FRANKLIN CONSERVATION DISTRICT

185 Franklin Farm Lane, Chambersburg, PA 17202
717.264.5499 www.franklinccd.org

Partnering with our community to conserve soil and water resources

Mission:

Partnering with our community to conserve soil and water resources.

A Guide to Developing an Effective Erosion And Sediment Pollution Control Plan

Office Address:

185 Franklin Farm Lane Chambersburg, PA 17202

***Phone**: 717.264.5499*

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***Contact**:*

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or

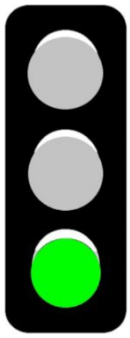
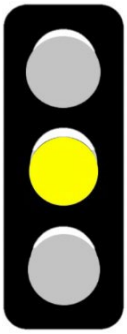
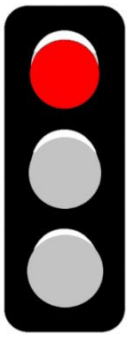
Brady Byers – bbyers@franklinccd.org

What To Submit

1. A completed District Application with the correct fees. (Page 4)
2. A Site-Specific E&S Plan. (Refer to pages 9-11 for examples)
3. A Sequence of Construction (you may use the example on page 8 if it is practical for your project).
4. Construction details for any erosion and sediment control best management practices you intend on utilizing. Details are provided within this packet. (Pages 12-23)

Are you proposing earthmoving activities on your property?

prior to any earth moving activities, contact your local conservation district and municipality to ensure compliance

	Earth disturbance = **5,000** square feet or less (Gardens, Sheds, Pools, etc.) Good to Go - Remove the grass cover and any topsoil as necessary. Any stockpiled topsoil should be seeded and straw mulched if it will remain on the property for greater than 4 days. - Complete the proposed project. - After the project is complete, re-spread topsoil, seed and straw mulch all disturbed areas. - Maintain as much of a vegetated buffer as possible on the down gradient side of the project. - If the proposed project is close to a property line, stream or wetland…the District recommends installing compost filter sock or silt fencing below the disturbed area.
	Earth disturbance = **5,000** square feet – **1** acre (House, Barns, Fill Sites, etc.) Proceed with Caution - If the proposed earth disturbance is greater than 5,000 square feet, it is recommended to contact your local Conservation District. - A written Erosion and Sediment Pollution Control plan is required. This plan will show the location of the proposed earth disturbance and its Limit of Disturbance (LOD), the existing contours (direction of existing stormwater flow), proposed contours (the direction of the stormwater after construction), E&S Best Management Practices (BMPs) such as Rock Construction Entrance, silt fence, compost filter sock, contained concrete washout. - A written E&S plan may be completed by any individual, but if the designer has no prior experience with E&S design, it is highly recommended to contact a licensed professional. - A project **may not** be broken into less than 1 acre phases to circumvent obtaining an NPDES permit.
	Earth disturbance = **1** acre or greater STOP - Consult a licensed design professional, you will need to apply for a National Pollutant Discharge Elimination System (NPDES) permit. - The NPDES permit has to be prepared by a licensed professional with prior experience in Erosion and Sedimentation pollution control and Post Construction Stormwater Management practices. - The NPDES permit application will be submitted to the Conservation District and will be reviewed ensuring consistency with 25 Pa. Code § 102.

Visit the Districts E&S webpage at https://franklinccd.org/programs/erosion-and-sediment-control-program/ for more information

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Official Use Only		*Rev. 4 - 2025.1.1*
Date Recorded:		
FCCD Log In #		
District Service Fee	$	Check #:
NPDES Permit Fee	$	Check #:
DEP Disturbed Acre Fee	$	Check #:

APPLICATION FOR DISTRICT SERVICES *please fill out ALL boxes below electronically*

Date of Submission:		Application Type:	New: ☑	Plan Modification: ☐	Renewal: ☐
Project Name:			Municipality:	*Select Municipality*	
Site Address:			Lat/Long (Decimal)		
Total Project Area in Acres (Parcel Boundary):			Total Disturbed Area in Acres (LOD):		
Receiving Water:			Ch. 93 Classification:	*Select Stream Designation*	

APPLICANT INFORMATION *(all line should be completed)*		**CONSULTANT INFORMATION** *(all lines should be completed)*	
Company Name:		Company Name:	
Applicant Contact:		Consultant Contact:	
Street Address:		Street Address:	
City, State, Zip:		City, State, Zip:	
Phone:		Phone:	
Email:		Email:	

DISTRICT SERVICE FEES (Refer to District guidelines: section III, A or Additional Fees: Section III, E, F)

☐ **Residential: $300** (Single Household under 1 acre) ☐ **Agricultural: $300** (Manure storage, barn ect. under 1 acre)

Commercial, Utility & Other: $600 Flat Fee ☐

		E&S Fee	NPDES Fee	DEP Dist. Acre Fee
0.1 - 0.99	$600 District Flat Fee	*type friendly field*		
1 - 4.99	$825 base fee + ($375/disturbed acre)		*type friendly field*	*type friendly field*
5 - 9.99	$950 base fee + ($350/disturbed acre)			
10 - 24.99	$1200 base fee + ($325/disturbed acre)			
25 - 49.99	$1850 base fee + ($300/disturbed acre)			
50+	$4300 base fee + ($250/disturbed acre)			

** Any third plan reviews or major amendment after the plan has been approved is subject to a charge of 50% of the area impacted (in acres) due to the plan modifications. This fee will be based on the current FCCD "Disturbed Acre Fee Schedule"**

CHECKS PAYABLE SECTION : Make separate check(s) payable as shown below in *RED* :

District Service Fee: "***FCCD*** "	$		
NPDES Fee: " ***FCCD Clean Water Fund*** "		Existing NPDES Permit? Check if Yes	☐
DEP Disturbed Acre Fee: " ***Commonwealth of PA Clean Water Fund*** "		Permit Number:	

The applicant agrees to comply with all the requirements of Title 25 – Chapter 102 Erosion and Sediment Pollution Control Rules and Regulations as set forth by the Pennsylvania Department of Environmental Protection and further agrees to obtain all necessary permits in connection with the above referenced project. By signing you hereby acknowledge and agree to the Franklin County Conservation District fee guidelines dated 1.1.2025.

Signature:	Date:

FCCD Application for District Services Instructions

Revised 2/12/2021

Adopted by FCCD Board of Directors, July 9, 2018, the Franklin County Conservation District has revised its Application for District Services.

These Instructions will explain step by step how to complete and submit a District Application for earth disturbances over 1 acre for a General/Individual NPDES permit, NPDES Major Amendment, an NPDES Renewal, and for earth disturbances less than acre that may include situations such as a single residential household, garage, agricultural structural facilities, Timber Harvest E&S plan, Spoil/Borrow (Fill Site) area, and review the E&S portion for Pa. Ch. 105 applications.

Starting under the "APPLICATION FOR DISTRICT SERVICES" section….

1. **Date of Submission:** fill out the section with the date in the following format…MM/DD/YYYY

2. **Application Type:** If applying for a brand-new site, either over 1 acre or under, please select the "New" box. The Amendment and Renewal Check boxes are only for sites with an active NPDES permit and will be submitting for a major plan modification or NPDES renewal respectively.

3. Project Name: Provide the project site with a unique name.

4. Municipality: To the right of the "Municipality" section is a drop-down list with all Franklin County Municipalities, click on the arrow on the right side of the cell to drop down the list. The cell is also type friendly; you may type the information in as well.

5. Site Address: Provide the most accurate mailing address for the site. If the site does not have a physical mailing address, please provide verbiage to assist the District in locating the site. Example, 200 yards to the southeast of the intersection of SR30 and High Street.

6. Lat/Long: In the boxes to the right, provide the latitude and longitude in Decimal Degrees at the center point of the site.

7. Total Project Area in Acres (NPDES Boundary): For this cell, provide the total acres for the parcel the site is located on, if the site is on multiple parcels, add the multiple parcels acreage and provide the sum.

8. Total Disturbed Area in Acres (LOD): Provide the total acres the project to be disturbed, round the acreage to **2 decimal points**. *For projects over 1 acre,* once the LOD is entered in the box to the right, the fees below should populate automatically. *For projects under 1 acre,* the fees below will not populate automatically below. You will have to select the box below that best fits the type of project you are submitting. For example, if you are proposing to building a single home, garage or addition, select the "Residential $200" box, once the box is selected, the District Service fee should populate.

9. Receiving Water: Provide the nearest water of the Commonwealth your site discharges to. If you do not know, please use the following link https://www.depgis.state.pa.us/emappa/. Zoom into your site on the map. Once you find it, in the toolbar to the left, expand "Regulated Facilities and Related Info", then expand "Streams and Water Resources". Next expand "Water Quality". Lastly, select the "Designated Use Streams". Ensure you select the boxes with the drop-down list beside them. Now, the streams should be shown, the color is dependent of its exiting or designated use. Next, click on the "identify" icon above the map. Click on the stream your site will discharge to and provide the streams name which will be shown beside the "GNIS Name". If it is blank, it is an Un-named Tributary. Under the same box you should be able to identify your streams use beside the "Use Description". If your stream does not have a name, you will have to follow the stream and click on the next stream it discharges into that does have a "GNIS Name". Example, if your stream did not have a name, you followed it down to its receiving stream of the Conococheague Creek. Then you should name your stream UNT to Conococheague Creek.

10. Ch. 93 Classification: Use the drop-down lists in the boxes to the right, click on your sites receiving waters designated/existing use. If LOD amount you earlier filled out is greater than 1 acre and you select HQ or EV (High Quality/Exceptional Value respectively), the NPDES fee will automatically update to $1500 below since you now qualify as an Individual NPDES permit. Any other selection for sites greater than 1 acre, the NPDES fee below will automatically populate as $500. To find your streams Exiting/Designated Use, please refer to the "Receiving

11. Applicant Information: In the open boxes below and to the left. Provide the Owner/Developers name, company name, the companies address, city, state, zip code with the 4-digit extension, a responsible official (projects contact), a phone number for the responsible official and their email. The boxes provided below and to the right are designated for the plan designer. Please provide the following information: the consultants company name, the licensed professional's name (whoever will be stamping the plans), consultants address, city, state, zip (4-digit extension is not needed), responsible consultant (who should the District contact if there are deficiencies found in the submission), phone number and best email address.

12. District Service Fees: The check boxes below are only for projects that entered a number *less than 1* as the LOD above. If you site is greater than 1, the boxes should be disabled. If you site is less than 1 acre and you do not need and NPDES permit, please select the box that best fits your type of project. Residential (single lot), agricultural, Timber Harvest, Fill Site, E&S review of a Ch. 105 application, or the $500 flat fee (for commercial, utility projects, and other projects). If you have questions on what type of activity your site will quality for, please contact the District.

13. Make checks payable to: In this section, all the fees should be filled out below, for projects less than 1 acre, there should only be a "District Service Fee", dependent on which box was selected above. Make all District checks payable to "**FCCD**". For projects over 1 acre, ensure all auto populated boxes are correct, the District Service fee schedule is shown above. The NPDES fee is $500 for General NPDES permits and $1500 for Individual Permits. This check should be written out to "**FCCD Clean Water Fund"**. The DEP Disturbed Acre fee should be the LOD acreage provided rounded to the *nearest* whole acre and multiplied by 100. Example, a site with an LOD of 4.49 should round down to 4 X100 =$400. For a site with an LOD of 4.5, it should round up to 5x100=$500. Please write out this check to **"Commonwealth of PA Clean Water Fund".**

14. Existing NPDES Permit: Did this site have an existing NPDES permit at any point in time? If so, provide the existing permit number.

15. Signature Portion: The applicant or a responsible agent needs to sign and date the District Application. By signing, the applicant agrees to comply with all requirements of Title 25 – Chapter 102 Erosion and Sediment Pollution Control Rules and Regulations as set forth by the Pennsylvania Department of Environmental Protection and further agrees to obtain all necessary permits in connection with the above referenced project. By signing you hereby acknowledge and agree to the Franklin County Conservation District fee guidelines dated July 2018.

How to Develop an E&S Plan Drawing

*If you are NOT confident in your ability to develop an effective Erosion and Sediment Pollution Control Plan (E&S Plan), the District recommends contacting a licensed professional for assistance. *

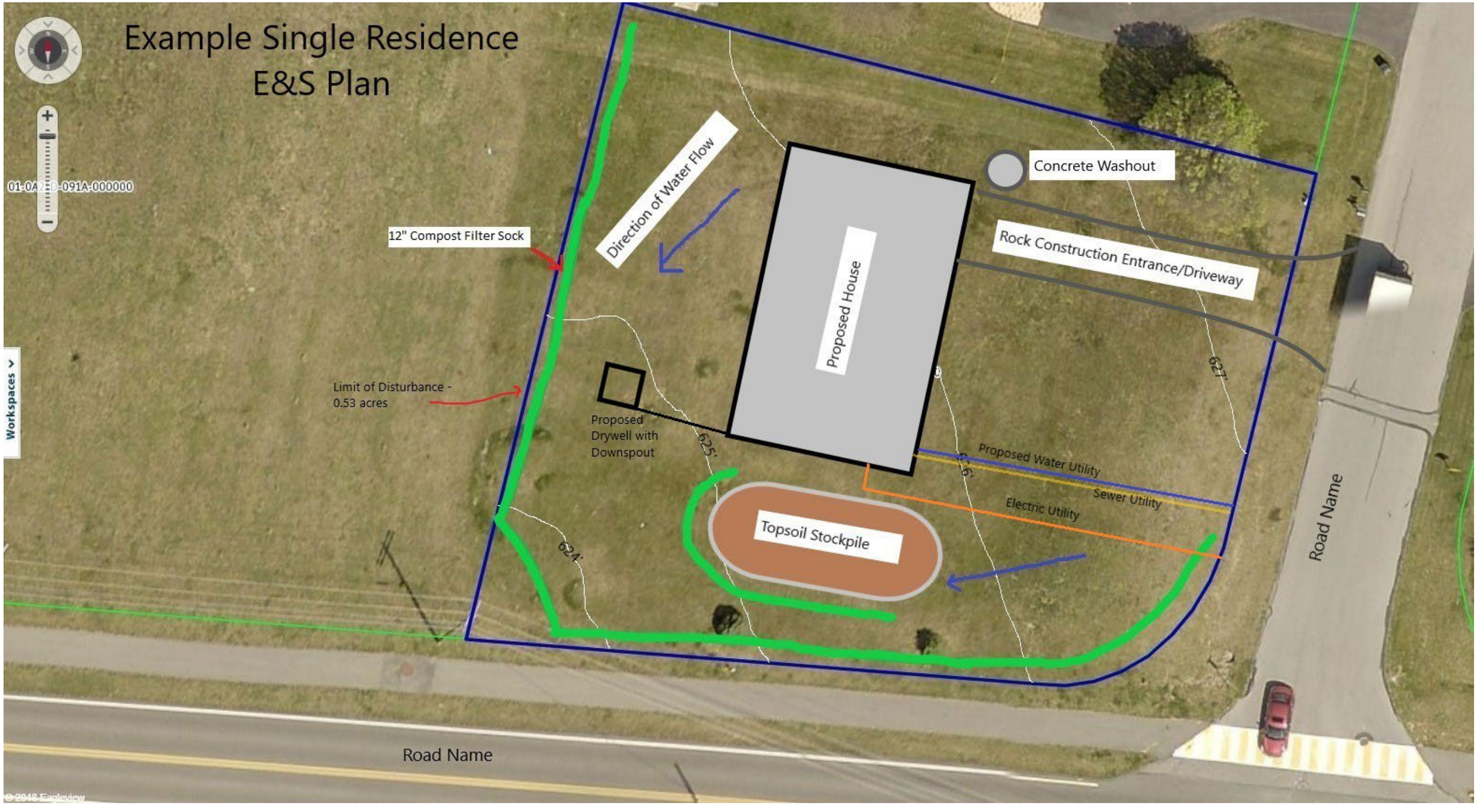
1. Obtain an aerial image or plot plan of the area you wish to conduct earth disturbance. If property lines are available, it is recommended to provide them to provide scale and location reference. Identify any sensitive resources, including but not limited to: streams, wetlands, etcetera. If your property has a sensitive resource, contact the District.
2. Draw to scale the proposed structure you wish to build with including access.
3. Draw your limit of disturbance (LOD). Please know that the LOD must include site access even if access already exists. **ALL** construction equipment must remain inside of the LOD at all times. Ensure there is sufficient space to maneuver within the site, install perimeter E&S control, all utilities, topsoil stockpiles, etcetera. If your lot is less than 1 acre, it is recommended to make the LOD the property boundary.
4. Show the location of the rock construction entrance (RCE). The minimum length of an RCE is 50', if your driveway is less than 50', the entrance must reach the proposed structure.
5. Show the location of the proposed erosion and sediment pollution control best management practices (E&S BMPs). ie – Compost filter sock, silt fencing, straw bales, concrete washout facility. They must be installed down-gradient of all proposed disturbance.
6. Show the location of the proposed topsoil stockpile(s).
7. Show the location of all proposed utilities (sewer, water, electric, etcetera). All utilities must be included within the LOD.
8. If required by the municipality, provide the location of post construction stormwater controls. (rain garden, drywell, ect.)

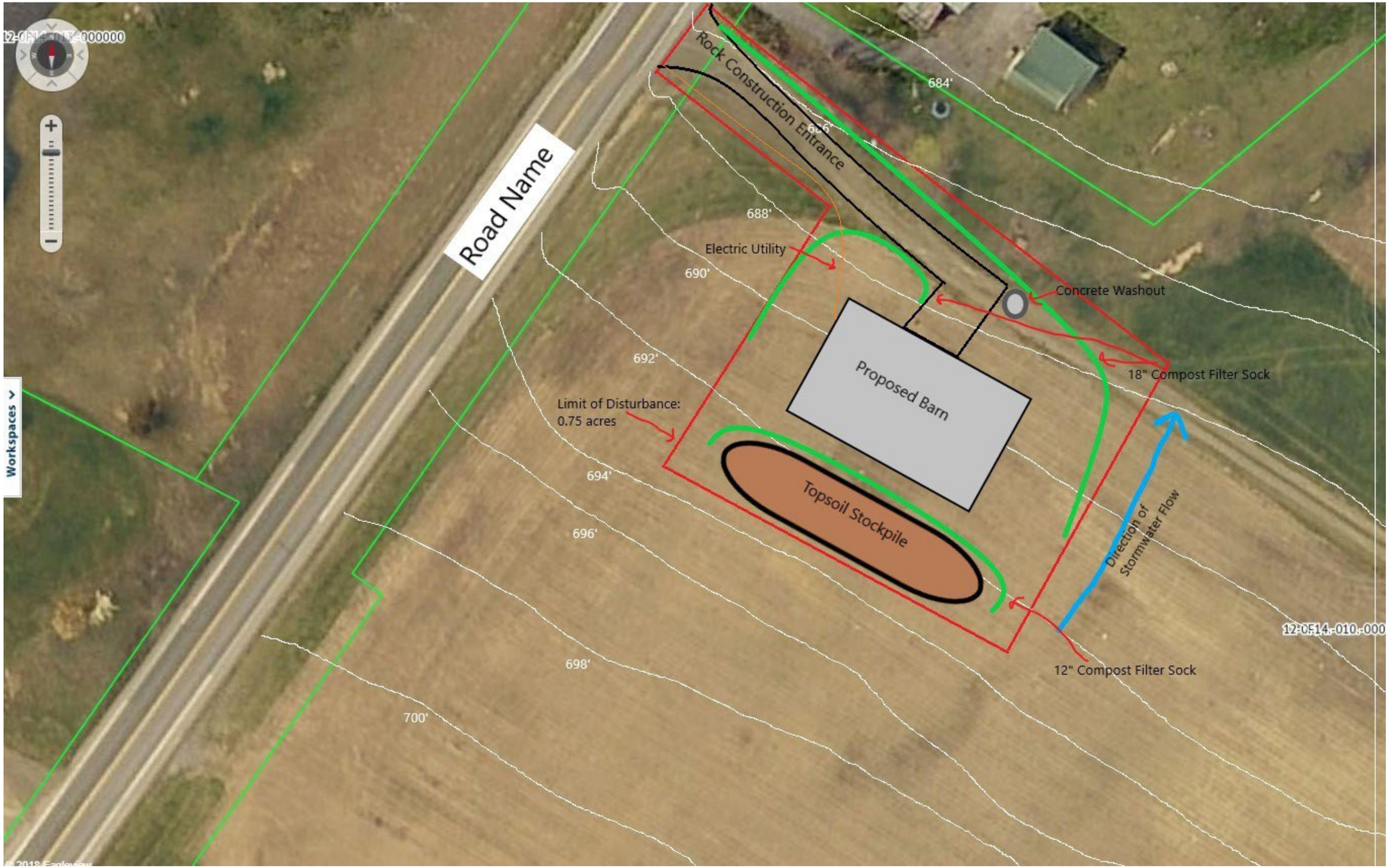
Sequence of Construction

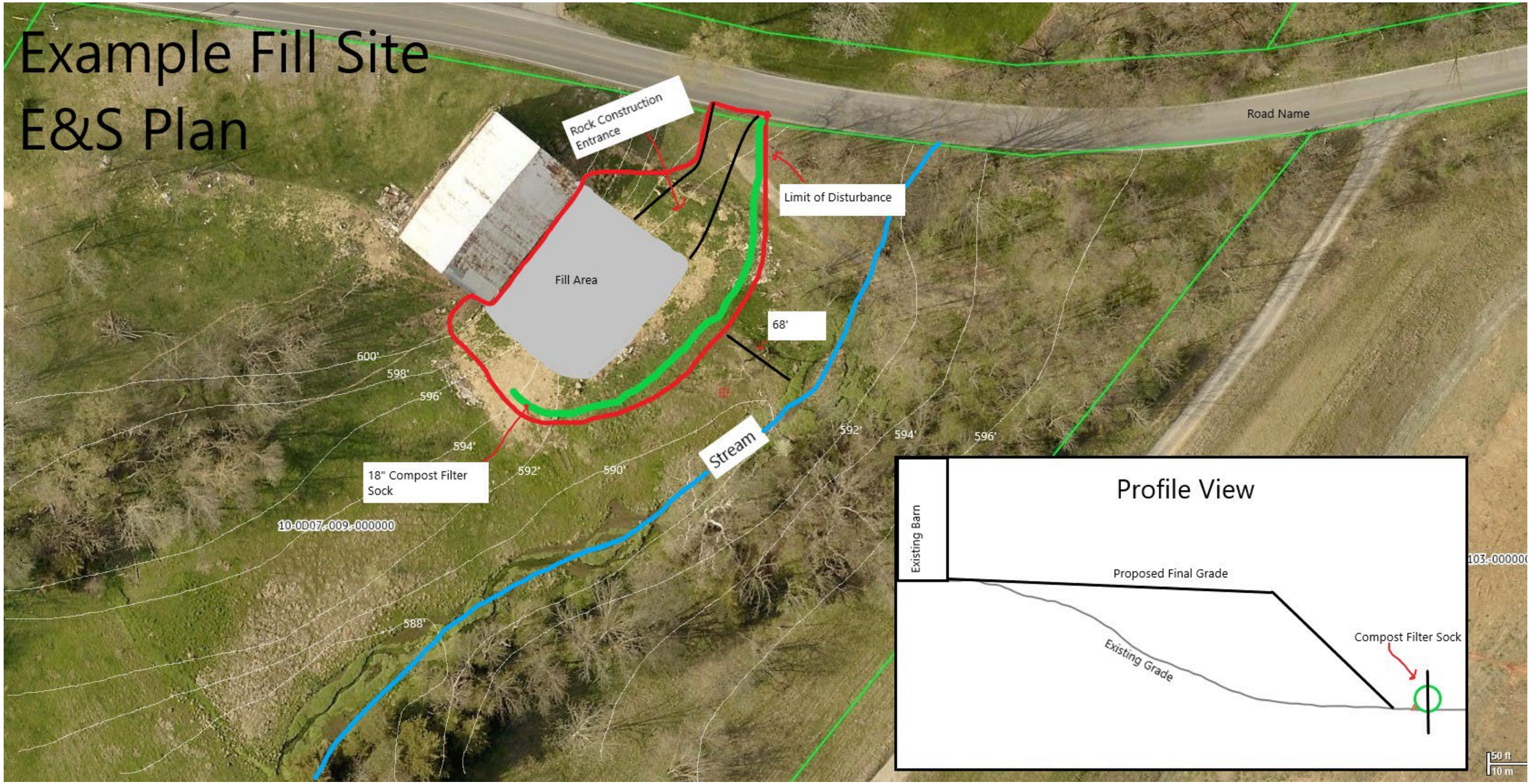
1. Clearly stake the Limit of Disturbance (LOD) ensuring construction equipment does not exit at any time for the entire duration of construction.
2. Install Rock Construction Entrance and all perimeter Compost Filter Socks (or equal alternative).
3. Clear, Grub and strip topsoil and stockpile at the location depicted on the approved E&S plan drawings. Topsoil stockpiles should be temporarily stabilized after remaining idle for greater than 4 calendar days.
4. Preform site grading for building construction. Install concrete washout prior to any concrete work.
5. Construct the proposed building and any proposed utilities.
6. As construction is finalized, the stockpiled topsoil may be distributed as necessary to complete final grading. Permanently stabilize all remaining earth disturbance with the permanent seeding mixture. Any steep slopes (3:1 or greater) or areas of concentrated flow should utilize erosion control matting.
7. Once permanent stabilization has been achieved, the owner and/or operators shall contact the Franklin County Conservation District for a final inspection prior to the removal of the BMPs.
8. After final site stabilization has been achieved, temporary erosion and sediment controls shall be removed. All disturbance created by the removal of the controls must be stabilized immediately. Permanent stabilization is defined as “A minimum uniform 70% perennial vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated surface erosion and subsurface characteristics sufficient to resist sliding and other movements”

**if the provided sequence of construction is not adequate for your proposed activity, provide an alternate sequence below…

Alternate Sequence of Construction


Example Single Residence
E&S Plan
12" Compost Filter Sock
Direction of Water Flow
Concrete Washout
Rock Construction Entrance/Driveway
Proposed House
Limit of Disturbance -
0.53 acres
Proposed
Drywell with
Downspout
625'
627'
Proposed Water Utility
Sewer Utility
Electric Utility
Topsoil Stockpile
624'
Road Name
Road Name
Workspaces

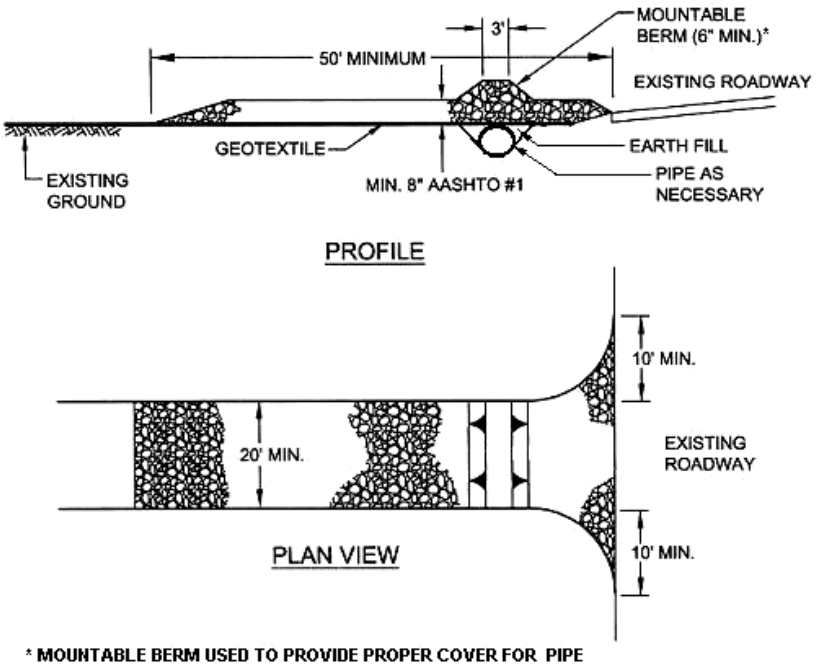

Road Name
Rock Construction Entrance
684'
686'
688'
Electric Utility
690'
Concrete Washout
692'
18" Compost Filter Sock
Proposed Barn
Limit of Disturbance:
0.75 acres
694'
Topsoil Stockpile
696'
Direction of
Stormwater Flow
698'
12" Compost Filter Sock
700'
Workspaces


Example Fill Site
E&S Plan
Rock Construction Entrance
Road Name
Limit of Disturbance
Fill Area
68'
600'
598'
596'
594'
592'
590'
588'
18" Compost Filter Sock
Stream
10-0D07-009-000000
Profile View
Existing Barn
Proposed Final Grade
Existing Grade
Compost Filter Sock
50 ft
10 m

Sediment deposited on public roadways should be removed and returned to the construction site immediately. **Note: Washing the roadway or sweeping the deposits into roadway ditches, sewers, culverts, or other drainage courses is not acceptable.**

Rock construction entrances are not effective sediment removal devices for runoff coming off the roadway above the entrance. Surface runoff should be directed off the roadway by means of appropriate drainage devices described later in this chapter. Where these devices do not discharge to a suitable vegetative filter strip, an appropriately sized sediment trap should be provided. For locations not having sufficient room for a conventional sediment trap, consideration should be given to use of a compost sock sediment trap. Compost sock traps may also be used instead of conventional sediment traps at other points of discharge. Where used, care should be taken to provide continuous contact between the sock and the underlying soil in order to prevent undermining. It is also important to properly anchor the sock (Standard Construction Detail #3-1).

STANDARD CONSTRUCTION DETAIL # 3-1
Rock Construction Entrance



Modified from Maryland DOE

Remove topsoil prior to installation of rock construction entrance. Extend rock over full width of entrance.

Runoff shall be diverted from roadway to a suitable sediment removal BMP prior to entering rock construction entrance.

Mountable berm shall be installed wherever optional culvert pipe is used and proper pipe cover as specified by manufacturer is not otherwise provided. Pipe shall be sized appropriately for size of ditch being crossed.

MAINTENANCE: Rock construction entrance thickness shall be constantly maintained to the specified dimensions by adding rock. A stockpile shall be maintained on site for this purpose. All sediment deposited on paved roadways shall be removed and returned to the construction site immediately. If excessive amounts of sediment are being deposited on roadway, extend length of rock construction entrance by 50 foot increments until condition is alleviated or install wash rack. Washing the roadway or sweeping the deposits into roadway ditches, sewers, culverts, or other drainage courses is not acceptable.

Silt Fence

Silt Fence May Not be Used:

1. Where the slope length above the silt fence exceeds the maximum allowable.
2. Across or below areas of concentrated flows such as ditches, channels, and entrances to/outfalls of culvert pipes.
3. In areas where rock or rocky soils prevent the full and uniform anchoring of the fence toe.
4. On uncompacted fill or extremely loose soils.
5. Where site layout does not allow for placement on level grade.
6. In multiple rows on a continuous slope.

Installation & Maintenance

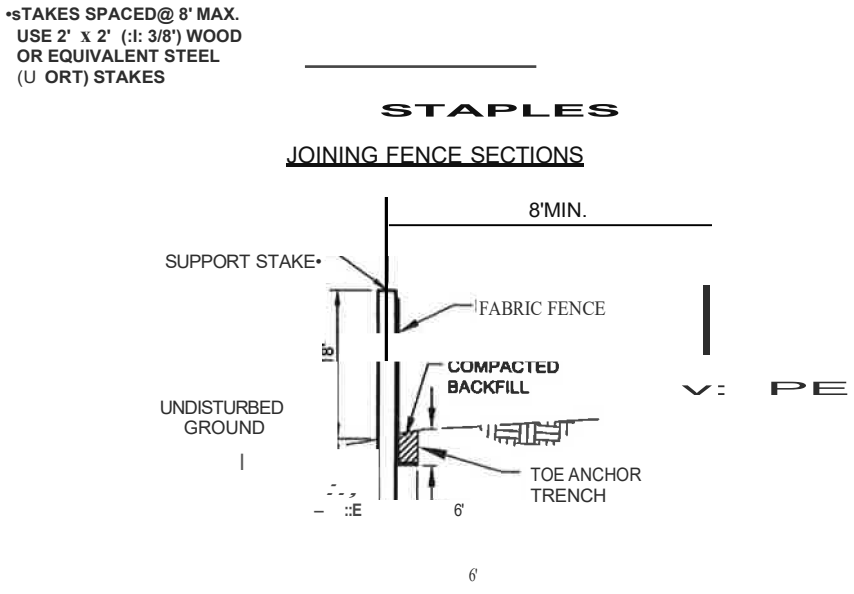
Filter fabric fence must be installed at existing level grade. Both ends of each fence section must be extended at least 8 feet upslope at 45 degrees to the main fence alignment.

Silt fence ends (stakes & fabric) need to wrapped at least one complete turn.

Sediment must be removed where accumulations reach 1/2 the above ground height of the fence.

Any fence section which has been undermined or topped must be immediately replaced with a rock filter outlet (see page 25).

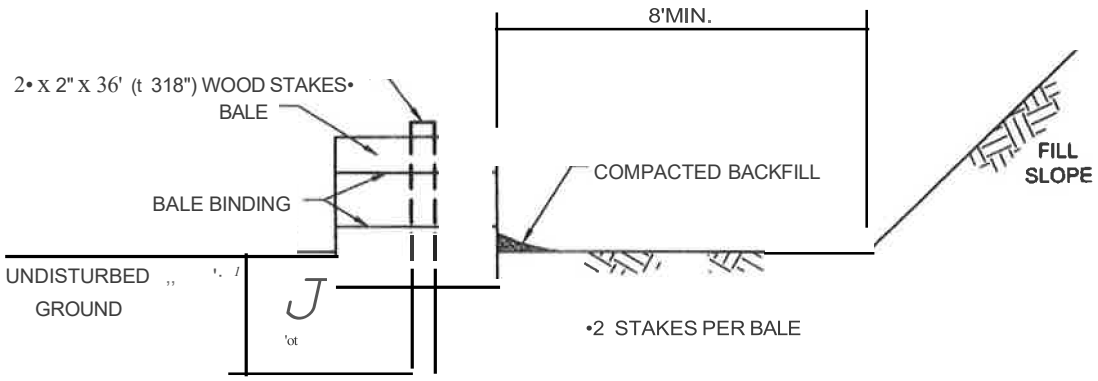
Standard Silt Fence (18" High)



ELEVATION VIEW

Slope - Percent	Maximum Slope Length (ft) Above Fence	
	18" High Fence	30" High Fence*
2 (or less)	150	500
5	100	250
10	50	150
15	35	100

Straw Bale Barrier Detail



Straw Bale Barriers shall not be used for projects extending more than 3 months.

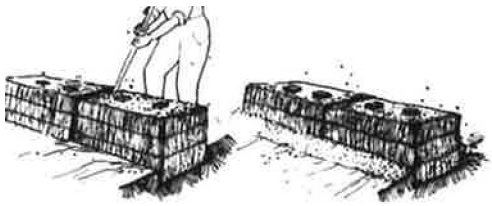
Straw Bale Barriers shall be placed at existing level grade with ends tightly abutting the adjacent bales. First stake of each bale shall be angled toward adjacent bale to draw bales together. Stakes shall be driven flush with the top of the bale. Both ends of the barrier shall be extended at least 8 feet up slope at 45 degrees to the main barrier alignment.

Compacted backfill to extend approximately 4 inches above ground level.

Sediment shall be removed when accumulations reach 1/3 the above ground height of the barrier. Damaged or deteriorated bales shall be replaced immediately upon inspection.

Any section of Straw Bale Barrier which has been undermined or topped shall be immediately replaced with a Rock Filter Outlet (See page 25).

1. EXCAVATE THE TRENCH. 2. PLACE AND STAKE STRAW BALES



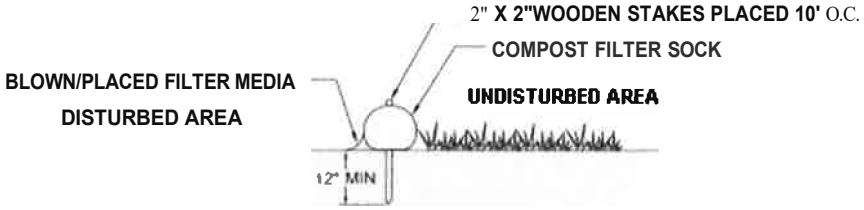
3. WEDGE LOOSE STRAW BETWEEN BALES - BACKFILL AND COMPACT THE LOOSE son.. (ANCHOR TOEI

Maximum Slope Lengths for Straw **Bale** Barriers

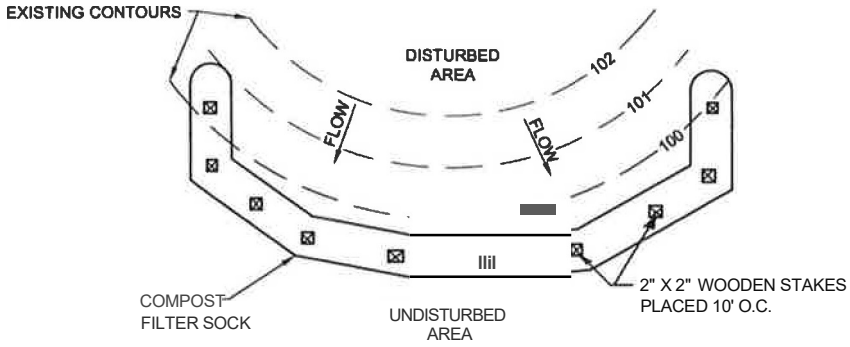
Slope - Percent	Maximum Slope Length (ft) Above **Barrier**
2 (or less)	150
5	100
10	50
15	35

See Restrictions for use (same as for silt fence) on page 20.

Compost Filter Sock



SECTIONVIEW



PLAN VIEW

Slope - Percent	Maximum Slope Length (ft) Above Filter Sock			
	12" (min diameter) Filter Sock	18" (min diameter) Filter Sock	24••(min diameter) Filter Sock	32'' (min diameter) Filter Sock
2 (or less)	500	700	1000	1300
5	250	350	500	650
10	150	250	300	400
15	100	200	250	350

Compost Filter Sock shall be placed at existing level grade. Both ends of the sock shall be extended at least 8 feet up slope at 45 degrees to the main sock alignment. Maximum slope length above any sock shall not exceed that shown in table above.

Traffic shall not be permitted to cross filter socks.

Accumulated sediment shall be removed when it reaches ½ the above ground height of the sock.

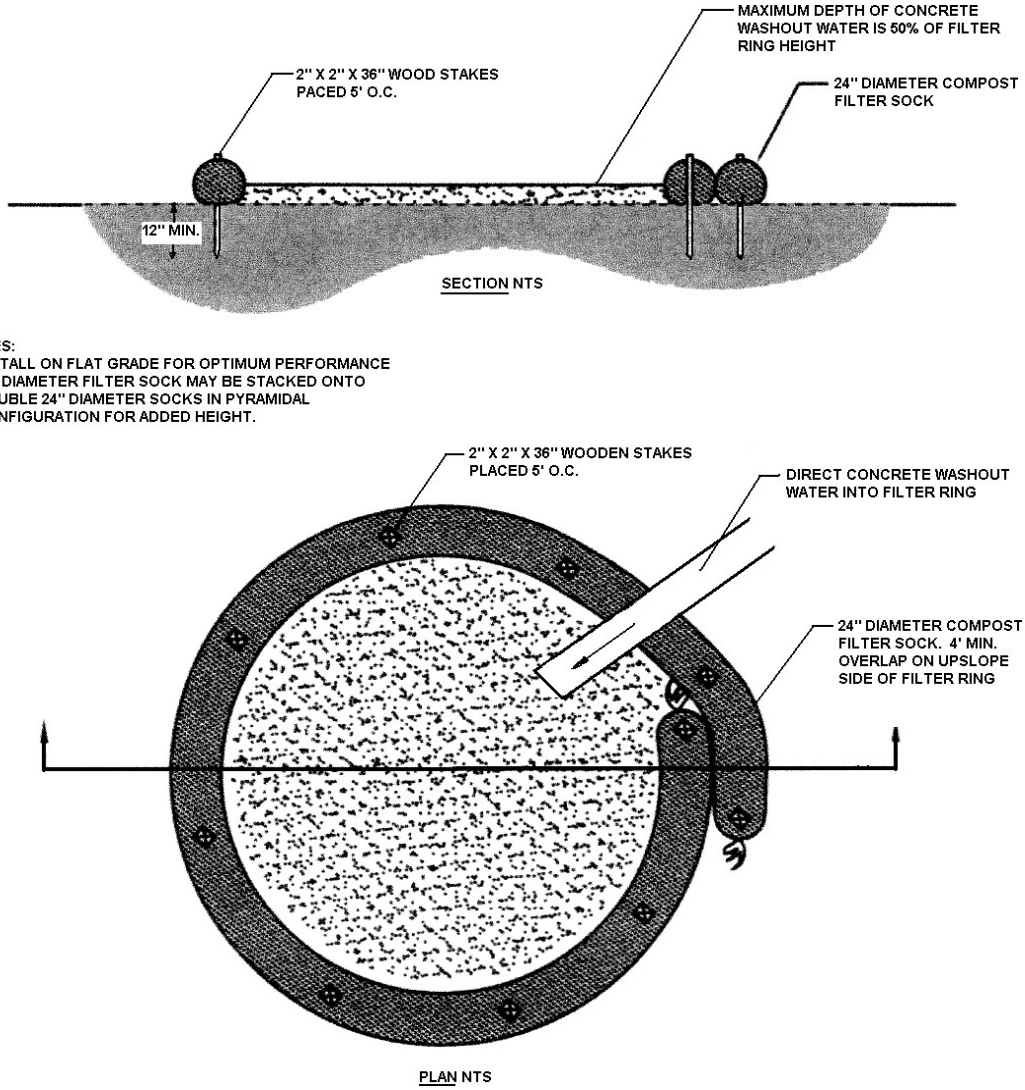
Socks shall be inspected weekly and after each runoff event. Damaged socks shall be repaired according to manufacturer's specifications or replaced within 24 hours of inspection.

Biodegradable filter sock shall be replaced after 6 months; photodegradable socks after 1 year. Polypropylene socks shall be replaced according to manufacturer's recommendations.

Upon stabilization of the area tributary to the sock, stakes shall be removed. The sock may be left in place and vegetated or removed. In the latter case, the mesh shall be cut open and the mulch spread as a soil supplement.

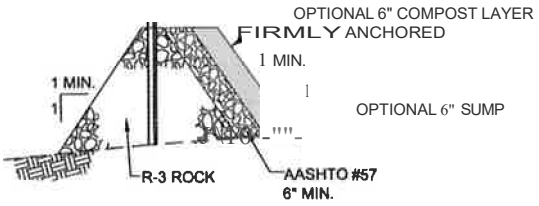
Filtrexx

FIGURE 3.18
Typical Compost Sock Washout Installation

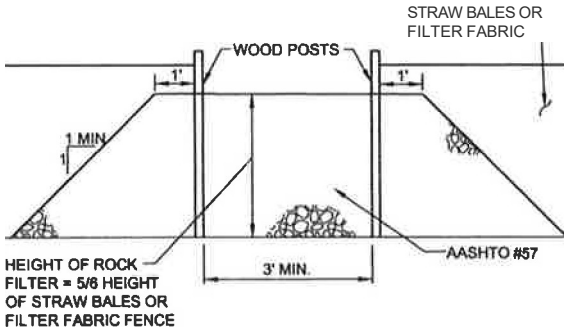


A suitable impervious geomembrane shall be placed at the location of the washout prior to installing the socks.
Adapted from Filtrexx

Rock Filter Outlet



OUTLET CROSS-SECTION

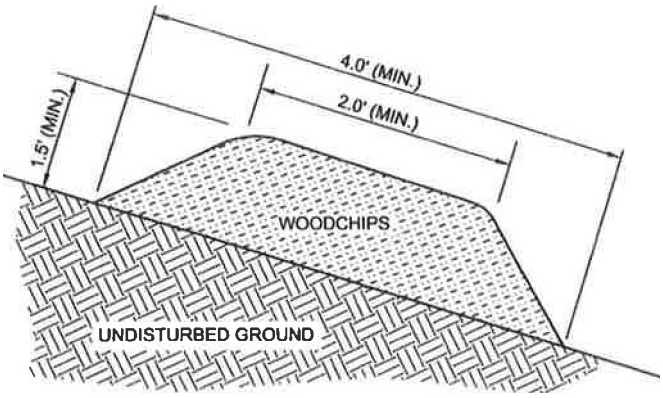


UP-SLOPE FACE

A Rock Filter Outlet shall be installed where failure of a Straw Bale Barrier or Filter Fabric Fence has occurred due to concentrated flow.

Sediment must be removed when accumulations reach 1/3 the height of the outlet.

Wood Chip Filter Berm



Slope - Percent	Maximum Slope Length (ft) above Wood Chip Filter Berm
2 (or less)	500
5	250
10	150
15	100

Prior to placement of the berm, obstructions such as tree limbs, large rocks, etc. shall be removed.

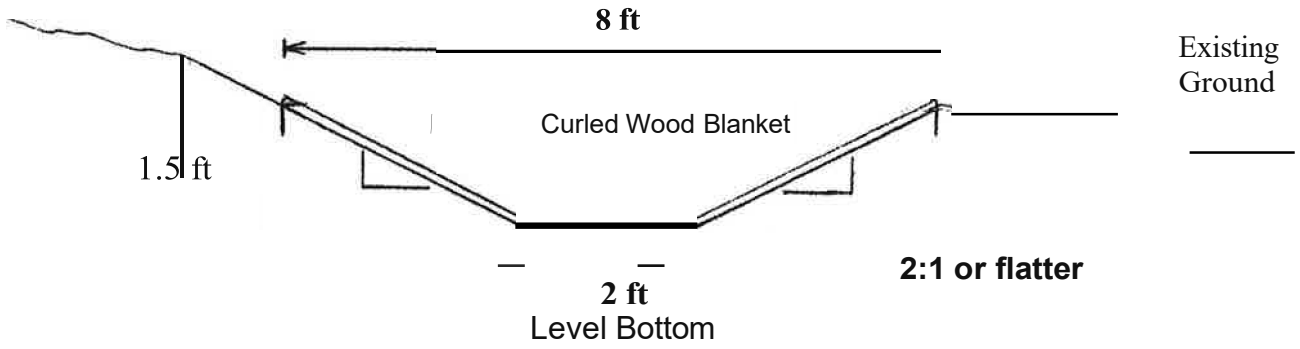
Wood Chip Filter Berm shall be placed at existing level grade. Both ends of the berm shall be extended at least 8 feet up slope at 45 degrees to the main barrier alignment. Wood Chip Berms may not be located in areas of concentrated flow or used to construct sediment traps or other impoundments.

A 6" thick layer of compost shall be added to the upslope side of any wood chip filter berm located in a Special Protection Watershed.

Berms shall be inspected weekly and after each runoff event. Sediment shall be removed when accumulations reach 1/2 the above ground height of the berm. Damaged or deteriorated portions of the berm shall be replaced immediately upon inspection.

Berms may be leveled when the tributary area has been permanently stabilized or left in place.

Temporary Diversion Channel
Cross Section Detail
(for drainage areas less than or= 2 acres)



Construction Specifications

1) Diversion channel(s) must be located up slope of all proposed disturbed areas and must have positive uninterrupted grade (minimum 2%) over the entire length of the channel.

2) Diversion channels must outlet to an undisturbed stable area and not create erosion at the outlet or offsite stormwater problems. Diversion Channels may not outlet onto adjacent properties without written permission of the affected property owners.

3) Minimum 2% channel grade (bed slope) and maximum 9% channel grade.

4) Any fill material used in the construction of the channel must be properly compacted with earthmoving equipment.

5) The channel shall be graded so as to be free of rocks, tree roots, stumps or other projections that would impede normal channel flow. The channel shall be initially overexcavated 6" to allow for the placement of topsoil.

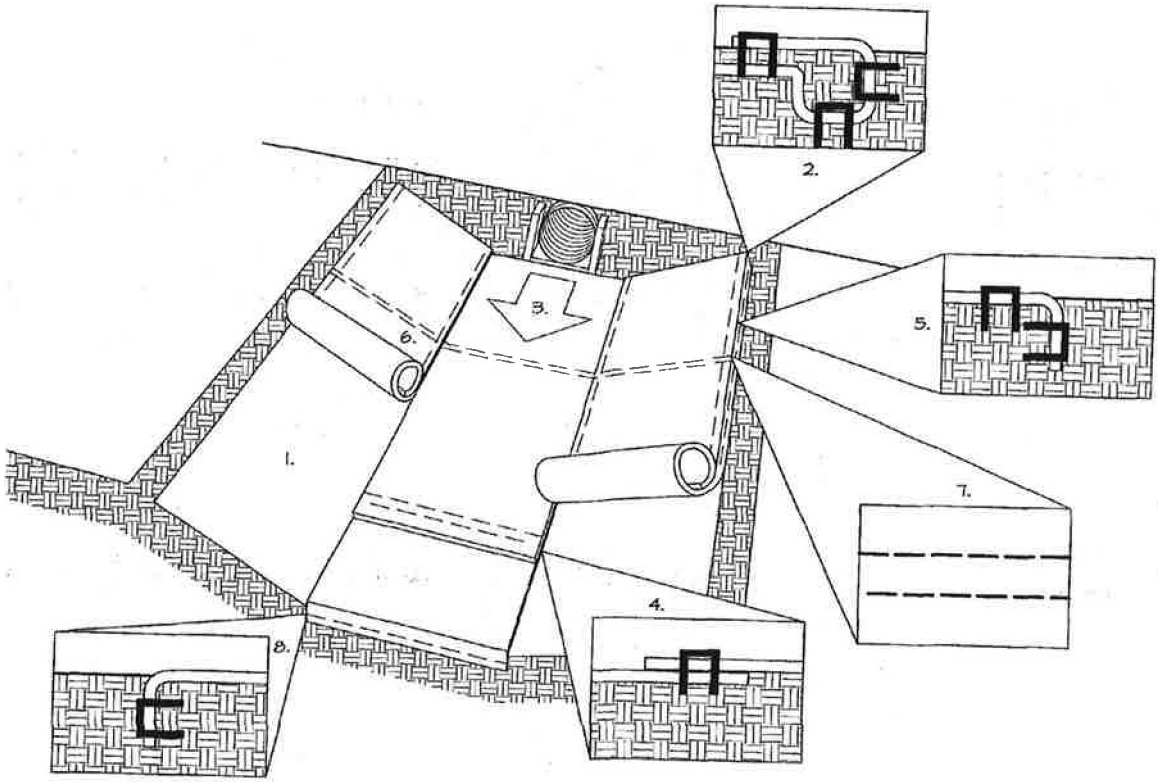
6) Immediately spread topsoil, seed, lime and fertilize per the permanent stabilization specifications on pages 10-11 and install a temporary curled wood blanket. For steeper channels or channels located in wooded areas where fallen leaves and heavy shade prohibit establishment of grass consideration should be given to use of a permanent turf reinforcement mat in lieu of a temporary curled wood blanket.

Maintenance

All channels must be kept free of obstructions such as fill ground, fallen leaves and branches, accumulated sediment and construction materials. Repair any washouts or settling. Keep mowed and free of brushy and/or woody growth. Inspect weekly and immediately after every runoff event.

Erosion Control Blanket Channel Installation

(Always use the manufacturer's installation instructions when provided)



1. Prepare soil before installing blankets, including any necessary application of lime, fertilizer, and seed.

2. Begin at the top of the channel by anchoring the blanket in a 6" deep X 6" wide trench with approximately 12" of blanket extended beyond the up-slope portion of the trench. Anchor the blanket with a row of staples/stakes approximately 12" apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to compacted soil and fold remaining 12" portion of blanket back over seed and compacted soil. Secure blanket over compacted soil with a row of staples/stakes spaced approximately 12" apart across the width of the blanket.

3. Roll center blanket in direction of water flow in bottom of channel. Blankets will unroll with appropriate side against the soil surface. All blankets must be securely fastened to soil surface by placing staples/stakes. Place staples/stakes equaly spaced 3 feet apart (5 staples per square yard).

4. Place consecutive blankets end over end (shingle style) with a 4" - 6" overlap. Use a double row of staples staggered 4" apart and 4" on center to secure blankets.

5. Full length edge of blankets at top of side slopes must be anchored with a row of staples/stakes approximately 12" apart in a 6" deep X 6" wide trench. Backfill and compact the trench after stapling.

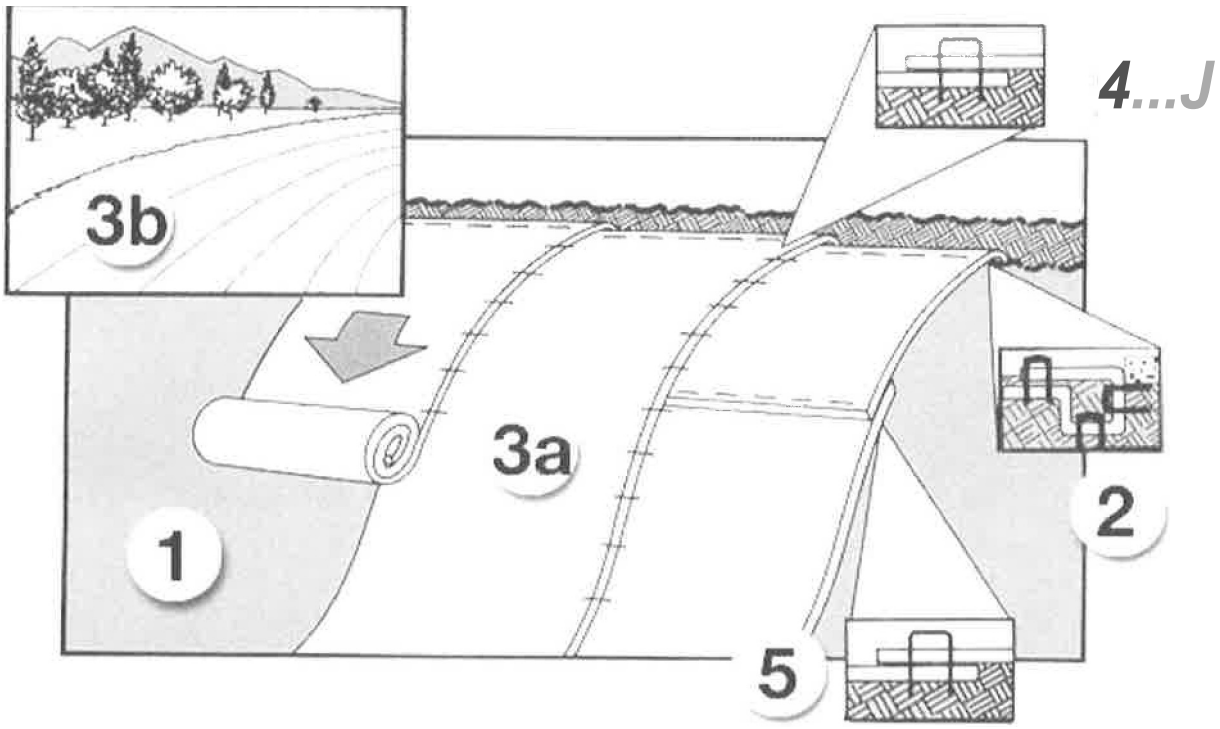
6. Adjacent blankets must be overlapped approximately 2" - 5" (depending on blanket type) and stapled.

7. The terminal end of the blankets must be anchored with a row of staples/stakes approximately 12" apart in a 6" deep X 6" wide trench. Backfill and compact the trench after stapling.

Notes: Horizontal staple spacing should be altered if necessary to allow staples to secure the critical points along the channel surface. In loose soil conditions, the use of staple or stake lengths greater than 6" may be necessary to properly anchor the blankets.

Erosion Control Blanket Slope Installation

(Always use the manufacturer's installation instructions when provided)



1. Prepare soil before installing blankets, including any necessary application of lime, fertilizer, and seed.

2. Begin at the top of the slope by anchoring the blanket in a 6" deep X 6" wide trench with approximately 12" of blanket extended beyond the up-slope portion of the trench. Anchor the blanket with a row of staples/ stakes approximately 12" apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to compacted soil and fold remaining 12" portion of blanket back over seed and compacted soil. Secure blanket over compacted soil with a row of staples/stakes spaced approximately 12" apart across the width of the blanket.

3. Roll the blankets (a) down or (b) horizontally across the slope. Blankets will unroll with appropriate side against soil surface. All blankets must be securely fastened to soil surface by placing staples/stakes. Place staples/stakes equaly spaced 3 feet apart (5 staples per square yard).

4. The edges of parallel blankets must be stapled with approximately 2" - 5" overlap depending on blanket type.

5. Consecutive blankets spliced down the slope must be placed end over end (shingle style) with an approximate 3" overlap. Staple through overlapped area, approximately 12" apart across entire blanket width.

Note: In loose soil conditions, the use of staple or stake lengths greater than 6" may be necessary to properly secure the blankets.

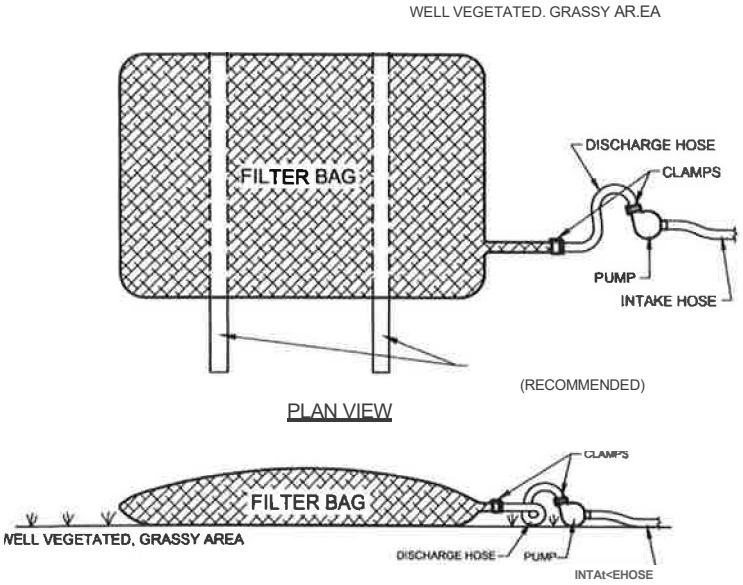
Erosion and Sediment Control Measures for Geothermal and Water Wells

An excavated shallow trench, 10 to 15 feet long, should be provided immediately downgrade of the well to allow for well cuttings and solids to drop out of flow. The downstream edge of the trench should be level to allow **water** to spill out uniformly over the entire length of the trench. A semi-circle of silt fence, or straw bales should be installed downgrade of the trench for further sediment removal.

From the trench, overland flow should be directed as sheet flow across a thickly vegetated area. This vegetated filter must conform to slope requirements discussed for vegetative filter strips in the E&S Manual. As indicated, a minimum of 50 feet of vegetated terrain must be available between the trench and the nearest down slope water conveyance. If adequate vegetation is not available downgrade of the well site, or if the minimum distance to water conveyance is less than 50 feet refer to DEP Fact sheet.

Pumped Water Filter Bag

If encounter underground water and/or need to pump sediment laden water



ELEVATION VIEW

A suitable means of accessing the bag with machinery required for disposal purposes must be provided. Filter bags shall be replaced when they become ½ full. Spare bags shall be kept available for replacement of those that have failed or are filled. It is recommended that bags be placed on straps to facilitate removal.

Bags shall be located in well-vegetated (grassy) area, and discharge onto stable, erosion resistant areas. Where this is not possible, a geotextile underlayment and flow path shall be provided. Bags may be placed on filter stone to increase discharge capacity. Bags shall not be placed on slopes greater than 5%. For slopes exceeding 5%, clean rock or other non-erodible and nonpolluting material may be placed under the bag to reduce slope steepness.

The pumping rate shall be no greater than 750 gpm or½ the maximum specified by the manufacturer, whichever is less. Pump intakes should be floating and screened.

Filter bags shall be inspected daily. If any problem is detected, pumping shall cease immediately and not resume until the problem is corrected.

TEMPORARY & PERMANENT STABILIZATION

Temporary Seeding and Mulching

Apply the following:

Seed: 40 lbs. per acre (1 lb per 1,000 sq.ft.) Annual Ryegrass (anytime) **(or)**
96 lbs. per acre (2 lbs per 1,000 sq.ft.) Spring Oats during spring months **(or)**
168 lbs. per acre (4 lbs per 1,000 sq.ft.) Winter Rye during fall months

Mulch & Tackifier: Same as for Permanent Seeding and Mulching below.

Lime: 1 ton per acre ground agricultural limestone (46 lbs. per 1,000 sq. ft.)

Fertilizer: 1000 lbs. per acre 5-5-5 (23 lbs per 1,000 sq.ft.)

Permanent Seeding and Mulching

Attach and use soil test results and recommendations (preferred) before permanently seeding (or) use the recommendations below. Mulching is required for all applications. Soil tests are available from Penn State Cooperative Extension. Spring (March, April, and early May) is the best time for permanent seeding but disturbed areas can be seeded anytime from early spring to fall. Grasses generally requir at least 4 to 6 weeks of growth prior to hard frosts and legume seedings need at least 10 to 12 weeks prior to hard frosts in the fall. (PSU)

Apply the following:

1) **At least 6" of topsoil and rake.**

2) **Suggested Permanent Seed Mixtures for Lawn and Mowed Areas (PSU)**

•OPEN, SUNNY LOCATIONS AND WELL-DRAINED SOILS

Southeastern Pennsylvania (south and east of South mountains)

Kentucky bluegrass	100%	at 2-3 lb per 1,000 sq ft
Kentucky bluegrass	80-90%	
Perennial ryegrass	10-20%	
Kentucky bluegrass	40-60%	
Fine fescues	30-40% }	at 3-4 lb per 1 000 sq
Perennial ryegrass	10- 0% }	'
Turf-type tall fescue	1001/o	at 6-8 lb per 1,000 sq ft
Turf-type perennial ryegrass	100%	at 3-4 lb per 1,000 sq at 4-5 lb per 1,000 sq ft

Other areas of Pennsylvania-all seed mixtures and rates listed above or

Fine fescues	100%	at 4-5 lb per 1,000 sq ft

•MODERATE-TO-PARTIAL SHADE

Fine fescues	40-50ro }	
Kentucky bluegrass	40-501/o	at 4 lb per 1,000 sq ft
Perennial ryegrass	10-20%	
		Fine fescues 100% at 4-5 lb per 1,000 sq ft
Turf-type tall fescue	100%	at 6-8 lb per 1,000 sq ft

•HEAVY SHADE, WELL-DRAINED SOILS

Fine fescues	100%	at 4-5 lb per 1,000 sq ft

•HEAVY SHADE, POORLY-DRAINED SOILS

Rough bluegrass *(Poa trivia/is)*	100%	at 2-3 lb per 1,000 sq ft

•SLOPES OR UNMOWED AREAS

Tall Fescue	75% }	
Birdsfoot Trefoil.	25%	at 1.0 lb per 1,000 sq ft

* All seed mixtures given above are for 100% Pure Live Seed (PLS). To calculate PLS, the percentage of pure seed is multiplied by the percentage of germination, and the product is divided by 100. For example, take 85% pure seed X 72% germination then divide by 100 to get 61%PLS. To determine how much seed to plant, divide the percentage into 100. For example 100 divided by 61 = 1.63. 1.63 lbs. of seed will need to be planted for every pound called for above.

3) **Add a nurse crop to the permanent grass mixture for rapid stabilization and shade for establishment of permanent grasses.**

- Annual ryegrass 5 lbs. per acre (0.12 lbs per 1,000 sq. ft.)
- Spring Oats 64 lbs. per acre (1.5 lbs per 1,000 sq. ft.)
- Winter Rye 56 lbs. per acre (1.3 lbs per 1,000 sq. ft.)

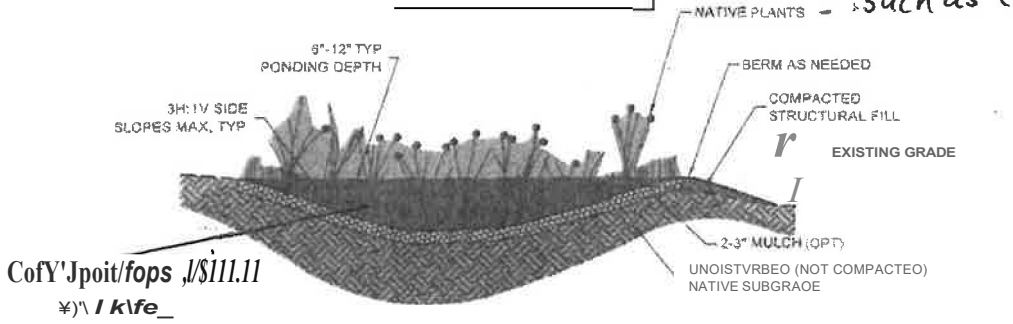
4) **Mulch & Tackifier:**

2 tons per acre (92 lbs. per 1,000 sq. ft.) (about 100 bales) clean straw or hay mulch. Straw or hay mulch may be anchored to the ground with application of 800 to 1000 lbs. per acre of cellulose fiber sprayed over the mulch. Mulch may also be held in place by commercial netting or crimped into the soil with the use of a heavy tractor-drawn disk harrow with the blades set straight. Straw mulching is the preferred method of mulching.

5) **Lime:** In absence of soil test, **4** tons per acre ground agricultural limestone (184 lbs. per 1,000 sq. ft.)

6) **Fertilizer:** In absence of soil test, 1,000 lbs. per acre 10-20-20 (23 lbs. per 1,000 sq. ft.)

Rain Garden



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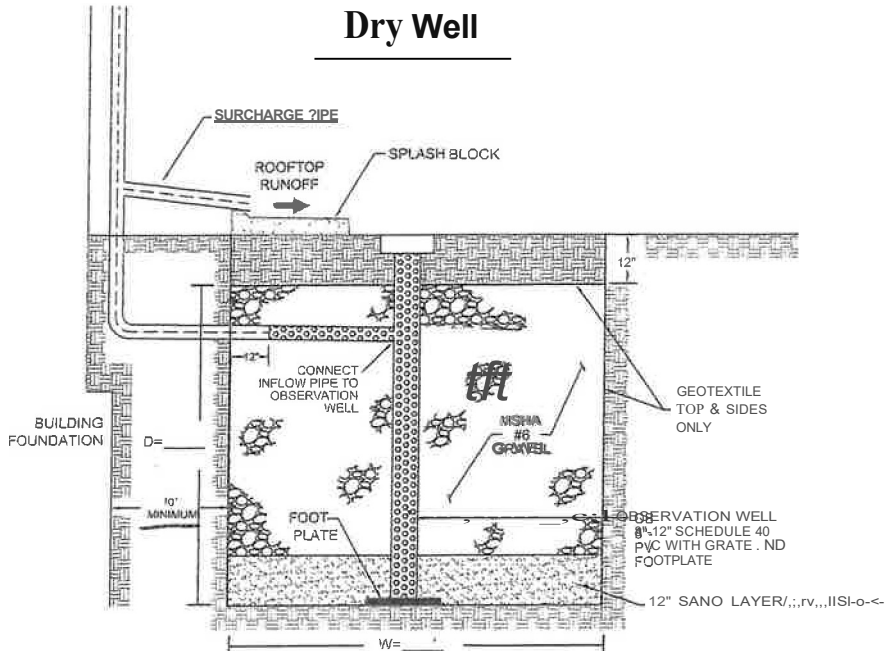
Dry Well



Infiltration Trench

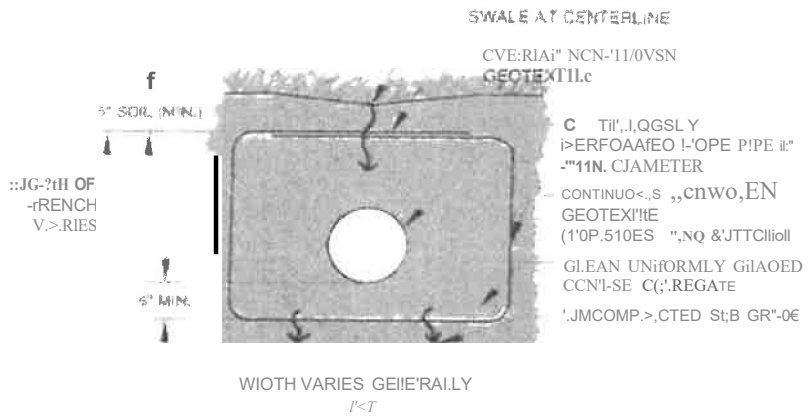


Figure 6.4-1