

EROSION AND SEDIMENTATION NOTES:

1. CONTRACTOR SHALL FOLLOW BEST MANAGEMENT PRACTICES OF THE KENNEBEC COUNTY SOIL CONSERVATION SERVICE AND THE MAINE DEP BEST MANAGEMENT PRACTICES HANDBOOK.

GENERAL EROSION AND SEDIMENTATION CONTROL PRACTICES:

EROSION/SEDIMENT CONTROL DEVICES:

THE FOLLOWING EROSION SEDIMENTATION CONTROL DEVICES ARE PROPOSED FOR CONSTRUCTION ON THIS PROJECT. INSTALL THESE DEVICES AS INDICATED ON THE PLANS.

- 1. SILT FENCE: SILT FENCE WILL BE INSTALLED ALONG THE DOWN GRADING EDGES OF DISTURBED AREAS TO TRAP RUNOFF BORNE SEDIMENTS UNTIL THE SITE IS STABILIZED. IN AREAS WHERE STORMWATER DISCHARGES THE SILT FENCE WILL BE REINFORCED WITH HAY BALES TO HELP MAINTAIN THE INTEGRITY OF THE SILT FENCE AND TO PROVIDE ADDITIONAL TREATMENT.
- 2. STONE CHECK DAMS: STONE CHECK DAMS ARE TO BE PLACED IN LOW FLOW DRAINAGE SWALES AND PATHS TO TRAP SEDIMENTS AND REDUCE RUNOFF VELOCITIES. DO NOT PLACE STONE CHECK DAMS IN FLOWING WATER OR STREAMS.
- 3. RIPRAP: PROVIDE RIPRAP IN AREAS WHERE CULVERTS DISCHARGE OR AS SHOWN ON THE PLANS.
- 4. LOAM, SEED, & MULCH: ALL DISTURBED AREAS, WHICH ARE NOT OTHERWISE TREATED, SHALL RECEIVE PERMANENT SEEDING AND MULCH TO STABILIZE THE DISTURBED AREAS. THE DISTURBED AREAS WILL BE REVEGETATED WITHIN 5 DAYS OF FINAL GRADING, SEEDING REQUIREMENTS ARE PROVIDED ARE THE END OF THIS SPECIFICATION.
- 5. STRAW AND HAY MULCH: USED TO COVER DENUDED AREA UNTIL PERMANENT SEED OR EROSION CONTROL MEASURES ARE IN PLACE. MULCH BY ITSELF CAN BE USED ON SLOPES LESS THAN 15% IN SUMMER AND 8% IN WINTER. JUTE MESH IS TO BE USED OVER MULCH ONLY. CURLEX II AND EXCELSION MAY BE USED IN PLACE OF JUTE MESH OVER MULCH.
- 6. MULCH NETTING: SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 3% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8%.

TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES:

PROVIDE THE FOLLOWING TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION OF THE DEVELOPMENT:

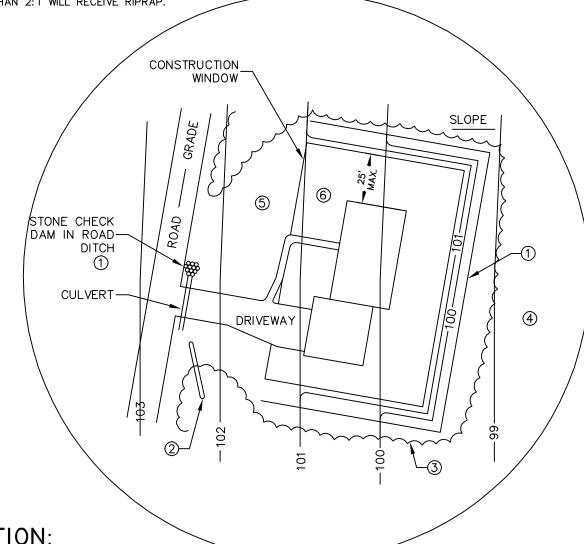
- 1. SILTATION FENCE ALONG THE DOWN GRADIENT SIDE OF THE PARKING AREAS AND OF ALL FILL SECTIONS. THE SILTATION FENCE WILL REMAIN IN PLACE UNTIL THE SITE IS 85% REVEGETATED.
- 2. HAY BALES PLACED AT KEY LOCATIONS TO SUPPLEMENT THE SILT FENCE.
- 3. PROTECT TEMPORARY STOCKPILES OF STUMPS, GRUBBINGS, OR COMMON EXCAVATION AS FOLLOWS:
- (A) SOIL STOCKPILE SIDE SLOPES SHALL NOT EXCEED 2:1.
- (B) AVOID PLACING TEMPORARY STOCKPILES IN AREA WITH SLOPES OVER 10 PERCENT, OR NEAR DRAINAGE SWALES. SEE ITEM 3 IN CONSTRUCTION PHASE NOTES BELOW.
- (C) THE CONTRACTOR MUST STABILIZE SOIL AND FILL STOCKPILES WITHIN 7 DAYS PRIOR TO ANY RAINFALL
- (D) SURROUND STOCKPILE SOIL WITH SILTATION FENCE AT BASE OF PILE.
- 4. ALL DENUDED AREA WHICH HAVE BEEN ROUGH GRADED AND ARE NOTE LOCATED WITHIN THE BUILDING PAD, OR PARKING AND DRIVEWAY SUBBASE AREA SHALL RECEIVE MULCH WITHIN 7 DAYS OF INITIAL DISTURBANCE OF SOIL IN ANY AREA OR WITHIN 7 DAYS AFTER COMPLETING THE ROUGH GRADING OPERATIONS IN ANY AREA, OR PRIOR TO ANY RAINFALL. IN THE EVENT THE CONTRACTOR COMPLETES FINAL GRADING AND INSTALLATION OF LOAM AND SOD WITHIN THE TIME PERIODS PRESENTED ABOVE, INSTALLATION OF MULCH AND NETTING, WHERE APPLICABLE, IS NOT REQUIRED.
- 5. IF WORK IS CONDUCTED BETWEEN OCTOBER 15 AND APRIL 15, ALL DENUDED AREAS ARE TO BE COVERED WITH HAY MULCH, APPLIED AT TWICE THE NORMAL APPLICATION RATE, AND ANCHORED WITH FABRIC NETTING. THE PERIOD BETWEEN FINAL GRADING AND MULCHING SHALL BE REDUCED TO A 1 DAY MAXIMUM FOR WORK COMPLETED BETWEEN OCTOBER 15TH AND APRIL 15TH.
- 6. TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE HAS BEEN STABILIZED OR IN AREAS WHERE PERMANENT EROSION CONTROL MEASURES HAVE BEEN INSTALLED.

PERMANENT EROSION CONTROL MEASURES:

THE FOLLOWING PERMANENT CONTROL MEASURES ARE REQUIRED BY THIS EROSION/ SEDIMENTATION CONTROL PLAN:

1. ALL AREAS DISTURBED DURING CONSTRUCTION, BUT NOT SUBJECT TO OTHER RESTORATION (PAVING, RIPRAP, ETC.), WILL BE LOAMED. LIMED. FERTILIZED AND SEEDED. NATIVE TOPSOIL SHALL BE STOCKPILED AND REUSED FOR FINAL RESTORATION WHEN IT IS OF SUFFICIENT QUALITY





INSTALLATION:

- 1. INSTALL SEDIMENT BARRIERS ON YOUR SITE BEFORE DISTURBING SOILS. SEE THE "SEDIMENT BARRIERS" MEASURE FOR DETAILS ON INSTALLATION AND
- 2. CONSTRUCT A DIVERSION DITCH TO KEEP UPSLOPE RUNOFF OUT OF WORK AREA.
- 3. MARK CLEARING LIMITS ON THE SITE TO KEEP EQUIPMENT OUT OF AREAS WITH STEEP SLOPES, CHANNELIZED FLOW, OR ADJACENT SURFACE WATERS AND WETLANDS.
- 4. PRESERVE BUFFERS BETWEEN THE WORK AREA AND ANY DOWNSTREAM SURFACE WATERS AND WETLANDS. SEE THE "BUFFERS" MEASURE FOR BUFFER PRESERVATION.
- 5. USE TEMPORARY MULCH AND RYE-SEED TO PROTECT DISTURBED SOIL OUTSIDE THE ACTIVE CONSTRUCTION AREA. SEE THE "MULCHING" MEASURE AND "VEGETATION" MEASURE FOR DETAILS AND SPECIFICATIONS FOR THESE CONTROLS.
- 6. PERMANENTLY SEED AREAS NOT TO BE PAVED WITHIN SEVEN DAYS OF COMPLETING FINAL GRADING. SEE "VEGETATION" MEASURE FOR INFORMATION ON PROPER SEEDING.

MAINTENANCE:

EVERY MONTH THE FIRST YEAR AFTER CONSTRUCTION AND YEARLY THEREAFTER, INSPECT FOR AREAS SHOWING EROSION OR POOR VEGETATION GROWTH. FIX THESE PROBLEMS AS SOON AS POSSIBLE. EACH SPRING REMOVE ANY ACCUMULATION OF DEBRIS OR WINTER SAND THAT WOULD IMPEDE RUNOFF FROM ENTERING A BUFFER OR DITCH.

HOUSE SITE - BEST MANAGEMENT PRACTICES

NOT TO SCALE

CONSTRUCTION PHASE:

- THE FOLLOWING PRACTICES WILL BE USED TO PREVENT EROSION DURING CONSTRUCTION OF THIS PROJECT.
- 1. ONLY THOSE AREAS UNDER ACTIVE CONSTRUCTION WILL BE CLEARED AND LEFT IN AN UNTREATED OR UNVEGETATED CONDITION. IF FINAL GRADING, LOAMING AND SEEDING WILL NOT OCCUR WITHIN 7 DAYS, SEE ITEM NO. 4.
- 2. PRIOR TO THE START OF CONSTRUCTION IN A SPECIFIC ARE, SILT FENCING AND/OR HAY BALES WILL BE INSTALLED AT THE TOE OF SLOPE AND IN AREAS AS LOCATED ON THE PLANS T PROTECT AGAINST ANY CONSTRUCTION RELATED EROSION. IMMEDIATELY FOLLOWING CONSTRUCTION OF CULVERTS AND SWALES, RIP RAP APRONS SHALL BE INSTALLED, AS SHOWN ON THE PLANS.
- 3. TOPSOIL WILL BE STOCKPILED WHEN NECESSARY IN AREAS WHICH HAVE MINIMUM POTENTIAL FOR EROSION AND WILL BE KEPT AS FAR AS POSSIBLE FROM THE EXISTING DRAINAGE COURSE. NO STOCKPILE SHALL BE CLOSER THEN 100' OF A RESOURCE INCLUDING, BUT NOT LIMITED TO, WETLANDS, STREAMS, AND OPEN WATER BODIES. ALL STOCKPILES SHALL HAVE A SILTATION FENCE BELOW THEM REGARDLESS OF TIME OF PRESENCE. ALL STOCKPILES EXPECTED TO REMAIN LONGER THAN 15 DAYS SHALL BE:
- (A) ALL STOCKPILES ANTICIPATED TO REMAIN IN PLACE FOR LESS THAN 30 DAYS SHALL BE TREATED WITH ANCHORED MUCH (WITHIN 5 DAYS OF THE LAST DEPOSIT OF STOCKPILED SOIL), OR PRIOR TO ANY RAINFALL OR COVERED WITH AND ANCHORED TARP WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.
- (B) ALL STOCKPILES ANTICIPATED TO REMAIN IN PLACE LONGER THAN 30 DAYS SHALL BE SEEDED WITH CONSERVATION MIX OF ANNUAL RYE GRASS (0.9 LB/1,000 SQ. FT.) AND MULCHED WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL OR COVERED WITH AN ANCHORED TARP WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.
- (C) INSTALL SILT FENCE AROUND STOCKPILE AT BASE OF PILE, STOCKPILES TO HAVE SILT FENCE INSTALLED AT TIME ESTABLISHMENT AT BASE OF PILE.
- 4. DISTURBED AREAS:
- (A) DISTURBED AREAS ANTICIPATED REMAINING UNDISTURBED FOR LESS THAN 30 DAYS UNTIL PERMANENTLY STABILIZED SHALL BE TREATED WITH ANCHORED MULCH WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.
- (B) DISTURBED AREAS ANTICIPATED TO REMAIN UNDISTURBED FOR MORE THAN 30 DAYS UNTIL PERMANENTLY STABILIZED SHALL BE TREATED SEEDED WITH CONSERVATION MIX OF ANNUAL RYE GRASS (0.9 LBS/1,000 SQ. FT.) AND MULCHED AT A RATE OF 150 LB. PER 1000 S.F. WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.
- 5. ALL GRADING WILL BE HELD TO A MAXIMUM 2:1 SLOPE WHERE PRACTICAL, ALL SLOPES WILL BE STABILIZED WITH PERMANENT SEEDING, OR WITH STONE, WITHIN 5 DAYS AFTER FINAL GRADING IS COMPLETE. (SEE POST-CONSTRUCTION REVEGETATION FOR SEEDING SPECIFICATION.) ALL SLOPES HAVING A GRADE GREATER THAN 8% WILL BE STABILIZED WITH RIP RAP OR PERMANENT SEEDING WITHIN 5 DAYS OF COMPLETING THE SLOPES FINAL GRADING.
- 6. THE CONTRACTOR SHALL WITHIN 24 HOURS OF PLACING A CULVERT PLACE STONE RIP RAP, APRON OR PLUNGE POOL, AT THE CULVERTS OUTLET. ALL CULVERTS WILL BE PROTECTED WITH STONE RIP RAP (D50 = 6" UNLESS OTHERWISE SPECIFIED) AT INLETS AND OUTLETS.
- 7. ANY DITCH SECTION BROUGHT TO FINAL GRADE WILL BE STABILIZED WITH RIP RAP LINED OR PROPERLY INSTALLED EROSION CONTROL BLANKETS (USED OVER PERMANENT SEEDING) WITHIN 5 DAYS.

POST-CONSTRUCTION REVEGETATION:

THE FOLLOWING GENERAL PRACTICES WILL BE USED TO PREVENT EROSION AS SOON AS AN AREA IS READY TO UNDERGO FINAL GRADING.

- 1. A MINIMUM OF 4" OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND GRADED TO A UNIFORM DEPTH AND NATURAL APPEARANCE, OR STONE WILL BE PLACED ON SLOPES TO STABILIZE SURFACES.
- 2. IF FINAL GRADING IS REACHED DURING THE NORMAL GROWING SEASON (4/15 TO 9/15), PERMANENT SEEDING WILL BE DONE AS SPECIFIED BELOW. PRIOR TO SEEDING, LIMESTONE SHALL BE APPLIED AT A RATE OF 138 LBS/1,000 SQ. FT. AND 10:20:20 FERTILIZER AT A RATE OF 18.4 LBS/1,000 SQ. FT. WILL BE APPLIED. BROADCAST SEEDING AT THE FOLLOWING RATES:

KENTUCKY BLUEGRASS 0.46 LBS/1,000 S.F. CREEPING RED FESCUE 0.46 LBS/1,000 S.F. PERENNIAL RYE GRASS 0.11 LBS/1,000 S.F.

RED TOP 0.05 LBS/1,000 S.F.

- TALL FESCUE 0.46 LBS/1,000 S.F.
- 3. AN AREA SHALL BE MULCHED IMMEDIATELY AFTER IS HAS BEEN SEEDED. MULCHING SHALL CONSIST OF HAY MULCH. HYDRO-MULCH. JUTE NET OVER MULCH, PRE-MANUFACTURED EROSION MATS OR ANY SUITABLE SUBSTITUTE DEEMED ACCEPTABLE BY THE DESIGNER
- (A) HAY MULCH SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE. HAY MULCH SHALL BE SECURED BY EITHER: (NOTE: SOIL SHALL
- 1. BEING DRIVEN OVER BY TRACKED CONSTRUCTION EQUIPMENT ON GRADES OF 5% AND LESS.
- 2. BLANKETED BY TACKED PHOTODEGRADABLE/BIODEGRADABLE NETTING. OR WITH SPRAY, ON GRADES GREATER THAN 5%.
- 3. SEE NOTE 6, GENERAL NOTES, AND NOTE 8, WINTER CONSTRUCTION.
- B. HYDRO-MULCH SHALL CONSIST OF A MIXTURE OF EITHER ASPHALT, WOOD FIBER OR PAPER FIBER AND WATER SPRAYED OVER A SEEDED AREA. HYDRO-MULCH SHALL NOT BE USED BETWEEN 9/15 AND 4/15.
- 4. CONSTRUCTION SHALL BE PLANNED TO ELIMINATE THE NEED FOR SEEDING BETWEEN SEPTEMBER 15 AND APRIL 15. SHOULD SEEDING BE NECESSARY BETWEEN SEPTEMBER 15 AND APRIL 15 THE FOLLOWING PROCEDURE SHALL BE FOLLOWED. ALSO REFER TO NOTE 9 OF WINTER CONSTRUCTION.
- (A) ONLY UNFROZEN LOAM SHALL BE USED.
- (B) LOAMING, SEEDING AND MULCHING WILL NOT BE DONE OVER SNOW OR ICE COVER. IF SNOW EXISTS, IT MUST BE REMOVED PRIOR TO
- (C) WHERE PERMANENT SEEDING IS NECESSARY, ANNUAL WINTER RYE (1.2 LBS/1,000 SQ. FT.) SHALL BE ADDED TO THE PREVIOUSLY NOTED
- (D) WHERE TEMPORARY SEEDING IS REQUIRED, ANNUAL WINTER RYE (2.6 LBS/1,000 SQ.FT.) SHALL BE SOWN INSTEAD OF THE PREVIOUSLY
- (E) FERTILIZING, SEEDING AND MULCHING SHALL BE APPLIED TO LOAM THE DAY THE LOAM IS SPREAD BY MACHINERY.
- (F) ALTERNATIVE HAY MULCH SHALL BE SECURED WITH PHOTODEGRADABLE/BIODEGRADABLE NETTING. TRACKING BY MACHINERY ALONE
- 5. FOLLOWING FINAL SEEDING, THE SITE WILL BE INSPECTED EVERY 30 DAYS UNTIL 85% COVER HAS BEEN ESTABLISHED. THE CONTRACTOR WILL CARRY OUT RESEEDING WITHIN 10 DAYS OF NOTIFICATION BY THE ENGINEER THAT THE EXISTING CATCH IS INADEQUATE.

MONITORING SCHEDULE:

THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING, MONITORING, MAINTAINING, REPAIRING, REPLACING AND REMOVING ALL OF THE EROSION AND SEDIMENTATION CONTROLS OR APPOINTING A QUALIFIED SUBCONTRACTOR TO DO SO. MAINTENANCE MEASURES WILL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION CYCLE. AFTER EACH RAINFALL, A VISUAL INSPECTION WILL BE MADE OF ALL EROSION AND SEDIMENTATION CONTROLS AS FOLLOWS:

- 1. HAY BALE BARRIERS, SILT FENCE, AND STONE CHECK DAMS SHALL BE INSPECTED AND REPAIRED ONCE A WEEK OR IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL. SEDIMENT TRAPPED BEHIND THESE BARRIERS SHALL BE EXCAVATED WHEN IT REACHES A DEPTH OF 6" AND REDISTRIBUTED TO AREA UNDERGOING FINAL GRADING. SHOULD THE HAY BALE BARRIERS PROVE TO BE INEFFECTIVE, THE CONTRACTOR SHALL INSTALL SILT FENCE BEHIND THE HAY BALES.
- 2. VISUALLY INSPECT RIP RAP ONCE A WEEK OR AFTER EACH SIGNIFICANT RAINFALL AND REPAIR AS NEEDED. REMOVE SEDIMENT TRAPPED BEHIND THESE DEVICES ONCE IT ATTAINS A DEPTH EQUAL TO 1/2 THE HEIGHT OF THE DAM OR RISER. DISTRIBUTE REMOVED SEDIMENT OFF-SITE OR TO AN AREA UNDERGOING FINAL GRADING.
- 3. REVEGETATION OF DISTURBED AREAS WITHIN 25' OF DRAINAGE-COURSE/STREAM WILL BE SEEDED WITH THE "MEADOW AREA MIX" AND INSPECTED ON A WEEKLY BASIS OR AFTER EACH SIGNIFICANT RAINFALL AND RESEEDED AS NEEDED. EXPOSED AREAS WILL BE RESEEDED AS NEEDED UNTIL THE AREA HAS OBTAINED 100% GROWTH RATE. PROVIDE PERMANENT RIP RAP FOR SLOPES IN EXCESS OF 3:1 AND WITHIN 25' OF DRAINAGE COURSE.

EROSION CONTROL DURING WINTER CONSTRUCTION:

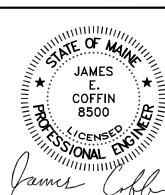
- 1. WINTER CONSTRUCTION PRIOR: NOVEMBER 1 THROUGH APRIL 15.
- 2. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.
- 3. EXPOSED AREA SHALL BE LIMITED TO THOSE AREAS TO BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT. ATE END OF EACH WORK WEEK NO AREAS MAY BE LEFT UNSTABILIZED OVER THE WEEKEND.
- 4. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED, SUCH TAT NO LARGER AREA OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION AS LISTED IN ITEM 2
- 5. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW OR HAY AT A RATE OF 150 LB. PER 1,000 B.F. (WITH OR WITHOUT SEEDING) OR DORMANT SEEDED, MULCHED AND ANCHORED SUCH TAT SOIL SURFACE IS NOT VISIBLE THROUGH THEY MULCH. NOTE: AN AREA TO BE USED AS A ROAD OR VEHICLE PARKING LOT IS ALSO CONSIDERED STABLE IF SODDED, COVERED WITH COMPACTED GRAVEL SUBBASE OR COMPACTED STRUCTURAL SAND.
- 6. BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES THE SLOPES SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1 AND IF THE EXPOSED AREA HAS BEEN LOAMED, FINAL GRADED WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED. IF CONSTRUCTION CONTINUES DURING FREEZING WEATHER, ALL EXPOSED AREAS SHALL BE CONTINUOUSLY GRADED BEFORE FREEZING AND THE SURFACE TEMPORARILY PROTECTED FROM EROSION BY THE APPLICATION OF MULCH. SLOPES SHALL NOT BE LEFT UNEXPOSED OVER THE WINTER OR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS TREATED IN THE ABOVE MANNER, UNTIL SUCH TIME AS EITHER CONDITIONS ALLOW, DITCHES TO BE FINISHED WITH THE PERMANENT SURFACE TREATMENT. EROSION SHALL BE CONTROLLED BY THE INSTALLATION OF BALES OF HAY, SILT FENCE OR STONE CHECK DAMS IN ACCORDANCE WITH THE STANDARD DETAILS SHOWN ON THE DESIGN DRAWINGS. NOTE: DORMANT SEEDING SHOULD NOT BE ATTEMPTED UNLESS SOIL TEMPERATURE REMAINS ABOVE 50 DEGREES AND DAY TIME TEMPERATURES REMAIN IN THE 30'S.
- 7. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 3% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8% VEGETATED DRAINAGE SWALES SHALL BE LINED WITH EXCELSIOR OR CURLEX.
- 8. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH SLOPES GREATER THAN 15%. AFTER OCTOBER 1 THE SAME APPLIES FOR ALL SLOPES GREATER THAN 8%.
- 9. WINTER RYE IS RECOMMENDED FOR STABILIZATION UNTIL OCTOBER 1ST. AFTER OCTOBER 1, WINTER RYE IS NOT EFFECTIVE. AROUND NOVEMBER 15 OR LATER, ONCE TEMPERATURES OF THE AIR AND SOIL PERMIT, DORMANT SEEDING IS EFFECTIVE.
- 10. IN THE EVENT OF SNOWFALL (FRESH OR CUMULATIVE) GREATER THAN 1 INCH DURING WINTER CONSTRUCTION PERIOD ALL SNOW SHALL BE REMOVED FROM THE AREAS OF SEEDING AND MULCHING PRIOR TO PLACEMENT.

GUIDELINES FOR STABILIZING SITES FOR THE WINTER:

- 1. STANDARD FOR THE TIMELY STABILIZATION OF DITCHES AND CHANNELS. THE CONTRACTOR WILL CONSTRUCT AND STABILIZE ALL STONE-LINED DITCHES AND CHANNELS ON THE SITE BY NOVEMBER 15TH. THE CONTRACTOR WILL CONSTRUCTION AND STABILIZE ALL GRASS-LINED DITCHES AND CHANNELS ON THE SITE BY SEPTEMBER 1ST. IF THE CONTRACTOR FAILS TO STABILIZE A DITCH OR CHANNEL TO BE GRASS-LINED BY SEPTEMBER 1ST, THEN THE CONTRACTOR WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE DITCH FOR LATE FALL AND WINTER.
- (A) INSTALL A SOD LINING IN THE DITCH: THE CONTRACTOR WILL LINE THE DITCH WITH PROPERLY INSTALLED SOD BY OCTOBER 1ST. PROPER INSTALLATION INCLUDES THE CONTRACTOR PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL, AND ANCHORING SOD AT THE BASE OF THE DITCH WITH JUTE OR PLASTIC MESH TO PREVENT THE SOD FROM SLOUGHING DURING FLOW CONDITIONS.
- (B) INSTALL A STONE LINING IN THE DITCH: THE CONTRACTOR WILL LINE THE DITCH WITH STONE RIP RAP BY NOVEMBER 15TH. THE DEVELOPMENT'S OWNER WILL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE AND LINE THICKNESS NEEDED TO WITHSTAND THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHIN THE DITCH. IF NECESSARY, THE CONTRACTOR WILL REGRADE THE DITCH PRIOR TO PLACING THE STONE LINING SO AS TO PREVENT THE STONE LINING FORM REDUCING THE DITCH'S CROSS-SECTIONAL AREA.
- 2. STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SLOPES: THE CONTRACTOR WILL CONSTRUCT AND STABILIZE STONE COVERED SLOPES BY NOVEMBER 15. THE CONTRACTOR WILL SEED AND MULCH ALL SLOPES TO BE VEGETATED BY SEPTEMBER 1. THE DEPARTMENT WILL CONSIDER ANY AREA HAVING A GRADE GREATER THAN 15% TO BE A SLOPE. IF THE CONTRACTOR FAILS TO STABILIZE ANY SLOPE TO BE VEGETATED BY SEPTEMBER 15. THEN THE CONTRACTOR WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SLOPE FOR LATE FALL
- (A) STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS BY OCTOBER 1 THE CONTRACTOR WILL SEED THE DISTURBED SLOPE WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1,000 SQUARE FEET AND THEN INSTALL EROSION CONTROL MATS OR ANCHORED MULCH OVER THE SEEDING. THE CONTRACTOR WILL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 75% OF THE SLOPE BY NOVEMBER 1, THEN THE CONTRACTOR WILL COVER THE SLOPE WITH A LAYER OF WOOD-WASTE COMPOST AS DESCRIBED IN ITEM 3 OF THIS STANDARD OR WITH STONE RIP RAP AS DESCRIBED IN ITEM 4 OF THIS STANDARD.
- (B) STABILIZE THE SLOPE WITH SOD: THE CONTRACTOR WILL STABILIZE THE DISTURBED SLOPE WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE CONTRACTOR PINNING THE SOD ONTO THE SLOPE WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL. THE CONTRACTOR WILL NOT USE LATE-SEASON SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 33% (3H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
- (C) STABILIZE THE SLOPE WITH WOOD-WASTE COMPOST: THE CONTRACTOR WILL PLACE A SIX-INCH LAYER OF WOOD-WASTE COMPOST ON THE SLOPE BY NOVEMBER 15. THE CONTRACTOR WILL NOT USE WOOD-WASTE COMPOST TO STABILIZE SLOPES HAVING GRADES GREATER THAN 50% (2H: 1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
- (D) STABILIZE THE SLOPE WITH STONE RIP RAP: THE CONTRACTOR WILL PLACE A LAYER OF STONE RIP RAP ON THE SLOPE BY NOVEMBER 15. THE DEVELOPMENT'S OWNER WILL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY ON THE SLOPE AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIP RAP.
- 3. STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SOILS: BY SEPTEMBER 15 THE CONTRACTOR WILL SEED AND MULCH ALL DISTURBED SOILS ON THE SITE. IF THE CONTRACTOR FAILS TO STABILIZE THESE SOILS BY THIS DATE, THEN THE CONTRACTOR WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.
- (A) STABILIZE THE SOIL WITH TEMPORARY VEGETATION: BY OCTOBER 1 THE CONTRACTOR WILL SEED THE DISTURBED SOIL WITH WINTER RYE AT SEEDING RATE OF 3 POUNDS PER 1,000 SQUARE FEET, LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 POUNDS PER 1,0000 SQUARE FEET, AND ANCHOR THE MULCH WITH PLASTIC NETTING THE CONTRACTOR WILL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS T COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER 1, THEN THE CONTRACTOR WILL MULCH THE AREA FOR OVER PROTECTION AS DESCRIBED IN ITEM 3 OF THIS STANDARD.
- (B) STABILIZE THE SOIL WITH SOD: THE CONTRACTOR WILL STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE CONTRACTOR PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PRONTO ROOT GROWTH INTO THE DISTURBED SOIL.
- (C) STABILIZE THE SOIL WITH MULCH: BY NOVEMBER 15 THE CONTRACTOR WILL MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 POUNDS PER 1,000 SQUARE FEET ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. IMMEDIATELY AFTER APPLYING THE MULCH, THE CONTRACTOR WILL ANCHOR THE MULCH WITH NETTING OR OTHER METHOD TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.

SITE INSPECTION AND MAINTENANCE:

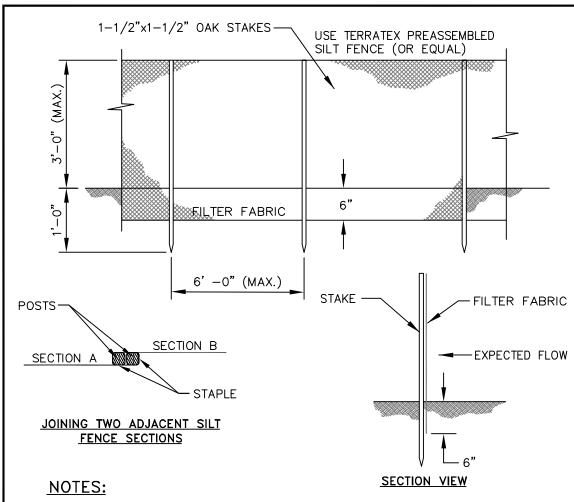
- 1. WEEKLY INSPECTIONS, AS WELL AS ROUTINE INSPECTIONS FOLLOWING RAIN FALLS, SHALL BE CONDUCTED BY GENERAL CONTRACTOR OF ALL TEMPORARY AND PERMANENT EROSION CONTROL DEVICES UNTIL FINAL ACCEPTANCE OF THE PROJECT (85% GRASS CATCH). NECESSARY REPAIRS SHALL BE MADE TO CORRECT UNDERMINING OR DETERIORATION. FINAL ACCEPTANCE SHALL INCLUDE A SITE INSPECTION TO VERIFY THE STABILITY OF ALL DISTURBED AREAS AND SLOPES. UNTIL FINAL INSPECTION, ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL IMMEDIATELY BE CLEANED, AND REPAIRED BY THE GENERAL CONTRACTOR AS REQUIRED. DISPOSAL OF ALL TEMPORARY EROSION AND CONTROL DEVICES SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
- IT IS RECOMMENDED THAT THE OWNER HIRE THE SERVICES OF THE DESIGN ENGINEER TO PROVIDE COMPLIANCE INSPECTIONS (DURING ACTIVE CONSTRUCTION) RELATIVE TO IMPLEMENTATION OF THE STORMWATER AND EROSION CONTROL PLANS. SUCH INSPECTIONS SHOULD BE LIMITED TO ONCE A WEEK OR AS NECESSARY AND BE REPORTABLE TO THE OWNER, TOWN AND DEP.
- 2. SHORT-TERM SEDIMENTATION MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CLEAN OUT ALL SWALES AND STRUCTURES PRIOR TO TURNING PROJECT OVER.
- 3. LONG-TERM PROVISIONS FOR PERMANENT MAINTENANCE OF ALL EROSION AND SEDIMENTATION CONTROL DEVICES AFTER ACCEPTANCE OF THE PROJECT SHALL BE THE RESPONSIBILITY OF THE OWNER, TOWN OR THEIR DESIGNEE.





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PROJ. NO. 2023-047



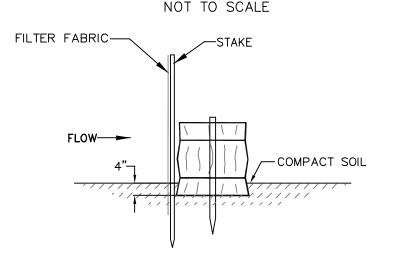
SILT FENCE AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

SHOULD THE FABRIC ON A SILT FENCE OF FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL IS NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.

SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.

THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC. SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.

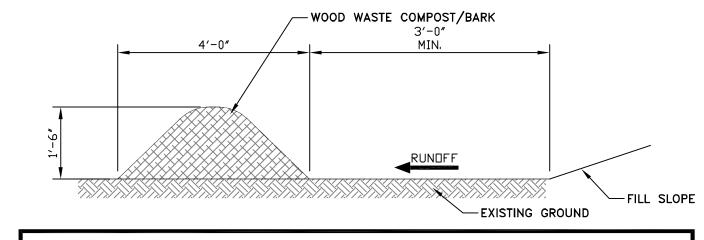
SILT FENCE DETAIL



SILT FENCE/BALE BARRIER DETAIL NOT TO SCALE

SECTION VIEW

ANY SEDIMENT BARRIERS LOCATED AT LOW POINTS OR SUBJECT TO PONDING ALONG THE FENCE SHALL BE REINFORCED AS SHOWN ABOVE WITH A COMBINATION OF HAYBALES & SILT FENCE. THE CONTRACTOR SHALL REMOVE SEDIMENT TRAPPED AT THESE LOW POINTS AFTER EVERY STORM EVENT.



WOOD WASTE COMPOST/BARK FILTER BERMS

THE FILTER BERM SHALL CONSIST OF A WOOD WASTE COMPOST/BARK MULCH MIX OR RECYCLED COMPOSTED BARK FLUME GRIT AND FRAGMENTED WOOD GENERATED FROM WATER-FLUME LOG HANDLING SYSTEMS. COMPOSTED MIXES CAN BE USED UPON APPROVAL OF THE OFFICE OF ENVIRONMENTAL SERVICES LANDSCAPE UNIT.

- THE MIX SHALL CONFORM TO THE FOLLOWING STANDARDS:
- A. MOISTURE CONTENT 30-60%
- B. pH 5.0-8.0 C. SCREEN SIZE - 100% LESS THAN 3", MAXIMUM 70% LESS THAN 1". D. NO LESS THAN 40% ORGANIC MATERIAL (DRY WEIGHT) BY LOSS OF IGNITION
- E. NO STONES LARGER THAN 2" IN DIAMETER
- THE COMPOSTED BERM SHALL BE PLACED, UNCOMPACTED, ALONG A RELATIVELY LEVEL CONTOUR.

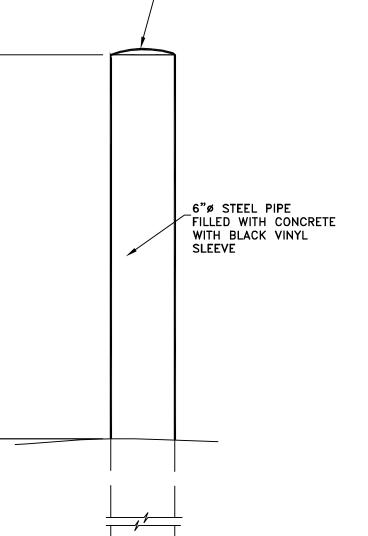
NOTE:

WOOD WASTE COMPOST/BARK FILTER BERMS MAY BE USED IN COMBINATION WITH SILT FENCE TO IMPROVE SEDIMENT REMOVAL AND PREVENT CLOGGING OF THE WOOD WASTE COMPOST/BARK BERM BY LARGER SEDIMENT PARTICLES. (SILT FENCE PLACED TO FILTER RUNOFF BEFORE WOOD WASTE COMPOST/BARK)

WOOD WASTE COMPOST/BARK FILTER BERM ALTERNATIVE

NOT TO SCALE

- ROUNDED CONCRETE CAP



BOLLARD DETAIL

GENERAL NOTES

1. AGGREGATE FOR GRAVEL BASE

AGGREGATE FOR GRAVEL BASE SHALL BE SCREENED OR CRUSHED GRAVEL OF HARD DURABLE PARTICLES FREE FROM VEGETABLE MATTER, LUMPS OR BALLS OF CLAY AND OTHER DELETERIOUS SUBSTANCES. THE GRADATION OF THE PART THAT PASSES A 3 INCH SIEVE SHALL MEET THE GRADING REQUIREMENTS OF THE FOLLOWING TABLE:

SIEVE DESIGNATION	PERCENTAGE BY WEIGHT PASSING SQUARE MESH SIEVES		
	TYPE A AGGREGATE	TYPE D AGGREGATE	STRUCTUR <i>I</i> FILL
2" / 3" / 4"	100 (2")	100 (3")	100 (4")
1/2 INCH	45-70	35-80	90-100
1/4 INCH	30-55	25–65	25-90
No. 40	0-20	0-30	0-30
No. 200	0-6	0-7	0-5

TYPE "A" AGGREGATE SHALL NOT CONTAIN PARTICLES WHICH WILL NOT PASS THE 2 INCH SQUARE MESH SIEVE.

TYPE "D" AGGREGATE SHALL NOT CONTAIN PARTICLES WHICH WILL NOT PASS THE 6 INCH SQUARE MESH SIEVE.

EACH LAYER AS APPLIED SHALL BE ROLLED WITH A 20 TON ROLLER. THE MATERIAL AS SPREAD SHALL BE WELL MIXED WITH NO POCKETS OF EITHER FINE OR COARSE MATERIAL. OVER SIZED STONES SHALL BE REMOVED FROM THE AGGREGATE. EACH LAYER OF AGGREGATE SHALL BE PLACED OVER THE FULL WIDTH OF THE SECTION. AGGREGATE BASE AND SUB-BASE COURSES MAY BE PLACED UPON FROZEN SURFACES WHEN SUCH SURFACES HAVE BEEN PROPERLY CONSTRUCTED.

THE SURFACE OF EACH LAYER SHALL BE MAINTAINED DURING COMPACTION OPERATIONS IN SUCH A MANNER THAT A UNIFORM TEXTURE IS PRODUCED AND THE AGGREGATE IS FIRMLY KEYED. THE MOISTURE CONTENT OF THE MATERIAL SHALL BE MAINTAINED AT THE PROPER PERCENT TO ATTAIN THE REQUIRED COMPACTION AND STABILITY. COMPACTION OF EACH LAYER SHALL BE CONTINUED UNTIL DENSITY OF NOT LESS THAN 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557 "MODIFIED PROCTOR DENSITY" HAS BEEN ACHIEVED FOR THE FULL WIDTH AND DEPTH OF EACH LAYER AS APPLIED.

THE SURFACE TOLERANCE OF EACH BASE COURSE AS APPLIED SHALL BE 3/8 INCHES ABOVE OR BELOW THE REQUIRED TEMPLATE LINES.

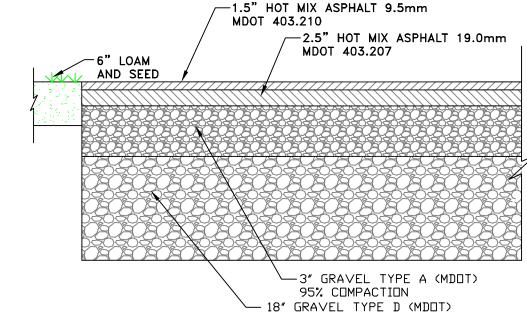
2. AGGREGATE FOR SUB-BASE

AGGREGATE FOR SUB-BASE SHALL BE TYPE "D" (MDOT). IT SHALL BE FREE FROM VEGETABLE MATTER, LUMPS OR BALLS OF CLAY AND OTHER DELETERIOUS SUBSTANCES.

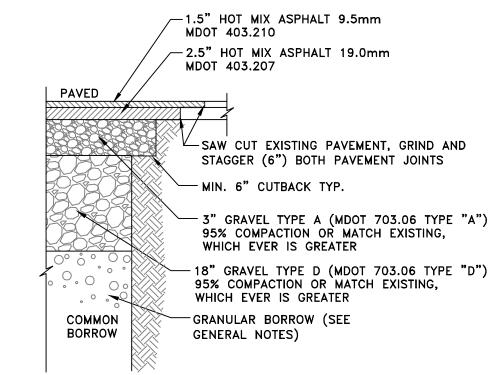
3. COMMON BORROW

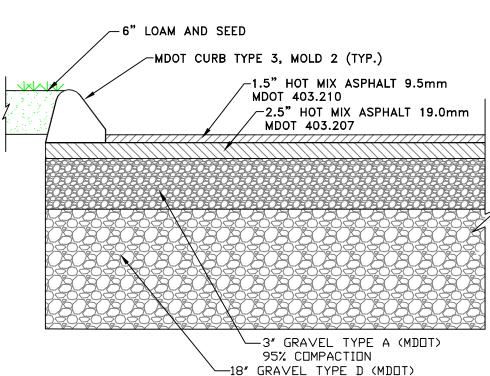
COMMON BORROW SHALL CONSIST OF EARTH, SUITABLE FOR EMBANKMENT CONSTRUCTION. IT SHALL BE FREE FROM FROZEN MATERIAL, PERISHABLE RUBBISH, PEAT AND OTHER UNSUITABLE MATERIAL THE MOISTURE CONTENT SHALL BE SUFFICIENT TO PROVIDE THE REQUIRED COMPACTION AND STABLE EMBANKMENT. IN NO CASE SHALL THE MOISTURE CONTENT EXCEED 4 PERCENT ABOVE OPTIMUM.

ALL COMMON BORROW AND GRAVEL AREAS TO BE COMPACTED TO 95% OF ITS MAX. DRY DENSITY AS DETERMINED BY ASTM D-1557 "MODIFIED PROCTOR DENSITY". PLACE IN 9" TO 12" LIFTS.



95% COMPACTION PAVED PARKING AND DRIVE DETAIL NOT TO SCALE

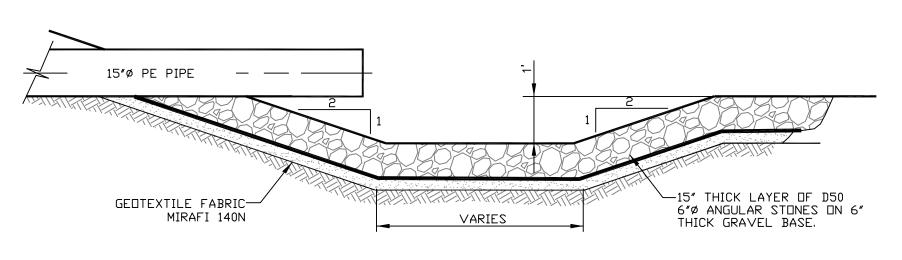




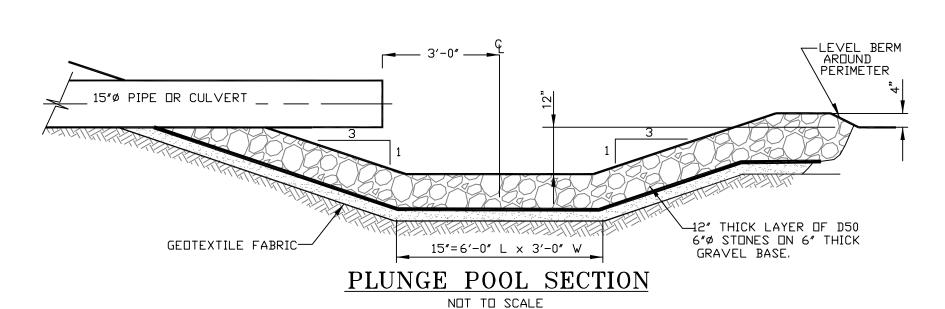
BUTT JOINT DETAIL

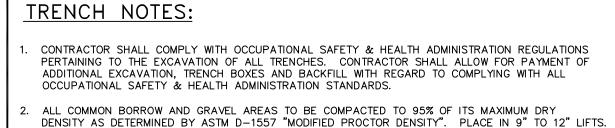
NOT TO SCALE

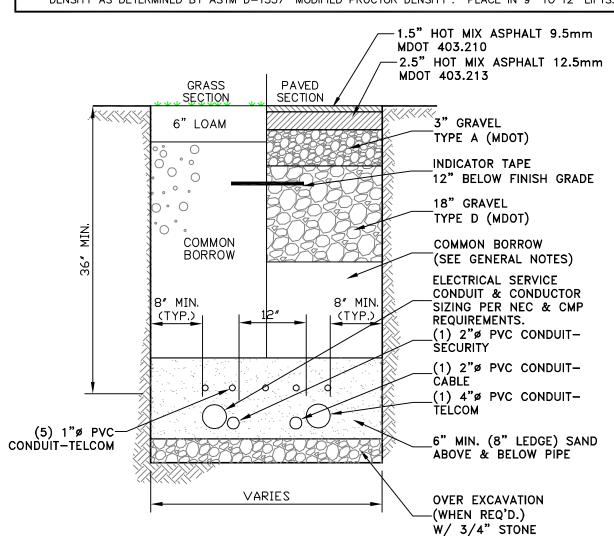
—18″ GRAVEL TYPE D (MDOT) 95% COMPACTION BITUMINOUS CAPE COD CURB DETAIL



SEDIMENT FOREBAY SECTION NOT TO SCALE

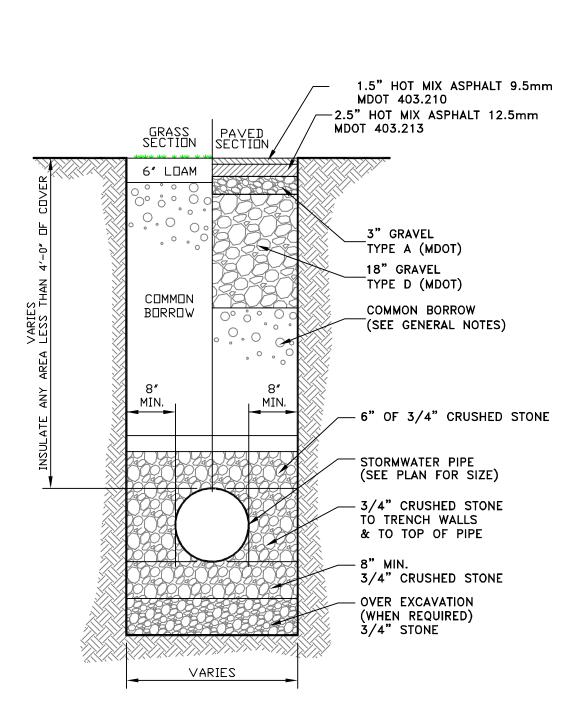




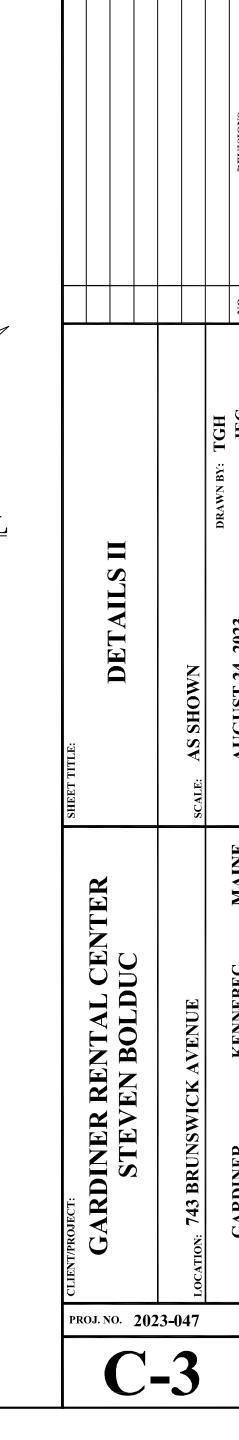


TYPICAL ELECTRICAL/SITE LIGHTING TRENCH SECTION

NOT TO SCALE



TYPICAL STORMWATER TRENCH SECTION NOT TO SCALE



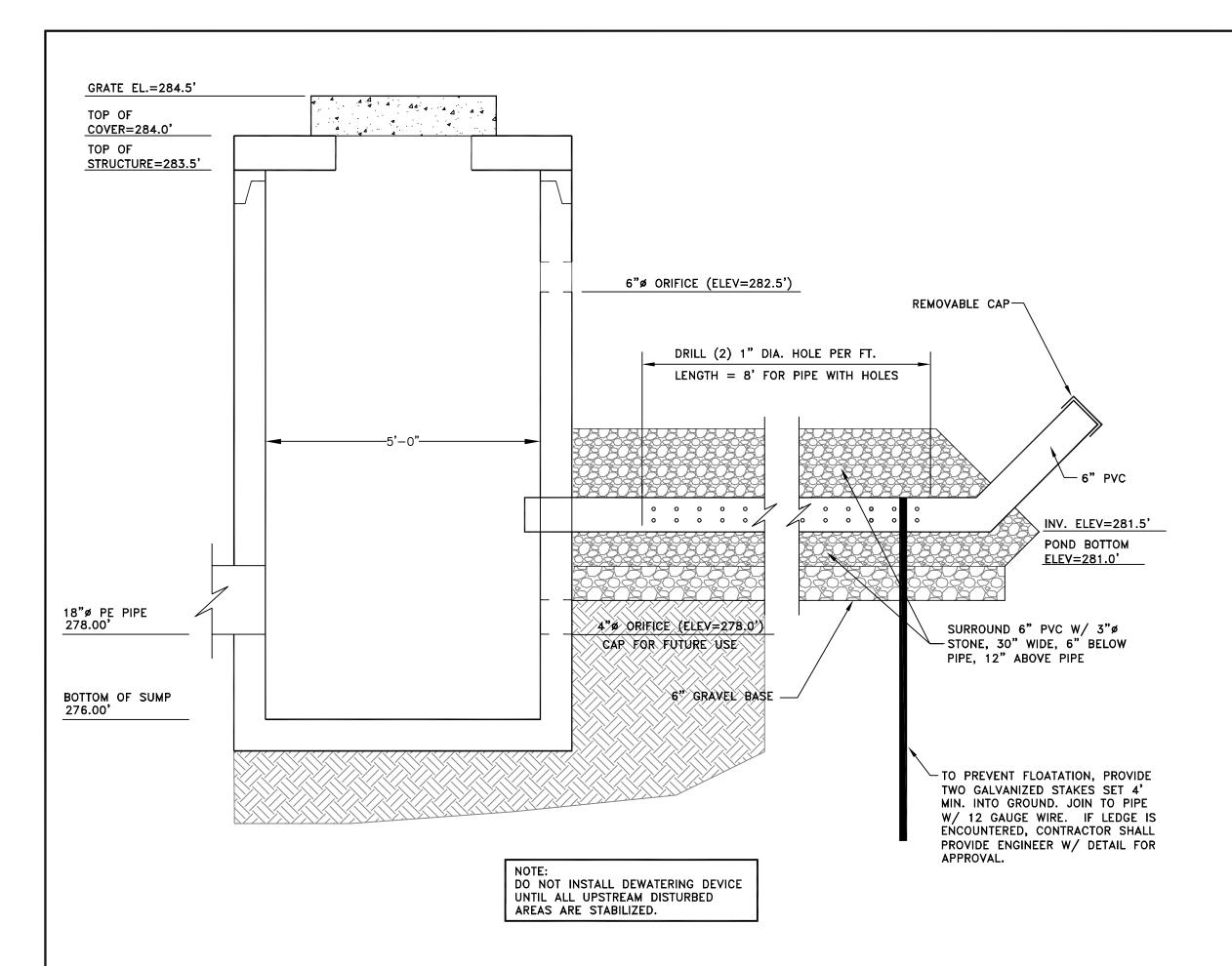
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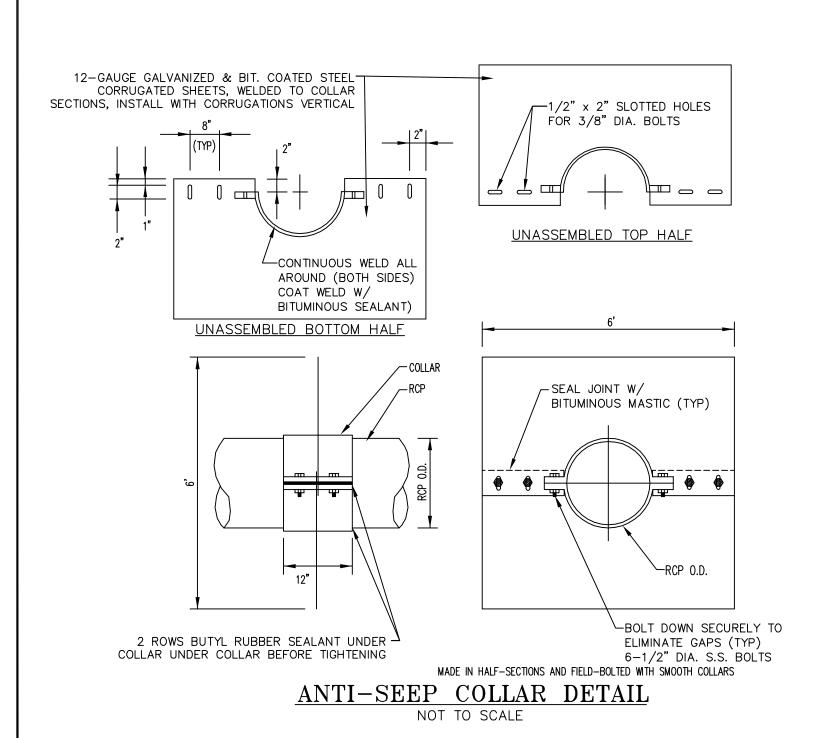
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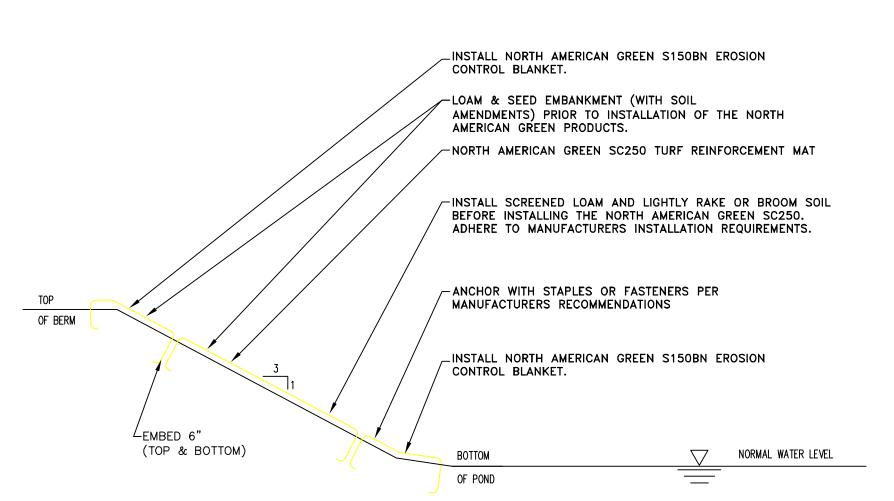
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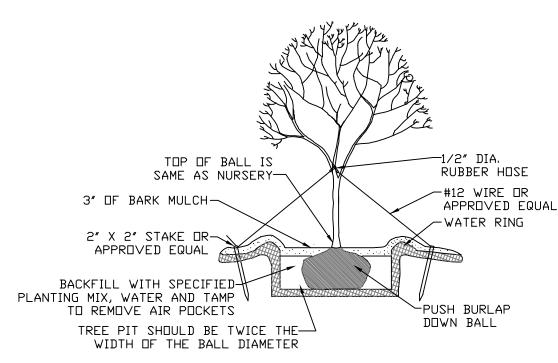
OUTLET CONTROL STRUCTURE

NOT TO SCALE



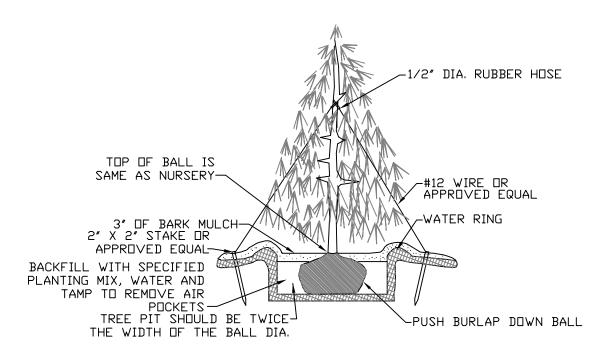


PROTECTIVE LINING AT POND FILL SLOPE (BOTH SIDES)

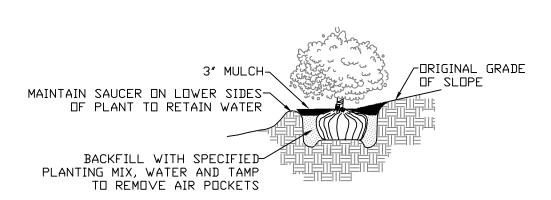


DECIDUOUS TREE PLANTING

NOT TO SCALE

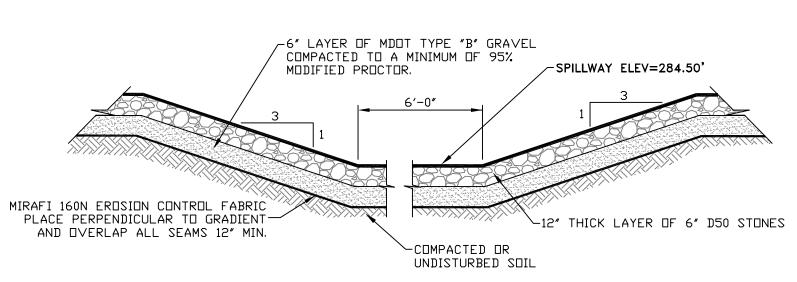


CONIFEROUS TREE PLANTING



SHRUB PLANTING ON SLOPES

NOT TO SCALE



TYPICAL SPILLWAY SECTION

NOT TO SCALE

CONSTRUCTION OVERSIGHT NOTES:

The applicant will retain the services of a professional engineer to inspect the construction and stabilization of all stormwater management structures to be built as part of the project. If necessary, the inspecting engineer will interpret the construction plans for the contractor. Once all stormwater management structures are constructed and stabilized, the inspecting engineer will notify the department in writing within 30 days to state that the structures have been completed. Accompanying the engineer's notification must be a copy of the test results for any soil fill, aggregate, or mulch materials used in the construction of the stormwater management structures and a log of the engineer's inspections giving the date of each inspection, the time of each inspection, and the items inspected on each visit.

UNDERDRAINED FILTER BASINS

Construction Oversight: At a minimum, the professional engineer's inspection will occur after foundation soil preparation but prior to placement of the embankment fill, after the underdrain pipes are installed but not backfilled, after the pipe bedding fill is placed but prior to the placement of the filter media, after the filter media has been placed and the filter surface seeded.

Testing and Submittals: All the soil, mulch, and aggregate used for the construction of the vegetated underdrained soil filter basin must be confirmed as suitable by testing. The contractor shall identify the source of each material and obtain samples for each material for testing. All testing must be done by a certified laboratory. All results of field and laboratory testing shall be submitted to the project engineer for confirmation. It shall be the contractor's responsibility to ensure completion of the following sampling and testing before the fill or aggregate is placed as part of the vegetated underdrained soil filter basin's construction.

- Obtain samples of the sandy soil, topsoil, and wood fiber mulch (or other approved organic source) to be blended to make the filter media. Samples must be a composite of three different locations (grabs) from the stockpile or pit face. The sample size required will be determined by the testing laboratory.
- Perform analyses of the blended filter media showing it has 8% to 12% by weight passing the #200 sieve (as determined by a sieve analysis), a clay content of less than 2% (as determined hydrometer grain size analysis), and has an organic matter content of no less than 10% by dry weight.
- Obtain a sample of the gravel fill to be used for the coarse gravel transition zone above the crushed stone pipe bedding. The sample must be a composite of three different locations (grabs) from the stockpile or pit face. The sample size required will be determined by the testing laboratory.
- Perform a sieve analysis conforming to ASTM C136 (Standard Test Method for Sieve Analysis of Fine and Course Aggregates 1996A) of the gravel to be used for the underdrain pipe bedding. The gravel fill must conform to MEDOT specification 703.22 Underdrain Type B.

CONSTRUCTION DEWATERING NOTES:

SPECIFICATIONS:

Dewatering excavated areas must be in two distinct phases. The removal of the collected water within the excavation and the treatment of the collected water.

Physical Dewatering:

The removal of water from the excavated area can be accomplished by numerous methods.

The most common of these are: gravity drain through daylight channels, mechanical pumping, siphoning, and using the bucket of construction equipment to scoop and dump water from the excavation.

- 1) Channels dug for discharging water from the excavated area need to be stable. If flow velocities cause erosion within the channel then a ditch lining should be used.
- 2) Bucketed water should be discharged in a stable manner to the sediment removal area. A splash pad of riprap underlain with geotextile may be necessary to prevent scouring of the soil in the basin.
- 3) Dewatering in periods of intense, heavy rain, when the infiltrative capacity of the soil is exceeded, should be avoided.

Sediment Removal:

Methods of settling or filtering sediment are listed below.

- 1) Flow to the sediment removal structure may not exceed the sediment removal structure's capacity to settle and filter flow or the structure's volume capacity.
- Sediment Removal Basins should discharge wherever possible to a well-vegetated buffer through sheet flow and should maximize the distance to the nearest water resources and minimizing the slope of the buffer area.
- 3) Various basin designs have been proposed in past projects.4) An enclosure of Jersey Barriers lined with a large piece of slit tape g
- 4) An enclosure of Jersey Barriers lined with a large piece of slit tape geotextile.5) A temporary enclosure constructed with hay bales, silt fence, or both. Erosion control
- mix also may be incorporated with silt fence or hay bales.

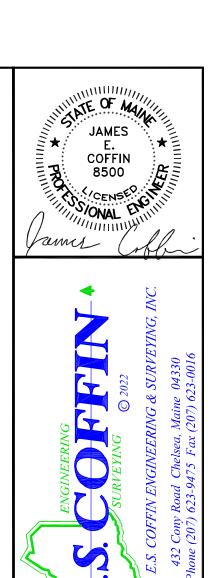
 6) Direct discharge of lightly sediment bearing water may be able to go directly into
- wellbuffered areas with 0-2% slope as long as a method of spreading flow into sheet flow is available.
- Discharge to a manufactured / pre-made structure specifically designed for sediment removal, like a Silt Sak, Silt Bag, or other similar product.
- 8) Concrete or steel settling chambered systems for sediment removal.9) Excavated or bermed sedimentation ponds or structures. Side slopes no greater than
- 2 to 1, or with a combined interior and exterior slope of no greater than 5 to 1. See the SEDIMENT TRAP BMP section.

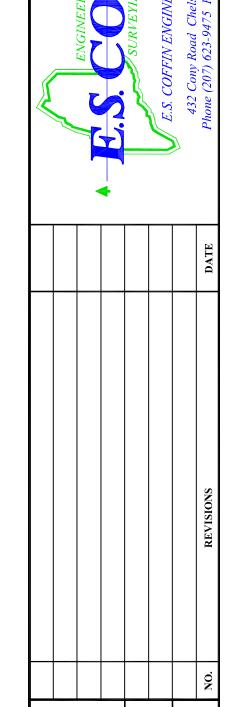
Installation Requirements:

- 1) For trench excavation, limit the trench length to 500 feet and place the excavated material on the up gradient side of the trench.
- 2) Install diversion ditches or berms to minimize the amount of clean stormwater runoff allowed into the excavated area.
- 3) Never discharge to areas that are bare or newly vegetated.

MAINTENANCE

During the active dewatering process, inspection of the dewatering facility should be reviewed frequently. Special attention should be paid to the buffer area for any sign of erosion and concentration of flow that may compromise the buffer area. Observe where possible the visual quality of the effluent and determine if additional treatment can be provided.





ARDINER RENTAL CENTER

STEVEN BOLDUC

ASSALE

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SCALE: AS SHOWN

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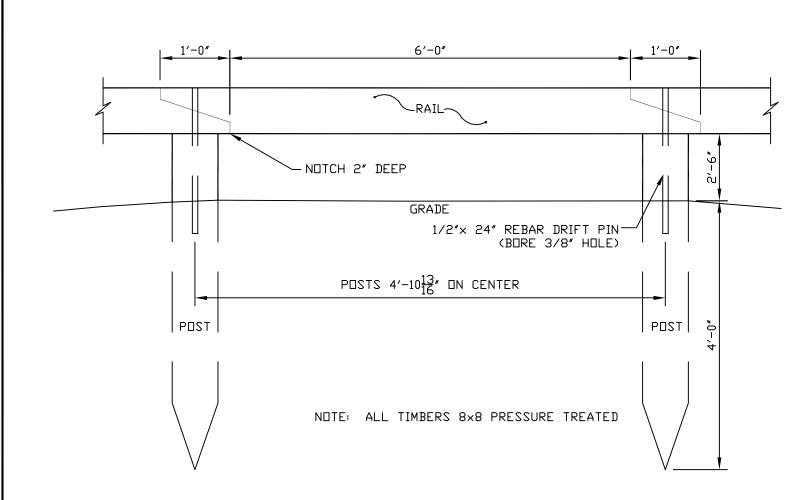
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COUNTY: KENNEBEC STATE: MAINE

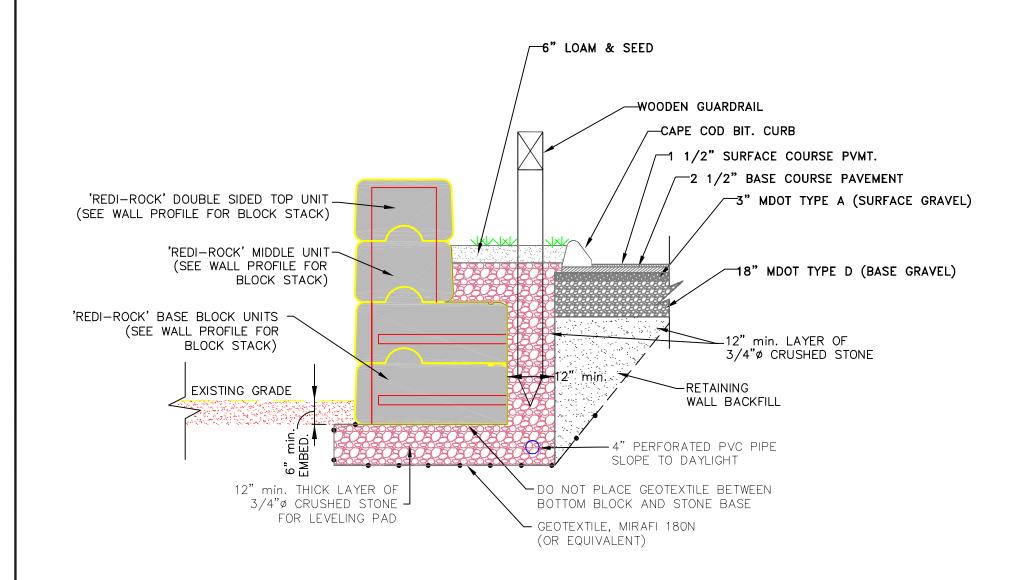
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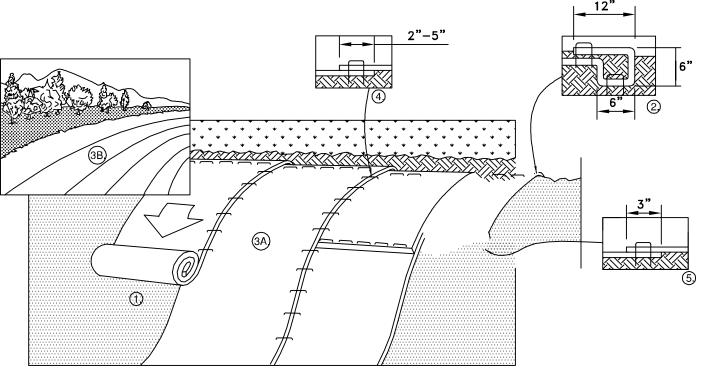
PROJ. NO. 2023-047



WOODEN GUARDRAIL DETAIL



TYPICAL RET. WALL CROSS SECTION NOT TO SCALE



- 1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
- 2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP'S IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF RECP'S EXTENDED BEYOND THE UP-SLOPÉ PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY`SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's.
- 3. ROLL THE RECP'S (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RÉCP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM™, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN. 4. THE EDGES OF PARALLEL RECP'S MUST BE STAPLED WITH APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) OVERLAP DEPENDING
- 5. CONSECUTIVE RECP'S SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE
- *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.

NORTH AMERICAN GREEN C350 TRM SLOPE INSTALLATION

MATERIAL SPECIFICATIONS

INSTALL 3/4" Ø DRAINAGE STONE AND WALL BACKFILL SOIL BEHIND THE WALL. COMPACT WALL BACKFILL IN LIFTS NOT EXCEEDING 18".

SWEEP OFF TOP OF BLOCKS AND GRIND SMOOTH ANY ROUGH EDGES ON THE BACK OF THE BLOCKS TO AVOID DAMAGE TO GEOGRID.

CONTRACTOR SHALL TAKE PRECAUTIONS DURING THE INSTALLATION AND COMPACTION OF THE DRAINAGE AND BACKFILL MATERIAL TO ENSURE THAT WALL BACKFILL DOES NOT CONTAMINATE THE DRAINAGE STONE DIRECTLY BEHIND THE WALL. REMOVE AND REPLACE ANY AREAS OF DRAINAGE MATERIAL THAT INADVERTENTLY BECOMES CONTAMINATED DURING THE BACKFILLING OPERATION.

CONTINUE PLACEMENT OF BLOCK WALL. DRAINAGE AGGREGATE AND WALL BACKFILL SOIL TO FULL HEIGHT OF WALL MAINTAINING HORIZONTAL AND VERTICAL ALIGNMENT DURING CONSTRUCTION. USE SMALL VIBRATORY PLATE COMPACTOR WITHIN 3' OF THE BACK OF THE WALL.

3/4"ø DRAINAGE STONE SHALL BE CLEAN ANGULAR CRUSHED STONE MEETING THE FOLLOWING GRADATION AS DETERMINED IN ACCORDANCE WITH ASTM D422. SIEVE SIZE PERCENT PASSING

WALL BACKFILL SHALL BE A FREE DRAINING, WELL GRADED GRANULAR MATERIAL MEETING THE FOLLOWING GRADATION (REFERENCE MDOT 703.22, GRAVEL BORROW).

- SIEVE SIZE PERCENT PASSING 100 4" 1/4" 25 - 70
- No. 40 0 30 No. 200 0 - 5

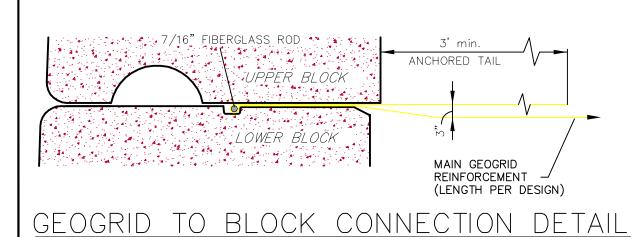
BLOCKS SHALL BE 28", 41" AND 60" REDI-ROCK, UNDER LICENSE OF REDI-ROCK INTERNATIONAL, VERTICAL BATTER. COLOR AND FACING TO BE SELECTED BY OWNER BASED ON SAMPLES PROVIDED BY MANUFACTURER. SETBACK SHALL BE 0.01 INCHES PER BLOCK.

- THE FOLLOWING ASSUMPTIONS WERE USED IN THE DESIGN:
- A) SLOPE AT TOP OF WALL IS LEVEL. B) MINIMUM DESIGN EMBEDMENT AT WALL FACE VARIES
- C) SOIL PROPERTIES: FOUNDATION SOIL: NATIVE, UNIT WEIGHT = 125 pcf, phi = 30°
- RETAINED SOIL: NATIVE, UNIT WEIGHT = 130 pcf, phi = 34°
- D) LIVE LOAD SURCHARGE = 250 psf E) GROUNDWATER AT OR BELOW BASE OF WALL
- F) SEISMIC DESIGN COEFFICIENT = 0.08
- G) MAXIMUM CONTACT PRESSURE = 3,500 psf
- GEOTEXTILE SHALL CONSIST OF MIRAFI 180N OR EQUIVALENT.

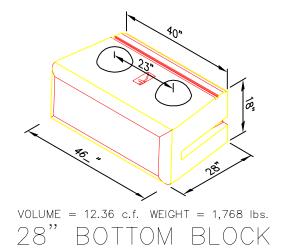
CONCRETE FOR WALL BASE FOOTINGS SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000psi AND BE AIR ENTRAINED AS REQUIRED TO PROVIDE AN AIR CONTENT OF 5% (;1%).

GENERAL NOTES

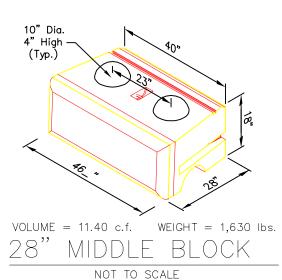
- 1) IT IS THE RESPONSIBILITY OF THE OWNER, CONTRACTOR OR THEIR RESPECTIVE REPRESENTATIVES TO ENSURE THAT CONSTRUCTION OF THE WALL AND MATERIALS USED IN THE CONSTRUCTION OF THE WALL ARE IN ACCORDANCE WITH THESE SPECIFICATIONS AND/OR THE CONTRACT SPECIFICATIONS WHICH EVER ARE MORE STRINGENT.
- 2) E.S. COFFIN ENGINEERING & SURVEYING ACCEPTS NO RESPONSIBILITY NOR LIABILITY IN THE DETERMINATION OF THE ADEQUACY OF SITE MATERIALS AND WALL LAYOUT.
- 3) PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL VERIFY THAT ALL ELEVATIONS AND ASSUMED SITE CONDITIONS SHOWN ON THESE DRAWINGS ARE ACCURATE TO THE GIVEN SITE CONDITIONS. ANY DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF S.G.S. PRIOR TO THE START OF CONSTRUCTION.
- 4) THE WALL HAS BEEN DESIGNED ON THE ASSUMPTION THAT THE WALL BACKFILL MATERIAL SHALL BE FREE OF SUBSURFACE DRAINAGE OR WATER (SEEPAGE). PERMANENT SUBSURFACE WATER (SEEPAGE) COLLECTION AND DIVERSION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR OR OWNERS ENGINEER (SEE RECOMMENDED TYPICAL DETAILS).
- 5) DURING CONSTRUCTION BEFORE RAIN EVENTS, BACKFILL SURFACE SHALL BE GRADED AWAY FROM THE WALL FACE AND A TEMPORARY SOIL BERM CONSTRUCTED NEAR THE TOP CREST TO PREVENT SURFACE WATER RUNOFF FROM OVERTOPPING THE WALL. PROVIDE PRECAUTIONS AS NECESSARY TO ENSURE THAT SURFACE RUN OFF FROM ADJACENT AREAS DOES NOT ENTER THE WALL CONSTRUCTION SITE. DURING CONSTRUCTION BEFORE RAIN EVENTS, BACKFILL SURFACE SHALL BE SMOOTHED OUT TO PREVENT PONDING OF WATER AND SATURATION OF SOIL.
- 6) THE REDI-ROCK WALL SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER AND THE INFORMATION FURNISHED ON THESE DRAWINGS.
- 7) FOUNDATION EXCAVATION SHALL EXTEND TO COMPETENT SOIL. (UNLESS NOTED OTHERWISE) ALL EXISTING TOPSOIL, LOOSE MATERIAL, FILL, ORGANIC SOIL AND OTHER SOFT OR UNSTABLE FOUNDATION SOILS SHALL BE REMOVED FROM THE AREA TO BE OCCUPIED BY THE WALL AND REPLACED WITH 3/4" Ø CRUSHED STONE. REMOVE UNSUITABLE FOUNDATION SOILS TO THE LATERAL LIMITS EXTENDING BEYOND THE WALL A DISTANCE EQUAL TO THE DEPTH OF FILL REQUIRED BELOW THE WALL PLUS (1) ONE FOOT.
- 8) UPON COMPLETION OF THE EXCAVATION, THE NATURAL SUBGRADE SHALL BE COMPACTED USING A VIBRATORY ROLLER AND MAKING A MINIMUM OF 5 PASSES.
- 9) INSTALL A 12" (MINIMUM THICK) LAYER OF COMPACTED [" CRUSHED STONE FOR BLOCK WALL LEVELING PAD OR CONCRETE FOOTING. EXTEND LEVELING PAD 6" HORIZONTALLY IN ALL DIRECTIONS BEYOND LIMITS OF THE PRECAST BLOCK WALL.
- 10) INSTALL THE BASE COURSE OF BLOCKS ON THE PREPARED FOUNDATION LEVELING PAD. LEVELING PAD MATERIAL VARIES ACCORDING TO SECTION AND PLAN/PROFILE. ENSURE THAT THE BASE COURSE IS LEVEL SIDE TO SIDE AND PLUMB. ADJUST BLOCKS AS REQUIRED TO PROVIDE A STRAIGHT AND LEVEL BASE COURSE.

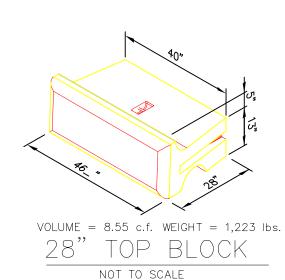


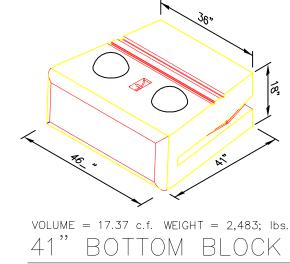
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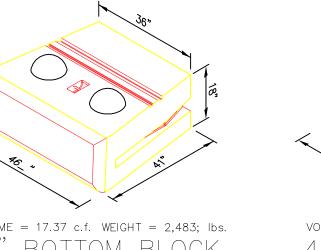
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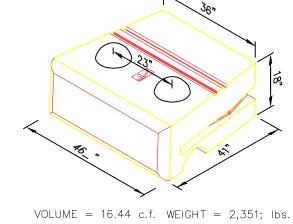




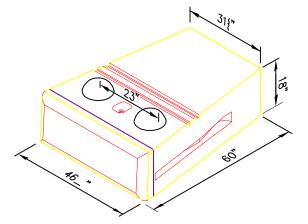


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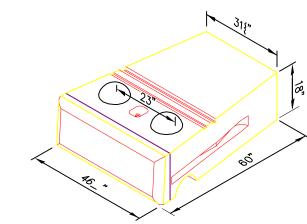


NOT TO SCALE



VOLUME = 23.97 c.f. WEIGHT = 3,428; lbs. BOTTOM BLOCK

NOT TO SCALE



VOLUME = 23.06 c.f. WEIGHT = 3,297; lbs. NOT TO SCALE

ROJ. NO. 2023-047

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