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PART 1 - GENERAL

1.1 DESCRIPTION

- .1 This section includes for compliance and submittals required for health and safety during Work.
- .2 This is a Long Term Care Facility, contractors must adhere to *“Infection Prevention and Control (IPAC) procedures in accordance with CSA standard Z317.13”*. Refer to Construction, Renovation, Maintenance and Design (CRMD) checklists in accordance with Public Health Ontario Requirements. Website: [Public Health Ontario](#)

1.2 REFERENCES

- .1 Federal regulations, latest edition including all amendments up to project date:
 - .1 Fire Commissioners of Canada, FC 301, Standard for Construction Operations.
 - .2 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations.
- .2 Provincial regulations, latest edition including all amendments up to project date:
 - .1 Provincial or National Building Code for Place of Work.
 - .2 Provincial Occupational Health and Safety Act.

1.3 SUBMITTALS

- .1 Informational Submittals:
 - .1 Notice of Project filed with Provincial Ministry of Labour or equivalent for Place of Work.
 - .2 Health and Safety Plan for Specific Work Site including, but not limited to:
 - .1 Name and contact info of Contractor's Health and Safety Representative for Work Site; including twenty-four (24) hour emergency contact phone numbers.
 - .2 Phone numbers of local fire, police, and ambulance outside of 911 services.
 - .3 Location of nearest medical facility and level of injury that each can service.
 - .4 Copies of certification for all employees on site of applicable safety training including, but not limited to:
 - .1 WHIMIS.
 - .2 Fall arrest and protection.
 - .3 Suspended Access Equipment.
 - .4 Erection of Scaffolding.
 - .5 License for powder actuated devices.
 - .5 Material Safety Data Sheets (MSDS) of controlled products to be used.
 - .6 On-site Contingency and Emergency Response Plan addressing:
 - .1 Standard procedures to be implemented during emergency situations.
 - .2 Preventative planning and protocols to address possible emergency situations. For example, if swing stage work is required, list protocol to be followed if supporting cable breaks.

- .7 Guidelines for handling, storing, and disposing of hazardous materials that may be encountered on site, including measures to prevent damage or injury in case of an accidental spill.
- .3 Incident and accident reports, promptly if and upon occurrence.
- .4 Make submittals in accordance with Section 01 33 00 - Submittal Procedures.

1.4 RESPONSIBILITY

- .1 The Contractor is considered the constructor and will assume all responsibilities per the OHSA. Comply with all requirements of Occupational Health and Safety Regulations and all other regulations pertaining to health and safety, including worker's compensation/insurance board and fall protection regulations
- .2 Contractor responsible for health and safety of persons on Work Site and for protection of persons adjacent to Site to extent that they may be affected by performance of Work.
- .3 Contractor responsible for safety of property and environment on Work Site and for protection of same adjacent to Site to extent that they may be affected by performance of Work.
- .4 Contractor is responsible for health and safety at Work Site and is not relieved by Consultant's review of Health and Safety Plan for Specific Work Site.

1.5 OCCUPATIONAL HEALTH AND SAFETY

- .1 Comply and conform to all health and safety work practices in accordance with regulations and authorities having jurisdiction at Place of Work including, but not limited to:
 - .1 WHMIS awareness and training.
 - .2 Fall-arrest, temporary guardrails, and travel-restraint systems.
 - .3 Eye protection, hardhats, and safety boots.
- .2 Maintain one reference copy on site of Occupational Health and Safety Act and Regulations for Construction Projects for Place of Work, latest edition.
- .3 Ensure that all personnel are adequately equipped to comply with safety regulations and that sufficient safety equipment is available.
- .4 Provide at Work Site sufficient equipment to supply first aid.
- .5 Promptly report to Owner and Consultant all accidents, and any claims made against Contractor or Subcontractor on account of accident.
- .6 Enforce proper work methods and act immediately on directions regarding safety and work practices given by authorities having jurisdiction or by Owner, at no additional cost to Owner.
- .7 Failure of Contractor to comply with verbal or written instructions or orders from Ministry of Labour Inspector, other authorities, Owner, or Consultant regarding safe work practices or provision of specified requirements under regulations to be considered Non-Compliance with Contract.
 - .1 Owner or Consultant may stop Work for failure to rectify non-compliance of health and safety regulations.

1.6 WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHIMS)

- .1 Contractor to be familiar with WHIMIS regulations and be responsible for compliance.
- .2 Contractor responsible for all other requirements of regulations as applicable to Employers.
- .3 All controlled products to be properly labelled and stored.
- .4 Immediately inform Owner and Consultant if any unforeseen or peculiar safety-related factor, hazard, or condition becomes evident during performance of Work.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION – 00 73 19

1. Summary of Work – General

- 1.1 The cost related to mobilization/demobilization of all tools, materials, and labour required to carry out the Scope of Work, and to provide all General Requirements as outlined in General Requirements of the specifications. Specifically, it is expected that the Contractor will:
- 1.1.1 Go beyond the minimum to ensure the safety and proper execution of public routing; ensuring temporary access to fire exits if and when they are affected as part of the work.
 - 1.1.2 Coordinate all trades to ensure the work is completed as soon as possible.
 - 1.1.3 Perform all work according to all Ministry of Labour requirements.
 - 1.1.4 Obtain all service and utility locates for private and public services.
 - 1.1.5 Coordination of trades will be the responsibility of the general contractor to ensure the work is completed as soon as possible. Provide winter protection and heat as required to perform the work if required and as specified.
 - 1.1.6 Supply, set-up, maintain and remove scaffolding, man lift platforms and/or swingstages during the performance of the work as required to access the repair areas. If scaffolding is to be used, the contractor is to provide complete shop drawings bearing the seal of a Professional Engineer, licensed to practice in the Province of Ontario. Work to include review and approval of installed scaffolding by designer. Allowance should be made for access to all elevations of the building.
 - 1.1.7 No public access to the work area is to be allowed. Ensure access to fire exits is maintained and hoarded through the work area. Pedestrian access along sidewalks that are not in the construction must be maintained as per Owners' requirements. No areas of access to or around the building are to be restricted without the approval of the Owner.
 - 1.1.8 Install temporary protection at all locations of work, as required to ensure safe, clean, orderly removal and disposal work and to provide protection for all property, building components, vehicles, pedestrians and occupants.
 - 1.1.9 Provide temporary support to existing structural and cladding components during performance of work (if required).
 - 1.1.10 Install temporary protection for all materials and building components, which have been exposed during demolition/removals as specified.
 - 1.1.11 Dispose of all materials at landfill site authorized by authorities having jurisdiction.
 - 1.1.12 Accept that weather conditions are considered incidental to the Work and will not be considered additional to Bid Price.
 - 1.1.13 Perform daily and final clean-up of the work area and surrounding areas of the site.
 - 1.1.14 Include for reinstating the site to its original condition or better with the approval of the Owner prior to demobilization.
- 1.2 Contingency Allowance: is an allowance for costs related to project contingencies. This item may be removed from the project at the Owner's discretion.

2. Summary of Work – Site Rehabilitation (Patio Pavers, Retaining Walls & Sidewalk)

2.1 Provide stipulated unit and lump sum prices on Schedule of Prices to perform all work described in the Summary of Work, its related technical specifications sections and as shown on Drawings A1-A8

2.2 Work to be performed in accordance with sections 32 14 13, 32 16 00, 05 52 00.

Allendale Long Term Care Home Site Rehabilitation: **The work is to be completed from the exterior.**

2.2.1 Remove and replace broken rainbird rotors, spray heads and nozzles as identified in zones 1-12 for the site irrigation system as follows:

- Zone 1- replace 2 broken Rainbird 5004 Rotors
- Zone 2 – replace broken Rainbird 1804 sprayhead
- Zone 6- repair multiply leaks (may need to plow new zone line if pipe compromised)
- Zone 7 – repair split in pipe.

2.2.2 Remove existing precast concrete pavers within the courtyards, replace all perimeter restraints and regrade bedding sand levelling layer to a positive slope towards area drains. For precast concrete pavers directly above basement suspended concrete slab, carefully remove to the full depth of the bedding sand levelling layer. Do not damage the existing polymer water drainage board and /or the waterproofing layer directly on the slab surface during the removal process. For precast concrete pavers directly above grade, remove to the full depth of the bedding sand levelling layer and install new levelling layer to slope towards area drains. Where precast concrete pavers on grade exhibit sub grade settlement, the contractor is to excavate and remove existing materials up to a depth of 400mm and dispose off site. Install new compacted granular A material compacted to 98% proctor prior to installation of new bedding sand levelling later. All overburden to be disposed off and new materials to be provided to match the existing (Approximately 700 ft²). Contractor to perform flood test prior to commencement of replacement work to identify low slope areas, to be verified by the Consultant. If the sub grade is deemed to be in good condition replace bedding material only. The Contractor shall install two new drain locations at the perimeter edge restraint as identified on drawing A2. The new drains shall individually discharge 2 feet below paved area and connected to a weeping tile discharging 2.5 feet below the grassy area 10 feet away from the paved area. Contractor is responsible for safe storage of removed precast concrete pavers to be reinstated. Precast concrete pavers to match existing in case of breakage prior to the removal work. Any precast concrete pavers broken by the prospective contractor during the removal and reinstallation work shall be replaced at the contractor's own cost. Contractor to verify dimensions.

2.2.3 Install new, 10M reinforced 12" O/C both directions, 5ft wide concrete sidewalks using CSA 32 MPa C-2 exposure class concrete at the west elevation exit. Rehabilitation work to be performed includes the regrading of surrounding landscaping to drain rainwater away from the sidewalks and adjoining building. Contractor to verify dimensions.

2.2.4 Replace the existing, 8-block high, concrete masonry block retaining wall at the West Elevation spanning approximately 150-feet in length and aluminum Guardrails mounted above. Install new modular block retaining Wall by Sienna Stone with Geogrid. Refer to project Drawing A3, A4 & A7, Shop drawing Submittals Required.

2.2.5 Replace the existing, 6-block high, concrete masonry block retaining wall spanning approximately 60-feet in length. Install new modular block retaining Wall by Sienna Stone with Geogrid. Refer to project Drawing A5 & A7. Shop drawing Submittals Required.

3. Substitution Procedures

- 3.1 All materials and equipment provided as part of this project shall be as per the project specifications unless an approved equivalent (substitution) has been approved by the Regional Representative at the time of Bid or construction.
- 3.2 Where a Bidder is proposing to substitute material or equipment specified in the Bid Document during the bid period, the Bidder shall submit a completed **Substitution Request Form**, as included herein this section, with back up documentation before the Question Deadline Date. Substitution requests must be initiated through the Bidding System following the process identified in the Instructions to Bidders Section 2 - ANY COMMUNICATIONS. An addendum will be issued to confirm the approval or rejection of the proposed substitute. Failure to submit adequate documentation in a timely manner and to the Region's satisfaction may result in the rejection of the substitution request due to insufficient information or time for evaluation.
- 3.3 Where a Contractor is proposing to substitute material or equipment specified in the Contract Documents during construction, the Contractor shall submit a completed Substitution Request Form with back up documents to the Consultant in accordance with the GC paragraph 3.7.6.

4. Work Restrictions

- 4.1 Working Hours – Hours of work are restricted to between 8:00 am to 5:00 pm Monday to Friday with no work on weekends and holidays without written permission from the Regional Representative.
- 4.2 Use of Site – The Contractor shall provide full protection of all property of the Region of Halton. Damage caused by work under this Contract shall be at the sole responsibility of the Contractor.
- 4.3 Noisy Work – The site is an occupied building and normal operations shall be retained during the work. Contractor to take proper care to avoid unnecessary noise, clutter or obstruction in the corridors, walkways, and roadways. Do not interfere with the use or safe passage to and from the building. The Contractor is to inform the Regional Representative 48 hours in advance of commencing noisy work.
- 4.4 Designated Substances –Note that the existing layers of floors, ceiling finish and joint compound may contain asbestos as outlined in the attached report: Asbestos Assessment by Pinchin, dated September 25, 2023.

5. Scheduling of Construction

- 5.1 Critical Milestones and Scheduling – Before commencing any work, submit for review by the Regional Representative, a schedule showing the commencement, the order, and the completion dates for the various parts of this work.
- 5.2 Site Progress Meetings – Site progress meetings will be held bi-weekly.
- 5.3 Operational Shutdowns – Notify the Regional Representative a minimum of 48 hours in advance of any required operational or service disruption.

6. Communication

- 6.1 All communication through the Region

6.2 Communication shall be directed to the Regional Representative unless express direction is given to Work directly with the Consultant.

7. Close-Out

7.1 Contractor to provide the following documentation to the Regional Representative at time of Substantial Completion:

- 7.1.1 Contractor's duly completed guarantee.
- 7.1.2 Manufacturer's duly completed warranty.
- 7.1.3 Sign off from authorities having jurisdiction if required.
- 7.1.4 One set of "As-Built" marked-up drawings and details.
- 7.1.5 List of any changes made in materials and methods of construction.
- 7.1.6 Final payment statement.

7.2 Failure to provide full documentation will prevent issuance of Certificate of Substantial Completion, and delay release of final payment and holdback.

8. Contract Administration

8.1 Issuance of RFI's – The RFI should include concise description of the issue or inquiry, the requesting party must provide context to facilitate a comprehensive response from the Consultant and/or Regional Representative. All RFI's should be submitted in writing, acknowledging the specified communications channels and timelines for prompt resolution.

8.2 Issuance of Changes – Changes to existing contractual agreements must be submitted in a written request for modification, outlining the specific details of the proposed alteration, its impact on project timelines and costs.

8.3 Updating Construction Schedule - Provide initial schedule within ten (10) working days from Notice of Award, showing anticipated progress stages and final completion of work. Interim review of work progress based on work schedule will be conducted as decided by the Regional Representative and schedule updated by Contractor in conjunction with and to approval of the Consultant/Regional Representative.

8.4 Progress Payment, Cash Allowance and Contingency Allowance – The Contractor submit a Statutory Declaration, with the second and all subsequent applications for payment, including release of holdback application. The Contractor shall also submit a current Workplace Safety and Insurance Board clearance certificate with each application for payment. The net amount of any unexpended cash and contingency allowances, after providing for any reallocations, shall be deducted from the Contract Price by Change Order.

9. Temporary Provisions and Temporary Utilities

9.1 Temporary washroom:

Provide temporary washroom for workforce in accordance with governing regulations and ordinances. Post notices and take precautions as required by Ministry of Labour and local health authorities. Empty and sanitize such facilities at a minimum weekly.

9.2 Deliveries – Deliver materials to the site, undamaged and in their original packaging, with manufacturer's labels visible.

9.3 Utilities – Use existing electrical service, where available in relation to the Work.

9.4 Parking – Temporary parking space will be made available by the Regional Representative.

9.5 Storage – Minimal storage space available on site, bring materials daily as required.

9.6 Authorities Having Jurisdiction – Where applicable, the Contractor agrees to conform to and/or abide by the latest edition of the following:

- The Provincial Fire Code
- The Workplace Hazardous Materials Information System (WHMIS) Regulations
- The Provincial and/or National Building Code
- The Provincial and/or National Occupational Health and Safety Standards or Regulations

10. Warranty Period

10.1 The Contractor warrants that the Work shall, with ordinary wear and tear, remain in such conditions as will meet with the approval of the Regional Representative for the Warranty Period as defined in the General Conditions. The Contractor agrees to make good, in a manner satisfactory to the Regional Representative, any imperfections due to material or workmanship. The decision of the Regional Representative as to the nature, extent and cause of such imperfections and the necessity for remedying the same shall be final.

10.2 If the Regional Representative notifies the Contractor in writing of imperfections prior to the termination of the Warranty Period, the Contractor shall make good the imperfections as specified above, notwithstanding that the Work of making good may commence after or extend beyond the end of the warranty period.

10.3 The Contractor warrants also that the materials comply with the Specifications and that the Works and materials are free from defects in workmanship and material.

10.4 The Contractor shall ensure that all warranties existing or that come in to place during the term of the Contract are exercised, for new and repaired materials, equipment, etc., and shall be responsible for obtaining any product and other warranties on behalf of the Region.

SUBSTITUTION REQUEST FORM

We hereby submit for your consideration the following product instead of the specified item for the following project:

Project # and Name: _____

Drawing # and Name: _____

Specification Section: _____

Specified Item / Product: _____

Proposed Substitution: _____

Attach complete information on changes that will be required to Bid / Contract Drawings and Specifications as a result of the proper installation of the proposed substitution.

Submit, with request, all necessary product data and samples as well as substantiating data to prove equal quality and performance of substitution to specified product. Clearly mark manufacturer's literature to indicate equality in performance.

Request for substitutions of the materials and equipment described in the Contract Documents will be considered during the bidding period only upon receipt of a completed Substitution Request Form with all back up documents before the Cut Off for Questions Period identified in the Supplementary Instruction to Bidders.

CERTIFICATION OF EQUAL PERFORMANCE AND ASSUMPTION OF LIABILITY FOR EQUAL PERFORMANCE

The undersigned states that the function, appearance, and quality are equivalent or superior to the specified item.

Submitted by:

Name and Title

Signature

Firm

Telephone

E-mail

For Use by Owner's Representative or Consultant:

_____ Accepted

_____ Accepted as Noted

_____ Not Accepted

_____ Not Considered (Received late)

Signed by: _____ Date: _____

Fill in the Blanks Below:

- A. Does the substitution affect dimensions shown on Drawings? Yes _____ No _____
If yes, clearly indicate changes:

- B. Will the bidder / Contractor pay for changes to the building design, including engineering and detailing costs caused by the requested substitution? Yes _____ No _____

If no, fully explain: _____

- C. What effect does substitution have on other sub-contractors or trades?

- D. What effect does substitution have on construction schedule?

- E. Manufacturer's warranties of the proposed and specified items are:

_____ Same _____ Different

If different, explain: _____

- F. Reason for Request: _____

- G. Itemized comparison of specified item(s) with proposed substitution:

List significant variations: _____

- H. Accurate cost data comparing proposed substitution with product specified:

(ATTACH ADDITIONAL SHEETS IF REQUIRED)

END OF GENERAL REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- .1 Applications for progress payments.
- .2 Schedule of values.
- .3 Draws against allowances.

1.2 REFERENCES

- .1 Canadian Construction Documents Committee CCDC 2 Stipulated Price Contract.

1.3 APPLICATIONS FOR PROGRESS PAYMENT

- .1 Date applications for payment last day of each month and ensure amount claimed is for value, proportionate to amount of Contract, of Work performed and Products delivered to Place of Work at that date.
- .2 Submit to Consultant at least 14 days before first application for payment, preliminary schedule of values for parts of Work, aggregating total amount of Contract Price, so as to facilitate Consultants evaluation of Contractors Applications for Payment.
- .3 Schedule shall follow the Contractors Breakdown of Application for Payment. Item number and Descriptions shall follow the outline as designated in the Form of Tender.
- .4 The first application for payment shall include:
 - .1 Contractors invoice;
 - .2 Contractors schedule of values; and
 - .3 WSIB clearance certificate dated within 10 days of the invoice date.
- .5 The second and subsequent application for payment shall include:
 - .1 Contractors invoice;
 - .2 Contractors schedule of values;
 - .3 WSIB clearance certificate dated within 10 days of the invoice date; and
 - .4 CCDC 9A or 9B (whichever is applicable to invoice) Statutory Declaration as a sworn statement that all accounts for labour, Sub-Contracts, Products, construction machinery and equipment, and other indebtedness which may have been incurred by the Contractor in the Work and for which the Owner might in any way be held responsible have been paid in full, except for amounts properly retained as a holdback or as an identified amount in dispute.

1.4 ALLOWANCES

- .1 Any allowances that are drawn upon during progress or final payments shall be included as follows:
 - .1 The invoices as supplied to the Contractor shall be attached to the Contractors Application for Payment. If the invoice is not attached, any claim on the Contractors Application for Payment shall be deducted from the Consultants Certificate of Payment.

.2 Allowance breakdowns shall be included as part of the schedule of values.

PART 2 - PRODUCTS

.1 The following represents the minimum information required on a submitted schedule of values:

Schedule of Values												
Project Name:										Date:		
										Progress No.:		
						Quantity			Value			
Item No.	Description	Unit	Tender Quantity	Unit Rate	Amount	To Date	Previous	Current	To Date	Previous	Current	
Tender												
1		Lump Sum /sq.m/lin. m	#	\$	\$	%	%	%	\$	\$	\$	
Allowances												
A1												
Change Orders												
CO1												
	Sub-Total				Amount Sum						Current Value Sum	
	Taxes											
	Total				Amount Incl Tax							
Allowance Breakdown												
		Quantity		Rate	Mark Up	Amount						
A1	Labour 1	#	hrs	\$	%	\$						
	Labour 2		hrs									
	Materials		kg									
	Receipt											
	Other											
						Amount Sum						

PART 3 - EXECUTION

.1 Not Used

END OF SECTION - 01 29 00

PART 1 - GENERAL

1.1 SECTION INCLUDES

- .1 Shop drawings.
- .2 Samples.
- .3 Certificates and transcripts.

1.2 REFERENCES

- .1 The form of contract between the Owner and the Contractor for performance of the Work described in these Contract Documents to be as per the Agreement, Definitions, General Conditions (Parts 1 through 13 inclusive) and and Supplementary Conditions of standard construction document CCDC2-2020 - Stipulated Price Contract.

1.3 ADMINISTRATIVE

- .1 Submit to Consultant submittals listed for review. Submit with reasonable promptness and in orderly sequence so as to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2 Work affected by submittal shall not proceed until review 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.
- .5 Review submittals prior to submission to Consultant. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated 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 shall be considered rejected.
- .6 Notify Consultant, 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 coordinated.
- .8 Contractor's responsibility for errors and omissions in submission is not relieved by Consultant's review of submittals.
- .9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Consultant's review.
- .10 Keep one reviewed copy of each submission on site.

1.4 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 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 coordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.
- .3 Allow 7 days for Consultant's review of each submission.
 - .4 Adjustments made on Shop Drawings by Consultant are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Consultant prior to proceeding with Work.
 - .5 Make changes in Shop Drawings as Consultant may require, consistent with Contract Documents. When resubmitting, notify Consultant in writing of any revisions other than those requested.
 - .6 Accompany submissions with transmittal letter, 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.
 - .7 Submissions shall include:
 - .1 Date and revision dates.
 - .2 Project title and number.
 - .3 Name and address of:
 - .1 Sub-Contractor.
 - .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.
- .8 After Consultant's review, distribute copies
- .9 Submit 3 copies of shop drawings for each requirement requested in specification Sections and as Consultant may reasonably request.
- .10 Submit 3 copies of product data sheets or brochures for requirements requested in specification Sections and as requested by Consultant where shop drawings will not be prepared due to standardized manufacture of product. Delete information not applicable to project.
- .11 Supplement standard information to provide details applicable to project.
- .12 If upon review by Consultant, no errors or omissions are discovered or if only minor corrections are made, 2 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.

1.5 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 Consultant's business address.
- .3 Notify Consultant 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 Consultant are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Consultant prior to proceeding with Work.
- .6 Make changes in samples which the Consultant 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.

1.6 MOCK-UPS

- .1 Erect mock-ups as requested by Consultant.

1.7 CERTIFICATES AND TRANSCRIPTS

- .1 Prior to award of Contract, submit Workers' Compensation Board status confirming account is in good standing and submit transcription of insurance naming Owner and Consultant as additional insured immediately.
- .2 Submit Notice of Project from the Ministry of Labour immediately after award of Contract

END OF SECTION - 01 33 00

PART 1 - GENERAL

1.1 SECTION INCLUDES

- .1 Barriers.
- .2 Fire Routes.

1.2 RELATED SECTIONS

- .1 Section 02 41 19 – Selective Demolition.

1.3 APPLICABLE PUBLICATIONS

- .1 All codes, standard specifications and by-laws referred to in this section shall be current editions including all revisions, addenda and supplements.
 - .1 CGSB 1.189M, Exterior Alkyd Primer for Wood QPL.
 - .2 CGSB 1.59, Alkyd Exterior Gloss Enamel.
 - .3 CSA-O121, Douglas Fir Plywood.
 - .4 Occupational Health and Safety Act, Regulations for Construction Projects.
 - .5 CSA S350, Code of Practice for Safety in Demolition of Structures.
 - .6 National Building Code of Canada, Part 8, "Safety Measures at Construction and Demolition Sites".

1.4 INSTALLATION AND REMOVAL

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

1.5 WORK AREA HOARDING

- .1 Erect temporary site enclosures using:
 - .1 38 × 89 mm (2" × 4") construction grade lumber framing at 600 mm (24") centres and 1200 × 2400 × 13 mm (48" × 96" × ½") exterior grade fir plywood to CSA O121. Apply plywood panels vertically flush and butt jointed.
 - .2 1800 mm (72") high interlocking steel fence, with openings no greater than 38 mm (1-½").
- .2 Where required, provide a minimum of one 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.
- .3 Erect and maintain pedestrian walkways including roof and side covers, complete with signs and electrical lighting as required by law.
- .4 Paint public side of site enclosure with approved colours with one coat of primer in accordance with CGSB 1.189M and one coat exterior paint to CGSB 1.59. Maintain public side of enclosure in clean condition.

-
- .5 Provide barriers around trees and plants designated to remain. Protect from damage by equipment and construction procedures.

1.6 COVERED HOARDING

- .1 Covered hoardings will be required when working over exits that serve as fire exits and locations where entrance or exit is required to remain open during work as stipulated by Owner.
- .2 Covered hoardings shall be erected from the vertical face of the exit/entrance a minimum of:
 - .1 a line from the top of the work extending on 60° angle from the vertical, or
 - .2 6000 mm (240") long.
- .3 Covered hoardings shall be provided when work occurs overhead of the following:
 - .1 Emergency exits;
 - .2 Safe Areas;
 - .3 Emergency access roads;
 - .4 Entrances and exits determined by Owner to remain open during work; and
 - .5 Entrances and exits required to remain open to provide adequate egress in and out of building
- .4 Covered hoardings for pedestrian traffic shall be constructed as follows:
 - .1 Scaffolding frames with cross bracing at 2400 mm (96") on centre;
 - .2 50 mm × 250 mm (2" × 10") planks across the top of the frames tight together fastened to the scaffolding frames;
 - .3 19 mm (3/4") plywood fastened to the top of the 50 × 250 mm (2" × 10") planks;
 - .4 minimum 12 mm (1/2") plywood on 38 x 89 mm (1-1/2" × 3-1/2") framing side walls set inside of overhead framing; and
 - .5 provide and maintain lighting to a minimum of 50 lux, constructed in a fashion that will mitigate vandalism.
- .5 Covered hoarding for Access roads and Safe Areas shall be designed by a Professional Engineer licensed in Ontario under the guidelines of the Occupational Health and Safety Act and with local authorities having jurisdiction.

1.7 WEATHER ENCLOSURES

- .1 Weather shall be considered incidental to work and shall not be claimed as additional.
- .2 The applicable standard shall be used for materials or building components when enclosures and/or heating is required to complete the work.
- .3 Provide weather tight closures for, but not limited to:
 - .1 unfinished door and window openings;

- .2 openings in floors and roofs;
 - .3 openings through walls;
 - .4 locations where daily work is not completed in a days work and components left exposed are sensitive to weather conditions;
 - .5 protection of materials used that are sensitive to weather conditions
- .4 Design enclosures to withstand wind pressure, snow loading etc.

1.8 DUST TIGHT SCREENS

- .1 Provide dust tight screens 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.
- .3 Provide means for ventilating area if work is to occur in an interior or confined space.
- .4 Ventilate work area when it corresponds with areas used by tenants or patrons concurrently for parking or egress. If dust generation will affect tenants or patrons, provide sealed enclosure with adequate ventilation for health and safety of workers.

1.9 ACCESS TO SITE

- .1 Provide and maintain access roads, sidewalk crossings, ramps and construction runways as may be required for access to Work.
- .2 Provide all appropriate signage directing the public and building occupants away from work area.
- .3 Emergency exits: Maintain clear and unobstructed use of all existing exit doors and routes. This may include the provision of overhead protection and enclosed exit walkways in the case of overhead work. Provide adequate lighting for 24 hour use.

1.10 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 the public.

1.11 FIRE ROUTES

- .1 Maintain access to property including overhead clearances for use by emergency response vehicles.
- .2 Provide all required signage to inform emergency vehicles of temporary route for access if modified as part of work.

1.12 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.

1.13 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 Consultant locations and installation schedule 3 days prior to installation.
- .4 Be responsible for damage incurred due to lack of or improper protection.

END OF SECTION - 01 56 00

PART 1 - GENERAL

1.1 SECTION INCLUDES

- .1 Consideration of Substantial Performance.
- .2 Inspections required for applications of Substantial Performance and Total Completion.
- .3 Closeout Submittals.

1.2 REFERENCES

- .1 Refer to General Conditions CCDC 2 2020 and Supplementary Conditions.

PART 2 - PRODUCTS

2.1 NOT USED

- .1 Not Used.

PART 3 - EXECUTION

3.1 INSPECTION AND DECLARATION

- .1 Contractor and all Sub-Contractors shall conduct an inspection of Work; identify deficiencies and defects in preparation of list for application of Substantial Performance.
- .2 Consultant will schedule date within the time allowance of the Contract Documents for both Consultant and Contractor to perform inspection of Work and to confirm Work identified on submitted list.
- .3 Consultant will, within the time allowance of the Contract Documents, provide a breakdown of costs associated with the deficiencies and defects for Consideration of Substantial Performance.
- .4 If Work is deemed incomplete in Consideration of Substantial Performance, complete outstanding items and request re-inspection following the same protocol.
- .5 When the Contractor is satisfied that the Work is completed, make application for final inspection of Consultant. Consultant will, within the allowances of the Contract Documents, perform final inspection of the Work.
- .6 Any deficiencies and defects shall be tabulated with associated costing for Consideration of Completion.
- .7 If Work is deemed incomplete by Consultant, complete outstanding items and request re-inspection.
- .8 Defective products will be rejected, regardless of previous inspections. Replace products at own expense.

3.2 MAINTENANCE AND RECORD DOCUMENTS

- .1 The following shall be submitted to the Owner at completion of Work:
 - .1 Maintenance manuals for, but not limited to, operating instructions, maintenance manuals, record of “as built” drawings, spare parts, maintenance of materials, special tools for completeness.

- .2 Record of substantial and project completion correspondence inclusive, but not limited to Contractor lists, Consultant tabulations and certificates.
- .3 Compile all shop drawings that have been submitted.

3.3 RECORDING ACTUAL SITE CONDITIONS

- .1 Submit Actual Conditions as outlined in following sentences.
- .2 Record information on set of Project Specifications provided by Consultant.
- .3 Provide felt tip marking pens, maintaining separate colours for each major system, for recording information.
- .4 Record information concurrently with construction progress. Do not conceal Work until required information is recorded.
- .5 Contract Drawings and Shop Drawings: legibly mark each item to record actual construction, including:
 - .1 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - .2 Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of construction.
 - .3 Field changes of dimension and detail.
 - .4 Changes made by change orders.
 - .5 Details not on original Contract Drawings.
 - .6 References to related Shop Drawings and modifications.
- .6 Specifications: legibly 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.

3.4 WARRANTIES AND BONDS

- .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.
- .2 List Sub-Contractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
- .3 Obtain warranties and bonds, executed in duplicate by Sub-Contractors, suppliers, and manufacturers, within ten days after certification of completion.
- .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.

3.5 FORMAT

- .1 Organize data in the form of an instructional manual.
 - .1 Binders shall be vinyl, hard covered, 3 'D' ring, loose leaf [219 x 279] mm with spine and face pockets.
 - .2 When multiple binders are used, correlate data into related consistent groupings. Identify contents of each binder on spine.
 - .3 Identify each binder with type or printed title 'Project Record Documents'; list title of project and identify subject matter of contents.
 - .4 Arrange content under Section numbers and sequence of Table of Contents.
 - .5 Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
 - .6 Manufacturer's printed data, or typewritten data will be accepted.
 - .7 Drawings shall be provided with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

3.6 CONTRACT CLOSE-OUT

- .1 Expedite and complete deficiencies and defects identified by the Consultant.
- .2 Submit required documentation such as statutory declarations, Workers' Compensation Certificates, warranties, certificates of approval or acceptance from regulating bodies.
- .3 Review inspection and testing reports to verify conformance to the intent of the documents and that changes, repairs or replacements have been completed.
- .4 Provide on-going review, inspection and attendance to building, call-back, maintenance and repair problems during Warranty periods.
- .5 Provide warranties and bonds fully executed and notarized.
- .6 Execute transition of Performance of Labour and Materials Payment Bond to warranty period requirements.
- .7 Collect and assemble documents executed by Sub-Contractors, suppliers and manufacturers.

END OF SECTION - 01 78 00

PART 1 - GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 56 00 – Temporary Barriers and Enclosures.

1.2 APPLICABLE PUBLICATIONS

- .1 The most recent revision of the following:
 - .1 Canadian Standards Association CSA S350, Code of Practice for Safety in Demolition of Structures.
 - .2 National Building Code of Canada, Part 8, “Safety Measures at Construction and Demolition Sites”, and Provincial requirements.
 - .3 Occupational Health and Safety Act and regulations for Construction Projects.

1.3 ASBESTOS AND DESIGNATED SUBSTANCES

- .1 Demolition of spray or trowel applied asbestos can be hazardous to health. The Consultant is to be notified if material resembling spray or trowel-applied asbestos is encountered on site. Stop work and do not proceed with removals until written instructions have been received from the Consultant.

1.4 SITE REVIEW

- .1 Notify the Consultant for review and confirmation of the following items:
 - .1 Extent of all concrete removals;
 - .2 Measurement of removal areas prior to replacement; and
 - .3 Final repair review.

1.5 SHOP DRAWINGS

- .1 Before proceeding with demolition of load bearing elements, provide shoring or underpinning drawings where required, prepared by a qualified Professional Engineer registered or licensed in the Province of Ontario.
- .2 Where required by authorities having jurisdiction, submit for approval drawings, diagrams or details showing sequence of demolition work and supporting structures and underpinning.
- .3 Refer to Section 01 33 00 – Submittal Procedures

1.6 NOTICE

- .1 Provide a minimum 24 hour notice to the Consultant and the Owner prior to proceeding with any work that may disrupt building access or services.

PART 2 - NOT USED

PART 3 - EXECUTION

3.1 GENERAL PROTECTION

- .1 Prevent movement, settlement, or other damage to adjacent structures, utilities, and parts of the building to remain in place. Provide engineered bracing and shoring as required.
- .2 Minimize noise, dust, and inconvenience to occupants.
- .3 Protect existing building systems, services and equipment.
- .4 Provide temporary dust screens, covers, railings, supports and other protection as required.
- .5 Provide required signage, barricades, hoarding, overhead protection and temporary egress in accordance with Occupational Health and Safety Act and Section 01 56 00 – Temporary Barriers and Enclosures.
- .6 Support affected structure or building components and if safety of structure being demolished or adjacent structures or services appears to be endangered, take preventative measures and then cease operations and notify Consultant immediately.
- .7 Ensure that demolition work does not adversely affect adjacent watercourses, groundwater and wildlife, or contribute to excess air and noise pollution.
- .8 Do not dispose of waste or volatile materials such as: mineral spirits, oil, petroleum based lubricants, or toxic cleaning solutions into watercourses, storm or sanitary sewers. Ensure proper disposal procedures are maintained throughout project.
- .9 Do not pump water containing suspended materials into watercourses, storm or sanitary sewers, or onto adjacent properties.
- .10 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authorities.
- .11 Protect trees, plants and foliage on site and adjacent properties where indicated.
- .12 Prevent extraneous materials from contaminating air beyond application area, by providing temporary enclosures during demolition work.
- .13 Cover or wet down dry materials and waste to prevent blowing dust and debris. Control dust on all temporary roads.

3.2 DEMOLITION SALVAGE AND DISPOSAL

- .1 Remove parts of existing structure to permit repairs or new construction. Sort materials into appropriate piles for recycling and or reuse.
- .2 Refer to demolition drawings and specifications for items to be salvaged for reuse if applicable.
- .3 Remove items to be reused, store in a protected location, and reinstall under appropriate section of specification.
- .4 Trim edges of partially demolished building elements to suit future use.
- .5 Include for the disposal of removed materials to appropriate Landfill and/or recycling facilities, except where specified otherwise, in accordance with authority having jurisdiction.
- .6 Dispose of debris on a continuous basis. Do not stockpile debris in a manner which would overload the structure, or impede access around the site.

3.3 LAYOUT

- .1 For concrete removal, the extent of concrete to be removed shall be initially determined by the Contractor, using the following identification procedures:
 - .1 Chain drag survey.
 - .2 Hammer tap survey.
 - .3 Visual survey.
 - .4 Coring.
- .2 All unsound and delaminated areas will be identified with spray paint or heavy crayon markings.
- .3 The marked out areas will be confirmed by the Consultant **prior to any removals**.

3.4 DEMOLITION BY PNEUMATIC HAMMERS

- .1 Vertical, Top side, Soffit and detailing concrete removal:
 - .1 Pneumatic hammers to be a maximum weight of 3.2 kg (7lbs).
- .2 Through slab and Replacement areas:
 - .1 Pneumatic hammers to be a maximum weight of 11.3 kg (25lbs).
- .3 Do not vibrate the embedded reinforcing steel so as to cause debonding with the concrete.
- .4 Surrounding concrete and reinforcement damaged due to negligence or lack of reasonable care will be replaced at the Contractor's expense.

3.5 DEMOLITION BY HYDRODEMOLITION

- .1 Where hydrodemolition is being used, temporary water containment weirs, additional drains and any other measures that may be required by the Contractor for the management of the discharge water from the process, shall be provided by the Contractor.
- .2 The Contractor shall confirm that all existing drains are working properly prior to commencing hydrodemolition work. Unless agreed in advance, the Contractor shall clean all drain lines, catch basins and manholes clean of any debris or residue at the completion of the project.
- .3 The Contractor will provide all necessary settlement tanks and / or construct "swim ponds" using filter cloth and filter media gravel, such that any water that is returned to the Municipal water system, is free of any concrete paste residue or silt. The Contractor will be responsible for any costs that may be assessed by the Municipality for cleaning of their system, as a result of residue discharged from this project. Discharge of used water into the storm water system is prohibited.
- .4 The Contractor shall be responsible to perform any necessary "buffering" or filtering so that the discharge from his operations meets the requirements of the Ministry of the Environment or the City's criteria for discharge into sanitary or storm sewers.
- .5 The Contractor shall review the location and capacity of existing sump pumps and where possible isolate them from receiving any discharge water from the hydrodemolition operation.

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- .6 Where existing catch basins and storm water drains flow into a lift pump pit, the Contractor shall provide submersible pumps and hoses sufficient to discharge all water generated from the hydrodemolition operation.
 - .7 The Contractor shall also provide adequate protection to all of the existing surface mounted electrical lines along the soffit if where operations occur above. Temporary relocation or adjustment of the lines is allowed provided this does not interrupt the continuous flow of power to the building.
 - .8 The equipment must include all reasonable safety and shutdown provisions and procedures that will facilitate an emergency shutdown if required for whatever reason.
 - .9 The pump unit must be installed in a suitably sound controlled enclosure, so that the extent of noise above ambient levels in the location of the project, will be satisfactory to the neighbouring properties and the Municipality.
 - .10 Ensure that operation of equipment does not contribute to air pollution.
 - .11 Refer to Section 01 56 00 – Temporary Barricades and Enclosures.

3.6 CONCRETE REMOVALS

- .1 Localized concrete removals:
 - .1 Remove concrete until clean, un-rusted reinforcement is established. Do not extend removal beyond the limits of the repair area except as authorized by the Consultant.
 - .2 Provide a ½” saw cut at all edges where new repair material will meet existing concrete. Do not cut into or damage any reinforcing bars. Mechanically roughen sawcut edge to improve bond at patch.
 - .3 Ensure a minimum of 1” concrete removal around all reinforcing, or until sound concrete has been achieved.
 - .4 All exposed surfaces in repair area to be at 90° to the adjacent surface unless otherwise noted on detail.
 - .5 Where site-specific detail has been produced, detail to be followed. Refer to typical repair details.
 - .6 Request inspection by Consultant prior to installing repair material. Provide a minimum of 48 hours notice.

3.7 BRICK MASONRY WYTHER REMOVALS

- .1 Install scaffolding full length of removal location.
- .2 Remove existing roof cap flashing in a fashion that does not damage existing roof membrane. Removals shall be done from scaffolding and not from roof.
- .3 Remove brick masonry in its entirety, from top of foundation wall to underside of perimeter roof wood blocking. Start at top and work down.
- .4 The use of pneumatic hammers is prohibited to mitigate damage to inner wythe and noise to occupants.

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- .5 When blocks of masonry units are to be removed, sawcut rows full length and limit to two rows high. Cut intermittent vertical cuts at a maximum of 1200mm(48”).
 - .6 Supply and install temporary shoring as required to support the inner concrete block wythe during demolition and until new brick masonry has been re-instated.
 - .7 Remove all existing rigid insulation and masonry anchors.
 - .8 Remove all set mortar droppings and mortar bulges at existing mortar joints to provide a flush smooth face.
 - .9 Provide tarpaulin covers if work is not re-instated at the end of days work.

3.8 TERMINATIONS OF BRICK MASONRY REMOVAL

- .1 Vertical Terminations:
 - .1 Vertical terminations are to occur at an existing plumb vertical mortar joint. If joint is not plumb, chalk vertical cut line close to mortar joint to provide the appearance of a similar aspect ratio.
 - .2 Sawcut full depth of brick masonry. Do not over cut.
 - .3 Any vertical termination installed shall have supplementary ties added at 300 mm (12”) o/c vertically at 200 mm (8”) from the free edge.
- .2 Horizontal Terminations:
 - .1 Unless noted otherwise in specification or on drawings a horizontal termination shall occur at a horizontal mortar joint.
 - .2 Clean mortar down to the top of the brick masonry to remain.
 - .3 Mortar joint above top brick masonry to remain shall incorporate a bonding agent mixed with mortar. Refer to applicable section.
- .3 All terminations shall be free from chips on edges of brick masonry to remain. If damage occurs request direction from Consultant to move termination or if unit replacement is acceptable.

END OF SECTION - 02 41 19

PART 1 - GENERAL

1.1 APPLICABLE PUBLICATIONS

- .1 All Codes, Standard Specifications and by-laws referred to in this section shall be current editions including all revisions, addenda and supplements.
 - .1 CAN/CSA-S157, Strength Design in Aluminum;
 - .2 CAN/CSA W47.2, Certification of Companies for Fusion Welding of Aluminum;
 - .3 CAN/CSA W59.2, Welded Aluminum Construction;
 - .4 ASTM B209, Standard Specification for Aluminum and Aluminum Alloy Sheet and Plate;
 - .5 ASTM B210, Standard Specification for Aluminum and Aluminum Alloy Drawn Seamless Tubes;
 - .6 ASTM B211M, Standard Specification for Aluminum and Aluminum Alloy Bar, Rod and Wire;
 - .7 ASTM E 985, Standard Specification for Permanent Metal Railing Systems and Rails for Buildings;
 - .8 ASTM E935, Standard Test Methods for Performance of Permanent Metal Railing Systems and Rails for Buildings.
 - .9 Ontario Building Code
 - .10 National Building Code of Canada

1.2 SHOP DRAWINGS

- .1 Submit Shop Drawings in accordance with Section 01 33 00 – Submittal Procedures.
- .2 Submit drawings stamped and signed by qualified Professional Engineer licensed in Province of Ontario, Canada.
- .3 Show complete layout including plan views and elevations for each specific case.
- .4 Submit manufacturer's specifications and installation instructions for all components of each product.
- .5 Indicate materials inclusive of alloy and temper for each member indicating extrusion, bar, plate or cast.
- .6 Indicate finishes, connections, joints, method of anchorage, number of anchors, supports, reinforcement, details, and accessories.
- .7 Indicate cuts, copes, connections, holes, threaded fasteners, welds and other items. Indicate welds using welding symbols as shown in Appendix A of CSA W59.2.

1.3 PROTECTION

- .1 Deliver, store, handle and protect materials for normal shipping conditions.

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- .2 Cover exposed stainless steel surfaces with pressure sensitive heavy protection paper or apply strippable plastic coating, before shipping to job site.
 - .3 Leave any protective coverings in place until final cleaning of building. Provide instructions for removal of protective covering.
 - .4 All necessary precautions are to be taken to maintain the newly installed system waterproofing membrane at all locations.

1.4 QUALITY ASSURANCE

- .1 At the request of the Owner/Consultant, submit test reports covering each type of railing used. Testing shall be conducted by an independent testing laboratory and shall show compliance with Ontario Building Code and National Building Code.
- .2 The company completing work of this Section shall have previous Canadian experience in the successful manufacture and installation of work, type and quality shown and specified over a minimum 5-year period.
- .3 Provide all similar components of railing system from single source.

1.5 SAMPLES AND MOCK UPS

- .1 Submit one complete sample containing appropriate finishes to Owner/Consultant for approval in accordance with Section 01 33 00 – Submittal Procedures. One complete sample includes all contained between two posts inclusive.
- .2 A mock up railing shall be installed following approval of the sample. Mock up to be of same finish and style as approved sample, and will become the expected quality for remainder of job.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- .1 Railings shall be supplied by one of the following approved manufacturers:
 - .1 Alugard Aluminum Railings or
 - .2 An approved equivalent

2.2 MATERIALS

- .1 Aluminum bar, rod, wire: to ASTM B 211M.
- .2 Aluminum and Aluminum-Alloy Extruded Bar, Rods, Wire, Shapes, and Tubes: to ASTM B 221M.
- .3 Aluminum sheet or plate: to ASTM B 209M.
- .4 Aluminum drawn tubes: to ASTM B 210M.
- .5 Aluminum bolts and rivets: to ASTM B 316M.
- .6 Aluminum welding wire: to AWSA5.10.
- .7 Stainless Steel Bolts:
 - .1 ASTM A 307;

- .2 All retrofit anchorage shall be by chemical anchorage u/n alternative is accepted by Consultant.
- .3 Stainless steel threaded rod with chemical anchorage using Hilti Hit HY 150

2.3 FABRICATION

- .1 Fabricate work square, true, straight and accurate to required size, with joints closely fitted and properly secured.
- .2 Use self-tapping shake-proof round headed screws on items requiring assembly by screws or as indicated.
- .3 Where possible, fit and shop assemble work, ready for erection.
- .4 Ensure exposed welds are continuous for length of each joint. File or grind exposed welds smooth and flush.
- .5 Fabricate in accordance with CAN/CSA-S157 and in accordance with approved shop drawings.
- .6 All fabrication to conform to the spacing, size and height requirements of applicable codes.

2.4 FINISHES

- .1 Finish to be a factory applied coating that meets or exceeds AAMA 2604, Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels.

2.5 ISOLATION COATING

- .1 Isolate aluminum from following components by means of a bituminous isolation coating:
 - .1 Dissimilar metals except stainless steel, zinc or white bronze of small area;
 - .2 Concrete, mortar and masonry; and
 - .3 Wood

PART 3 - EXECUTION

3.1 GENERAL

- .1 Structural aluminum work: in accordance with CAN/CSA-S157.
- .2 Welding: in accordance with CAN/CSA W59.2.
- .3 Companies to be certified under Division 1 or 2.1 of CAN/CSA W47.2 for fusion welding of aluminum and/or CAN/CSA W55.3 for resistance welding of structural components.

3.2 EXAMINATION

- .1 Take site measurements to ensure that Work is fabricated to fit surrounding construction, around obstructions and projections in place, or as shown on drawings, and to suit service locations.
- .2 Before commencing Work, verify at the site that the locations of railing installation have been prepared as specified under the Work of other sections to meet the installation requirements of this section.

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- .3 Defective Work resulting from application to unsatisfactory concrete conditions, improper fastening or lack of site measurement will be considered the responsibility of those performing the Work of this section.
 - .4 Verify that all modification details will not interfere with full scope of work. Report any discrepancies to Engineer.

3.3 ERECTION

- .1 Erect structural aluminum as indicated and in accordance with CAN/CSA-S157 and approved shop drawings.
- .2 Field cutting or altering structural members shall be approved by Engineer responsible for stamping shop drawings.
- .3 Erect work square, plumb, straight, and true, accurately fitted, with tight joints and intersections.
- .4 Exposed fastening devices to match finish and be compatible with material through which they pass.
- .5 Provide components for building by other sections in accordance with shop drawings and schedule.
- .6 Touch-up field welds and burnt or scratched surfaces after completion of erection.
- .7 Insulate between dissimilar metals, or between metal, and masonry or concrete with bituminous paint to prevent electrolytic action.

3.4 FIELD QUALITY CONTROL

- .1 Inspection and testing of materials and workmanship will be carried out by a testing laboratory designated by the Owner and at their discretion.
- .2 Provide safe access and working areas for testing on site, as required by testing agency and as authorized by Consultant.
- .3 Submit test reports to Engineer within one (1) week of completion of inspection.

3.5 JOINT SEALING AND PAINTING

- .1 Surface preparation of aluminum in contact with or embedded in dissimilar materials: to CAN/CSA-S157. All locations to be treated as if they are in presence of moisture.
- .2 Paint in accordance with CAN/CSA-S157.

3.6 FINAL CLEANING

- .1 Immediately upon completion of installations clean all railing system surfaces using clean water and mild soap or detergent. Do not use abrasive agents or harsh chemicals that will damage the material finishes. Provide adequate protection for all surfaces of completed installations to prevent damage during remainder of construction activities.

END OF SECTION - 05 52 00

PART 1 - GENERAL

1.1 SUMMARY

- .1 Section Includes:
 - 1. Interlocking Concrete Paver Units (manually installed).
 - 2. Bedding and Joint Sand.
 - 3. Edge Restraints.
 - 4. Geotextile Fabric
 - 5. Cleaner, Sealers, and Joint sand stabilizers

1.2 REFERENCE DOCUMENTS

- .1 American Society for Testing and Materials (ASTM):
 - .1 ASTM C 33 Standard Specification for Concrete Aggregates
 - .2 ASTM C 67 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile, Section 8, Freezing and Thawing
 - .3 ASTM C 136 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
 - .4 ASTM C 140 Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units
 - .5 ASTM C 144 Standard Specification for Aggregate for Masonry Mortar
 - .6 ASTM C 936 Standard Specification for Solid Concrete Interlocking Paving Units
 - .7 ASTM C 979 Standard Specification for Pigments for Integrally Colored Concrete
 - .8 ASTM D 698 Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort 600 kN-m/m³
 - .9 ASTM D 1557 Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort 2,700 kN-m/m³
 - .10 ASTM C 1645 Standard Test Method for Freeze-thaw and De-icing Durability of Solid Concrete Interlocking Paving Units
 - .11 ASTM D 2940 Specification for Graded Aggregate Material for Bases or Subbases for Highways or Airports
- .2 Canadian Standards Association (CSA):
 - .1 CSA A23.1 FA1
- .3 Interlocking Concrete Pavement Institute (ICPI):
 - .1 ICPI Tech Spec
Technical Bulletins

1.3 SUBMITTALS

- .1 In accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
- .2 Manufacturer's drawings and details: Indicate perimeter conditions, relationship to adjoining materials and assemblies, expansion and control joints, concrete paver layout, patterns, Color arrangement, installation and setting details.
- .3 Sieve analysis per CSA A23.1 FA1 for grading of bedding and joint sand for Concrete pavers:
 - .1 Six(6) representative full-size samples of each paver type, thickness, color, finish that indicate the range of color variation and texture expected in the finished installation. Color of the pavers shall be selected by the Owner from manufacturer's available colors.
 - .2 Accepted samples become the standard of acceptance for the work.
 - .3 Test results from an independent testing laboratory for compliance of concrete pavers with ASTM C 936.
 - .4 Manufacturer's catalog product data, installation instructions, and material safety data sheets for the safe handling of the specified materials and products.
- .4 Paver Installation Subcontractor:
 - .1 A copy of Subcontractor's current certificate from the Interlocking Concrete Pavement Institute Concrete Paver Installer Certification program.
 - .2 Job references from projects of a similar size and complexity. Provide Owner/Client/General Contractor names, postal address, phone, fax, and email address

1.4 QUALITY ASSURANCE

- .1 Paving Subcontractor Qualifications:
 - .1 Utilize an installer having successfully completed concrete paver installation similar in design, material, and extent indicated on this project.
 - .2 Utilize an installer holding a current certificate from the Interlocking Concrete Pavement Institute Concrete Paver Installer Certification program
- .2 Mock-Ups:
 - .1 Install 2m x 2 m paver area.
 - .2 Use this area to determine surcharge of the bedding sand layer, joint sizes, lines, laying patterns, colors and texture of the job.
 - .3 This area will be used as the standard by which the work will be judged.
 - .4 Subject to acceptance by Owner, mock-up may be retained as part of finished work.
 - .5 If mock-up is not retained, remove and properly dispose of mock-up.

1.5 DELIVERY, STORAGE & HANDLING

- .1 Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.
- .2 Delivery: Delivery materials in manufacturer's original, unopened, undamaged packaging with identification labels intact.
 1. Coordinate delivery and paving schedule to minimize interference with normal use of buildings adjacent to paving.
 2. Deliver concrete pavers to the site in steel banded, plastic banded or plastic wrapped packaging capable of transfer by forklift or clamp lift.
 3. Unload pavers at job site in such a manner that no damage occurs to the product.
- .3 Storage and Protection: Store materials protected such that they are kept free from mud, dirt, and other foreign materials. (Store concrete paver cleaners and sealers per manufacturer's instructions).
 1. Cover bedding sand and joint sand with waterproof covering if needed to prevent exposure to rainfall or removal by wind. Secure the covering in place.

1.6 PROJECT/SITE CONDITIONS

1. Do not install sand or pavers during heavy rain or snowfall.
2. Do not install sand and pavers over frozen base materials.
3. Do not install frozen sand or saturated sand.
4. Do not install concrete pavers on frozen or saturated sand.

1.7 MAINTENANCE

- .1 Extra Materials: Provide additional material for use by Owner for maintenance and repair (Quantity to be 35% of the total area).
- .2 Pavers shall be from the same production run as installed materials.

PART 2 - PRODUCTS

2.1 INTERLOCKING CONCRETE PAVERS

- A. Interlocking Concrete Pavers:
 1. Paver Type:

- .1 Average Compressive Strength as per ASTM C140: (55 MPa) with non-individual unit under 50 MPa per ASTM C 140.
- .2 Average Water Absorption as per ASTM C 140: 5% with no unit greater than 7%.
- .3 Freeze/Thaw Resistance (ASTM C 1645): 25 freeze-thaw cycles with no greater loss than 200 g/m² of paver surface area or no greater loss than 500 g/m² of paver surface area after 50 freeze-thaw cycles

2.2 BEDDING AND JOINT SAND

- .1 Provide bedding and joint sand as follows:
 - 1. Washed, clean, non-plastic, free from deleterious or foreign matter, symmetrically shaped, natural or manufactured from crushed rock.
 - 2. Do not use limestone screenings, stone dust, or sand for the bedding sand material that does not conform to the grading requirements of ASTM C 33
 - 3. Do not use mason sand or sand conforming to ASTM C 144 for the bedding sand
 - 4. Where concrete pavers are subject to vehicular traffic, utilize sands that are as hard as practically available.
 - 5. Sieve according to ASTM C 136.
 - 6. Bedding Sand Material Requirements: Conform to the grading requirements of ASTM C 33 with modifications as shown in Table 1 below

Grading Requirements for Bedding Sand ASTM C33	
Sieve Size	Percent Passing
3/8 in.(9.5 mm) ¹	100
No. 4 (4.75 mm)	95 to 100
No. 8 (2.36 mm)	85 to 100
No. 16 (1.18 mm)	50 to 85
No. 30 (0.600 mm)	25 to 60
No. 50 (0.300 mm)	10 to 30
No. 100 (0.150 mm)	2 to 10
No. 200 (0.075 mm)	0 to 1

1: Metric sieve sizes as per CSA A23.1 FA1

- 7. Joint Sand Material Requirements: Conform to the grading requirements of ASTM C 144 as shown with modifications in Table 2 below

Grading Requirements for Bedding Sand ASTM C144		
	ASTM C 144 Natural Sand	ASTM C 144 Manufactured Sand
Sieve Size	Percent Passing	Percent Passing
No. 4 (4.75 mm)	100	100
No. 8 (2.36 mm)	95 to 100	95 to 100
No. 16 (1.18 mm)	70 to 100	70 to 100
No. 30 (0.600 mm)	40 to 75	40 to 100
No. 50 (0.300 mm)	10 to 35	10 to 40
No. 100 (0.150 mm)	2 to 15	10 to 15
No. 200 (0.075 mm)	0 to 1	0 to 1

2.3 EDGE RESTRAINTS

- .1 Manufacturer: Geosynthetic Systems, Ottawa Ontario (T: 1866 490 4436) or approved equivalent.
- .2 Material: Aluminum

2.4 GEOTEXTILE BLANKET

- .1 Manufacturer: Geosynthetic Systems, Ottawa Ontario (T: 1866 490 4436) or approved equivalent.
- .2 Material: 130EX Non-Woven Geotextile blanket

2.5 SEALER AND JOINT SAND STABILIZER

- .1 As recommended by the Paver manufacturer.

PART 3 - EXECUTION

3.1 PREPARATION

- .1 Compact the soil subgrade to at least 98% Modified Proctor Density in accordance with ASTM D 1557.
- .2 Soil base preparation shall be carried out 300 mm beyond the area to be covered with pavers.
- .3 Ensure surface tolerance is +/- 10 mm in 3 meters of straight run in any direction.

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- .4 Verify that base and geotextile is ready to support sand, edge restraints, pavers and imposed loads.
 - .5 Edge Restraint Preparation.
 - 1. Install edge restraints as per the manufacturer's recommendations
 - 2. Install landscaping fabric underneath bedding sand as per the manufacturer's recommendations.

3.2 INSTALLATION

- .1 Spread bedding sand evenly over the base course and screed to a nominal 25 mm thickness, not exceeding 40 mm thickness or as recommended by the paving manufacturer. Spread bedding sand evenly over the base course and screed rails, using the rails and/or edge restraints to produce a nominal 25 mm thickness, allowing for specified variation in the base surface. Bedding sand over structural suspended concrete slab shall not exceed the existing thickness to avoid overloading of the slab.
 - 1. Do not disturb screeded sand.
 - 2. Screeded area shall not substantially exceed that which is covered by pavers in one day.
 - 3. Do not use bedding sand to fill depressions in the base surface.
- .2 Lay pavers in a stretcher bond pattern to match existing areas on site. Place units hand tight without using hammers. Make horizontal adjustments to placement of laid pavers with rubber hammers and pry bars as required.
- .3 Provide joints between pavers between [1/16 in. and 3/16 in. (2 and 5 mm)] wide. No more than 5% of the joints shall exceed [1/4 in. (6 mm)] wide to achieve straight bond lines.
- .4 Joint lines shall not deviate more than $\pm 1/2$ in. (± 15 mm) over (15 m) from string lines.
- .5 Fill gaps at the edges of the paved area with cut pavers or edge units.
- .6 Cut pavers to be placed along the edge with a masonry saw.
- .7 Adjust bond pattern at pavement edges such that cutting of edge pavers is minimized.
- .8 Keep skid steer and forklift equipment off newly laid pavers that have not received initial compaction and joint sand.
- .9 Use a low-amplitude plate compactor capable of at least minimum of 18 KN at a frequency of 75 to 100 Hz to vibrate the pavers into the sand. Remove any cracked or damaged pavers and replace with new units.
- 10. Simultaneously spread, sweep and compact dry joint sand into joints continuously until full.
- 11 All work within 2 m of the laying face shall be left fully compacted with sand-filled joints at the end of each day or compacted upon acceptance of the work. Cover the laying face or any incomplete areas with plastic sheets overnight if not closed with cut and compacted pavers with joint sand to prevent exposed bedding sand from becoming saturated from rainfall.

12. Remove excess sand from surface when installation is complete.

3.3 FIELD QUALITY CONTROL

Note: Surface tolerances on flat slopes should be measured with a rigid straightedge. Tolerances on complex contoured slopes should be measured with a flexible straightedge capable of conforming to the complex curves on the pavement.

- .1 The final surface tolerance from grade elevations shall not deviate more than ± 10 mm in 3 m straightedge.
- .2 The surface elevation of pavers shall be 3 to 6 mm above adjacent drainage inlets, concrete collars or channels.
- .3 Lippage: No Lippage will be accepted in any area covered with pavers.

3.4 CLEANING SEALING AND JOINT STABILIZATION

- .1 Clean, Seal and apply joint sand stabilization materials between concrete pavers in accordance with the manufacturers written recommendations.

3.5 PROTECTION

- .1 After work in this section is complete, the General Contractor shall be responsible for protecting work from damage due to subsequent construction activity on the site.

END OF SECTION - 32 14 13

PART 1 - GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 11 00 – Summary of Work

1.2 APPLICABLE PUBLICATIONS

- .1 American Society for Testing and Materials (ASTM):
 - .1 ASTM D698-07e1, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort.
- .2 Canadian Standards Association (CSA), most current revision of:
 - .1 CAN/CSA-A23.1, Concrete Materials and Methods of Concrete Construction.
 - .2 CAN/CSA-A23.2, Methods of Test and Standard Practices for Concrete.

1.3 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with local and provincial requirements.
- .2 Place materials defined as hazardous or toxic waste in designated containers.
- .3 Ensure emptied containers are sealed and stored safely.

1.4 MATERIAL CERTIFICATION

- .1 Submit to Consultant at least one week prior to concrete placement, the concrete mix design data and certification that materials meet requirements of this section.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Concrete for Sidewalks, Curbs and Paving Slabs:
 - .1 35MPa, 40 +/-20mm slump, C-1 exposure class, max w/c 0.45, 5-8% air
 - .2 All exposed concrete surfaces shall have the curing process commence as soon as possible and not more than 30 minutes after surface finishing or within one hour of form removal. Acceptable methods of curing include one or more of the following:
 - .1 Burlap cloth shall be made from jute or kenaf and shall be according to OPSS 1306.
- .2 Reinforcing steel:
 - .1 10M reinforcement bars spaced 12" o/c in both directions.
 - .2 Deformed "Hi-Bond" grade 400 conforming with CAN/CSA-G30.18, unless indicated otherwise. All bars to have Typical Identification Patterns of Canadian Producers and standard identification requirements as shown in the RSIC Manual of Standard Practice.
- .3 Granular Material:

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- .1 Granular “B” conforming to OPSS 314 and 1010. Nominal 50 mm crushed limestone meeting gradation limits of Granular “B”. Reclaimed materials will not be acceptable unless specified otherwise.
 - .2 Granular “A” conforming to OPSS 314 and 1010. Nominal 20 mm crushed limestone meeting gradation limits of Granular “A”. Reclaimed materials will not be acceptable unless specified otherwise.
 - .4 Non-staining mineral type form release agent: chemically active release agents containing compounds that react with free lime to provide water soluble soap.

PART 3 - EXECUTION

3.1 GRANULAR BASE

- .1 Obtain Consultant's approval of subgrade before placing granular base.
- .2 Place granular base material to lines, widths, and depths as indicated or to match existing.
- .3 Compact granular base to at least 98% of maximum density to ASTM D698.

3.2 PREPARATION

- .1 Obtain Consultants approval before placing concrete. Provide 48 hours notice prior to placing of concrete.
- .2 In locations where new concrete is dowelled to existing work, drill holes in existing concrete. Place steel dowels of deformed steel reinforcing bars and pack solidly with epoxy anchorage; hold dowels in positions until set time has elapsed in accordance with the epoxy manufacturer's specification.
- .3 Equipment and materials capable of maintaining adequate temperature, humidity, and protection shall be available on site and be ready for operation when any concrete is placed
- .4 All dirt, chips, sawdust, water, snow, ice and other foreign matter must be removed from formed area.
- .5 Prior to placing of concrete obtain Consultant's approval of proposed method for protection of concrete during placing and curing.
- .6 Maintain accurate records of poured concrete items to indicate date, location of pour, quality, air temperature, and test samples taken.
- .7 Do not place load upon new concrete until authorized by Consultant.

3.3 FORMWORK

- .1 Fabricate and install formwork to provide straight lines and levels, consistent curves and radii of new concrete.
- .2 Forms shall be aligned and fitted to enable the new area to match the lines and levels of the existing adjacent concrete.
- .3 Coat forms with non-staining mineral type form release agent.
- .4 Obtain approval of forms before placing concrete.

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- .5 Slip forming may be approved subject to evaluation of mechanical equipment proposed for use.

3.4 CONSTRUCTION

- .1 Perform cast-in-place concrete work in accordance with CAN/CSA-A23.1.
- .2 Placing Concrete
 - .1 Notify the Consultant at least 48 hours before any concreting operation is to proceed, for a review of the preparations.
 - .2 Concrete shall be conveyed to the site by methods which will prevent the segregation or loss of material. Maximum time between adding mix water and complete discharge into the forms shall be 120 minutes. Exemptions to this time frame shall only be permitted with the approval by the Consultant when previously approved chemical additives are used.
 - .3 Conveying and placement equipment shall be such that when concreting has started, the depositing of concrete shall be at such a rate and of such sequence that the concrete is at all times sufficiently plastic to ensure proper bonding of successive batches.
 - .4 Internal vibrators shall be applied at the point of deposit in the areas of freshly placed concrete, allowed to sink by their own weight in the concrete until they penetrate into the previous layer of concrete. They shall be withdrawn immediately at the same rate at which they sank, moved about 300mm (12") to a new location and the process repeated. Extreme care shall be taken to ensure that internal type vibrators do not disturb the reinforcing steel or the forms.
 - .5 Plastic coated vibrators shall be used to consolidate concrete reinforced with epoxy coated bars.
 - .6 Do not place concrete when it is raining or likely to rain. If rain begins after concrete is placed and before it is set, protect with waterproof covers until set.
- .3 Cold Weather Conditions
 - .1 When air temperature is at or below or forecast to be at or below 5°C, conform to the requirements of CAN/CSA A23.1 including, but not limited to the following:
 - .1 Job Preparation.
 - .2 Concrete temperature.
 - .3 Concrete Placing.
 - .4 Protection Requirements and Methods.
 - .5 Heated Enclosures.
 - .6 Protective Covers and Insulation.
 - .7 Cooling after protection.
 - .8 Cold-Weather Curing.
 - .2 All materials and equipment needed for adequate protection and curing shall be on hand and ready for use before concrete placement has started.

.4 Hot Weather Protection

- .1 Conform with the requirements of CAN/CSA A23.1 and the recommendations of ACI Standard 305, Hot Weather Concreting.

3.5 FINISHING

- .1 Finish surfaces to within 3 mm in 3 m as measured with 3 m straightedge placed on surface.
- .2 Immediately after floating, give sidewalk and patio area surfaces a uniform broom finish to produce regular corrugations not exceeding 2 mm deep, by drawing broom in direction normal to centre line.
- .3 Install sidewalk with panels that create a 1:1 aspect ratio with width. Panels other than Expansion/Contraction and Isolation joints to be created using radius edging tool and a straight edge. Sidewalk panels not exceed 1500mm.
- .4 All edges of curbs, sidewalks and gutters with monolithic curb shall receive edging with a 10 mm radius edging tool.
- .5 If ponding occurs after completion location will be replaced at no cost to the Owner.
- .6 Follow manufacturer's instructions for coloured and patterned concrete.

3.6 EXPANSION/CONTRACTION AND ISOLATION JOINTS

- .1 Expansion/Contraction and Isolation joints to be constructed by using a single layer of 12mm asphalt-impregnated fibre board.
- .2 In sidewalks install expansion/contraction joint at intervals of 4000mm. This to occur at location of a sidewalk panel.
- .3 Install isolation joints around manholes and catch basins and along length adjacent to concrete curbs, catch basins, buildings, or permanent structure.

3.7 SAWCUTTING

- .1 Install in curbs and gutters 50mm deep sawcuts a maximum of 24hrs after placement to mitigate shrinkage cracking.
- .2 Where concrete paving is required to create a patio area, sawcut a square pattern, with a maximum single dimension of 2400mm. Maintain a 1:1 aspect ratio through the field and make up differences at the perimeter panels. If the perimeter abuts entrances or patio area requires a detailed pattern appearance, request direction from Consultant.
- .3 At all Curbs and Gutters and where a sidewalk is to be sawcut, install sawcut at intervals no greater than 2400mm
- .4 When sidewalk or patio area is adjacent to curb, make joints of curb, gutters and sidewalk coincide.

3.8 CURING

- .1 Cure concrete by adding moisture continuously in accordance with CAN/CSA-A23.1 to exposed finished surfaces for at least 72 hrs after placing, or sealing moisture in by a curing compound.

- .2 Where burlap is used for moist curing, place two pre-wetted layers on concrete surface and keep continuously wet during curing period.
- .3 Apply curing compound evenly to form continuous film. In accordance with manufacturer's requirements.

3.9 MATCHING EXISTING

- .1 Where new elements tie into existing ensure levels and lines are maintained.
- .2 If new joint does not act as an Expansion/Contraction or Isolation joint, roughen surface of existing to amplitude of 6mm.
- .3 Where existing has not been terminated at a location that will be aesthetically acceptable or provide for proper matching, request direction from Consultant.

3.10 BACKFILL

- .1 Allow concrete to cure for a minimum of 3 days prior to backfilling.
- .2 Backfill to designated elevations with suitable material, compact and shape to required contours as indicated or directed.

3.11 INSPECTION AND TESTING

- .1 Inspection and testing of materials will be carried out by independent testing laboratory as approved by Consultant/Owner.
- .2 Notice of any required inspection must be given 48 hours in advance.
- .3 Costs of tests will be paid under testing allowance. Testing invoices to be attached at invoicing without mark up.
- .4 Base and sub-base material testing will include standard sieve analysis for gradation for each type placed. Random sampling of compacted layers of base courses will be completed using a Nuclear Density Gauge.
- .5 Concrete laboratory testing will include a set of 3 cylinders for strength for each batch of concrete placed at the site. Field testing will also include slump and air content for each batch placed.
- .6 Field testing of base materials will include random sampling of compaction using a Nuclear Radiation Gauge.

END OF SECTION – 32 16 00

Appendix A

IPAC Standard

Infection Prevention and Control (IPAC) Standard for Long-Term Care Homes

April 2022

Introduction:

Comprehensive evidence-based Infection Prevention and Control (IPAC) practices are critical to the safety of residents, staff, caregivers and others in Ontario's long-term care homes. This document has been developed based on current evidence-based requirements for IPAC in long-term care and reflects robust practices that are appropriate to the long-term care setting.

Requirements under *the Fixing Long-Term Care Act, 2021*

This Infection Prevention and Control (IPAC) Standard (the "Standard") for Long-Term Care Homes is issued by the Director pursuant to section 102(2)(b) of the Regulation under the *Fixing Long-Term Care Act, 2021* (the "Act").

The licensee is required to implement any standard or protocol issued by the Director with respect to infection prevention and control. The Act and O. Reg. 246/22, contain requirements related to IPAC and also require the licensee to implement any standard or protocol issued by the Director with respect to IPAC.

This document sets out requirements for IPAC programs in Long-Term Care (LTC) homes during periods of regular operations and during infectious disease outbreaks. Licensees must comply with these requirements in a way that respects and promotes residents' rights as set out in the Residents' Bill of Rights under section 3 of the Act.

Homes are to review the Act and the Regulation in their entirety. In the event of a conflict between this Standard and another requirement under the Act, the Regulation or any other applicable law, the requirement in the Act, the Regulation, or other applicable law prevails.

Effective Date:

This IPAC Standard for Long-Term Care Homes is effective as of the date when O Reg. 246/22 under the Act comes into force and remains in force until it is amended or revoked.

1. Infection Prevention and Control (IPAC) Program

Act/Regulation: The Act requires every licensee of a long-term care home to ensure that there is an IPAC program for the home (s. 23(1) of Act). The licensee shall also implement any standard or protocol issued by the Director with respect to IPAC (s. 102(2)(b) of the Regulation).

The licensee shall ensure that all staff participate in the implementation of the program, including, for greater certainty, all members of the leadership team, including the Administrator, the Medical Director, the Director of Nursing and Personal Care and the infection prevention and control lead (s. 102(8) of the Regulation).

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

1.1 The licensee shall ensure that staff roles, responsibilities, and accountabilities related to the implementation and ongoing delivery of the IPAC program are clearly defined and communicated regularly to all staff.

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

1.2 The licensee shall keep written records of the process described in requirement 1.1 (definition and communication of staff roles and responsibilities) and shall ensure that the record is kept in a readable and useable format that allows a complete copy of the record to be readily produced.

What is an IPAC Program?

An IPAC program is generally defined as: an organized set of activities, processes and services for infection prevention and control which is administered by people with IPAC training and expertise in the organization.

***Goals of IPAC Programs:**

To optimize safety in the LTC home to mitigate risk of resident infections and to reduce morbidity and mortality; and

To prevent the spread of infections among those inside the home (including residents, staff and others) and transmission from the community into the home.

(*Adapted from IPAC Canada, 2016)

Components of the IPAC program

Based on the Act, O. Reg. 246/22 and this Standard, each licensee shall ensure that the IPAC program includes, but is not limited to, the required components noted in the table below.

Program component
a) IPAC Lead and interdisciplinary team
b) Evidence-based policies and procedures
c) Training and education
d) ADDITIONAL REQUIREMENT UNDER THE STANDARD: Routine Practices and Additional Precautions
e) Infectious Disease Surveillance
f) Outbreak Management (OM) system
g) Hand Hygiene program
h) ADDITIONAL REQUIREMENT UNDER THE STANDARD: Personal Protective Equipment (PPE)
i) Quality program and evaluation
j) ADDITIONAL REQUIREMENT UNDER THE STANDARD: Ethical framework
k) Application of the precautionary principle

2. IPAC Resources

Requirement for IPAC Lead

Act/Regulation: The licensee of a long-term care home shall ensure that the home has an IPAC Lead whose primary responsibility is the home's infection prevention and control program (s. 23(4) of the Act). The responsibilities of the IPAC Lead are detailed in s.102(7) of the Regulation.

As required by the Regulation, the licensee shall ensure that the IPAC Lead works regularly in that position on site at the home for at least the following **minimum hours:**

- For homes with a licensed bed capacity of 69 beds or fewer (smaller homes), **at least** 17.5 hours per week.
- For homes with a licensed bed capacity of more than 69 beds but less than 200 beds, **at least** 26.25 hours per week.
- For homes with a licensed bed capacity of 200 beds or more, **at least** 35 hours per week. (s.102(15) of the Regulation).

Explanatory Note:

IPAC programming and required resources, including resources available on a specific shift, must be sufficient to address home and resident factors such as: age of the home; layout; and resident complexity and/or vulnerability, as these may directly impact IPAC practices.

As well, the role should be prioritized and resourced in a manner that ensures that the required roles and responsibilities can be performed; including daily surveillance.

Education of the IPAC Lead

Act/Regulation: The IPAC Lead shall have, at a minimum, education and experience in IPAC practices, including:

- a) Infectious diseases;
- b) Cleaning and disinfection;
- c) Data collection and trend analysis;
- d) Reporting protocols;
- e) Outbreak management;
- f) Asepsis;
- g) Microbiology;
- h) Adult education;
- i) Epidemiology;
- j) Program management; and
- k) Within three years of s.102(6) of the Regulation coming into force, the IPAC Lead shall have current certification in infection control from the Certification Board of Infection Control and Epidemiology (ss.102(5) and 102(6) of the Regulation).

Responsibilities of the IPAC Lead

Act/Regulation: As detailed in section 102(7) of the Regulation, every licensee shall ensure that the IPAC Lead carries out the following responsibilities as well as those also required under this Standard, as described below:

1. Working with the interdisciplinary IPAC team to implement the IPAC program;
2. Managing and overseeing the IPAC program;
3. Overseeing the delivery of IPAC education to all staff, caregivers, volunteers, visitors, and residents;
4. Auditing of IPAC practices in the home (please note that auditing of IPAC practices can also include overseeing audit activities performed by other staff in the home in collaboration with, or under the direction of, the IPAC lead);

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

2.1 The licensee shall ensure that the IPAC Lead conducts at a minimum, quarterly real-time audits of specific activities performed by staff in the home, including but not limited to, hand hygiene, selection and donning and doffing of PPE.

5. Conducting regular infectious disease surveillance;

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

2.2 The licensee shall ensure that the IPAC Lead reviews infectious disease surveillance results regularly to ensure that all staff are conducting infectious disease surveillance appropriately and to ensure that appropriate action is being taken to respond to surveillance findings.

6. Convening the Outbreak Management Team (OMT) at the outset of an outbreak and regularly throughout an outbreak;
7. Convening the interdisciplinary IPAC team at least quarterly, and at a more frequent interval during an infectious disease outbreak in the home (this may also include convening the team during other disease outbreaks (i.e, non-infectious);
8. Reviewing the symptom screening gathered pursuant to subsection 102(9) of the Regulation;
9. Reviewing daily and monthly screening results collected by the licensee to determine whether any action is required;
10. Implementing required improvements to the IPAC program as required by audits or by the licensee; and

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

2.3 The licensee shall ensure that the IPAC Lead, in collaboration with the interdisciplinary IPAC team, implements required improvements to address any evaluation and/or audit findings as well as recommendations arising from the quality program for IPAC.

11. Ensuring that there is in place a hand hygiene program in accordance with this standard which includes, at a minimum, access to hand hygiene agents at point-of-care (s.102(7) of the Regulation).

Contact information for the IPAC Lead:

Act/Regulation: The licensee shall ensure that the direct contact information, including a telephone number and an email address that are monitored regularly, of all IPAC Leads for the home are provided:

- a) To the local medical officer of health appointed under the *Health Protection and Promotion Act* or their designate; and
- b) Where there exists a person or entity that is designated as the relevant IPAC hub for the home under a funding agreement with the Ministry of Health, to that IPAC hub (s.102(19) of the Regulation).

Additional IPAC Staff:

Act/Regulation: The licensee of a long-term care home shall consider the complexity and vulnerability of their resident population in the home and shall determine if the infection prevention and control lead is required to work more than the minimum number of hours in the home required by subsection 102 (15) of the Regulation, or whether to designate additional IPAC Leads as required. (s.102(16) Regulation).

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

2.4 The licensee shall ensure that the IPAC program is appropriately resourced, including that additional staff with education in IPAC are available to provide support to the IPAC Lead, as needed, on every shift.

Note: The designation of an additional IPAC Lead, or other supporting staff, does not relieve the licensee from the obligation to ensure that the designated lead works the minimum number of hours required by the Regulation.

Consultation with the Medical Director and other Healthcare Professionals

Act/Regulation: The licensee shall ensure that an interdisciplinary infection prevention and control team that includes the infection prevention and control lead, the Medical Director, the Director of Nursing and Personal Care and the Administrator co-ordinates and implements the program (s.102(4)(b) of the Regulation).

The licensee shall ensure that all staff participate in the implementation of the IPAC program, including, for greater certainty, all members of the leadership team, including the Administrator, the Medical Director, the Director of Nursing and Personal Care and the infection prevention and control lead (s.102(8) of the Regulation).

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

2.5 The licensee shall ensure that the IPAC Lead consults with the Medical Director and other healthcare professionals in the home which shall include at a minimum, consulting with the Medical Director on policies and procedures for the IPAC program that impact medical care.

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

2.6 The licensee shall ensure that the IPAC Lead seeks advice from the interdisciplinary IPAC team and other health care professionals in the home (e.g. dietician, occupational therapist) on specific policies and procedures of the IPAC program, in particular those that directly impact resident care.

Interdisciplinary IPAC Team

Act/Regulation: The licensee shall ensure,

- a) That there is an interdisciplinary team approach in the co-ordination and implementation of the IPAC program;
- b) That an interdisciplinary infection prevention and control team that includes the infection prevention and control lead, the Medical Director, the Director of Nursing and Personal Care and the Administrator co-ordinates and implements the program;
- c) That the interdisciplinary infection prevention and control team meets at least quarterly and on a more frequent basis during an infectious disease outbreak in the home; and
- d) That the local medical officer of health appointed under the *Health Protection and Promotion Act* or their designate is invited to the meetings (s.102(4)(a)-(d) of the Regulation).

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

2.7 The licensee shall ensure that the interdisciplinary team approach in the co-ordination and implementation of the IPAC program includes engagement with:

- a) The home's Occupational Health and Safety (OHS) lead, or other individual with OHS responsibility for the home, where an OHS lead is not in place, and the Joint Health and Safety Committee (JHSC) or health and safety representative;
- b) The Residents' Council and Family Council, if any, on a regular basis (at least quarterly) to seek advice on IPAC measures and their impacts on residents and families/caregivers; and
- c) The Residents' Council and Family Council, if any, on the IPAC program evaluation and quality activities. This shall include the Council(s) providing advice on program improvements.

Ethical Framework

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

2.8 The licensee shall ensure that the implementation and ongoing delivery of the IPAC program includes an ethical framework to inform decision-making.

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

2.9 The licensee shall ensure that a clearly documented ethical framework is included as part of the IPAC program. The ethical framework must include key principles which have been discussed and developed in collaboration with the interdisciplinary IPAC team, the home's leadership team (where not already represented on the interdisciplinary IPAC team), the continuous quality improvement committee (once established), and the Residents' Council or Family Council, if any.

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

2.10 The licensee shall ensure that the ethical framework for the IPAC program includes the following key principles:

- Fairness;
- Equity;
- Transparency;
- Consideration of available evidence;
- Consideration of impacts of decisions on residents and staff;
- Resident quality of life as a primary driver;
- Risk relative to reward of key decisions; and
- Safety.

Precautionary Principle

Act/Regulation: The licensee shall ensure that the IPAC program is implemented in a manner consistent with the precautionary principle as set out in the standards and protocols issued by the Director and the most current medical evidence (s.102(4)(g) of the Regulation).

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

2.11 The licensee shall ensure that the application of the precautionary principle is guided by the key principles in the ethical framework.

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

2.12 The licensee shall ensure that when determining whether to apply the Precautionary Principle, they consider recommendations including those of a provincial scientific table, and the Chief Medical Officer of Health appointed under the *Health Protection and Promotion Act*, where available.

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

2.13 The licensee shall ensure that processes are established for the de-escalation of practices where the precautionary principle has been applied.

The licensee shall ensure that as part of this process, the OHS lead, Joint Health and Safety Committee (JHSC), or health and safety representative, and the interdisciplinary IPAC team are engaged.

What is meant by escalation and de-escalation of practices?

The decision to apply the precautionary principle can include making a risk-based decision to transition from routine practices to additional precautions (escalation). Requirement 2.13 refers to the need for a plan for the de-escalation of practices where this has been done related to the application of the precautionary principle.

Please see the following document that discusses de-escalation of COVID-19 control measures, for example.

[De-escalation of COVID-19 Outbreak Control Measures in Long-term Care and Retirement Homes \(publichealthontario.ca\)](https://www.publichealthontario.ca)

3. Surveillance

Act/Regulation: The licensee shall implement any surveillance protocols issued by the Director for a particular communicable disease or disease of public health significance (s.102(2)(a) of the Regulation).

The licensee shall ensure that on every shift,

- a) Symptoms indicating the presence of infection in residents are monitored in accordance with any standard or protocol issued by the Director; and
- b) The symptoms are recorded and that immediate action is taken to reduce transmission and isolate residents and place them in cohorts as required (s.102(9) of the Regulation).

The licensee shall ensure that the symptom screening information gathered under subsection 102(9) of the Regulation is analyzed daily to detect the presence of infection and reviewed at least monthly to detect trends, for the purpose of reducing the incidence of infection and outbreaks (s.102(10) of the Regulation).

The infection prevention and control program must also include daily monitoring to detect the presence of infection in residents (s. 23 (2) (c)) of the Regulation).

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

3.1 The licensee shall ensure that the following surveillance actions are taken:

- a) Training staff on how to monitor for the presence of infection in residents;
- b) Ensuring that surveillance is performed on every shift to identify cases of healthcare acquired infections (HAIs), device-associated infections and Antibiotic Resistant Organisms (AROs);
- c) Ensuring that established case definitions for specific diseases are understood and used by staff;
- d) Using common forms and tools, and making them available to staff at locations where they are needed, for surveillance reporting in the home;
- e) Developing and using a surveillance database and reporting tool for use in the home (e.g., Microsoft Excel spreadsheet or other tool) to collect and collate data;
- f) Ensuring that surveillance information is tracked and entered into the surveillance database and/or reporting tools;
- g) Ensuring that staff are aware of requirements for infectious disease reporting within the home;
- h) Ensuring that the interdisciplinary IPAC team is regularly updated on surveillance findings; and
- i) Employing syndromic surveillance regularly to monitor for symptoms, including but not limited to, fever new coughs, nausea, vomiting, and diarrhea, and taking appropriate action.

4. Outbreak Preparedness and Management

Act/Regulation: The licensee shall ensure that there are in place, an outbreak management system for detecting, managing, and controlling infectious disease outbreaks, including defined staff responsibilities, reporting protocols based on requirements under the *Health Protection and Promotion Act*, communication plans, and protocols for receiving and responding to health alerts; and a written plan for responding to infectious disease outbreaks (s. 102(11) of the Regulation).

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

4.1 The licensee shall ensure that the outbreak management system includes:

- a) Organizational risk assessments;
- b) Outbreak management policies, procedures and protocols;
- c) Assigned outbreak management team (OMT) and staff roles and responsibilities;
- d) Approaches to engage residents, staff, and caregivers;
- e) Approaches to engage with the local *board of health;
- f) Reporting protocols based on the home's critical incident system;
- g) Protocols for testing, screening for infection and cohorting, as required;
- h) Processes for accessing additional supports if required (e.g. through the IPAC hubs, public health units, other);
- i) Strategies to address various modes of disease transmission in outbreaks;
- j) Processes to ensure that staff have the knowledge and ability to transfer outbreak information from shift to shift for continuity and continuous monitoring of disease and outbreak status; and
- k) Processes to consider the unique features of the home in the outbreak management plan such as:
 - The size and physical layout of the home including rooms available for separating and/or cohorting residents;
 - Staffing supply, mix, and models;
 - Resident population and unique needs and/or features;
 - Impacts of outbreaks on residents including impacts of social isolation;
 - Cultural safety; and
 - Community impacts.

*Please note that public health unit is a colloquial name used for boards of health which are defined under the *Protection and Promotion Act, 1990*.

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

4.2 The licensee shall ensure that the IPAC Lead is involved in outbreak management activities in collaboration with the interdisciplinary IPAC team and the OMT in the manner described below.

The IPAC Lead's role shall include, but not be limited to:

- a) Advising on IPAC practices to manage the outbreak and minimize risk(s) to residents and staff;
- b) Assisting with securing IPAC-related resources needed to support the outbreak management response. This may also include working in collaboration with the licensee and the OMT to secure needed PPE and other supplies as required;
- c) Ensuring that accurate disease-related information is tracked and documented;
- d) Engaging with the local board of health on the outbreak response (when relevant) including when an outbreak has been declared;
- e) Implementing changes to IPAC practices as needed to support the outbreak response; and
- f) Providing IPAC-related education and training to staff and others to support the outbreak response.

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

4.3 The licensee shall ensure that following the resolution of an outbreak, the OMT and the interdisciplinary IPAC team conduct a debrief session to assess IPAC practices that were effective and ineffective in the management of the outbreak. A summary of findings shall be created that makes recommendations to the licensee for improvements to outbreak management practices.

5. IPAC Policies and Procedures

Act/Regulation: The IPAC program must include evidence-based policies and procedures (s.23(2)(a) of the Act).

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

5.1 The licensee shall ensure that the IPAC Lead works with the interdisciplinary IPAC team as well as affected departments in the home, including but not limited to: housekeeping; environmental health, occupational health and safety; and clinical leadership (where not already represented on the interdisciplinary IPAC team), to develop a comprehensive inventory of evidence-based policies and procedures for the IPAC program.

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

5.2 The licensee shall ensure that the IPAC policies and procedures are reviewed at least annually for completeness, accuracy, and alignment with evidence and with best practice, and are updated based on that review.

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

5.3 The licensee shall ensure that the policies and procedures for the IPAC program include policies and procedures for the implementation of Routine Practices and Additional Precautions including but not limited to:

- a) Point of Care Risk Assessments;
- b) Respiratory Etiquette;
- c) Contact transmission and precautions;
- d) Droplet transmission and precautions;
- e) Airborne transmission and precautions;
- f) Combinations of Additional Precautions;
- g) Management of antibiotic-resistant organisms (AROs); and
- h) Cleaning and disinfection.

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

5.4 The licensee shall ensure that the policies and procedures for the IPAC program also address:

- a) Safe administration and handling of medications, including safe handling of needles and other sharps (related to IPAC practices specifically);
- b) Reprocessing of medical equipment both offsite and onsite. This shall include the requirement for offsite processing to be performed by a licensed provider;
- c) Surveillance and screening activities including data collection and reporting;
- d) Personal protective equipment (PPE), including training and education related to appropriate selection, and use as well as a plan for appropriate stewardship;
- e) Policies and procedures for the hand hygiene program as a component of the overall IPAC program;
- f) Policies and procedures for disease-specific management;
- g) IPAC related practices for aerosol generating medical procedures (AGMPs);
- h) Staff training and education requirements;
- i) Culturally safe and appropriate IPAC practices;
- j) Assessment, review, and evaluation of environmental cleaning products;
- k) IPAC policies for housekeeping, laundry, cleaning, and disinfecting;
- l) Waste management;
- m) Facility maintenance standards for heating, ventilation, and air conditioning (related to IPAC specifically);
- n) IPAC policies and procedures for food services including:
 - i. Food storage;
 - ii. Food preparation; and
 - iii. Food handling
- o) Program audit activities; and
- p) Program evaluation and quality improvement.

*Policies and procedures may be combined/grouped as appropriate.

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

5.5 The licensee shall identify how IPAC policies and procedures will be implemented in the home.

6. Personal Protective Equipment (PPE)

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

6.1 The licensee shall make PPE available and accessible to staff and residents, appropriate to their role and level of risk. This shall include having a PPE supply and stewardship plan in place and ensuring adequate access to PPE for Routine Practices and Additional Precautions. The licensee shall ensure that the PPE supply and stewardship plan is consistent with any relevant Directives and/or Guidance, regarding appropriate PPE use, from the Chief Medical Officer of Health or the Minister of Long-Term Care, which may be in place.

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

6.2 The licensee shall ensure that training is provided to staff on the appropriate selection, application, removal, and disposal of PPE.

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

6.3 The licensee shall ensure that training and assistance, appropriate to their needs and level of understanding, is provided to residents, related to use of PPE.

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

6.4 The licensee shall ensure that individuals have access to fit-testing where fit-testing is required for specific equipment.

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

6.5 The licensee shall ensure that the IPAC Lead is involved in the review, selection and purchasing of PPE, as required.

What is PPE Stewardship?

PPE stewardship includes all aspects of managing PPE in the home. This includes; ensuring adequate supply; making choices about distribution, and ensuring that PPE is selected, used and disposed of properly. It should also include ensuring that PPE is selected and used in an evidence-based manner.

[Optimizing the Supply of Personal Protective Equipment During the COVID-19 Pandemic \(ontariohealth.ca\)](https://www.ontariohealth.ca/optimizing-the-supply-of-personal-protective-equipment-during-the-covid-19-pandemic)

7. Training and Education

Act/Regulation: The IPAC program is required to include an educational component in respect of infection prevention and control for staff, residents, volunteers and caregivers (Act ss. 23(2)(b)). Licensees should also refer to other requirements in sections 257-263 of the Regulation).

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

7.1 The licensee shall ensure that the IPAC Lead develops and oversees the implementation of an IPAC training and education program for residents, caregivers, staff and visitors which includes at a minimum the following:

- a) Caregivers shall receive orientation and training on IPAC policies and procedures appropriate to their role;
- b) Residents shall also receive training, education, and/or information appropriate to their needs and level of understanding that helps them to understand the IPAC program and specific IPAC practices that may affect them;
- c) The licensee shall communicate relevant IPAC information and requirements and provide education to residents, caregivers and other visitors (including family members), which includes but is not limited to: visitor policies, physical distancing, respiratory etiquette, hand hygiene, applicable IPAC practices, and proper use of PPE;
- d) The licensee shall provide IPAC retraining and education on an annual basis or more frequently, to respond to emerging public health issues and/or new evidence;
- e) Training shall be accessible, tailored to learner needs and reduce potential barriers to comprehension including language and literacy; and
- f) The licensee shall also ensure that visitors receive information about required IPAC practices that is appropriate to the level of risk that visitors present to themselves and to others in the home.

What is respiratory etiquette?

Respiratory etiquette refers to personal practices that help prevent the spread of bacteria and viruses that cause acute respiratory infections (e.g., covering the mouth when coughing, care when disposing of tissues).

Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Best practices for prevention, surveillance and infection control management of novel respiratory infections in all health care settings. 1 st revision. Toronto, ON: Queen's Printer for Ontario; 2020.

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

7.2 The licensee shall ensure that the IPAC Lead develops and oversees the implementation of an IPAC training and education program for staff and volunteers required by the Act and Regulation which has the following minimum requirements:

- a) The required orientation and training on IPAC under the Act and Regulation shall be appropriate to the staff and volunteer role;
- b) The training shall be accessible, tailored to learner needs and reduce potential barriers to comprehension including language and literacy;
- c) IPAC education shall be tailored to the job of the staff member receiving the education. For example, environmental cleaning, allied health staff, food service workers, laundry services; and
- d) The JHSC or health and safety representative shall be engaged in the development of training and education relevant to worker safety.

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

7.3 The licensee shall ensure that the IPAC Lead plans, implements, and tracks the completion of all IPAC training and:

- a) Assessments/audits and feedback processes are used to determine if staff have met training requirements as required by the Act and Regulation, or when individual staff need remedial or refresher training; and
- b) Ensures that audits are performed regularly (at least quarterly) to ensure that all staff can perform the IPAC skills required of their role.

8. Regular Evaluation and Quality Improvement

Act/Regulation: The licensee shall oversee the development and implementation of a quality management program to assess and improve IPAC in the home, as set out in a standard or protocol issued by the Director under subsection 102(2) of the Regulation (s. 102(18) of the Regulation).

The licensee shall ensure that the IPAC program is evaluated and updated at least annually in accordance with the standards and protocols issued by the Director under subsection 102(2) and (s. 102(4)(e)) of the Regulation. The licensee shall also ensure that a written record is maintained for each evaluation including evaluation dates and time period, the names of the persons who participated in the evaluation, a summary of the changes made and the date that those changes were implemented.

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

8.1 In evaluating and updating the IPAC program, at a minimum on an annual basis, the licensee shall:

- a) In addition to the requirement to ensure that the IPAC program is evaluated and updated at least annually, ensure that the IPAC program, including the IPAC policies and procedures, are reviewed and updated, more frequently in accordance with emerging evidence and best practices;
- b) Ensure that the evaluation of the IPAC program also includes specific actions to evaluate outbreak preparedness and response activities;
- c) Ensure that evaluation approaches also include, at a minimum:
 - i. A system to monitor the compliance of staff with IPAC program policies and procedures, as well as processes for correcting and improving identified gaps;
 - ii. An audit plan, including audit processes for on-site review of IPAC practices by staff with education and corrective actions; and
 - iii. Engagement with the Quality Committee to appropriately link program evaluation with Quality initiatives.
- d) Ensure that quality reviews shall also be conducted annually in collaboration with home leadership, the Quality Committee, the IPAC Lead, and the interdisciplinary IPAC team.

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

8.2 The licensee shall ensure at minimum, that the following activities are carried out in the quality management program:

- a) Establishment of goals and key quality indicators (both process and outcome-related) for the IPAC program in the home;
- b) Training and education for staff related to quality indicators and needed improvements for IPAC in the home;
- c) Reporting on quality indicators and metrics for IPAC in the home; and
- d) Engagement with the Quality Committee, the interdisciplinary IPAC team and family and resident councils related to IPAC in the home.

9. Routine Practices and Additional Precautions

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

9.1 The licensee shall ensure that Routine Practices and Additional Precautions are followed in the IPAC program.

At minimum Routine Practices shall include:

- a) The use of infectious disease risk assessments including point of care risk assessments;
- b) Hand hygiene, including, but not limited to, at the four moments of hand hygiene (before initial resident/resident environment contact; before any aseptic procedure; after body fluid exposure risk, and after resident/resident environment contact);
- c) Respiratory etiquette;
- d) Proper use of PPE, including appropriate selection, application, removal, and disposal; and
- e) Use of controls, including:
 - i. Environmental controls, including but not limited to, location/placement of residents' equipment, cleaning, making hand hygiene products available;
 - ii. Engineering controls, including but not limited to, use of safety-engineered needles point-of-care sharps containers, disposable equipment, barriers; and
 - iii. Administrative controls, including but not limited to, comprehensive IPAC policies and procedures.

At minimum, Additional Precautions shall include:

- a) Evidence-based practices related to potential contact transmission and required precautions;
- b) Evidence-based practices related to potential droplet transmission and required precautions;
- c) Evidence-based practices related to airborne transmission and required precautions;
- d) Evidence-based practices for combined precautions;
- e) Point-of-care signage indicating that enhanced IPAC control measures are in place;
- f) Additional PPE requirements including appropriate selection application, removal and disposal;
- g) Modified or enhanced environmental cleaning procedures; and
- h) Communication regarding Additional Precautions with transport of residents to other facilities (e.g. hospital).

For more detailed information on Routine Practices and Additional Precautions, please refer to Public Health Ontario's [Routine Practices and Additional Precautions \(PIDAC, 2012\)](#).

And/or - Public Health Agency of Canada

[Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Healthcare Settings - Canada.ca](#)

10. Hand Hygiene Program

Act/Regulation: The licensee is required to implement a hand hygiene program (s. 23(2)(e) of the Act). The licensee is required to ensure that there is in place a hand hygiene program in accordance with any standard or protocol issued by the Director under s. 102(2) of the Regulation, which includes, at a minimum, access to hand hygiene agents at point-of-care (para 11 of s. 102(7) of the Regulation).

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

10.1 The licensee shall ensure that the hand hygiene program includes access to hand hygiene agents, including 70-90% Alcohol-Based Hand Rub (ABHR). These agents shall be easily accessible at both point-of care and in other resident and common areas, and any staff providing direct resident care must have immediate access to 70-90% ABHR.

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

10.2 The hand hygiene program shall be multifaceted and multidisciplinary. The licensee shall ensure that the program includes, at minimum, training and education, hand hygiene audits, a hand care program, and hand hygiene and hand care support for residents.

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

10.3 Hand washing facilities provisioned with appropriate supplies must also be accessible in common areas and work areas where hand washing may be required.

ADDITIONAL REQUIREMENT UNDER THE STANDARD:

10.4 The Licensee shall ensure that the hand hygiene program also includes policies and procedures, as a component of the overall IPAC program, as well as:

- a) Hand hygiene signage;
- b) Training and education related to hand hygiene practices at the four moments of hand hygiene (before initial resident/resident environment contact; before any aseptic procedure; after body fluid exposure risk, and after resident/resident environment contact);
- c) Identification and engagement of hand hygiene champions in the home to promote best practice; audits to monitor hand hygiene compliance including feedback and correction of practices when indicated;
- d) These activities shall be linked to the overall audit, evaluation, and quality approach for the full IPAC program:

- i. This shall also include monthly audits of adherence to the four moments of hand hygiene by staff;
- e) A hand care program to assess and maintain the skin integrity of staff who perform frequent hand hygiene;
- f) Hand hygiene training and awareness as part of orientation and ongoing training of all staff, volunteers and visitors (including caregivers and family members);
- g) Involvement of the IPAC Lead and OHS staff in product selection for hand hygiene and skin maintenance, to ensure that PPE durability is not compromised (e.g., interaction of hand care products and the break-down of latex gloves);
- h) Support for residents to perform hand hygiene prior to receiving meals and snacks, and after toileting; and
- i) Support for residents who have difficulty completing hand hygiene due to mobility, cognitive or other impairments.

Please also refer to Just Clean Your Hands

[Just Clean Your Hands – Long-term Care | Public Health Ontario](#)

11. Immunization and Screening

Act/Regulation The licensee shall ensure that the following immunization and screening measures are in place:

- a) Each resident admitted to the home must be screened for tuberculosis within 14 days of:
 - i. Admission unless the resident has already been screened at some time in the 90 days prior to admission and the documented results of this screening are available to the licensee;
- b) Residents must be offered immunization against influenza at the appropriate time each year;
- c) Residents must be offered immunizations against pneumococcus, tetanus and diphtheria in accordance with the publicly funded immunization schedules posted on the website of the Ministry of Health;
- d) Staff is screened for tuberculosis and other infectious diseases in accordance with any standard or protocol issued by the Director;
- e) There must be a staff immunization program in accordance with any standard or protocol issued by the Director;
- f) A licensee is exempt from screening for TB with respect to a resident:
 - i. Who is being relocated to another long-term care home operated by the same licensee and section 240 of the Regulation applies; or
 - ii. Who is transferring to a related temporary long-term care home, a re-opened long-term care home or a replacement long-term care home operated by the same licensee;
- g) The licensee shall ensure that any pets living in the home or visiting the home have up-to-date immunizations. (Regulation ss 102(12)-(14)).

ADDITIONAL REQUIREMENTS UNDER THE STANDARD:

11.1 The licensee shall work collaboratively with the local board of health regarding immunization of residents and staff, which may include offering immunizations onsite. This may also include offering additional immunizations as recommended by the local board of health.

As well, the licensee shall implement a staff immunization program that includes informational resources regarding the benefits of immunization to resident and staff safety. This shall also include communicating expectations regarding immunization at hiring (for example, regarding recommended immunizations such as Measles/Mumps/Rubella (MMR) and yearly influenza immunization).

11.2 The licensee shall ensure that staff is screened for tuberculosis and other infectious diseases. This shall include ensuring accordance with evidence-based practices and where there are none, accordance with prevailing practices. This may also include consultation with the local board of health to ensure that screening is undertaken to address specific risks in the community.

Licensees may wish to refer to the Canadian TB Standards for guidance related to TB Screening

[Canadian Tuberculosis Standards 7th Edition: 2014 - Canada.ca](#)

Appendix 1: FLTCA 2021:

Item
<p>23 (1) Every licensee of a long-term care home shall ensure that there is an infection prevention and control program for the home.</p> <p>(2) The infection prevention and control program must include,</p> <ul style="list-style-type: none">(a) evidence-based policies and procedures;(b) an educational component in respect of infection prevention and control for staff, residents, volunteers, and caregivers;(c) daily monitoring to detect the presence of infection in residents of the long-term care home;(d) measures to prevent the transmission of infections;(e) a hand hygiene program; and(f) any additional matters provided for in the regulations. <p>(3) The licensee shall ensure that the infection prevention and control program and what is provided for under that program, including the matters required under subsection (2), comply with any standards and requirements, including required outcomes and accountability measures, provided for in the regulations.</p> <p>(4) Except as provided for in the regulations, every licensee of a long-term care home shall ensure that the home has an infection prevention and control lead whose primary responsibility is the home's infection prevention and control program.</p> <p>(5) Every licensee of a long-term care home shall ensure that the infection prevention and control lead possesses the qualifications provided for in the regulations.</p>

Appendix 2: Ontario Regulation 246/22 under the *FLTCA*: s. 102

Infection prevention and control program

- (1) Every licensee of a long-term care home shall ensure that the infection prevention and control program required under subsection 23 (1) of the Act complies with the requirements of this section.
- (2) The licensee shall implement,
 - (a) any surveillance protocols issued by the Director for a particular communicable disease or [disease of public health significance](#); and
 - (b) any standard or protocol issued by the Director with respect to infection prevention and control.
- (3) The Director shall update the standards and protocols mentioned in subsection (2) regularly to reflect relevant evidence and best practice.
- (4) The licensee shall ensure,
 - (a) that there is an interdisciplinary team approach in the co-ordination and implementation of the program;
 - (b) that an interdisciplinary infection prevention and control team that includes the infection prevention and control lead, the Medical Director, the Director of Nursing and Personal Care and the Administrator co-ordinates and implements the program;
 - (c) that the interdisciplinary infection prevention and control team meets at least quarterly and on a more frequent basis during an infectious disease outbreak in the home;
 - (d) that the local medical officer of health [appointed under the Health Protection and Promotion Act](#) or their designate is invited to the meetings;
 - (e) that the program is evaluated and updated at least annually in accordance with the standards and protocols issued by the Director under subsection (2);
 - (f) that a written record is kept relating to each evaluation under clause (e) that includes the date of the evaluation, the names of the persons who participated in the evaluation, a summary of the changes made and the date that those changes were implemented; and
 - (g) that the program is implemented in a manner consistent with the precautionary principle as set out in the standards and protocols issued by the Director under subsection (2) and the most current medical evidence.
- (5) The licensee shall designate a staff member as the infection prevention and control lead who has education and experience in infection prevention and control practices, including,
 - (a) infectious diseases;
 - (b) cleaning and disinfection;
 - (c) data collection and trend analysis;
 - (d) reporting protocols;
 - (e) outbreak management;

- (f) asepsis;
- (g) microbiology;
- (h) adult education;
- (i) epidemiology;
- (j) program management; and
- (k) current certification in infection control from the Certification Board of Infection Control and Epidemiology.

(6) A licensee is not required to comply with the qualification requirements for the infection prevention and control lead under clause (5) (k) until three years after this section comes into force.

(7) The licensee shall ensure that the infection prevention and control lead designated under subsection carries out the following responsibilities in the home:

- a. Working with the interdisciplinary team to implement the infection prevention and control program.
- b. Managing and overseeing the infection prevention and control program.
- c. Overseeing the delivery of infection prevention and control education to all staff, caregivers, volunteers, visitors and residents.
- d. Auditing of infection prevention and control practices in the home.
- e. Conducting regular infectious disease surveillance.
- f. Convening the Outbreak Management Team at the outset of an outbreak and regularly throughout an outbreak.
- g. Convening the interdisciplinary infection prevention and control team referred to in subsection (4) at least quarterly, and at a more frequent interval during an infectious disease outbreak in the home.
- h. Reviewing the information gathered pursuant to subsection (9).
- i. Reviewing any daily and monthly screening results collected by the licensee to determine whether any action is required.
- j. Implementing required improvements to the infection prevention and control program as required by audits under paragraph 4 or by the licensee.
- k. Ensuring that there is in place a hand hygiene program in accordance with any standard or protocol issued by the Director under subsection (2) which includes, at a minimum, access to hand hygiene agents at point-of-care.

(8) The licensee shall ensure that all staff participate in the implementation of the program, including, for greater certainty, all members of the leadership team, including the Administrator, the Medical Director, the Director of Nursing and Personal Care and the infection prevention and control lead.

(9) The licensee shall ensure that on every shift,

(a) symptoms indicating the presence of infection in residents are monitored in accordance with any standard or protocol issued by the Director under subsection (2); and

(b) the symptoms are recorded and that immediate action is taken to reduce transmission and isolate residents and place them in cohorts as required.

(10) The licensee shall ensure that the information gathered under subsection (9) is analyzed daily to detect the presence of infection and reviewed at least once a month to detect trends, for the purpose of reducing the incidence of infection and outbreaks.

(11) The licensee shall ensure that there are in place,

(a) an outbreak management system for detecting, managing, and controlling infectious disease outbreaks, including defined staff responsibilities, reporting protocols based on requirements under the *Health Protection and Promotion Act*, communication plans, and protocols for receiving and responding to health alerts; and

(b) a written plan for responding to infectious disease outbreaks.

(12) The licensee shall ensure that the following immunization and screening measures are in place:

1. Each resident admitted to the home must be screened for tuberculosis within 14 days of admission unless the resident has already been screened at some time in the 90 days prior to admission and the documented results of this screening are available to the licensee.

2. Residents must be offered immunization against influenza at the appropriate time each year.

3. Residents must be offered immunizations against pneumococcus, tetanus and diphtheria in accordance with the publicly funded immunization schedules posted on the website of the Ministry of Health.

4. Staff is screened for tuberculosis and other infectious diseases in accordance with any standard or protocol issued by the Director under subsection (2).

5. There must be a staff immunization program in accordance with any standard or protocol issued by the Director under subsection (2).

(13) A licensee is exempt from paragraph 1 of subsection (12) with respect to a resident,

(a) who is being relocated to another long-term care home operated by the same licensee and section 240 applies; or

(b) who is transferring to a related temporary long-term care home, a re-opened long-term care home or a replacement long-term care home operated by the same licensee.

(14) The licensee shall ensure that any pets living in the home or visiting the home have up-to-date immunizations.

(15) Subject to subsection (16), every licensee of a long-term care home shall ensure that the infection prevention and control lead designated under this section works regularly in that position on site at the home for the following amount of time per week:

1. In a home with a licensed bed capacity of 69 beds or fewer, at least 17.5 hours per week.

2. In a home with a licensed bed capacity of more than 69 beds but less than 200 beds, at least 26.25 hours per week.

3. In a home with a licensed bed capacity of 200 beds or more, at least 35 hours per week.

(16) Every licensee of a long-term care home shall consider the complexity and vulnerability of their resident population in the home and shall determine if the infection prevention and control lead is required to work more than the minimum number of hours required by subsection (15) or whether to designate additional infection prevention and control leads as required.

(17) The designation of an additional infection prevention and control lead under subsection (16) does not relieve the licensee with respect to its obligation to ensure the minimum hours worked in subsection (15) by the infection prevention and control lead.

(18) The licensee shall oversee the development and implementation of a quality management program to assess and improve infection prevention and control in the home, as set out in a standard or protocol issued by the Director under subsection (2).

(19) Every licensee of a long-term care home shall ensure that the direct contact information, including a telephone number and email address that are monitored regularly, of all infection prevention and control leads for the home are provided,

(a) to the local medical officer of health appointed under *the Health Protection and Promotion Act* or their designate; and

(b) where there exists a person or entity that is designated as the relevant IPAC hub for the home under a funding agreement with the Ministry of Health, to that IPAC hub.

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Abbreviations

ABHR Alcohol-Based Hand Rub

AGMPs Aerosol Generating Medical Procedures

AP Additional Precautions

ARI Acute Respiratory Infection

ARO Antibiotic-Resistant Organism

ASP Antimicrobial Stewardship Program

CIC® Certification in Infection Control

C.diff Clostridioides difficile

CPE Carbapenemase-Producing Enterobacterales

EMC Emergency Management Committee

ESBL Extended Spectrum Beta-lactamases producing Enterobacterales

FTE Full-time Equivalent

HAI Health care-Associated Infection

HCW Health Care Worker

ICP Infection Prevention and Control Professional

IPAC Infection Prevention and Control

MRSA Methicillin-Resistant Staphylococcus aureus

OHS Occupational Health and Safety

OMT Outbreak Management Team

PHAC Public Health Agency of Canada

PIDAC Provincial Infectious Diseases Advisory Committee (Ontario)

PPE Personal Protective Equipment

RP Routine Practices

VRE Vancomycin-Resistant Enterococci

Appendix B

ICRA Form

Infection Control Risk Assessment (ICRA) Tool: Construction, Renovation, Maintenance and Design (CRMD)

Section A: Project Scope

Location of construction / renovation:

Other areas and systems impacted ie. adjacent area and HVAC systems:

Project Description: Projected Start Date: Estimated Duration:

Project Manager: Phone / Email:

Maintenance Department: Phone / Email:

Department/Unit lead for impacted area: Phone / Email:

Contractor(s): Phone / Email:

IPAC Lead: Phone / Email:

Section B: Construction Activity

Select construction activity type based on project description.

- Type A:** Inspection, non-invasive activity above ceiling or in wall cavity and minor plumbing work of short durations.
- Type B:** Small scale, short duration, creates minimal dust and plumbing.
- Type C:** Work generates moderate to high level of dust, or requires demolition or removal of fixed component or assembly or requires more than 1 work shift to complete and plumbing.
- Type D:** Work generates high level of dust, or major demolition and construction requiring consecutive work shifts to complete and plumbing.

Section C: Population and Geographical Risk Group

Select population and geographical risk group where construction activity occurs.

- Group 1:** Lowest Risk
- Group 2:** Medium Risk
- Group 3:** Medium / High Risk
- Group 4:** Highest Risk

Section D: Classification for Infection Preventative Measures

Based on selections in section B and C, assign Preventive Measures class.

	Type A	Type B	Type C	Type D
Group 1	<input type="checkbox"/> Class 1	<input type="checkbox"/> Class 2*	<input type="checkbox"/> Class 2	<input type="checkbox"/> Class 3
Group 2	<input type="checkbox"/> Class 2	<input type="checkbox"/> Class 2	<input type="checkbox"/> Class 3	<input type="checkbox"/> Class 4
Group 3	<input type="checkbox"/> Class 2	<input type="checkbox"/> Class 3*	<input type="checkbox"/> Class 3	<input type="checkbox"/> Class 4
Group 4	<input type="checkbox"/> Class 2	<input type="checkbox"/> Class 3*	<input type="checkbox"/> Class 4	<input type="checkbox"/> Class 4

IPAC Lead Sign-off:

Project Manager Sign-off:

*Indicates where a lower level might be used i.e. Ceiling access for investigation of minor work

Section E: Preventive Measures Compliance Monitor

To Be Completed by IPAC

Date:	Meets Prevention Measures	Issues	Action Taken / Initials	Compliance Date:
<input type="text"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="text"/>	<input type="text"/>	<input type="text"/>

Infection Control Risk Assessment (ICRA) Tool: Construction, Renovation, Maintenance and Design (CRMD)

When to use this assessment tool:

Planning phase

Work phase

Commissioning phase

Background

Establishing risk associated with a particular CRMD activity is a critical first step that informs the selection of the most appropriate preventive measures and risk mitigation strategies to ensure the safety of clinical environments and their mechanical systems (i.e., HVAC and Plumbing systems).

This ICRA tool is designed to facilitate IPAC risk assessment by guiding those overseeing CRMD work (e.g., members of a multidisciplinary project team, project lead, facilities department staff) through the identification of risk groups that may be affected by their proximity or potential exposure to the proposed CRMD work. Appropriate IPAC measures are identified by considering the nature of activity with the population and setting.

This tool is to be completed by those overseeing the work with IPAC being consulted for specific guidance on the most appropriate preventative measures for the proposed work. Therefore, the tool also establishes a link between the IPAC Lead and others involved in the construction activity, which ensures construction related health care associated infections are prevented.

Instructions for Use

The IPAC lead must be involved in all 3 phases of CRMD activity to ensure that the appropriate preventative measures are initiated and followed.

Step 1: Fill out Section A-demographic section

Step 2: Fill out Section B by selecting the level of activity that best describes the project being planned for the health care setting.

Step 3: Fill out Section C by identifying the population and or geographical risk group that may be affected by the project because of its proximity or exposure to the construction/renovation activity.

Step 4: Fill out Section D with the appropriate IPAC measures by matching the population and geographical risk group in Section C with the Construction activity in Section B. Ensure IPAC signoff on agreed preventative measures.

Step 5: Section E should be completed by an IPAC lead during their CRMD surveillance to ensure that the preventative measures are being adhered to and that appropriate modifications are made if there are any design changes.

A copy of the ICRA tool should be sent to the IPAC lead prior to the initiation of the CRMD activity. The project team lead can print or email this fillable pdf tool.

The scope of the project may change and adaptations to the prevention measures can be made only after approval from the IPAC lead and the members of the multidisciplinary project team.

Conclusion

This tool will provide those involved with CRMD activity a clear approach to both establishing and communicating risk associated with the work. Additionally, the tool will prompt IPAC consultation, resulting in the appropriate selection and application of preventive measures.

Reference

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The information in this document is current as of July 2023.

For more information, please visit: publichealthontario.ca/CRMD