

Part 1 General

1.1 ADMINISTRATIVE

- .1 Schedule and administer project meetings throughout the progress of the work at the call of Contract Administrator.
- .2 Prepare agenda for meetings.
- .3 Distribute written notice of each meeting four days in advance of meeting date to Contract Administrator.
- .4 Provide physical space and make arrangements for meetings.
- .5 Preside at meetings.
- .6 Record the meeting minutes. Include significant proceedings and decisions. Identify actions by parties.
- .7 Reproduce and distribute copies of minutes within three days after meetings and transmit to meeting participants and affected parties not in attendance.
- .8 Representative of Contractor, Subcontractor and suppliers attending meetings will be qualified and authorized to act on behalf of party each represents.

1.2 PRECONSTRUCTION MEETING

- .1 Within 15 days after award of Contract, request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.
- .2 Contract Administrator and Senior representatives of the Contractor, major Subcontractors, field inspectors and supervisors will be in attendance.
- .3 Establish time and location of meeting and notify parties concerned minimum 5 days before meeting.
- .4 Incorporate mutually agreed variations to Contract Documents into Agreement, prior to signing.
- .5 Agenda to include:
 - .1 Appointment of official representative of participants in the Work.
 - .2 Schedule of Work: in accordance with Tender documents.
 - .3 Schedule of submission of shop drawings, samples, colour chips.
 - .4 Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences.
 - .5 Delivery schedule of specified equipment.
 - .6 Site security in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.
 - .7 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements.
 - .8 City provided products.
 - .9 Record drawings in accordance with Section 01 33 00 - Submittal Procedures.
 - .10 Maintenance manuals in accordance with Section 01 78 00 - Closeout Submittals.
 - .11 Take-over procedures, acceptance, warranties in accordance with Section 01 78 00 - Closeout Submittals.

- .12 Monthly progress claims, administrative procedures, photographs, hold backs.
- .13 Appointment of inspection and testing agencies or firms.
- .14 Insurances, transcript of policies.

1.3 PROGRESS MEETINGS

- .1 During course of Work schedule progress meetings bi-weekly. Prior to project completion, schedule meetings more often to facilitate project completion and take over.
- .2 Contractor, major Subcontractors involved in Work, Contract Administrator & City are to be in attendance.
- .3 Notify parties minimum 5 days prior to meetings.
- .4 Record minutes of meetings and circulate to attending parties and affected parties not in attendance within 7 days after meeting.
- .5 Agenda to include the following:
 - .1 Review, approval of minutes of previous meeting.
 - .2 Review of Work progress since previous meeting.
 - .3 Field observations, problems, conflicts.
 - .4 Problems which impede construction schedule.
 - .5 Review of off-site fabrication delivery schedules.
 - .6 Corrective measures and procedures to regain projected schedule.
 - .7 Revision to construction schedule.
 - .8 Progress schedule, during succeeding work period.
 - .9 Review submittal schedules: expedite as required.
 - .10 Maintenance of quality standards.
 - .11 Review proposed changes for affect on construction schedule and on completion date.

Part 2 Products

2.1 NOT USED

Part 3 Execution

3.1 NOT USED

END OF SECTION

Part 1 General

1.1 ADMINISTRATIVE

- .1 Submit to Contract Administrator submittals listed for review. Submit promptly and in an orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2 Do not proceed with Work affected by submittal until review by both Contractor and Contract Administrator is complete.
- .3 Present shop drawings, product data, samples and mock-ups in SI Metric units.
- .4 Where items or information is not produced in SI Metric units converted values are acceptable.³⁰
- .5 Review submittals prior to submission to Contract Administrator. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.
- .6 Notify Contract Administrator, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .7 Verify field measurements and affected adjacent Work are co-ordinated.
- .8 Contractor's responsibility for errors and omissions in submission is not relieved by Contract Administrator's review of submittals.
- .9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Contract Administrator's review.
- .10 Keep one reviewed copy of each submission on site.

1.2 SHOP DRAWINGS AND PRODUCT DATA

- .1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
- .2 Submit drawings stamped and signed by professional engineer registered or licensed in the province in which the Work takes place.
- .3 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.
- .4 Allow a minimum of ten (10) working days for Contract Administrator 's review of each submission.
- .5 Adjustments made on shop drawings by Contract Administrator are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Contract Administrator prior to proceeding with Work.

- .6 Make changes in shop drawings as Contract Administrator may require, consistent with Contract Documents. When resubmitting, notify Contract Administrator in writing of revisions other than those requested.
- .7 Accompany submissions with transmittal letter or stamp containing:
 - .1 Date.
 - .2 Project title and number.
 - .3 Contractor's name and address.
 - .4 Identification and quantity of each shop drawing, product data and sample.
 - .5 Other pertinent data.
- .8 Submissions include:
 - .1 Date and revision dates.
 - .2 Project title and number.
 - .3 Name and address of:
 - .1 Subcontractor.
 - .2 Supplier.
 - .3 Manufacturer.
 - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
 - .5 Details of appropriate portions of Work as applicable:
 - .1 Fabrication.
 - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
 - .3 Setting or erection details.
 - .4 Capacities.
 - .5 Performance characteristics.
 - .6 Standards.
 - .7 Operating weight.
 - .8 Wiring diagrams.
 - .9 Single line and schematic diagrams.
 - .10 Relationship to adjacent work.
- .9 After Contract Administrator 's review, distribute copies.
- .10 Submit electronic copy of shop drawings for each requirement requested in specification Sections and as Contract Administrator may reasonably request.
- .11 Submit electronic copies of product data sheets or brochures for requirements requested in specification Sections and as requested by Contract Administrator where shop drawings will not be prepared due to standardized manufacture of product.
- .12 Submit electronic copies of test reports for requirements requested in specification Sections and as requested by Contract Administrator.
 - .1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
 - .2 Testing to be in compliance with most recent version of the listed third party standard.

- .13 Submit electronic copies of certificates for requirements requested in specification Sections and as requested by Contract Administrator.
 - .1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.
 - .2 Certificates must be dated after award of project contract complete with project name.
- .14 Submit electronic copy of manufacturers instructions for requirements requested in specification Sections and as requested by Contract Administrator.
 - .1 Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.
- .15 Submit electronic copy of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by Contract Administrator.
- .16 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.
- .17 Submit electronic copy of Operation and Maintenance Data for requirements requested in specification Sections and as requested by Contract Administrator.
- .18 Delete information not applicable to project.
- .19 Supplement standard information to provide details applicable to project.
- .20 If upon review by Contract Administrator, no errors or omissions are discovered or if only minor corrections are made, copies will be returned and fabrication and installation of Work may proceed as noted. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.

1.3 CONSULTANT DRAWINGS

- .1 Electronic files of drawings for the purpose of shop drawing preparation may be obtained from the Consultant's provided a waiver is signed by the person or company requesting the drawings.

1.4 SAMPLES

- .1 Submit for review samples as requested in respective specification Sections. Label samples with origin and intended use.
- .2 Deliver samples prepaid to Contract Administrator's business address as noted in the title sheet.
- .3 Notify Contract Administrator in writing, at time of submission of deviations in samples from requirements of Contract Documents.
- .4 Where colour, pattern or texture is criterion, submit full range of samples.
- .5 Adjustments made on samples by Contract Administrator are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Contract Administrator prior to proceeding with Work.
- .6 Make changes in samples which Contract Administrator may require, consistent with Contract Documents.

- .7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

1.5 MOCK-UPS

- .1 Erect mock-ups in accordance with 01 45 00 - Quality Control.

1.6 PHOTOGRAPHIC DOCUMENTATION

- .1 Submit electronic copy of colour digital photography in jpg format, standard resolution monthly with progress statement.
- .2 Project identification: name and number of project and date of exposure indicated.
- .3 Number of viewpoints: Minimum 2 locations, more for critical path and complex elements.
- .4 Frequency of photographic documentation: monthly or as directed by Contract Administrator.
 - .1 At minimum produce site photos upon completion of: of Work, excavation, pile and pile caps, structural steel, services before concealment and concrete.
- .5 Provide digital photographs of site, immediate public services and existing and neighboring buildings prior to construction to serve as record for possible damages.

1.7 CERTIFICATES AND TRANSCRIPTS

- .1 Immediately after award of Contract, submit Workers' Compensation Board status.
- .2 Submit transcription of insurance immediately after award of Contract.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

- .1 Inspection and testing, administrative and enforcement requirements.
- .2 Tests and mix designs.
- .3 Mock-ups.

1.2 INSPECTION

- .1 Allow Contract Administrator access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.
- .2 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Contract Administrator instructions, or law of Place of Work.
- .3 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.
- .4 Contract Administrator will order part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction.

1.3 INDEPENDENT INSPECTION AGENCIES

- .1 Independent Inspection/Testing Agencies will be engaged by Contract Administrator for purpose of inspecting and/or testing portions of Work. Cost of such services will be borne by Contractor.
- .2 Independent Inspection/Testing Agencies shall be certified by an industry recognized organization in the field of work to which their inspections/testing pertains
- .3 Allocated costs: refer to Allowances in Tender documents for costs for inspections/testing unless otherwise noted in individual specification sections.
- .4 Provide equipment required for executing inspection and testing by appointed agencies.
- .5 Employment of inspection/testing agencies does not relax responsibility to perform Work in accordance with Contract Documents.
- .6 If defects are revealed during inspection and/or testing, appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by Contract Administrator no cost to the City. Pay costs for retesting and reinspection.

1.4 ACCESS TO WORK

- .1 Allow inspection/testing agencies access to Work, off site manufacturing and fabrication plants.
- .2 Co-operate to provide reasonable facilities for such access.

1.5 PROCEDURES

- .1 Notify appropriate agency and Contract Administrator in advance of requirement for tests, in order that attendance arrangements can be made.

- .2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in orderly sequence to not cause delays in Work.
- .3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

1.6 REJECTED WORK

- .1 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by Contract Administrator as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.
- .2 Make good other Contractor's work damaged by such removals or replacements promptly.
- .3 If in opinion of Contract Administrator it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, the City will deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which will be determined by Contract Administrator.

1.7 REPORTS

- .1 Submit electronic copies of inspection and test reports to Contract Administrator.
- .2 Provide copies to manufacturer or fabricator of material being inspected or tested, Contractor & subcontractor of work being inspected or tested.

1.8 TESTS AND MIX DESIGNS

- .1 Furnish test results and mix designs as requested.
- .2 Cost of tests and mix designs beyond those called for in Contract Documents or beyond those required by law of Place of Work will be appraised by Contract Administrator and may be authorized as recoverable.

1.9 MOCK-UPS

- .1 Mock-ups shall be full-size physical assemblies that are constructed to verify selections made under Sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mock-ups are not Samples. Unless otherwise indicated, approved mock-ups establish the standard by which the Work will be judged.
- .2 Prepare mock-ups for Work specifically requested in specifications. Include for Work of Sections required to provide mock-ups.
- .3 Construct in locations as specified in specific Section or which are acceptable to Contract Administrator.
- .4 Prepare mock-ups for Contract Administrator's review with reasonable promptness and in orderly sequence, to not cause delays in Work.
- .5 Failure to prepare mock-ups in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .6 If requested, Contract Administrator will assist in preparing schedule fixing dates for preparation.

- .7 Remove mock-up at conclusion of Work or when acceptable to Contract Administrator.
- .8 Specification section identifies whether mock-up may remain as part of Work or if it is to be removed and when.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION

Part 1 General

1.1 HOARDING AND SITE FENCING

- .1 Erect and maintain hoarding as required to protect the public, workers, public and private property from injury or damage.
- .2 Site Enclosure Fence:
 - .1 Before construction operations begin, provide site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates.
 - .2 Modular welded wire fencing, minimum 1.8 metres high. Use privacy screening/scrim which is approved by the fencing manufacturer where public may be exposed to dust or debris, the protection of adjacent building finishes is required, or where the City/Contractor privacy conditions are required.
 - .3 Provide a lockable truck entrance gate and at least one pedestrian door as directed and conforming to applicable traffic restrictions on adjacent streets. Equip gates with locks and keys.
 - .4 Maintain security by limiting number of keys and restricting distribution to authorized personnel. Furnish one set of keys to the City. Ensure gate is locked after work hours
 - .5 Provide concrete barriers when diverting public traffic.
- .3 Erect and maintain pedestrian walkways including roof and side covers, complete with signs and electrical lighting as required by law.
- .4 Provide barriers around trees and plants designated to remain. Protect from damage by equipment and construction procedures.

1.2 GUARD RAILS AND BARRICADES

- .1 Provide secure, rigid guard rails and barricades around deep excavations, open shafts, open stair wells, open edges of floors and roofs.

1.3 WEATHER ENCLOSURES

- .1 Provide weather tight closures to unfinished door and window openings, tops of shafts and other openings in floors and roofs.
- .2 Close off floor areas where walls are not finished; seal off other openings; enclose building interior work for temporary heat.
- .3 Design enclosures to withstand wind pressure and snow loading.

1.4 DUST TIGHT SCREENS

- .1 Provide dust tight screens or [insulated] partitions to localize dust generating activities, and for protection of workers, finished areas of Work and public.
- .2 Maintain and relocate protection until such work is complete.

1.5 ACCESS TO SITE

- .1 Provide and maintain access roads, sidewalk crossings, ramps and construction runways as may be required for access to Work.

1.6 PUBLIC TRAFFIC FLOW

- .1 Provide and maintain competent signal flag operators, traffic signals, barricades and flares, lights, or lanterns as required to perform Work and protect public.

1.7 FIRE ROUTES

- .1 Maintain access to property including overhead clearances for use by emergency response vehicles.

1.8 PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY

- .1 Protect surrounding private and public property from damage during performance of Work.
- .2 Be responsible for damage incurred.

1.9 PROTECTION OF BUILDING FINISHES

- .1 Provide protection for finished and partially finished building finishes and equipment during performance of Work.
- .2 Provide necessary screens, covers, and hoardings.
- .3 Confirm with Contract Administrator locations and installation schedule 3 days prior to installation.
- .4 Be responsible for any damage incurred due to lack of or improper protection.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION

Part 1 General

1.1 REFERENCE STANDARDS

- .1 Within text of each specifications section, reference may be made to reference standards. List of standards reference writing organizations is contained in Section.
- .2 Conform to these reference standards, in whole or in part as specifically requested in specifications. Conform to the current active version of all listed standards.
- .3 If there is question as to whether products or systems are in conformance with applicable standards, Contract Administrator reserves right to have such products or systems tested to prove or disprove conformance.
- .4 Cost for such testing will be born by Contract Administrator in event of conformance with Contract Documents or by Contractor in event of non-conformance.

1.2 QUALITY

- .1 Products, materials, equipment and articles incorporated in Work shall be new, not damaged or defective, and of best quality for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.
- .2 Procurement policy is to acquire, in a cost effective manner, items containing highest percentage of recycled and recovered materials practicable consistent with maintaining satisfactory levels of competition. Make reasonable efforts to use recycled and recovered materials and in otherwise utilizing recycled and recovered materials in execution of work.
- .3 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.
- .4 Should disputes arise as to quality or fitness of products, decision rests strictly with Contract Administrator based upon requirements of Contract Documents.
- .5 Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout building. Failure to do so will result in rejection of the product and replacement will be required Contractor's at own expense and the Contractor will be responsible for delays and expenses caused by rejection.
- .6 Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.

1.3 AVAILABILITY

- .1 Immediately upon signing Contract, review product delivery requirements and anticipate foreseeable supply delays for items. If delays in supply of products are foreseeable, notify Contract Administrator of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of Work.
- .2 In event of failure to notify Contract Administrator at commencement of Work and should it subsequently appear that Work may be delayed for such reason, Contract Administrator reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.

1.4 STORAGE, HANDLING AND PROTECTION

- .1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.
- .2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.
- .3 Store products subject to damage from weather in weatherproof enclosures.
- .4 Store cementitious products clear of earth or concrete floors, and away from walls.
- .5 Keep sand, when used for grout or mortar materials, clean and dry. Store sand on wooden platforms and cover with waterproof tarpaulins during inclement weather.
- .6 Store sheet materials, lumber and any other material prone to warpage on flat, solid supports and keep clear of ground. Slope to shed moisture.
- .7 Store and mix paints in heated and ventilated room. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.
- .8 Remove and replace damaged products at own expense and to satisfaction of City and Contract Administrator.
- .9 Touch-up damaged factory finished surfaces to Contract Administrator's satisfaction. Use touch-up materials to match original. Do not paint over name plates.

1.5 TRANSPORTATION

- .1 Pay costs of transportation of products required in performance of Work.
- .2 Transportation cost of products supplied by City will be paid for by the Downtown Winnipeg BIZ. Contractor to unload, handle and store such products.

1.6 MANUFACTURER'S INSTRUCTIONS

- .1 Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.
- .2 Notify Contract Administrator in writing, of conflicts between specifications and manufacturer's instructions, so that Contract Administrator will establish course of action.
- .3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes Contract Administrator to require removal and re-installation at no increase in Contract Price or Contract Time.

1.7 QUALITY OF WORK

- .1 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Contract Administrator if required Work is such as to make it impractical to produce required results.
- .2 Do not employ anyone unskilled in their required duties. Contract Administrator reserves right to require dismissal from site, workers deemed incompetent or careless.
- .3 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Contract Administrator, whose decision is final.

1.8 CO-ORDINATION

- .1 Ensure co-operation of workers in laying out Work. Maintain efficient and continuous supervision.
- .2 Be responsible for coordination and placement of openings, sleeves and accessories.
- .3 Be responsible for cost to Contract Price and Time due to lack of coordination.

1.9 CONCEALMENT

- .1 In finished areas conceal pipes, ducts and wiring in floors, walls and ceilings, except where indicated otherwise.
- .2 Before installation inform Contract Administrator if there is interference. Install as directed by Contract Administrator.

1.10 REMEDIAL WORK

- .1 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Co-ordinate adjacent affected Work as required.
- .2 Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

1.11 LOCATION OF FIXTURES

- .1 Consider location of fixtures, outlets, and mechanical and electrical items indicated as approximate.
- .2 Inform Contract Administrator of conflicting installation. Install as directed.

1.12 FASTENINGS

- .1 Provide metal fastenings and accessories in same texture, colour and finish as adjacent materials, unless indicated otherwise.
- .2 Prevent electrolytic action between dissimilar metals and materials.
- .3 Use non-corrosive hot dip galvanized steel fasteners and anchors for securing exterior work, unless stainless steel or other material is specifically requested in affected specification Section.
- .4 Space anchors within individual load limit or shear capacity and ensure they provide positive permanent anchorage. Wood, or any other organic material plugs are not acceptable.
- .5 Keep exposed fastenings to a minimum, space evenly and install neatly.
- .6 Fastenings which cause spalling or cracking of material to which anchorage is made are not acceptable.

1.13 FASTENINGS - EQUIPMENT

- .1 Use fastenings of standard commercial sizes and patterns with material and finish suitable for service.
- .2 Use heavy hexagon heads, semi-finished unless otherwise specified. Use No. 304 stainless steel for exterior areas.
- .3 Bolts may not project more than one diameter beyond nuts.
- .4 Use plain type washers on equipment, sheet metal and soft gasket lock type washers where vibrations occur. Use resilient washers with stainless steel.

1.14 PROTECTION OF WORK IN PROGRESS

- .1 Prevent overloading of parts of building. Do not cut, drill or sleeve load bearing structural member, unless specifically indicated without written approval of Contract Administrator.

1.15 EXISTING UTILITIES

- .1 When breaking into or connecting to existing services or utilities, execute Work at times directed by local governing authorities, with minimum of disturbance to Work, and pedestrian and vehicular traffic. and/or building occupants.
- .2 Protect, relocate or maintain existing active services. When services are encountered, cap off in manner approved by authority having jurisdiction. Stake and record location of capped service.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION

Part 1 General

1.1 PROJECT CLEANLINESS

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris, other than including that caused by the City or other Contractors.
- .2 Remove waste materials from site at daily regularly scheduled times or dispose of as directed by Contract Administrator. Do not burn waste materials on site, unless approved by Contract Administrator.
- .3 Clear snow and ice from access to building, bank/pile snow in designated areas only or remove from site as required by the City.
- .4 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .5 Provide on-site containers for collection of waste materials and debris.
- .6 Dispose of waste materials and debris off site.
- .7 Clean interior areas prior to start of finishing work and maintain areas free of dust and other contaminants during finishing operations.
- .8 Store volatile waste in covered metal containers and remove from premises at end of each working day.
- .9 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.
- .10 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.
- .11 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

1.2 FINAL CLEANING

- .1 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
- .2 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.
- .3 Prior to final review remove surplus products, tools, construction machinery and equipment.
- .4 Remove waste products and debris including that caused by the City or other Contractors.
- .5 Remove waste materials from site at regularly scheduled times or dispose of as directed by Contract Administrator. Do not burn waste materials on site, unless approved by Contract Administrator.
- .6 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .7 Clean and polish glass, mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, plastic laminate, and mechanical and electrical fixtures. Replace broken, scratched or disfigured glass.
- .8 Remove stains, spots, marks and dirt from decorative work, electrical and mechanical fixtures, furniture fitments, walls, floors, ceilings.

- .9 Clean lighting reflectors, lenses, and other lighting surfaces.
- .10 Inspect finishes, fitments and equipment and ensure specified workmanship and operation.
- .11 Broom clean and wash exterior walks and surfaces; rake clean other surfaces of grounds.
- .12 Remove dirt and other disfiguration from exterior surfaces.
- .13 Sweep and wash clean paved areas.
- .14 Clean equipment and fixtures to sanitary condition; clean or replace filters of mechanical equipment.
- .15 Clean roofs, downspouts, and drainage systems.
- .16 Remove debris and surplus materials from crawl areas and other accessible concealed spaces.
- .17 Remove snow and ice from access to building.

1.3 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for reuse and/or recycling in accordance with Section 01 74 19 - Waste Management and Disposal.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION

Part 1 General

1.1 DEFINITIONS

- .1 Recyclable: ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse.
- .2 Recycle: process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.
- .3 Recycling: process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- .4 Reuse: repeated use of product in same form but not necessarily for same purpose. Reuse includes:
 - .1 Salvaging reusable materials from re-modelling projects, before demolition stage, for resale, reuse on current project or for storage for use on future projects.
 - .2 Returning reusable items including pallets or unused products to vendors.
- .5 Salvage: removal of structural and non-structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.
- .6 Source Separation: act of keeping different types of waste materials separate beginning from the point they became waste.

1.2 WASTE PROCESSING SITES

- .1 Contractor is responsible to research and locate waste diversion resources and service providers. Salvaged materials are to be transported off site to approved and/or authorized recycling facilities or to users of material for recycling.

1.3 STORAGE, HANDLING AND PROTECTION

- .1 Store, materials to be reused, recycled and salvaged in locations as directed by Contract Administrator.
- .2 Recycle all recyclable materials. Provide on-site facilities and containers for collection and storage of reusable and recyclable materials.
- .3 Unless specified otherwise, materials for removal become Contractor's property.
- .4 Protect, stockpile, store and catalogue salvaged items.
- .5 Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to licensed disposal facility.
- .6 Protect structural components not removed and salvaged materials from movement or damage.
- .7 Support affected structures. If safety of building is endangered, cease operations and immediately notify Contract Administrator.
- .8 Protect surface drainage, mechanical and electrical from damage and blockage.
- .9 Separate and store materials produced during project in designated areas.
- .10 Prevent contamination of materials to be salvaged and recycled and handle materials in accordance with requirements for acceptance by designated processing facilities.
 - .1 On-site source separation is recommended.

- .2 Remove co-mingled materials to off site processing facility for separation.
- .3 Obtain waybills, receipts and/or scale tickets for separated materials removed from site.
- .4 Materials reused on-site are considered to be diverted from landfill and as such are to be included in all reporting.

1.4 DISPOSAL OF WASTES

- .1 Do not bury rubbish or waste materials.
- .2 Do not dispose of oil, volatile materials, mineral spirits, paint thinner, waste into waterways, storm, or sanitary sewers.
- .3 Keep records of construction waste including:
 - .1 Number and size of bins.
 - .2 Waste type of each bin.
 - .3 Total tonnage generated.
 - .4 Tonnage reused or recycled.
 - .5 Reused or recycled waste destination.
- .4 Remove materials on-site as Work progresses.

1.5 SCHEDULING

- .1 Co-ordinate Work with other activities at site to ensure timely and orderly progress of Work.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 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.
- .3 Waste Management: separate waste materials for reuse, recycling and salvage.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.
 - .2 Source separate materials to be reused/recycled into specified sort areas.

3.2 DIVERSION OF MATERIALS

- .1 Separate recyclable materials from general waste stream and stockpile in separate piles or containers, as reviewed by Contract Administrator, and consistent with applicable fire regulations.
 - .1 Mark containers or stockpile areas.
 - .2 Provide instruction on disposal practices.

END OF SECTION

Part 1 General

1.1 ADMINISTRATIVE REQUIREMENTS

- .1 Acceptance of Work Procedures:
 - .1 Contractor's Inspection: Contractor: conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
 - .1 Notify Contract Administrator in writing of satisfactory completion of Contractor's inspection and submit verification that corrections have been made.
 - .2 Request Contract Administrator's inspection.
 - .2 Contract Administrator's Inspection:
 - .1 Contract Administrator and Contractor to inspect Work and identify defects and deficiencies.
 - .2 Contractor to correct Work as directed.
 - .3 Completion Tasks:
 - .1 Submit written certificates confirming that tasks have been performed as follows:
 - .1 Work: completed and inspected for compliance with Contract Documents.
 - .2 Defects: corrected and deficiencies completed.
 - .3 Equipment and systems: tested, balanced, adjusted and fully operational.
 - .4 Certificates required by all Authorities Having Jurisdiction, Boiler Inspection Branch, Fire Commissioner, Utility companies: submitted.
 - .5 Operation of systems: demonstrated to the City's personnel.
 - .6 Work: complete and ready for final inspection.
 - .4 Submit written confirmation that following tasks have been performed
 - .1 Operation and Maintenance Manuals.
 - .2 Record and "as-built" drawings.
 - .3 Keys for equipment and building as specified, including related keying information and keying charts.
 - .4 Spare parts and maintenance materials have been turned over to the City.
 - .5 Written agreement on Service/Maintenance Contracts identified in project specifications.
 - .6 Warranty and Bond Certificates
 - .5 Final Inspection:
 - .1 When completion tasks are done, request final inspection of Work by Contract Administrator, and Contractor. Allow for a 10 working day notice.
 - .2 When Work is incomplete according to Contract Administrator, complete outstanding items and request re-inspection.

- .6 Declaration of Substantial Performance: when Contract Administrator considers deficiencies and defects corrected and requirements of Contract substantially performed, make application for Certificate of Substantial Performance.
- .7 Commencement of Lien and Warranty Periods: date of the City's acceptance of submitted declaration of Substantial Performance to be date for commencement for warranty period and commencement of lien period unless required otherwise by lien statute of Place of Work.
- .8 Final Payment:
 - .1 When Contract Administrator considers final deficiencies and defects corrected and requirements of Contract met, make application for final payment.
- .9 Payment of Holdback: after issuance of Certificate of Substantial Performance of Work, submit application for payment of holdback amount in accordance with contractual agreement.

1.2 WARRANTY

- .1 Contractor shall promptly correct any defects within warranty time period. Failure to do so will make Contractor financially responsible to the City for material and labour required for repairs by qualified personnel. The warranty shall not be nullified by emergency or other repairs by qualified personnel under the direction of the City.
- .2 The City, Contract Administrator and Contractor shall conduct an inspection of project one month prior to the conclusion of the warranty period. Contractor shall promptly correct defects of the Work of Contract. Contractor shall remedy defects within time period mutually agreed to between the City and Contractor. Failure to do so will make Contractor financially responsible to the City for material and labour required for repairs by qualified personnel.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Bid Opportunity 761-2025
- .2 Section 01 33 00 - Submittal Procedures
- .3 Section 01 45 00 - Quality Control
- .4 Section 01 77 00 - Closeout Procedures
- .5 Individual Specifications Sections: Specific requirements for operation and maintenance data.

1.2 ADMINISTRATIVE REQUIREMENTS

- .1 Pre-warranty Meeting:
 - .1 Convene meeting at least one week prior to contract completion with Contract Administrator, in accordance with Section 01 31 19 Project Meetings to:
 - .1 Verify Project requirements.
 - .2 Review warranty requirements manufacturer's installation instructions.
 - .3 Determine priorities for type of defects.
 - .4 Determine reasonable response time.
 - .2 Contact information for bonded and licensed company for warranty work action: provide name, telephone number and address of company authorized for construction warranty work action.
 - .3 Ensure contact is located within local service area of warranted construction, is continuously available, and is responsive to inquiries for warranty work action.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit preliminary copies of operating manuals to the Contract Administrator six weeks in advance of Substantial Performance for review and comment by Contract Administrator.
- .3 Revise operating and maintenance manuals as requested and submit final copies to the Contract Administrator two weeks prior to Substantial Performance of the Work.
- .4 Provide spare parts, maintenance materials and special tools of same quality and manufacture as products provided in Work.
- .5 Provide evidence, if requested, for type, source and quality of products supplied.
- .6 Provide all submittals required by any Authorities Having Jurisdiction governing the Work.

1.4 FORMAT

- .1 Organize data as instructional manual and submit in both digital and paper formats in accordance with the following:
 - .1 Binders:
 - .1 Vinyl, hard covered, 3 'D' ring, with spine and face pockets.

- .2 When multiple binders are used correlate data into related consistent groupings.
- .3 Identify contents of each binder on spine.
- .4 Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
- .5 Text: manufacturer's printed data, or typewritten data.
- .6 Drawings: provide with reinforced punched binder tab.
- .7 Bind in with text; fold larger drawings to size of text pages.
- .8 Cover: identify each binder with type or printed title 'Project Record Documents'; list title of project and identify subject matter of contents.
- .2 Digital Storage:
 - .1 Either CDs or a single USB flash drive of suitable size.
 - .2 Organize into separate folders for each Section, subfolders to be separated by products and/or systems.
- .2 Arrange content by systems under Section numbers and sequence of Table of Contents.
- .3 Provide 1:1 scaled CAD files in dwg format on CD or USB flash drive.

1.5 CONTENTS - PROJECT RECORD DOCUMENTS

- .1 Table of Contents for Each Volume: provide title of project;
 - .1 Date of submission; names.
 - .2 Addresses, and telephone numbers of Contract Administrator and Contractor with name of responsible parties.
 - .3 Schedule of products and systems, indexed to content of volume.
- .2 For each product or system:
 - .1 List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.
 - .2 Warranty for each product or system, organized as follows:
 - .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.
 - .2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
 - .3 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within ten days after completion of applicable item of work in addition to their inclusion in the project record binder.
 - .4 Verify that documents are in proper form, contain full information, and are notarized.
 - .5 Co-execute submittals when required.
 - .6 Retain warranties and bonds until time specified for submittal.
- .3 Product Data: mark each sheet to identify specific products and component parts, and data applicable to installation; delete inapplicable information.
- .4 Drawings: supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.
- .5 Typewritten Text: as required to supplement product data.

- .1 Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01 45 00 - Quality Control.

1.6 AS-BUILT DOCUMENTS AND SAMPLES

- .1 Maintain, in addition to requirements in General Conditions, at site for Contract Administrator one record copy of:
 - .1 Contract Drawings.
 - .2 Specifications.
 - .3 Addenda.
 - .4 Change Orders and other modifications to Contract.
 - .5 Reviewed shop drawings, product data, and samples.
 - .6 Field test records.
 - .7 Inspection certificates.
 - .8 Manufacturer's certificates and warranties.
 - .9 List of spare parts, extra stock material, special tools.
- .2 Store record documents and samples in field office apart from documents used for construction.
 - .1 Provide files, racks, and secure storage.
- .3 Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual.
 - .1 Label each document "PROJECT RECORD" in neat, large, printed letters.
- .4 Maintain record documents in clean, dry and legible condition.
 - .1 Do not use record documents for construction purposes.
- .5 Keep record documents and samples available for inspection by Contract Administrator.
- .6 The General Contractor will be responsible for supplying the City and Prime Contract Administrator "as built" drawings in the following format:
 - .1 Complete "As Built" set to include all construction drawings whether modified or not during construction and shall be in both hard copy and digital format.
 - .2 Each "As Built" drawing shall be provided in both dwg format and portable document format file (PDF) on CD or USB flash drive.
 - .3 As Built drawings to reflect all changes made by change order and change directive as reflected on record documents.
 - .4 Each drawing document shall contain only that information related to that drawing number. All layers shall be active. All non-related layers and information to be removed. PDFs of drawing documents to be legible greyscale.
 - .5 Provide an AutoCAD font file of all fonts used.
 - .6 As Built drawings shall be completed to the satisfaction of the Contract Administrator.
 - .7 Submit to Contract Administrator within a reasonable timeframe as determined in conjunction with Contract Administrator.
- .7 Cost to obtain drawing files in dwg file format from the Contract Administrator shall be set at \$100.00 per drawing and the Contractor will be required to sign a waiver to be eligible to obtain the drawings for use as electronic As-Built.

1.7 RECORDING INFORMATION ON PROJECT RECORD DOCUMENTS

- .1 Record information on set of opaque drawings, and in copy of Project Manual, provided by Contract Administrator.

- .2 Use felt tip marking pens, maintaining separate colours for each major system, for recording information.
- .3 Record information concurrently with construction progress.
 - .1 Do not conceal Work until required information is recorded.
- .4 Contract Drawings and shop drawings: mark each item to record actual construction, including:
 - .1 Measured depths of elements of foundation in relation to finish first floor datum.
 - .2 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - .3 Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of construction.
 - .4 Field changes of dimension and detail.
 - .5 Changes made by change orders.
 - .6 Details not on original Contract Drawings.
 - .7 Referenced Standards to related shop drawings and modifications.
- .5 Specifications: mark each item to record actual construction, including:
 - .1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly optional items and substitute items.
 - .2 Changes made by Addenda and change orders.
- .6 Other Documents: maintain field test records, manufacturer's certifications, inspection certifications, required by individual specifications sections.
- .7 Provide digital photos, if requested, for site records.
- .8 Final payment on the Contract will not be made until correct record documents are received.

1.8 FINAL SURVEY

- .1 Submit final site survey certificate certifying that elevations and locations of completed Work are in conformance, or non-conformance with Contract Documents.

1.9 MATERIALS AND FINISHES

- .1 Products, applied materials, and finishes: include product data, with catalogue number, size, composition, and colour and texture designations.
 - .1 Provide information for re-ordering custom manufactured products.
- .2 Instructions for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- .3 Moisture-protection and weather-exposed products: include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- .4 Additional requirements: as specified in individual specifications sections.

1.10 MAINTENANCE MATERIALS

- .1 For all maintenance materials deliver to site, receive and catalogue items, submit inventory listing to Contract Administrator and include approved listings in Maintenance Manual.

- .2 Spare Parts:
 - .1 Provide spare parts, in quantities specified in individual specification sections.
 - .2 Provide items of same manufacture and quality as items in Work.
 - .3 Obtain receipt for delivered products and submit prior to final payment.
- .3 Extra Stock Materials:
 - .1 Provide maintenance and extra materials, in quantities specified in individual specification sections.
 - .2 Provide items of same manufacture and quality as items in Work.
 - .3 Obtain receipt for delivered products and submit prior to final payment.
- .4 Special Tools:
 - .1 Provide special tools, in quantities specified in individual specification section.
 - .2 Provide items with tags identifying their associated function and equipment.

1.11 DELIVERY, STORAGE AND HANDLING

- .1 Store spare parts, maintenance materials, and special tools in manner to prevent damage or deterioration.
- .2 Store in original and undamaged condition with manufacturer's seal and labels intact.
- .3 Store components subject to damage from weather in weatherproof enclosures.
- .4 Store paints and freezable materials in a heated and ventilated room.
- .5 Remove and replace damaged products at own expense and for review by Contract Administrator.

1.12 WARRANTIES AND BONDS

- .1 Develop warranty management plan to contain information relevant to Warranties.
- .2 Submit warranty management plan, 30 days before planned pre-warranty conference, to Contract Administrator approval. If no plan is submitted, Contractor to ensure all warranty conditions are met and documented in advance of pre-warranty conference.
- .3 Warranty management plan to include required actions and documents to assure that Contract Administrator receives warranties to which it is entitled.
- .4 Provide plan in narrative form and contain sufficient detail to make it suitable for use by future maintenance and repair personnel.
- .5 Submit, warranty information made available during construction phase, Contract Administrator for approval prior to each monthly pay estimate in addition to inclusion of a complete set of warranty documents as part of the O&M manual.
- .6 Assemble approved information in project record binder in addition to obtaining warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within ten days after completion of applicable item of work.
- .7 Except for items put into use with the City's permission, leave date of beginning of time of warranty until Date of Substantial Performance is determined.
- .8 Conduct joint warranty inspections by Contract Administrator.
- .9 Respond in timely manner to oral or written notification of required construction warranty repair work and ensure written verification to follow oral instructions. Failure to verify or

respond will be cause for the Contract Administrator to proceed with action against Contractor.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

PART 1 GENERAL

1.1 Related Sections

- .1 All Division 1 Specification Sections
- .2 City of Winnipeg Specification CW1110 General Instructions
- .3 City of Winnipeg Specification CW3110 Sub-grade, Sub-base, and Base Course Construction
- .4 City of Winnipeg Specification CW3130 Supply and Installation of Geotextile Fabrics
- .5 City of Winnipeg Specification CW3325 Portland Cement Concrete Sidewalk
- .6 City of Winnipeg Specification CW3330 Installation of Interlocking Pavement Stones

1.2 References

- .1 American Society for Testing and Materials (ASTM):
 - .1 Current ASTM C117, Test Method for Material Finer Than 75-[mu] m (No.200) Sieve in Mineral Aggregates by Washing.
 - .2 Current ASTM C136, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
 - .3 Current ASTM C902, Specification for Pedestrian and Light Traffic Paving Brick.
 - .4 Current ASTM C979-16, Standard Specification for Pigments for Integrally Coloured Concrete.
 - .5 Current ASTM D698, Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort(600kN-m/m³).
 - .6 Current ASTM D1557, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (2,700kN-m/m³).
- .2 Canadian Standards Association (CSA):
 - .1 Current CSA A23.1/A23.2, Concrete Materials and Methods of Construction, Section 5.3.2./ Method of Test for Concrete.
 - .2 Current CSA A179, Mortar and Grout for Unit Masonry.
 - .3 Current CSA-A231.2, Precast Concrete Pavers.
 - .4 Current CSA A283, Qualification Code for Concrete Testing Laboratories.

1.3 Product Data

- .1 Submit following test data:
 - .1 Sieve analysis for gradation of bedding and joint material.
 - .2 Unit paver test data.

1.4 Shop Drawings

- .1 Submit shop drawings in accordance with CW1110 and Section 01 33 00 Submittal Procedures.
- .2 Indicate layout, pattern and relationship of paving joints to fixtures and project formed details.

1.5 Samples

- .1 Submit samples in accordance with Submittal Procedures.
- .2 Submit full size sample of each type of paving unit.

PART 2 PRODUCTS

2.1 MATERIALS

- .1 Granular base as indicated on drawings and as per CW3110.
- .2 Unit pavers to conform to applicable details.
- .3 Unit pavers: uniform in material, colour, size and from one manufacturer as follows:
 - .1 Unit Paver:
 - .1 Product: Holland
 - .2 Colour: Natural
 - .3 Size: 210x105x60mm
 - .4 Manufacturer: Barkman
 - Contact: August Wiens
1-204-667-3310
- .4 Geotextile: Refer to CW3130.

2.2 Bedding and Joint Material

- .1 Bedding sand as per CW3330.
- .2 Jointing Sand: Polymeric sand, shall be free from clay lumps, cementation, organic material, frozen material, and other deleterious materials. Gradations: within limits specified when tested to ASTM C136 and ASTM C117. Colour: Grey

2.3 Cleaning Compound

- .1 Clear, organic solvent, designed, recommended, and approved by manufacturer for cleaning concrete pavers of contamination encountered.
- .2 Acid based chemical detergent, designed, recommended, and approved by manufacturer for removal of contamination encountered on pavers.

2.4 Sealing Compound

- .1 Clear acrylic or urethane, exterior type, water based, specially formulated for application on precast concrete pavers.
- .2 Clear solvent based acrylic or urethane exterior type, containing co-polymer resins specially formulated for application on precast concrete pavers.

PART 3 EXECUTION

3.1 Subgrade

- .1 Set out work to lines and levels shown on Drawings. Gain approval from the City and/or Contract Administrator of lines and levels prior to sub-base installation. Maintain such lines and levels for duration of work.
- .2 Excavate and prepare all subgrade as noted on details. Remove and dispose of existing unsuitable subgrade materials off site.
- .3 Verify grades of subgrade for conformity with elevations and sections before placing base material.

- .4 Disturbed subgrade or clean fill shall be compacted to 98% of Standard Proctor Density in accordance with ASTM D698-70.
- .5 Obtain subgrade and sub-base approval from the City and/or Contract Administrator prior to placing base material.

3.2 Granular Base

- .1 Exercise caution at all times to prevent base material from becoming contaminated by clay or other deleterious materials.
- .2 Place base material to compacted thickness as indicated on drawings.
- .3 Place in layers not exceeding 150mm compacted thickness. Compact to density not less than 98% of Standard Proctor Density in accordance with ASTM D698-70.
- .4 The granular base surface shall be rolled continuously, compacted, and bladed as necessary.
- .5 Verify that top of granular surface does not exceed plus or minus 10 mm of grade over 3 m straightedge.
- .6 Gain approval from the Contract Administrator of the installed granular base. Installation of unit pavers can only commence after granular base test results confirm that the specified compaction has been achieved.

3.6 Bedding Sand

- .1 Place and spread bedding and compact sand as detailed on drawings.
- .2 Ensure bedding material is not saturated or frozen at all times until installation is complete.
- .3 Spread and screed material on structural surface to achieve compacted thickness after vibrating pavers in place as detailed on drawings. Do not use joint sand for bedding sand.

3.7 Surface Course

- .1 Ensure bedding sand and granular base are not saturated prior to placement of unit pavers.
- .2 Install unit paving true to grade on the bedding sand, in location, layout and pattern as indicated.
- .3 Where required, cut units accurately without damaging edges.
- .4 Precast concrete pavers:
 - .1 Install unit paving with minimum joint width as detailed on drawings.
 - .2 Use cut pieces no smaller than one-third of a whole paver.
 - .3 Compact and level pavers with min. 22 kN force mechanical plate vibrator use minimum 19 mm thick plywood or neoprene pad under plate compactor until pavers are true to grade and free of movement.
 - .4 Fill spaces between pavers by sweeping in sand.
 - .5 Pass mechanical plate vibrator over unit paving to achieve compaction of sand in joints. Ensure joints are full at completion of compaction.
 - .6 At the completion of each work day, ensure all work within 1 m of laying face is left fully compacted with sand filled joints.
 - .7 Surface of finished pavement: free from depressions exceeding 3 mm as measured with 3 m straight edge.

- .8 Sweep surface clean and check final elevations for conformance to drawings.
- .5 Lay pavers to pattern indicated on drawings. Joints between pavers as detailed on drawings.
- .6 Use appropriate end, edge and corner stones. Saw cut pavers to fit around obstructions and at abutting structures.
- .7 Installation by mechanical equipment:
 - .1 Prepare installation sequence to maximize project efficiency.
 - .2 Place paver pallets and other materials without exceeding load bearing capacity, or otherwise detrimentally affecting installations.
 - .3 Run equipment approved for installation only on paving surfaces vibrated in place.
- .8 Use a low amplitude, high frequency plate compactor capable of at least 22 kN centrifugal compaction force to vibrate pavers into bedding sand.
- .9 Inspect, remove, and replace chipped, broken and damaged pavers. Replace pavers removed without altering layout and structural quality.
- .10 Sweep dry joint sand material into joints.
- .11 Settle sand by vibrating pavers with plate compactor.
- .12 Continue application of joint material and vibrating of pavers until joints are full.
- .13 At the completion of each work day, ensure all work within 1 m of laying face is left fully compacted with sand filled joints.
- .14 Sweep off excess joint material when installation is complete.
- .15 Final surface elevations not to exceed plus or minus 3 mm under 3 m long straightedge.
- .16 Surface elevation of pavers: maximum 3 mm above adjacent drainage inlets, concrete collars or channels.
- .17 Ensure conformance of final elevations.

3.8 Cleaning

- .1 Carry out cleaning at times and conditions recommended by manufacturer of cleaning compound immediately prior to sealing.
- .2 Remove and dispose of loose, extraneous materials from surfaces to be cleaned.
- .3 Apply cleaning compounds appropriate for removal of various contaminants encountered in accordance with manufacturer's recommendations.
- .4 Final surface to be free of contamination.

END OF SECTION

PART 1 GENERAL

1.1 RELATED WORK

- .1 All Division 1 Specification Sections
- .2 City of Winnipeg Specification CW1110 General Instructions
- .3 City of Winnipeg Specification CW3110 Sub-grade, Sub-base, and Base Course Construction
- .4 City of Winnipeg Specification CW3130 Supply and Installation of Geotextile Fabrics
- .5 City of Winnipeg Specification CW3325 Portland Cement Concrete Sidewalk

1.2 PRODUCT DATA

- .1 Submit product data as per Section 01 33 00 Submittal Procedures.

1.3 SHOP DRAWINGS

- .1 Submit shop drawings as per CW1110 and Section 01 33 00 Submittal Procedures.
- .2 Engineered shop drawing must be provided for custom fabricated elements. Stamp must be provided to cover environmental and unexpected live loads related to climbing, wind, rain, snow, etc. Engineer must be in good standing with local Regulatory Board.
- .3 Indicate dimensions, sizes, assembly, anchorage finishes, colours and installation details for each product specified.
- .4 Include erection drawings, elevations and details
- .5 Ensure dimensions indicated on shop drawings are based on field measurements.

1.4 SAMPLES

- .1 Submit samples in accordance with CW1110 and Section 01 33 00 Submittal Procedures.
- .2 Submit a photo of limestone seating block to Contract Administrator at least 2 weeks prior to beginning Work.
- .3 Provide the following samples for approval by the Contract Administrator, or arrange for the Contract Administrator to approve the samples at the source in advance of delivery to the site:
 - 1. Limestone Seating Block (image with dimensions)

1.5 CLOSEOUT SUBMITTALS

- .1 Provide maintenance data for care and cleaning of all products for incorporation into the maintenance manual.

PART 2 PRODUCTS

2.1 PICNIC TABLE

- .1 Picnic Table, 3-Seater ADA Compliant (Qty. 2):
 - Model: TF3128 3-Seat Round Concrete ADA Compliant Table Set with solid top (no umbrella hole)
 - Materials: Concrete, 860lbs.
 - Colour: G23 Gray – Top of table and seats
A23 Gray – Trim and legs
 - Contact: Wausau Tile
Christopher Duncan

Email: chris@iba-inc.com
Phone: 1-613-329-7911

2.2 LIMESTONE SEATING BLOCK

- .1 Landscape boulders to conform with applicable details.
- .2 Acceptable material: Limestone, rustic surface
- .3 Supplier: Mariash Quarries, Keith Mariash email: keith@mariashquarry.com
Or approved alternate.
- .4 Size: ±1100x500x600mm (LxWxH)
- .5 All stone shall be clean and free of fines, organic and deleterious materials.

2.3 GEOTEXTILES

- .1 Refer to CW3130.

PART 3 EXECUTION

3.1 INSTALLATION OF PICNIC TABLES

- .1 Assemble all products in accordance with manufacturer's instructions.
- .2 Assemble play structures in accordance with manufacturer's specifications and in compliance with CSA standards.
- .3 Install all products true, plumb, and firmly anchored.
- .4 Damaged products will be rejected.
- .5 Field-verify location and alignment of all furnishings and obtain approval from the Contract Administrator prior to mounting.

3.2 STONE PLACING

- .1 Limestone blocks to be placed as shown on Drawings.
- .2 The Contractor shall layout the stone for approval by the Contract Administrator prior to setting into grade.
- .3 Contractor shall provide a minimum of two (2) experienced and qualified staff for all phases of the stonework.
- .4 Material damaged by the Contractor during installation, as determined by the Contract Administrator, shall be removed and replaced by the Contractor at no additional cost to the City.
- .5 Stones shall be placed in a horizontal orientation where possible, typically projecting 150 mm below finished grade unless otherwise shown on drawings.
- .6 Stones shall be placed to the lines, levels and top elevations indicated on the drawings unless otherwise directed by the Contract Administrator. The plans do not intend to show exact boulder size.
- .7 Stones shall be machine placed by use of belts and chains or an approved alternate method. Stones shall not be dumped or pushed into place.

- .8 The placement and the overall uniform appearance of the stone is critical. The Contractor may be required to remove or reset stones at their own expense in order to obtain the appearance approved to the Contract Administrator.
- .9 Have the granular base compacted, inspected and approved by the Contract Administrator prior to placing the stones.
- .10 Stones damaged during installation or transportation shall be disposed of and replaced with new ones at the Contractor's expense, unless otherwise directed by the Contract Administrator.
- .11 The Contractor shall be responsible for any damage made to newly installed work or existing conditions during construction and the placement of boulders.
- .12 Prevent soiling, chipping or defacing of material.
- .13 Place stone in depths and arrangements to ensure material and equipment below is non-visible.

END OF SECTION

PART 1 GENERAL

1.1 RELATED SECTIONS

- .1 All Division 1 Specification Sections
- .2 City of Winnipeg Specification CW1110 General Instructions
- .3 City of Winnipeg Specification CW3170 Earthwork and Grading
- .4 City of Winnipeg Specification CW3540 Topsoil and Finish Grading for Establishment of Turf Areas
- .5 City of Winnipeg Tree Planting Standards, Details, and Specifications – Downtown Area and Regional Streets

1.2 REFERENCES

- .1 Canadian Nursery Landscape Association (CNLA) – Canadian Standards for Nursery Stock - Latest Edition.
- .2 Agriculture and Agri-Food Canada (AAFC), Plant Hardiness Zones in Canada-[2000].
- .3 City of Winnipeg Specification CW3540 Topsoil and Finish Grading and the City of Winnipeg Tree Planting Standards, Details, and Specifications – Downtown Area and Regional Streets
- .4 City of Winnipeg Principles and Guidelines for Tree Planting Options.

1.3 PRODUCT DATA

- .1 Submit product data in accordance with CW1110 and Section 01 33 00 Submittal Procedures.
- .2 Provide product data for:
 - .1 Fertilizer.
 - .2 Anti-desiccant.
 - .3 Mulch.
 - .4 Guying assembly including clamps, collar, guying wire, anchors and wire tightener.

1.4 ADMINISTRATIVE REQUIREMENTS

- .1 Scheduling: obtain approval from Contract Administrator of schedule 7 days in advance of shipment of plant material.
- .2 Schedule to include:
 - .1 Quantity and type of plant material.
 - .2 Shipping dates.
 - .3 Arrival dates on site.
 - .4 Planting Dates

1.5 SUBMITTALS

- .1 Scheduling: Obtain approval from Contract Administrator of planting schedule 7 days in advance of shipment of plant material. Scheduling of planting installation to precede any site elements within or adjacent to planting beds that require excavation. Schedule to include:
 - .1 Date for selection of plant material at source by Contract Administrator.
 - .2 Quantity and type of materials
 - .3 Shipping dates.
 - .4 Arrival dates on site.
 - .5 Date of planting

1.6 SOURCE QUALITY CONTROL

- .1 Obtain approval from the Contract Administrator of plant material at source prior to digging.

1.7 QUALITY ASSURANCE

- .1 Qualifications:
 - .1 Landscape Contractor: to be a Member in Good Standing of Manitoba Horticultural Trades Association.
 - .2 Landscape Planting Supervisor: Landscape Industry Certified Technician with Softscape Installation designation.
 - .3 Landscape Maintenance Supervisor: Landscape Industry Certified Technician with Ornamental Maintenance designation.
- .2 Trees and shrubs are to be planted in accordance with CLNA recommendations, ANSI A-300 Planting Standards.

1.5 STORAGE AND PROTECTION

- .2 Protect plant material from frost, excessive heat, wind and sun during delivery.
- .3 Immediately store and protect plant material which will not be installed within 1 hour after arrival in an approved site storage location.
- .4 Protect plant material from damage during transportation:
 - .1 When delivery distance is less than 30 km and vehicle travels at speeds under 80 km/h, tie tarpaulins around plants or over vehicle box.
 - .2 When delivery distance exceeds 30 km or vehicle travels at speeds over 80 km/h, use enclosed vehicle where practical.
 - .3 Protect foliage and root balls using anti-desiccants and tarpaulins, where use of enclosed vehicle is impractical due to size and weight of plant material.
- .5 Protect stored plant material from frost, wind and sun and as follows:
 - .1 For bare root plant material, preserve moisture around roots by heeling-in or burying roots in sand or topsoil and watering to full depth of root zone.
 - .2 For pots and containers, maintain moisture level in containers. Heel-in fibre pots.
 - .3 For balled and burlapped and wire basket root balls, place to protect branches from damage. Maintain moisture level in root zones.

1.6 WARRANTY PERIOD

- .2 The Contractor shall warrant all plants for TWO (2) FULL GROWING SEASONS from date of Substantial Performance.
- .3 Contract Administrator reserves the right to inspect all plant material any time during the warranty period and require replacements at that time, at the sole discretion of the City / Contract Administrator.
- .4 At the end of warranty, the Contractor shall:
 - .1 Remove all tree stakes and guys
 - .2 Remove and replace all dead plant material, as required by the Contract Administrator, when seasonal conditions are likely to ensure survival and make replacements in the same manner as specified for the original plants.
 - .3 Remove trunk protection.

- .4 Plant material replacements that occur during the warranty period will require extended warranties equal to the original warranty period. Extended warranty period will commence when the City / Contract Administrator has accepted the plant material replacements.

PART 2 PRODUCTS

2.1 PLANTING SOIL MEDIUM

- .1 The planting soil shall be topsoil that complies with CW 3540, Section 5.2. Further to CW 3540 Section 5.2, planting soil shall contain maximum ten percent (10%) organic matter (peat, rotted manure or composted material).
- .2 At the discretion of the Contractor Administrator, planting soil may be subject to tests for nitrate, phosphate, potassium, sulphate, pH, E.C. (salinity), and volume of organic matter, by a testing laboratory designated by the Contract Administrator.
- .3 The Contract Administrator reserves the right to reject planting soil not conforming to the requirements of these Specifications.

2.2 PLANT MATERIAL

- .1 Plant material to conform to the applicable details and as listed in the "Plant Schedule" on drawings.
- .2 Substitutions for specified plants require the Contract Administrator's written approval prior to delivery.
- .3 Type of root preparation, sizing, grading and quality: comply to Canadian Nursery Stock Standards, latest edition.
 - .1 Source of plant material: grown in Zone 2 (a or b) or 3 (a or b) will be accepted. Nursery stock that has grown in plant hardiness zones 1 and 4 or greater will be rejected.
 - .2 Plant material must be planted in zone specified as appropriate for its species.
 - .3 Plant material in location appropriate for its species.
- .4 Plant material: free of disease, insects, defects or injuries and structurally sound with strong fibrous root system.
- .5 Trees: with straight trunks, well and characteristically branched for species.
- .6 Bare root stock: nursery grown, in dormant stage, not balled and burlapped or container grown.
- .7 Collected stock by trained individuals: maximum 40 mm in caliper, with well-developed crowns and characteristically branched; no more than 40% of overall height may be free of branches.
During collection, ensure 10% maximum seed crop (or plants) are collected from healthy population of many individuals, and from several plants of same species.
Leave remainder for natural dispersal and as food for dependent organisms.
- .8 Do not deliver more plants to the site than there is space with adequate storage conditions. Provide a suitable remote staging area for plants and other supplies.
- .9 Provide protective covering over all plants during transportation to prevent wind burn.

2.3 WATER

- .1 Potable water, free of impurities that would inhibit plant growth.

2.4 ACCESSORIES

- .1 Wood stakes, wire tightener, guying wire, clamps, anchors, guying collar and flagging tape as per applicable detail.

2.5 TRUNK PROTECTION

- .1 Perforated flexible PVC pipe (45mm Cal or larger). Height of guard shall be 450-850mm above mulch level.
- .2 Beaver protection near water courses:
 - .1 Hardware Cloth: 6mm x 6mm x 23 Gauge Welded Galvanized Wire Mesh, minimum height 450mm-900mm, bury 50mm below grade, place around but not touching tree, secure with galvanized wire fastenings or zip ties.
- .3 Bottom of guard to meet flush with rootball. Check and adjust guards every fall to ensure they are free of gaps, trash and not interfering with root or trunk development.

2.6 MULCH

- .1 Shredded cedar bark: varying in size from 25 to 75 mm in length. Mulch shall be free of leaves and any branches greater than 75 mm long and 20 mm thick.
- .2 Mulch to be installed in shrub planting bed and around tree plantings, all other areas to be stabilized aggregate as per Drawings.

2.7 FERTILIZER

- .1 Synthetic commercial type as recommended by manufacturer.

2.8 ANTI-DESSICANT

- .1 Wax-like emulsion.

PART 3 EXECUTION

3.1 PRE-PLANTING OPERATIONS

- .1 Ensure plant material on site is acceptable to Contract Administrator.
- .2 Deliver all materials in their original containers with all labels intact and legible. Containers with additives shall clearly indicate contents, weight, analysis and manufacturer's name.
- .3 Prune damaged roots and branches from plant material.
- .4 Apply anti-desiccant to conifers and deciduous trees in leaf in accordance with manufacturer's instructions.

3.2 EXCAVATION AND PREPARATION OF PLANTING BEDS

- .1 Stake out location of tree pits and shrub beds and obtain approval from the Contract Administrator prior to excavating.
- .2 Establish sub-grade and prepare planting beds as specified.
- .3 Excavate to depth and width as per applicable detail.
- .4 Remove rocks, roots, debris and toxic material from material that will be used as planting soil for trees and individual shrubs. Dispose of excess material as directed by Contract Administrator.

- .5 Scarify sides and bottom of tree pits and shrub beds.
- .6 Remove water which enters planting pits and beds prior to planting. Notify Contract Administrator if water source is ground water.

3.3 PLANTING

- .1 For bare root stock, place 50 mm backfill soil in bottom of hole. Plant trees and shrubs with roots placed straight out in hole.
- .2 Hand dig planting pits for bare root trees and shrubs as indicated on drawings.
- .3 For jute burlapped root balls, cut away top one third of wrapping and wire basket without damaging root ball. Do not pull burlap or rope from under root ball.
- .4 For container stock or root balls in non-degradable wrapping, remove entire container or wrapping without damaging root ball.
- .5 Plant vertically in locations as indicated. Orient plant material to give best appearance as directed by Contract Administrator in relation to structure, roads and walks.
- .6 For trees :
 - .1 Backfill soil in 150 mm lifts. Tamp each lift to eliminate air pockets. When two thirds of depth of planting pit has been backfilled, fill remaining space with water. After water has penetrated into soil, backfill to finish grade.
 - .2 Form watering saucer as per applicable detail.
 - .3 Trunk protection and filter cloth shall be installed on all trees planted within a naturalized/no-mow zone.
 - .4 Install all trees 50-75mm high relative to finish grades to allow for natural settlement
- .7 For shrubs:
 - .1 Backfill soil evenly to finish grade and tamp to eliminate air pockets.
- .8 Water plant material thoroughly.
- .9 Dispose of burlap, wire and container material off site.

3.4 INSTALLATION OF ACCESSORIES AND TRUNK PROTECTION

- .1 Install tree supports, accessories, and trunk protection as per applicable detail.
- .2 Install trunk protection prior to installation of tree supports when used.
- .3 After tree supports have been installed, remove broken branches with clean, sharp tools

3.5 MULCHING

- .1 Ensure soil settlement has been corrected prior to mulching.
- .2 Spread mulch as per applicable detail.

3.6 PRUNING

- .1 Prune all plants to remove dead and broken branches.
- .2 Preserve the natural character of the plant and do not remove leader.

- .3 Use clean, sharp tools and make cuts clean and flush without leaving stubs.
- .4 Cut back to living tissue all cuts, scars and bruises and shape so as not to retain water.

3.7 MAINTENANCE DURING ESTABLISHMENT PERIOD

- .1 Perform following maintenance operations from time of planting to Substantial Performance:
 - .1 Water to maintain soil moisture conditions for optimum establishment, growth and health of plant material without causing erosion.
 - .2 For evergreen plant material, water thoroughly in late fall prior to freeze-up to saturate soil around root system.
 - .3 Remove weeds monthly.
 - .4 Replace or respread damaged, missing or disturbed mulch.
 - .5 For non-mulched areas, cultivate as required to keep top layer of soil friable.
 - .6 Remove dead or broken branches from plant material.
 - .7 Keep trunk protection and guy wires in proper repair and adjustment.
 - .8 Remove and replace dead plants and plants not in healthy growing condition. Make replacements in same manner as specified for original plants.

3.8 MAINTENANCE DURING WARRANTY PERIOD

- .1 Any areas planted less than 30 Days prior to frost or after September 15th, whichever comes first, the start of the maintenance period will commence on May 15th of the following year or such date as mutually agreed upon by all parties.
- .2 All newly plantings shall be watered on a weekly basis between spring (May 15th) continuing through to early fall (October 15th), for the first year and two-year maintenance period thereafter to keep the soil in and around the root ball moist. With the Contract Administrator's or designates approval, adjustments may be made in watering frequency depending on soil type, weather, drainage, tree species, and weekly amounts of rainfall.
- .3 Perform following maintenance operations from time of Substantial Performance to the end of warranty period:
 - .1 Submit monthly written reports to the Contract Administrator identifying:
 - .1 Maintenance work carried out.
 - .2 Maintenance requirements
 - .3 Development and condition of plant material.
 - .4 Preventative or corrective measures required which are outside Contractor's responsibility.
 - .2 Water to maintain soil moisture conditions for optimum growth and health of plant material without causing erosion.
 - .3 Apply fertilizer in early spring as indicated by soil test.
 - .4 Prune dead, broken or hazardous branches from plant material.
 - .5 Keep trunk protection and tree supports in proper repair and adjustment.

3.9 ACCEPTANCE

- .1 All plant material will be accepted by the Contract Administrator after the entire project has received Substantial Performance and the planting operation is completed, if in the sole discretion of the Contract Administrator, the plant material exhibits healthy vigorous growth and is free from disease, insects and fungal organisms.

END OF SECTION