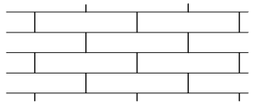
SOD MAINTENANCE AND INSTALLATION

SOD LAYOUT AND PREPARATION



LAY SOD IN A STAGGERED PATTERN. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER. DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.

BUTTING: ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED CORRECTLY.

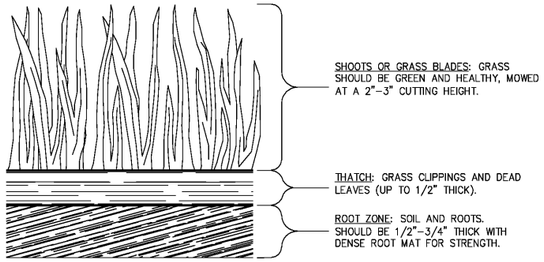
DIRECTIONS FOR INITIAL MAINTENANCE

Step 1. ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL

Step 2. WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID.

Step 3. MOW WHEN THE SOD IS ESTABLISHED -- IN 2-3 WEEKS. SET THE MOWER HIGH (2"-3").

APPEARANCE OF GOOD SOD



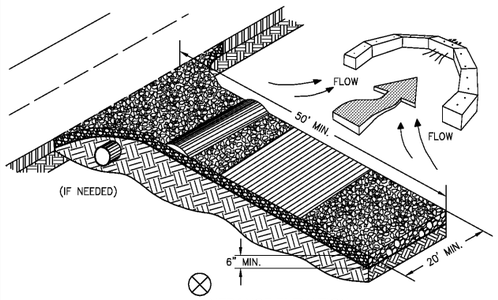
SHOOTS OR GRASS BLADES: GRASS SHOULD BE GREEN AND HEALTHY, MOWED AT A 2"-3" CUTTING HEIGHT.

THATCH: GRASS CLIPPINGS AND DEAD LEAVES (UP TO 1/2" THICK).

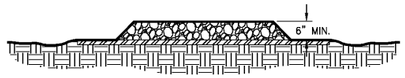
ROOT ZONE: SOIL AND ROOTS. SHOULD BE 1/2"-3/4" THICK WITH DENSE ROOT MAT FOR STRENGTH.

CRUSHED STONE CONSTRUCTION EXIT

EXIT DIAGRAM

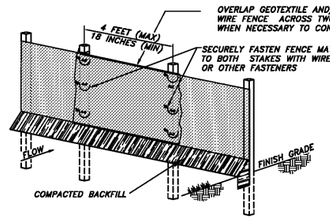


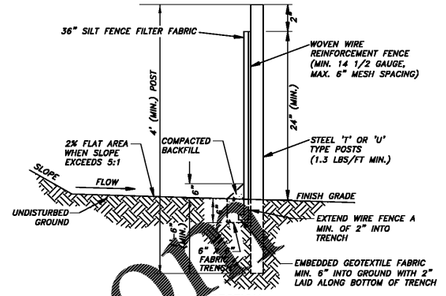
ENTRANCE ELEVATION



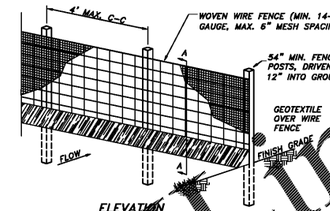
NOTES:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
4. GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6".
5. PAD WIDTH SHALL BE EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'.
6. A DIVERSION RIDGE SHOULD BE CONSTRUCTED WHEN GRADE TOWARD PAVED AREA IS GREATER THAN 2%.
7. INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES.
8. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN (DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE).
9. WASHRACKS AND/OR TIRE WASHERS MAY BE REQUIRED DEPENDING ON SCALE AND CIRCUMSTANCE. IF NECESSARY, WASHRACK DESIGN MAY CONSIST OF ANY MATERIAL SUITABLE FOR TRUCK TRAFFIC THAT REMOVE MUD AND DIRT.
10. MAINTAIN AREA IN A WAY THAT PREVENTS TRACKING AND/OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

1/4 ACRE PER 100-LF MAX DRAINAGE AREA





A-A-SECTION



ELEVATION

MAINTENANCE

- SEDIMENT SHALL BE REMOVED ONCE IT HAS ACCUMULATED TO ONE-HALF THE ORIGINAL HEIGHT OF THE BARRIER.
- FILTER FABRIC SHALL BE REPLACED WHENEVER IT HAS DETERIORATED TO SUCH AN EXTENT THAT THE EFFECTIVENESS OF THE FABRIC IS REDUCED (APPROX. 6 MONTHS), OR ANY TEARS OR HOLES ARE IN THE FABRIC.
- TEMPORARY SEDIMENT BARRIERS SHALL REMAIN IN PLACE UNTIL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
- ALL SEDIMENT ACCUMULATED AT THE BARRIER SHALL BE REMOVED AND PROPERLY DISPOSED OF BEFORE THE BARRIER IS REMOVED.

MAXIMUM SLOPE LENGTH

- WHERE ALL RUNOFF IS TO BE STORED BEHIND THE SILT FENCE, MAXIMUM SLOPE LENGTH SHALL NOT EXCEED:

LAND SLOPE	= MAX. SLOPE LENGTH
< 2%	= 100 FT.
2% - 5%	= 75 FT.
5% - 10%	= 50 FT.
10% - 20%	= 25 FT.
> 20%	= 15 FT.

- IN AREAS WHERE THE SLOPE IS GREATER THAN 20% OR 5:1, A FLAT AREA LENGTH OF 10 FT BETWEEN THE TOE OF THE SLOPE AND THE SILT FENCE MUST BE PROVIDED.

SILT FENCE FILTER FABRIC

- UTILIZE DOT APPROVED FABRICS. COMMON EXAMPLES INCLUDE: MIRAFI 130X, AMOCO 1198, BELTECH 810, SI 915 SC, LING GTF 190
- UTILIZE FENCE FABRIC THAT MEETS THE FOLLOWING CRITERIA:
- TENSILE STRENGTH PER ASTM D-4632 WITH WARP-260 AND FILL-180 (LBS. MIN.)
- ELONGATION PER ASTM D-4632 OF 40% MAX
- APPARENT OPENING SIZE (MAX. SIEVE SIZE) PER ASTM D-4751 OF #30
- FLOW RATE OF 70 GAL/MIN/SQ.FT.
- ULTRAVIOLET STABILITY OF 80 PER ASTM D-4632 AFTER 300 HOURS WEATHERING IN ACCORDANCE WITH ASTM D-4355
- BURSTING STRENGTH OF 175 PSI MIN. PER ASTM D-3786

INSTALLATION

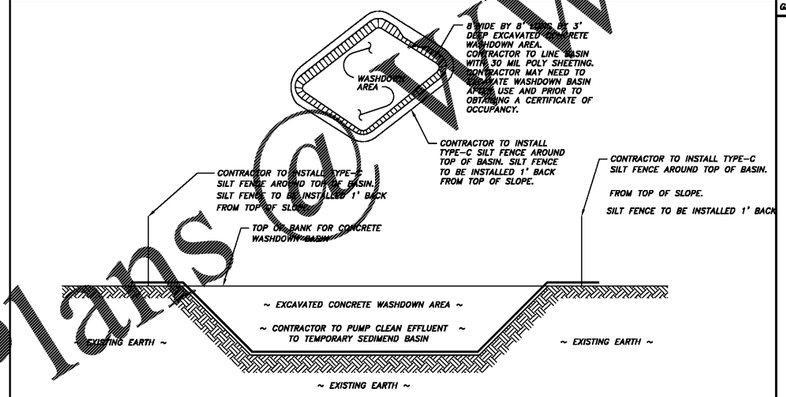
- DO NOT INSTALL ACROSS STREAMS, DITCHES, WATERWAYS OR OTHER AREAS OF CONCENTRATED FLOW.
- INSTALL WHERE SHEET FLOW CONDITION EXIST.
- START POST INSTALLATION AT THE CENTER OF THE LOWEST POINT WITH REMAINING POSTS SPACED 4 FEET APART.
- TYPE 'C' SILT FENCE SHALL BE USED WHERE RUNOFF FLOWS OR VELOCITIES ARE PARTICULARLY HIGH.
- TYPE 'C' SILT FENCE SHALL BE USED WHERE SLOPES EXCEED A VERTICAL HEIGHT OF 10 FEET.
- TWO ROWS OF TYPE 'C' SILT FENCE MUST BE USED ALONG ALL STREAM BUFFERS.
- WOVEN WIRE REINFORCEMENT FENCE TO BE FASTENED SECURELY TO STEEL POSTS WITH WIRE TIES OR APPROVED EQUAL AT TOP, MID AND BOTTOM.
- FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE REINFORCEMENT FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.

SEDIMENT BARRIER - TYPE 'C' SILT FENCE

N.T.S.

Sd1-C

GA-Sd1C



NOTE:
ALL CONTRACTORS AND SUB-OCONTRACTORS TO USE BEST MANAGEMENT PRACTICES FOR CONCRETE WASHDOWN OF TOOLS, CONCRETE MIXER CHUTES, HOPPERS AND THE REAR OF VEHICLES. WASHOUT OF DRUM AT THE CONSTRUCTION SITE IS PROHIBITED. ADDITIONAL INFORMATION ABOUT BEST MANAGEMENT PRACTICES FOR CONCRETE WASHOUT IS AVAILABLE AT www.epa.gov/npdes/pubs/concretewashout.pdf.

CONCRETE WASHDOWN BASIN DETAIL

INSTALLATION

- MULCH OF TEMPORARY GRASSING SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 14 DAYS OF DISTURBANCE.
- MULCH IS NOT SUITABLE FOR USE ON AREAS THAT WILL BE EXPOSED FOR THE MONTHS OR LONGER. IF AN AREA IS EXPECTED TO BE UNDISTURBED FOR LONGER THAN SIX MONTHS, PERMANENT PERENNIAL VEGETATION IS RECOMMEND.
- MULCH CAN BE USED AS A SIMULAUS EROSION CONTROL DEVICE FOR UP TO SIX MONTHS IF OPTIMUM PLANTING CONDITIONS FOR TEMPORARY GRASSING IS LACKING.
- MULCH MUST BE APPLIED AT THE APPROPRIATE DEPTH, ANCHORED AS NECESSARY, AND HAVE A CONTINUOUS SOIL COVER OR GREATER OF THE SOIL SURFACE.
- IN CONCENTRATED FLOW AREAS, ENSURE MULCH IS PROPERLY ANCHORED OR AVOID UTILIZING MULCH ALL TOGETHER.
- GRADE SITE TO PERMIT THE USE OF EQUIPMENT FOR APPLYING AND ANCHORING MULCH.
- INSTALL OTHER MEASURES/REQUIRED EROSION CONTROL MEASURE BMPS PRIOR TO PLACING MULCH ON AREA.
- LOOSEN COMPACTED SOIL TO A MINIMUM DEPTH OF THREE (3) INCHES.
- APPLY MULCH UNIFORMLY BY HAND OR BY MECHANICAL EQUIPMENT TO PROVIDE FULL COVERAGE OF THE EXPOSED AREA.
- CUTBACK ASPHALT SHALL BE APPLIED UNIFORMLY. CARE SHOULD BE TAKEN IN AREAS OF PEDESTRIAN TRAFFIC DUE TO PROBLEMS OF "TRACKING IN" OR DAMAGE TO SHOES, CLOTHING, ETC.

MULCHING MATERIALS

- DRY STRAW OR HAY - DRIED STRAW OR HAY WITH THE ADVANTAGE OF EASY APPLICATION.
- WOOD WASTE - ORGANIC MATERIAL FROM THE CLEARING STAGE OF DEVELOPMENT SHOULD REMAIN ON SITE, BE CHIPPED, AND APPLIED AS MULCH. THIS METHOD OF MULCHING CAN GREATLY REDUCE EROSION CONTROL COSTS.
- CUTBACK ASPHALT - SLOW CURING SHALL BE USED FOR EROSION CONTROL APPLICATIONS.
- POLYETHYLENE FILM - SHALL BE SECURED OVER BANKS OR STOCKPILED SOIL MATERIALS FOR TEMPORARY PROTECTION. THIS COVER MATERIAL CAN BE SALVAGED AND RE-USED.

MAINTENANCE

- ADD MULCH AS NEEDED TO MAINTAIN THE SUGGESTED DEPTH.
- ENSURE MINIMUM OF 80% COVERAGE OF ALL EXPOSED EARTH.
- IF ORGANIC MULCH IS TO BE LEFT AND INCORPORATED INTO THE SOIL, APPLY 30-50 POUNDS OF NITROGEN IN ADDITION TO THE FERTILIZER REQUIRED FOR VEGETATION.

ANCHORING MULCH

- STRAW OR HAY MULCH SHALL BE ANCHORED IMMEDIATELY AFTER APPLICATION.
- MULCH ON SLOPES GREATER THAN 3X SHOULD BE ANCHORED WITH EMULSIFIED ASPHALT (GRADE AE-3OR 55-1) OR OTHER SUITABLE TACKIFIER.
- WOOD WASTE ON SLOPES FLATTER THAN 3:1 (33%) DO NOT NEED ANCHORING.
- STRAW OR HAY MULCH CAN BE PRESSED INTO THE SOIL WITH A DISK HARROW WITH THE DISK SET STRAIGHT OR WITH A SPECIAL "PACKER DISK". DISCS MAY BE SMOOTH OR SERRATED AND SHOULD BE 20 INCHES OR MORE IN DIAMETER AND 9 TO 12 INCHES APART. THE DISCS OF THE USED SHOULD BE DULL ENOUGH NOT TO CUT THE MULCH BUT TO PRESS IT INTO THE SOIL LEAVING MUCH OF IT IN AN ERECT POSITION.
- STRAW OR HAY MULCH SPREAD WITH SPECIAL BLOWER-TYPE EQUIPMENT MAY BE ANCHORED WITH EMULSIFIED ASPHALT (GRADE AE-3 OR 3X-1). THE ASPHALT EMULSION SHALL BE SPRAYED ONTO THE MULCH AS IT IS EJECTED FROM THE MACHINE OR SPRAYED ON THE MULCH IMMEDIATELY FOLLOWING MULCH APPLICATION WHEN STRAW OR HAY IS SPREAD BY METHODS OTHER THAN SPECIAL BLOWER EQUIPMENT
- EMULSIFIED ASPHALT SHALL BE APPLIED AS A MIXTURE OF 100 GALLONS OF EMULSIFIED ASPHALT AND 100 GALLONS OF WATER PER TON OF MULCH.
- TACKIFIERS AND BINDERS CAN BE SUBSTITUTED FOR EMULSIFIED ASPHALT. SYNTHETIC TACKIFIERS OR BINDERS APPROVED BY EPDCP SHALL BE APPLIED IN CONJUNCTION WITH OR IMMEDIATELY AFTER THE MULCH IS SPREAD. SYNTHETIC TACKIFIERS SHALL BE MIXED AND APPLIED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
- PLASTIC MESH OR NETTING WITH MESH NO LARGER THAN ONE INCH BY ONE INCH, MAY BE NEEDED TO ANCHOR STRAW OR HAY MULCH ON UNSTABLE SOILS AND CONCENTRATED FLOW AREAS. THESE MATERIALS SHALL BE INSTALLED AND ANCHORED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
- NETTING OF THE APPROPRIATE SIZE SHALL BE USED TO ANCHOR WOOD WASTE. OPENINGS OF THE NETTING SHALL NOT BE LARGER THAN THE AVERAGE SIZE FOR THE WOOD WASTE CHIPS.
- POLYETHYLENE FILM SHALL BE ANCHOR TRENCHED AT THE TOP AS WELL AS INCREMENTALLY AS NECESSARY.

MULCHING APPLICATION REQUIREMENTS

MATERIAL	RATE	DEPTH
STRAW OR HAY	2 1/2 TON/ACRE	2" TO 4"
WOOD WASTE, CHIPS, SAWDUST, BARK	6 TO 9 TON/ACRE	2" TO 3"
CUTBACK ASPHALT	1200 GAL./ACRE OR 1/4 GAL./SQ. YD. OR SEE MANUFACTURER'S RECOMMENDATIONS	----
POLYETHYLENE FILM	SECURE WITH SOIL, ANCHORS, WEIGHTS	----
GEOTEXTILES, JUTE MATTING, NETTING, ETC.	SEE MANUFACTURER'S RECOMMENDATIONS	----

DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)

Da1

GA-Da1

50 51 52

4/10/2019

JEFFREY P. MASISAK, PE, CPESC
GSWCC LEVEL II CERTIFICATION NO. 0000001217
EXPIRES: 05/05/2021
DATE

GEORGIA REGISTERED No. 031742 PROFESSIONAL ENGINEER JEFFREY P. MASISAK

1 2019 EROSION CONTROL CHECKLIST ITEM

PROPOSED CONSTRUCTION PROJECT
40 US HIGHWAY 84, CAIRO, GEORGIA 39828
PREPARED FOR:
HUDDLE HOUSE, INC.
LAND LOT 22, 18TH DISTRICT
GRADY COUNTY, GEORGIA

MASS ENGINEERING AND CONSULTANTS, LLC.
3459 ACWORTH DUE WEST RD. SUITE 565
ACWORTH, GEORGIA 30101
PHONE: 404.850.7790
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MASS ENGINEERING AND CONSULTANTS, LLC

REVISIONS

DATE:	DESCRIPTION

DETAILS

PROJECT NUMBER: 19-0001

DATE: January 28, 2019

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