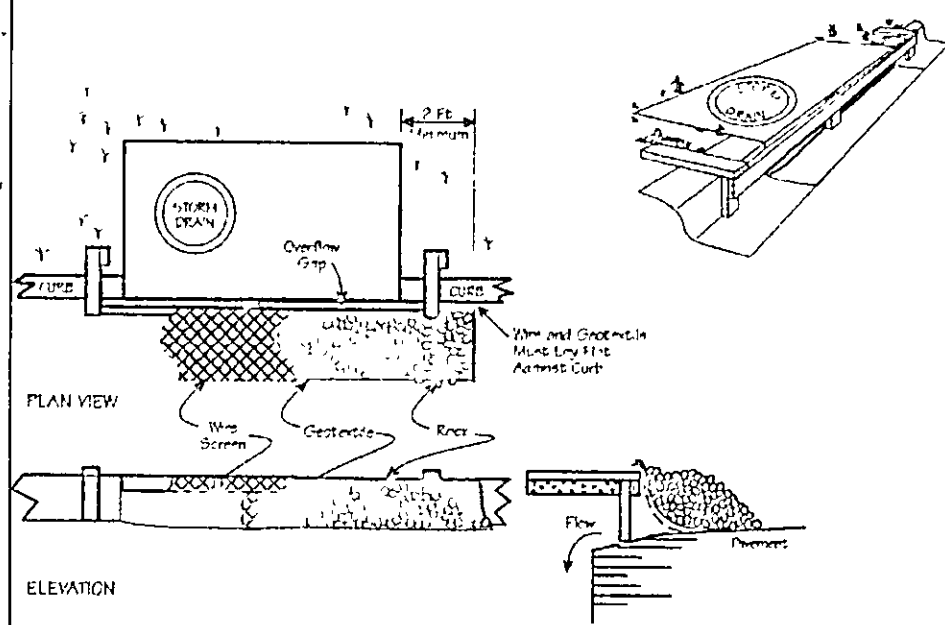


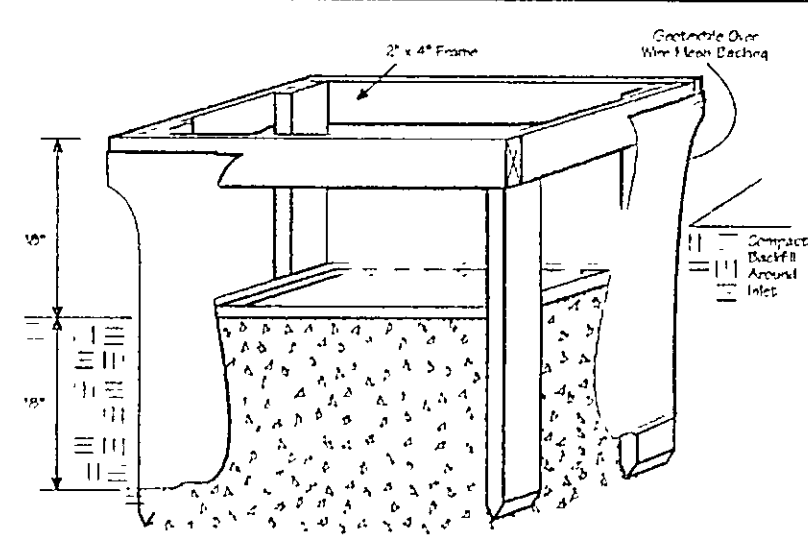


Specifications  
for  
Curb Inlet Protection



- 1 Inlet protection shall be constructed either before upslope land disturbance begins or before the storm drain becomes operational
- 2 The wooden frame is to be constructed of 2-by-4-in. construction-grade lumber. The end spacers shall be a minimum of 1 ft beyond both ends of the throat opening. The anchors shall be nailed to 2-by-4-in. stakes driven on the opposite side of the curb
- 3 The wire mesh shall be of sufficient strength to support fabric and stone. It shall be a continuous piece with a minimum width of 30 in. and 4 ft. longer than the throat length of the inlet, 2 ft. on each side
- 4 Geotextile cloth shall have an equivalent opening size (EOS) of 20-40 sieve and be resistant to sunlight. It shall be at least the same size as the wire mesh
- 5 The wire mesh and geotextile cloth shall be formed to the concrete gutter and against the face of the curb on both sides of the inlet and securely fastened to the 2-by-4-in. frame
- 6 Two inch stone shall be placed over the wire mesh and geotextile in such a manner as to prevent water from entering the inlet under or around the geotextile cloth

Specifications  
for  
Inlet Protection in Swales, Ditch Lines or Yard Inlets



- 1 Inlet protection shall be constructed either before upslope land disturbance begins or before the storm drain becomes operational
- 2 The earth around the inlet shall be excavated completely to a depth of at least 18 in.
- 3 The wooden frame shall be constructed of 2-by-4-in. construction-grade lumber. The 2-by-4-in. posts shall be driven 1 ft into the ground at four corners of the inlet and the top portion of 2-by-4-in. frame assembled using the overlap joint shown. The top of the frame shall be at least 8 in. below adjacent roads; if ponded water would pose a safety hazard to traffic
- 4 Wire mesh shall be of sufficient strength to support fabric with water fully impounded against it. It shall be stretched tightly around the frame and fastened securely to the frame
- 5 Geotextile shall have an equivalent opening size of 20-40 sieve and be resistant to sunlight. It shall be stretched tightly around the frame and fastened securely. It shall extend from the top of the frame to 18 in. below the inlet elevation. The geotextile shall overlap across one side of the inlet so the ends of the cloth are not fastened to the same post
- 6 Backfill shall be placed around the inlet in compacted 8-in. layers until the earth is even with notch elevation on ends and top elevation on sides
- 7 A compacted earth dike or a check dam shall be constructed in the ditch line below the inlet if the inlet is not in a depression and if runoff bypassing the inlet will not flow to a settling pond. The top of earth dikes shall be at least 6 in. higher than the top of the frame

Specifications  
for  
Permanent Seeding

SITE PREPARATION

- 1 A subsoiler, plow or other implement shall be used to reduce soil compaction and allow maximum infiltration. (Maximizing infiltration will help control both runoff rate and water quality.) Subsoiling should be done when the soil moisture is low enough to allow the soil to crack or fracture. Subsoiling shall not be done on slip-prone areas where soil preparation should be limited to what is necessary for establishing vegetation
- 2 The site shall be graded as needed to permit the use of conventional equipment for seedbed preparation and seeding
- 3 Resoil shall be applied where needed to establish vegetation

- Where feasible, except when a cultipacker type seeder is used, the seedbed should be formed following seeding operations with a cultipacker, roller, or light drag. On sloping land, seeding operations should be on the contour where feasible

MULCHING

- 1 Mulch material shall be applied immediately after seeding. Seedlings made during optimum seeding dates and with favorable soil conditions and on very flat areas may not need mulch to achieve adequate stabilization. Dormant seeding shall be mulched
- 2 Materials

SEEDBED PREPARATION

- 1 Lime-Agricultural ground limestone shall be applied to soil and soil as recommended by a soil test. In lieu of a soil test, lime shall be applied at the rate of 100 lb/1,000 sq ft or 2 tons/ac
- 2 Fertilizer-Fertilizer shall be applied as recommended by a soil test. In lieu of a soil test, fertilizer shall be applied at the rate of 12 lb/1,000 sq ft or 500 lb/ac of 10-10-10 or 12-12-12 analysis
- 3 The lime and fertilizer shall be worked into the soil with a disk harrow, spring-tooth harrow, or other suitable field implement to a depth of 3 in. On sloping land the soil shall be worked on the contour

SEEDING DATES AND SOIL CONDITIONS

Seeding should be done March 1 to May 31 or August 1 to September 30. These seeding dates are ideal but, with the use of additional mulch and irrigation, seedlings may be made any time throughout the growing season. Tillage/seedbed preparation should be done when the soil is dry enough to crumble and not form ribbons when compressed by hand. For winter seeding, see the following section on dormant seeding.

DORMANT SEEDINGS

- 1 Seedlings shall not be planted from October 1 through November 20. During this period the seeds are likely to germinate but probably will not be able to survive the winter
- 2 The following methods may be used for "Dormant Seeding":
  - From October 1 through November 20, prepare the seedbed, add the required amounts of lime and fertilizer, then mulch and anchor. After November 20, and before March 15, broadcast the selected seed mixture. Increase the seeding rates by 50% for this type of seeding
  - From November 20 through March 15, when soil conditions permit, prepare the seedbed, lime and fertilize, apply the selected seed mixture, mulch and anchor. Increase the seeding rates by 50% for this type of seeding
  - Apply seed uniformly with a cyclone seeder, drill, cultipacker seeder, or hydro-seeder (slurry may include seed and fertilizer) on a firm, moist seedbed

IRRIGATION

- 1 Permanent seeding shall include irrigation to establish vegetation during dry or hot weather or on adverse site conditions as needed for adequate moisture for seed germination and plant growth
- 2 Excessive irrigation rates shall be avoided and irrigation monitored to prevent erosion and damage from runoff

| Permanent Seeding                                     |              |                          |                               |
|-------------------------------------------------------|--------------|--------------------------|-------------------------------|
| Seed Mix                                              | Seeding Rate |                          | Notes                         |
|                                                       | lb /ac       | lb /1,000ft <sup>2</sup> |                               |
| General Use                                           |              |                          |                               |
| Creeping Red Fescue                                   | 20-40        | 1/4-1                    |                               |
| Domestic Ryegrass                                     | 10-20        | 1/4-1/2                  |                               |
| Kentucky Bluegrass                                    | 10-20        | 1/4-1/2                  |                               |
| Tall Fescue                                           | 40           | 1                        |                               |
| Dwarf Fescue                                          | 40           | 1                        |                               |
| Steep Banks or Cut Slopes                             |              |                          |                               |
| Tall Fescue                                           | 40           | 1                        |                               |
| Crown Vetch                                           | 10           | 1/4                      | Do not seed later than August |
| Tall Fescue                                           | 20           | 1/2                      |                               |
| Flat Top                                              | 20           | 1/4                      | Do not seed later than August |
| Tall Fescue                                           | 20           | 1/4                      |                               |
| Road Ditches and Swales                               |              |                          |                               |
| Tall Fescue                                           | 40           | 1                        |                               |
| Dwarf Fescue                                          | 90           | 2 1/4                    |                               |
| Kentucky Bluegrass                                    | 5            |                          |                               |
| Lawns                                                 |              |                          |                               |
| Kentucky Bluegrass                                    | 60           | 1 1/4                    |                               |
| Perennial Ryegrass                                    | 60           | 1 1/4                    |                               |
| Kentucky Bluegrass                                    | 60           | 1 1/4                    | For shaded areas              |
| Creeping Red Fescue                                   | 60           | 1 1/4                    |                               |
| Note: Other approved seed species may be substituted. |              |                          |                               |

Note: Other approved seed species may be substituted

EROSION CONTROL DETAILS

Foresight Engineering Group

440 286-1010  
440 286-1034 fax  
320 Center Street, Unit F  
Chardon, Ohio 44024

Engineers &  
Surveyors

SCALE : NONE

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Specifications  
for  
Small Lot Building Sites

- 1 Preexisting vegetation shall be retained on idle portions of the building lot for as long as construction operations allow. Cleaning shall be done so only active working areas are bare
- 2 Temporary seed (annual rye, oats, etc.) and/or mulch shall be applied to areas, such as stockpiles, that are bare and not actively being worked. This shall apply to areas that will not be reworked for 14 days or more
- 3 Stockpiles excavated from basements shall be situated away from streets, swales, or other waterways and shall be seeded and/or mulched
- 4 Silt fences shall control sheet flow runoff from the building lot. It shall not be constructed in channels or areas of concentrated flow. Other sediment controls such as inlet protection and sediment traps shall also be used as needed to control sediment runoff
- 5 Construction vehicle access shall be limited to one route, to the greatest extent practical. The access shall be gravel or crushed rock applied to the driveway area
- 6 Mud tracked onto the street or sediment settled around curb inlet protection shall be removed daily or as needed to prevent it from accumulating. It shall be removed by shoveling and scraping and shall NOT be washed off paved surfaces or into storm drains

Specifications  
for  
Temporary Seeding

| Temporary Seeding Species Selection                  |                    |                          |          |
|------------------------------------------------------|--------------------|--------------------------|----------|
| Seeding Dates                                        | Species            | Lb/1,000 ft <sup>2</sup> | Per Ac   |
| March 1 to August 15                                 | Oats               | 3                        | 4 bushel |
|                                                      | Tall Fescue        | 1                        | 40 lb    |
|                                                      | Annual Ryegrass    | 1                        | 40 lb    |
|                                                      | Perennial Ryegrass | 1                        | 40 lb    |
|                                                      | Tall Fescue        | 1                        | 40 lb    |
| August 10 to November 1                              | Rye                | 3                        | 2 bushel |
|                                                      | Tall Fescue        | 1                        | 40 lb    |
|                                                      | Annual Ryegrass    | 1                        | 40 lb    |
|                                                      | Wheat              | 3                        | 2 bushel |
|                                                      | Tall Fescue        | 1                        | 40 lb    |
| November 1 to Spring Seeding                         | Perennial Ryegrass | 1                        | 40 lb    |
|                                                      | Tall Fescue        | 1                        | 40 lb    |
|                                                      | Annual Ryegrass    | 1                        | 40 lb    |
|                                                      | Wheat              | 3                        | 2 bushel |
|                                                      | Tall Fescue        | 1                        | 40 lb    |
| Use mulch only, sodding practices or dormant seeding |                    |                          |          |
| Note: Other approved seed species may be substituted |                    |                          |          |

- 1 Structural erosion- and sediment-control practices such as diversions and sediment traps shall be installed and stabilized with temporary seeding prior to grading the rest of the construction site
- 2 Temporary seed shall be applied between construction operations on soil that will not be graded or reworked for 45 days or more. Thereafter, areas should be seeded as soon as possible after grading or shall be seeded within 7 days. Several applications of temporary seeding are necessary on typical construction projects
- 3 The seedbed should be pulverized and loose to ensure the success of establishing vegetation. However, temporary seeding shall not be postponed if ideal seedbed preparation is not possible
- 4 Soil Amendments--Applications of temporary vegetation shall establish adequate stands of vegetation which may require the use of soil amendments. Soil tests should be taken on the site to predict the need for lime and fertilizer
- 5 Seeding Method--Seed shall be applied uniformly with a cyclone seeder, drill, cultipacker seeder, or hydro-seeder. When feasible, seed that has been broadcast shall be covered by raking or dragging and then lightly tamped into place using a roller or cultipacker. If hydroseeding is used, the seed and fertilizer will be mixed on-site and the seeding shall be done immediately and without interruption

MULCHING TEMPORARY SEEDING

- 1 Applications of temporary seeding shall include mulch which shall be applied during or immediately after seeding. Seedlings made during optimum seeding dates and with favorable soil conditions and on very flat areas may not need mulch to achieve adequate stabilization
- 2 Materials
  - Straw--If straw is used, it shall be unrotted small-grain straw applied at the rate of 2 tons/ac or 90 lb/1,000 sq ft (two to three bales). The mulch shall be spread uniformly by hand or mechanically so the soil surface is covered. For uniform distribution of hand spread mulch, divide area into approximately 1,000-sq-ft sections and spread two 45-lb bales of straw in each section
  - Hydroseders--If wood cellulose fiber is used, it shall be used at 2,000 lb/ac or 40 lb/1,000 sq ft
  - Other--Other acceptable mulches include mulch matting applied according to manufacturer's recommendations or wood chips applied at 6 tons/ac
- 3 Straw mulch shall be anchored immediately to minimize loss by wind or water. Anchoring Methods:
  - Mechanical--A disk, crimper, or similar type tool shall be set straight to punch or anchor the mulch material into the soil. Straw mechanically anchored shall not be finely chopped but, generally, be left longer than 6 in.
  - Mulch Nettings--Nettings shall be used according to the manufacturer's recommendations. Netting may be necessary to hold mulch in place in areas of concentration runoff and on critical slopes
  - Asphalt Emulsion--Asphalt shall be applied as recommended by the manufacturer or at the rate of 160 gal/ac
  - Synthetic Binders--Synthetic binders such as Acrylic DLR (Aqua-Tec, DCA-70, Petroseal, Terra Tack or equal) may be used at rates recommended by the manufacturer
  - Wood-Cellulose Fiber--Wood-cellulose fiber binder shall be applied at a net dry weight of 750 lb/ac. The wood-cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 lb/100 gal