**CONSERVATION ENHANCEMENT ACTIVITY**

**E612A**

**Cropland conversion to trees or shrubs for long term improvement of water quality**

Conservation Practice 612: TREE/SHRUB ESTABLISHMENT

**APPLICABLE LAND USE:** Crop (Annual & Mixed); Crop (Perennial)

**RESOURCE CONCERN:** Water

**ENHANCEMENT LIFE SPAN:** 15 years

**Enhancement Description**

Cropland conversion to trees and shrubs for long term erosion control and improvement of water quality. Trees and shrubs are established on cropland where annually-seeded cash crops have been grown. Tree and/or shrub species are selected for their efficacy in holding soil, and the planting design is configured to control runoff and trap sediment.

**Criteria**

- Current land use must be cropland. Soil must have been cultivated for crop production at least once within the last three years.
- A precondition for tree/shrub establishment is appropriately prepared sites. Refer to NRCS Conservation Practice Standard (CPS) Tree/Shrub Site Preparation (Code 490).
- A combination of tree and shrub species will be used. Species will be adapted to site conditions and selected for their extensive, spreading root systems, rapid establishment, and tolerance for pollutants, nutrients, or contaminants contained in runoff or soils at the site.
- No plants on the Federal or state noxious weeds list shall be planted.
- Only viable, high-quality and adapted planting stock or seed will be used.
• Selection of planting technique and timing will be appropriate for the site and soil conditions.

• Tree or shrub arrangement and spacing will be designed specifically to intercept runoff and trap sediment. The establishment phase will include other forms of erosion control as needed (e.g., mulch, filter fabric) until plantings have achieved the desired purpose of controlling erosion and improving water quality.

• Planting dates, and care in handling and planting of the seed, cuttings or seedlings will ensure that planted materials have an acceptable rate of survival.

• The seeding and/or planting will be protected from plant and animal pests (i.e. feral pigs, wild deer, wildlife or livestock). Refer to NRCS Conservation Practice Standard Integrated Pest Management (Code 595) to assist with site-specific strategies for pest prevention, pest avoidance, pest monitoring, and pest suppression.

• The seeding and/or planting will be protected from fire. Refer to NRCS CPS Fuel Break (Code 383) to assist with site-specific strategies for fire pre-suppression, protection and monitoring.

• Each site will be evaluated to determine if mulching, supplemental water or other cultural treatments (e.g., tree protection devices, shade cards, brush mats) will be needed to assure adequate survival and growth.

• Evaluate residual chemical carryover prior to planting. Alter species selection and/or timing of planting/seeding to achieve adequate seed germination and/or seedling establishment.
**Documentation and Implementation Requirements**

**Participant will:**

- Prior to implementation, prepare the planned acres for tree or shrub establishment. Refer to NRCS Conservation Practice Standard Tree/Shrub Site Preparation (Code 490). (NRCS will provide technical assistance, as needed.)

- Prior to implementation, select a combination of tree and shrub species selected for their extensive, spreading root systems, rapid establishment, and tolerance for pollutants, nutrients, or contaminants contained in runoff or soils at the site. (NRCS will provide technical assistance, as needed.)

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<th>Species</th>
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- Prior to implementation, select planting technique, arrangement and spacing design, and timing appropriate for the site and soil conditions. (NRCS will provide technical assistance, as needed.)

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<th>Planting Date</th>
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- During implementation, use forms of erosion control as needed for the site. (NRCS will provide technical assistance, as needed.)

- During implementation, notify NRCS of any planned changes to verify changes meet NRCS enhancement criteria.

- During implementation, protect the planting from plant and animal pests and fire.

- During implementation, maintain all erosion control needed for the site.
NRCS will:

- Prior to implementation, verify the enhancement is planned for cropland.

- Prior to implementation, provide and explain NRCS Conservation Practice Standard Tree/Shrub Site Preparation (CPS 490) as it relates to implementing this enhancement. Verify the enhancement is planned for acres that have been appropriately prepared for tree/shrub establishment.

- Prior to implementation, provide and explain NRCS Conservation Practice Standard Integrated Pest Management (Code 595) as it relates to implementing this enhancement.

- Prior to implementation, verify no plants on the Federal or state noxious weeds list are included.

- As needed, prior to implementation, NRCS will provide technical assistance:
  - Planning site preparation meeting NRCS Conservation Practice Standard Tree/Shrub Site Preparation (Code 490).
  - Selecting a combination of tree and shrub species.
  - Selecting planting techniques, arrangement and spacing design, and timing appropriate for the site and soil conditions.
  - Planning the use of additional erosion control, as needed for the site.
  - Preparing specifications for applying this enhancement for each site using approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan, or other acceptable documentation.

- During implementation, evaluate any planned changes to verify they meet the enhancement criteria.

- After implementation, verify the planned trees and shrub species were established to specifications developed for the site.

- After implementation, verify the planting is protected from pests and fire.
After implementation, verify all erosion control needed for the site is functioning and is maintained to specifications developed for the site.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name ______________________________  Contract Number ______________________

Total Amount Applied ____________________  Fiscal Year Completed ___________

__________________________________  ______________________

NRCS Technical Adequacy Signature  Date
WASHINGTON SUPPLEMENT TO

CONSERVATION ENHANCEMENT ACTIVITY

E612A

Additional Criteria for Washington

- In addition to the criteria specified in the National job sheet E612A the following additional criteria apply in Washington:
  
  o Establish if the treatment activity is Agroforestry or Afforestation (Refer to Forestry Technical Note 30 Afforestation and Agroforestry on Agricultural Lands).
  
  o For Agroforestry treatment activities, refer to the NRCS Conservation Practice Standards (CPS) for agroforestry practices and any associated Planner’s or Specification Guides for guidance on orientation, timing, design, treatment methods and considerations needed for successful implementation of the enhancement activity. See below for list of Agroforestry practices associated with this enhancement:
    
    # 311 Alley Cropping
    # 381 Silvopasture Establishment
    # 391 Riparian Forest Buffer (Plant Materials Technical Note 24)
  
  o For Afforestation treatment activities, refer to the NRCS CPS for 612 Tree and Shrub Establishment and it’s associated specification guide for guidance on orientation, timing, design, treatment methods and considerations needed for successful implementation of the enhancement activity. For seedling care, handling and temporary storage see Idaho Plant Materials Technical Notes 43 and 45
  
  o On forest land and afforestation sites, for species selection the WebSoil Survey has a couple of soils reports that are appropriate to use - Ecological Site Descriptions (ESD), Forest Productivity, and Rangeland and Forest Vegetation Classification. Natural Heritage Program ecosystems or USFS plant associations may be substituted for ESDs, if ESDs are unavailable.
○ For Agroforestry situations see Plant Materials Technical notes (FOTG, Section I) and National Agroforestry Centers publications associated with conservation tree and shrub establishments.

Additional Documentation Requirements for Washington

- In addition to the documentation requirements specified in the National job sheet E612A the following additional documentation requirements apply in Washington:
  
  ○ Document if the enhancement activity is Agroforestry or Afforestation. If it is an Agroforestry activity, then document which type of agroforestry activity is being done

  ○ If the enhancement activity is Afforestation, then refer to the Conservation Practice Standard for 612 Tree and Shrub Establishment (FOTG, Section IV) and specification guide.

  ○ If the enhancement activity is Agroforestry, then refer to the appropriate Agroforestry Conservation Practices Standard from list above (FOTG, Section IV) and planner/specification guide if available.

  ○ For long term success, stocking (Survival) surveys should be done and documented for the first 3 years or until the planted and seeded stock are determined to be established and free to grow. If there is enough mortality to compromise the functionality of the planting, then it is recommended that the dead trees or shrubs are replaced. Volunteer trees and shrubs are acceptable replacements if their location maintains the functionality of the planting.