

SPRING & HILL KANSAS

SINGLE FAMILY RESIDENTIAL EROSION AND SEDIMENT CONTROL STANDARDS

First Edition, 2011
Ordinance # 2011-18



This manual contains standard plans and procedures for typical residential building construction. It is not intended to cover all situations that may occur on a building site. It is the permit holder's responsibility to ensure adequate erosion and sediment control measures are in place to prevent erosion and minimize sediment leaving the building site.

References:

Kansas Department of Health and Environment
Best Management Practices Manual

Developed and provided by the Spring Hill Public Works Department

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SEDIMENT CONTROL STANDARDS**

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BMP INSTALLATION SEQUENCING

A. GENERAL NOTES.

1. BMP's – Best Management Practices: Examples include silt fence, wattles, straw, mat seed and mulch.
2. Inlet Protection: Ensure that the BMP's are in place and functioning for both area inlets and curb inlets along the street frontage.
3. Protection of Adjacent Lots: Install BMP's along the common lot line of an adjacent sodded or seeded lot.
4. Grading/Excavating: Where possible, install all BMP's prior to any grading or excavation activities.
5. Stabilize Stockpiles: Install BMP's to stabilize stockpiles to prevent sediment from reaching the street.
6. Backfill: Complete installation of all BMP's as per specified design, i.e., Type A, B, C or per other engineered design.
7. Temporary Construction Entrance: See details.
8. Maintenance: The builder is responsible for maintaining and repairing all BMP's on their lot, as needed throughout construction. This includes daily rock, mud and soil removal from all streets adjacent to lot.
9. Final Grading: BMP's may be removed in order to complete final grading and sodding of lot. If sodding of the lot is delayed, the contractor will be required to install BMP's until the sod can be put down.
10. As part of the plot plan approval, all required BMP's shall be shown on every plot plan before they will be approved.

INSPECTIONS – CONTRACTOR

A. RESPONSIBILITIES.

1. The permit holder is responsible for the on-going maintenance of all lot specific erosion and sediment control devices.
2. Periodic inspection shall be whatever is deemed necessary to ensure that all erosion and sediment control measures are functioning as designed. In addition to the standard periodic inspections, City ordinance requires that an inspection be conducted after each rain event of ½ inch or more in a 24-hour period. Any problems noted during these inspections shall be corrected immediately.
3. Once construction has begun, the permit holder is responsible for the maintenance of erosion and sediment control measures protecting area inlets on their lots, as well as curb inlets along street frontage. It is critical that sediment not be allowed to invade the storm sewer system.
4. The permit holder is responsible to ensure that rocks, mud and dirt are not allowed to erode onto the City streets and sidewalks, nor track onto the streets by construction vehicles. It is recommended that subcontractors only park their vehicles on the stabilized drive or on the street. Should rock, mud, dirt or other debris be tracked onto the streets, the contractor shall take immediate steps to have it cleared and or cleaned off.
5. If the utilities are installed after BMP's have been put in place, the permit holder is responsible for control of erosion and sediment during this construction process and they are responsible to ensure that all BMP devices are reinstalled per the original design.

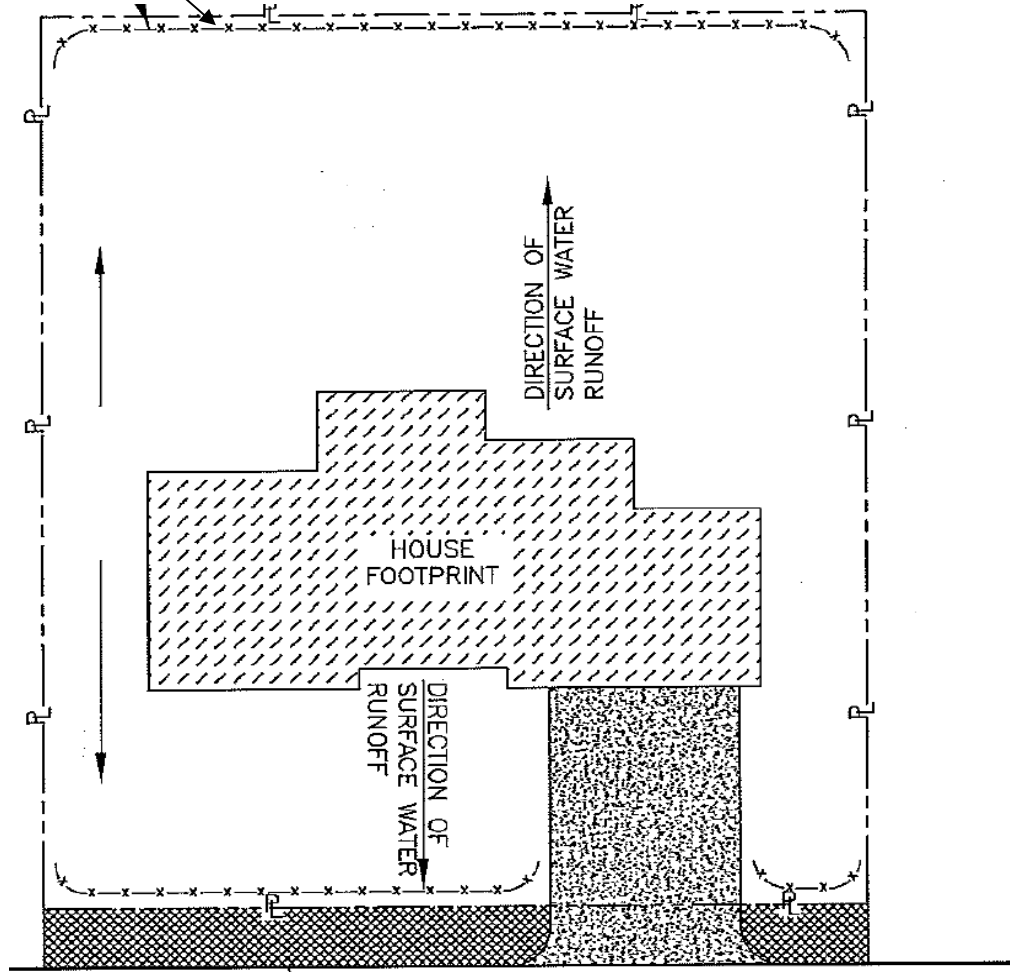
INSPECTIONS – CITY

A. GENERAL NOTES.

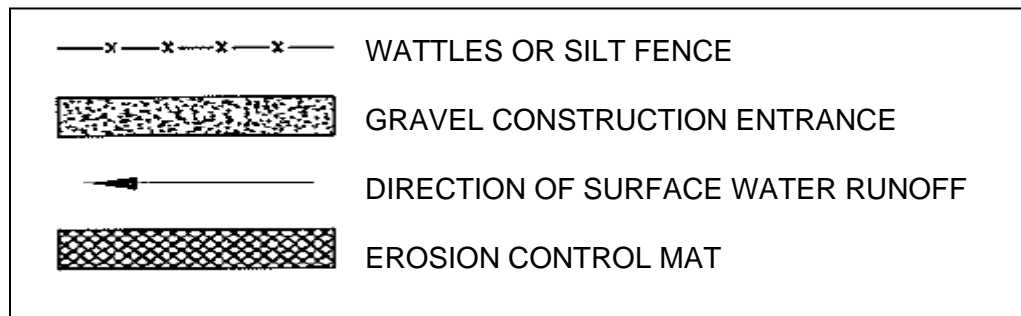
1. The City inspectors will normally inspect erosion and sediment control measures in conjunction with routine inspections. Inspection will entail the proper placement and installation of erosion and sediment control measures as shown on the approved plot plan. If the sediment and erosion control measures are not in place or maintained properly, the requested inspection will not be conducted and a stop construction order will be issued. The permit holder will have 72 hours to correct all violations and call for a re-inspection. Failure to comply will result in the City taking the necessary steps to have the violations corrected. Any and all costs associated with correcting any violations will be billed to the permit holder. If the permit holder fails to reimburse the City for these costs, they will be prohibited from performing any further work on the site until all costs have been paid and shall be subject to fines and penalties as outlined in Chapter XVIII, paragraph B, of the Spring Hill City Code.
2. The first inspection will occur at the time of the footing inspection. Inspection will, in particular, include Items 2, 3 and 4 in “BMP Installation Sequencing.” If BMP’s are not installed in the correct location and/or not installed correctly, the inspection will not be conducted and corrective actions will be required as described in paragraph 1 above
3. It is anticipated that, by the time the plumbing rough inspection is requested, backfilling of the foundation will have been complete and all erosion and sediment control measures will have been installed. If the permit holder failed to install the proper BMP’S, the inspection will not be conducted and corrective actions will be required as described in paragraph 1 above
4. Invariably, there will be situations that are outside of the norm. Therefore, City inspectors will be available to discuss erosion and sediment control measures for any lot and the sequencing for installation. For questions or concerns, call the Building Inspection Department at 913-592-3664 or the Public Works Department at 913-592-3317.
5. The City of Spring Hill prefers the use of wattles but will allow silt fence. All BMP's must be installed and maintained as noted above. Incorrectly installed or maintained silt fence will be required to be replaced with wattles. Individuals found to be in violation of silt fence installation and maintenance regulations will be required to use wattles on all existing and future job sites in the City of Spring Hill.

Single Family Lot Erosion Control Plan - Type A

Wattles or Silt Fence (typical)

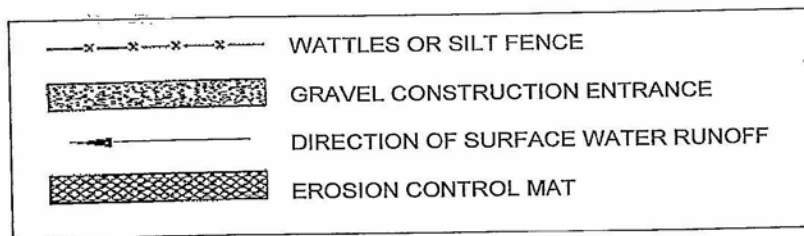
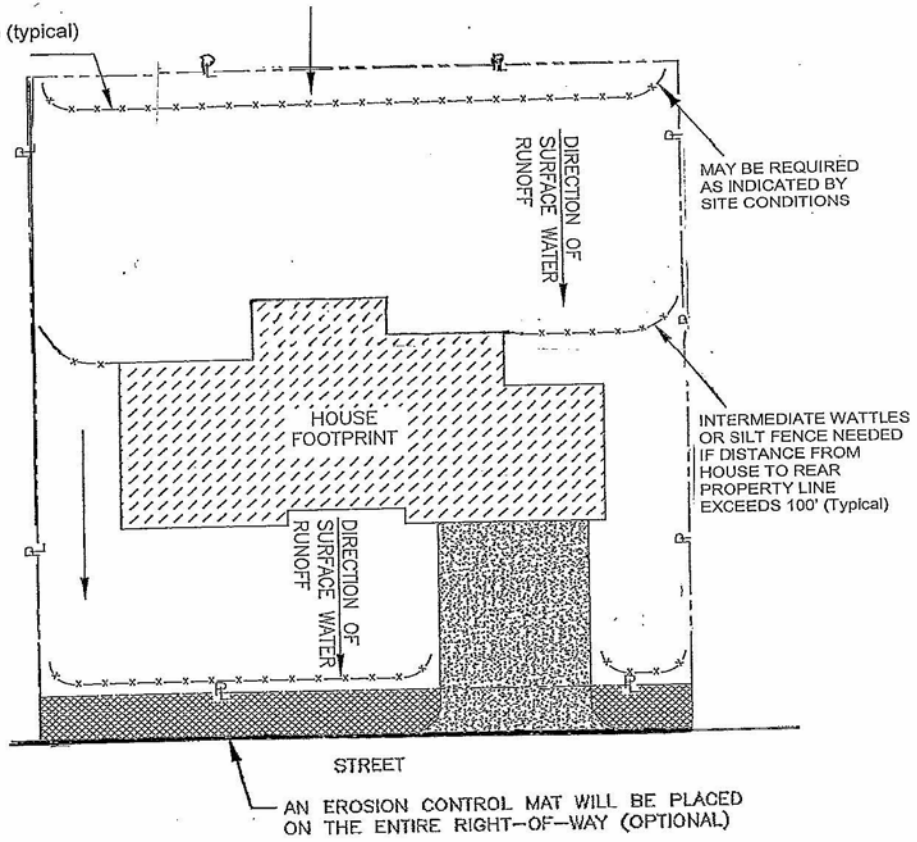


AN EROSION CONTROL MAT WILL BE PLACED ON THE ENTIRE RIGHT-OF-WAY (OPTIONAL)

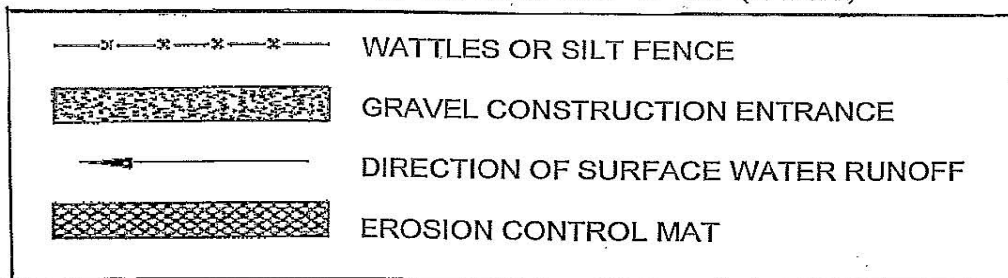
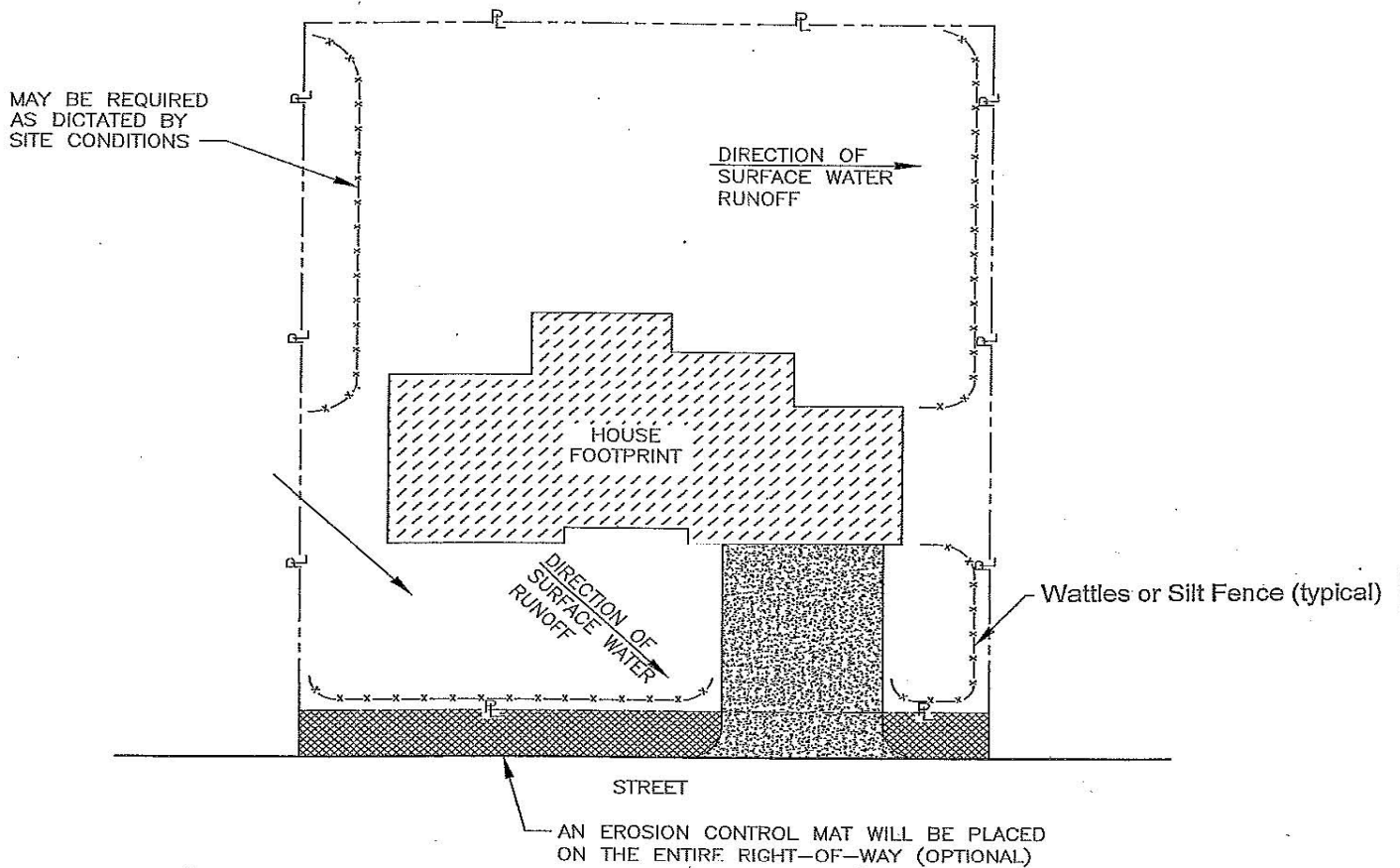


SINGLE FAMILY LOT EROSION CONTROL PLAN - TYPE B

Wattles or Silt Fence (typical)

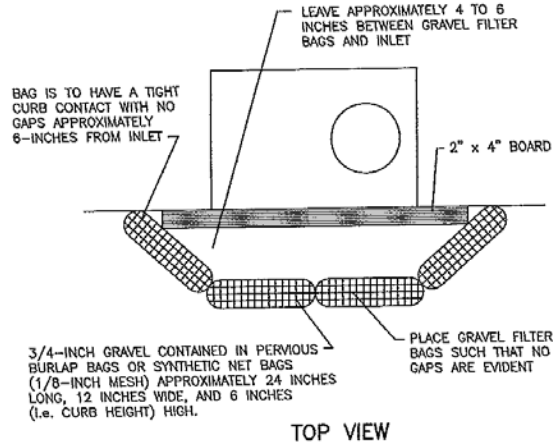


SINGLE FAMILY LOT EROSION CONTROL PLAN - TYPE C

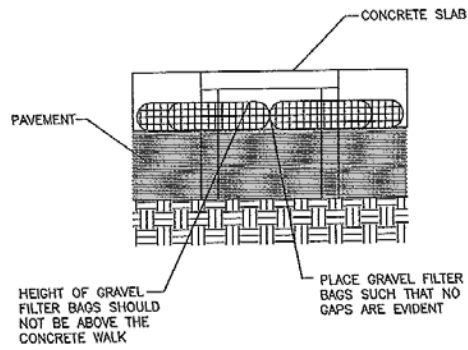


CURB INLET PROTECTION - GRAVEL FILTER BAG

NOTE:
SILT FENCE LOCATED ALONG THE PROJECT BOUNDARIES
SHALL BE INSTALLED PRIOR TO GRADING OPERATIONS

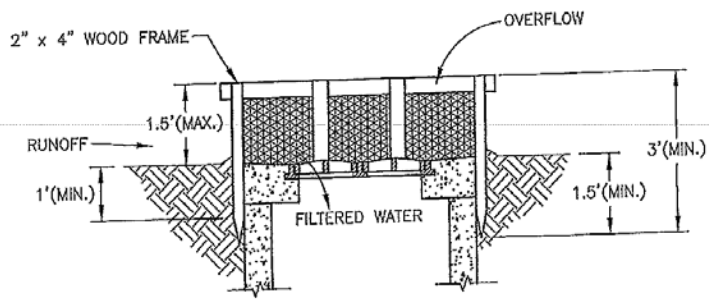


GRAVEL FILTER BAGS *(Typical At Every Inlet)* *(Not to Scale)*

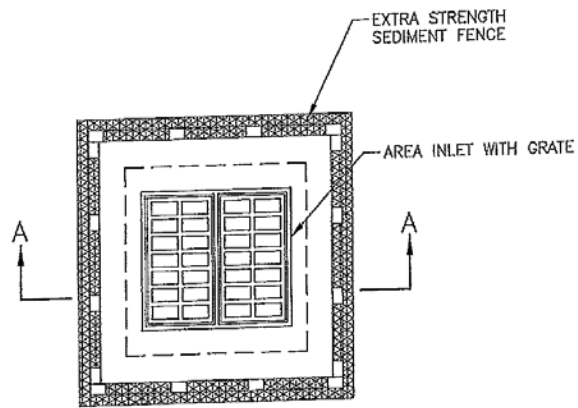


NOTE:
AFTER CONSTRUCTION OF INLETS, FILTER BAGS SHALL BE PLACED
AROUND PROPOSED INLETS.

AREA INLET

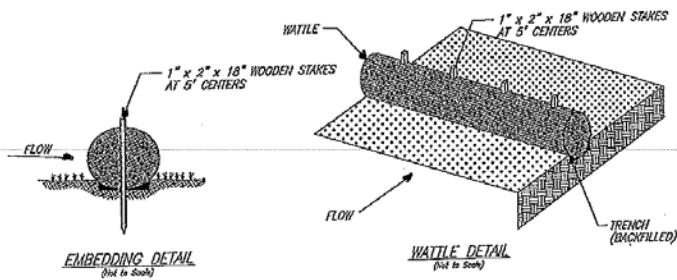


SECTION A-A



PLAN

INSTALLATION



CONSTRUCTION SPECIFICATIONS

1. Wooden stakes which support the wattle shall be installed on a slight angle toward the anticipated runoff source.
2. Wattle shall be trenched in with a spade or mechanical trencher so that the downslope face of the trench is flat and perpendicular to the line of flow.
3. The trench should be a minimum of 3"-4" deep and 12" wide to allow for the Wattle to be laid in the ground and backfilled.
4. Wattle should be secured in place using 1"x2"x18" wooden stakes at 5' spacing.
5. Inspection shall be frequent and repair or replacement shall be made promptly as needed.
6. Wattle shall be removed when it has served its usefulness so as not to block or impede storm flow or drainage.
7. Sediment trapped by this practice shall be uniformly distributed on the source area prior to topsoiling.

WATTLES (Not to Scale)

EROSION CONTROL NOTES

1. The contractor shall provide all materials, tools, equipment and labor as necessary to install and maintain adequate erosion control to prevent soil from leaving the project site. It shall be the contractor's responsibility to insure that the methods utilized comply with the requirements of the governmental agencies having jurisdiction over the work.
2. The contractor shall control the grading operation so that the site is well drained at all times and shall schedule the work to minimize the erosion of material by the use of staked wattles and other acceptable methods to protect the abutting properties, streets, and all utilities.
3. Erosion control devices shall remain in place for the duration of the project.
4. The contractor shall seed/mulch and or sod all areas disturbed during the construction activities.

Wattle Installation and Maintenance

A. MINIMUM REQUIREMENTS.

1. Length – Maximum of 600 feet; flare ends of fence uphill to temporarily impound water.
2. Spacing of Support Posts – 5-foot maximum.
3. Trench – Bottom of wattle must be buried a minimum of 3 inches deep.
4. Impounded Water Height – Depth of impounded water should not exceed 9 inches at any point along the fence.
5. Support Posts – 1-inch x 2-inch wood or 1.0 lb/linear foot steel.
6. Backfill along the down slope of the trench to prevent washout.

B. MAINTENANCE

1. Inspect BMP's at least once a week and after each rainfall. Make any repairs immediately.
2. Should wattle collapse, tear, decompose, or become ineffective, replace promptly.
3. Remove sediment deposits as necessary to provide adequate storage volume for the next rain and to reduce pressure on the wattle. Take care to avoid damaging or undermining the wattle during cleanout.

SILT FENCE

MINIMUM REQUIREMENTS

- Length – maximum of 600 feet, flare ends of fence uphill to temporarily impound water.
- Spacing of support posts – 6 feet minimum
- Trench – bottom 1 foot of fence must be buried a minimum of 6 inches deep.
- Impounded water height – depth of impounded water should not exceed 1.5 feet at any point along the fence.
- Support posts – 2inch square wood or 1.0 lb/linear foot steel. Steel posts have projections for fastening fabric.
- Synthetic geotextile fabric – conforming to specifications in Table 1 and containing ultraviolet light inhibitors and stabilizers. Minimum design life of 6 months.

TABLE 1
Specifications for Sediment Fence Fabric

| Physical Property | Minimum Requirements |
|---|-----------------------|
| Filtering Efficiency | 85% |
| Tensile Strength @ 20% maximum elongation | |
| Standard Strength | 30 lb per linear inch |
| High Strength | 50 lb per linear inch |

SILT FENCE INSTALLATION

Construction

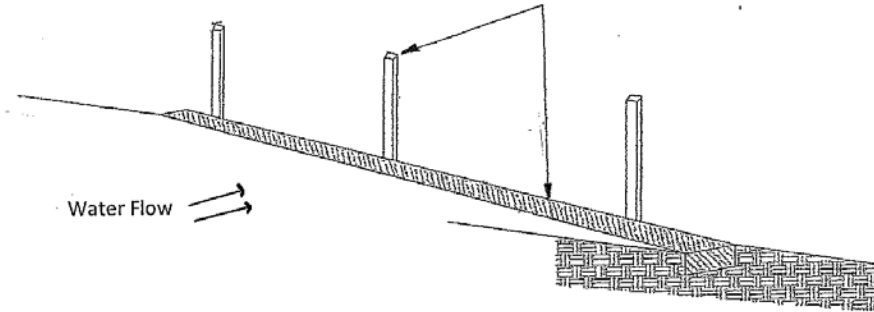
1. Dig a trench at least 6 inches deep along the fence alignment.
2. Drive posts at least 24 inches into the ground on the down slope side of the trench. Space the post a maximum of 6 feet apart.
3. Fasten support wire to the fence on the upslope side of the posts, extending 6 inches into the trench.
4. Attach a continuous length of fabric to the upslope side of the fence posts. Try to minimize the number of joints. Avoid joints at low points in the fence line. Where joints are necessary, fasten the fabric securely to the support posts and overlap to the next post.
5. Place the bottom 1 inch of fabric in the 6 inch deep trench (minimum), lapping toward the upslope side. Backfill the trench with compacted earth or gravel.

Maintenance

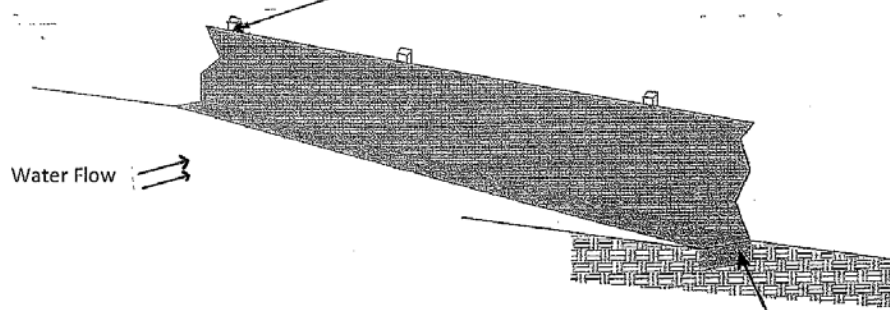
1. Inspect sediment fencing at least once a week and after each rainfall. Make any repairs immediately.
2. Should the fabric of the sediment fence collapse, tear, decompose or become ineffective, replace it promptly.
3. Remove sediment deposits as necessary to provide adequate storage volume for the next rain and to reduce pressure on the fencing. Take care to avoid damaging or undermining the fencing during cleanout.

SILT FENCE INSTALLATION

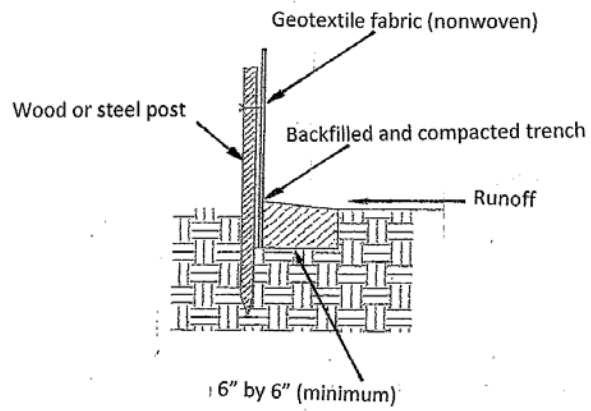
Set posts and excavate a 6" by 6" (minimum) trench upslope along the line of posts

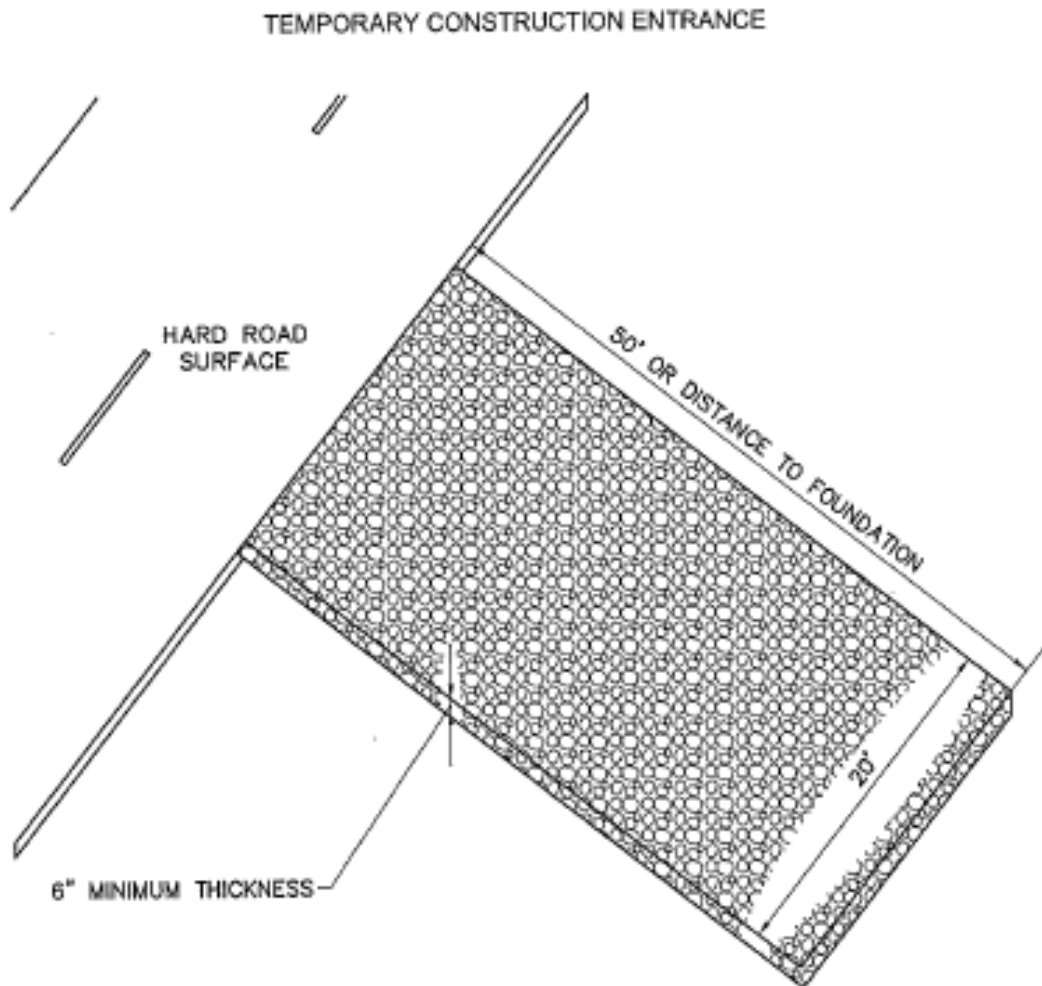


Extend fabric into the trench



Extend fabric into the trench





NOTES:

1. Install as soon as possible after the start of grading.
2. Use a $\frac{3}{4}$ inch minimum size stone. Aggregate mix containing material less than $\frac{3}{4}$ inch in size will be rejected and be required to be removed.
3. The drive must be at least 20 feet wide and 50 feet long of the distance to the foundation, whichever is less.
4. Replace as needed to maintain a 6 inch depth.