Erosion Control

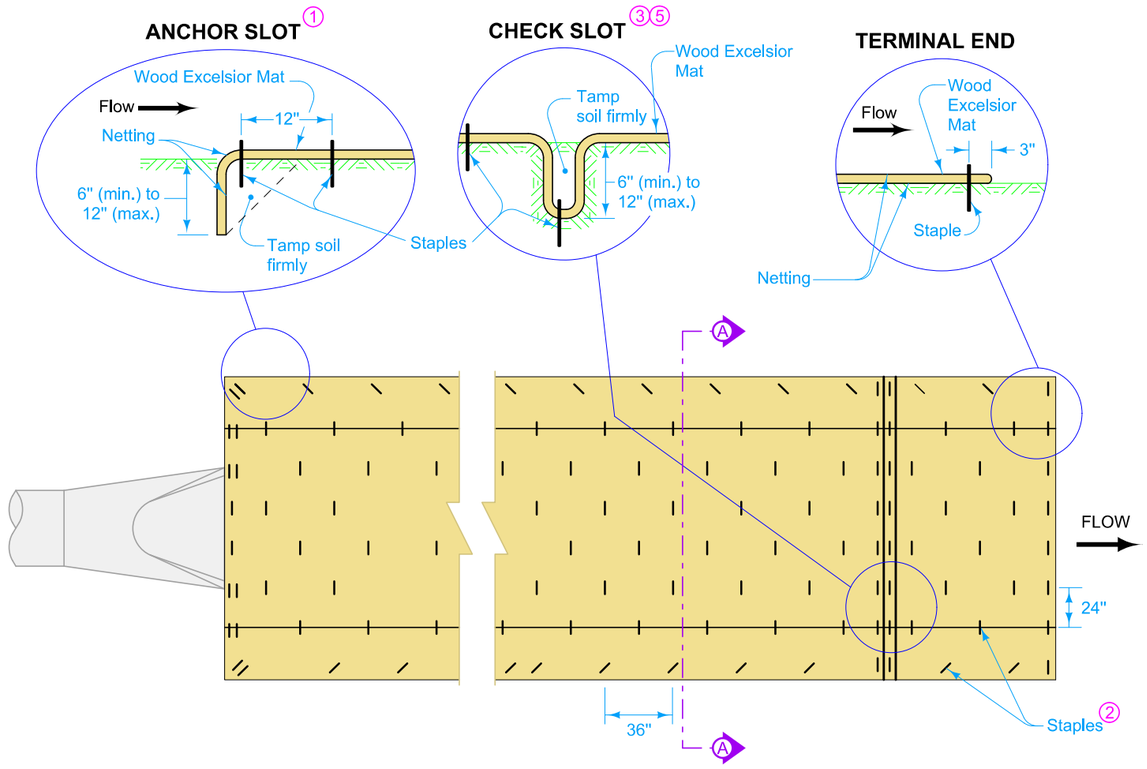
EC

SECTION

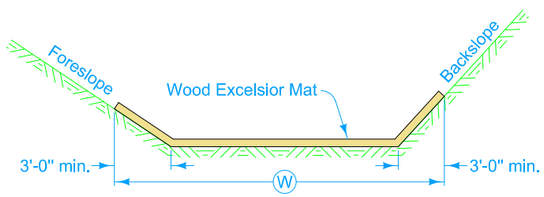
Erosion Control

EC

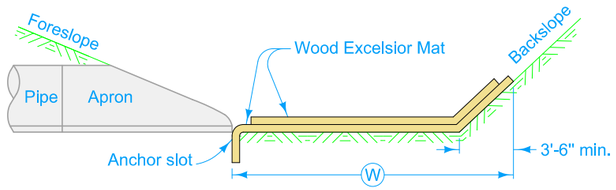
NO.	DATE	TITLE
EC-101	04-19-16	Wood Excelsior Mat for Ditch Protection
EC-102	04-21-15	Sod for Ditch Protection
EC-103	04-21-15	Wood Excelsior Mat for Slope Protection
EC-104	04-17-18	Turf Reinforced Mat (TRM)
EC-105	04-17-18	Transition Mat (TM)
EC-201	04-20-21	Silt Fence
EC-202	10-21-14	Floating Silt Curtain
EC-204	10-19-21	Perimeter, Slope and Ditch Check Sediment Control Devices
EC-301	10-18-22	Rock Erosion Control (REC)
EC-302	10-18-22	Rock Check Dam
EC-303	10-19-21	Stabilized Construction Entrance
EC-501	04-21-15	Trees and Shrubs
EC-502	04-21-15	Seeding in Rural Areas
EC-601	10-16-18	Temporary Sediment Control Basin
EC-602	10-15-24	Open-Throat Curb Intake Sediment Filter
EC-603	10-17-23	Erosion Control for Intake or Manhole Well
EC-604	10-17-23	Grate Intake Sediment Filter Bag



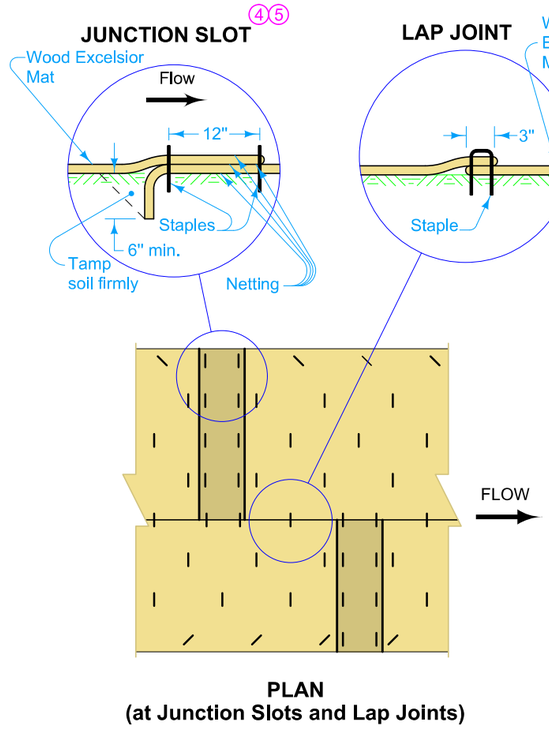
PLAN



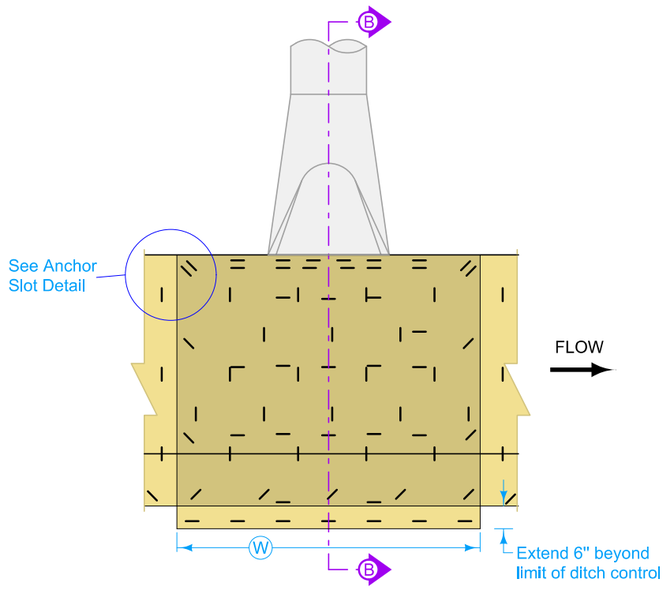
SECTION A-A



SECTION B-B



PLAN
(at Junction Slots and Lap Joints)



PLAN
(at Culvert Tranverse to Ditch)

Provide necessary excavation at locations where silt conditions require shaping of a ditch to provide a proper type of area for installation of wood excelsior mat for special ditch control.

Ensure ground surface adjacent to any channels is shaped to facilitate natural drainage into the protected area.

Use all excavated material to fill low areas, gullies, backslope scours, and otherwise facilitate the free flow of surface water into the channel as directed by the Engineer. Alignment should be smooth and avoid abrupt changes.

① Install anchor slot at the beginning (upstream end) of all wood excelsior mat installations.

② Place staples alternately in rows approximately 24 inches apart. Approximately 30 staples required per square (100 sq. ft.) of wood excelsior mat.

③ Space Check Slots in ditch channel so that one occurs within each 50 feet on slopes of more than 4%.

④ Stagger Junction Slots (end of rolls).

⑤ Do not use Junction Slots or Check Slots when Wood Excesior Mat is placed over Turf Reinforced Mat.

Possible Contract Item:
Special Ditch Control, Wood Excelsior Mat

Possible Tabulation:
100-22

IOWA DOT

REVISION	
2	04-19-16

STANDARD ROAD PLAN

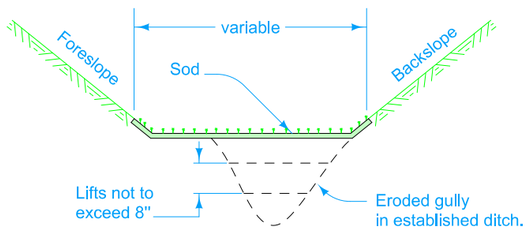
EC-101

SHEET 1 of 1

REVISIONS: Revised to show placement of erosion control beginning at the end of the apron.

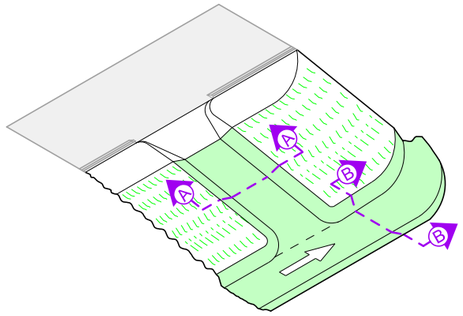
APPROVED BY DESIGN METHODS ENGINEER

SPECIAL DITCH CONTROL

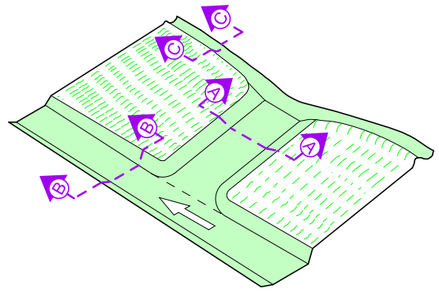


SECTIONS A-A AND B-B

Sod placement for eroded gully.



PERSPECTIVE FORESLOPE FLUME AND ROADWAY DITCH



PERSPECTIVE BACKSLOPE WITH FLUME AND INTERCEPTING DITCH

Through ditches or borrow areas, construct sod channels at the low point. Use all excavated material to fill low areas to facilitate the free flow of surface water into the channel. Alignment should be smooth and avoid abrupt changes.

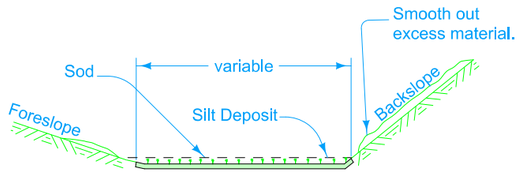
Provide necessary excavation at locations where silt conditions require shaping of a ditch to provide a proper type of area for installation of sod for special ditch control. Dispose excavated material in adjacent area as directed by the Engineer.

At locations where erosion has created gullies in ditches or backslopes, fill and compact gullies in lifts not more than 8-inches thick.

Unless specifically required otherwise by the Engineer, install wire stakes or wood stakes. Stagger wire stakes as shown. Minimum 33 stakes per square. Use wood stakes in sod flumes when designated by the Engineer. When directed by the Engineer, longer stakes may be required for certain soil conditions to properly hold sod in place.

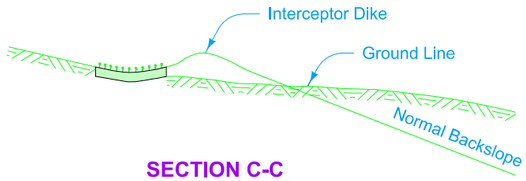
Work for providing proper ditches will not be paid for directly but is incidental to other work on the project.

Shaping and grading work necessary to prepare the ground for sodding adjacent to concrete surfaces will not be paid for separately but is incidental to other work on the project. Such grading and shaping may include the removal and disposal of excess earth, as directed by the Engineer, in order to obtain satisfactory drainage and appearance for the finished work.



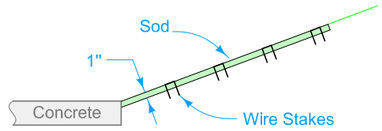
SECTION B-B

Sod placement for silted ditch in cut.



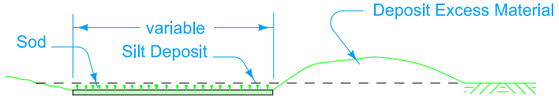
SECTION C-C

Sod placement on Interceptor Ditch



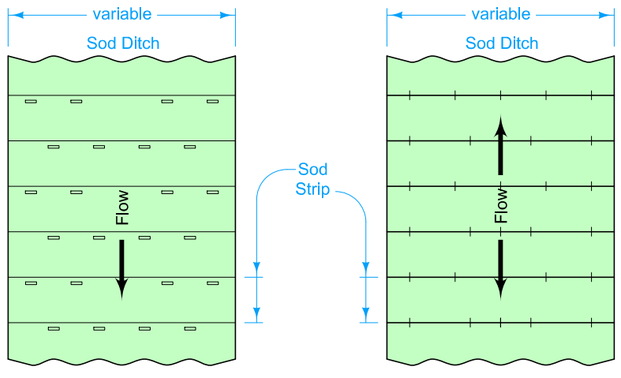
Ground surface shall be graded 1" below the edge of concrete before sod is placed.

CASE 1
NATURAL GROUND SLOPES TOWARD CONCRETE



SECTION B-B

Sod placement for silted area in no-ditch section.

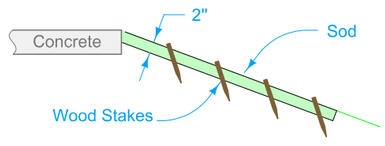


4 Wood Stakes per row, staggered in rows

5 Wire Stakes per row, staggered in rows

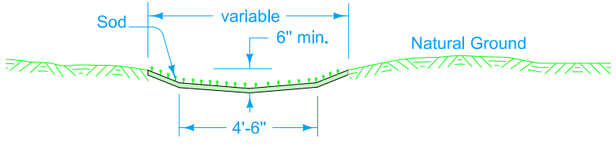
WOOD STAKES **WIRE STAKES**

STAKING FOR SOD CHANNELS



Grade ground surface 2" below the edge of concrete before sod is placed.

CASE 2
NATURAL GROUND SLOPES AWAY FROM CONCRETE



SECTION A-A

Sod placement on slopes where excavation is required for proper installation of sod.

LEGEND

Existing Ground

Sod

IOWA DOT

STANDARD ROAD PLAN

REVISION	
1	04-21-15

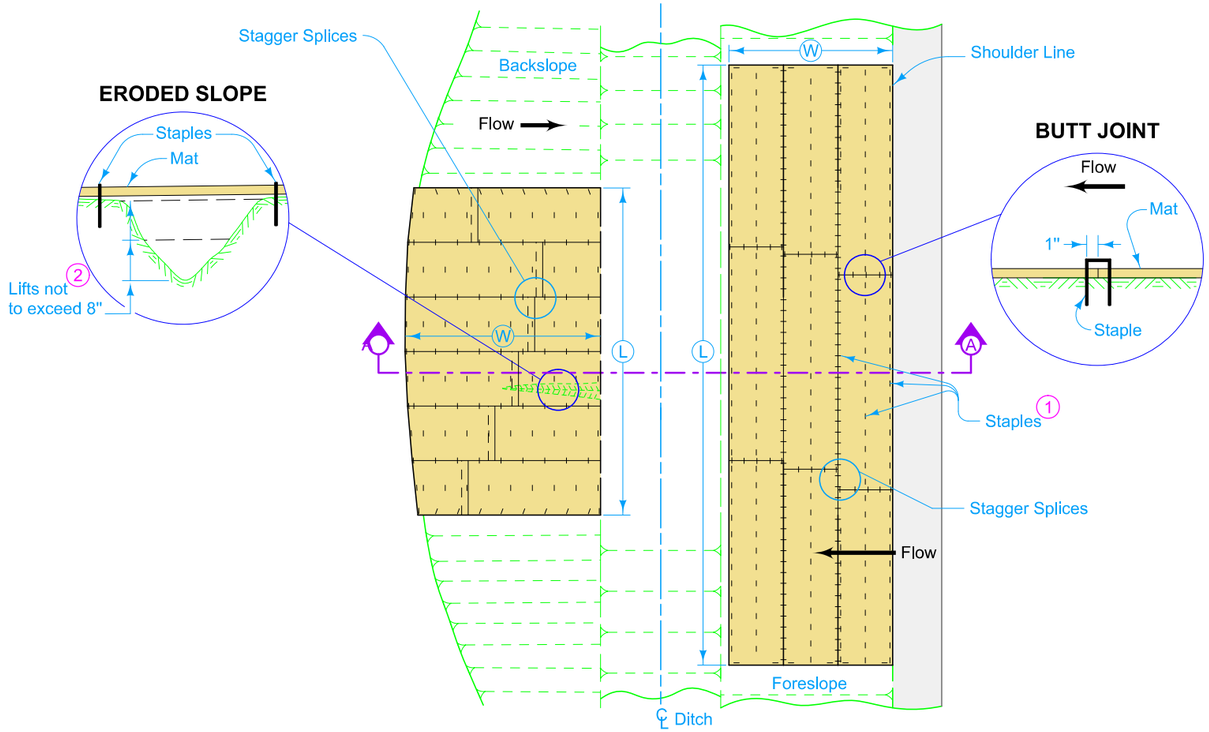
EC-102

SHEET 1 of 1

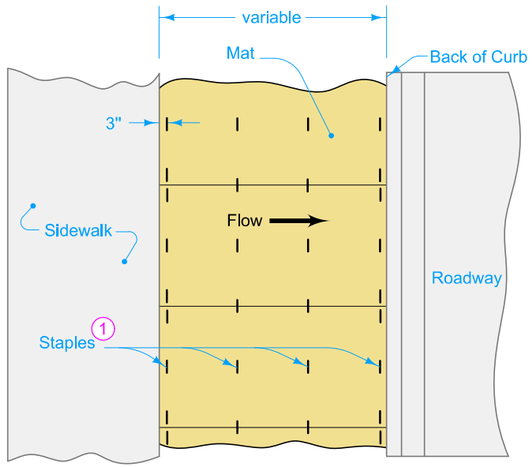
REVISIONS: Replaced DOT logo with new version. Revised Section A-A and B-B drawings to show ditch bottoms being flat.

APPROVED BY DESIGN METHODS ENGINEER

SOD FOR DITCH PROTECTION



PLAN FOR BACKSLOPE AND FORESLOPE PROTECTION



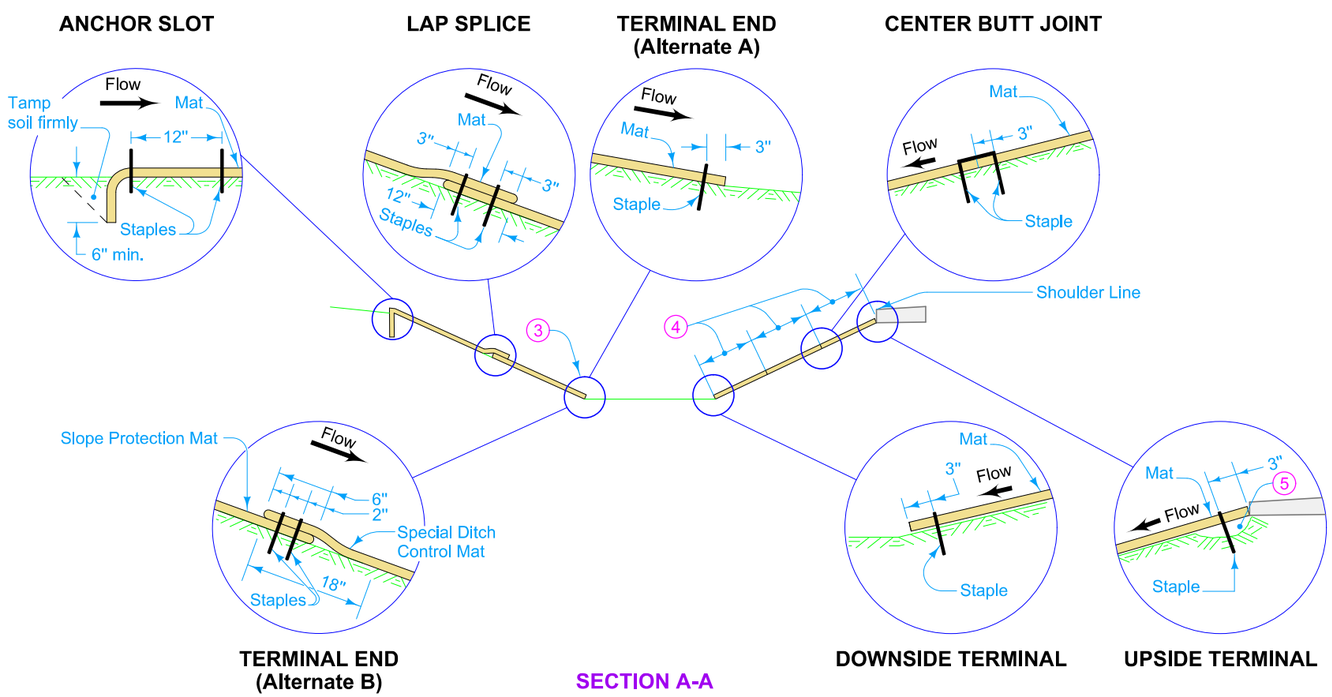
PLAN FOR SIDEWALK ADJACENT TO PAVEMENT

The work of providing suitable earth surface for placement of slope protection is incidental to preparation of seedbed.

Ensure that ground surfaces adjacent to any channels are shaped to facilitate natural drainage into the protected area.

Excelsior mat for backslope protection is installed with strips placed approximately perpendicular to roadway. Locations for slope protection are shown on detail plans.

Excelsior mat for foreslope protection is installed with strips placed approximately parallel to roadway. The location, width, and number of strips are specified on project plans.



TERMINAL END
(Alternate B)

SECTION A-A

DOWNSIDE TERMINAL

UPSIDE TERMINAL

1. Space top row of staples at 18 inch centers, bottom row at 36 inch centers, and all others at 24 inch centers. Approximately 30 staples required per square (100 sq. ft) of wood excelsior mat.
2. Where erosive gullies have developed in backslope, fill with soil and compact prior to placement of mat.
3. Where excelsior mat is to be placed as Special Ditch Control, install slope protection to facilitate placement of the ditch control as indicated (Alternate B). Where there is no Special Ditch Control, install slope protection as shown (Alternate A).
4. 4 feet unless specified otherwise for foreslope protection.
5. If erosive rill has developed adjacent to shoulder material, fill with suitable soil and compact prior to placement of mat.

Possible Contract Item:
Slope Protection, Wood Excelsior Mat

Possible Tabulation:
100-22

IOWA DOT

REVISION
1 | 04-21-15

STANDARD ROAD PLAN

EC-103

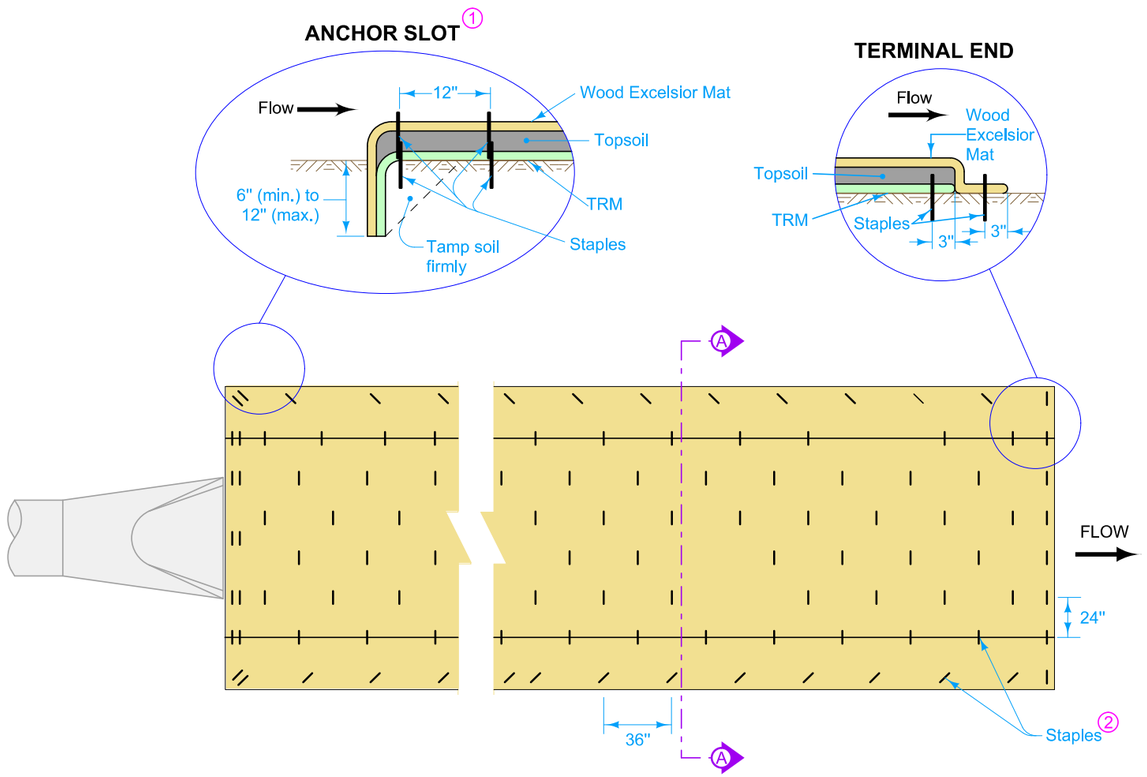
SHEET 1 of 1

REVISIONS: Removed language from general notes already in the Specifications. Modified drawings. Added Possible Contract Item and Possible Tabulation.

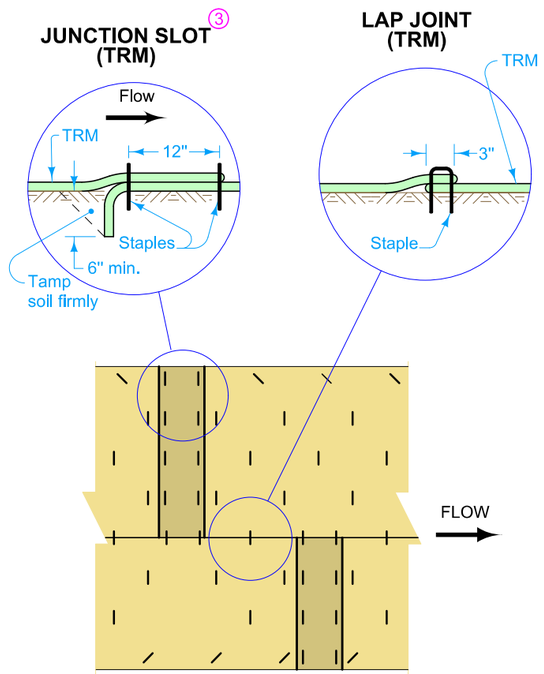
APPROVED BY DESIGN METHODS ENGINEER

WOOD EXCELSIOR MAT FOR SLOPE PROTECTION

DESIGNER INFORMATION



PLAN



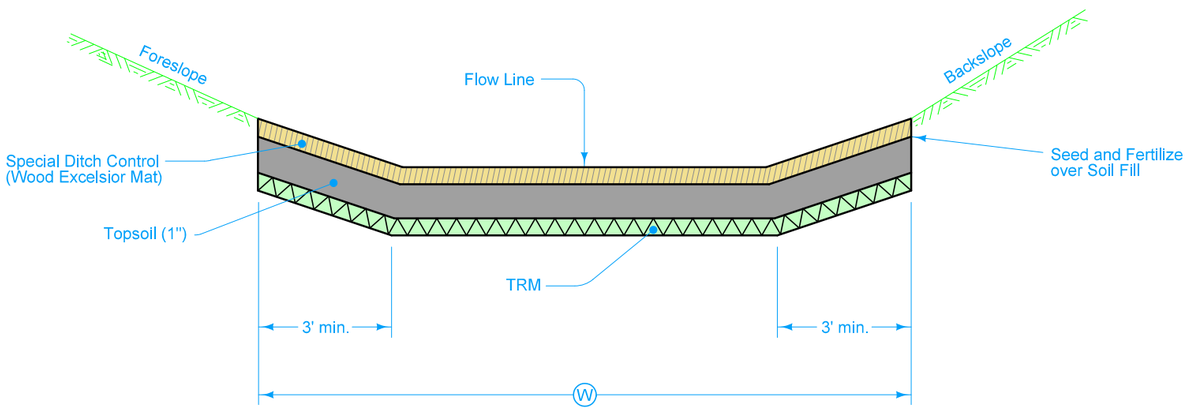
PLAN
(at Junction Slots and Lap Joints)

Refer to EC-101 for Special Ditch Control (Wood Excelsior Mat).

① Install anchor slot at the beginning (upstream end) of all mat installations.

② Place staples alternately in rows approximately 24 inches apart. Approximately 30 staples required per square (100 sq. ft.) of each type of mat.

③ Stagger Junction Slots.



SECTION A-A

TRM

Wood Excesior Mat

Possible Contract Items:
Turf Reinforcement Mat

Possible Tabulation:
100-22

IOWA DOT

STANDARD ROAD PLAN

REVISION	
New	04-17-18

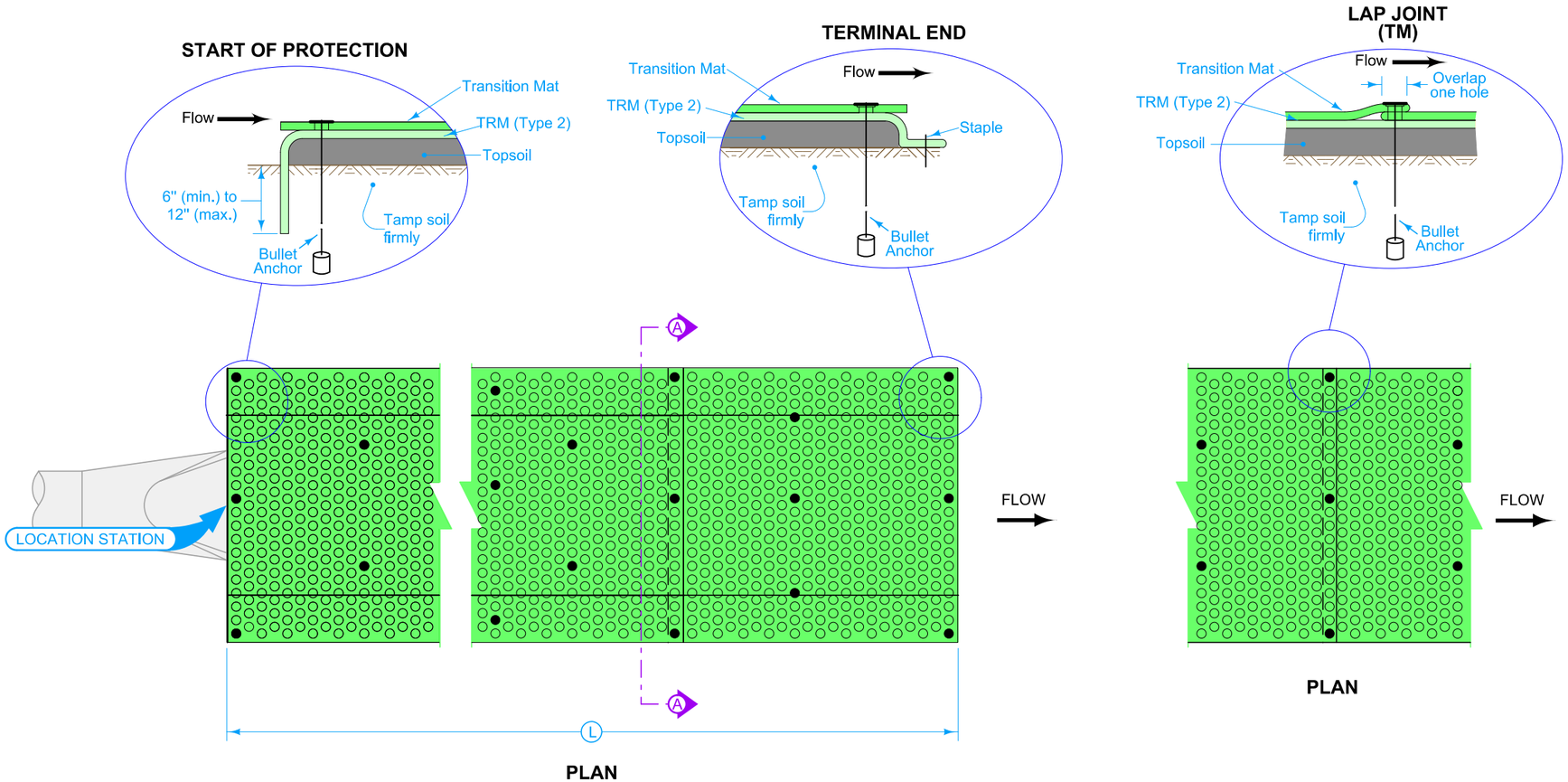
EC-104

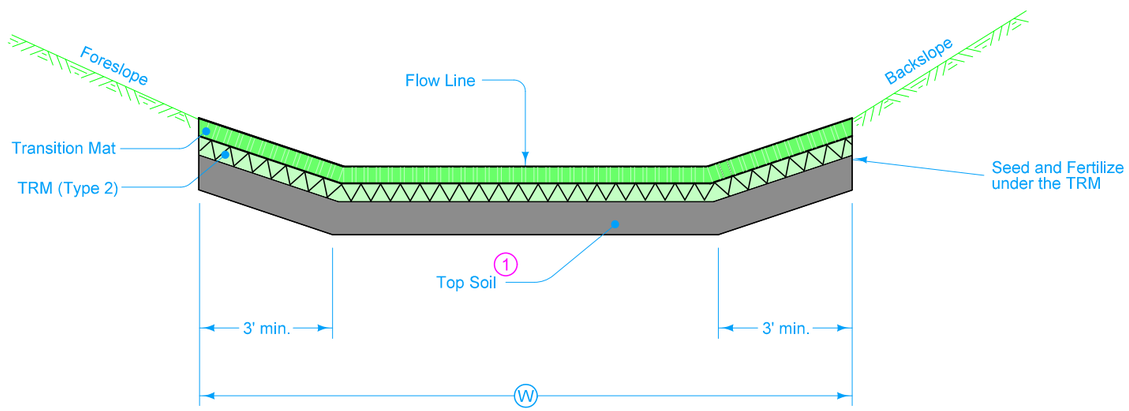
SHEET 1 of 1

REVISIONS: Added Designer Info button.

APPROVED BY DESIGN METHODS ENGINEER

TURF REINFORCEMENT MAT (TRM)





SECTION A-A

TM

TRM (Type 2)

Refer to Standard Road Plan EC-104 for the placement of the TRM.

(1) Place at same thickness as surrounding area. Refer to T Sheets to determine topsoil thickness for the surrounding area.

Possible Contract Items:
Transition Mat

Possible Tabulation:
100-09

IOWADOT

STANDARD ROAD PLAN

REVISION	
3	04-17-18

EC-105

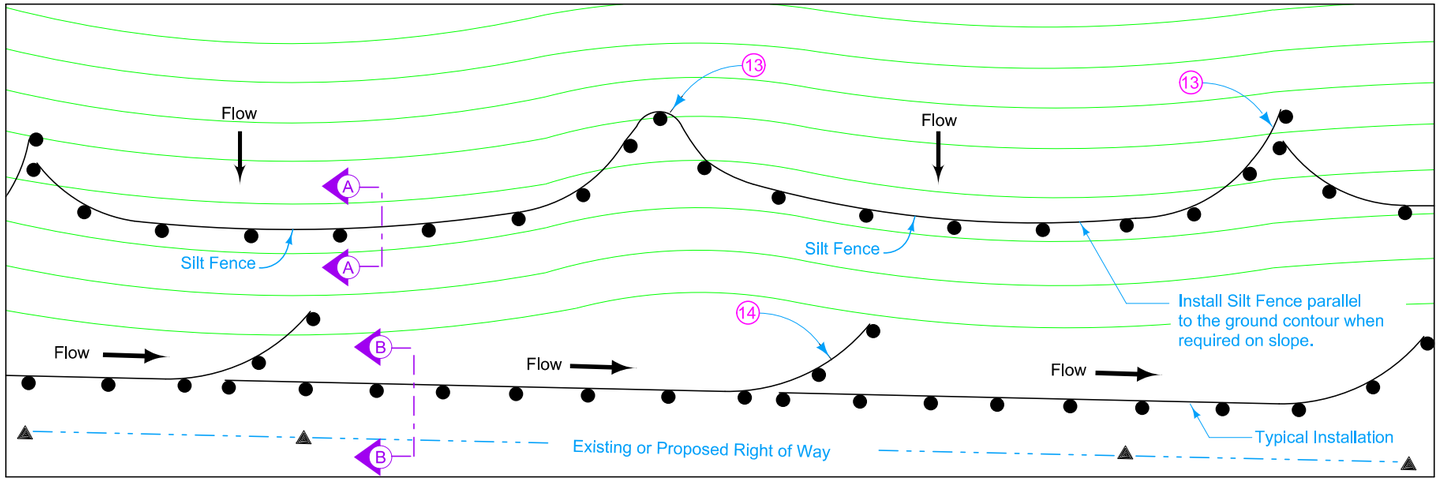
SHEET 1 of 1

REVISIONS: Changed Possible Contract Items to Transition Mat.

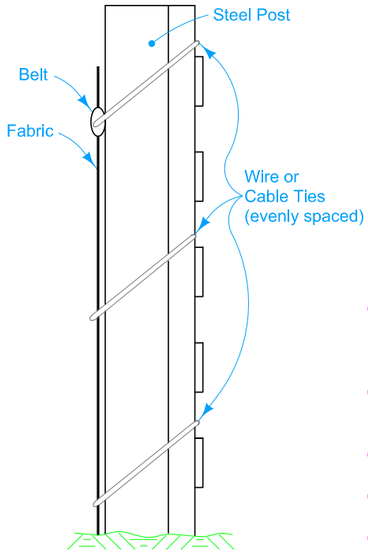
APPROVED BY DESIGN METHODS ENGINEER

TRANSITION MAT
(TM)

DESIGNER INFORMATION



PLAN FOR SILT FENCE (11)



PROFILE VIEW
ATTACHMENT TO POST

Install all silt fence using a silt fence machine. Use manual (trench) installation if phyical conditions prohibit machine installation.

For machine installation, compact by driving over each side of silt fence at least two times with a rubber-tired vehicle.

For manual installation, compact with a mechanical or pneumatic tamper.

(1) Secure top of engineering fabric to steel posts using cable ties (50 lb.) or wire passing through or encompassing the belt. See attachment to post.

(2) For manual installation only, fold engineering fabric along bottom of trench.

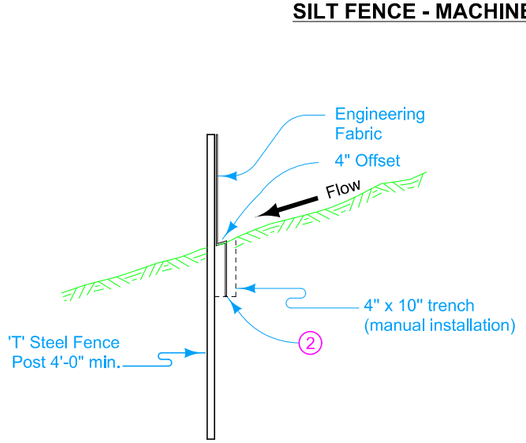
(3) Embed all posts 28 inches below the ground line.

(11) Refer to Tab. 100-17

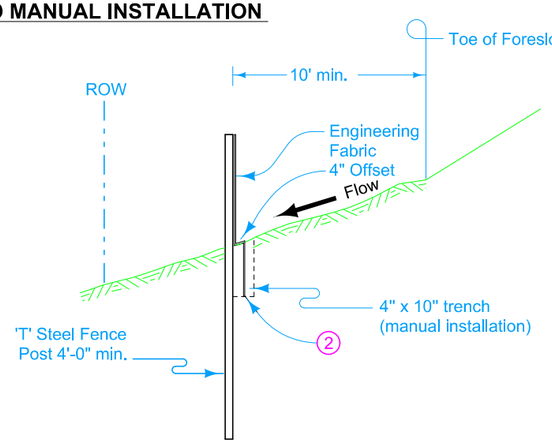
(13) The contractor has two installation options:
- Place silt fence continuously up to a maximum of 200 feet. For every 200 foot segment of fence placed, flare up the slope on both ends 20 feet of the segment to contain runoff as shown, or
- Place silt fence continuously. Every 200 feet, place a hump that extends 20 feet up the slope to contain runoff as shown.

(14) Place silt fence continuously up to a maximum length of 200 feet. For every segment of silt fence that is placed, flare up the slope on both ends 20 feet of the segment to contain runoff as shown.

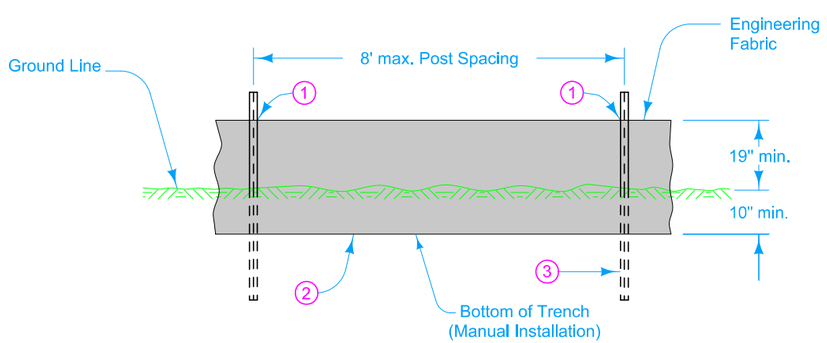
SILT FENCE - MACHINE AND MANUAL INSTALLATION



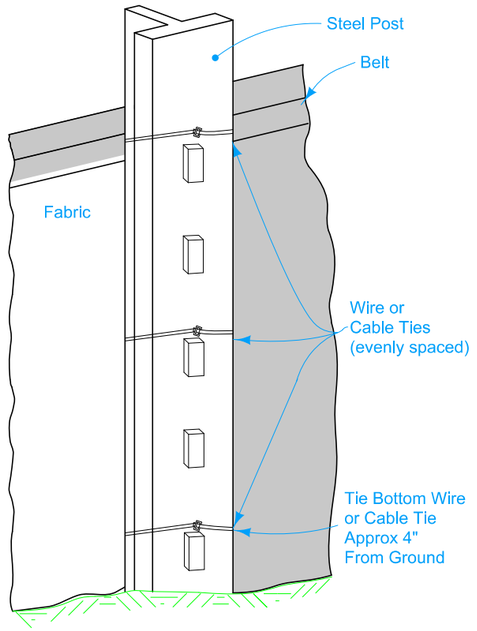
SECTION A-A



SECTION B-B



FRONT VIEW



BACK VIEW
ATTACHMENT TO POST

Contour Lines

Possible Contract Items:
- Silt Fence
- Silt Fence for Ditch Checks

Possible Tabulations:
- 100-17
- 100-18

IOWADOT

REVISION	
6	04-20-21

STANDARD ROAD PLAN

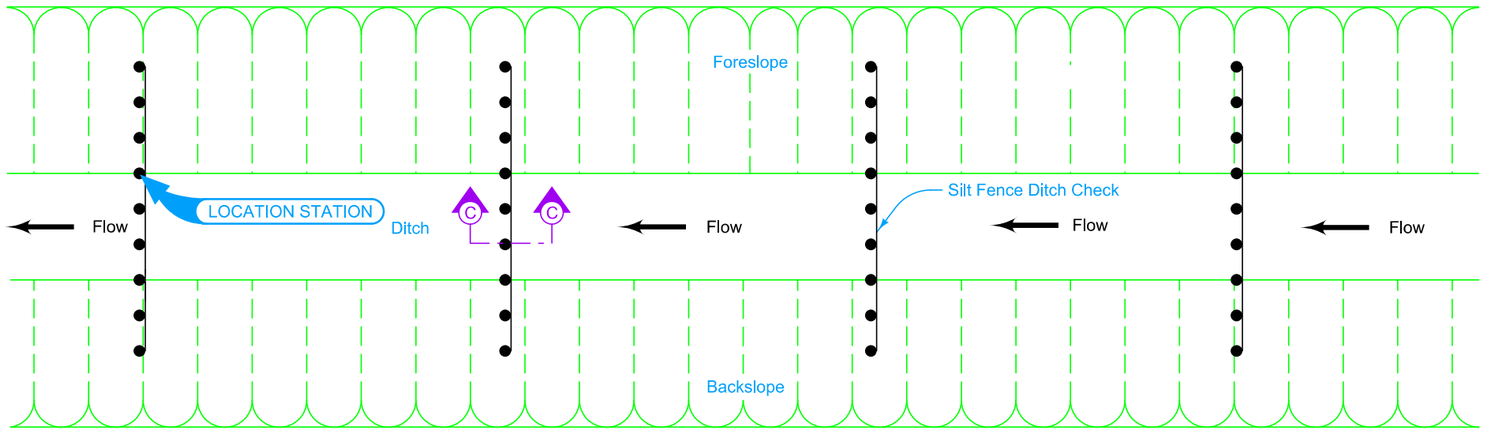
EC-201

SHEET 1 of 6

REVISIONS: Modified trench to 10". Added circle notes 13 & 14.

APPROVED BY DESIGN METHODS ENGINEER

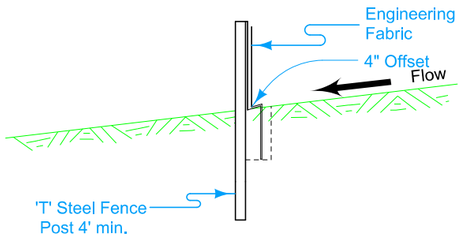
SILT FENCE



PLAN FOR DITCH CHECK (TYPE 1) (12)

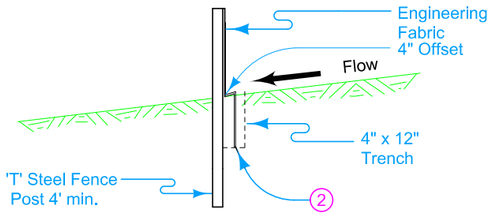
1. Secure top of engineering fabric to steel posts using cable ties (50 lb.) or wire passing through or encompassing the belt. See attachment to post.
2. For manual installation only, fold engineering fabric along bottom of trench.
3. Embed all posts 28 inches below the ground line.
4. Locate posts at toe of foreslope and toe of backslope and space remaining posts equally.
5. Minimum end span (in feet) = 2 X Foreslope (H:V).
6. Minimum end span (in feet) = 2 X Backslope (H:V).
12. Refer to Tab. 100-18

DITCH CHECK - MACHINE INSTALLATION

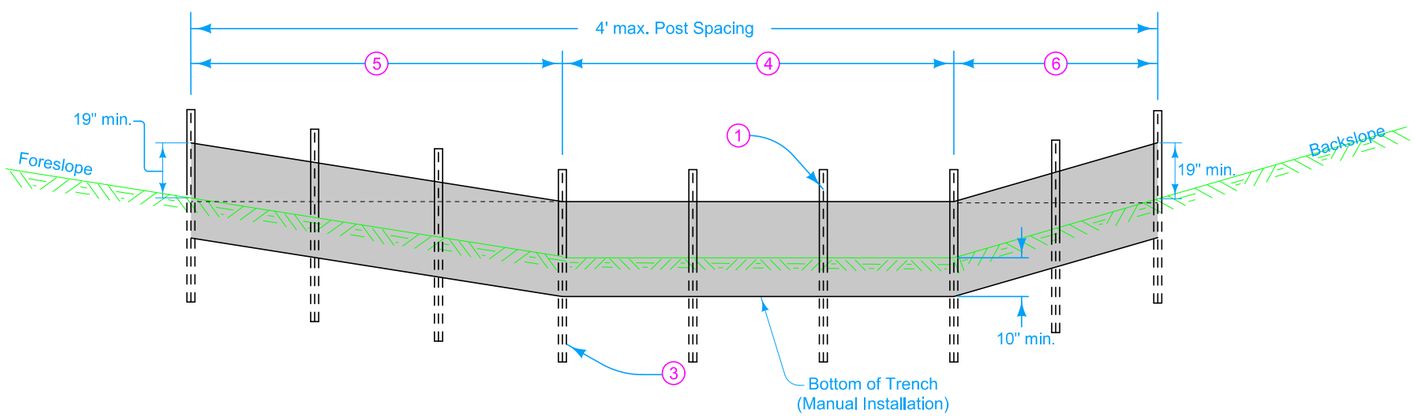


SECTION C-C

DITCH CHECK - MANUAL INSTALLATION



SECTION C-C



FRONT VIEW

IOWA DOT

REVISION
6 | 04-20-21

STANDARD ROAD PLAN

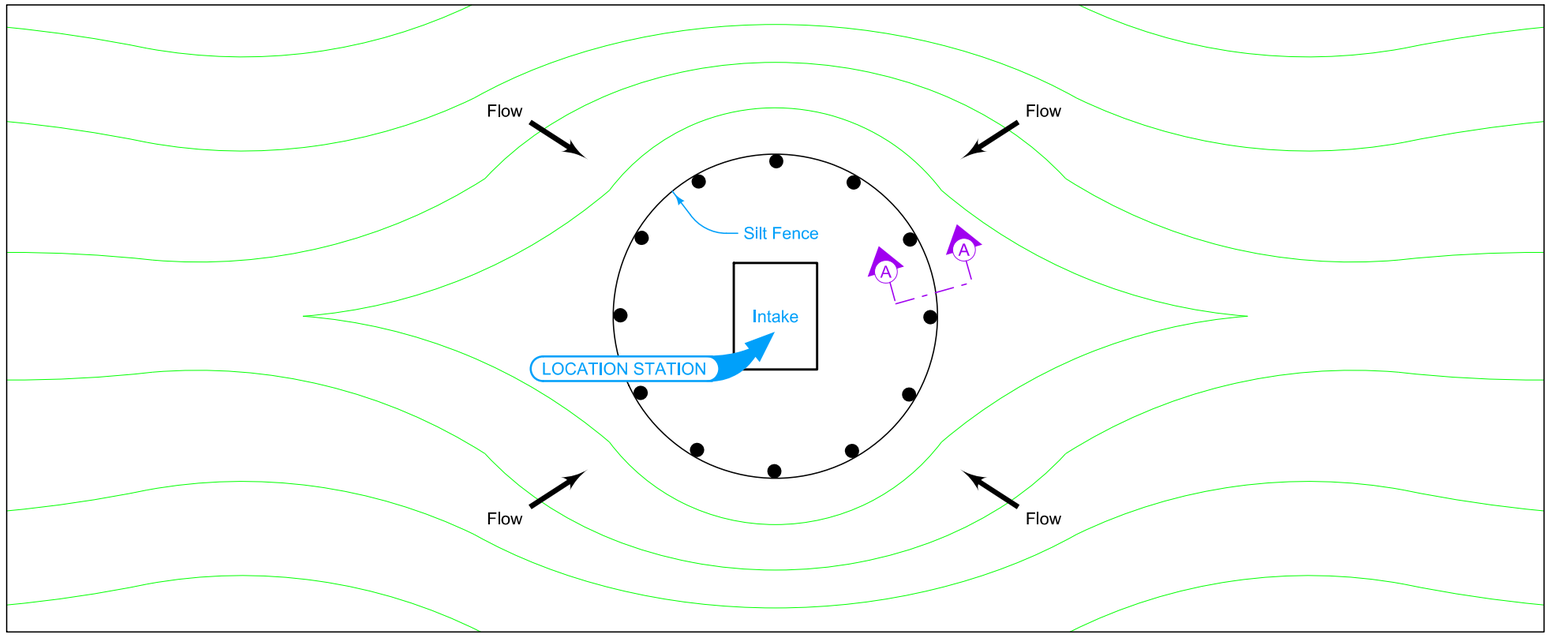
EC-201

SHEET 2 of 6

REVISIONS: Modified trench to 10". Added circle notes 13 & 14.

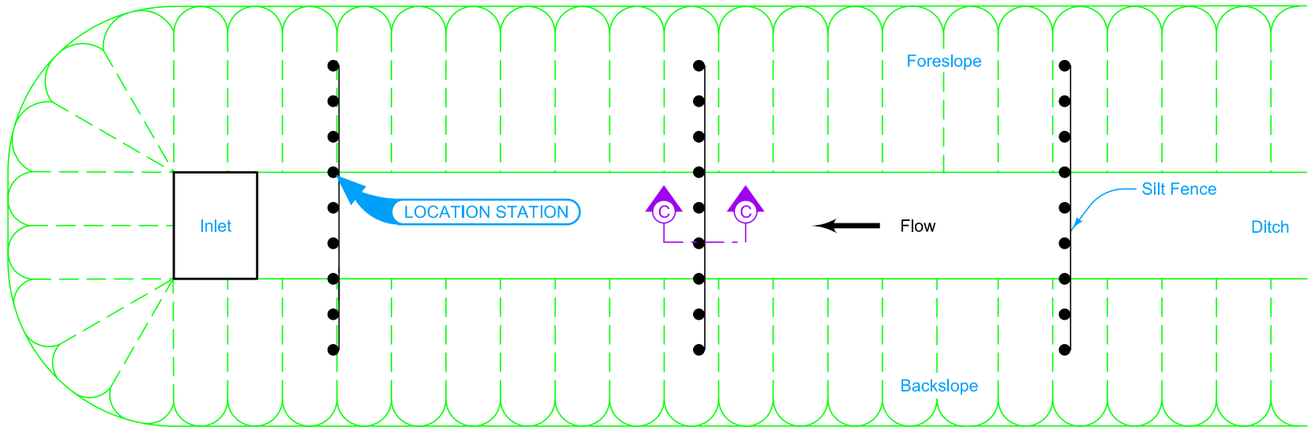
APPROVED BY DESIGN METHODS ENGINEER

SILT FENCE



PLAN FOR SILT FENCE AT INTAKE (TYPE 2) (12)

(12) Refer to Tab. 100-18



Contour Lines

PLAN FOR SILT FENCE DITCH CHECK AT INLET (TYPE 3) (12)

IOWA DOT

REVISION

6	04-20-21

STANDARD ROAD PLAN

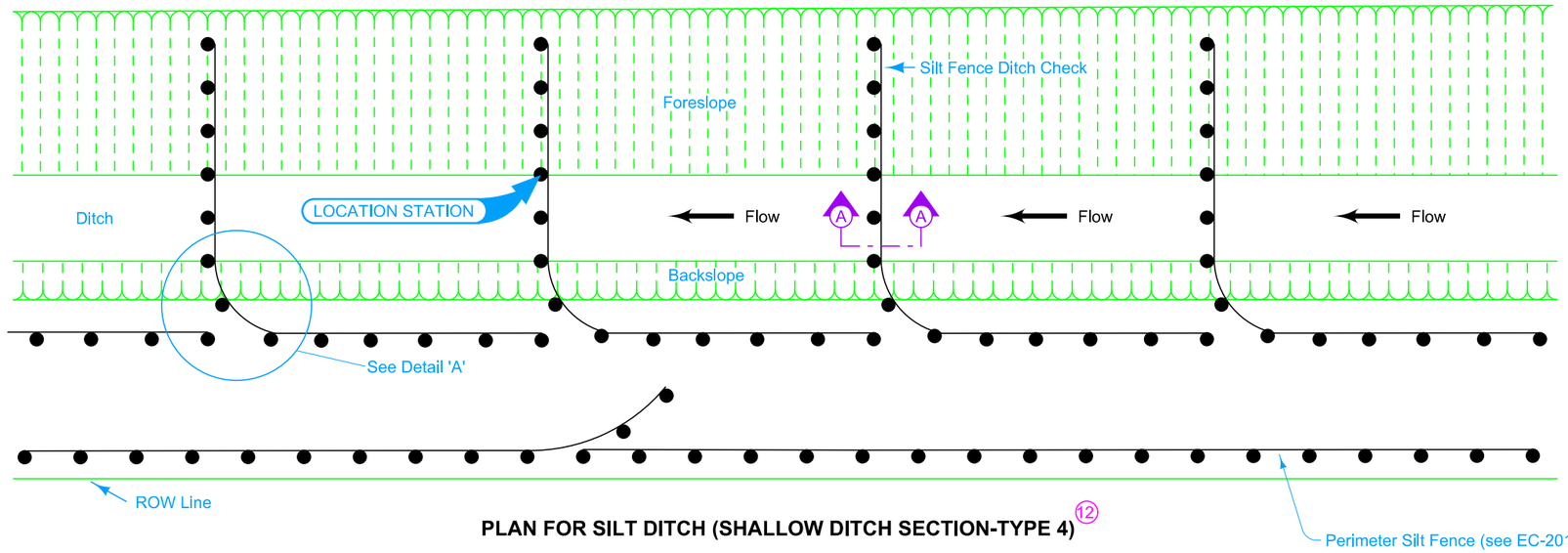
EC-201

SHEET 3 of 6

REVISIONS: Modified trench to 10". Added circle notes 13 & 14.

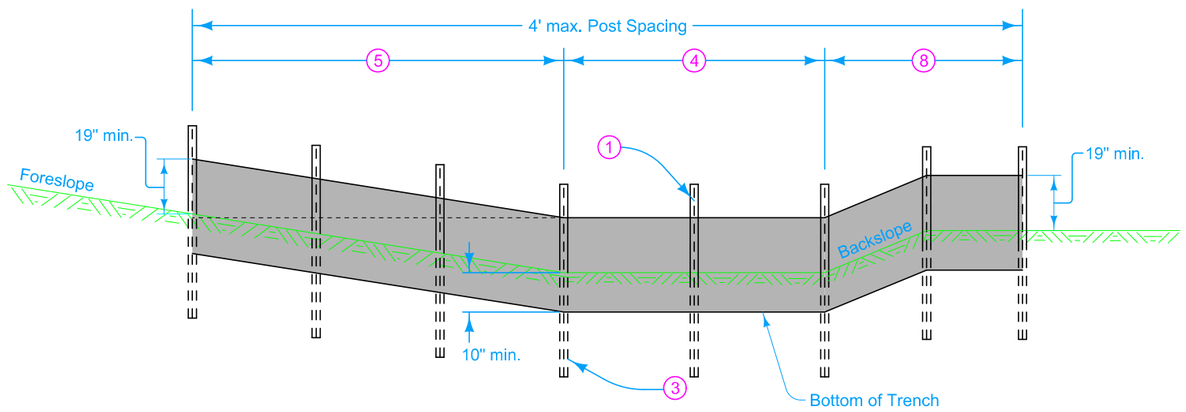
APPROVED BY DESIGN METHODS ENGINEER

SILT FENCE

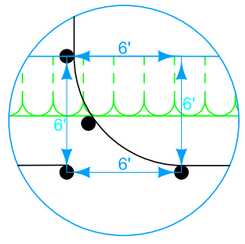


PLAN FOR SILT DITCH (SHALLOW DITCH SECTION-TYPE 4) (12)

1. Secure top of engineering fabric to steel posts using cable ties (50 lb.) or wire passing through or encompassing the belt. See attachment to post..
3. Embed all posts 28 inches below the ground line.
4. Locate posts at toe of foreslope and toe of backslope and space remaining posts equally.
5. Minimum end span (in feet) = 2 X Foreslope (H:V).
8. Place posts shown in Detail 'A' to transition from transverse to parallel installation. Place one post at the back slope intercept and the other beyone the intercept.
12. Refer to Tab. 100-18



FRONT VIEW



Detail 'A'

IOWA DOT

STANDARD ROAD PLAN

REVISION	
6	04-20-21

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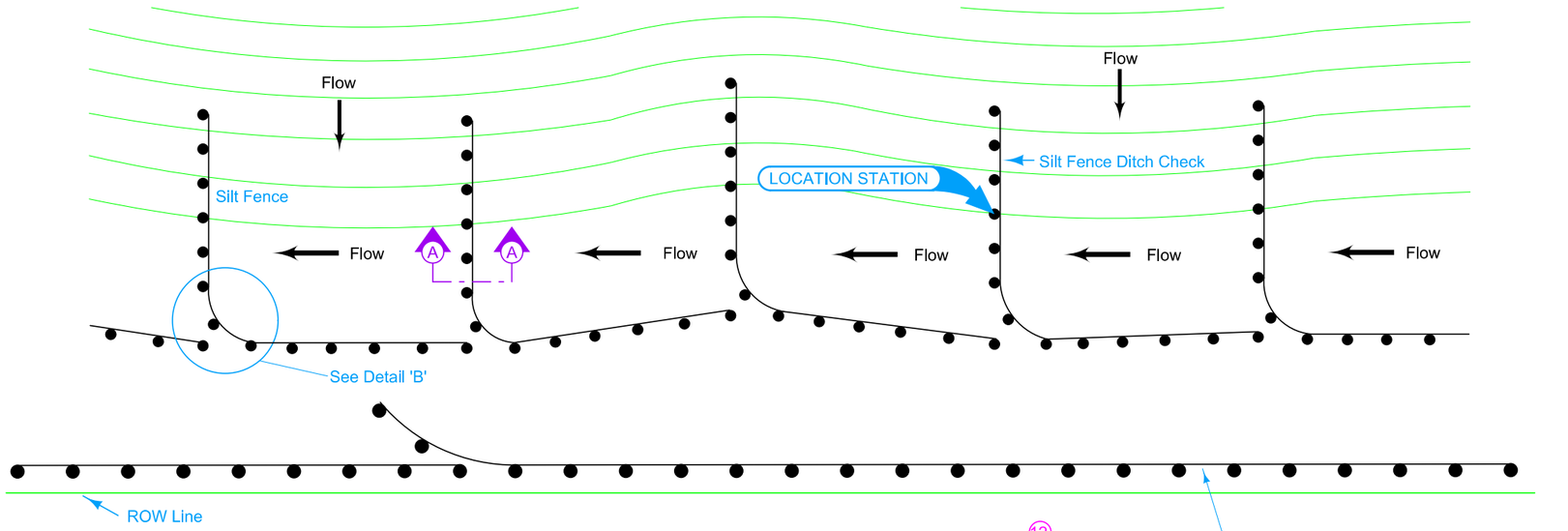
SHEET 4 of 6

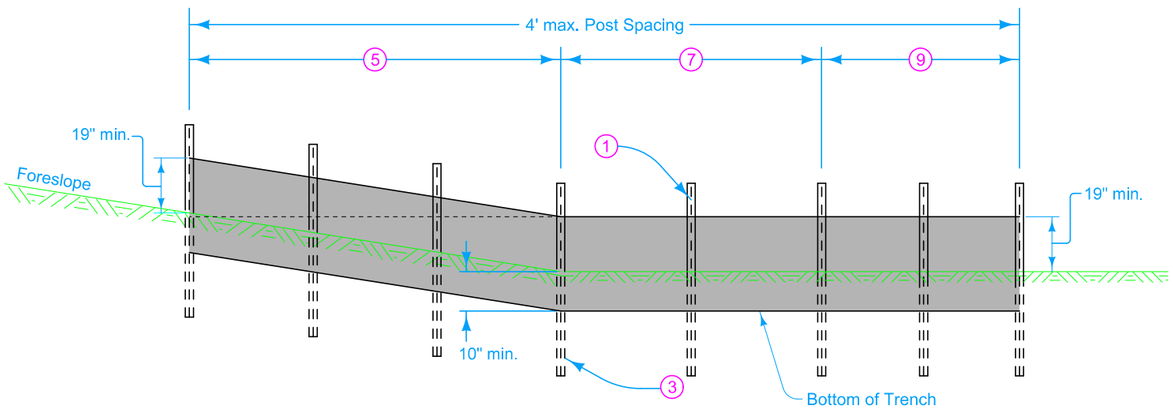
REVISIONS: Modified trench to 10". Added circle notes 13 & 14.

APPROVED BY DESIGN METHODS ENGINEER

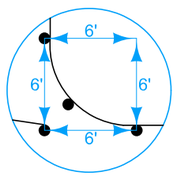
SILT FENCE



PLAN FOR SILT FENCE (NO DITCH SECTION-TYPE 5) (12)



FRONT VIEW



Detail 'B'

(1) Secure top of engineering fabric to steel posts using cable ties (50 lb.) or wire passing through or encompassing the belt. See attachment to post..

(3) Embed all posts 28 inches below the ground line.

(5) Minimum end span (in feet) = 2 X Foreslope (H:V).

(7) Locate posts at toe of foreslope. Locate posts at 4 foot spacing

(9) Place posts as shown in Detail 'B' to transition from transverse to parallel installation. The parallel portion of the installation should approximately parallel the intercept of the foreslope.

(12) Refer to Tab. 100-18

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SHEET 5 of 6

REVISIONS: Modified trench to 10". Added circle notes 13 & 14.

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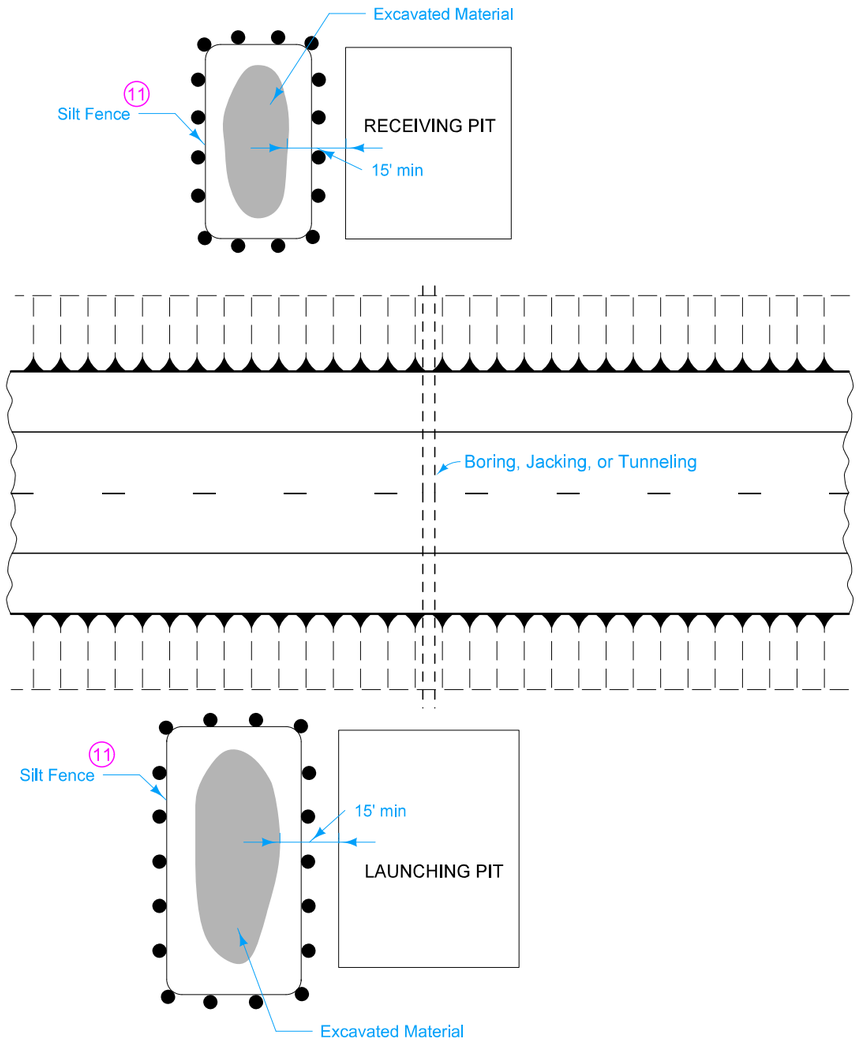
SILT FENCE

(11) Refer to Tab. 100-17



PLAN FOR SILT FENCE FOR TRENCHLESS CONSTRUCTION

IOWA DOT

REVISION

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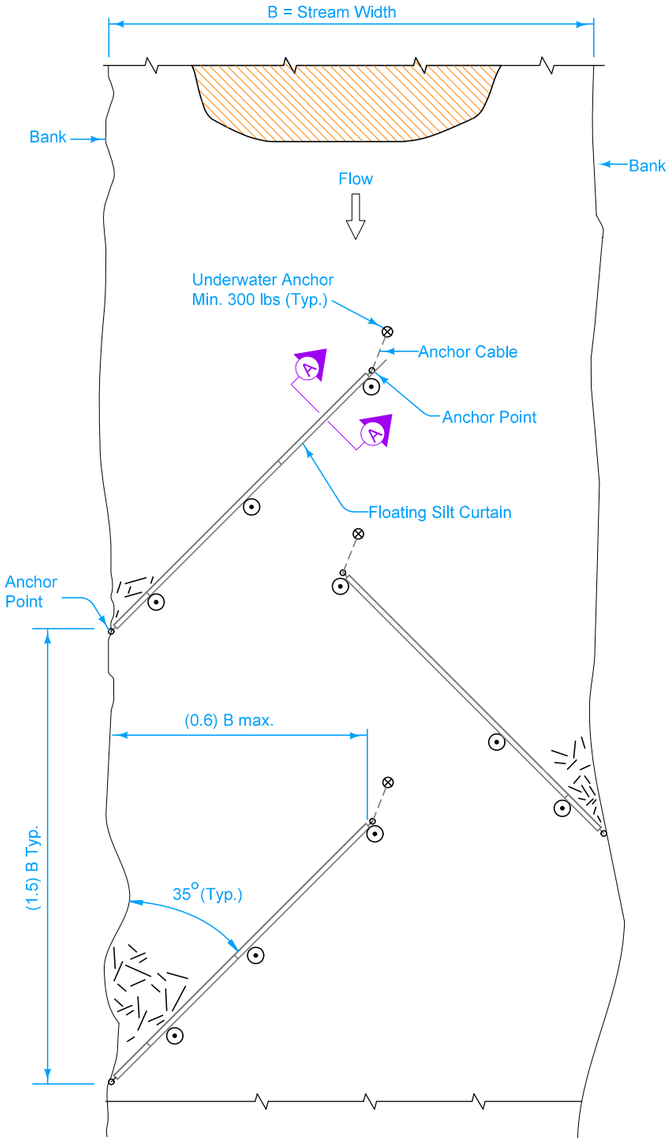
SHEET 6 of 6

REVISIONS: Modified trench to 10". Added circle notes 13 & 14.

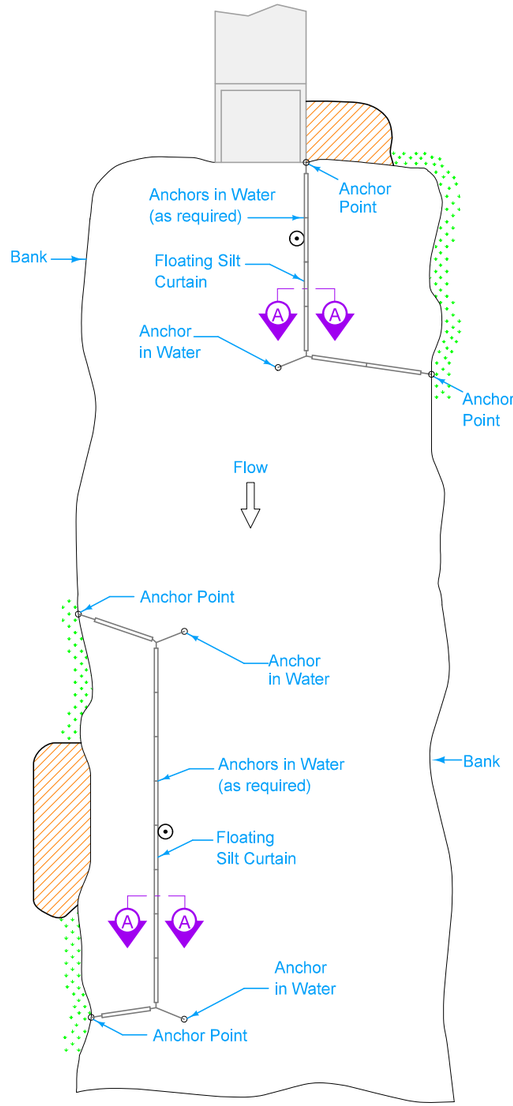
APPROVED BY DESIGN METHODS ENGINEER

SILT FENCE

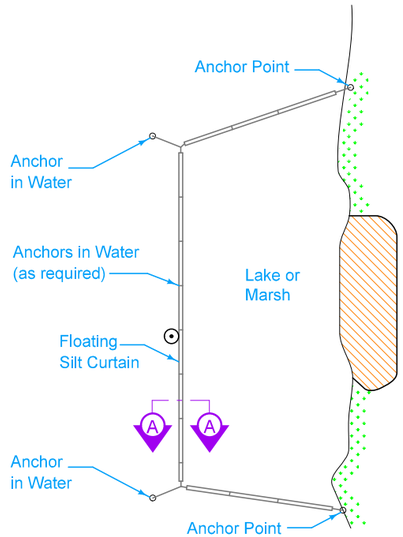
DESIGNER INFORMATION



PLAN
Disturbed Area within Stream



PLAN
Disturbed Area Adjacent
to Stream



PLAN
Still Water Only

LEGEND
- Carrier Float
- Buoy
- Undisturbed Vegetation
- Disturbed Soil

Keep silt curtain as close to work area as possible.

Depth of curtain is the dimension of the curtain fabric extending below the flotation, i.e. hanging in the water.

Install according to Hanging Installation unless specified otherwise.

Possible Contract Items:
- Clean-out of Floating Silt Curtain (Containment)
- Floating Silt Curtain (Containment)
- Floating Silt Curtain (Hanging)
- Maintenance of Floating Silt Curtain

Possible Tabulation:
100-10

IOWA DOT

REVISION
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STANDARD ROAD PLAN

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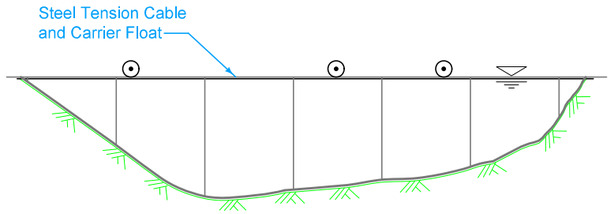
SHEET 1 of 2

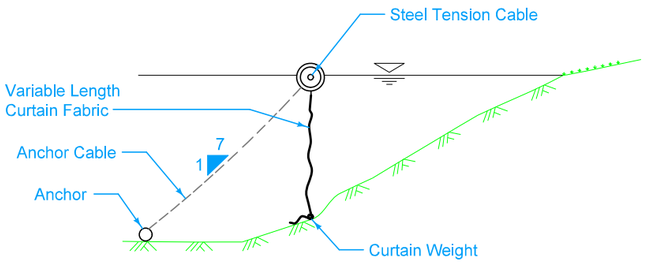
REVISIONS: Removed 100' typical spacing between anchors on page 2. Added possible contract item. Removed sections of standard notes and circle note 1.

APPROVED BY DESIGN METHODS ENGINEER

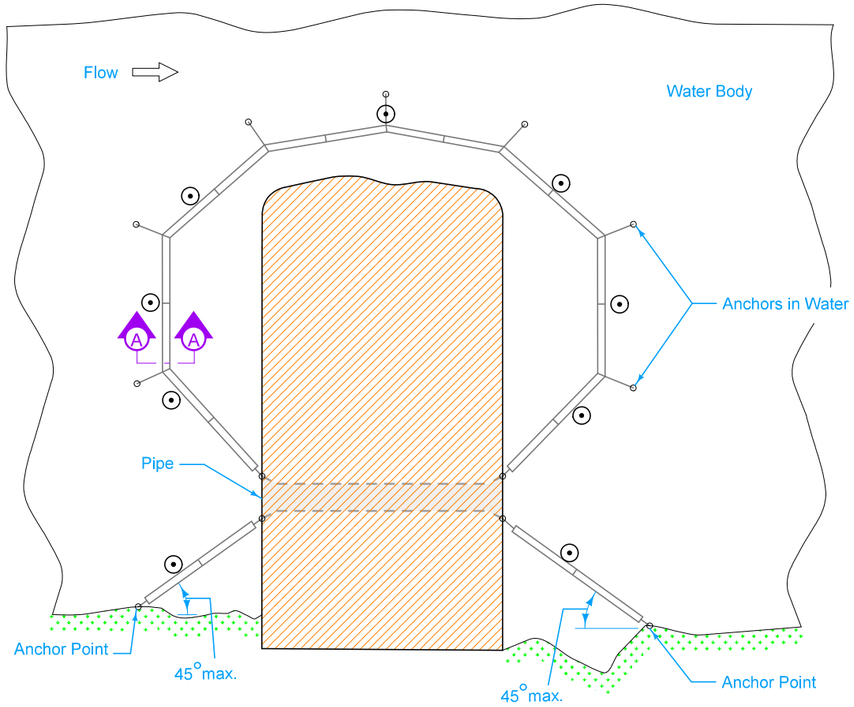
FLOATING SILT CURTAIN



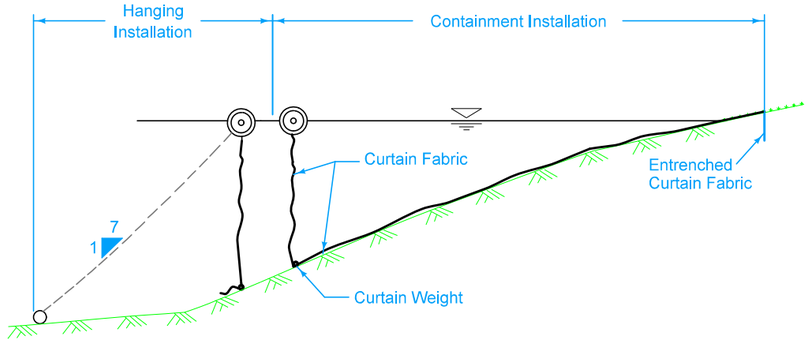
PROFILE



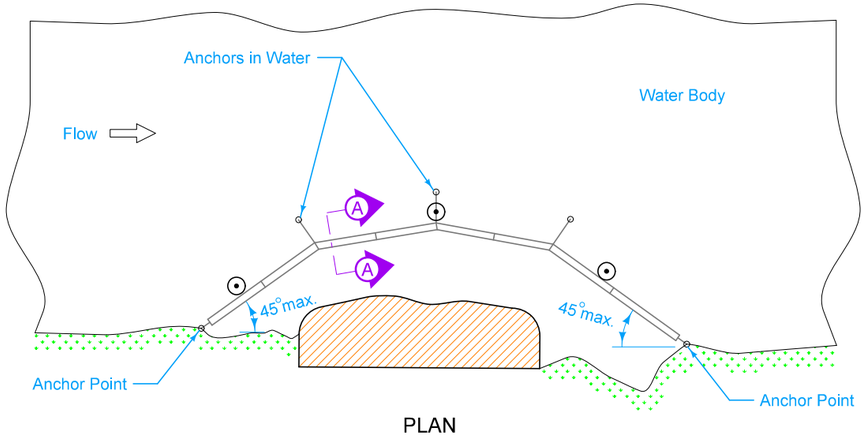
SECTION A-A
Hanging Installation



PLAN
Stream Crossing or Causeway
(with pipe)



SECTION A-A
Containment Installation (1)



PLAN
Causeway or Pad

LEGEND

- Carrier Float
- Buoy
- Undisturbed Vegetation
- Disturbed Soil
- Water Surface

(1) When Containment Installation is specified, it will be in combination with a Hanging Installation that is paid for separately.

IOWADOT

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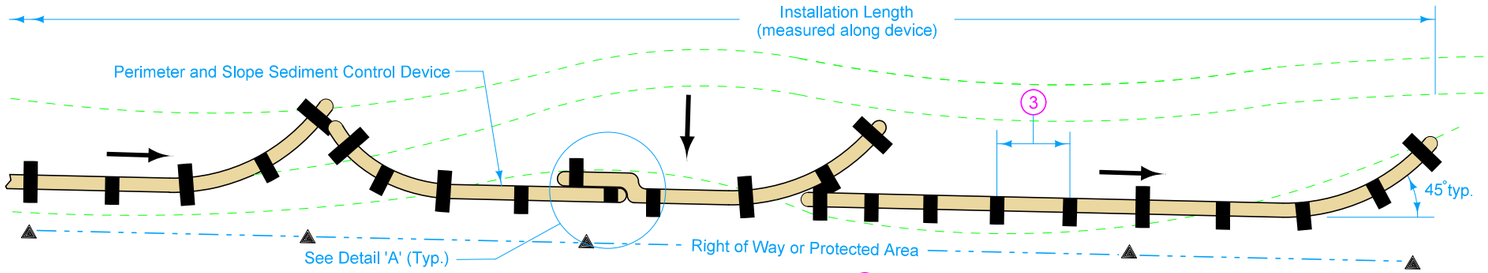
SHEET 2 of 2

REVISIONS: Removed 100' typical spacing between anchors on page 2. Added possible contract item. Removed sections of standard notes and circle note 1.

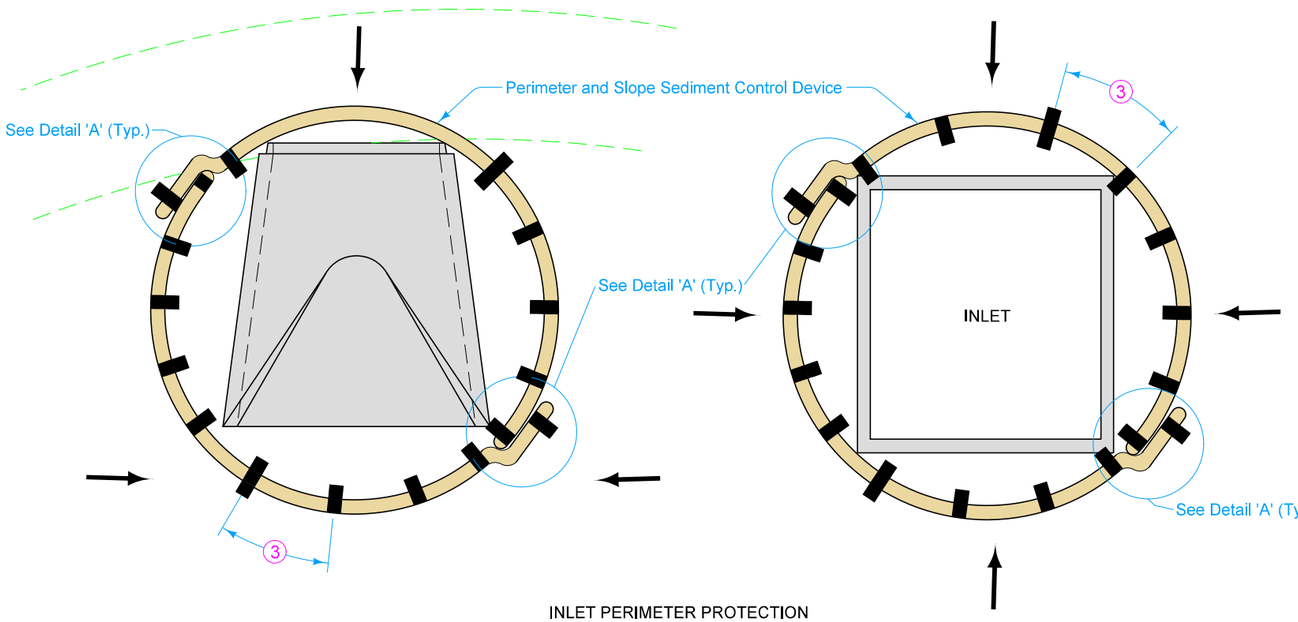
APPROVED BY DESIGN METHODS ENGINEER

FLOATING SILT CURTAIN

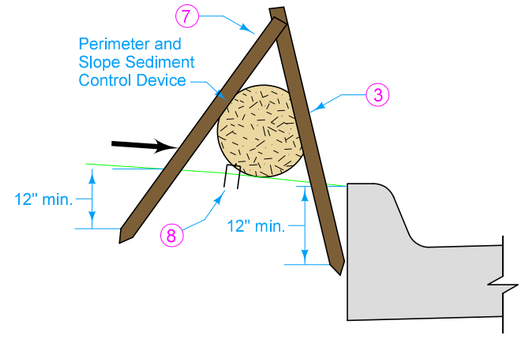
DESIGNER INFORMATION



PERIMETER CONTROL (1)



INLET PERIMETER PROTECTION



PERIMETER CONTROL ALONG CURB

Not intended for use in perennial or intermittent streams.

Fill and compact rills and gullies (see Detail 'B') prior to placing Perimeter and Slope Sediment Control Device. Ensure ground surface is smooth in order to provide continuous contact with Perimeter and Slope Sediment Control Device. Minor ground shaping may be required. Filling and compacting rills and gullies, and minor ground shaping, is incidental to Perimeter and Slope Sediment Control Device.

(1) Overlap joints per Detail 'A'. Turn the lower 10 feet of each run up the slope to help contain runoff. When placed such that runoff is conveyed along the device, additional run-ups and/or means may be required to reduce erosion along the device. Run-ups will be included in the installation length.

(2) Extra material required to install overlaps will not be included in the installation length.

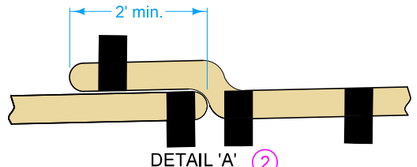
(3) Install downslope stakes at 4 foot maximum spacing. Upslope stakes spaced at ends and middle of device. Use minimum actual stake size 3/4" x 3/4" wood stakes.

(7) All stakes to be placed at approximatly 45 degree angle to ground.

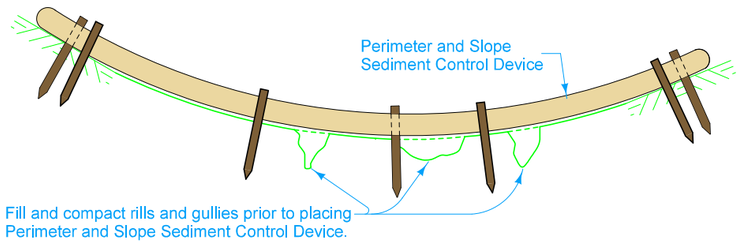
(8) Install staples every 2 feet on upslope side.

LEGEND

- Contour Lines
- Flow
- Wood Stake (3)



DETAIL 'A' (2)
(Overlap Joint)



DETAIL 'B'

Possible Contract Item:
Perimeter and Slope Sediment Control Device
Ditch Check Sediment Control Device

Possible Tabulation:
100-19

IOWADOT

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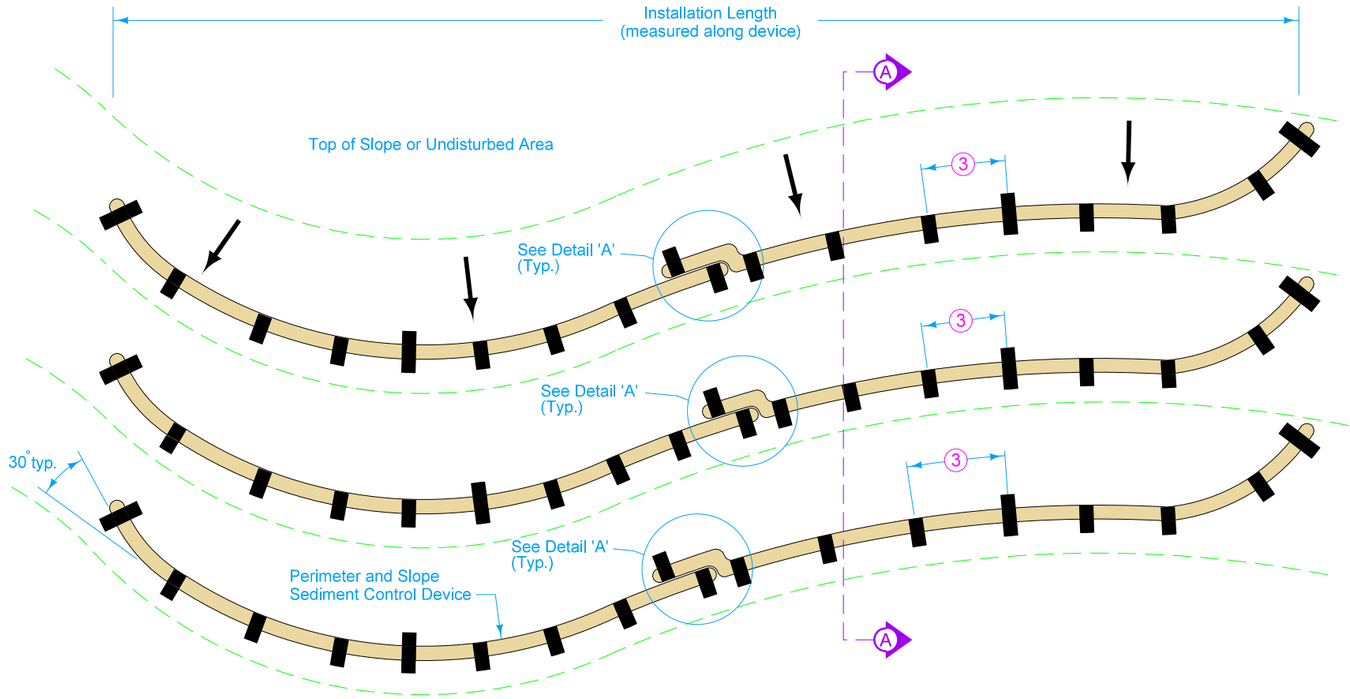
SHEET 1 of 3

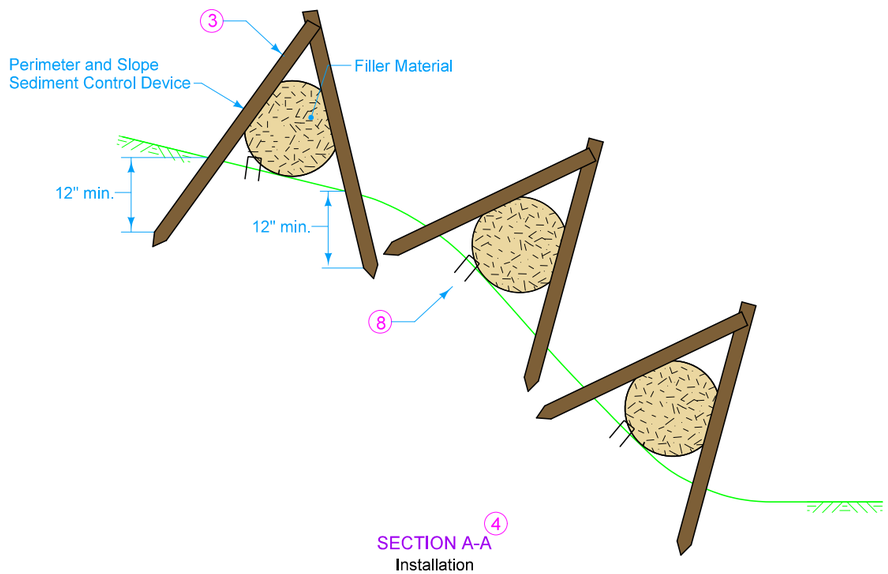
REVISIONS: Changed labeling on Sheet 3.

APPROVED BY DESIGN METHODS ENGINEER

PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES



SLOPE PROTECTION (4)



SECTION A-A (4)
Installation

LEGEND

- Contour Lines
- Flow
- Wood Stake (3)

(3) Install downslope stakes at 4 foot maximum spacing. Upslope stakes spaced at ends and middle of device. Use minimum actual stake size 3/4" x 3/4" wood stakes. Install staples every 2 feet on upslope side.

(4) Install Slope Protection perpendicular to slope (parallel to contours). Overlap joints per Detail 'A'. Run the last 10 feet of each device up the slope to prevent flow runaround. Run-ups will be included in the installation length.

(8) Install staples every 2 feet on upslope side.

IOWA DOT

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REVISIONS: Changed labeling on Sheet 3.

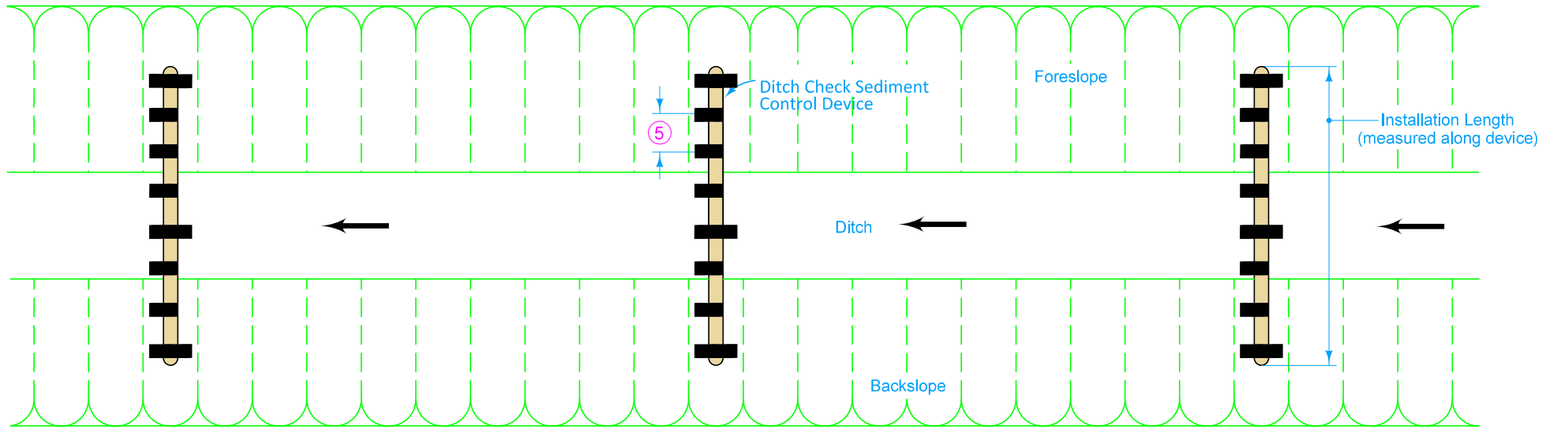
APPROVED BY DESIGN METHODS ENGINEER

PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES

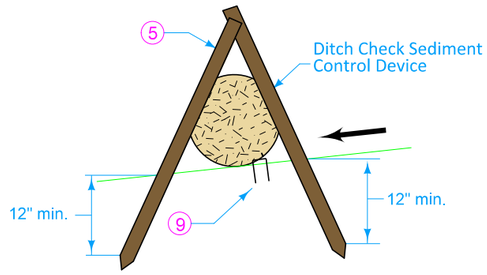
(5) Install downslope stakes at 2 foot maximum spacing. Upslope stakes spaced at ends and middle of device. Use minimum actual stake size 3/4" x 3/4" wood stakes.

(6) Install Ditch Protection perpendicular to ditch. Overlap joints per Detail 'A'.

(9) Install staples every 1 foot on upslope side.



DITCH PROTECTION (6)



INSTALLATION IN DITCH

LEGEND

- Contour Lines
- Flow
- Wood Stake (5)

IOWA DOT

STANDARD ROAD PLAN

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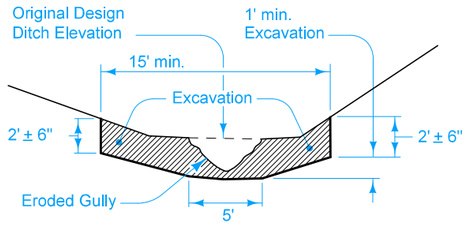
SHEET 3 of 3

REVISIONS: Changed labeling on Sheet 3.

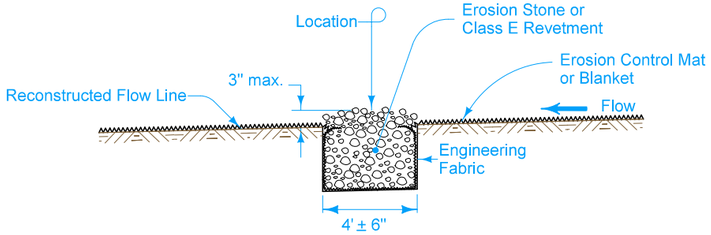
APPROVED BY DESIGN METHODS ENGINEER

PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES

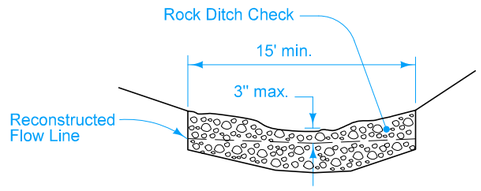
DESIGNER INFORMATION



EXCAVATION SECTION

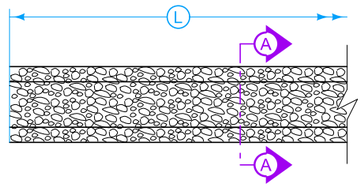


LONGITUDINAL SECTION AT CENTERLINE OF DITCH

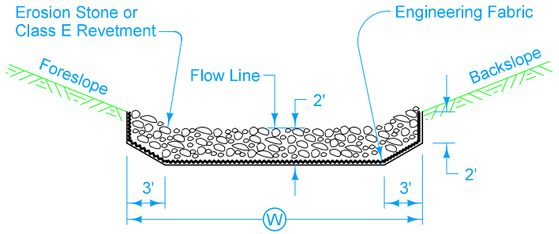


DITCH CHECK SECTION

TYPE 1
(Rock Ditch Check)

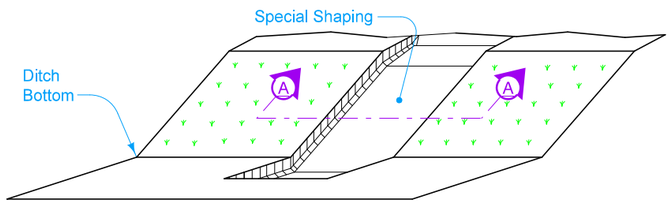


PLAN

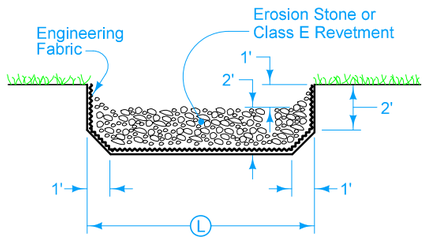


SECTION A-A

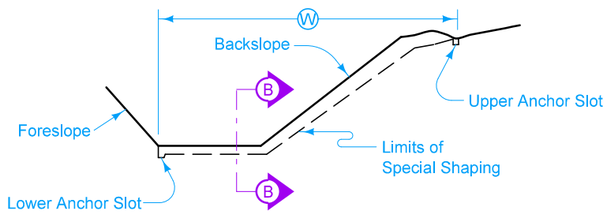
TYPE 2
(Rock Ditch)



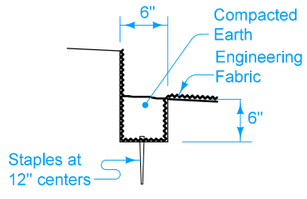
ISOMETRIC VIEW



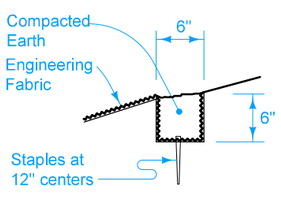
SECTION A-A



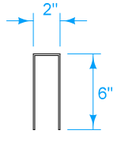
TYPICAL SECTION



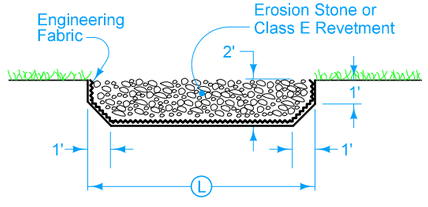
LOWER ANCHOR SLOT



UPPER ANCHOR SLOT



STAPLE
(No. 11 wire)



SECTION B-B

TYPE 3
(Rock Flume)

Class 10 excavation required to install Rock Erosion Control is incidental and will not be paid for separately.

Use fabric for Embankment Erosion Control complying with Section 4196 of the Standard Specifications.

Possible Contract Items:
- Erosion Stone
- Class E Revetment
- Engineering Fabric

Possible Tabulation:
- 100-23

IOWA DOT

REVISION

2	10-18-22

STANDARD ROAD PLAN

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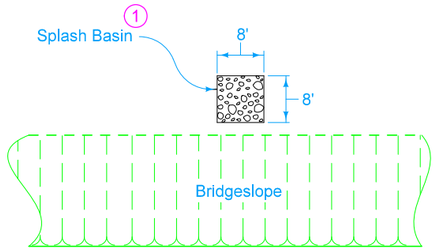
SHEET 1 of 2

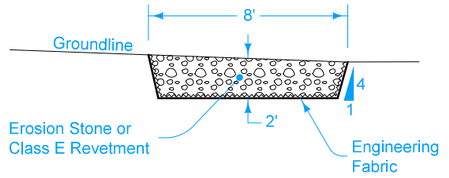
REVISIONS: Added note referencing 4196

APPROVED BY DESIGN METHODS ENGINEER

ROCK EROSION CONTROL (REC)

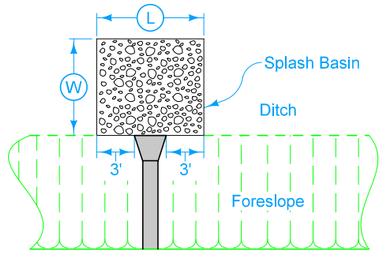


PLAN

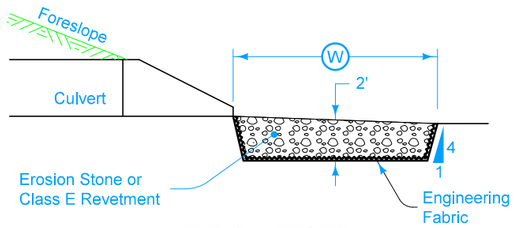


TYPICAL SECTION

SPLASH BASIN UNDER BRIDGE DRAIN



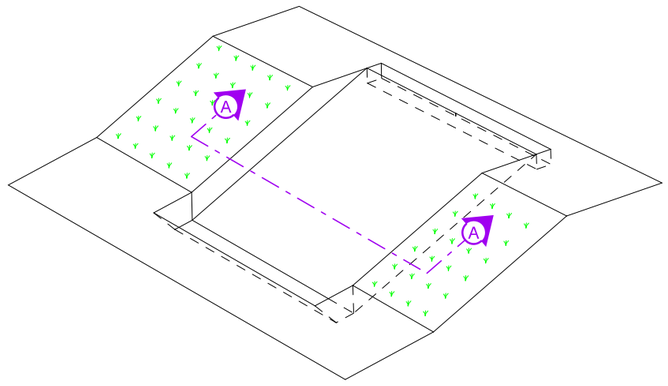
PLAN



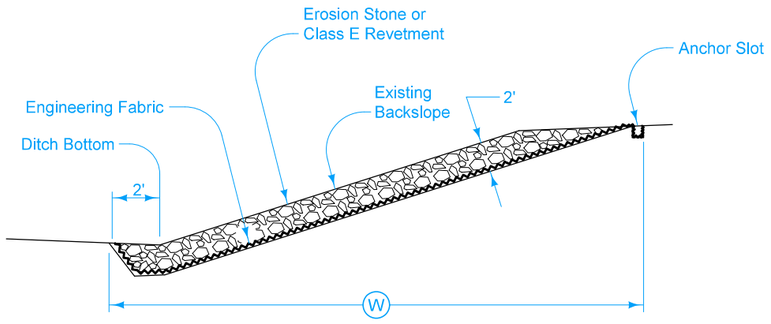
TYPICAL SECTION

SPLASH BASIN AT PIPE CULVERT OUTLET

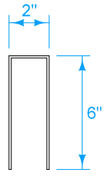
TYPE 4
(Rock Splash Basin)



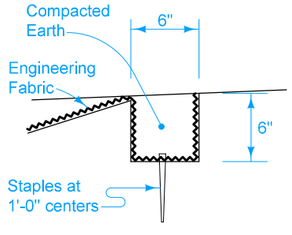
ISOMETRIC VIEW



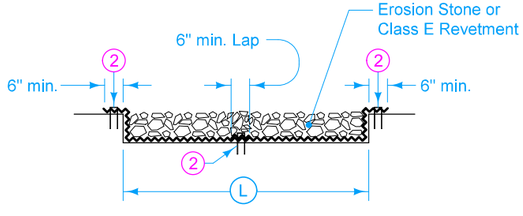
TYPICAL SECTION



STAPLE
(No. 11 wire)



ANCHOR SLOT



SECTION A-A

TYPE 5
(Rock Slope Protection)

1. Center splash basin directly under bridge drain.
2. Staples at 12 inch centers.

IOWA DOT

REVISION	
2	10-18-22

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SHEET 2 of 2

REVISIONS: Added note referencing 4196

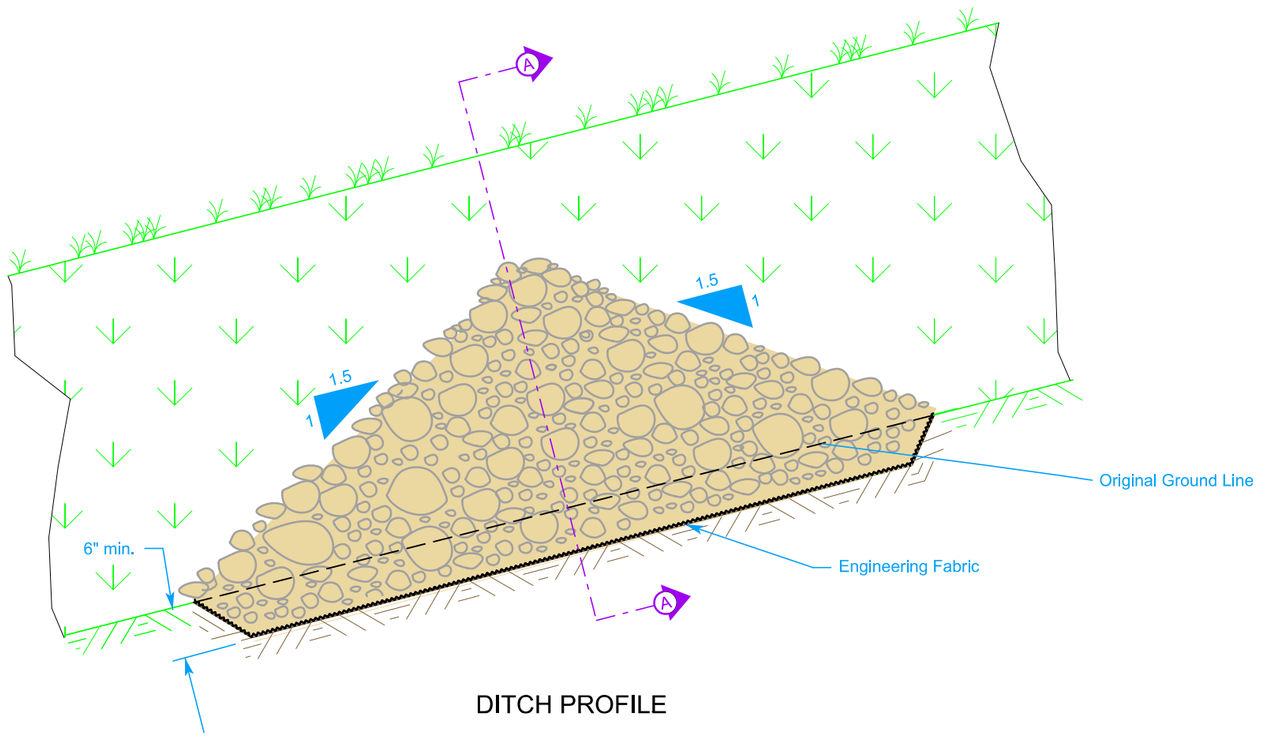
APPROVED BY DESIGN METHODS ENGINEER

ROCK EROSION CONTROL (REC)

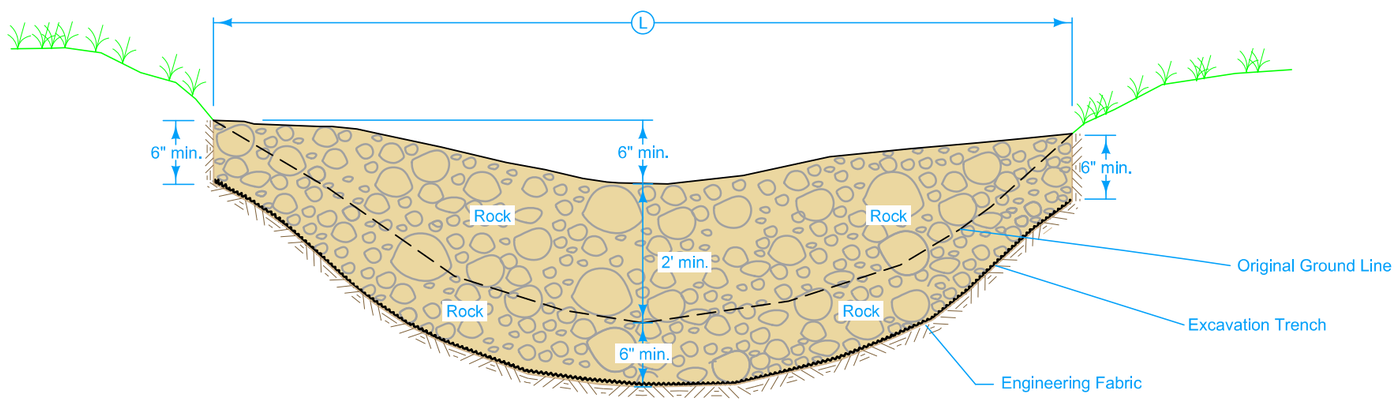
DESIGNER INFORMATION

Use Class D Revetment to construct Rock Check Dam.

Use fabric for Embankment Erosion Control complying with Section 4196 of the Standard Specifications.



DITCH PROFILE



SECTION A-A

Possible Contract Items:
- Rock Check Dam
- Maintenance of Rock Check Dam
- Removal of Rock Check Dam

Possible Tabulation:
- 100-32

IOWADOT

REVISION	
1	10-18-22

STANDARD ROAD PLAN

EC-302

SHEET 1 of 1

REVISIONS: Added note refering to 4196.

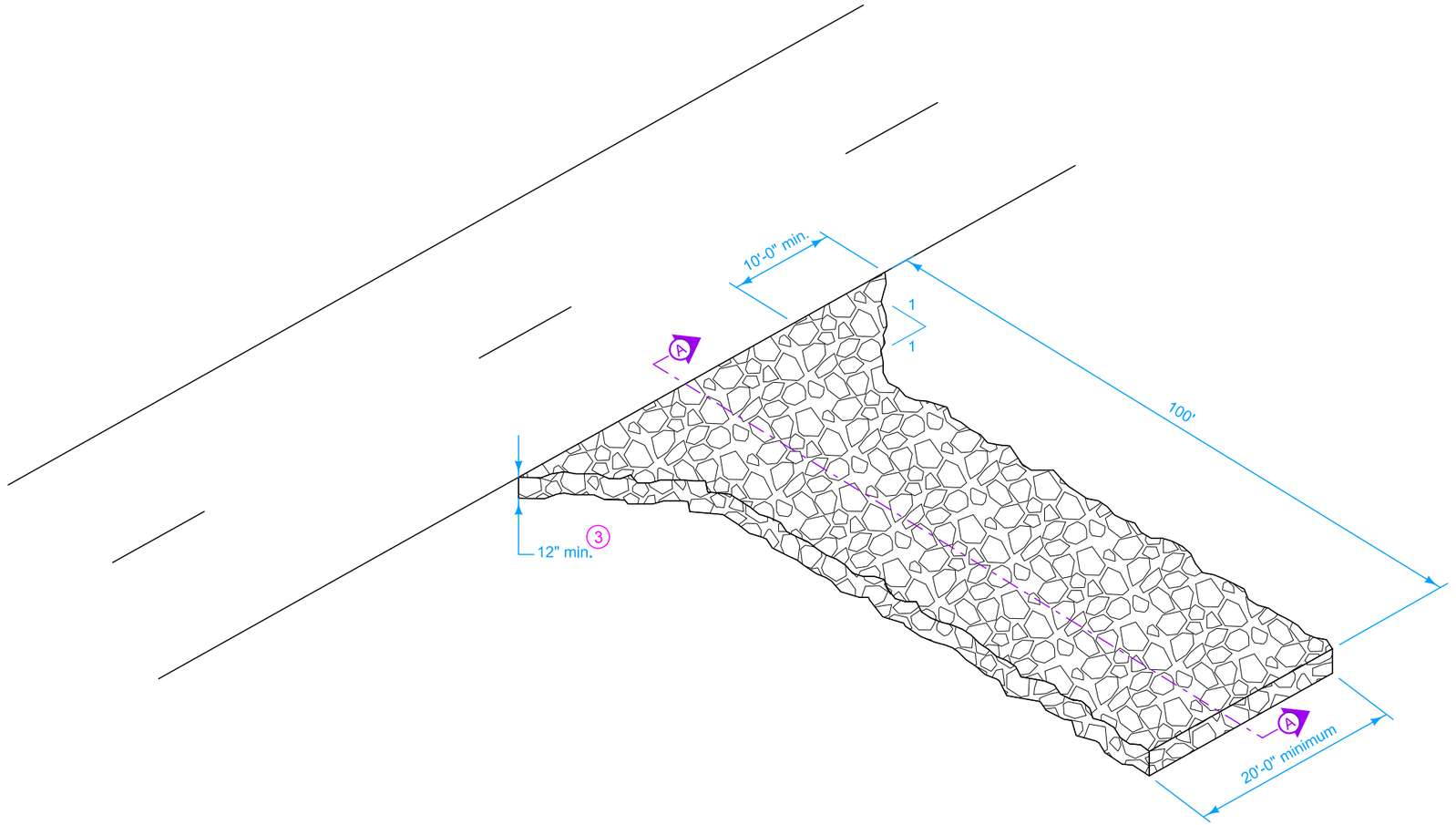
APPROVED BY DESIGN METHODS ENGINEER

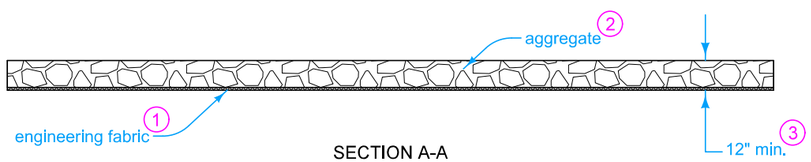
ROCK CHECK DAM

DESIGNER INFORMATION

Obtain the Engineer's approval for location of stabilized entrances prior to constructing.

1. Place engineering fabric prior to placing aggregate. Use fabric for Embankment Erosion Control complying with Section 4196 of the Standard Specifications.
2. Use aggregate meeting Gradation No. 13a of Section 4109 of the Standard Specificaitons.
3. Depth may need to be increased depending on the weight of contractor vehicles and equipment.





SECTION A-A

IOWA DOT

STANDARD ROAD PLAN

REVISION	
4	10-19-21

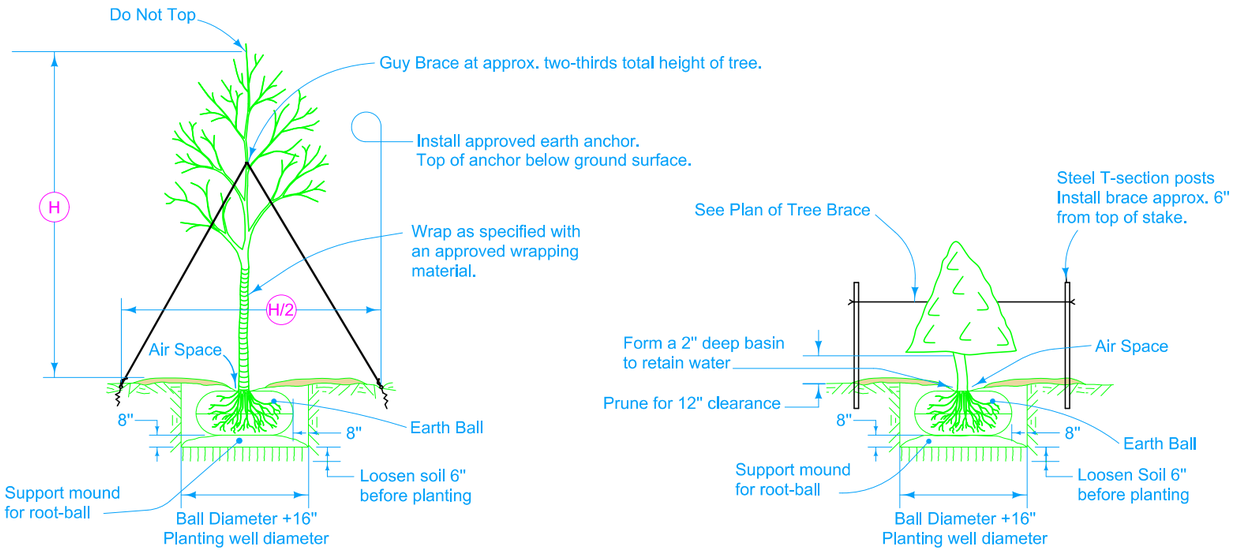
EC-303

SHEET 1 of 1

REVISIONS: Defined length to be 100', to be consistant with spec change.

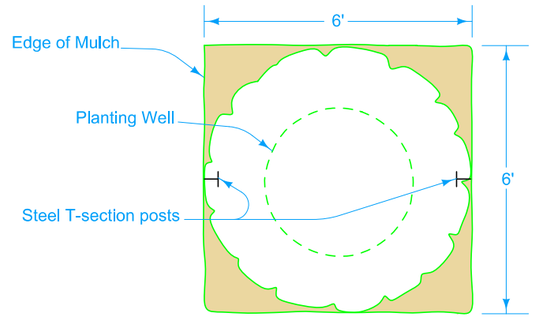
APPROVED BY DESIGN METHODS ENGINEER

STABLIZED CONSTRUCTION ENTRANCE



LARGE TREE **SMALL TREE**

BALLED AND BURLAPPED PLANTING



PLAN FOR INSTALLING MULCH

Refer to detail project plans for additional information regarding planting location and layout.

When no specific requirement is indicated, complete planting as directed by the Engineer.

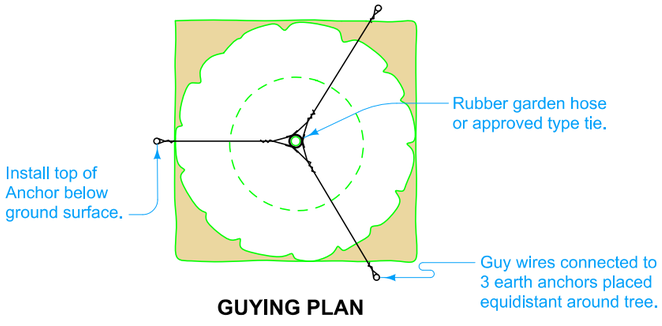
Till entire area to be mulched with a rotary tiller or other method approved by the Engineer.

Rake smooth the entire area to be mulched and ensure it is free of vegetation, debris, clods and rocks. Form a 2 inch deep basin around plants to retain water. Plant plants at the same depth as they were in the nursery.

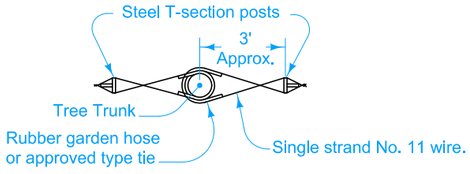
Follow mulch material and depth as designated on the plans. Pull mulch back ½ inch to 1 inch from the plants to allow air circulation at a uniform depth to reflect the 2 inch basin.

Pruning consists of removing dead, broken, and irregular branches only. Do not prune the tops of plants unless it is to remove dead or broken material.

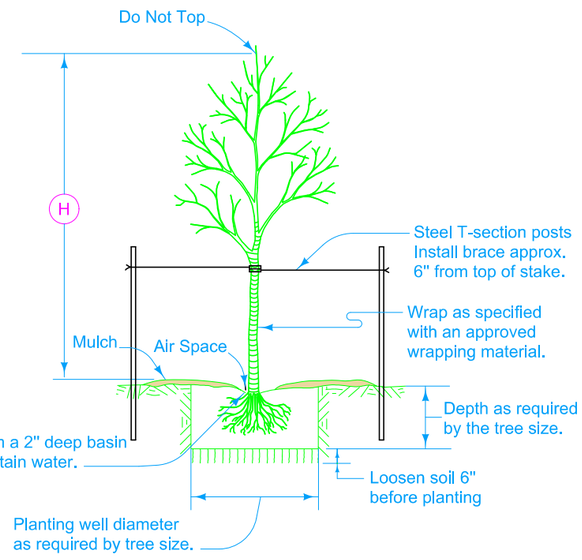
Use steel posts complying with Article 4154.09 of the Standard Specifications for staking. For trees 5 feet in height and less use posts 5 feet in length. For trees taller than 5 feet use posts 7 feet in length.



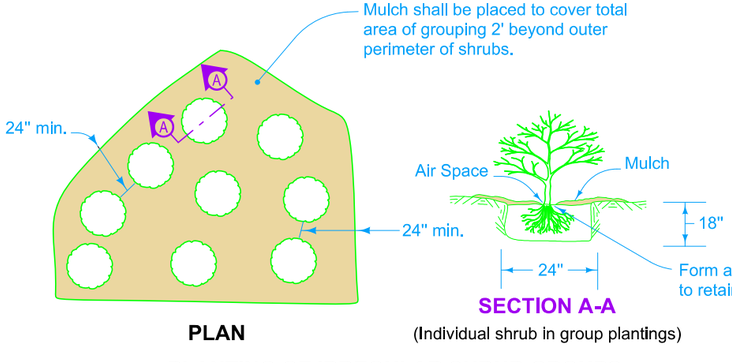
GUYING PLAN



PLAN OF TREE BRACE

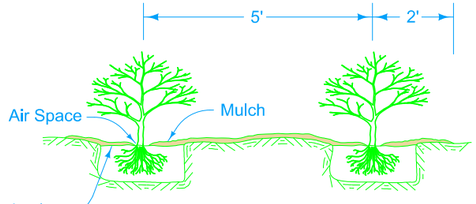


BARE ROOT PLANTING



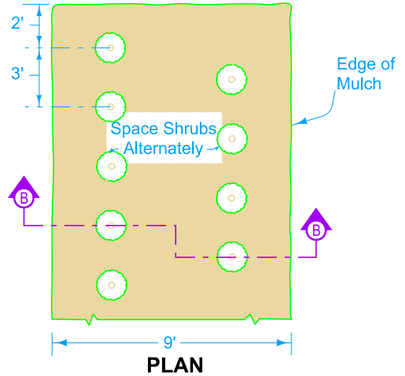
PLAN **SECTION A-A**
(Individual shrub in group plantings)

PLANTING OF IRREGULAR SHRUB GROUPS



SECTION B-B

LIVING SNOW FENCE



PLAN

IOWA DOT

REVISION	
1	04-21-15

STANDARD ROAD PLAN

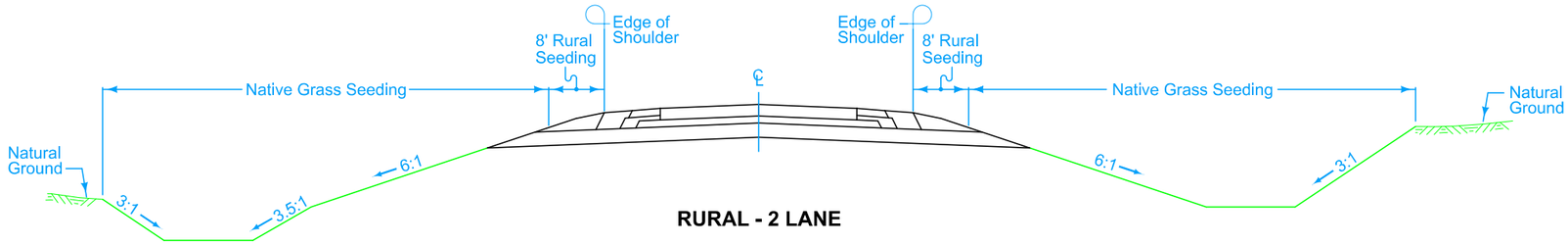
EC-501

SHEET 1 of 1

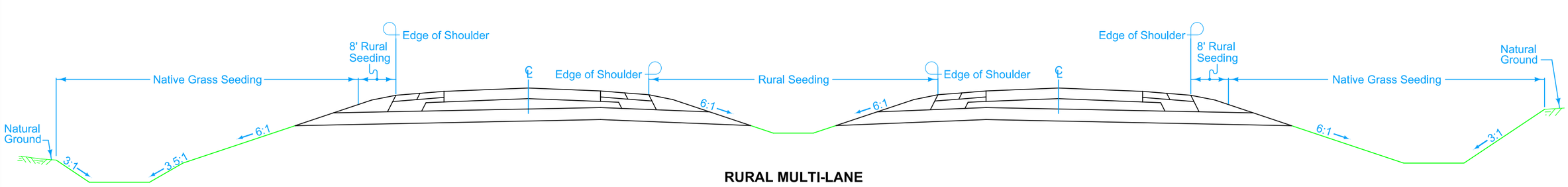
REVISIONS: Replaced DOT logo with new version.

APPROVED BY DESIGN METHODS ENGINEER

TREES AND SHRUBS



RURAL - 2 LANE



RURAL MULTI-LANE

IOWA DOT

STANDARD ROAD PLAN

REVISION	
New	04-21-15

EC-502

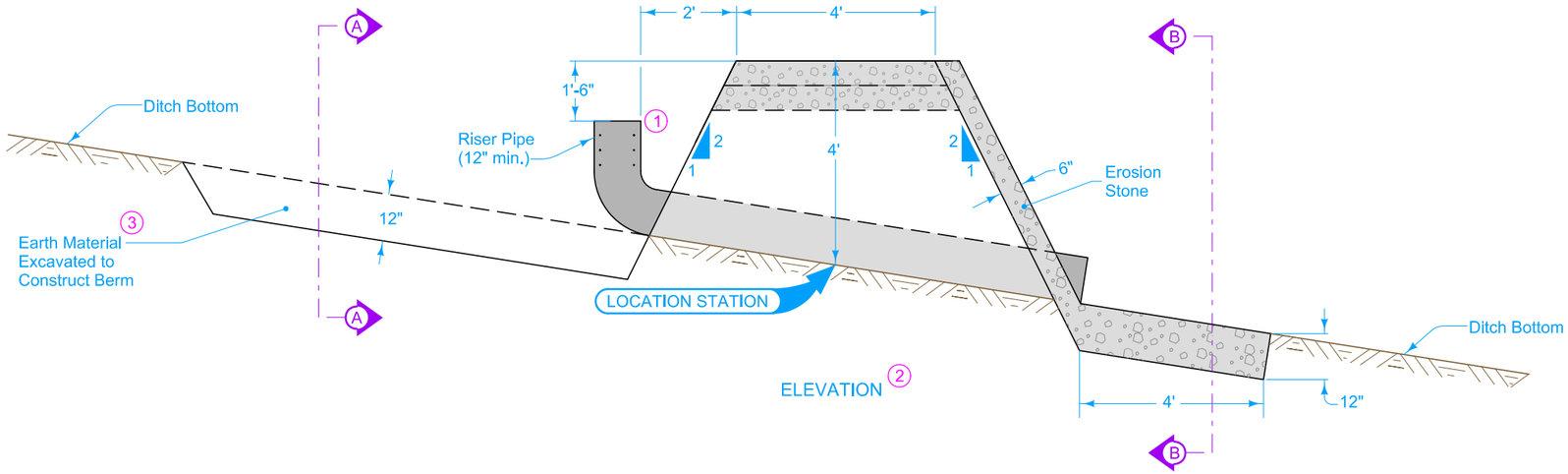
SHEET 1 of 1

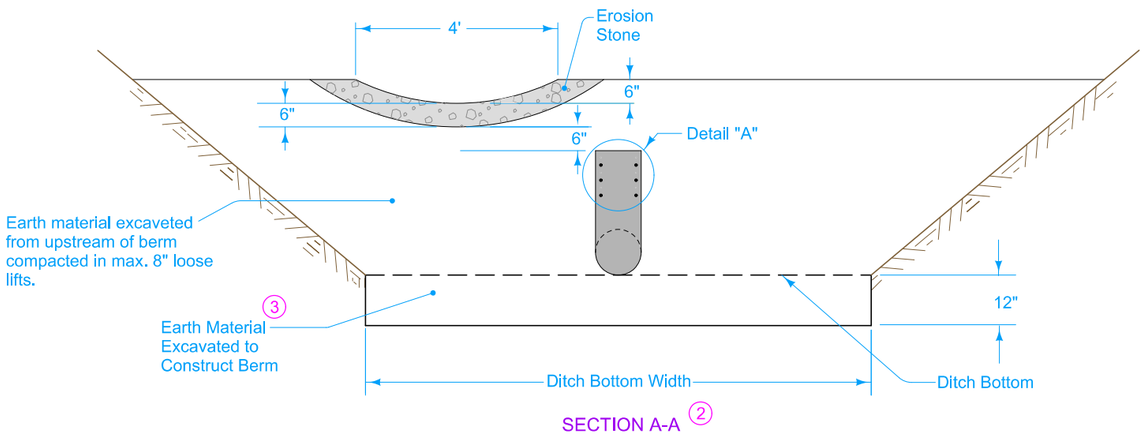
REVISIONS: New.

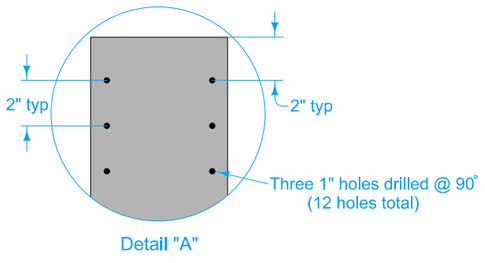
APPROVED BY DESIGN METHODS ENGINEER

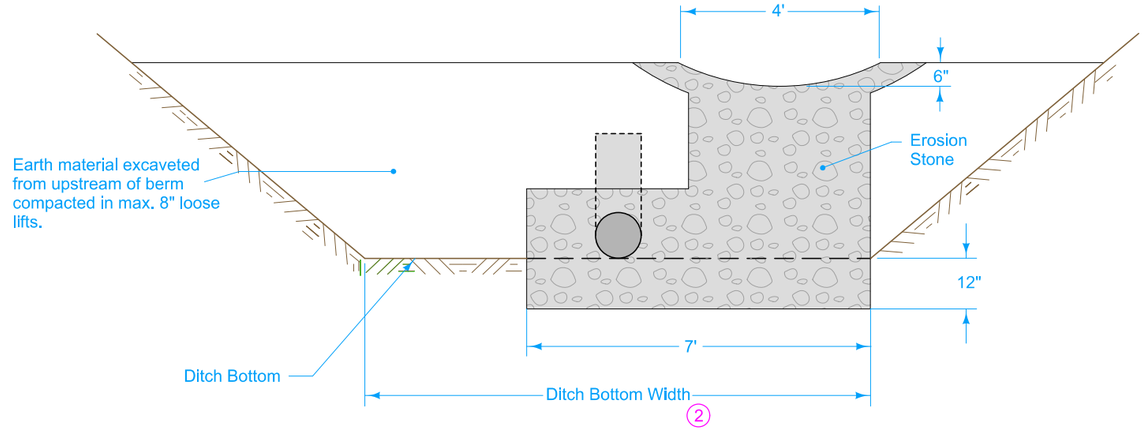
SEEDING IN RURAL AREAS

DESIGNER INFORMATION









1. Ensure Riser Pipe remains vertical.
2. Dimensions shown are minimums.
3. When Temporary Sediment Control Basin is removed, if basin has not silted in to designed ditch grade, use topsoil to bring up to designed ditch grade.

Possible Contract Items:

- Temporary Sediment Control Basin
- Maintenance of Temporary Sediment Control Basin
- Removal of Temporary Sediment Control Basin

Incidental to Temporary Sediment Control Basin:

- Erosion Stone
- Pipe
- Excavated Earth Material

Possible Tabulation:

- 100-33

IOWA DOT

REVISION: New 10-16-18

STANDARD ROAD PLAN

EC-601

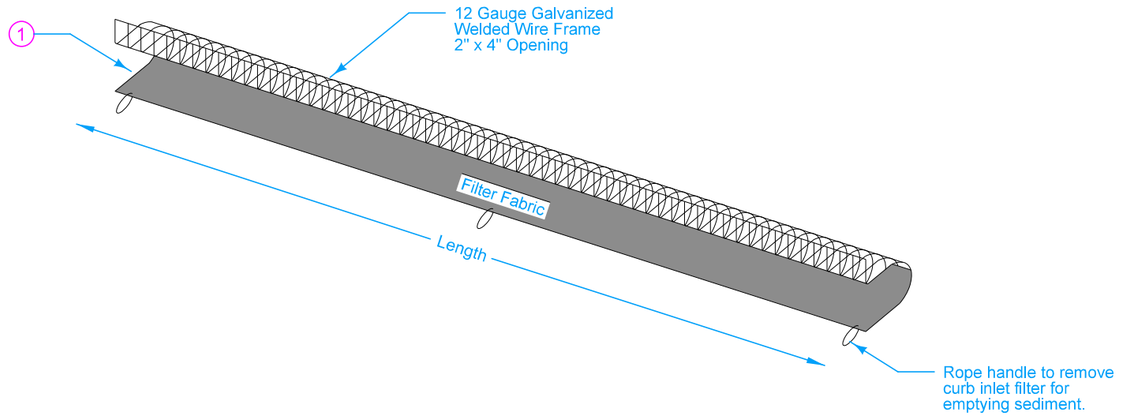
SHEET 1 of 1

REVISIONS: New. Replaces Design Detail 570-3

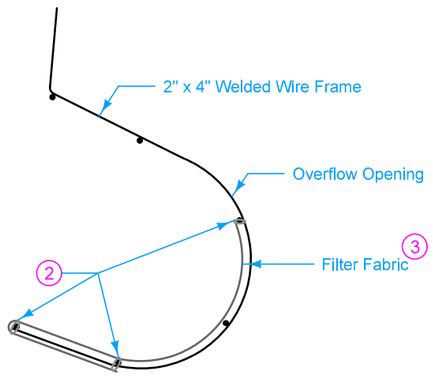
APPROVED BY DESIGN METHODS ENGINEER

TEMPORARY SEDIMENT CONTROL BASIN

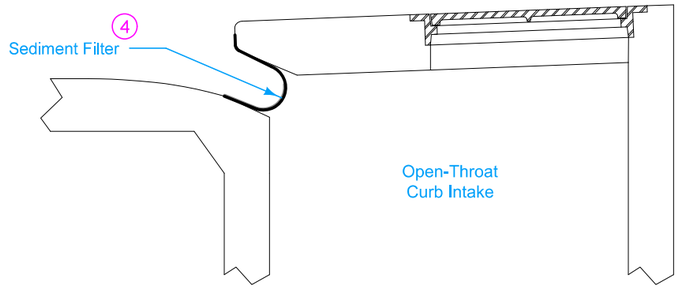
DESIGNER INFORMATION



OPEN-THROAT CURB INTAKE SEDIMENT FILTER



SEDIMENT FILTER CROSS SECTION



SEDIMENT FILTER PLACEMENT

Remove sediment filter upon stabilization of sediment sources.

1. Trim frame as needed to tightly fit in the intake throat. Overlap fabric a minimum of 3 inches and securely fasten.
2. Securely attach filter fabric to the wire frame leaving an overflow opening above the filter fabric.
3. Woven material meeting the requirements of Table 4196.01-1 of the Standard Specifications, except a maximum apparent opening size US Sieve No. 10 and a minimum flow rate of 145 gallons per minute per square foot.
4. Insert sediment filter to create a compression fit in the intake throat. If overflow opening is not present after inserting filter, trim filter fabric so opening is present.

Possible Contract Items:
- Open-throat Curb Intake Sediment Filter
- Maintenance of Open-throat Curb Intake Sediment Filter
- Removal of Open-throat Curb Intake Sediment Filter

Possible Tabulation:
100-36

IOWA DOT

STANDARD ROAD PLAN

REVISION	
1	10-15-24

EC-602

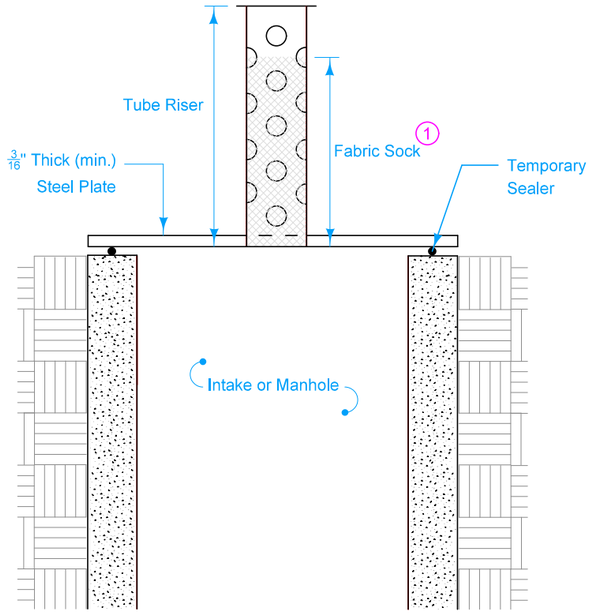
SHEET 1 of 1

REVISIONS: Update logo.

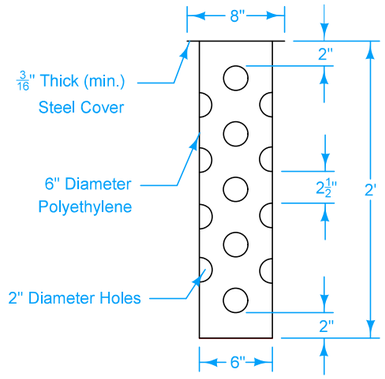
APPROVED BY DESIGN METHODS ENGINEER

OPEN-THROAT CURB INTAKE SEDIMENT FILTER

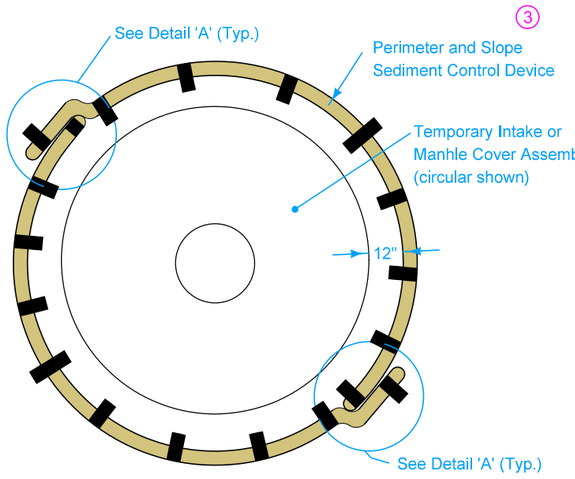
DESIGNER INFORMATION

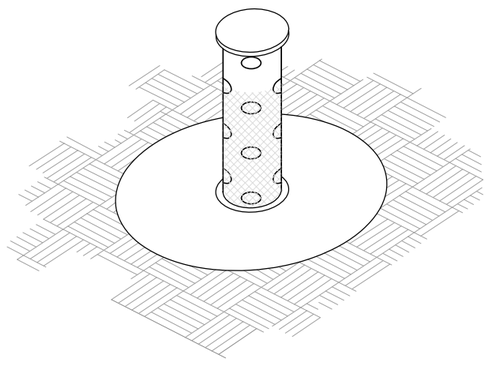


SECTION VIEW

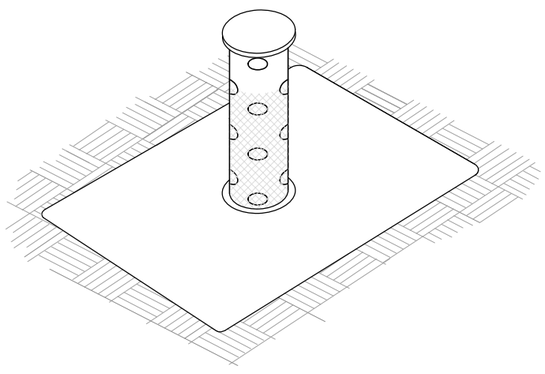


TUBE RISER 2



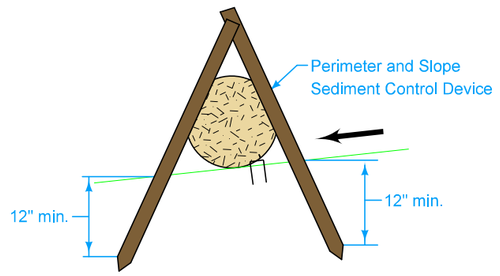


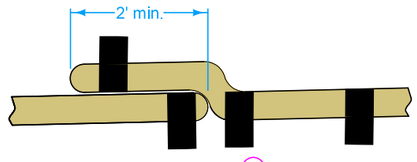
ISOMETRIC VIEW
(Circular)



ISOMETRIC VIEW
(Rectangular)

TEMPORARY INTAKE OR MANHOLE COVER ASSEMBLY





DETAIL 'A'
(Overlap Joint)

PERIMETER AND SLOPE SEDIMENT CONTROL

Method of Measurement for Temporary Intake or Manhole Cover Assembly will be by count.

Basis of Payment for Temporary Intake or Manhole Cover Assembly will be at the contract unit price for each device installed.

Method of Measurement for Maintenance of Temporary Intake or Manhole Cover Assembly will be by count.

Basis of Payment for Maintenance of Temporary Intake or Manhole Cover Assembly will be at the contract unit price for each occurance. Payment is full compensation for inspecting fabric sock and replacing when flow capicity has been reduced to 50%.

Method of Measurment for Removal of Temporary Intake or Manhole Cover Assembly will be by count.

Basis of Payment for Removal of Temporary Intake or Manhole Cover Assembly will be at the contract unit price for each device removed.

1. Wrap fabric sock around tube riser. Use fabric complying with Article 4196.01, B, 1 with a minimum flow rate of 90 gallons per minute per square foot. Ensure top of sock is below form grade elevation.
2. Tube riser may be such that it can be pushed down and pulled up.
3. Place Perimeter and Slope Sediment Control Devices around all intake or manhole wells. Use 20 inch diameter device.
4. Extra material required to install overlaps will not be included in the installation length.

Possible Contract Items:
- Temporary Intake or Manhole Cover Assembly
- Maintenance of Temporary Intake or Manhole Cover Assembly
- Removal of Temporary Intake or Manhole Cover Assembly
- Perimeter and Slope Sediment Control Device

Possible Tabulations:
- 100-11
- 100-19

IOWA DOT

REVISION	
New	10-17-23

STANDARD ROAD PLAN

EC-603

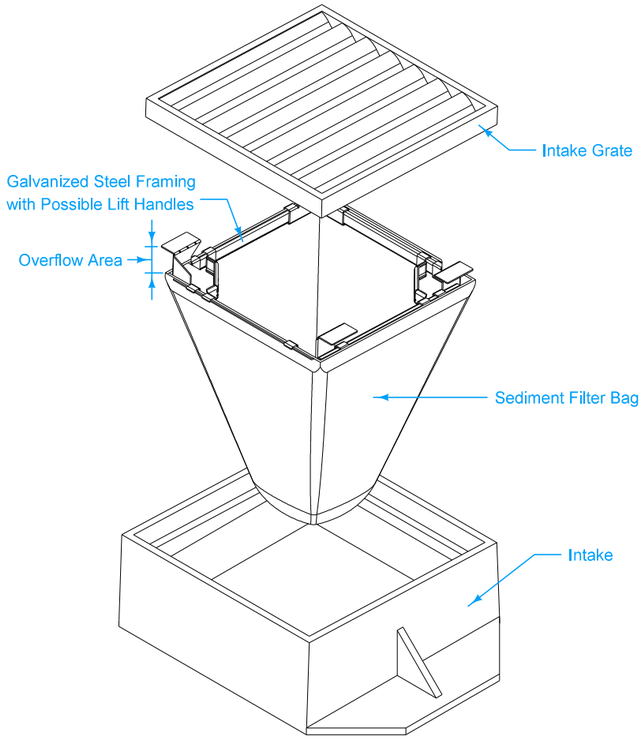
SHEET 1 of 1

REVISIONS: New. Replaces Detail 570-5.

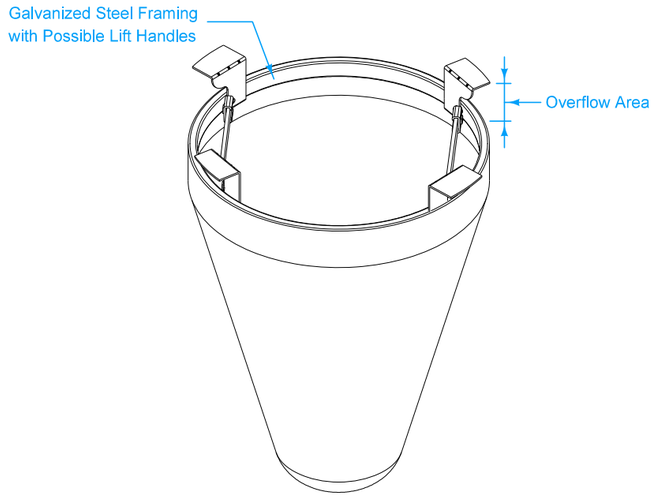
APPROVED BY DESIGN METHODS ENGINEER

EROSION CONTROL FOR INTAKE OR MANHOLE WELL

DESIGNER INFORMATION



TYPICAL SEDIMENT FILTER BAG PLACEMENT



SEDIMENT FILTER BAG FOR CIRCULAR GRATE

Use sediment filter bag consisting of woven material meeting the requirements of Table 4196.01-1 of the Standard Specifications, except a maximum apparent opening size of US Sieve No. 10 and a minimum flow rate of 145 gallons per minute per square foot. Sediment filter bags without steel grame and clampling bands will be allowed if overflow is provided.

Remove sediment filter bag upon stabilization of sediment sources.

Measurement for Grate Intake Sediment Filter Bag will be by count.

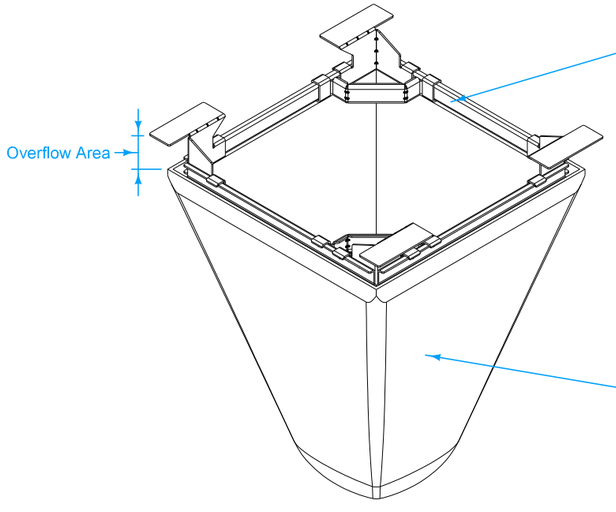
Basis of Payment for Grate Intake Sediment Filter Bag will be at the contract unit price for each device installed. Payment is full compensation for furnishing all equipment, labor, and materials required to install the Grate Intake Sediment Filter Bag as shown.

Method of Measurement for Maintenance of Grate Intake Sediment Filter Bag will be by count.

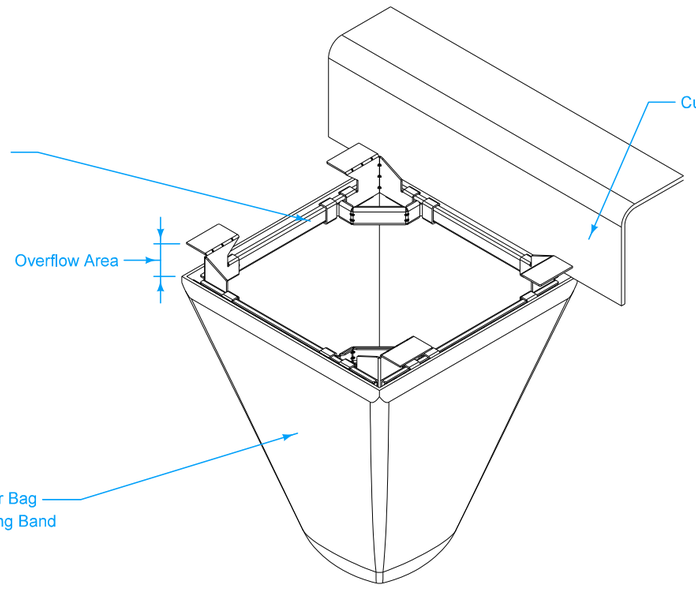
Basis of Payment for Maintenance of Grate Intake Sediment Filter Bag will be at the contract unit price for each occurence. Payment is full compensation for clean out and disposal of material when capacity reaches 50%, and for any other repair needed during the project.

Measurement for Removal of Grate Intake Sediment Filter Bag will be by count.

Basis of Payment for Removal of Grate Intake Sediment Filter Bag will be at the contract unit price for each device removed. Payment is full compensation for all labor and equipment required for removal.



SEDIMENT FILTER BAG FOR SQUARE
OR RECTANGULAR GRATE



SEDIMENT FILTER BAG FOR COMBINATION
GRATE WITH CURB OPENING

Possible Contract Items:
- Grate Intake Sediment Filter Bag
- Maintenance of Grate Intake Sediment Filter Bag
- Removal of Grate Intake Sediment Filter Bag

Possible Tabulation:
100-37

IOWADOT

STANDARD ROAD PLAN

REVISION	
New	10-17-23

EC-604

SHEET 1 of 1

REVISIONS: New. Replaces Detail 570-7.

APPROVED BY DESIGN METHODS ENGINEER

GRATE INTAKE
SEDIMENT FILTER BAG