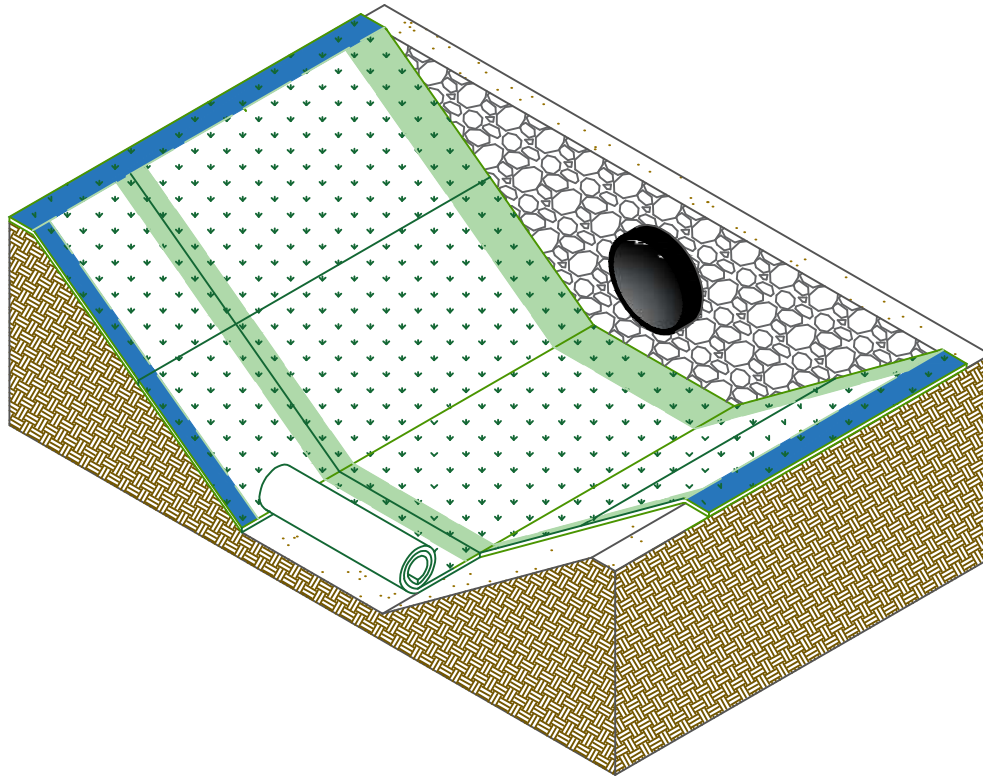
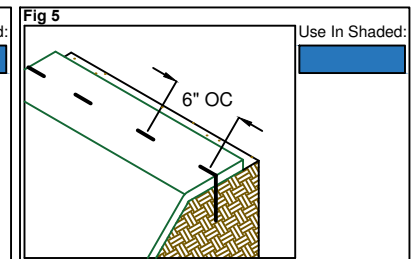
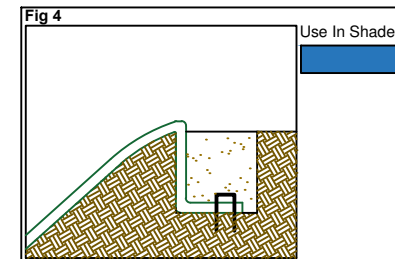
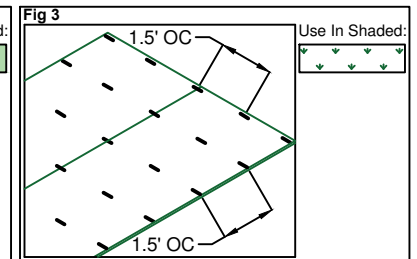
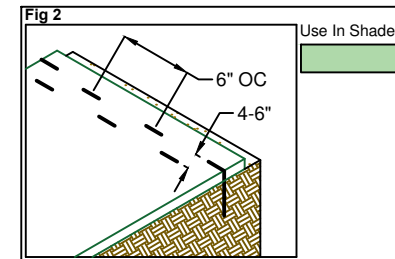
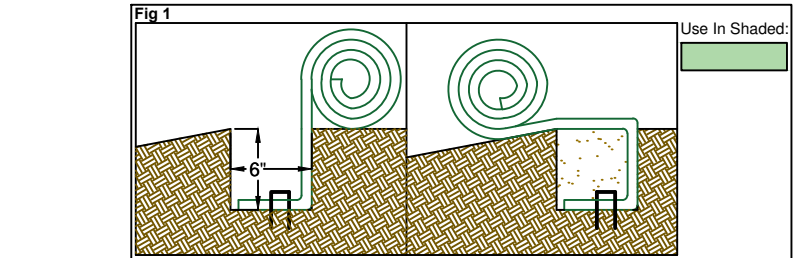


# ShearForce10 ECTRM Installation Guide for Channels, Downchutes, and Spillways (Not To Scale)



ShearForce10 Recommended Anchors		
Soil Type	*Minimum Anchor	Alternate Anchors
Cohesive, well compacted or undisturbed	8"x2"x8" wire U-staple	18" Fabric Pin, 8" Plastic Stake
Cohesive, loose	12"x2"x12" wire U-staple	18" Fabric Pin, 12" Plastic Stake
Non-Cohesive, well compacted or undisturbed	12"x2"x12" wire U-staple	24" Fabric Pin, 12" Plastic Stake
Non-Cohesive, loose	18"x2"x18", 3/8" Rebar U-staple	36" Percussion Earth Anchor



## Installation Guidelines

- Select appropriate anchors for matting based on soil type and consistency (See Recommended Anchors Table).**
- Prepare seedbed,** create a smooth soil surface and eliminate any existing rills, soil clods, sticks or rocks larger than 2-inches in diameter.
- Apply seed, fertilizer,** and other amendments at the specified rates, either by broadcasting, drilling, or hydro-seeding.
- Position and anchor leading edge of mats at in-flow end of channel** with one of the following acceptable methods:
  - 6-inch Covered Anchor Trench (Figure 1)**  
Construct a 6-inch wide by 6-inch deep anchor trench across the top width of the channel. Position the leading edge of the mat in the bottom of the trench, with the topside (simulated turf surface) facing down. Make sure mat roll is properly aligned with channel direction. Position any adjacent rolls according to Step 6, and anchor leading edges of all mats into bottom of trench on 1-foot centers. Backfill trench, compact soil and apply additional seed to compacted soil surface. Unroll material over compacted anchor trench (Fig 1).
  - Double Row Anchor Check (Figure 2)**  
Where trenching is not practical or desired, an anchor check may be used to secure the leading edge of the mats. Position the leading edge of the mats with the topside (simulated turf surface) facing up, ensuring that the mat rolls are properly aligned with channel direction. Position any adjacent rolls according to Step 6. Secure leading edges of mats with a row of anchors spaced 6-inches apart, with a second staggered row of anchors spaced 6-inches apart, approximately 4-6-inches behind the first row. (Fig 2).
- Anchor mat body. (Figure 3)** Unroll material down channel surface, slightly stretch and relax mat to remove any wrinkles. Let unrolled mats rest in sunlight for a minimum of 15 minutes to normalize surface temperature before anchoring. Fasten with anchors on 1.5-foot centers according to Fig 3. Use additional anchors as necessary to smooth any remaining wrinkles and ensure that mat is in intimate contact with underlying soil surface.
- Seam adjacent rolls. (Figure 3)** Butt roll edges together and anchor on 1.5-foot centers (Fig 3). A small gap of less than 1/2 -inch at the seam between rolls is acceptable and will not affect performance.
- Anchor mat edges at top of side-slopes** with one of two acceptable methods:
  - 6-inch Anchor Trench (Figure 4)**  
Construct a 6-inch wide by 6-inch deep anchor trench at the top or over the crest of each side-slope and fasten the full length edge of mats into the bottom, with anchors spaced 1-foot apart. Backfill trench, compact soil and apply additional seed to compacted soil surface (Fig 4).
  - Single Row Anchor Check (Figure 5)**  
Where trenching is not practical or desired, an anchor check may be used alternatively to secure the side-slope mat edges. Anchor side-slope edges of mats with a single row of anchors spaced 6-inches apart (Fig 5).
- Seaming consecutive roll ends.** Butt together (no overlap) consecutive roll ends and securely fasten leading edge of downslope rolls with a Double Row Anchor Check as described in Step 4.2 (see Fig 2).
- Terminal channel roll ends.** Anchor roll ends at the terminal outfall of channel by constructing a 6-inch Anchor Trench (Fig 4) or with a Single Row Anchor Check (Fig 5).

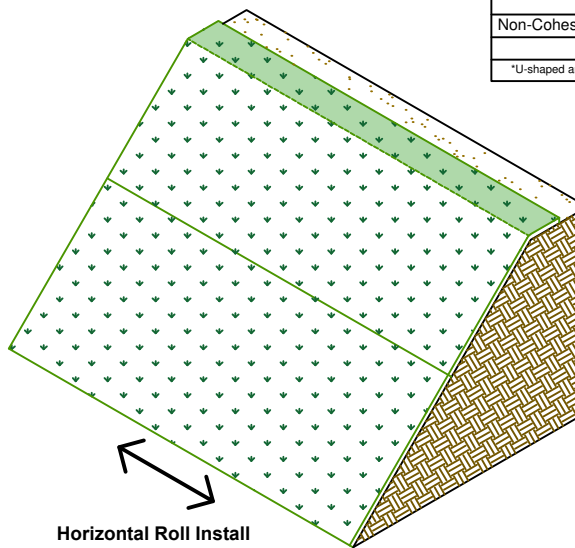
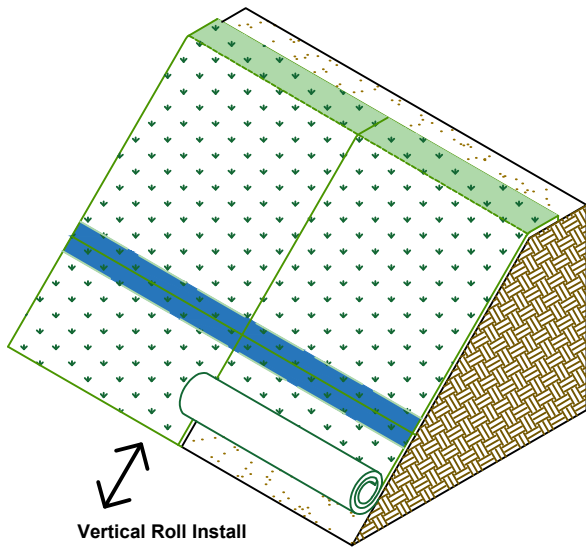
## Additional Tips for Fast & Effective Installation

- Install mat with simulated turf on top and fabric backing against soil surface.
- For best vegetative results, do not install on top of any additional erosion control blanket, TRM, or fabric.
- Continuous fabric contact with the underlying soil surface is very important for effective product performance. Unroll mat and let rest in sunlight for a minimum of 15 minutes to normalize surface temperature before anchoring the mat body. Work out any wrinkles in the material before anchoring. If wrinkles remain, additional anchors may be necessary to ensure good fabric-to-soil contact.
- In channel bends or reaches that are not straight, miter cut roll joints to prevent wrinkles in material.
- Use a heavy-duty utility knife or commercial-grade shears to cut material as necessary.
- When seaming cut roll ends or edges, DO NOT OVERLAP. Simply butt together cut ends or edges and seam together with a single row of anchors, spaced 6-inches apart.

**Effective Date: AUG 2019**

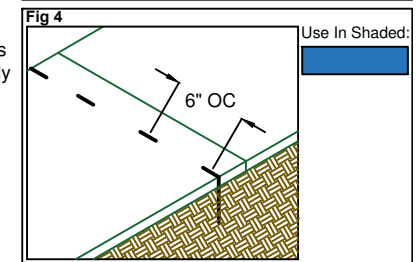
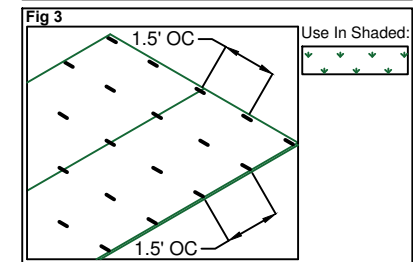
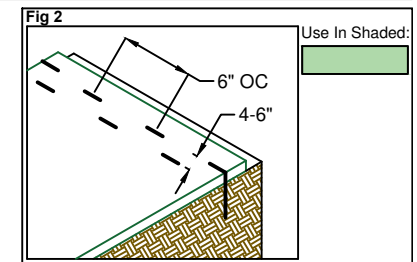
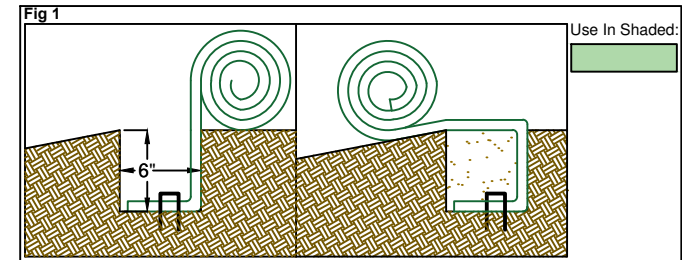
# ShearForce10 ECTRM Installation Guide for Slopes

(Not To Scale)



ShearForce10 Recommended Anchors		
Soil Type	*Minimum Anchor	Alternate Anchors
Cohesive, well compacted or undisturbed	8"x2"x8" wire U-staple	18" Fabric Pin, 8" Plastic Stake
Cohesive, loose	12"x2"x12" wire U-staple	18" Fabric Pin, 12" Plastic Stake
Non-Cohesive, well compacted or undisturbed	12"x2"x12" wire U-staple	24" Fabric Pin, 12" Plastic Stake
Non-Cohesive, loose	18"x2"x18", 3/8" Rebar U-staple	36" Percussion Earth Anchor

\*U-shaped anchors are recommended as they can be shared between adjacent rolls when seaming, reducing total anchors needed during installation.



## Installation Guidelines

### 1. Select appropriate anchors for matting based on soil type and consistency (See Recommended Anchors Table).

### 2. Prepare seedbed.

Prepare a smooth seedbed on the soil surface and eliminate any existing rills, soil clods, sticks or rocks larger than 2-inches in diameter.

### 3. Apply seed and fertilizer.

Apply seed, fertilizer and other amendments at the specified rates, either by broadcasting, drilling or hydro-seeding.

### 4. Position and anchor leading edge of mats at the top of, or over the shoulder of the slope with one of the following acceptable methods:

#### 4.1. 6-inch Covered Anchor Trench (Figure 1)

Construct a 6-inch deep anchor trench across the top width of the slope. Position the leading edge of the mat (or side edge for horizontal installations) in the bottom of the trench, with the topside (simulated turf surface) facing down. Make sure mat roll is properly aligned with slope direction. Position any adjacent rolls according to Step 6, and anchor edges of all mats into bottom of trench on 1-foot centers. Backfill trench, compact soil and apply additional seed to compacted soil surface. Unroll material over compacted anchor trench (Fig 1).

#### 4.2. Double Row Anchor Check (Figure 2)

Where trenching is not practical or desired, an anchor check mat be used alternatively to secure the leading edge of the mats. Position the leading edge of the mats (or side edges for horizontal installations) with the topside (simulated turf surface) facing up, ensuring that mat rolls are properly aligned with slope direction. Position any adjacent rolls according to Step 6. Secure leading edges of mats with a row of anchors spaced 6-inches apart, with a second staggered row of anchors spaced 6-inches apart, approximately 4 - 6-inches behind the first row (Fig 2).

### 5. Anchor mat body. (Figure 3)

Unroll material down (vertically) or across (horizontally) the slope face, slightly stretch and relax mat to remove any wrinkles. Let unrolled mats rest in sunlight for a minimum of 15 minutes to normalize surface temperature before anchoring. Fasten with anchors on 1.5-foot centers, according to Fig 3. Use additional anchors as necessary to smooth any remaining wrinkles and ensure that mat is in intimate contact with the underlying soil surface.

### 6. Seam adjacent rolls. (Figure 3)

Butt roll edges together and anchor on 1.5-foot centers (Fig 3). A small gap of less than 1/2-inch at the seam between rolls is acceptable and will not affect performance.

### 7. Seam consecutive roll ends (vertical roll installations only). (Figure 4)

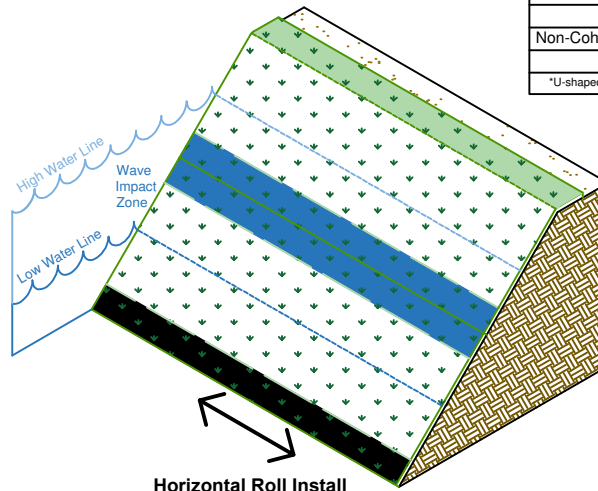
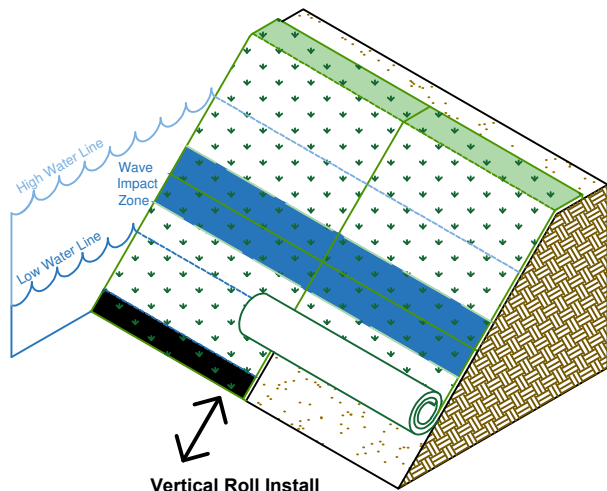
Butt together (no overlap) consecutive roll ends and securely fasten leading edge of downslope rolls with a Single Row Anchor Check, by installing a single row of anchors spaced 6-inches apart across the mat width (Fig 4).

## Additional Tips for Fast & Effective Installation

- Install mat with simulated turf on top and fabric backing against soil surface.
- For best vegetative results, do not install on top of any additional erosion control blanket, TRM, or fabric.
- Continuous fabric contact with the underlying soil surface is very important for effective product performance. Unroll mat and let rest in sunlight for a minimum of 15 minutes to normalize surface temperature before anchoring the mat body. Work out any wrinkles in material before anchoring. If there are areas where some wrinkles remain, additional anchors may be necessary to ensure good fabric-to-soil contact.
- In bends or reaches that are not straight, miter cut roll joints to prevent wrinkles in material.
- Use a heavy duty utility knife or commercial-grade shears to cut material as necessary.
- When seaming cut roll ends or edges, DO NOT OVERLAP. Simply butt together cut ends or edges and seam together with a single row of anchors spaced 6-inches apart.

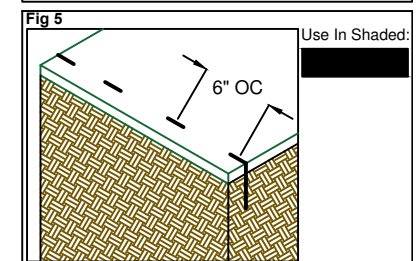
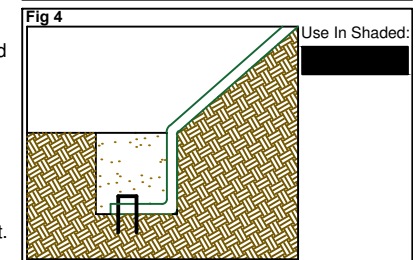
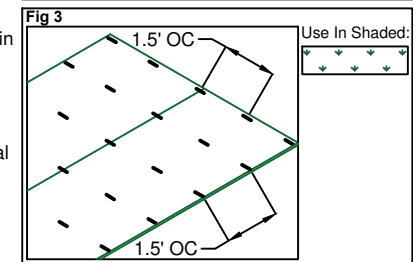
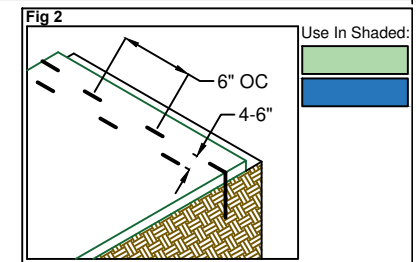
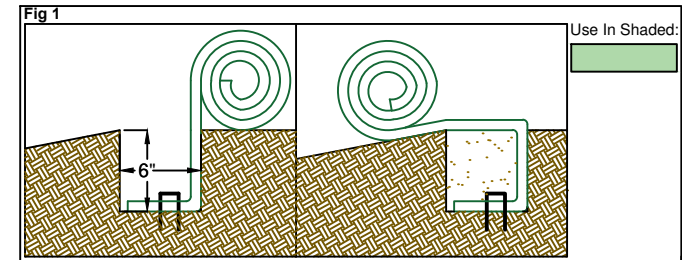
Effective Date: AUG 2019

# ShearForce10 ECTRM Installation Guide for Shorelines (Not To Scale)



ShearForce10 Recommended Anchors		
Soil Type	*Minimum Anchor	Alternate Anchors
Cohesive, well compacted or undisturbed	8"x2"x8" wire U-staple	18" Fabric Pin, 8" Plastic Stake
Cohesive, loose	12"x2"x12" wire U-staple	18" Fabric Pin, 12" Plastic Stake
Non-Cohesive, well compacted or undisturbed	12"x2"x12" wire U-staple	24" Fabric Pin, 12" Plastic Stake
Non-Cohesive, loose	18"x2"x18", 3/8" Rebar U-staple	36" Percussion Earth Anchor

\*U-shaped anchors are recommended as they can be shared between adjacent rolls when seaming, reducing total anchors needed during installation.



## Installation Guidelines

- Select appropriate anchors for matting based on soil type and consistency (See Recommended Anchors table).**
- Prepare seedbed**, create a smooth soil surface and eliminate any existing rills, soil clods, sticks or rocks larger than 2-inches in diameter.
- Apply seed and fertilizer**, and other amendments at the specified rates, either by broadcasting, drilling or hydro-seeding.
- Position and anchor leading edge of mats at the top of, or over the shoulder of shoreline slope** with one of the following acceptable methods:
  - 6-inch Covered Anchor Trench (Figure 1)**  
Construct a 6-inch wide by 6-inch deep anchor trench across the top width of the shoreline slope. Position the side edge of the mat (or leading edge for vertical installations) in the bottom of the trench, with the topside (simulated turf surface) facing down. Make sure mat roll is properly aligned with shoreline direction. Position any adjacent rolls according to Step 6, and anchor edges of all mats into bottom of trench on 1-foot centers. Backfill trench, compact soil and apply additional seed to compacted soil surface. Unroll material over compacted anchor trench (Fig 1).
  - Double Row Anchor Check (Figure 2)**  
Where trenching is not practical or desired, an anchor check may be used to secure the leading edge of the mats. Position side edge of the mats (or leading edges for vertical installations) with the topside (simulated turf surface) facing up, ensuring that mat rolls are properly aligned with shoreline direction. Position any adjacent rolls according to Step 6. Secure side, or leading edges, of mats with a row of anchors spaced 6-inches apart, with a staggered second row of anchors spaced 6-inches apart, approx. 4 to 6-inches behind the first row.
- Anchor mat body (Figure 3)**, unroll material across (horizontally) or down (vertically) the shoreline slope face, slightly stretch and relax mat to remove any wrinkles. Let unrolled mats rest in sunlight for a minimum of 15 minutes to normalize surface temperature before anchoring. Starting from the anchored end or edge, fasten with anchors on 1.5-foot centers according to Figure 3. Use additional anchors as necessary to smooth any remaining wrinkles and ensure that mat is in intimate contact with underlying soil surface.
- Seam adjacent rolls (Figure 3)**, by butting roll edges together and anchor on 1.5-foot centers (Fig 3). A small gap of less than 1/2 inch at the seam between rolls is acceptable and will not affect performance.
- Anchor roll edges (horizontal install) or roll ends (vertical install) directly in the wave impact zone** with a Double Row Anchor Check (see Figure 2).
- Anchor terminal roll edges or ends at, or below, low waterline** with one of the following acceptable methods:
  - 6-inch Anchor Trench (Figure 4)**  
Construct a 6-inch wide by 6-inch deep anchor trench and fasten edge of mats into the bottom with anchors spaced 1-foot apart. Backfill trench, compact soil and apply additional seed (if desired) to compacted soil surface. (Figure 4)
  - Single Row Anchor Check (Figure 5)**  
Where trenching is not practical or desired, an anchor check mat be used to secure the mat edges. Secure edges of mats with a single row of anchors spaced 6-inches apart. (Figure 5)

## Additional Tips for Fast & Effective Installation

- Install mat with simulated turf on top and fabric backing against soil surface.
- For best vegetative results, do not install on top of any additional erosion control blanket, TRM, or fabric.
- Continuous fabric contact with the underlying soil surface is very important for effective product performance. Unroll mat and let rest in sunlight for a minimum of 15 minutes to normalize surface temperature before anchoring the mat body. Work out any wrinkles in the material before anchoring. If wrinkles remain, additional anchors may be necessary to ensure good fabric-to-soil contact.
- In bends or reaches that are not straight, miter cut roll joints to prevent wrinkles in material.
- Use a heavy-duty utility knife or commercial-grade shears to cut material as necessary.
- When seaming cut roll ends or edges, **DO NOT OVERLAP**. Simply butt together cut ends or edges and seam together with a single row of anchors, spaced 6-inches apart.

**Effective Date: AUG 2019**