

**Sd2-F**  
GSICC 2016 Edition

**NOTE**

- DESIGN FOR SLOPES NO GREATER THAN 5% (NOT DESIGNED FOR CONCENTRATED FLOWS).
- THE STEEL POSTS SUPPORTING THE SILT FENCE MATERIAL SHOULD BE SPACED EVENLY AROUND THE PERIMETER OF THE INLET (MAX. OF 3' SPACED).
- THE STEEL POSTS SHOULD BE SECURELY DYWIDAG AT LEAST 1' DEEP.
- THE FABRIC SHOULD BE ENTRENCHED AT LEAST 12" AND BACKFILLED WITH CRUSHED STONE OR COMPACTED SOIL.

Figure 6-28.1 - Fabric and Supporting Frame For Inlet Projection

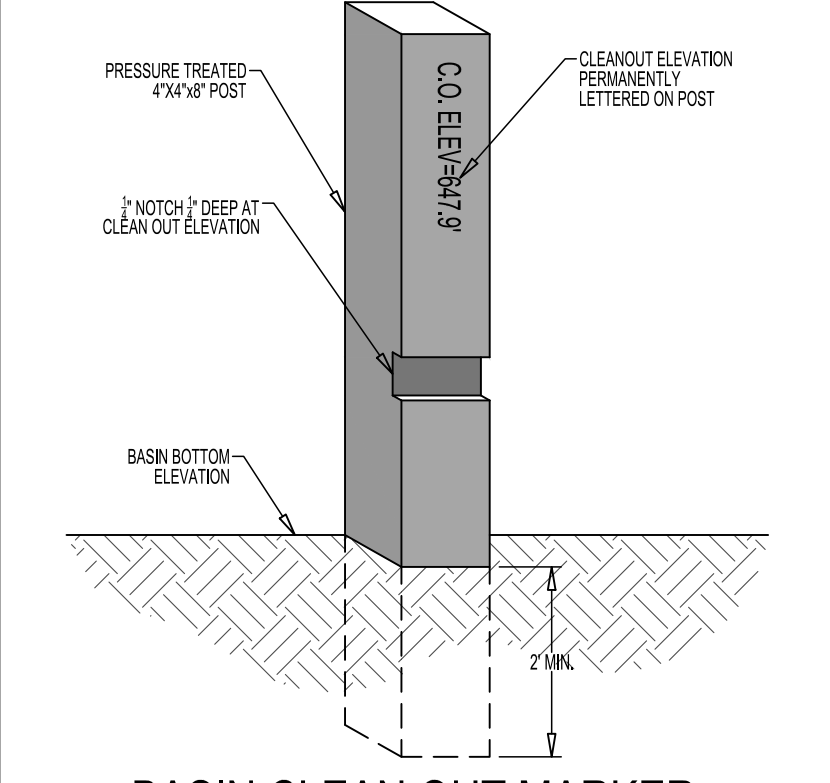
**PURPOSE**  
To prevent sediment from entering a storm drainage system prior to permanent stabilization of the disturbed area draining to the inlet.

**CONDITIONS**  
All storm drain drop inlets that receive runoff from disturbed areas.

**DESIGN CRITERIA**  
Through falling areas are 2 different categories high retention and high flow support. In areas where BMPs are being used on paved surfaces, or safety is a concern, the potential negative effects of ponding should be taken into account. In such cases, a high flow BMP is preferred. On unimproved areas where ponding will not cause a safety hazard, high retention silt traps are used. If high retention is used in this situation, a rip-rap apron should be placed on the slope and an up-sloped rip-rap apron should be used. Sediment traps must be self-draining unless they are otherwise protected in an approved fashion that will not present a safety hazard. The drainage area entering the inlet treatment may not be greater than 1 acre. If runoff from the protected area is to be collected in a storage area, the storage area should be constructed on the down slope side of the structure. Also, a stone filter ring may be used on the up slope side of the inlet to slow runoff and filter larger sediments. Refer to R-Flow Filter Ring.

**CONSTRUCTION SPECIFICATIONS**  
Filter Fabric with Supporting Frame  
The method of inlet protection is applicable where the inlet drains a relatively flat area (slope no greater than 5%) and shall not apply to steeply sloping areas, such as a street or highway median. As shown in Figure 6-28.1, Type C silt traps are supported by steel posts that should be used. The stakes shall be removed from each inlet protection immediately. For excavated inlet sediment traps, sediment shall be removed when one-half of the sediment storage capacity has been used to sediment accumulation. Soil inlet protection shall be maintained as specified in D-4 - Disturbed Area Stabilization (With Seeding). Sediment shall not be removed into the inlet. It shall be removed from the sediment trap, disposed of and stabilized so that it will not enter the inlet again. When the contributing drainage area has been permanently stabilized, all materials and any sediment shall be removed, and either salvaged or disposed of properly. The disturbed area shall be brought to proper grade, then smoothed and compacted. Appropriately stabilized all disturbed areas around the inlet.

**INLET SEDIMENT TRAP (FILTER FABRIC W/ SUPPORTING FRAME) - (Sd2-F)**

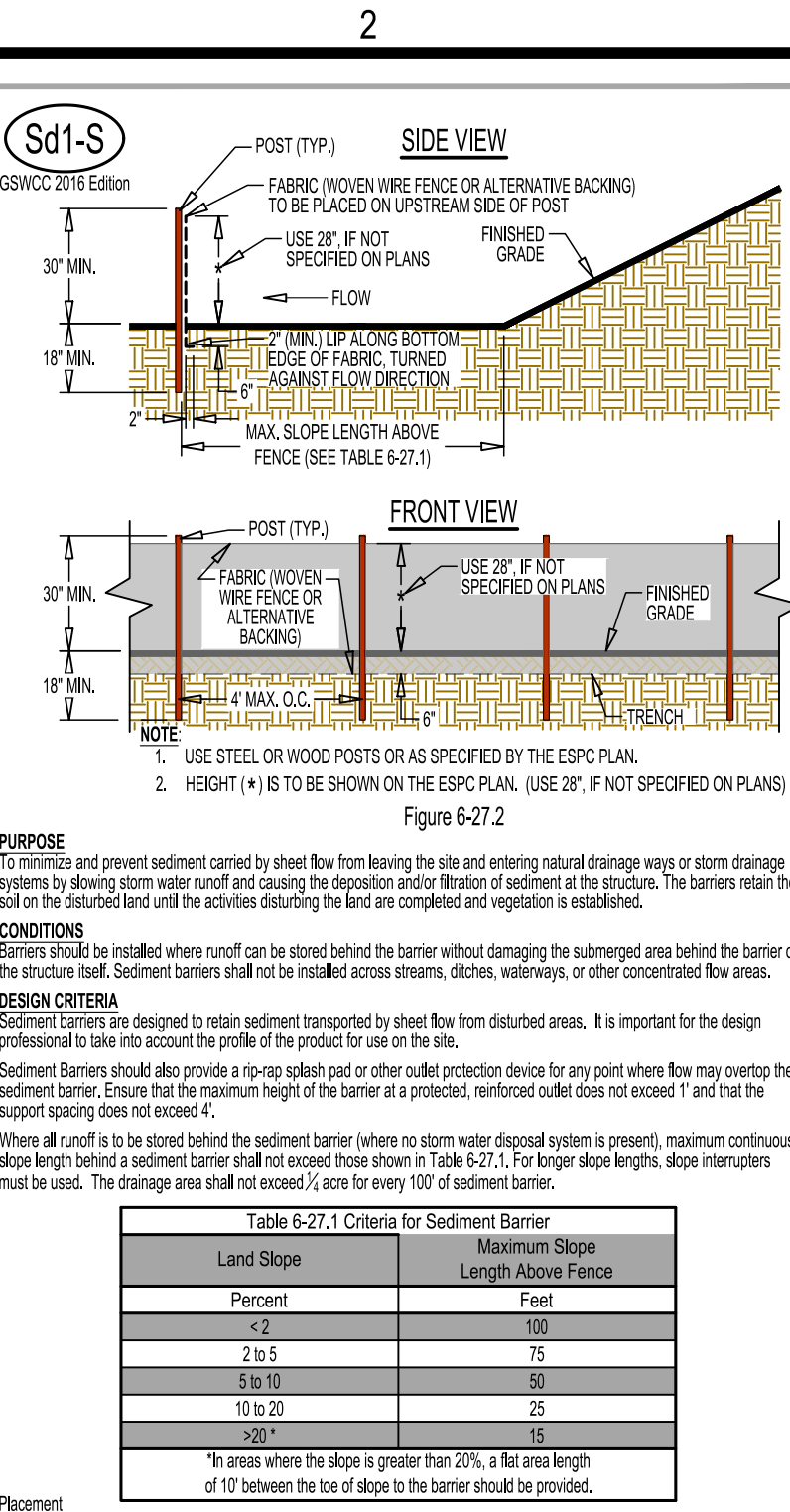


**Cd-S**  
GSICC 2016 Edition

**CONSTRUCTION SPECS**  
Stone check dams should be constructed on a compacted subgrade. The dam should be constructed on the down slope side of the inlet. The dam should be constructed on the down slope side of the inlet. The dam should be constructed on the down slope side of the inlet.

**MAINTENANCE**  
Periodic inspection and repair should be performed. Sediment shall be removed when one-half of the sediment storage capacity has been used to sediment accumulation. Soil inlet protection shall be maintained as specified in D-4 - Disturbed Area Stabilization (With Seeding). Sediment shall not be removed into the inlet. It shall be removed from the sediment trap, disposed of and stabilized so that it will not enter the inlet again. When the contributing drainage area has been permanently stabilized, all materials and any sediment shall be removed, and either salvaged or disposed of properly. The disturbed area shall be brought to proper grade, then smoothed and compacted. Appropriately stabilized all disturbed areas around the inlet.

**STONE CHECK DAMS - (Cd-S)**



**Sd1-S**  
GSICC 2016 Edition

**PURPOSE**  
To minimize and prevent sediment carried by sheet flow from leaving the site and entering natural drainage ways or storm drainage systems by allowing storm water runoff and causing the deposition and filtration of sediment at the structure. The barriers retain the soil on the disturbed land until the activities disturbing the land are completed and vegetation is established.

**CONDITIONS**  
Barriers should be installed where runoff can be stored behind the barrier without damaging the subgrade area behind the barrier or the structure itself. Sediment barriers shall not be installed across streams, ditches, waterways, or other concentrated flow areas.

**DESIGN CRITERIA**  
Sediment barriers are designed to retain sediment transported by sheet flow from disturbed areas. It is important for the design professional to take into account the profile of the product to be used on the site. Sediment barriers should be designed to retain sediment transported by sheet flow from disturbed areas. It is important for the design professional to take into account the profile of the product to be used on the site. Sediment barriers should be designed to retain sediment transported by sheet flow from disturbed areas. It is important for the design professional to take into account the profile of the product to be used on the site.

**Table 6-27.1 Criteria for Sediment Barrier**

Land Slope	Maximum Slope Length Above Fence
Percent	Feet
2 to 5	100
5 to 10	50
10 to 20	25

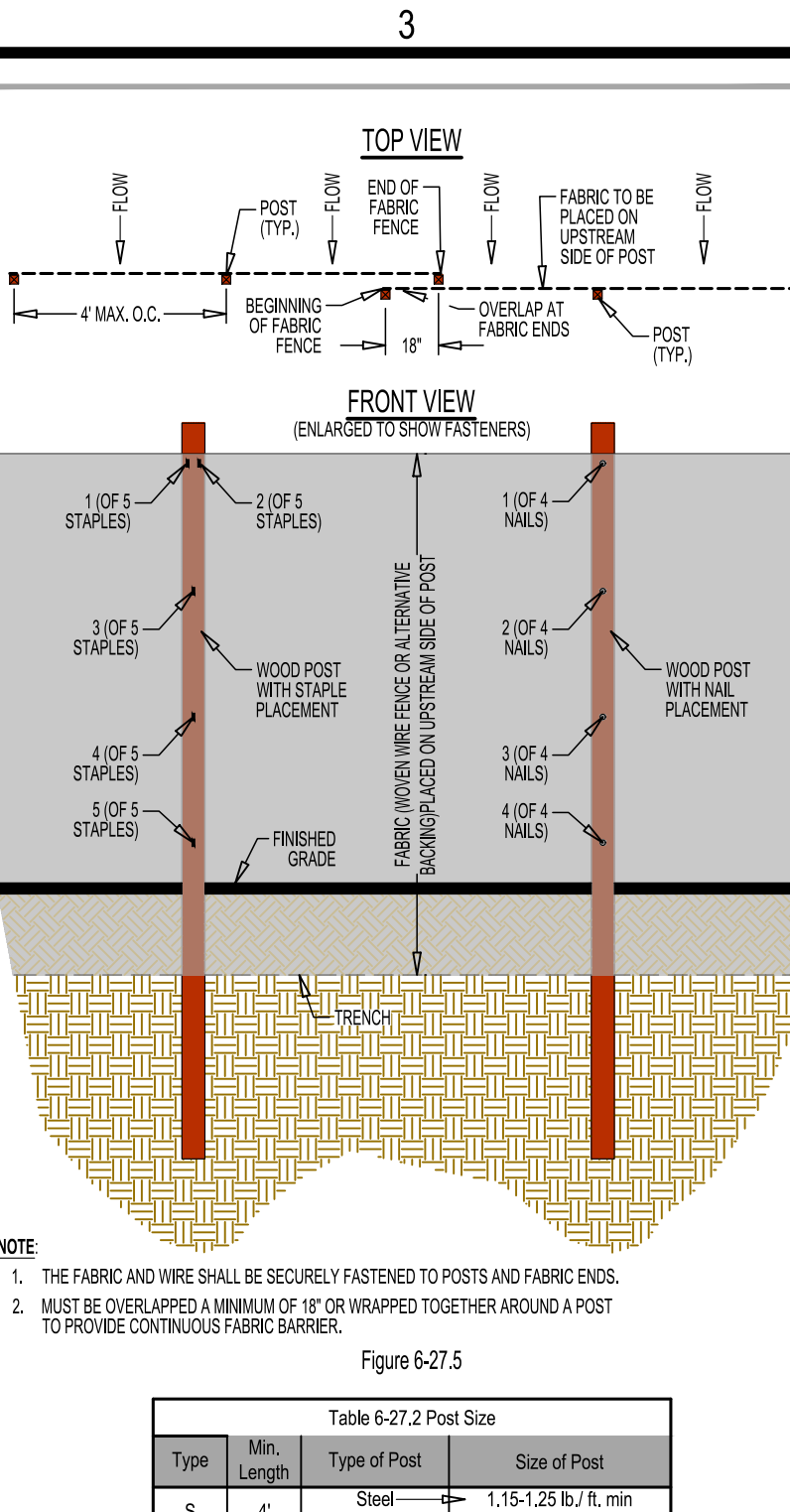
**Table 6-27.2 Post Size**

Type	Min. Length	Shape	Size of Post
S	4'	Steel	1.5" x 2.5" B.U. / 1" min. 2" x 2"

**Table 6-27.3 Fasteners for Wood Posts**

Type	Gauge	Fastener	Legs	Staples per Post
Wire Staples	17 min.	3/2" wide	3/2" long	5 min.
Nails	14 min.	1"	Butt	3/4" long 4 min.

**SENSITIVE AREA(S) SEDIMENT BARRIER (TYPE C SILT FENCE) - (Sd1-S)**



**Sd1-NS**  
GSICC 2016 Edition

**PURPOSE**  
To minimize and prevent sediment carried by sheet flow from leaving the site and entering natural drainage ways or storm drainage systems by allowing storm water runoff and causing the deposition and filtration of sediment at the structure. The barriers retain the soil on the disturbed land until the activities disturbing the land are completed and vegetation is established.

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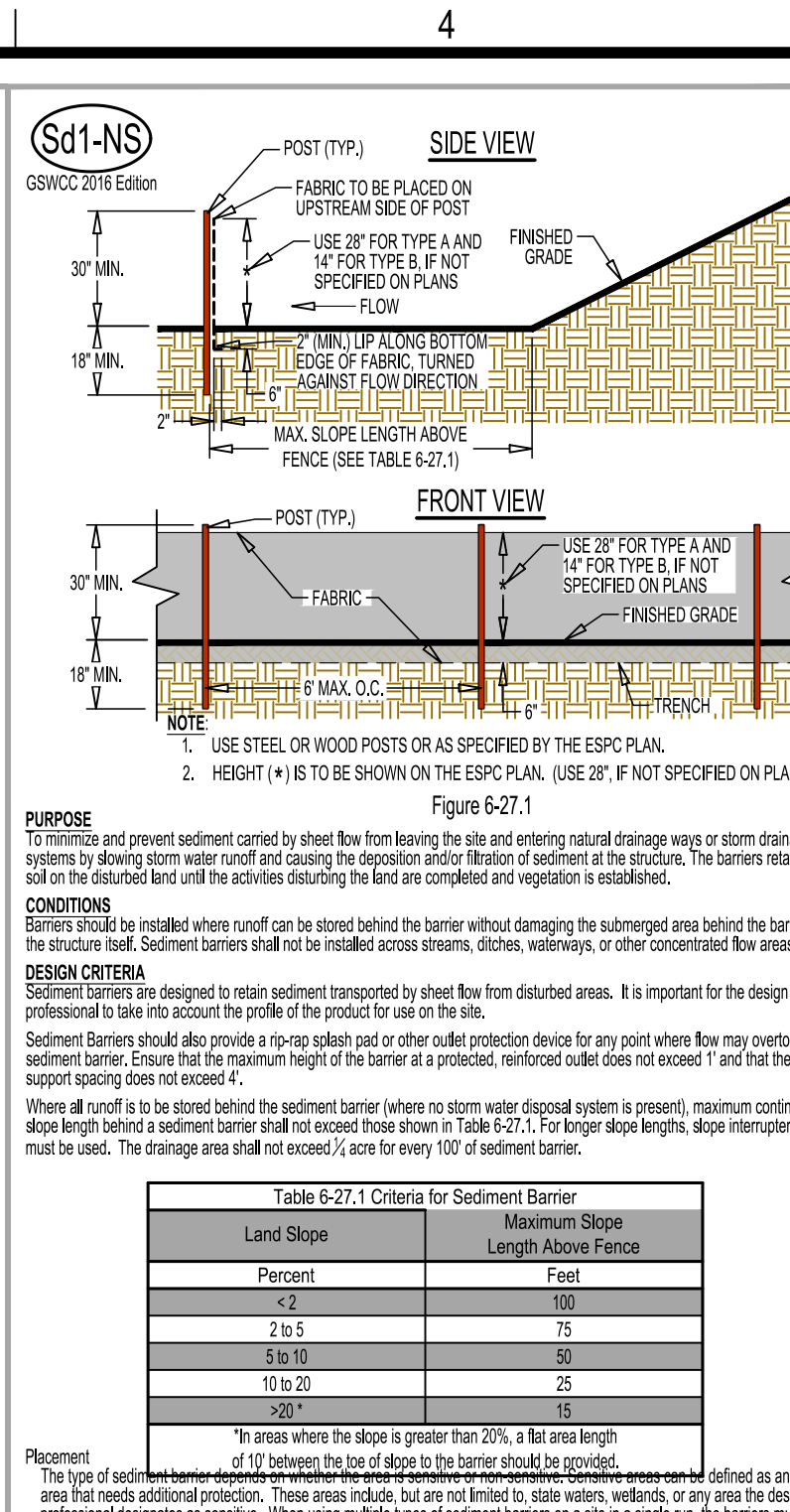
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Type	Min. Length	Shape	Size of Post
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**Table 6-27.3 Fasteners for Wood Posts**

Type	Gauge	Fastener	Legs	Staples per Post
Wire Staples	17 min.	3/2" wide	3/2" long	5 min.
Nails	14 min.	1"	Butt	3/4" long 4 min.

**NON-SENSITIVE AREA(S) SEDIMENT BARRIER (TYPE A AND TYPE B SILT FENCE) - (Sd1-NS)**



**Ss**  
GSICC 2016 Edition

**CONSTRUCTION SPECIFICATIONS**  
1. Ensure that the substrate for the filter and rip-rap follows the required length and grades shown on the plan. Compact any fill required in the substrate to the density of the surrounding undisturbed material. Low areas in the substrate on undisturbed soil should be filled by increasing the rip-rap thickness.

2. The rip-rap and gravel filter must conform to the specified grading limits shown on the plans.

3. Geotextile must meet design requirements and be properly protected from puncturing or tearing during installation. Repair any damage by removing the rip-rap and placing another piece of filter fabric over the damaged area. All connecting joints should overlap a minimum of 6". If the damage is extensive, replace the entire fabric roll.

4. Rip-rap may be placed by equipment, but take care to avoid damaging the filter.

5. The minimum thickness of the rip-rap should be 1.5 times the maximum stone diameter.

6. Construct the rip-rap on zero grade with no overlap at the end. Make the rip-rap on the downstream end level with the receiving area or slightly below it.

7. Ensure that the rip-rap is properly aligned with the receiving stream and preferably staggered construction. A 1/2" curve is needed to fit site conditions, place in the corner sections of the rip-rap.

8. Immediately after construction, stabilize all disturbed areas with vegetation.

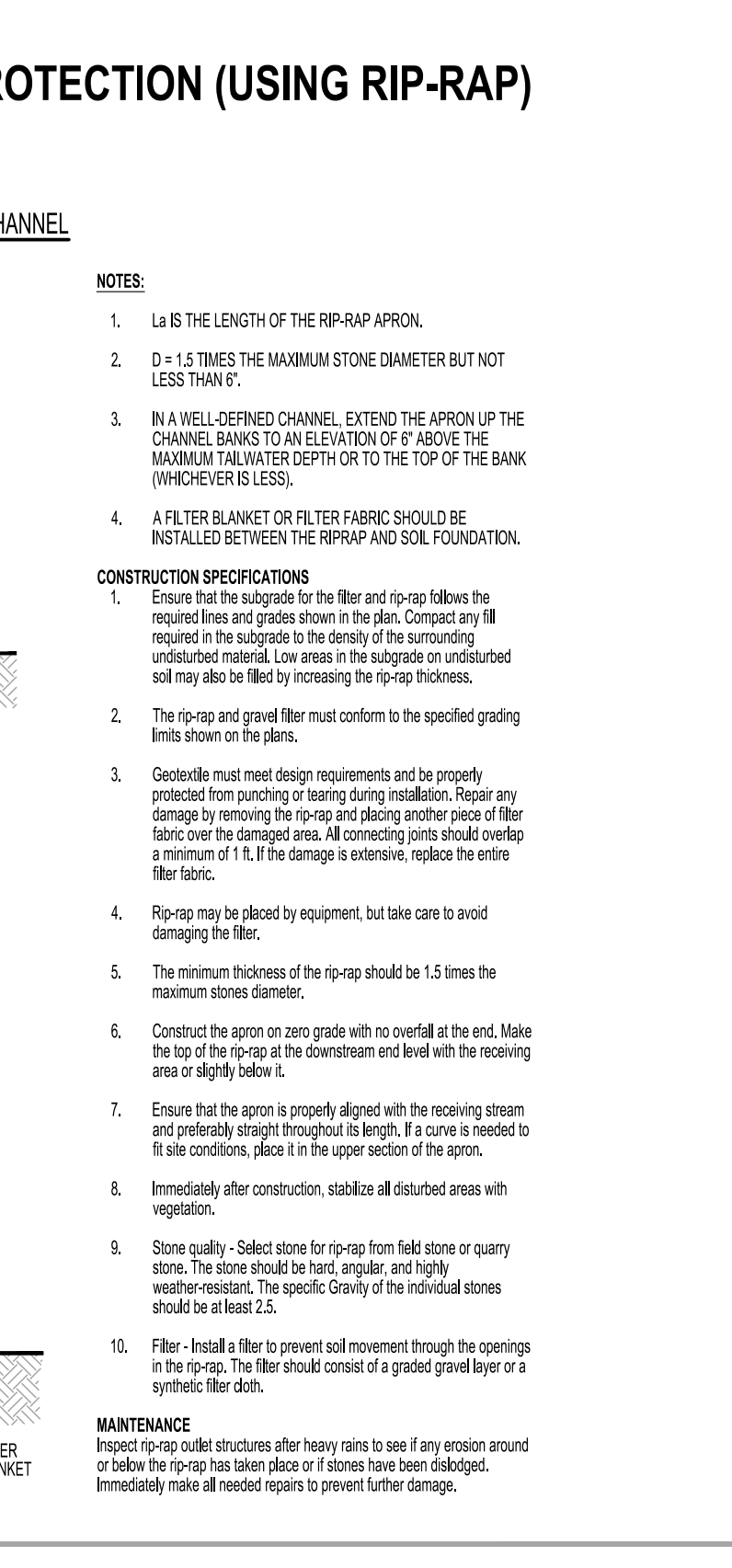
9. Stone quality - Select stone for rip-rap from flake stone or quarry stone. The stone should be hard, angular, and highly weather-resistant. The specific gravity and individual stones should be at least 2.5.

10. Filter - Install a filter to prevent sediment movement through the openings in the rip-rap. The filter should consist of a graded gravel layer or a synthetic fabric filter.

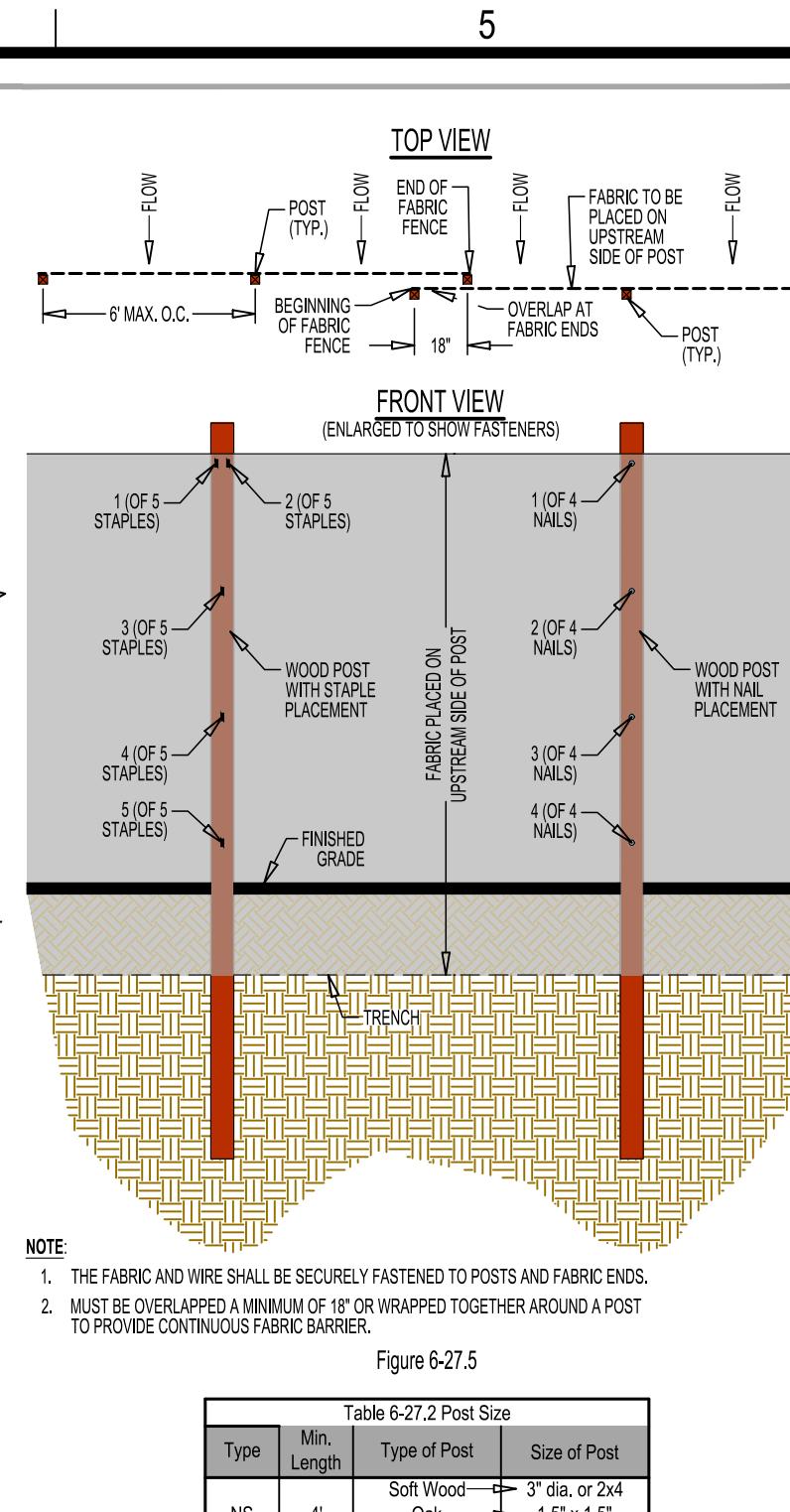
**Table 6-27.4**

Tensile Strength (Lbs. Min.) <sup>1</sup> (ASTM D-4632)	Warp - 120 Fib - 100	Warp - 120 Fib - 100
Elongation (% Max.)	40	40
ACS (Apparent Opening Size) (Max. Sieve Size)	#30	#30
Flow Rate (GPM/IN <sup>2</sup> , F1) (GD-87)	70	25
Ultraviolet Stability <sup>2</sup> (ASTM D-4632 after 300 hours weathering in accordance with ASTM D-4555)	80	80
Burning Strength (PSI Min.) (ASTM D-3786 Diphragm Burning Strength Tester)	175	175
Minimum Fabric Width (Inches)	36	22

**TYPICAL INSTALLATION GUIDELINES FOR ROLLED EROSION CONTROL PRODUCTS (RECP)**



**SLOPE STABILIZATION - (Ss)**



**Fr**  
GSICC 2016 Edition

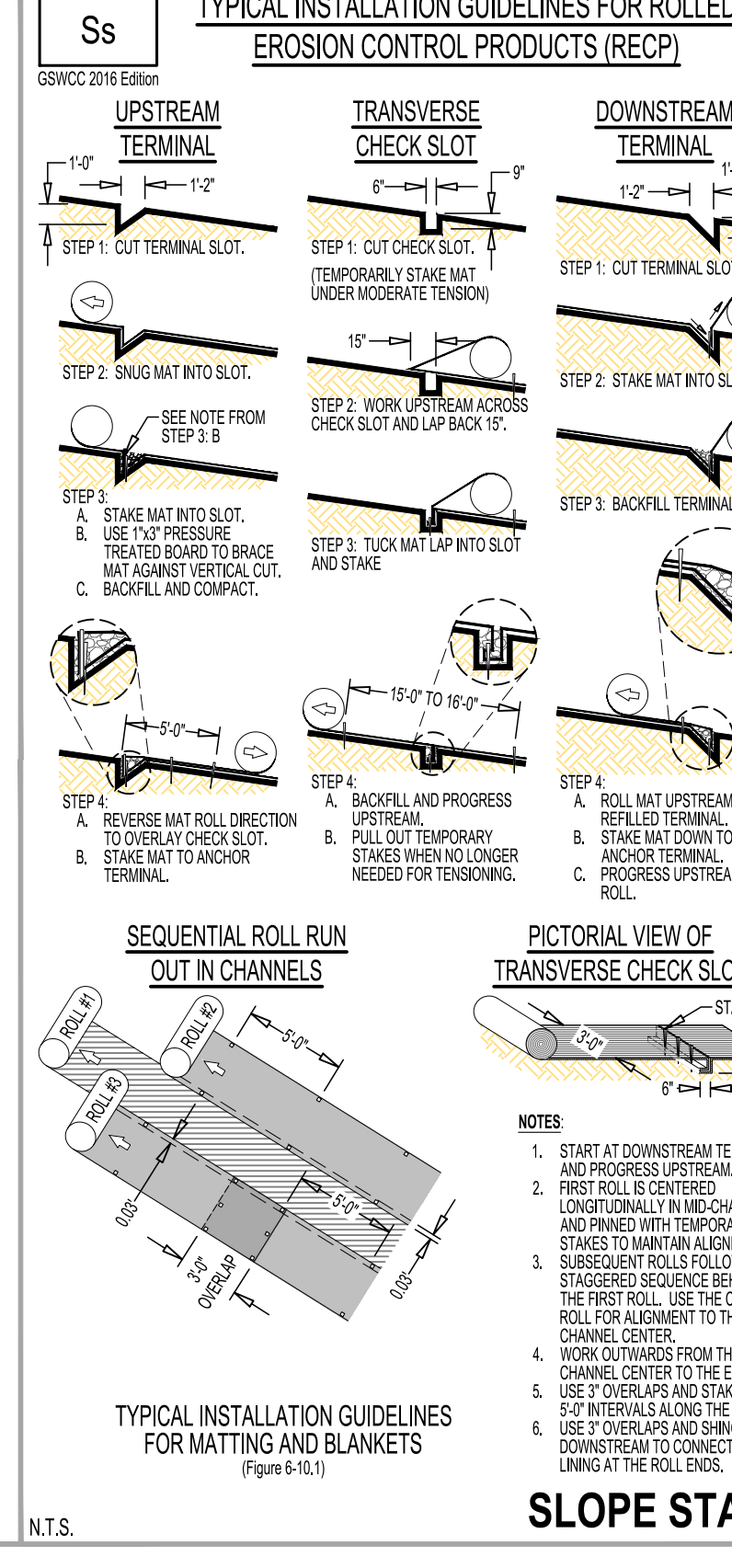
**PURPOSE**  
To reduce flow velocities, preventing the failure of other sediment control devices. Also helps prevent sediment from leaving the site or entering drainage systems prior to permanent stabilization of the disturbed area.

**CONDITIONS**  
Filter rings shall be used on all sides of the structure receiving runoff from disturbed areas. It should be placed a minimum of 1' from the structure. The ring may be installed on a paved surface or on a natural surface. The filter ring may also be placed below the structure, such as a storm drain, or below a structure. The filter ring should be placed below the structure, such as a storm drain, or below a structure. The filter ring should be placed below the structure, such as a storm drain, or below a structure.

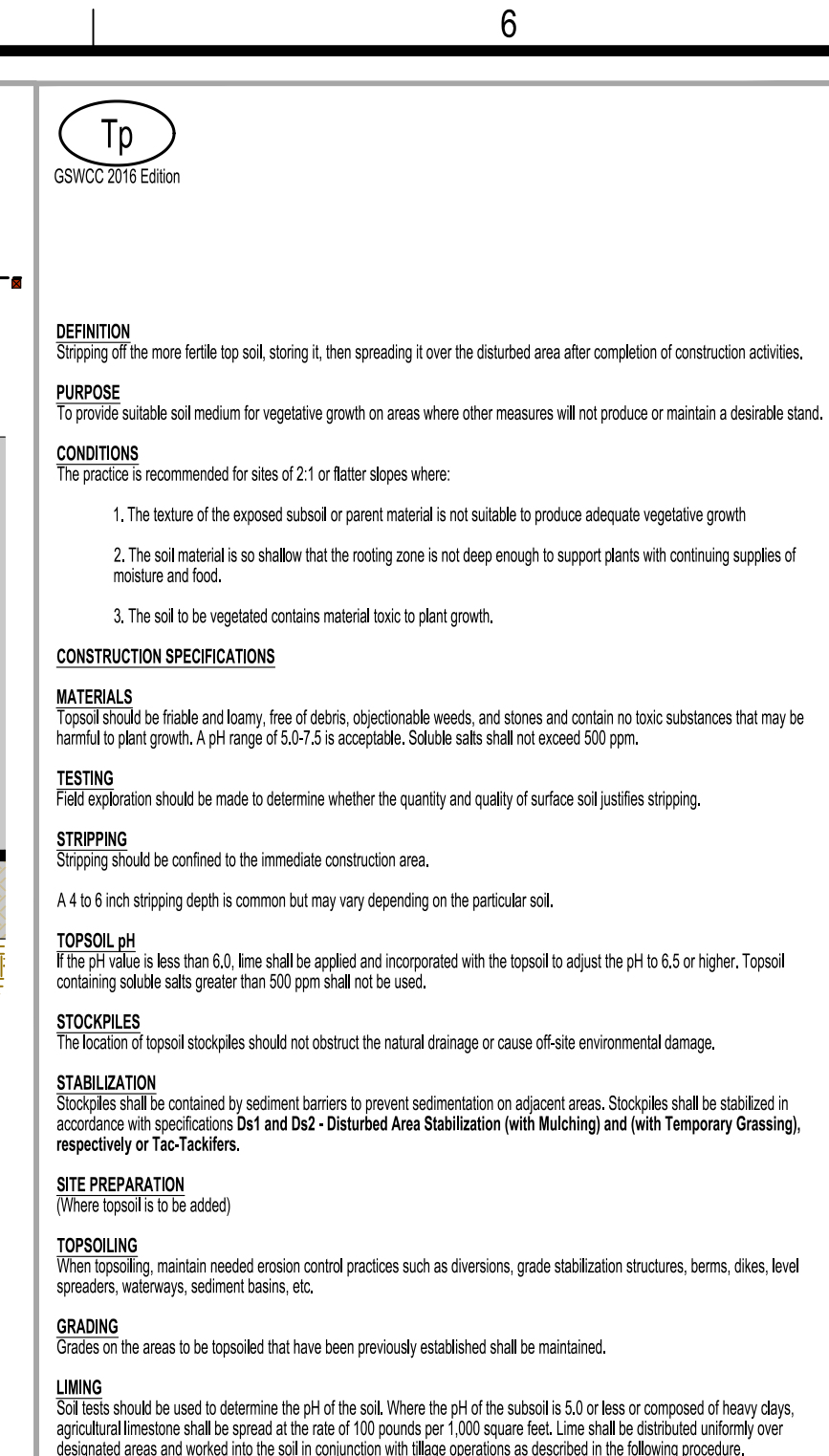
**Table 6-28.1**

Depth (Inches)	Per 1,000 SF	Per Acre
2	6.2	268
3	9.3	403
4	12.4	537
5	15.5	672
6	18.6	806

**EROSION, SEDIMENTATION & POLLUTION CONTROL DETAILS**



**FILTER RING - (Fr)**



**Tp**  
GSICC 2016 Edition

**PURPOSE**  
To provide suitable soil medium for vegetative growth on areas where other measures will not produce or maintain a desirable stand.

**CONDITIONS**  
This practice is recommended for sites of 2:1 or flatter slopes where:

- The texture of the exposed soil or parent material is not suitable to produce adequate vegetative growth.
- The soil material is so shallow that the rooting zone is not deep enough to support plants with continuing supplies of moisture and food.
- The soil to be vegetated contains material toxic to plant growth.

**CONSTRUCTION SPECIFICATIONS**  
Topsoil should be friable and loamy, free of debris, objectionable weeds, and stones and contain no toxic substances that may be harmful to plant growth. A pH range of 5.0-7.5 is acceptable. Suitable soils shall not exceed 500 ppm.

**TESTING**  
Field inspection should be made to determine whether the quantity and quality of surface soil justifies topsoiling.

**STRIPPING**  
Topsoiling shall be confined to the immediate construction area.

**STOCKPILES**  
The location of topsoil stockpiles should not obstruct the natural drainage or cause off-site environmental damage.

**STABILIZATION**  
Stockpiles shall be contained by sediment barriers to prevent sedimentation on adjacent areas. Stockpiles shall be stabilized in accordance with specifications D-1 and D-2 - Disturbed Area Stabilization (With Mulching) and (with Temporary Grassing) respectively or Topsoiling.

**SITE PREPARATION**  
When topsoil is to be added:

**TOPSOILING**  
When topsoiling, maintain needed erosion control practices such as diversions, grade stabilization structures, berms, dikes, level spreaders, waterways, sediment basins, etc.

**GRADING**  
Grades on the areas to be topsoiled that have been previously established shall be maintained.

**LANDING**  
Landing shall be used to determine the pH of the soil. Where the pH of the subsoil is 5.0 or less or composed of heavy clay, agricultural lime shall be spread at the rate of 100 pounds per 1,000 square feet. Lime shall be distributed uniformly over the designated area and worked into the soil in conjunction with tillage operations as described in the following procedure.

**Banding** - Use one of the following methods to insure banding of topsoil and stock:

- Using a tractor with a topsoiler to band topsoil, and immediately prior to dumping and spreading the topsoil, the topsoiler should be spaced to a depth of at least 12 inches to permit banding of the topsoil and stock.
- Tracking a bulldozer over the entire surface of the slope to leave horizontal depressions.

**APPLYING TOPSOIL**  
1. Topsoil should be handled only when it is dry enough to work without damaging soil structure.

2. A uniform application of fines (unweeded) is recommended, but may be adjusted at the discretion of the design professional.

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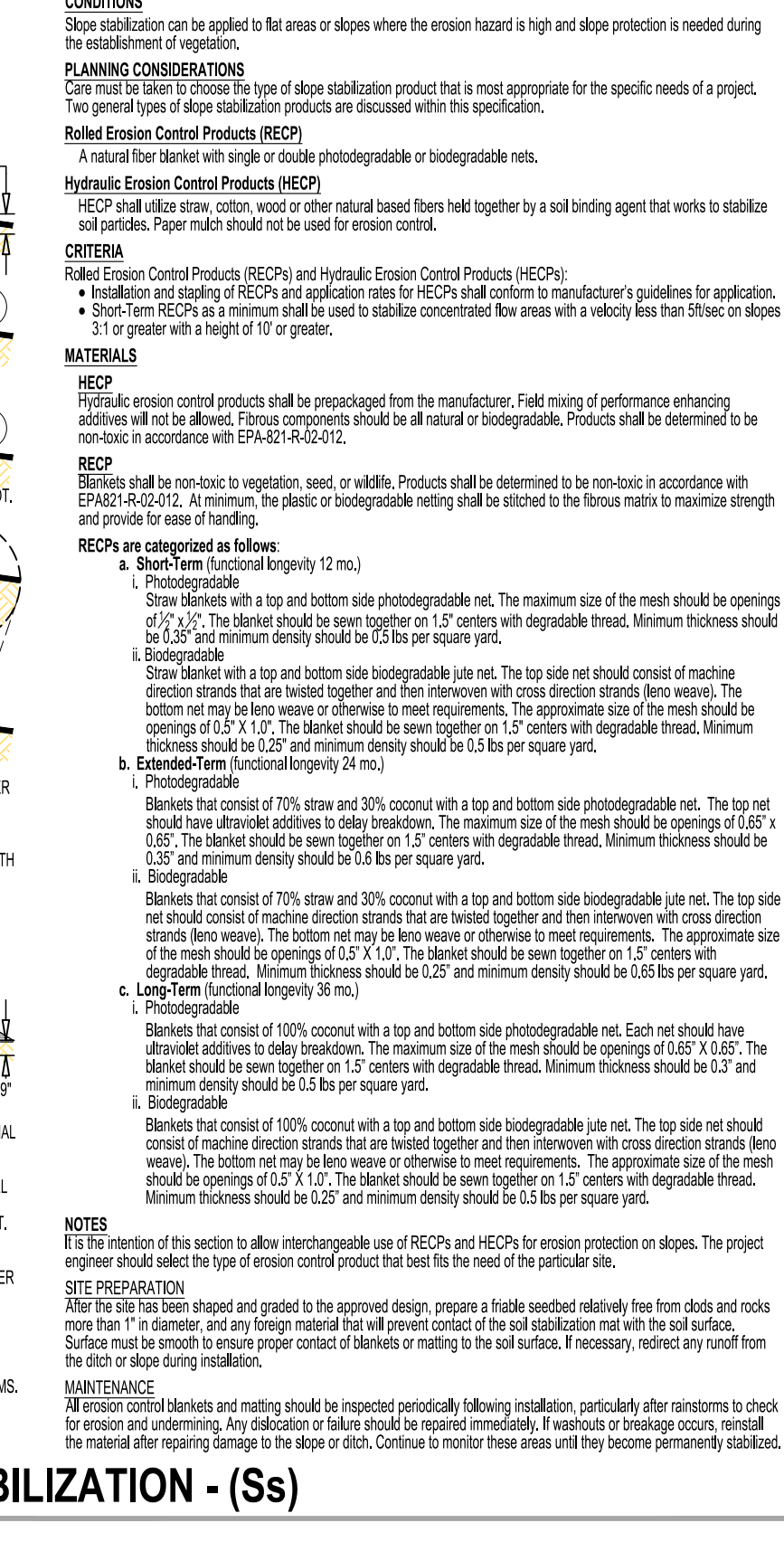
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**TOPSOILING - (Tp)**



**EROSION, SEDIMENTATION & POLLUTION CONTROL DETAILS**



**Ss**  
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8. Immediately after construction, stabilize all disturbed areas with vegetation.

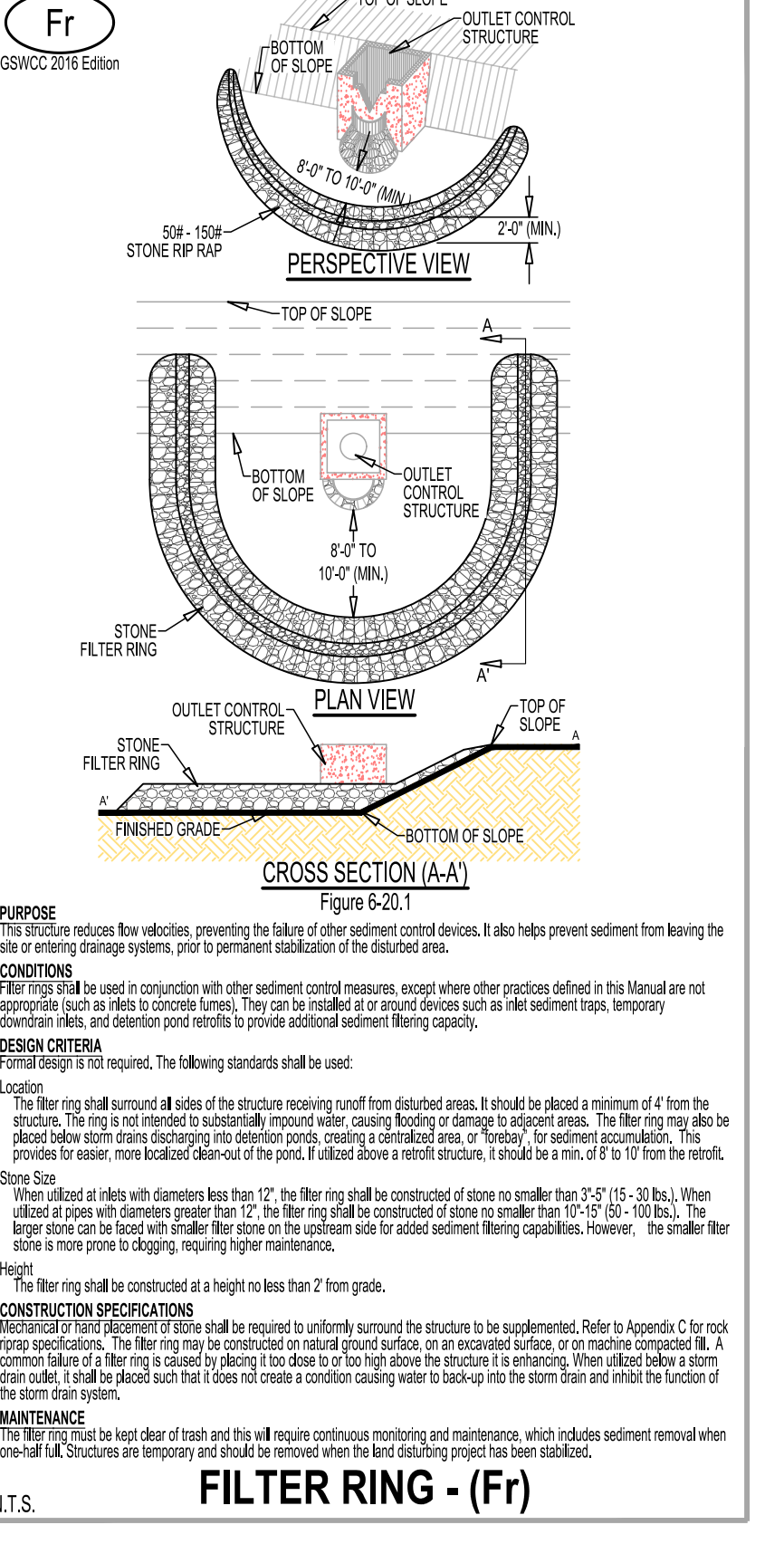
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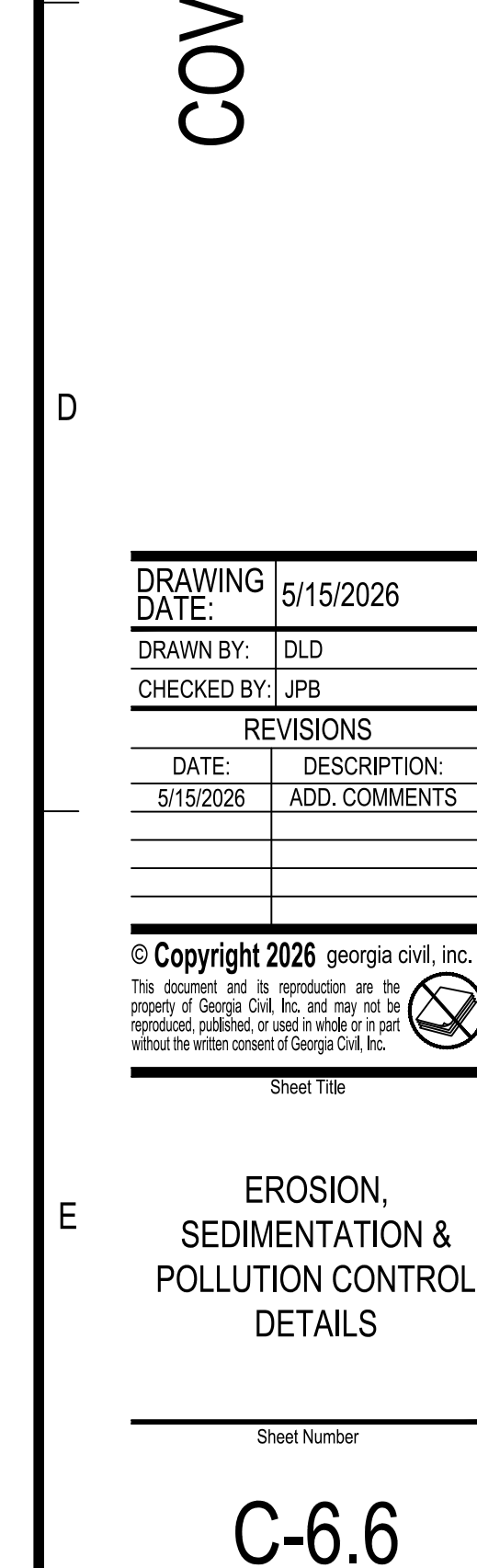
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Minimum Fabric Width (Inches)	36	22

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**SLOPE STABILIZATION - (Ss)**

**EROSION, SEDIMENTATION & POLLUTION CONTROL DETAILS**



**FILTER RING - (Fr)**