



## CONSERVATION STEWARDSHIP PROGRAM

### CONSERVATION ENHANCEMENT ACTIVITY

#### E447A

### Advanced Tailwater Recovery

#### Conservation Practice 447: Irrigation System, Tailwater Recovery

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

**RESOURCE CONCERN:** Water

**PRACTICE LIFE SPAN:** 1 year

#### Enhancement Description

This enhancement is for a recovery system that capture 100% of excess irrigation and drainage runoff water from the contiguous land where the activity is implemented. Runoff water is conveyed through properly designed recovery ditches to a storage structure. Each recovery ditch and storage structure have adequate capacity to store excess irrigation water and reasonable runoff water. The system is designed to incorporate the collected water back into the delivery system so that excess water is reused. The system is fully automated to operate the recovery pumps, valves, and collection system. Key elements in the system are sensors that can evaluate data and operate devices through the system in opening/closing or on /off based on scientifically determined parameters.

#### Criteria

##### *General*

- All fields where the activity is implemented are contiguous and have a properly designed recovery system.
- Topography of the contiguous fields may require multiple independent recovery systems.
- Prevented field erosion by utilization of properly designed, installed, and maintained recovery collection structures.
- Install freeboard gauges in recovery storage structures.
- Design all structures with overflow protection to prevent flooding of crops or neighboring lands .



## CONSERVATION STEWARDSHIP PROGRAM

- Measure the volume of irrigation water applied to each field by using a permanently installed flowmeter. . Include all irrigation sources for the field in the measurement.
- Tailwater recovery pits will have a permanent water level sensor with data recording to monitor the tailwater captured throughout the irrigation season.

### *Additional Criteria of recovery collection structures*

- Recovery collection structures will be properly designed and installed according to NRCS CPS 410 Grade Stabilization Structure or CPS 587 Structure for Water Control

### *Additional Criteria of overflow structures*

- Structures will be designed according to NRCS Conservation Practice Standard 587 Structure for Water Control.
- Structures will be constructed of UV protected material or have a protective coating applied.



# CONSERVATION STEWARDSHIP PROGRAM

## Documentation and Implementation Requirements

### Participant will:

#### *Prior to implementation*

- An Irrigation Water Management plan will be written and submitted to NRCS for approval.
- A system map will be created that identifies each component of the tailwater recovery system.

#### *During installation or implementation*

- The Irrigation Water Management plan will be followed.
- Routinely check the system for any issues resulting from animal activities such as beavers clogging the structures .
- Evaluate the functionality of each component throughout the system to determine if any changes, corrections, or repairs need to be made.
- Record irrigation data such as location, dates, duration, and flow rate of water applied to the field and amount recycled.

#### *After implementation*

- Provide documentation of the following to NRCS for certification
  - Water use during the irrigation season.
  - Water recycled during the irrigation season.
  - Changes, corrections, or repairs made to the system to improve functionality.

### NRCS will:

#### *Prior to implementation*

- Provide and explain NRCS Conservation Practice Standard Irrigation System, Tailwater Recovery (Code 447) and Irrigation Water Management (Code 449) as it relates to implementing this enhancement
- Provide additional assistance to the participant as requested
- Review and approve all recovery collection structures



# CONSERVATION STEWARDSHIP PROGRAM

After Implementation

- Verify installation of all irrigation water management equipment and collected records from the season

**NRCS Documentation Review:**

I have reviewed participant's documentation and have determined that participant has implemented the enhancement and meets all criteria and requirements.

Participant Name \_\_\_\_\_ Contract Number \_\_\_\_\_

Total Amount Applied \_\_\_\_\_ Fiscal Year Completed \_\_\_\_\_

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NRCS Technical Adequacy Signature \_\_\_\_\_ Date \_\_\_\_\_