Virginia CREP Technical Program Guidance

The Conservation Reserve Enhancement Program (CREP) is a voluntary program that provides technical and financial assistance to eligible farmers and landowners to protect environmentally sensitive land, decrease erosion, restore wildlife habitat, and safeguard ground and surface water.

Program Overview

In Virginia, the CREP program is offered on a continuous basis for the Chesapeake Bay and Southern Rivers watersheds. Four different CREP practices are eligible for financial assistance to farmers and landowners to address a variety of purposes including soil, water, wildlife and related natural resource concerns on their lands.

- CP21 Filter Strips – Strips of grass used to trap sediment, fertilizers, pesticides, and other pollutants before they reach streams and lakes. Only eligible on cropland.
- CP22 Riparian Forest Buffer – Plantings of trees and shrubs that catch pollutants in both surface and ground water before those pollutants reach a water body. In addition, riparian forest buffers improve fish and wildlife habitat as a secondary consideration. Eligible on cropland and marginal pastureland.
- CP23 Wetland Restoration – Restoring natural hydrologic and vegetative conditions that remove sediment, filter runoff, provide groundwater recharge and storm water control as Water Well as provide food, water and cover for a wide variety of wildlife. Only eligible on cropland.
- CP29 Wildlife Habitat Buffer – Plant native grass and shrub communities to enhance wildlife habitat, remove sediment, and filter nutrients, pesticides, and other pollutants from surface and subsurface flow. Eligible on marginal pastureland.

General Program and Practice Requirements

- Cropland is considered eligible if it meets the following criteria:
  - Producers have owned or operated the land for at least 12 months prior to application
  - Cropping history according to 2-CRP par. 151:
    - 4 of out 6 years between 2008-20013, *or*
    - 12-year rotation
  - Physically and legally capable of being planted in a normal manner
  - Marginal Pastureland is considered eligible if it is land that is not cropland or forestland and is capable of containing livestock.
- Buffers that exhibit the natural characteristics that are already in place are not eligible to be enrolled in CREP. For riparian forest buffers, “natural characteristics” means an area that already has approximately 30% canopy closure.
- NRCS or TSP is responsible for determining whether or not:
  - The project is feasible, and
  - The site is suitable for establishing and maintaining a planting.

- Sites that have heavy infestations of invasive weeds and/or have poor access for treatment are not eligible for enrollment in CREP. As a general guideline, "heavy infestation" means that more than 20% of the site is covered with invasive plants. Invasive weeds include state listed noxious weeds as Water Well as other aggressive species (i.e. multiflora rose, tree of heaven, Johnsongrass, thistle) that exhibit certain characteristics such as spread aggressively, reproduce quickly, and compete efficiently against other species. Areas of light infestations of invasive plants may be enrolled if weed control can be accomplished within 12 months. Consult with county weed control specialists and/or Virginia Cooperative Extension to determine the extent of treatment needed to bring weeds under control and suitability of the site for CREP enrollment.
- To be eligible for enrollment a stream must have a definable stream channel with bed and bank. USGS maps, soil maps, etc. shall not be the only source of information to determine streams as mapped information may not reflect actual conditions. Field verification is required and the following definitions will apply:
    - Perennial stream – a stream that contains water throughout the year
    - Seasonal stream – a stream that contains water for only part of the year, but more than just during and/or after rainfall or snowmelt
        - Seasonal streams do not include the following: grassed waterways, gullies, and/or drainage patterns where grassed waterways are commonly installed to solve an erosion problem that only flow during or immediately after rainfall or snowmelt.
- Sinkholes in karst areas are eligible for CREP but if dry sinkholes are enrolled into the program, they are not eligible for cost share to install alternative water systems.
- Buffers enrolled on cropland only, which results in unmanageable units or acres that are "infeasible to farm," may be extended to include these areas in the contract acreage by up to 25% of the enrolled acreage.

Practice Implementation

- Approved cover is required to be planted or seeded within 12 months after CRP-1 effective date. However, with COC concurrence, certain circumstances may allow an additional 12 months, not to exceed 24 continuous months, to plant/seed or install the approved permanent cover.
- Species to be planted will be selected from the approved species lists found in the Virginia Plant Establishment Guide. Cover shall be established as follows:
    - CP21: Riparian Herbaceous Cover (390)
        - Supporting practices may include:
            - Brush Management (314)
            - Early Successional Habitat Development/Management (647)
            - Firebreak (394)
            - Herbaceous Weed Control (315)
            - Prescribed Burning (338)
            - Upland Wildlife Habitat (645)
    - CP22: Riparian Forest Buffer (391)
        - Supporting practices may include:
            - Brush Management (314)
            - Conservation Cover (327)
            - Critical Area Planting (342)

            - Fence (382)
            - Forest Stand Improvement (666)
            - Herbaceous Weed Control (315)
            - Mulching (484)
            - Livestock Pipeline (516)
            - Pumping Plant (533)
            - Spring Development (574)
            - Stream Crossing (578)
            - Tree/Shrub Site Preparation (490)
            - Watering Facility (614)
            - Upland Wildlife Management (645)
            - Water Well (642)
    - CP23: Wetland Enhancement (659), Wetland Restoration (657), Conservation Cover (327), Tree/Shrub Establishment (612)
        - Supporting practices may include:
            - Brush Management (314)
            - Dike (356)
            - Firebreak (394)
            - Herbaceous Weed Control (315)
            - Prescribed Burning (338)
            - Structure for Water Control (587)
    - CP29: Riparian Herbaceous Cover (390) or Conservation Cover (327)
        - Supporting practices may include:
            - Brush Management (314)
            - Conservation Cover (327)
            - Early Successional Habitat Development/Management (647)
            - Fence (382)
            - Firebreak (394)
            - Herbaceous Weed Control (315)
            - Livestock Pipeline (516)
            - Prescribed Burning (338)
            - Pumping Plant (533)
            - Spring Development (574)
            - Stream Crossing (578)
            - Watering Facility (614)
            - Upland Wildlife Management (645)
            - Water Well (642)
- Upland or Wetland Wildlife Habitat Management (645 or 644) is for the management of habitat and the connectivity within the landscape for wildlife. The purpose of this practice is to treat habitat concerns identified during the conservation planning process that will enable movement and provide shelter, cover, or food to sustain wild animals at the end of the establishment period associated with land use changes in CREP acres.
- Eligible weed control treatment can be mechanical or chemical for pre-treatment or treatment at the time of planting. Tree/Shrub Site Preparation (490) will be used for pre-treatment or treatment at the time of planting to improve site conditions for establishing trees and/or shrubs.
- During practice implementation, weed control is eligible for cost share as provided in FSA Handbook 2-CRP para 492. After planting, cost share may be authorized for two post-planting

weed control applications (314 and/or 315) if it is applied within the first 24 months of planting the cover (as authorized in 2-CRP). Mowing is not eligible for cost share if it is used for post-planting weed control.

Practice Maintenance

- Enrolled practices must be managed and maintained for the duration of the contract. Participants shall follow the requirements outlined in the Job Sheet including the Operation and Maintenance for the appropriate practice. For tree plantings, the Department of Forestry (DOF) planting plan will also document the vegetation to be established and the requirements for establishment, maintenance, and management. Specific management and maintenance recommendations can also be found in the practice guidance sheets.
- Chemicals used must be Federally, State, and locally registered, and applied according to the registered uses.
- After cover is established, all maintenance and management must be conducted outside the primary nesting season of April 15 to August 15.
  Exception: Spot treatment of noxious or invasive weeds may be approved by FSA County Committee in accordance with 2-CRP par. 427.
- Prohibited activities include annual food plots, periodic or annual mowing for cosmetic purposes or generic weed control, and using the enrolled land as a regular travel lane.

Mid-Contract Management

All CRP participants with contracts effective beginning with signup 26 are required to perform at least one management activity as part of their approved conservation plan. This management activity shall be designed to ensure plant diversity and wildlife benefits, while ensuring protection of the soil and water resources. Management activities are site specific and are used to enhance the wildlife benefits for the site. Management activities must be completed before the end of year 6 for contracts with a 10 year contract length, or before the end of year 9 for contracts with a 15 year contract length. In no case should the one required management activity occur during the last three years of the CRP contract.

Notes: Additional management activities may occur up to year:

- 8 for 10-year contracts
- 13 for 15-year contracts.

Failure to perform planned management activities can result in contract violation.

The participant may receive up to 50% C/S for the management practices.

Development of Management Activities

Cost-share is limited to 50% of the eligible cost up to $50 per acre per year not to exceed $100 per acre for the life of the contract for a 10-year contract; or $125 per acre for the life of the contract for a contract in excess of 10 years

Virginia's management activities include but are not limited to the following:

- Burning
- Light-disking
- Spraying throughout the CRP acreage

- Reseeding
- Over-seeding

NRCS or TSP shall work with participant to plan appropriate management activity and the applicable practice that will create plant diversity for the benefit of wildlife and enhancement of the permanent cover. For riparian forest buffers, Forest Stand Improvement (666) may be scheduled to improve the species composition or improve the health of the tree planting to maintain a desired native understory plant community. For riparian herbaceous buffers, Early Successional Habitat Development/Maintenance (647) may be used to manage plant succession for early succession habitat to benefit desired wildlife communities or the use of Prescribed Burning/Firebreak (338/394) to improve plant productivity and wildlife habitat.

Filter Strip – CP21

Purpose

The purpose of this practice is to remove nutrients, sediment, organic matter, pesticides, and other pollutants from surface runoff and subsurface flow by deposition, absorption, plant uptake, denitrification, and other processes, and thereby reduce pollution and protect surface and subsurface water quality while enhancing the ecosystem of the water body.

Application

This practice is applied on cropland that meets cropping history eligibility criteria as determined by FSA. This practice cannot be implemented on marginal pastureland.

Program Policy

To be eligible to be enrolled as a CP-21, the land must be cropland and must be immediately adjacent and parallel to one of the following:

- Streams having perennial flow;
- Seasonal and intermittent streams that contain water for only part of the year but more than just during and/or after rainfall or snowmelt (gullies or sod waterways are excluded);
- Groundwater recharge areas such as sinkholes, karst areas, and ponds located in karst areas;
- Wetland with water areas capable of reducing damages by sedimentation and associated pollutants that meet one of the following:
    - Permanently Flooded – water covers the land surface throughout the year in all years
    - Intermittently Exposed – surface water is present throughout the year except in years of extreme drought
    - Semi-permanently Flooded – surface water is present throughout the growing season in most years
    - Seasonally Flooded – surface water is present for extended periods of not less than 21 calendar days especially early in the growing season, but absent in the end of the growing season.
- Other water bodies of a permanent nature, such as lakes or ponds that are 5.0 acres or greater and provide water cover throughout the year in all years or any size pond if the outflow from the pond continues off the field.

NRCS determines, based on a site visit, all of the following:

- The cropland is suitable to be devoted to a filter strip,
- The filter strip is needed and feasible to solve the resource concern,
- The cropland is capable, after the filter strip is established, of substantially reducing pollutants in the nearby eligible stream or water body.

(CP-21 is not eligible to be used in conjunction with practices CP-22 and CP-23 because these practices already include provisions for establishment of grass buffers.)

Size Requirements

The minimum acceptable width of a filter strip applied under the CREP program is 35 feet. (A filter strip applied under CCRP may be a minimum of 20 feet.) A filter strip may be applied up to a maximum average width of 120 feet, if needed to accomplish the purpose of the practice. The filter strip shall begin at the top of the stream bank.

Cost Share

To be eligible for cost-sharing this practice shall:

- Be required by the approved conservation plan,
- Improve environmental benefits to an acceptable level,
- Reduce additional sediment or pollutants that are being delivered to water bodies immediately adjacent and parallel to the cropland,
- Be maintained for the contract payment period, and
- Prevent degradation of the environmental benefits from recurring.

Eligible C/S Practices

- Site preparation including minerals, nutrients, and seedbed prep;
- Herbicides and insecticides as necessary to establish the vegetation;
- Temporary cover;
- Cost associated with seed and seeding;
- Fencing, Livestock Pipeline and watering facilities constructed outside of the filter strip ***only*** when livestock normally graze crop residue;
- Earthmoving activity and the construction of structures where concentrated flow continues to degrade water quality.

Practice Requirements

- In addition to the practice standards in the NRCS FOTG, the following requirements apply: The seeded area shall not be harvested or grazed by domestic livestock for the life of CRP-1.
- Limit cost share to the minimum work and materials necessary to establish an adequate cover to improve environmental benefits.
- Practices shall reduce nutrients, sediment, organic matter, pesticides, and other pollutants that are being delivered to a water body. Chemicals used in establishing the practice must be:
    - Federally, State, and locally registered
    - Applied strictly according to authorized registered uses, directions on the label, and other Federal or State policies and requirements.
- Noxious weeds and other undesirable plants, insects, and pests shall be controlled, including such maintenance as necessary to avoid an adverse impact on surrounding lands.
- The filter strip must be established and maintained according to the practice standards in FOTG.
- The practice shall have periodic management activities included in the CPO and performed accordingly during the life of the CRP-1, with cost-share provided as determined by COC.

Riparian Forest Buffer – CP22

Purposes

The purposes of this practice are to:

- Remove nutrients, sediment, organic matter, pesticides, and other pollutants from surface runoff and subsurface flow by deposition, absorption, plant uptake, denitrification, and other processes, and thereby reduce pollution and protect surface water and subsurface water quality while enhancing the ecosystem of the water body;
- Create shade to lower water temperature to improve habitat for aquatic organisms;
- Provide a source of detritus and large woody debris for aquatic organisms and habitat for wildlife.

Application

This practice is applied on eligible cropland or marginal pastureland immediately adjacent and parallel to:

- Streams having perennial flow;
- Seasonal and intermittent streams that contain water for only part of the year but more than just during and/or after rainfall or snowmelt (gullies or sod waterways are excluded);
- Groundwater recharge areas such as sinkholes, karst areas, and ponds located in karst areas;
- Wetland with water areas capable of reducing damages by sedimentation and associated pollutants that meet one of the following:
    - Permanently Flooded – water covers the land surface throughout the year in all years
    - Intermittently Exposed – surface water is present throughout the year except in years of extreme drought
    - Semi-permanently Flooded – surface water is present throughout the growing season in most years
    - Seasonally Flooded – surface water is present for extended periods of not less than 21 calendar days especially early in the growing season, but absent in the end of the growing season.
- Other water bodies of a permanent nature, such as lakes or ponds that are 5.0 acres or greater and provide water cover throughout the year in all years or any size pond if the outflow from the pond continues off the field;
- CP21, CP23, CP9 cannot be used in conjunction with a CP22 because the CP22 practice may include an herbaceous buffer if needed.

Program Policy

- The riparian buffer must be needed and feasible to solve the resource concerns and meet one of the intended purposes.
- The area must be suitable to be devoted to a riparian buffer.
- Dominant vegetation will consist of naturally regenerated or seeded/planted trees suited to the soil and hydrology of the site to achieve the intended purpose.
- Marginal pastureland must be devoted (planted or natural regeneration) to trees.
  Note: Land not suitable for tree plantings is not eligible to be enrolled in CP22.
  Note: Marginal pastureland to be devoted to wildlife habitat as the primary purpose should be enrolled as CP29.
- The riparian buffer shall not be less than 35 feet wide and may be applied up to a maximum average width of 300 feet if needed to accomplish the purpose of the practice.

Note: Planting one row of trees in a 35 foot buffer area will not achieve desired outcome of canopy closure.

- An area of native grasses and forbs may be added only for concentrated flow conditions dependent on the site.
  Note: Excessive sheet-rill and concentrated flow will be controlled in areas immediately adjacent and up-gradient of the buffer through the use of a grass strip. The width of the strip should be the minimum necessary to control excessive sheet-rill erosion and/or concentrated flow.

Cost-Share

Cost-sharing is available for:

- Site preparation including minerals, nutrients, and seedbed prep;
- Herbicides and pesticides as necessary to establish the vegetation;
- Costs associated with seed (companion plantings), planting and/or seeding of trees and shrubs, tree shelters, netting, stakes, and weed mats;
- Post emergence herbicide treatment within 24 months of planting;
- Permanent fencing needed to exclude livestock from the CREP contract acres;
- Water developments, Livestock Pipelines and watering facilities constructed outside the riparian buffer strip if necessary to provide a water source for livestock;
- Water gaps, bridges, or other livestock crossing facilities that will prevent sedimentation and pollution. The installation of crossings is limited to small streams;
- Mid-contract management.

Practice Requirements

In addition to requirements in the General Practice Requirements section, the following apply:

- The riparian buffer must be established and maintained according to the NRCS conservation practice standard, Riparian Forest Buffer (391);
- If there is an existing forest buffer that is less than what is needed to adequately provide water quality and wildlife benefits, the area may be augmented up to the appropriate maximum width. Participants must agree to maintain the entire buffer. The rental payment and cost-share is only for the acreage enrolled.
- Buffers that exhibit the natural characteristics that are already in place are not eligible to be enrolled in CREP. For riparian forest buffers, “natural characteristics” means an area that already has 30% canopy closure.

Practice Implementation

- Establishing a successful tree planting requires attention to several key elements, including site preparation, proper species selection, seedling quality, proper planting technique, and short and long term control of competing vegetation.
- Participant shall follow the practice implementation and maintenance plans found in their DOF Tree Planting Plan which address adapted species for the site. Specific requirements for establishment including seedling quality and proper planting technique, maintenance, and management can be found in the Riparian Forest Buffer Standard and the Tree and Shrub Establishment Technical Note, Forestry #3 on the FOTG.
- Control of competing vegetation is best achieved by preventing weed problems before they occur. The use of companion plantings as ground cover is a recommended practice to limit weed development prior to planting to establish proactive competition control measures. Good weed control will also deter many ground-dwelling animals from venturing into the trees.

- Species of trees, shrubs, and the companion planting must be from the approved list. The species should be selected by DOF with consultation from the operator or landowner and included in the planting plan according to site specific guidance.

Re-establishment

A 70% stocking rate is required three years after planting. Surviving plants should be evenly distributed over the planting area. Desirable natural regeneration may be substituted for planted material when equivalent to desired species and planned purpose. Natural regeneration sites will be reevaluated if recruitment and survival after 3 growing seasons is less than 250 evenly distributed seedlings per acre. Once reevaluated, and found with less than the minimum stocking level, an establishment plan for establishment will be developed.

Sites having a stocking rate less than 70% may require the Riparian Forest Buffer standard (391) to be reapplied in order to achieve successful implementation. The reapplied practice may be eligible for 50% cost share from FSA when the following conditions are met:

- Documented finding of less than 70% stocking rate and recommendations for replanting on the NRCS-CPA-13 and/or DOF Form 84;
- The conservation practice failed due to a natural disaster or through circumstances beyond the participant's control;
- The FSA COC determines the existing cover does not provide the same level of environmental benefits as the intended cover;
- The FSA COC determines that the cost of restoring the cover is justified by the benefits that will be received.

COC is authorized to approve additional cost-share for reapplied practices in accordance with the revised Conservation Plan and a new/revised Forest Management Plan (DOF Form 75) for the area identified as needing re-establishment.

Note: "Reapplied Practice" shall be placed in the ad-narrative when the Conservation Plan/Schedule of Operations is modified.

IMPORTANT: Refer to the Riparian Forest Buffer flow chart with best recommended planting guidelines and associated authorized cost share to establish tree plantings.

Wetland Restoration – CP23

Purpose

The purpose of this practice is to restore the functions and values of wetland ecosystems that have been devoted to agricultural use. The level of restoration of the wetland ecosystem shall be determined by the producer in consultation with NRCS or TSP.

Application

This practice is applied on eligible wetlands and associated acreage that are suitably located and adapted to the restoration of wetland functions and values. Land enrolled as restored wetlands must be comprised of hydric soils and receive the maximum hydrologic restoration practicable.

Program Policy

To be eligible to be enrolled as a CP23, the land must be cropland that meets cropping history eligibility criteria as determined by FSA. The practice shall restore the functional capability and values of the wetland ecosystem including the following:

- Preventing degradation of the wetland area and surrounding upland area from recurring
- Increasing sediment trapping efficiencies
- Improving surface and ground water quality
- Preventing excessive erosion from recurring
- Providing waterfowl and other wildlife habitat
- Reducing flood flows

Total eligible cropland for wetland restorations is limited to cropland:

- Within the 100-year floodplain of a permanent river or stream
- That includes a minimum of 51 percent hydric soils for the acreage offered (non-buffer areas).

Size Requirements

The total enrolled acreage shall not exceed 40 acres. The amount of adjacent upland acres enrolled shall be determined by NRCS and:

- Is limited to the minimum number of acres required to provide a protective buffer to the cropped wetland and to enhance wildlife habitat
- May be less than the 3 to 1 ratio
- Shall not exceed the 3 to 1 ratio.

Cost Share

Cost-share will be authorized by the COC and may be available for:

- Site preparation including minerals, nutrients, and seedbed prep;
- Herbicides and pesticides as necessary to establish the vegetation;
- Temporary cover;
- Cost associated with seed and seeding;
- Tree and shrub seeding and planting;
- Breaking tile;
- Structures, like pipe, chutes, and outlets;
- Earthmoving, to construct dams, levees, dugouts, or dikes, needed to develop or restore the hydrology of the site

Practice Requirements

In addition to the practice standards in the NRCS FOTG, the following requirements apply:

- The seeded area shall not be harvested or grazed by domestic livestock for the life of CRP-1.
- Limit C/S to the minimum work and materials necessary to develop or restore the wetland hydrology, and establish an adequate cover to improve environmental benefits.
- The wetland ecosystem shall be restored to the extent that the functions and values are that of a wetland; the restoration of the hydrology is only required to the extent specified by the producer.
- Chemicals used in establishing the practice must be:
    - Federally, State, and locally registered
    - Applied strictly according to authorized registered uses, directions on the label, and other Federal or State policies and requirements.
- Noxious weeds and other undesirable plants, insects, and pests shall be controlled, including such maintenance as necessary to avoid an adverse impact on surrounding lands.
- The practice must be established and maintained according to the practice standards in the FOTG.
- The hydrology of the wetland must be maintained according to the operation and maintenance requirements for the practice standard.
- The practice shall have periodic management activities included in the CPO and performed, accordingly during the life of CRP-1, with cost-share provided as determined by COC.

Marginal Pastureland Wildlife Habitat Buffer – CP29

Purpose

The purpose of this practice is to remove nutrients, sediment, organic matter, pesticides, and other pollutants from surface runoff and subsurface flow by deposition, absorption, plant uptake, denitrification and other processes and thereby reduce pollution and protect surface and subsurface water quality while enhancing the ecosystem of the water body. By restoring native plant communities, characteristics for the site will assist in stabilizing stream banks, reducing flood damage impacts, and restoring and enhancing wildlife habitat.

Application

This practice is applied on marginal pastureland immediately adjacent and parallel to:

- Streams having perennial flow;
- Seasonal and intermittent streams that contain water for only part of the year but more than just during and/or after rainfall or snowmelt (gullies or sod waterways are excluded);
- Sinkholes, karst areas, and other groundwater recharge areas;
- Other water bodies of a permanent nature, such as lakes or ponds that are 5.0 acres or greater and provide water cover throughout the year in all years.
  NOTE: CP29 cannot be used as the herbaceous portion for a CP22. CP29 cannot be used as the buffer component of CP23, CP30, or CP9, because these practices already include their own buffers.

Program Policy

To be eligible to be enrolled as a CP29, the land must be marginal pastureland as determined by FSA. The practice shall enhance the primarily grass, shrub, and forb community and provide water quality improvement and wildlife habitat benefits. NRCS or TSP determines the following based on a site visit:

- Marginal pastureland is located in a riparian area (adjacent to an eligible stream or water body, as specified above) and is suitable to be devoted to a wildlife habitat buffer;
  Note: Marginal Pastureland to be devoted to trees should be enrolled as CP22
- The wildlife habitat buffer is needed and feasible to solve the resource concern;
- The marginal pastureland is capable, after the buffer is established, of substantially reducing pollutants in the nearby eligible stream or other water body;
- The wildlife habitat buffer shall not be less than 50 feet wide and may be applied up to a maximum average width of 120 feet, if needed to accomplish the purpose. (A marginal pastureland wildlife habitat buffer applied under CCRP may be a minimum of 20 feet.)

Cost-Share

Cost-sharing is available for:

- Site preparation including minerals, nutrients, and seedbed prep;
- Herbicides and pesticides as necessary to establish the vegetation;
- Temporary cover;
- Costs associated with seed and seeding;
- Shrub seedlings and plantings;
- Permanent fencing needed to exclude livestock from the buffer strip;
- Livestock Pipelines and watering facilities constructed outside the riparian buffer strip if constructed to provide a water source for livestock;
- Water gaps, bridges, or other livestock crossing facilities that will prevent sedimentation and pollution. The installation of crossings is limited to small streams;

- Grading, leveling, and filling to control concentrated flow.

Practice Requirements

Vegetation shall include grasses and forbs, and may include shrubs, as per the following:

- Herbaceous buffers: For buffers that will be planted and maintained in herbaceous cover, use the NRCS conservation practice standard for Riparian Herbaceous Cover (390). For most sites, select approved Conservation Cover mixes.
- Herbaceous/shrub buffers: For buffers that will be planted and maintained in a combination of herbaceous cover and shrubs, use the NRCS conservation practice standard for Conservation Cover (327).
- The vegetative cover to be established must be a preferred mix for wildlife (should not use mixes containing tall fescue).
- If there is an existing buffer that is less than what is needed to adequately provide water quality and wildlife benefits, the area may be augmented up to the appropriate maximum width. Participants must agree to maintain the entire buffer. The rental payment and cost-share is only for the acreage enrolled.
- A minimum of 5 species of Native Warm Season Grasses, forbs or legumes are required for CP29 (4-5 lbs. of total seed/acre). If shrubs are also desired, a minimum of 3 different shrub species can be included.

Note: Refer to the Virginia Plant Establishment Guide (PEG) on the FOTG for all recommended planting rates, species selection, planting methods and techniques, and establishment dates.

Tree and Shrub Establishment Guidelines

Establishing trees and shrubs successfully takes careful planning and consideration. Not all trees or shrubs can be planted using the same methods. Special attention is needed for woody plant establishment. The choice of what to plant depends on the purpose of the planting, the site and soil conditions and the availability of the seed, seedlings, or cuttings. There are many factors to consider before, during and after tree and shrub planting which requires attention to several key elements including proper species selection, seedling quality, proper planting technique, and short- and long-term control of competing vegetation. A successful establishment depends on considering all these factors. A field site evaluation by a professional forester is an essential first step to successful tree establishment. USDA programs require a written forest management or site plan for each planting along with the appropriate job sheet for the practice specification. Virginia Department of Forestry (VDOF) Form 75 (Forest Management Plan) or an NRCS Conservation Activity Plan (CAP 106) will suffice for the written management plan if it includes site information including but not limited to:

- Description of existing conditions and vegetation (herbaceous and woody, extent, species)
- Recent management activities and present use of site
- Adapted tree/shrub species and quality
- Planting stock type and quantity
- Planting methods
- Site preparation specifications
- Tree density - Row spacing (between and within)
- Vegetation control and maintenance

Recommendations should include the site preparation method, tree species and number of trees to plant per acre, tree spacing, companion planting (if needed), tree shelters (if needed), and operation and maintenance with emphasis on controlling competing vegetation. If a herbicide site preparation application is recommended, the forester will identify the possible herbicides, rates, and time of year to apply. A map showing species to plant, trees per acre, spacing and location shall be attached to the plan.

Refer to the Tree and Shrub Establishment Guidelines Technical Note, Forestry #3 and Virginia NRCS Plant Establishment Guide (PEG) at http://efotg.sc.egov.usda.gov/treemenuFS.aspx for information about choosing and planting native trees and shrubs, plant characteristics, species selection, planting rates, dates for establishment, planting methods, techniques and uses.

General Prescriptions for Hardwood Tree Plantings in Open Fields

Alternatives are listed in table 1 according to land use and their effectiveness for establishing successful tree plantings. Effective competition control (tall fescue and weed pressure) is a key to the success of hardwood tree plantings as competition can lead to reduced growth or mortality of hardwood seedlings through shading, moisture stress and chemical inhibition. The use of tree shelters is recommended for all of the alternatives. Planting hardwood seedlings on harvested sites is not recommended under most circumstances because the natural hardwood regeneration will likely outcompete the planted seedlings.

Table 1. Alternatives for Establishing Hardwood Trees

	Land Use	Site Prep	Companion Planting	Available Seed Source on Site	Number of Trees per Acre	Operation & Maintenance Sprayings
Alternative 1	Pasture/ Hay	Spraying entire field to kill weeds & fescue [3]	Yes [5]	Yes [1]	Natural Regen +25 (40'x40' spacing)	Post emergent spraying for at least 2 years following planting as needed [6]
Alternative 2	Pasture/ Hay	Spraying entire field to kill weeds & fescue	Yes [5]	No	300 (12'x12' spacing) [2]	Post emergent spraying for at least 2 years following planting as needed
Alternative 3	Pasture/ Hay	Strip or circle sprayings for tree planting	No	Both Yes and No	300 (12'x12' spacing) [2]	Required spraying for at least 2 years following planting around tree shelters to reduce competition
Alternative 4	Cropland	Spraying entire field to kill weeds & fescue	Yes [4, 5]	Yes [1]	Natural Regen +25 (40'x40' spacing)	Post emergent spraying for at least 2 years following planting as needed [6]
Alternative 5	Cropland	Spraying entire field to kill weeds & fescue	Yes [4, 5]	No	300 (12'x12' spacing) [2]	Post emergent spraying for at least 2 years following planting as needed

Notes:

1. Natural regeneration will likely occur where there is an available seed source at the planting site and will fill in the gaps to provide canopy closure. The 25 planted trees per acre recommended for sites with natural regeneration is to favor hard-mast producing trees for diversity since areas adjacent to tree lines or woodland will favor wind-blown soft-mast species. The 25 planted trees should be of larger stock trees or tree whips to allow for a more rapid growth of the tree.
2. Up to 50% of the recommended trees per acre can be of pine species. These trees will not have tree tubes installed and will be inter-planted to act as nurse or trainer trees. These trees should favor Longleaf Pine, Short Leaf Pine, and White Pine species.
3. Total area spraying is required for the natural regeneration alternative on pastureland due to the competition from fescue effecting artificial regeneration.

4. Cropland generally has the least amount of weed competition due to residual weed control, however, due to the land being open with no cover a companion planting is necessary to prevent weed competition in the future.
5. Companion plantings are required where there is total area spraying to control fescue and weed competition or where there is a potential erosion concern. Poorly degraded pasture sites also require companion plantings as these sites are the most vulnerable to weed pressure.
6. General maintenance mowing throughout the tree planting is not a recommended management activity since it will impede natural regeneration.

Companion Plantings for Tree/Shrub Establishment

A companion planting is the practice of planting a herbaceous cover that will occupy the site in combination with the tree planting, but not compete with the trees seedlings. Preventing weed problems before they occur is key to successful control of competition with trees. The use of a companion planting effectively limits weed development and encourages natural regeneration. The use of a companion planting is a preferred method of establishment with trees and shrubs to reduce weed competition and eliminate fescue dominated pastures or unmanaged non-fescue pastures. It has been shown that weed competition and fescue dominated pastures can lead to reduced growth and mortality of hardwood seedlings through shading, moisture stress and associated allopathic effects. Replacing fescue dominated pastures with an appropriate ground cover will provide competition control from weed seed germination but allow natural regeneration of trees and shrubs to establish. The following companion planting mixes should be used if a companion planting is needed for the site preparation prescription.

Companion plantings should provide significant ground coverage as quickly as possible to prevent weed seeds from establishing, grow less than 3 to 4 feet in height to minimize shading and lodging effects, possess no know allopathic effect on the trees and pose no invasive threat to adjacent sites. Table 2 is a selected list of acceptable companion plantings for establishing trees and shrubs. The use of mix of one small grain to provide quick ground coverage and one perennial to provide continuous coverage is a preferred companion planting but not always conducive for riparian areas due to site limitations on the use of a drill or disk as an establishment method. Broadcasting (frost-seeding) clover may be the only acceptable alternative for a companion planting in some locations.

Table 2. Companion Plantings

Companion Planting Mixtures for Tree/Shrub Plantings		
Species	Seeding Rate	Establishment Method
Winter Wheat	1-2 bu./acre	Drill or Disk and Cultipack
Fescue; Creeping Red, Chewing's, Sheep, Hard	8-10 lbs./acre	Drill or Disk and Cultipack
Red Top	8-10 lbs./acre	Drill or Disk and Cultipack
Virginia Wild Rye	10-15 lbs./acre	Drill or Disk and Cultipack
White Clover	2-3 lbs./acre	Broadcast (frost-seeding)

Prescriptions and Timing of Hardwood Tree Plantings

This section is designed to assist in the selection of a prescription for hardwood tree planting in open fields and details on how to implement the selected alternative. The alternatives in table 3 are listed according to land use and their effectiveness (from most effective to suitable) for establishing successful tree plantings.

Table 3. Pastures and fescue-dominated fields.

Fescue Replacement – One Growing Season Prior to Planting		
Spring Year 1	• Two to three weeks prior to herbicide spraying, bush hog as close to ground as possible. • Double mow if heavy build-up of cover. • Allow grass to develop new foliage (6-10 inches) in April through early May and broadcast spray entire planting area with post-emergent herbicide.	NRCS Code 490
Fall Year 1	• Survey planting area in early fall (Late August - September) for any presence of competition and spot spray or spray entire field a second time with post-emergent herbicide. • Seed companion planting in late fall (September into October).	NRCS Code 391
Late Winter/ Early Spring Year 2	• Plant trees directly into groundcover. • Scalp an area at least 6 inches by 6 inches directly where tree is being planted and tree shelter is installed.	NRCS Code 391
Year 2	• Survey planting area in mid-summer/early fall to determine if competition control is needed. Generally the established groundcover will provide adequate control. • Spot spray any noxious or invasive weeds that may be present.	NRCS Code 314 and/or 315
Year 3	• Survey planting area to determine if competition control is needed. Generally the established groundcover will provide adequate control. • Spot spray any noxious or invasive weeds that may be present.	NRCS Code 314 and/or 315
Fescue Herbicide Control Only – Strip or circle spraying		
Year 1	• Problem weed species should be treated on site prior to any planting recommendations. • Two to three weeks prior to herbicide spraying, bush hog as close to ground as possible. • Double mow if heavy build-up of cover. • Allow grass to develop new foliage (6-10 inches) in when actively growing (Late-August into September) and spray strips a minimum 4 foot wide or circles a minimum of 3-5 foot radius around the tree with a post-emergent herbicide where trees are to be planted.	NRCS Code 490
Late Winter/ Early Spring Year 2	• Plant trees directly into the sprayed strips or circles. • Scalp an area at least 6 inches by 6 inches directly where tree is being planted and tree shelter is installed.	NRCS Code 391

Fall Year 2	• Spray a post-emergent herbicide on a 4 foot band or 3-5 foot radius circle around tree tubes in September to provide competition control. • Spot spray any noxious or invasive weeds that may be present.	NRCS Code 314 and/or 315
Year 3	• Spray a post-emergent herbicide on a 4 foot band or 3-5 foot radius circle around tree tubes in April or in September to provide competition control. • Spot spray any noxious or invasive weeds that may be present.	NRCS Code 314 and/or 315

Note: Cropland fields generally have a minimal amount of weed competition due to residual weed control and cultivation. Weed competition in these areas will come from seed deposited directly prior to and after the tree planting. Due to the land being open with no cover a companion planting is recommended to prevent weed competition in the future and minimize any erosion concerns. Spraying a pre-emergent herbicide on a 4 foot band or 3 to 5 foot radius circle around tree tubes may be needed for 2 years following planting. Generally the established groundcover will provide adequate control. Spot spray any noxious or invasive weeds that may be present.

Process List

CREP ROLES AND RESPONSIBILITIES			
FSA	**NRCS**	**DOF**	**SWCD**
OFFER and CPO DEVELOPMENT			
ALL AGENCIES--Recruit enrollment of new CREP offers.			
Accept offer for CRP/CREP on form CRP-2C.			
Determine producer and land eligibility.			
Provide CRP-2C to NRCS for CPO development. Provide CRP-2C to SWCD for budget planning.	Obtain CRP-2C from FSA and consult with producer to begin CPO development.		Obtain CRP-2C from FSA for budgeting purposes.
	For applications that will involve tree or shrub planting, provide the following to DOF: CRP-2C; map showing location of site; soil map.		
		For tree planting practices: conduct field visit to determine resource concerns and need and feasibility of CRP/CREP practices. Discuss and plan the CRP/CREP and other practices that may be needed.	
	Layout and stake the area to be included in the program.	Begin developing tree planting plan.	
	Return CRP-2C to FSA for Measurement Service.		
Perform Measurement Service.			
Edit CLU in MIDAS to derive official CREP fields and acres.			
Complete and finalize CRP-2C and return to NRCS, including CREP field and acreage measured to the .01.			
Inform producer that the offer was acceptable using form letter CRP-23.		Develop Tree Planting Plan (DOF Form 75), including map. Provide Tree Planting Plan and map to NRCS and participant.	
	Complete and finalize CPO package.		

CONTRACT APPROVAL and PRACTICE IMPLEMENTATION			
Complete CRP-1 and obtain all required signatures.	Provide CPO package, including plan map, CPA-052, DOF plan & map, job sheets, and engineering designs to participant and FSA.		
Complete eligibility documentation.			
Complete CCC-770 prior to contract approval and document DD reviews.			
Review and approve CRP-1 and CPO. Provide a copy of CRP-1 to SWCD.			Obtain CRP-1 from FSA.
Notify producers of approved CRP-1 using form letter CRP-24.			
Issue cost-share documents and obtain producer signature(s).			
Provide a copy of CRP-1 and cost-share documents to SWCD partners.			Obtain a copy of CRP-1 and cost-share documents from FSA.
	Assist participant with practice installation.		
		Conduct a post-planting inspection to determine that seedlings were planted according to plan.	
		Assist producer with follow up spraying, coordinating with contractors, if needed.	
		Document inspection on DOF Form 83 and provide Form 83 to NRCS.	
	Certify completion/installation of all practices/components on FSA-848B in accordance with 2-CRP par. 508. Provide DOF form 83 to FSA.		
Complete cost-share documents and issue cost-share payments. Provide a copy of payment information to SWCD. **NOTE**: If the practice is not installed according the NRCS standard, require corrective action before issuing payment.			Issue cost-share payment to producer.

PRACTICE MAINTENANCE AND MANAGEMENT			
		Re-inspect the site toward the end of the second growing season. Assist with subsequent follow up spraying based on plan.	
		Document results of Form 84. Review recommendations for maintenance with producer, including replanting if necessary. If replanting is required a new Tree Planting Plan (Form 75) will be developed for the area identified as needing re-establishment.	
		Provide Form 84 to NRCS.	
	Provide results of DOF re-inspection, Form 84, to FSA.		
Address practice failure (i.e. <70% stocking rate) in accordance with 2-CRP par. 493 B. Provide cost-share for re-establishment when appropriate.			
Issue PIP to producer after practice is established. **NOTE:** For tree planting practices, the practice is considered established if there is >70% stocking rate in the 2nd year following planting (Documented on Form 84).			
Conduct annual status reviews.			
Conduct annual spot checks per 2-CP.			
Follow up on cases of noncompliance. **IMPORTANT:** Notify SWCD when contracts are terminated and collections are required.			
Track mid-contract management.			
Issue annual rental payments in October.			

Guidance for Karst Areas

In eligible areas, CREP practices may be used to provide environmental benefits to sinkholes and karst areas. The following guidance spells out conditions that apply and certain restrictions for the CREP program in Virginia.

CREP Policy:
The following areas may be considered eligible for enrollment in CREP:

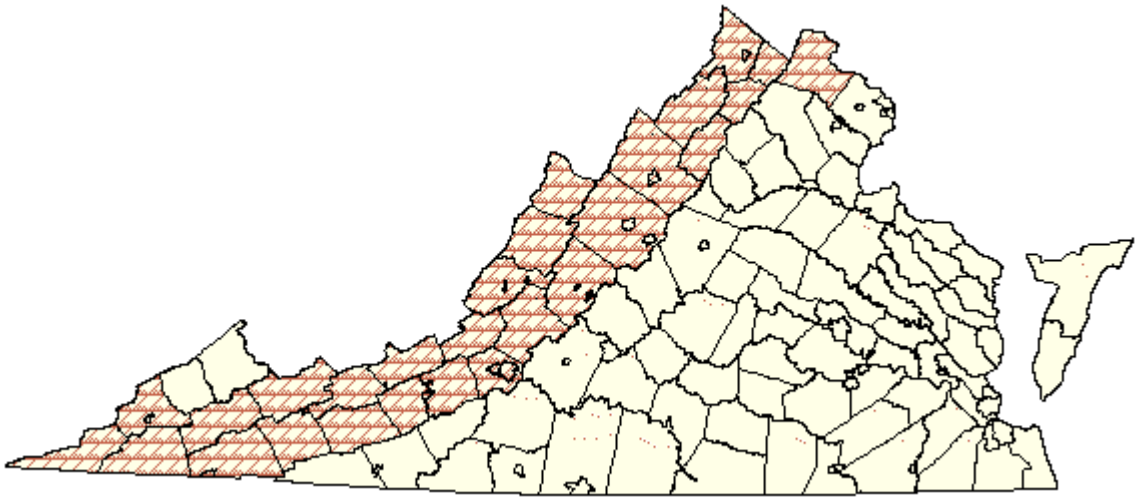
- Riparian areas adjacent and parallel to permanent or intermittent streams that flow into a sinkhole.
- "Wet" sinkholes used to water livestock.
- "Karst Window " areas where livestock have access to underground flowing streams in the bottom of sinkholes or valleys.
- Any sinkhole (without trash or debris)
- Any entire field where sinkholes and limestone outcrops cover more that 51% of the field area.**
  **These offers must be reviewed and approved on a case by case basis using the variance process.

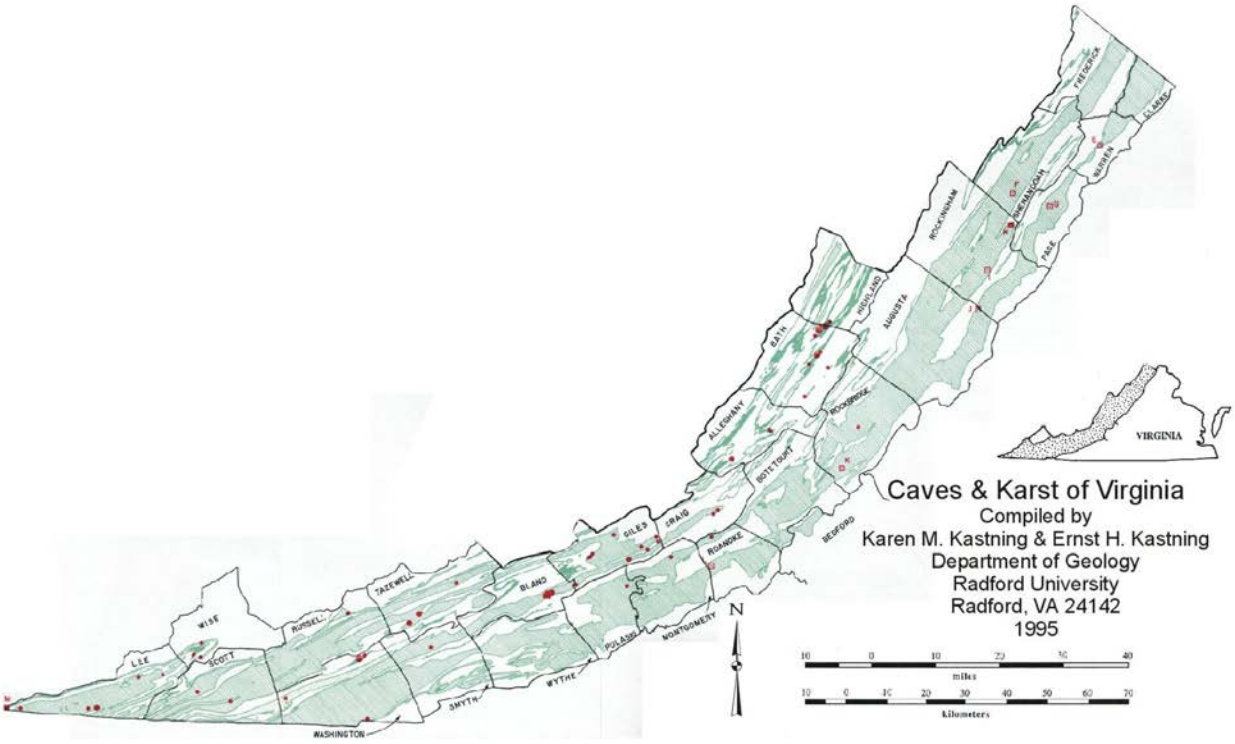
The area of a sinkhole is defined as the area interior to each closed depression, not the entire watershed of each sinkhole. Note that 1:24,000 scale topographic maps are not of sufficient resolution to determine the area in most cases, since they significantly underestimate the land area within closed depressions.

Restrictions:

- Sinkholes must be free of all trash and non-woody debris. Once trash and debris is removed from the sinkhole this area may then be approved for enrollment. (Can use WQ-11 Agricultural Sinkhole Protection practice under the Virginia Agricultural BMP program – See program guidance for details).
- Water systems will not be allowed unless sinkhole currently serves as the **only** available water supply for livestock.
- Minimum 35 foot buffer width; maximum width is consistent with policy depending on the practice being applied:
  - CP22 = 300'
  - CP29 = 120'

  NOTE: When the minimum design specification exceeds these limits a wider buffer area may be enrolled if NRCS or TSP documents the need in writing.
- Buffer width will start at the bottom of the sinkhole and be placed up the side rather than at the rim. For conical shaped sinkhole depressions, the buffer width will be calculated from the lowest point in the sinkhole. For flat bottom sinkholes, the buffer width will be calculated from the base of the slope (see attached diagram).
- Fences shall be placed in locations at least the desired buffer width away in all directions. Fences may also be placed beyond the buffer to exclude livestock from the sinkhole area if this is the most practical location for a fence. The area between the buffer and the fence will not be included in the CREP contract and not be eligible for rental payments (see attached fencing diagrams)




Caves & Karst of Virginia
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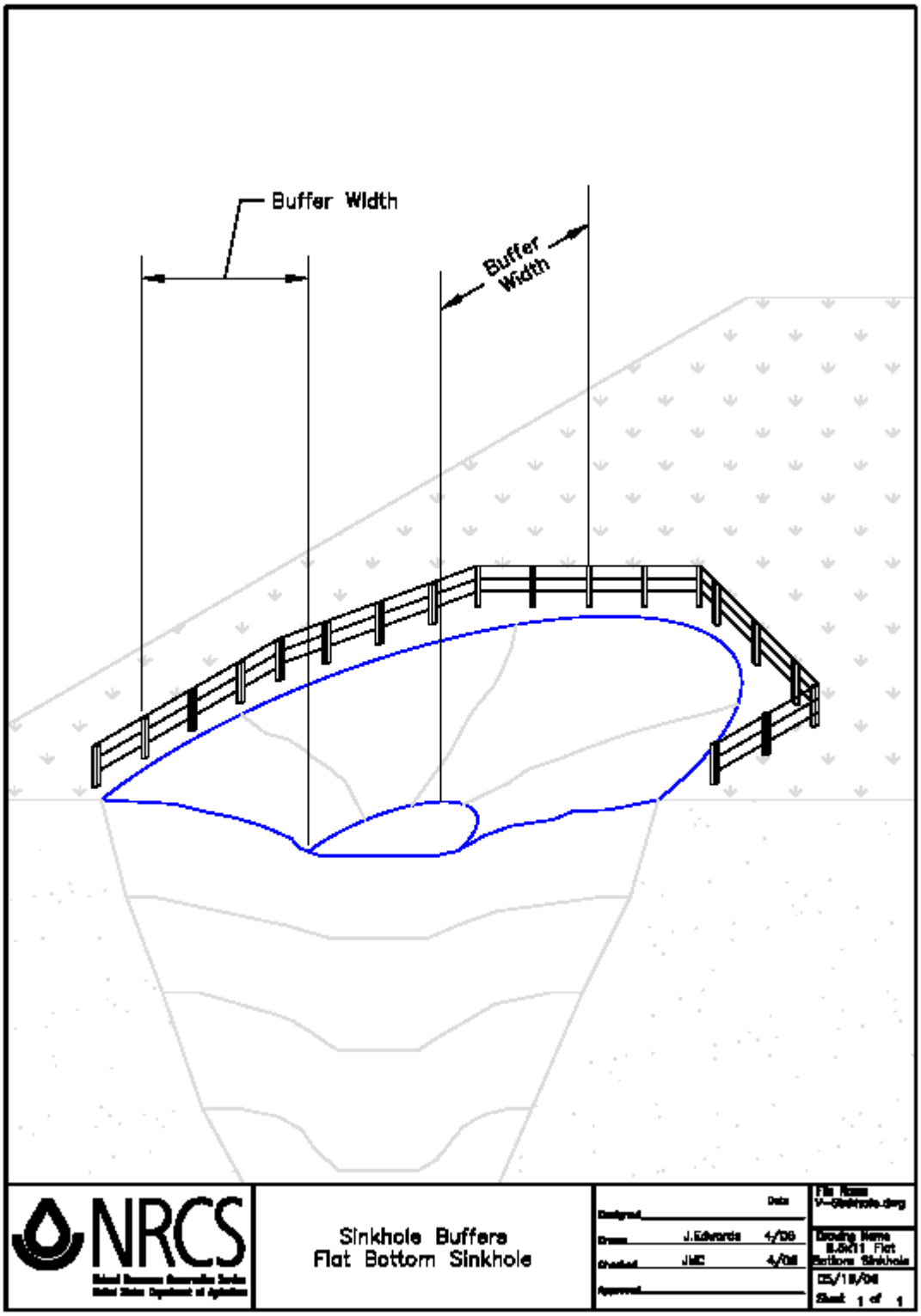
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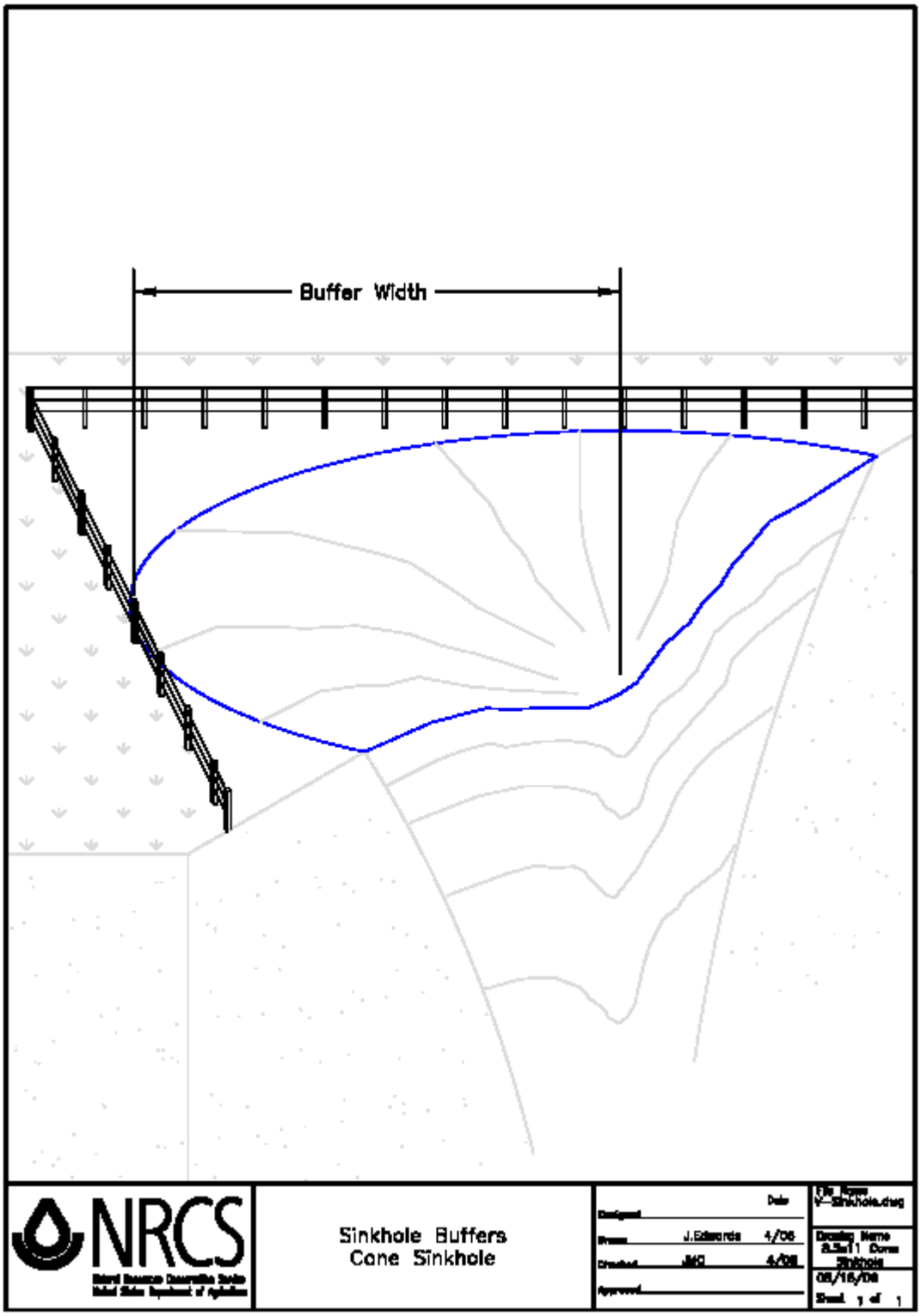
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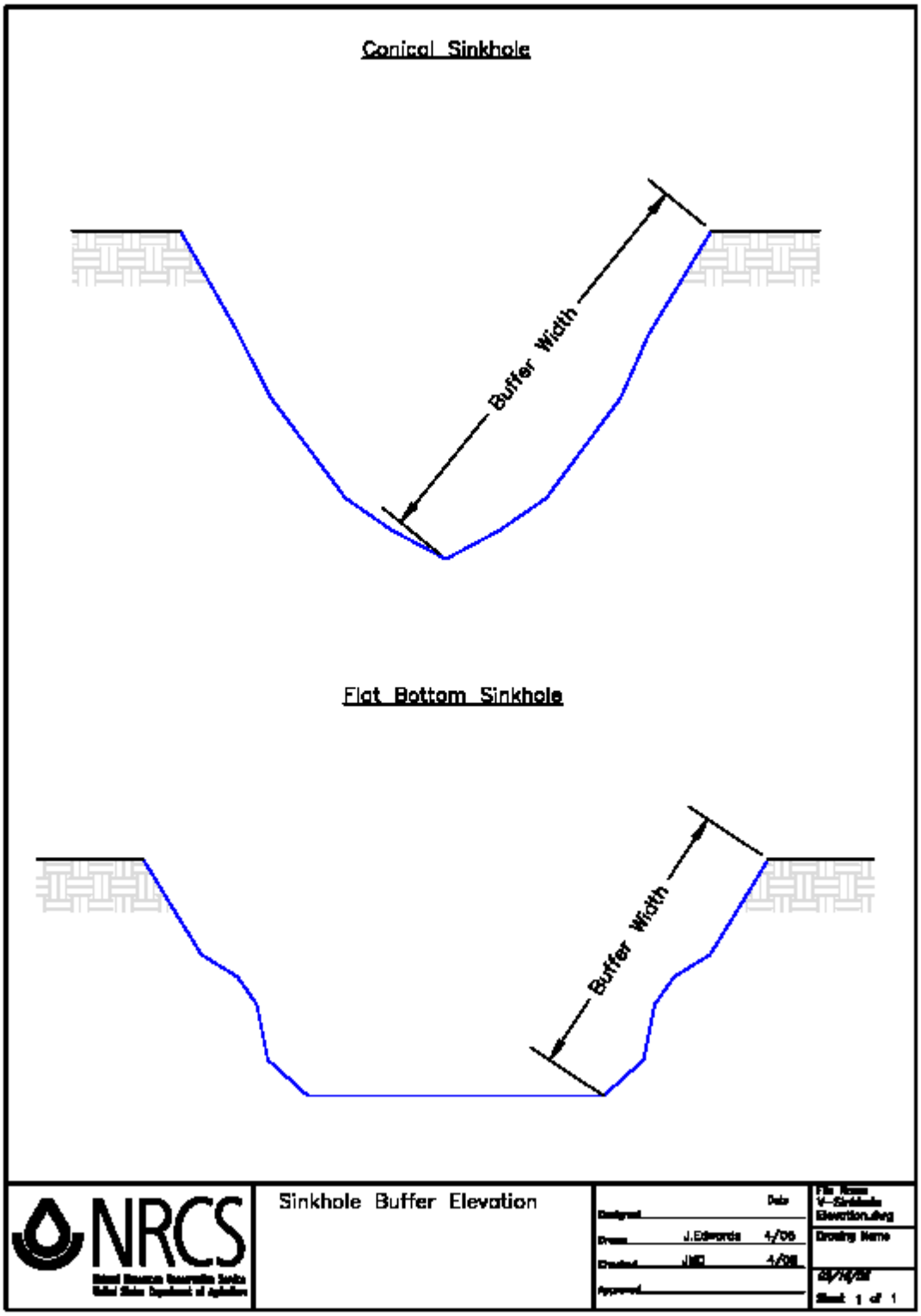
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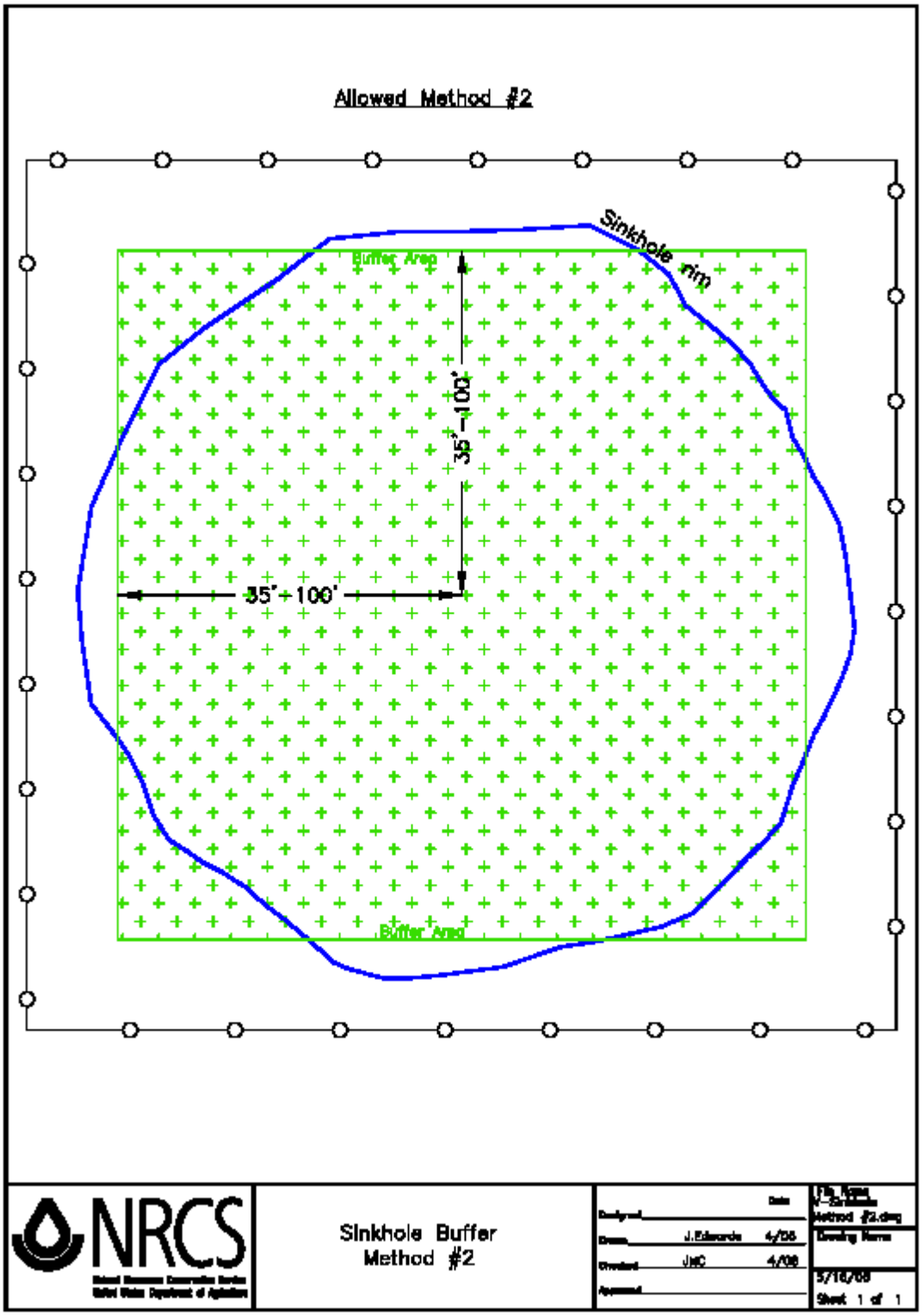
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Sinkhole rim
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Sheet 1 of 1