

EROSION AND SEDIMENT CONTROL PLAN

Pre-Construction Phase

A person who conducts, or causes to be conducted, an activity that involves filling, displacing or exposing soil or other earth materials shall take measures to prevent unreasonable erosion of soil or sediment beyond the project site or into a protected natural resource as defined in 38 M.R.S. Erosion control measures must be in place before the activity begins. Measures must remain in place and functional until the site is permanently stabilized. Adequate and timely temporary and permanent stabilization measures must be taken. The site must be maintained to prevent unreasonable erosion and sedimentation. Minimize disturbed areas and protect natural downgradient buffer areas to the extent practicable.

BMP Construction Phase

A. Sediment barriers. Prior to the beginning of any construction, properly install sediment barriers at the edge of any downgradient disturbed area and adjacent to any drainage channels within the proposed disturbed area. Maintain the sediment barriers until the disturbed area is permanently stabilized.

B. Construction entrance. Prior to any clearing or grubbing, a construction entrance shall be constructed at the intersection with the proposed access drive and the existing roadway to avoid tracking of mud, dirt and debris from the site.

C. Riprap. Since riprap is used where erosion potential is high, construction must be sequenced so that the riprap is put in place with the minimum delay. Disturbance of areas where riprap is to be placed should be undertaken only when final preparation and placement of the riprap can follow immediately behind the construction of the pipe or channel so that it is in place before the riprap should be placed. Maintain temporary riprap, such as temporary check dams until the disturbed area is permanently stabilized.

D. Temporary stabilization. Stabilize with temporary seeding, mulch, or other non-erodible cover any exposed soils that will remain unworked for more than 14 days except, stabilize areas within 100 feet of a wetland or waterbody within 7 days or prior to a predicted storm event, whichever comes first. If hay or straw mulch is used, the application rate must be 2 bales (700 lbs) per acre or 2 to 2.5 tons (4000 bales) per acre to cover to 90% of the ground surface. Hay must be applied to the ground surface and not to the water surface. The hay must be applied to the ground surface and not to the water surface. Grass seed, straw, or other natural materials may be used in place of hay or straw. Seeding shall be planned so as to minimize the length of time between initial soil exposure and final grading. On large projects this should be accomplished by phasing the operation and completing the first phase up to final grading and seeding before starting the second phase, and so on.

E. Vegetated waterway. Upon final seeding, the disturbed area shall be immediately seeded to permanent vegetation and mulched and will not be used as outlets until a dense, vigorous vegetative cover has been obtained. Once soils are exposed for waterway construction, it should be immediately shaped, graded and stabilized. Vegetated waterways need to be stabilized early during the growing season (prior to September 15). If final seeding of waterways is delayed past September 15, emergency provisions such as sod or riprap may be required to stabilize the channel. Waterways should be fully stabilized prior to directing runoff to them.

Permanent stabilization defined:
A. Seeded areas. For seeded areas, permanent stabilization means an 80% cover of the disturbed area with mature, healthy plants with no evidence of washing or filling of the topsoil.

B. Sodded areas. For sodded areas, permanent stabilization means the complete binding of the sod roots into the underlying soil with no slumping of the sod or dirt-off.

C. Permanent mulch. 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 instructions.

D. Riprap. For areas stabilized with riprap, permanent stabilization means that slopes stabilized with riprap have an appropriate backing of a well-graded gravel or approved geotextile to prevent soil movement from behind the riprap. Stone must be placed appropriately. It is recommended that angular stones be used.

E. Agricultural use. For construction projects on land used for agricultural purposes (e.g., pipelines across crop land), permanent stabilization may be accomplished by returning the disturbed land to agricultural use.

F. Paved areas. For paved areas, permanent stabilization means the placement of the compacted gravel subbase is completed.

G. Ditches, channels, and swales. For open channels, permanent stabilization means the channel is stabilized with mature vegetation at least three inches in height, with well-graded riprap, or with another non-erodible lining capable of withstanding the anticipated flow velocities and flow depths without reliance on check dams to slow flow. There must be no evidence of slumping of the lining, undercutting of the banks, or down-cutting of the channel.

General Construction Phases

A. All topsoil shall be collected, stockpiled, seeded with ryegrass at 3 pounds/1,000 sq ft and mulched, and reused as required. Site fencing shall be placed down gradient from the stockpiled farm. Stockpile to be compacted by designation of the owner and inspecting engineer.

B. The inspecting engineer, at his/her discretion, may require additional erosion control measures and/or supplemental vegetation provisions to maintain stability of earthworks and finish graded areas. The contractor shall be responsible for providing and installing any supplemental measures as directed by the inspecting engineer. Failure to comply with the engineer's directions will result in discontinuation of construction activities.

C. Erosion control mesh shall be applied in accordance with the plans over all finish seeded areas as specified on the design plans.

D. All graded or disturbed areas including slopes shall be protected during clearing and construction in accordance with the approved erosion and sediment control plan until they are adequately stabilized.

E. All erosion, and sediment control practices and measures shall be constructed, applied and maintained in accordance with the approved erosion and sediment control plan.

F. Areas to be filled shall be cleared, grubbed and stripped of topsoil to remove trees, vegetation, roots or other objectionable materials.

G. Areas shall be compacted to a minimum depth of 3 inches prior to placement of topsoil.

H. All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence or other related problems. Fill materials shall be approved by the engineer. All fills shall be compacted in accordance with local requirements or codes.

I. All fills shall be placed and compacted in layers not to exceed 8 inches in thickness.

J. Except for approved baffle or non-structural fills, fill material shall be free of brush, noxious rocks, logs, stumps, building debris and other objectionable materials that would interfere with or prevent construction of satisfactory fills.

K. Fertilizer material or soil, mulch or highly compressible materials shall not be incorporated into fill slopes or structural fills.

L. Fill shall not be placed on a frozen foundation.

M. Steeps or springs encountered during construction shall be handled appropriately.

N. All graded areas shall be permanently stabilized immediately following finished grading.

O. Remove any temporary control measures, such as silt fence, within 30 days after permanent stabilization is attained.

P. Permanent vegetation. Permanent vegetative cover should be established on disturbed areas where permanent long lived vegetative cover is needed to stabilize the soil, to reduce damages from sediment and runoff, and to enhance the environment.

Seeded/Preparation:
A. Grade as feasible to permit the use of conventional equipment for seeded preparation, seeding, mulch application and anchoring, and maintenance.
B. Apply fertilizer and fertilizer according to soil tests such as those offered by the university of Maine soil testing laboratory. Soil sample materials are available from the local cooperative extension service office. If soil testing is not feasible on small or variable sites, or where timing is critical, fertilizer may be applied at the rate of 800 pounds per acre or 18.4 pounds per 1,000 square feet using 10-20-20 (p-20-s-42-o) or equivalent. Apply ground limestone (equivalent to 50% calcium plus magnesium oxide) at a rate of 3 tons per acre (138 lbs. Per 1,000 sq. Ft.).

C. Work line and fertilizer into the soil as nearly as practical to a depth of 4 inches with a disc, spring tooth harrow or other suitable equipment. The final harrowing operation should be on the general contour. Continue tillage until a reasonably uniform, fine seedbed is prepared. All but clay or silty soils and coarse sands should be rolled to firm the seedbed wherever feasible.
D. Remove from the surface all stones 2 inches or larger in any dimension. Remove all other debris, such as wire, cable, tree roots, concrete, clogs, lumps or other undesirable material.
E. Inspect seedbed just before seeding. If traffic has left the soil compacted, the area must be filled and firmed as above.

F. Permanent seeding should be made 45 days prior to the first killing frost or as a dormant seeding with mulch after the first killing frost and before snowfall. When crown weath is seeded in later summer, at least 35% of the seed should be hard seed (unscarified). If seeding cannot be done within the seeding dates, mulch according to the temporary mulching temp and overwinter stabilization and construction to protect the site and delay seeding until the next recommended seeding period.

G. Following seed bed preparation, swale areas, fill areas and back slopes shall be seeded at a rate of 3 lbs./1,000 s.f. with a mixture of 35% creeping red f., Fescue, 6% red top, 24% Kentucky bluegrass, 10% perennial ryegrass, 20% annual ryegrass and 5% white Dutch clover.

I. Areas which have been temporarily or permanently seeded shall be mulched immediately following seeding.
J. Areas which cannot be seeded within the growing season shall be mulched for over-winter protection and the area should be seeded at the beginning of the growing season.

Winter construction phase

A. If an area is not stabilized with temporary or permanent measures by November 15, then the site must be protected with additional stabilization measures.

B. Permanent stabilization consists of at least 80% vegetation, permanent/gravel base or riprap.

C. Do not expose slopes or leave slopes exposed over the winter or for any other extended time of work suspension unless fully protected with mulch.

D. Apply hay mulch at twice the standard rate (150 lbs. Per 1,000 sq ft). The mulch must be thick enough such that the ground surface will not be visible and must be anchored.

E. Use mulch and mulch netting or an erosion control mulch blanket or all slopes greater than 8% or other areas exposed to direct wind.

F. Install an erosion control blanket in all ditches/gutters (bottom and sides) with a slope greater than 3%.

G. See the vegetation measures for more information on seeding dates and types.

H. Winter excavation and earthwork shall be completed so that no more than 1 acre of the site is without stabilization at any one time.

I. An area within 100 feet of a protected natural resource must be protected with a double row of sediment barrier.

J. Temporary mulch must be applied within 7 days of soil exposure or prior to any storm event, but after every workday in areas within 100 feet from a protected natural resource.

K. Areas that have been brought to final grade must be permanently mulched that same day.

L. If snowfall is greater than 1 inch (fresh or cumulative), the snow shall be removed from the areas due to be seeded and mulched.

M. Loom shall be free of frozen dumps before it is applied.

N. All vegetated ditch lines that have not been stabilized by November 1, or will be worked during the winter construction period must be stabilized with an appropriate score firing backed by an appropriate gravel bed or geotextile unless specifically released from this standard by the department.
Maintenance and inspection phase
A. Contractor shall inspect disturbed and impervious areas, and erosion and stormwater control measures, areas used for storage that are exposed to precipitation, and locations where vehicles enter or exit the parcel at least once a week and before and after a storm event, prior to completion of permanent stabilization. A person with knowledge of erosion and stormwater must conduct the inspection. The person must be identified in the inspection log. If best management practices are not being followed, the person must be notified immediately. The person must be notified in writing within calendar days and prior to any storm event (rainfall). All measures must be maintained in effective operating condition until areas are permanently stabilized.

B. A log (report) must be kept summarizing the scope of the inspection, name(s) and qualifications of the personnel making the inspection, the dates of the inspection, and major observations relating to operation of erosion and sediment control measures. Major observations must be noted on the log. The log must be maintained for a minimum of 30 days after completion of the project. The log shall be filed in the project file. The log shall be available for review by the department and local officials. Where additional logs are needed that did not exist at the time of 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.

G. Following seed bed preparation, swale areas, fill areas and back slopes shall be seeded at a rate of 3 lbs./1,000 s.f. with a mixture of 35% creeping red f., Fescue, 6% red top, 24% Kentucky bluegrass, 10% perennial ryegrass, 20% annual ryegrass and 5% white Dutch clover.

I. Areas which have been temporarily or permanently seeded shall be mulched immediately following seeding.
J. Areas which cannot be seeded within the growing season shall be mulched for over-winter protection and the area should be seeded at the beginning of the growing season.

Winter construction phase

A. If an area is not stabilized with temporary or permanent measures by November 15, then the site must be protected with additional stabilization measures.

B. Permanent stabilization consists of at least 80% vegetation, permanent/gravel base or riprap.

C. Do not expose slopes or leave slopes exposed over the winter or for any other extended time of work suspension unless fully protected with mulch.

D. Apply hay mulch at twice the standard rate (150 lbs. Per 1,000 sq ft). The mulch must be thick enough such that the ground surface will not be visible and must be anchored.

E. Use mulch and mulch netting or an erosion control mulch blanket or all slopes greater than 8% or other areas exposed to direct wind.

F. Install an erosion control blanket in all ditches/gutters (bottom and sides) with a slope greater than 3%.

G. See the vegetation measures for more information on seeding dates and types.

H. Winter excavation and earthwork shall be completed so that no more than 1 acre of the site is without stabilization at any one time.

I. An area within 100 feet of a protected natural resource must be protected with a double row of sediment barrier.

J. Temporary mulch must be applied within 7 days of soil exposure or prior to any storm event, but after every workday in areas within 100 feet from a protected natural resource.

K. Areas that have been brought to final grade must be permanently mulched that same day.

L. If snowfall is greater than 1 inch (fresh or cumulative), the snow shall be removed from the areas due to be seeded and mulched.

M. All vegetated ditch lines that have not been stabilized by November 1, or will be worked during the winter construction period must be stabilized with an appropriate score firing backed by an appropriate gravel bed or geotextile unless specifically released from this standard by the department.
Maintenance and inspection phase
A. Contractor shall inspect disturbed and impervious areas, and erosion and stormwater control measures, areas used for storage that are exposed to precipitation, and locations where vehicles enter or exit the parcel at least once a week and before and after a storm event, prior to completion of permanent stabilization. A person with knowledge of erosion and stormwater must conduct the inspection. The person must be identified in the inspection log. If best management practices are not being followed, the person must be notified immediately. The person must be notified in writing within calendar days and prior to any storm event (rainfall). All measures must be maintained in effective operating condition until areas are permanently stabilized.

B. A log (report) must be kept summarizing the scope of the inspection, name(s) and qualifications of the personnel making the inspection, the dates of the inspection, and major observations relating to operation of erosion and sediment control measures. Major observations must be noted on the log. The log must be maintained for a minimum of 30 days after completion of the project. The log shall be filed in the project file. The log shall be available for review by the department and local officials. Where additional logs are needed that did not exist at the time of 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.

G. Following seed bed preparation, swale areas, fill areas and back slopes shall be seeded at a rate of 3 lbs./1,000 s.f. with a mixture of 35% creeping red f., Fescue, 6% red top, 24% Kentucky bluegrass, 10% perennial ryegrass, 20% annual ryegrass and 5% white Dutch clover.

I. Areas which have been temporarily or permanently seeded shall be mulched immediately following seeding.
J. Areas which cannot be seeded within the growing season shall be mulched for over-winter protection and the area should be seeded at the beginning of the growing season.

Winter construction phase

A. If an area is not stabilized with temporary or permanent measures by November 15, then the site must be protected with additional stabilization measures.

B. Permanent stabilization consists of at least 80% vegetation, permanent/gravel base or riprap.

C. Do not expose slopes or leave slopes exposed over the winter or for any other extended time of work suspension unless fully protected with mulch.

D. Apply hay mulch at twice the standard rate (150 lbs. Per 1,000 sq ft). The mulch must be thick enough such that the ground surface will not be visible and must be anchored.

E. Use mulch and mulch netting or an erosion control mulch blanket or all slopes greater than 8% or other areas exposed to direct wind.

F. Install an erosion control blanket in all ditches/gutters (bottom and sides) with a slope greater than 3%.

G. See the vegetation measures for more information on seeding dates and types.

H. Winter excavation and earthwork shall be completed so that no more than 1 acre of the site is without stabilization at any one time.

I. An area within 100 feet of a protected natural resource must be protected with a double row of sediment barrier.

J. Temporary mulch must be applied within 7 days of soil exposure or prior to any storm event, but after every workday in areas within 100 feet from a protected natural resource.

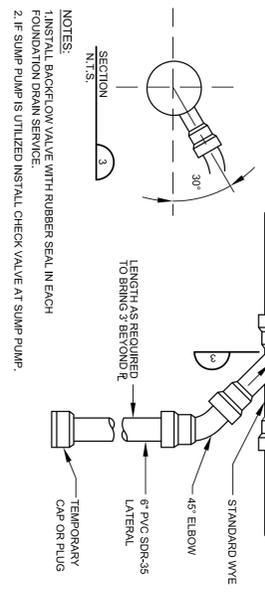
K. Areas that have been brought to final grade must be permanently mulched that same day.

L. If snowfall is greater than 1 inch (fresh or cumulative), the snow shall be removed from the areas due to be seeded and mulched.

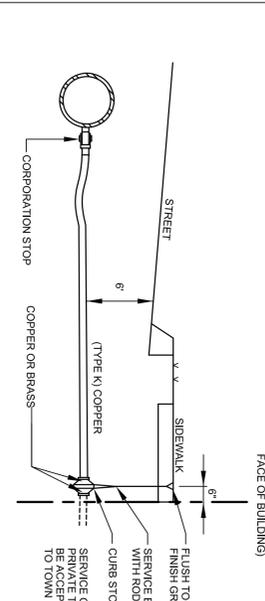
M. All vegetated ditch lines that have not been stabilized by November 1, or will be worked during the winter construction period must be stabilized with an appropriate score firing backed by an appropriate gravel bed or geotextile unless specifically released from this standard by the department.
Maintenance and inspection phase
A. Contractor shall inspect disturbed and impervious areas, and erosion and stormwater control measures, areas used for storage that are exposed to precipitation, and locations where vehicles enter or exit the parcel at least once a week and before and after a storm event, prior to completion of permanent stabilization. A person with knowledge of erosion and stormwater must conduct the inspection. The person must be identified in the inspection log. If best management practices are not being followed, the person must be notified immediately. The person must be notified in writing within calendar days and prior to any storm event (rainfall). All measures must be maintained in effective operating condition until areas are permanently stabilized.

B. A log (report) must be kept summarizing the scope of the inspection, name(s) and qualifications of the personnel making the inspection, the dates of the inspection, and major observations relating to operation of erosion and sediment control measures. Major observations must be noted on the log. The log must be maintained for a minimum of 30 days after completion of the project. The log shall be filed in the project file. The log shall be available for review by the department and local officials. Where additional logs are needed that did not exist at the time of 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.

SEWER / FOUNDATION DRAIN SERVICE CONNECTION



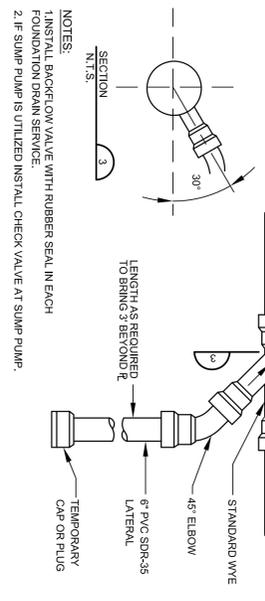
TYPICAL WATER SERVICE CONNECTION



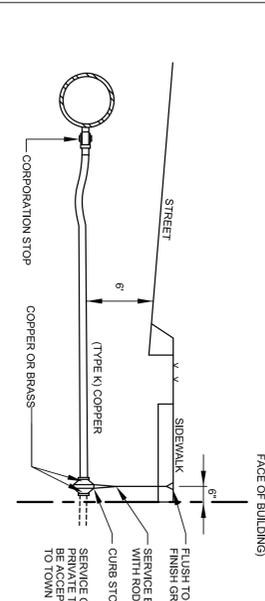
CONSTRUCTION NOTES

- All work shall conform to the applicable codes and ordinances.
- Contractor shall visit the site and familiarize him or herself with all conditions affecting the proposed work and shall make provisions as to the cost thereof. Contractor shall be responsible for familiarizing him or herself with all contract documents, field conditions and dimensions and confirming that the work may be accomplished as shown prior to proceeding with construction. Any discrepancies shall be brought to the attention of the engineer prior to the commencement of work.
- Contractor shall notify engineer of all products or items noted as "existing" which are not found in the field.
- Install all equipment and materials in accordance with manufacturer's recommendations and owner's requirements unless specifically otherwise indicated or where local codes or regulations take precedence.
- Contractor shall verify all dimensions and conditions in the field prior to fabrication and erection of any material. Any unusual conditions shall be reported to the attention of the engineer.
- Contractor shall clean and remove debris and sediment deposited on public streets, sidewalks, adjacent areas, or other public ways due to construction.
- Contractor shall incorporate provisions as necessary in construction to protect existing structures, physical features, and natural site stability during construction. Contractor shall restore all areas to original condition and as directed by design drawings.
- Site contractor shall obtain all required permits prior to construction.
- All erosion and sediment control measures shall be installed in accordance with "maine erosion and sedimentation control handbook for construction: best management practices" published by the Cumberland county soil and water conservation district and maine department of environmental protection, march 2004 or latest edition. It shall be the responsibility of the contractor to possess a copy of the erosion control plan at all times.
- The contractor is hereby cautioned that all site features shown hereon are based on field observations by the surveyor and by information provided by utility companies. The information is not to be relied on as being exact or complete. The contractor shall contact dig safe (1-888-digsafe) at least three (3) but not more than thirty (30) days prior to commencement of excavation or demolition to verify horizontal and vertical location of all utilities.
- All pavement joints shall be sawcut prior to paving to provide a durable and uniform joint.
- No holes, trenches or structures shall be left open overnight in any excavation accessible to the public or in public right-of-way.
- All work within the public right-of-way shall require a M.D.O.T. Permit as well as permits from the town as applicable.
- The proposed limits of clearing shown hereon are approximate based upon the proposed limits of site grading. The applicant reserves the right to perform normal forest management activities outside of the clearing limit as shown. Tree removal outside of the limits of clearing may be necessary to remove dead or dying trees or tree limbs. This removal is due to potential safety hazards and to promote proper forest growth.
- Immediately upon completion of cut/fills, the contractor shall stabilize disturbed areas in accordance with erosion control notes and as specified on plans.
- The contractor shall be fully and solely responsible for the removal, replacement and verification of all damaged and defective material and workmanship in connection with the contract work. The contractor shall repair or repair as directed by the owner all such damaged or defective materials which appear within a period of one year from the date of substantial completion.
- All work performed by the general contractor and/or trade subcontractors shall conform to the requirements of local, state or federal laws, as well as any other governing requirements, whether or not specified on the drawings.
- Where the terms "approved equal", "other approved", "equal to", "acceptable" or other general qualifying terms are used in these notes, it shall be understood that reference is made to the ruling and judgment of the engineer's consultants, i.e.
- The general contractor shall provide all necessary protection for the work, until turned over to the owner.
- The general contractor shall maintain a current and complete set of construction drawings on site during all phases of construction for use of all trades.
- The contractor shall take full responsibility for any changes and deviation of approved plans not authorized by the architect/engineer and/or client/owner.
- Details are intended to show end result of design. Any modification to suit field dimension and condition shall be submitted to the engineer for review and approval prior to any work.
- Before the final acceptance of the project, the contractor shall remove all equipment and materials, clear or replace private or public property which may have been damaged or destroyed during construction, repair the areas within and adjacent to the project which have been obstructed by his/her operations, and leave the project area neat and presentable.

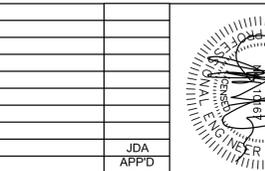
PIPE OUTLET PROTECTION



GRASSSED SWALE



TYPICAL EROSION CONTROL MEASURES FOR DWELLING UNITS



GENERAL CONSTRUCTION PHASES

- All topsoil shall be collected, stockpiled, seeded with ryegrass at 3 pounds/1,000 sq ft and mulched, and reused as required. Site fencing shall be placed down gradient from the stockpiled farm. Stockpile to be compacted by designation of the owner and inspecting engineer.
- The inspecting engineer, at his/her discretion, may require additional erosion control measures and/or supplemental vegetation provisions to maintain stability of earthworks and finish graded areas. The contractor shall be responsible for providing and installing any supplemental measures as directed by the inspecting engineer. Failure to comply with the engineer's directions will result in discontinuation of construction activities.
- Erosion control mesh shall be applied in accordance with the plans over all finish seeded areas as specified on the design plans.
- All graded or disturbed areas including slopes shall be protected during clearing and construction in accordance with the approved erosion and sediment control plan until they are adequately stabilized.
- All erosion, and sediment control practices and measures shall be constructed, applied and maintained in accordance with the approved erosion and sediment control plan.
- Areas to be filled shall be cleared, grubbed and stripped of topsoil to remove trees, vegetation, roots or other objectionable materials.
- Areas shall be compacted to a minimum depth of 3 inches prior to placement of topsoil.
- All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence or other related problems. Fill materials shall be approved by the engineer. All fills shall be compacted in accordance with local requirements or codes.
- All fills shall be placed and compacted in layers not to exceed 8 inches in thickness.
- Except for approved baffle or non-structural fills, fill material shall be free of brush, noxious rocks, logs, stumps, building debris and other objectionable materials that would interfere with or prevent construction of satisfactory fills.
- Fertilizer material or soil, mulch or highly compressible materials shall not be incorporated into fill slopes or structural fills.
- Fill shall not be placed on a frozen foundation.
- Steeps or springs encountered during construction shall be handled appropriately.
- All graded areas shall be permanently stabilized immediately following finished grading.
- Remove any temporary control measures, such as silt fence, within 30 days after permanent stabilization is attained.
- Permanent vegetation. Permanent vegetative cover should be established on disturbed areas where permanent long lived vegetative cover is needed to stabilize the soil, to reduce damages from sediment and runoff, and to enhance the environment.

SEEDING/ PREPARATION

- Grade as feasible to permit the use of conventional equipment for seeded preparation, seeding, mulch application and anchoring, and maintenance.
- Apply fertilizer and fertilizer according to soil tests such as those offered by the university of Maine soil testing laboratory. Soil sample materials are available from the local cooperative extension service office. If soil testing is not feasible on small or variable sites, or where timing is critical, fertilizer may be applied at the rate of 800 pounds per acre or 18.4 pounds per 1,000 square feet using 10-20-20 (p-20-s-42-o) or equivalent. Apply ground limestone (equivalent to 50% calcium plus magnesium oxide) at a rate of 3 tons per acre (138 lbs. Per 1,000 sq. Ft.).
- Work line and fertilizer into the soil as nearly as practical to a depth of 4 inches with a disc, spring tooth harrow or other suitable equipment. The final harrowing operation should be on the general contour. Continue tillage until a reasonably uniform, fine seedbed is prepared. All but clay or silty soils and coarse sands should be rolled to firm the seedbed wherever feasible.
- Remove from the surface all stones 2 inches or larger in any dimension. Remove all other debris, such as wire, cable, tree roots, concrete, clogs, lumps or other undesirable material.
- Inspect seedbed just before seeding. If traffic has left the soil compacted, the area must be filled and firmed as above.
- Permanent seeding should be made 45 days prior to the first killing frost or as a dormant seeding with mulch after the first killing frost and before snowfall. When crown weath is seeded in later summer, at least 35% of the seed should be hard seed (unscarified). If seeding cannot be done within the seeding dates, mulch according to the temporary mulching temp and overwinter stabilization and construction to protect the site and delay seeding until the next recommended seeding period.

WINTER CONSTRUCTION PHASE

- If an area is not stabilized with temporary or permanent measures by November 15, then the site must be protected with additional stabilization measures.
- Permanent stabilization consists of at least 80% vegetation, permanent/gravel base or riprap.
- Do not expose slopes or leave slopes exposed over the winter or for any other extended time of work suspension unless fully protected with mulch.
- Apply hay mulch at twice the standard rate (150 lbs. Per 1,000 sq ft). The mulch must be thick enough such that the ground surface will not be visible and must be anchored.
- Use mulch and mulch netting or an erosion control mulch blanket or all slopes greater than 8% or other areas exposed to direct wind.
- Install an erosion control blanket in all ditches/gutters (bottom and sides) with a slope greater than 3%.
- See the vegetation measures for more information on seeding dates and types.
- Winter excavation and earthwork shall be completed so that no more than 1 acre of the site is without stabilization at any one time.
- An area within 100 feet of a protected natural resource must be protected with a double row of sediment barrier.
- Temporary mulch must be applied within 7 days of soil exposure or prior to any storm event, but after every workday in areas within 100 feet from a protected natural resource.
- Areas that have been brought to final grade must be permanently mulched that same day.
- If snowfall is greater than 1 inch (fresh or cumulative), the snow shall be removed from the areas due to be seeded and mulched.
- Loom shall be free of frozen dumps before it is applied.
- All vegetated ditch lines that have not been stabilized by November 1, or will be worked during the winter construction period must be stabilized with an appropriate score firing backed by an appropriate gravel bed or geotextile unless specifically released from this standard by the department.
- Maintenance and inspection phase
A. Contractor shall inspect disturbed and impervious areas, and erosion and stormwater control measures, areas used for storage that are exposed to precipitation, and locations where vehicles enter or exit the parcel at least once a week and before and after a storm event, prior to completion of permanent stabilization. A person with knowledge of erosion and stormwater must conduct the inspection. The person must be identified in the inspection log. If best management practices are not being followed, the person must be notified immediately. The person must be notified in writing within calendar days and prior to any storm event (rainfall). All measures must be maintained in effective operating condition until areas are permanently stabilized.
- B. A log (report) must be kept summarizing the scope of the inspection, name(s) and qualifications of the personnel making the inspection, the dates of the inspection, and major observations relating to operation of erosion and sediment control measures. Major observations must be noted on the log. The log must be maintained for a minimum of 30 days after completion of the project. The log shall be filed in the project file. The log shall be available for review by the department and local officials. Where additional logs are needed that did not exist at the time of 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.

GENERAL CONSTRUCTION PHASES

- All topsoil shall be collected, stockpiled, seeded with ryegrass at 3 pounds/1,000 sq ft and mulched, and reused as required. Site fencing shall be placed down gradient from the stockpiled farm. Stockpile to be compacted by designation of the owner and inspecting engineer.
- The inspecting engineer, at his/her discretion, may require additional erosion control measures and/or supplemental vegetation provisions to maintain stability of earthworks and finish graded areas. The contractor shall be responsible for providing and installing any supplemental measures as directed by the inspecting engineer. Failure to comply with the engineer's directions will result in discontinuation of construction activities.
- Erosion control mesh shall be applied in accordance with the plans over all finish seeded areas as specified on the design plans.
- All graded or disturbed areas including slopes shall be protected during clearing and construction in accordance with the approved erosion and sediment control plan until they are adequately stabilized.
- All erosion, and sediment control practices and measures shall be constructed, applied and maintained in accordance with the approved erosion and sediment control plan.
- Areas to be filled shall be cleared, grubbed and stripped of topsoil to remove trees, vegetation, roots or other objectionable materials.
- Areas shall be compacted to a minimum depth of 3 inches prior to placement of topsoil.
- All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence or other related problems. Fill materials shall be approved by the engineer. All fills shall be compacted in accordance with local requirements or codes.
- All fills shall be placed and compacted in layers not to exceed 8 inches in thickness.
- Except for approved baffle or non-structural fills, fill material shall be free of brush, noxious rocks, logs, stumps, building debris and other objectionable materials that would interfere with or prevent construction of satisfactory fills.
- Fertilizer material or soil, mulch or highly compressible materials shall not be incorporated into fill slopes or structural fills.
- Fill shall not be placed on a frozen foundation.
- Steeps or springs encountered during construction shall be handled appropriately.
- All graded areas shall be permanently stabilized immediately following finished grading.
- Remove any temporary control measures, such as silt fence, within 30 days after permanent stabilization is attained.
- Permanent vegetation. Permanent vegetative cover should be established on disturbed areas where permanent long lived vegetative cover is needed to stabilize the soil