

**FINAL TARGETING REPORT:  
NORTH CANADIAN RIVER WATERSHED  
PRE-IMPLEMENTATION WITH SECONDARY STAGE  
TARGETING MECHANISM**

FY 2007 319(h), #C9-996100-14  
Project 6, Output 6.1.3

North Canadian River Watershed Implementation Project

Beginning November 1, 2007  
Ending August 31, 2010

Developed by:

***Oklahoma Conservation Commission***

In Cooperation with:

***Blaine County Conservation District  
East Canadian County Conservation District  
Central North Canadian Conservation District  
Dewey County Conservation District  
North Canadian River Watershed Advisory Group  
Natural Resource Conservation Service***

*Oklahoma Conservation Commission*

*Guidelines*

*for the*

*North Canadian River Watershed*

*319 Non Point Source Cost-Share Project*

*Program Years 1-3 and Approved Practices*

**I. General**

The Oklahoma Conservation Commission hereby declares that the following problems are having a detrimental affect on the state's water resources in the North Canadian River Watershed. Water samples at various locations along the North Canadian River have repeatedly exceeded Oklahoma water quality standards for *Enterococcus* and turbidity. As a result, this segment of the North Canadian River is on the 2004 303(d) list as impaired for pathogens and turbidity. Other 303(d) listed waterbodies within the watershed include Lake Overholser and El Reno Lake, which are impaired by turbidity, and Shell Creek, which is impaired for pathogens and low dissolved oxygen. In addition, the Lake Overholser watershed up to the Canton Dam was designated a nutrient-limited watershed in 2006 due to TSI values exceeding 62 in the lake.

Oklahoma's water resource is an important foundation of the state's economic infrastructure. Natural climatic events as well as human activity are impacting the state's water resources. Protecting and conserving this vital natural resource is paramount in preserving the state's economic future. In order to accomplish this goal, the Commission hereby establishes the following objective based on the Total Maximum Daily Load (TMDL) completed by the Oklahoma Department of Environmental Quality (ODEQ):

Make incentive funds and equipment available to producers via Conservation Districts so they can implement Best Management Practices in crop fields, pastures, and in riparian areas to protect our water resource in the watershed.

The Conservation Commission herein establishes the list and description of the Implementation Project and practices. These policies and practices were reviewed and approved by the North Canadian River Watershed Advisory Group, Dewey County Conservation District, Central North Canadian Conservation District, Blaine County Conservation District, and East Canadian Conservation District representatives for use during this three (3) year program.

Cost-share rates (unit cost) will be based on the Oklahoma Natural Resources Conservation Service (NRCS) state average unit cost. These unit costs will be updated annually. Any variances in the best management practices must be recommended by the Watershed Advisory Group and approved by the respective conservation districts and the Oklahoma Conservation Commission Water Quality Director. These variances must be approved prior to performance agreements being signed.

The four districts and their cooperators will each have an equal opportunity to participate in the project within the bounds of the North Canadian watershed boundaries, subject to fund availability and targeting results. All agriculture producers and individual rural residents in the North Canadian Watershed are eligible to participate in the project. There will be no minimum cost-share payment to any applicant. In order to fairly distribute incentive and cost-share funds, a maximum assistance amount per participant has been set. The cap for the project is \$50,000 per participant. For the purposes of this project, family members who are living together and operating a farm count as one participant.

Funds allocated for the project:

|               |                     |
|---------------|---------------------|
| State Funds   | \$510,999.00        |
| Federal Funds | <u>\$633,436.00</u> |
| Total Funds   | \$1,144,436.00      |

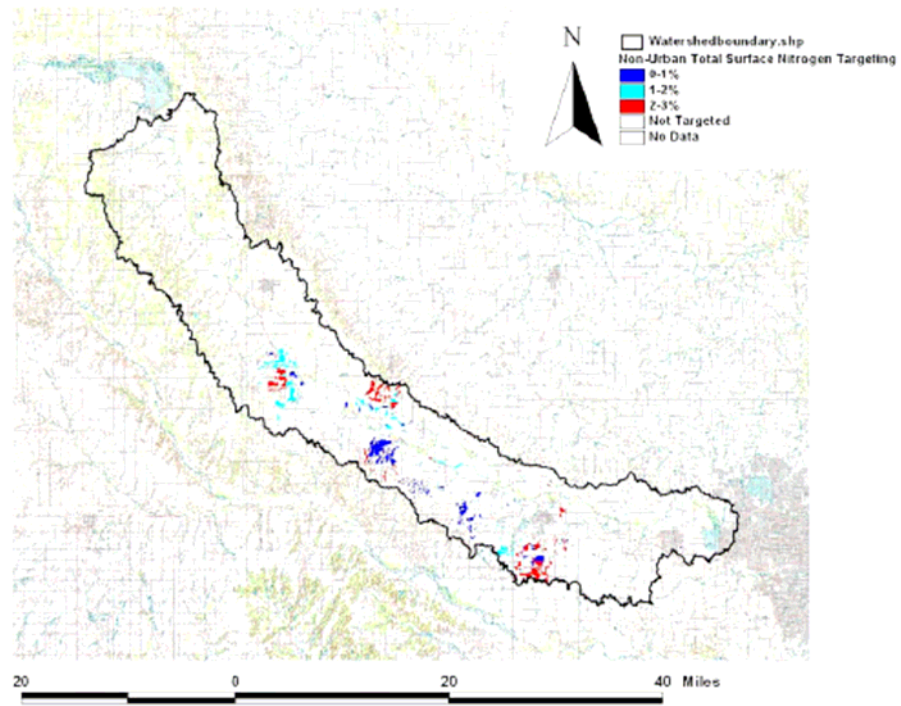
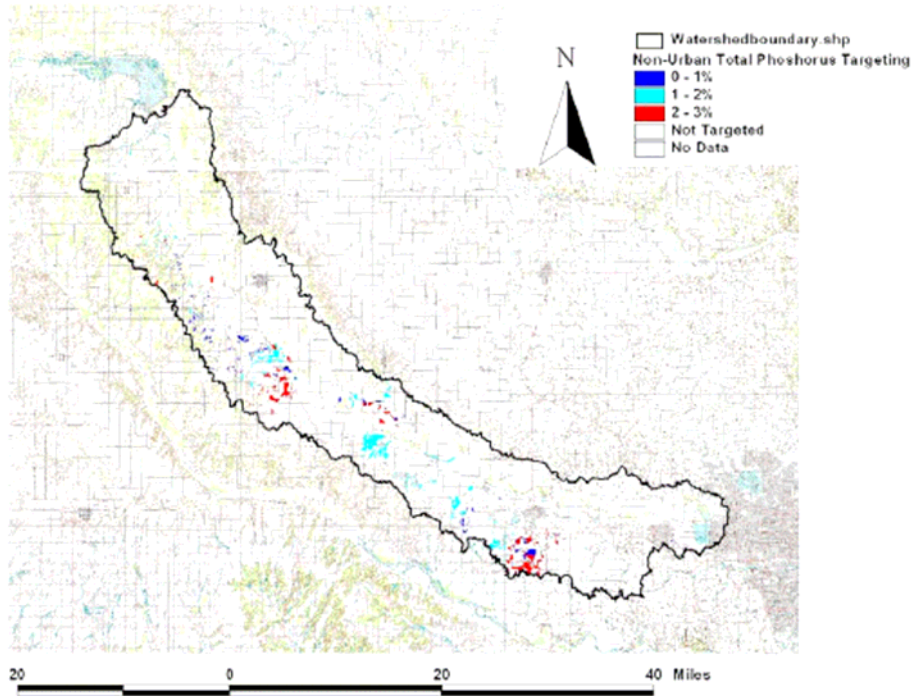
Landowner contributions are not included in this total.

**Targeting:**

The Conservation Commission Water Quality Staff, with the concurrence of the Environmental Protection Agency, has designated the following means to be used for targeting methodology:

- (1) utilization of remotely-sensed and electronically mapped data. A GIS-based targeting exercise has already been completed for the North Canadian Watershed. Targeting efforts will be coordinated with the local NRCS offices that are actively assisting with the program. The purpose of this coordination includes leveraging of funds for mutual benefit. If it is determined that an individual does not meet the particular needs for the OCC program, he or she may still be suited to enroll in one of the many USDA programs;
- (2) on-site assessments with the aid of aerial photographs, soil surveys, and the use of a priority ranking system similar to the one used by NRCS for the EQIP program;
- (3) the use of a priority ranking system similar to the one used by NRCS for the EQIP program.

Those individuals desiring to participate in the program will receive a preliminary site visit from a conservation plan writer. The Plan Writer will do a preliminary investigation to determine the extent to which the particular landowner contributes to the water quality problems in the watershed and assign a ranking index based on the practices that would need to be implemented, the cost for implementation, and the expected impact on water quality improvement. A concerted effort will be made to identify the areas that are contributing the larger amounts of sediment and nutrients such that the remediation cost per unit mass of pollutant is minimized. A priority ranking system is being developed incorporating all of these factors and the targeting results.



**Figure 1. Targeted areas in the North Canadian River watershed.**

**Expected Load Reductions:**

Dr. Dan Storm from OSU was contracted by the OCC to model the North Canadian watershed and the potential effects of implementation in the area. The SWAT model was used to simulate the changes in phosphorus loads due to implementation of various agricultural Best Management

Practices (BMPs). The practices considered in the model included conservation tillage, no tillage, land conversion from agriculture to pasture, contour tillage, buffer strips on agricultural lands, and conversion of grazing pasture land to hay fields.

All Best Management Practices noted some reduction in total phosphorus load, as shown below, with the largest total phosphorus load reduction resulting from the addition of a 10 meter buffer strip on all agricultural land uses.

| Best Management Practice               | Total Phosphorus Load<br>(Kg/yr) | Load Reduction |
|--|----------------------------------|----------------|
| Default - No BMP                       | 30,200                           |                |
| Conservation Tillage                   | 26,700                           | 12%            |
| No Tillage                             | 28,900                           | 4%             |
| Contour Plowing                        | 24,600                           | 19%            |
| Land Conversion AGRR/WWHT--->PAST      | 24,000                           | 21%            |
| Buffer Strip (10 meters)               | 21,700                           | 28%            |
| Pasture Conversion from Grazing to Hay | 25,300                           | 16%            |

## II. Policies:

The Watershed Advisory Group (WAG) recommended the Best Management Practices (BMPs) that will be offered to residents in the North Canadian Watershed at a meeting on November 5, 2007. The BMPs were then approved by the Conservation District Boards of the four participating districts and ultimately taken before the Oklahoma Conservation Commission Members for approval.

Cost-Share practices shall be implemented according to the standards and specifications of the Natural Resources Conservation Service. The Human Waste Portion will be implemented using the Department of Environmental Quality standards and specifications. Conservation Commissioners, Conservation Commission Staff, Conservation District Employees, or the spouses of any of these individuals shall not be eligible to participate in the Conservation Cost-Share Program. Conservation district directors and members of the Watershed Advisory Group are eligible and encouraged to participate in the North Canadian River Watershed Implementation Project. If district directors choose to participate, the following OCC policy will apply:

In order to provide for an impartial legal majority no more than two district directors from each of the conservation districts shall participate in the cost share program for the North Canadian River Watershed Implementation Project. In addition, the directors who desire to apply for the cost share program shall refrain from discussing or voting on any items or issues pertaining to the cost share program. This includes: rates, practices, maximum payment, and applicants for the program.

The Oklahoma Conservation Commission Water Quality Staff, with the concurrence of the North Canadian River Watershed Advisory Group and approved by the aforementioned conservation districts and Oklahoma Conservation Commission, have developed standard forms which will be designated as NCW (North Canadian Watershed) for the following: (1) NCW Project Cost-Share Assistance Application Form; (2) NCW Project Priority Ranking System (3) NCW Cost-Share Evaluation Form.

**A. Sign Up:**

A two month sign up period, from January 15 to March 15, 2008, has been established for taking applications for the implementation project. Applications will be taken at each of the four conservation district offices using the NCW Project Application Form. The program will be well advertised in local print and airwave media and during the sign up period the project coordinator, education coordinator, and district staff will be making contact with individuals in the high priority areas as indicated by the map. After the prospective cooperator has applied, the project coordinator will determine eligibility and location in the watershed. Site visits will be conducted on these locations to ascertain contribution to the watershed using the NRCS soil loss equation and proximity to watercourses in the watershed. A conservation plan will be completed on each successful applicant to help determine needs. A performance agreement will be developed in accordance with the Oklahoma Conservation Commission Cost-Share Program (refer to OCC State Guidelines for Program Year 5). The completed performance agreement will be presented for approval to the appropriate conservation district. The final approval will be authorized by the designated OCC representative. The Watershed Advisory Group will be updated on plans and agreements. Additional sign ups will be taken on a continuous basis. Note: Absolutely no implementation practices can begin until all signatures are on the performance agreement.

**B. Contract Compliance:**

A performance agreement will be signed by the cooperator with the appropriate conservation district. A schedule of operations that outlines a year by year plan of the Best Management Practices will also be completed. An annual status review will be part of the contract process to ensure compliance with the policies and standards and specifications. At this time any concerns the producer has about BMPs will be discussed, and answers will be provided to any questions they might have. Deviation from the schedule of operations beyond the control of the cooperator will be discussed, and a revision schedule of operations can be completed and presented to the appropriate board for approval. In the event the cooperator is in non-compliance due to lack of interest the district board has the discretion to terminate the contract with 30 days notice. The initial contracts will be for two years with any remaining funds obligated on yearly contracts to facilitate the completion of BMP installation.

**C. List of Recommended Conservation Practices And Cost-Share Rates**

The North Canadian River Watershed Advisory Group convened on November 5, 2007 and approved the following list of Priority and Best Management Practices for recommendation to the Commission Members. The list was approved by the representatives of the participating

conservation districts at the meeting. The Oklahoma Conservation Commission approved the list at the monthly Commission meeting on December 3, 2007.

| <u>Practices</u>  | <u>Cost-Share Rate</u> |
|---|------------------------|
| <b>Priority #1 Erosion</b><br><i>Components:</i> (1) Vegetative Planting<br>(2)Field Border<br>(3)Residue Management<br>(4)Structural Practices<br>(5)Roadside Concerns   | <b>80%</b>             |
| <b>Priority # 2 Riparian Areas-Buffer Zones</b><br><i>Components:</i> (1) Vegetative Planting<br>(2) Stream Crossings<br>(3) Fencing<br>(4) Off Site Watering   | <b>90%</b>             |
| <b>Priority #3 Livestock Management</b><br><i>Components:</i> (1) Vegetative Establishment<br>(2)Cross Fencing<br>(3) Watering Facilities<br>(4) Heavy Use Areas<br>(5) Nutrient Management                                   | <b>80%</b>             |
| <b>Priority #4 Septic Concerns &amp; Special Projects</b><br><i>Components:</i> (1) Septic Systems with Tank & Lateral Lines<br>(2)Rock Reed Absorption Filters with Septic Tank<br>(3)Residential Sewage Lagoons<br>(4)Other | <b>90%</b>             |

For an applicant to qualify for cost share assistance, he must have a need for at least one of the Priority Best Management Practices and be willing to install the needed BMP(s).

### **III. Conservation Cost-Share Practice Standards Specifications:**

Cost-Share practices shall be implemented according to the Natural Resources Conservation Service Standards and Specifications in Section V of the Field Office Tech Guide. For septic systems, see Bulletin 640-Special Qualification Guidelines for Septic Systems from the Department of Environmental Quality.

### **IV. Description of Approved Priority Practices:**

#### **Priority 1: Erosion**

##### Definition

The detachment and movement of soil by wind and water.

### Purpose

To reduce the sediment and erosion to improve water quality and the productiveness of the land.

### Best Management Practices to Support Priority

Residue management, contour farming, contour buffer strips, cover crop, critical area planting, sediment basin, structural practices (GSS, waterway, etc.) nutrient management, mulching, field border, filter strip, grass planting, etc.

### Establishment

All structures and practices are completed using the standards and specifications of NRCS.

## **Priority 2: Riparian Areas-Buffer Zones**

### Definition

Riparian areas are the lands adjacent to water bodies-from creeks, rivers to lakes, ponds, and wetlands. Riparian areas consist of trees, trees and shrubs, or trees, shrubs and vegetation. Buffer zones are strips or small areas of land in permanent vegetation adjacent to water sources or field edges.

### Purpose

Reduce excess amounts of sediment, organic material, nutrients, pathogens, and/or pesticides in surface runoff and shallow water flow.

### Best Management Practices to Support Priority

Exclusion fencing, vegetative establishment, off site watering facilities, stream crossings, etc.

### Establishment

The riparian areas and buffer zones will be planned and designed according to NRCS specifications. The conservation water quality planner representing the local districts will complete the plan.

### Management

The conservation planner will make recommendations to the applicant on management according to NRCS specifications. As a part of the management, exclusion incentives will be offered as follows:

1. Total Exclusion-\$90.00/acre/yr for 3 years.
  - a. These exclusion incentives are 100%.
2. Hay Production-\$80.00/acre/yr for 3 years
  - a. These exclusion incentives are 100%.
  - b. Hay can only be accomplished in Zone 3 of the riparian area as determined by the conservation planner.

*These exclusion incentives will be limited to no more than an average of 300' on each side of the stream bank.*

### **Priority 3: Livestock Management**

#### Definition

Management of livestock as it pertains to grazing practices, nutrient management, riparian access, waste disposal, and/or feeding sites.

#### Purpose

Aid in promoting improved grazing practices, nutrient needs, feeding practices, and/or watering facilities to maintain pastures in better condition and prevent movement of nutrients, sediment and bacteria to waterways.

#### Best Management Practices

Cross fencing, nutrient management, watering lanes, water well, pipeline, stream crossing, heavy use area, etc.

### **Priority 4: Septic Concerns and Special Projects**

#### Purpose

To aid in the disposal of human waste for rural residents. The special projects component will be utilized for special needs in the watershed that do not fit specifically in one of the categories, yet still contribute significant sediment, nutrients, and or pathogens to the waters of the watershed.

#### Components-Human Waste

Excavation, septic tanks with lateral lines, rock reed absorption filters with septic tanks, and residential sewage lagoons are components necessary for the safe disposal of human waste.

#### Qualifications Criteria for Septic Systems

Cost-Share assistance for septic systems will be allowed only for non commercial single family dwelling that are used for permanent and primary residence. The cost-share funds can not be spent on new homes or new mobile homes. Recreational trailers are not eligible for cost-share assistance.

## **V. North Canadian River Watershed Components Parts List:**

### **1. Residue Management, No till and Strip Till -329a**

#### Definition

Managing the amount, orientation and distribution of crop and other plant residues on the soil surface year-round, while growing crops in narrow slots, or tilled or residue free strips in soil previously untilled by full-width inversion implements.

### Purpose

This practice will be applied as part of a conservation management system to support the following: reduction of sheet & rill erosion and wind erosion, maintain or improve soil organic matter content and tilth, and conserve moisture.

### Components

The use of harvesting equipment equipped with spreaders to distribute residue. No till or strip till methods of seedbed preparation, planting, and fertilizing while disturbing no more than one third of the row width.

## **2. Residue Management, Mulch Till-329b**

### Definition

Managing the amount, orientation, and distribution of crop and other plant residue on soil surfaces year-round, while growing crops where the entire field surface is tilled prior to planting.

### Purpose

This practice will be applied as part of a conservation management system to support the following: reduction of sheet & rill erosion and wind erosion, maintain or improve soil organic matter content and tilth, and conserve moisture.

### Components

The retention of loose residue on the field shall be evenly distributed. Tillage implements shall be equipped to operate through plant residue without clogging and maintain residue by undercutting or mixing.

## **3. Residue Management, Ridge Till 329c**

### Definition

Managing the amount, orientation, and distribution of crop and other plant residues on the soil surface year-round, while growing crops on preformed ridges alternated with furrows protected by crop residue.

### Purpose

This practice will be applied as part of a conservation management system to support the following: reduction of sheet & rill erosion and wind erosion, maintain or improve soil organic matter content and tilth, and modify cool wet site conditions.

### Components

The retention of loose residue on the field shall be evenly distributed. Ridge height shall be maintained throughout the harvest and winter seasons by controlling equipment and livestock. Planting and cultivation equipment designed to operate on ridges shall be used.

#### **4. Contour Farming-330**

##### Definition

A management tool used in tilling, planting, and other farming operations on or near the contour of the field slope.

##### Purposes

The function of contour farming is to reduce sheet & rill erosion and reduce transport of sediment and other water-borne contaminants.

##### Components

Contour farming is most effective on croplands with slopes between 2 and 10 percent.

#### **5. Contour Buffer Strips-332**

##### Definition

The narrow strips of permanent, herbaceous vegetative cover established across the slope and alternated down the slope with parallel, wider cropped strips.

##### Purpose

The function of contour buffer strips is to reduce sheet & rill erosion and reduce transport of sediment and other water-borne contaminants.

##### Components

This practice is most effective on uniform slopes in cropland where the slopes are between 4 and 8 percent.

#### **6. Cover Crop-340**

##### Definition

The establishment of grasses, forbs, or other herbaceous plants for seasonal cover and conservation purposes.

##### Purpose

Maintaining a cover crop reduces erosion, increases organic matter, manages excess nutrients in the soil profile, and promotes weed suppression.

##### Components

Fertilizer/Lime, seedbed preparation are needed for the practice.

#### **7. Critical Area Planting-342**

##### Definition

The planting of vegetation, such as trees, shrubs, vines, grasses, or legumes on highly erodible or critically eroding area.

### Purpose

This is used to stabilize the soil, reduce damage from sediment and runoff to downstream areas.

### Components

Seedbed preparation, nutrient management, mulching, grass planting, tree and shrub planting, lime are needed for the practice.

## **8. Sediment Basin-350**

### Definition

A basin constructed to collect and store debris or sediment.

### Purpose

A sediment basin is used to preserve the capacity of reservoirs, waterways, and streams by reducing or abating silt and other debris.

### Components

Grade stabilization structures, ponds, grass planting, tree and shrub planting, and fencing are needed for the practice.

## **9. Diversion-362**

### Definition

A channel constructed across the slope generally with a supporting ridge on the lower side.

### Purpose

This practice may be applied to support the following: diverting the water from actively eroding gullies or areas, intercepting surface flow on long slopes, and reducing erosion and runoff on agricultural sites.

### Components

Critical area planting, fill section, and ridge and/or channel (parallel or broad base) are needed for this practice.

## **10. Pond-378**

### Definition

A water impoundment made by constructing a dam or an embankment or by excavating a pit or dugout.

### Purpose

Ponds are used to provide water for livestock, fish, wildlife, recreation, fire control, crop and orchard spraying, and other related uses to maintain or improve water quality. Ponds can also intercept and store pollutants that would otherwise reach natural bodies of water.

### Components

Excavation or embankment, barrel and/or riser, blanket material, trash guard, and clay liners are needed for a pond.

## **11. Fence-382**

### Definition

A constructed barrier to exclude livestock, wildlife, or people.

### Purpose

Fencing is used as part of a conservation management system to aid in treatment of water and other resource concerns.

### Components

The proper height, size, spacing, and type of posts should be used to provide the needed protection for the task. Labor, posts, wire, and other equipment are needed to construct this practice.

## **12. Field Border-386**

### Definition

A strip of permanent vegetation established at the edge or around the perimeter of a field.

### Purpose

A field border assists in reducing erosion from wind and water. They also provide turn and travel areas for equipment at the edge of fields.

### Components

Seed bed preparations, nutrient management, and grass planting are needed for this practice.

## **13. Riparian Forest Buffer-391**

### Definition

An area of predominantly trees and/or shrubs located adjacent to and up-gradient from watercourses or water bodies.

### Purpose

These buffers reduce sediment and nutrient loading in watercourses. They also create shade to lower water temperatures to improve the habitat for aquatic organisms.

### Components

Seed bed preparation, grass planting, tree and shrub planting, and nutrient management are necessary for establishment.

#### **14. Filter Strip-393**

##### Definition

A strip of vegetation established between cropland, grazing land, or disturbed areas and the streams and water sources.

##### Purpose

Filter strips reduce sediment, nutrients, and other pollutants from reaching our water sources.

##### Components

Seed bed preparation, nutrient management, grass and shrub planting are necessary for filter strips.

#### **15. Grade Stabilization Structure-410**

##### Definition

A structure used to control the grade and head cutting in natural or artificial channels.

##### Purpose

The structures are used to stabilize the grade and control erosion in channels to prevent the advance of gullies and enhance the water quality.

##### Components

Grade stabilization structures require excavation, concrete, drop pipes, vegetative establishment, and or embankment practices.

#### **16. Grassed Waterway-412**

##### Definition

A natural or constructed channel that is shaped or graded to required dimensions and established with suitable vegetation.

##### Purpose

This practice is applied as part of a conservation management system to support the following: to convey runoff from terraces without causing erosion, reduce gully erosion, and to protect/improve water quality.

##### Components

Construction/shaping, seed bed preparation, nutrient management, and grass planting are needed for a waterway.

#### **17. Lined Waterway or Outlet-468**

##### Definition

A waterway or outlet with an erosion resistant lining of concrete, stone, or other permanent material.

### Purpose

These provide for safe disposal of runoff from other conservation structures or natural concentrations of flow without damage from erosion.

### Components

Construction and/or shaping, concrete, forms, and grass planting are necessary for a lined waterway or outlet.

## **18. Use Exclusion-472**

### Definition

The management practice of excluding animals, people, or vehicles from an area.

### Purpose

This practice aids in prevention of access to an area to maintain or improve the quality or quantity of natural resources.

### Components

The practice requires fences or other natural barriers along with an alternate watering source or limited access watering site if the exclusion area is a watering site..

## **19. Mulching-484**

### Definition

The applying of plant residues or other suitable materials to the surface of the soil.

### Purpose

The mulching accomplishes or aids in the following: reduction of runoff and erosion, aids in prevention of surface compaction, helps establish plant cover, conserves moisture, and controls weeds.

### Components

The practice makes use of cotton burs, hay, and sawdust or chips to cover critical area vegetative planting.

## **20. Pasture and Hay Planting-512**

### Definition

The establishment of native or introduced forage species.

### Purpose

This practice may be used as part of a conservation management system to accomplish one or more of the following: reduce soil erosion by wind and water, provide complimentary forage to improve or maintain livestock nutrition or health, and or provide emergency forage production.

### Components

The practice needs one or more of the following parts: grass sprigging and/or planting, seed bed preparation, nutrient management, and/or seeding of other grass species.

## **21. Pipeline-516**

### Definition

The pipeline is a means of conveying water in a closed conduit to an alternate site. The pipeline must have an inside diameter of 8” or less.

### Purpose

Pipelines are used to convey water from a source of supply to points of use for livestock, wildlife, or recreation.

### Components

The practice requires pipe (steel or plastic) that meets the NRCS requirements, a trencher, and a water supply.

## **22. Prescribed Grazing-528a**

### Definition

The proper treatment and use of pastureland.

### Purpose

This practice enhances the prolonged life of desirable species to aid in protection of the soil and production of livestock. This reduction in erosion improves water quality and lowers sediment deposits.

### Components

This practice requires establishment of forages, management of grazing practices, nutrient management, and/or cross fencing.

## **23. Range Planting-550**

### Definition

The establishment of adapted plants by seeding on native grazing lands (does not include pasture and hay land planting).

### Purpose

This practice serves to prevent excessive erosion and improve water quality. It also provides forage for livestock and wildlife habitat.

### Components

This practice involves seedbed preparation, nutrient management, and forage selection

## **24. Heavy Use Area Protection-561**

### Definition

The stabilization of areas frequently and intensively used by animals. This is accomplished by establishing vegetation, surfacing with suitable materials, and/or installing needed structures.

### Purpose

This practice is used as part of a conservation management system to support the following practices: Improve water and air quality, reduce erosion, improve livestock health.

### Components

The components needed for this practice include: vegetative establishment, structural practices, and/or installation of materials such as geo-textile, geo-cell, concrete, or rock.

## **25. Stream bank and Shoreline Protection**

### Definition

The structural and managerial treatment used to protect banks of streams, constructed channels, and lakes.

### Purpose

The practice is used in preventing the loss of land and improving water quality by reducing erosion and run off.

### Components

The practice calls for vegetative planting (grasses, trees, and or shrubs), and/or structural practices.

## **26. Stream Crossing-583a**

### Definition

A trail or trail way constructed across a stream to allow livestock or equipment to cross without disturbing the bottom or causing erosion on the banks (does not include culvert crossings).

### Purpose

Stream crossings improve water quality by controlling erosion at the entry and exit points on a stream.

### Components

The practice entails excavation and/or embankment, structural practices, a liner for the stream (rock, cement, geo-textile, or geo-cell) and fencing.

## **27. Contour Stripcropping-585**

### Definition

The practice of growing crops in a systematic arrangement of equal width strips on or near the contour of a field.

### Purpose

The benefits of contour strip cropping are expressed in the reduction of sheet & rill erosion and the reduction of sediment and other water borne contaminants.

### Components

The practice requires following of the contours in the fields with tillage and planting equipment on slopes of 15% or less.

## **28. Structure for Water Control-587**

### Definition

A structure in a water management system that conveys water, controls the direction of flow, and maintains a desired water surface elevation.

### Purpose

The practice may be applied as a management tool to control the stage, discharge, distribution, or direction of flow to improve water quality.

### Components

The practice requires excavation or embankment, structural practices, vegetative establishment, and/or trash guards.

## **29. Nutrient Management-590**

### Definition

The management of the amount, source, placement, form and timing of the application of nutrients and soil amendments.

### Purpose

Nutrient management minimizes non point source pollution of surface and ground water by efficiently monitoring vegetative needs. It improves the physical, chemical, and biological condition of soil.

### Components

The practice calls for soil sampling, maintaining records, fertilizer and/or lime applications, and management of crop removals.

### **30. Terrace-600**

#### Definition

An earth embankment, a channel, or a combination ridge and channel constructed across a slope.

#### Purpose

A terrace reduces slope length, intercepts flow, and prevents gully formation to reduce sediment and improve water quality.

#### Components

The terraces need a fill section, ridge and/or channel, and possibly vegetative establishment.

### **31. Tree/Shrub Establishment-612**

#### Definition

The establishment of woody plants by planting seedlings or cuttings, direct seeding, or natural regeneration.

#### Purpose

The establishment of the woody plants provides for long term erosion control, filter pollutants from run off, provide for wildlife habitat, and improve water quality.

#### Components

Tree/shrub establishment calls for correct planting dates for seeds or seedlings, exclusion of livestock to allow for growth, and site preparation.

### **32. Trough or Tank-614**

#### Definition

A tank or trough (with needed devices for water control and waste) installed to provide drinking water for livestock.

#### Purpose

A tank is installed to provide watering facilities for livestock that will protect vegetative cover and eliminate the need for livestock to be in streams.

#### Components

These watering facilities need concrete, water tank, freeze proof hydrants or other water sources.

### **33. Water Well-642**

#### Definition

A hole that is drilled, dug, driven, bored, or otherwise constructed to an aquifer.

#### Purpose

The wells provide water for livestock, wildlife, and humans to facilitate proper use of vegetation on pastures.

### Components

Water wells require excavation, drilling, casing, and wellhead protection.

## **34. Septic Systems**

### Definition

An on-site system designed to treat and dispose of domestic sewage. A typical septic system consists of a tank that receives waste from a residence or business and a drain field or subsurface absorption system consisting of a series of percolation lines for the disposal of the liquid effluent. Solids (sludge) that remain after decomposition by bacteria in the tank must be pumped out periodically.

### Purpose

To insure that the rural residents have adequate means of disposing of human waste.

### Components

The necessities for septic systems are: Septic tank, lateral lines, rock/reed fields, and/or residential sewer lagoons.

The septic systems will be designed according to Department of Environmental Quality (DEQ) bulletin 640-Special Qualification Guidelines for Septic Systems.

***Procedures for Implementation***  
***North Canadian River Watershed Demonstration Cost-Share Program***

1. Open Application Period.
2. Keep list of all applications received and submit the Summary of Applicants report to OCC Water Quality Representative at the end of each week, updating all information on each application weekly.
3. Planners will determine eligibility, complete farm visits, and make evaluations on all applicants. The Evaluation Form must be completed for each applicant.
4. Develop a case file on each applicant. (Refer to Case File Check List). **Note: If and when the applicant is approved for funding and the conservation plan is developed, all items in the case file should be placed in with the plan.**
5. After all evaluations have been completed, the water quality representative and district personnel will rank all applicants. The ranking will be based on the priority ranking criteria set in the North Canadian River Priority Watershed Project State Policies and Approved Practices.
6. Successful applicants will be notified and a Performance Agreement will be signed by applicant, district board, and OCC Water Quality Representative. **Note: Absolutely no work can begin or materials purchased by any applicant until all three signatures have been obtained.**
7. Conservation plans will be developed on all approved applicants. Four copies of the conservation plan will be made with the landowner receiving one copy, the district office the second, and the Water Quality Representative retaining two copies (one copy will be kept at the representative's office with the other going to the Oklahoma Conservation Commission WQ office).
8. Arrangements are then made for the designated NRCS and/or OCC Water Quality Representatives to design the approved conservation practices.
9. Certify work is complete and authorize payment through the Conservation Commission. The notarized cost-share payment claim must be accompanied by a copy of all invoices, Performance Agreement, Consent Form (if applicable), Certification of Completion and Acceptance, and Cost-Share Payment Calculation Sheet. These will be forwarded to OCC for payment.
10. Upon receipt of payment for OCC, the district will obtain the signature of the participant on the Release of Warrant Form and place in the conservation plan case file. The disbursement of the funds to the cooperator will be completed to finalize the procedure.
11. Annual Status Reviews will be performed on the anniversary of the completion date for the practice.

### Case File Checklist

1. Application for allocated funds
2. Copy of Evaluation Form
3. Performance Agreement
4. Amendments to Performance Agreement
5. Maintenance Agreement
6. Amendments to Maintenance Agreement
7. Certifications of conservation practice quantities and cost
8. Vouchers, Bills, and or receipts
9. Copies of any approved cost-share payments claims
10. Consent Form if applicable
11. Release of Warrant Form
12. Any correspondence to and from the participant
13. Any note of relevant conservation with the participant
14. Annual Status Reviews

**Note: These items can be placed in the conservation plan folder in the district office after preparation of the plan.**