

### EROSION AND SEDIMENTATION CONTROL NOTES & DETAILS

TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES INCLUDE THE USE OF STABILIZED CONSTRUCTION ENTRANCE, SEDIMENT BARRIERS, EROSION CONTROL MIX, STONE CHECK DAMS, HAY BALE BARRIERS, BERMED STREAMS, STORMWATER DETENTION BASINS, SLOPE PROTECTION, EROSION CONTROL BLANKET, AND TEMPORARY SEEDING AND MULCHING AS REQUIRED. PERMANENT DEVICES INCLUDE THE USE OF RIP RAP AT EXPOSED STORM DRAIN AND CULVERT INLETS AND OUTLETS, RIP RAPPED SLOPES, AND PERMANENT VEGETATION.

**A. GENERAL**

1. IT IS ANTICIPATED THAT CONSTRUCTION WILL BEGIN AS SOON AS POSSIBLE FOLLOWING RECEIPT OF NECESSARY PERMITS.
2. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE EROSION CONTROL STANDARDS ESTABLISHED BY THE BUREAU OF LAND AND WATER QUALITY MANAGEMENT DEPARTMENT OF ENVIRONMENTAL PROTECTION, LATEST EDITION.
3. ANY ADDITIONAL EROSION AND SEDIMENTATION CONTROL DEEMED NECESSARY BY THE OWNER'S REPRESENTATIVE DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) PERSONNEL AND/OR MUNICIPAL OFFICIALS SHALL BE INSTALLED BY THE CONTRACTOR.
4. THE CONTRACTOR IS RESPONSIBLE FOR ALL FINES RESULTING FROM EROSION OR SEDIMENTATION FROM THE SITE TO SURROUNDING PROPERTIES, WATER BODIES, OR WETLANDS AS A RESULT OF THIS PROJECT.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR, REPAIRMENT, MAINTENANCE OF ALL EROSION CONTROL MEASURES UNTIL ALL DISTURBED AREAS ARE STABILIZED TO THE SATISFACTION OF THE ABOVE PERSONNEL. DESCRIPTIONS OF ACCEPTABLE PERMANENT STABILIZATION FOR VARIOUS COVER TYPES FOLLOWS:

- A. FOR SEEDING AREAS, PERMANENT STABILIZATION MEANS A SOIL RESTORED AREA WITH MATURED, HEALTHY PLANTS WITH NO EVIDENCE OF WASHING OR FILLING OF THE TOPSOIL.
- B. FOR SLOPED AREAS, PERMANENT STABILIZATION MEANS THE COMPLETE BINDING OF THE SOIL ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOIL OR DE-OFF.
- C. FOR MULCHED AREAS, PERMANENT MULCHING MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH AN APPROVED MULCH MATERIAL. EROSION CONTROL MIX MAY BE USED AS MULCH FOR PERMANENT STABILIZATION ACCORDING TO THE APPROVED APPLICATION RATES AND LIMITATIONS.
- D. FOR AREAS STABILIZED WITH GRASS, PERMANENT STABILIZATION MEANS THAT GRASSES OR STABILIZED MIXED PERENNIALS AND/OR LEGUMES ARE ESTABLISHED WITH A MINIMUM OF 90% APPROVED GEOTEXTILE TO PREVENT SOIL MOVEMENT FROM BEHIND THE BRRAP, STONE OR MULCH, AND MUST BE SIZED APPROPRIATELY.
- E. PAVED AREAS FOR PAVED AREAS, PERMANENT STABILIZATION MEANS THE PLACEMENT OF THE COMPACTED GRAVEL SUBBASE IS COMPLETED.
- F. FOR OPEN CHANNELS, PERMANENT STABILIZATION MEANS THE CHANNEL IS STABILIZED WITH MATURE VEGETATION AT LEAST THREE INCHES IN HEIGHT, WITH WELL-GRADED RIP RAP OR WITH ANOTHER NON-EROSIVE LINING CAPABLE OF WITHSTANDING THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTS WITHOUT REDUCTION ON CHECK DAMS TO MAINTAIN THE CHANNEL CHARACTERISTICS OF THE DRAIN, UNDERCUTTING OF THE BANKS, OR DOWN CUTTING OF THE CHANNEL.

**B. EROSION AND SEDIMENTATION CONTROL MEASURES**

1. PRIOR TO THE BEGINNING OF CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE AND TEMPORARY SILT FENCE SHALL BE INSTALLED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. IT IS THE INTENT THAT SEDIMENT BARRIERS SHALL BE INSTALLED DOWN GRADIENT OF ALL DISTURBED AREAS OF THE SITE. SEDIMENT BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS WILL BE MADE IMMEDIATELY. SEDIMENT DEPOSITS SHALL BE PERIODICALLY REMOVED FROM SEDIMENT BARRIERS. SEDIMENT BARRIERS SHALL BE REPAIRED IMMEDIATELY AND STABILIZED IN AREAS OF THE SITE NOT SUBJECT TO EROSION. SEDIMENT BARRIERS SHALL BE REPLACED AS NECESSARY TO PROVIDE PROPER FLOWING ACTION. IF THERE ARE SPANS OF WATER UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, THEY WILL BE REPLACED WITH A TEMPORARY CRUSHED STONE CHECK DAM.
2. ALL CATCH BASINS, NEW OR EXISTING, THAT MAY RECEIVE RUNOFF FROM DISTURBED AREAS MUST BE PROTECTED DURING CONSTRUCTION. INSPECT & CLEAN OUT AS NECESSARY. LEGALLY DISPOSE OF SEDIMENT & REMOVE FLOATABLES WITH OIL ABSORBENT PADS AS APPLICABLE.
3. REMOVAL OF SOIL, TREES, BUSHES AND OTHER VEGETATION AND SOIL DISTURBANCE WILL BE KEPT TO A MINIMUM WHILE ALLOWING PROPER SITE DEVELOPMENT.
4. GRUBBINGS AND ANY UNSABLE TOPSOIL SHALL BE STRIPPED AND REMOVED FROM THE PROJECT SITE AND DISPOSED OF IN AN APPROVED MANNER.
5. ANY SUITABLE TOPSOIL WILL BE STRIPPED AND STOCKPILED FOR REUSE IN FINAL GRADE. TOPSOILS WILL BE STOCKPILED WITH A COVER OF 10" OF SOIL OR A STOCKPILE IS NECESSARY, THE SLOPES OF THE TOPSOIL STOCKPILE WILL NOT EXCEED 2:1. TOPSOIL STOCKPILES WILL BE TEMPORARILY SEEDING WITH AEROSTOOK RYE ANNUAL OR PERENNIAL RYE GRASS (DEPENDING ON DATE SEED) WITHIN 7 DAYS OF FORMATION, OR TEMPORARILY MULCHED IF SEEDING CANNOT BE DONE WITHIN THE RECOMMENDED SEEDING DATES.
6. TEMPORARY DIVERSION BERMS AND BRANAKGE SWALES SHALL BE CONSTRUCTED AS NECESSARY.
7. TEMPORARY STABILIZATION SHALL BE CONDUCTED WITHIN 7 DAYS OF INITIAL DISTURBANCE OF SOILS. PRIOR TO ANY RAIN EVENT, AND PRIOR TO ANY WORK SHUT DOWN LASTING MORE THAN ONE DAY, TEMPORARY STABILIZATION INCLUDES SEED, MULCH, OR OTHER NON-ERODIBLE COVER. ALL DISTURBED AREAS OF WETLANDS SHALL BE TEMPORARILY STABILIZED WITHIN 48 HOURS OR PRIOR TO RAIN EVENT.
8. APPLY HAY OR STRAW MULCH AT A RATE OF 2 TONS PER ACRE, AND ANCHOR AS NECESSARY.
9. TEMPORARY SEEDING OPERATIONS, WHERE THE SEEDING HAS BEEN COMPLETED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 4 INCHES BEFORE APPLYING FERTILIZER, LIME, AND SEED. APPLY LIMESTONE AT A RATE OF 3 TONS PER ACRE (138 LB. PER 1,000 SQUARE FEET) AND 10-10-10 (N-P2O5-K2O) FERTILIZER AT A RATE OF 600 LBS. PER ACRE (138 LB. PER 1,000 SQUARE FEET). UNIFORMLY APPLY SEED AT THE RECOMMENDED SEEDING RATES AND DATES. APPLY HAY OR STRAW MULCH AT A RATE OF 2 TONS PER ACRE, AND ANCHOR AS NECESSARY.

- RECOMMENDED TEMPORARY SEEDING DATES AND APPLICATION RATES ARE AS FOLLOWS:
- AEROSTOOK RYE: RECOMMENDED SEEDING DATES: 8/15 - 10/1  
APPLICATION RATE: 112 LBS./ACRE
- ANNUAL RYE GRASS: RECOMMENDED SEEDING DATES: 4/1 - 7/1  
APPLICATION RATE: 40 LBS./ACRE
- PERENNIAL RYE GRASS: RECOMMENDED SEEDING DATES: 8/15 - 9/15  
APPLICATION RATE: 40 LBS./ACRE

10. IF THE AREA WILL REMAIN UNWORKED FOR MORE THAN ONE YEAR OR HAS BEEN BROUGHT TO FINAL GRADE, AND WILL NOT BE BUILT ON, THEN IMMEDIATELY PROVIDE PERMANENT STABILIZATION TO ALL DISTURBED AREAS. PERMANENT STABILIZATION SHALL BE PROVIDED AS FOLLOWS:

MULCH OR BRRAP: IF USING VEGETATION FOR STABILIZATION, SELECT THE PROPER VEGETATION

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SITE DESIGN ASSOCIATES, ANY ALTERATIONS, OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SITE DESIGN ASSOCIATES.

FOR THE LIGHT, WINDSHIELD, AND SOIL CONDITIONS, AREAS OF DISTURBED SUBSOIL WITH GRASS SEEDS ARE REQUIRED TO BE COVERED WITH A MULCH. EROSION CONTROL BLANKETS AND SPECIAL SOILING PLANNING IS NECESSARY FOR EROSION CONTROL BLANKETS AND SPECIAL SOILING PLANNING AND SEEDING SO TO AVOID DE-OFF FROM SUMMER DROUGHT AND FALL FROST. NEW, SEEDING OR RESEED AREAS MUST BE PROTECTED FROM VEHICLE TRAFFIC, EXCESSIVE PEDESTRIAN TRAFFIC, AND CONCENTRATED RUNOFF UNTIL THE VEGETATION IS WELL ESTABLISHED. AREAS MUST BE REMOVED AND RESURFACED BY GERMINATION IS SPARSE, PLANT COVERAGE IS SPOTTY, OR TOPSOIL EROSION IS EVIDENT.

11. PERMANENT SEEDING PER TURF AND GRASSES SPECIFICATION AND LANDSCAPE PLAN.
12. MULCH ALL AREAS SEEDING SO THAT SOIL IS NOT VISIBLE THROUGH THE MULCH REGARDLESS OF THE APPLICATION RATE.
13. DITCH LUNGS, STONE CHECK DAMS, AND BRRAP INLET AND OUTLET PROTECTION SHALL BE INSTALLED WITHIN 48 HOURS OF COMPLETING THE GRADING OF THAT SECTION OF DITCH OR INSTALLATION OF CULVERT.
14. EROSION CONTROL BLANKET SHALL BE INSTALLED ON ALL PERMANENT SLOPES STEEPER THAN 3:1. IN THE BASE OF DITCHES NOT OTHERWISE PROTECTED, AND ANY DISTURBED AREAS WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE (E.G. WETLANDS AND WATER BODIES), EROSION CONTROL BLANKET SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
15. TEMPORARY CONTROL MEASURES, SUCH AS SILT FENCE, SHALL BE REMOVED WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED.

**C. WINTER CONDITIONS**

1. "WINTER CONSTRUCTION" IS CONSTRUCTION ACTIVITY PERFORMED DURING THE PERIOD FROM NOVEMBER 15 TO APRIL 15. WINTER CONSTRUCTION SHALL BE LIMITED TO AREAS THAT ARE NOT NEARLY STABILIZED WITH TEMPORARY OR PERMANENT MEASURES OBTAINED ABOVE BY NOVEMBER 15. THEN THE SITE MUST BE PROTECTED WITH ADDITIONAL STABILIZATION MEASURES THAT ARE SPECIFIC TO WINTER CONDITIONS, NO MORE THAN ONE ACRE OF THE SITE MAY BE WITHOUT STABILIZATION AT ONE TIME. SLOPE STABILIZATION AND DISTURBED AREA STABILIZATION DURING WINTER CONDITIONS SHOULD BE ADDRESSED IN ACCORDANCE WITH SECTION A-3 OF THE MAINE EROSION AND SEDIMENT CONTROL BMPs, MARCH 2005.
2. AREAS WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIERS.
3. HAY MULCH SHALL BE APPLIED AT THREE TIMES THE STANDARD TEMPORARY STABILIZATION RATE. AT THE END OF EACH CONSTRUCTION DAY, AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE MUST BE STABILIZED, WHICH MAY NOT BE SPREAD ON TOP OF SNOW.
4. AFTER NOVEMBER 15 OR THE FIRST KILLING FROST FOR THE REGION AND BEFORE SNOW FALL, ALL EXPOSED AND DISTURBED AREAS NOT TO UNDERGO FURTHER DISTURBANCE ARE TO HAVE PERMANENT STABILIZATION MEASURES INSTALLED. THE REGULAR TEMPORARY STABILIZATION MEASURES, SUCH AS MULCH AND BRRAP, THAT WERE USED FOR REGULAR SEEDING RATE, AND MULCH AND ANCHOR, DOMINANT SEEDINGS NEED TO BE ANCHORED EXCESSIVELY WELL ON SLOPES, DITCH BASES AND AREAS OF CONCENTRATED FLOWS. DOMINANT SEEDING REQUIRES INSPECTION AND RESEEDING AS NEEDED IN THE SPRING. ALL AREAS WHERE COVER IS INADEQUATE MUST BE IMMEDIATELY RESEEDED AND MULCHED AS SOON AS POSSIBLE.
5. ALL VEGETATED DITCH LINES THAT HAVE NOT BEEN STABILIZED BY SEPTEMBER 1, OR WILL BE WORKED DURING THE WINTER CONSTRUCTION PERIOD, MUST BE STABILIZED WITH AN APPROPRIATE STONE LINING BACKED BY AN APPROPRIATE GRVEL BED OR GEOTEXTILE UNLESS SPECIALLY RELATED FROM THIS STANDARD BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
6. MULCH NETTING MUST BE USED TO ANCHOR MULCH ON ALL SLOPES GREATER THAN 8% UNLESS EROSION CONTROL, BLANKETS OR EROSION CONTROL MIX IS BEING USED ON THESE SLOPES.

**D. HOUSEKEEPING**

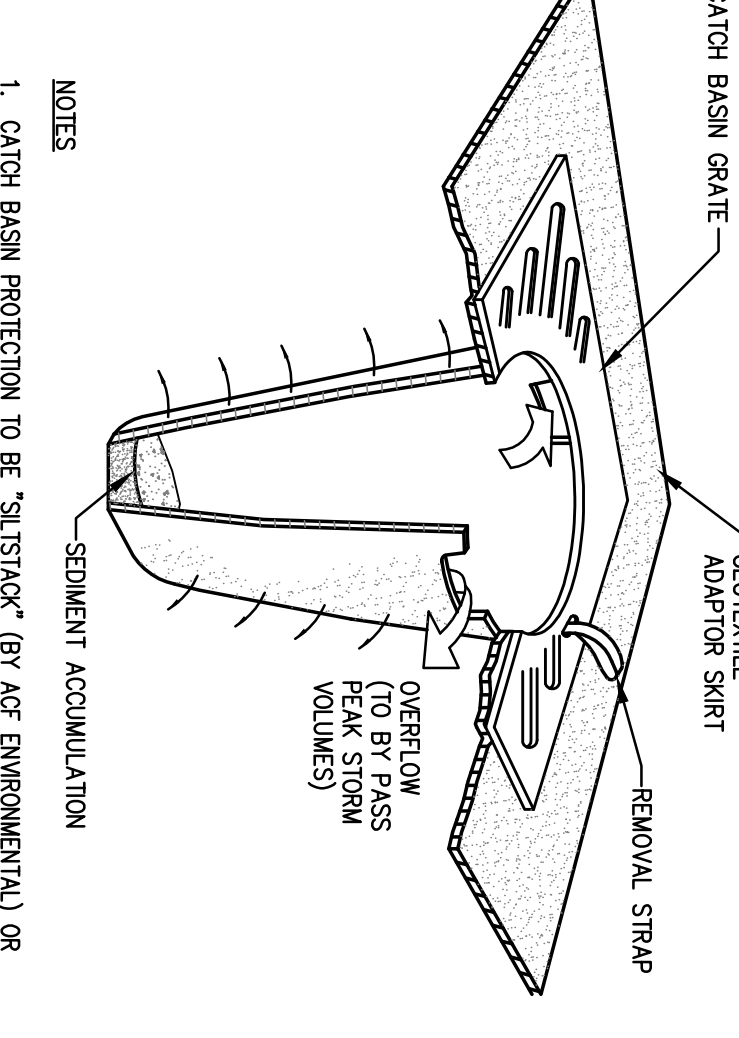
1. SPILL PREVENTION CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM BEING DISCHARGED FROM MATERIALS ON SITE, INCLUDING STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER, AND APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESTORATION PLANNING AND IMPLEMENTATION.
2. HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN SPILLS IN INFILTRATION AREAS IS PART OF THE SITE THAT DESIGN OR AS A RESULT OF SOILS IN INFILTRATION AREAS. HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER SHALL BE STORED, HANDLED, AND USED IN AREAS OF THE SITE THAT DRAIN TO INFILTRATION AREAS. THE SOIL DICES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS.
3. FLOTTING SEDIMENT AND DUST ACTIOMS MUST BE TAKEN TO ENSURE THAT ACTIOMS DO NOT RESULT IN NONDETEREABLE EROSION OF SOILS OR FLOTTING JUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL.

DEBRIS AND OTHER MATERIAL, LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORM WATER, MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.

4. TRENCH OR FOUNDATION DE-WATERING, TRENCH DE-WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COTFER DAMS, POUNDS AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT REMAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SEDIMENT RICH AND SHOULD BE STORED IN STORMWATER DETENTION BASINS. THE GRANITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOTE AREAS THAT ARE SPECIALLY DESIGNATED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COTFER DAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE.

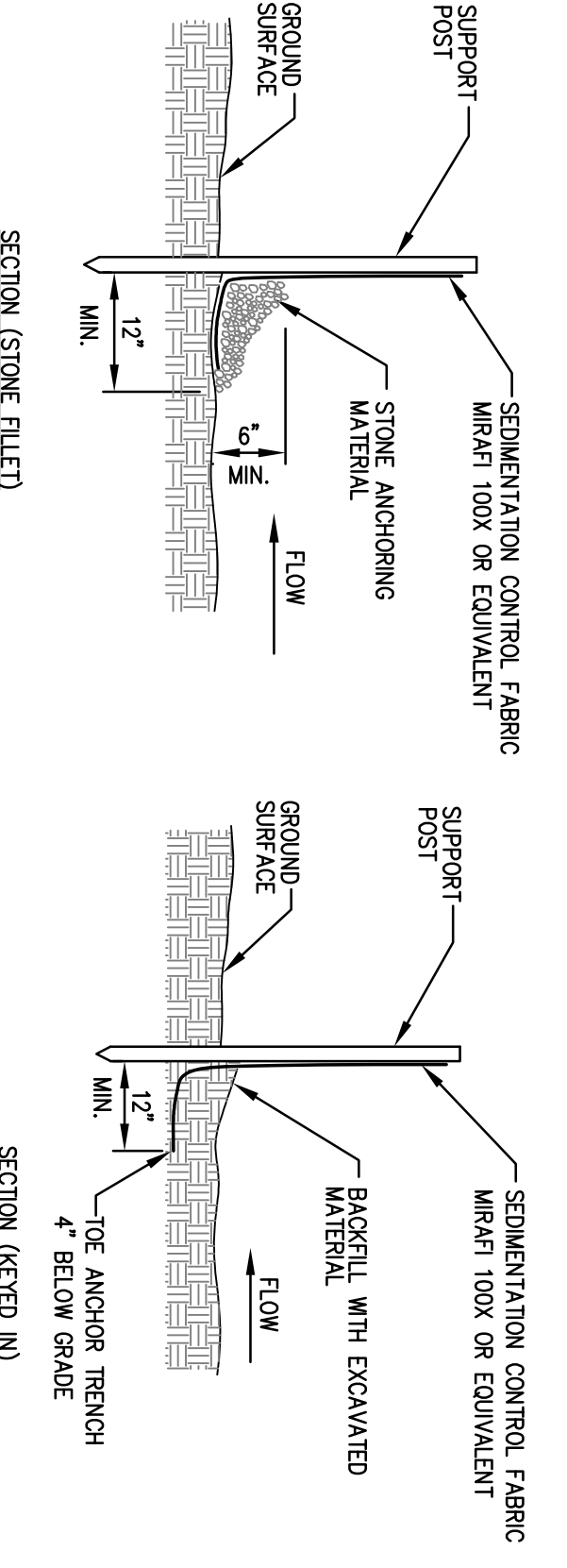
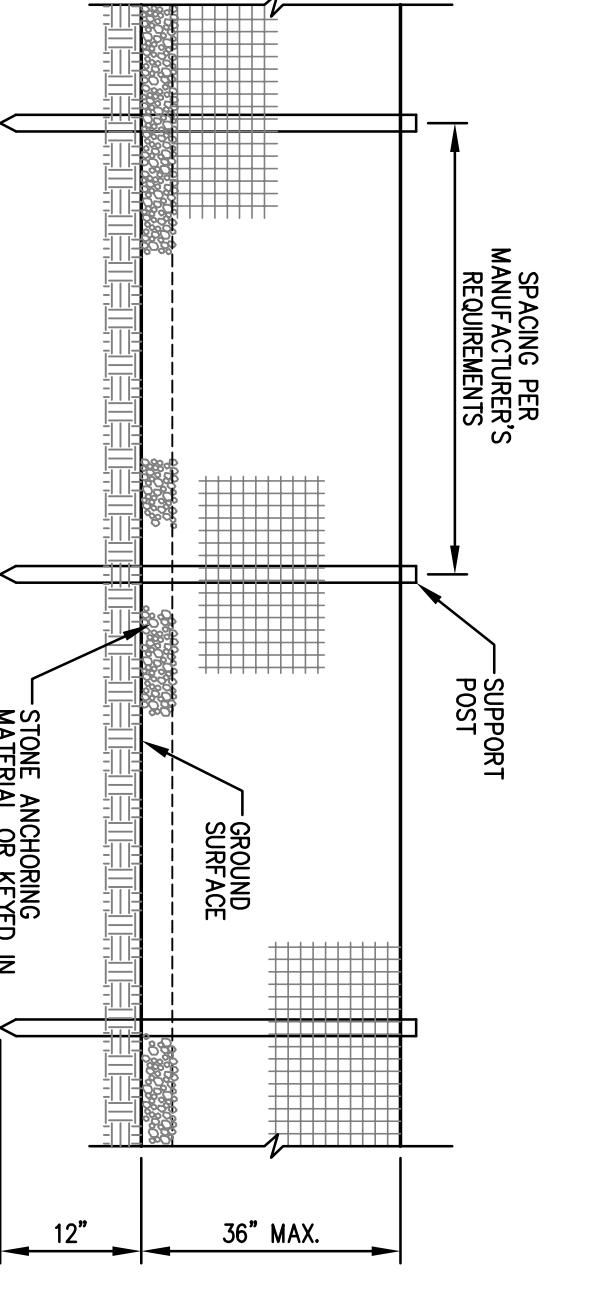
**E. INSPECTION AND MAINTENANCE**

1. INSPECT DISTURBED AND IMPERVIOUS AREAS, EROSION AND STORMWATER CONTROL MEASURES, AREAS USED FOR STORAGE THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. AT LEAST ONCE A WEEK AS WELL AS BEFORE AND AFTER EACH RAIN EVENT, THE PERSON PERFORMING THE INSPECTION SHALL HAVE SUFFICIENT KNOWLEDGE OF EROSION AND STORMWATER CONTROLS, INCLUDING THE STANDARDS IN THE MAINE CONSTRUCTION GENERAL PERMIT AND ANY DEP OR MUNICIPAL COMPANION DOCUMENTS, MUST CONDUCT THE INSPECTION. THIS PERSON MUST BE IDENTIFIED IN THE INSPECTION LOG. IF BEST MANAGEMENT PRACTICES BMPs NEED TO BE MODIFIED OR IF ADDITIONAL BMPs ARE REQUIRED, IDENTIFICATION MUST BE SPECIFIED WITHIN 7 CATCH DAM DATES AND PRIOR TO ANY STORM. IDENTIFICATION MUST BE SPECIFIED WITHIN 7 CATCH DAM DATES AND PRIOR TO ANY CONVICTION UNTIL AREAS ARE PERMANENTLY STABILIZED.
2. AN INSPECTION AND MAINTENANCE LOG MUST BE KEPT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME AND QUALIFICATIONS OF THE PERSON PERFORMING THE INSPECTION, DATE AND TIME OF INSPECTION, AND THE MEASURES TAKEN TO CORRECT DEFICIENCIES. THE LOG MUST BE MAINTAINED. LOCATIONS(S) OF BMPs THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION, AND LOCATIONS(S) WHERE ADDITIONAL BMPs ARE NEEDED THAT DID NOT EXIST AT THE TIME OF THE INSPECTION, FOLLOW-UP TO CORRECT DEFICIENCIES OR ENHANCE CONTROLS MUST ALSO BE INDICATED IN THE LOG AND DATED, INCLUDING WHAT ACTION WAS TAKEN AND WHEN.
3. IT IS RECOMMENDED THAT THE OWNER RETAIN THE SERVICES OF THE DESIGN ENGINEER FOR SITE INSPECTIONS IN COMPLIANCE WITH MAINE DEP STORMWATER RULES, CHAPTER 500.



1. CATCH BASIN PROTECTION TO BE "STAPSTACK" (BY AEC ENVIRONMENTAL) OR "STREAM GUARD" (BY FOSS ENVIRONMENTAL SERVICES).
2. INSERT TO BE EMPLOYED IN AN APPROVED MANNER WHEN IT IS 1/2 FULL OF SEDIMENT.

**1 TEMPORARY INLET PROTECTION**  
SCALE: N.T.S.



**2 SILTATION FENCE**  
SCALE: N.T.S.

REV.	DATE	STATUS	BY	CHKD.	APPD.
A	2/27/15	ISSUED FOR DESIGN DEVELOPMENT	TMS		
B	03/20/15	ISSUED FOR CITY LEVEL 1 REVIEW	TMS		
C	03/20/15	STRUCTURAL EARLY RELEASE BID DRAWINGS	TMS		

PROJECT:	ALUMNI HALL RENOVATION UNIVERSITY OF NEW ENGLAND, PORTLAND, MAINE
DESIGN:	TMS
DRAWN:	DEPT.
CHKD:	TMS
DATE:	JAN 2015
SCALE:	AS NOTED
PROJ. NO.:	
DWG. NO.:	
REV.	C