

Environmental Quality Incentives Program

2013 EQIP Signup

Minnesota Supplement for:
Practice Standard 606 – Subsurface Drain

Supplemental Criteria

1. **Consult General Provision 15 for Ag Waste System payment cap information.**
2. Perforated drains may only be used as a component of a conservation practice to the extent required to provide drainage necessary to facilitate the conservation purpose of the practice. Subsurface drain is not eligible as a stand-alone practice or as part of a controlled drainage system.
3. The maximum length of subsurface drain that may be paid for under the WASCOB scenario is 500 feet per terrace or basin.

Scenarios

1. Vertical Chimney Drain for Waste Storage Facility

A perching soil layer existing in the soil profile of a planned aquaculture pond or waste storage facility and preventing proper pond or storage from being installed within the site limitation and space available to properly install an aquaculture pond or store livestock production waste. A liquid pond type system is needed for the operation to properly manage and handle its livestock production facility. The installation of a below ground subsurface drainage system removes the excess water from the soil profile so the aquaculture pond or waste storage facility can be constructed in the ground. **Soil conditions require that the grainular drain material be brought almost full depth to perform as designed.** The subsurface drainage system includes corrugated pipe installed in a trench 15 ft below the ground surface and 2 ft below the planned waste storage facility bottom elevation. The lower half of the trench is filled with clear stone. The measured length is the length of tubing installed. The outlet of the subsurface drainage system is contracted separately under Underground Outlet (620). The installation of this practice protects the groundwater from nutrient loading due to mishandling and storing of livestock production wastewater and water quality degradation. Associated Practices include: Underground Outlet (620), Pumping Plant (533), Waste Storage Facility (313), Anaerobic Digester (366), Waste Transfer (634)

2. Waterway Support Drain

Subsurface drainage is installed on the shoulder(s) of a waterway to remove sufficient water so that vegetation can become established in a waterway for the waterway to fully function. Below ground installation of HDPE (Corrugated Plastic Pipe) pipeline, using a drainage plow or trenching machine is typical installation. Construct 1,000 feet of 5-inch, single-wall, HDPE Corrugated Plastic Pipe (CPP), installed below ground to a typical depth of 3 feet. The units are lineal feet.

Resource Concerns: Water Quantity Excessive Subsurface Water; Plant Condition - Productivity, Health, and Vigor; Soil Erosion - Ephemeral Gully
Associated Practices: Grassed Waterway (412), Critical Area Seeding (342)

3.WASCOB

Install subsurface drainage above water and sediment control basins (WASCOBs) or terraces to dry the surface more rapidly to prevent erosion and allow vegetation to flourish. Below ground installation of HDPE (Corrugated Plastic Pipe) pipeline, using a drainage plow or trenching machine is typical installation. Typical application is to install 300 feet of 5-inch, perforated single-wall, HDPE Corrugated Plastic Pipe (CPP), to a depth of approximately 3 feet in the storage pool of the terrace or basin. The units are lineal feet.

Resource Concerns: Water Quantity Excessive Subsurface Water; Plant Condition - Productivity, Health, and Vigor; Soil Erosion - Ephemeral Gully
Associated Practices: 638 - Water and Sediment Control Basin, 600 - Terrace, 620 - Underground Outlet.

4. Subsurface Drain below a Pond or Waste Storage Facility

A perching soil layer existing in the soil profile of a planned aquaculture pond or waste storage facility and preventing proper pond or storage from being installed within the site limitation and space available to properly install an aquaculture pond or store livestock production waste. A liquid pond type system is needed for the operation to properly manage and handle its livestock production facility. The installation of a below ground subsurface drainage system removes the excess water from the soil profile so the aquaculture pond or waste storage facility can be constructed partially in the ground. The subsurface drainage system includes corrugated pipe installed in a trench 6-8 ft below the ground surface and 2 ft below the planned waste storage facility bottom elevation. A perimeter geocomposite drain is installed to collect and direct the soil moisture from the side slopes to the subsurface drainage system. The outlet of the subsurface drainage system is connected separately under Underground Outlet (620). The installation of this practice protects the groundwater from nutrient loading due to mishandling and storing of livestock production wastewater and water quality degradation. Associated Practices include: Underground Outlet (620), Pumping Plant (533), Waste Storage Facility (313), Anaerobic Digester (366), Waste Transfer (634)

5. Full Height Subsurface Drain <9ft for Waste Storage Facility

A perching soil layer existing in the soil profile of a planned aquaculture pond or waste storage facility and preventing proper pond or storage from being installed within the site limitation and space available to properly install an aquaculture pond or store livestock production waste. A liquid pond type system is needed for the operation to properly manage and handle its livestock production facility. The installation of a below ground subsurface drainage system removes the excess water from the soil profile so the aquaculture pond or waste storage facility can be constructed partially in the ground. **Soil conditions require that the granular drain material be brought almost full depth to perform as designed. A 12" layer of drain material is placed on a sloped trench slope for approximately 9 feet.** The subsurface drainage system includes corrugated pipe installed in a trench 6-8 ft below the ground surface and 2 ft below the planned waste storage facility bottom elevation. A perimeter drain is installed to collect and direct the soil moisture from the side slopes to the subsurface drainage system. The measured length is the

length of the tubing installed. The outlet of the subsurface drainage system is contracted separately under Underground Outlet (620). The installation of this practice protects the groundwater from nutrient loading due to mishandling and storing of livestock production wastewater and water quality degradation.

Associated Practices include: Underground Outlet (620), Pumping Plant (533), Waste Storage Facility (313), Anaerobic Digester (366), Waste Transfer (634)

6. Full Height Subsurface Drain >9ft for Waste Storage Facility

A perching soil layer existing in the soil profile of a planned aquaculture pond or waste storage facility and preventing proper pond or storage from being installed within the site limitation and space available to properly install an aquaculture pond or store livestock production waste. A liquid pond type system is needed for the operation to properly manage and handle its livestock production facility. The installation of a below ground subsurface drainage system removes the excess water from the soil profile so the aquaculture pond or waste storage facility can be constructed partially in the ground. **Soil conditions require that the granular drain material be brought almost full depth to perform as designed. A 12" layer of drain material is place on a sloped trench slope for approximately 16 feet.** The subsurface drainage system includes corrugated pipe installed in a trench 6-8 ft below the ground surface and 2 ft below the planned waste storage facility bottom elevation. A perimeter drain is installed to collect and direct the soil moisture from the side slopes to the subsurface drainage system. The measured length is the length of tubing installed. The outlet of the subsurface drainage system is contracted separately under Underground Outlet (620). The installation of this practice protects the groundwater from nutrient loading due to mishandling and storing of livestock production wastewater and water quality degradation. Associated Practices include: Underground Outlet (620), Pumping Plant (533), Waste Storage Facility (313), Anaerobic Digester (366), Waste Transfer (634)