
Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 01 45 00 – Quality Control.
- .2 Section 01 74 11 – Cleaning.

1.2 REFERENCES

- .1 Newfoundland and Labrador Department of Transportation and Works (NLDTW) Specifications Book.

1.3 WASTE MANAGEMENT AND DISPOSAL

- .1 Divert unused granular material to local facility as approved by Departmental Representative.

Part 2 Products

2.1 MATERIALS

- .1 Class A granular in accordance with the NLDTW Specifications.

Part 3 Execution

3.1 PREPARATION

- .1 Temporary Erosion and Sedimentation Control:
 - .1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent areas.
 - .2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
 - .3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.2 PLACING

- .1 Construct granular base to depth and grade in areas indicated.
- .2 Ensure no frozen material is placed.
- .3 Place material only on clean unfrozen surface, free from snow and ice.
- .4 Begin spreading base material on crown line or on high side of one-way slope.
- .5 Place material using methods which do not lead to segregation or degradation of aggregate.

- .6 For spreading and shaping material, use spreader boxes having adjustable templates or screeds which will place material in uniform layers of required thickness.
- .7 Place material to full width in uniform layers not exceeding 200 mm compacted thickness.
- .8 Shape each layer to smooth contour and compact to specified density before succeeding layer is placed.
- .9 Remove and replace that portion of layer in which material becomes segregated during spreading.

3.3 COMPACTION

- .1 Compaction equipment to be capable of obtaining required material densities.
 - .1 Equipped with device that records hours of actual work, not motor running hours.
- .2 Compact to density not less than 100 % SPMDD.
- .3 Shape and roll alternately to obtain smooth, even and uniformly compacted base.
- .4 Apply water as necessary during compacting to obtain specified density.
- .5 In areas not accessible to rolling equipment, compact to specified density with mechanical tampers approved by Departmental Representative.
- .6 Correct surface irregularities by loosening and adding or removing material until surface is within specified tolerance.

3.4 TESTING

- .1 Refer to Section 01 45 00 – Quality Control.

3.5 SITE TOLERANCES

- .1 Finished base surface to be within plus or minus 10 mm of established grade and cross section but not uniformly high or low.

3.6 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 01 33 00 – Submittal Procedures.
- .2 Section 01 74 11 – Cleaning.
- .3 Section 01 74 21 – Construction/Demolition Waste Management and Disposal.

1.2 REFERENCES

- .1 ASTM International
 - .1 ASTM A53/A53M, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless.
 - .2 ASTM A90/A90M, Standard Test Method for Weight [Mass] of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings.
 - .3 ASTM A121, Standard Specification for Zinc-Coated (Galvanized) Steel Barbed Wire.
 - .4 A653/A653M, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - .5 ASTM F1664, Standard Specification for PVC-Coated Steel Tension Wire Used with Chain-Link Fence.
 - .6 ASTM A123/A123M, Standard Specification for Zinc (Hot Dip Galvanized) coatings on Iron and Steel Products.
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-138.1, Fabric for Chain Link Fence.
 - .2 CAN/CGSB-138.2, Steel Framework for Chain Link Fence.
 - .3 CAN/CGSB-138.3, Installation of Chain Link Fence.
 - .4 CAN/CGSB-138.4, Gates for Chain Link Fence.
 - .5 CAN/CGSB-1.181, Ready-Mixed Organic Zinc-Rich Coating.
- .3 CSA International
 - .1 CSA A23.1/A23.2, Concrete Materials and Methods of Concrete Construction/Test Methods and Standard Practices for Concrete.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for fences, gates, posts and paint and include product characteristics, performance criteria, physical size, finish and limitations.

- .3 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.
- .4 Test Reports: submit certified test reports showing compliance with specified performance characteristics and physical properties.

1.4 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials in accordance with manufacturer's recommendations.
 - .2 Store and protect fence and gates from damage.
 - .3 Replace defective or damaged materials with new.
- .4 Packaging Waste Management: remove for reuse by manufacturer, packaging materials, padding, pallets, as specified in Section 01 74 21- Construction/Demolition Waste Management and Disposal.

Part 2 Products

2.1 MATERIALS

- .1 Concrete mixes and materials: in accordance with CSA A23.1.
 - .1 Nominal coarse aggregate size: 20-5.
 - .2 Compressive strength: 20 MPa minimum at 28 days.
- .2 Chain-link fence fabric: to CAN/CGSB-138.1.
 - .1 Type 1, Class B, heavy style, Grade 2.
 - .2 Nominal Wire Diameter: 2.91 mm (9-gauge)
 - .3 Mesh Size: 50 mm.
 - .4 Height of fabric: as noted on plans.
- .3 Corner, end, and gate posts, braces and rails: to CAN/CGSB-138.2, galvanized steel pipe. Dimensions as indicated on drawings.
- .4 Bottom tension wire: to CAN/CGSB-138.2, 4.11 mm (6-gauge) mm single strand, galvanized steel wire.
- .5 Tie wire: 3.5 mm aluminum wire.
- .6 Tension stretcher bar: to ASTM A653/A653M, 5 x 20 mm minimum galvanized steel.
- .7 Gates: to CAN/CGSB-138.4.
- .8 Gate frames: to ASTM A53/A53M, galvanized steel pipe, standard weight 44 mm outside diameter pipe for outside frame, 32 mm outside diameter pipe for interior bracing.

- .1 Fabricate gates as indicated with electrically welded joints, and hot-dip galvanized after welding.
- .2 Fasten fence fabric to gate with twisted selvage at top.
- .3 Furnish gates with galvanized malleable iron hinges, latch and latch catch with provision for padlock which can be attached and operated from either side of installed gate.
- .9 Furnish double gates with chain hook to hold gates open.
- .10 Fittings and hardware: to CAN/CGSB-138.2, galvanized steel.
 - .1 Tension bar bands: 3 x 20 mm minimum galvanized steel.
 - .2 Post caps to provide waterproof fit, to fasten securely over posts and to carry top rail.
 - .3 Overhang tops to provide waterproof fit, to hold top rails and an outward projection to hold barbed wire overhang.
 - .4 Include projection with clips or recesses to hold 3 strands of barbed wire spaced 100 mm apart.
 - .5 Projection of approximately 300 mm long to project from fence at 45 degrees above horizontal.
 - .6 Turnbuckles to be drop forged.
- .11 Organic zinc rich coating: to CAN/CGSB-1.181.
- .12 Barbed wire: to CAN/CGSB-138.2, 2.5 mm diameter.

2.2 FINISHES

- .1 Galvanizing:
 - .1 For pipe: 550 g/m² minimum to ASTM A90.
 - .2 For other fittings: to ASTM A123/A123M.

Part 3 Execution

3.1 PREPARATION

- .1 Temporary Erosion and Sedimentation Control:
 - .1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent areas.
 - .2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
 - .3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.
- .2 Grading:
 - .1 Level ground along fence line to ensure that bottom fence between posts can be maintained at not more than 50 mm above ground.

3.2 ERECTION OF FENCE

- .1 Erect fence along lines as indicated.
- .2 Excavate post holes to dimensions indicated on drawings.
- .3 Space line posts 3 meters apart.
- .4 Install corner post where change in alignment exceeds 10 degrees.
- .5 Install end posts at end of fence and at buildings.
- .6 Place concrete in post holes then embed posts into concrete to depths indicated on drawings.
 - .1 Brace to hold posts in plumb position and true to alignment and elevation until concrete has set.
- .7 Install fence fabric after concrete has cured, minimum of 5 days.
- .8 Install brace between end and gate posts and nearest line post, as indicated on drawings.
 - .1 Install braces on both sides of corner and straining posts in similar manner.
- .9 Install overhang tops and caps.
- .10 Install top rail between posts and fasten securely to posts and secure waterproof caps and overhang tops.
- .11 Install bottom tension wire, stretch tightly and fasten securely to end, corner, gate and straining posts with turnbuckles and tension bar bands.
- .12 Lay out fence fabric. Stretch tightly to tension recommended by manufacturer and fasten to end, corner, gate and straining posts with tension bar secured to post with tension bar bands spaced at 300 mm intervals.
 - .1 Knuckled selvedge at bottom.
 - .2 Twisted selvedge at top.
- .13 Secure fabric to top rails, line posts and bottom tension wire with tie wires at 450 mm intervals.
 - .1 Give tie wires minimum two twists.

3.3 INSTALLATION OF GATES

- .1 Install gates in locations as indicated.
- .2 Install gates to prevent over-stress on gate posts when gates are open.
 - .1 Install on level ground with ground clearance of 100 mm maximum.

3.4 TOUCH UP

- .1 Clean damaged surfaces with wire brush removing loose and cracked coatings. Apply two coats of organic zinc-rich paint to damaged areas.
 - .1 Pre-treat damaged surfaces according to manufacturers' instructions for zinc-rich paint.

3.5

CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.
- .2 Clean and trim areas disturbed by operations. Reinstatement shall be equal to or greater than what existed prior to construction.
- .3 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .4 Waste Management: separate waste materials for reuse and/or recycling in accordance with Section 01 74 21- Construction/Demolition Waste Management and Disposal.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 01 33 00 – Submittal Procedures.
- .2 Section 01 74 11 – Cleaning.
- .3 Section 01 74 21 – Construction/Demolition Waste Management and Disposal.

1.2 REFERENCE STANDARDS

- .1 ASTM International
 - .1 ASTM A53/A53M, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless.
 - .2 ASTM A90/A90M, Standard Test Method for Weight [Mass] of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings.
 - .3 ASTM A121, Standard Specification for Zinc-Coated (Galvanized) Steel Barbed Wire.
 - .4 A653/A653M, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - .5 ASTM F1664, Standard Specification for PVC-Coated Steel Tension Wire Used with Chain-Link Fence.
 - .6 ASTM A123/A123M, Standard Specification for Zinc (Hot Dip Galvanized) coatings on Iron and Steel Products.
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-138.2, Steel Framework for Chain Link Fence.
 - .2 CAN/CGSB-138.4, Gates for Chain Link Fence.
 - .3 CAN/CGSB-1.181, Ready-Mixed Organic Zinc-Rich Coating.
- .3 CSA International
 - .1 CSA A23.1/A23.2, Concrete Materials and Methods of Concrete Construction/Test Methods and Standard Practices for Concrete.
 - .2 CSA G42, Galvanized (Zinc-Coated) Steel Farm-Field Wire Fencing.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for fences, gates, posts, and paint and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.

- .4 Test Reports: submit certified test reports showing compliance with specified performance characteristics and physical properties.

1.4 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials in accordance with manufacturer's recommendations.
 - .2 Store and protect fence and gates from damage.
 - .3 Replace defective or damaged materials with new.
- .4 Packaging Waste Management: remove for reuse by manufacturer, packaging materials, padding, pallets, as specified in Section 01 74 21- Construction/Demolition Waste Management and Disposal.

Part 2 Products

2.1 MATERIALS

- .1 Concrete mixes and materials: in accordance with CSA A23.1.
 - .1 Nominal coarse aggregate size: 20-5.
 - .2 Compressive strength: 20 MPa minimum at 28 days.
- .2 Wire fabric:
 - .1 Farm-field type: to CSA G42, size 20/96/6 and 17/75/6 as directed on drawings, knotted joints and galvanized.
 - .2 Rolls: 100 m long.
- .3 Line posts: galvanized steel T-rail, punched so that the fence fabric can be secured to the broad face of each post with dimensions as indicated on drawings.
- .4 Corner, end, gate and intermediate posts: to CAN/CGSB-138.2, galvanized steel pipe. Dimensions as indicated on drawings.
- .5 Tie wire: 3.5 mm aluminum wire.
- .6 Tension stretcher bar: to ASTM A653/A653M, 5 x 20 mm minimum galvanized steel.
- .7 Gate frames: to ASTM A53/A53M, galvanized steel pipe, standard weight 44 mm outside diameter pipe for outside frame, 32 mm outside diameter pipe for interior bracing.
 - .1 Fabricate gates as indicated with electrically welded joints, and hot-dip galvanized after welding.
 - .2 Fasten fence fabric to gate with twisted selvage at top.

- .3 Furnish gates with galvanized malleable iron hinges, latch and latch catch with provision for padlock which can be attached and operated from either side of installed gate.
- .8 Furnish double gates with chain hook to hold gates open.
- .9 Fittings and hardware: to CAN/CGSB-138.2, galvanized steel.
 - .1 Tension bar bands: 3 x 20 mm minimum galvanized steel.
 - .2 Overhang tops to provide waterproof fit and have an outward projection to hold barbed wire overhang.
 - .3 Include projection with clips or recesses to hold 3 strands of barbed wire spaced 100 mm apart.
 - .4 Projection of approximately 300 mm long to project from fence at 45 degrees above horizontal.
 - .5 Turnbuckles to be drop forged.
- .10 Organic zinc-rich coating: to CAN/CGSB-1.181.
- .11 Barbed wire: to CAN/CGSB-138.2, 2.5 mm diameter.

2.2 FINISHES

- .1 Galvanizing:
 - .1 For pipe: 550 g/m² minimum to ASTM A90.
 - .2 For other fittings: to ASTM A123/A123M.

Part 3 Execution

3.1 PREPARATION

- .1 Temporary Erosion and Sedimentation Control:
 - .1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent areas.
 - .2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
 - .3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.
- .2 Grading:
 - .1 Level ground along fence line to ensure that bottom fence between posts can be maintained at not more than 50 mm above ground.

3.2 ERECTION OF FENCE

- .1 Erect fence along lines as indicated.
- .2 Posts:

- .1 Install posts to depths as indicated.
- .2 Intermediate T-rail posts shall be direct driven into the ground. Concrete footing not required.
- .3 Set the following posts in concrete footings:
 - .1 End, corner and gate posts.
 - .2 Intermediate posts every 50 m along fence line.
 - .3 Bracing.
- .3 Space line posts 3 meters apart.
- .4 Install corner post where change in alignment exceeds 10 degrees.
- .5 Install end posts at end of fence and at buildings.
- .6 Place concrete in post holes then embed posts into concrete to depths indicated on drawings.
 - .1 Brace to hold posts in plumb position and true to alignment and elevation until concrete has set.
- .7 Install fence fabric after concrete has cured, minimum of 5 days.
- .8 Install brace between end and gate posts as indicated on drawings.
 - .1 Install braces on both sides of corner and straining posts in similar manner.
- .9 Install overhang tops and caps.
- .10 Lay out fence fabric. Stretch tightly to tension recommended by manufacturer and fasten to end, corner, gate and straining posts with tension bar secured to post with tension bar bands spaced at 300 mm intervals.
- .11 Secure fabric to line posts with tie wires at 450 mm intervals.
 - .1 Give tie wires minimum two twists.

3.3 INSTALLATION OF GATES

- .1 Install gates in locations as indicated.
- .2 Install gates to prevent over-stress on gate posts when gates are open.
 - .1 Install on level ground with ground clearance of 100 mm maximum.

3.4 TOUCH UP

- .1 Clean damaged surfaces with wire brush removing loose and cracked coatings. Apply two coats of organic zinc-rich paint to damaged areas.
 - .1 Pre-treat damaged surfaces according to manufacturers' instructions for zinc-rich paint.

3.5 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.

-
- .2 Clean and trim areas disturbed by operations. Reinststate disturbed ground to match existing. Reinstatement shall be equal to or greater than what existed prior to construction.
 - .3 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
 - .4 Waste Management: separate waste materials for reuse and/or recycling in accordance with Section 01 74 21- Construction/Demolition Waste Management and Disposal.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 01 33 00 – Submittal Procedures.
- .2 Section 01 74 11 – Cleaning.

1.2 SCHEDULING

- .1 Pre-Installation Meetings: conduct pre-installation meeting to verify project requirements, installation instructions and warranty requirements.
- .2 Scheduling:
 - .1 Schedule hydraulic seeding to coincide with preparation of soil surface.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for seed, mulch, tackifier, fertilizer, liquid soil amendments and micronutrients.
- .3 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .4 Test Reports: submit certified test reports showing compliance with specified performance characteristics and physical properties.

1.4 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements:
 - .1 Labelled bags of fertilizer identifying mass in kg, mix components and percentages, date of bagging, supplier's name and lot number.
 - .2 Inoculant containers to be tagged with expiry date.
- .3 Storage and Handling Requirements:
 - .1 Store fertilizer in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Replace defective or damaged materials with new.

1.5 WASTE MANAGEMENT AND DISPOSAL

- .1 Waste Management: separate waste materials for reuse recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

1.6 WARRANTY

- .1 For seeding, 12 months warranty period is extended to 1 full growing season.
- .2 End-of-warranty inspection will be conducted by Departmental Representative.

Part 2 Products

2.1 MATERIALS

- .1 Seed: "Canada pedigreed grade" in accordance with Government of Canada Seeds Act and Regulations.
 - .1 Grass mixture: "Certified", "Canada No. 1 Lawn Grass Mixture" in accordance with Government of Canada "Seeds Act" and "Seeds Regulations".
 - .1 Mixture composition:
 - .1 40 % Kentucky Blue Grass.
 - .2 40 % Creeping Red Fescue.
 - .3 20% Annual Rye Grass.
 - .2 Mulch: specially manufactured for use in hydraulic seeding equipment, non-toxic, water activated, green colouring, free of germination and growth inhibiting factors with following properties:
 - .1 Type I mulch:
 - .1 Made from wood cellulose fibre.
 - .2 Organic matter content: 95% plus or minus 0.5%.
 - .3 Value of pH: 6.0.
 - .4 Potential water absorption: 900%.
 - .3 Tackifier: water dilutable, liquid dispersion.
 - .4 Water: free of impurities that would inhibit germination and growth.
 - .5 Fertilizer:
 - .1 To Canada "Fertilizers Act" and Regulations.
 - .2 Complete synthetic, slow release with 35% of nitrogen content in water-insoluble form.

Part 3 Execution

3.1 EXAMINATION

- .1 Verification of Conditions: verify conditions of substrate previously installed under other Sections or Contracts are acceptable for hydraulic seeding.
 - .1 Visually inspect substrate in presence of Departmental Representative.
 - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied.

3.2 PROTECTION OF EXISTING CONDITIONS

- .1 Protect structures, signs, guide rails, fences, plant material, utilities and other surfaces not intended for spray.
- .2 Immediately remove any material sprayed where not intended as directed by Departmental Representative.

3.3 PREPARATION OF SURFACES

- .1 Do not perform work under adverse field conditions such as wind speeds over 10 km/h, frozen ground or ground covered with snow, ice or standing water.
- .2 Fine grade areas to be seeded free of humps and hollows.
 - .1 Ensure areas are free of deleterious and refuse materials.
- .3 Cultivated areas identified as requiring cultivation to depth of 25 mm.
- .4 Ensure areas to be seeded are moist to depth of 150 mm before seeding.
- .5 Obtain Departmental Representative's approval of grade and topsoil depth before starting to seed.

3.4 FERTILIZING PROGRAM

- .1 Fertilize prior to fine grading, during establishment and warranty period in accordance with manufacturer's recommendations. Fertilizing program shall be submitted to and approved by the Departmental Representative.

3.5 PREPARATION OF SLURRY

- .1 Measure quantities of materials by weight or weight-calibrated volume measurement satisfactory to Departmental Representative. Supply equipment required for this work.
- .2 Charge required water into seeder. Add material into hydraulic seeder under agitation. Pulverize mulch and charge slowly into seeder.
- .3 After materials are in seeder and well mixed, charge tackifier into seeder and mix thoroughly to complete slurry.

3.6 SLURRY APPLICATION

- .1 Hydraulic seeding equipment:
 - .1 Slurry tank.
 - .2 Agitation system for slurry to be capable of operating during charging of tank and during seeding, consisting of recirculation of slurry and/or mechanical agitation method.
 - .3 Capable of seeding by 50 m hand operated hoses and appropriate nozzles.
 - .4 Tank volume to be certified by certifying authority and identified by authorities "Volume Certification Plate".
- .2 Slurry mixture shall be applied to surface in accordance with manufacturer's instructions.

- .3 Apply slurry uniformly, at optimum angle of application for adherence to surfaces and germination of seed.
 - .1 Using correct nozzle for application.
 - .2 Using hoses for surfaces difficult to reach and to control application.
- .4 Blend application 300 mm into adjacent grass areas or sodded areas or previous applications to form uniform surfaces.
- .5 Re-apply where application is not uniform.
- .6 Remove slurry from items and areas not designated to be sprayed.

3.7 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.
 - .2 Keep pavement and area adjacent to site clean and free from mud, dirt, and debris at all times.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
 - .1 Clean and reinstate areas affected by Work.

3.8 PROTECTION

- .1 Protect seeded areas from trespass until plants are established.
- .2 Remove protection devices as directed by Departmental Representative.

3.9 MAINTENANCE DURING ESTABLISHMENT PERIOD

- .1 Perform following operations from time of seed application until acceptance by Departmental Representative.
- .2 Grass Mixture:
 - .1 Repair and reseed dead or bare spots to allow establishment of seed prior to acceptance.
 - .2 Mow grass to 50 mm whenever it reaches height of 70 mm. Remove clippings which will smother grass.
 - .3 Fertilize seeded areas after 10 weeks after germination provided plants have mature true leafs in accordance with fertilizing program. Spread half of required amount of fertilizer in one direction and remainder at right angles.
 - .4 Control weeds by mechanical or chemical means utilizing acceptable integrated pest management practices.
 - .5 Water seeded area to maintain optimum soil moisture level for germination and continued growth of grass. Control watering to prevent washouts.

3.10 ACCEPTANCE

- .1 Seeded areas will be accepted by Departmental Representative provided that:

- .1 Seeded areas are free of rutted, eroded, bare or dead spots.
- .2 Areas have been mown at least twice.
- .3 Areas have been fertilized.
- .2 Areas seeded in fall will achieve final acceptance in following spring, one month after start of growing season provided acceptance conditions are fulfilled.

3.11 MAINTENANCE DURING WARRANTY PERIOD

- .1 Perform following operations from time of acceptance until end of warranty period:
 - .1 Repair and reseed dead or bare spots to satisfaction of Departmental Representative.
 - .2 Mow areas seeded and remove clippings that will smother grassed areas as directed by Departmental Representative.
 - .3 Fertilize seeded areas in accordance with fertilizing program. Spread half of required amount of fertilizer in one direction and remainder at right angles.

END OF SECTION