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MDEQ

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

LARGE CONSTRUCTION NOTICE OF INTENT (LCNOI)
FOR COVERAGE UNDER THE LARGE CONSTRUCTION STORM WATER GENERAL NPDES PERMIT MSR10 9393
(NUMBER TO BE ASSIGNED BY STATE)

INSTRUCTIONS

The Large Construction Notice of Intent (LCNOI) is for coverage under the Large Construction General Permit for land disturbing activities of five (5) acres or greater; or for land disturbing activities, which are part of a larger common plan of development or sale that are initially less than five (5) acres but will ultimately disturb five (5) or more acres. Applicant must be the owner or operator. For construction activities, the operator is typically the prime contractor. The owner(s) of the property and the prime contractor associated with regulated construction activity on the property have joint and several responsibility for compliance with the Large Construction Storm Water General Permit MSR10.

Completed LCNOIs should be filed at least thirty (30) days prior to the commencement of construction. Discharge of storm water from large construction activities without written notification of coverage is a violation of state law.

Submittals with this LCNOI must include:
- **A site-specific Storm Water Pollution Prevention Plan (SWPPP) developed in accordance with ACT5 of the General Permit**
- **A detailed site-specific scaled drawing showing the property layout and the features outlined in ACT5 of the General Permit**
- **A United States Geological Survey (USGS) quadrangle map or photocopy, extending at least one-half mile beyond the facility property boundaries with the site location and outfalls outlined or highlighted. The name of the quadrangle map must be shown on all copies. Quadrangle maps can be obtained from the MDEQ, Office of Geology at 601-961-5523.**

Additional submittals may include the following, if applicable:
- **Appropriate Section 404 documentation from U.S. Army Corps of Engineers**
- **Appropriate documentation concerning future disposal of sanitary sewage and sewage collection system construction**
- **Appropriate documentation from the MDEQ Office of Land & Water concerning dam construction and low flow requirements**
- **Approval from County Utility Authority in Hancock, Harrison, Jackson, Pearl River and Stone Counties**

All QUESTIONS MUST BE ANSWERED (Answer "NA" if the question is not applicable)

APPLICANT IS THE: ☑ **OWNER** ☐ **PRIME CONTRACTOR** **(Must check one or both)**

OWNER INFORMATION

OWNER CONTACT PERSON: Britt Magee

OWNER COMPANY NAME: Strong River Farms

OWNER STREET OR P.O. BOX: 925 Hwy 43

OWNER CITY: Mendenhall **STATE:** MS **ZIP:** 39114

OWNER PHONE # (INCLUDE AREA CODE): 601-382-9950

PRIME CONTRACTOR INFORMATION

PRIME CONTRACTOR CONTACT PERSON: N/A

PRIME CONTRACTOR COMPANY:

PRIME CONTRACTOR STREET OR P.O. BOX:

PRIME CONTRACTOR CITY: **STATE:** **ZIP:**

PRIME CONTRACTOR PHONE # (INCLUDE AREA CODE):

PROJECT INFORMATION

PROJECT NAME: Strong River Farms Poultry

TOTAL ACREAGE THAT WILL BE DISTURBED [1]: 7.5 Ac

IS THIS PART OF A LARGER COMMON PLAN OF DEVELOPMENT? ☐ YES ☑ NO

IF YES, NAME OF LARGER COMMON PLAN OF DEVELOPMENT: _____

_____ **AND PERMIT COVERAGE NUMBER:** _____

DESCRIPTION OF CONSTRUCTION ACTIVITY: Dozer work to construct 6 poultry houses

PROPOSED DESCRIPTION OF PROPERTY USE AFTER CONSTRUCTION HAS BEEN COMPLETED (include standard industrial classification code (SIC) if known):

Poultry House Operation

SIC Code 0 2 5 1

PHYSICAL SITE ADDRESS (If the physical address is not available indicate the nearest named road. For linear projects, indicate the beginning of the project and identify all counties the project traverses.)

STREET: 828 Hwy 43 North

CITY: Mendenhall **COUNTY:** Simpson **ZIP:** 391414

LATITUDE : 31° **degrees** 54' **minutes** 41.8 **seconds** **LONGITUDE:** 89° **degrees** 55' **minutes** 27.1' **seconds**

LAT & LONG DATA SOURCE (GPS *(Please GPS Project Entrance/Start Point)* or Map Interpolation): _____

NEAREST NAMED RECEIVING STREAM: Harrigan Branch

IS RECEIVING STREAM ON MISSISSIPPI'S 303(d) LIST OF IMPAIRED WATER BODIES? (The 303(d) list of impaired waters and TMDL stream segments may be found on MDEQ's web site: http://www.deq.state.ms.us/MDEQ.nsf/page/TWB_Total_Maximum_Daily_Load_Section) ☐ YES ☑ NO

HAS A TMDL BEEN ESTABLISHED FOR THE RECEIVING STREAM SEGMENT? ☐ YES ☑ NO

ARE THERE RECREATIONAL STREAMS, PRIVATE/PUBLIC PONDS OR LAKES WITHIN ½ MILE DOWNSTREAM OF PROJECT BOUNDRY THAT MAY BE IMPACTED BY THE CONSTRUCTION ACTIVITY? ☐ YES ☑ NO

EXISTING DATA DESCRIBING THE SOIL (for linear projects please describe in SWPPP): _____

PmA Printiss -Fine Sandy Loam and QaA Quitman- Loamy soils on 0-2% slopes

WILL FLOCCULANTS BE USED TO TREAT TURBIDITY IN STORM WATER? ☐ YES ☑ NO

IF YES, INDICATE THE TYPE OF FLOCCULANT. ☐ ANIONIC POLYACRYLIMIDE (PAM)

☐ OTHER _____

IF YES, DOES THE SWPPP DESCRIBE THE METHOD OF INTRODUCTION, THE LOCATION OF INTRODUCTION AND THE LOCATION OF WHERE FLOCCULATED MATERIAL WILL SETTLE? ☐ YES ☑ NO

[1] Acreage for subdivision development includes areas disturbed by construction of roads, utilities and drainage. Additionally, a housesite of at least 10,000 ft² per lot (entire lot, if smaller) shall be included in calculating acreage disturbed.

DOCUMENTATION OF COMPLIANCE WITH OTHER REGULATIONS/REQUIREMENTS

COVERAGE UNDER THIS PERMIT WILL NOT BE GRANTED UNTIL ALL OTHER REQUIRED MDEQ PERMITS AND APPROVALS ARE SATISFACTORILY ADDRESSED

IS LCNOI FOR A FACILITY THAT WILL REQUIRE OTHER PERMITS? ☑ YES ☐ NO

IF YES, CHECK ALL THAT APPLY: ☐ AIR ☐ HAZARDOUS WASTE ☐ PRETREATMENT

☑ WATER STATE OPERATING ☐ INDIVIDUAL NPDES ☐ OTHER: _____

IS THE PROJECT REROUTING, FILLING OR CROSSING A WATER CONVEYANCE OF ANY KIND? (If yes, contact the U.S. Army Corps of Engineers' Regulatory Branch for permitting requirements.) ☐ YES ☑ NO

IF THE PROJECT REQUIRES A CORPS OF ENGINEER SECTION 404 PERMIT, PROVIDE APPROPRIATE DOCUMENTATION THAT:

- The project has been approved by individual permit, or
- The work will be covered by a nationwide permit and NO NOTIFICATION to the Corps is required, or
- The work will be covered by a nationwide or general permit and NOTIFICATION to the Corps is required

IS A LAKE REQUIRING THE CONSTRUCTION OF A DAM BEING PROPOSED? (If yes, provide appropriate approval documentation from MDEQ Office of Land and Water, Dam Safety.) ☐ YES ☑ NO

IF THE PROJECT IS A SUBDIVISION OR A COMMERCIAL DEVELOPMENT, HOW WILL SANITARY SEWAGE BE DISPOSED? Check one of the following and attach the pertinent documents.

☐ Existing Municipal or Commercial System. Please attach plans and specifications for the collection system and the associated "Information Regarding Proposed Wastewater Projects" form or approval from County Utility Authority in Hancock, Harrison, Jackson, Pearl River and Stone Counties. If the plans and specifications can not be provided at the time of LCNOI submittal, MDEQ will accept written acknowledgement from official(s) responsible for wastewater collection and treatment that the flows generated from the proposed project can and will be transported and treated properly. The letter must include the estimated flow.

☐ Collection and Treatment System will be Constructed. Please attach a copy of the cover of the NPDES discharge permit from MDEQ or indicate the date the application was submitted to MDEQ (Date: _____.)

☐ Individual Onsite Wastewater Disposal Systems for Subdivisions Less than 35 Lots. Please attach a copy of the Letter of General Acceptance from the Mississippi State Department of Health or certification from a registered professional engineer that the platted lots should support individual onsite wastewater disposal systems.

☐ Individual Onsite Wastewater Disposal Systems for Subdivisions Greater than 35 Lots. A determination of the feasibility of installing a central sewage collection and treatment system must be made by MDEQ. A copy of the response from MDEQ concerning the feasibility study must be attached. If a central collection and wastewater system is not feasible, then please attach a copy of the Letter of General Acceptance from the State Department of Health or certification from a registered professional engineer that the platted lots should support individual onsite wastewater disposal systems.

INDICATE ANY LOCAL STORM WATER ORDINANCE WITH WHICH THE PROJECT MUST COMPLY:

_____

_____

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Joseph Britton Mayer
Signature of Applicant[1] (owner or prime contractor)

8.29.24
Date Signed

Joseph Britton Mayer
Printed Name[1]

Title

[1]**This application shall be signed as follows:**

- **For a corporation, by a responsible corporate officer.**
- **For a partnership, by a general partner.**
- **For a sole proprietorship, by the proprietor.**
- **For a municipal, state or other public facility, by principal executive officer, mayor, or ranking elected official.**

Please submit the LCNOI form to:

Chief, Environmental Permits Division
MS Department of Environmental Quality, Office of Pollution Control
P.O. Box 2261
Jackson, Mississippi 39225

Revised 12/16/10

PRIME CONTRACTOR CERTIFICATION

LARGE CONSTRUCTION GENERAL PERMIT

Coverage No. MSR10 _ _ _ _ County _____

(Fill in your Certificate of Coverage Number and County)

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

By completing and submitting this form to MDEQ, the prime contractor is certifying that (1) they have operational control over the erosion and sediment control specifications (including the ability to make modifications to such specifications) or (2) they have day-to-day operational control of those activities at the site necessary to ensure compliance with the SWPPP and applicable permit conditions.

The owner(s) of the property and the prime contractor associated with regulated construction activity on the property have joint and several responsibility for compliance with the permit. Notwithstanding any permit condition to the contrary, the coverage recipient and any person who causes pollution of waters of the state or places waste in a location where they are likely to cause pollution of any waters of the state shall remain responsible under applicable federal and state laws and regulations and applicable permits.

PRIME CONTRACTOR INFORMATION

PRIME CONTRACTOR CONTACT PERSON: N/A **PHONE NUMBER:** (___)_____

PRIME CONTRACTOR COMPANY: _____

PRIME CONTRACTOR STREET (P.O. BOX): _____

PRIME CONTRACTOR CITY: _____ **STATE:** _____ **ZIP:** _____

OWNER INFORMATION

OWNER CONTACT PERSON: Britt Magee **PHONE NUMBER:** (601) 382-9950

OWNER COMPANY NAME: Strong River Farms

PROJECT INFORMATION

PROJECT NAME: Strong River Farms

DESCRIPTION OF CONSTRUCTION ACTIVITY: Poultry House Construction

PHYSICAL SITE ADDRESS (If the physical address is not available indicate the nearest named road. For linear projects, indicate the beginning of the project and identify all counties the project traverses.)

STREET: 828 Hwy 43 North

CITY: Mendenhall **COUNTY:** Simpson

I certify that I am the prime contractor for this project and will comply with all the requirements in the above referenced general NPDES permit. I further certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____ _____

Prime Contractor Signature[1] **Date Signed**

_____ _____

Printed Name[1] **Title**

[1]This application shall be signed as follows:
- For a corporation, by a responsible corporate officer.
- For a partnership, by a general partner.
- For a sole proprietorship, by the proprietor.
- For a municipal, state or other public facility, by principal executive officer, mayor, or ranking elected official.

This Prime Contractors Certification form shall be submitted to:

Chief, Environmental Permits Division
MS Department of Environmental Quality, Office of Pollution Control
P.O. Box 2261
Jackson, Mississippi 39225

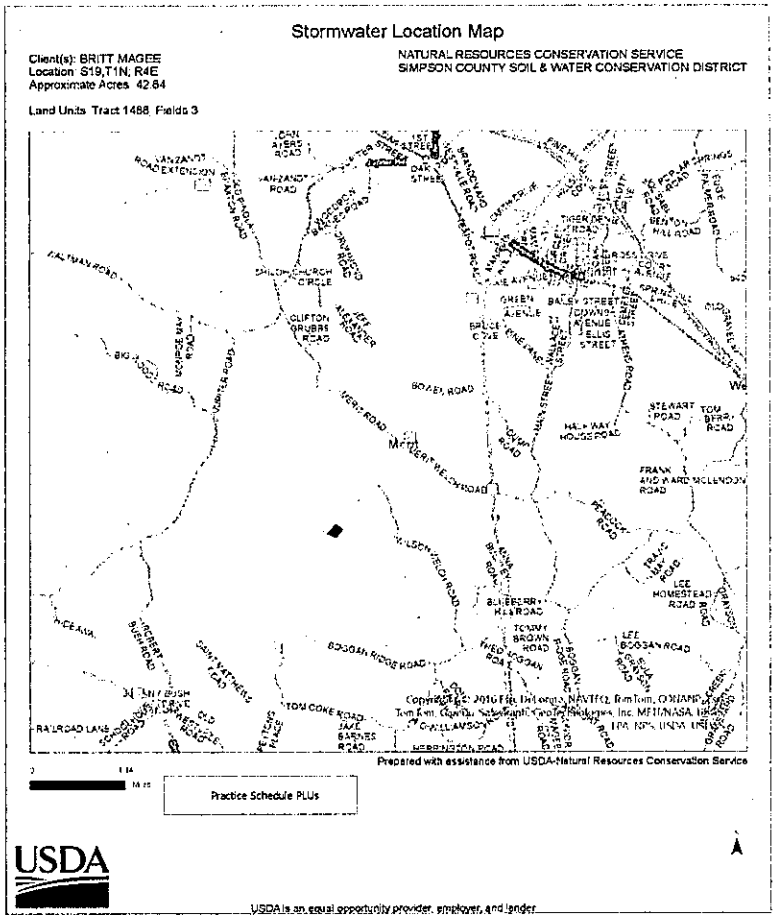
Revised: 12//16/10

STORM WATER POLLUTION PREVENTION PLAN

FOR

Strong River Farms
Britt Magee

August 26, 2024
Simpson County



Storm Water Plan Narrative

Project Description:

The purpose of this project is to construct six poultry broiler houses with associated loading ramps and gravel roads. The site contains 7.5 acres that will be disturbed due to construction. The site is located in Simpson County, approximately 5 miles southwest of Mendenhall Mississippi, on Hwy 43. (See Map) The entire site will be disturbed at some time during the construction.

Site Description: Before

The site has flat to gently sloped topography with slopes ranging from 0 to 2 percent. The site is a cutover tree stand. The site has been cleared of trees at this time. There is no erosion at the present time.

Site Description: After

Impervious areas will increase from 0 to 7.5 acres (Broiler houses and Compost building or Incinerator). The reminder of the area will be loading area and drainage ditches.

Adjacent Property:

Land use in the vicinity is a mix of hayed/pastured and forested land. The closest stream is Harrigan Branch to the east of the construction site.

Soils:

The soil in the project area is mapped, fairly equally in the construction area, as a Prentiss, fine loamy sand and Quitman, loam both in the A slope class in the Simpson County Soil Survey.

The Prentiss fine sandy loam is a moderately well drained soil with a low shrink-swell potential and a moderate potential for erosion. It has a permeability rate of 0.60 to 2.00 inches/hour in the surface layers and subsurface layers from 0 to 29 inches. The rate is 0.2-0.6 from 29-62 inches. This soil has a dark brown fine sandy loam surface layer from 0-4 inches. The subsurface layer is a yellowish brown fine sandy loam from 4-9 inches. The subsoil layer has a yellowish brown loam with pale brown mottles from 9-16 inches. From 16- 29 inches, a light yellowish brown loam and from 29 – 62 inches a firm compact and brittle fragipan yellowish brown, brownish gray fine sandy loam with mottles of the same throughout. Construction activities will need to consider this fragipan layer. No flooding or erosion is expected.

The Quitman loam is a somewhat poorly drained soil. It has a permeability rate of 0.60 to 2.00 inches/hour in the surface layers and subsurface layers from 0 to 29 inches. The rate is 0.2-0.6 from 29-60 inches. The surface layer from 0-5 inches is a grayish brown loam that has dark brown mottles. The subsurface layer from 5-10 inches is a pale brown loam with yellowish brown mottles. The subsoil layers from 10-29 inches consist of a yellowish brown loam with light brownish gray to gray and brown to yellowish mottles from 10-29 inches. From 29-60 inches it has a light brownish gray clay loam with light yellowish to strong brown mottles in the las 42-60 inches. Wetness could pose a problem and will need to be addressed at time of construction. No flooding or erosion is expected.

Planned Erosion, Sediment, and Storm Water Control Practices.

Land Grading:

Medium grading will be required on the entire area. The topsoil will be stockpiled to use after the project is completed to spread over the sites to be grassed.

See the plan map for location of the construction area. The site is mostly flat to very gently sloping, no erosion is expected. Sedimentation should not be a factor to any bodies of water. The area will be left to a 3:1 or flatter slope to reduce the erosion hazard and establish permanent vegetation. This slope will allow the landowner to establish and keep the vegetation mowed and maintained.

Buffer Zone:

At least a 50 foot buffer zone will be maintained on all sides of the property next to a stream. These areas contain native grasses.

Temporary Barrier

A straw bale barrier or temporary silt fence will be used below the disturb area to trap moving sediment from entering drains, streams and ponds. Inspection of this barrier will be done on a regular basis especially and replaced/re-staked as needed after a heavy rainfall event and kept clear of debris and sediment. See map for location of these barriers.

Permanent Seeding:

All disturbed areas that are not covered by gravel road or buildings will be permanently seeded once final grade is obtained. Permanent cover will not be certified until after a minimum of 6 weeks of establishment and at least 1/2 inch of rainfall has occurred. Apply 2 tons of ground agricultural limestone per acre. Apply 600 lbs. of 13-13-13 fertilizer or the equivalent per acre, or per soils test recommendations. Apply lime and fertilizer evenly and incorporate into the top 4 to 6 inches of the soil by disking or other

suitable means. Complete seedbed preparation by breaking up large clods and raking into a smooth uniform surface. Fill in or level depressions that can collect water. Broadcast seed into a freshly loosened seedbed that has not been sealed by rainfall. Sow 30 lbs. of "Pensacola" Bahiagrass and 10 lbs. of common Bermudagrass per acre between September 1 and November 30. Sow 90 lbs. of wheat per acre for temporary cover. Clip this temporary vegetation early in the spring to allow permanent vegetation to germinate and grow. Cover broadcast seed by using a cultipacker or section harrow. Apply mulch immediately after seeding according to the mulching specifications listed below. Maintain the vegetation by adding fertilizer and lime according to a soil test. If the stand has an inadequate cover, re-establish the stand after seedbed preparation or overseed the stand. Use temporary cover such as Millet in the summer and wheat in the fall until permanent vegetation is established. If a soil test is not obtained, apply 200 to 300 lbs. of 13-13-13 fertilizer per acre when growth begins during the second growing season and each year thereafter. Apply additional nitrogen, if needed during the growing season.

Mulching:

Apply 1 to 2 tons of old hay or oat or wheat straw immediately after seeding. Apply a thin layer to protect from erosion. Avoid applying very thick patches of mulch because this will not allow temporary and permanent vegetation to emerge. No more than 25 percent of ground surface should be visible after mulching has been completed. The wheat will anchor the mulch down as it grows. See attached specifications.

Maintenance:

All practices will be checked for stability following a significant rainfall. Any needed repairs will be made immediately to maintain all practices as designed.

Sediment will be removed from behind the sediment fences when it becomes a maximum of 0.5 feet deep at the fence.

All seeded areas will be fertilized, reseeded as necessary, and mulched according to specifications in the vegetative plan to maintain a vigorous, dense vegetative cover.

I agree to comply with this plan during the construction of the broiler house site and maintain the practices after construction.

_____ _____

Conservation Planner Signature Date

Joseph Britton Major
Land Owner Signature

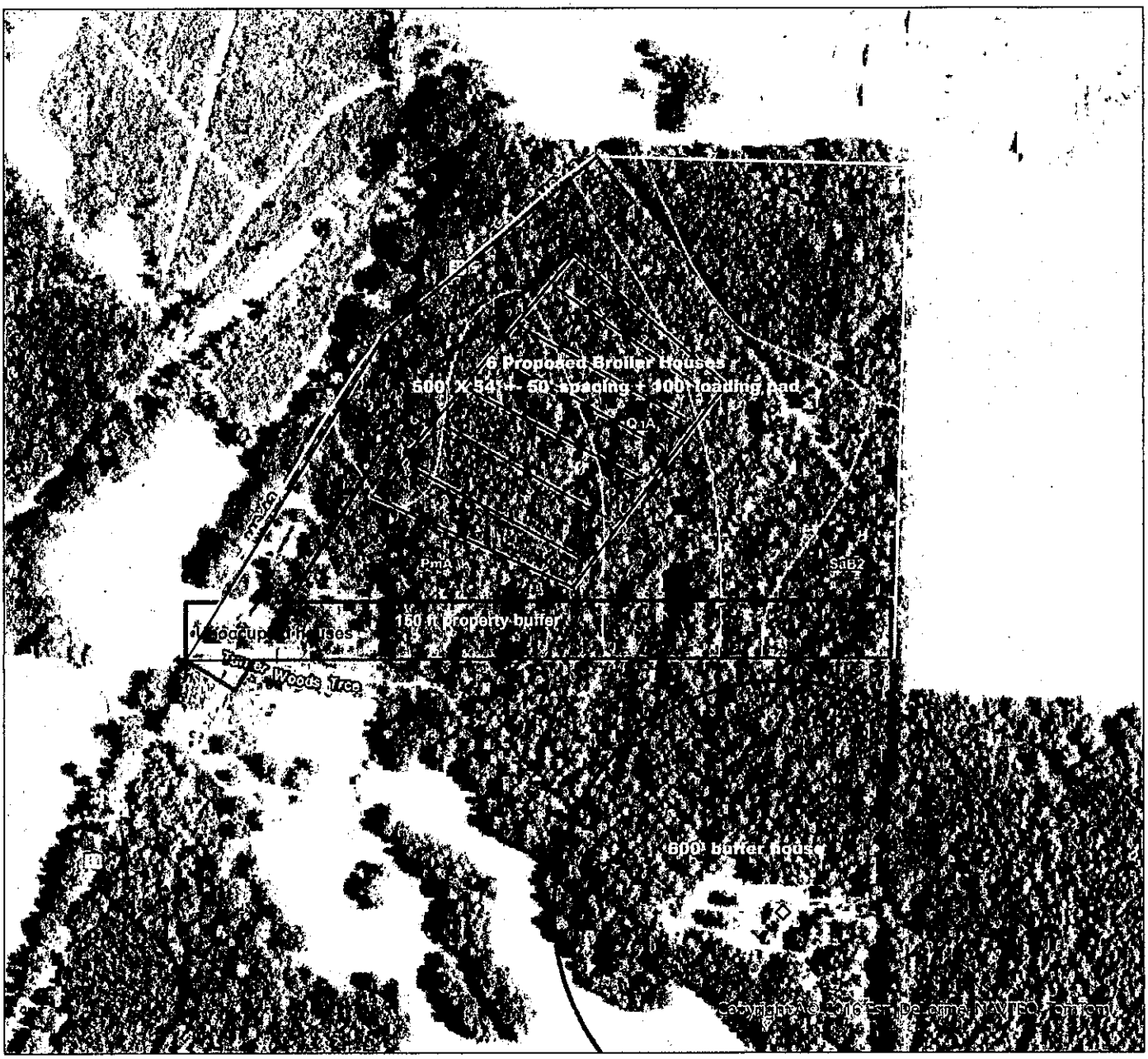
8-29-24
Date

Stormwater Plan Soils Map

Client(s): BRITT MAGEE
Location: S19; T1N; R4E
Approximate Acres: 42.84

NATURAL RESOURCES CONSERVATION SERVICE
SIMPSON COUNTY SOIL & WATER CONSERVATION DISTRICT

Land Units: Tract 1488, Fields 3



Prepared with assistance from USDA-Natural Resources Conservation Service

0 376
Feet

Practice Schedule PLUs

Soils

Soil Mapunit

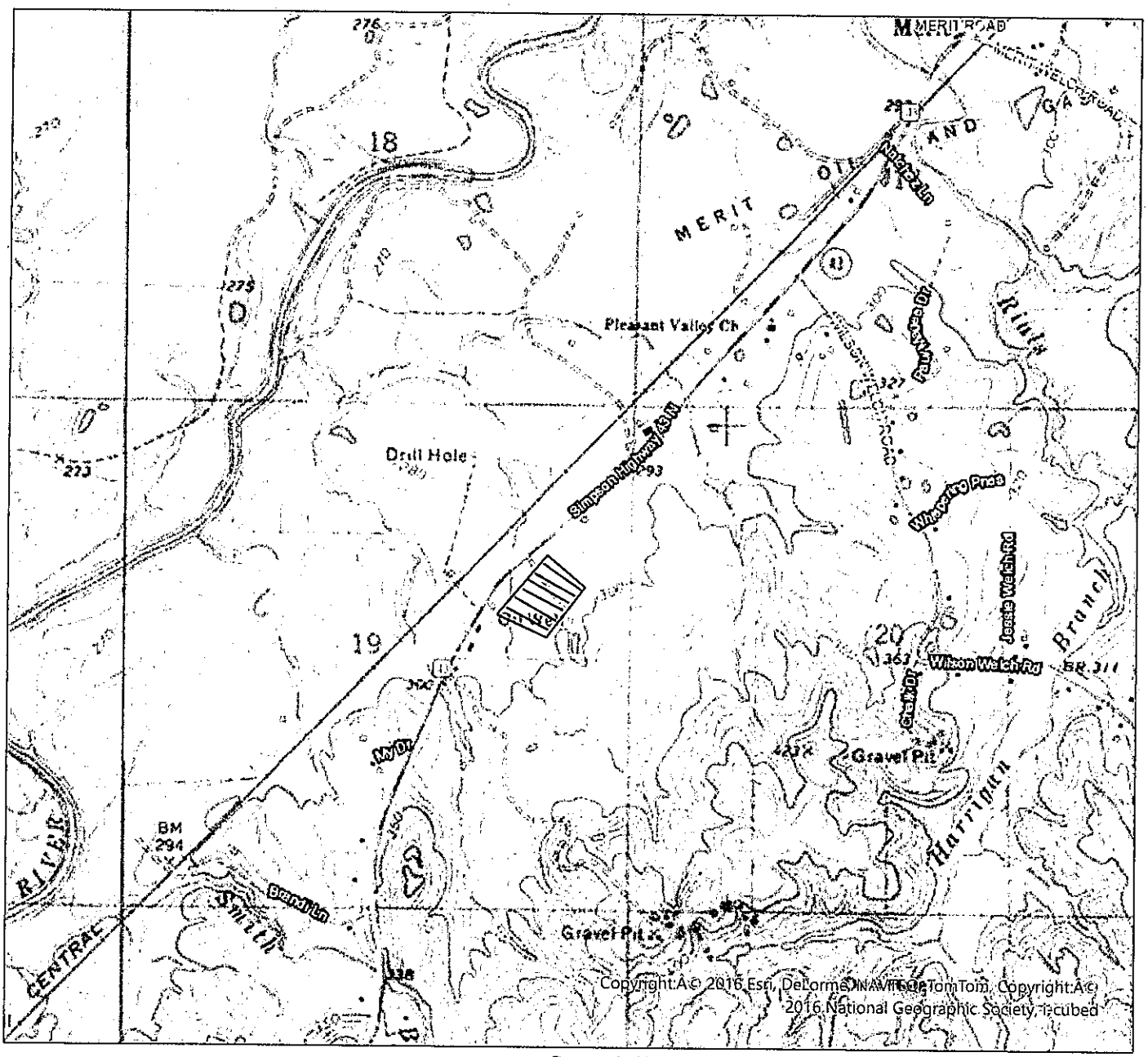
USDA

Stormwater Plan TOPO Map

Client(s): BRITT MAGEE
Location: S19;T1N; R4E
Approximate Acres: 42.84

NATURAL RESOURCES CONSERVATION SERVICE
SIMPSON COUNTY SOIL & WATER CONSERVATION DISTRICT

Land Units: Tract 1488, Fields 3



0 1505 Feet

Prepared with assistance from USDA-Natural Resources Conservation Service

Practice Schedule PLUs

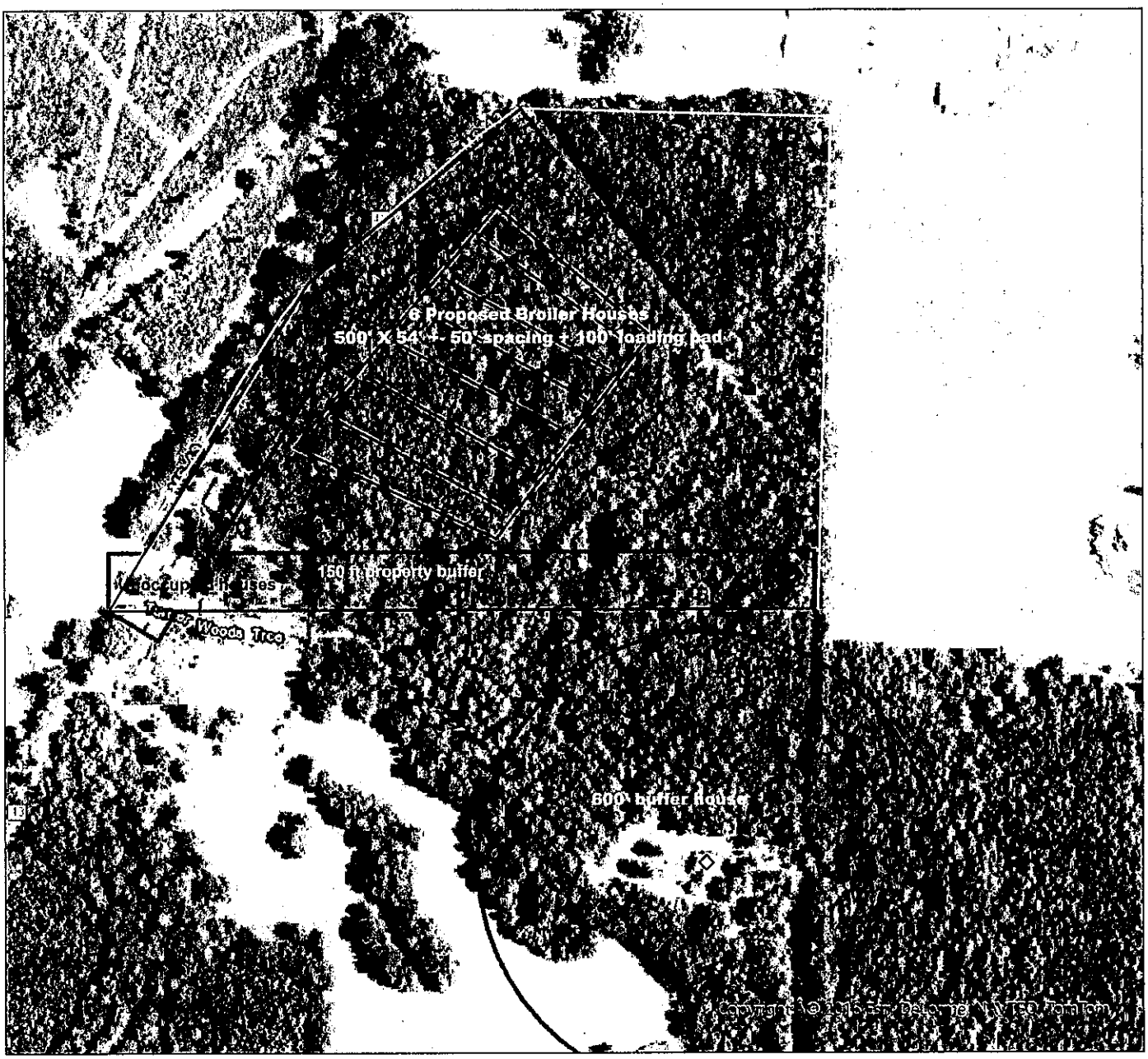
USDA

Stormwater Plan Map

Client(s): BRITT MAGEE
Location: S19; T1N; R4E
Approximate Acres: 42.84

NATURAL RESOURCES CONSERVATION SERVICE
SIMPSON COUNTY SOIL & WATER CONSERVATION DISTRICT

Land Units: Tract 1488, Fields 3



Prepared with assistance from USDA-Natural Resources Conservation Service

0 376
Feet

Practice Schedule PLUs

USDA

SILT FENCE
(Temporary Practice)

Definition

A temporary sediment barrier consisting of a filter fabric stretched across and attached to supporting posts and entrenched. There are two types. The Silt Fence is a temporary linear filter barrier constructed of synthetic filter fabric, posts, and, depending upon the strength of the fabric used, wire fence for support. The Filter Barrier is constructed of stakes and burlap or synthetic filter fabric.

Purposes

To intercept and detain small amounts of sediment from disturbed areas during construction operations in order to prevent sediment from leaving the site. To decrease the velocity of sheet flows and low-to-moderate level channel floods.

Conditions When Practice Applies

Below disturbed areas where erosion would occur in the form of sheet and rill erosion.

Where the size of the drainage area is no more than 1/4 acre per 100 feet of silt fence length; the maximum slope length behind the barrier is 100 feet, and the maximum gradient behind the barrier is 50 percent (2.1).

In minor swales or ditch lines where the maximum contributing drainage area is no greater than 2 acres.

Under no circumstances should silt fences be constructed in live streams or in swales or ditch lines where flows are likely to exceed 1 cubic foot per second (cfs). See Design Criteria for further clarification.

Planning Considerations

Laboratory work has shown that silt fences can trap a much higher percentage of suspended sediments than can straw bales. Silt fences may be preferable to straw barriers in many cases. While the failure rate of silt fences is lower than that of straw barriers, there have been instances in which silt fences were improperly installed. The installation methods outlined here can improve performance.

Filter barriers are inexpensive structures composed of burlap or standard weight synthetic filter fabric stapled to wooden stakes. Flow rates through burlap filter barriers are slightly slower and filtering efficiency is significantly higher than for straw bale barriers.

1. Materials

Synthetic filter fabric shall be a pervious sheet of propylene, nylon, polyester or ethylene yarn and shall be certified by the manufacturer or supplier as conforming to the following requirements:

PHYSICAL PROPERTY	REQUIREMENTS
Filtering Efficiency	75% (minimum)
Tensile Strength at 20% (max.) Elongation	Extra Strength- 50 lbs./lin. in. (minimum) Standard Strength- 30 lbs./lin. in. (minimum)
Flow Rate	0.3 gal./sq. ft./min. (minimum)

Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of 6 months of expected usable construction life.

Burlap shall be 10 ounces per square yard fabric.

Posts for silt fences shall be either 4-inch diameter wood or 1.33 pounds per linear foot steel with a minimum length of 5 feet. Steel posts shall have projections for fastening wire to them.

Stakes for filter barriers shall be 1" x 2" wood (preferred) or equivalent metal with a minimum length of 3 feet.

Wire fence reinforcement for silt fences using standard strength filter cloth shall be a minimum of 36 inches in height, a minimum of 14 gauge and shall have a maximum mesh spacing of 6 inches.

2. Filter Barrier

This sediment barrier may be constructed using burlap or standard strength synthetic filter fabric. It is designed for low or moderate flows not exceeding 1 cfs.

The height of a filter barrier shall be a minimum of 15 inches and shall not exceed 18 inches.

Burlap or standard strength synthetic filter fabric shall be purchased in a continuous roll and cut to the length of the barrier to avoid the use of joints.

The stakes shall be spaced a maximum of 3 feet apart at the barrier location and driven securely into the ground (minimum of 8 inches).

A trench shall be excavated approximately 4 inches wide and 4 inches deep along the line of stakes and upslope from the barrier.

The filter material shall be stapled to the wooden stakes, and 8 inches of the fabric shall be extended into the trench. Heavy duty wire staples at least 1/2-inch long shall be used. Filter material shall not be stapled to existing trees.

The trench shall be backfilled and the soil compacted over the filter material.

If a filter barrier is to be constructed across a ditch line or swale, the barrier shall be of sufficient length to eliminate end flow, and the plan configuration shall resemble an arc or horseshoe with the ends oriented upslope.

Filter barriers shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.

3. Silt Fence

This sediment barrier utilizes standard strength or extra strength synthetic filter fabrics. It is designed for situations in which only sheet or overland flows are expected.

The height of a silt fence shall not exceed 36 inches (higher fences may impound volumes of water sufficient to cause failure of the structure).

The filter fabric shall be purchased in a continuous roll cut to the length of the barrier to avoid the use of joints. When joints are necessary, filter cloth shall be spliced together only at a support post, with a minimum 6-inch overlap, and securely sealed.

Posts shall be spaced a maximum of 10 feet apart at the barrier location and driven securely into the ground (minimum of 12 inches). When extra strength fabric is used without the wire support fence, post spacing shall not exceed 6 feet.

A trench shall be excavated approximately 4 inches wide and 4 inches deep along the line of posts and upslope from the barrier.

When standard strength filter fabric is used, a wire mesh support fence fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least 1 inch long, tie wires or hog rings. The wire shall extend into the trench a minimum of 2 inches and shall not extend more than 36 inches above the original ground surface.

The standard strength filter fabric shall be stapled or wired to the fence, and 8 inches of the fabric shall be extended into the trench. The fabric shall not extend more than 36 inches above the original ground surface.

When extra strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a cases the filter fabric is stapled or wired directly to the posts.

The trench shall be backfilled and the soil compacted over the filter fabric.

Silt fences shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.

4. Maintenance

Silt fences and filter barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.

Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier still be necessary, the fabric shall be replaced promptly.

Sediment deposits should be removed after each storm event. They must be removed when deposits reach approximately one-half the height of the barrier.

Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be dressed to conform with the existing grade, prepared and seeded.

(M)

MULCHING

Definition

Application of a protective blanket of straw or other plant residue, gravel, or synthetic material to the soil surface.

Purpose

To protect the soil surface from the forces of raindrop impact and overland flow. Mulch fosters the growth of vegetation, reduces evaporation, insulates the soil, and suppresses weed growth. Mulch is frequently used to accent landscape plantings.

Conditions Where Practice Applies

Mulch temporary or permanent seedings immediately. Areas that cannot be seeded because of the season should be mulched to provide temporary protection of the soil surface. Use an organic mulch in this case (but not wood fiber), and seed the area as soon as possible. Mulch around plantings of trees, shrubs, or ground covers to stabilize the soil between plants.

Planning Considerations

A surface mulch is the most effective, practical means of controlling runoff and erosion on disturbed land prior to vegetation establishment. Mulch reduces soil moisture loss from evaporation, prevents crusting and sealing of the soil surface, moderates soil temperatures, provides a suitable microclimate for seed germination, and may increase the infiltration rate of the soil.

Organic mulches such as straw, woodchips, and shredded bark have been found to be the most effective (Table 5-1). Do not use materials which may be sources of competing weed and grass seeds. Decomposition of some wood products can tie up significant amounts of soil nitrogen, making it necessary to modify fertilization rates or add fertilizer with the mulch.

A variety of mats and fabrics have been developed in recent years for use as mulch, particularly in critical areas such as waterways and channels. Various types of netting materials are also available to anchor organic mulches.

Chemical soil stabilizers or soil binders, when used alone, are less effective than other types of mulches. These products are primarily useful for tacking wood fiber mulches.

The choice of materials for mulching should be based on soil conditions, season, type of vegetation, and size of the area. A properly applied and tacked mulch is always beneficial. It is especially important when conditions for germination are not optimum, such as midsummer and early winter, and on difficult areas such as cut slopes and slopes with southern exposures.

(M)

Organic Mulches

Straw is the mulch most commonly used in conjunction with seeding. The straw should come from wheat or oats ("small grains"), and may be spread by hand or with a mulch blower. Straw may be lost to wind and must be tacked down.

Woodchips are suitable for areas that will not be closely mowed, and around ornamental plantings. Chips do not require tacking. Because they decompose slowly they must be treated with 12 pounds of nitrogen per ton to prevent nutrient deficiency in plants. This can be inexpensive mulch if chips are obtained from trees cleared on the site.

Bark chips and shredded bark are by-products of timber processing often used in landscape plantings. Bark is also a suitable mulch for areas planted to grasses and not closely mowed. It may be applied by hand or with a mulch blower. Unlike woodchips, the use of bark does not require additional nitrogen fertilizer.

Wood fiber refers to short cellulose fibers applied as a slurry in hydroseeding operations. Wood fiber does not require tacking, although tacking agents or soil binders can easily be added to the slurry. Wood fiber hydroseeder slurries may be used to tack straw mulch on steep slopes, critical areas, and where harsh climatic conditions exist. Wood fiber mulch does not provide sufficient erosion protection to be used alone.

There are other organic materials that make excellent mulches but may only be available locally or seasonally, for example: dried sewage sludge, corn stalks, animal manure, pine boughs, cotton burs, peanut hulls, and hay. Creative use of these materials can reduce costs.

Chemical Mulches and Soil Binders

A wide range of synthetic mulching compounds is available to stabilize and protect the soil surface. These include emulsions or dispersions of vinyl compounds, asphalt, or rubber mixed with water. They may be used alone or may be used to tack wood fiber hydromulches.

When used alone, chemical mulches do not insulate the soil or retain moisture and therefore do little to aid seedling establishment. They are easily damaged by traffic, are usually more expensive than organic mulches, and they decompose in 60-90 days.

Check labels on chemical mulches and binders for environmental concerns. Take precautions to avoid damage to fish, wildlife, and water resources.

Nets, Mats, and Roving

Netting is very effective in holding mulch in place on waterways and slopes before grasses become established.

(M)

Mats promote seedling growth in the same way as organic mulches. They are very useful in establishing grass in channels and waterways. A wide variety of synthetic and organic materials are available. "Excelsior" is a wood fiber mat, and should not be confused with wood fiber slurry.

When installing nets and mats, it is critical to obtain a firm, continuous contact between the material and the soil. Without such contact, the material is useless and erosion will occur underneath.

Fiberglass roving consists of continuous strands of fiberglass which, when blown onto the soil surface from a special compressed air ejector, form a mat of glass fibers. This mat must then be tacked down with asphalt.

Plans and Specifications

1. General. Select a material based on site and practice requirements, availability of material, and availability of labor and equipment.

   Before mulching, complete the required gradings, install sediment control practices, and prepare the seedbed. Apply seed before mulching except in the following cases:

   a. Seed is applied as part of a hydroseeder slurry containing wood fiber mulch.

   b. A hydroseeder slurry is applied over straw.

2. Application of Organic Mulch. Organic mulches are effective where they can be tacked securely to the surface.

   Spread mulch uniformly, by hand or with a mulch blower. When spreading straw mulch by hand, divide the area to be mulched into sections of approximately 1,000 ft^2 and place 70-90 lb of straw (1 1/2 to 2 bales) in each section to facilitate uniform distribution. After spreading mulch, no more than 25 percent of the ground surfaces should be visible. In hydroseeding operations a green dye, added to the slurry, assures a uniform application.

3. Anchoring Organic Mulch. Straw mulch must be anchored immediately after spreading. The following methods of anchoring mulch may be used:

   a. Mulch anchoring tool. A tractor-drawn implement designed to punch mulch into the soil, a mulch anchoring tool provides maximum erosion control with straw. A regular farm disk, weighted and set nearly straight, may substitute, but will not do a job comparable to the mulch anchoring tool. The disk should not be sharp enough to cut the straw. These methods are limited to slopes no steeper than 3:1, where equipment can operate safely on the contour.

   b. Liquid mulch binders. Application of liquid mulch binders and tackifiers should be heaviest at the edges of areas and at crests of ridges and banks, to resist wind. Binder should be applied

uniformly to the rest of the area. Binders may be applied after mulch is spread or may be sprayed into the mulch as it is being blown onto the soil. Applying straw and binder together is the most effective method. Liquid binders include asphalt and an array of commercially available synthetic binders.

Emulsified asphalt is the most commonly used mulch binder. Any type thin enough to be blown from spray equipment is satisfactory. Asphalt is classified according to the time it takes to cure. Rapid setting (RS or CRS designation) is formulated for curing in less than 24 hours, even during periods of high humidity is best used in spring and fall. Medium settings (MS or CMS) is formulated for curing within 24 to 48 hours, and slow setting (SS or CSS) is formulated for use during hot, dry weather, requiring 48 hours or more curing time.

Apply asphalt at 0.10 gallon per square yard (10 gal/1000 ft^2). Heavier applications cause straw to "perch" over rills.

In traffic areas uncured asphalt can be picked up on shoes and cause damage to rugs, clothing, etc. Use types RS or CRS to minimize such problems.

Synthetic binders such as Petroset, Terratack, and Aerospray may be used, as recommended by the manufacturer, to anchor mulch. These are expensive and therefore usually used in small areas or in residential areas where asphalt may be a problem (Use of trade names does not constitute an endorsement).

c. Mulch nettings. Lightweight plastic, cotton, jute, wire, or paper nets may be stapled over the mulch according to the manufacturer's recommendations (see "Nets and Mats" below).

d. Peg and twine. Because it is labor-intensive, this method is feasible only in small areas where other methods cannot be used. Drive 8-10-inch wooden pegs to within 3 inches of the soil surface, every 4 ft in all directions. Stakes may be driven before or after straw is spread. Secure mulch by stretching twine between pegs in a criss-cross-within-a-square pattern. Turn twine two or more times around each peg. Twine may be tightened over the mulch by driving pegs further into the ground.

e. Vegetation. Wheat may be used to anchor mulch in fall plantings, and browntop millet in spring. Broadcast seed before applying mulch.

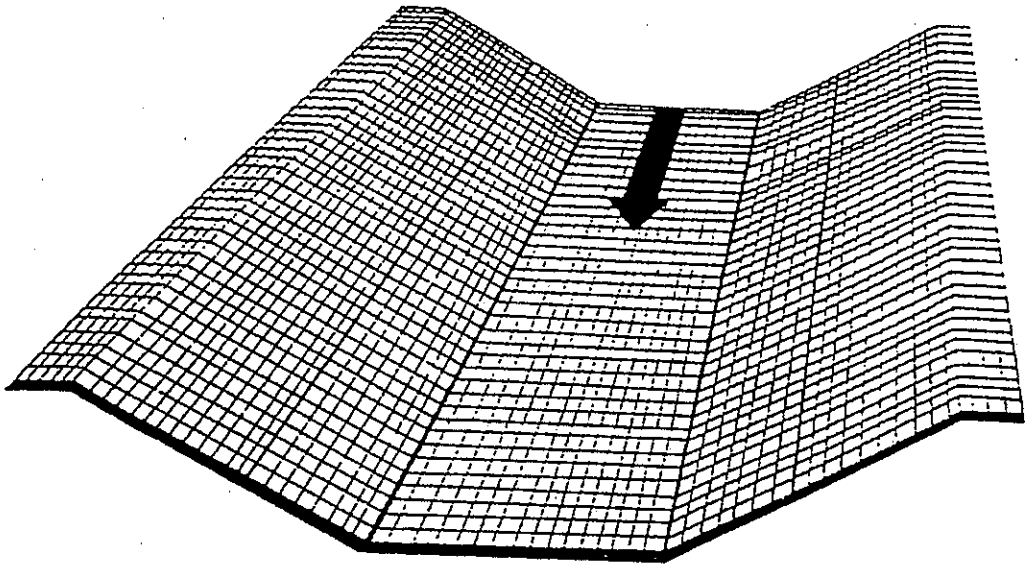
4. Chemical Mulches. Chemical mulches may be effective for soil stabilization if used between May 1 and June 15, or Sept. 15 and Oct. 15, provided that they are used on slopes no steeper than 4:1, and that proper seedbed preparation has been accomplished, including surface roughening where required.

Chemical mulches may be used to bind other mulches, or with wood fiber in a hydroseeded slurry at any time. Follow the manufacturer's recommendations for application.

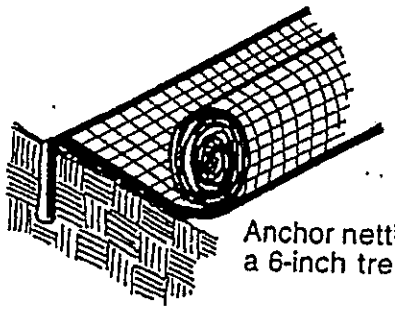
5. Fiberglass Roving. Fiberglass roving ("roving") is wound into a cylindrical package so that it can be continuously withdrawn from the center using a compressed air ejector. Roving expands into a mat of glass fibers as it contacts the soil surface. It is often used over a straw mulch, but must still be tacked with asphalt.

   Spread roving uniformly over the area at a rate of 0.25 to 0.35 lb/yd^2. Anchor with asphalt immediately after application, at a rate of 0.25 to 0.35 gal/yd^2.

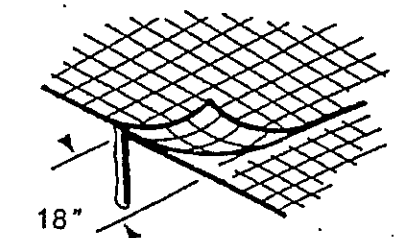
   As a channel lining, and at other sites of concentrated flow, the roving mat must be further anchored to prevent undermining. It may be secured with stakes placed at intervals no greater than 10 ft along the drainageway, and randomly throughout its width, but not more than 10 ft apart. As an option to staking, the roving can be buried to a depth of 5 inches at the upgrade end and at intervals of 50 ft along the length of the channel.



In channels, roll out strips of netting parallel to the direction of flow and over the protective mulch.



Anchor netting in a 6-inch trench.



Join strips by anchoring and overlapping.

Figure 5-6 Installation of netting and matting.

6. Nets and Mats. Nets alone generally provide little moisture conservation benefits and only limited erosion protection. Therefore, they are usually used in conjunction with an organic mulch such as straw.

   Except when wood fiber slurry is used, netting should always be installed over the mulch. Wood fiber may be sprayed on top of an installed net.

   Mats, including "excelsior" (wood fiber) blankets, are considered protective mulches and may be used alone, on erodible soils, and during all times of the year. Place the matting in firm contact with the soil and staple securely.

7. Installation of Netting and Matting. Products designed to control erosion should be installed in accordance with manufacturer's instructions. Any mat or blanket-type product used as a protective mulch should provide cover of at least 30 percent of the surface where it is applied.

   a. Apply lime, fertilizer and seed before laying the net or mat. If open-weave netting is used, lime may be incorporated before installing the net and fertilizer and seed sprayed on afterward.

   b. Start laying the net from the top of the channel or slope and unroll it down the grade. Allow netting to lay loosely on the soil but without wrinkles--do not stretch.

   c. To secure the net, bury the upslope end in a slot or trench no less than 6 inches deep, cover with soil, and tamp firmly. Staple the net every 12 inches across the top end and every 3 ft around the edges and bottom. Where 2 strips of net are laid side by side, the adjacent edges should be overlapped 3 inches and stapled together. Each strip of netting should also be stapled down the center, every 3 ft. Do not stretch the net when applying staples.

   d. To join two strips, cut a trench to anchor the end of the new net. Overlap the end of the previous roll 18 inches and staple every 12 inches just below the anchor slot.

Maintenance. Inspect all mulches periodically, and after rainstorms to check for rill erosion, dislocation, or failure. Where erosion is observed, apply additional mulch. If washout occurs, repair the slope grade, reseed, and reinstall mulch. Continue inspections until vegetation if firmly established.

Table 5-1 Mulching materials and application rates.

Material	Rate Per Acre	Quality	Notes
Organic Mulches			
Straw	1-2 tons	Dry, unchopped, unweathered; avoid weeds.	Should come from wheat or oats; spread by hand or machine; must be tacked down.
Woodchips	5-6 tons	Air dry	Treat with 12 lbs nitrogen/ton. Apply with mulch blower, chip handler, or by hand. Not for use in fine turf.
Wood fiber	0.1-1 tons		Also referred to as wood cellulose. May be hydroseeded. Do not use in hot, dry weather.
Bark	35 cubic yards	Air dry, shredded hammer-milled, or chips.	Apply with mulch blower, chip handler by hand. Do not use asphalt tack.
Sericea lespedeza seed-bearing stems	1-3 tons	Green or dry; should contain mature seed.	
Nets and Mats			
Jute net	Cover area	Heavy, uniform; woven of single jute yarn.	Withstands waterflow. Best when used with organic mulch.
Fiberglass net	Cover area		Withstands waterflow. Best when used with organic mulch.
Excelsior (wood fiber) mat	Cover area		Withstands waterflow.
Fiberglass roving	0.5-1 tons	Continuous fibers of drawn glass bound together with a non-toxic agent.	Apply with a compressed air ejector. Tack with emulsified asphalt at a rate of 25-35 gal/1000 sq ft.