible and non-tangible benefits. The Manager (2015-01). Available at <http://ecommons.cornell.edu/bitstream/handle/1813/39052/PRO-DAIRY%201.15%20p23.pdf?sequence=2&isAllowed=y> (verified 16 December 2019).

## **Appendix B: Track 2 Guidance Document – Adaptation and Resiliency**

### **Goal of Track 2:**

Enhance climate resiliency and adaptive capacity of the farm operation. Water management projects remain a priority of Track 2. Water management is an effort to prepare agricultural producers for two anticipated and experienced impacts of climate change: flood events and drought conditions.

### **Why Water Management?**

Improved water management on farms and surrounding watersheds through the implementation of conservation systems can significantly enhance a farm’s resiliency to the impacts of climate change, including both drought and flood. Some conservation systems, such as transferring land to perennial production or forest buffer, can also create beneficial carbon sinks.

### **What is Water management?**

The “water management” umbrella includes many conservation systems and component best management practices (*see next page*) which stabilize or reinforce conveyances, reduce flows, and/or store water. Selection of the most appropriate system or combination of systems will depend heavily on site-specific conditions and goals. There are practices appropriate for most of the settings that span the agricultural landscape, from the upland areas of the farm to the floodplain and stream corridor. Planning for water management might be part of a larger plan, for example, a prescribed grazing plan, a cropland soil conservation plan, or a CNMP.

### **Greenhouse Gas Mitigation**

Many water management practice systems are relatively low in reducing GHG emissions or creating carbon sinks. However, converting annual croplands to perennial croplands or riparian forest buffers will create small carbon sinks, so the GHG mitigation aspects of projects in this track will be scored based on such conversions, if present.

### **Adaptation**

New York has seen a 70% increase in the amount of precipitation from the top percent of rain events from 1958-2010 (Horton *et al.*, 2014). Climate projections expect that trend to continue and also predict increased overall precipitation and more frequent—possibly annual—short-term (1-3 month) droughts (Frumhoff, *et al.*, 2007). Proactive water management decreases the impacts of these weather patterns, by providing water retention (reducing flows during floods and providing storage during drought) and by preparing areas of concentrated flow (drainage ditches, swales, streams) to accept and safely convey larger volumes of water.

Projects that have strong potential in both areas of mitigation and adaptation are most likely to be funded.

### **Project Location for Water Management Projects Only**

In some cases, the water management project location that will lead to enhanced farm resiliency may not be on active farmland. For Track 2 Water Management *only*, projects may be proposed on lands not being operated as active farms if the project(s) will increase the resiliency of farm(s) upstream or downstream from the project(s) location. For example, stream corridor management systems consisting of obstruction removal and/or floodplain reconnection can decrease a downstream farm’s vulnerability to floods and/or significant impacts from floods. In all cases, specific farms that will benefit from water management systems funded under this program must be identified on the Track 2 application, whether contributing match or not.

**Eligible Practice Systems** (from the Ag BMP Catalogue) for Track 2 include Erosion Control System – Structural; Irrigation Water Management System; Stream Corridor and Shoreline Management System; Riparian Buffer System; Prescribed Rotational Grazing System; and Access Control Systems. Specific practices may also be used from the [New York State Stormwater Management Design Manual](#).

*Note:* The practice systems described below and in other RFP materials are guidelines are not an exclusive list. If an applicant chooses systems or BMP components not identified below, consider including more explanation in the narrative section. *All applications must be for systems, not discrete components.*

### **Water Management Project Designs**

Consideration should be given to designing some water management BMPs with a higher storm interval or additional redundancies to ensure enhanced resiliency.

**Erosion Control Systems – Structural** prevent erosion by directing, slowing, and diffusing concentrated water flows as they travel from the farm or field to the waterbody, as well as components that to provide upland water storage. Given the potential for more common/much larger storms, consider designing for a much larger flow than typical, building new systems, and/or strengthening existing systems. Eligible BMPs include:

#### **To direct, slow, diffuse water flows:**

- Diversion (NRCS 362)
- Grassed and lined waterways (NRCS 412, 468)
- Culverts
- Rock inlet/outlet protection (NRCS 468)
- Water and Sediment Control Basins (NRCS 350, 638)
- Grade stabilization structures (NRCS 410)
- Rock barrier (NRCS 555)
- Terrace (NRCS 600)
- Riparian Forest Buffer (NRCS 391)

#### **To provide upland storage:**

- Wetland (NRCS 657, 658, 659)
- Dam (NRCS 410)
- Pond (NRCS 378) – (consideration of methane reduction technologies/practices such as solar panels connected to bubblers, biological controls, and potential others)

*NOTE:* Upland water storage practices could also fall under **Irrigation Water Management Systems**.

**Green Infrastructure Systems** can mitigate stormwater runoff and restore natural ground cover aiding in soil health. Green infrastructure can be a useful tool in urban and rural farm settings. Green Infrastructure practices can be found in New York State Stormwater Management Design Manual - Chapter 5 Green Infrastructure.

**Irrigation Water Management Systems** provide upland water storage, improving options during drought and the capacity to store water during intense rainfall events. Consider the siting of the system as well as enhanced capacity. Eligible BMPs include:

- Irrigation Water Management (NRCS 449)
- Irrigation Pipeline (NRCS 430)
- Irrigation System, Microirrigation (NRCS 441)
- Irrigation Reservoir (NRCS 436)
- Weather monitoring and soil moisture systems and tools

**Stream Corridor and Shoreline Management Systems** stabilize and reinforce existing waterways to accommodate high flows with minimal damage. This system could be used to address unmet needs from previous events that still pose threats or as proactive steps. Eligible BMPs include:

- Channel Bed Stabilization (NRCS 584)
- Stream Bank and Shoreline Protection (NRCS 580)
- Open Channel (NRCS 582)
- Clearing and Snagging (NRCS 326)
- Obstruction Removal (NRCS 500)

**Riparian Buffer Systems** include components to slow down and soak in water in the event of a flood. Eligible BMPs include:

- Riparian Forest Buffer (NRCS 391)
- Tree/shrub Establishment and Preparation (NRCS 490, 612)

**Prescribed Rotational Grazing and Access Control Systems** have components that are at particular risk to damage during flood events. Consider strengthening existing systems or building new, stronger systems for flood resiliency. (New systems are eligible under Track 1). Eligible BMPs include:

- Fence (NRCS 382)
- Stream Crossings (NRCS 578)

*NOTE:* Erosion Control System - Structural, Riparian Buffer System, and Prescribed Rotational Grazing Systems are also components of Track 3 – Healthy Soils NY . Any given project can only apply to one track, so be sure to determine which track is the best fit for the project.

#### **Integrated Pest Management Systems**

- Specialized sprayer equipment
- Weather monitoring systems and tools

#### **Beneficial Electrification**

Systems of avoided emissions including for equipment related to frost fans, cow comfort. Such equipment would have to show a reduction in GHG emissions or energy conservation based on a practice that the equipment would replace. For example, purchase and use of a frost fan that would eliminate the use of a helicopter or burning of hay bales for frost protection.

#### **Pollinator Protection**

The State Committee strongly encourages applicants to enhance on-farm biodiversity through utilizing plant species (in applicable management practices) that support pollinator habitat and help meeting the goals identified in the NYS Pollinator Protection Plan (Update 2020).

#### **Quantification of Project Benefits and Co-Benefits**

Quantification of project benefits and co-benefits may include hydrology information for water management projects. Including calculating storm runoff volumes, peak rates of discharge, storage volumes for floodwater reservoirs. The TR-55 – Urban Hydrology for Small Watersheds report from HydroCAD can provide hydrology information.

#### **GHG Reduction Estimation**

An estimation of the reduction in GHG emissions must be calculated using USDA-NRCS COMET-Planner or COMET-Farm tool. The COMET-Planner or COMET-Farm estimate should be used for applicable practices to answer application questions relating to GHG reduction estimates. Other tools may be used with a description justifying its use.

The calculator tool is available at:

COMET-Planner - <http://comet-planner.com/>

COMET-Farm - <https://comet-farm.com/>

Frumhoff, P.C., J.J. McCarthy, J.M. Melillo, S.C. Moser, and D.J. Wuebbles. 2007. *Confronting Climate Change in the U.S. Northeast: Science, Impacts, and Solutions*. Synthesis report of the Northeast Climate Impacts Assessment (NECIA). Cambridge, MA: Union of Concerned Scientists (UCS).

Horton, R., G. Yohe, W. Easterling, R. Kates, M. Ruth, E. Sussman, A. Welchel, D. Wolfe, and F. Lipschultz, 2014: Ch. 16: Northeast. *Climate Change Impacts in the United States: The Third National Climate Assessment*, J. M. Melillo, Terese (T.C.) Richmond, and G. W. Yohe, Eds., U.S. Global Change Research Program, 16-1-nn.

## Appendix C: Track 3 Guidance Document – Healthy Soils NY

### Goal of Track 3:

To improve soil health while reducing nitrous oxide and increasing carbon sequestration. The basic principles of soil health are to: keep the soil covered as much as possible, disturb the soil as little as possible, keep plants growing year-round, and diversify as much as possible with crop rotations and cover crops.

### Why soil health?

Improved soil health on farms can significantly enhance a farm's resiliency to the impacts of climate change, including benefits during times of drought, wet weather, as well as optimal growing conditions. Soil health practices can also create carbon sinks, increase water holding capacity and improve recycling of nitrogen by crops, thereby mitigating GHG emissions.

### What are Soil Health Systems?

Soil Health Systems consist of non-structural, management-based practices working in concert to control soil erosion, reduce runoff volumes, enhance soil health, and improve productivity of the land. Such systems advance soil health, water quality, and productivity through:

- reducing the intensity of tillage and oxidization of soil organic matter;
- maintaining greater soil cover throughout the year, by living crops or crop residues;
- preventing or slowing sheet and rill flows;
- increasing the diversity of crops grown throughout the rotation; and
- increasing organic matter additions to the soil, by crop residues or amendments.

A Soil Health System is based on a well-integrated, Cropland Soil Conservation Plan (or a Soil Conservation Plan within a broader Nutrient Management Plan or Comprehensive Nutrient Management Plan). The Plan is utilized to assess risk of water and wind erosion and other soil health resource concerns and make specific recommendations for how various practices will work together to address those concerns. These recommendations may extend beyond the cultural practices addressed with this System to dovetail with other Agricultural BMP Systems on the farm, including Erosion Control System - Structural, Nutrient Management System - Cultural, Prescribed Rotational Grazing System, etc.

Soil Health Systems may stand alone or be combined with other Agricultural BMP Systems.

Erosion Control System - Structural, Nutrient Management System - Cultural, Prescribed Rotational Grazing System, Riparian Buffer System, and Agroforestry Systems may contain soil health practices, which may include conservation crop rotations, reduced or no tillage, cover cropping, and nutrient management (*see next page*).

### Greenhouse Gas Mitigation

Soil health strategies increase soil organic matter and soil carbon, which can—over time—become a carbon sink, sequestering carbon dioxide so that it does not serve as a greenhouse gas and impact climate change. While these gains are very easy to reverse and it is therefore hard to quantify long-term savings, certain practice systems will yield more/faster carbon savings than others. Having a year-round root keeps soil in place and allows soil carbon to accumulate, especially when combined with careful nutrient management. Perennial crops and grasses (pasture) build soil carbon even more effectively, so conversions from annual cropland to perennials or pasture will yield soil carbon savings.

Similarly, soil health practices in combination with nutrient management work to improve nitrogen use efficiency by crops, thereby reducing the potential for nitrous oxide (N<sub>2</sub>O) emissions, a potent greenhouse gas (~298 times the global warming potential of CO<sub>2</sub>). N<sub>2</sub>O makes up 9 percent of all agricultural GHG

emissions in NY. Efficient use of nitrogen fertilizer and manure can reduce N<sub>2</sub>O emissions from cropland, improve water quality, and save the farmer money. Changes in management that include fewer tractor passes across the field result in fuel savings and reduced GHG emissions.

### **Adaptation**

Climate change predictions for New York State include increased overall precipitation, more severe and more frequent storm/flooding events, and more common short-term droughts. Improved soil health produces benefits during all of these scenarios. Soils with more organic matter hold water more effectively, preventing the worst impacts of a dry season, and can serve as a sponge in a storm, reducing erosion and runoff. These benefits are especially pronounced with year-round cover and/or long-term perennial crops.

Projects that have strong potential in both areas of mitigation to reduce GHG emissions and adaptation to prepare farms for flood and drought conditions are most likely to be funded.

**Eligible Practice Systems** (from the Ag BMP Catalogue) for Track 3 include Soil Health System, Erosion Control System – Structural, Prescribed Rotational Grazing System, Riparian Buffer System, Agroforestry System, and Nutrient Management System – Cultural.

*NOTE:* The practice systems described below and in other RFP materials are guidelines, not an exclusive list. If, however, an applicant chooses systems or BMP components not identified below, consider including more explanation in the narrative section. *All applications must be for systems, not discrete components.*

Soil Health Systems increase soil organic matter, allow for increased water storage, and reduce sheet/rill erosion through reduced tilling and vegetative cover.

Eligible BMPs include:

- Conservation Crop Rotation (NRCS 528)
- Conservation Cover (NRCS 327)
- Contour Farming (NRCS 330)
- Contour Filter Strips (NRCS 332)
- Cover Crop (NRCS 340)
- Pasture and Hay Planting (NRCS 512)
- Mulching (NRCS 484)
- Residue and Tillage Management, No-Till (NRCS 329)
- Residue and Tillage Management, Reduced Till (NRCS 345)
- Strip Cropping (NRCS 585)
- Soil Carbon Amendment (NRCS 808)
- Field Border (NRCS 386)

### Farm Equipment and Soil Compaction Technology and Tools

Central tire inflation systems or other equipment to prevent or reduce soil compaction from farm vehicle traffic are eligible for cost share.

**Erosion Control System – Structural** prevents erosion by directing, slowing, and diffusing concentrated water flows as they travel from the farm or field to the waterbody, as well as components that provide upland water storage or protection from the wind. Given the potential for more common/much larger storms, consider designing for a much larger flow than typical, building new systems, and/or strengthening existing systems. Eligible BMPs include:

**To direct, slow, or diffuse water flows or reduce wind erosion:**

- Diversion (NRCS 362)
- Grassed Waterway (NRCS 412)
- Lined Waterway or Outlet (NRCS 468)
- Structure for Water Control (NRCS 587)
- Rock inlet/outlet protection (NRCS 468)
- Water and Sediment Control Basins (NRCS 350, 638)
- Grade stabilization structures (NRCS 410)
- Rock barrier (NRCS 555)
- Terrace (NRCS 600)
- Riparian Forest Buffer (NRCS 391)
- Herbaceous Wind Barriers (NRCS 603)
- Vegetative Barriers (NRCS 601)
- Filter Strips (NRCS 393)

**To provide upland storage:**

- Wetland (NRCS 657, 658, 659)
- Dam (NRCS 410)
- Pond (NRCS 378) – (consideration of methane reduction technologies/practices such as solar panels connected to bubblers, catfish, and potential others)

*NOTE:* Upland water storage practices could also fall under **Irrigation Water Management Systems**.

**Integrated Pest Management Systems**

- Weather monitoring and soil moisture systems and tools

**Nutrient Management System – Cultural**

Nutrients are managed for the economic production of crops, forages, pasture, ornamentals, and biomass, and the protection of natural resources. Cultural nutrient management consists of applying nutrients and soil amendments to crops in the right amount, right source, right method, and right timing (“the 4Rs”) according to several, integrated factors:

- farm management and goals including realistic crop yields;
- an accurate estimate of crop nutrient needs;
- nutrients credits in soil and manure;
- nutrient credits from crop residues;
- risk assessments for runoff, leaching, and erosion;
- setbacks from hydrologically active areas;
- weather and soil conditions; and
- adaptive management over time.

A well-integrated Nutrient Management Plan provides recommendations for manure, fertilizer, process wastewaters, composts, or lime applications according to the factors, above. It promotes nutrient use efficiency and controls nutrient loss by focusing on the use of on-farm nutrient sources, emphasizing the 4Rs, and, in many cases, reducing nutrient imports onto farms. Nutrient Management Plan recommendations should be based on the best available research information for the soils and climate in New York State. Nutrient applications and their management should be consistent with Cornell Nutrient Guidelines.

A farm must meet the following requirements when implementing projects related to nutrient management:

Pre-requisites: eligible farms must have:



- A current, implemented NRCS 590 Nutrient Management Plan or CNMP maintained annually with an AEM Certified Planner

### **Manure and Fertilizer Application Equipment**

Manure and fertilizer application equipment is eligible for cost share if the equipment is designed and utilized to implement and further improve the management of rates, source, placement, and timing of plant nutrients and soil amendments while reducing environmental impacts. An example of an eligible expense would be equipment that incorporates or injects manure, and the improved utilization of those nutrients results in a reduction of synthetic fertilizer inputs for those crops, according to all aspects of the Farm's Nutrient Management Plan.

Note: Equipment and sensor technology, such as flow meters, that measures the flow of manure and overall application rates, are eligible for cost share when implementing this practice.

### **Custom Applicator Services**

Custom applicator services are eligible for cost share for practices being implemented. Costs should be listed under Other Direct Expenses. The service should be clearly discussed in the narrative and the costs should be itemized and explained either within the application or on a separate attachment to the application.

Note: Nutrient Management BMPs (reduction in fertilizer application, and/or drag line application, and manure incorporation only)

### **Adaptive Management and Digital Technology Tools**

The use of digital technologies, data collection and analysis to better quantify benefits, and adaptive management tools may be proposed as part of a soil health project. This may also include the use of a crop consultant who would be listed as Contractual Services on the SW2 and included on the SW4 with Personnel. Projects including the use of consultants and digital tools would be expected to share results of lessons learned through proposed objectives.

### **Forage and Grain Yield Monitors**

Forage or grain yield monitor systems with GPS, mass flow meter, and dry matter sensing capabilities that improve nutrient management planning and implementation are eligible for cost share. This technology is beneficial for adaptation, resilience, soil health, and reductions in N<sub>2</sub>O emissions. This equipment and technology supports high, field specific level of nutrient management.

- Pre-requisites - eligible farms must have:
  - A current, implemented NRCS 590 Nutrient Management Plan or CNMP maintained annually with an AEM Certified Planner
  - A fully operable and functioning forage harvester / chopper or combine to be retrofitted.
  - A way to calibrate yield monitors multiple times per harvest season by recording load weights (e.g., access to drive-over scales, a truck with load cells, gravity wagons with load cells)
  - Interest in working with their planner to update their NMP/CNMP annually based on their field specific data (e.g., interested in measuring and managing through the Adaptive Management approach:  
<http://nmsp.cals.cornell.edu/publications/files/AdaptiveManagementGuidelines.pdf>)
- Farms would collect:
  - Evidence/records of proper installation and calibration (e.g., operation and maintenance).
  - Yield data recorded as digital, field specific yield records

- At a minimum for corn silage and corn grain acres; farmers may also choose to monitor yields and assess management on acres harvested through the chopper for haylage.
- System components:
  - Mass flow and Dry Matter (DM) sensors
  - Computing systems in cab
  - Software
  - Subscriptions
  - GPS
- Access would be required to permanently installed scales to calibrate, either on-farm or locally available (e.g., neighboring farm, gravel quarry, CO-OP).
  - Calibration truck with load cell may work (note - our portable weight scale package will not work for this application).
  - Need to calibrate any time there's a major change (BMR to conventional, major moisture shifts)
    - Really need to do this a few/multiple times during COS harvest season
- Funding for technical assistance from consultant/planner as part of project budget
  - NMP updates, calibration assistance, data interpretation, etc.
- Farms are encouraged to work with NMSP through the On Farm Research Program (helps the farm and other farmers across the State)
  - [http://nmsp.cals.cornell.edu/NYOnFarmResearchPartnership/GettingMost\\_FarmResearch.html](http://nmsp.cals.cornell.edu/NYOnFarmResearchPartnership/GettingMost_FarmResearch.html)

**Prescribed Rotational Grazing Systems** enhance soil health by providing more perennial pasture. (For establishment components apply under Track 1, for pasture enhancements apply under Track 3)

Eligible BMPs include:

- Prescribed Grazing (NRCS 528)
- Forage and Biomass Planting (NRCS 512)
- Fence (NRCS 382)
- Stream Crossings (NRCS 578)

**Silvopasture Systems** establish or maintain desired trees and forages on the same land unit.

Eligible BMPs include:

- Silvopasture (NRCS 381)
- Prescribed Grazing (NRCS 528)
- Tree/shrub Establishment and Preparation (NRCS 612 and NRCS 660)
- Forage and Biomass Planting (NRCS 512)
- Upland Wildlife Habitat Management (NRCS 645)

Note: Silvopasture systems require a lot of technical assistance and are very site specific. Please note the District's capacity to develop this type of system in the application.

**Riparian Buffer Systems** include components to slow down and soak in water in the event of a flood. Eligible BMPs include:

- Riparian Forest Buffer (NRCS 391)
- Riparian Herbaceous Cover (NRCS 390)
- Tree/shrub Establishment and Preparation (NRCS 612 and NRCS 660)

- Fence (NRCS 382)
- Stream Crossings (NRCS 578)

*NOTE:* Riparian Buffer Systems and Prescribed Rotational Grazing Systems are also components of Track 2 –Water management. Any given project can only apply to one track, so be sure to determine which track is the best fit for the project.

### **Agroforestry System**

Agroforestry practices systems add trees and forest management into a farming system. Agroforestry has the potential to elevate local food production and resiliency, improve water and air quality, provide storm and flood mitigation, increase drought resiliency, as well as other co-benefits.

Eligible BMPs include:

- Tree/shrub Establishment and Preparation (NRCS 612 and NRCS 660)
- Structures for Wildlife (NRCS 649)
- Conservation Cover (NRCS 327)
- Critical Area Planting (NRCS 342)
- Alleycropping (NRCS 311)
- Erosion Control System – Structural

### **Soil Health Policy**

BMPs listed in the Soil Health Policy are eligible for reimbursement on a per unit basis. Contingency funding is not applicable to BMPs reimbursed on a per unit basis.

Soil Health practices will be contracted for a three-year term. Farmers must be prepared to implement the practice for three seasons.

Farms must have participated in AEM Tier 3 (AEM 3A Cover Crop Tool through Part 1, AEM 3A Cropland Conservation Plan, AEM 3A Nutrient Management Plan, or AEM 3B CNMP) prior to application to the Climate Resilient Farming program.

Once the project is awarded, Parts 2 and 3 of the AEM Tier 3 Cover Crop Tool (or equivalent as part of an existing plan) must be completed each year of the contract. The Annual Cover Crop Plan/Design (Part 2) shall be completed annually with producers in time to provide field-by-field recommendations to properly establish the cover crops. The Annual Cover Crop Evaluation (Part 3) shall be completed with the producer after establishment, but before termination of the cover crop.

### **Soil Health Testing**

To further support long-term adoption of soil health practices, it is highly recommended that soil health and manure/compost testing be performed to support verification of practice systems. A State rate has been included for soil and manure testing services in the Soil Health Policy. The cost of soil health testing can be 100% cost shared.

### **Soil Health Outreach**

Alongside implementation projects, outreach components are encouraged and eligible for 100% cost-share. Outreach to underserved farm communities is highly encouraged. These efforts can be listed under Other Direct Expenses. The outreach event/activity should be clearly discussed in the narrative and the costs should be itemized and explained either within the application or on a separate attachment to the application.

### **Economic Analysis**

Projects that include an economic analysis to aid the farmer in long-term adoption may include this cost as match to increase the overall request. Findings of the analysis could also be included in an outreach event for farm-to-farm education. Outreach is eligible at 100% cost-share.

### **Pollinator Protection**

SWCC strongly encourages applicants to enhance on-farm biodiversity through utilizing plant species (in applicable management practices) that support pollinator habitat and help meet the goals identified in the NYS Pollinator Protection Plan (Update 2020).

### **GHG Reduction Estimation**

An estimation of the reduction in GHG emissions must be calculated using USDA-NRCS COMET-Planner or COMET-Farm tool. The COMET-Planner or COMET-Farm estimate should be used for applicable practices to answer application questions relating to GHG reduction estimates. Other tools may be used with a description justifying its use.

The calculator tool is available at:

COMET-Planner - <http://comet-planner.com/>

COMET-Farm - <https://comet-farm.com/>