

**Part 1            General**

**1.1                WORK COVERED BY CONTRACT DOCUMENTS**

- .1        Work of this Contract consists of removing all the joint caulking applied over the mortar joints, repointing, and assorted repairs of exterior tyndall stone cladding surrounding the building exterior of the Council Chamber Building; 510 Main Street.

**1.2                CONTRACT METHOD**

- .1        Perform Work in accordance with the National Building Code of Canada (NBC) including all amendments up to tender closing date and other codes of provincial or local application provided that in case of conflict or discrepancy, more stringent requirements apply.
- .2        Meet or exceed requirements of Contract documents, specifications, as specified standards, codes and referenced documents, latest editions.

**1.3                WORK BY OTHERS**

- .1        Co-operate with other Contractor in carrying out their respective works and carry out instructions from Contract Administrator.
- .2        Co-ordinate work with that of other Contractor. If any part of work under this Contract depends for its proper execution or result upon work of another Contractor, report promptly to Contract Administrator, in writing, any defects which may interfere with proper execution of Work.

**1.4                WORK SEQUENCE**

- .1        Construct Work in stages to accommodate City Of Winnipeg's continued use of premises and adjacent areas during construction.
- .2        Co-ordinate Progress Schedule and co-ordinate with City Of Winnipeg Occupancy during construction.
- .3        Construct Work in stages to provide for continuous public usage. Do not close off public usage of facilities until use of one stage of Work will provide alternate usage.
- .4        Contractor is to allow for time in his schedule for the City Of Winnipeg to vacate areas adjacent to construction and areas affected by construction activities.

**1.5                CONTRACTOR USE OF PREMISES**

- .1        Unrestricted use of Site until Substantial Performance.
- .2        Limit use of premises for Work, for storage, and for access, to allow:
  - .1        City Of Winnipeg occupancy.
  - .2        Work by other Contractors.
  - .3        Public usage.
  - .4        Continuous access to the building entrances/exits.

- .3 Co-ordinate use of premises under direction of Contract Administrator.
- .4 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.
- .5 Remove or alter existing work to prevent injury or damage to portions of existing work which remain.
- .6 Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as directed by Contract Administrator.
- .7 At completion of operations condition of existing work: equal to or better than that which existed before new work started.

#### **1.6 CITY OF WINNIPEG OCCUPANCY**

- .1 City Of Winnipeg will occupy premises during entire construction period for execution of normal operations.
- .2 Co-operate with City Of Winnipeg in scheduling operations to minimize conflict and to facilitate City Of Winnipeg usage.

#### **1.7 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING**

- .1 Execute work with least possible interference or disturbance to building operations occupants, public and normal use of premises. Arrange with Contract Administrator to facilitate execution of work.

#### **1.8 EXISTING SERVICES**

- .1 Notify City Of Winnipeg and utility companies of intended interruption of services and obtain required permission.
- .2 Where Work involves modifications to existing services, give City Of Winnipeg minimum 48 hours notice for necessary interruption of mechanical or electrical service throughout course of work. Minimize duration of interruptions.
- .3 Protect, relocate or maintain existing active services.

#### **1.9 DOCUMENTS REQUIRED**

- .1 Maintain at job Site, one copy each document as follows:
  - .1 Contract Drawings.
  - .2 Specifications.
  - .3 Addenda.
  - .4 Reviewed Shop Drawings.
  - .5 Change Orders.
  - .6 Other Modifications to Contract.
  - .7 Field Test Reports.
  - .8 Copy of Approved Work Schedule.
  - .9 Health and Safety Plan and Other Safety Related Documents including:

- .1 Material data sheets (MSDS) on all products used in Project.
- .10 Other documents as specified.

**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        Section 01 11 00 – Summary of Work.

**1.2                ACCESS AND EGRESS**

- .1        Design, construct and maintain temporary "access to" and "egress from" work areas, in accordance with relevant municipal, provincial and other regulations.
- .2        Provide protective hoarding over all entrances and entrances, extending 15' each side of work area.

**1.3                USE OF SITE AND FACILITIES**

- .1        Execute work with least possible interference or disturbance to normal use of premises. Make arrangements with Contract Administrator to facilitate work as stated.
- .2        Maintain existing services to building and provide for personnel and vehicle access.
- .3        Where security is reduced by work provide temporary means to maintain security.
- .4        Ensure that Contractor personnel employed on Site become familiar with and obey regulations including safety, fire, traffic and security regulations.
- .5        Keep within limits of work and avenues of ingress and egress.

**1.4                WORKING HOURS**

- .1        Working hours for work processes deemed to be excessively noisy or disruptive will be restricted to between 8 a.m. and 5 p.m. Monday through Friday.
- .2        Working hours for all other work processes will be restricted to between 7 a.m. and 8 p.m. Monday through Friday, and 10 a.m. to 5 p.m. Saturday.
- .3        Notwithstanding the above, all Work shall be completed in conformance with City of Winnipeg Neighbourhood Liveability By-Law No. 1/2008.
- .4        Notwithstanding the above, all Work shall be completed in conformance with the City of Winnipeg Noise Control By-Law No. 2480/79.
- .5        The City Of Winnipeg reserves the right to occasionally restrict work in select areas of the premises to accommodate City Of Winnipeg requirements. The Bidder will be provided minimum of 3 working days notice of such restrictions.
- .6        Arrangements must be made with City Of Winnipeg for all work expected to take place outside of established working hours. The City Of Winnipeg will be provided proper notification for such work requested a minimum of 3 working days prior to work taking place.

**1.5                SPECIAL REQUIREMENTS**

- .1        Coordinate work with City Of Winnipeg operations to provide for continuous public and City Of Winnipeg usage. Do not close off access to facilities until proper notification has been provided to both the Contract Administrator and City Of Winnipeg and will provide alternate usage/access if necessary.
- .2        Prior to mobilization, submit a construction schedule coordinated with the proposed phasing layout(s).

- .3 All work which interferes with the normal operation of the facility will have to be precisely coordinated with City Of Winnipeg.
- .4 Ensure that Contractor personnel employed on Site become familiar with and obey regulations including safety, fire, traffic and security regulations.
- .5 Keep within limits of work and avenues of ingress and egress.

**1.6 BUILDING SMOKING ENVIRONMENT**

- .1 Smoking is not allowed.

**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                CASH ALLOWANCES FOR TESTING, EXAMINATION**

- .1        Include in Contract Price, allowances to cover costs of Site and laboratory testing and examination listed.
- .2        Tests and testing requirements, as specified shall be carried out by independent examining, testing companies, as appointed by the Contractor and acceptable to the Contract Administrator.
- .3        Obtain quotations from examining and testing companies and submit to Contract Administrator for review.
- .4        Pay all costs for specified examination, testing work performed by independent examining and testing companies, from cash allowance specified.
- .5        The invoices for work performed by the specialist examining and testing companies shall be directed to the Contractor, and forwarded with monthly request for payment. Invoices will be processed onto a Change Order periodically to formalize an expenditure from the Cash Allowance.
- .6        Cash Allowance is for payment of examining, testing company invoices only. Contractor costs for Site supervision and coordination is deemed to be part of overhead included in the Total Estimated Contract Price.
- .7        Specific testing requirements are outlined in respective technical Sections. Materials failing to meet specified requirements shall be replaced or repaired and retested as directed by Contract Administrator, with all costs involved in retesting borne by the Contractor.
- .8        Include testing/examination allowances for:
  - .1        Testing cash allowance lump sum.

**1.2 CASH ALLOWANCES FOR PRODUCTS, LABOUR, MATERIAL**

- .1 Include in Contract Price, allowances to cover Work specified in respective Sections or as otherwise listed below.
- .2 Work may be carried out by Subcontractors already employed on Site, or by Subcontractors brought in for the Cash Allowance work.
- .3 Obtain quotations from for the work and submit to Contract Administrator for review.
- .4 Pay all costs for work performed from cash allowance specified.
- .5 The invoices for work performed shall be directed to the Contractor, and forwarded with monthly request for payment. The invoices will be processed onto a Change Order periodically to formalize an expenditure from the Cash Allowance.
- .6 Cash Allowance is for payment of invoices from companies carrying out the Work.
- .7 Include cash allowances for:
  - .1 Mechanical/Electrical Relocation.

**1.3 ADJUSTMENTS OF CASH ALLOWANCES**

- .1 Contractor shall not exceed Cash Allowances without authority from Contract Administrator. Contractor will not be allowed expenses or profit on overage unless authority for over expenditure is obtained. Over expenditure of Cash Allowances may, at Contract Administrator's discretion, be deducted from sums of money due Contractor, should Contractor exceed allowance without authority from the Contract Administrator.
- .2 Adjustments to the Cash Allowances will be made by a written Change Order, signed by the City Of Winnipeg, or as amendments to the Contract at the time of final payment, on the basis of submitted net cost invoices.

**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                PRECONSTRUCTION MEETING**

- .1    Within 5 Working Days after award of Contract, request a meeting of parties in Contract to discuss and resolve administrative procedures and responsibilities.
- .2    Senior representatives of City Of Winnipeg, Contract Administrator, Contractor, major Subcontractor(s), field inspectors and supervisors will be in attendance.
- .3    Establish time and location of meeting and notify parties concerned minimum 5 Working 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    Submission of shop drawings, samples. Submit submittals in accordance with Section 01 33 00 - Submittal Procedures.
  - .3    Requirements for temporary facilities, Site sign, offices, storage sheds, utilities, fences in accordance with Section 01 52 00 - Construction Facilities.
  - .4    Site security in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.
  - .5    Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements.
  - .6    Delivery schedule of specified materials.
  - .7    City Of Winnipeg provided products.
  - .8    Monthly progress claims, administrative procedures, photographs, hold backs.
  - .9    Appointment of inspection and testing agencies or firms.
  - .10   Insurances, transcript of policies.

**1.2                PROGRESS MEETINGS**

- .1    During course of Work schedule progress meetings at biweekly intervals.
- .2    Contractor, major Subcontractor(s) involved in Work, Contract Administrator and City Of Winnipeg's representative are to be in attendance.

Contract Administrator will be responsible for recording minutes of meetings and circulate to attending parties and affected parties not in attendance within 7 Working Days after meeting.
- .3    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.
- .12 Other business.

**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                ADMINISTRATIVE**

- .1        Submit to Contract Administrator submittals listed for review. Submit promptly and in 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 is complete.
- .3        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.
- .4        Notify Contract Administrator, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .5        Verify field measurements and ensure affected adjacent Work is co-ordinated.
- .6        Contractor's responsibility for errors and omissions in submission is not relieved by Contract Administrator's review of submittals.
- .7        Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Contract Administrator review.
- .8        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 shop drawings bearing stamp and signature of qualified professional engineer registered or licensed in Province of Manitoba, Canada.
- .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 5 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 After Contract Administrator's review, distribute copies.
- .8 Submit electronic copy in PDF format of shop drawings for each requirement requested in specification Sections and as Contract Administrator may reasonably request.
- .9 Submit electronic copy in PDF format 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.
- .10 Delete information not applicable to project.
- .11 Supplement standard information to provide details applicable to project.
- .12 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. 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 **SAMPLES**

- .1 Submit for review samples in duplicate as requested in respective specification Sections. Label samples with origin and intended use.
- .2 Deliver samples prepaid to Contract Administrator's business address.
- .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 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.

### 1.4 **MOCK-UPS**

- .1 Erect mock-ups in accordance with Section 01 45 00 - Quality Control.
- .2 A mock-up of the masonry repointing will be required for review by Contract Administrator, The City of Winnipeg, and City of Winnipeg Heritage Building committee member.

- .3 Mock-up to be completed in area identified on-site by Contract Administrator and Contractor, over an area of not less than 100 square feet of wall area.

**1.5 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 REFERENCES**

- .1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations
- .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
  - .1 Material Safety Data Sheets (MSDS).
- .3 Province of Manitoba
  - .1 The Workers Compensation Act RSM 1987 - Updated 2006.
  - .2 Manitoba Regulation 217/2006 – Workplace Safety and Health Regulation.

**1.2 SUBMITTALS**

- .1 Make submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit copies of incident and accident reports.
- .3 Submit WHMIS MSDS - Material Safety Data Sheets on all products used in conjunction with the Work.
- .4 W.H.I.M.I.S. Training: Provide copies of valid certification/training for all employees (regular or temporary) including all Subcontractor(s).
  - .1 All individuals involved in the application of any product shall meet all WHMIS/provincial standards safety/protection requirements at all times.

**1.3 GENERAL REQUIREMENTS**

- .1 Develop written Site-specific Health and Safety Plan based on hazard assessment prior to beginning Site Work and continue to implement, maintain, and enforce plan until final demobilization from Site. Health and Safety Plan must address project specifications.

**1.4 RESPONSIBILITY**

- .1 Be responsible for health and safety of persons on Site, safety of property on Site and for protection of persons adjacent to Site and environment to extent that they may be affected by conduct of Work.
- .2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with Site-specific Health and Safety Plan.

**1.5 PERSONAL PROTECTIVE EQUIPMENT (PPE)**

- .1 All employees (regular or temporary) of Contractor and Subcontractor(s) shall wear PPE in accordance with Manitoba Regulation 217/2006.
- .2 Fall Protection: Provide fall protection in accordance with Manitoba Regulation 217/2006.

**1.6 WORK STOPPAGE**

- .1 Give precedence to safety and health of public and Site personnel and protection of environment over cost and schedule considerations for Work.

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**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    Section 01 21 00 – Allowances.

**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 for purpose of inspecting and/or testing portions of Work. Cost of such services will be paid by the Contractor via the testing cash allowance.
- .2    Allocated costs: to Section 01 21 00 - Allowances.
- .3    Provide equipment required for executing inspection and testing by appointed agencies.
- .4    Employment of inspection/testing agencies does not relax responsibility to perform Work in accordance with Contract Documents.
- .5    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 at no cost to City Of Winnipeg. Pay costs for retesting and reinspection.

**1.4            ACCESS TO WORK**

- .1    Allow inspection/testing agencies access to Work.
- .2    Co-operate to provide reasonable facilities for such access.

**1.5            PROCEDURES**

- .1    Notify appropriate agency 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 the Contract Administrator it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, City Of Winnipeg 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 copies of inspection and test reports to City Of Winnipeg and Contract Administrator.
- .2 Provide copies to Subcontractor of work being inspected or tested, and manufacturer or fabricator of material being inspected or tested.

**1.8 MOCK-UPS**

- .1 Prepare mock-ups for Work specifically requested in specifications. Include for Work of Specification Sections required to provide mock-ups.
- .2 Construct in locations acceptable to Contract Administrator and as specified in specific Section.
- .3 Prepare mock-ups for Contract Administrator's review with reasonable promptness and in orderly sequence, to not cause delays in Work.
- .4 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.
- .5 Mock-ups may remain as part of Work.

**1.9 MILL TESTS**

- .1 Submit mill test certificates as requested.

**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                INSTALLATION AND REMOVAL**

- .1    Provide temporary utilities controls in order to execute work expeditiously.
- .2    Remove from site all such work after use.

**1.2                WATER SUPPLY**

- .1    The City Of Winnipeg will make available, for the extent that it is available and required, a supply of potable water for construction use at no charge to the Contractor
- .2    Arrange for connection with appropriate utility company and pay costs for installation, maintenance and removal.
- .3    The Contractor shall provide all necessary hoses, lines, connections, and other ancillary hardware which may be required.
- .4    The services are to be returned to their original condition at the temporary locations, or left in an altered condition only as approved by the City Of Winnipeg.

**1.3                TEMPORARY HEATING AND VENTILATION**

- .1    Provide temporary heating required during construction period, including attendance, maintenance and fuel. Note: It is not the intent of this contractor to provide for heating and hoarding for the construction program.
- .2    Construction heaters used inside building must be vented to outside or be flameless type. Solid fuel salamanders are not permitted.
- .3    Provide temporary heat and ventilation in enclosed areas as required to:
  - .1    Facilitate progress of Work.
  - .2    Protect Work and products against dampness and cold.
  - .3    Prevent moisture condensation on surfaces.
  - .4    Provide ambient temperatures and humidity levels for storage, installation and curing of materials.
  - .5    Provide adequate ventilation to meet health regulations for safe working environment.
- .4    Ventilation:
  - .1    Prevent accumulations of dust, fumes, mists, vapours or gases in areas occupied during construction.
  - .2    Ventilate storage spaces containing hazardous or volatile materials.
  - .3    Ventilate temporary sanitary facilities.
  - .4    Maintain integrity of building security and fire exits.
- .5    City Of Winnipeg will pay utility charges when temporary heat source is existing building equipment.
- .6    Maintain strict supervision of operation of temporary heating and ventilating equipment to:
  - .1    Conform with applicable codes and standards.
  - .2    Enforce safe practices.
  - .3    Prevent abuse of services.
  - .4    Prevent damage to finishes.

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- .5 Vent direct-fired combustion units to outside.
  - .7 Be responsible for damage to Work due to failure in providing adequate heat and protection during construction.
- 1.4 TEMPORARY POWER AND LIGHT**
- .1 The City Of Winnipeg will make available, for the extent that it is available temporary power during construction for temporary lighting and operating of power tools.
  - .2 Connect to existing power supply in accordance with Canadian Electrical Code.
  - .3 Arrange for connection with appropriate utility company. Pay costs for installation, maintenance and removal.
  - .4 Temporary power for equipment requiring in excess of that available on-site is responsibility of the Contractor.
  - .5 Provide and maintain temporary lighting throughout project.
- 1.5 TEMPORARY COMMUNICATION FACILITIES**
- .1 Provide and pay for cellular telephone for site superintendent and use of Contract Administrator.
- 1.6 FIRE PROTECTION**
- .1 Provide and maintain temporary fire protection equipment during performance of Work required by insurance companies having jurisdiction and governing codes, regulations and bylaws.
  - .2 Burning rubbish and construction waste materials is not permitted on site.
- 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                REFERENCES**

- .1 Canadian Standards Association (CSA International)
  - .1 CSA-A23.1/A23.2-09, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
  - .2 CSA O121-08, Douglas Fir Plywood.

**1.2                SUBMITTALS**

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

**1.3                SCAFFOLDING**

- .1 Scaffolding shall be design and erected in accordance with Manitoba Regulation 217/2006 and CAN/CSA S269.2.
  - .1 Where Manitoba Regulation 217/2006 requires scaffolds to be designed by a professional engineer. Submit shop drawings bearing the seal of professional engineer registered in the Province of Manitoba.

**1.4                SUSPENDED ELEVATING PLATFORMS (SWINGSTAGE)**

- .1 Swingstage access shall be in accordance with Manitoba Regulation 217/2006, CAN/CSA Z271, and CAN/CSA Z91.
  - .1 Contractor to notify Manitoba Workplace Safety and Health at least 24 hours prior to rigging swingstage(s).
    - .1 Submit proof of notification to City Of Winnipeg and Contract Administrator.
    - .2 Submit a Manitoba Workplace Safety and Health serial number prior to swingstage set-up.
  - .2 Upon request, make available to the Contract Administrator, all pertinent information regarding the swingstage equipment, design, and setup including but not limited to the following:
    - .1 Swingstage platform manufacturer's technical data indicating allowable load capacities;
    - .2 outrigger manufacturer's or supplier's table of counterweights and allowable projections beyond the fulcrum point for various loads;
    - .3 outboard thrust, inboard thrust, number and configuration of outrigger counterweights.
    - .4 The purpose of the review is to determine that the swingstage(s) utilized for access and work purposes is in general conformance with the Contract documents and does not constitute approval of the swingstage(s) to be used by the Contractor, who shall remain solely responsible for the design, erection, operation, maintenance of the swingstage(s) and for any errors and omissions of those forces which come under his control.
- .2 Suspended elevating platforms or aerial device shall be designed, and constructed, installed, maintained, used and dismantled, in accordance with Manitoba Regulation 217/2006.

**1.5 SITE STORAGE/LOADING**

- .1 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.
- .2 Do not load or permit to load any part of Work with weight or force that will endanger Work.

**1.6 CONSTRUCTION PARKING**

- .1 Parking will be permitted on site provided it does not interfere with normal operations, access by tenants or the public, or disrupt performance of Work.

**1.7 EQUIPMENT, TOOL AND MATERIALS STORAGE**

- .1 Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.
- .2 Locate materials not required to be stored in weatherproof sheds on site in manner to cause least interference with work activities.

**1.8 SANITARY FACILITIES**

- .1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
- .2 Post notices and take precautions as required by local health authorities. Keep area and premises in sanitary condition.
- .3 The Contractor may use on-site facilities for the duration of the project. The facilities must be maintained in a neat condition or use will be revoked.

**1.9 CLEAN-UP**

- .1 Remove construction debris, waste materials, packaging material from work site daily.
- .2 Clean dirt or mud tracked onto paved or surfaced roadways.
- .3 Store materials resulting from demolition activities that are salvageable.
- .4 Stack stored new or salvaged material not in construction facilities.

**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            Section 01 51 00 – Temporary Utilities.

**1.2            INSTALLATION AND REMOVAL**

- .1            Provide temporary controls in order to execute Work expeditiously.
- .2            Remove from Site all such work after use.

**1.3            HOARDING**

- .1            The Contractor may barricade off the area under construction to prevent the general public from improper access to the construction area.
- .2            Suitable barricades and protection systems include:
  - .1            Stanchions with a minimum of three (3) horizontal bands of fluorescent warning tape and/or snow fencing around perimeter of work area. Spacing of stanchions not to exceed 20'. public from improper access to the construction area.
  - .2            Provide over-head protective and covered hoarding at all entry and exits when working on face of building, hoarding to extend minimum 15' each side of entrance/exits.
- .3            Provide adequate signage, fencing, etc. to inform the public of the work being undertaken.
- .4            Erect and maintain pedestrian walkways including roof and side covers, complete with signs and electrical lighting as required by law over course of work.

**1.4            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            Cover windows with polyethylene sheeting when grinding near windows to prevent dust deposition into building.
- .4            Co-ordinate work times with maintenance personnel to ensure air intake areas are covered and/or de-activated.

**1.5            FIRE ROUTES**

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

**1.6            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.

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**1.7 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, including all windows when grinding in the areas of construction.
- .3 Be responsible for damage incurred due to lack of or improper protection.
  - .1 Repair of damaged finishes or equipment may be completed by City Of Winnipeg selected Contractor(s)/supplier(s). Expenses for all such repair work to be paid for by 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                REFERENCES**

- .1        Within text of each specifications section, reference may be made to reference standards. Conform to these reference standards, in whole or in part as specifically requested in specifications.
- .2        Conform to latest date of issue of referenced standards in effect on date of submission of Bids, except where specific date or issue is specifically noted.
- .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        The Cost for such testing will be borne by the Contractor or Supplier.

**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 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.
- .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 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 Contract Administrator.
- .9 Touch-up damaged 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.

#### **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. Where conflicts exist, the more stringent instruction will be enforced.
- .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.

**1.9 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.

**1.10 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.

**1.11 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/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 that caused by City Of Winnipeg or other Subcontractors.
- .2      Remove waste materials from Site at daily regularly scheduled times. Do not burn waste materials on Site.
- .3      Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .4      Provide on-Site containers for collection of waste materials and debris.
- .5      Dispose of waste materials and debris offsite.
- .6      Clean interior areas prior to start of finishing work, and maintain areas free of dust and other contaminants during finishing operations.
- .7      Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .8      Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.
- .9      Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.
- .10     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 other than that caused by City Of Winnipeg or other Subcontractors.
- .5      Remove waste materials from Site at regularly scheduled times. Do not burn waste materials on Site.
- .6      Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .7      Remove stains, spots, marks and dirt from existing surfaces, fixtures, and finishes within the work area or affected by the affected by the Work.
- .8      Broom clean and wash exterior walks, steps and surfaces; rake clean other surfaces of grounds.
- .9      Remove dirt and other disfiguration from exterior surfaces, including windows soiled from construction.

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**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                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: submit written certificates that tasks have been performed as follows:
    - .1 Work: completed and inspected for compliance with Contract Documents.
    - .2 Defects: corrected and deficiencies completed.
    - .3 Work: complete and ready for final inspection.
  - .4 Final Inspection:
    - .1 When completion tasks are done, request final inspection of Work by Contract Administrator, and Contractor.
    - .2 When Work incomplete according to Contract Administrator, complete outstanding items and request re-inspection.
  - .5 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.
  - .6 Commencement of Lien and Warranty Periods: date of City Of Winnipeg'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.
  - .7 Final Payment:
    - .1 When Contract Administrator considers final deficiencies and defects corrected and requirements of Contract met, make application for final payment.
  - .8 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                FINAL CLEANING**

- .1 Clean in accordance with Section 01 74 11 – Cleaning.
  - .1 Remove surplus materials, excess materials, rubbish, tools and equipment.

**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 PROTECTION**

- .1 Prevent movement, settlement, or other damage to adjacent structures, utilities, and parts of building(s) to remain in place. Provide bracing and shoring as required.
- .2 Keep noise, dust, and inconvenience to occupants and public to a minimum.
- .3 Protect building systems, services and equipment. Protect existing items designated to remain and materials designated for salvage. In event of damage to such items, immediately replace or make repairs to approval of Contract Administrator and at no cost to the City Of Winnipeg.
- .4 Provide temporary covers, railings, supports and other protection as required.
- .5 Shore all excavations as required by the Manitoba Workplace Safety and Health Division.

### **1.2 ASBESTOS**

- .1 Demolition of spray or trowel applied asbestos can be hazardous to health. Should material resembling spray or trowel-applied asbestos be encountered, stop work and notify Contract Administrator immediately. Do not proceed until written instructions have been received from Contract Administrator.

## **Part 2 PRODUCTS**

### **2.1 Not Used.**

## **Part 3 EXECUTION**

### **3.1 NOTICE**

- .1 Notify Contract Administrator and City Of Winnipeg before disrupting building access or services.
- .2 Inspect Site and verify with City Of Winnipeg and Contract Administrator items designated for removal, disposal, re-use and items to remain.
- .3 Notify Contract Administrator a minimum of 48 hours prior to removal of material designated for salvage.
- .4 Locate and protect electrical cables, ducts and underground utilities. Preserve in operating order all mechanical and electrical for the duration of the project.

### **3.2 DEMOLITION, SALVAGE AND DISPOSAL**

- .1 Excavate/remove material as required to accommodate exterior masonry cleaning and repair work, without affecting adjacent property and with due consideration for public access requirements of the City Of Winnipeg.
- .2 Remove items to be reused, store as directed by Contract Administrator.
- .3 Dispose of removed materials, except where specified otherwise, in accordance with authority having jurisdiction.

### **3.3 DISPOSAL OF MATERIAL**

- .1 Dispose of materials designated for removal, off Site, in accordance with applicable environmental laws. No stockpiling on Site will be permitted.

### **3.4 BACKFILL**

- .1 Backfill in areas as indicated on the drawings to match existing grade.
- .2 Backfill excavations resulting from removal work to a safe condition and ensure positive drainage in and around the area.

### **3.5 RESTORATION**

- .1 Restore areas of demolition and existing works adjacent to removal areas to match condition of adjacent, undisturbed areas to the satisfaction of the City Of Winnipeg and Contract Administrator and at no addition cost to the City Of Winnipeg.

### **3.6 SITE CLEAN UP**

- .1 Sweep surfaces, remove debris, trim surfaces and clean work Site on an ongoing basis (i.e. minimum daily). Stockpiling of debris and waste materials on Site will not be permitted.
- .2 Upon completion of work, remove debris, trim surfaces and leave Site clean.

**END OF SECTION**

## 1. GENERAL

The mortar joints at the Council Chamber Building have all been caulked. In addition, select areas of the masonry show a variety of forms of distress, including failed mortar joints, cracking of masonry units, and spalled stone surfaces. These are to be repaired under fixed and unit prices. Re-pointing of all stone joints on the building is to be completed on a fixed price, which includes removal of all existing caulking applied over the joints.

### 1.1 Description

- |    |  |   |
|----|--|---|
| .1 | <b>Method A:</b><br>Method A.1:                | <b>Repoint existing mortar joints, including caulking removal.</b><br>Repoint mortar joints in existing Tyndall Stone cladding under Fixed Price. |
| .2 | <b>Method B:</b>                               | <b>Control Joint Recaulking</b><br>Replace/Install new control joint caulking at all existing control joints under Fixed Price.                   |
| .3 | <b>Method C:</b><br>Method C.1:<br>Method C.2: | <b>Dutchman Repair of Tyndall Stone Masonry.</b><br>Dutchman Repair using existing stone segment.<br>Dutchman Repair using new stone segment      |
| .4 | <b>Method D:</b>                               | <b>Tyndall Stone Stitching using Helifix Ties.</b><br>Stabilize/anchor existing stone units using Helifix ties at Unit Price.                     |

## 2. PRODUCTS

### 2.1 Materials

- |    |   |
|----|---|
| .1 | Stainless steel threaded rod to ASTM F593.  |
| .2 | Anchor bolt epoxy resin to be Hilti Hit HY 70 adhesive for Dutchman repairs.  |
| .3 | Anchors used to reinforce existing brick to be Helifix stainless steel wall ties, manufactured and supplied by Helifix Inc., 10325 State Route 43, Suite N, Streetsboro, OH, 44241; Ph: (330) 562-2647. |

## 3. EXECUTION

### 3.1 General

- |    |   |
|----|---|
| .1 | Perform work in accordance with CAN3-A371 (latest).   |
| .2 | Removal all existing caulking applied over mortar joints using manual or mechanical means. Damage to the stone MUST NOT OCCUR. Use manual raking tools to remove deteriorated mortar from masonry joints. Do not use power tools unless authorized by Contract Administrator. |
| .3 | Tool and compact using jointing tool to force mortar into joint.  |
| .4 | Finish joints to match existing joints, except where specified otherwise.   |



- .5 Use suitable approved jointing tool to form compacted slightly concave tooled joints on exterior joints. Review existing joint shape and match.
- .6 Use caulking gun to inject mortar for fine gauged masonry areas where mortar joints are too narrow for tool penetration.
- .7 Comply with manufacturer's written specifications and recommendations for surface preparation, mixing, application, and curing of mortars.
- .8 When temperature is 4°C or less, suspend work until temperature is anticipated to remain above 4°C, unless provisions are in place to protect the mortar from freezing.

**3.2 Method A: Repointing existing mortar joints**

- .1 Re-point masonry on existing walls of the Council Chambers Building under fixed price as indicated. Price to include removal of all caulking placed over mortar joints followed by installation of specified joint mortar.
- .2 Procedure of testing: inspect joints visually for obvious signs of deteriorated masonry. As a general rule, mortar may be satisfactory if the pointing is firm, intact and not eroded (more than 1" from the face of the masonry). To judge the depth of the joint requiring repointing, use the following criteria:
  - .1 Remove all material where the mortar is eroded or has fallen out.
  - .2 Remove all cracked material in joints: cracks of hairline width or larger have formed in the mortar.
  - .3 Remove to depth beyond which mortar and masonry do not adhere, resulting in a gap between two or mortar sitting loose on joint.
  - .4 Remove all sealant that has been applied to the surface of the mortar joint.
- .3 Raking joints:
  - .1 Rake unsound joints free of deteriorated and loose mortar, dirt and other undesirable material. Joints should be raked to a depth of 2 to 2.5 times the vertical joint width, but at no point less than 1".
  - .2 Rake joints a minimum of two times and clean joints to full depth of deteriorated mortar but in no case to less than 1". Clean out voids and cavities encountered. Remove mortar cleanly from masonry, leaving square corners and a flat surface at back of cut.
  - .3 Clean by compressed air, surfaces of joints without damaging texture of exposed joints.
  - .4 Flush open joints and voids; clean with low pressure water and if not free draining blow clean with compressed air.
  - .5 Leave no standing water.
  - .6 Before filling joints, any units that are loose should be reset. Any pieces of damage to units caused during removal of old mortar shall be replaced at the Contractor's cost.

- .4 Repointing
  - .1 Masonry to be repointed shall be damp but not wet. Do not allow free standing water.
  - .2 Mortar joints are to be filled in successive layers. Deeper joints shall be filled first compacting new mortar in several layers until back of joint is flat. Several ½" layers will be needed to fill the joint flush with the surface of the masonry. Allow each layer to reach thumbprint hardness before the next is applied.
  - .3 Keep masonry damp while pointing is being performed.
  - .4 Do no pointing in freezing weather unless provisions are in place to protect mortar.
  
- .5 Tooling
  - .1 Do not finish joint by using trowel to smooth out mortar.
  - .2 Finish joint with slicker narrow enough to be placed inside the joint. Pull the slicker across surface of mortar to compress it.
  - .3 Proper timing of the tooling operation is essential. If mortar is tooled when it is too soft, the colour will be too light and hairline cracks may occur; if mortar is too hard, dark streaks may result and good closure between mortar and stone may be difficult to achieve.
  - .4 Do not feather edge mortar. Joints shall be finished with a slightly concave joint profile.

**3.3 Method B: Control Joint Recaulking**

- .1 Remove existing joint material, including backer rod and sealant and prepare joint. Grind out all existing caulking.
- .2 Install new joint as per Section 07 92 00. All preparation, cleaning, and installation to be in accordance with manufacturer's written specifications.
- .3 Control joint caulking replacement to be performed under Contract Fixed Price.

**3.4 Method C: Dutchman Style Stone Repair**

- .1 At locations selected in conjunction with the Contract Administrator, repair Tyndall Stone segments with a damaged area on the face utilizing a Dutchman repair, under unit price. Depending on the condition of the damaged area, the Dutchman may be created by reinstalling the original piece, to reinstate the integrity of the Tyndall Stone, or a new segment may be required to create the Dutchman repair.
- .2 Remove fractured area carefully in order to prevent fracturing of sound substrate. Saw-cut to depth required to remove damaged section of stone unit. Where freeze-thaw deterioration has induced multiple fractures, saw-cut a minimum 1" beyond deteriorated area. Do not overcut corners of stone segment to remain; stop short of corner and chip out remainder by hand without damaging surrounding masonry.
- .3 Drill 3/8" diameter holes a minimum of 3" into substrate. Not less than two dowels will be used for each Dutchman segment, but allow for four dowels for every 1 sq. ft. of exposed face. Additional dowels may be required, depending on the size and shape of the repair.

- .4 Blow-out holes, install Sikadur injection gel into base of holes and install 3/8" threaded stainless steel dowels. Ensure dowels project a minimum of 3" into the Dutchman. Where the repair section is less than three inches in overall depth, have dowel project to within 1/2" of exterior face.
- .5 Upon sufficient cure, butter faces of both stone with Sikadur epoxy, join stones and clamp for a minimum of 24 hours or longer as required to ensure full cure of the resin. Promptly remove any resin from surface that may leak out of joint.
- .6 Repoint all affected mortar joints and patch remaining voids with approved patch mortar as required to match existing surface profile.
- .7 Follow all written instructions by epoxy resin and patching mortar manufacturers, related to, but not limited to, surface preparation, mixing, installation procedures, and curing, except where the information provided herein is more stringent.

### **3.6 Method D: Face Pinning of Stone Unit using Helifix anchors, B/S-5**

- .1 A 1/4" diameter entry hole shall be predrilled through the existing mortar joint and drilled into the stone and back-up material at an angle of 45 degrees. This drill procedure shall be carried out by means of a high speed electric hammer drill (3 Jaw Chuck Type)
- .2 The 5/16" Helifix 304 stainless steel anchor shall then be driven into position with a Helifix DryFix power tool mounted on an SDS Type concrete hammer drill and recessed a maximum of 0.5 inches below the surface. The masonry shall then be patched with mortar to match the substrate to mask the anchor location.
- .3 Contractor to obtain all relevant drill bits and setting tools from manufacturer and install anchors in accordance with manufacturer's specification requirements.
- .4 Install anchors to cross existing crack, minimum one from each side.
- .5 Terms of Payment
  1. Helifix anchor installations completed under this Section will be measured on a per anchor basis. Unit prices must include all supervision, labour and materials, and equipment.

**END OF SECTION**

## 1. GENERAL

Masonry repairs are required including, but not limited to, the Tyndall stone cladding, lintels, masonry units and repointing. The fixed price component of the Bid will include access to all exterior wall areas on the building.

### 1.1 Related Sections

- .1 Section 04 01 01: Masonry Repairs

### 1.2 Standards

- .1 The Contractor or masonry sub-Contractor shall be fully qualified in the area of restoration of historical masonry and the unique considerations with respect to mortar materials and methods for working on heritage buildings, including Tyndall stone. The Contractor shall submit a minimum five (5) references which state that the Contractor (or Subcontractor) and the personnel included with and dedicated to the project have at least 10 years experience with historical masonry restoration. At the Contract Administrator's discretion, an interview shall be conducted between the masonry Contractor and the Contract Administrators in order to satisfy the Contract Administrators and City Of Winnipeg that the masonry Subcontractor is qualified to undertake the project. A Red Seal mason must be on Site at all times during the masonry repair work.
- .2 Do masonry work in accordance with CAN3-A371-04 (R2009) except where specified otherwise.
- .3 The Contractor is encouraged to discuss with the Contract Administrator material and method alternates with respect to repairs to the masonry.

### 1.3 Samples

- .1 Submit samples of each type of masonry unit specified, each type of masonry accessory specified, each type of masonry mortar, reinforcement and tie proposed for use to the Contract Administrator for review prior to mobilization. Label samples as to origin and intended use of Work.
- .2 Deliver samples prepaid to the Contract Administrator's business address.
- .3 Adjustments made on samples by the Contract Administrator are not intended to change the Contract Price. If adjustments affect the value of Work, state such in writing to the Contract Administrator prior to proceeding with the Work.
- .4 Make changes in samples which the Contract Administrator may require, consistent with Contract Documents.
- .5 Provide Site mock-ups as described elsewhere in this Specification. Regarding the mortar repointing, a 100 square feet mock-up is required which is to be evaluated by the Contract Administrator, City Of Winnipeg, and City Of Winnipeg Heritage Building Committee member.

#### **1.4 Product Delivery, Storage, and Handling**

- .1 Deliver materials to job Site in dry condition.
- .2 Keep materials dry until use, except where wetting of bricks or stone is specified.
- .3 Store under waterproof cover on pallets or plank platforms held off ground by means of plank or timber skids.

#### **1.5 Cold Weather Requirements**

- .1 Supplement Clause 5.15.2 of CAN3-A371 with following requirements:
  - .1 Maintain temperature of mortar between 5° C and 30° C until used.
  - .2 The intent is not to provide heating and hoarding for the project. The Contractor may have to provide necessary heat to prevent freezing of the repairs in the spring and autumn for repairs; there shall be no additional costs associated with heating and hoarding for this project unless authorized by the Contract administrator and authorization in advance.

#### **1.6 Hot Weather Requirements**

- .1 Protect freshly laid masonry from drying too rapidly, by means of waterproof, non-staining coverings.

#### **1.7 Source Quality Control**

- .1 Submit laboratory test reports for all materials as per CSA A37 and A179, latest edition.
- .2 Submit laboratory text reports certifying compliance of masonry units and mortar ingredients with specification requirements.

#### **1.8 Protection**

- .1 Keep masonry dry using waterproof, non-staining coverings that extend over walls and down sides sufficient to protect walls from wind driven rain, until masonry work is completed and protected by flashings or other permanent construction.
- .2 Protect masonry and other work from marking and other damage. Protect completed work from mortar droppings. Use non-staining coverings.
- .3 Provide temporary bracing of masonry work during and after erection until permanent lateral support is in place.

## **2. PRODUCTS**

### **2.1 Materials**

- .1 Masonry materials are specified in related Sections indicated in Clause 1.1.

## **3. EXECUTION**

### **3.1 Workmanship**

- .1 Do masonry work in accordance with CAN3-A371-04 (R2009) except where specified otherwise.
- .2 Restore masonry plumb, level, and true to line, with vertical joints in alignment.

### **3.2 Tolerances**

- .1 Tolerances in notes to Clause 5.3 of CAN3-A371 apply.

### **3.3 Exposed Masonry**

- .1 Remove chipped, cracked, and otherwise damaged units in exposed masonry and replace with undamaged units, as directed by the Contract Administrator.

### **3.4 Jointing**

- .1 Allow joints to set just enough to remove excess water, then tool with round jointer to provide smooth, compressed, uniformly concave joints where concave joints are indicated.

### **3.5 Testing**

- .1 An independent testing company, appointed by the Contractor and approved by the Contract Administrator, shall take samples from typical mortar batches being used on job, for report on seven day and twenty-eight day strength tests in addition to fresh air content.
- .2 Two 2" cubes shall be taken every second or third day from typical mortar batch being used. Seven day and twenty-eight day strength tests shall be reported by examining/testing company in same manner as concrete cylinder strength.
- .3 Provide 2" sheet metal cube forms. Make available at Site.
- .4 Cooperate with examining/testing company for filling forms for testing.
- .5 Testing shall be done in accordance with CAN3-A371-04 (R2009)

**END OF SECTION**

## 1. GENERAL

### 1.1 Work Covered by This Section

- .1 This section covers the removal of the existing joint sealant and installation of a new sealant at the indicated locations on Site under Fixed Price. The joints include all building control joints, and window rough openings. The work covered under this section consists of all labour, material, equipment, access, supervision, and incidentals required to remove existing sealant, clean the joint surfaces, prepare and seal the cleaned joints as detailed on the drawings, and as specified herein.

### 1.2 Related Sections

- .1 Section 04 01 01 – Masonry Repairs

### 1.3 Reference Documents

- .1 American Society for Testing and Materials (ASTM):
  - .1 ASTM C920-08 Standard Specification for Elastomeric Joint Sealants.
  - .2 ASTM C1193-05a Standard Guide for Use of Joint Sealants.
  - .3 ASTM C1330-02 Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid Applied Sealants.

### 1.4 Measurement Procedures

- .1 No measurement will be made under this section. The Contractor shall include in the base bid all labour, materials, supervision, and equipment as required to complete the work required under this Section and as shown on the Drawings.

### 1.5 Delivery Storage and Handling

- .1 The sealant shall be delivered to the Site in the manufacturer's original unopened containers.
- .2 Containers shall include manufacturer's labels indicating: the supplier, name of materials, formula or specification number, colour, date of manufacture, and shelf life. Product data sheets in accordance with WHIMIS shall be on Site and available at all times.

## 2. PRODUCTS

### 2.1 Materials

- .1 Sealants in contact with Tyndall Stone Masonry: single component, neutral cure, silyl-terminated polyether sealant to: ASTM C920, Type S, Grade NS, Class 50, Use NT, G, A and O. Acceptable product:
  - .1 MasterSeal NP 150 (formerly Sonolastic 150)
- .2 Single Source Responsibility for Sealants: In order to ensure consistent quality of performance, provide all sealants from a single manufacturer.

## 2.2 Accessories

- .1 Primers, bond breakers and miscellaneous materials required to install the sealant shall be in accordance with manufacturer's recommendations, and as approved by the Contract Administrator. Use of aggregate bond breakers is prohibited.
  - .1 Primer: Use only manufacturer's approved primer.
  - .2 Closed-cell foam backing rod shall conform to ASTM C1330.
  - .3 Bond breaker tape: self-adhesive, pressure sensitive tape mad from TFE-flourocarbon (Teflon) or polyethylene which sealant will not adhere to.

## 3. EXECUTION

### 3.1 Surface Preparation of Metals

- .1 The existing sealant(s) shall be completely removed in order to expose the substrate. Scrape clean the substrate to remove all existing glazing compound using a razor blade. Do not damage existing substrates.
- .2 Chemically clean non porous substrate surfaces, such as metal, glass, and porcelain coated panels to receive glazing tape with manufacturer approved solvent.
- .3 Apply solvent with clean oil free, colourless cloths or lint free paper towels using the "two cloth" method. Do not dip cleaning cloths into a solvent, always pour the solvent on the cloth to eliminate the possibility of contaminating the solvent.
- .4 Do not allow the solvent applied with the first cloth to air dry on the substrate without wiping the second dry cloth.
- .5 Prior to installation of the sealant an inspection of the substrate is required to confirm that the substrate is acceptable for glazing installation. Work shall not proceed until any unsatisfactory conditions have been corrected in a manner acceptable to the Contract Administrator.
- .6 Prime surfaces as recommended by manufacturer.

### 3.2 Preparation

- .1 Back-Up Material: Install appropriate size backer rod, larger than joint where necessary according to manufacturer's recommendations.
- .2 Bond Breaker: Install bond-breaker strip in joint to be sealed on top of back-up material to prevent adhesion of sealant to back-up material; install per manufacturer's recommendations. The tape shall be installed continuously with no skips or voids in the tape application.
- .3 Priming of all substrates will be considered mandatory unless determined otherwise by Site testing. Prime substrates as recommended by the sealant manufacturer. Primer should be installed prior to installation of the sealant backing. Allow primer to dry until all the solvent evaporates. This typically takes 5 to 30 minutes, depending on temperature and humidity.
- .4 Installation of a primer and bond breaker will be required in all joints. These as well as other miscellaneous materials required to install the sealant shall be in strict accordance with project specifications and as approved by the Contract Administrator. The use of aggregate bond breakers will be strictly prohibited.
- .5 Pack joints continuously with closed cell baker rod joint backing material allowing a recess to receive sealant. Installation of backer rod with a sharp tool such as putty knife is not permitted. Ensure surface skin of the backer rod is not punctured or cut during installation. A puncture in the backer rod may result in out-gassing into the uncured



sealant resulting in voids or other defects in the cured sealant. Sealant backing rod to meet requirements of ASTM C1330.

- .6 Backer rod to be installed under adequate compression to hold it in-place in the joint opening and to resist the pressure applied when tooling a non-sag sealant into place. Backer rod diameter to be 25% greater than the joint width. Install backer rod without stretching. Under no circumstances should backer rod that is too small for the joint be doubled up or braided together to fit the opening.
- .7 Where joint configuration and/or size does not permit the use of a backer rod, install bond breaker tape continuously with no skips or voids in the tape application.
- .8 Prime substrates as recommended by the sealant manufacturer. Primer to be installed prior to installation of the sealant backing. Allow primer to dry until all the solvent evaporates. This typically takes 5 to 30 minutes, depending on temperature and humidity.
- .9 Prime only those surfaces that will be sealed with sealant the same day. If a previously primed surface that was performed the day before is encountered it must be reprimed.

### 3.3 Sealant Installation

- .1 Apply materials only within manufacturer's specified application life period. Discard sealant after application life is expired or if prescribed application period has elapsed.
- .2 Do not use sealant that has started to set in its container, exceeded shelf life or installation times stated by the Manufacturer.
- .3 Sealant shall not be installed on wet or damp substrates. Wet or damp substrates should be allowed to dry before application of primer and/or sealant.
- .4 The sealant shall be carefully handled and stored to prevent inclusion of foreign materials, or exposure to excessive temperatures as specified by the manufacturer.
- .5 Sealant to be installed in a manner that will completely fill the cavity formed in the joint opening by the substrates and sealant backing or bond breaker.
- .6 Nozzles shall be sized and shaped to fit the intended joint opening width, which will confine the sealant to the joint and aid in building pressure to force the sealant into the joint. Ensure that mixing and placing procedures do not entrain air within the sealant.
- .7 Immediately after applying the sealant, tool the bead. Tooling forces material into cavities and into more intimate contact with the substrate. Wet tooling will not be permitted.
- .8 The joint is to be tooled as to provide a concave-shaped surface. Specifically, the sealant and concrete are to be flush at the edges but recessed at the joint centre, forming a parabolic arc. Do not re-use any material forced outside of the joint by the tooling procedure.
- .9 Sealant installation shall be a full bead free from air pockets and embedded impurities and free from ridges, wrinkles and sags.
- .10 Use anti-tack solutions only with the approval and directions of the sealant manufacturer.

### 3.4 Cleaning

- .1 Do not clean inadvertent spills or splatters of sealant on concrete or masonry with solvent because of possible permanent staining of the substrate. Scrape, wipe or scrub such spills with dry tools or rags.
- .2 Clean bulk caulking guns, barrel and nozzle completely after every day's use.

- .3 The special precautions recommended by the manufacturer shall be rigidly followed where hazardous materials are involved.

**END OF SECTION**