## EROSION CONTROL NOTES:

- THE EROSION AND SEDIMENTATION CONTROL PLAN IS COMPRISED OF THIS DRAWING. THE STANDARD DETAILS, THE PLAN NARRATIVE, PLUS THE PERMIT AND ALL
- SUBSEQUENT REPORTS AND RELATED DOCUMENTS. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORMWATER MANAGEMENT SHALL OBTAIN A COPY OF EROSION AND SEDIMENTATION CONTROL PLAN AND BECOME FAMILIAR WITH ITS CONTENTS.
- CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES (BMP'S) AS REQUIRED BY THE MDEP EROSION CONTROL & SEDIMENT BMP MANUAL. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST TO OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
- BMP'S AND CONTROLS SHALL CONFORM TO FEDERAL AND STATE REQUIREMENTS OF MANUAL OF PRACTICES. AS APPLICABLE. CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY. ENGINEER OR OWNER. CONTRACTOR SHALL MINIMIZE AREA OF DISTURBED SOIL TO 10 ACRES WITHIN EACH
- INDIVIDUAL WATERSHED AT ONE TIME TO THE GREATEST EXTENT PRACTICAL. AS AREAS BECOME STABLE, ADDITIONAL AREAS MAY BE DISTURBED. GRUBBING SHALL START UPHILL AND BE STABILIZED AS WORK CONTINUES ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING,
- ETC.) SHALL BE RETAINED AND PROPERLY TREATED OR DISPOSED. CLEANING, MAINTENANCE, AND REPAIR AREAS SHALL BE PROTECTED BY A TEMPORARY PERIMETER BERM, SHALL NOT OCCUR WITHIN 150 FEET OF ANY WATERWAY, WATER BODY OR WETLAND, AND IN AREAS LOCATED AS FAR AS PRACTICAL FROM STORM SEWER INLETS. USE OF DETERGENTS FOR LARGE SCALE WASHING IS PROHIBITED. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE
- MAINTAINED ON SITE TO CONTAIN AND CLEAN UP FUEL OR CHEMICAL SPILLS AND FUGITIVE DUST EMISSIONS ARE PROHIBITED BY MDEP. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC
- LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED. RUBBISH, TRASH, GARBAGE, LITTER OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORMWATER DISCHARGE INTO
- DRAINAGE DITCHES OR WATERS OF THE STATE. ALL STORMWATER POLLUTION PREVENTION MEASURES PRESENTED ON THIS PLAN AND IN THE EROSION AND SEDIMENT CONTROL PLAN SHALL BE INITIATED AS SOON AS PRACTICABLE
- DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS STOPPED SHALL BE STABILIZED NO LATER THAN 24 HOURS FROM THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS OR PRIOR TO ANY STORM EVENT. MULCHING WILL BE 2 BALES PER 1000 SF TO COVER 75%-90% OF GROUND SURFACE.
- IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCE IS NOT SUFFICIENT FOR REMOVAL OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS REQUIRED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE. USE ONLY INGRESS/EGRESS LOCATION PROVIDED.
- ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY. CONTRACTOR OR SUBCONTRACTOR WILL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE STORMWATER STRUCTURES AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN
- THE STORM SEWER DRAINAGE SYSTEM IN CONJUNCTION WITH THE STABILIZATION OF ON-SITE & OFF-SITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED 0. FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT
- PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP BY THE CONTRACTOR. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
- DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES (SILT FENCES, BERMS, SEDIMENT BASINS, HAY BALES, STONE CHECK DAMS, ETC.) TO PREVENT EROSION.
- ALL CONSTRUCTION AREAS SHALL BE STABILIZED AT THE END OF EACH WORKING DAY. THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.
- CONTRACTOR SHALL PUMP STANDING WATER TO SEEDED AREAS TO HELP IRRIGATE NEW GRASS GROWTH AND TO MAXIMIZE VOLUME CAPACITY OF SEDIMENT BASINS PRIOR TO STORM EVENTS. EROSION CONTROL MEASURES MUST BE ADJUSTED AS NECESSARY TO ENSURE
- ZERO DISCHARGE OF TURBID WATER. ADD TEMPORARY DITCH STABILIZATION AS NECESSARY TO PREVENT EROSION.
- EROSION CONTROL MESH IS REQUIRED ON ALL CONSTRUCTED SLOPES STEEPER THAN W. CONSTRUCTION AREAS, TRAILERS, PORTA-POTTIES, AND LAYDOWN AREAS MUST BE FENCED OFF WITH TEMPORARY CONSTRUCTION FENCING TO KEEP PEOPLE FROM
- ENTERING THE WORK ZONE ALL GROUND COVER WITHIN THE PANEL ARRAY MUST BE RETURNED TO A MEADOW BUFFER. ANY AREAS NOT MEETING THE STANDARD OF A MEADOW BUFFER MUST BE REPAIRED AND RESEEDED.

### SEEDING NOTES:

- TEMPORARY SEEDING NOTES ANY DISTURBED AREAS TO BE LEFT IN ROUGH GRADED FORM FOR MORE THAN 7
- DAYS BUT LESS THAN ONE GROWING SEASON SHALL BE LIMED, FERTILIZED, TEMPORARILY SEEDED AND MULCHED OR OTHERWISE STABILIZED. EXPOSED OR BARE SOIL IN SENSITIVE AND CRITICAL AREAS ARE TO BE MULCHED OR OTHERWISE STABILIZED AT THE COMPLETION OF WORK, EACH DAY, IF
- SIGNIFICANT RAINFALL IS PREDICTED. APPLICATION RATES AND MATERIALS USED SHALL BE THE SAME AS FOR PERMANENT SEEDING EXCEPT SEED MIXTURE SHALL BE ANNUAL RYEGRASS.
- PERMANENT SEEDING NOTES 1. DURING PERIODS FROM APRIL 15 TO SEPTEMBER 15, AREAS DISTURBED SHALL BE PERMANENTLY SEEDED WITH A LOW GROWING SEED MIX AT A RATE OF 1.0
- LB/1.000 SE PERMANENT SEEDING AND MULCHING PLAN - THE FOLLOWING GENERAL PRACTICES
- WILL BE USED TO RE-ESTABLISH FINAL VEGETATION. 2.1. IN AREAS NOT STABILIZED WITH ECM, LOAM OR RECLAIMED TOPSOIL WILL BE SPREAD OVER DISTURBED AREAS AND GRADED TO A UNIFORM DEPTH AND A NATURAL APPEARANCE.
- FINAL SEEDING SHALL BE COMPLETED IMMEDIATELY (WITHIN 7 DAYS) FOLLOWING 2.2. ANY NECESSARY GRADING. ALL FINAL FERTILIZING AND SEEDING SHALL ADHERE TO THESE SPECIFICATIONS 2.3. AREAS NOT STABILIZED WITH ECM SHALL BE MULCHED IMMEDIATELY AFTER
- SEEDING. IMMEDIATELY UPON FIRST SIGNS OF ANY EVIDENCE OF SIGNIFICANT EROSION OCCURRING, THE CONTRACTOR SHALL REPAIR AND MULCH ALL SUCH AREAS UNTIL THE AREA IS STABILIZED. MULCHING SHALL CONSIST OF HAY MULCH, HYDRO-MULCH, OR ANY SUITABLE SUBSTITUTE. MULCHING SHALL BE MONITORED ACCORDING TO THE MONITORING SCHEDULE. SHOULD MULCHING
- PROVE TO BE INEFFECTIVE, NETTING OR MATTING SHALL BE USED IN ITS PLACE. 2.4 STRAW MULCH OR HAY SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE (90 POUNDS OR 2 BALES/1,000 SQUARE FEET) UNLESS OTHERWISE SPECIFIED.
- 2.5. HYDRO-MULCH SHALL CONSIST OF A MIXTURE OF TACKIFIER, WOOD FIBER OR PAPER FIBER AND WATER SPRAYED OVER A SEEDED AREA. HYDRO-MULCH SHALL NOT BE USED DURING THE FALL, WINTER, OR MUD SEASON.
- 2.6. DORMANT SEEDING. BETWEEN FIRST FROST AND SNOWFALL, WILL BE APPLIED AT TWICE THE STANDARD RATE AND HEAVILY MULCHED.

# <u>GENERAL CONSTRUCTION PHASE</u>

- CONSTRUCTION TRAFFIC CONSTRUCTION TRAFFIC WILL BE DIRECTED OVER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT AND PROPOSED ROADS. EROSION CONTROL INSTALLATION - PRIOR TO THE START OF GRUBBING, SILT
- FENCE, BALES, EROSION CONTROL MIX BERMS, STABILIZED CONSTRUCTION ENTRANCES, OR OTHER APPROPRIATE MEASURES SHALL BE INSTALLED ADJACENT O CONSTRUCTION AREAS AS GENERALLY INDICATED ON THE PLANS.
- GRADING NO MORE THAN 10 ACRES OF DISTURBED AREA WITHIN EACH INDIVIDUAL PROJECT WATERSHED WILL BE LEFT UNSTABILIZED AT ANY TIME.

## **MAINTENANCE:**

- 1. ALL MEASURES STATED ON THIS EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE MAINTAINED IN FULL FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETE PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:
- ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND OF GRASS IS MAINTAINED. ERODED AREAS SHOULD BE FILLED. RESEEDED. AND WATERED AS NEEDED SILT FENCES AND EROSION CONTROL MIX BERMS SHALL BE REPAIRED
- TO THEIR ORIGINAL CONDITION IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCE WHEN IT REACHES A HEIGHT OF 6
- INCHES. THE CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC
- RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION ENTRANCES AS CONDITIONS DEMAND. A MAINTENANCE LOG WILL BE UPDATED FOLLOWING EACH INSPECTION AND KEPT ON FILE. THIS SHALL INCLUDE DATE, INSPECTOR NAME, PROBLEMS FOUND AND ACTION TAKEN.

### MONITORING SCHEDULE - THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING, MONITORING, MAINTAINING, REPAIRING, REPLACING AND/OR REMOVING THE TEMPORARY EROSION AND SEDIMENTATION CONTROLS AS SPECIFIED HEREIN AS FOLLOWS:

- THE CONTRACTOR OR APPROVED DESIGNATED INSPECTOR SHALL PERFORM WEEKLY INSPECTIONS OF THE SITE UNTIL THE SITE IS STABILIZED. INSPECTIONS MAY BE PERFORMED ON A BI-WEEKLY
- SCHEDULE WHEN WORK HAS ABATED FOR MORE THAN ONE WEEK. MAINTENANCE MEASURES WILL BE PERFORMED AS NEEDED DURING THE ENTIRE CONSTRUCTION CYCLE. AFTER EACH RAINFALL, AND
- PRIOR TO PREDICTED SIGNIFICANT RAINFALL EVENTS (> 1 INCH). A VISUAL INSPECTION OF EROSION AND SEDIMENT CONTROLS WILL BE MADE BY THE CONTRACTOR OR APPROVED DESIGNATED INSPECTOR TO CONFIRM THEIR CONTINUING FUNCTION AS DESIGNED. STONE CHECK DAMS, BALE BARRIERS, DROP INLET BARRIERS,
- EROSION CONTROL MIX BERMS. SILT FENCE, AND MULCH SHALL BE INSPECTED AND REPAIRED ONCE A WEEK OR IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL. SEDIMENT TRAPPED BEHIND THESE BARRIERS SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES (OR 1/2 THE HEIGHT OF THE DAM FOR CHECK DAMS) AND REDISTRIBUTED TO AREAS UNDERGOING FINAL GRADING. NEAR COMPLETION OF THE CONSTRUCTION AND AFTER THE SITE IS RESEEDED AND STABILIZED, THE CONTRACTOR SHALL INSPECT,
- CLEAN, MAINTAIN, REPAIR, RESTABILIZE, OR REVEGETATE ALL DRAINAGE STRUCTURES, STORM DRAINS, CULVERTS, LEVEL SPREADERS AND DITCHES PRIOR TO ACCEPTANCE BY THE APPLICANT.

# WINTER CONSTRUCTION NOTES

FOR WORK PROPOSED DURING THE WINTER SEASON (TYPICALLY NOVEMBER 1 - APRIL 15), THE CONTRACTOR SHALL ADHERE TO THE FOLLOWING PRACTICES:

- A PLAN AND SCHEDULE OF ACTIVITIES SHALL BE SUBMITTED TO THE PERMITTEE FOR APPROVAL PRIOR TO ANY WORK BEING DONE.
- LIMIT THE TOTAL AREA OF EXPOSED SOIL TO THAT IN WHICH EARTH WORK CAN BE COMPLETED WITHIN 15 DAYS AND MULCHED WITHIN ONE DAY PRIOR TO A SNOW EVENT.
- 3. EXPOSED SOIL MAY BE LEFT BARE FOR NO MORE THAN 15 DAYS.
- MULCH ALL EXPOSED SOIL WHERE NO ACTIVITY IS SCHEDULED WITHIN 7 DAYS AND PRIOR TO A FORECASTED SNOW EVENT OF MORE THAN 1 INCH.
- WHERE PRACTICABLE, MULCH SHOULD BE APPLIED AT THE END OF EACH DAY'S WORK FOR AREAS THAT ARE FINAL GRADED. OTHERWISE, MULCH THE FOLLOWING DAY.
- 6. DO NOT APPLY MULCH OVER MORE THAN 1 INCH OF SNOW.
- HAY OR STRAW MULCH SHALL BE APPLIED AT 140 LBS/1000 S.F. (APPROX.. 4 BALES) AND SO THAT THE GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH.
- ECM IS THE PREFERRED MULCHING MATERIAL AND SHALL BE APPLIED AT A MINIMUM 4 INCH THICKNESS, WITH HIGHER AMOUNTS AS DESCRIBED HEREIN.
- 9. ECM IS THE PREFERRED EROSION CONTROL BARRIER. IF ECM IS NOT AVAILABLE. INSTALLATION OF SILT FENCE ON FROZEN GROUND MAY BE MODIFIED FROM ILLUSTRATIONS AND DETAIL DRAWINGS TO SUBSTITUTE SIX INCHES OF SUITABLE NON-ORGANIC MATERIAL OVER THE BOTTOM OF THE SILT FENCE IN LIEU OF TRENCHING AND BACKFILLING FABRIC.
- 10. A DOUBLE ROW OF EROSION CONTROL BARRIER WILL BE USED WHERE REQUIRED WITHIN 100 FEET OF WETLANDS AND WATER BODIES.
- 11. INSPECTION OF EROSION CONTROL MEASURES AND ANY NEEDED REPAIR/REPLACEMENT OF WHICH SHALL OCCUR EACH DAY.
- 12. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS/ACRE OF MULCH, SECURED WITH ANCHOR NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
- 13. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
- 14. AFTER NOVEMBER 15. INCOMPLETE ROADS AND EQUIPMENT PAD AREAS, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL.
- 15. PERMANENT SEEDING IS NOT REQUIRED DURING THE WINTER SEASON; HOWEVER, IF DONE. THE CONTRACTOR SHALL FOLLOW PROCEDURES FOR DORMANT SEEDING. THE PERMANENT SEED MIX SHALL BE APPLIED AT THREE TIMES THE STANDARD RATE AND MULCHED. RE-VEGETATION SUCCESS MUST BE INSPECTED BY THE CONTRACTOR IN THE FOLLOWING SPRING (AFTER APRIL 15) AND RE-SEEDED AS NECESSARY IF VEGETATIVE COVER IS LESS THAN 75 PERCENT. ACCEPTANCE OF DORMANT SEEDING AS SUCCESSFUL WILL NOT OCCUR UNTIL AFTER JUNE 1 OF THE FOLLOWING SPRING.



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# EROSION AND SEDIMENT CONTROL MEASURES

CONSTRUCTION OF THE PROJECT MAY REQUIRE OR INCORPORATE THE FOLLOWING EROSION AND SEDIMENT CONTROL MEASURES OR PRACTICES AS NEEDED OR APPLICABLE. ADDITIONAL MEASURES NOT SHOWN OR DISCUSSED HERE MAY BE NEEDED TO PROTECT NATURAL RESOURCES AND/OR OFF-SITE PROPERTIES FROM EROSION AND SEDIMENT RUNOFF. THE FOLLOWING INFORMATION IS BEING PROVIDED AT A MINIMUM. WITH SUPPORTING MORE-DETAILED INFORMATION AVAILABLE IN THE BMP MANUAL AND WITHIN THIS PLAN SET FOR THE ARRAY AREA AND WITHIN THE GENLEAD PLANS.

- 1. BALES STRAW (OR HAY) BALES MAY BE REQUIRED IN ADDITION TO SILT FENCING OR OTHER MEASURES IN SENSITIVE AREAS. BALES ARE TO BE EMBEDDED AT A MINIMUM OF FOUR INCHES INTO THE EXISTING SOIL AND STAKED WITH ENDS TIGHTLY ABUTTING ADJACENT BALES. AT LEAST TWO STAKES PER BALE ARE TO BE DRIVEN INTO THE GROUND FOR ANCHORING. WHERE STAKING AND EMBEDDING OF BALES IS IMPRACTICAL DUE TO EXCESSIVE ROOTS, LEDGE, OR OTHER CONSTRUCTION HAZARDS, BALE BARRIERS MAY BE SUBSTITUTED WITH EROSION CONTROL MIX BERMS PROVIDED THEY ARE NOT INSTALLED IN LOCATIONS WITH CONCENTRATED FLOW. REFER TO SECTION B-6 OF THE BMP MANUAL.
- 2. CONSTRUCTION ENTRANCE/EXIT A CRUSHED STONE-STABILIZED CONSTRUCTION ENTRANCE WILL BE INSTALLED AS SHOWN ON THE CIVIL SITE PLANS. STONE ENTRANCES/EXITS SHALL BE PLACED ON GEOTEXTILE FABRIC AND SHALL INCLUDE A MINIMUM 10-FOOT BY 10-FOOT TAPER (OR AS NEEDED TO SUPPORT LARGE CONSTRUCTION/DELIVERY VEHICLES) ON BOTH SIDES OF THE ENTRANCE TO ALLOW FOR TURNING VEHICLES. REFER TO SECTION A-2 IN THE BMP MANUAL.
- 3. DUST CONTROL AS NECESSARY, THE CONTRACTOR SHALL TAKE STEPS TO CONTROL BLOWING AND AIRBORNE MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES. MAINTAINING NATURAL OR TEMPORARY VEGETATION AND/OR MULCHING SHALL BE USED WHERE PRACTICAL. MECHANICAL SWEEPERS SHALL BE USED WHERE NECESSARY TO PREVENT AND REMOVE DUST BUILDUP ON PAVED SURFACES. REGULARLY TRAVELED SOIL SURFACES SHALL BE MAINTAINED TO MINIMIZE DUST BY PERIODICALLY MOISTENING BARE AREAS WITH ADEQUATE WATER TO PREVENT DUST. CALCIUM CHLORIDE MAY BE USED IN AREAS EXPERIENCING SIGNIFICANT DUST PROBLEMS AND TO REDUCE FREQUENCY OF WATERING. REPETITIVE TREATMENT SHALL BE APPLIED AS NECESSARY TO ACCOMPLISH ADEQUATE DUST CONTROL. REFER TO SECTION A-1 IN THE BMP MANUAL.
- 4. EROSION CONTROL MIX BERMS MAY BE INSTALLED IN LOCATIONS THAT DO NOT HAVE A CONCENTRATED FLOW. EROSION CONTROL MIX BERMS ARE AN APPROVED ALTERNATIVE TO SILT FENCE PROVIDED THEY ARE NOT LOCATED IN SENSITIVE AREAS DESCRIBED ABOVE. REFER TO SECTION B-2 OF THE BMP MANUAL. EROSION CONTROL MIX MAY BE MANUFACTURED ON OR OFFSITE AND SHALL FOLLOW THE GUIDELINES OUTLINED IN SECTION D-3 IN THE BMP MANUAL. THE COMPOSITION SPECIFICATION OUTLINED IN SECTION D-3 SHOULD BE USED AS A GUIDELINE, BUT THE ACTUAL MIX DESIGN WILL BE PERFORMANCE BASED.
- 5. LEVEL LIP SPREADER LEVEL LIP SPREADER LENGTHS ARE STONE-LINED PONDED AREAS DISCHARGING OVER A LEVEL BERM THROUGH A WELL VEGETATED BUFFER AREA. IF NEEDED, THESE SPREADERS WILL FUNCTION TO DISPERSE CHANNELIZED FLOW INTO SHALLOW SHEET FLOW. CONSTRUCTION AND LENGTH OF LEVEL LIP SPREADERS SHALL BE AS DETAILED ON THE FINAL DESIGN PLANS. REFER TO SECTION G-4 AND I-2 OF THE BMP MANUAL.
- 6. MATTING (OR EROSION CONTROL BLANKETS) SHALL CONSIST OF STRAW, COCONUT OR EXCELSIOR SANDWICHED BETWEEN PHOTODEGRADABLE NETTING. MATTING MAY BE SUBSTITUTED WITH SOD WHERE DESIRED. MATTING SHALL BE USED ON ALL STEEP CONSTRUCTED SLOPES AS INDICATED ON THE DESIGN PLANS OR WHERE MULCHING HAS PROVEN TO BE INEFFECTIVE IN THE FIELD. REFER TO SECTION D-2 OF THE BMP MANUAL.
- 7. INLET/OUTLET PROTECTION RIPRAP INLETS/OUTLETS SHALL BE PLACED IN LOCATIONS WHERE INDICATED ON THE FINAL DESIGN PLANS, AND IN LOCATIONS WHERE FLARED END SECTIONS HAVE PROVEN TO BE INADEQUATE TO PREVENT SCOURING AT THE PIPE OUTLET IN THE FIELD. REFER TO SECTION H-2 OF THE BMP MANUAL.
- 8. MULCHING (EROSION CONTROL MIX) AND REVEGETATION EROSION CONTROL MIX (ECM) IS COVER THAT PROVIDES A GOOD BUFFER ON AND AROUND DISTURBED AREAS. ECM IS USED TO STABILIZE THE SITE IN THE SHORT TERM, WHILE ALLOWING TIME FOR HERBACEOUS AND GRASSY VEGETATION TO BECOME ESTABLISHED. THE SITE WILL BE SEEDED WITH A COVER CROP AND A LONG-TERM SEED MIX TO PROVIDE PERMANENT VEGETATED STABILIZATION. ECM MUST NOT BE USED IN AREAS OF CONCENTRATED WATER FLOWS, AND ANY EVIDENCE OF GROUNDWATER SEEPAGE ON SLOPES MAY REQUIRE THE EROSION CONTROL MIX TO BE REPLACED WITH RIPRAP. EROSION CONTROL MIX CAN BE MANUFACTURED ON OR OFF THE PROJECT SITE. IT SHALL CONSIST PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION AND MAY INCLUDE SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR FLUME GRIT AND FRAGMENTED WOOD GENERATED FROM WATER-FLUME LOG HANDLING SYSTEMS. WOOD CHIPS, GROUND CONSTRUCTION DEBRIS, REPROCESSED WOOD PRODUCTS, OR BARK CHIPS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX. EROSION CONTROL MIX COMPOSITION SHALL BE IN ACCORDANCE WITH SECTION D-3 OF THE BMP MANUAL. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH.
- RIPRAP SHALL BE USED IN SWALES, STEEP SLOPES, AND OUTLETS AS NECESSARY TO PROTECT SOILS FROM EXCESSIVE FLOW VELOCITIES. RIPRAP MAY BE REQUIRED AT LOCATIONS WHERE REVEGETATION MATTING. HIGH VELOCITY DITCH LINING OR SOFT ARMOR IS PROVEN TO BE INEFFECTIVE IN THE FIELD. REFER TO SECTIONS F-3 (SLOPES) AND G-2 (CHANNELS) OF THE BMP MANUAL.
- 10. SEDIMENT CONTROLS SEDIMENT CONTROLS ARE INSTALLED DOWN GRADIENT OF DISTURBED EARTH WITH THE PURPOSE OF REDUCING RUNOFF VELOCITY AND ALLOWING FOR SOIL SETTLEMENT (SEE SECTION B OF THE BMP MANUAL). A SEDIMENT CONTROLS INCLUDE SILT FENCE, EROSION CONTROL MIX BERM, FILTER SOCKS, STONE CHECK DAMS, STORM DRAIN INLET PROTECTION, AND HAY BALES THAT ARE INTENDED TO BE USED WHERE:
- •• SEDIMENTATION CAN POLLUTE OR DEGRADE A WETLAND OR OTHER WATER RESOURCE:
- •• SEDIMENTATION WILL REDUCE THE CAPACITY OF STORM DRAINAGE SYSTEMS OR ADVERSELY FLOOD ADJACENT AREAS; AND
- SEDIMENT BARRIERS CANNOT BE USED IN AREAS OF CONCENTRATED FLOWS. UNDER NO CIRCUMSTANCES SHOULD EROSION CONTROL MIX SEDIMENT BARRIERS BE CONSTRUCTED IN STREAMS OR IN SWALES.
- 11. SILT FENCE SILT FENCE MAY BE REQUIRED AS WARRANTED OR DETERMINED BY FIELD CONDITIONS. SILT FENCE MAY ALSO BE REQUIRED IN ADDITION TO BALES OR OTHER MEASURES IN SENSITIVE AREAS AS SHOWN ON THE DESIGN PLANS. WHERE STAKING AND EMBEDDING FABRIC IS IMPRACTICAL DUE TO EXCESSIVE ROOTS, LEDGE, OR OTHER CONSTRUCTION HAZARDS, SILT FENCE MAY BE SUBSTITUTED WITH EROSION CONTROL MIX BERMS OR PLACEMENT OF 6 INCHES OF SUITABLE NON-ORGANIC MATERIAL ALONG FABRIC FLAP ON UPSLOPE SIDE OF FENCE, IN LIEU OF BURYING FABRIC IN TRENCH. REFER TO SECTION B-1 OF THE BMP MANUAL.
- 12. STONE CHECK DAMS SHALL BE INSTALLED IN EXISTING AND PROPOSED SWALES OR AT CULVERT INLETS AS NECESSARY. THESE CHECK DAMS SERVE TO REDUCE FLOW VELOCITIES IN SWALES THUS HELPING TO REDUCE RILLING. CHECK DAMS SHALL BE CONSTRUCTED TO PREVENT BREACHING AND SCOUR AT THE OUTER EDGES ALONG THE SIDES OF THE DITCH. REFER TO SECTION B-4 OF THE BMP MANUAL.
- 13. TEMPORARY MULCHING SHALL CONSIST OF SPREADING OF STRAW (OR HAY) MULCH OR EROSION CONTROL MIX OVER BARE OR DISTURBED AREAS. MULCHING SHALL BE SUBSTITUTED WITH MATTING IN LOCATIONS WHERE IT HAS PROVEN TO BE INEFFECTIVE IN THE FIELD. REFER TO SECTION D-1 OF THE BMP MANUAL.



