

DRAINAGE WATER MANAGEMENT

Practice Code 554

Non-Livestock Structural Practice

PRS Unit of Measurement: Acre

Definition: The drainage management of a tiled field or surface drained field with installed water control structures; the control of water surface elevations and discharge from surface and subsurface drainage systems.

Purpose: To improve water quality and the soil environment for vegetative growth, reduce the rate of oxidation of organic soils, prevent wind erosion, enable seasonal shallow flooding and prevent discharge of nutrient laden water carried through surface or subsurface drainage.

Applicability: Where the topography is relatively smooth, uniform, and flat to gently sloping; where a water table may be maintained without excessive seepage and without having an adverse impact on adjoining properties and where a field which has had manure applied which has the potential to flow rapidly into a drainage system and discharged unless flow is controlled.

Field water levels (ground and surface) are varied throughout the year to reduce the amount of nutrient laden water into streams and rivers. The unit of measurement, acres, is defined by the area impacted by the water control structure(s). This would be the area associated with an elevation that is approximately 6 inches above the managed water control level.

Limitations: A Drainage Water Management Plan, code 130, is required prior to completing the design for 554 Drainage Water Management.

Maintenance: Practice must be maintained for a lifespan of 1 year.

Payment Schedule:

ID	Scenario Name	Scenario & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU	EQIP-Initiative	EQIP-Initiative-HU
554-1	>10 Acres per Structure	<p>Scenario Description: This scenario describes the management of a drainage water system in a row crop field with subsurface drainage system already installed or planned to be installed with control structures, or a surface water management system with berms or levees around the field and control structures. Drainage conditions consist of gentle slopes with few variations in drainage characteristics and surface slopes. Subsurface drainage pattern consists of fewer secondary main lines. Implementation of DWM results in improved water quality by reducing nutrient losses from the soil through ground or surface water outside of the growing season. Management of the water table results in more ground water available for crops during the growing season while lowering the water table prior to crop planting and crop harvest to avoid causing compaction. After Practice Description: Typical systems consist of a 75 acre field with existing drainage tile lines and 5 installed water control structures. The operator walks the field in order to adjust water control structures (riser boards). While on site the date and adjustment information is recorded/logged. The number of yearly adjustments is based on 6 trips to a field 5 miles from headquarters. The field time to make and record each adjustment is 0.5 hours per structure (including travel time). The typical field will contain 5 water control structures. Scenario includes the cost of participant attending a workshop to gain knowledge about implementing the practice.</p> <p>Resource Concern: Water Quality - Excess Nutrients in surface and ground waters. Insufficient Water - Insufficient Moisture Management. Associated Practices: 329:Residue Management - No Till/Strip Till; 606-Subsurface Drain; 607-Surface Drain, Field Ditch; 608-Surface Drain, Main or Lateral; 587-Structure for Water Control; 590-Nutrient Management.</p>	Acres of Managed Drainage	Acre	\$3.19	\$4.78	\$4.78	\$5.74

ID	Scenario Name	Scenario & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU	EQIP-Initiative	EQIP-Initiative-HU
554-2	>10 acres per Structure with Training	<p>Scenario Description: This scenario describes the management of a drainage water system in a row crop field with subsurface drainage system already installed or planned to be installed with control structures, or a surface water management system with berms or levees around the field and control structures. Drainage conditions consist of gentle slopes with few variations in drainage characteristics and surface slopes. Subsurface drainage pattern consists of fewer secondary main lines. Implementation of DWM results in improved water quality by reducing nutrient losses from the soil through ground or surface water outside of the growing season. Management of the water table results in more ground water available for crops during the growing season while lowering the water table prior to crop planting and crop harvest to avoid causing compaction. After Practice Description: Typical systems consist of a 75 acre field with existing drainage tile lines and 5 installed water control structures. The operator walks the field in order to adjust water control structures (riser boards). While on site the date and adjustment information is recorded/logged. The number of yearly adjustments is based on 6 trips to a field 5 miles from headquarters. The field time to make and record each adjustment is 0.5 hours per structure (including travel time). The typical field will contain 5 water control structures. Scenario includes the cost of participant attending a workshop to gain knowledge about implementing the practice.</p> <p>Resource Concern: Water Quality - Excess Nutrients in surface and ground waters. Insufficient Water - Insufficient Moisture Management. Associated Practices: 329:Residue Management - No Till/Strip Till; 606-Subsurface Drain; 607-Surface Drain, Field Ditch; 608-Surface Drain, Main or Lateral; 587-Structure for Water Control; 590-Nutrient Management.</p>	Acres of Managed Drainage	Acre	\$3.49	\$5.24	\$5.24	\$6.29

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ID	Scenario Name	Scenario & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU	EQIP-Initiative	EQIP-Initiative-HU
554-3	<=10 Acres per Structure	<p>Scenario Description: This scenario describes the management of a drainage water system in a row crop field with subsurface drainage system already installed or planned to be installed with control structures, or a surface water management system with berms or levees around the field and control structures. Drainage conditions consist of gentle to moderately slopes with many variations in drainage characteristics and surface slopes. Subsurface drainage pattern consists of many secondary main lines due to changes in drainage patterns. Implementation of DWM results in improved water quality by reducing nutrient losses from the soil through ground or surface water outside of the growing season. Management of the water table results in more ground water available for crops during the growing season while lowering the water table prior to crop planting and crop harvest to avoid causing compaction. After Practice Description: Typical systems consist of a 50 acre field with existing drainage tile lines and 5 installed water control structures. The operator walks the field in order to adjust water control structures (riser boards). While on site the date and adjustment information is recorded/logged. The number of yearly adjustments is based on 6 trips to a field 5 miles from headquarters. The field time to make and record each adjustment is 0.5 hours per structure (including travel time). The typical field will contain 5 water control structures.</p> <p>Resource Concern: Water Quality - Excess Nutrients in surface and ground waters. Insufficient Water - Insufficient Moisture Management. Associated Practices: 329:Residue Management - No Till/Strip Till; 606-Subsurface Drain; 607-Surface Drain, Field Ditch; 608-Surface Drain, Main or Lateral; 587-Structure for Water Control; 590-Nutrient Management.</p>	Acres of Managed Drainage	Acre	\$4.78	\$7.17	\$7.17	\$8.61

ID	Scenario Name	Scenario & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU	EQIP-Initiative	EQIP-Initiative-HU
554-4	<=10 acres per Structure with Training	<p>Scenario Description: This scenario describes the management of a drainage water system in a row crop field with subsurface drainage system already installed or planned to be installed with control structures, or a surface water management system with berms or levees around the field and control structures. Drainage conditions consist of gentle to moderately slopes with many variations in drainage characteristics and surface slopes. Subsurface drainage pattern consists of many secondary main lines due to changes in drainage patterns. Implementation of DWM results in improved water quality by reducing nutrient losses from the soil through ground or surface water outside of the growing season. Management of the water table results in more ground water available for crops during the growing season while lowering the water table prior to crop planting and crop harvest to avoid causing compaction. After Practice Description: Typical systems consist of a 50 acre field with existing drainage tile lines and 5 installed water control structures. The operator walks the field in order to adjust water control structures (riser boards). While on site the date and adjustment information is recorded/logged. The number of yearly adjustments is based on 6 trips to a field 5 miles from headquarters. The field time to make and record each adjustment is 0.5 hours per structure (including travel time). The typical field will contain 5 water control structures.</p> <p>Resource Concern: Water Quality - Excess Nutrients in surface and ground waters. Insufficient Water - Insufficient Moisture Management. Associated Practices: 329:Residue Management - No Till/Strip Till; 606-Subsurface Drain; 607-Surface Drain, Field Ditch; 608-Surface Drain, Main or Lateral; 587-Structure for Water Control; 590-Nutrient Management.</p>	Acres of Managed Drainage	Acre	\$5.24	\$7.86	\$7.86	\$9.43