

CONSERVATION PRACTICE PHYSICAL EFFECTS WORKSHEET

STATE	Pennsylvania	FIELD OFFICE	Any	DATE	
PRACTICE: Roof Runoff Structure 558		Baseline Setting:			
		Appropriate Land Use(s): Headquarters			
RESOURCES, CONSIDERATIONS AND CONCERNS	PHYSICAL EFFECTS		RATIONALE		
SOIL - EROSION					
Sheet and Rill	Slight Improvement		Roof runoff is collected and conveyed to a safe outlet.		
Wind	Not Applicable		Not applicable.		
Ephemeral Gully	Moderate Improvement		Roof runoff is collected and conveyed to a safe outlet.		
Classic Gully	Slight Improvement		Roof runoff is collected and conveyed to a safe outlet.		
Streambank	Slight Improvement		Roof runoff is collected and conveyed to a safe outlet.		
Shoreline	Not Applicable		Not applicable.		
Irrigation Induced	Not Applicable		Not applicable.		
Mass Movement	Neutral		Collected water no longer available to saturate soil profile which potentially promotes mass movement.		
Road, Roadsides, and Construction Sites	Not Applicable		Not applicable.		
SOIL – CONDITION					
Organic Matter Depletion	Not Applicable		Not applicable.		
Rangeland Site Stability	Not Applicable		Not applicable.		
Compaction	Neutral		Drier soils in high traffic areas around buildings may decrease compaction potential.		
Subsidence	Not Applicable		Not applicable.		
Contaminants:					
• Salts and other Chemicals	Neutral		Where practice is used to increase infiltration, the percolating water has the potential to remove contaminants from the soil profile.		
• Animal Waste and other Organics - N	Neutral		Not applicable.		
• Animal Waste and other Organics - P	Neutral		Not applicable.		
• Animal Waste and other Organics - K	Neutral		Not applicable.		
• Commercial Fertilizer - N	Neutral		Not applicable.		
• Commercial Fertilizer - P	Neutral		Not applicable.		
• Commercial Fertilizer - K	Neutral		Not applicable.		
• Residual Pesticides	Neutral		Where practice is used to increase infiltration, the percolating water has the potential to remove contaminants from the soil		

		profile.
Damage from Sediment Deposition	Slight Improvement	Potential for reduced erosion with practice installation will reduce sedimentation.
WATER – QUANTITY		
Rangeland Hydrologic Cycle	Not Applicable	Not applicable.
Excessive Seepage	Slight Improvement	Water collected And conveyed to surface outlet will have limited opportunity to infiltrate.
Excessive Runoff, Flooding, or Ponding	Slight Worsening	Collecting and conveying roof runoff away from buildings to an outlet will tend to reduce opportunity for infiltration at the site.
Excessive Subsurface Water	Slight Improvement	Water collected And conveyed to surface outlet will have limited opportunity to infiltrate.
Drifted Snow	Not Applicable	Not applicable.
Inadequate Outlets	Neutral	If inadequate outlets are a problem this practice will have a neutral effect .
Inefficient Water use on Irrigated Land	Not Applicable	Not applicable.
Inefficient Water use on Non-Irrigated Land	Moderate Improvement	Collected water can be used to increase available water for other uses.
Reduced Capacity of Conveyances by Sediment Deposition	Slight Improvement	Potential for reduced erosion with practice installation will reduce sedimentation.
Reduced Storage of Water Bodies by Sediment Accumulation	Slight Improvement	Potential for reduced erosion with practice installation will reduce sedimentation.
Aquifer Overdraft	Slight Improvement	Infiltration of collected roof runoff will increase aquifer recharge.
Insufficient Flows in Water Courses	Slight to Moderate Improvement	Directing collected water to water courses will increase flows.
WATER – QUALITY		
In Groundwater:		
• Harmful Levels of Pesticides	Not Applicable	Not applicable.
• Excessive Nutrients and Organics	Slight to Moderate Improvement	The action collects and disposes of runoff which could transport nutrients to groundwater.
• Excessive Salinity	Not Applicable	Not applicable.
• Harmful Levels of Heavy Metals	Not Applicable	Not applicable.
• Harmful Levels of Pathogens	Not Applicable	Not applicable.
• Harmful Levels of Petroleum	Slight to Moderate Improvement	Roof runoff is diverted away from fuel storage areas.
In Surface Water:		
• Harmful Levels of Pesticides	Not Applicable	Not applicable.
• Excessive Nutrients and Organics	Slight to Moderate Improvement	The action keeps excess runoff water out of concentrated livestock areas. The degree of

		impact depends on the portion of contamination associated with the roof runoff.
• Excessive Suspended Sediment and Turbidity	Slight Improvement	Water from roof is delivered to stable outlet, minimizing surface erosion.
• Excessive Salinity	Slight to Moderate Improvement	The action diverts water from barnyard and feedlot areas, where it could pick up salts from manure.
• Harmful Levels of Heavy Metals	Neutral	Heavy metals are rarely associated with manure. Roof runoff is diverted away from manure areas.
• Harmful Temperatures	Not Applicable	Not applicable.
• Harmful Levels of Pathogens	Slight to Substantial Improvement	Roof runoff diverted away from manure areas. Degree of impact depends on the portion of contamination associated with the roof runoff.
• Harmful Levels of Petroleum	Not Applicable	Not applicable.
AIR – QUALITY		
Particulate Matter less than 10 Micrometers in Diameter (PM 10)	Not Applicable	Not applicable.
Particulate Matter less than 2.5 Micrometers in Diameter (PM 2.5)	Not Applicable	Not applicable.
Excessive Ozone	Not Applicable	Not applicable.
Excessive Greenhouse Gas:		
• CO ₂ (Carbon Dioxide)	Not Applicable	Not applicable.
• N ₂ O (Nitrous Oxide)	Not Applicable	Not applicable.
• CH ₄ (Methane)	Not Applicable	Not applicable.
Ammonia (NH ₃)	Not Applicable	Not applicable.
Chemical Drift	Not Applicable	Not applicable.
Objectionable Odors	Not Applicable	Not applicable.
Reduced Visibility	Not Applicable	Not applicable.
Undesirable Air Movement	Not Applicable	Not applicable.
Adverse Air Temperature	Not Applicable	Not applicable.
PLANTS – SUITABILITY		
Plants not Adapted or Suited	Not Applicable	Not applicable.
PLANTS - CONDITION		
Productivity, Health, and Vigor	Not Applicable	Not applicable.
Threatened or Endangered Plant Species:		
• Plant Species Listed or Proposed for Listing Under the Endangered Species Act	Not Applicable	Not applicable.
• Declining Species, Species of Concern	Not Applicable	Not applicable.
Noxious and Invasive Plants	Not Applicable	Not applicable.
Forage Quality and Palatability	Not Applicable	Not applicable.
Wildfire Hazard	Not Applicable	Not applicable.
ANIMALS - FISH AND WILDLIFE		

Inadequate Food	Not Applicable	Not applicable.
Inadequate Cover/Shelter	Not Applicable	Not applicable.
Inadequate Water	Not Applicable	Not applicable.
Inadequate Space	Not Applicable	Not applicable.
Habitat Fragmentation	Not Applicable	Not applicable.
Imbalance Among and Within Populations	Not Applicable	Not applicable.
Threatened and Endangered Fish and Wildlife Species:		
• Fish and Wildlife Species Listed or Proposed for Listing Under the Endangered Species Act	Not Applicable	Not applicable.
• Declining Species, Species of Concern	Not Applicable	Not applicable.
ANIMALS – DOMESTIC		
Inadequate Quantities and Quality of Feed and Forage	Not Applicable	Not applicable.
Inadequate Shelter	Not Applicable	Not applicable.
Inadequate Stock Water	Slight to Substantial Improvement	Roof runoff can be diverted for stock water use.
Stress and Mortality	Not Applicable	Not applicable.
HUMAN – ECONOMICS		
Land - Change in Land Use	Not applicable.	Not applicable.
Land – Land in Production	Not applicable.	Not applicable.
Capital – Change in Equipment	Moderate increase.	
Capital - Total Investment Cost	Moderate.	Moderate.
Capital – Annual Cost	Negligible	
Capital – Credit and Farm Program Eligibility	Situational.	
Labor - Labor	Slight increase.	
Labor – Change in Management Level	Slight increase.	
Risk - Yield	Not applicable.	Not applicable.
Risk - Flexibility	Not applicable.	Not applicable.
Risk - Timing	Not applicable.	Not applicable.
Risk – Cash Flow	Slight Increase	Slight increase due to construction cost.
Profitability – Change in Profitability	Slight decrease.	
HUMAN - CULTURAL		
Cultural Resources and/or Historic Properties Present or Suspected to be PRESENT	Slight to Substantial Increase	Consider if structure is an historic property.
HUMAN – ENERGY		
Depletion of Fossil Fuel Resources	Moderate Decrease	This practice may reduce energy needed to repair damage from runoff. The practice may also increase stored water for beneficial purposes and decrease stored wastewater, saving energy associated with pumping..
Underutilization of Non-Fossil Energy Resources	Not Applicable	Not Applicable

Human Considerations Explanation

Considerations	Physical effects indicate:
Land - Change in Land Use	The degree to which implementing the conservation practice is expected to cause a change from one land use to another.
Land - Land in Production	The degree to which implementing the conservation practice is expected to cause an increase or decrease in the amount of land in production.
Capital - Change in Equipment	The degree to which implementing the conservation practice is expected to cause an increase or decrease in the amount of capital equipment required for farm or ranch operations.
Capital - Total Investment Cost	A qualitative measure of the increase in total investment dollars required in order to implement the conservation practice.
Capital - Annual Cost	A qualitative measure of the expected change in annual capital costs required in order to operate and maintain the conservation practice.
Capital - Credit & Farm Program Eligibility	Included to make conservation planners aware of the potential availability of funding for implementing conservation practices.
Labor – Labor	The degree to which implementing the conservation practice is likely to cause an increase or decrease in the total amount of overall farm or ranch labor required for operations.
Labor - Change in Management Level	The degree to which implementing the conservation practice is likely to cause an increase or decrease in the total amount of required active management on a farm or ranch.
Risk – Yield	The degree to which risk, as related to crop or livestock yields, is expected to increase or decrease as a result of implementing the conservation practice.
Risk – Flexibility	The degree to which risk, as related to the flexibility of farm or ranch operations, is expected to increase or decrease as a result of implementing the conservation practice. For example, converting from flood irrigation to a sprinkler system gives a farmer an increase in flexibility of irrigation, which results in a decrease in the level of risk associated with inflexibility of operations.
Risk – Timing	The degree to which risk, as related to the timing of farm or ranch operations, is expected to increase or decrease as a result of implementing the conservation practice.
Risk - Cash Flow	The degree to which risk, as related to cash flow in farm or ranch operations, is expected to increase or decrease as a result of implementing the conservation practice.
Profitability - Change in Profitability	The degree to which farm or ranch profitability is expected to increase or decrease as a result of implementing the conservation practice.
Cultural Resources and/or Historic Properties Present or Suspected to be Present	The degree to which implementation of the conservation practice is expected to increase or decrease the risk of cultural resource disturbance, degradation, or loss.
Depletion of Fossil Fuel Resources	Inefficient use of fossil-originated energy sources (diesel, gasoline, propane, natural gas, coal), lubricants, and other materials.
Underutilization of Non-Fossil Energy Sources	Available and cost-effective alternative energy sources (solar, wind, biofuel, hydroelectric, geothermal) are not being used or are being used inefficiently.