

EROSION CONTROL AND WATER DIVERSION

1. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED BY THE CONTRACTOR PRIOR TO THE ADVANCEMENT OF ANY WORK AT THE SITE. THE CONTRACTOR SHALL TAKE SPECIAL CARE TO ENSURE THAT NO SEDIMENTS ENTER THE STREAM DURING CONSTRUCTION.

2. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL TEMPORARY EROSION CONTROL MEASURES AT THE COMPLETION OF THE PROJECT.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING TEMPORARY RIVER DIVERSION IN ORDER TO ACCOMPLISH THE INSTALLATION OF THE BRIDGE ABUTMENTS AND WING WALLS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL REQUIRED PERMITS PRIOR TO COMMENCING WORK. UPON COMPLETION OF THE WORK THE CONTRACTOR SHALL REMOVE ALL

MATERIALS USED FOR DIVERSION AND RETURN THE STREAM BED TO ITS ORIGINAL CONDITION.

TEMPORARY EROSION AND SEDIMENT CONTROL

1. THE SMALLEST PRACTICAL AREA OF LAND SHALL BE DISTURBED AT ANY GIVEN TIME DURING CONSTRUCTION. WHEN LAND IS DISTURBED, THE DISTURBANCE SHALL BE KEPT TO THE SHORTEST PRACTICABLE DURATION.

2. DUST SHALL BE CONTROLLED WITH WATER DISTRIBUTED VIA TRUCK MOUNTED SPRAY BAR.

3. SILT FENCE SHALL BE INSTALLED AS SHOWN ON THE EROSION CONTROL PLAN. SILT FENCE SHALL BE MIRAFI 100X OR EQUIVALENT AND SHALL BE KEPT INTO SOIL A MINIMUM OF 4 INCHES.

4. STOCKPILED SOIL MATERIALS (TOPSOIL, BORROW, ETC.) SHALL HAVE SILT FENCE CONSTRUCTED AROUND PERIMETER. THE STOCKPILE MATERIAL SHALL BE SEEDED AND MULCHED AS SOON AS PRACTICABLE AND BE LOCATED UPHILL OF DISTURBED AREAS WHERE POSSIBLE. DURING WINDY CONDITIONS, STOCKPILED MATERIAL SHALL BE COVERED OR WATERED APPROPRIATELY TO PREVENT WIND EROSION.

5. SLOPES GREATER THAN 3:1 SHALL HAVE EROSION CONTROL NETTING INSTALLED TO STABILIZE THE SLOPE AND REDUCE THE EROSION POTENTIAL. NETTING SHALL BE BIODEGRADABLE WITH 12 MONTH LONGEVITY (S150BN NORTH AMERICAN GREEN MULCH OR EQUIVALENT). PIN SETTING WITH WIRE STAPLES 3 FEET O.C. TO ENSURE FULL BONDING WITH THE SOIL SURFACE. SOIL SURFACE SHALL BE SLIGHTLY ROUGHENED AND NOT SMOOTH. IF LARGE AMOUNTS OF RUNOFF ARE ANTICIPATED OVER SLOPES, TEMPORARY DIVERSION SWALES SHALL BE INSTALLED UP SLOPE UNTIL SLOPE VEGETATION STABILIZES.

PERMANENT EROSION CONTROL

1. GRASS LINE SWALES SHALL BE LOAMED, SEEDED, FERTILIZED AND COVERED WITH BIODEGRADABLE EROSION MATTING. AREAS WHICH EXHIBIT SIGNS OF EROSION SHALL BE REPAIRED AND RE-SEEDED IMMEDIATELY AND MAINTAINED UNTIL PERMANENT VEGETATION HAS STABILIZED.

2. WHEN CONSTRUCTION IS COMPLETED IN AN AREA IT SHALL BE IMMEDIATELY LOAMED, SEEDED FERTILIZED AND MULCHED.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUED MAINTENANCE OF ALL DISTURBED AREAS, INCLUDING WATERING, UNTIL THE AREA IS INSPECTED BY THE OWNER OR ENGINEER AND FOUND TO BE STABILIZED.

4. AFTER THE SITE IS STABILIZED, REMOVE ALL TEMPORARY MEASURES AND INSTALL PERMANENT VEGETATION ON THE DISTURBED AREAS.

5. RE-SEEDING SHALL BE DONE UNTIL ALL AREAS ARE COMPLETELY COVERED WITH A MATURE STRAND OF GRASS. AN ARE SHALL BE CONSIDERED COVERED WHEN THE ENTIRE SURFACE CONTAINS A FRESH GROWTH OF GRASS. AREAS THAT, IN THE OPINION OF THE ENGINEER OR OWNER, ARE PREDOMINANTLY WEEDS SHALL BE PLOWED UP, FINE GRADED, FERTILIZED AND RE-SEEDED IN THE MANNER SPECIFIED PREVIOUSLY, EXERCISING CAUTION NOT TO DAMAGE NEW OR EXISTING PLANT MATERIAL.

6. CUT AND FILL SLOPES SHALL BE MAXIMUM OF 2 HORIZONTAL TO 1 VERTICAL EXCEPT IN AREAS OF ROCK EXCAVATION OR AREAS DESIGNATED ON THE PLANS FOR SPECIAL CONSTRUCTION. ROCK MAY BE EXCAVATED TO A MAXIMUM OF 1 HORIZONTAL TO 4 VERTICAL. ALL PERMANENT SLOPES SHALL BE LOAMED, FERTILIZED, SEEDED AND MULCHED AFTER THE AREA IS GRADED AND WITHIN THREE (3) DAYS OF BEING STRIPPED OR EXPOSED.

7. SURFACE AND SEEPAGE WATER SHALL BE DRAINED OR DIVERTED FROM THE SITE. STONES LARGER THAN 4 INCHES AND TRASH THAT WILL INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE ARE SHALL BE REMOVED.

8. A MINIMUM OF 2 TONS OF LIME PER ACRE AND 1,000 POUNDS OF 5-10-10 FERTILIZER PER ACRE SHALL BE WORKED INTO THE TOP 3 TO 4 INCHES OF SOIL IN ORDER TO PREPARE A REASONABLE FIRM AND SMOOTH SEED BED. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHENEVER PRACTICAL.

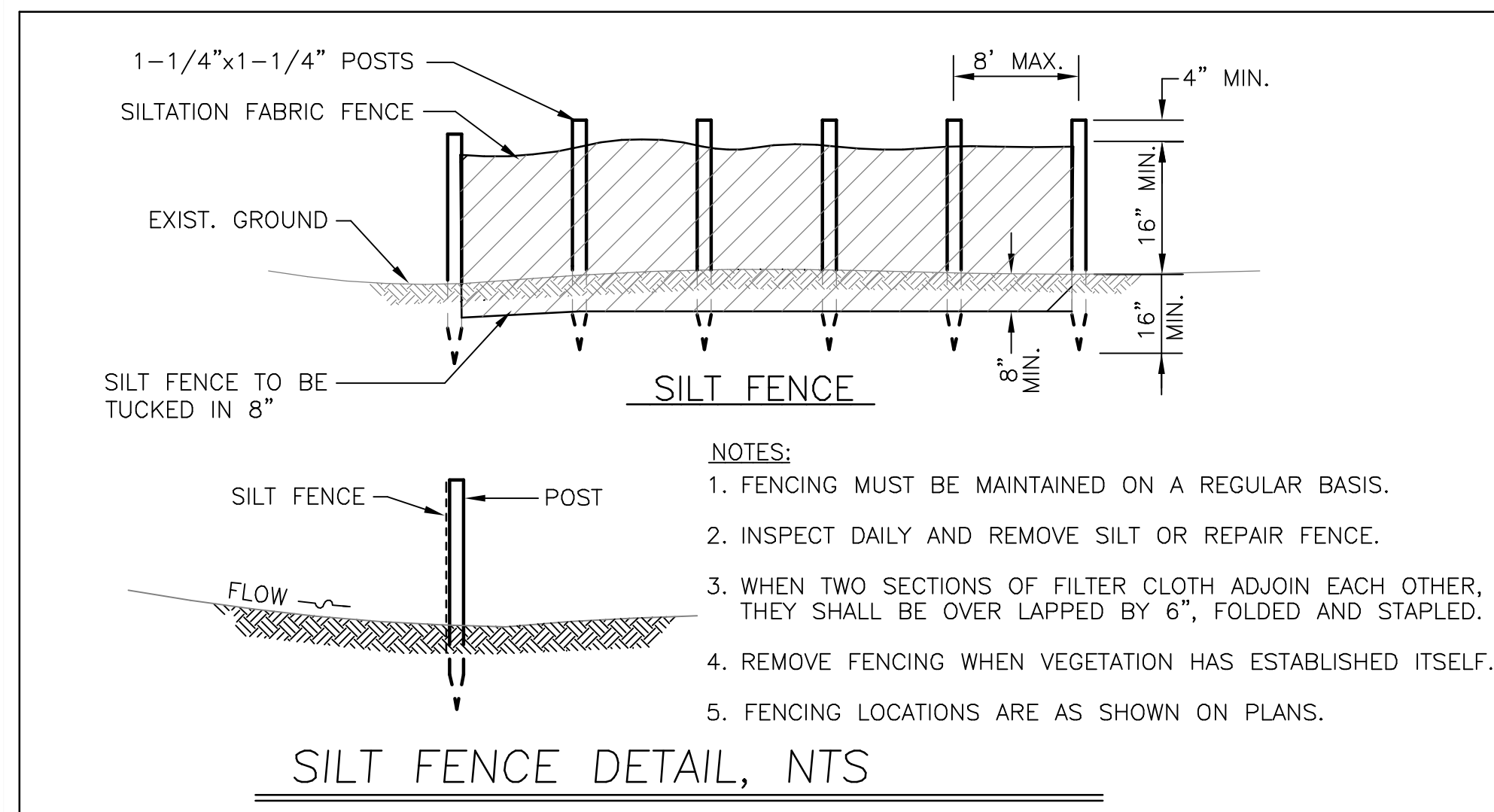
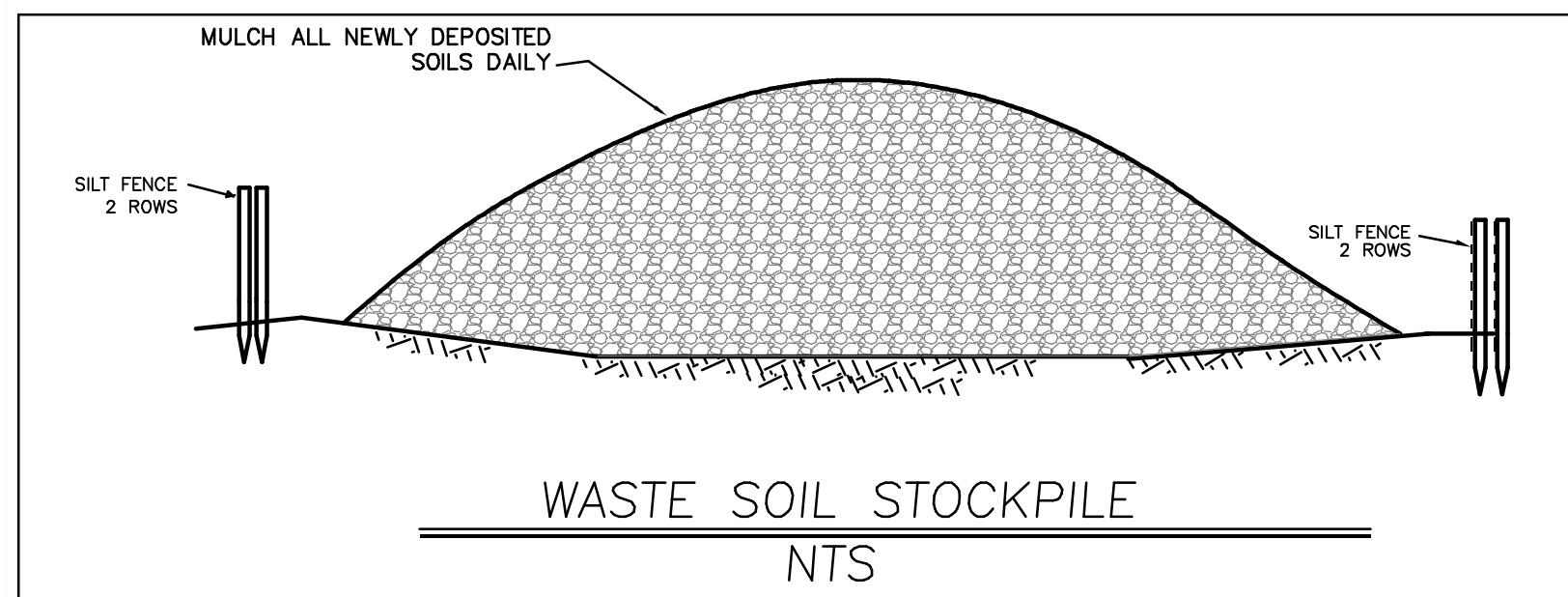
9. SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING AND HYDROSEEDING. WHEN BROADCASTING IS USED, COVER SEED WITH 1/4 INCH OF SOIL OR LESS WITH CULTIPACKING OR RAKING. REFER TO TABLE 1 FOR APPROPRIATE SEED MIXTURES AND TABLE 2 FOR RATES OF SEEDING. ALL LEGUMES (BIRD'S FOOT TREFLOIL) MUST BE INOCULATED WITH THEIR SPECIFIC INOCULANT.

11. WHERE POSSIBLE, CONSTRUCTION SHALL BE SCHEDULED SO THAT SEEDING CAN TAKE PLACE BETWEEN EARLY SPRING MAY 1 AND SEPTEMBER 1 SO THAT ALL SEEDED AREAS HAVE A VISIBLE GROWTH BY OCTOBER 1.

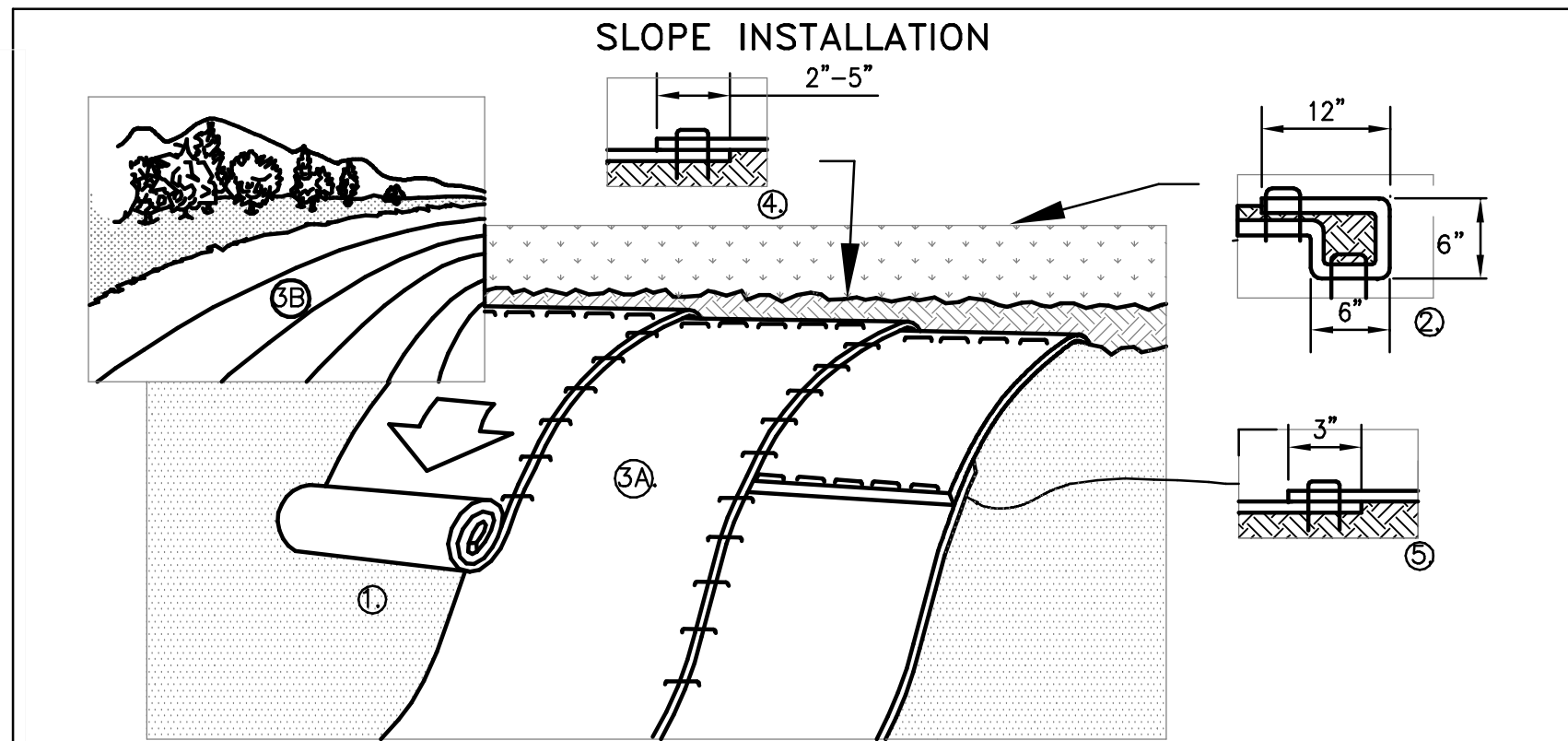
12. ALL SEEDED AREAS SHALL BE MULCHED IMMEDIATELY FOLLOWING THE SEEDING OPERATION. FROM THE FOLLOWING MULCH MATERIAL SHALL BE SELECTED BY THE ENGINEER AND APPLIED TO BEST MEET THE NEEDS OF THE SITE.

MIXTURE	Lb/ACRE	Lb/1,000 SQ. FT.
C. TALL FESCUE	20	0.45
CREeping RED FESCUE	20	0.45
BIRDS FOOT TREFLOIL	8	0.20
TOTAL	48	1.10
D. BIRD'S FOOT TREFLOIL	10	0.25
RED TOP	5	0.10
RED CANARY GRASS	15	0.35
TOTAL	30	0.70

MULCH MATERIALS AND RATES	REMARKS
HAY OR STRAW, 1 TO 1 1/2 TONS PER ACRE TO 90 LBS/ 1,000 SQ. FT.	CAN BE SPREAD BY HAND OR BY MACHINE. MUST BE DRY AND FREE OF MOLD. MAY BE USED WITH PLANTINGS OR FOR EROSION CONTROL ALONE. SUBJECT TO BLOWING AND SLIPPING ON STEEP SLOPES UNLESS ANCHORED.
JUTE AND FIBROUS MATS	USED AS MULCH ESPECIALLY IN AREAS OF CONCENTRATED FLOW. MUST BE CAREFULLY INSTALLED AND ANCHORED. DURABLE. CAN BE USED FOR EROSION CONTROL WITHOUT OTHER MULCHING MATERIALS. THE WATERWAY, CHANNEL OR AREA TO BE PROTECTED IS TO BE SHAPED TO REQUIRED SHAPE AND GRADED AND THOROUGHLY COMPACTED BEFORE SEEDED PREPARATION. ROCKS OR CLODS OVER 1 INCHES IN DIAMETER AND STICKS OR OTHER MATERIAL THAT WILL PREVENT CONTACT OF THE FIBER MATTING WITH THE SOIL SURFACE SHOULD BE REMOVED. AFTER SEEDING IS COMPLETED, MATTING SHOULD BE LAID IN DIRECTION OF FLOW AND APPLIED IN ACCORDANCE WITH INSTRUCTION IN EACH ROLL OF MATERIAL. AFTER MATTING IS INSTALLED A CULTIPACKER OR SUITABLE IMPLEMENT SHOULD BE ROLLED AT RIGHT ANGLES OVER THE ENTIRE AREA SO AS TO THOROUGHLY FUSE THE MATTING WITH THE SOIL SURFACE.
CRUSHED STONE, 1/2 TO 1 1/2 INCHES IN DIAMETER, SPREAD MORE THAN 1/2 INCH THICK.	EFFECTIVE IN CONTROLLING WIND AND WATER EROSION.



USE	SEEDING MIXTURE
STEEP CUTS AND FILLS	C
WATERWAYS & OTHER CHANNELS WITH FLOWING WATER	C,D



GENERAL NOTES:

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.

2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" (15cm) DEEP X 6" (15cm) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30cm) PORTION OF BLANKET OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30cm) APART ACROSS THE WIDTH OF THE BLANKET.

3. IN CHANNEL APPLICATIONS, ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. IN SLOPE APPLICATIONS, ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.

4. PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4"-6" (10cm-15cm) OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10cm) APART AND 4" (10cm) ON CENTER TO SECURE BLANKETS.

5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12"(30cm) APART IN A 6" (15cm) DEEP X 6" (15cm) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

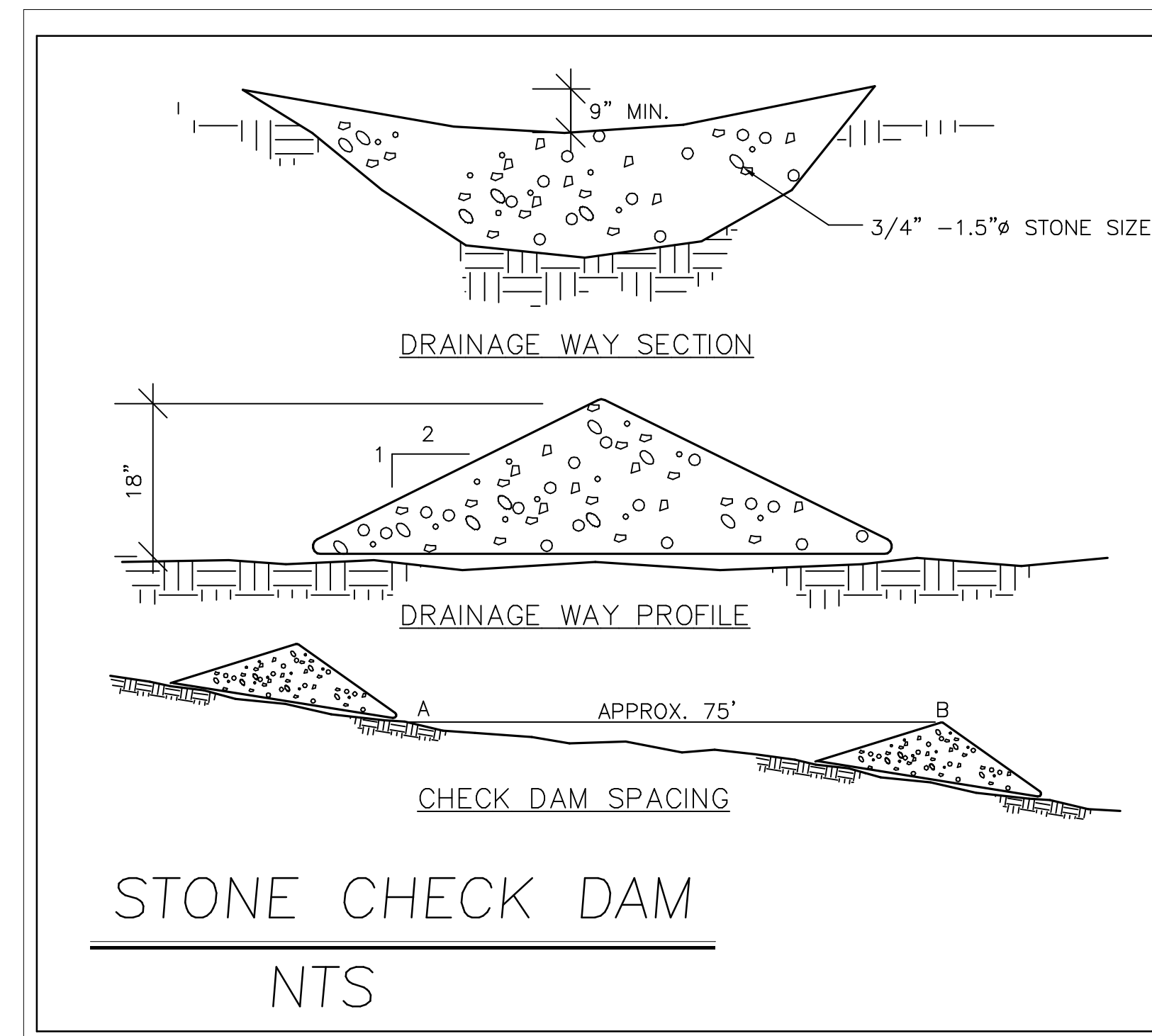
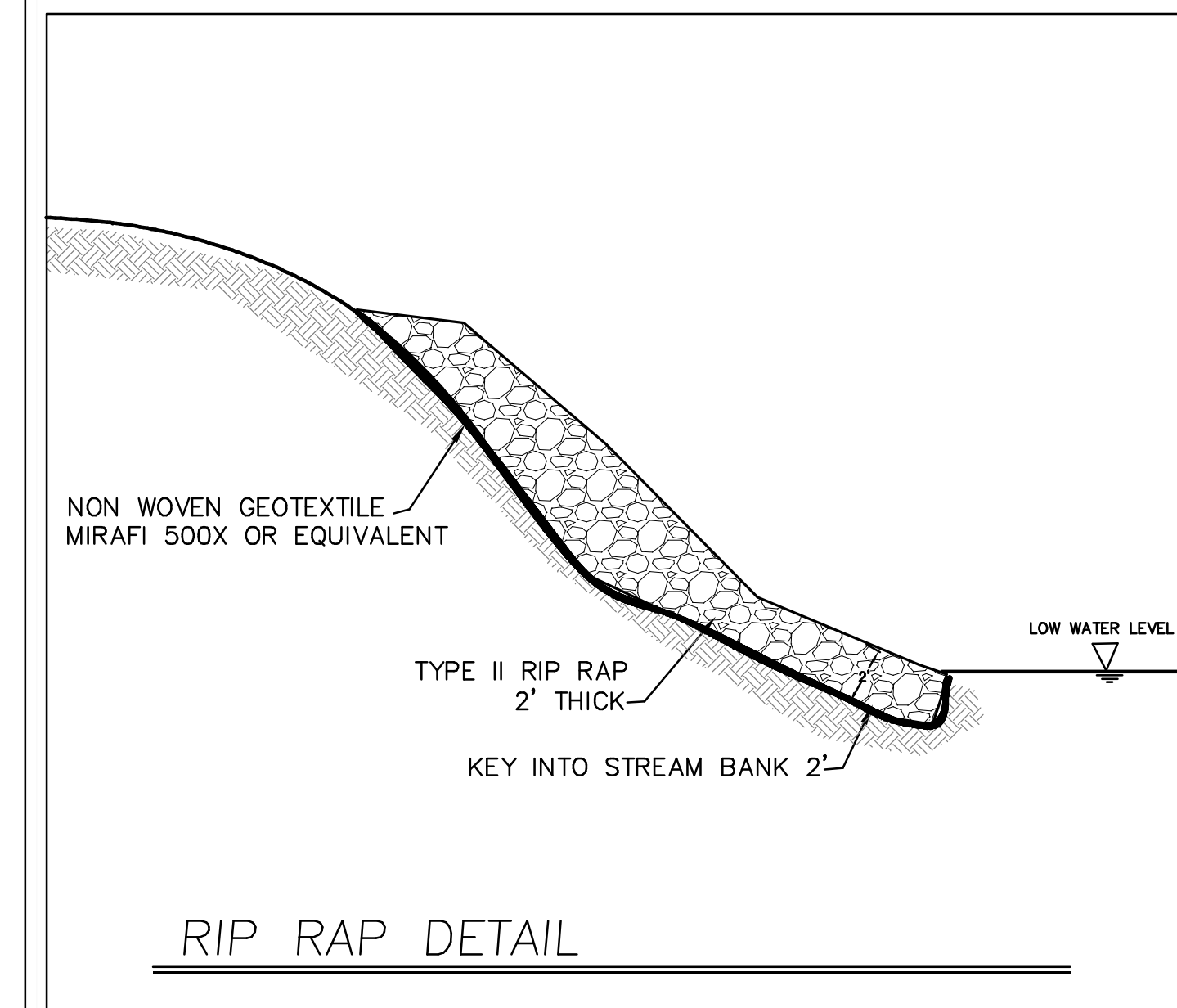
6. ADJACENT BLANKETS MUST BE OVERLAPPED APPROXIMATELY 2"-5" (5cm-12.5cm) (DEPENDING ON BLANKET TYPE) AND STAPLED. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE BLANKET BEING OVERLAPPED.

7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30' TO 40' (9m-12m) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10cm) APART AND 4" (10cm) ON CENTER OVER ENTIRE WIDTH OF CHANNEL.

8. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN A 6" (15cm) DEEP X 6" (15cm) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

9. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15cm) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

SOIL STABILIZATION BLANKET, NTS
(FOR SLOPES GREATER THAN 3:1)



NO.	DATE	REVISIONS:

OWNER:
TOWN OF DOVER
TAFT BROOK ROAD
CULVERT REPLACEMENT

SHEET TITLE:
EROSION CONTROL
DETAILS

SCALE:
AS NOTED

DATE:
JULY 31, 2018

SHEET
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