DRAINAGE WATER MANAGEMENT PLAN CRITERIA
PRACTICE/ACTIVITY CODE (130) (NO.)

1. Definition of a Drainage Water Management Plan

The objective of a Drainage Water Management (DWM) is to control soil water table elevations and the timing of water discharges from subsurface or surface agricultural drainage systems for the following purposes:

- Improve water quality.
- Improve the soil environment for vegetative growth.
- Reduce the rate of oxidation of organic soils.
- Prevent wind erosion.
- Enable seasonal shallow flooding or surface watercourse flows for fish and wildlife habitat.

The objective of a Drainage Water Management Plan (DWMP) is to provide the producer a framework for the implementation of DWM on existing artificially drained land. The desirability and potential benefits of a DWM system can be effectively determined by interviewing the producer, identifying field boundaries and soil types, obtaining a drain map, developing a topographic map, and then combining these components to produce a DWMP for the field or farm.

2. DWMP Criteria

This section establishes the minimum criteria to be addressed in the development of Drainage Water Management Plans.

A. General Criteria: In accordance with Section 1240 (A), the Environmental Quality Incentives Program (EQIP) provides funding support through contracts with eligible producers to obtain services of certified TSPs for development of Drainage Water Management Plans. The specific TSP criteria required for DWMP development is located on the TSP registry (TechReg) web site at: http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/technical/tsp

B. DWMP Technical Criteria: The DWMP should include, but not be limited to, the following components:

1. Plan development, farm and field information:
   a. Name of producer
   b. Farm number
   c. Field and/or Tract number(s)
   d. Crops grown, and planned rotation by field
   e. Name of contractor or consultant developing plan
   f. Date of plan development
   g. Total acres of the DWMP. The DWMP should include all adjacent acres that are drained by the same system and under the same land ownership.
2. The objectives of the producer, which should involve one of the purposes listed in Conservation Practice Standard (CPS) 554, Drainage Water Management.

3. A soils map that includes field boundaries, with the predominant soils listed and area of each predominant soil quantified. If the qualifying acres for the plan are a subset of field(s), the boundaries of the DWMP acreage should also be delineated.

4. A Drainage System Map that includes the materials, diameters or dimensions, and locations of the laterals and mains. List the flowline elevation of any tile line that crosses the field boundary (depth and grade of tile lines or ditches not leaving the field are not required for the DWMP).

5. A delineation of the area within the field drained by the system. The definition of the drained area is taken from the lateral spacing recommendations of the soil, as specified in the NRCS or State Drainage Guide. The outer boundary of the drained area is delineated by a line around the drained area (tiled or ditched), at a distance of one-half of the tile or ditch lateral spacing.

6. A wetland delineation map, if any of the field(s) include areas identified as wetlands under the provisions of the Food Security Act of 1985 (as updated).

7. A Topographic Map on a maximum scale of 1:2,400, that shows elevation contours on a 6-inch increment (drainage system map and topographic map need to be the same scale). The topographic map should include, at a minimum, all of the drained area as defined above.

8. An overlay of the above maps (e.g., field boundaries, drain locations, contour map) with the location, size, and impacted area identified for each planned control structure.

    - If the control structures are set on a 2-foot elevation interval, the impacted area is defined as the drained area (from item 5) contained within the 2- foot contour above the control elevation.
    - If the control structures are set at an elevation interval less than 2 feet, then the impacted area is the drained area contained within the control elevation interval at which the control structures are set.
    - If the control structures are set at an elevation interval greater than 2 feet, then the impacted area is the drained area contained within the 2-foot contour above the control elevation.
    - The control elevation is the elevation of the soil surface at the lowest spot in the area of the field impacted by the operation of the water control structure.

9. The management instructions should follow the Operation and Maintenance section of CPS 554, which states that to reduce soil oxidation and to minimize wind erosion and nitrate transport, the outlet elevation at the water control structure shall be set to allow the water table to rise to within 6 inches or less of the ground surface at the designated control elevation during fallow periods and when practical. The DWMP must be written such that implementation will not adversely affect the drainage of adjacent fields. The DWMP also must include the following instructions:

    - The time after harvest to replace boards and the designated outlet elevation during the winter months (or fallow season),

- The time in the spring to release water (this will vary depending on the crop: e.g. March for corn and April for soybeans), and
- Guidelines for the control of drainage and the management of the water table during the growing season (see CPS 554), and
- Evaluation of the DWMP's effect on wetlands if applicable, and compliance with the National Food Security Act.

10. A summary sheet that lists the pipe diameter and height (depth to drain) or dimensions of each water control structure and the area impacted by each structure.

11. A signature page, with names, dates and signatures of all contract holders and the person who prepared the plan. The signatures are to be done after the person preparing the plan explains the contents and ensures that the contract holder(s) are in agreement with the plan. The signature page should also contain a space for approval by NRCS.

12. A checklist for NRCS field office use, covering each component of the DWMP, should also be included.

13. The DWMP should be packaged as one plan. A template of a DWMP is available on the Illinois Drainage Guide (Online), on the webpage "Related Information", http://www.wq.uiuc.edu/dg/.

C. Associated Practice Standards: The DWMP should address the resource concerns identified, and the conservation practices needed to comprise a conservation system for DWM. In addition to the water control structures as described in CPS 554, Drainage Water Management, existing drainage systems may require augmentation, modification, or replacement of existing components. Typical NRCS Conservation Practice Standards to be incorporated in a DWMP could include:

Code	Practice name
554	Drainage Water Management
606	Subsurface Drain
607	Surface Drain, Field Ditch
608	Surface Drainage, Main or Lateral
747	Denitrifying Bioreactor
587	Structure for Water Control
658	Wetland Creation
659	Wetland Enhancement
657	Wetland Restoration
590	Nutrient Management
646	Shallow Water Development and Management
644	Wetland Wildlife Habitat Management

D. References:

USDA-NRCS, National Engineering Handbook, Part 624, Section 16, Drainage.

USDA-NRCS, National Engineering Handbook, Part 650, Engineering Field Handbook, Chapter 14, Water Management (Drainage).

University of Illinois, Department of Agricultural and Biological Engineering, Illinois Drainage Guide. *http://www.wq.illinois.edu/DG/*

3. Deliverables for the Client – a hardcopy of the DWMP that includes:

- Cover page – name, address, and phone numbers of producer and TSP; and including all items in the Criteria section B.1.
- Objectives of the producer addressed in the DWMP, as listed in the Criteria section B.2.
- All maps, delineations and appropriate soil descriptions as listed in the Criteria sections B.3,4,5,6,7 and 8. Include locations and details for any supporting practices in the DWMP, as described in section C.
- Management instructions as listed in the Criteria section B.9.
- Water control structure summary sheet as listed in the Criteria section B.10. Include sizing and quantity information for any supporting practices in the DWMP, as described in section C.
- Signature page, as listed in the Criteria section B.11.
- Checklist for NRCS use, as listed in the Criteria section B.12.

4. Deliverables for NRCS Field Office:

- Complete Hardcopy and Electronic copy (MS Word format) of the client's plan.