

**PART E**  
**SPECIFICATIONS**

## PART E - SPECIFICATIONS

### GENERAL

#### E1. APPLICABLE SPECIFICATIONS, STANDARD DETAILS AND DRAWINGS

- E1.1 *The City of Winnipeg Standard Construction Specifications* in its entirety, whether or not specifically listed on Form B: Prices, shall apply to the Work.
- E1.1.1 *The City of Winnipeg Standard Construction Specifications* is available in Adobe Acrobat (.pdf) format on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division internet site at <http://www.winnipeg.ca/matmgt>.
- E1.1.2 Further to GC:2.4(d), Specifications included in the Bid Opportunity shall govern over *The City of Winnipeg Standard Construction Specifications*.
- E1.2 The following Drawings are applicable to the Work:

<u>Drawing No.</u>	<u>Drawing</u>
P32-D	Layout of proposed Path at Papoose Park

### GENERAL REQUIREMENTS

#### E2. VERIFICATION OF WEIGHTS

- E2.1 All Material which is paid for on a weight basis shall be weighed on a scale certified by Consumer & Corporate Affairs, Canada.
- E2.1.1 All weight tickets shall have the gross weight and the time and date of weighing printed by an approved electro/mechanical printer coupled to the scale.
- E2.1.2 The tare weight and net weight may either be hand written or machine printed. All weights, scales and procedures shall be subject to inspection and verification by the Contract Administrator. Such inspection and verification may include, but shall not be limited to:
- (a) checking Contractor's scales for Consumer & Corporate Affairs certification seals;
  - (b) observing weighing procedures;
  - (c) random checking of either gross or tare weights by having such trucks or truck/trailer(s) combinations as the Contract Administrator shall select weighed at the nearest available certified scale;
  - (d) checking tare weights shown on delivery tickets against a current tare
- E2.2 The Contractor shall ensure that each truck or truck/trailer(s) combination delivering Material which is paid for on a weight basis carries a tare not more than one (1) month old.
- E2.2.1 The tare shall be obtained by weighing the truck or truck/trailer(s) combination on a certified scale and shall show:
- (a) upon which scale the truck or truck/trailer(s) combination was weighed;
  - (b) the mechanically printed tare weight;
  - (c) the license number(s) of the truck and trailer(s);
  - (d) the time and date of weighing.

### **E3. TRUCK WEIGHT LIMITS**

- E3.1 The City shall not pay for any portion of Material which results in the vehicle exceeding the maximum gross vehicle weight allowed under *The City of Winnipeg Traffic By-Law*, unless such vehicle is operating under special permit.

### **E4. SITE ACCESS**

- E4.1 Access to the Site will be determined at the pre-construction meeting. This access area shall be provided and maintained by the Contractor at his own expense and approved by the Contract Administrator.
- E4.2 The Contractor shall be restricted to the Site access location and route only so that there is a minimum of disturbance to the existing ground surface. Damage to areas beyond the marked route shall be repaired by and at the expense of the Contractor to the satisfaction of the Contract Administrator.

### **E5. PERMITS, NOTICES, LICENSES, CERTIFICATES, LAWS AND RULES**

- E5.1 Further to GC: 6.12, the Contractor shall give all necessary notices, obtain all necessary permits and pay all fees in order that the Work may be carried out. The Contractor shall submit all plans required by any inspection authority and obtain approval of same before proceeding with the Work, and pay any cost attached to the inspection of such plans.
- E5.2 The Contractor shall comply with all laws, ordinances, rules and regulations that would relate to the Work.
- E5.3 All notices, consents, approvals, statements, authorizations, documents or other communications to the City shall be submitted to the Contract Administrator.
- E5.4 All Work shall be performed in compliance with the Manitoba Workplace Health and Safety Act.
- E5.5 All Work shall be performed in compliance with the Manitoba Workplace Health and Safety Fall Protection guidelines.
- E5.6 The Contractor and Subcontractors must be fully aware of all Work involving hazardous materials. All Work must be performed in compliance with the Manitoba Department of Labour Workplace Health and Safety Guidelines and all other applicable codes. The Contractor is responsible for the immediate notification to the Contract Administrator of his/her encountering of suspected hazardous material during their course of Work.

### **E6. DAMAGE TO EXISTING STRUCTURES AND PROPERTY**

- E6.1 Further to GC: 17, all necessary precautions shall be exercised by the Contractor so as not to remove, disturb, or damage any existing trees, shrubs, sod, pavements, streets, roads, boulevards, poles, hydrants, water pipes, gas pipes, electrical wires, cables, conduits, sewers or other existing facilities and equipment at the Site of the Work. For all damage incurred thereto in the performance of the Work, the Contractor shall upon instructions from and to the satisfaction of the Contract Administrator and the owners thereof, either replace and repair such damage, whichever may be deemed necessary in the opinion of, and acceptable to, the Contract Administrator and the owners thereof. The cost of which shall be borne entirely by the Contractor.
- E6.2 The Contractor shall also indemnify and save harmless the City from all claims made directly or indirectly against it in respect to any such damage.

E6.3 The Contractor's operations shall be limited to the minimum area necessary for undertaking the Work and he shall be responsible for all damage resulting from his Work on private property. The Contractor shall take such measures as are necessary to ensure safe and convenient pedestrian ingress and egress is maintained to private properties while he is working near them.

E6.4 Any damage caused by the negligence of the Contractor or his Sub-Contractors to the adjacent works or properties, shall be promptly repaired by him at his own expense, to the satisfaction of the Contract Administrator.

## **E7. TEMPORARY UTILITIES**

E7.1 Further to GC: 6.12, the Contractor shall make his own arrangements in connection with the temporary use of lighting, power, gas, sewer, water or other utilities, and pay all costs in connection therewith.

E7.2 All necessary permits, fees and other like expenses as well as the cost of temporary connections to existing facilities shall be arranged and paid for by the Contractor.

## **E8. LAYOUT OF WORK**

E8.1 The Contractor will set control lines and bench marks by means of stakes, buoys or marks and the Contractor shall make the completed works conform to the lines and marks thus indicated. The Contractor shall furnish all other lines and levels required. The Contractor shall be responsible for the careful preservation of all stakes and marks so set whether relating to his own or to other Work. Care must be taken that the Contract Administrator be notified immediately of the disturbance of any such stakes or marks; the cost of correcting any errors arising out of neglect of the Contractor or his agent or his employees, to so notify the Contractor Administrator shall be borne entirely by the Contractor, as well as the cost of replacing any disturbed stakes or marks.

E8.2 All layout Work shall be inspected and approved by the Contract Administrator prior to construction.

E8.3 Before commencing work the contractor shall satisfy himself as to the meaning and correctness of all stakes and marks and no claims shall be entertained by the City of Winnipeg on account of any alleged inaccuracies. If any error is suspected in the plans, specifications or the directions of the Contract Administrator, Work shall be discontinued until the errors are rectified, but no claims shall be made on account of any delay occasioned thereby.

## **E9. SITE RESTORATION**

E9.1 Total Performance of the Work shall not be attained until the Contractor has cleaned up the Site and has removed all plant, tools, equipment, waste, debris and surplus foundation earth to the satisfaction of the Contract Administrator. Unless otherwise specified, the Contractor shall restore all areas of the Site beyond the established limit of Work, which have been disturbed by the Contractor's operations to as good as or better than the original condition to the satisfaction of the Contract Administrator. The Contractor shall pay all costs associated with this Work.

## **E10. EXCAVATION**

E10.1 This specification shall be done in accordance the City of Winnipeg's Standard Construction Specification CW 3110-R6.

E10.2 Excavation shall be understood to include all removal of existing asphalt pathways as well as insitu material to a depth of 275 mm below finished grade.

- E10.3 The existing pavement at the limits of the designated area of removal shall be saw cut for the full depth of the pavement prior to the demolition and removal operations. All costs in connection with saw cutting are incidental and shall be included in the unit price bid for excavation.
- E10.4 All excavated material shall be removed, hauled and disposed of off-site to the satisfaction of the Contract Administrator.
- E10.5 Measurement and Payment for Excavation will be on a volume basis paid at the Unit Price per cubic metre for "Excavation"

#### **E11. SUB-GRADE COMPACTION**

- E11.1 Sub Grade compaction shall be done in accordance with City of Winnipeg's Standard Construction Specification CW 3110-R6.
- E11.2 The bottom of the excavation shall be inspected and approved by the Contract Administrator before the Contractor may begin compaction of the sub-grade.
- E11.3 Sub-grade shall be free of any fibrous organics, softened and disturbed soil. The prepared sub-grade shall be proof rolled with a heavy sheep's foot roller (min 25 passes) and inspected by the Contract Administrator to detect for any soft spots prior to the placement of overlying granular fills.
- E11.4 Recompact or replace any layer or section that has been rejected as directed by the Contract Administrator
- E11.5 Sub-grade shall be compacted to a minimum of ninety five percent (95%) of Standard Proctor Density.
- E11.6 Measurement and Payment of sub-grade compaction will be measured and paid for at the Contract Unit Price per square metre for " Sub-Grade Compaction", which price shall be payment in full for performing all operations herein described and all other items incidental to the work included in this Specification.

#### **E12. GEOTEXTILE FABRIC MAT**

- E12.1 Geotextile Fabric shall be placed in accordance with City of Winnipeg's Standard Construction Specification CW 3110-R5.
- E12.2 The separation/reinforcement geotextile fabric shall be placed between the sub-grade and sub-base materials and shall be a woven material.
- E12.3 The separation/reinforcement geotextile fabric shall conform to the Products Approved as listed in City of Winnipeg Specification CW 3710- specification for Products Approved for Use in Surface Works.
- E12.4 The placement of the geotextile fabric shall proceed after the construction of the sub-grade.
- E12.5 The geotextile shall be unrolled as smoothly as possible on the prepared sub-grade. The fabric shall be placed in the longest continuous practical length, free from tension, stress, folds, wrinkles and creases.
- E12.6 The installation of the geotextile fabric shall comply with this specification and the procedures recommended by the manufacturer and approved by the Contract Administrator.

- E12.7 Any geotextile fabric that is improperly installed or damaged shall be removed and replaced to the satisfaction of the Contract Administrator at the Contractor's expense.
- E12.8 The sub-base material shall be placed by end dumping onto the geotextile fabric from the edge of the geotextile or over previously placed sub-base aggregate.
- E12.9 Vehicles shall not be permitted directly on the geotextile fabric.
- E12.10 Method of Measurement and Basis of Payment will be at the Contact Unit Price per sq. metre for "Separation/Reinforcement Geotextile Fabric."

**E13. CRUSHED LIMESTONE SUB BASE COURSE MATERIAL( 50MM DOWN)**

- E13.1 Crushed limestone sub base material shall be supplied and installed in accordance with City of Winnipeg's Standard Construction Specification CW 3110-R6
- E13.2 All granular base coarse shall be placed and compacted as specified to a finished thickness of 150 mm as specified on the drawings.
- E13.3 Sub Base coarse shall be compacted to a minimum of One-Hundred (100%) of Standard Proctor Density

**E14. CRUSHED LIMESTONE BASE COURSE MATERIAL (20 MM DOWN)**

- E14.1 Crushed limestone base material shall be supplied and installed in accordance with City of Winnipeg's Standard Construction Specification CW 3110-R6
- E14.2 All granular base coarse shall be placed and compacted as specified to a finished thickness of 50 mm as specified on the drawings.
- E14.3 Base coarse shall be compacted to a minimum of ninety percent (90%) of Standard Proctor Density.

**E15. ASPHALTIC PAVEMENT**

- E15.1 The Contractor shall supply and construct Type IA Asphaltic Concrete in accordance with the lines, grades and thickness shown on the Construction Drawings and to City of Winnipeg Standard Construction Specification CW 3410-R5. Asphalt shall be placed in one lift.
- E15.2 Density of completed asphalt after final rolling shall be a minimum of ninety-seven percent (97%) of the 75 blows Standard Marshall Procedure.
- E15.3 Asphalt shall be place when air temperature is at least 4<sup>0C</sup> and rising. During placement and compaction, the temperature of the asphalt aggregate should be in the range of 125<sup>0C</sup> and 155<sup>0C</sup>
- E15.4 A minimum of two approved rollers shall be required on the job-site.
- E15.5 After final rolling the surface shall be smooth and true to the established crown and grade. Any low or defective spots shall immediately be remedied by cutting out the course, or planning to a depth of 40 mm, at such spots and replacing it with a fresh hot mixture that shall be immediately compacted to conform with the surrounding area and shall be thoroughly bonded to it. The surface of the finished pavement shall be free from depressions exceeding 5 mm as measured with a three (3) metre straight edge.

E15.6 Measurement and Payment will be measured and paid for at the Contract Unit Price per square metre for "Construction of 2.4 metre Asphalt Pathways. Price shall be payment in full for supplying materials and for performing all operations listed below.

- (a) Supply and Placement of 50 mm down Crushed Limestone Base Coarse – 150 mm depth
- (b) Supply and Placement of 20 mm down Crushed Limestone Base Coarse – 50 mm depth
- (c) Construction of Type 1A Asphalt Pavement – 75 mm depth.

#### **E16. CRACK SEALING**

E16.1 As a warranty requirement, the Contractor shall rout and seal any and all cracks which may appear during the one-year warranty period. Crack sealing shall conform to the requirements of City of Winnipeg Standard Construction CW 3250 – R3.

E16.2 No separate payment will be made for this item as it is considered a warranty issue and shall fall under G.C. 13 – Warranty.

#### **E17. QUALITY CONTROL FOR HARD SURFACED AREAS**

E17.1 Further to Section 10, Quality Control, of CW 3110-R5 and CW 3410-R5, the Contract Administrator will obtain a qualified independent testing lab to conduct tests on materials to determine the acceptability of the sub-grade, sub-base, base course and asphaltic concrete as placed by the Contractor in accordance with the requirements of this Specification.

E17.2 The Contractor shall not proceed with each granular fill placement or asphalt installation until test results have been reviewed and the approval to proceed is granted by the Contract Administrator.

E17.3 The Contract Administrator will conduct a survey of the operation to verify installation of specified layer thickness.

E17.4 Non-conformity with the specified test requirements or compacted layer thickness will constitute sufficient grounds for rejection of the work.

#### **E18. TOPSOIL AND SEEDING**

E18.1 Topsoil & Seed shall be done in accordance with City of Winnipeg Standard Construction Specification CW 3540 – R2 and CW 3520- R5 respectively

E18.2 The Contractor shall supply Topsoil & Seed around the perimeter of the pathway, level with the existing sod, to a depth of 100 mm below finished grade, as directed by the Contract Administrator

E18.3 Any damage to grassed areas beyond the specified limit of the work disturbed by the Contractor's operations, employees and equipment shall be restored or replaced at the Contractor's expense to a condition equal to or better than that prior to the commencement of this construction operation to the satisfaction of the Contract Administrator. Sodding only will be acceptable for grassed area restoration.

E18.4 The Contractor may be required to submit test results and samples of his proposed soil to the Contract Administrator for testing.

E18.5 Contractor will be responsible to carry out maintenance of seeded area as outlined in 9.8 of CW3520-R5

E18.6 Topsoil & Seeding will be measured on an area basis and paid at the Contract Unit Price per square metre for "Topsoil & Seeding" The area to be paid for will be the total number of square metres placed and maintained in accordance with this Specification, accepted and measured by the Contract Administrator.

**E19. TOPSOIL AND SODDING**

E19.1 Topsoil & Sodding shall be done in accordance with City of Winnipeg Standard Construction Specification CW 3540 – R2 and CW 3510- R7 respectively

E19.2 The Contractor shall supply turf grass sod with a mineral soil layer containing a minimum of 70% inorganic soil. Salinity rating shall be less than 2.5mmhos/cm. The pH range shall be between 6.0 – 8.0 .Sod supplied shall have been sown in nursery fields with Canada Certified No.1 or Canada Certified No. 2 grass seed meeting the following certified seed blends or mixtures.

- (a) A blend composed of one hundred percent (100%) Kentucky Bluegrass (100% Class 2 cultivators as specified below
- (b) A mixture of ninety five percent (95%) Kentucky Bluegrass (100% Class 2 cultivators as specified below) and five percent (5%) Creeping Red fescue

Class 2 Cultivators – specified blend of Class 2 cultivators shall consist of equal proportions of any three of the following

Absolute	Allure	Apollo	Arcadia Ascot	Award	Baronie
Baronie	Bartitia	Baruzo	Blacksburg	Caliber	Cardiff
Challenger	Champagne	Chateau	Chicago	Classic	Compact
Conni	Coventry	Dragon	Eclipse	Estate	Fortina
Glade	Haga	Huntsville	Impact	Jefferson	Kenblue
Liberator	Lipoa	Livingston	Limousine	Marquis	Moonlight
Northstar	Nustar	Odyssey	Park	Pepaya	Platini
Rambo	Raven	Rugby	Rugby II	Seabring	Sidekick
SR1200	SR2109	Touchdown	Washington	Wildcat	

E19.3 Any variations to the above referenced seed blends or mixtures shall be approved by the Contract Administrator

E19.4 On embankments and berms, sod shall be placed lengthwise across the face of the slope. On slopes of 1 vertical to 3 horizontal (18 degrees) or steeper, in every second row on the slope and at the foot of the slope, each piece of sod shall be pegged with two minimum 250 mm long wooden pegs driven into the soil layer of the sod. On slopes of 1 vertical to 2 horizontal (26 degrees) or steeper, each piece of sod in every row shall be pegged with two minimum 250 mm long wooden pegs driven into the soil layer of the sod.

E19.5 Sodding operations shall be completed within two days (48 hours) after placing the sod. This shall be deemed to include watering, rolling, and repairing any visible joints and low, bare or dead spots within the sodded area.

E19.6 Sod will be accepted after the termination of 30 day maintenance period providing it meets the following requirements



- (a) The Work Site is clean and the sodded area is free of any visual obstructions such as leaves
- (b) The sod is free of dead and bare spots and without more than 10 broadleaf weeds per 50 square metres
- (c) Grass roots are well anchored into the underlying topsoil and the sodded area has established into a healthy, vigorously growing condition.
- (d) Sodded areas are free of visible joints.
- (e) The sod has sufficient shoot density that no surface soil is visible when the grass has been cut to a height of 50 – 60 mm
- (f) Sodded area has been cut to a height of 50 – 60 mm within 48 hours before the final inspection.
- (g) Sodded area is free of any turf damaging insects.

E19.7 Any deficient, damaged or vandalized areas may have to be resodded by the Contractor within three (3) Working Days after receiving notification from the Contract Administrator and the area so resodded.

E19.8 Contractor will be responsible to carry out maintenance as specified in 9.8 of CW3510-R7

E19.9 Topsoil & Sodding will be measured on an area basis and paid at the Contract Unit Price per square metre for "Topsoil & Sodding" The area to be paid for will be the total number of square metres placed and maintained in accordance with this Specification, accepted and measured by the Contract Administrator. Topsoil & Sodding shall be done in accordance with City of Winnipeg Standard Construction Specification CW 3540 – R2 and CW 3510- R7 respectively

## **E20. PROTECTION OF TREES**

E20.1 The Contractor shall take the following precautionary steps to avoid damage from his construction activities to existing Boulevard trees within the limits of the construction area

- (a) The Contractor shall not stockpile materials and soil or park vehicles and equipment on boulevards within 2 metres of trees
- (b) Contract Administrator shall identify the mature tree trunks that shall be strapped with 25 x 150 x 2400 (1" x 6" x 8') wood planks. Smaller trees shall be similar protected using appropriately sized wood planks.
- (c) Excavations shall be carried out in such a manner so as to minimize damage to existing tree branches. Where roots must be cut to facilitate an excavation they shall be neatly pruned at the face of the excavation and coated with an appropriate wound dressing to prevent infection.
- (d) Work on Site shall be carried out in such a manner so as to minimize damage to existing tree branches. Where damage to tree branches does occur, the Contractor shall neatly prune the damaged branches and coat them with an appropriate wound dressing to prevent infection.

E20.2 All damage to existing trees caused by the Contractor's construction activities shall be repaired to the requirements and satisfaction of the City of Winnipeg, Parks and Recreation Department, Forestry Branch.

E20.3 Any tree pruning required by the Contractor to successfully complete the work will be done at his own expense and to the guidelines set forth by the City of Winnipeg Forestry Department.

E20.4 No separate measurement or payment will be made for protection of trees. It shall be considered incidental to the contract Work

## **E21. SITE CLEANUP**

- E21.1 All pathways, streets, approaches, driveways and properties near the Work Site shall be kept clean at all times by the Contractor
- E21.2 Upon completion of the project, the Contractor shall immediately remove all excess materials and debris from the Work Site.

## **E22. SAFETY**

### **E22.1 Safety and Health Regulations**

#### **E22.1.1 The Contractor shall comply with the following:**

- a) The City of Winnipeg's Safety in the Workplace Policy for Alcohol or any Mood or Mind Altering Drug in the Workplace;
- b) The City of Winnipeg Safety Manual;
- c) The Public Works Department's Safety Regulations;
- d) The Province of Manitoba Workplace, Safety and Health Act.

E22.1.2 The Contract Administrator and the City of Winnipeg, Public Works Department's Safety Officer has the authority to enforce all the above listed safety and/or health regulations.

E22.1.3 The Contractor is advised that these safety regulations are available for viewing by contacting the Contract Administrator.

### **E22.2 Site Safety Procedures**

E22.2.1 The Contractor shall be solely responsible for construction and public safety at the Site and for securing the Site at all times to prevent public access.

- E22.2.2 The Contractor shall, at his own expense, do whatever is necessary to ensure that when work is stopped and the Contractor leaves the Site for whatever reason, the Site and Work is made safe, including but not limited to:
- a) The removal and/or safe storage of all construction equipment and materials;
  - b) The equipment installed and/or in the process of installation be completed or secured to ensure that no public hazards exist;
  - c) That all open excavations be filled; and
  - d) That all construction debris and surplus excavation material be removed from the Site.
- (b) The Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.