

## ILLINOIS OF WORK DRAINAGE WATER MANAGEMENT (554)

**These deliverables apply to the development of a Drainage Water Management (DWM) plan.. Implementation of the structural measures in the DWM plan is to be done in accordance with the Statement of Work for Conservation Practice Standard 587 – Structure for Water Control or other pertinent standards. For other planned practices deliverables refer to those specific Statements of Work.**

### DESIGN

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#### Deliverables:

1. Design documentation that will demonstrate that the criteria in NRCS practice standard have been met and are compatible with other planned and applied practices.
  - a. Practice purpose(s) as identified in the conservation plan
  - b. List of facilitating/component practices
  - c. Practice standard criteria related computations and analyses to develop plans and specifications including but not limited to:
    - i. Geology and Soil Mechanics (NEM Subpart 531a)
    - ii. Hydrology/Hydraulics
    - iii. Structural
    - iv. Vegetation
    - v. Environmental Considerations
    - vi. Safety Considerations (NEM Part 503-Safety, Subpart A, 503.10 through 503.12)
- 2) Provide written plans and specifications including sketches and drawings to the client that adequately describe the requirements to install the practice and obtain necessary permits.
  - a) A tile map that includes tile sizes, materials, depth and locations for all tile in or influencing the DWM work area. For patterned systems, include the drain spacing. Include the flowline elevation of all tile lines leaving the DWM work area.
  - b) A field map that includes field boundaries and soils, with the predominant soils and their drainage class listed. If the area drained by the tile influencing the DWM work area (Drained area) is a subset of the field(s) in the map, delineate the boundaries of the DWM plan acreage on the map.
  - c) A topographic map that shows elevation contours on an increment appropriate for the topography, but no greater than 1 foot. To determine the appropriate maximum contour interval, ensure that the contours are no farther than 100 feet apart in the plan view, where slopes exceed 0.75%. Allowable topographic contour interval is 6 inches (0.5 feet) for land slopes 0.75% and flatter, and 1 foot for steeper land slopes. The drainage system map and topographic map need to be the same scale, and the scale must be at least 1:3,600 (1 inch = 300 feet) or closer. The topographic map will include, at a minimum, all of the drained area as defined above. Include at least one point identified at the site (e.g., Benchmark) with a known elevation and coordinates. The map must contain at a minimum the *drained area* as defined above.
  - d) A map showing the location of each planned or existing water control structure and the *impacted area* of each water control structure. The map must also include the information in the maps listed above (topographic contours, field boundaries, and tile, and be on the same scale as the requirements for the topographic map).
    - i) The control zone ("*Impacted area*") of a structure is defined as the area of drainage system draining to that structure that is contained within the 2- foot contour above the control elevation. The impacted area of the structure does not include any area impacted by the next structure in the system (if there is one).
    - ii) "*Control elevation*" is defined as the elevation of the soil surface at the lowest spot in the area of the field impacted by the operation of the structure for water control.
- 3) Operation and Maintenance Plan (National Operation and Maintenance Manual 500.70 and 500.40 through 500.42). The management plan must include, but is not limited to, the items listed in the Operation and Maintenance section of the Illinois Conservation Practice Standard 554 – Drainage Water Management.
- 4) Certification that the design meets practice standard criteria and comply with applicable laws and regulations (NEM Subpart A, 505.03 (a) (3)).

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**INSTALLATION**

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**Deliverables**

1. Preinstallation conference with client (person preparing the plan must explain the contents and ensure that the client is in agreement with the plan.)
2. Provide recordkeeping forms to the client to document activities accomplished under the management plan.
3. Provide a signature page with names, dates, and signatures of all clients and the person who prepared the plan, to be signed after the preinstallation conference.

**CHECK OUT**

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**Deliverables**

1. Recordkeeping forms filled out to demonstrate that the DWM plan was followed accurately.
2. Certification that the installation meets NRCS standards and specifications (NEM Subpart A, 505.03 (c) (1)).
3. Progress reporting.

**REFERENCES**

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- NRCS Field Office Technical Guide (FOTG), Section IV, Conservation Practice Standard - Drainage Water Management, 554
- NRCS National Engineering Handbook, Part 624, Section 16, Drainage
- NRCS National Engineering Handbook, Part 650, Chapter 14, Water Management (Drainage)
- NRCS National Environmental Compliance Handbook
- NRCS Cultural Resources Handbook