

DEFINITIONS

RESHAPING OF THE EXISTING TOPOGRAPHY IN ACCORDANCE WITH A PLAN AS DETERMINED BY ENGINEERING SURVEYS, DESIGN AND LAYOUT

PURPOSE

LAND GRADING IS USED FOR ONE OR MORE OF THE FOLLOWING PURPOSES: PROVIDE MORE SUITABLE SITES FOR BUILDING, FACILITIES, AND OTHER LAND USES; IMPROVE SURFACE DRAINAGE AND CONTROL EROSION.

DESIGN CRITERIA

THE LAND GRADING PLAN AND INSTALLATION SHALL BE BASED UPON ADEQUATE SURVEYS AND INVESTIGATIONS. THE PROPOSED LAND USE AND GRADING PLAN SHOULD FIT AND UTILIZE EXISTING TOPOGRAPHY AND NATURAL SURROUNDINGS AND MAKE EXTREME GRADE MODIFICATIONS UNNECESSARY. THE PLAN IS TO SHOW THE LOCATION, SLOPE, CUT, FILL AND FINISH ELEVATION OF THE SURFACES TO BE GRADED AND THE AUXILIARY PRACTICES FOR SAFE DISPOSAL OF RUNOFF WATER, SLOPE STABILIZATION, EROSION CONTROL, AND DRAINAGE SUCH AS WATERWAYS, LINED CHANNELS, DIVERSIONS, GRADE STABILIZATION STRUCTURES, RETAINING WALLS, AND SURFACE AND SUBSURFACE DRAINS.

THE GRADING PLAN SHALL BE IN ACCORDANCE WITH THE FOLLOWING DESIGN CRITERIA:

1. THE CUT FACE OF EARTH EXCAVATION WHICH IS TO BE VEGETATED SHALL NOT BE STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL. CUT SLOPES OF MATERIALS NOT TO BE VEGETATED SHALL BE AT THE SAFE ANGLE OF REPOSE FOR THE MATERIALS ENCOUNTERED.

STANDARD FOR LAND GRADING

1. UNVEGETATED CUT SLOPES SHALL BE PROTECTED BY MECHANICAL TREATMENT TO PROTECT THEM FROM EROSION.
2. THE PERMANENT EXPOSED FACES OF FILLS SHALL BE NO STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL.
3. PROVISIONS ARE TO BE MADE TO SAFELY CONDUCT SURFACE WATER TO STORM DRAINS OR SUITABLE NATURAL WATER COURSES AND TO PREVENT SURFACE RUNOFF FROM DAMAGING CUT FACES AND FILL SLOPES.
4. SUBSURFACE DRAINAGE IS TO BE PROVIDED IN AREAS HAVING HIGH WATER TABLE OR SEEPAGE CONDITIONS THAT WOULD AFFECT SLOPE STABILITY, BUILDING FOUNDATIONS, OR CREATE UNDESIRABLE WETNESS.
5. EXCAVATIONS SHALL NOT BE MADE SO CLOSE TO PROPERTY LINES AS TO ENDANGER ADJOINING PROPERTY WITHOUT SUPPORTING AND PROTECTING SUCH PROPERTY FROM EROSION, SLIDING, SETTLING OR CRACKING.
6. NO FILL IS TO BE PLACED WHERE IT WILL SLIDE OR WASH UPON THE PREMISES OF ANOTHER OR SO PLACED ADJACENT TO THE BANK OF A CHANNEL AS TO CREATE BANK FAILURE OR REDUCE THE NATURAL CAPACITY OF THE STREAM.
7. FILLS ARE TO CONSIST OF MATERIAL FROM CUT AREAS, BORROW PITS, OR OTHER APPROVED SOURCES.

GENERAL NOTES

1. TIMBER, LOGS BRUSH, RUBBISH, AND VEGETATIVE MATTER THAT WILL INTERFERE WITH THE GRADING OPERATION OR AFFECT THE PLANNED STABILITY OF FILL AREAS SHALL BE REMOVED AND DISPOSED OF ACCORDING TO THE PLAN. AVOID UNNECESSARY REMOVAL OF TREES AND VEGETATION THAT COULD BE LEFT TO ENHANCE THE ATTRACTIVENESS OF THE DEVELOPMENT.
2. TOP SOIL IS TO BE STRIPPED AND STOCKPILED IN AMOUNTS NECESSARY TO COMPLETE FINISH GRADING OF ALL EXPOSED AREAS REQUIRING TOPSOIL FOR THE ESTABLISHMENT OF VEGETATION.
3. FILL MATERIAL IS TO BE FREE OF BRUSH, RUBBISH, ROCKS, LOGS AND STUMPS IN AMOUNTS THAT WILL BE DESTRUCTURAL TO CONSTRUCTING STABLE FILLS.
4. CUT SLOPES WHICH ARE TO BE TOPSOILED WILL BE SCARIFIED TO A MINIMUM DEPTH OF 3 INCHES PRIOR TO PLACEMENT OF TOPSOIL.
5. ALL FILLS INTENDED TO SUPPORT BUILDINGS, STRUCTURES, SEWERS AND CONDUITS SHOULD BE TESTED FOR STRENGTH AND THE FOUNDATIONS DESIGNED ACCORDINGLY. COMPACTION OF OTHER FILLS WILL BE AS REQUIRED TO REDUCE SLIPPING, EROSION, OR EXCESS SATURATION.
6. MAXIMUM THICKNESS OF LAYERS OF FILLS ARE NOT TO EXCEED 8 INCHES.
7. ALL AREAS ARE TO BE ROUGH GRADED TO WITHIN 0.2 FOOT OF THE PLANNED ELEVATION AFTER ALLOWANCE HAS BEEN MADE FOR THICKNESS OF TOPSOIL, PAVING OR OTHER INSTALLATIONS.
8. ALL DISTURBED AREAS SHALL BE LEFT IN A WELL DRAINED, NEAT AND FINISHED APPEARANCE.

STANDARD FOR SILT FENCE

DEFINITION

TEMPORARY BARRIER FENCE MADE OF BURLAP OR POLYPROPYLENE MATERIAL WHICH IS WATER PERMEABLE BUT WILL TRAP WATER-BORNE SEDIMENT.

PURPOSE

TO INTERCEPT AND DETAIN WATER-BORNE SEDIMENT FROM UNPROTECTED AREA OF LIMITED EXTENT.

CONDITIONS WHERE PRACTICE APPLIES

SILT FENCE IS USED DURING THE PERIOD OF CONSTRUCTION NEAR THE PERIMETER OF A DISTURBED AREA TO INTERCEPT SEDIMENT WHILE ALLOWING WATER TO PERCOLATE THROUGH. THIS FENCE SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED. SILT FENCE SHOULD NOT BE USED WHERE THERE IS A CONCENTRATION OF WATER IN A CHANNEL OR OTHER DRAINAGE WAY.

DESIGN CRITERIA

SILT FENCE SHALL NOT BE CONSTRUCTED OUTSIDE THE PROPERTY LINES WITHOUT OBTAINING EASEMENTS FROM THE AFFECTED PROPERTY OWNERS. A DESIGN IS NOT REQUIRED FOR THE INSTALLATION OF SILT FENCE, HOWEVER THE FOLLOWING CRITERIA SHALL BE OBSERVED:

- DRAINAGE AREA - LESS THAN 2 ACRES
- HEIGHT - 36 INCH MINIMUM HEIGHT MEASURED FROM THE EXISTING OR GRADED GROUND.
- MATERIAL - BURLAP WEIGHING APPROXIMATELY 7-1/2 OUNCES PER SQUARE YARD OR APPROVED JUTE FABRIC OR GEOTEXTILE FABRIC.
- SUPPORT - STEEL OR WOOD FENCE POSTS SPACED A MAXIMUM OF 8 FEET APART. POST SHALL HAVE A MINIMUM LENGTH OF 5 FEET AND BE SET AT LEAST 18 INCHES DEEP. WOVEN LIVESTOCK WIRE TO SUPPORT THE MATERIAL SHALL BE AT LEAST 36 INCH HIGH WITH A MAXIMUM MESH OPENING OF 6 INCHES AND FABRICATED FROM 14 GAGE WIRE OR LARGER.

OUTLET

SILT FENCE SHALL BE PLACED AND CONSTRUCTED IN SUCH A MANNER THAT RUNOFF FROM A DISTURBED OR EXPOSED UPLAND AREA SHALL BE INTERCEPTED, SEDIMENT TRAPPED AND THE SURFACE RUNOFF ALLOWED TO PERCOLATE THROUGH THE STRUCTURE.

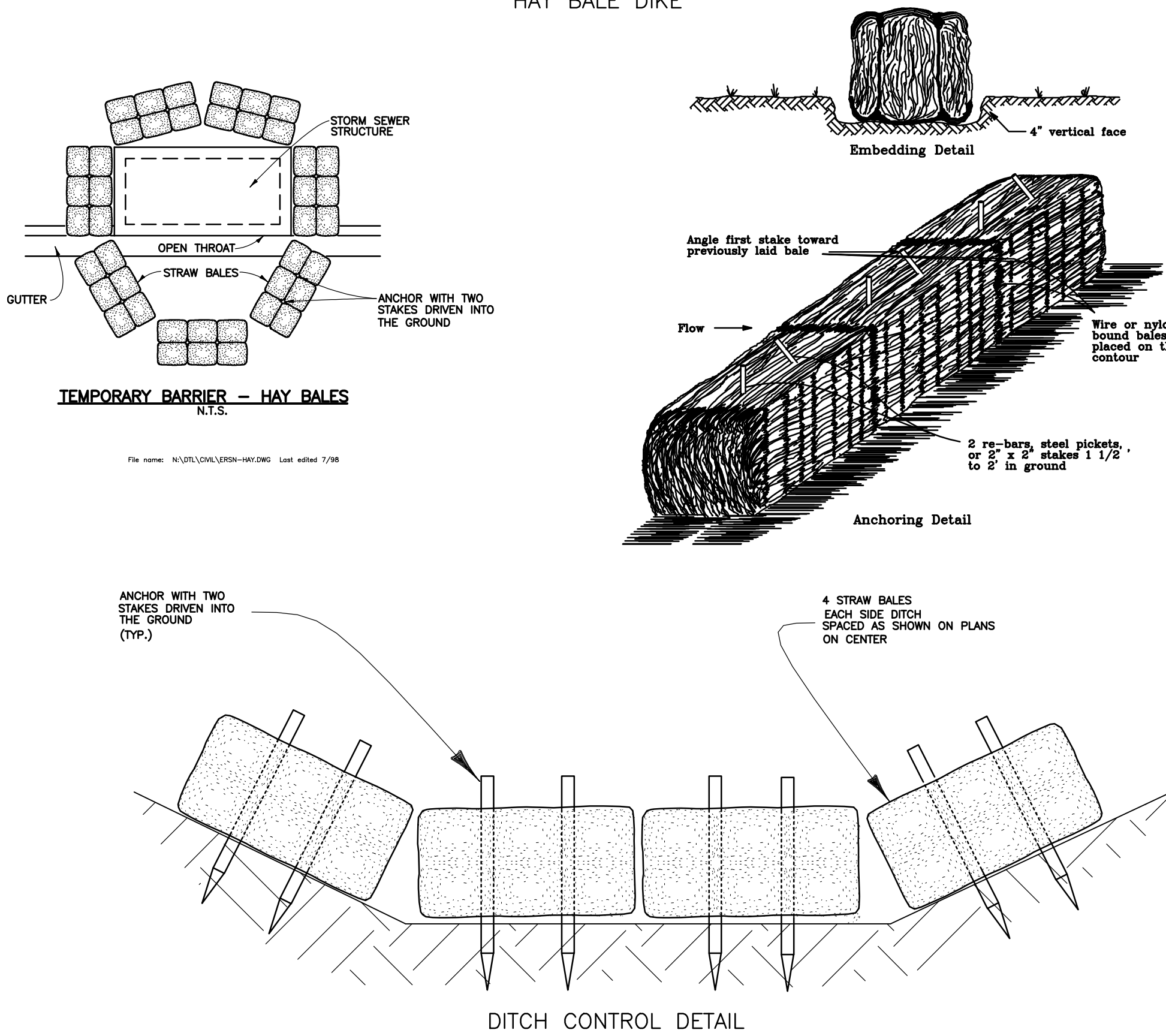
SILT FENCE SHALL BE PLACED IN SUCH A MANNER THAT SURFACE RUNOFF WHICH PERCOLATES THROUGH WILL FLOW ONTO AN UNDISTURBED STABILIZED AREA OR STABILIZED OUTLET. IF PLACED IN SERIES, THE FURTHERST DOWNSTREAM FENCE WILL FLOW ONTO AN UNDISTURBED STABILIZED AREA OR STABILIZED OUTLET.

GENERAL NOTES

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.
3. THE TRENCH SHOULD BE A MINIMUM OF 6 INCHES DEEP AND 3-4 FEET WIDE TO ALLOW FOR THE SILT FENCE TO BE LAD IN THE GROUND AND BACKFILLED.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POSTS.
5. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN IT HAS SERVED ITS USEFULNESS, SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE. *
7. SEDIMENT TRAPPED BY THIS PRACTICE SHALL BE DISPOSED OF IN AN APPROVED SITE IN A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.
8. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES AND DISPOSED OF IN AN APPROVED SPOIL SITE OR AS IN NO. 7 ABOVE.

* TO BE REMOVED BY CONTRACTOR WHEN PERMANENT EROSION MEASURES ARE DEEMED TO BE EFFECTIVE.

HAY BALE DIKE



STANDARDS FOR HAY BALE DIKE

DEFINITION

A TEMPORARY BARRIER CONSTRUCTED WITH HAY BALES WITH A LIFE EXPECTANCY OF 3 MONTHS OR LESS, INSTALLED ACROSS OR AT THE TOE OF A SLOPE.

PURPOSE

A PURPOSE OF A HAY BALE DIKE IS TO INTERCEPT AND DETAIN SMALL AMOUNTS OF SEDIMENT FROM UNPROTECTED AREAS OF LIMITED EXTENT.

CONDITIONS WHERE PRACTICE APPLIES

THE HAY BALE DIKE IS USED WHERE:

1. NO OTHER PRACTICE IS FEASIBLE, AND
2. THERE IS NO CONCENTRATION OF WATER IN A CHANNEL OR OTHER DRAINAGE WAY ABOVE THE BARRIER AND
3. EROSION WOULD OCCUR IN THE FORM OF SHEET AND RILL EROSION, AND
4. CONTRIBUTING DRAINAGE AREA IS LESS THAN ONE-HALF ACRE AND THE LENGTH OF SLOPE ABOVE THE DIKE AND LESS THAN 100 FEET. THE PRACTICE MAY ALSO BE USED FOR ALONE, SINGLE FAMILY LOT IF THE SLOPE IS LESS THAN 15 PERCENT. THE CONTRIBUTING DRAINAGE AREA IN THIS INSTANCE SHALL BE LESS THAN 1 ACRE AND THE LENGTH OF SLOPE ABOVE THE DIKE SHALL BE LESS THAN 200 FEET.

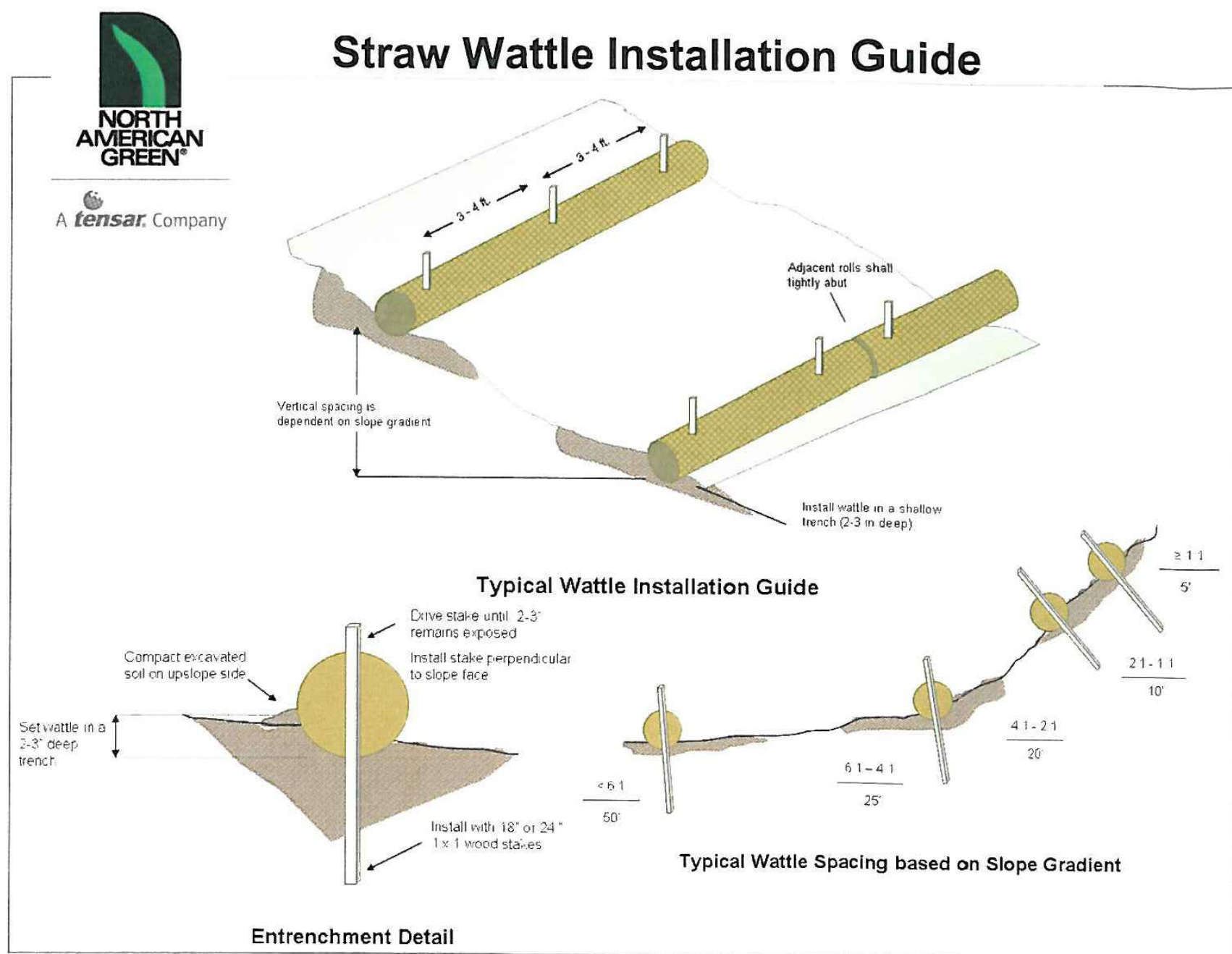
DESIGN CRITERIA

A DESIGN IS NOT REQUIRED. ALL BALES SHALL BE PLACED ON THE CONTOUR AND SHALL BE EITHER WIRE BOUND OR NYLON STRING TIED. SEE STANDARD DRAWING FOR HAY BALE DIKE FOR DETAILS.

GENERAL NOTES

1. BALES SHALL BE PLACED IN A ROW WITH END TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL. A MINIMUM OF FOUR INCHES, WHERE POSSIBLE.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR REBARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BAIL TOGETHER.
4. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED BY CONTRACTOR.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE. *
6. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES.

Straw Wattle Installation Guide



1. BEGIN AT THE LOCATION WHERE THE WATTLE IS TO BE INSTALLED BY EXCAVATING A 2-3" (5-7.5 CM) DEEP X 9" (22.9 CM) WIDE TRENCH ALONG THE CONTOUR OF THE SLOPE. EXCAVATED SOIL SHOULD BE PLACED UP-SLOPE FROM THE ANCHOR TRENCH.
2. PLACE THE WATTLE IN THE TRENCH SO THAT IT CONTOURS TO THE SOIL SURFACE. COMPACT SOIL FROM THE EXCAVATED TRENCH AGAINST THE WATTLE ON THE UPHILL SIDE. ADJACENT WATTLES SHOULD TIGHTLY ABUT.
3. SECURE THE WATTLE WITH 18-24" (45.7-61 CM) STAKES EVERY 3-4' (0.9 - 1.2 M) AND WITH A STAKE ON EACH END. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE WATTLE LEAVING AT LEAST 2-3" (5-7.5 CM) OF STAKE EXTENDING ABOVE THE WATTLE. STAKES SHOULD BE DRIVEN PERPENDICULAR TO SLOPE FACE.

North American Green Straw Wattles are a Best Management Practice (BMP) that offers an effective and economical alternative to silt fence and straw bales for sediment control and storm water runoff.

Guidelines are provided to assist in design, installation, and structure spacing. The guidelines may require modification due to variation in soil type, rainfall intensity or duration, and amount of runoff affecting the application site.

To maximize sediment containment with the Straw Wattle, place the initial structure at the top/crest of the slope if significant runoff is expected from above. If no runoff from above is expected, the initial Straw Wattle can be installed at the appropriate distance downhill from the top/crest of the slope. The final structure should be installed at or just beyond the bottom/toe of the slope. Wattles should be installed perpendicular to the primary direction of overland flow.

Straw Wattles are a temporary sediment control device and are not intended to replace rolled erosion control products (RECPs) or hydraulic erosion control products (HECPs). If vegetation is desired for permanent erosion control, North American Green recommends that RECPs or HECPs be used to provide effective immediate erosion control until vegetation is established. Straw Wattles may be used in conjunction with blankets, mats, and mulches as supplemental sediment and runoff control for these applications. Like all sediment control devices, the effectiveness of the Straw Wattle is dependent on storage capacity.

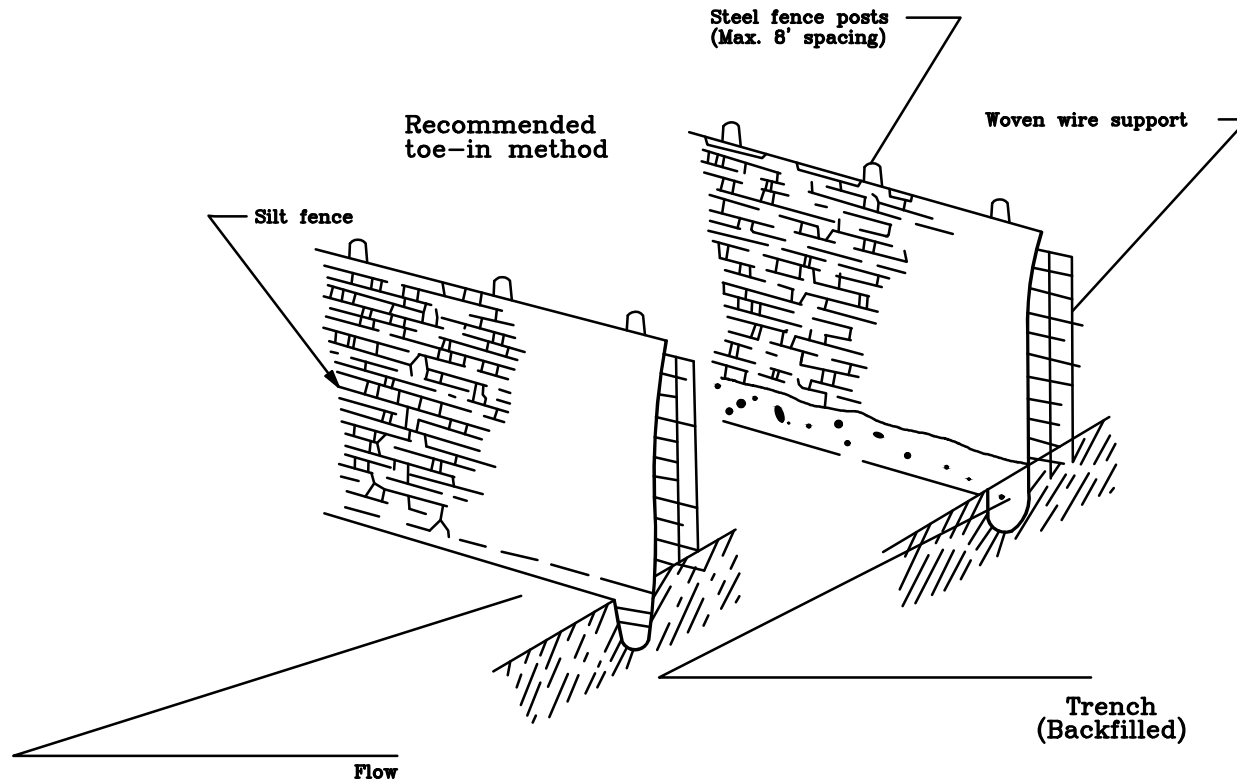
For additional installation assistance, please contact North American Green's Technical Services Department at 1-800-772-2040

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WATTLE ALTERNATIVE

SILT FENCE



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DRAWING REVISIONS

No.	Description	Date

DRAWN BY: ADF

CHECKED BY: MWS

SHEET

C4.02

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		ENGINEER: MARK W. SNOW, P.E. LICENSE NO. 24203	DATE: NOV 2025 PROJECT NO.: 24-0059 FILE NAME: DESCRIPTION: EROSION CONTROL DETAILS
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