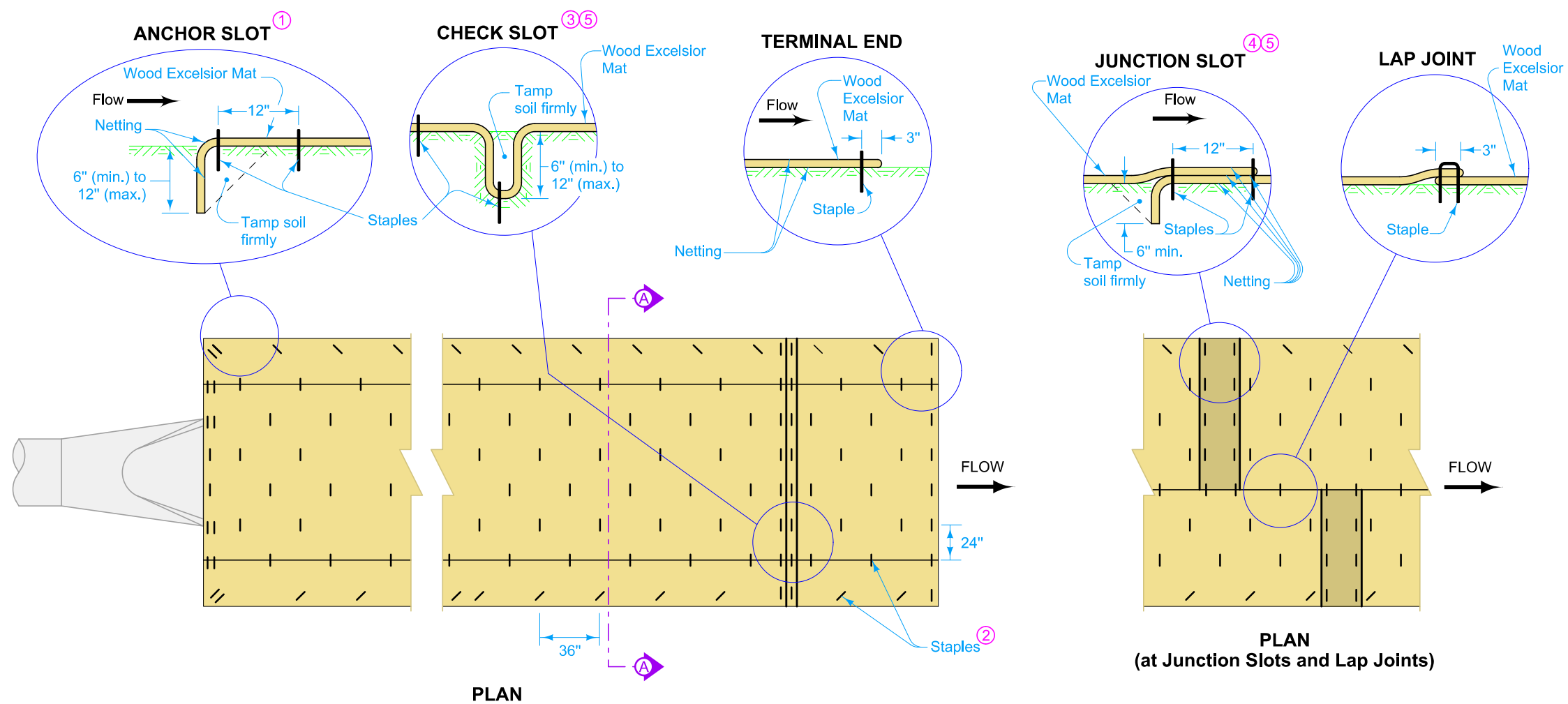


# **Erosion Control**

**Erosion Control**

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
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	04-21-20	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

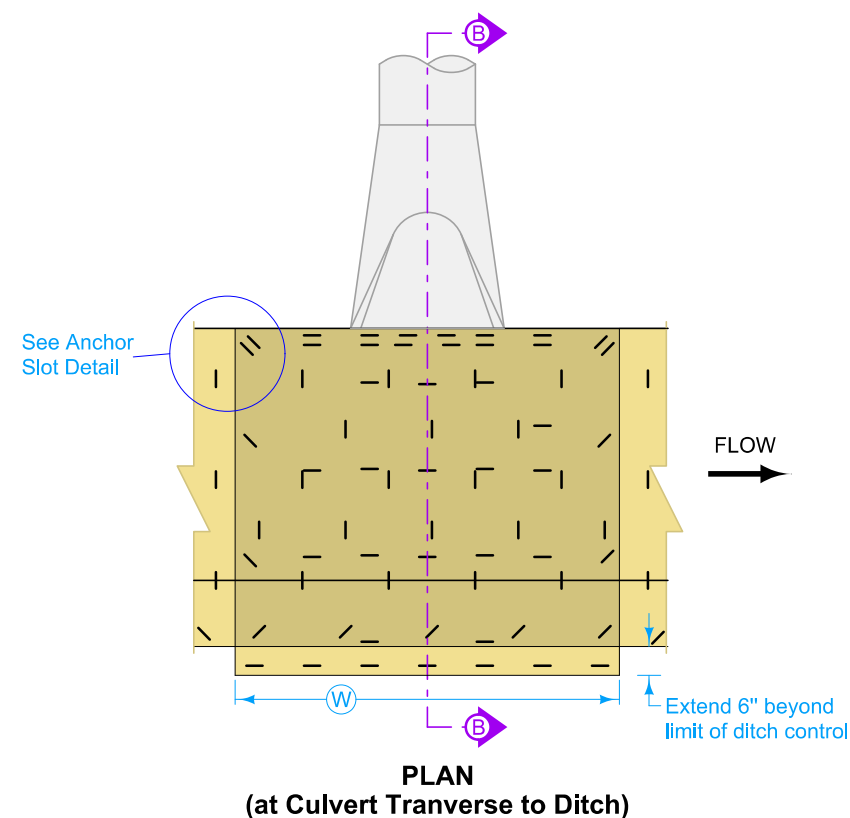
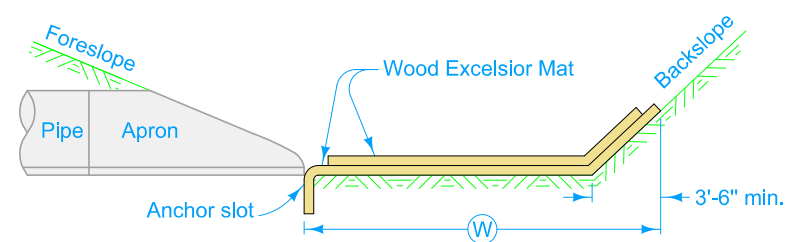
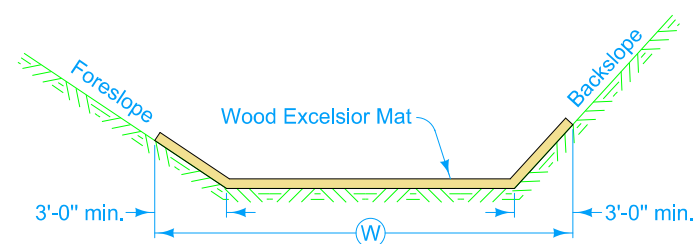


Provide necessary excavation at locations where silt conditions require shaping of a ditch to provide a proper type of area for installation of wood excelsior mat for special ditch control.

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


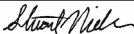
Use all excavated material to fill low areas, gullies, backslope scours, and otherwise facilitate the free flow of surface water into the channel as directed by the Engineer. Alignment should be smooth and avoid abrupt changes.

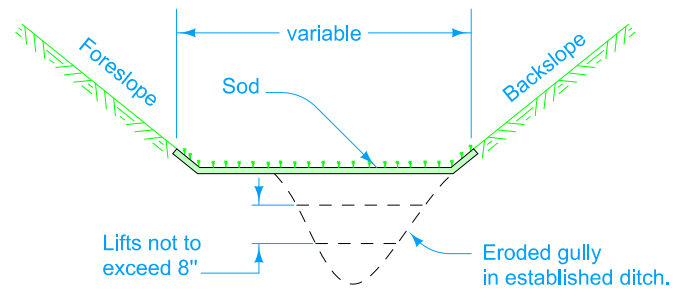
- ① Install anchor slot at the beginning (upstream end) of all wood excelsior mat installations.
- ② Place staples alternately in rows approximately 24 inches apart. Approximately 30 staples required per square (100 sq. ft.) of wood excelsior mat.
- ③ Space Check Slots in ditch channel so that one occurs 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 Excelsior Mat is placed over Turf Reinforced Mat.



Possible Contract Item:  
Special Ditch Control, Wood Excelsior Mat

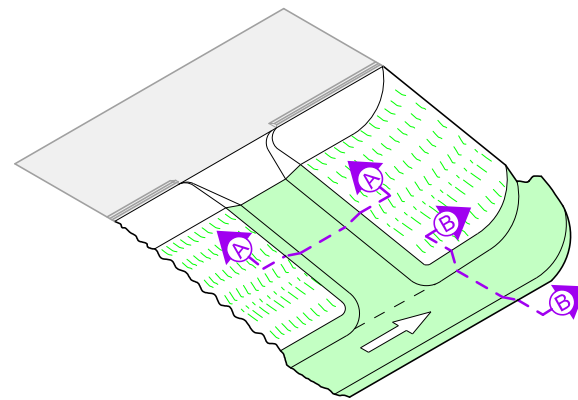
Possible Tabulation:  
100-22

 <b>IOWA DOT</b>	REVISION	
	2	04-19-16
	<b>EC-101</b>	
<b>STANDARD ROAD PLAN</b>	SHEET 1 of 1	
REVISIONS:	Revised to show placement of erosion control beginning at the end of the apron.	
		
APPROVED BY DESIGN METHODS ENGINEER		
<b>SPECIAL DITCH CONTROL</b>		

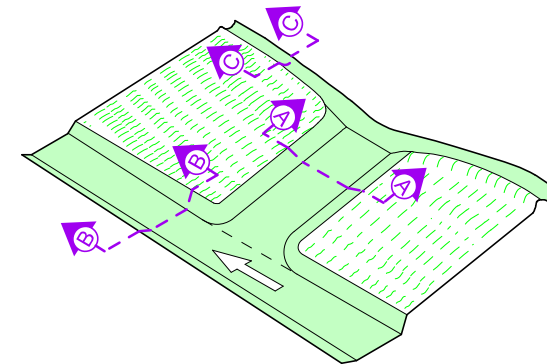


### SECTIONS A-A AND B-B

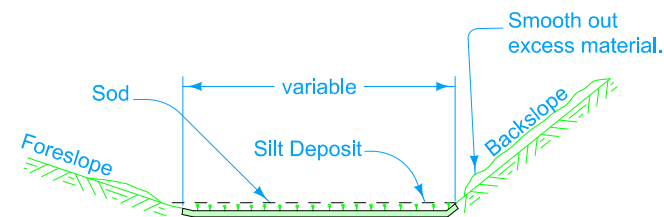
Sod placement for eroded gully.



### PERSPECTIVE FORESLOPE FLUME AND ROADWAY DITCH

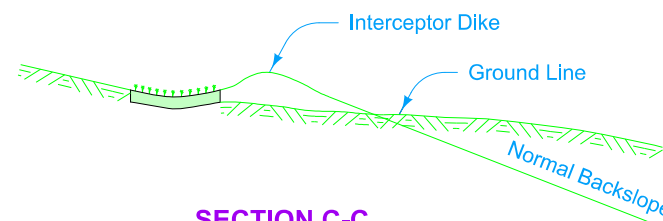


### PERSPECTIVE BACKSLOPE WITH FLUME AND INTERCEPTING DITCH



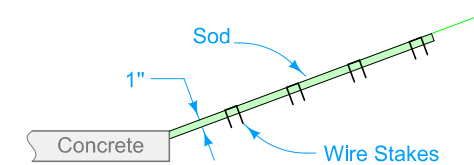
### SECTION B-B

Sod placement for silted ditch in cut.



### SECTION C-C

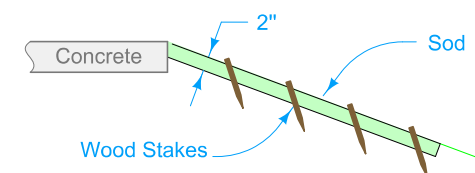
Sod placement on Interceptor Ditch



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

### CASE 1

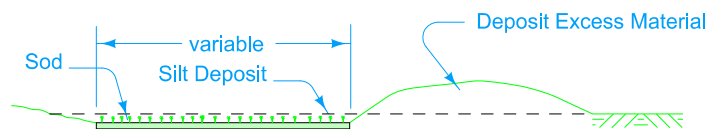
### NATURAL GROUND SLOPES TOWARD CONCRETE



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

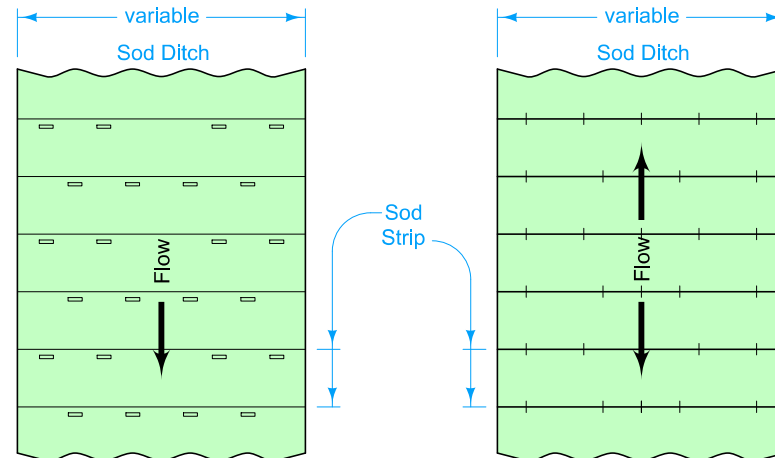
### CASE 2

### NATURAL GROUND SLOPES AWAY FROM CONCRETE



### SECTION B-B

Sod placement for silted area in no-ditch section.



4 Wood Stakes per row, staggered in rows

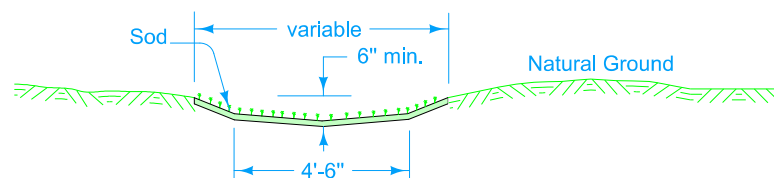
5 Wire Stakes per row, staggered in rows



### WOOD STAKES

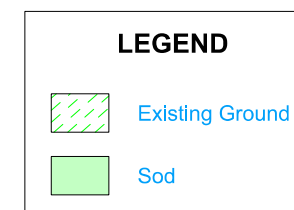
### WIRE STAKES

### STAKING FOR SOD CHANNELS



### SECTION A-A

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



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.

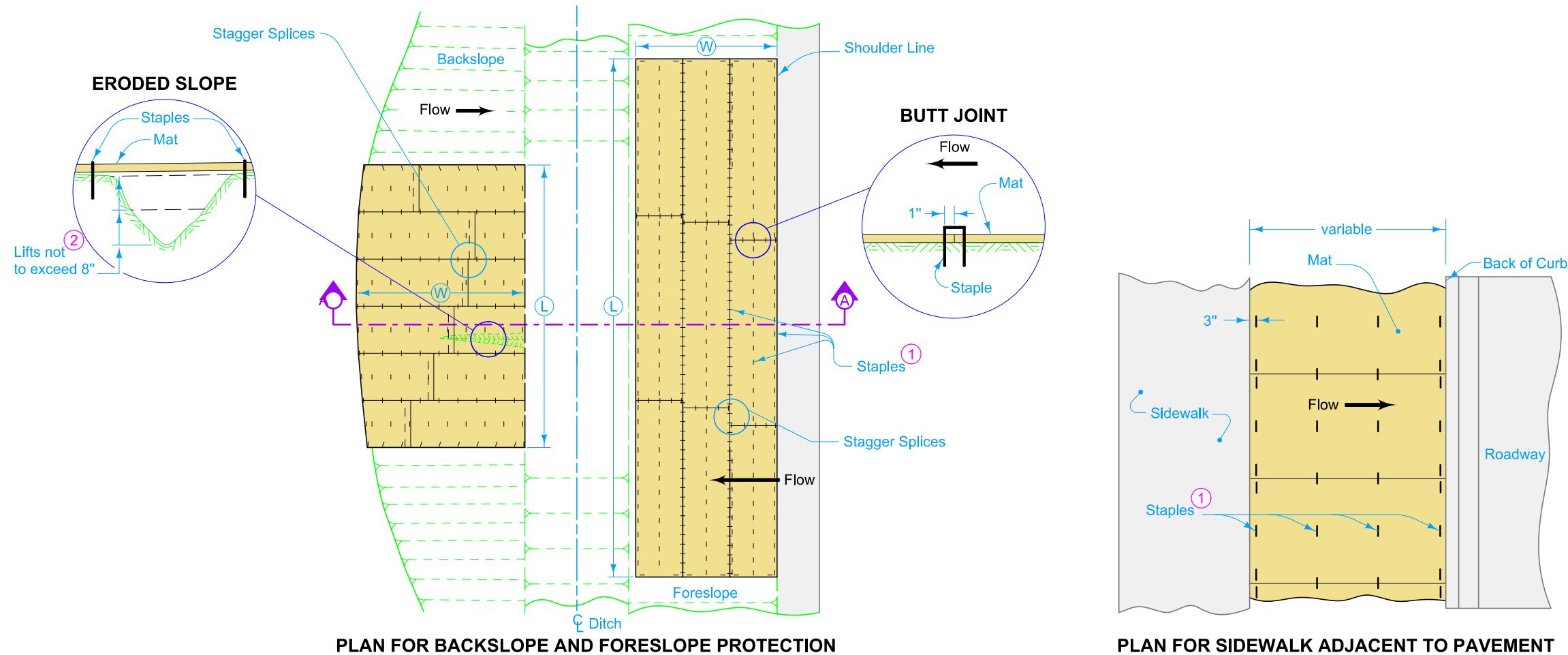
At locations where erosion has created gullies in ditches or backslopes, fill and compact gullies in lifts not more than 8-inches thick.

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.

 <b>IOWA DOT</b>	REVISION	
	1	04-21-15
	<b>EC-102</b>	
	SHEET 1 of 1	
<b>STANDARD ROAD PLAN</b>		
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		
<b>SOD FOR DITCH PROTECTION</b>		



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.

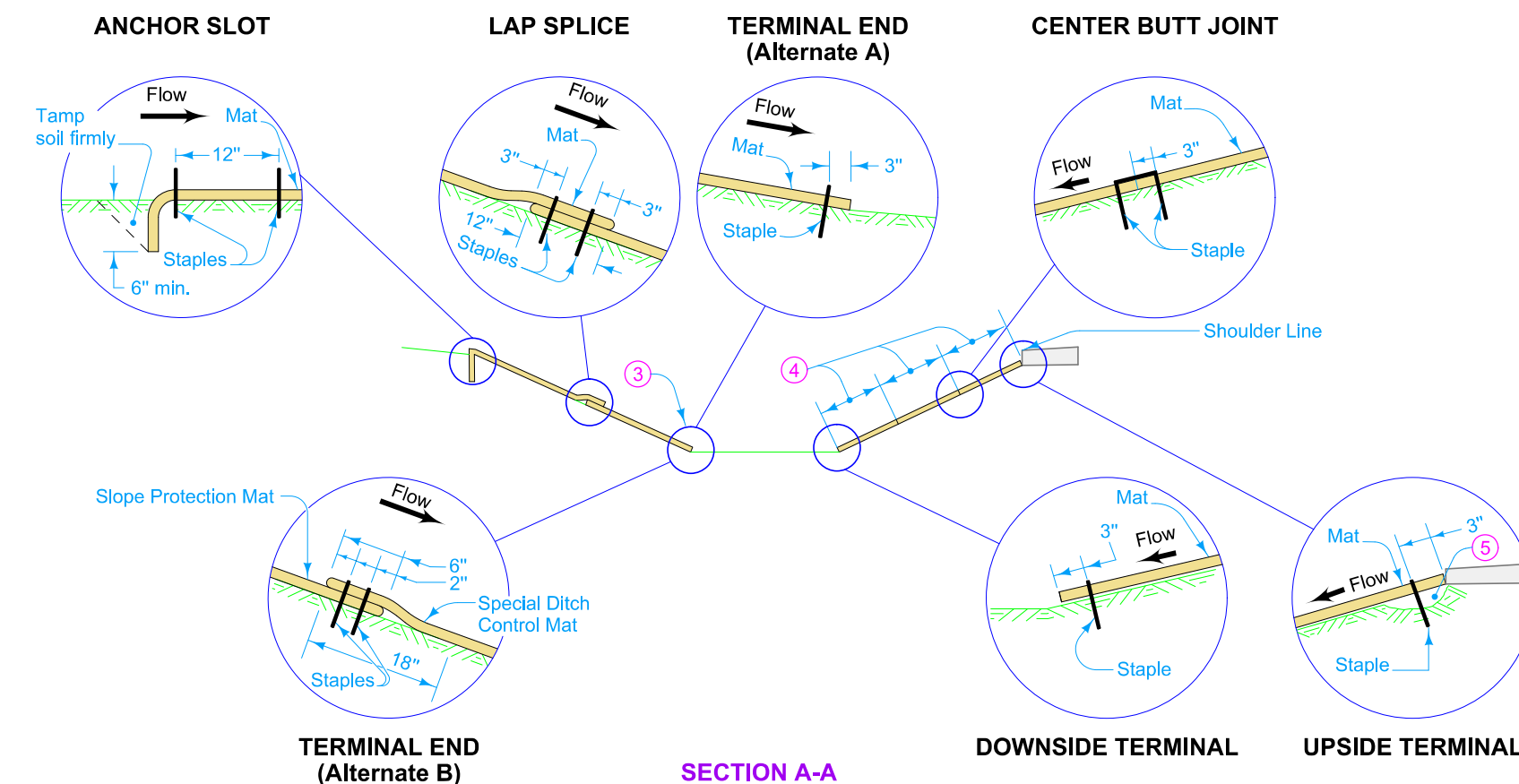
Excelsior mat for backslope protection is installed with strips placed approximately perpendicular to roadway. Locations for slope protection are shown on detail plans.

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.

- 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**



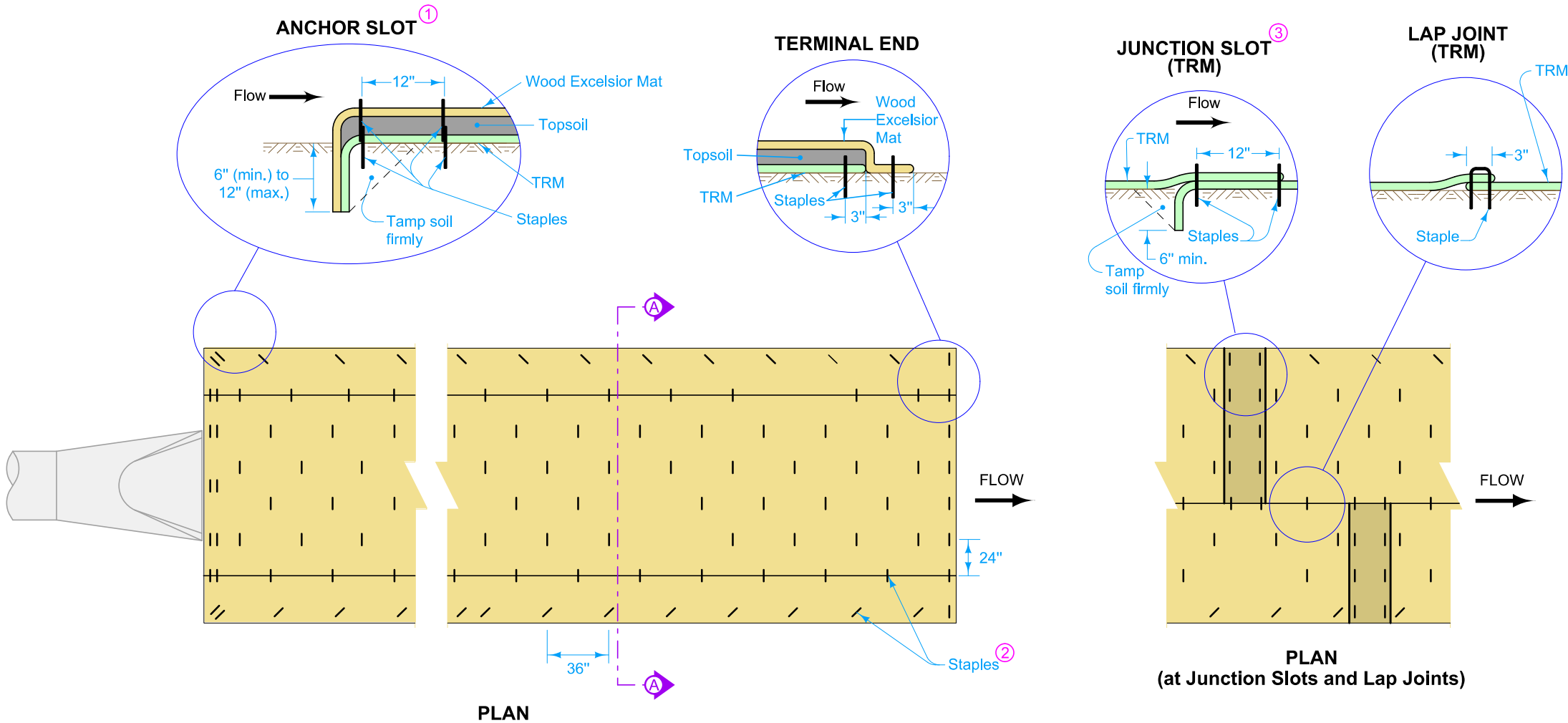
REVISION	
1	04-21-15
<b>EC-103</b>	
SHEET 1 of 1	

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

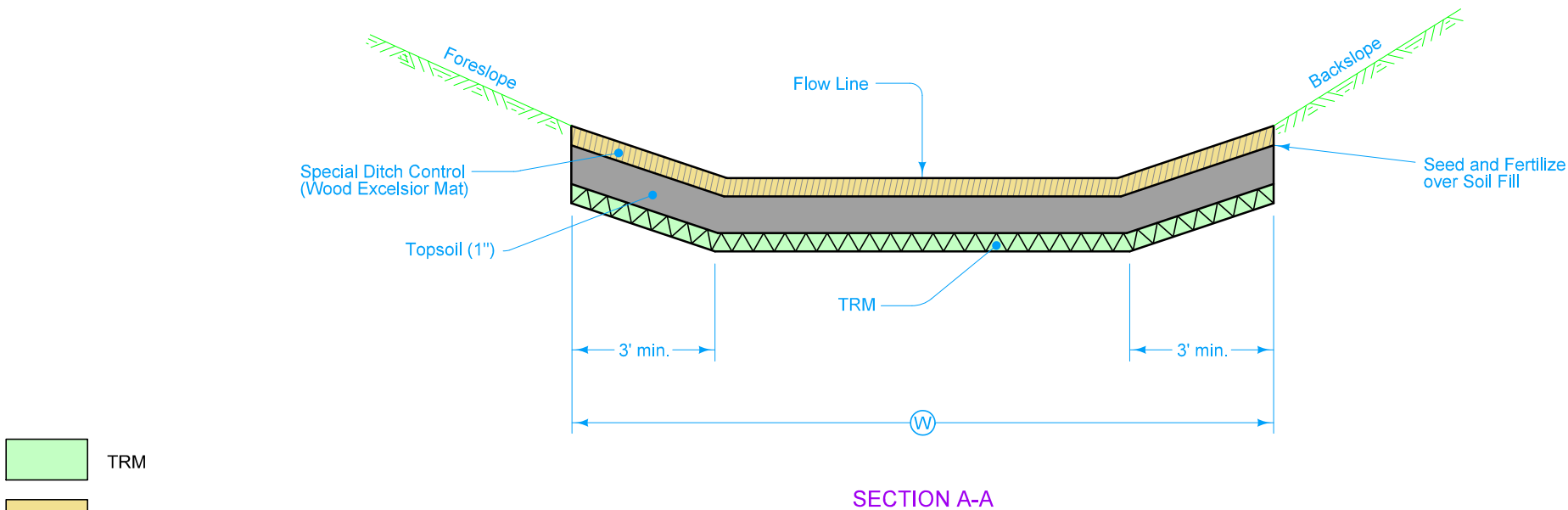
APPROVED BY DESIGN METHODS ENGINEER

**WOOD EXCELSIOR MAT  
FOR SLOPE PROTECTION**

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.

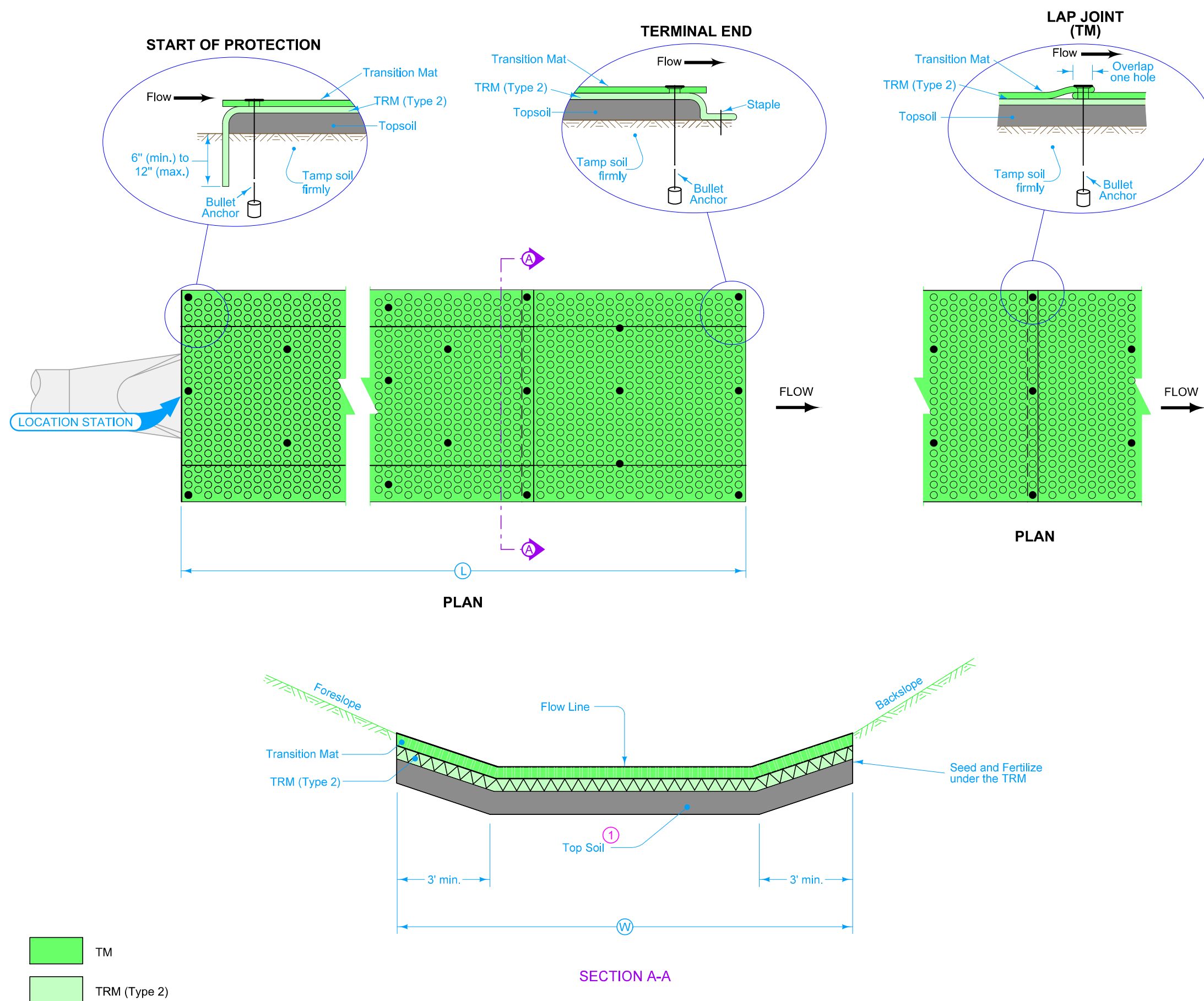


TRM  
Wood Excesior Mat

Possible Contract Items:  
Turf Reinforcement Mat

Possible Tabulation:  
[100-22](#)

 <b>IOWA DOT</b>	REVISION	
	New	04-17-18
	<b>EC-104</b>	
<b>STANDARD ROAD PLAN</b>		
SHEET 1 of 1		
REVISIONS:      Added Designer Info button.		
		
APPROVED BY DESIGN METHODS ENGINEER		
<b>TURF REINFORCEMENT MAT (TRM)</b>		





Refer to Standard Road Plan [EC-104](#) for the placement of the TRM.

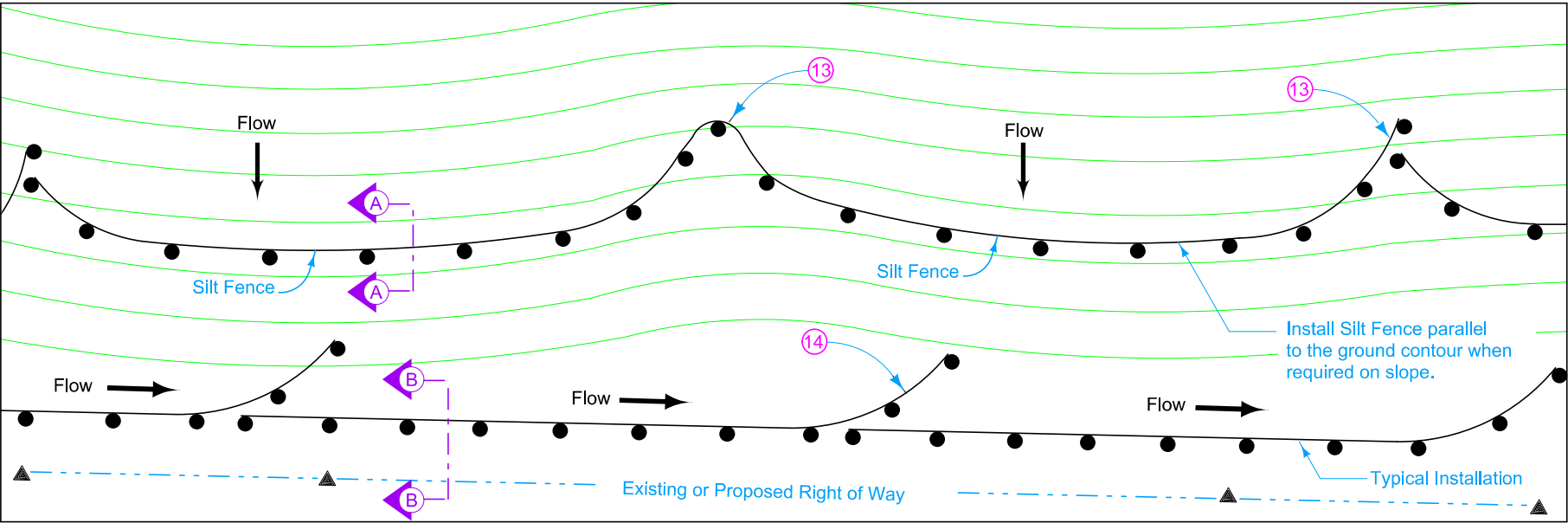
- 1 Place at same thickness as surrounding area. Refer to T Sheets to determine topsoil thickness for the surrounding area.

Possible Contract Items:  
Transition Mat

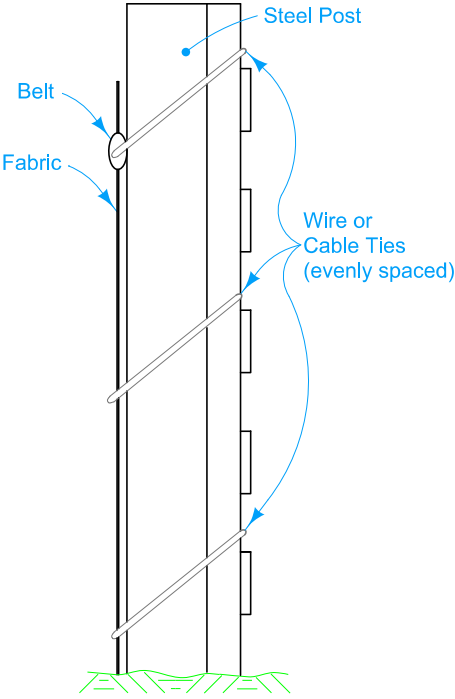
Possible Tabulation:  
[100-09](#)

 <b>IOWA DOT</b>	REVISION	
	3	04-17-18
	<b>EC-105</b>	
	SHEET 1 of 1	
REVISIONS: Changed Possible Contract Items to Transition Mat.		
		
APPROVED BY DESIGN METHODS ENGINEER		
<b>TRANSITION MAT (TM)</b>		





PLAN FOR SILT FENCE (11)



PROFILE VIEW ATTACHMENT TO POST

Install all silt fence using a silt fence machine. Use manual (trench) installation if physical 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.

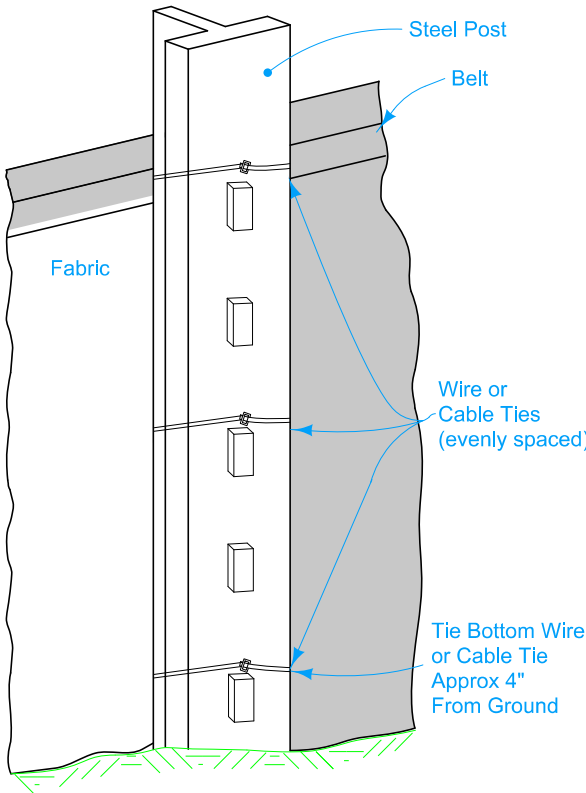
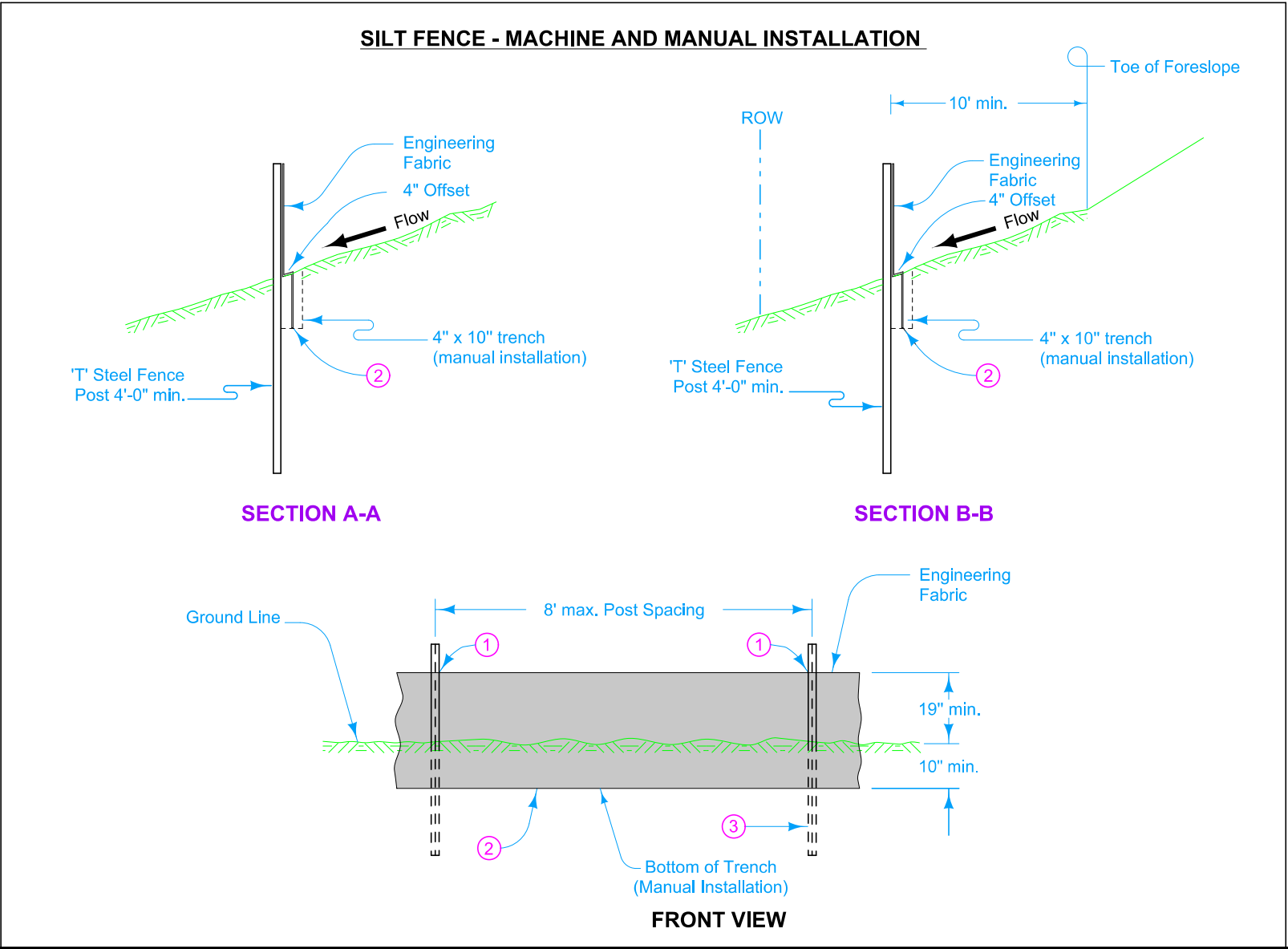
For manual installation, compact with a mechanical or pneumatic tamper.

- (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.





Possible Contract Items:  
Silt Fence  
Silt Fence for Ditch Checks

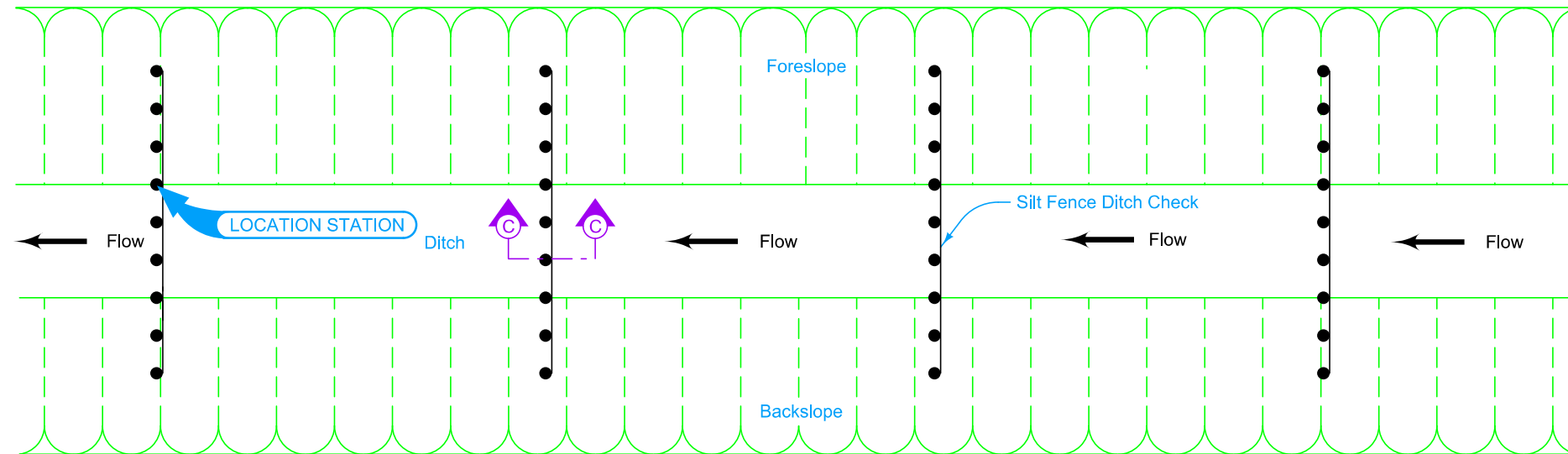
Possible Tabulations:  
100-17  
100-18



BACK VIEW ATTACHMENT TO POST

 <b>IOWA DOT</b>	REVISION	
	6	04-20-21
	<b>EC-201</b>	
	SHEET 1 of 6	
REVISIONS:      Modified trench to 10". Added circle notes 13 & 14.		
		
APPROVED BY DESIGN METHODS ENGINEER		
<b>SILT FENCE</b>		

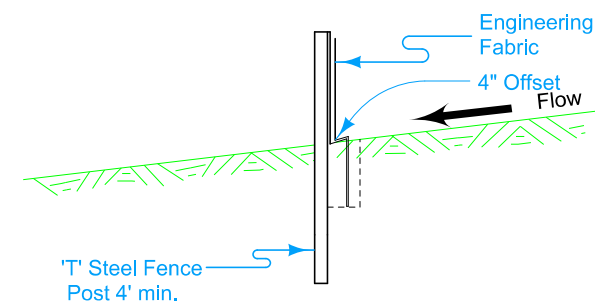




PLAN FOR DITCH CHECK (TYPE 1) <sup>12</sup>

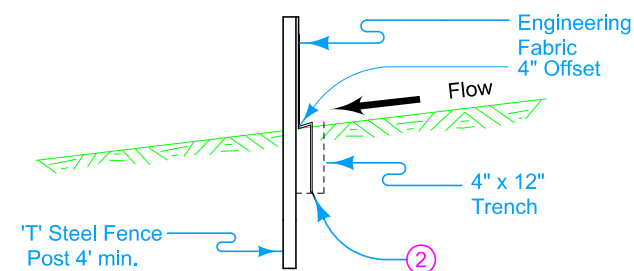
- ① Secure top of engineering fabric to steel posts using cable ties (50 lb.) or wire passing through or encompassing the belt. See attachment to post.
- ② For manual installation only, fold engineering fabric along bottom of trench.
- ③ Embed all posts 28 inches below the ground line.
- ④ Locate posts 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

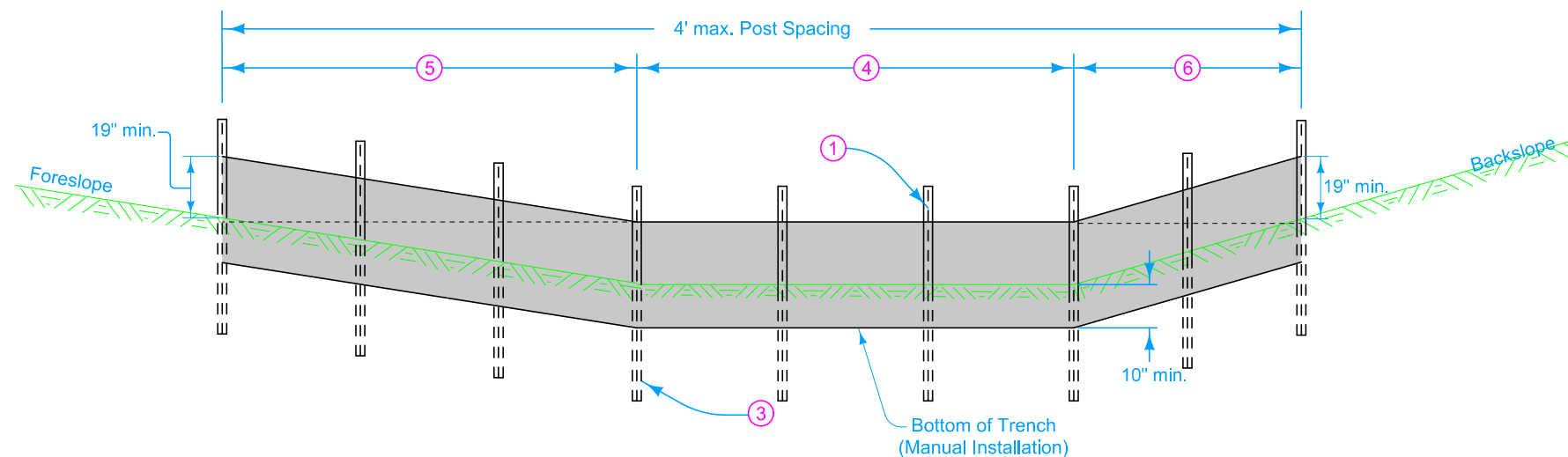


SECTION C-C



#### DITCH CHECK - MANUAL INSTALLATION



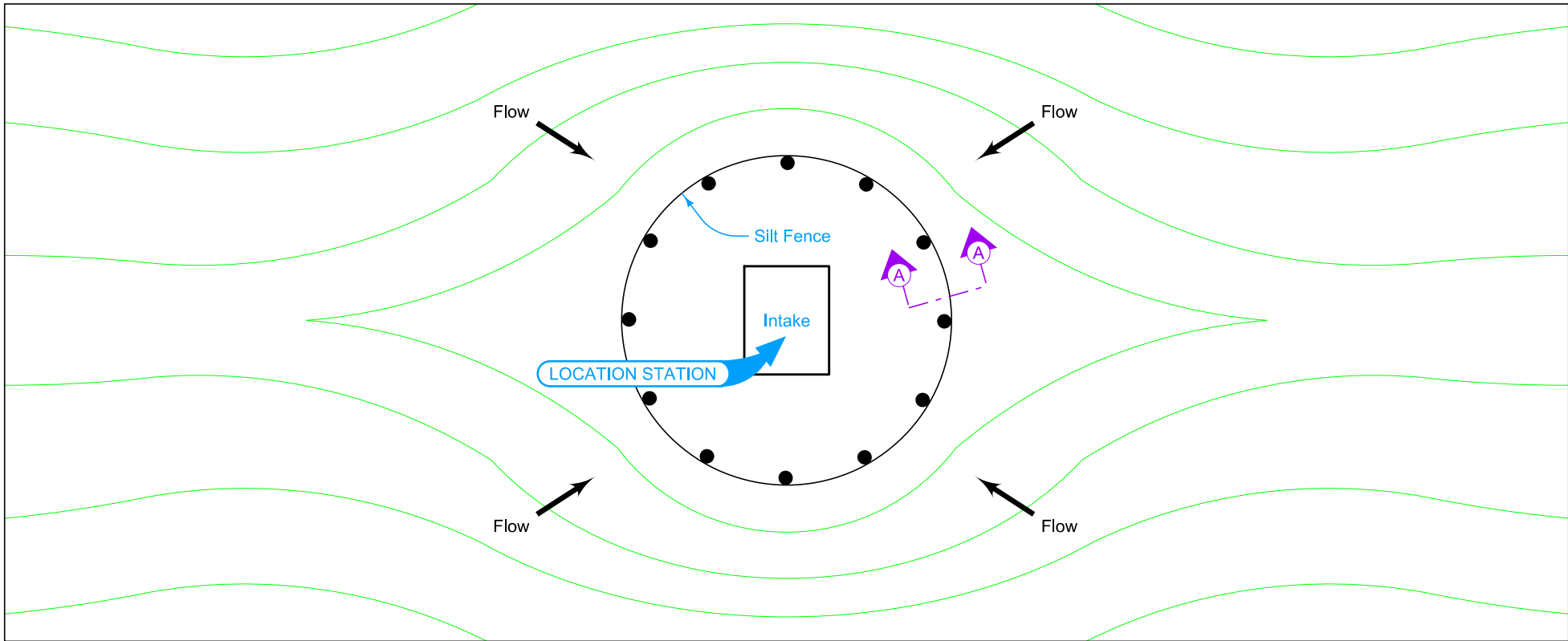
SECTION C-C



FRONT VIEW

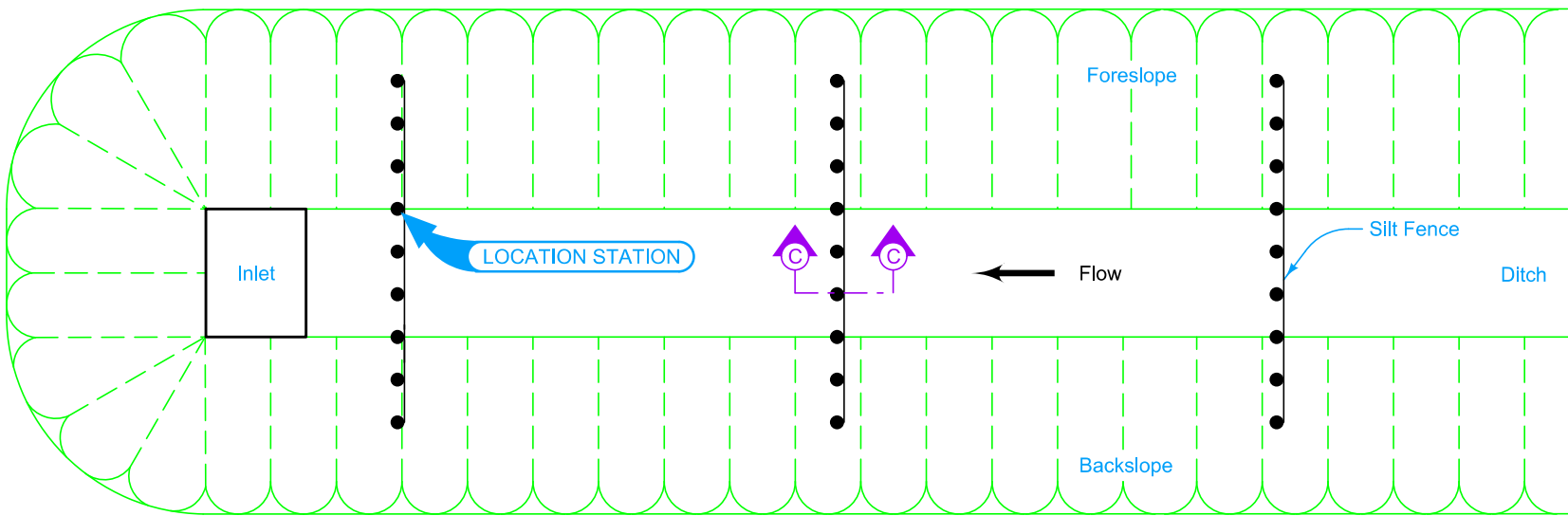
 <b>IOWA DOT</b>	REVISION	
	6	04-20-21
	<b>EC-201</b>	
	SHEET 2 of 6	
<b>STANDARD ROAD PLAN</b>		
REVISIONS:      Modified trench to 10". Added circle notes 13 & 14.		
		
APPROVED BY DESIGN METHODS ENGINEER		

**SILT FENCE**




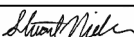
PLAN FOR SILT FENCE AT INTAKE (TYPE 2) <sup>12</sup>

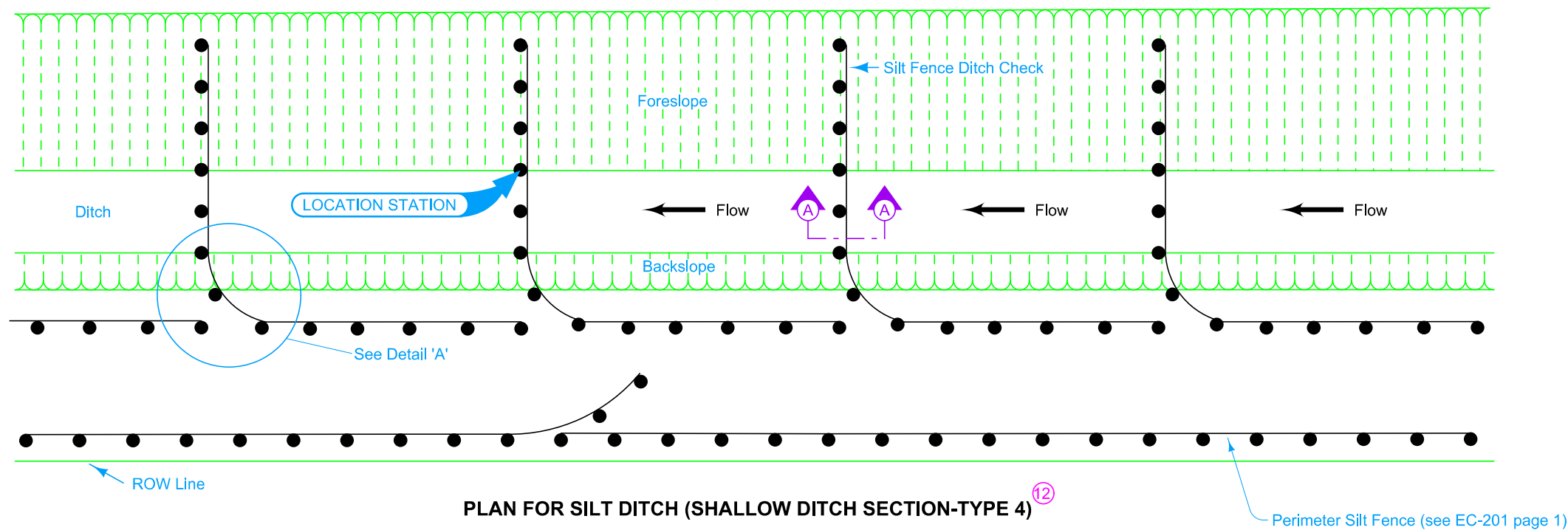
<sup>12</sup> Refer to Tab. 100-18



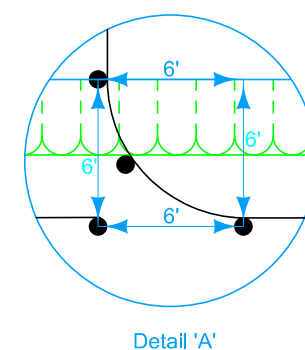
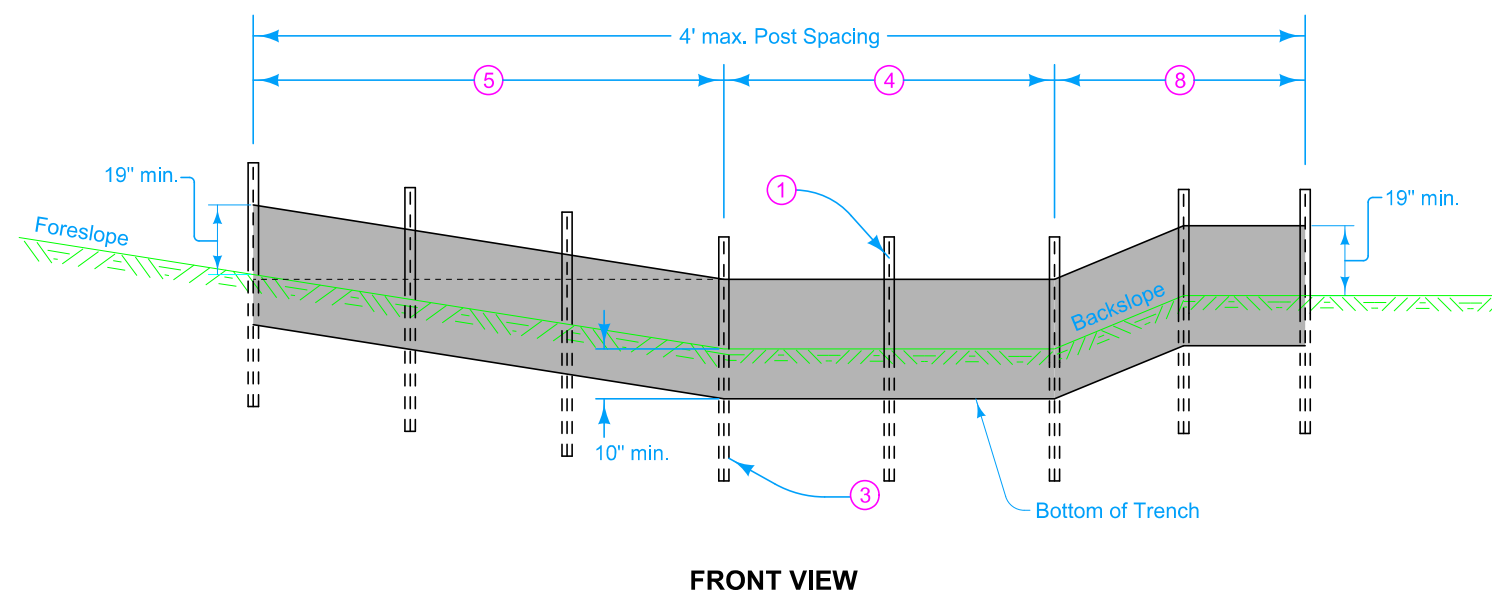
PLAN FOR SILT FENCE DITCH CHECK AT INLET (TYPE 3) <sup>12</sup>



 Contour Lines

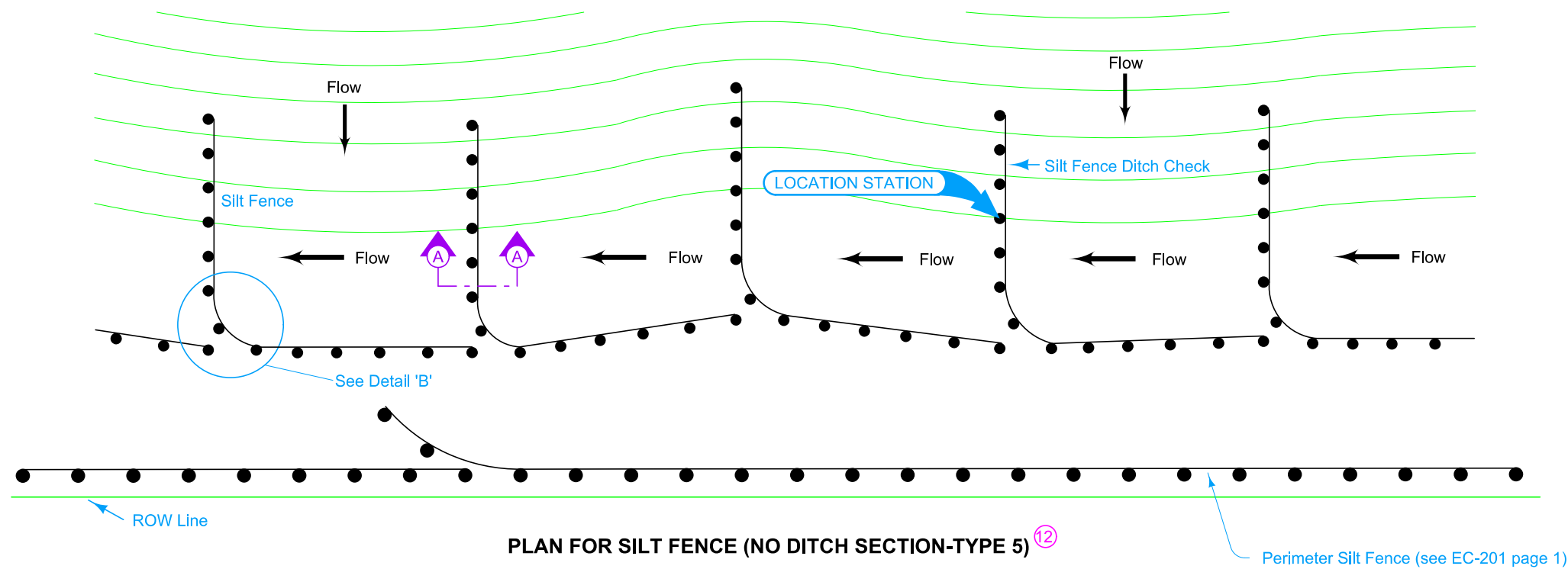
 <b>IOWA DOT</b>	REVISION	
	6	04-20-21
	<b>EC-201</b>	
	SHEET 3 of 6	
REVISIONS:      Modified trench to 10". Added circle notes 13 & 14.		
		
APPROVED BY DESIGN METHODS ENGINEER		
<b>SILT FENCE</b>		



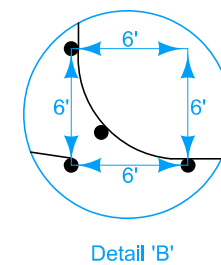
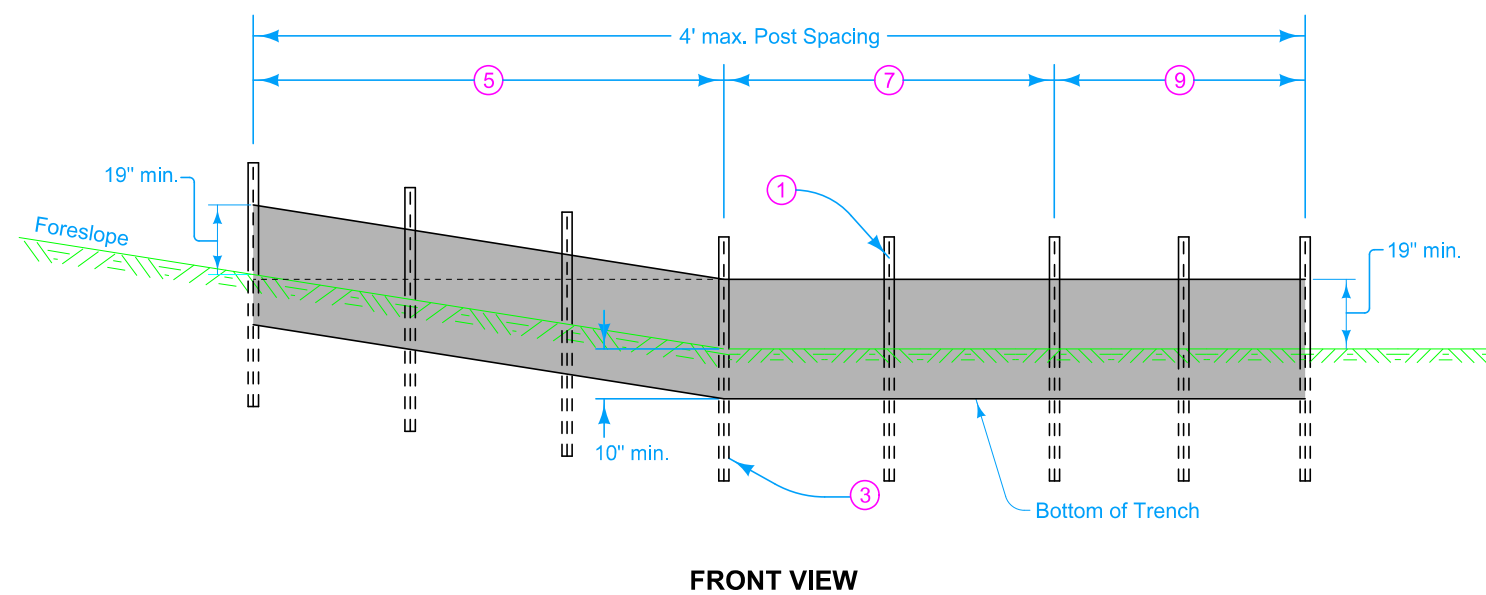
- ① Secure top of engineering fabric to steel posts using cable ties (50 lb.) or wire passing through or encompassing the belt. See attachment to post..
- ③ Embed all posts 28 inches below the ground line.
- ④ Locate posts at toe of foreslope and toe of backslope and space remaining posts equally.
- 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 beyond the intercept.
- ⑫ Refer to Tab. 100-18





 <b>IOWA DOT</b>	REVISION	
	6	04-20-21
	<b>EC-201</b>	
<b>STANDARD ROAD PLAN</b>		SHEET 4 of 6
REVISIONS:      Modified trench to 10". Added circle notes 13 & 14.		
		
APPROVED BY DESIGN METHODS ENGINEER		
<b>SILT FENCE</b>		

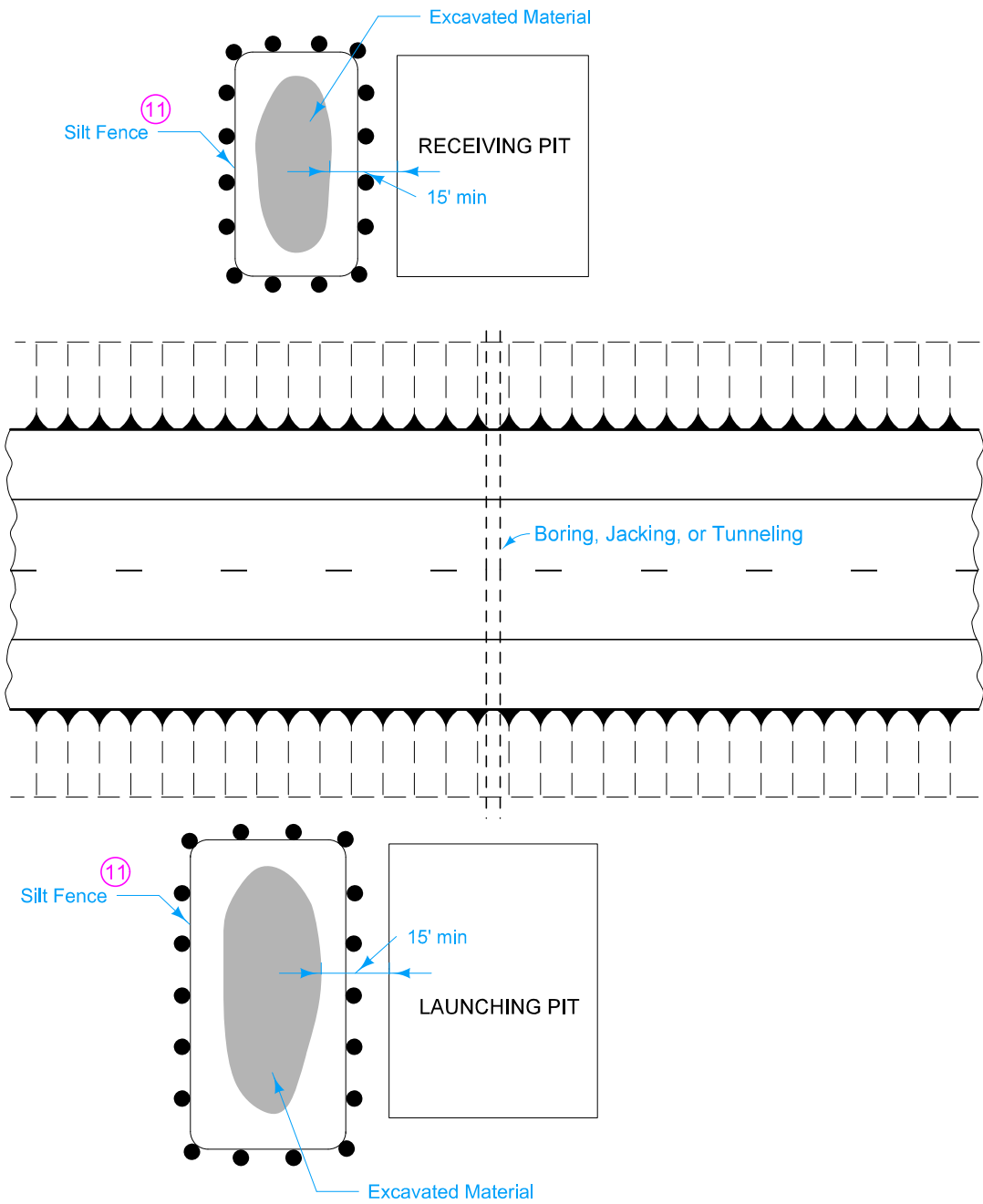


- ① Secure top of engineering fabric to steel posts using cable ties (50 lb.) or wire passing through or encompassing the belt. See attachment to post..
- ③ Embed all posts 28 inches below the ground line.
- ⑤ Minimum end span (in feet) = 2 X Foreslope (H:V).
- ⑦ Locate posts at toe of foreslope. Locate 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


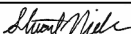


 <b>IOWA DOT</b>	REVISION	
	6	04-20-2
	<b>EC-201</b>	
	SHEET 5 of 6	
<b>STANDARD ROAD PLAN</b>		
REVISIONS:      Modified trench to 10". Added circle notes 13 & 14.		
		
APPROVED BY DESIGN METHODS ENGINEER		
   <		

11 Refer to Tab. 100-17



PLAN FOR SILT FENCE FOR TRENCHLESS CONSTRUCTION

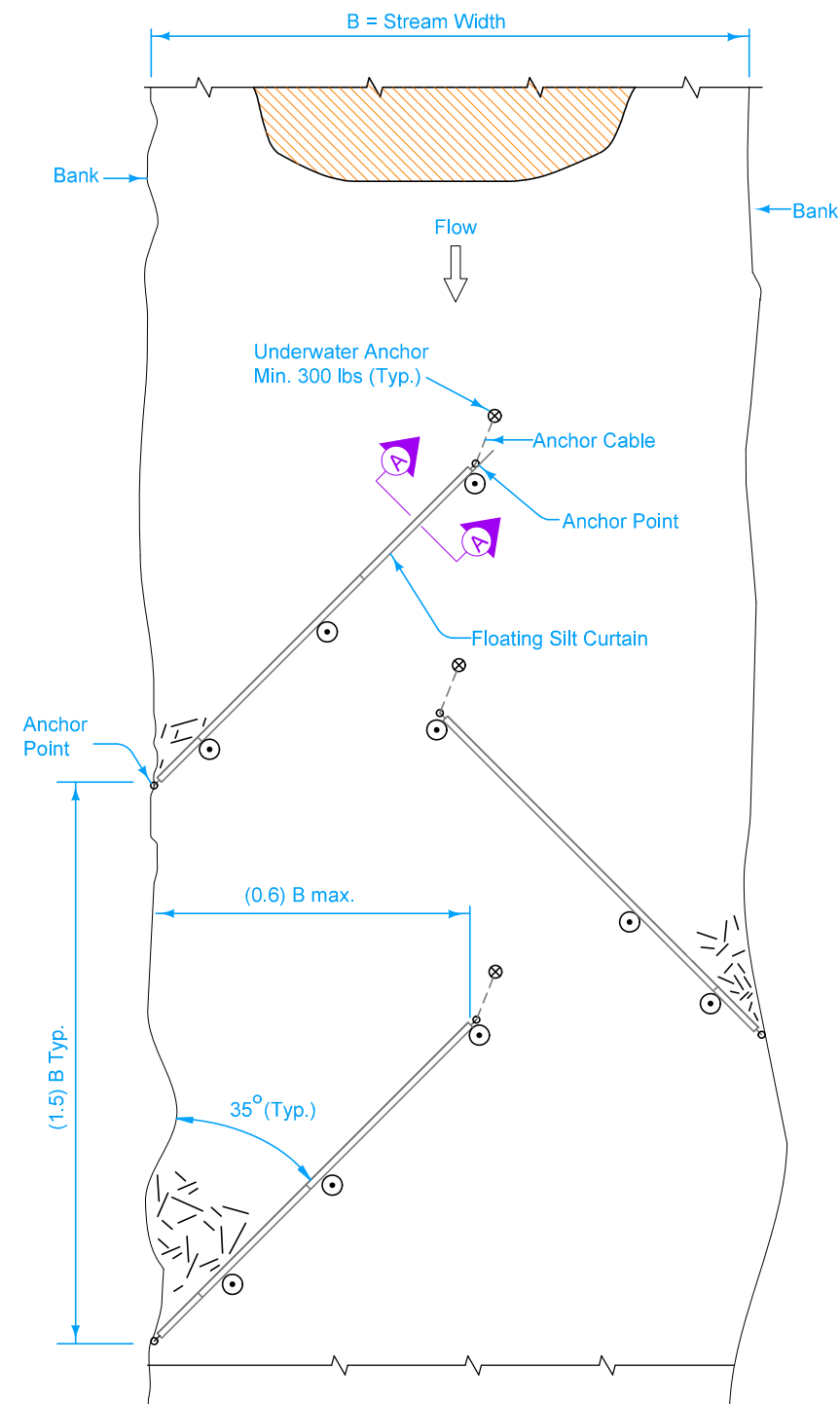
 <b>IOWA DOT</b>	REVISION	
	6	04-20-21
	<b>EC-201</b>	
	SHEET 6 of 6	
REVISIONS:      Modified trench to 10". Added circle notes 13 & 14.		
		
APPROVED BY DESIGN METHODS ENGINEER		
<b>SILT FENCE</b>		

## DESIGNER INFORMATION

Keep silt curtain as close to work area as possible.

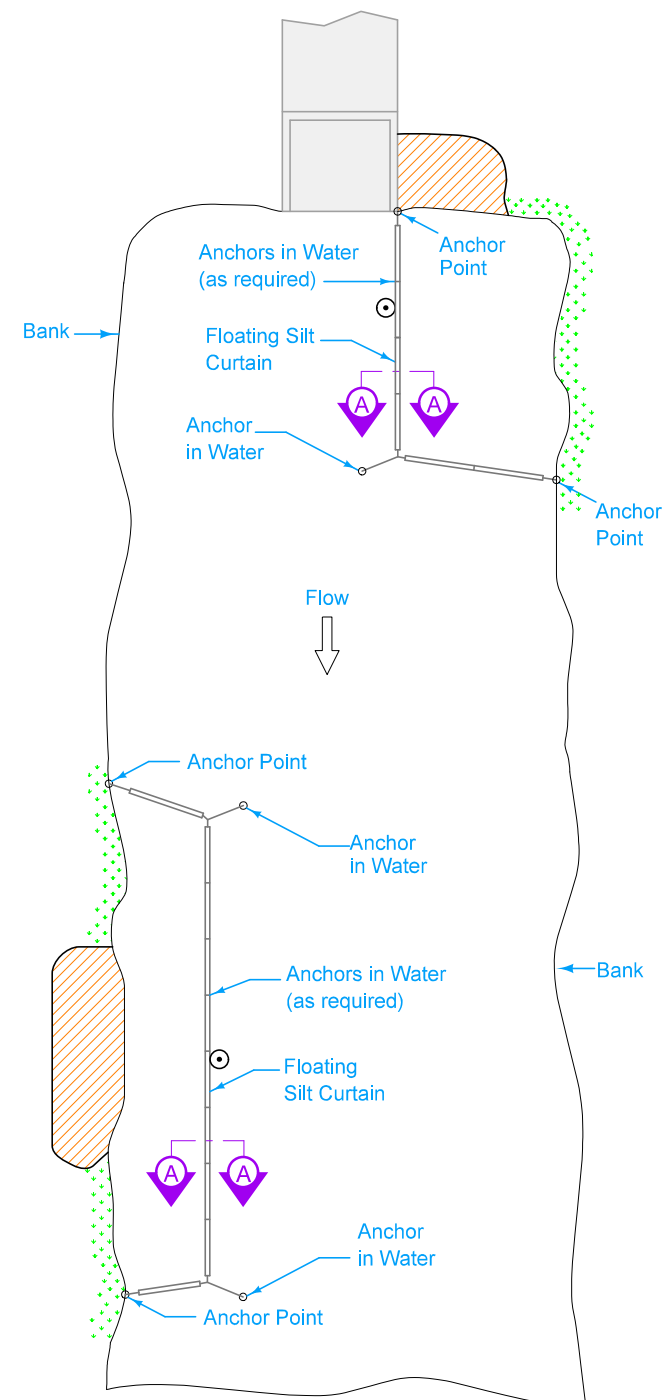
Depth of curtain is the dimension of the curtain fabric extending below the flotation, i.e. hanging in the water.

Install according to Hanging Installation unless specified otherwise.



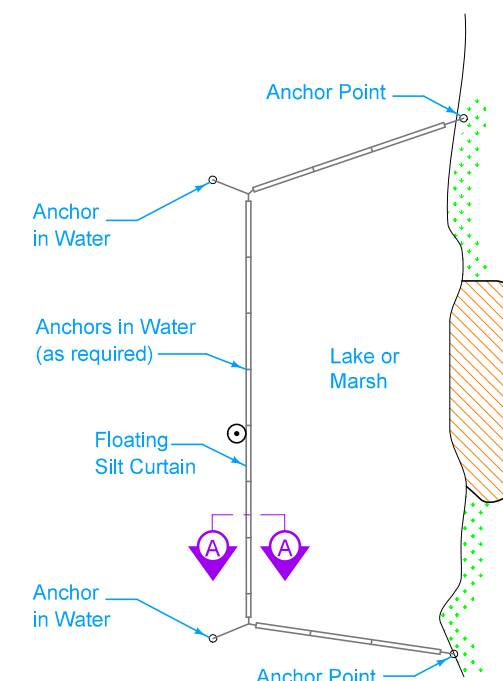
PLAN

Disturbed Area within Stream



PLAN

Disturbed Area Adjacent  
to Stream



PLAN  
Still Water Only

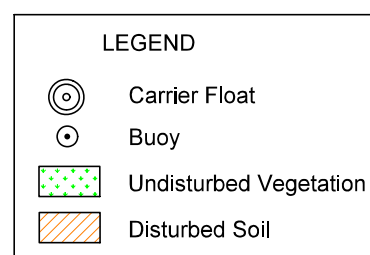
- Possible Contract Items:
- Clean-out of Floating Silt Curtain (Containment)
  - Floating Silt Curtain (Containment)
  - Floating Silt Curtain (Hanging)
  - Maintenance of Floating Silt Curtain

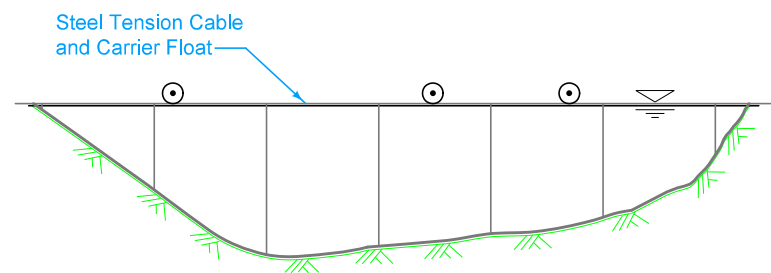
Possible Tabulation:  
100-10

 <b>IOWA DOT</b> <b>STANDARD ROAD PLAN</b>	REVISION	
	6	10-21-14
	<b>EC-202</b> SHEET 1 of 2	

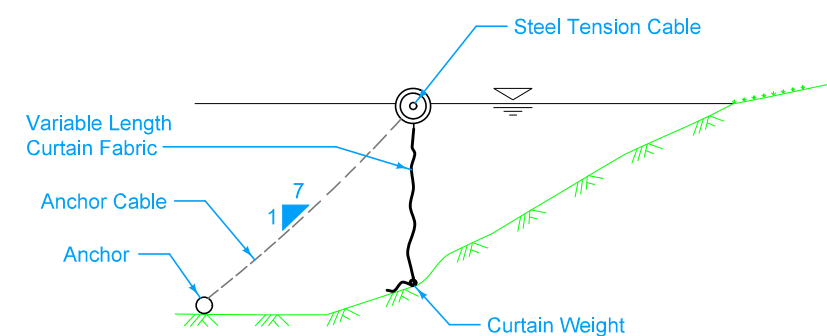
APPROVED BY DESIGN METHODS ENGINEER

### FLOATING SILT CURTAIN

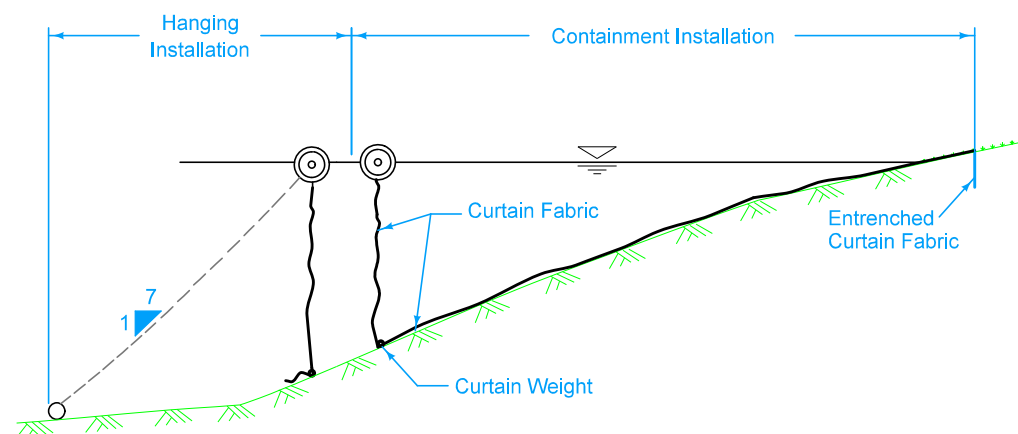




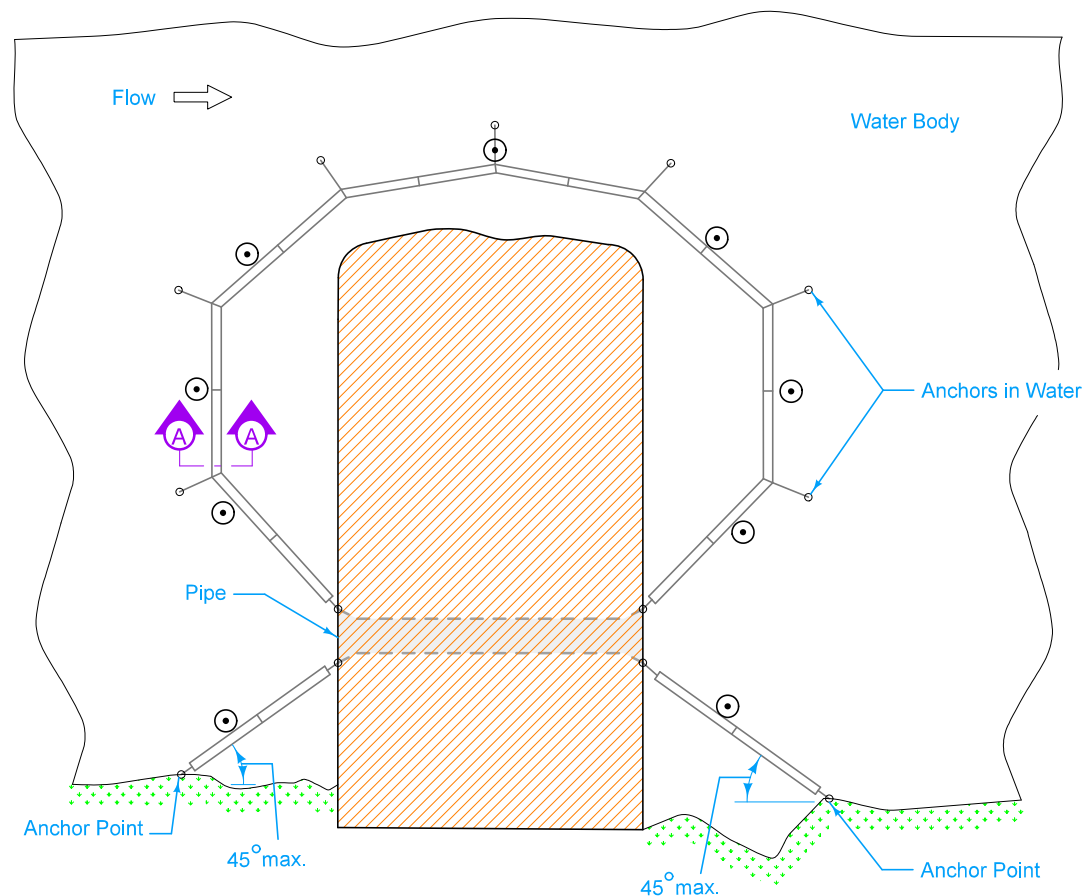
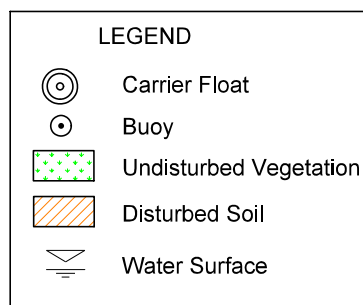
PROFILE



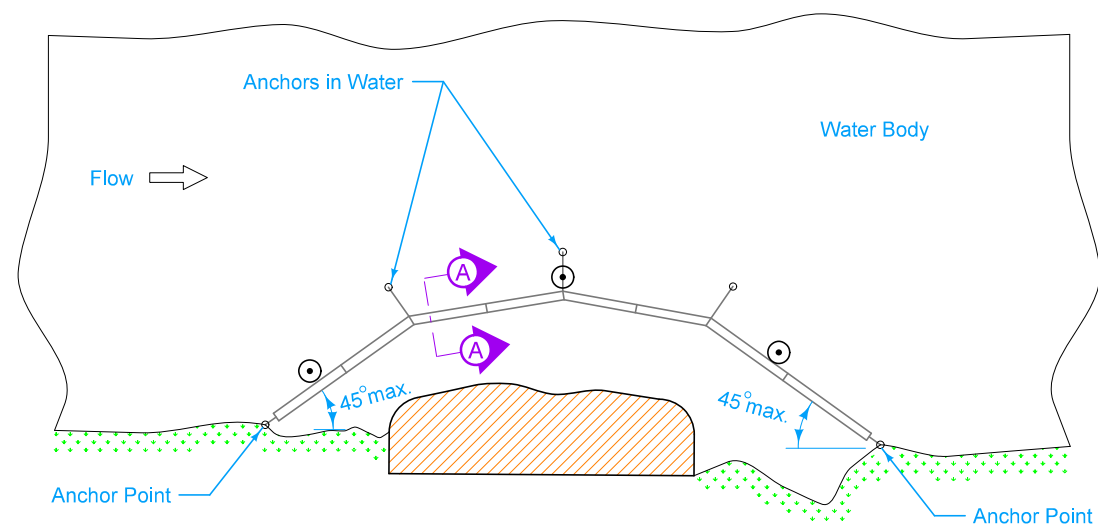
SECTION A-A  
Hanging Installation



SECTION A-A  
Containment Installation ①


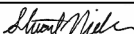


PLAN  
Stream Crossing or Causeway  
(with pipe)



PLAN  
Causeway or Pad

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

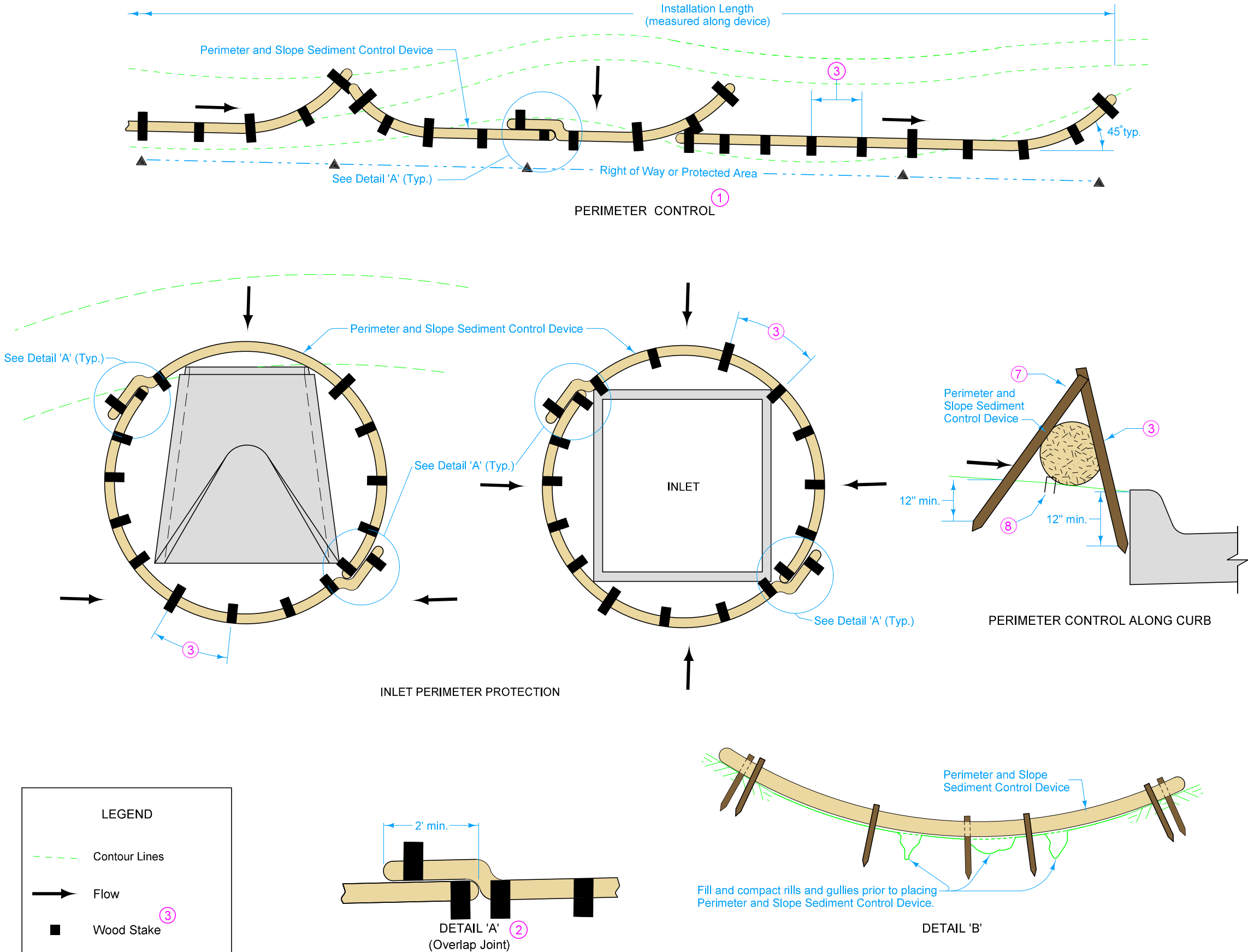
 <b>IOWA DOT</b>	REVISION	
	6	10-21-1
	<b>EC-202</b>	
	SHEET 2 of 2	
<b>STANDARD ROAD PLAN</b>		
REVISIONS:	Removed 100' typical spacing between anchors on page 2. Added possible contract item. Removed sections of standard notes and circle note 1.	
		
APPROVED BY DESIGN METHODS ENGINEER		
<b>FLOATING SILT CURTAIN</b>		



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.

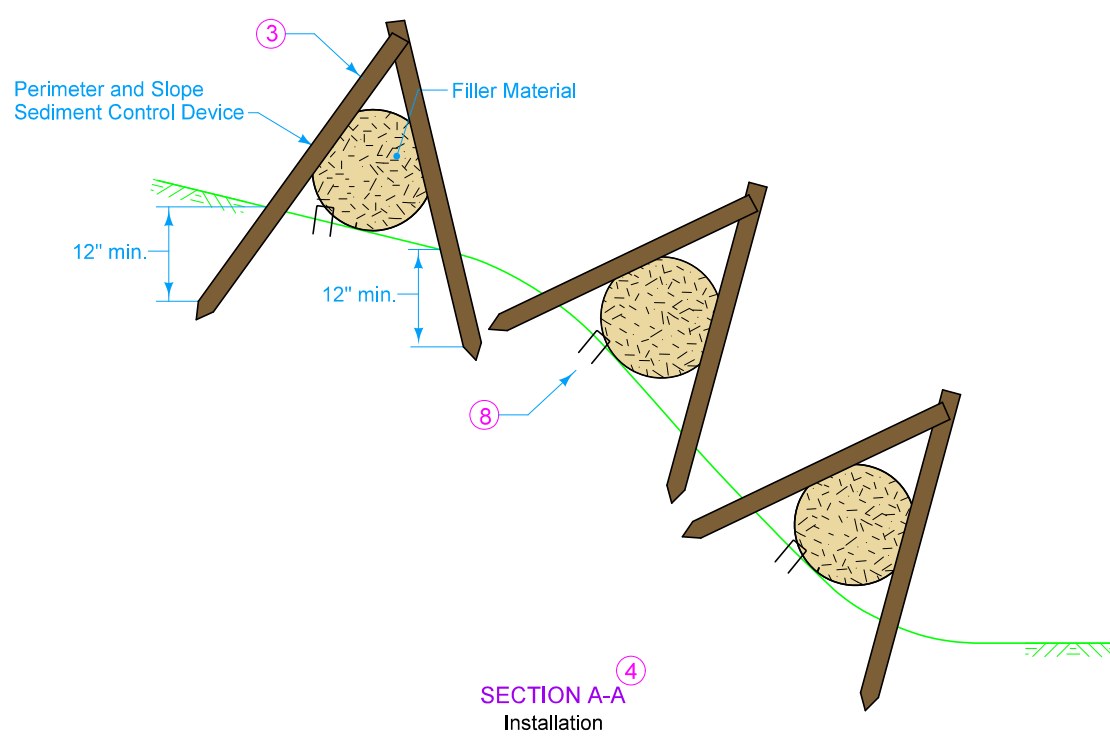
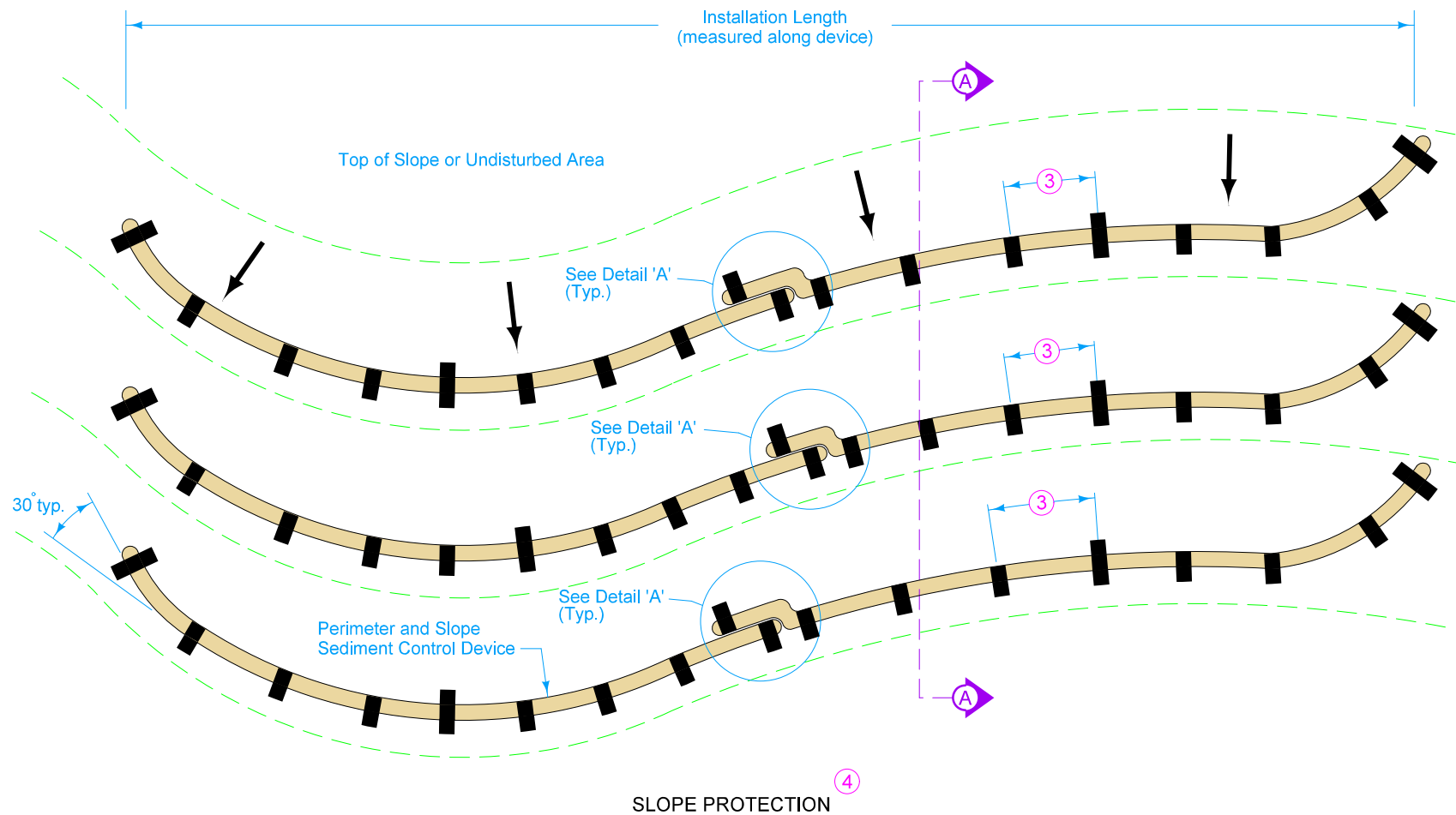
- 1 Overlap joints per Detail 'A'. Turn the lower 10 feet of each run up the slope to help contain runoff. When placed such that runoff is conveyed along the device, additional run-ups and/or means may be required to reduce erosion along the device. Run-ups will be included in the installation length.
- 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 approximately 45 degree angle to ground.
- 8 Install staples every 2 feet on upslope side.



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

Possible Tabulation:  
100-19

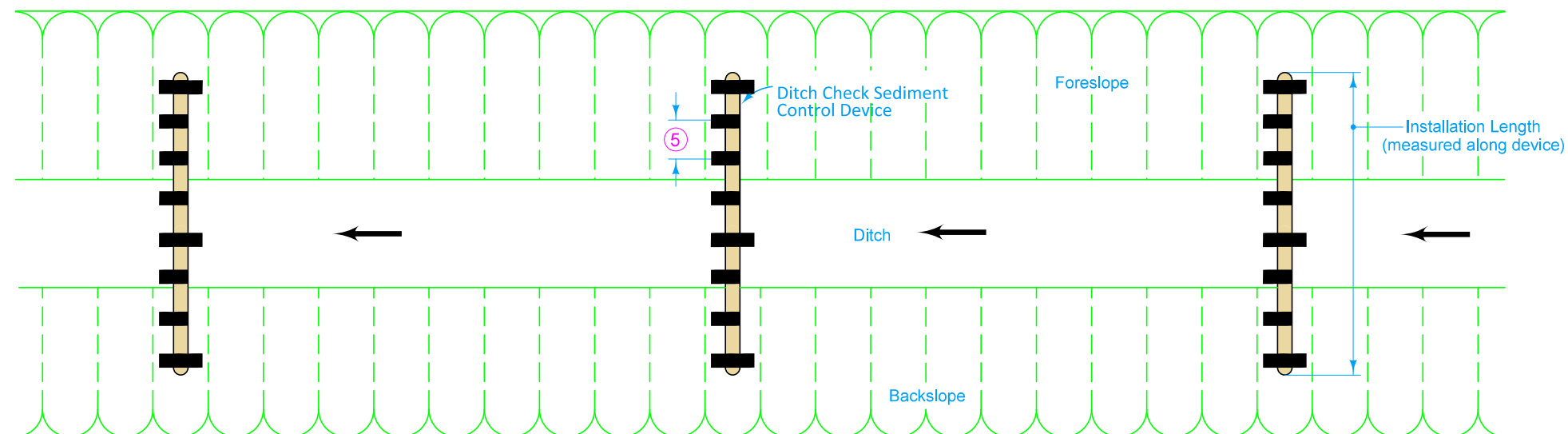
 <b>IOWA DOT</b>	REVISION	
	6	10-19-21
	<b>EC-204</b>	
<b>STANDARD ROAD PLAN</b>	SHEET 1 of 3	
REVISIONS:      Changed labeling on Sheet 3.		
		
APPROVED BY DESIGN METHODS ENGINEER		
<b>PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES</b>		



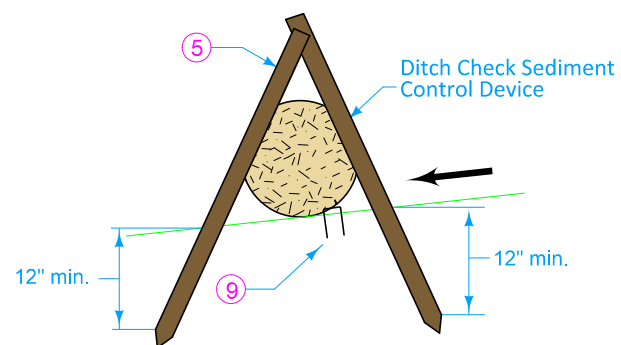
LEGEND	
	Contour Lines
	Flow
	Wood Stake <sup>③</sup>

- 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.

	REVISION			
	6	10-19-21		
	<b>EC-204</b>			
STANDARD ROAD PLAN				
SHEET 2 of 3				
REVISIONS: Changed labeling on Sheet 3.				
APPROVED BY DESIGN METHODS ENGINEER				
<b>PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES</b>				





DITCH PROTECTION <sup>6</sup>

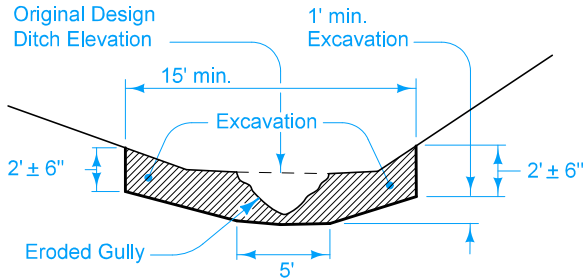


INSTALLATION IN DITCH

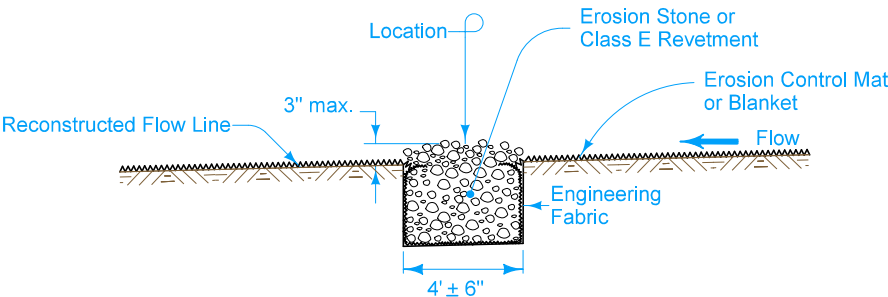
LEGEND	
	Contour Lines
	Flow
	Wood Stake <sup>5</sup>

- <sup>5</sup> 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.
- <sup>6</sup> Install Ditch Protection perpendicular to ditch. Overlap joints per Detail 'A'.
- <sup>9</sup> Install staples every 1 foot on upslope side.

 <b>IOWA DOT</b>	REVISION	
	6	10-19-21
	<b>EC-204</b>	
<b>STANDARD ROAD PLAN</b>	SHEET 3 of 3	
REVISIONS:      Changed labeling on Sheet 3.		
		
APPROVED BY DESIGN METHODS ENGINEER		
<b>PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES</b>		

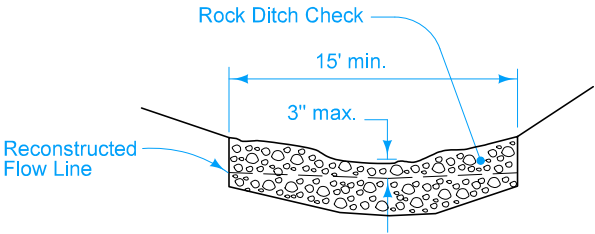


EXCAVATION SECTION

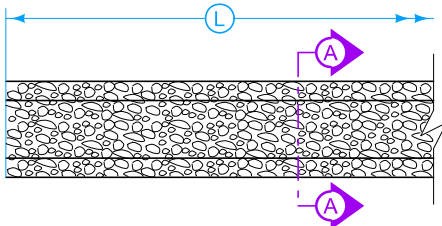


LONGITUDINAL SECTION AT CENTERLINE OF DITCH

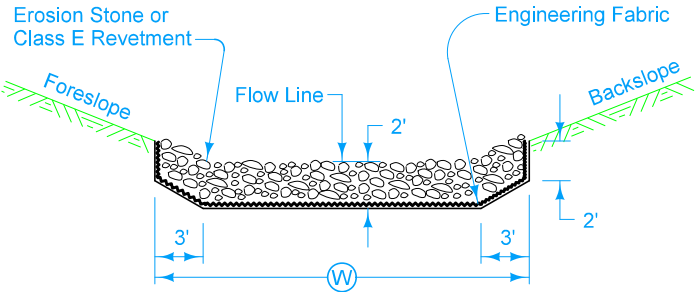
TYPE 1  
(Rock Ditch Check)



DITCH CHECK SECTION

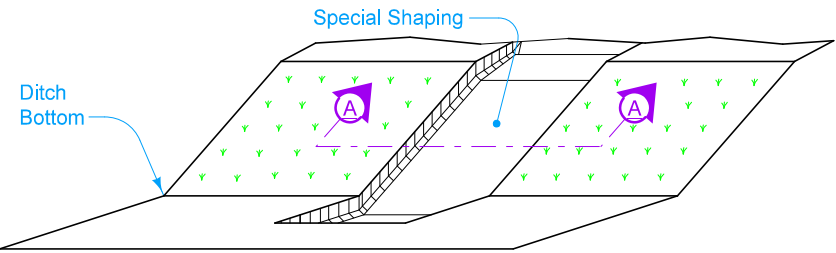


PLAN

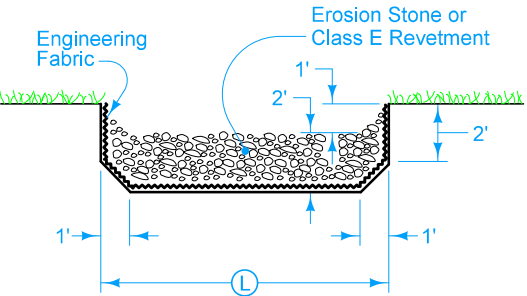


SECTION A-A

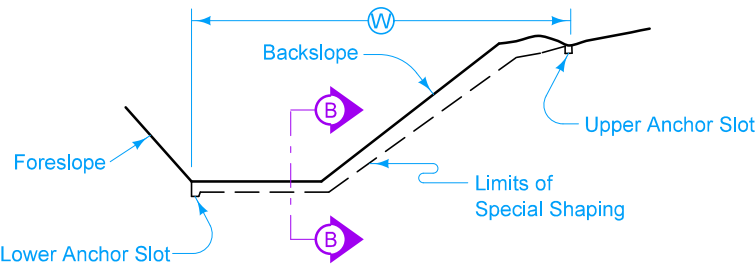
TYPE 2  
(Rock Ditch)



ISOMETRIC VIEW



SECTION A-A



TYPICAL SECTION

Possible Contract Items:  
Erosion Stone  
Class E Revetment  
Engineering Fabric

Possible Tabulation:  
100-23



STANDARD ROAD PLAN

REVISIONS: Added note referencing 4196

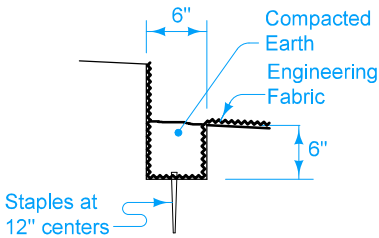
APPROVED BY DESIGN METHODS ENGINEER

REVISION  
2 10-18-22

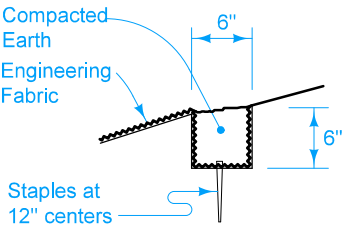
EC-301

SHEET 1 of 2

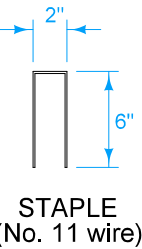
ROCK EROSION CONTROL  
(REC)



LOWER ANCHOR SLOT

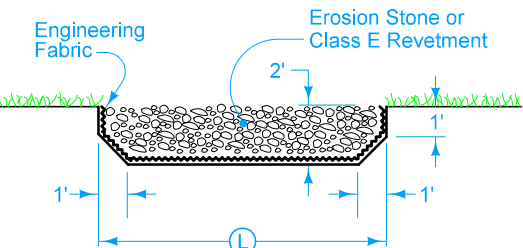


UPPER ANCHOR SLOT

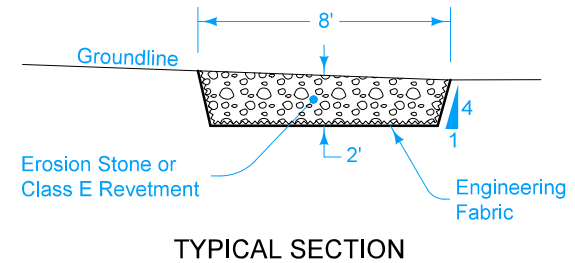
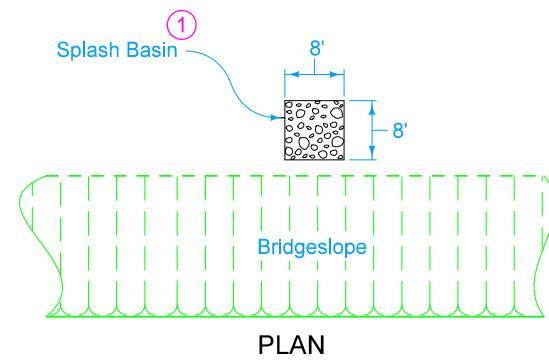


STAPLE  
(No. 11 wire)

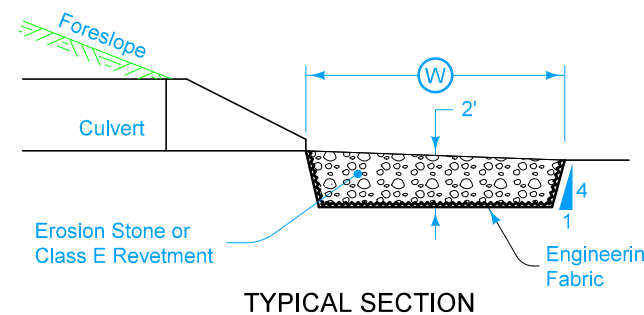
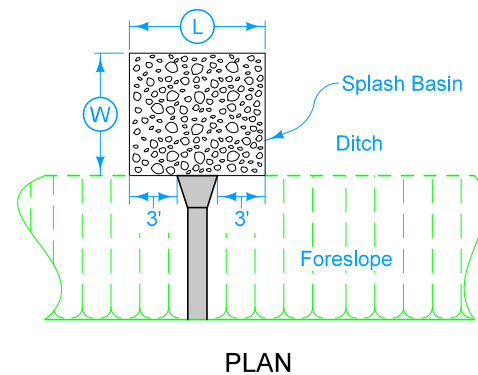
TYPE 3  
(Rock Flume)



SECTION B-B

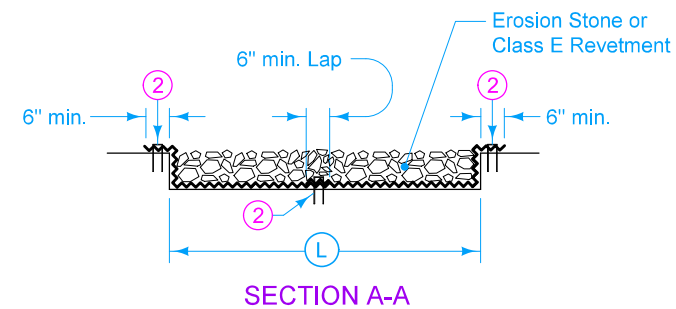
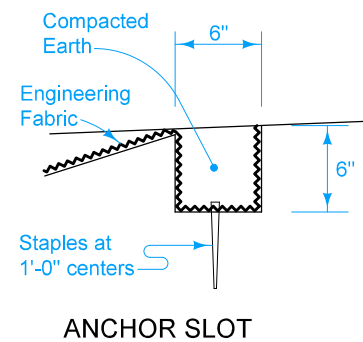
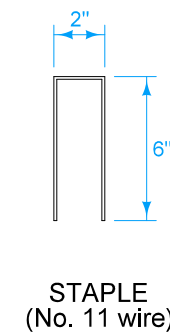
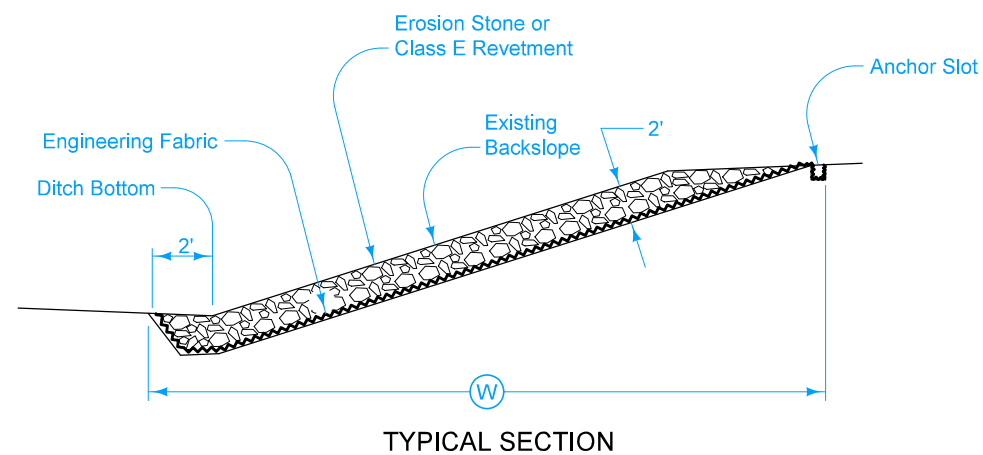
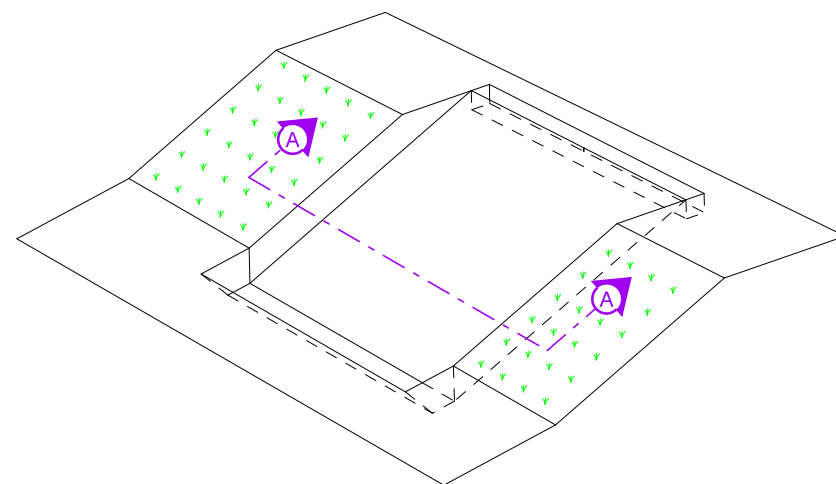


SPLASH BASIN UNDER BRIDGE DRAIN



SPLASH BASIN AT PIPE CULVERT OUTLET

TYPE 4  
(Rock Splash Basin)



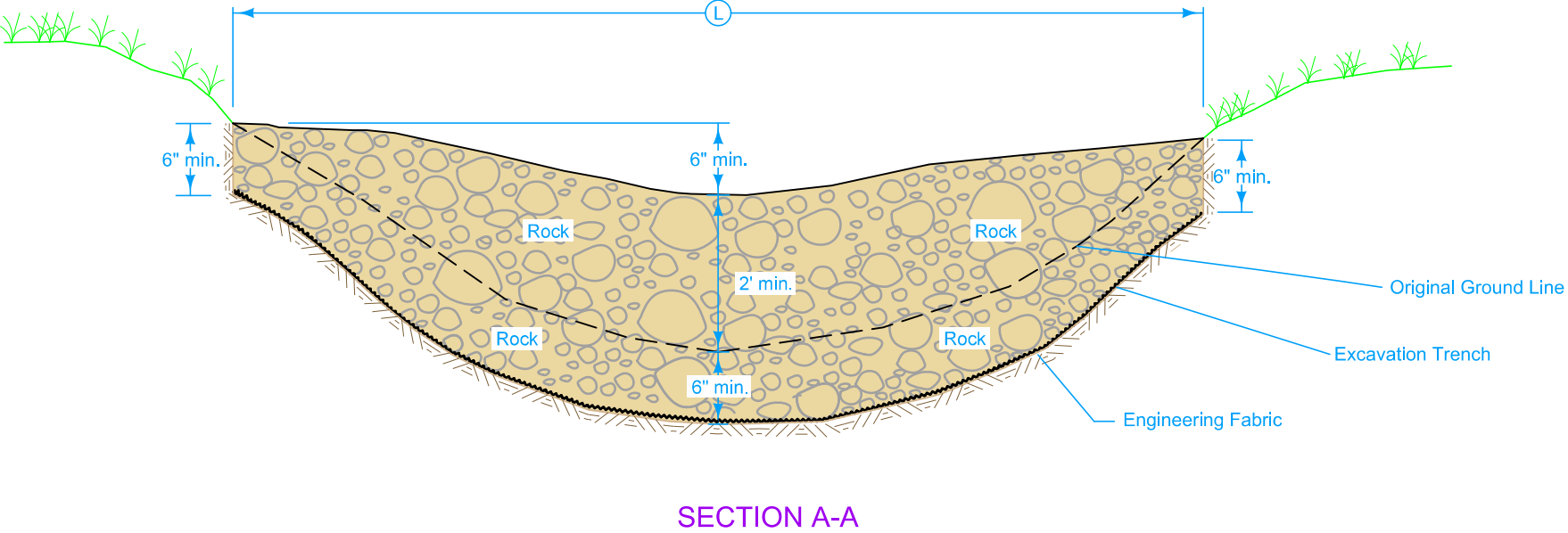
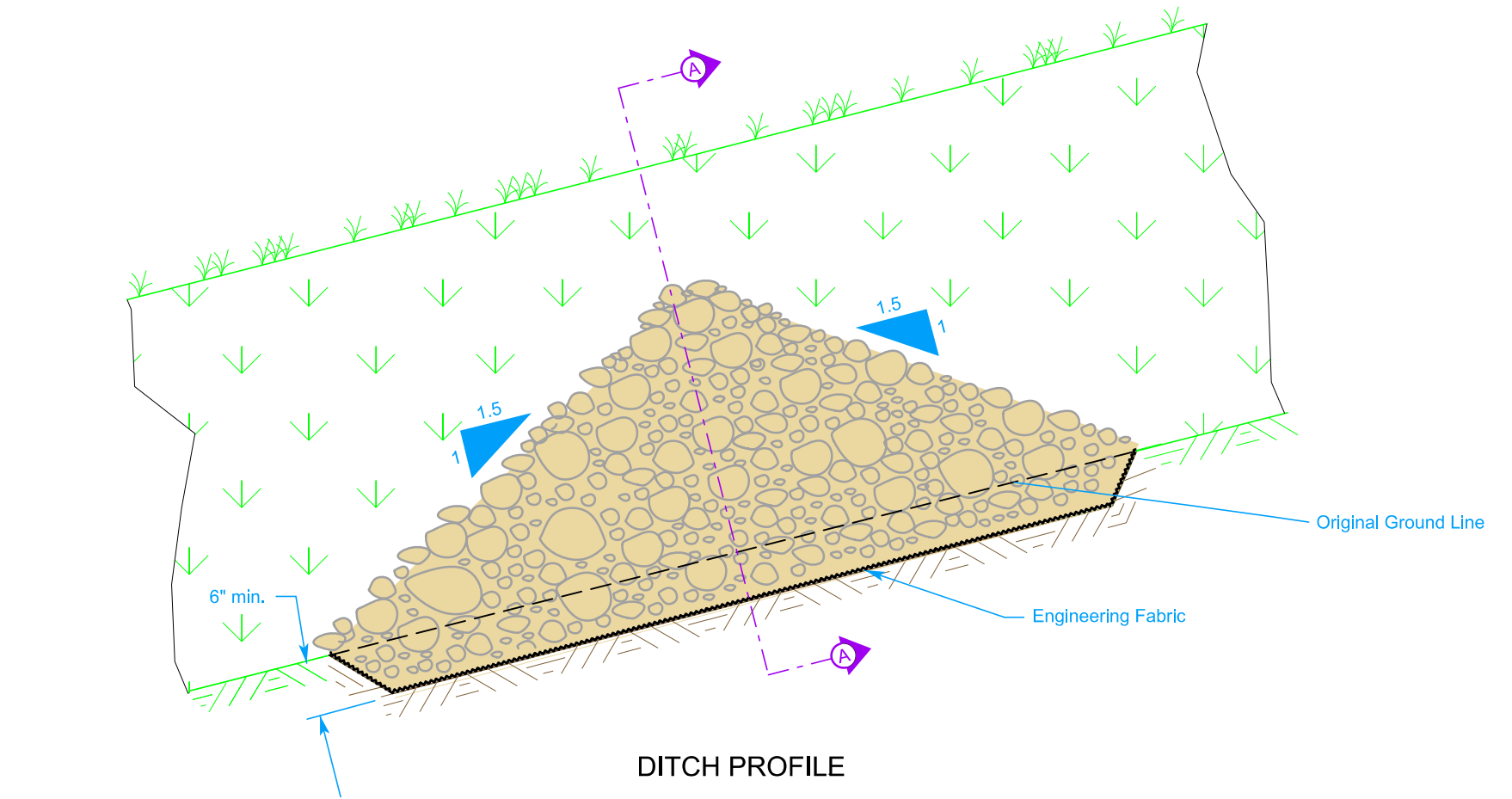
TYPE 5  
(Rock Slope Protection)

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

<b>IOWA DOT</b> <b>STANDARD ROAD PLAN</b> REVISIONS: Added note referencing 4196 APPROVED BY DESIGN METHODS ENGINEER <b>ROCK EROSION CONTROL (REC)</b>	REVISION	
	2	10-18-22
	EC-301 SHEET 2 of 2	


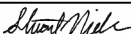
Use Class D Revetment to construct Rock Check Dam.

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



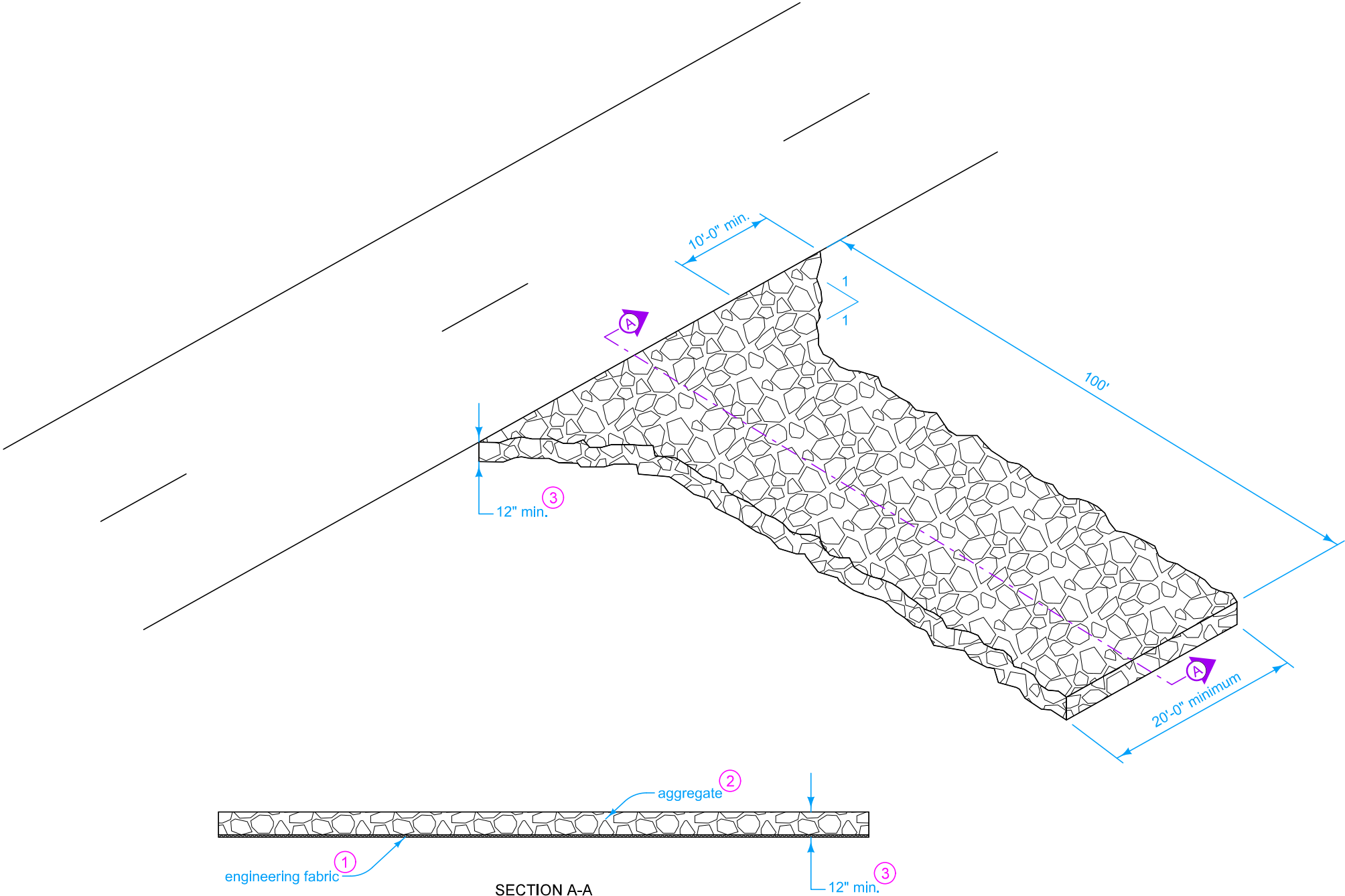
Possible Contract Items:  
Rock Check Dam  
Maintenance of Rock Check Dam  
Removal of Rock Check Dam


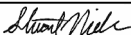
Possible Tabulation:  
100-32

 <b>IOWA DOT</b>	REVISION	
	1	10-18-22
	<b>EC-302</b>	
<b>STANDARD ROAD PLAN</b>	SHEET 1 of 1	
REVISIONS:      Added note referring to 4196.		
		
APPROVED BY DESIGN METHODS ENGINEER		
<b>ROCK CHECK DAM</b>		

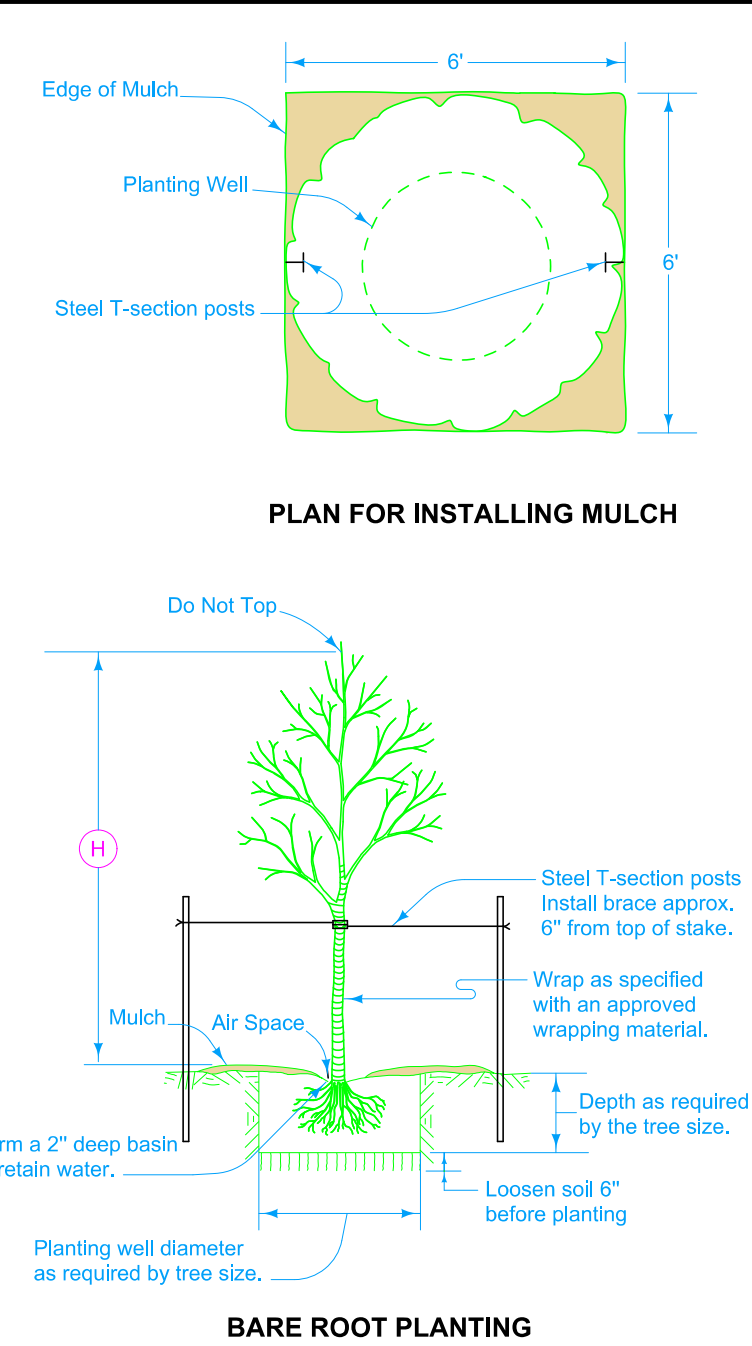
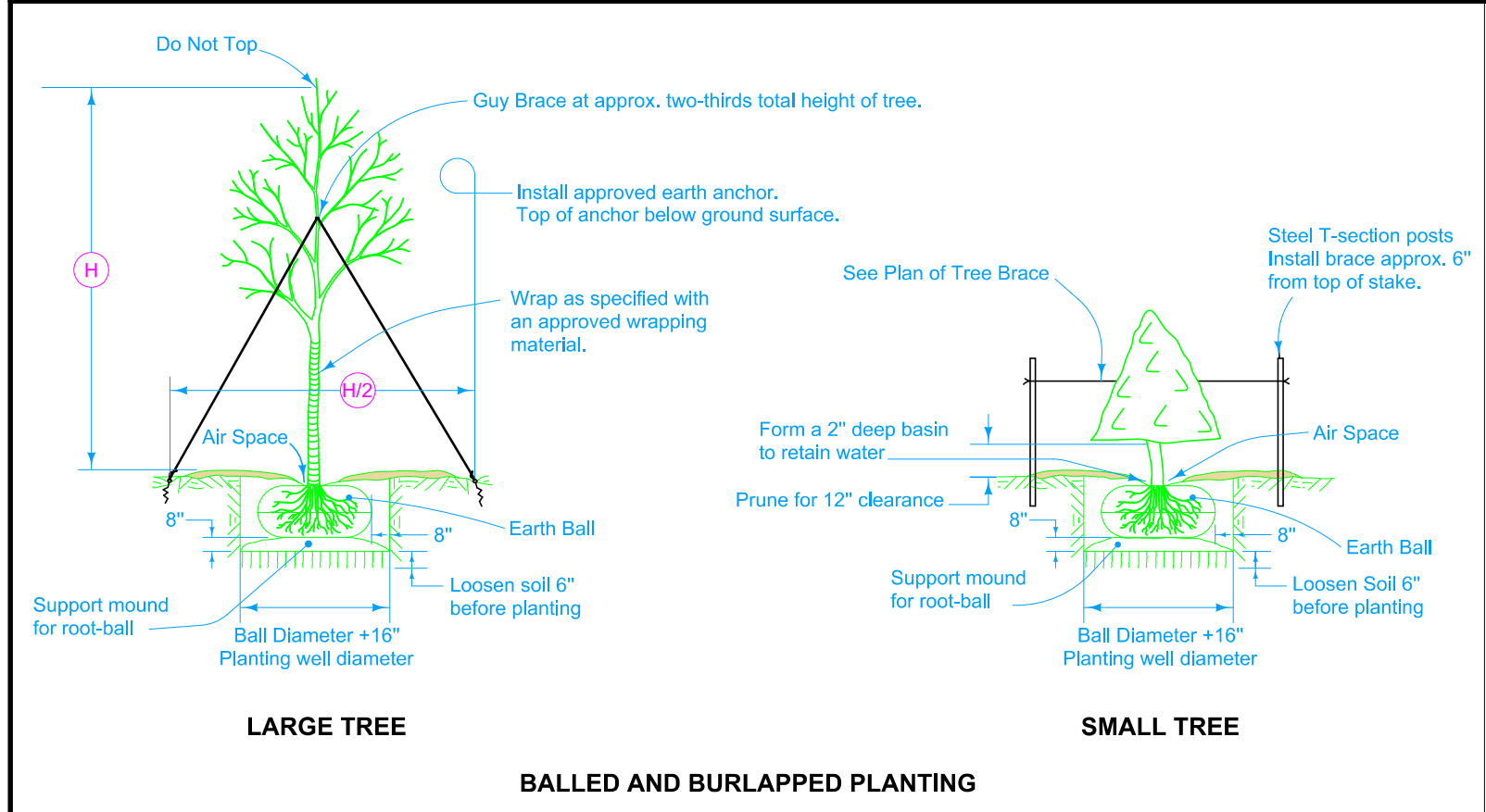


- Obtain the Engineer's approval for location of stabilized entrances prior to constructing.
- ① Place engineering fabric prior to placing aggregate. Use fabric for Embankment Erosion Control complying with Section 4196 of the Standard Specifications.
  - ② Use aggregate meeting Gradation No. 13a of Section 4109 of the Standard Specifcaitions.
  - ③ Depth may need to be increased depending on the weight of contractor vehicles and equipment.



 <b>IOWA DOT</b>	REVISION	
	4	10-19-21
	<b>EC-303</b>	
<b>STANDARD ROAD PLAN</b>		
SHEET 1 of 1		
REVISIONS:	Defined length to be 100', to be consistant with spec change.	
		
APPROVED BY DESIGN METHODS ENGINEER		
<b>STABLIZED CONSTRUCTION ENTRANCE</b>		





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.

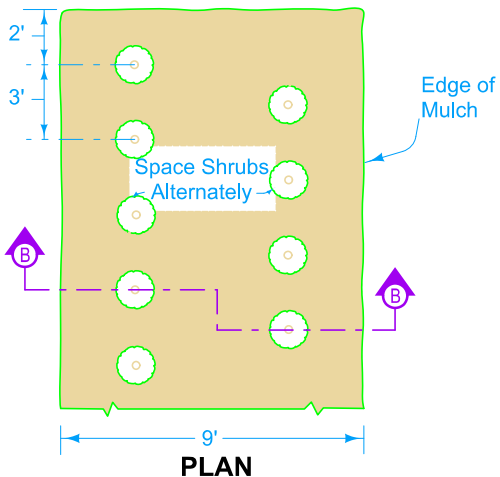
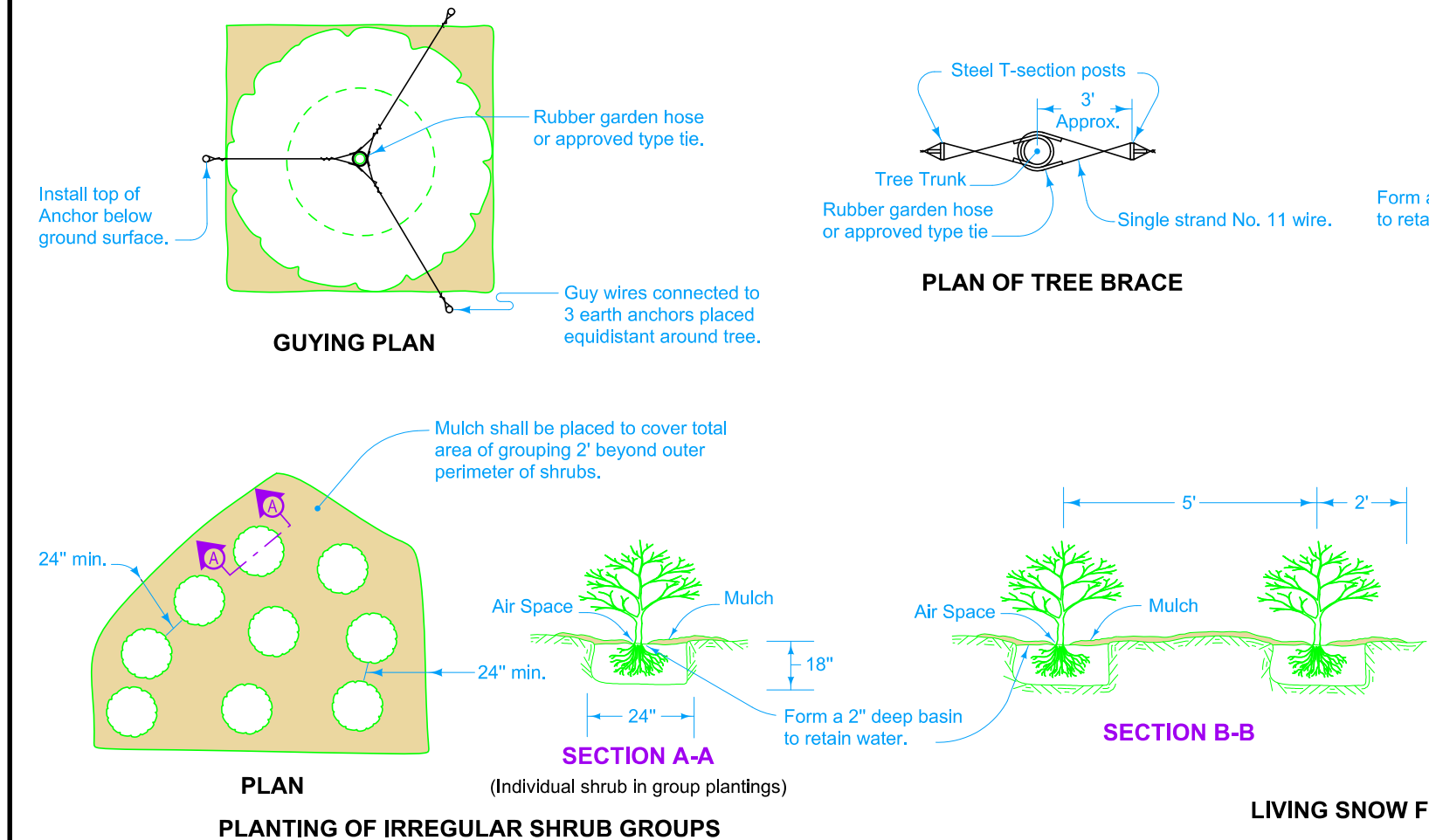
Till entire area to be mulched with a rotary tiller or other method approved by the Engineer.


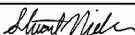
Rake smooth the entire area to be mulched and ensure it is free of vegetation, debris, clods and rocks. Form a 2 inch deep basin around plants to retain water. Plant plants at the same depth as they were in the nursery.

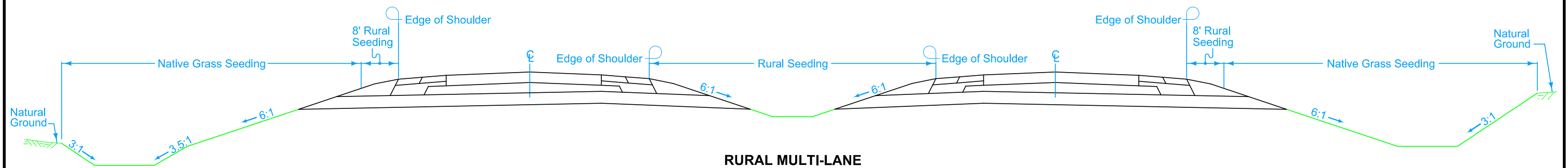
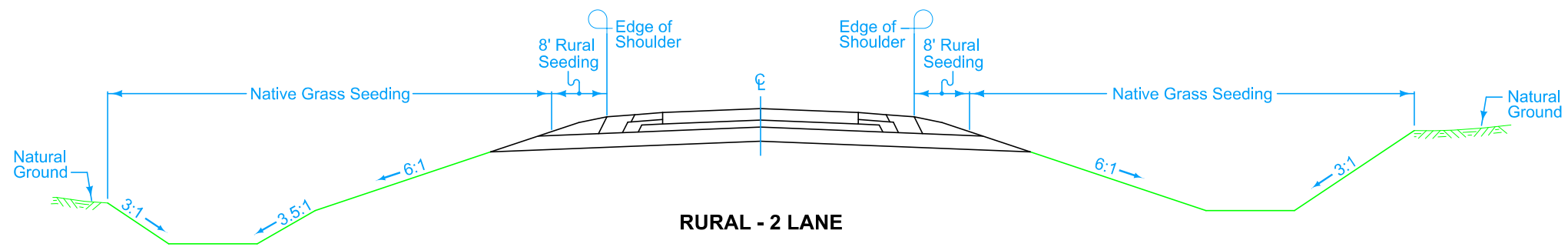
Follow mulch material and depth as designated on the plans. Pull mulch back ½ inch to 1 inch from the plants to allow air circulation at a uniform depth to reflect the 2 inch basin.



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.

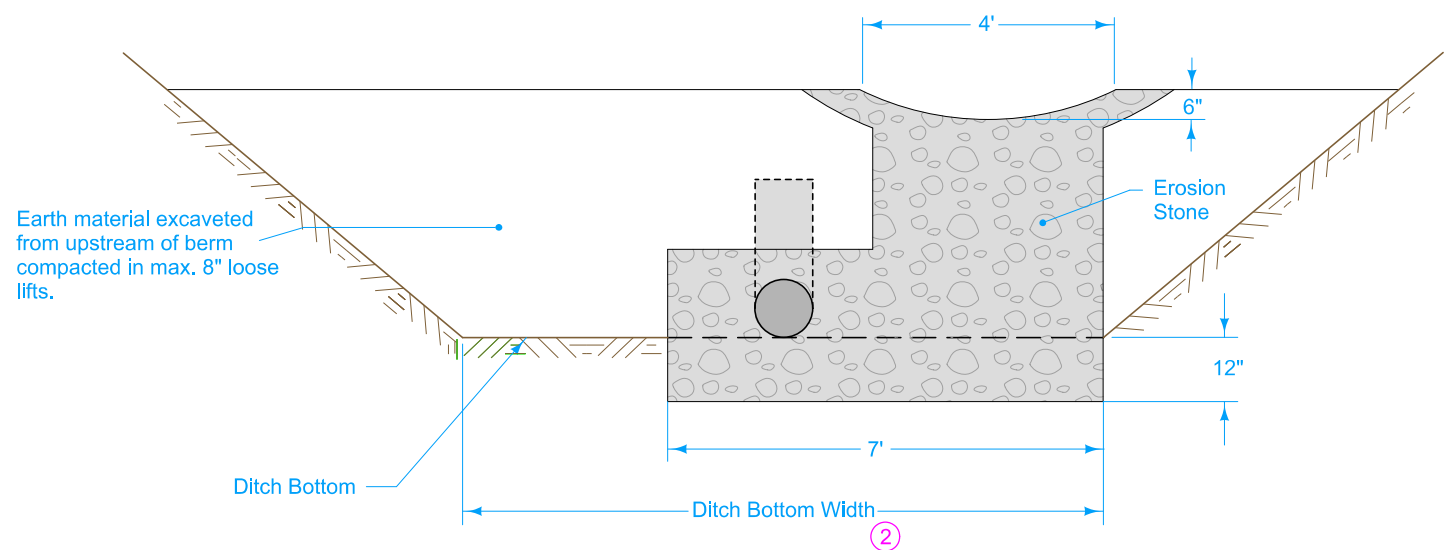
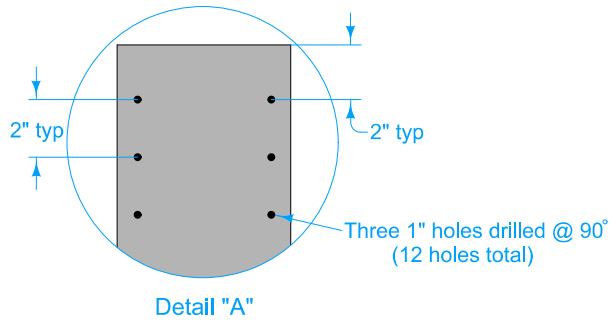
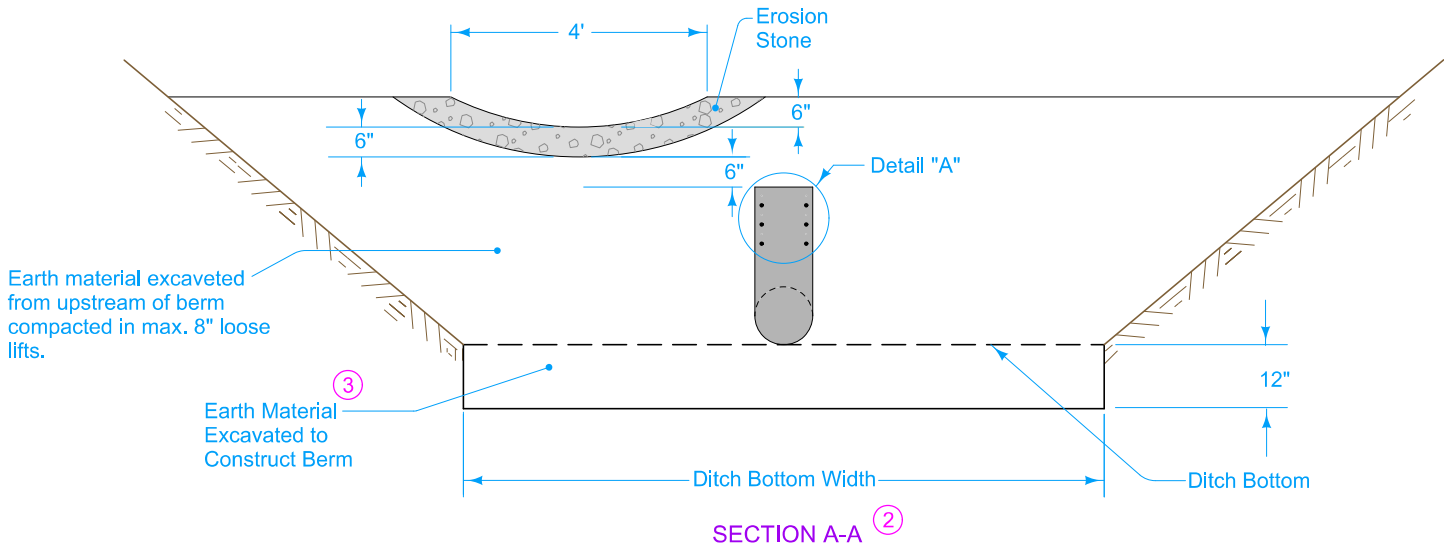
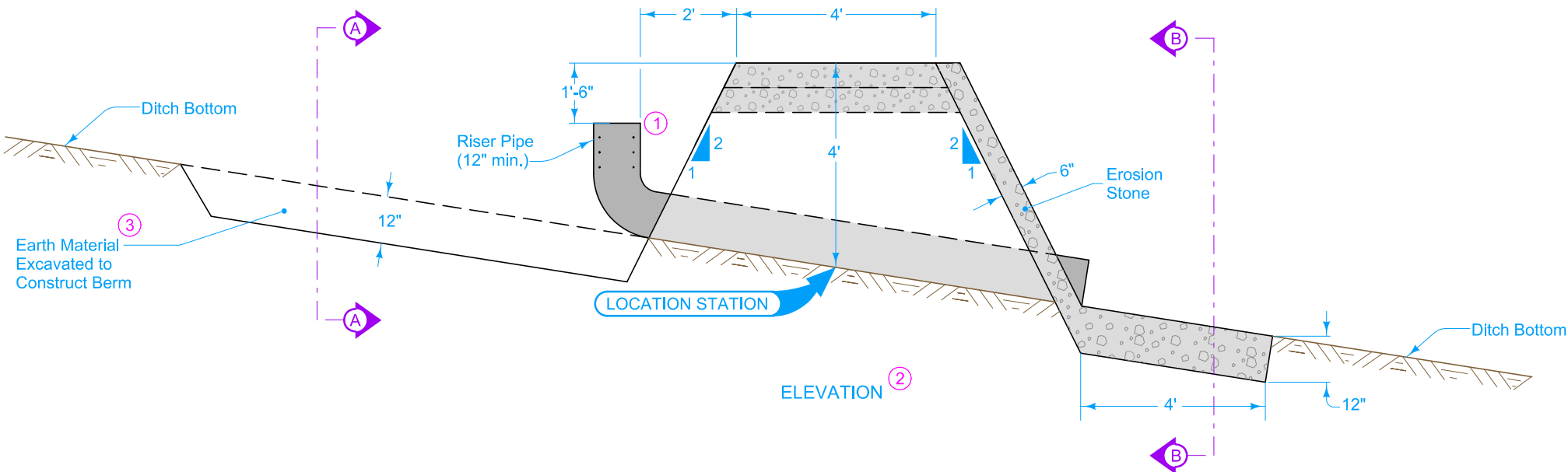
Use steel posts complying with Article 4154.09 of the Standard Specifications for staking. For trees 5 feet in height and less use posts 5 feet in length. For trees taller than 5 feet use posts 7 feet in length.



 <b>IOWA DOT</b>	REVISION	
	1	04-21-15
	<b>EC-501</b>	
<b>STANDARD ROAD PLAN</b>	SHEET 1 of 1	
REVISIONS:      Replaced DOT logo with new version.		
		
APPROVED BY DESIGN METHODS ENGINEER		
<b>TREES AND SHRUBS</b>		



 <b>IOWA DOT</b>	REVISION	
	New	04-21-15
	<b>EC-502</b>	
	SHEET 1 of 1	
<b>STANDARD ROAD PLAN</b>		
REVISIONS:      New.		
		
APPROVED BY DESIGN METHODS ENGINEER		
<b>SEEDING IN RURAL AREAS</b>		


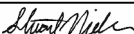


- ① Ensure Riser Pipe remains vertical.
- ② Dimensions shown are minimums.
- ③ When Temporary Sediment Control Basin is removed, if basin has not silted in to designed ditch grade, use topsoil to bring up to designed ditch grade.

Possible Contract Items:  
Temporary Sediment Control Basin  
Maintenance of Temporary Sediment Control Basin  
Removal of Temporary Sediment Control Basin

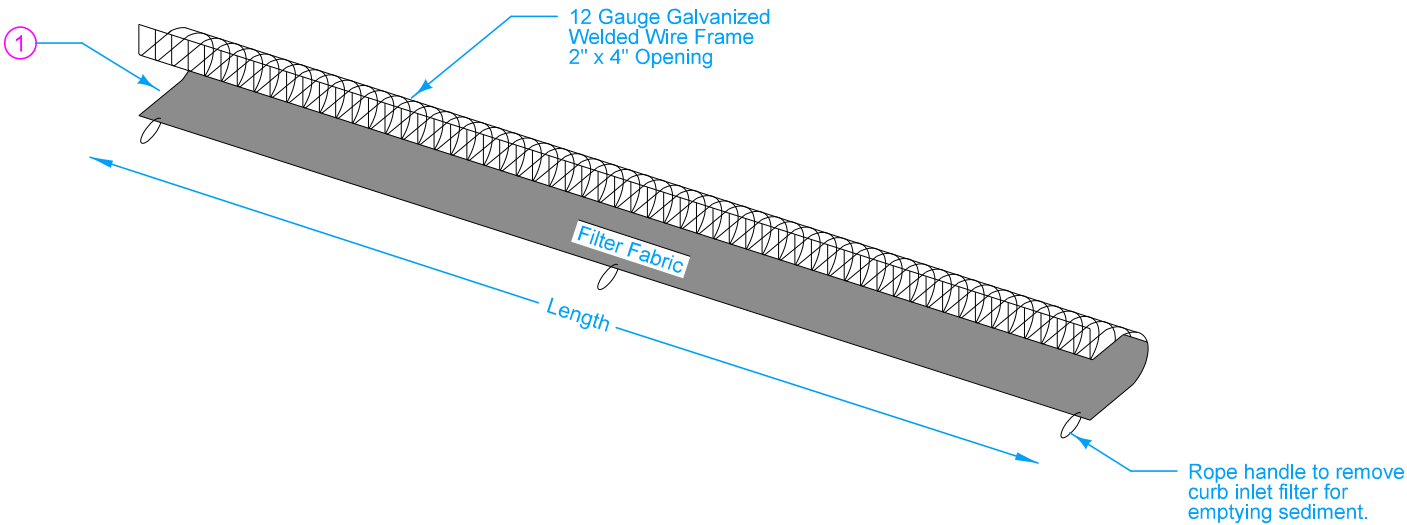
Incidental to Temporary Sediment Control Basin:  
Erosion Stone  
Pipe  
Excavated Earth Material

Possible Tabulation:  
100-33

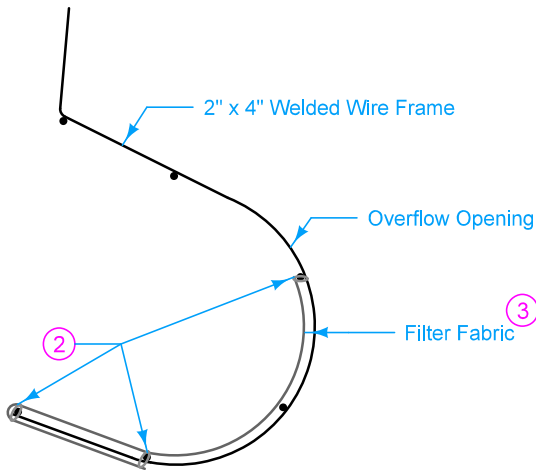
 <b>IOWA DOT</b>	REVISION	
	New	10-16-18
	<b>EC-601</b>	
<b>STANDARD ROAD PLAN</b>	SHEET 1 of 1	
REVISIONS: New, Replaces Design Detail 570-3		
		
APPROVED BY DESIGN METHODS ENGINEER		
<b>TEMPORARY SEDIMENT CONTROL BASIN</b>		

Remove sediment filter upon stabilization of sediment sources.

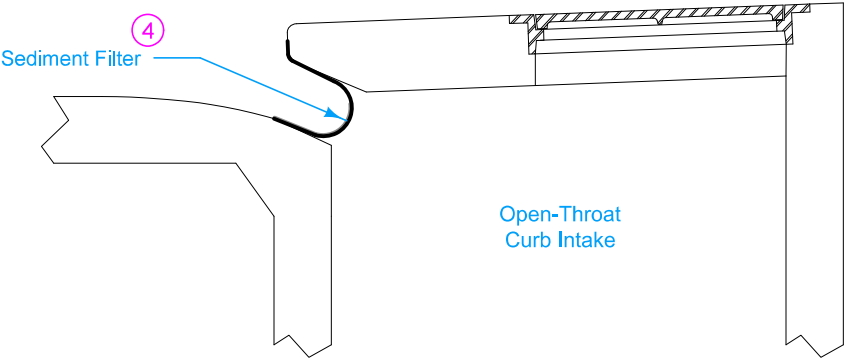
- 1 Trim frame as needed to tightly fit in the intake throat. Overlap fabric a minimum of 3 inches and securely fasten.
- 2 Securely attach filter fabric to the wire frame leaving an overflow opening above the filter fabric.
- 3 Woven material meeting the requirements of Table 4196.01-1 of the Standard 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.



OPEN-THROAT CURB INTAKE SEDIMENT FILTER





SEDIMENT FILTER CROSS SECTION

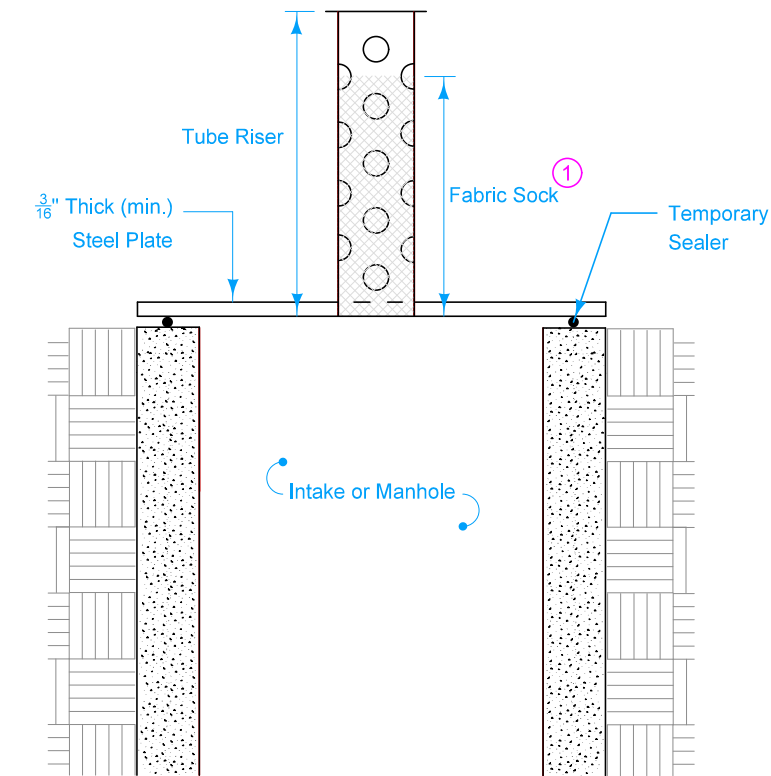


SEDIMENT FILTER PLACEMENT

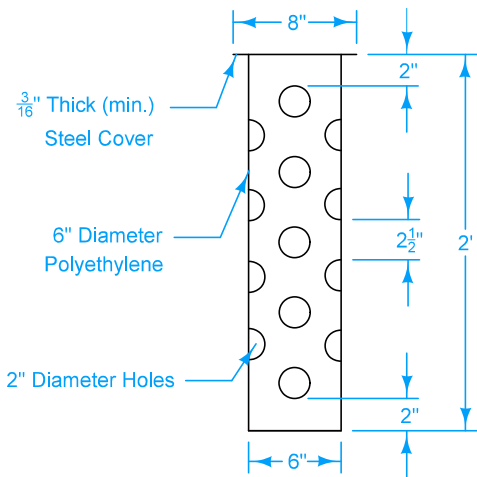
Possible Contract Items:  
Open-throat Curb Intake Sediment Filter  
Maintenance of Open-throat Curb Intake Sediment Filter  
Removal of Open-throat Curb Intake Sediment Filter

Possible Tabulation:  
100-36

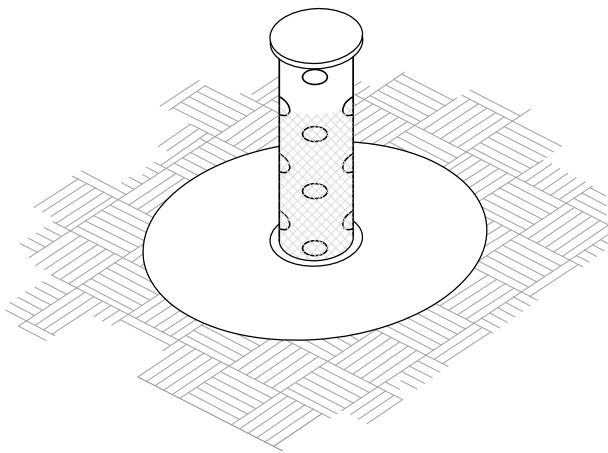
 <b>IOWA DOT</b>	REVISION	
	1	10-21-20
	<b>EC-602</b>	
<b>STANDARD ROAD PLAN</b>	SHEET 1 of 1	
REVISIONS:      Modified circle note 4.		
		
APPROVED BY DESIGN METHODS ENGINEER		
<div><b>OPEN-THROAT CURB INTAKE</b> <b>SEDIMENT FILTER</b></div>		



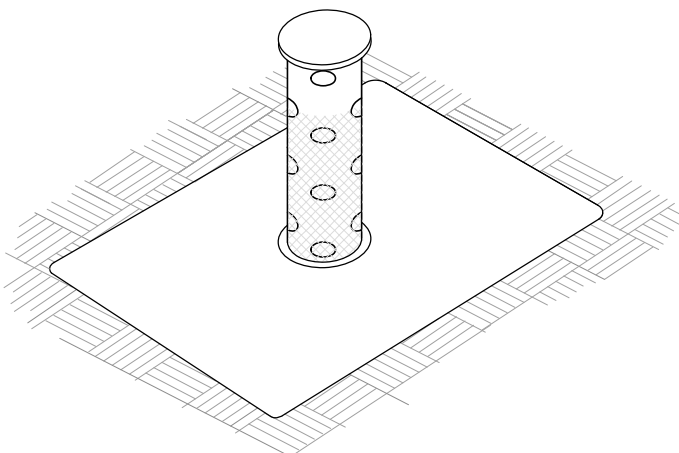
SECTION VIEW



TUBE RISER

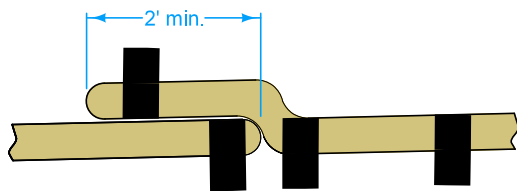
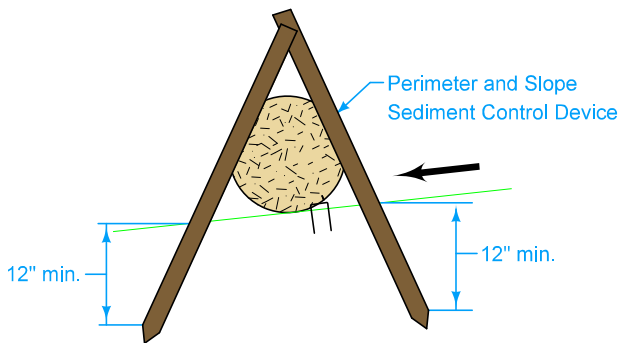
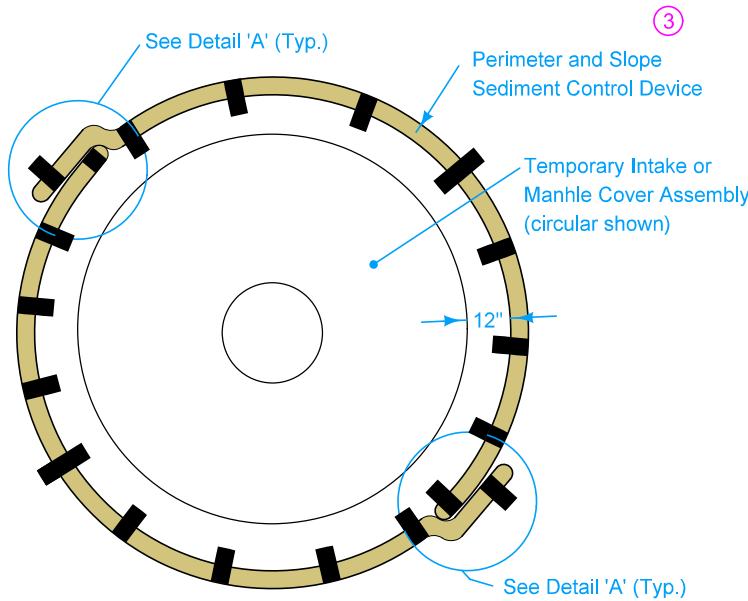


ISOMETRIC VIEW  
(Circular)



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 occurrence. Payment is full compensation for inspecting fabric sock and replacing when flow capacity has been reduced to 50%.

Method of Measurement 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
REVISIONS: New. Replaces Detail 570-5.		SHEET 1 of 1

APPROVED BY DESIGN METHODS ENGINEER

EROSION CONTROL FOR INTAKE  
OR MANHOLE WELL



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 clamping 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.

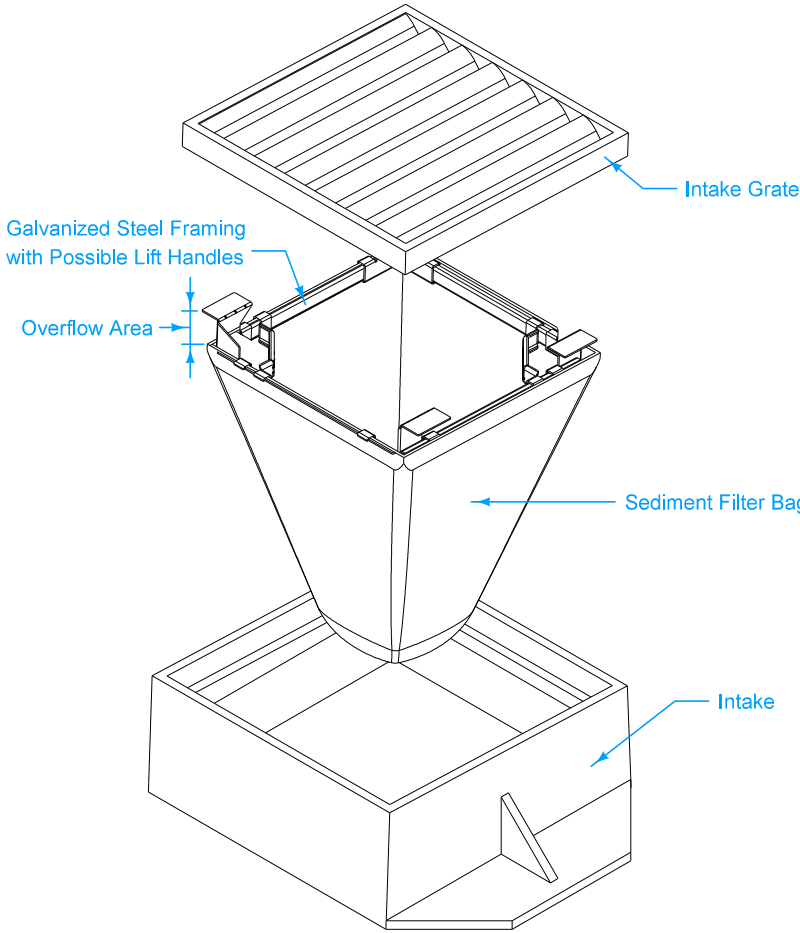
Basis of Payment for Maintenance of Grate Intake Sediment Filter Bag will be at the contract unit price for each occurence. Payment is full compensation for clean out and disposal of material when capacity reaches 50%, and for any other repair needed during the project.

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

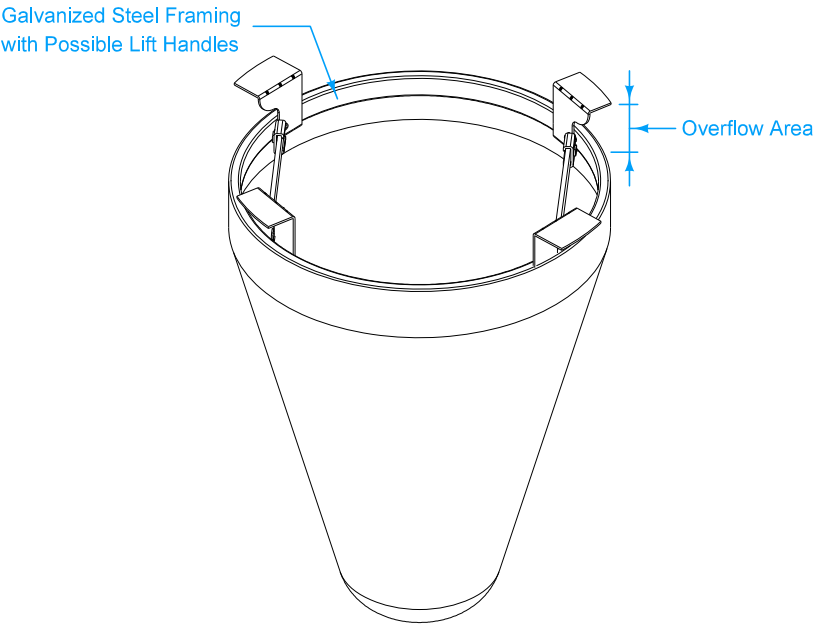
Basis of Payment for Removal of Grate Intake Sediment Filter Bag will be at the contract unit price for each device removed. Payment is full compensation for all labor and equipment required for removal.

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

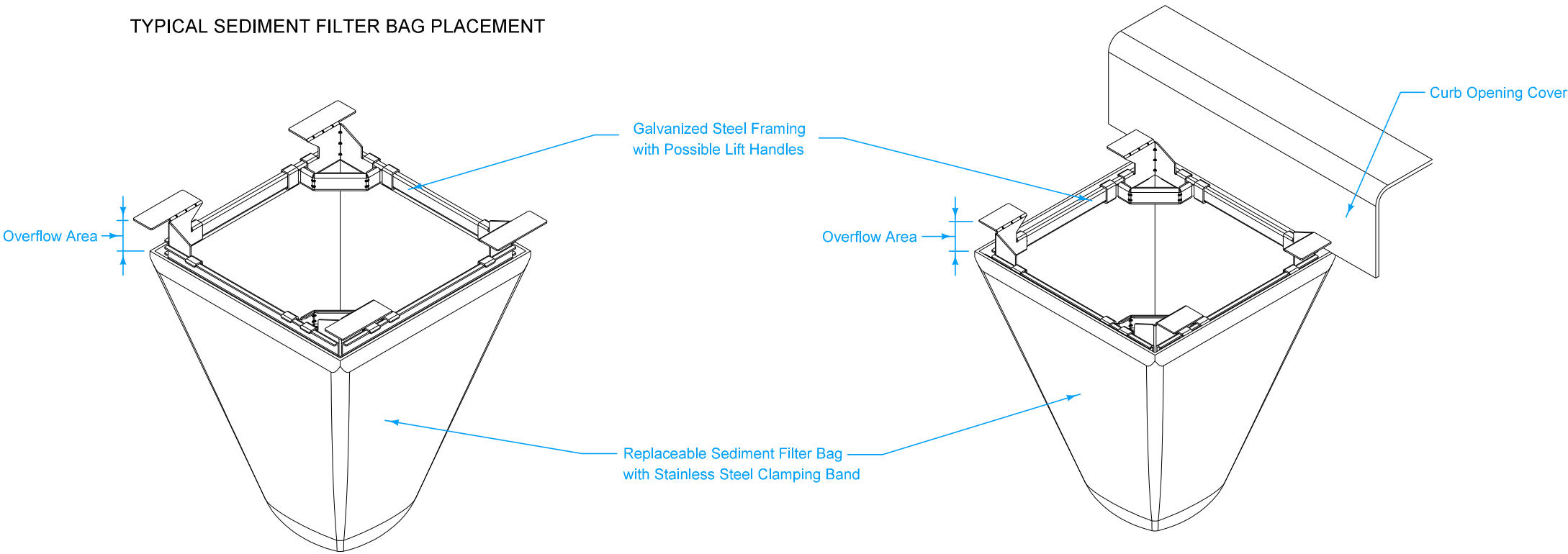
Possible Tabulation:  
100-37



TYPICAL SEDIMENT FILTER BAG PLACEMENT



SEDIMENT FILTER BAG FOR CIRCULAR GRATE



SEDIMENT FILTER BAG FOR SQUARE OR RECTANGULAR GRATE

SEDIMENT FILTER BAG FOR COMBINATION GRATE WITH CURB OPENING

IOWA DOT	REVISION	
	New	10-17-23
STANDARD ROAD PLAN		EC-604
REVISIONS: New. Replaces Detail 570-7.		SHEET 1 of 1

APPROVED BY DESIGN METHODS ENGINEER

GRATE INTAKE  
SEDIMENT FILTER BAG