1 Overview

A Background

On December 7, USDA announced new CRP practices to improve water quality through its clean lakes, estuaries and rivers (CLEAR) effort to combat hypoxia in areas such as the Mississippi River and Great Lakes Basins. Research shows that installation of denitrifying bioreactors or saturated buffers on farmland can significantly reduce nitrate runoff from fields, particularly on tiled fields adjacent to streams or waterbodies that can reduce nitrate concentration in subsurface drain discharge.

Annual nitrate load reductions can range from 10 percent to greater than 90 percent depending on the drainage system, soil characteristics, and weather patterns for a given year.

Producers may submit offers for new practices or modifications to existing practices beginning January 9, 2017.

B Purpose

This notice provides:

- policy on the initiative for denitrifying bioreactors and saturated buffers, and available cost shares and incentives
- information on 4 new conservation practices.
1 Overview (Continued)

C Definitions

**Saturated Buffer**

A saturated buffer is a vegetated buffer (riparian buffer and/or filter strip) in which the water table is artificially raised by diverting much of the water from a subsurface drainage system along the buffer to reduce nitrate loading to surface water via enhanced denitrification.

**Denitrifying Bioreactor**

A bioreactor is a structure that uses a carbon source, such as wood chips, to reduce the concentration of nitrate nitrogen in subsurface agricultural drainage flow via enhanced denitrification.

2 Bioreactor and Saturated Buffer Policy on CP21 and CP22

A Objective

This initiative is meant to improve water quality by providing for the installation of a:

- denitrifying bioreactor on existing and re-enrolled CRP contract acreage devoted to CP21, filter strips or CP22, riparian buffers

  **Note:** The denitrifying bioreactor must be installed according to standards and specifications approved by NRCS under technical practice code 605.

- saturated buffer on re-enrolled CRP contract acreage devoted to CP21 and CP22.

  **Note:** The saturated buffer must be installed according to standards and specifications approved by NRCS under technical practice code 604.

  **Note:** See paragraph 3 for policy on denitrifying bioreactors and saturated buffers on new land.

B Eligible Land Policy

Denitrifying bioreactors may only be added to existing land devoted to CP21 or CP22 or offers for re-enrollment of CP21 or CP22 where the approved cover has been established as determined by NRCS.

Saturated buffers may only be added to offers for re-enrollment of CP21 or CP22 where the approved cover has been established as determined by NRCS.
2 Bioreactor and Saturated Buffer Policy on CP21 and CP22 (Continued)

C Technical Practice Code

The structure must be planned to at least the minimum standards required by the NRCS Conservation Technical Practice Standard for saturated buffer (604) or denitrifying bioreactor (605). Each State (NRCS) can modify the Conservation Technical Practice Standard to some extent and the State-specific standard should be consulted for details. Details, including the national practice standards, can be found online at http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/technical/cp/ncps/.

D Conservation Plan Modification

NRCS or TSP will assess the site and determine if the location/site is suitable for installation of a denitrifying bioreactor on existing CRP practices CP21 and CP22. Not all buffers will be suitable for installing this structure because of variations in soil types, slope of land, existing tile, proximity to outlet, etc. If a site is determined suitable by NRCS or TSP, the Conservation Plan shall be modified and applicable engineering designs completed as required by 2-CRP, paragraph 429. Engineering designs are considered part of the conservation plan and must be obtained before FSA approval of the modified plan according to 2-CRP, subparagraph 367 B.

Notes: Construction shall not be scheduled during the primary nesting season.

Conservation plans for the re-enrolled CP21 and CP22 must include the denitrifying bioreactors or saturated buffer.

The cover that is disturbed during construction shall be eligible for cost share to re-establish. The cover shall be re-established to the appropriate cover as determined by NRCS or TSP.

E Eligible Cost Items for Cost Share

Eligible items for calculation of C/S include those items and activities required for establishment of the bioreactor (605) and associated technical practice codes. These items include, but are not limited to, site preparation, earth moving, grading, shaping, filling, geotextile fabric, wood chips, water control structure, re-establishment of disturbed cover, and pipe/tile.

Eligible items for calculation of C/S include those items and activities required for establishment of the saturated buffer (604) and associated technical practice codes. These items include, but are not limited to, seedbed preparation, water level control structure (diverter box), perforated tile, locating tile lines, re-establishment of cover.

Note: See 2-CRP, paragraph 510 for items that shall not be included when calculating eligible cost for calculated C/S.
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2 Bioreactor and Saturated Buffer Policy on CP21 and CP22 (Continued)

F Cost Share Rate and Program Provisioning

A national component was created in program provisioning for denitrifying bioreactor (DENBIO) and a separate component code was created for saturated buffers (SATBUF) to ensure consistency in administration and processing.

State and County Offices shall follow 2-CRP, Part 15 for establishing C/S rates for DENBIO and SATBUF. It is recommended that for the purpose of this component, the State shall establish rates within the National C/S levels, expressed as either a:

- percent of cost, not to exceed $____ per unit of measure
- percent of cost.

State and County Offices shall copy and modify the component DENBIO or SATBUF according to the program provisioning user guide.

G Cost Share Payment

All C/S for denitrifying bioreactors or saturated buffers installed under these provisions shall be processed through CSS. An existing FSA-848A may be modified or a new FSA-848A may be created according to the CSS user guide.
Bioreactor and Saturated Buffer Policy on CP21 and CP22 (Continued)

H Practice Incentive Payment (PIP) for Existing and Re-enrolled CP21’s and CP22’s

PIP:

- may be issued to eligible participants
- based on eligible C/S paid under DENBIO or SATBUF, as applicable.

If the calculated PIP exceeds $1,500, the PIP for a denitrifying bioreactor on existing CP21 or CP22 or saturated buffer on re-enrolled CP21 or CP22 shall be limited to $1,500 per CP21 or CP22 practice.

Example 1: C/S for eligible items to install a single denitrifying bioreactor using component code DENBIO was calculated to be $2,800. PIP would be $2,240. For denitrifying bioreactor purposes, the PIP is limited to $1,500.

Example 2: A CRP-1 contains two separate (non-connecting/non adjacent) CP21’s under one contract. NRCS determined both sites were suitable for installation. C/S for eligible items to install a single denitrifying bioreactor was calculated to be $2,800. PIP would be $2,240 and as stated above was limited to $1,500. C/S for eligible items to install a second denitrifying bioreactor was calculated to be $1,200. PIP for this installation calculates to $960. Total eligible PIP on this contract for the denitrifying bioreactors is $2,460.

Example 3: A CRP-1 containing a CP21 is scheduled to expire on September 30, 2017. The producer offers to re-enroll the expiring CP21 and wants to install a saturated buffer. NRCS determines the site is suitable. C/S for eligible items to install the saturated buffer using component code SATBUF is $2,400. PIP would be $1,920, however, it is limited to $1500.

If a PIP has already been issued on the contract in the same payment year, the user should enter an additional amount to cover the initial payment plus the extra payment that is due. Refer to the Conservation Payments – County Office User Guide for additional guidance.
3 New Practices for Denitrifying Bioreactors and Saturated Buffers

A New Conservation Practices

The following new practices have been developed:

- CP21B - Denitrifying Bioreactor on Filter Strips
- CP21S - Saturated Filter Strips
- CP22B - Denitrifying Bioreactor on Riparian Buffers
- CP22S - Saturated Riparian Buffers.

Notes: Use new practices for enrollment of new land. Do not use for existing or re-enrolled land.

B Signing Incentive Payment (SIP)

SIP is authorized for CP21B, CP21S, CP22B and CP22S according to 2-CRP, paragraph 197.

C Practice Incentive Payment (PIP)

PIP is authorized for CP21B, CP21S, CP22B and CP22S according to 2-CRP, paragraph 197.

D Cost Share Rate and Program Provisioning

Component(s) will need to be created in program provisioning according to the Program Provisioning user guide located at https://sharepoint.fsa.usda.net/mgr/dafp/CEPD/Automation/CostShareProgram%20Provision/Forms/AllItems.aspx.

State and County Offices shall follow 2-CRP, Part 15 for establishing cost share rates and processing cost share payments.
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4 Action

A State Office Action

State Offices shall:

- provide a copy of this notice to the NRCS State Office
- publicize the CLEAR initiative
- ensure that County Offices follow the provisions of this notice.

B County Office Action

County Offices shall:

- provide a copy of this notice to NRCS
- publicize the CLEAR initiative
- ensure that policy in this notice is followed.

C Contact

For questions about this notice, contact Beverly Preston by either of the following:

- email to beverly.preston@wdc.usda.gov
- telephone at 202-720-9563.