



Natural Resources Conservation Service
P.O. Box 2890
Washington, D.C. 20013

NATIONAL HANDBOOK OF CONSERVATION PRACTICES

450 – NHCP
NOTICE 170

August 19, 2020

Purpose. This notice transmits new, revised, and to be archived national Conservation Practice Standards (CPSs), along with an updated index for insertion into the National Handbook of Conservation Practices (NHCP). Notes are included to highlight key changes made to each CPS. States have until September 30, 2022, to adopt these changes into the state editions of these standards. Extra time is provided given the number of changes as a result of the 2018 Farm Bill. States are instructed to focus on updating those standards that are used most frequently in their States prior to those used less frequently.

Effective Date. This notice is effective September 30, 2020.

Explanation of Changes. New and revised national CPSs are as follows:

Access Road (Code 560) – The standard was changed to better accommodate local conditions and drainage issues.

Amendments for Treatment of Agricultural Waste (Code 591) – Formatting and writing style were updated to meet current agency requirements. Minor revisions were made for clarity and readability purposes. The section on validation of the product better defines the criteria used by NRCS to determine what amendments are used under this standard. References were updated.

Anionic Polyacrylamide (PAM) Application (Code 450) – Formatting and writing style were updated to meet current agency requirements. Moved the section “safety and health” from Consideration section to Criteria section.

Aquaculture Pond (Code 397) – A purpose was added on reducing and managing discharges. Controlling invasive mollusks was added to the Criteria section. “Additional Criteria for Modifying Existing Aquaculture Ponds” was added. Considerations on pond sizing and lining for improved disease control were added.

Bivalve Aquaculture Gear and Biofouling Control (Code 400) – There were no major changes to this standard. The definition was modified to add “risk to species of concern.” Two additional considerations were added regarding permits and licenses for beach access and operation of boats within shellfish operation. Plan map description was revised to reflect current ways to mark shellfish beds. A sub-bullet was added to record keeping in the Operation and Maintenance section. The References section was updated to delete outdated references and include new documents.

DIST: S, R, L, and National Center Director



Composting Facility (Code 317) – The format of the document was converted to the new template and some language was added on general benefits of composting within the Considerations and Operations and Maintenance sections. The compost facility standard language was changed to emphasize soil health. There was some clarification of the language of roof runoff collection and potential leachate from the compost. A technical requirement was added to the standard to limit stack height to address potential spontaneous combustion safety hazard.

Denitrifying Bioreactor (Code 605) – Minor revisions were made for clarity and readability purposes. Design criteria were simplified based on the latest research and field experience.

Energy Efficient Building Envelope (Code 672) – This document has been revised extensively. The name has been changed from “Building Envelope Improvement” to “Energy Efficient Building Envelope” to better reflect the improved energy efficiency purpose. The standard has been rewritten to better focus on energy efficiency criteria, fire safety, flexibility, and industry standards. The requirement for an ASABE S612 Type 2 energy audit has been revised to allow other assessment methods. Criteria was added to support prescriptive upgrades to simplify and streamline implementation of some instances of the practice. Additions were made to the Criteria and Considerations sections for greenhouses.

Energy Efficient Lighting System (Code 670) – This document has been revised extensively. The name has been changed from “Lighting System Improvement” to “Energy Efficient Lighting System” to better reflect the improved energy efficiency purpose. The standard has been rewritten to better focus on energy efficiency and energy conservation versus performance. The requirement for an American Society of Agricultural and Biological Engineers standard ASABE S612 Type 2 energy audit has been revised to allow other assessment methods. Criteria was added to support prescriptive upgrades to simplify and streamline implementation of some instances of the practice. Additions were made to the Criteria and Considerations sections for greenhouses and nurseries.

Grassed Waterway (Code 412) – Minor revisions were made for clarity and readability purposes. Clarified the minimum design storm to use under the heading “Stability” in the Criteria section. Added clarification on the freeboard requirements in the Depth section of Criteria. Statements were added in the Considerations section on soil health management systems and organic agriculture to address comments received from the general Federal Register notice for review. Removed the requirement for a profile in the Plans and Specifications section to address a comment provided during the general Federal Register notice for review.

Heavy Use Area Protection (Code 561) – Simplified the definition to provide more flexibility to standard. Added reduce soil erosion as a purpose. Added the wording of relocation or treatment under the Considerations section to allow more flexibility in addressing the heavy use area resource concern. Changed name of Additional Criteria sections to better fit purpose statement.

Irrigation and Drainage Tailwater Recovery (Code 447) – The title was changed to "Irrigation and Drainage Tailwater Recovery" from “Irrigation System, Tailwater Recovery”. Scope and purposes of the standard were updated to include drainage water as well as irrigation water. This standard applies to lands that have a properly designed and installed irrigation or

subsurface drainage system where recoverable irrigation runoff, subsurface drainage outflows, or rainfall runoff are expected under current or planned management practices.

Irrigation Pipeline (Code 430) – Formatting and writing style were updated to meet current agency requirements. Supplementary ASTM references added. Maximum pressure relief valve activation pressure established to allow for congruency between industry standard practice, sound engineering practice, and NRCS Conservation Practice Standard. Requirement to install backflow prevention devices where chemicals are added in accordance with responsible governing body has been established.

Irrigation Reservoir (Code 436) – Formatting and writing style were updated to meet current agency requirements. Removed energy use bulleted items from the Purpose section. Moved items related to energy use from the Criteria section to the Considerations section. Also moved fencing and critical planting from the Considerations section to the Criteria section.

Irrigation System, Microirrigation (Code 441) – Wording changes were made for clarity and readability. Provisions made for deficit irrigation. Standardized wording for injection of chemicals.

Irrigation Water Management (Code 449) – Wording changes were made for clarity and readability. Remote telemetry data systems with cloud-based irrigation scheduling capabilities were added to the standard. Four supplementary publications were added to the References section corresponding to cutting-edge science-based technology. “Condition Where Practice Applies” section was simplified by removing policy statements. Criteria section was reordered to clarify criteria to use for timing of irrigation events and criteria to use for the volume of irrigation events.

Land Clearing (Code 460) – Formatting and writing style were updated to meet current agency requirements. Relatively minor changes have been made to simplify and clarify the definition, purpose and criteria within the standard.

Lined Waterway or Outlet (Code 468) – Added tractive stress as design method based on a literature review. Updated References section.

Livestock Pipeline (Code 516) – Revised language as needed to improve readability and clarity of the standard. No major technical changes were made, except the secondary purpose of “Develop renewable energy systems” was removed.

Livestock Shelter Structure (Code 576) – The definition and purpose for the standard made it clear that this practice is to protect animals from negative environmental factors and to improve the distribution of grazing animals. Provided clarity of minimum space needed based on specific animal type. Regarding wind shelters, provided guidance on stability analysis to ensure safety of producers and livestock. Multiple changes and additions were made throughout the standard.

Monitoring Well (Code 353) – Formatting was updated to meet current agency requirements. Minor revisions were made for clarity and readability purposes.

Obstruction Removal (Code 500) – Formatting and writing style were updated to meet current agency requirements. Changes to Purpose and Conditions where Practice Applies sections were

made to help clarify standard usage. Changes were made to help simplify and clarify the Criteria and Consideration section within the standards.

Pumping Plant (Code 533) – Formatting and writing style were updated to meet current agency requirements. Moved a few sentences to more appropriate sections of the practice. Minor revisions were made for clarity and readability purposes. The “Improve Air Quality” purpose was removed as it is addressed in NRCS CPS Combustion System Improvement (Code 372). Also removed “Additional Criteria for Improvement of Air Quality.” This should make it clear that this standard is not for the purpose of replacing, repowering, or retrofitting a combustion engine.

Rock Wall Terrace (Code 555) – The name of the standard was changed from “Rock Barrier” to “Rock Wall Terrace” to more accurately describe the practice. The purposes were revised to reflect the conservation resource concerns for installing the practice. Editorial changes were made throughout the document to improve clarity and to remove the reference to the old practice name. Three figures were added to graphically display the information in the text. The option of allowing the drainage from the terrace to outlet into a filtration area separately or in conjunction with an outlet channel was added. For a wall height greater than 3 feet, a requirement to include a stability analysis was added.

Row Arrangement (Code 557) – Minor editorial changes to Purposes and Condition Where Practice Applies sections to provide clarity. The order of topics in Criteria section was changed to provide a better flow of information. Editorial changes were made to Considerations section to provide context and clarity. Reference was added.

Saturated Buffer (Code 604) – Formatting and writing style were updated to meet current agency requirements. Moved a few sentences to more appropriate sections of the practice. Minor revisions were made for clarity and readability purposes. In “Conditions Where Practice Applies,” changes were made to expand the applicability of the standard by allowing the practice to be applied to subsurface drainage systems with surface inlets. If the system includes surface inlets, the practice applies only if the inlets are adequately protected to prevent entry of soil and debris capable of plugging the distribution pipes.

Short Term Storage of Animal Waste and By-Products (Code 318) – Formatting was updated to meet current agency requirements. Minor revisions were made for clarity and readability purposes.

Spoil Disposal (Code 572) – Changed the name from “Spoil Spreading” and changed the units from acres to cubic feet. The Definition section was broadened to include all construction activities. The Purposes section was rewritten to align with resource concerns and the Criteria section was simplified.

Spring Development (Code 574) – Formatting and writing style were updated to meet current agency requirements. Moved text in Criteria section to better align with the subsections. Updated Plans and Specifications and Operation and Maintenance sections with concise text. Changed the Definitions section to exclude Purpose section language.

Stormwater Runoff Control (Code 570) – Changed the Definition to systems to control the quantity and quality of stormwater runoff. Reworded to remove flooding and clarify where the

practice is used. Added emphasis for infiltration of precipitation for use in ground water recharge. Allowed other measures in addition to vegetative measures.

Surface Drain, Field Ditch (Code 607) – Formatting and writing style were updated to meet current agency requirements. Updated Criteria section to include responsibilities of the landowner and contractor to follow laws and regulations, obtain all necessary permits, and locate all utilities.

Terrace (Code 600) – Minor revisions were made for clarity and readability purposes. Revised the Purpose section from “retain runoff for moisture conservation” to “manage runoff” which includes stormwater management. In General Criteria, the Alignment heading was moved to the top, slightly reworded, and NRCS CPS Contour Farming (Code 330) was referenced. Topsoiling was moved from Criteria to Considerations section as it is not always required. Removed sentences on underground outlets because NRCS CPS Underground Outlet (Code 620) is referenced and that guidance is located there. Updated Consideration section on establishing temporary cover on disturbed areas that will be cropped.

Trails and Walkways (Code 575) – Improved wording for clarity and readability. Added criteria for drain spacing and trail widths. Clarified what is to be provided in the Specifications section and updated the References section.

Underground Outlet (Code 620) – Minor rewording to improve readability. Clarified Criteria section on thrust blocking, bedding, and backfill requirements to evaluate for site-specific conditions. Revised Criteria section for maximum velocity in perforated drain tubing to 12 feet per second and maximum velocity in nonperforated pipe to follow manufacturer's recommendations. Under Outlet heading of the Criteria section, a table was added showing minimum lengths of outlet pipe required by pipe diameter. Considerations section was updated to add selecting vegetation species that are native, support pollinators, and wildlife as appropriate.

Waste Treatment (Code 629) – Purpose revised to improve water quality, improve air quality resource concerns, and facilitate waste handling and storage. Conditions where this practice applies is on all land uses where manure and/or agricultural waste is being generated and where soils, geology, and topography are suitable for construction of the waste treatment system. Criteria sections added to address system designs outside the scope of current accepted NRCS conservation practice standards, waste stream pretreatment requirements, byproducts handling and storage, and required technical review of treatment performance.

Water Harvesting Catchment (Code 636) – Definition was revised to more clearly define practice. Purposes section was reworded to more directly relate to the stated resource concerns. Condition Where Practice Applies section was rewritten to clearly explain where practice may be used. Criteria section was revised and reordered to clearly explain the design requirements. Considerations section was rewritten to provide additional information for designers to consider when planning and designing the practice.

Watering Facility (Code 614) – Minor revisions were made for clarity and readability purposes. Clarification added that this practice does not apply to embankment or excavated ponds.

Requirements were added for backflow prevention when connecting to domestic or municipal water supplies. Requirements were added for fencing where fencing is needed.

Waterspreading (Code 640) – Purpose statements were also reworded to more directly relate to the stated resource concern. In “Conditions where Practice Applies” the language was simplified and more clearly explains where practice may be used. References were added.

Well Decommissioning (Code 351) – This standard has undergone minimal changes. Changes to the Criteria section include adding “Laws and Regulation,” “Roles and Responsibilities,” “Disinfection,” and “Sealing and Collapsible Formation.” Deleted “Casing Grouted in Place” criterion.

Additionally, the lead discipline for Livestock Shelter Structure (Code 576) has been changed to CED-AE.

The following conservation practice standards are being archived:

Bedding (Code 310)

Mole Drain (Code 482)

Archive of these standards becomes effective Oct. 1, 2021.

Filing Instructions. If a hardcopy of the NHCP is maintained, replace the “Contents” section (pages i through vi, dated August 2020) with the revised pages found at <http://directives.sc.egov.usda.gov/viewerFS.aspx?hid=22299>

Replace the prior existing practice standards and archive, as appropriate, with the practice standards contained in this notice.

This notice and each of the conservation practice standards included with this notice can be accessed electronically through the NRCS website at http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/technical/cp/ncps/?cid=nrcs143_026849

Federal Register Notice

NRCS published a notice to solicit public comments about how to improve specific agency conservation practice standards in the *Federal Register* on October 23, 2019 and March 24, 2020 for a 30-day comment periods. Comments from the public were accepted during the comment period.

Guidance to the States and the Pacific Islands and Caribbean Areas for complying with the provisions of the 1996 Farm Bill that require advertising for public comment prior to revising NRCS State-level technical guides can be found in Title 450, General Manual, Part 401, Subpart B, Section 401.19.

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