USDA United States Department of Agriculture

336 – Soil Carbon Amendment Implementation Requirements

Producer: _____ **County:** _____

Field #: _____ **Contract #:** _____

Tract #: _____

Practice Location and Soils Map (see conservation plan)

The Practice Purpose(s): (check all that apply)

- ☐ Maintain, increase or improve soil organic matter quantity and quality.
- ☐ Maintain or improve soil aggregate stability.
- ☐ Maintain or improve habitat for soil organisms.
- ☐ Improve plant productivity and health.
- ☐ Improve the efficient use of irrigation water.

OBJECTIVE: Soil Carbon Amendments, derived from plant materials or treated animal byproducts, are applied to the soil to improve soil organic matter, sequester carbon and enhance soil health metrics.

DESCRIPTION: Soil carbon amendments consisting of compost, biochar, and other carbon-based materials may be added to improve existing soil conditions. Soil of the planning land unit should be evaluated using the most current planning criteria, field assessments, and benchmark soil tests. An appropriate laboratory analysis of the material is necessary to determine application rates and if there are any inherent chemical limitations.

PLANNING CONSIDERATIONS:

- Include all necessary facilitating practices including Nutrient Management-590, if needed, to address nutrient-related resource concerns. This evaluation will be based on current soil tests and material analysis to **ensure application rates** are compliant with 590.
- Not all soils are suited for application of biochar. Consult Web Soil Survey – "Dynamic Soil Properties Response to Biochar" soil interpretation prior to planning biochar applications.
- Do not apply high-salt materials (>8 mmhos/cm) where salinity is a concern. Seasonal High Tunnels are an example of a potential situation with salinity concerns.
- Do not apply soil carbon amendments on slopes greater than 15%. Install mitigating conservation practices if applying compost on slopes >8% within 100ft of surface water.
- Do not apply compost when P-risk assessment indicates high or very high risk for phosphorus transport.
- Biochar with high adsorptive capacity can reduce the effectiveness of some pesticides.
- Do not apply amendments produced from crop residues that would otherwise provide soil protection and improve soil health or from woody residue that is necessary to sustain forest health or wildlife habitat. Do not apply raw manure or biosolids under this practice code.
- To maximize sequestered carbon consider use of efficient equipment for practice implementation, consider lifecycle analysis of the amendment for greenhouse gas accounting and use of COMET-Farm to estimate greenhouse gas emissions of planned practices.

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Required Design Deliverables (attach the following):

☐ Planning map showing all planned application areas. Include a map of soil interpretation "Dynamic Soil Properties Response to Biochar" from Web Soil Survey showing areas suitable for application.

☐ In Field Soil Health Assessment completed for each field where amendments will be applied.

☐ Soil tests that are no older than 2 years for each application field. Soil tests will include:

- Soil pH
- Soil Texture
- Soil OM or Soil Organic Carbon
- Soil phosphorus, potassium, calcium, sulfur, and magnesium
- Cation Exchange Capacity

In addition, the following should be included when applicable.

- Electroconductivity (EC)
- Bulk Density
- Aggregate stability
- Available water capacity
- Iron, manganese, copper, zinc.

☐ Laboratory analysis of amendment including all parameters in Table 1 of the Conservation Practice Standard for all carbon amendments. Ensure analysis and application rates are compliant with standard and are sustainable for repeat applications as appropriate.

Additional parameters, including the origin of the amendment, are required for Compost or Biochar in Table 2 & Table 3 in the conservation practice standard, respectively.

Planned Material[1] (circle one):	**Biochar**	**Compost**	**Blended**
Application Rate:			
Timing:			
Method[2]:			

[1]Attach required laboratory analysis sheets
[2]Include method and timing of incorporation if applicable

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Operation and Maintenance:

- ✓ Plan, design and implement carbon amendment applications in compliance with all federal, state and local laws and regulations. Secure all required permits or approvals.
- ✓ For operations following USDA's National Organic Program, apply and manage amendments according to program regulations.
- ✓ Calibrate application equipment to ensure accurate distribution of material at planned rates.
- ✓ Inspect and evaluate fields after first heavy rain events to ensure the material is stable and does not impact non-target areas.
- ✓ Evaluate effectiveness of the amendment with a follow up soil health field assessment, laboratory soil health assessment, and/or soil test for fields(s) where amendments were applied.
- ✓

Certification Statement: (certification may be documented in the conservation assistance notes)
I certify that implementation of this conservation practice is complete, meets criteria for the stated purpose(s), and meets the NRCS conservation practice standard and specifications.

_____ _____

Signature & Title **Date**