



BURNSIDE

Specifications for

**27 Albert Street, Clinton
Sloped Roof Replacement**

**Municipality of Central Huron
23 Albert Street
Clinton ON L9Z 1A1**

300043986.1000

May 7, 2020

**R.J. Burnside & Associates Limited
449 Josephine St., P.O. Box 10
Wingham ON N0G 2W0**

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**Municipality of Central Huron
27 Albert Street, Clinton, Ontario**

Sloped Roof Replacement

300043986.1000

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PART 1 GENERAL

1.1 GENERAL INFORMATION TO BIDDERS

.1 Definitions:

- .1 “Owner” shall mean the Municipality of Central Huron.
- .2 “Consultant” shall mean R.J. Burnside & Associates Ltd., or any other Owner’s Representative as may be authorized or appointed by the Owner to act on behalf of the Owner in any particular capacity.
- .3 “Contract Administrator” shall mean R.J. Burnside & Associates Ltd., or any other Contract Administrator as may be authorized or appointed by the Owner to act on behalf of the Owner in any particular capacity.
- .4 “Contractor” shall mean in every case the General Contractor.
- .5 “Provide” shall mean “supply and install”, “construct”, “supply and place”, etc. as applicable.
- .6 “The Work(s)” shall mean the total construction and related services required by the Contract Documents.
- .7 “Contract Documents” shall mean Instructions to Bidders, Bid Form – Stipulated Sum, CCDC 2 - 2008 General Conditions, Supplementary Conditions, Articles of Agreement, Contract Drawings, Addenda and Appendices.

.2 Location and Scope of Work:

- .1 The site is located at 27 Albert Street, Clinton, ON.
- .2 The work is outlined in Specification Section 01 11 00 – Summary of Work.

.3 Contract Approval:

- .1 This Contract is subject to the approval of the Owner.
- .2 This Bid must remain valid for sixty (60) days, commencing from the Official Closing Time.

.4 Delivering and Closing of Bids:

- .1 Bids consisting of the Bid Documents inclusive of the Bid Form in a sealed envelope will be received at the Municipal Office located at:

23 Albert Street, Box 400
Clinton, ON N0M 1L0

clearly marked to the attention of:

Steve Doherty, CAO
Municipality of Central Huron
23 Albert Street, Box 400
CLINTON, ON N0M 1L0
Sloped Roof Replacement
Project No.300043986.1000

- .2 Bids shall be received until but not later than:

- .1 **3:00:00 p.m., Tuesday, June 23, 2020**
- .2 This time and date shall be deemed to be the Official Closing Time.

- .3 Each Bid will be marked with the time and date it was received.
- .4 The use of any means of delivery of a Bid shall be at the risk of the Bidder.
- .5 Bids Investigation/Examination:
 - .1 Bidders shall visit the site of the work on **Friday, May 29, 2020 at 10:00 a.m.**, and carefully investigate all conditions potentially affecting the work and how it is to be completed, with respect to site access, working area, storage areas, local features including private property and utilities as well as any other conditions that may influence the undertaking and/or pricing of the work. Bidders are required to be aware of and follow all applicable health and safety protocols before entering the existing building.
 - .2 Further, the Bidder shall examine all contract documents, specifications, and reports to ensure that the scope of work and the conditions of the contract are clear.
 - .3 No claims for additional payment resulting from conditions that can be reasonably foreseen or determined by the investigation or examinations described above will be considered.
- .6 Clarification:
 - .1 It will be the Contractor's responsibility to clarify any details in question or not mentioned in the Bid documents before submitting their Bid. The prices as Bid, shall include the supply of all labour, equipment and materials, except as otherwise noted, required to do all of the work and complete this Contract to the satisfaction of the Owner.
- .7 Breakdown of Total Bid Price:
 - .1 This is to be submitted at time of Bid. Refer to Bid Form for details.
- .8 Bid Submission:
 - .1 Bidders shall submit the following complete in all respects:
 - .1 All of Section 00 41 13 - Bid Form – Stipulated Sum, inclusive. Refer to Instruction to Bidders, paragraph section 1.3.
 - .2 The Bid must be fully legible, signed and witnessed in the spaces provided, with the signature of the Bidder or a responsible official of the organization Bidding.
 - .3 All sections of the Bid submission shall be completed in ink and all blank spaces must be filled in. All items shall be Bid according to any instructions in the Bid documents, with entries made for unit prices, lump sums, extensions and totals as appropriate.
 - .2 Bid submissions by facsimile or other electronic media transmissions will not be accepted.
 - .3 Should any uncertainty arise as to the proper manner of completing the forms, the Bidder may obtain the requisite information from the Consultant:

R.J. Burnside & Associates Ltd.
3 Ronell Crescent Collingwood
ON L9Y 4J6 CANADA
telephone (705) 446-0515
fax (705) 446-23
E-mail: doug.hackbart@rjburnside.com

1.2 EVALUATION OF BIDS

- .1 Disqualification, Withdrawal and Qualifying Bids:
 - .1 Bids that may be rejected at the owner's discretion are:
 - .1 Late Bid
 - .2 Form of Bid
 - .3 Bid not completed in ink or typewriter
 - .4 Restrictions, qualifications, omissions, or additions made to Bid
 - .5 Bid not properly signed, sealed or witnessed
 - .6 Bid deposit, where applicable, not submitted or insufficient
 - .7 Bid submitted electronically or by facsimile
 - .8 Failure to complete received Addenda on the Form of Bid, when one or more Addenda has been issued.
 - .2 A Bidder who has submitted a Bid may submit a further Bid at any time to the Official Closing Time. The last Bid received shall supersede and invalidate all Bids previously submitted by the Bidder for this Contract.
 - .3 A Bidder may withdraw or alter their Bid at any time up to the Official Closing Time by submitting a letter bearing the Bidder's signature to the point of Bid delivery where the time and date of receipt will be recorded and the letter placed with the other Bids. The Bidder's name and contract number shall be shown on the envelope containing such letter.
 - .4 Bid packages must be obtained from the original distribution office(s), i.e. Consultant and/or Owner as applicable, and Bidders must be registered with said office in order to submit a bid. Bidders not meeting these criteria are, at the discretion of the Owner, subject to disqualification.
 - .5 The Owner has the right to reject all bids without prejudice or justification.
- .2 Informal or Unbalanced Bids:
 - .1 Bids which are incomplete, conditional, illegible or obscure, or that contain additions, reservations, erasures, qualifications, alterations incorrectly submitted or irregularities of any kind may result in an invalid Bid and in the Owner's rejection of the Bid.
 - .2 Alterations to the Bidders numerical entries may be made providing they are legible and initialed by the Bidder's signing officer.
 - .3 Where the Bid contains a requirement to identify a proposed construction duration and/or work period, Bids that are based upon an unreasonable duration or period of time to achieve the completion of the Work, and as consequence of such schedule, results in greater overall project costs to the Owner, or results in scheduling conflicts as may be specified elsewhere in the contract, such as, but not limited to, school bus routes, fisheries issues and/or winter construction issues not anticipated, may be rejected.
 - .4 Wherever in a Bid the contract total for an item does not agree with the extension of the contract quantity and the unit price, the unit price will be deemed to be correct and the total price revised accordingly. Mathematical discrepancies will be corrected by the Owner by appropriate means. Where an error has been made in transferring an amount from one part of the Bid to another, the amount shown before transfer shall, subject to any corrections made as above, be taken to be correct and the transferred amount and the total Bid prices shall be corrected accordingly.

- .5 Bids that contain prices which appear to be so unbalanced as likely to adversely affect the interests of the Owner may be rejected.
 - .1 The Owner retains the right to rebalance the bids, and may do so with by providing notice in writing to the affected bidder.
- .6 Bidders who have submitted Bids that have been rejected by the Contract Administrator and/or Owner because of informalities will be notified of the reasons for the rejection.
- .3 Discrepancies In and Interpretation of Bid Documents:
 - .1 Should a Bidder find discrepancies in, or omission from the drawings, specifications, or other Bid documents, or should they be in doubt as to their meaning, they should notify the Contract Administrator immediately who may send a written instruction to all Bidders.
 - .2 No oral explanation or interpretation shall modify any of the requirements or provisions of the Bid documents.
 - .3 Where the Contract Administrator deems that an explanation or interpretation is necessary or desirable, an addendum shall be issued to all who have taken out Bid documents. Addenda shall be issued in writing. Facsimile transmissions may be used by the Contract Administrator to issue addenda.

1.3 BID SUBMISSIONS AND INSURANCE REQUIREMENTS

- .1 Bid Submissions
 - .1 Acceptance or Rejection of Bids:
 - .1 The Bidder agrees that, notwithstanding anything to the contrary in this Contract, that a maximum of sixty days shall be allowed between the date that Bids are opened and the date that a Bid is awarded, cancelled, or recalled.
 - .2 Following contract award, the Consultant shall notify the successful Bidder that his Bid has been accepted. The formal contract agreement will also be sent to the successful Bidder, with instructions on how to properly complete and sign the document.
 - .3 The successful Bidder is to be allowed not more than Fourteen (14) days from receipt of the document for the execution of the contract document. Failure to execute the contract documents or to provide the necessary guarantees, insurance, etc. within the specified time may result in the forfeiture of the offer.
 - .4 The Owner reserves the right to reject any or all Bids.
 - .5 The Owner reserves the right to delete any portion or part of the work outlined and the bidder agrees to such cancellation without any claim whatsoever because of such cancellation.
 - .2 Bonding Requirements
 - .1 Submit with Bid Form, Agreement to Bond, stating that surety is willing to supply Performance and Labour and Materials Payment Bond each in the amount of 50% of the contract price.
 - .2 Ensure the Performance Bond is issued on CCDC-221 Performance Bond form, and Labour and Material Performance Bond is issued on CCDC-222 Labour and Material Performance Bond form.
 - .3 Include cost of bonds in Bid Price.

.3 Insurance

.1 Insurance Requirements:

- .1 The successful Bidder will be required to provide a certificate of insurance for policies covering all insurances required in accordance with:
- .2 CCDC 2 – 2008, General Conditions of the Stipulated Price Contract and Supplementary Conditions.
- .3 Insurance coverage in accordance with GC 11.1 – Insurance shall include the following:
 - .1 General Liability Insurance
 - .2 Automobile Liability Insurance
 - .3 The insurance policies, with limits not less than \$5,000,000.00 per occurrence and with a property damage deductible not exceeding \$ 2,500.00, shall name the following parties as additionally insured:
 - .1 The Municipality of Central Huron.
 - .2 R.J. Burnside & Associates Limited
- .4 Any other parties whom the Contract Administrator identifies and shall insure the Contractor and the above named in the same manner and to the same extent as if a separate policy had been issued to each.
- .5 Any property damage deductible, in accordance with the General Conditions, shall be the responsibility of the Contractor.

.4 Contractor Qualifications

.1 Sub-Contractors:

- .1 The Bidder shall list, on the page provided in the Bid Form, the name and address of each Sub contractor used in preparing their Bid, stating that portion of the Work allotted to each.
- .2 Only one Sub contractor shall be named for each part of the Work to be sublet.
- .3 Once a formal Contract has been executed, the Contractor shall not be permitted to substitute other Sub contractors in place of those named in his Bid without the approval of the Contract Administrator.

.2 Proof of Ability:

- .1 The Bidder shall, on the form provided in Section 00 41 13 – Bid Form – Stipulated Price, demonstrate their experience, responsibility and ability to successfully complete projects of a similar nature.
- .2 The Owner reserves the right to reject any Bid who cannot demonstrate the foregoing.
- .3 The Bidder's senior supervisory staff and the experience of each, along with details of the Bidder's construction plant, shall be provided if so requested within three (3) days of such a request being made by the Owner or Contract Administrator.
- .4 The Owner and/or Consultant may request the submission of a signed and sealed copy of the bidder's CCDC 11. Failure to provide a CCDC 11 upon request may result in the disqualification of said bidder.

1.4 CONTRACT

.1 Formation of Contract:

- .1 The Contract Administrator, when so instructed by the Owner, shall notify the successful Bidder that his Bid has been accepted and shall forward three (3) complete copies of the Contract Documents to the Bidder for execution.

- .2 The Bidder agrees that once he has been notified that his Bid has been accepted by the Owner he will fully execute the Articles of Agreement bound in the Contract Documents within fourteen (14) days after receiving those same Documents in triplicate, otherwise his Bid deposit shall be forfeited to the Owner.
 - .3 The successful Bidder shall execute and return with the three copies of the Contract Documents, to the Contract Administrator within fourteen (14) days, the following in triplicate:
 - .1 Articles of Agreement
 - .2 Current Clearance Certificate and an Accident Frequency Rate document from the Workplace Safety & Insurance Board (WSIB)
 - .3 Liability and Automobile Insurance Certificate as specified in the General Conditions, General Information to Bidders and General Conditions Supplementary
 - .4 The Company's Corporate Health and Safety Policy complete with applicable Safe Work Procedures
 - .5 Work Schedule.
 - .6 Any additional information specified in the contract documents and required to be submitted upon notification of acceptance of the Bid by the Owner
 - .7 Signed and Dated Contract Drawing Sets (as supplied by the Owner)
 - .8 Building Permit
 - .4 The executed Contract Documents will be completed by the Owner and one executed copy will be returned to the Contractor, along with authorization to proceed with the work.
- .2 Commencement and Completion:
- .1 The Contractor will obtain Substantial Performance of the Work within the number of calendar days specified in Section 00 41 13 – Bid Form – Stipulated Sum after the issuance of the Order otherwise reimbursement of costs incurred by the Owner will be applied, in accordance with Section 00 73 00 "GC 6.5 Delays".
 - .2 If the Contractor is delayed in the completion of the Work for causes beyond the reasonable control of the Contractor, as determined by the Contract Administrator, the time of completion shall be extended in writing at any time on such terms and for such period as shall be determined by the Contract Administrator in accordance with the CCDC 2 - 2008 General Conditions and Supplementary Conditions.
- .3 Sales Tax:
- .1 The Bid unit and lump sum prices submitted by the Bidder shall include Sales Tax.
 - .2 The Bid unit and lump sum prices submitted by the Bidder shall be exclusive of the Harmonized Sales Tax (H.S.T.).
 - .3 The 13% H.S.T. shall be shown separately on the Bid form.
 - .4 Payment of the H.S.T. shall be added to the monthly payment certificates.
 - .5 Payment of the H.S.T. will be contingent upon the submission of the Contractor's H.S.T. Registration Number.
 - .6 If sales taxes are increased or decreased, or other amendments are made in the legislation, during the course of the Contract, that alter tax amounts carried in the Contract price, an adjustment will be made accordingly.
 - .7 The Contractor shall keep records and invoices of accounts subject to Federal and Provincial Sales Tax and for the purpose of establishing taxes paid and for

substantiation in the event of changes to the tax legislation during the course of the Contract.

.4 Equivalentents or Approved Equals:

- .1 Where “Equivalentents” or “Approved Equals” are referenced in the contract documents, these are to be treated as substitutions, and subject to the requirements of GC 6.1.2.

.5 Occupational Health & Safety Act:

- .1 The Contractor, for purposes of the Ontario Occupational Health and Safety Act, shall be designated as the Constructor for this project and shall assume all of the responsibilities of the Constructor as set out in the Act and its regulations. The foregoing shall apply notwithstanding that the successful Bidder has been referred to as the “Contractor” in this and any other related document.

- .1 The Contractor acknowledges that he has read and understood the Occupational Health and Safety Act (R.S.O. 1990, as amended).
- .2 The Contractor agrees to observe strictly and faithfully the provisions of the said Occupational Health and Safety Act and all regulations and rules there-under.
- .3 The Contractor agrees to indemnify and save the Owner harmless for damages or fines arising from any breach or breaches of the said Occupational Health and Safety Act.
- .4 The Contractor agrees to assume full responsibility for the enforcement of the said Occupational Health and Safety Act to ensure compliance therewith.
- .5 The Contractor further acknowledges and agrees that any breach or breaches of the Occupational Health and Safety Act whether by the Contractor or any of its Sub-Contractors may result in the immediate termination of this contract herein and the forfeiture of all sums owing to the Contractor by the Owner.
- .6 The Contractor agrees that any damages or fines may be assessed against the Owner by reason of a breach or breaches of the Occupational Health and Safety Act by the Contractor or any of its Sub-Contractors will entitle the Owner to set-off the damages so assessed against any monies that the Owner may, from time to time, owe the Contractor under this contract or under any other contract whatsoever.
- .7 The Contractor shall provide a list of all controlled hazardous materials or products containing hazardous materials, all physical agents or devices or equipment producing or emitting physical agents, and any substance, compound, product or physical agent that is deemed to be or contains a designated substance as defined under the Ontario Occupational Health & Safety Act, and shall provide appropriate Material Safety Data Sheets for these substances used for the performance of the required work, all prior to the performance of said work.
- .8 Where hazardous materials, physical agents and/or designated substances are used in the performance of the required work, the Contractor shall ensure that the requirements of the Ontario Occupational Health & Safety Act and associated regulations are complied with.

1.5 ALTERNATES

- .1 Where more than one trade or supplier’s name is given in the documents, the Contractor is advised that the design as shown on the drawings and/or described in the specifications has been based on the first name listed but that the Contractor may base this Bid on any one of the other suppliers named.

- .2 The material and equipment supplied must be equal in quality, material, and performance to the first named in the specifications. Any design and/or construction changes necessitated by the use of other trade or suppliers names given shall be at the expenses of the Contractor.
- .3 The Contractor shall be responsible for assuring the proper fit and matching of all equipment or materials to surrounding pipe, equipment, structure or materials.

1.6 EXAMINATION OF THE SITE

- .1 The Contractor warrants by his Bid that he has visited the site and made his own assessment of facilities and difficulties to be encountered including the nature of the sub-surface materials and conditions.
- .2 The Contractor shall verify all measurements and quantities upon which submitted bid is based upon.

1.7 WORKING HOURS

- .1 No night work will be permitted except in the case of an emergency and then only with the written permission of the Contract Administrator and to such extent as he deems necessary.
- .2 No Weekend or Statutory Holiday work will be permitted except in the case of emergency and then only with written permission of the Contract Administrator and to such extent as he deems necessary.
- .3 The Contractor shall provide the Contract Administrator with the name and telephone number of his project superintendent or other reliable supervisor who can be contacted during the Contractor's absence from the job.

1.8 SUBSTANTIAL PERFORMANCE AND RELEASE OF HOLDBACK

- .1 General:
 - .1 Substantial Performance shall be defined under the terms and conditions of the Construction Lien Act and shall generally be understood as achieved when the first shall occur:
 - .1 The site, as determined by the Contract Administrator, is ready for the intended use and meets the conditions of the contract, or
 - .2 When outstanding deficiencies in the prescribed scope of work, as determined by the Contract Administrator, are less than 3% of the total contract value.
 - .2 Procedure for Substantial Performance:
 - .1 Following the completion of the Work included in this Contract and when the works have satisfactorily passed all reviews required under the Contract, the Contract Administrator shall undertake a preliminary inspection.
 - .2 The Contractor shall, at his cost, provide any assistance and equipment required for this inspection. Upon completion of any repairs or incomplete work identified in the inspection, the Contractor shall reapply in writing for Substantial Performance.
 - .3 Provided that no serious deficiencies exist in the completed work the Contract Administrator will then declare a date for Substantial Performance.
- .3 Release of Holdback:

- .1 Release of holdback is due upon the expiration of the (45) forty five day lien period, as per the terms and conditions outlined by the Construction Lien Act and the official declaration of Substantial Performance, and upon the Owner's confirmation that no lien has been placed against the lands, project or any other assets of the Owner.

1.9 LOCAL SPECIFICATIONS

- .1 The work proposed under this Contract shall comply in every respect to the bylaws, specifications and standards of local Municipality having jurisdiction. Each Bidder shall satisfy himself by personal examination as to the local conditions, requirements and specifications.
- .2 The Bidder is not to claim at any time after submission of their Bid that there was any misunderstanding as to the requirements of the local municipality with respect to the proposed works.

1.10 DISPUTE RESOLUTION

- .1 Disputes between the Owner and the Contractor not otherwise resolved may be settled through Dispute Resolution, as per the General Conditions, or through other means agreed upon by both parties.

1.11 EXISTING SERVICES

- .1 Whenever it is necessary to cut, interfere with, or connect to existing services or facilities, the Contractor must do so at hours and times recommended by governing authorities and approved by the Contract Administrator, and with minimum disturbance to occupants, pedestrian and vehicular traffic and public and private property.
- .2 If unknown services are encountered, the Contractor shall immediately notify the Contract Administrator and confirm findings in writing. Obtain the Contract Administrator's written direction if such services require cutting, capping or relocation to do work.
- .3 If the Work is required to affect existing services, such services must be supported in a manner approved by the utility owner. The Contractor shall pay for all costs associated with providing temporary bracing and/or relocation of utilities necessary to complete work under this Contract.
- .4 The Contractor shall have no claim for delay sustained while waiting for the relocation or repair of services by other forces, as a result of the Contractor's work. Any such relocations deemed to be completed by others may be undertaken prior to the Contractor's work on the site. However, those which have not been completed or which are not originally foreseen as a problem shall be the Contractor's responsibility to the extent of contacting the utilities involved and sustaining his own work and forces under the Contract. The Owner shall bear only the direct cost charges for permanent relocations resulting from the Contract work.
- .5 Fire hydrants may be used as a source of water only with the approval of the Municipality.

1.12 EXISTING CONDITIONS

- .1 The Contractor shall restore all disturbed areas to condition equal to or better than existing conditions using materials equal to or better than existing materials.

1.13 PROVISIONAL WORKS

- .1 The Schedule of Unit Prices may include Provisional Items; all, none or any portion of these items may be deleted from the contract at the discretion of the Owner. Should this provisional work be removed from the contract, the Contractor will not be entitled to compensation for the exclusion of this work.

END OF SECTION

043986_00 21 13 Instructions to Bidders
5/7/2020 5:44 PM

DATE: _____

SUBMITTED BY: _____

Firm Name

Address

Telephone Number

Fax Number

Email

TO: MUNICIPALITY OF CENTRAL HURON

PROJECT: 27 ALBERT STREET, CLINTON – SLOPED ROOF REPLACEMENT

PART 1 BID FORM

1.1 OFFER

- .1 Having carefully examined the locality and site of the proposed works, and having examined and accepted the terms and conditions set out in Contract Documents relating thereto, including the Bid Form – Stipulated Sum, Specifications, Contract Drawings, Articles of Agreement, Appendices, General Conditions of the Stipulated Price Contract CCDC 2 - 2008, Supplementary Conditions, Addenda _____ to _____* inclusive, I, _____, the undersigned, hereby quote and offer in accordance with the Contract Documents and all local specifications and such further detail drawings as may be supplied from time to time, to do all of the work, to furnish all materials, labour, tools, plant, matters and things necessary to complete and make ready for use within the time specified, the work as described in the Contract Documents for the sum of:

\$ _____

*** Contractor to fill in blanks or enter "NIL" as applicable.**

- .2 The undersigned agrees to accept as full payment therefore, the sums calculated in accordance with the actual measured quantities at the unit prices set forth in the Schedule of Unit Prices herein.
- .3 All applicable federal taxes are excluded and provincial taxes are included in the Price.

1.2 ACCEPTANCE

The Proponent acknowledges:

- .1 That, this offer shall be irrevocable until the Contract is executed by the proponent and that the Owner may, at any time within that period accept this bid whether any other bid has been previously accepted or not.

- .2 That, this bid is made by the Proponent without any connection, knowledge, comparison of figures, or arrangement with any other person or persons making a bid for the same work and is in all respects fair and without collusion or fraud.
- .3 That no person, firm or corporation other than the Proponent has any interest in this bid or in the proposed contract from which this bid is made.
- .4 That no employee or any officer of the Municipality of Central Huron is or will become interested, directly or indirectly, as a contracting party or otherwise, in the performance of the contract, or in the supply of materials, work, or business to which it relates, or in any portion of the profits thereof, of any such supplies to be used, or in any monies to be derived.
- .5 That the Owner may reject this bid without explanation.
- .6 That, the carrying out of any work referred to above or the issuance by the Contract Administrator of a Contract Change Order relating to such work or the acceptance by the Proponent of such Contract Change Order shall not, except as expressly stated in such Contract Change Order, waive or impair any of the terms of the Contract or of any Contract Change Order previously issued by the Contract Administrator or any of the rights of the Owner or of the Contract Administrator under the Contract.
- .7 That, the Proponent will carry out any additional or extra work (including the supplying of any additional materials or equipment pertaining thereto) or will delete any work as may be required by the Contract Administrator in accordance with the Contract.
- .8 That, the Proponent will obtain Substantial Performance of the Work within _____* calendar days of the Date of Commencement of the Work, subject to contract extensions authorized by change order and 00 73 00 Supplementary Conditions, GC 13.1 Liquidated Damages.
- .9 The Proponent acknowledges that it shall have no claim against, or entitlement to damages from the Owner or the Contract Administrator by reason of the Owner's rejection of its bid, or by reason of any delay in the acceptance of a bid.
- .10 That, the awarding of the Contract by the Owner based on this bid, shall constitute acceptance of this bid.
- .11 That, if this bid is accepted, to furnish the agreements, issuance and clearance certificates, and works schedules, for the proper fulfillment of the Contract as required, in triplicate, within fourteen (14) days after being notified to do so. In the event of default or failure on the part of the Proponent to do so, the Proponent agrees that the Owner shall be at liberty to accept any bid, or to advertise for new bids, or to carry out the works in any other way they may deem best.
- .12 This Bid Form comprises:
 - .1 Agreement
 - .2 List of Proposed Sub-Contractors
 - .3 Schedule of Specifications, Drawings and Conditions
 - .4 General Notes
 - .5 Summary of Unit Prices
 - .6 Schedule of Prices

1.3 APPENDICES

- .1 A list of the Contract Documents is appended hereto and identified as 'Appendix A'.
- .2 A list of Subcontractors and Materials is appended hereto and identified as 'Appendix B'.
- .3 A list of Unit Prices is appended hereto and identified as 'Appendix C'.

1.4 ADDENDA

- .1 The following Addenda have been received. The modifications to the Contract Documents noted therein have been considered and all costs thereto are included in the Bid Price.

Addendum # _____ Dated _____
Addendum # _____ Dated _____
Addendum # _____ Dated _____
Addendum # _____ Dated _____

1.5 BIDDER'S EXPERIENCE IN SIMILAR COMPLETED WORK

<u>Location</u>	<u>Owner's Engineer, Contact Name & Telephone No.</u>	<u>Description of Contract</u>	<u>Completion Date</u>	<u>\$ Value</u>

_____ * Provide contact name and telephone number for each reference.

1.6 CHANGES

- .1 The Consultant establishes the method of valuation for Changes in the Work.
- .2 On work deleted from the Contract, our credit to the Owner shall be the Consultant approved cost.

1.7 GENERAL NOTES

- .1 Where alternative materials are specified, the Proponent shall quote a Unit Price for each alternative, but shall extend only the lowest Unit Price.
 - .1 LS denotes Lump Sum
 - .2 Allow denotes Allowance
 - .3 ft denotes linear foot
 - .4 ft² denotes square foot

- .2 The Schedule of Unit Prices may include Contingency and Provisional Items; all, none or any portion of these items may be used at the discretion of the Contract Administrator. Should the as-constructed quantity differ from the estimated quantity, no claim will be considered for loss of anticipated profit. The Proponent must include all Provisional and Contingency Items in the Total Contract Price.

1.8 BID FORM SIGNATURE(S)

That, this bid is submitted by

Firm Name

Address

Telephone Number

Fax Number

Email

The Proponent solemnly declares that the several matters stated in the foregoing bid are in all respects true.

The Corporate Seal of

(Proponent – please print)

Was hereunto affixed in the presence of:

Authorized signing officer
(Seal)

Title

Authorized signing officer

Title

If the bid is for a joint venture or partnership, add additional forms of execution for each member of the joint venture in the appropriate form or forms as above.

APPENDIX A

The following is the list of Contract Documents referred to in Article 3 of the Bid Form submitted by:

(Bidder) _____

(Signing Authority) _____

dated _____ and which is an integral part of the Bid Form.

The work specified in this contract will be performed in strict accordance with the following:

- a) Specifications: as issued with the Bid Documents
- b) Drawings: as issued with the Bid Documents
- c) Conditions

The conditions of the contract include:

- .1 Bid Form
- .2 General Conditions
- .3 Supplementary Conditions

It shall be the contractor's responsibility to obtain copies of the relevant Specifications and General Conditions of the stipulated price contract as necessary.

APPENDIX B

BIDDER'S EXPERIENCE/REFERENCES IN SIMILAR COMPLETED WORK

The following is the list of 5 projects completed by the Bidder in the past 3 years that are similar in scope to the Work of this contract.

	<u>Location</u>	<u>*Owner's Name & Telephone No.</u>	<u>Description of Contract</u>	<u>Completion Date</u>	<u>\$ Value</u>
1.	_____	_____	_____	_____	_____
2.	_____	_____	_____	_____	_____
3.	_____	_____	_____	_____	_____
4.	_____	_____	_____	_____	_____

5.

1.2 BIDDER'S SUBCONTRACTORS AND MATERIALS

The following is the list of Subcontractors referred to in Article 3 of the Bid Form submitted by:

(Bidder) _____

(Signing Authority) _____

dated _____ and which is an integral part of the Bid Form.

List on this statement sheet the name of each proposed sub-contractor or material supplier as applicable, whom the Proponent proposes to use. The list of sub-contractors and material suppliers will be deemed to be complete and no additions or changes to the list will be permitted after the closing date without the written approval of the Contract Administrator.

The following work will be performed (or provided) by Subcontractors and coordinated by us:

Sub-Trade	Proposed Sub-Contractor	Address, Contact Name & Telephone No.	Approximate Value of Sublet Work

- Provide contact name and telephone number for each sub-contractor.

PROPOSED ALTERNATE SHINGLE IN LIEU OF Diamond Steel Roof Shingles

Manufacturer's Name	Proposed Product	Address, Contact Name & Telephone No.

APPENDIX C

The following is the list of Unit Prices referred to in the Bid Form submitted by:

(Bidder) _____

(Signing Authority) _____

dated _____ and which is an integral part of the Bid Form.

This breakdown shall be an integral part of the executed contract and shall be used for the purposes of payment for works completed by the Contractor.

If in the opinion of the Consultant, the breakdown contains prices, which are unbalanced, the Proponent will be required to submit data to substantiate his prices. In any event, the Consultant reserves the right to adjust the breakdown to correct any unbalanced prices or correct discrepancies between the breakdown and the Total Contract Price submitted.

A) BID FORM

ITEM NO.	DESCRIPTION	CONTRACT QUANTITY	UNIT	UNIT PRICE	CONTRACT TOTAL
0	Allowances and Miscellaneous Expenses				
0.1	All other items including but not limited to, mobilization, temporary enclosures, daily site maintenance and cleaning, access equipment, scaffolding and demobilization.	1	LS	n/a	
0.2	Covered Public Walkways including engineered drawings and inspections	1	LS	n/a	
0.3	Permit Allowance	1	Allow	\$1,500.00	\$1,500.00
0.4	Structural Allowance	1	Allow	\$15,000.00	\$15,000.00
0.5	Contingency Allowance	1	Allow	\$10,000.00	\$10,000.00
	Main Roof Replacement				
1	Rough Carpentry				
11	Replacement of wood fascia, gable frieze boards, siding and sloped cap at projecting corners at main roof.	1	LS	n/a	
1.2	Roof deck - sheathing with 12 mm plywood	1650	ft ²		
1.3	Remove and replace existing soffit vents	76	pcs		
1.4	Repainting of soffits and trims	1	LS	n/a	
2	Steel Roof Replacement				
2.1	Removals of existing steel shingles, sheet metal, eaves troughs, downspouts, and accessories.	1	LS	n/a	
2.2	Provide new prefinished galvanized steel shingles on self-adhered membrane including new open valleys, all chimney flashing, step flashing, and counter flashing	1	LS	n/a	
2.3	Prefinished sheet metal work including drip edges, fascia, flashing at projecting corners roof, eaves troughs, and downspouts.	1	LS	n/a	

ITEM NO.	DESCRIPTION	CONTRACT QUANTITY	UNIT	UNIT PRICE	CONTRACT TOTAL
3	Roof Insulation Upgrade				
3.1	Remove and replace roof sheathing boards	1	LS	n/a	
3.2	Remove existing insulation and install Spray Foam Insulation	1	LS	n/a	
3.3	Reinstall fiberglass Insulation and roof sheathing boards	1	LS	n/a	
	North-West Tower Roof Replacement				
4	Rough Carpentry				
4.1	Removal and replacement of all lower level fascia, soffit, frieze boards, gable graphics, and wood trims	1	LS	n/a	
4.2	Repainting of lower level soffits, frieze boards, gable siding and trims	1	LS	n/a	
4.3	Remove and replace barrel window structures and windows	4	Pieces		
4.4	Removal and replacement of all upper level fascia, panel wall members, soffit, decorative brackets, frieze boards, gable graphics, siding and wood trims	1	LS	n/a	
4.5	Repainting of upper level fascia, panel wall members, soffit, decorative brackets, frieze boards, gable graphics, siding and wood trims	1	LS	n/a	
5	Steel Roof Replacement				
5.1	Removals of existing steel shingles, sheet metal, and accessories.	1	LS	n/a	
5.2	Provide new prefinished galvanized steel shingles on self-adhered membrane including all barrel window flashing, upper and lower gable flashing, and starter flashings etc.	1	LS	n/a	
5.3	Prefinished sheet metal work including drip edges, fascia, and reinstallation of accessories (tower pinnacle cap)	1	LS	n/a	
6	Miscellaneous				
6.1	Replace, heat trace and insulate drain line in attic space.	1	LS	n/a	
6.2	Horizontal masonry joint reinforcements	20	Pcs		
6.3	Lateral tie masonry reinforcements	30	Pcs		
6.4	Attic insulation upgrade	1	LS	n/a	

SUBTOTAL (excluding H.S.T.)

\$

H.S.T. (13%)

\$

TOTAL (including H.S.T.)

\$

*No part of the Permit, Structural, or Contingency Allowances shall be expended unless authorized by the Contract Administrator in writing in advance; any part not so expended shall be retained by the Owner.

Repeat total Contract Price in writing:

Proposed Start Date: _____ (dd/mm/year)

Project Duration: _____ weeks

Average On-site Work Force: _____ persons

*No part of the Permit, Structural, or Contingency Allowances shall be expended unless authorized by the Contract Administrator in writing in advance; any part not so expended shall be retained by the Owner.

Repeat total Contract Price in writing:

Proposed Start Date: _____ (dd/mm/year)

Project Duration: _____ weeks

Average On-site Work Force: _____ persons

C) Provide pricing for the following optional work:

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY		UNIT PRICE	CONTRACT TOTAL
OP1	Price change to use proposed Alternate Steel Shingle (Plus or Minus)	1	LS		
OP2	Deduction if 12mm plywood sheathing overlay deleted	1	LS		
OP3	Replacement of Eaves Troughs and Downspouts at Octagonal Tower to match new	1	LS		
OP4	Replace Tower Graphics with White Plastic Signage Cutouts	1	LS		

***Optional work may only proceed at the direction of the Owner and Consultant under Written Notice in the form of a Change Order.**

END OF SECTION

PART 1 GENERAL

1.1 ARTICLES

- .1 The following shall be added to Article A-2 AGREEMENTS AND AMENDMENTS as 2.3 Pandemic:
 - .1 Notwithstanding any other provision(s) in the Contract Documents, in the event of a pandemic (e.g. COVID-19), as declared by the World Health Organization, or an epidemic, as declared by Health Canada, the terms put forth in this subsection will take precedence and apply to this Contract. Should circumstances arise due to a pandemic or epidemic which significantly frustrate the Contractor's ability to perform and/or complete the Work, to a degree which, in the sole judgement of the Contract Administrator (in consultation with the Owner and the Contractor), renders continuation of the Work substantially inefficient or impractical and/or completion of the Work impossible, then the Owner may suspend the Work or terminate the Contract, as appropriate under said circumstances.
 - .2 In the event of a Work suspension, the duration of which would be initially determined and subsequently adjusted as necessary by the Contract Administrator (in consultation with the Owner and the Contractor), the Contractor will be reimbursed by the Owner for reasonable direct costs associated with the suspension (e.g. demobilization/remobilization costs, directly related administrative costs, other specific/direct costs as approved by the Contract Administrator). Consequential/indirect costs or losses incurred by the Contractor and all subcontractors/suppliers (e.g. loss of profit, loss of opportunity, business impact costs, special or any other incidental/indirect/consequential cost or loss) are excluded from consideration for reimbursement by the Owner in their entirety. The Contract Administrator, in a fair and balanced manner, will be the sole arbiter with respect to determination of qualifying direct costs and excluded indirect/consequential costs. The Contract Time shall be extended for a period of time matching the duration of the suspension, at a minimum, or such longer period of time as deemed appropriate by the Contract Administrator to account for schedule inefficiencies associated with suspending and restarting the Work.
 - .3 In the event of Contract termination, the Contractor will be reimbursed by the Owner for reasonable direct costs associated with the termination (e.g. payment for all Work performed up to the date of termination as verified by the Contract Administrator, directly related administrative costs, material restocking fees, full payment for materials which cannot be returned/restocked, demobilization, direct subcontract cancellation costs – excluding all associated consequential/indirect costs or losses incurred by subcontractors and suppliers, other specific/direct costs as approved by the Contract Administrator). Consequential/indirect costs or losses incurred by the Contractor and all subcontractors/suppliers (e.g. loss of profit, loss of opportunity, business impact costs, special or any other incidental/indirect/consequential cost or loss) are excluded from consideration for reimbursement by the Owner in their entirety. The Contract Administrator, in a fair and balanced manner, will be the sole arbiter with respect to determination of qualifying direct costs and excluded indirect/consequential costs.

1.2 DEFINITIONS

- .1 Shop Drawings
 - .1 The following shall be added as 17.1 Submittals:

- .1 Submittals are documents or items required by the Contract Documents to be provided by the Contractor, such as:
 - .1 Shop Drawings, samples, models, mock-ups to indicate details or characteristics, before the portion of the Work that they represent can be incorporated into the Work; and
 - .2 Record drawings and manuals to provide instructions to the operation and maintenance of the Work.

1.3 GENERAL CONDITIONS

- .1 The words General Conditions in this Contract shall mean the general conditions of the stipulated price contract, CCDC 2-2008. All requirements of these General Conditions shall apply except as amended herein.
- .2 If there is any discrepancy between the General Conditions and the General Conditions Supplementary, the Supplementary Conditions shall apply.
- .3 All articles contained within these Supplementary Conditions shall be read in conjunction with, and apply to, the General Conditions of the Construction Contract.

1.4 DESIGNATION OF PARTIES

- .1 The Owner shall mean the Municipality of Central Huron.
- .2 Where the words Consultant, Authority or Consultant are used in this Contract they shall be understood as meaning: R.J.Burnside & Associates Ltd. or any other delegate designated by the Owner.
- .3 Where the word Contractor is used in this Contract, it shall mean in every case the General Contractor, but where referred to in the trades, shall also mean the Sub-Contractor.

1.5 DEFINITION OF AUTHORITY

- .1 All work shall be done in strict compliance with the requirements set out in this contract. In the event of any dispute, the Consultant shall have the final say in all such matters. The Consultant shall have the right to reject any material or equipment proposed for use by the Contractor.

1.6 SUPPLEMENTARY CONDITIONS

- .1 Addenda to General Conditions
 - .1 GC 1.1 CONTRACT DOCUMENTS
 - .1 The following shall be added as 1.1.2.3:
 - .1 Except where the Consultant shall be indemnified as a third party beneficiary as provided in subparagraphs 9.2.7.4, 9.2.8.4, 9.5.2.4 and 9.5.3.4 and in 12.1.1.
 - .2 GC 1.1.7.1 shall be deleted and replace with:
 - .1 In the event of any inconsistency or conflict in the provisions of the Drawings and Contract Documents, such provisions shall take precedence and govern in the following order (from highest to lowest):
 - .1 Agreement between the Owner and the Contractor,
 - .2 Addenda
 - .3 Supplementary Conditions,
 - .4 The Definitions,

- .5 The General Conditions,
 - .6 Division 1 of the Specifications,
 - .7 Technical Specifications,
 - .8 Bid Documents,
 - .9 Material and finishing schedules,
 - .10 Contract drawings
- .2 GC 2.2 ROLE OF THE CONSULTANT
- .1 Delete paragraph 2.2.4. in its entirety.
 - .2 Add the word “schedules” after the word “techniques” in paragraph 2.2.6.
 - .3 Add to the end of the second sentence of paragraph 2.2.6. “or to adhere to the construction schedule.”
 - .4 Add at the end of paragraph 2.2.9. “The Owner and the Contractor shall waive any claims against the Consultant arising out of the making of such interpretations and findings in accordance with paragraphs 2.2.7., 2.2.8. and 2.2.9”.
 - .5 Delete the comma after the word “submittals” and add the words “which are provided” before the words “in accordance” in paragraph 2.2.14.
 - .6 Add new sentence to end of paragraph 2.2.11 “The Consultant’s obligation to make findings on a large claim or large number of claims is subject to the terms and conditions of the Owner/Consultant agreement.”
 - .7 The following shall be added as GC 2.2.12:
 - .1 Additional costs resulting from rejected work shall be borne by the Contractor and the Contractor shall act as directed to make the work conform to the requirements of the Contract Documents.
- .3 GC 2.3 REVIEW AND INSPECTION OF THE WORK
- .1 The following shall be added as GC 2.3.2:
 - .1 The Contractor shall provide a minimum of twenty-four (24) hours notice to the Consultant prior to any construction activity including but not limited to Mobilization, Demolition, Mock-up Construction and Demobilization.
 - .2 The following shall be added as GC 2.3.5:
 - .1 Should the Contractor refuse to make such renewals as are ordered by the Consultant, the Consultant shall then proceed with actions to make good the Work. The cost of such work shall be paid by the Contractor or deducted from any monies due, or if necessary, deducted from the Contractor or his Surety jointly or severally in any court of competent jurisdiction as a debt due to the Owner.
- .4 GC 3.1 CONTROL OF THE WORK
- .1 Add the word “schedules” after the word “techniques” in paragraph 3.1.2.
 - .2 The following shall be added as GC 3.1.3:
 - .1 Prior to commencing individual procurement, fabrication and construction activities, the Contractor shall verify, at the Place of the Work, all relevant measurements and levels necessary for proper and complete fabrication, assembly and installation of the Work and shall further carefully compare such field measurements and conditions with the requirements of the Contract Documents. Where dimensions are not included or exact locations are not apparent, the Contractor shall immediately notify the Consultant in writing and obtain written instructions from the Consultant before proceeding with any part of the affected work.
- .5 GC 3.4 DOCUMENT REVIEW
- .1 GC 3.4.1 shall be deleted and replace with:

- .1 The Contractor shall review the Contract Documents and shall report promptly to the Consultant any error, inconsistency or omission the Contractor may discover. Such review by the Contractor shall comply with the standard of care described in paragraph 3.14.1 of the Contract. Except for its obligation to make such review and report the result, the Contractor does not assume any responsibility to the Owner or to the Consultant for the accuracy of the Contract Documents. The Contractor shall not be liable for damage or costs resulting from such errors, inconsistencies, or omissions in the Contract Documents, which the Contractor could not reasonably have discovered. If the Contractor does discover any error, inconsistency or omission in the Contract Documents, the Contractor shall not proceed with the work affected until the Contractor has received corrected or missing information from the Consultant.
- .6 GC 3.5 CONSTRUCTION SCHEDULE:
 - .1 The following shall be added as GC 3.5.1.4:
 - .1 Commence 7 days after the Consultant has issued the start work order. The Contractor shall diligently execute the work to completion on or before the expiration of the Contract period as stipulated in Article A-1 sentence 1.3.
 - .2 The following shall be added as GC 3.5.1.6:
 - .1 The Contractor shall attend at least two meetings as required with the Consultant, at the contract site office to discuss the progress of, and any changes to, the Work. The Contractor's designated site Supervisor shall attend this meeting. Minutes of these meetings shall be recorded and shall be binding on both parties to the Contract.
- .7 GC 3.8 LABOUR AND PRODUCTS
 - .1 The following shall be added as GC 3.8.4:
 - .1 The Contractor is responsible for the safe on-site storage of Products and their protection (including Products supplied by the Owner and other contractors to be installed under the Contract) in such ways as to avoid dangerous conditions or contamination to the Products or other persons or property, and in locations at the Place of the Work to the satisfaction of the Owner and the Consultant. The Owner shall provide all relevant information on the Products to be supplied by the Owner.
 - .2 The following shall be added as GC 3.8.5:
 - .1 No material shall be placed until approved.
- .8 GC 3.10 SHOP DRAWINGS
 - .1 Add the words "AND OTHER SUBMITTALS" to the Title after SHOP DRAWINGS.
 - .2 Add "and Submittals" after the words "Shop Drawings" in paragraphs 3.10.1, 3.10.2, 3.10.4, 3.10.7, 3.10.8, 3.10.8.2, 3.10.9, 3.10.10, 3.10.11, and 3.10.12.
 - .3 GC 3.10.3 shall be deleted and replace with:
 - .1 The Contractor shall prepare a schedule of the dates for provision, review and return of Shop Drawings and Submittals and submit it to the Consultant for review.
- .9 GC 3.14 PERFORMANCE BY CONTRACTOR
 - .1 The following shall be added as GC 3.14.1:
 - .1 In performing its services and obligations under the Contract, the Contractor shall exercise a standard of care, skill and diligence that would normally be provided by an experienced and prudent contractor supplying similar services for similar projects. The Contractor acknowledges and agrees that throughout the Contract, the Contractor's obligations, duties and responsibilities shall be interpreted in accordance with this standard. The

Contractor shall exercise the same standard of due care and diligence in respect of any Products, personnel, or procedures which it may recommend to the Owner.

- .2 The following shall be added as GC 3.14.2:
 - .1 The Contractor further represents covenants and warrants to the Owner that:
 - .1 The personnel it assigns to the Project are appropriately experienced;
 - .2 It has a sufficient staff of qualified and competent personnel to replace its designated supervisor and project manager, subject to the Owner's approval, in the event of death, incapacity, removal or resignation.

.10 GC 5.2 APPLICATIONS FOR PROGRESS PAYMENT

- .1 GC 5.2.3 shall be deleted and replaced by the following:
 - .1 The amount claimed shall be for the value, proportionate to the amount of the Contract, of Work performed as of the last day of the payment period.
 - .2 GC 5.2.7 shall be deleted.
- .2 GC 5.2.4 shall be deleted and replaced by the following:
 - .1 The Contractor shall submit a Proper Invoice for progress payments monthly or at intervals specified in the Contract Documents after starting the Work on this Contract. The Contractor shall submit the Proper Invoice to the Contract Administrator. This Proper Invoice shall be for work completed as of the last day of the payment period.
 - .2 A Proper Invoice shall include:
 - The Contractor's name and address
 - The date of the Proper Invoice and the period during which services or materials were supplied.
 - Information identifying the authority, whether in the Contract or otherwise, under which the services or materials were supplied.
 - The amount payable for the services or materials that were supplied and the payment terms.
 - The name, title, telephone number and mailing address of the person whom payment is to be sent.
 - A current Clearance Certificate from the Workplace Safety and Insurance Board (WSIB).
 - A Statutory Declaration (CCDC 9)
 - A "Unit Payment Schedule", the format for which may be provided by the Contractor Administrator, which will include:
 - .1 The Item List, Item No., and Contract Quantity for each item as it appears in the "Schedule of Unit Prices";
 - .2 The Unit of Payment and the Unit Price;
 - .3 The Contract Total for each item as it appears in the "Schedule of Unit Prices";
 - .4 A summary of "Payable Quantities" in the following format:
 - i. Previous Quantity Paid
 - ii. Payable Quantity Requested this invoice;
 - iii. Total Quantity Payable to Date.
 - .5 Total Payment to Date for each Item;
 - .6 Unit Payment Schedule Summary Page showing:
 - i. Total Work to Date;
 - ii. Total Holdbacks to Date;
 - iii. Total Payable to Date;
 - iv. Previous Payments;
 - v. Subtotal of Requested Payment (per Invoice);
 - vi. HST for Requested Payment (per Invoice);

vii. Total Requested Payment including HST (per Invoice).

- .7 All payable Change Orders/Extra Work/Additional Work ratified by the Owner;
- .8 Any advanced payment for material;
- .9 The amount of liens and Owner's set-off.

Proper invoice submissions not meeting the above minimum requirements shall be deemed improper and shall therefore not trigger the requirement for payment within the 28 days unit such time as all Proper Invoice submission requirements have been met; only then with the invoice submission package be deemed a Proper Invoice requiring payment to be made within 28 days, unless a notice of non-payment is subsequently issued in accordance with the Construction Act.

- .3 GC 5.2.5 shall be deleted.
- .4 The following shall be added as GC 5.2.8:
 - .1 The Owner shall retain the Statutory Holdback in the form and amount as required under the Construction Act.

.11 GC 5.3 PROGRESS PAYMENT

- .1 GC 5.3.1.2 shall be deleted and replaced with the following:
 - .1 the Consultant will issue to the Owner and copy to the Contractor, no later than 10 Calendar Days after the receipt of the application for payment, a Payment Verification in the amount applied for, or notification to dispute a proper invoice through a notice of non-payment.
- .2 GC 5.3.1.3 shall be deleted and replaced with the following:
 - .1 The Owner shall make payment to the Contractor on account as provided in Article A-5 of the Agreement on or before 28 days following receipt by the Consultant of the Proper Invoice in accordance with GC 5.2 – APPLICATIONS FOR PROGRESS PAYMENT

.12 GC 6.3 CHANGE DIRECTIVE:

- .1 GC 6.3.6.3 shall be deleted and replaced with the following:
 - .1 The Contractor's percentage fee shall not exceed 10%.

.13 GC 6.5 DELAYS:

- .1 The following shall be added as GC 6.5.6:
 - .1 If the Contractor is delayed in the performance of the Work by an act or omission of the Contractor or anyone employed or engaged by the Contractor directly or indirectly, or by any cause within the Contractor's control, then the Contract Time shall be extended for such reasonable time as the Consultant may decide in consultation with the Contractor. The Owner shall be reimbursed by the Contractor for all reasonable costs incurred by the Owner as the result of such delay including all services required by the Owner from the Consultant as a result of such delay by the Contractor and, in particular, the cost of the Consultant's services during the period between the date of Substantial Performance of the Work stated in Article A-1 herein as the same may be extended through the provisions of these General Conditions and any later, actual date of Substantial Performance of the Work achieved by the Contractor.

.14 GC 6.6 CLAIMS FOR A CHANGE IN CONTRACT PRICE

- .1 GC 6.6.5 shall be deleted and replaced with the following:
 - .1 The Consultant's findings, with respect to a claim made by either party will be given by Notice in Writing by the Consultant to both parties within reasonable time after receipt of the claim information noted in paragraph 6.6.3.
- .2 The following shall be added as 6.6.7:

- .1 The Owner may make claims arising out of the costs incurred for additional services provided by the Consultant resulting from the Contractor's failure to reasonably perform the Work in accordance with the terms and conditions of the Contract, including the Contractor's issuance of unnecessary Requests for Information. The Consultant will notify the Owner and Contractor where it has been determined that additional services will be required or have been provided in order not to cause a delay. The Owner shall make claims based on the Consultant's invoices.
- .15 GC 9.1 PROTECTION OF WORK AND PROPERTY
 - .1 GC 9.1.1 shall be deleted and replaced with the following:
 - .1 Errors in the Contract Documents which the Contractor could not have discovered applying the standard of care described in paragraph 3.14.1;
 - .2 GC 9.1.2 shall be deleted and replaced with the following:
 - .1 Before commencing any Work, the Contractor shall determine the locations of all underground utilities and structures indicated in or reasonably determinable from the Contract Documents, or that are reasonably determinable from an inspection of the Place of the Work exercising the degree of care and skill described in paragraph 3.14.1.
- .16 GC 9.2 TOXIC AND HAZARDOUS SUBSTANCES
 - .1 Add to paragraph 9.2.6 after the word "responsible", the following new words:
 - .1 or whether any toxic or hazardous substances or materials already at the Place of the Work (and which were then harmless or stored, contained or otherwise dealt with in accordance with legal and regulatory requirements) were affected by the Contractor or anyone for whom the Contractor is responsible in a manner which does not comply with legal and regulatory requirements, or which threatens human health and safety or the environment, or material damage to the property of the Owner or others,
 - .2 Add "and the Consultant" after the word "Contractor" in subparagraph 9.2.7.4.
 - .3 Add to paragraph 9.2.8 after the word "responsible", the following new words:
 - .1 or that any toxic or hazardous substances or materials already at the Place of the Work (and which were then harmless or stored, contained or otherwise dealt with in accordance with legal and regulatory requirements) were affected by the Contractor or anyone for whom the Contractor is responsible in a manner which does not comply with legal and regulatory requirements, or which threatens human health and safety or the environment, or material damage to the property of the Owner or others.
 - .4 Add "and the Consultant" after the word "Owner" in subparagraph 9.2.8.4.
- .17 GC 9.4 CONSTRUCTION SAFETY:
 - .1 The following shall be added as GC 9.4.2:
 - .1 Prior to moving off the job before each weekend, Public Holiday or any other non-working day, the Contractor shall ensure that the site is clean and remains accessible for its intended usage.
 - .2 The following shall be added as GC 9.4.3:
 - .1 The Contractor shall provide the Consultant with the name and telephone number of the Contractor's dedicated fulltime site representative. No additional payment will be made for this work.
- .18 GC 9.5 MOULD
 - .1 Add "and the Consultant" after "Owner" in subparagraph 9.5.2.4.
 - .2 Add "and the Consultant" after "Contractor" in subparagraph 9.5.3.4.
- .19 GC 10.2 LAWS, NOTICES, PERMITS AND FEES

- .1 Delete from the first line of paragraph 10.2.5 the word, “The” and substitute the words:
 - .1 “Subject to paragraph 3.14.1, the”.
- .2 The following shall be added as GC 10.2.6:
 - .1 Where the Contractor proposes methods or materials that deviate from those set out in the above permits or this contract, the Contractor shall be responsible for obtaining any additional or revised permits or approval amendments required. No additional compensation to the Contractor will be considered for this work.
- .20 GC 10.4 WORKERS’ COMPENSATION
 - .1 The following shall be added as GC10.4.3:
 - .1 The Contractor shall provide the Consultant with a copy of the Workplace Safety & Insurance Board Certificate indicating the Contractor's and/or Subcontractor's good standing with the Board;
 - .1 Prior to the Consultant authorizing the Contractor to commence any work,
 - .2 Prior to issue of the Certificate of Substantial Performance,
 - .3 Accompanying all requests for payment by the Contractor,
 - .4 At any other time when requested by the Consultant.
- .21 GC 11.1.1 INSURANCE
 - .1 GC 11.1.1.1 shall be deleted and replaced with the following:
 - .1 “General liability insurance in the name of the Contractor and include, or in the case of a single blanket policy, be endorsed to name, the Owner, Owner’s Representative and the Consultant as insureds but only with respect to liability. General liability insurance shall be maintained from the date of commencement of the Work until one year from the date of Substantial Performance of the Work. Liability coverage shall be provided for completed operations hazards from the date of Substantial Performance of the Work, as set out in the certificate of Substantial Performance of the Work, on an ongoing basis for a period of not less than 6 years following Substantial Performance of the Work.”
 - .2 GC 11.1.1.2 shall be amended as follows:
 - .1 Amending the first sentence to read,
 - .1 “Automobile liability insurance in respect of licensed vehicles shall have limits not less than \$ 3,000,000.00 inclusive per occurrence for bodily injury, death, and damage to property, covering all licensed vehicles owned or leased by the Contractor, and endorsed to provide the Owner with not less than 15 days notice in writing in advance of any cancellation, change or amendment restricting coverage.”
- .22 GC 12.1 INDEMNIFICATION
 - .1 Add “and the Consultant” after the words “hold harmless the other” in paragraph 12.1.1.
- .23 GC 12.3 WARRANTIES
 - .1 Delete from GC 12.3.1. the words “one year” and substitute with “two years”.
 - .2 The following shall be added as GC 12.3.1.1:
 - .1 The Contractor shall be responsible to obtain Product Warranties from respective manufacturers where such warranties are required and/or offered by the manufacturer.
 - .3 Delete from the first line of paragraph 12.3.2 the word, “The” and substitute the words:

- .1 "Subject to paragraph 3.14.1, the..."
- .4 The following shall be added as GC 12.3.4.1:
 - .1 If the Consultant notifies the Contractor in writing of imperfections prior to termination of the warranty, the Contractor shall make good such imperfections, notwithstanding that the work may commence after or extend beyond the end of the warranty period.
- .5 Delete from GC 12.3.6 the words "one year warranty period" and substitute with "two year warranty period".
- .24 ADD PART 13 AS FOLLOWS:

PART 13 MISCELLANEOUS

GC 13.1 LIQUIDATED DAMAGES

- 13.1.1 It is expressly agreed by the parties that if the date of *Substantial Performance of the Work* occurs later than the scheduled substantial performance date, the *Contractor* shall pay to the *Owner* liquidated damages calculated as \$200 for each calendar day that *Substantial Performance of the Work* extends beyond the scheduled substantial performance date. It is expressly agreed that it is difficult to calculate the damages which would result from the *Contractor's* failure to attain *Substantial Performance of the Work* by the substantial performance date, and the parties agree that this amount is not intended to be a penalty but, rather, represents the parties' best estimate of damages resulting from the delay.
- 13.1.2 In addition to the above amount per day Liquidated Damages charge, the Contractor shall pay to the Owner in respect of additional site supervision, office supervision, Consultant and contract administration fees caused by the delay in finishing the Work in excess of the substantial performance date.
- 13.1.3 In the event that the Consultant reasonably determines that the Contractor is not progressing in accordance with the Schedule with the result that the Contractor will not achieve Substantial Performance of the Work by the substantial performance date, the Owner will commence to hold back amounts from payments due to the Contractor totalling an amount sufficient to cover the Consultant's estimate of liquidated damages that may be payable pursuant to paragraph 13.5.1. In the event that the Owner hold backs more than is owed pursuant to paragraph 13.5.1, it shall forthwith pay such excess to the Contractor.
- 13.1.4 The *Owner* may deduct any amount due under this paragraph from any monies that may be due or payable to the *Contractor* on any account whatsoever. The liquidated damages payable under this paragraph are in addition to and without prejudice to any other remedy, action or other right that may be available to the *Owner*.

END OF SECTION

PART 1 GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

- .1 Work of this Contract consists of replacing the existing sloped steel roof and accessories at the Central Huron Library located at 27 Albert Street, Clinton, ON with a new steel shingle roof.
- .2 Existing Roofing Areas to remain & be protected from damage
 1. SW Octagonal Tower Asphalt Shingle Roof
 2. PVC Roof on Carnegie Addition
 3. Two small Asphalt Shingle Roof areas immediately SE of NW Tower
- .3 Work consists of the following:
- .4 Access and Protection
 1. Access to the work areas may be by scaffolding or lift equipment as deemed appropriate by the contractor.
 2. All scaffolding supplied and installed to provide exterior access or protection shall conform to the Occupation Health and Safety Act (OHSA), O.Reg.213/91- Construction Projects, Sections 125 to 136. Scaffolding is to be designed by a licensed Professional Engineer retained by the Contractor and is to be capable of support all construction loads. The engineered scaffolding drawings are to be submitted for the Consultant's review prior to erecting the scaffolding. Scaffolding is to be reviewed and approved in writing by the design engineer at regular intervals during erection and prior to usage.
 3. Maintain public access to the main entrance on the west elevation and the employee entrance at the building's east elevation by constructing a covered, public way within 4.5m of the building that conforms to OHSA, O.Reg.213/91, Section 64. Submit shop drawings of the covered way designed by a professional engineer and capable of resisting the loads specified in Section 64, Subsection (3) of O.Reg.213/91 for the Consultant's review. Following construction of the public way, provide a letter from design engineer confirming that it was installed in accordance with the engineered drawings.
 4. Provide continuous protection of existing flat roof along full length of eave, extending a minimum of 3.66 M from the wall for the full duration of the work.
 5. Supply and install 1828 high steel mesh construction fence around exterior work areas for the duration of the work.
 6. Construct and maintain weathertight enclosures to protect building interior for duration of repairs. Ensure that building is left fully protected at the end of each work day.
- .5 Main Sloped Roof, Gable Dormer and Chimney
 1. Removals:
 1. Remove and dispose of existing steel shingles, hip and valley flashing, chimney flashing, painted wood trim below flat roof, painted wood fascia, eaves trough, rainwater leaders, and accessories to expose the existing roof deck.
 2. Rough Carpentry (Section 06 10 00):
 2. Replacement of Additional Deteriorated Members

1. Notify the Consultant of any deteriorated painted wood soffits, brackets, or frieze boards and remove and dispose of the extent approved by the Consultant.
2. Notify the Consultant of deteriorated deck boards and proceed with removal and replacement with wood board sheathing to match the existing board thickness to the extents approved by the Consultant.
3. Payment for this work will be from the Contingency Allowance on a time and materials basis or quoted fixed price, as agreed to prior to work proceeding
3. Base Contract - Wood Member Replacements and Additions
 1. Supply and install new fascia boards at the entire perimeter of the main roof to match existing dimensions as shown on details.
 2. Replace frieze boards to gable ends as detailed
 3. Replace wood siding and sloped cap sheathing at projecting corner details.
 4. Install 12 mm plywood sheathing over all existing wood board sheathing after completion of roof insulation upgrade
3. Soffit Ventilation
 1. Aluminum Vents: Supply and install 76pcs – 4” diameter white aluminum soffit vents RLW-100 by Maurice Franklin Louvre or an alternate approved by the Consultant. Space vents evenly around the entire main roof perimeter at approximately 400 mm center to center. Secure to the wood soffit in accordance with the manufacturer’s recommendations.
4. Roof Insulation Upgrade:
 - .1 Remove and retain for reuse, existing wood board roof sheathing to extent required for access to upgrade the roof insulation.
 - .2 Remove and retain for reuse, existing batt insulation
 - .3 Supply and install 130 mm spray foam insulation within existing 2x6 ceiling strapping and furring channels.
 - .1 Spray foam is not required over existing attic area.
 - .4 Reinstall 140 mm fiberglass batt insulation within rough 2x6 rafters maintaining a minimum 12 mm air space under existing roof sheathing
 - .5 Replace wood board roof sheathing
5. Shingle Replacement -Steel Shingle (Section 07 31 15):
 1. Supply and install self-adhered sheet membrane to the entire roof deck including, eaves, hips, valleys, chimney cap, up adjacent dormer walls and over gable coping as shown on the drawings and as specified in Section 07 31 15.
 2. Supply new steel shingles to roof deck and gable dormer walls in accordance with Section 07 31 15 and manufacturer’s installation guidelines
 3. Install Ventilated Cap at top ridge of main roof and gable dormer to provide a minimum of 600 square inches of venting.
6. Sheet Metal Prefinished Galvanized Steel Flashing (Sections 07 62 00):
 1. Provide and install prefinished galvanized fascia at roof drip edge, fascia at eaves and gable edges
 2. Provide and install prefinished galvanized capping to gable end frieze boards as detailed.
 3. Provide and install prefinished galvanized eaves trough and rainwater leaders along eaves as shown in details and in accordance with 07 62 00 Sheet Metal Flashing and Trim

5. At Gable dormer; slope eaves trough toward outside of building and provide rainwater leader down to eaves trough below.
 6. Provide splash pads at base of rainwater leaders at grade and on flat roof.
 4. Supply and install new apron flashing, valley flashings, step flashing, counter flashing, and cricket (saddle) flashing at chimney and sloped roof-to-wall joints as shown on details. Install a 24ga. sheet metal cap flashing at the chimney as shown
- .6 North-west Tower
1. Removals:
 1. Remove and dispose of existing steel shingles, hip flashing, sheet metal roofing at windows, and accessories to expose the existing roof deck.
 2. Remove and dispose of painted wood fascia, upper & lower soffit boards, frieze boards, upper panel transition members, and upper gable siding,
 3. Remove and dispose of complete structure of existing barrel windows.
 4. Remove and retain existing gable end graphics and decorative support brackets, for reinstallation or replacement.
 5. Remove and retain for reinstallation after refurbishment of Tower pinnacle cap and ornamental iron platform
 6. Notify the Consultant of any additional deteriorated wood members and remove and dispose of the extent approved by the Consultant. Payment for this work will be from the Contingency Allowance on a time and materials basis or quoted fixed price, as agreed to prior to work proceeding.
 2. Rough Carpentry (Section 06 10 00):
 1. Supply and install new fascia boards, upper & lower soffit boards, frieze boards, upper panel transition members, and upper gable siding to the entire perimeter. New fascia boards are to match the depth of the existing fascia.
 2. Supply and install new framing members to support new barrel window structures as indicated
 3. Notify the Consultant of deteriorated deck boards and proceed with removal and replacement with plywood sheathing to match the existing board thickness (up to two layers allowed) to the extents approved by the Consultant.
 3. Barrell Windows
 1. Provide and install prebuilt barrels for barrel windows:
 - a. 41 inches OD x 24 inch deep
 - b. Wall thickness 2 inches, suitable for attachment to wood framing to suit support of surrounding roof sheathing
 - c. Entire barrel to clad in a layer of reinforced fiberglass applied to all interior and exterior surfaces.
 - d. Final ID to be minimum 36 3/4 inches to suit replacement window.
 2. Provide and install replacement windows composed of :
 - a. a thermally broken fiberglass frame
 - b. a fixed double pane insulated glazing unit with argon fill
 - c. to match the shape of the existing window
 4. Shingle Replacement - Steel Shingles (Section 07 31 15):

1. Supply and install self-adhered sheet membrane over all roof decking and/or sheathing as shown.
2. Supply new steel shingles to match existing dimensions, pattern, and colours and install in accordance with Section 07 31 15 and manufacturer's installation guidelines

Provide the Consultant with shop drawings that depicts the proposed shingle dimensions, pattern and colours at the northwest tower for review and approval prior to ordering steel shingles, with the intent of maintaining the existing aesthetic using the shingle manufacturer's standard colours and shingle configurations. .

5. Sheet Metal and Window Cladding - Prefinished Galvanized Steel Flashing Section 07 62 00:
 1. Supply and install 24 ga. prefinished galvanized steel fascia drip edge, fascia at lower eaves, and gable bases
 2. Install a new 24 ga. prefinished galvanized steel over the barrel windows

.7 Interior Attic Drain

1. Remove existing drain line running from drain pan south of tower to south soffit over flat roof.
2. Replace with ABS drain to match diameter of existing line.
3. Connect to drain body with suitable fernco coupler
4. Use fittings compatible with internal heat tracing line
5. Connect to downspout at soffit
6. Provide and install self regulating heat tracing cable system from drain pan area to termination of ABS drain line at exterior downspout:
7. System to be Heat Line, Retro-DWS internal Drain and Sewer Heating or equivalent
8. System to be controlled by a GF Pro Snow Switch or equivalent
9. Connect to power panel as directed by the consultant.
10. Shop drawings must be supplied and approved by the consultant prior to manufacture.
11. Insulate drain line within the attic space from drain body to soffit exit. With 1" fiberglass pipe insulation reinforced paper clad.

.8 Masonry Reinforcement

1. Reinforce masonry bed joints at cracks in mortar as directed on site. Payment for this work will be on a unit price basis.
2. Provide and install masonry lateral tie reinforcement as directed on site. Payment for this work will be on a unit price basis.

.9 Attic Insulation

1. Provide blown in cellulose insulation to accessible attic area to a minimum of R49

.10 Miscellaneous Repairs

1. *Structural Framing Allowance*: Notify the Consultant of any deteriorated structural wood framing. Repair or replace as directed by the Consultant in writing. Payment for this work, including removal and reinstatement of interior finishes and interior protection such as dust barriers, shall be from a Structural Framing Allowance on a time and materials basis or quoted fixed price, as agreed to prior to work proceeding

2. *Chimney Mortar Repointing and Brick Replacement*: Notify the Consultant of any deteriorated mortar joints or brick units on the chimney. Repair or replace as directed by the Consultant in writing. Repointing mortar is to be Type O and approved by the Consultant. Brick units are to match existing dimensions and appearance. Contractor is to provide samples of brick unit and mortar colour for the Owner's review and approval prior to completing repairs.
3. *Deteriorated Soffit, Brackets, and Frieze Boards*: Replace deteriorated painted wood soffit, brackets, or frieze boards as directed by the Consultant. Replacement pieces are to match existing dimensions. Provide paint samples for the Owner's review and approval.
4. Complete minor repair to address unanticipated conditions as found to be necessary and as directed by the Consultant in writing. Payment for this work shall be from a Contingency Allowance on a time and materials basis or quoted fixed price, as agreed to prior to work proceeding.

1.2 OPTIONAL WORK ITEMS

- .1 Alternative Shingle Material: In lieu of specified steel shingles specified in Section 07 31 15, propose an alternative shingle in Appendix B of Section 00 41 13 – Bid Form for the Owner's consideration. All associated detailing, including but not limited to: valleys, hips, eaves, fascia, east tower windows, west tower louvres and apron roof, pediment, etc shall be identical to that specified for use.
- .2 Deletion of 12 mm plywood overlay if determined that it is not required.
- .3 Replacement of eaves troughs and downspouts to Octagonal Tower to match.
- .4 Replacement of Tower Graphics with White plastic signage cutouts.

1.3 CONTRACT METHOD

- .1 Construct Work under stipulated price contract.
 5. CCDC 2-2008
- .2 Relations and responsibilities between Contractor and subcontractors and suppliers subcontractors approved by Owner are as defined in Conditions of Contract. Assigned Subcontractors must, in addition:
 6. Purchase and maintain liability insurance to insure against claims for not less than limits of liability which Contractor is required to provide to Consultant.

1.4 WORK BY OTHERS

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

1.5 WORK SEQUENCE

- .1 Construct Work in stages to accommodate Owner's continued use of premises during construction.

- .2 Co-ordinate Progress Schedule and co-ordinate with Owner Occupancy during construction.
- .3 Maintain fire access/control through out project.
- .4 The Contractor is responsible for conducting a pre-construction survey of the Place of Work and submitting the survey to the Consultant in accordance with Section 01 33 00 – Submittals.
- .5 The Contractor shall phase work to allow for protection of affected assemblies from exterior elements in the event that the Contractor is unable to complete the specified work within the same work day. Protect completed work from subsequent construction operations.
- .6 Work prescribed under the contract documents shall be executed in conformance with a progress schedule submitted by the contractor in advance of the work.
 - .1 Schedules must be approved by the Owner and Consultant. The Contractor shall not have authorization to proceed with the Work without written approval by the Consultant.
 7. Each block of units shall be completed in their entirety prior to commencing work at new blocks.

1.6 CONTRACTOR USE OF PREMISES

- .1 Hours of work will be limited from 8 a.m. to 6 p.m., Monday to Friday. Noisy work such as grinding must conform to Municipality of Central Huron Noise By-Law requirements. Any work scheduled for weekend must be pre-authorized by the Consultant and Owner in advance.
- .2 Notify the Consultant in writing prior to commencing any works of the intended work plan and schedule.
 8. The Work plan and schedule shall be updated with all changes affecting scheduling and sequencing.
 9. The Contractor is responsible for submitting updated sequencing and scheduling information in accordance with Section 01 33 00 – Submittal Procedures, and shall allow the Consultant a minimum of 48 hrs to review and approve prior to proceeding with changes.
 - .1 Owners use of the premises must not be restricted, all scheduling conflicts will be resolved to satisfy the owner requirements.
- .3 Limit use of premises for Work, for storage, and for access, to allow:
 - .1 Owner occupancy.
 - .2 Maintain fire access/control through out project.
 - .3 Work by other contractors.
- .4 Co-ordinate use of premises under direction of Consultant.
- .5 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.
- .6 Remove or alter existing work to prevent injury or damage to portions of existing work which remain.

- .7 Repair or replace existing building elements which have been disturbed during construction operations to match existing or adjoining work, as directed by Consultant.
- .8 At completion of construction, condition of existing work shall be equal to or better than that which existed before start of construction.

1.7 OWNER OCCUPANCY

- .1 Owner will occupy premises during entire construction period.
- .2 Contractor shall co-operate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage.
- .3 All requests made to Owner for Work requiring temporary closures are to be made in writing and in accordance with Section 01 33 00 – Submittals.

1.8 EXISTING SERVICES

- .1 Notify Consultant and utility companies of intended interruption of services and obtain required permission.
- .2 Where Work involves breaking into or connecting to existing services, give the Consultant a minimum of 48 hours notice for necessary interruption of mechanical or electrical service throughout course of Work. Minimize duration of interruptions. Carry out Work at times as directed by governing authorities with minimum disturbance to pedestrian traffic, vehicular traffic and Owner operations.
- .3 Provide alternative routes for personnel, pedestrian and vehicular traffic.
- .4 Establish location and extent of service lines in area of work before starting Work. Notify Consultant of findings.
- .5 Submit schedule to and obtain approval from Consultant for any shut-down or closure of active service or facility including power and communications services. Adhere to approved schedule and provide notice to affected parties.
- .6 Provide temporary services when directed by Consultant to maintain critical building and Owner systems.
- .7 Where unknown services are encountered, immediately advise Consultant and confirm findings in writing.
- .8 Protect, relocate or maintain existing active services. When inactive services are encountered, cap off in manner approved by authorities having jurisdiction.
- .9 Record locations of maintained, re-routed and abandoned service lines. Submit records to Consultant in accordance with Section 01 33 00 – Submittals.
- .10 Construct barriers in accordance with Ontario Health & Safety Act & Regulations.

1.9 DOCUMENTS REQUIRED

- .1 Maintain at job site, one copy each document as follows:
 - 10. Contract Drawings.
 - 11. Specifications.

12. Addenda.
13. Reviewed Shop Drawings.
14. List of Outstanding Shop Drawings.
15. Change Orders.
16. Other Modifications to Contract.
17. Field Test Reports.
18. Copy of Approved Work Schedule.
19. Health and Safety Plan and Other Safety Related Documents.
20. Notice of Project
21. Building Permit

1.10 SPECIAL REQUIREMENTS

- .1 Direct all requests for information by members of the public to the Municipality.
- .2 Comply with the Municipality of Central Huron By Laws.

1.11 PERMITS

- .1 The Contractor will apply for and obtain all permits required by authorities having jurisdiction.

END OF SECTION

PART 1 GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 11 00 – Summary of Work.

1.2 ACCESS AND EGRESS

- .1 Design, construct and maintain temporary "access to" and "egress from" work areas, including stairs, runways, ramps, or ladders and scaffolding, independent of finished surfaces and in accordance with relevant provincial and other regulations.

1.3 USE OF SITE AND FACILITIES

- .1 Execute work with least possible interference or disturbance to normal use of premises. Make arrangements with Consultant to facilitate work as stated.
- .2 Maintain existing services to building and provide for personnel and vehicle access.
- .3 Where security is reduced by work, provide temporary means to maintain security.
- .4 The Contractor shall be responsible for providing sanitary facilities for use by Contractor's personnel. Keep facilities clean.
- .5 Closures: protect work temporarily until permanent closures are completed.

1.4 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING

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

1.5 SPECIAL REQUIREMENTS

- .1 Submit project schedule, which includes:
 - .1 Task breakdown,
 - .2 Location of tasks, and
 - .3 Estimated duration of task.
- .2 Ensure that Contractor personnel employed on site become familiar with and obey regulations including safety, fire, traffic and security regulations.
- .3 Keep within limits of work and avenues of ingress and egress.

1.6 BUILDING SMOKING ENVIRONMENT

- .1 Comply with smoking restrictions. Smoking is not allowed in common areas.

END OF SECTION

PART 1 GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 35 29.06 – Health and Safety Requirements
- .2 Section 01 52 00 – Construction Facilities
- .3 Section 06 10 10 – Rough Carpentry
- .4 Section 07 31 15 – Diamond Steel Roofing Shingles
- .5 Section 07 62 10 – Sheet Metal Flashing and Trim
- .6 Section 07 92 10 – Joint Sealing

1.2 ADMINISTRATIVE

- .1 Submit to Consultant submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2 Do not proceed with Work affected by submittal until review is complete.
- .3 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 co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.
- .6 Notify 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 co-ordinated.
- .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 review.
- .10 Keep one reviewed copy of each submission on site.

1.3 SHOP DRAWINGS AND PRODUCT DATA

- .1 Refer to CCDC 2 GC 3.11.
- .2 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.

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- .3 Submit shop drawings bearing stamp and signature of qualified professional Engineer registered or licensed in Province of Ontario, Canada.
 - .4 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.
 - .5 Allow 2 days for Consultant's review of each submission.
 - .6 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.
 - .7 Make changes in shop drawings as Consultant may require, and maintain consistency with Contract Documents. When resubmitting, notify Consultant in writing of revisions other than those requested.
 - .8 Accompany submissions with transmittal letter, in triplicate, 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.
 - .9 Submissions include:
 - .1 Date and revision dates.
 - .2 Project title and number.
 - .3 Name and address of:
 - .1 Subcontractor.
 - .2 Supplier.
 - .3 Manufacturer.
 - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
 - .5 Details of appropriate portions of Work as applicable:
 - .1 Fabrication.
 - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
 - .3 Setting or erection details.
 - .4 Capacities.
 - .5 Performance characteristics.
 - .6 Standards.
 - .7 Operating weight.
 - .8 Wiring diagrams.
 - .9 Single line and schematic diagrams.
 - .10 Relationship to adjacent work.

- .10 After Consultant's review, distribute copies.
- .11 Submit 1 printed or electronic copy of shop drawings for each requirement requested in specification Sections and as Consultant may reasonably request.
- .12 Submit 1 printed or electronic copy 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.
- .13 Submit 1 printed or electronic copy of test reports for requirements requested in specification Sections and as requested by Consultant.
 - .1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
 - .2 Testing must have been within 3 years of date of contract award for project.
- .14 Submit 1 printed or electronic copy of certificates for requirements requested in specification Sections and as requested by Consultant.
 - .1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.
 - .2 Certificates must be dated after award of project contract complete with project name.
- .15 1 printed or electronic copy of manufacturers' instructions for requirements requested in specification Sections and as requested by Consultant.
 - .1 Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.
- .16 Submit 1 printed or electronic copy of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by Consultant.
 - .1 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.
- .17 Submit 1 printed or electronic copy of Operation and Maintenance Data for requirements requested in specification Sections and as requested by Consultant.
- .18 Delete information not applicable to project.
- .19 Supplement standard information to provide details applicable to project.
- .20 If upon review by Consultant, no errors or omissions are discovered or if only minor corrections are made, copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.

1.4 SAMPLES

- .1 Submit for review samples in duplicate as requested in respective specification Sections prior to incorporating product into the Work. 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 a minimum of 4 work days prior to scheduled commencement of related work.
- .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 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.

1.5 MOCK UPS

- .1 Prepare mock ups for Work specifically requested in specifications. Include for Work of Sections required to provide mock ups.
- .2 Construct in locations acceptable to Consultant as specified in specific Section.
- .3 Prepare mock ups for Consultant review with reasonable promptness and in orderly sequence, to not cause delays in Work.
- .4 Failure to prepare mock ups in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .5 If requested, Consultant will assist in preparing schedule fixing dates for preparation.
- .6 Remove mock ups at conclusion of Work, or when acceptable to the Consultant.
- .7 Mock ups may remain as part of the Work, at the Consultant's discretion.
- .8 Specification section identifies whether mock up may remain as part of Work or if it is to be removed and when.

1.6 PROGRESS PHOTOGRAPHS

- .1 Submit progress photographs at the request of the Consultant or Owner.

1.7 CERTIFICATES AND TRANSCRIPTS

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

END OF SECTION

PART 1 GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 11 00 - Summary of Work
- .2 Section 01 33 00 - Submittal Procedures

1.2 REFERENCES

- .1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations
- .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .3 Province of Ontario
 - .1 Occupational Health and Safety Act, R.S.O. 1990 Updated 2006.
- .4 Covid-19 Reminder
 - .1 Keeping workplaces safe is our collective responsibility. We've included a link to the Ministry of Labour, Skills and Development guidelines for construction sites for your information <https://www.ontario.ca/page/resources-prevent-covid-19-workplace>

1.3 SUBMITTALS

- .1 Make submittals in accordance with Section 01 33 00 – Submittal Procedures.
- .2 Submit site specific Health and Safety Plan: Within 7 days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:
 - .1 Results of site specific safety hazard assessment.
 - .2 Results of safety and health risk or hazard analysis for site tasks and operation found in work plan.
- .3 Submit 1 printed or electronic copy of Contractor's authorized representative's work site health and safety inspection reports to Consultant and to authority having jurisdiction.
- .4 Submit 1 printed or electronic copy of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
- .5 Submit 1 printed or electronic copy of incident and accident reports.
- .6 Consultant will review Contractor's site specific Health and Safety Plan and provide comments to Contractor within 2 days after receipt of plan. Revise plan as appropriate and resubmit plan to Consultant within 2 days after receipt of comments from Consultant.
- .7 Consultant's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.
- .8 On site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.

- .1 Describe the known hazards and evaluate the risks associated with the job tasks to be conducted.
- .2 List key personnel and alternates responsible for site safety, response operations, and for protection of public.
- .3 Describe the level of personal protective equipment to be used were applicable.
- .4 Provide plans for delineating work areas, access points and describe worker/public circulation controls.
- .5 Describe rescue equipment and procedures to be used if required.

1.4 FILING OF NOTICE

- .1 File Notice of Project with Provincial authorities prior to beginning of Work.

1.5 SAFETY ASSESSMENT

- .1 Perform site specific safety hazard assessment related to project.

1.6 MEETINGS

- .1 Schedule and administer Health and Safety meeting with Consultant prior to commencement of Work.

1.7 REGULATORY REQUIREMENTS

- .1 Do Work in accordance with regulations of authorities having jurisdiction over specified work.

1.8 RESPONSIBILITY

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

1.9 COMPLIANCE REQUIREMENTS

- .1 Comply with Ontario Health and Safety Act, R.S.O.
- .2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

1.10 UNFORESEEN HAZARDS

- .1 When unforeseen or peculiar safety related factor, hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of the Province of Ontario having jurisdiction and advise Consultant verbally and in writing.

1.11 POSTING OF DOCUMENTS

- .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province having jurisdiction, and in consultation with Consultant.

1.12 CORRECTION OF NON COMPLIANCE

- .1 Immediately address health and safety non compliance issues identified by authority having jurisdiction or by Consultant.
- .2 Provide Consultant with written report of action taken to correct non compliance of health and safety issues identified.
- .3 Consultant may stop Work if non compliance of health and safety regulations is not corrected.

1.13 WORK STOPPAGE

- .1 Give precedence to safety and health of public and site personnel and protection of

END OF SECTION

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PART 1 GENERAL

1.1 PRECEDENCE

- .1 Division 1 Sections take precedence over technical specification sections in other Divisions of this Project Manual.

1.2 RELATED SECTIONS

- .1 Section 00 73 00 – Supplementary Conditions
- .2 Section 01 11 00 – Summary of Work
- .3 Section 01 14 00 – Work Restrictions
- .4 Section 01 35 29.06 – Health and Safety Requirements

1.3 REFERENCES

- .1 Canadian Standards Association (CSA International)
 - .1 CAN/CSA Z321 96, Signs and Symbols for the Occupational Environment.

1.4 INSTALLATION AND REMOVAL

- .1 Provide construction facilities in order to execute work expeditiously.
- .2 Remove from site all such work after use.

1.5 SCAFFOLDING & LIFT EQUIPMENT

- .1 Scaffolding in accordance with CAN/CSA – S269.2.
- .2 Provide and maintain scaffolding, ladders, and platforms.
- .3 Hydraulic lift equipment to be operated by qualified operator.
 - .1 Maintain daily inspection logs onsite.

1.6 SITE STORAGE/LOADING

- .1 Refer to CCDC 2, GC 3.12.
- .2 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.
- .3 Do not load or permit to load any part of Work with a weight or force that will endanger the Work.
- .4 Provide temporary barriers or enclosures, delineating the designated site storage/loading area from the remainder of the site.
 - .1 Temporary barriers shall comply with Ontario Health & Safety Act and regulations having jurisdiction.

1.7 CONSTRUCTION PARKING

- .1 Parking will be permitted on site provided it does not disrupt performance of Work, or interfere with Owner's use of shared facilities and personal access to non-work areas.
 - .1 Parking location and number of allocated spaces must be approved by Consultant.
- .2 Provide and maintain adequate access to project site.
- .3 If authorized to use existing roads for access to project site, maintain such roads for duration of Contract and make good damage resulting from Contractors' use of roads.
- .4 Do not overload paved surfaces. Make good surfaces damaged by Contractor's access, use and movements.

1.8 EQUIPMENT, TOOL AND MATERIALS STORAGE

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

1.9 SANITARY FACILITIES

- .1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
- .2 Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition and post maintenance records of said facilities.

1.10 CONSTRUCTION SIGNAGE

- .1 No other signs or advertisements, other than warning signs, are permitted on site.
- .2 Signs and notices for safety and instruction shall be in both official languages Graphic symbols shall conform to CAN3 Z321.
- .3 Maintain approved signs and notices in good condition for duration of project and dispose of off site on completion of project or earlier if directed by Consultant.

1.11 PROTECTION AND MAINTENANCE OF TRAFFIC

- .1 Provide measures for protection and diversion of traffic, including provision of watch-persons and flag-persons, erection of barricades, placing of lights around and in front of equipment and work, and erection and maintenance of adequate warning, danger, and direction signs.
- .2 Protect travelling public from damage to person and property.
- .3 Contractor's traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.
- .4 Verify adequacy of existing roads and allowable load limit on these roads. Contractor is:
 - .1 Responsible for repair of damage to roads caused by construction operations.

- .5 Provide necessary lighting, signs, barricades and distinctive markings for safe movement of traffic.

1.12 CLEAN-UP

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

END OF SECTION

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PART 1 GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 33 00 – Submittal Procedures

1.2 REFERENCES

- .1 Canadian Construction Documents Committee (CCDC).
 - .1 CCDC 2 2008, Stipulated Sum Contract.
- .2 Within text of each specifications section, reference may be made to reference standards.
- .3 If there is question as to whether products or systems are in conformance with applicable standards, Consultant reserves right to have such products or systems tested to prove or disprove conformance.
- .4 Cost for such testing will be born by Owner in event of conformance with Contract Documents or by Contractor in event of non conformance.

1.3 QUALITY

- .1 Refer to 00 73 00 – Supplementary Conditions, GC 3.14 PERFORMANCE BY CONTRACTOR.
- .2 Products, materials, equipment and articles incorporated in Work shall be new, not damaged or defective, and of best quality for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.
- .3 Procurement policy is to acquire, in a cost-effective manner, items containing highest percentage of recycled and recovered materials practicable consistent with maintaining satisfactory levels of competition. Make reasonable efforts to use recycled and recovered materials and in otherwise utilizing recycled and recovered materials in execution of work.
- .4 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.
- .5 Should disputes arise as to quality or fitness of products, decision rests strictly with Consultant based upon requirements of Contract Documents.
- .6 Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout building.
- .7 Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.

1.4 AVAILABILITY

- .1 Immediately upon signing Contract, review product delivery requirements and anticipate foreseeable supply delays for items. If delays in supply of products are foreseeable, notify

Consultant of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of Work.

- .2 In event of failure to notify Consultant at commencement of Work and should it subsequently appear that Work may be delayed for such reason, Consultant reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.

1.5 STORAGE, HANDLING AND PROTECTION

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

1.6 MANUFACTURER'S INSTRUCTIONS

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

1.7 QUALITY OF WORK

- .1 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Consultant if required Work is such as to make it impractical to produce required results.

- .2 Do not employ anyone unskilled in their required duties. Consultant reserves right to require dismissal from site, workers deemed incompetent or careless.
- .3 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Consultant, whose decision is final.

1.8 COORDINATION

- .1 Ensure co-operation of workers in laying out Work. Maintain efficient and continuous supervision.
- .2 Be responsible for coordination and placement of openings, sleeves and accessories.

1.9 CONCEALMENT

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

1.10 REMEDIAL WORK

- .1 Refer to CCDC 2.
- .2 Refer to 00 73 00 – Supplementary Conditions.
- .3 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Co-ordinate adjacent affected Work as required.
- .4 Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

1.11 LOCATION OF FIXTURES

- .1 Consider location of fixtures, outlets, and mechanical and electrical items indicated as approximate.
- .2 Inform Consultant of conflicting installation. Install as directed.
- .3 Unless otherwise indicated, reinstall fixtures at original locations.

1.12 FASTENINGS

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

- .5 Keep exposed fastenings to a minimum, space evenly and install neatly.
- .6 Fastenings which cause spalling or cracking of material to which anchorage is made are not acceptable.

1.13 FASTENINGS – EQUIPMENT

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

1.14 PROTECTION OF WORK IN PROGRESS

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

1.15 EXISTING UTILITIES

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

END OF SECTION

PART 1 GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 11 00 – Summary of Work
- .2 Section 01 77 00 – Close-out Procedures

1.2 PROJECT CLEANLINESS

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

1.3 FINAL CLEANING

- .1 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
- .2 Remove waste products and debris other than that caused by others and leave Work clean and suitable for occupancy.
- .3 Prior to final review remove surplus products, tools, construction machinery and equipment.
- .4 Remove waste products and debris other than that caused by Owner or other Contractors.

- .5 Clean any interior surfaces affected by construction (dust, dirt, etc) as directed by the Consultant.
- .6 Broom clean and wash exterior walks, steps and surfaces; rake clean other surfaces of grounds.
- .7 Remove dirt and other disfiguration from exterior surfaces.
- .8 Clean and sweep roofs, gutters, areaways, and sunken wells.
- .9 Sweep and wash clean paved areas.
- .10 Clean roofs, downspouts, and drainage systems.

END OF SECTION

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PART 1 GENERAL

1.1 DESCRIPTION

- .1 Administrative procedures preceding preliminary and final inspections of Work.

1.2 INSPECTION AND DECLARATION

- .1 Contractor's Inspection: Contractor and Subcontractors shall conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
 - .1 Notify Consultant in writing of satisfactory completion of Contractor's Inspection and that corrections have been made.
 - .2 Request Consultant's Inspection.
- .2 Consultant's Inspection: Consultant and Contractor will perform inspection of Work to identify obvious defects or deficiencies. Contractor shall correct Work accordingly.
- .3 Completion: Submit written certificate that following have been performed:
 - .1 Work has been completed and inspected for compliance with Contract Documents.
 - .2 Defects have been corrected and deficiencies have been completed.
 - .3 Work is complete and ready for final inspection.
- .4 Final Inspection: When items noted above are completed, request final inspection of Work by Consultant and Contractor. If Work is deemed incomplete by Consultant, complete outstanding items and request re-inspection.
- .5 Declaration of Substantial Performance: When Consultant considers deficiencies and defects to have been corrected and it appears requirements of Contract have been substantially performed, make application for certificate of Substantial Performance. Refer to CCDC 2, General Conditions Article 14.8 for specifics to application.
- .6 Commencement of Lien and Warranty Periods: Date of Owner's acceptance of submitted declaration of Substantial Performance shall be date for commencement for warranty period and commencement of lien period unless required otherwise by lien statute of Place of Work.
 - .1 Submit all warranty certificates.
- .7 Final Payment: When Consultant considers final deficiencies and defects to have been corrected and it appears requirements of Contract have been totally performed, make application for final payment. Refer to CCDC 2. If Work is deemed incomplete by Consultant, complete outstanding items and request re-inspection.
 - .1 Additional cost of re-inspections will be borne by the Contractor.
- .8 Payment of Holdback: After issuance of certificate of Substantial Performance of Work, submit an application for payment of holdback amount in accordance with CCDC 2.

1.3 CLEANING

- .1 Refer to 01 74 11 – Cleaning.

END OF SECTION

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PART 1 GENERAL

1.1 DESCRIPTION

Masonry reinforcement using helical anchors and horizontal joint reinforcement.

1.2 RELATED SECTIONS

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

1.3 SUBMITTALS

- .1 Submit under provisions of Section 01 33 00 – Submittal Requirements. Submit one of each type of masonry anchor and joint reinforcement product proposed for use.
- .2 Product Data: Manufacturer's data sheets on each product to be used, including:
 - .1 Preparation instructions and recommendations.
 - .2 Storage and handling requirements and recommendations.
 - .3 Installation methods.

1.4 INSPECTION

- .1 Arrange to have the manufacturer's representative visit the site during initial application to review preparation, materials, and installation.

1.5 QUALIFICATIONS

- .1 Restoration Specialist Qualifications: Firm shall have completed work similar in material, design, and extent to that indicated for this Project with a record of successful in-service performance.
 - .1 Field Supervision: Maintain experienced full-time supervisors on Project site during times that masonry restoration work is in progress. Supervisors shall not be changed during Project except for causes beyond the control of restoration specialist firm.
 - .2 Worker Qualifications: Persons who are experienced and specialize in restoration work of types they

1.6 DELIVERY, STORAGE AND HANDLING

- .1 Store products in manufacturer's unopened packaging until ready for installation.
- .2 Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.7 PROJECT CONDITIONS

- .1 Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

PART 2 PRODUCTS

2.1 MASONRY VENEER ANCHORING SYSTEMS

- .1 Acceptable products include:

Manufacturer	Product
Blok-Lok	Spira-Lok
Simpson Strong-Tie	Heli-Tie Helical Wall Tie

- .2 Diameter: 8mm

2.2 HORIZONTAL JOINT REINFORCEMENT

- .1 Acceptable products include:

Manufacturer	Product
Helifix	Helibeam System
Simpson Strong-Tie	Heli-Tie Helical Stitching Tie and FX-263 Repair Mortar

- .2 Diameter: 6mm

PART 3 EXECUTION

3.1 EXAMINATION

- .1 Do not begin installation until substrates have been properly prepared.
- .2 If substrate preparation is the responsibility of another installer, notify Consultant of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- .1 Clean surfaces thoroughly prior to installation.
- .2 Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- .1 Masonry Veneer Anchors
- .1 Install masonry repair anchors in horizontal mortar joints and according to manufacturer's written instructions. Install at not more than 400mm (16") o.c. vertically and 400mm (16") o.c. horizontally unless otherwise indicated. Install at locations to avoid penetrating flashing.
- .2 Mark the anchor locations on the veneer for the Consultant's review and approve.
- .3 Drill an appropriate diameter pilot hole (based on diameter of helical tie and density of back-up material as specified by the manufacturer) perpendicular through the veneer and into the back-up substrate using a rotary percussion drill (3-jaw-chuck type).

- .4 Power-drive the helical tie until its outer end is recessed at least 16 mm (5/8") below surface of mortar joint.
- .5 Patch the entry hole with color matched mortar in accordance with Section 04 05 12.
- .2 Horizontal Joint Reinforcement
 - .1 At bed joints spaced no greater than 400mm (16") vertically along step cracks, rake mortar 35mm (1-3/8") deep and 500mm (20") long either side of the joint. Do not continue horizontal joint reinforcement through control or expansion joints.
 - .2 Place a lift of bedding grout into the raked joint.
 - .3 Set the helical joint reinforcement into the bedding grout to a depth that will provide 16mm (5/8") of cover from the exterior face of the finished joint.
 - .4 Apply additional lifts of bedding grout into the raked joint to within 12mm of (1/2").
 - .5 Repoint bed joint with colour matched mortar in accordance with Section 04 05 12.

3.4 PROTECTION

- .1 Protect installed products until completion of project.
- .2 Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

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PART 1 GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 61 00 – Common Product Requirements
- .2 Section 01 74 11 – Cleaning
- .3 Section 07 31 15 – Diamond Steel Roofing Shingles
- .4 Section 07 62 00 – Sheet Metal Flashing and Trim

1.2 REFERENCES

- .1 American National Standards Institute (ANSI)
 - .1 ANSI A208.1 1999, Particleboard, Mat Formed Wood.
- .2 American Society for Testing and Materials (ASTM)
 - .1 ASTM D1761 00, Standard Test Methods for Mechanical Fasteners in Wood.
 - .2 ASTM D 3498 Standard Specification for Adhesives for Field-Gluing Plywood to Lumber Framing for Floor Systems.
- .3 Canadian Standards Association (CSA)
 - .1 CSA B111 1974, Wire Nails, Spikes and Staples.
 - .2 CAN/CSA G164 M92, Hot Dip Galvanizing of Irregularly Shaped Articles.
 - .3 CSA O112 Series M1977, CSA Standards for Wood Adhesives.
 - .4 CSA O121 M1978, Douglas Fir Plywood.
 - .5 CAN/CSA O141 91, Softwood Lumber.
 - .6 CSA O151 M1978, Canadian Softwood Plywood.
- .4 National Lumber Grades Authority (NLGA)
 - .1 Standard Grading Rules for Canadian Lumber 2000.

1.3 QUALITY ASSURANCE

- .1 Lumber by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.
- .2 Plywood, particleboard, OSB and wood based composite panels in accordance with CSA and ANSI standards.
- .3 Comply with governing codes and regulations. Provide products of acceptable manufacturers, which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

1.4 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials to the maximum extent possible.
- .2 Separate wood waste and place in designated areas for recycling.

- .3 Set aside damaged wood and dimensional lumber off cuts for approved alternative uses (e.g. bracing, blocking, cripples, bridging). Store this separated reusable wood waste convenient to cutting station and area of work.
- .4 Separate metal, plastic, wood and corrugated cardboard and place in designated areas for recycling.
- .5 Do not burn scrap at the project site.
- .6 Fold up metal banding, flatten, and place in designated area for recycling.

PART 2 PRODUCTS

2.1 FRAMING MATERIALS

- .1 Unless specified otherwise, Pressure Treated softwood, S4S, moisture content 18% (S dry) or less in accordance with following standards:
 - .1 CAN/CSA O141.
 - .2 Forest Stewardship Council (FSC) Certified
 - .3 Certified CCA Free
 - .4 NLGA Standard Grading Rules for Canadian Lumber.
- .2 Framing and board lumber: in accordance with OBC.
- .3 Furring, blocking, nailing strips, and sheathing:
 - .1 Board sizes: "Standard" or better grade.
 - .2 Dimension sizes: "Standard" light framing or better grade.
 - .3 Post and timbers sizes: "Standard" or better grade.

2.2 FACIA, SOFFITS AND TRIM

- .1 Unless specified otherwise, Pressure Treated softwood, S4S, moisture content 18% (S dry) or less in accordance with following standards:
 - .1 CAN/CSA O141.
 - .2 Forest Stewardship Council (FSC) Certified
 - .3 Certified CCA Free
 - .4 NLGA Standard Grading Rules for Canadian Lumber
- .2 Exposed boards and trim shall be custom milled to match existing members as close as possible.
 - .1 Consultant must approve any proposed changes of dimensions before ordering of materials.

2.3 PANEL MATERIALS

- .1 Plywood, OSB and wood based composite panels: to CAN/CSA00325.0.
- .2 Canadian softwood plywood (CSP): to CSA O151, standard construction.

- .3 CANPLY Stamped Exterior Grade:
 - .1 Sheathing Veneer Grades:
 - .1 Face C Grade or Better,
 - .2 Inner Plies C Grade or Better,
 - .3 Back C Grade or Better.

2.4 ACCESSORIES

- .1 General purpose adhesive: to CSA O112 Series.
- .2 Nails, spikes and staples: to CSA B111.
- .3 Nailing discs: flat caps, minimum 25 mm diameter, minimum 0.4 mm thick, sheet metal, plastic, formed to prevent dishing. Bell or cup shapes not acceptable.
- .4 Panel sheathing clips: 20 gauge, Galvanized.

2.5 FASTENER FINISHES

- .1 Galvanizing: to CAN/CSA G164, use galvanized fasteners for exterior work.

PART 3 EXECUTION

3.1 PREPARATION

- .1 Store wood products on blocks or skids protected from direct exposure to sun and precipitation under Tarpaulins
- .2 Wood products that exhibit excessive bowing, chinking or cupping shall not be used unless otherwise approved by consultant.

3.2 INSTALLATION

- .1 Comply with requirements of OBC.
- .2 Install panel materials (Exterior Grade Sheathing) with long dimension across supports. Stagger vertical joints.
- .3 Install framing members true to line, levels and elevations, square and plumb.
- .4 Construct continuous members from pieces of longest practical length.
- .5 Install spanning members with "crown edge" up.
- .6 Select exposed framing for appearance. Install lumber and panel materials so that grade marks and other defacing marks are concealed or are removed by sanding where materials are left exposed.
- .7 Install furring and blocking as required to space out and support other work as required.
- .8 Install nailers, sheathing and other wood supports as required and secure using galvanized fasteners.

3.3 ERECTION

- .1 Use nailing disks for soft sheathing as recommended by sheathing manufacturer.
 - .1 Install sheathing panels with surface grain in right angles to the roof framing members.
 - .2 Install all panels with a 4mm, +/- 2mm, gap between sheets to allow for swelling of material.
 - .3 Install panel sheathing clips between sheathing panels at the perpendicular edges of surface grain of sheathing material.
- .2 Securely attach rough carpentry work to substrate by anchoring and fastening as indicated.
- .3 Countersink bolts or lag screws where necessary to provide clearance for other work.
- .4 Provide nailers, blocking and grounds where required. Set work plumb, level and accurately cut.
- .5 Install materials and systems in accordance with manufacturer's instructions and approved submittals. Install materials and systems in proper relation with adjacent construction. Coordinate with other work.
- .6 Comply with manufacturer's requirements for cutting, handling, fastening and working treated materials.
- .7 Roof sheathing shall be covered before the end of each working day.
- .8 Restore damaged components. Protect work from damage.
- .9 Frame, anchor, fasten, tie and brace members to provide necessary strength and rigidity.

END OF SECTION

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PART 1 GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 33 00 – Submittals

1.2 REFERENCES

- .1 Canadian Urethane Foam Contractors' Association Inc. (CUFCA)
- .2 Underwriters' Laboratories of Canada (ULC)
 - .1 CAN/ULC-S710.1 2019, Standard For Bead Applied One-Component Polyurethane Air Sealant Foam, Part 1: Material Specification.

1.3 SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for low-rise, polyurethane foam sprayed insulation and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit a copy of WHMIS SDS in accordance with Section 01 35 29.06 - Health and Safety Requirements.
- .3 Manufacturer's Instructions:
 - .1 Submit manufacturer's installation instructions and special handling criteria, installation sequence, and cleaning procedures.

1.4 QUALITY ASSURANCE

- .1 Applicators to conform to CUFCA Quality Assurance Program.
- .2 Manufacturer: Company specializing in manufacturing the products specified in this section with minimum three (3) years documented experience.
- .3 Applicator: Company specializing in performing the work of this section with minimum three years documented experience and certified by the manufacturer.
- .4 Mock-up: Construct mock up in accordance with Section 01 45 00 – Quality Control. Allow 24 hours for inspection of mock up by Consultant before proceeding work.

1.5 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions and Section 01 61 00 - Common Product Requirements.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Store materials indoors and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
- .4 Replace defective or damaged materials with new.

- .5 Protect workers in accordance with the manufacturer's written instructions and the following:
 - .1 Workers must wear gloves, respirators, long sleeved clothing, and eye protection when applying foam insulation.
 - .2 Workers must not eat, drink or smoke while applying foam insulation.
- .6 Remove from site and dispose of packaging materials at appropriate recycling facilities.

1.6 SITE CONDITIONS

- .1 Ventilate area in accordance with Ministry of Labour safe work practices and in accordance with site specific health and safety plan.
- .2 Ventilate area to receive insulation by introducing fresh air and exhausting air continuously during and 24 hour after application to maintain non toxic, unpolluted, safe working conditions.
- .3 Provide temporary enclosures to prevent spray and noxious vapours from contaminating air beyond application area.
- .4 Protect adjacent surfaces and equipment from damage by overspray, fall out, and dusting of insulation materials.
- .5 Apply insulation only when surfaces and ambient temperatures are within manufacturers' prescribed limits.

PART 2 PRODUCTS

2.1 MATERIALS

- .1 Insulation: spray applied closed cell, rigid polyurethane foam to CAN/ULC-S705.1 and ASTM C1029. Type 2, two component, Medium density.
- .2 Air sealant foam: Foam Sealant bead applied gun foam one-component polyurethane sealant to CAN/ULC-S710.1.
- .3 Primer: As recommended by foam sealant manufacturer.
- .4 Substrate Cleaner: Non-corrosive type recommended by foam sealant manufacturer.

PART 3 EXECUTION

3.1 APPLICATION

- .1 Apply insulation to clean surfaces in accordance with CAN/CSA-A440.4-18 and the manufacturer's printed instructions.
- .2 Use primer where recommended by manufacturer.
- .3 Apply sprayed foam insulation the width of the rough opening and full depth of the window and door frames. Ensure continuity of the insulation at shim locations, applying insulation from the interior and exterior as required.
- .4 Foam insulation shall be installed in a manner that does not distort the fenestration product frame.

3.2 CLEANING

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

END OF SECTION

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PART 1 GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 33 00 – Submittal Procedures
- .2 Section 01 35 29.06 – Health and Safety Requirements
- .3 Section 01 61 00 – Common Product Requirements
- .4 Section 01 74 11 – Cleaning

1.2 REFERENCES

- .1 ASTM International
 - .1 ASTM C518-[17], Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
 - .2 ASTM C739-[17]. Standard Specification for Cellulosic Fiber Loose-Fill Thermal Insulation.
 - .3 ASTM C1015-[17]. Standard Practice for Installation of Cellulosic and Mineral Fiber Loose-Fill Thermal Insulation.
 - .4 ASTM C1149-[17]. Standard Specification for Self-Supported Spray Applied Cellulosic Thermal Insulation.
 - .5 ASTM C1497-[16]. Standard Specification for Cellulosic Fiber Stabilized Thermal Insulation.
 - .6 ASTM E970-[17]. Standard Test Method for Critical Radiant Flux of Exposed Attic Floor Insulation Using a Radiant Heat Energy Source
- .2 Underwriters Laboratories of Canada (ULC)
 - .1 CAN/ULC-S102.2-[10], Standard Methods for Surface Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies.
 - .2 CAN/ULC-S129-[15]. Standard Method of Test for Smoulder Resistance of Insulation (Basket Method).
 - .3 CAN/ULC-S703-[09-R2015], Standard for Cellulose Fibre Insulation (CFI) for Buildings.
- .3 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Safety Data Sheets (SDS)

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit manufacturer's printed product literature, specifications and datasheet. Include product characteristics, performance criteria and limitations. Submit product data to confirm that insulation used in Project will meet or exceed specified performance requirements.
- .3 Submit manufacturer's installation instructions. Include recommendations for preparation, special storage and handling. Include installation and cleaning procedures.

- .4 Submit WHMIS Safety Data Sheet (SDS) in accordance with Section 01 35 29.06 - Health and Safety Requirements.

1.4 QUALITY ASSURANCE

- .1 Installer: company specializing in pneumatic application of cellulose insulation with minimum of five (5) years of documented experience. Submit copies of documents confirming experience to Consultant for each installer to be employed on the project.

1.5 HEALTH AND SAFETY

- .1 Comply with requirements of WHMIS regarding use, handling, storage and disposal of insulation materials.
- .2 Ensure that workers wear gloves, respirators, dust masks, long sleeved clothing, eye protection and protective clothing when applying insulation.
- .3 Ensure that workers do not eat, drink or smoke while applying insulation.

1.6 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements:
 - .1 Deliver materials to Site in original, unopened factory packaging, labelled with manufacturer's name and address. Include ULC markings.
- .3 Storage and Handling Requirements:
 - .1 Store materials off ground indoors in a clean, dry, well ventilated area.
 - .2 Protect [materials] from [exposure to moisture].
 - .3 Replace wet, defective or opened materials with new.

1.7 WASTE MANAGEMENT

- .1 Separate and recycle waste packaging materials in accordance with Waste Management Plan and Waste Reduction Plan.
- .2 Return all packaging materials for recycling as specified in the Construction Waste Management Plan and Waste Reduction Workplan.
- .3 Dispose of waste products at appropriate recycling facilities. Collect and separate paper plastic material in appropriate on-site storage containers.

1.8 SITE CONDITIONS

- .1 Ventilate area to receive insulation by introducing fresh air and exhausting air continuously during and 24 hours after application to maintain non-toxic, unpolluted and safe working conditions.
- .2 Provide temporary enclosures to prevent contaminating air beyond application area.

PART 2 PRODUCTS

2.1 MATERIALS

- .1 Loose fill cellulose insulation for open blown application: to ASTM C739 and CAN/ULC-S703 (Type 1 - no adhesive additives). Wood based pure cellulose fibres, chemically impregnated to reduce corrosiveness, resist mould and mildew and provide fire resistant properties. Loose fill, unbonded fibres designed specifically for pneumatic application.

2.2 ACCESSORIES

- .1 Insulation stops: preformed, rigid fiberboard, cardboard or foamed plastic sheets designed to close off outside edge of attic framing and prevent blown insulation materials from entering the eaves space. Height: minimum 25 mm higher than depth of attic insulation layer.
- .2 Eaves ventilation baffles: preformed, rigid fiberboard, cardboard or foamed plastic sheets designed and sized to fit between attic framing members and ensure continuous path of ventilations from the eaves through to the attic space by preventing the insulation from touching the underside of the roof sheathing. Minimum ventilation gap: [25] mm.
- .3 Retention fabric: woven or non woven, reinforced, tear resistant and light weight translucent fabric [as recommended by insulation manufacturer]. Designed for installation to interior face of wall or floor assembly to retain insulation in place until permanent finishes are installed.

PART 3 EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Comply with manufacturer's written installation instructions, including datasheets and technical bulletins. Comply with storage and handling instructions
- .2 Carry out all work relating to the application of insulation in accordance with ASTM C1015.

3.2 INSTALLATION - GENERAL

- .1 Protect adjacent surfaces and equipment from damage by overspray, fall-out, and dusting of insulation materials.
- .2 Apply products only when surfaces and ambient temperatures are within manufacturers' prescribed limits.
- .3 Apply insulation when surfaces and ambient temperatures are within manufacturers' prescribed limits.
- .4 Apply insulation to clean dry surfaces only.
- .5 Apply insulation in thickness and as specified to obtain designed RSI value and as indicated.
- .6 Apply insulation to maintain continuity of thermal protection to building elements and spaces.

- .7 Apply blown insulation closely around electrical boxes, pipes, ducts, frames and other objects inside or passing through insulation.
- .8 Do not compress insulation.
- .9 Keep insulation at a minimum of 75 mm from heat emitting devices such as recessed light fixtures, and at a minimum of 50 mm from sidewalls of chimney and furnace vents.
- .10 Protect installed products and accessories from damage during construction.

3.3 OPEN BLOW INSTALLATION

- .1 Preparation: Before applying insulation to an open area, such as attic spaces, prepare the space as follows:
 - .1 Seal all penetrations through the ceiling plane to minimize air leakage between the conditioned living space below and the unconditioned attic space.
 - .2 Install eaves ventilation baffles in each rafter/truss bay to maintain continuous ventilation of the attic space by allowing the free flow of air in through the vented soffit and out through the ridge or gable end vents.
 - .3 Install insulation stops at the exterior face of each rafter/truss to prevent insulation from spilling over top of exterior wall and entering the eaves space and causing blockage of soffit vents, and to prevent displacement of insulation by wind entering vents.
 - .4 Ensure unobstructed air circulation to eaves vents.
- .2 Apply loose fill cellulose insulation to locations as indicated on Drawings to achieve the indicated thickness and RSI value.
- .3 Apply insulation using pneumatic blowing equipment at manufacturer's recommended weight per square meter to achieve specified RSI value per installed thickness.
- .4 Apply insulation to depth as indicated. Provide uniform coverage throughout space.
- .5 Protect from construction traffic to eliminate compressing or damaging to any completed installations.
- .6 Inspect the thickness of the installed insulation. Conduct a minimum of [five (5)] tests for every [ten (10)] square meter area. Record the results in accordance with Manufacturers recommendations. Report to include total area covered and total weight of installed products based on weight of each bag. Submit copies of Certificate of Coverage and inspection reports to Consultant at end of each work day.

3.4 CLEANING

- .1 Perform daily cleaning in accordance with Section 01 74 00 - Cleaning.
 - .1 Leave work area clean at end of each day.
- .2 Upon completion of insulation work, remove surplus materials, rubbish, tools and equipment. Remove insulation material spilled during installation and leave work area clean.
- .3 Separate waste materials for recycling.

- .4 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

END OF SECTION

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PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Materials, removal and installation of steel roofing shingles.

1.2 RELATED SECTIONS

- .1 Section 01 14 00 – Work Restrictions
- .2 Section 01 61 00 – Common Product Requirements
- .3 Section 01 74 11 – Cleaning
- .4 Section 06 10 10 – Rough Carpentry
- .5 Section 07 62 00 – Sheet Metal Flashing and Trim

1.3 REFERENCES

- .1 Canadian Roofing Contractors' Association (CRCA).
 - .1 CRCA Roofing Specification Manual - 2012.
- .2 Canadian Standards Association (CSA International).
 - .1 CSA B111 1974, Wire Nails, Spikes and Staples.
- .3 National Research Council Canada (NRC)/Institute for Research in Construction (IRC) Canadian Construction Materials Centre (CCMC).
 - .1 CCMC, Registry of Product Evaluations.

1.4 SUBMITTALS

- .1 Submit product data in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit proof of manufacturer's CCMC Listing and listing number upon Consultant's request.
- .3 Submit manufacturer's instructions regarding special handling criteria, installation sequence and cleaning procedures and product data sheets for steel roofing shingles that include:
 - .1 Product characteristics.
 - .2 Performance criteria.
 - .3 Installation instructions.
 - .4 Limitations.
 - .5 Colour and finish.
- .4 Submit shop drawings that:
 - .1 Depict the proposed shingle dimensions, pattern and colours at the main roof, and north-west tower for the Consultant's review and approval prior to ordering steel roofing shingles.
 - .2 Show layout of shingle, securement details, joint details and accessories.
 - .3 Show details of weatherproofing, terminations and penetrations of metal work
- .5 Submit duplicate samples of each type of shingle configuration and colour proposed for use in the shop drawings.

1.5 WARRANTY

- .1 It is a fundamental condition that the roofing Contractor complies with all of the conditions of the guarantee/ warranty as stated below:
 - .1 The Contractor shall make good, and promptly, any and all defects and deficiencies which occur or become apparent within a guarantee period not less than two (2) years. Defects include but are not limited to, leaking and failure to stay in place.
 - .2 Supply all Labour, materials, tools and equipment to repair and/or replace any Work judged defective by Consultant and any other Work damaged due to faulty or defective Work, at no additional cost, for a period not less than two (2) years.
 - .3 Warranty:
 - .1 Submit certification from roof shingle manufacturer that shingle has been installed in accordance with manufacturer's specifications.
 - .2 Submit manufacturer's standard warranty.
 - .4 The manufacturer's warranty shall be submitted to the Consultant within two (2) Working days following the date of substantial completion (as indicated in writing by the Consultant).

1.6 QUALITY ASSURANCE

- .1 Construct mock-ups in accordance with Section 01 33 00 - Submittal Procedures.
 - .1 Provide 3000 x 3000 mm mock-ups at the sloped-to-flat roof joint, a valley, a hip, and an eave that include self-adhered sheet membrane, sheet metal flashings and securement, and steel roofing shingles. Apply to illustrate component application including sequencing and overlap.
 - .2 Mock-up will be used to judge workmanship, substrate preparation, operation of equipment and material application.
 - .3 Locate where directed by the Consultant.
 - .4 Notify Consultant 48 hours in advance of constructing mock-up. Obtain approval of the mock-up from Consultant before proceeding with Work.
 - .5 When accepted, mock-up will demonstrate minimum standard of quality required for this Work. Approved mock-up may remain as part of finished Work.

1.7 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, handle, store and protect materials in accordance to manufacturer's requirements.
- .2 Upon receipt of panels and other materials, installer shall examine the shipment for damage and completeness.
- .3 Provide and maintain dry, off ground weatherproof storage.
- .4 Stack materials to prevent damage and to allow for adequate ventilation.
- .5 Remove only in quantities required for same day use.

1.8 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials.

- .2 Remove from site and dispose of all packaging materials at appropriate recycling facilities.

1.9 EXTRA MATERIALS

- .1 Provide 1 square of shingles for maintenance materials. All unused shingles remain property of owner.

PART 2 PRODUCTS

2.1 MATERIALS

- .1 Furnish sheet metal items in 8' to 10' foot lengths. Single pieces less than 8' long may be used to connect to factory-fabricated inside and outside corners, and at ends of runs.
- .2 Factory fabricated corner pieces with minimum 12" legs.
- .3 Provide accessories and other items essential to complete the sheet metal installation. Provide accessories made of the same or compatible materials as the items to which they are applied.
- .4 Fabricate sheet metal items of the materials specified below and to the thickness indicated.
- .5 Provide sheet metal items with Factory Coated finish unless specified otherwise.
- .6 Exposed Sheet Metal Items:
 - .1 Must be of the same material. Consider the following as exposed sheet metal: soffits, cap flashing, flashing, counter flashings and related accessories.

2.2 PREFINISHED STEEL SHEET

- .1 Prefinished steel with factory applied polyvinylidene fluoride
 - .1 Colour selected by Consultant from manufacturer's standard range.
 - .2 Specular gloss: 30 units +/-5, in accordance with ASTM D523.
 - .3 Coating thickness: not less than 22 micrometres.
 - .4 Resistance to accelerated weathering for chalk rating of 8, colour fade 5 units or less and erosion rate less than 20 % to ASTM D822 as follows:
 - .1 Outdoor exposure period 2500 hours.
 - .2 Humidity resistance exposure period 5000 hours.
 - .5 Thickness specified for prefinished sheet steel applies to base metal.

2.3 ACCESSORIES

- .1 Isolation coating: alkali resistant bituminous paint.
- .2 Plastic cement: to conform with Type 1, ASTM D4586-07(2012).
- .3 Underlay for metal flashing: Cold applied, self-adhering membrane composed of a high density, cross laminated polyethylene film coated on one side with a layer of butyl rubber or high temperature asphalt adhesive. Provide primer when recommended by the manufacturer.

Manufacturer	Product
Carlisle	CCW WIP 300 HT
Henry	Blueskin PE 200 HT
W.R. Grace	Grace Ultra

- .4 Sealants: Sealants must conform to Section – 07 92 10 Joint Sealing.
- .5 Cleats: of same material, and temper as sheet metal, minimum 50 mm wide. Thickness shall be the same as sheet metal being secured. #10 stainless steel screws, sized to penetrate fascia board 1" minimum.
- .6 Fasteners:
 - .1 #10 zinc plated deep thread.
 - .2 #10 Buildex 'Tapcon' self-tapping screws with 'climaseal' coating to match aluminum.
 - .3 #10 stainless steel (grade 304) screws with vinyl anchor shields. Fasteners to penetrate min. 1.25" into solid substrate.
- .7 Washers: of same material as sheet metal, 1 mm thick with rubber packing's.
- .8 Flux: rosin, cut hydrochloric acid, or commercial preparation suitable for materials to be soldered.
- .9 Touch up paint: as recommended by prefinished material manufacturer.

2.4 METAL FLASHINGS AND FASCIA

- .1 Form flashings and fascia to profiles indicated.
 - .1 All Flashings: 24 gauge thick
 - .2 Cleats, starter strips, locking strips: 22 gauge thick
- .2 Prefinished except for concealed cleats, starter strips and locking strips
- .3 Colour; As selected by the Owner

2.5 EAVES TROUGH AND DOWNPIPES

- .1 Prefabricated commercial grade metal eaves troughs, 5" wide x 4" deep connected to downpipes with sealed flanges. Use longest continuous lengths available; all joints and end caps are to be sealed and made watertight.
- .2 Prefabricated commercial grade metal downpipes, 4" x 3" with goosenecks and shoes to project 12" to 24" away from the base of the wall. Use the longest continuous lengths available.
- .3 Support Cleats: Galvanized steel cleats, allowing for 1" minimum clearance for rain water leaders from wall surfaces.
- .4 Fasteners to penetrate a minimum of 1.25" into solid substrate.
- .5 Precast concrete splash pads to be placed at the outlet of all rainwater leaders that do not discharge into below grade storm water pipes.

PART 3 EXECUTION

3.1 FABRICATION

- .1 Fabricate metal flashings and other sheet metal work as indicated.
- .2 Form pieces in 10' maximum lengths. Make allowance for expansion at joints.
- .3 Hem exposed edges on underside 1/2". Miter and seal corners with sealant.
- .4 Form sections square, true and accurate to size, free from distortion and other defects detrimental to appearance or performance.
- .5 Apply isolation coating to metal surfaces to be embedded in concrete or mortar.

3.2 INSTALLATION

- .1 Install sheet metal work in accordance with CRCA FL series details and design details.
- .2 Use concealed fastenings except where approved before installation.
- .3 Provide underlay under sheet metal. Secure in place and lap joints 2".
- .4 Lock end joints and caulk with sealant.
- .5 Seams: Straight and uniform in width and height with no solder showing on the face. Where end lap fasteners are required to improve closure, locate the end lap fasteners not more than 2" from the end of the overlapping sheet.
- .6 Caulk flashing with a continuous bead of sealant.
- .7 Return A end cuts a minimum of 1/2" concealing fold.

3.3 NAILING

- .1 Confine nailing of sheet metal generally to sheet metal having a maximum width of 18".
- .2 Confine nailing of flashing to one edge only. Space nails evenly at 3" on center maximum and approximately 1/2" from edge unless otherwise specified or indicated.
- .3 Face nailing will not be permitted.
- .4 Where sheet metal is applied to other than wood surfaces, provide a shop drawing showing the locations for sleepers and nailing strips required to secure the work.

3.4 EAVES TROUGHS AND DOWNPIPES

- .1 Secure eaves troughs with cleats at 450 o/c maximum spacing, fastened to fascia. Slope gutters to downpipes at 1:200 (1/16" per ft) with no standing water. Seal all joints watertight. Install flashing at ends of gutters to prevent water runoff at ends of eaves troughs.
- .2 Hang eaves trough below protection of roof slope.
- .3 Install downpipes and provide goosenecks back to wall. Secure downpipes to wall with support cleats at 1800 mm on centre maximum; minimum two cleats per downpipe.

- .4 Where rainwater leaders do not discharge into below grade storm water pipes, install concrete splash pans on grade below each down pipe. Slope splash pans to ensure drainage away from building.

3.5 CLEANING AND PROTECTION

- .1 Clean sheet metal flashing and trim. Use detergent as required. Do not use solvents, abrasive, wire brushes, or steel scrapers.
- .2 Remove excess materials and debris from site.
- .3 Protect sheet metal flashing and trim from subsequent construction operations. If damage occurs, remove and replace damaged components to provide installation in original, undamaged condition.

END OF SECTION

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PART 1 GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 33 00 – Submittal Procedures
- .2 Section 01 61 00 – Common Product Requirements
- .3 Section 01 74 11 – Cleaning
- .4 Section 06 10 10 – Rough Carpentry
- .5 Section 07 03 13 – Historic - Slate Shingle Roofing
- .6 Section 07 31 13 – Synthetic Slate Shingles
- .7 Section 07 92 10 – Joint Sealing

1.2 REFERENCES

- .1 American Society for Testing and Materials (ASTM International)
 - .1 ASTM A591/A591M 98, Standard Specification for Steel Sheet, Electrolytic Zinc Coated, for Light Coating Applications.
 - .2 ASTM A606 01, Standard Specification for Steel, Sheet and Strip, High Strength, Low Alloy, Hot Rolled and Cold Rolled, with Improved Atmospheric Corrosion Resistance.
 - .3 ASTM A653/A653M 01a, Standard Specification for Steel Sheet, Zinc Coated (Galvanized) or Zinc Iron Alloy Coated (Galvannealed) by the Hot Dip Process.
- .2 Canadian Roofing Contractors Association (CRCA)
 - .1 Roofing Specifications Manual 2012.
- .3 Canadian Standards Association (CSA)
 - .1 CSA B111 1974, Wire Nails, Spikes and Staples.

1.3 SUBMITTALS AND MOCK-UPS

- .1 Product Data: Submit manufacturer's product data and installation instructions for each material and product used.
- .2 Samples: Submit duplicate 50 x 50 mm samples of each type of sheet metal material, colour and finish. Include range samples if variation of finish is anticipated.
 - .1 Submit samples in accordance with Section 01 33 00 Submittal Procedures.
- .3 Mock-ups: Construct mock-ups in accordance with Section 01 33 00 - Submittal Procedures.
 - .1 Provide sheet metal mock of each flashing type including components as follows: flashing profile, jointing, seams, and securement.
 - .2 Mock-up will be used to judge workmanship, substrate preparation, operation of equipment and material application.

- .3 Locate where directed by the Consultant.
- .4 Allow 24 hours for inspection of mock-up before proceeding with work.
- .5 When accepted, mock-up will demonstrate minimum standard of quality required for this work. Approved mock-up may remain as part of finished Work.

1.4 QUALIFICATIONS

- .1 Fabricator: Company specializing in sheet metal work with minimum 6 years documented experience.
- .2 Installer: Engage an experienced installer who has completed flashing, sheet metal, and trim work similar in material, design, and extent to that indicated for project that have resulted in construction with a record of successful in-service performance.

1.5 DELIVERY, STORAGE AND HANDLING

- .1 Comply with Section 01 61 00 – Common Product Requirements.
- .2 Stack material to prevent twisting, bending, and abrasion. Slope metal sheets to ensure drainage and provide weather tight coverings with adequate ventilation to promote drying.
- .3 Prevent Contact with materials causing discolouration or staining.
- .4 All metal materials are to be free of corrosion when installed. Any level of corrosion on materials will result in rejection of that material.

1.6 WASTE MANAGEMENT AND DISPOSAL

- .1 Remove from site and dispose of all packaging materials at appropriate recycling facilities.
- .2 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard, packaging material in appropriate on site bins for recycling in accordance with Waste Management Plan.
- .3 Place materials defined as hazardous or toxic in designated containers.
- .4 Ensure emptied containers are sealed and stored safely for disposal away from children.
- .5 Divert unused metal materials from landfill to metal recycling facility as approved by Consultant.
- .6 Unused paint and sealant material must be disposed of at an official hazardous material collections site as approved by Consultant.
- .7 Unused paint and sealant material must not be disposed of into sewer system, into streams, lakes, onto ground or in other location where it will pose health or environmental hazard.
- .8 Fold up metal banding, flatten and place in designated area for recycling.

PART 2 PRODUCTS

2.1 MATERIALS

- .1 Furnish sheet metal items in 8' to 10' foot lengths. Single pieces less than 8' long may be used to connect to factory-fabricated inside and outside corners, and at ends of runs.
- .2 Factory fabricated corner pieces with minimum 12" legs.
- .3 Provide accessories and other items essential to complete the sheet metal installation. Provide accessories made of the same or compatible materials as the items to which they are applied.
- .4 Fabricate sheet metal items of the materials specified below and to the thickness indicated.
- .5 Provide sheet metal items with Factory Coated finish unless specified otherwise.
- .6 Exposed Sheet Metal Items:
 - .1 Must be of the same material. Consider the following as exposed sheet metal: soffits, cap flashing, flashing, counter flashings and related accessories.

2.2 PREFINISHED STEEL SHEET

- .1 Prefinished steel with factory applied polyvinylidene fluoride
 - .1 Colour selected by Consultant from manufacturer's standard range.
 - .2 Specular gloss: 30 units +/-5, in accordance with ASTM D523.
 - .3 Coating thickness: not less than 22 micrometres.
 - .4 Resistance to accelerated weathering for chalk rating of 8, colour fade 5 units or less and erosion rate less than 20 % to ASTM D822 as follows:
 - .1 Outdoor exposure period 2500 hours.
 - .2 Humidity resistance exposure period 5000 hours.
 - .5 Thickness specified for prefinished sheet steel applies to base metal.

2.3 ACCESSORIES

- .1 Isolation coating: alkali resistant bituminous paint.
- .2 Plastic cement: to conform with Type 1, ASTM D4586-07(2012).
- .3 Underlay for metal flashing: Cold applied, self-adhering membrane composed of a high density, cross laminated polyethylene film coated on one side with a layer of butyl rubber or high temperature asphalt adhesive. Provide primer when recommended by the manufacturer.

Manufacturer	Product
Carlisle	CCW WIP 300 HT
Henry	Blueskin PE 200 HT
W.R. Grace	Grace Ultra

- .4 Sealants: Sealants must conform to Section – 07 92 10 Joint Sealing.

- .5 Cleats: of same material, and temper as sheet metal, minimum 50 mm wide. Thickness shall be the same as sheet metal being secured. #10 stainless steel screws, sized to penetrate fascia board 1" minimum.
- .6 Fasteners:
 - .1 #10 zinc plated deep thread.
 - .2 #10 Buildex 'Tapcon' self-tapping screws with 'climaseal' coating to match aluminum.
 - .3 #10 stainless steel (grade 304) screws with vinyl anchor shields. Fasteners to penetrate min. 1.25" into solid substrate.
- .7 Washers: of same material as sheet metal, 1 mm thick with rubber packing's.
- .8 Flux: rosin, cut hydrochloric acid, or commercial preparation suitable for materials to be soldered.
- .9 Touch up paint: as recommended by prefinished material manufacturer.

2.4 METAL FLASHINGS AND FASCIA

- .1 Form flashings and fascia to profiles indicated.
 - .1 All Flashings: 24 gauge thick
 - .2 Cleats, starter strips, locking strips: 22 gauge thick
- .2 Prefinished except for concealed cleats, starter strips and locking strips
- .3 Colour; As selected by the Owner

2.5 EAVES TROUGH AND DOWNPIPES

- .1 Prefabricated commercial grade metal eaves troughs, 5" wide x 4" deep connected to downpipes with sealed flanges. Use longest continuous lengths available; all joints and end caps are to be sealed and made watertight.
- .2 Prefabricated commercial grade metal downpipes, 4" x 3" with goosenecks and shoes to project 12" to 24" away from the base of the wall. Use the longest continuous lengths available.
- .3 Support Cleats: Galvanized steel cleats, allowing for 1" minimum clearance for rain water leaders from wall surfaces.
- .4 Fasteners to penetrate a minimum of 1.25" into solid substrate.
- .5 Precast concrete splash pads to be placed at the outlet of all rainwater leaders that do not discharge into below grade storm water pipes.

PART 3 EXECUTION

3.1 FABRICATION

- .1 Fabricate metal flashings and other sheet metal work as indicated.
- .2 Form pieces in 10' maximum lengths. Make allowance for expansion at joints.
- .3 Hem exposed edges on underside 1/2". Miter and seal corners with sealant.

- .4 Form sections square, true and accurate to size, free from distortion and other defects detrimental to appearance or performance.
- .5 Apply isolation coating to metal surfaces to be embedded in concrete or mortar.

3.2 INSTALLATION

- .1 Install sheet metal work in accordance with CRCA FL series details and design details.
- .2 Use concealed fastenings except where approved before installation.
- .3 Provide underlay under sheet metal. Secure in place and lap joints 2".
- .4 Lock end joints and caulk with sealant.
- .5 Seams: Straight and uniform in width and height with no solder showing on the face. Where end lap fasteners are required to improve closure, locate the end lap fasteners not more than 2" from the end of the overlapping sheet.
- .6 Caulk flashing with a continuous bead of sealant.
- .7 Return A end cuts a minimum of ½" concealing fold.

3.3 NAILING

- .1 Confine nailing of sheet metal generally to sheet metal having a maximum width of 18".
- .2 Confine nailing of flashing to one edge only. Space nails evenly at 3" on center maximum and approximately 1/2" from edge unless otherwise specified or indicated.
- .3 Face nailing will not be permitted.
- .4 Where sheet metal is applied to other than wood surfaces, provide a shop drawing showing the locations for sleepers and nailing strips required to secure the work.

3.4 EAVES TROUGHS AND DOWNPIPES

- .1 Secure eaves troughs with cleats at 450 o/c maximum spacing, fastened to fascia. Slope gutters to downpipes at 1:200 (1/16" per ft) with no standing water. Seal all joints watertight. Install flashing at ends of gutters to prevent water runoff at ends of eaves troughs.
- .2 Hang eaves trough below protection of roof slope.
- .3 Install downpipes and provide goosenecks back to wall. Secure downpipes to wall with support cleats at 1800 mm on centre maximum; minimum two cleats per downpipe.
- .4 Where rainwater leaders do not discharge into below grade storm water pipes, install concrete splash pans on grade below each down pipe. Slope splash pans to ensure drainage away from building.

3.5 CLEANING AND PROTECTION

- .1 Clean sheet metal flashing and trim. Use detergent as required. Do not use solvents, abrasive, wire brushes, or steel scrapers.

- .2 Remove excess materials and debris from site.
- .3 Protect sheet metal flashing and trim from subsequent construction operations. If damage occurs, remove and replace damaged components to provide installation in original, undamaged condition.

END OF SECTION

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PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Materials, preparation and application of caulking and sealants.

1.2 RELATED SECTIONS

- .1 Section 01 33 00 – Submittal Procedures
- .2 Section 01 61 00 – Common Product Requirements
- .3 Section 01 74 11 – Cleaning
- .4 Section 07 62 00 – Sheet Metal Flashing and Trim

1.3 REFERENCES

- .1 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB 19.24 M90, Multi component, Chemical Curing Sealing Compound.

1.4 SUBMITTALS

- .1 Submit product data in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Manufacturer's product data sheets to describe:
 - .1 Caulking compound.
 - .2 Primers.
 - .3 Sealing compound, each type, including compatibility when different sealants are in contact with each other.
- .3 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
- .4 Submit duplicate samples of each type of material and colour.
- .5 Cured samples of exposed sealants for each colour where required to match adjacent material.
- .6 Submit manufacturer's instructions in accordance with Section 01 33 00 - Submittal Procedures.
 - .1 Instructions to include installation instructions for each product used.

1.5 QUALITY ASSURANCE/MOCK-UP

- .1 Construct mock-up in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Construct mock-up to show location, size, shape and depth of joint s complete with back up material, primer, caulking and sealant.
- .3 Mock-up will be used:
 - .1 To judge workmanship, substrate preparation, operation of equipment and material application.

- .2 Provide one of each joint type indicated.
- .4 Locate where directed.
- .5 Allow 24 hours for inspection of mock-up by Consultant before proceeding with sealant work.
- .6 When accepted, mock-up will demonstrate minimum standard of quality required for this Work. Approved mock-up may remain as part of finished Work.

1.6 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, handle, store and protect materials in accordance with manufacturer's instructions.
- .2 Deliver and store materials in original wrappings and containers with manufacturer's seals and labels, intact. Protect from freezing, moisture, water and contact with ground or floor.

1.7 WASTE MANAGEMENT AND DISPOSAL

- .1 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .2 Collect and separate for disposal paper, plastic, polystyrene and corrugated cardboard packaging material in appropriate on-site bins.
- .3 Place materials defined as hazardous or toxic in designated containers.
- .4 Handle and dispose of hazardous materials in accordance with the CEPA, TDGA, Regional and Municipal regulations.
- .5 Unused sealant material must not be disposed of into sewer system, into streams, lakes, onto ground or in other location where it will pose health or environmental hazard.
- .6 Divert unused joint sealing material from landfill to certified official hazardous material collections site.
- .7 Empty plastic joint sealer containers are not recyclable. Do not dispose of empty containers with plastic materials destined for recycling.
- .8 Fold up metal banding, flatten, and place in designated area for recycling.

1.8 PROJECT CONDITIONS

- .1 Environmental Limitations:
 - .1 Do not proceed with installation of joint sealants under following conditions:
 - .1 When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 4.4 degrees C.
 - .2 When joint substrates are wet.
 - .2 Joint Width Conditions:
 - .1 Do not proceed with installation of joint sealants where joint widths are less than those allowed by joint sealant manufacturer for applications indicated.
 - .3 Joint Substrate Conditions:

- .1 Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.

1.9 ENVIRONMENTAL REQUIREMENTS

- .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labeling and provision of Material Safety Data Sheets (MSDS) acceptable to Labour Canada.
- .2 Conform to manufacturer's recommended temperatures, relative humidity, and substrate moisture content for application and curing of sealants including special conditions governing use.

PART 2 PRODUCTS

2.1 SEALANT MATERIALS

- .1 One part low modulus silicone, conforming to CGSB-19.13-M87, for metal-to-metal and metal-to-wood joints:

Manufacturer	Product
Dow Corning	790 or 795 Silicone Sealant
Tremco	Spectrem 2

- .2 One part, polyurethane sealant for all other joints:

Manufacturer	Product
SIKA Canada	Sikaflex 1a
Tremco	Dymonic

- .1 Where sealants are qualified with primers use only these primers.
- .3 Preformed Compressible and Non Compressible back up materials.
 - .1 High Density Foam.
 - .1 Extruded closed cell polyvinyl chloride (PVC), extruded polyethylene, closed cell, Shore A hardness 20, tensile strength 140 to 200 kPa, extruded polyolefin foam, 32 kg/m³ density, or neoprene foam backer, size as recommended by manufacturer.
 - .2 Bond Breaker Tape.
 - .1 Polyethylene bond breaker tape which will not bond to sealant.

2.2 JOINT CLEANER

- .1 Non-corrosive and non-staining type, compatible with joint forming materials and sealant recommended by sealant manufacturer.
- .2 Solvent cleaner shall conform to sealant manufacturer and must be compatible with the surfaces to be cleaned by solvent.
- .3 The followings solvent cleaners may be acceptable unless otherwise indicated:
 - .1 Isopropyl Alcohol

- .2 Xylene
- .3 Methyleneethylketone (MEK)
- .4 Primer: as recommended by manufacturer.

PART 3 EXECUTION

3.1 PROTECTION

- .1 Protect installed Work of other trades from staining or contamination.

3.2 SURFACE PREPARATION

- .1 Examine joint sizes and conditions to establish correct depth to width relationship for installation of backup materials and sealants.
- .2 Clean bonding joint surfaces of harmful matter substances including dust, rust, oil grease, and other matter which may impair Work.
- .3 Do not apply sealants to joint surfaces treated with sealer, curing compound, water repellent, or other coatings unless tests have been performed to ensure compatibility of materials. Remove coatings as required.
- .4 Ensure joint surfaces are dry and frost free.
- .5 Prepare surfaces in accordance with manufacturer's directions.

3.3 PRIMING

- .1 Where necessary to prevent staining, mask adjacent surfaces prior to priming and caulking.
- .2 Prime sides of joints in accordance with sealant manufacturer's instructions immediately prior to caulking.

3.4 BACKUP MATERIAL

- .1

3.5 APPLICATION

- .1 Sealant
 - .1 Apply sealant in accordance with manufacturer's written instructions.
 - .1 Unless indicated otherwise by the manufacturer's instructions, the joints shall be installed with a width to depth ratio of 2:1. Bond breakers shall be used to prevent three sided joints. Use closed cell backer rod at material gaps of 6mm or greater and use polyethylene tape at material gaps of 5mm or less. Ensure that the sealant is installed with minimum adhesion leg of 6mm.
 - .2 Maintain a cross sectional depth not less than 6mm through sealant.
 - .2 Mask edges of joint where irregular surface or sensitive joint border exists to provide neat joint.
 - .3 Apply sealant in continuous beads.
 - .4 Apply sealant using gun with proper size nozzle.

- .5 Use sufficient pressure to fill voids and joints solid.
 - .6 Form surface of sealant with full bead, smooth, free from ridges, wrinkles, sags, air pockets, embedded impurities.
 - .7 Tool exposed surfaces before skinning begins to give slightly concave shape.
 - .8 Remove excess compound promptly as work progresses and upon completion.
- .2 Curing
- .1 Cure sealants in accordance with sealant manufacturer's instructions.
 - .2 Do not cover up sealants until proper curing has taken place.
- .3 Cleanup
- .1 Clean adjacent surfaces immediately and leave work neat and clean.
 - .2 Remove excess and droppings, using recommended cleaners as work progresses.
 - .3 Remove masking tape after initial set of sealant.

END OF SECTION

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PART 1 GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 33 00 – Submittal Procedures
- .2 Section 01 61 00 – Common Product Requirements
- .3 Section 01 74 11 – Cleaning
- .4 Section 06 10 10 – Rough Carpentry
- .5 Section 07 03 15 – Diamond Steel Roofing Shingle
- .6 Section 07 92 10 – Joint Sealing

1.2 REFERENCES

- .1 Environmental Protection Agency (EPA)
 - .1 Test Method for Measuring Total Volatile Organic Compound Content of Consumer Products, EPA Method 24 - Surface Coatings.
 - .2 SW-846, Test Method for Evaluating Solid Waste, Physical/Chemical Methods.
- .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Safety Data Sheets (SDS).
- .3 Master Painters Institute (MPI)
 - .1 Architectural Painting Specification Manual - [current edition].
 - .2 Standard GPS-1-[12], MPI Green Performance Standard.
 - .3 Standard GPS-2-[12], MPI Green Performance Standard.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Provide manufacturer's instructions, printed product literature and data sheets for paint and paint products and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit 2 copies of WHMIS SDS in accordance with Section 01 35 29 - Health and Safety Requirements.
 - .3 Confirm products to be used are in MPI's approved product list.
 - .4 Upon completion, provide records of products used. List products in relation to finish system and include the following:
 - .1 Product name, type and use.
 - .2 Manufacturer's product number.
 - .3 Colour number[s].
 - .4 MPI Environmentally Friendly classification system rating.
 - .5 Manufacturer's Safety Data Sheets (SDS).

.5 Samples:

- .1 Provide 200 x 300 mm duplicate sample panels of each paint with specified paint or coating in colours, gloss/sheen and textures required to MPI Architectural Painting Specification Manual standards submitted on following substrate materials:
 - .1 13 mm plywood for finishes over wood surfaces.
 - .2 When approved, samples shall become acceptable standard of quality for appropriate on-site surface with one of each sample retained on-site.
 - .3 Provide full range of available colours where colour availability is restricted.

1.4 CLOSEOUT SUBMITTALS

- .1 Provide in accordance with Section 01 77 00 - Closeout Procedures.
- .2 Operation and Maintenance Data: Provide operation and maintenance data for painting materials for incorporation into manual.
- .3 Include:
 - .1 Product name, type and use.
 - .2 Manufacturer's product number.
 - .3 Colour numbers.
 - .4 MPI Environmentally Friendly classification system rating.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- .1 Extra Stock Materials:
 - .1 Provide maintenance materials .
 - .2 Submit one 1 litre can of each type and colour of finish coating. Identify colour and paint type in relation to established colour schedule and finish system.

1.6 QUALITY ASSURANCE

- .1 Qualifications:
 - .1 Contractor: to have a minimum of 5 years proven satisfactory experience. When requested, provide list of last 3 comparable jobs including, job name and location, specifying authority, and project manager.
 - .2 Qualified journeypersons as defined by local jurisdiction to be engaged in painting work
 - .3 Apprentices: may be employed provided they work under direct supervision of qualified journeyperson in accordance with trade regulations.
 - .4 Conform to latest MPI requirements for exterior painting work including preparation and priming.
 - .5 Materials: in accordance with MPI Painting Specification Manual "Approved Product" listing and from a single manufacturer for each system used.
 - .6 Retain purchase orders, invoices and documents to prove conformance with noted MPI requirements when requested by Consultant.
 - .7 Standard of Acceptance:

- .1 Walls: no defects visible from a distance of 1000 mm at 90 degrees to surface.
- .2 Soffits: no defects visible from floor at 45 degrees to surface when viewed using final lighting source.
- .3 Final coat to exhibit uniformity of colour and uniformity of sheen across full surface area.

1.7 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
 - .1 Labels: to indicate:
 - .1 Type of paint or coating.
 - .2 Compliance with applicable standard.
 - .3 Colour number in accordance with established colour schedule.
- .3 Storage and Handling Requirements:
 - .1 Store materials in a dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Observe manufacturer's recommendations for storage and handling.
 - .3 Store materials and supplies away from heat generating devices.
 - .4 Store materials and equipment in well ventilated area with temperature range 7 degrees C to 30 degrees C.
 - .5 Keep areas used for storage, cleaning and preparation, clean and orderly to approval of Consultant. After completion of operations, return areas to clean condition to approval of Consultant.
 - .6 Remove paint materials from storage only in quantities required for same day use.
 - .7 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling storage, and disposal of hazardous materials.
 - .8 Fire Safety Requirements:
 - .1 Provide one 9 kg Type ABC fire extinguisher adjacent to storage area.
 - .2 Store oily rags, waste products, empty containers and materials subject to spontaneous combustion in ULC approved, sealed containers and remove from site on a daily basis.
 - .3 Handle, store, use and dispose of flammable and combustible materials in accordance with the National Fire Code of Canada (NFC).
- .4 Replace defective or damaged materials with new.

1.8 SITE CONDITIONS

- .1 Ambient Conditions:
 - .1 Temperature, Humidity and Substrate Moisture Content Levels:
 - .1 Unless specifically pre-approved by specifying body, Paint Inspection Agency and, applied product manufacturer, perform no painting work when:
 - .2 Ambient air and substrate temperatures are below 10 degrees C.

- .3 Substrate temperature is over 32 degrees C unless paint is specifically formulated for application at high temperatures.
- .4 Substrate and ambient air temperatures are expected to fall outside MPI or paint manufacturer's prescribed limits.
- .5 Relative humidity is above 85 % or when dew point is less than 3 degrees C variance between air/surface temperature.
- .6 Rain or snow are forecast to occur before paint has thoroughly cured or when it is foggy, misty, raining or snowing at site.
- .7 Perform no painting work when maximum moisture content of substrate exceeds 17 % for soft wood.
- .8 Conduct moisture tests using a properly calibrated electronic Moisture Meter.
- .2 Application Requirements:
 - .1 Apply paint finish in areas where dust is no longer being generated by related construction operations or when wind or ventilation conditions are such that airborne particles will not affect quality of finished surface.
 - .2 Apply paint to adequately prepared surfaces and to surfaces within moisture limits noted herein.
 - .3 Apply paint when previous coat of paint is dry or adequately cured.
 - .4 Apply paint finishes when conditions forecast for entire period of application fall within manufacturer's recommendations.
 - .5 Do not apply paint when:
 - .1 Temperature is expected to drop below 10 degrees C before paint has thoroughly cured.
 - .2 Substrate and ambient air temperatures are expected to fall outside MPI or paint manufacturer's limits.
 - .3 Surface to be painted is wet, damp or frosted.
 - .6 Provide and maintain cover when paint must be applied in damp or cold weather. Heat substrates and surrounding air to comply with temperature and humidity conditions specified by manufacturer. Protect until paint is dry or until weather conditions are suitable.
 - .7 Schedule painting operations such that surfaces exposed to direct, intense sunlight are scheduled for completion during early morning.
 - .8 Remove paint from areas which have been exposed to freezing, excess humidity, rain, snow or condensation. Prepare surface again and repaint.

PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- .1 Environmental Performance Requirements:
 - .1 Provide paint products meeting MPI "Environmentally Friendly" E1] ratings based on VOC content levels.
 - .2 Green Performance in accordance with MPI Standard GPS-2.

2.2 MATERIALS

- .1 Only paint materials listed in latest edition of MPI Approved Products List (APL) are acceptable for use on this project.
- .2 Paint materials for paint systems: to be products of single manufacturer.
- .3 Only qualified products with "Environmentally Friendly" rating are acceptable for use on this project.

- .4 of processes, including disposal of waste products arising there from, will meet requirements of applicable governmental acts, by-laws and regulations including, for facilities located in Canada, Fisheries Act and Canadian Environmental Protection Act (CEPA).
- .5 Water-borne surface coatings must not be formulated or manufactured with aromatic solvents, formaldehyde, halogenated solvents, mercury, lead, cadmium, hexavalent chromium or their compounds.
- .6 Water-borne surface coatings and recycled water-borne surface coatings must have flash point of 61.0 degrees C or greater.
- .7 Both water-borne surface coatings and recycled water-borne surface coatings must be made by a process that does not release:
 - .1 Matter in undiluted production plant effluent generating a 'Biochemical Oxygen Demand' (BOD) in excess of 15 mg/L to a natural watercourse or a sewage treatment facility lacking secondary treatment.
 - .2 Total Suspended Solids (TSS) in undiluted production plant effluent in excess of 15 mg/L to a natural watercourse or a sewage treatment facility lacking secondary treatment.
- .8 Water-borne paints and stains, recycled water-borne surface coatings and water borne varnishes must meet a minimum "Environmentally Friendly" rating.
- .9 Recycled water-borne surface coatings must contain 50 % post-consumer material by volume.
- .10 Recycled water-borne surface coatings must not contain:
 - .1 Lead in excess of 600.0 ppm weight/weight total solids.
 - .2 Mercury in excess of 50.0 ppm weight/weight total product.
 - .3 Cadmium in excess of 1.0 ppm weight/weight total product.
 - .4 Hexavalent chromium in excess of 3.0 ppm weight/weight total product.
 - .5 Organochlorines or polychlorinated biphenyls (PCBS) in excess of 1.0 ppm weight/weight total product.
- .11 The following must be performed on each batch of consolidated post-consumer material before surface coating is reformulated and canned. These tests must be performed at a laboratory or facility which has been accredited by the Standards Council of Canada.
 - .1 Lead, cadmium and chromium are to be determined using ICP-AES (Inductively Coupled Plasma - Atomic Emission Spectroscopy) technique no. 6010 as defined in EPA SW-846.
 - .2 Mercury is to be determined by Cold Vapour Atomic Absorption Spectroscopy using Technique no. 7471 as defined in EPA SW-846.
 - .3 Organochlorines and PCBs are to be determined by Gas Chromatography using Technique no. 8081 as defined in EPA SW-846.

2.3 COLOURS

- .1 Submit proposed Colour Schedule to Consultant for approval after Contract award.

- .2 Colour schedule will be based upon selection of 2 base colours and 1 accent colours. No more than 4 colours will be selected for entire project.
- .3 Selection of colours will be from manufacturers' full range of colours.
- .4 Where specific products are available in restricted range of colours, selection will be based on limited range.
- .5 Second coat in three coat system to be tinted slightly lighter colour than top coat to show visible difference between coats if requested by Consultant.
- .6 For deep and ultra-deep colours 4 coats may be required.

2.4 MIXING AND TINTING

- .1 Perform colour tinting operations prior to delivery of paint to site. On-site tinting of painting materials is allowed only with Consultant's written permission.
- .2 Mix paste, powder or catalyzed paint mixes in accordance with manufacturer's written instructions.
- .3 Add thinner to paint manufacturer's recommendations. Do not use kerosene or organic solvents to thin water-based paints.
- .4 Thin paint for spraying according in accordance with paint manufacturer's instructions. If directions are not on container, obtain instructions in writing from manufacturer and provide copy of instructions to Consultant.
- .5 Re-mix paint in containers prior to and during application to ensure break-up of lumps, complete dispersion of settled pigment, and colour and gloss uniformity.
- .6 Deep and ultra-deep colors; 4 coats may be required.

2.5 GLOSS/SHEEN RATINGS

- .1 Paint gloss: defined as sheen rating of applied paint, in accordance with following values:

Gloss Level Category	Units @ 60 Degrees	Units @ 85 Degrees
G1 - matte finish	0 to 5	max. 10
G2 - velvet finish	0 to 10	10 to 35
G3 - eggshell finish	10 to 25	10 to 35
G4 - satin finish	20 to 35	min. 35
G5 - semi-gloss finish	35 to 70	
G6 - gloss finish	70 to 85	
G7 - high gloss finish	> 85	

- .2 Gloss level ratings of painted surfaces as specified.

2.6 EXTERIOR PAINTING SYSTEMS

- .1 Structural Steel and Metal Fabrications:
 - .1 EXT 5.1D - Alkyd G6 (over alkyd metal primer) finish.
 - .2 EXT 5.1Q - Alkyd G6 (over surface tolerant primer) finish.

- .2 Dimension Lumber: columns, beams, exposed joists, underside of decking, siding, fencing, etc.
 - .1 EXT 6.2M - Latex G4 finish (over latex primer).
- .3 Dressed Lumber: doors, door and window frames, casings, battens, smooth facias, etc.
 - .1 EXT 6.3L - Latex G6 finish (over latex primer) do not use flat finish on doors.
- .4 Wood Panelling: plywood siding, fascias, soffits, etc.
 - .1 EXT 6.4K - Latex G6 finish (over latex primer).

PART 3 EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 GENERAL

- .1 Perform preparation and operations for interior painting in accordance with MPI Architectural Painting Specifications Manual except where specified otherwise.
- .2 Apply paint materials in accordance with paint manufacturer's written application instructions.

3.3 EXAMINATION

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable to be painted in accordance with manufacturer's written instructions:
 - .1 Visually inspect substrate in presence of Consultant.
 - .2 Inform Consultant of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied.
- .2 Where assessed degree of surface degradation of DSD-1 to DSD-3 before preparation of surfaces for repainting is revealed to be DSD-4 after preparation, repair or replacement of such unforeseen defects discovered are to be corrected, as mutually agreed, before repainting is started.

3.4 PREPARATION

- .1 Perform preparation and operations for exterior painting in accordance with MPI Maintenance Repainting Manual except where specified otherwise.
- .2 Apply paint materials in accordance with paint manufacturer's written application instructions.
- .3 Clean and prepare exterior surfaces to be repainted in accordance with MPI Maintenance Repainting Manual requirements. Refer to the MPI Manual in regard to specific requirements and as follows:
 - .1 Remove dust, dirt, and surface debris by wiping with dry, clean cloths

- .2 Wash surfaces with a biodegradable detergent and clean warm water using a stiff bristle brush to remove dirt, oil and other surface contaminants.
 - .3 Rinse scrubbed surfaces with clean water until foreign matter is flushed from surface.
 - .4 Allow surfaces to drain completely and allow to dry thoroughly. Allow sufficient drying time and test surfaces using electronic moisture meter before commencing work.
 - .5 Use water-based cleaners in place of organic solvents where surfaces will be repainted using water based paints.
 - .6 Many water-based paints cannot be removed with water once dried. Minimize use of kerosene or such organic solvents to clean up water-based paints.
- .4 Clean metal surfaces to be repainted by removing rust, dirt, oil, grease and foreign substances in accordance with MPI requirements. Remove such contaminants from surfaces, pockets and corners to be repainted by brushing with clean brushes, blowing with clean dry compressed air, or brushing/vacuum cleaning as required.
 - .5 Prevent contamination of cleaned surfaces by salts, acids, alkalis, other corrosive chemicals, grease, oil and solvents before priming and between applications of remaining coats. Touch-up, spot prime, and apply primer, paint, or pretreatment as soon as possible after cleaning and before deterioration occurs.
 - .6 Do not apply paint until prepared surfaces have been accepted by Consultant.

3.5 EXISTING CONDITIONS

- .1 Conduct moisture testing of surfaces to be painted using a properly calibrated electronic moisture meter, except test concrete floors for moisture using a simple "cover patch test" and report findings to [Consultant] [Departmental Representative] [DCC Representative]. Do not proceed with work until conditions fall within acceptable range as recommended by manufacturer.
- .2 Maximum moisture content as follows:
 - .1 Stucco: [12] %.
 - .2 Concrete: [12] %.
 - .3 Clay and Concrete Block/Brick: [12] %.
 - .4 Hard Wood: [15] %.
 - .5 Soft Wood: [17] %

3.6 PROTECTION

- .1 Protect existing building surfaces and adjacent structures from paint spatters, markings and other damage by suitable non-staining covers or masking. If damaged, clean and restore such surfaces as directed by Consultant.
- .2 Protect items that are permanently attached such as Fire Labels on doors and frames.
- .3 Protect factory finished products and equipment.
- .4 Protect passing pedestrians and general public in and about building.
- .5 Remove light fixtures, surface hardware on doors, and other surface mounted equipment, fittings and fastenings prior to undertaking painting operations. Store items and re-install after painting is completed.

- .6 Move and cover exterior furniture and portable equipment as necessary to carry out painting operations. Replace as painting operations progress.
- .7 As painting operations progress, place "WET PAINT" signs in pedestrian and vehicle traffic areas to approval of Consultant.

3.7 APPLICATION

- .1 Method of application to be as approved by Consultant. Apply paint by roller or brush. Conform to manufacturer's application instructions unless specified otherwise.
- .2 Brush and Roller Application:
 - .1 Apply paint in a uniform layer using brush and/or roller of types suitable for application.
 - .2 Work paint into cracks, crevices and corners.
 - .3 Paint surfaces and corners not accessible to brush using spray, daubers and/or sheepskins. Paint surfaces and corners not accessible to roller using brush, daubers or sheepskins.
 - .4 Brush and/or roll out runs and sags, and over-lap marks. Rolled surfaces to be free of roller tracking and heavy stipple unless approved by Consultant.
 - .5 Remove runs, sags and brush marks from finished work and repaint.
- .3 Use dipping, sheepskins or daubers when no other method is practical in places of difficult access and when specifically authorized by Consultant.
- .4 Apply coats of paint as continuous film of uniform thickness. Repaint thin spots or bare areas before next coat of paint is applied.
- .5 Allow surfaces to dry and properly cure after cleaning and between subsequent coats for minimum time period as recommended by manufacturer.
- .6 Sand and dust between coats to remove visible defects.
- .7 Finish surfaces both above and below sight lines as specified for surrounding surfaces, including such surfaces as projecting ledges.
- .8 Finish top, bottom, edges and cutouts of doors after fitting as specified for door surfaces.

3.8 FIELD QUALITY CONTROL

- .1 Standard of Acceptance:
 - .1 Walls: no defects visible from a distance of 1000 mm at 90 degrees to surface.
 - .2 Ceilings: no defects visible from floor at 45 degrees to surface when viewed using final lighting source.
 - .3 Final coat to exhibit uniformity of colour and uniformity of sheen across full surface area.
- .2 Advise Consultant when surfaces and applied coating is ready for inspection.
- .3 Cooperate with inspection firm and provide access to areas of work.

3.9 CLEANING

- .1 Progress Cleaning: clean in accordance with Section [01 74 00 - Cleaning:
 - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section [01 74 00 - Cleaning].
- .3 Waste Management: separate waste materials for recycling.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.10 RESTORATION

- .1 Clean and re-install hardware items removed before undertaken painting operations.
- .2 Remove protective coverings and warning signs as soon as practical after operations cease.
- .3 Remove paint splashings on exposed surfaces that were not painted. Remove smears and spatter immediately as operations progress, using compatible solvent.
- .4 Protect freshly completed surfaces from paint droppings and dust to approval of Consultant. Avoid scuffing newly applied paint.
- .5 Restore areas used for storage, cleaning, mixing and handling of paint to clean condition as approved by Consultant.

END OF SECTION

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27 Albert Street, Clinton - Municipality of Central Huron - Library




View of North West Corner and Main Tower

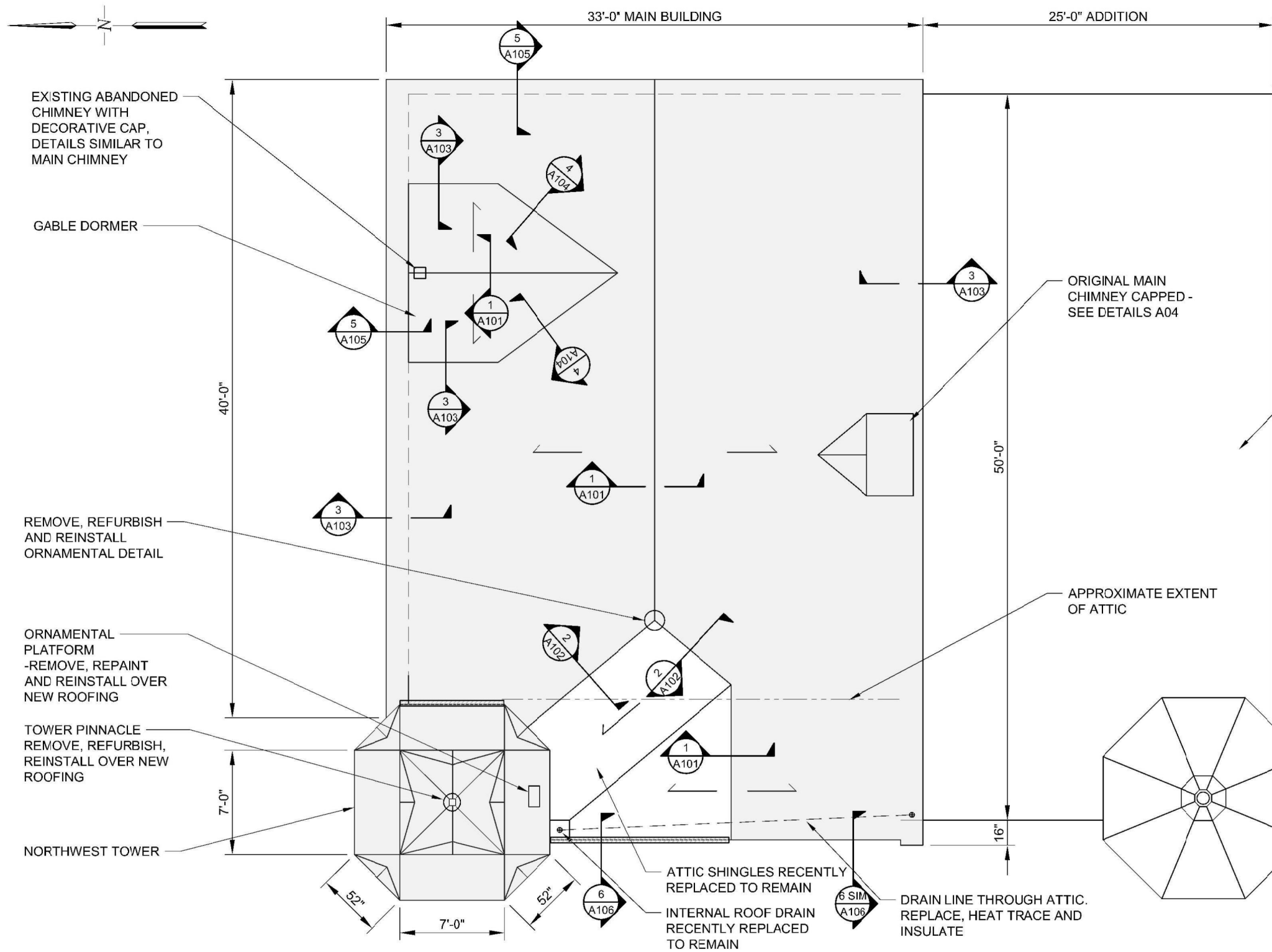


Vie of North East Corner



View of South East Corner

	 <p>BURNSIDE 128 Wellington St. W., Suite 301, Barrie, Ontario, L4N 8J6 telephone (705) 797-2047 fax (705) 797-2037</p>	Drawing Title														
<p>Client MUNICIPALITY OF CENTRAL HURON 23 ALBERT STREET CLINTON, ONTARIO N0M 1L0</p>	<p>CENTRAL HURON LIBRARY UPGRADES AND ROOF REPLACEMENT 27 ALBERT STREET, CLINTON, ON ELEVATIONS</p>			<table border="1"> <tr> <td>Drawn</td> <td>Checked</td> <td>Date</td> </tr> <tr> <td>AA</td> <td>DH</td> <td>20/03/24</td> </tr> <tr> <td>Scale</td> <td colspan="2">Project No.</td> </tr> <tr> <td>AS NOTED</td> <td colspan="2">300043986.0000</td> </tr> </table>	Drawn	Checked	Date	AA	DH	20/03/24	Scale	Project No.		AS NOTED	300043986.0000	
Drawn	Checked	Date														
AA	DH	20/03/24														
Scale	Project No.															
AS NOTED	300043986.0000															
		<p>Drawing No. A001</p>														



LEGEND

- METAL ROOF GABLE DETAIL
- SLOPE DIRECTION
- METAL ROOF AREA

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 web www.rjburnside.com

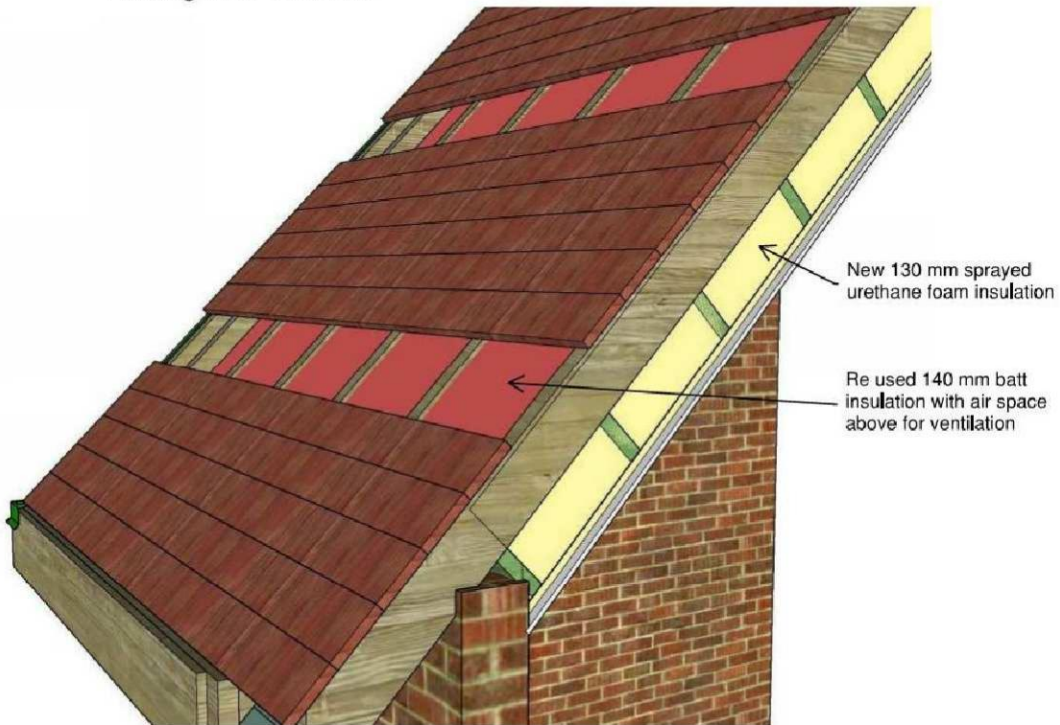
Client
MUNICIPALITY OF CENTRAL HURON
 23 ALBERT STREET
 CLINTON, ONTARIO
 N0M 1L0

Drawing Title
**CENTRAL HURON LIBRARY
 UPGRADES AND ROOF REPLACEMENT
 27 ALBERT STREET, CLINTON, ON**

ROOF PLAN			Drawing No.
Drawn AA	Checked DH	Date 20/03/24	A01
Scale AS NOTED	Project No. 300043986.0000		



Existing Roof Structure



Proposed Insulation Upgrade Within Roofing Assembly



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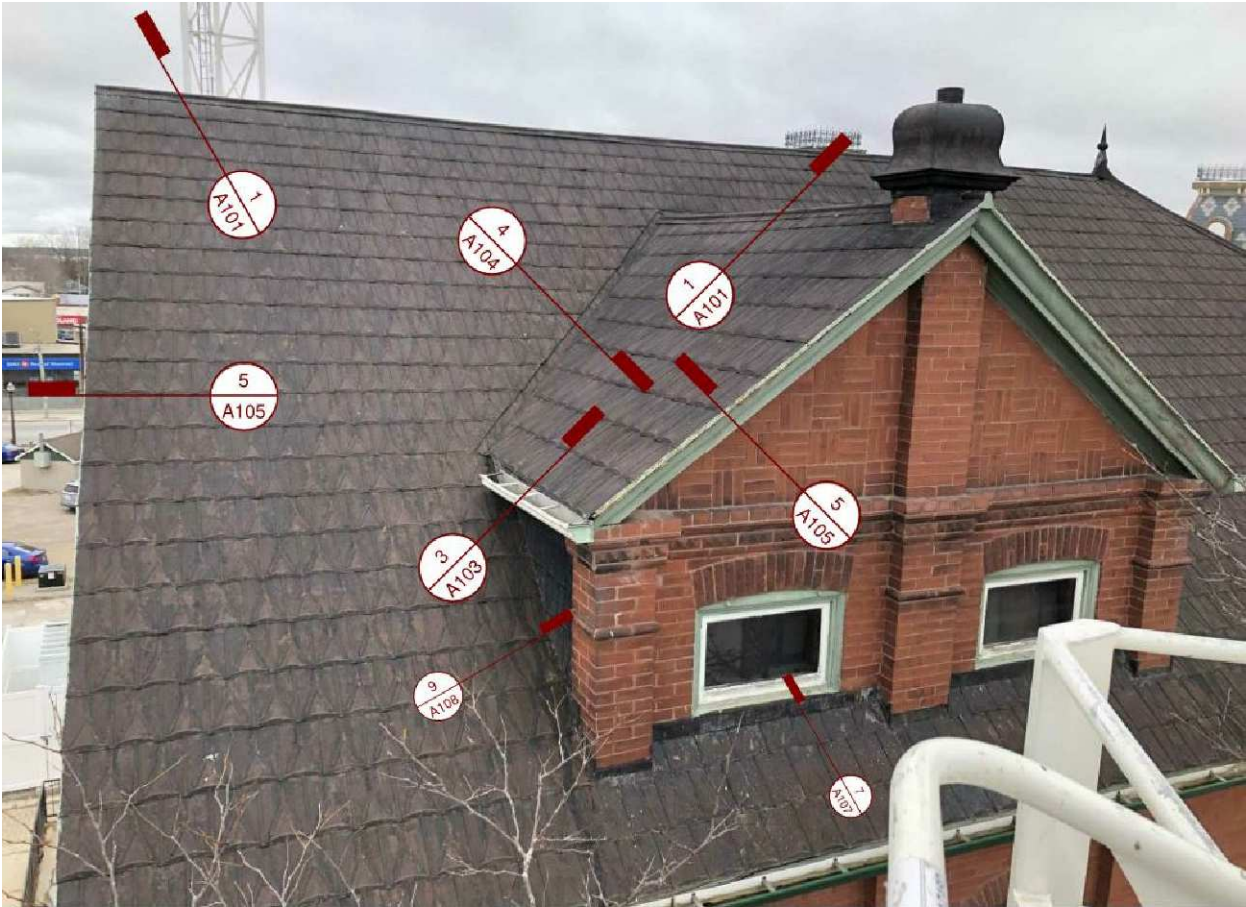
Drawing Title

**CENTRAL HURON LIBRARY
 UPGRADES AND ROOF
 REPLACEMENT**

27 ALBERT STREET, CLINTON, ON

**PROPOSED INSULATION UPGRADE
 WITHIN ROOFING ASSEMBLY**

Drawn	Checked	Date	Drawing No.
AA	DH	20/03/24	
Scale		Project No.	A02
AS NOTED		300043986.0000	



Typical Details



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Drawing Title

**CENTRAL HURON LIBRARY
 UPGRADES AND ROOF
 REPLACEMENT
 27 ALBERT STREET, CLINTON, ON**
 TYPICAL DETAILS

Drawn	Checked	Date
AA	DH	20/03/24
Scale	Project No.	
AS NOTED	300043986.0000	

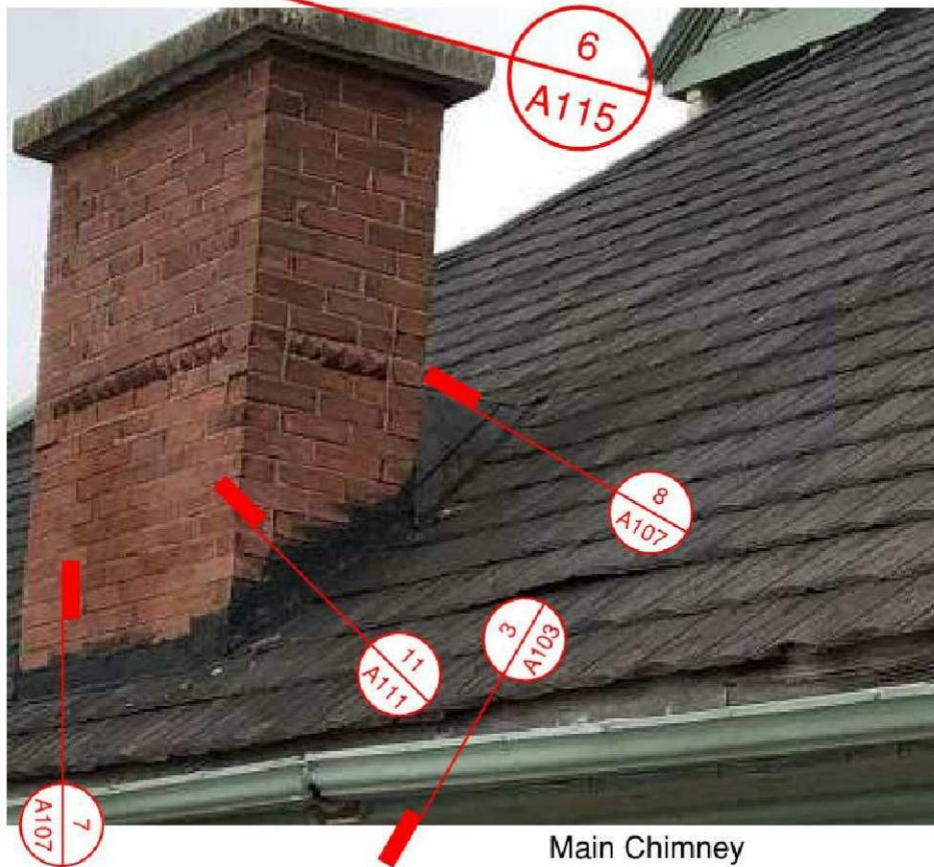
Drawing No.

A03



See A109 & A110
for Details of Work
on Typical Corner

Typical Building Corner



Main Chimney



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N0M 1L0

Drawing Title

**CENTRAL HURON LIBRARY
UPGRADES AND ROOF
REPLACEMENT**

27 ALBERT STREET, CLINTON, ON

**TYPICAL BUILDING CORNER AND MAIN
CHIMNEY**

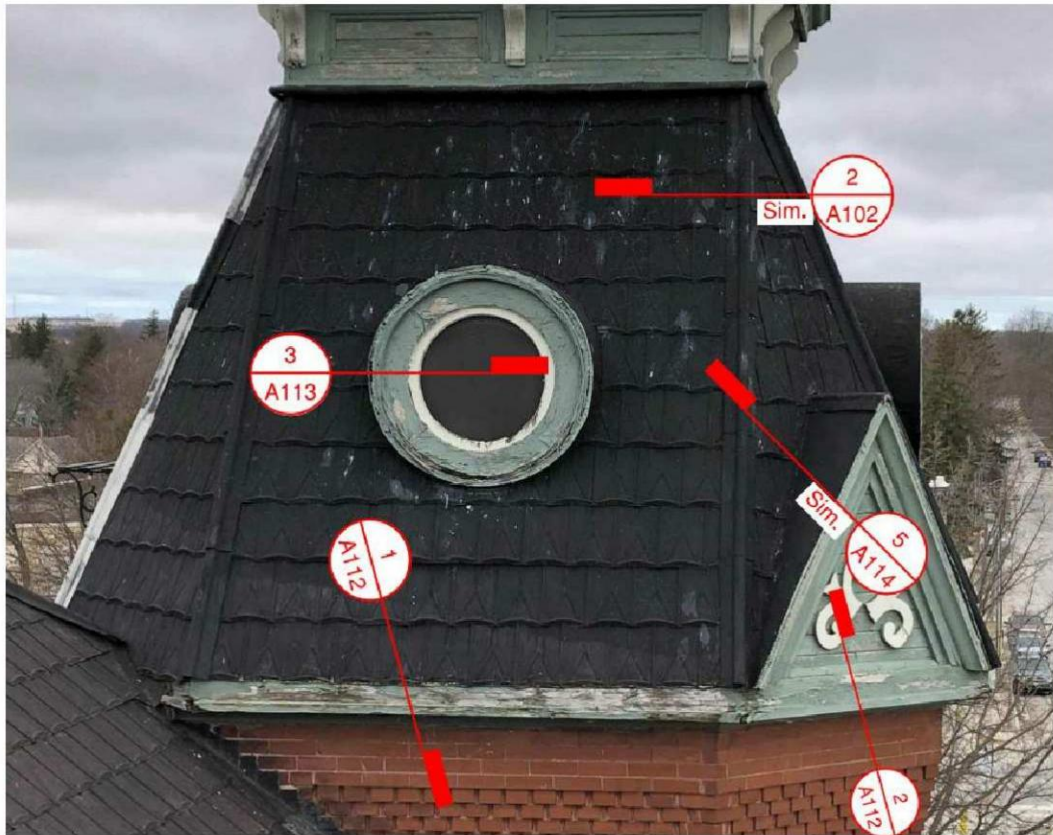
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Drawing No.

A04



North-West Tower



North-West Tower - Lower Section



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 NOM 1L0

Drawing Title

**CENTRAL HURON LIBRARY
 UPGRADES AND ROOF
 REPLACEMENT
 27 ALBERT STREET, CLINTON, ON
 NORTH-WEST TOWER LOWER SECTION**

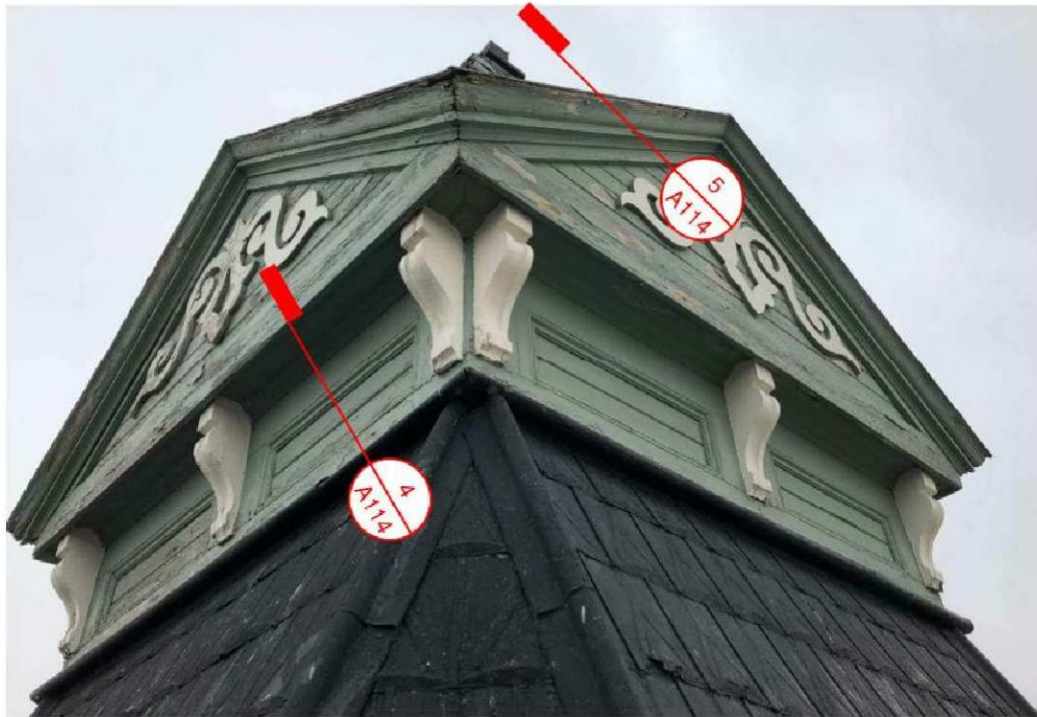
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Drawing No.

A05



North-West Tower



North-West Tower - Upper Section



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Drawing Title

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 UPGRADES AND ROOF
 REPLACEMENT
 27 ALBERT STREET, CLINTON, ON
 NORTH-WEST TOWER UPPER SECTION**

Drawn	Checked	Date
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Scale	Project No.	
AS NOTED	300043986.0000	

Drawing No.
A06

Drain Replacement & Attic Insulation

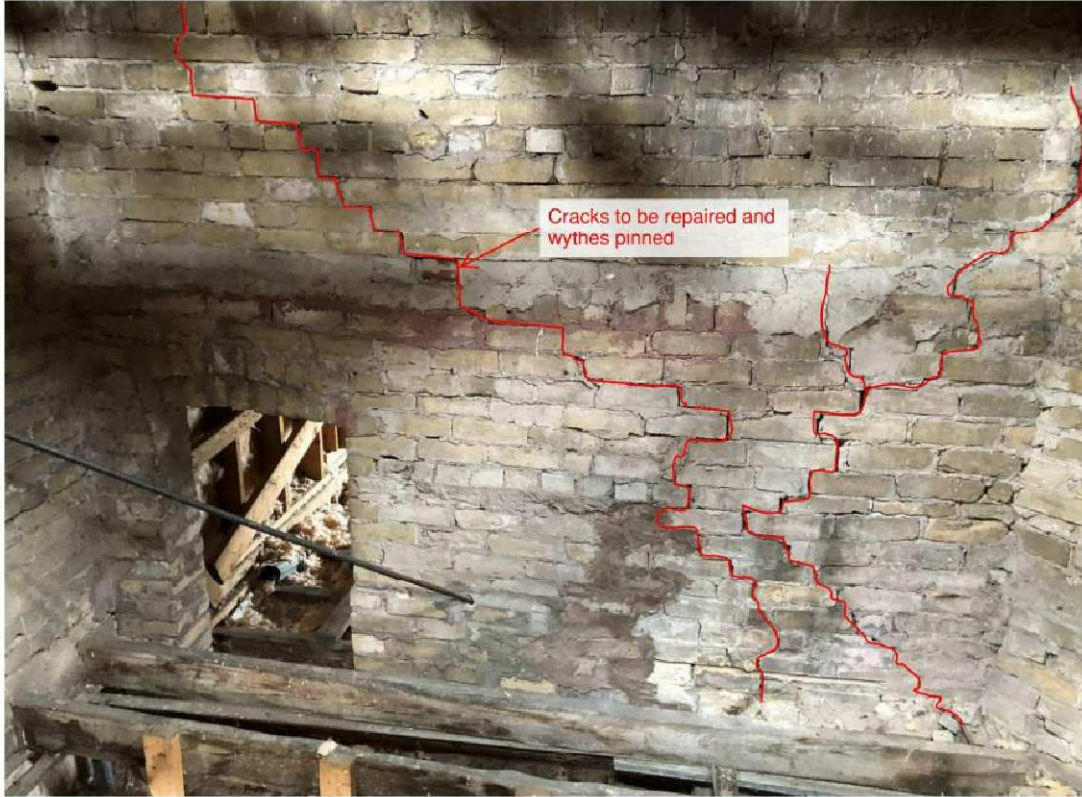


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Drawing Title
CENTRAL HURON LIBRARY UPGRADES AND ROOF REPLACEMENT
27 ALBERT STREET, CLINTON, ON
DRAIN REPLACEMENT AND ATTIC INSULATION

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AA	DH	20/03/24	
Scale	Project No.		
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Attic Masonry Repair Work



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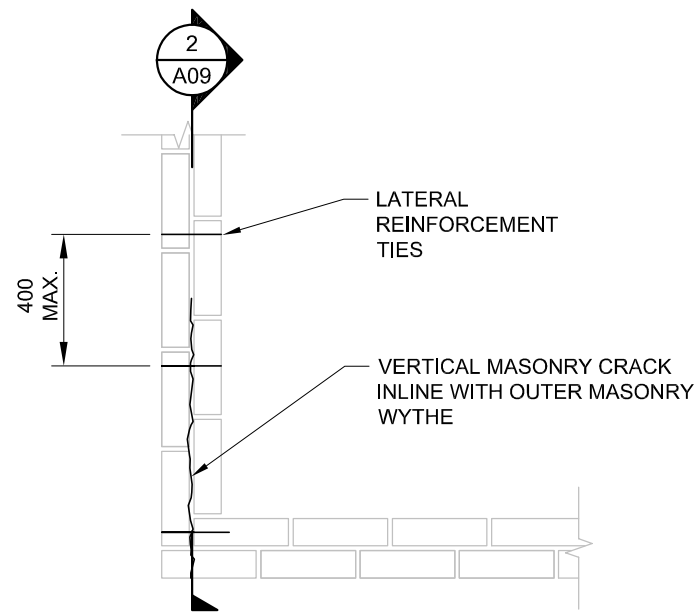
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**CENTRAL HURON LIBRARY
 UPGRADES AND ROOF
 REPLACEMENT
 27 ALBERT STREET, CLINTON, ON
 ATTIC MASONRY REPAIR WORK**

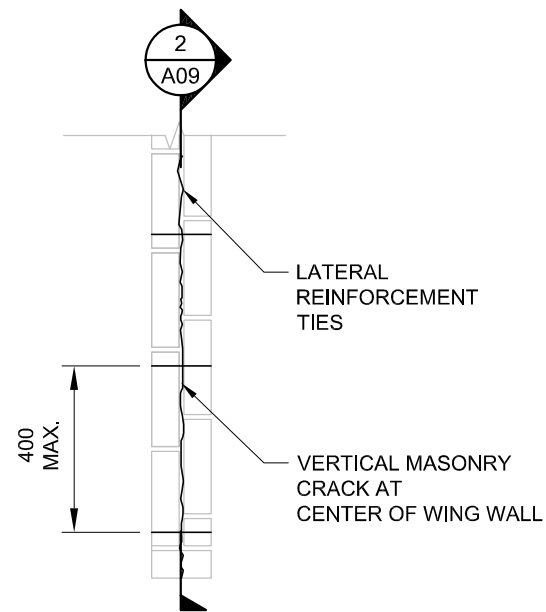
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Scale	Project No.	
AS NOTED	300043986.0000	

Drawing No.

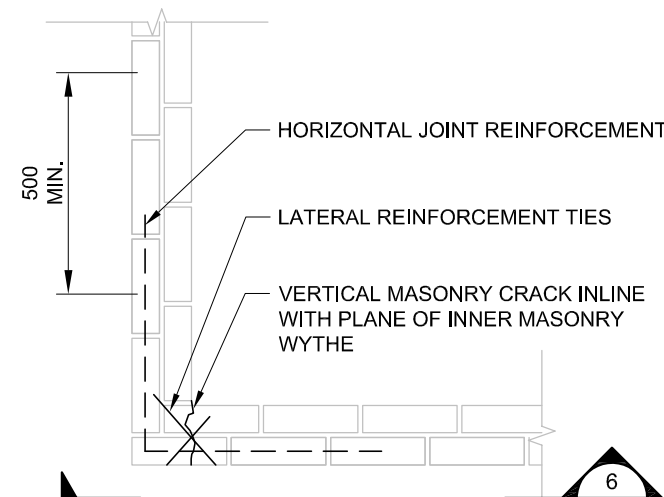
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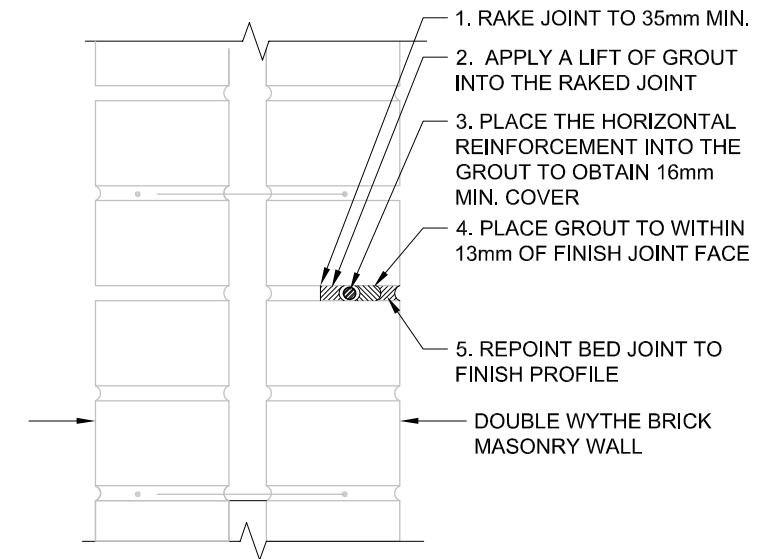
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A09
SINGLE WYTHE MASONRY REINFORCEMENT - PLAN
SCALE N.T.S.



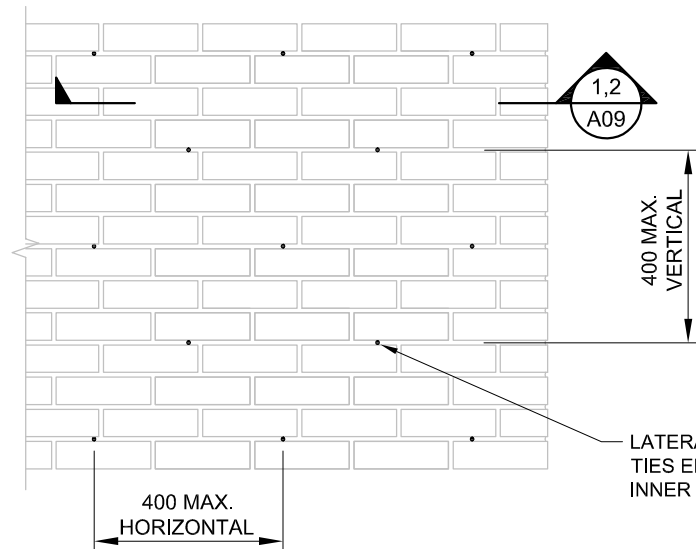
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A09
WING WALL MASONRY REINFORCEMENT - PLAN
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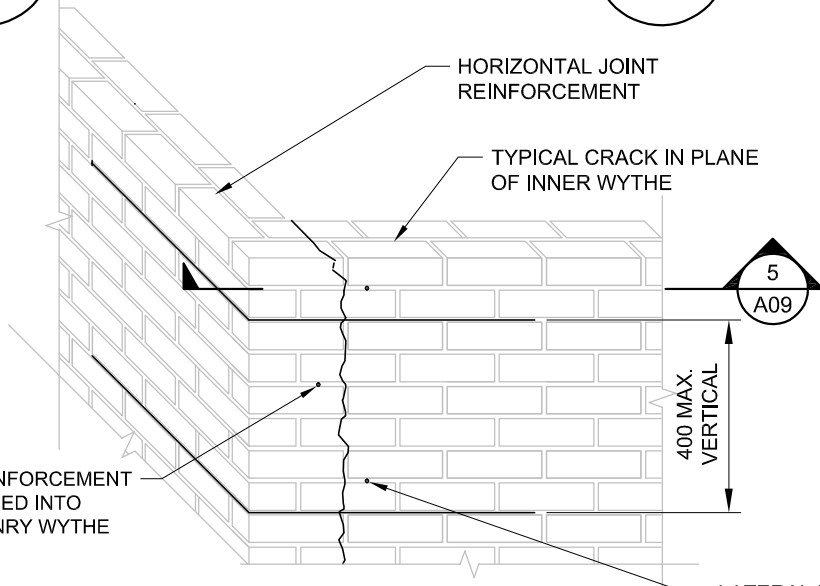
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A09
DOUBLE WYTHE MASONRY REINFORCEMENT - PLAN
SCALE N.T.S.



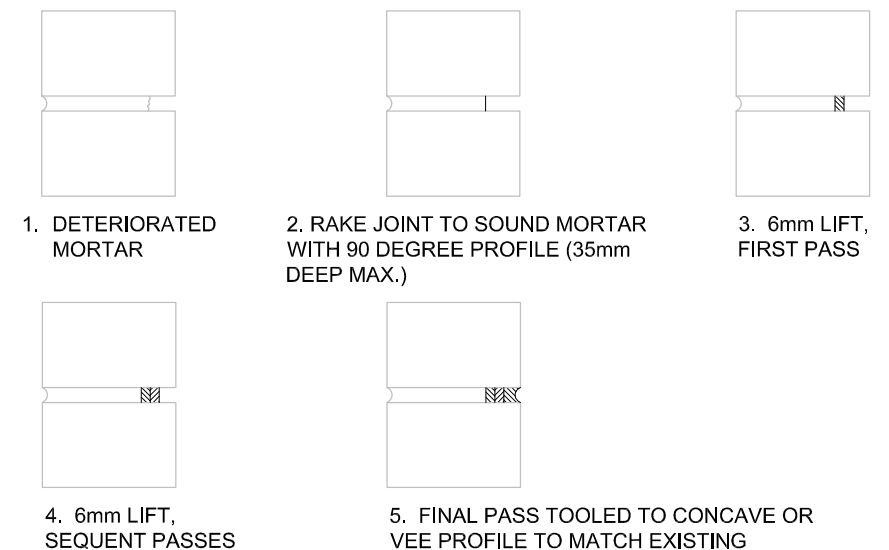
6
A09
HORIZONTAL JOINT REINFORCEMENT (SECTION VIEW)
SCALE N.T.S.



2
A09
SINGLE WYTHE MASONRY REINFORCEMENT - ELEVATION
SCALE N.T.S.



4
A09
DOUBLE WYTHE MASONRY REINFORCEMENT - 3D
SCALE N.T.S.



7
A09
REPOINTING SEQUENCE OF WORK
SCALE N.T.S.

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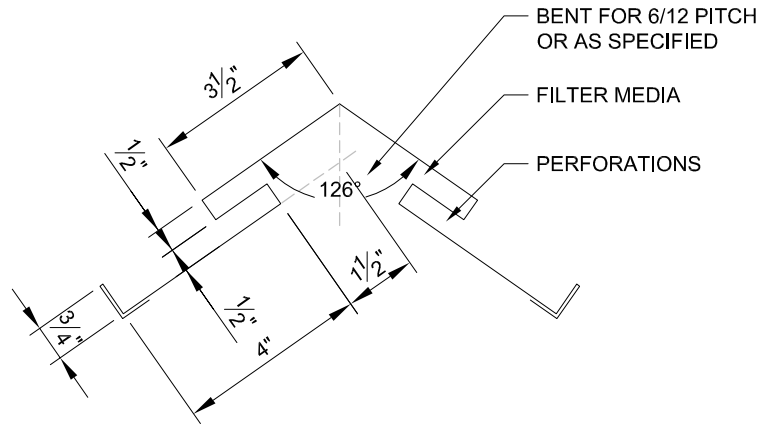
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 23 ALBERT STREET
 CLINTON, ONTARIO
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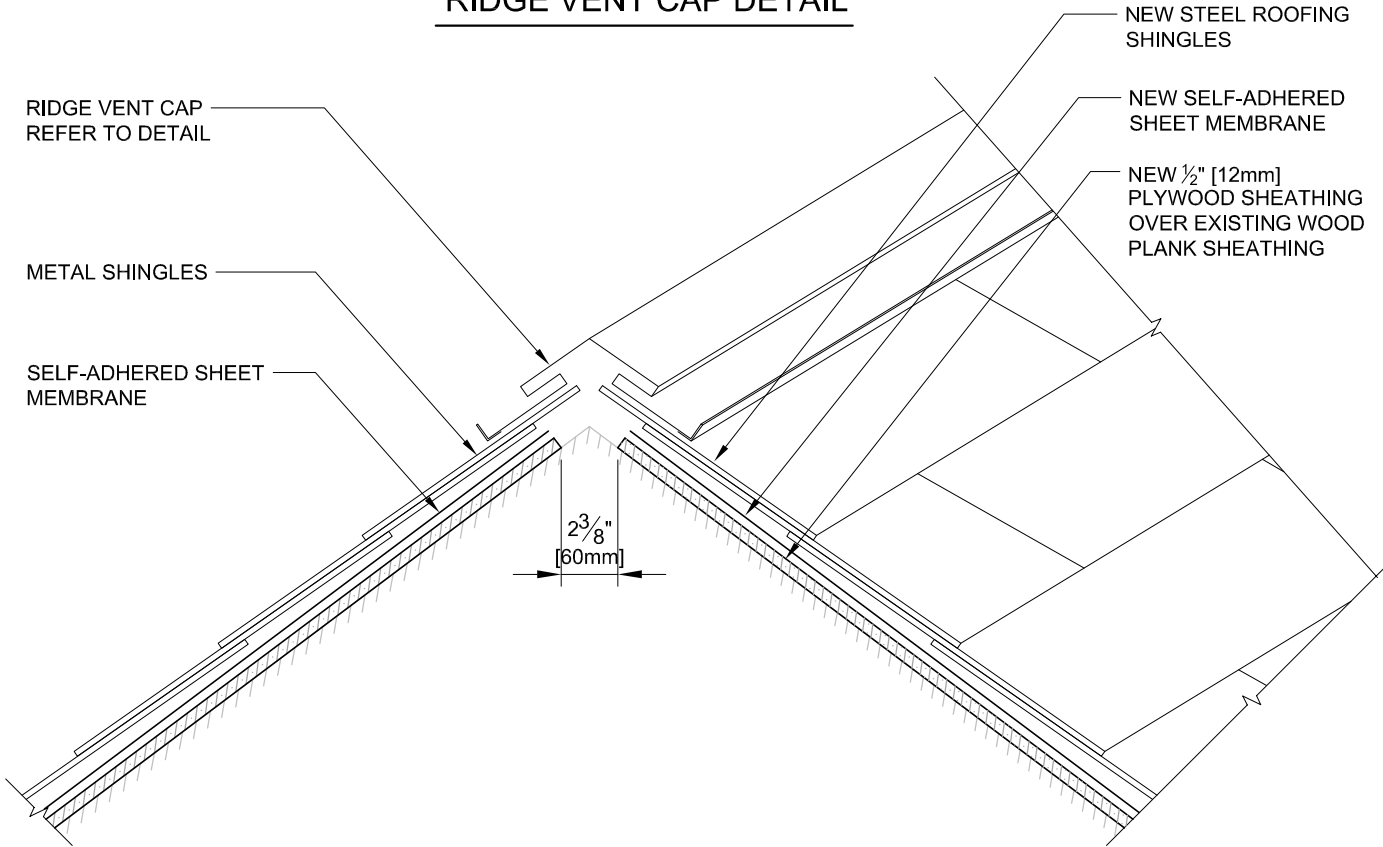
Drawing Title
CENTRAL HURON LIBRARY UPGRADES AND ROOF REPLACEMENT 27 ALBERT STREET, CLINTON, ON

MASONRY REINFORCEMENT

Drawn AA	Checked DH	Date 20/03/24	Drawing No. A09
Scale AS NOTED	Project No. 300043986.0000		



RIDGE VENT CAP DETAIL



1
A101 **ROOF RIDGE & HIP SYNTHETIC SLATE**
SCALE 1-1/2"=1'-0"



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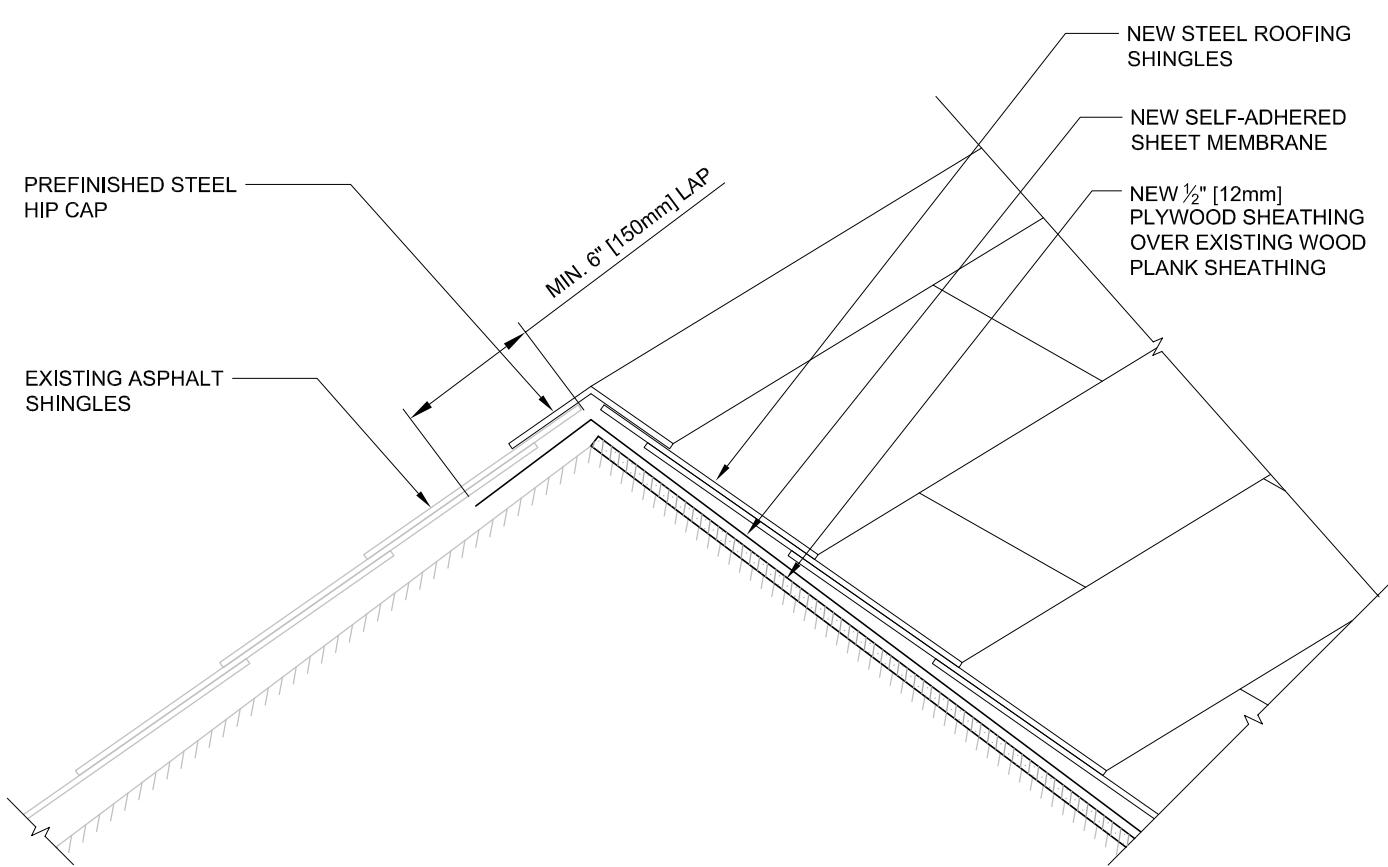
Drawing Title

CENTRAL HURON LIBRARY UPGRADES AND ROOF REPLACEMENT
27 ALBERT STREET, CLINTON, ON

VENTILATED RIDGE CAP

Drawn	Checked	Date
AA	DH	20/03/24
Scale	Project No.	
AS NOTED	300043986.0000	

Drawing No.
A101



2
HIP RIDGE
ASPHALT TO STEEL SHINGLES
A102
SCALE 1-1/2"=1'-0"

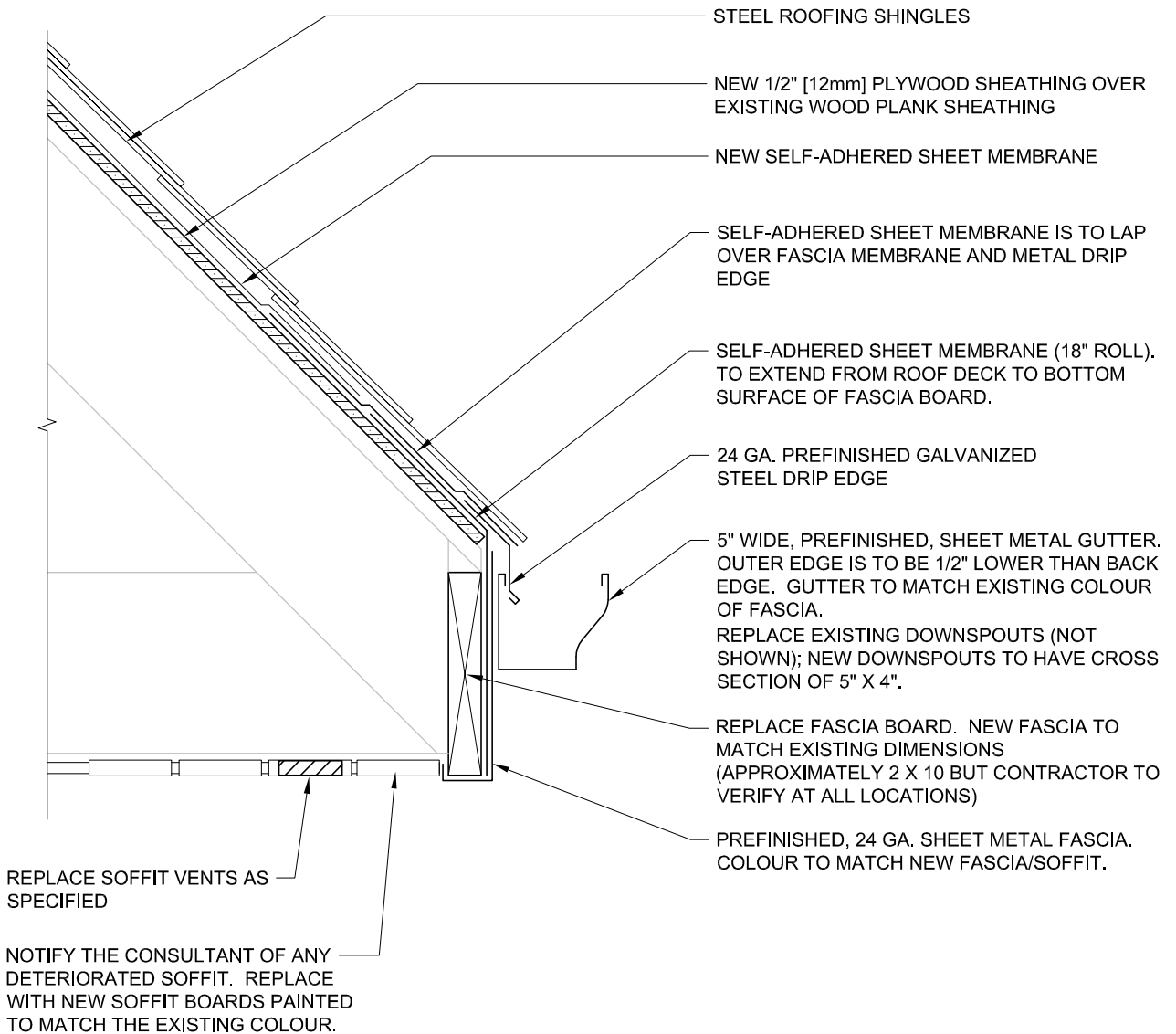


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 UPGRADES AND ROOF
 REPLACEMENT**
27 ALBERT STREET, CLINTON, ON

ROOF HIP DETAIL			A102
Drawn	Checked	Date	
AA	DH	20/03/24	
Scale		Project No.	
AS NOTED		300043986.0000	



3 MAIN ROOF EAVE
A103 SCALE 1-1/2"=1'-0"



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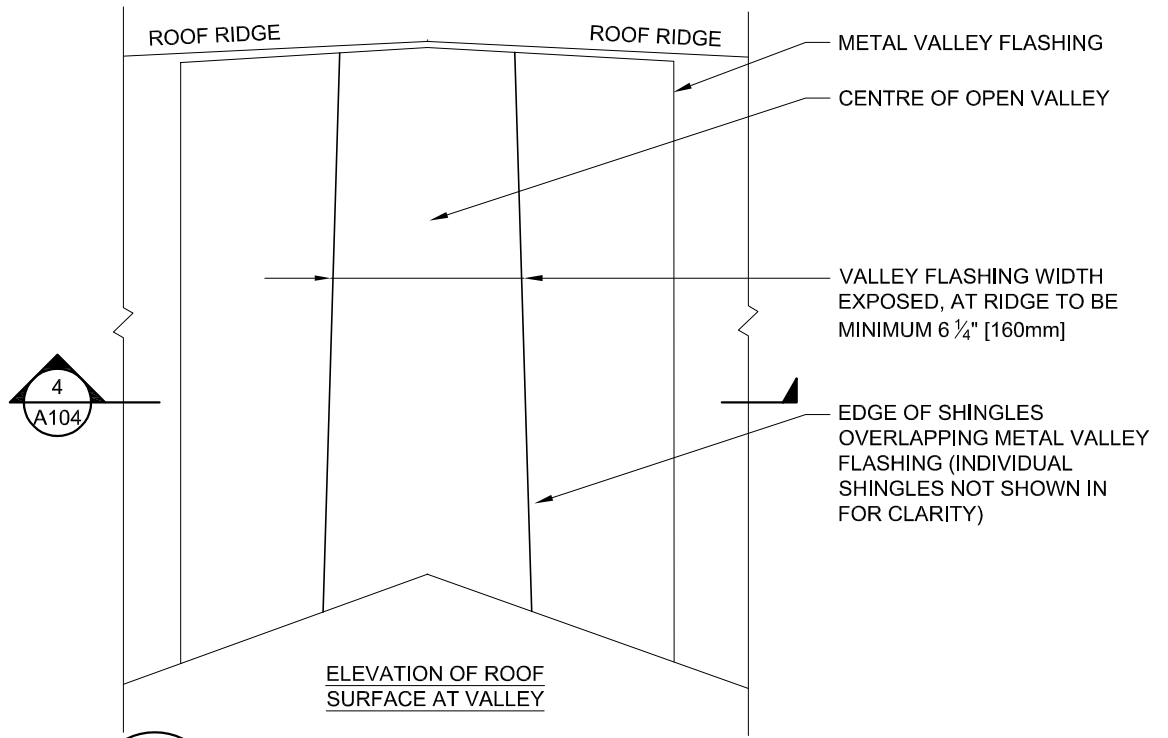
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 23 ALBERT STREET
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Drawing Title

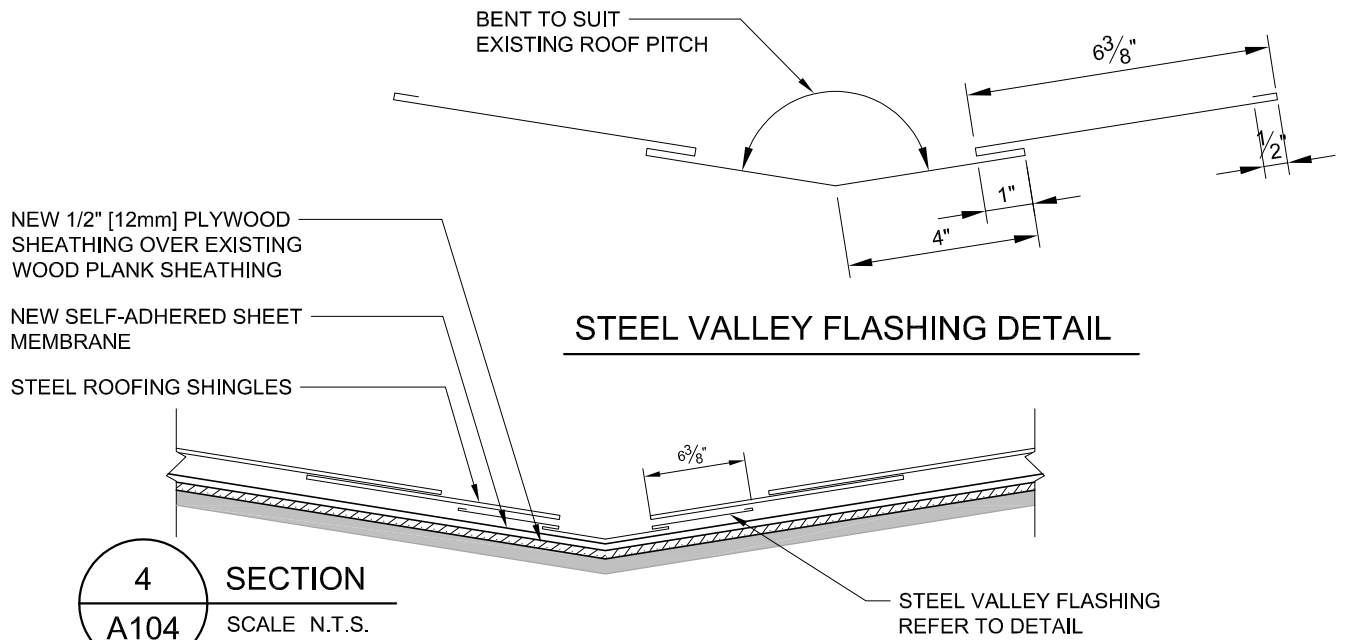
CENTRAL HURON LIBRARY UPGRADES AND ROOF REPLACEMENT
27 ALBERT STREET, CLINTON, ON
 MAIN ROOF EAVE

Drawn	Checked	Date
AA	DH	20/03/24
Scale	Project No.	
AS NOTED	300043986.0000	

Drawing No.
A103



2 OPEN VALLEY - STEEL SHINGLE
A104 SCALE N.T.S.



4 SECTION
A104 SCALE N.T.S.



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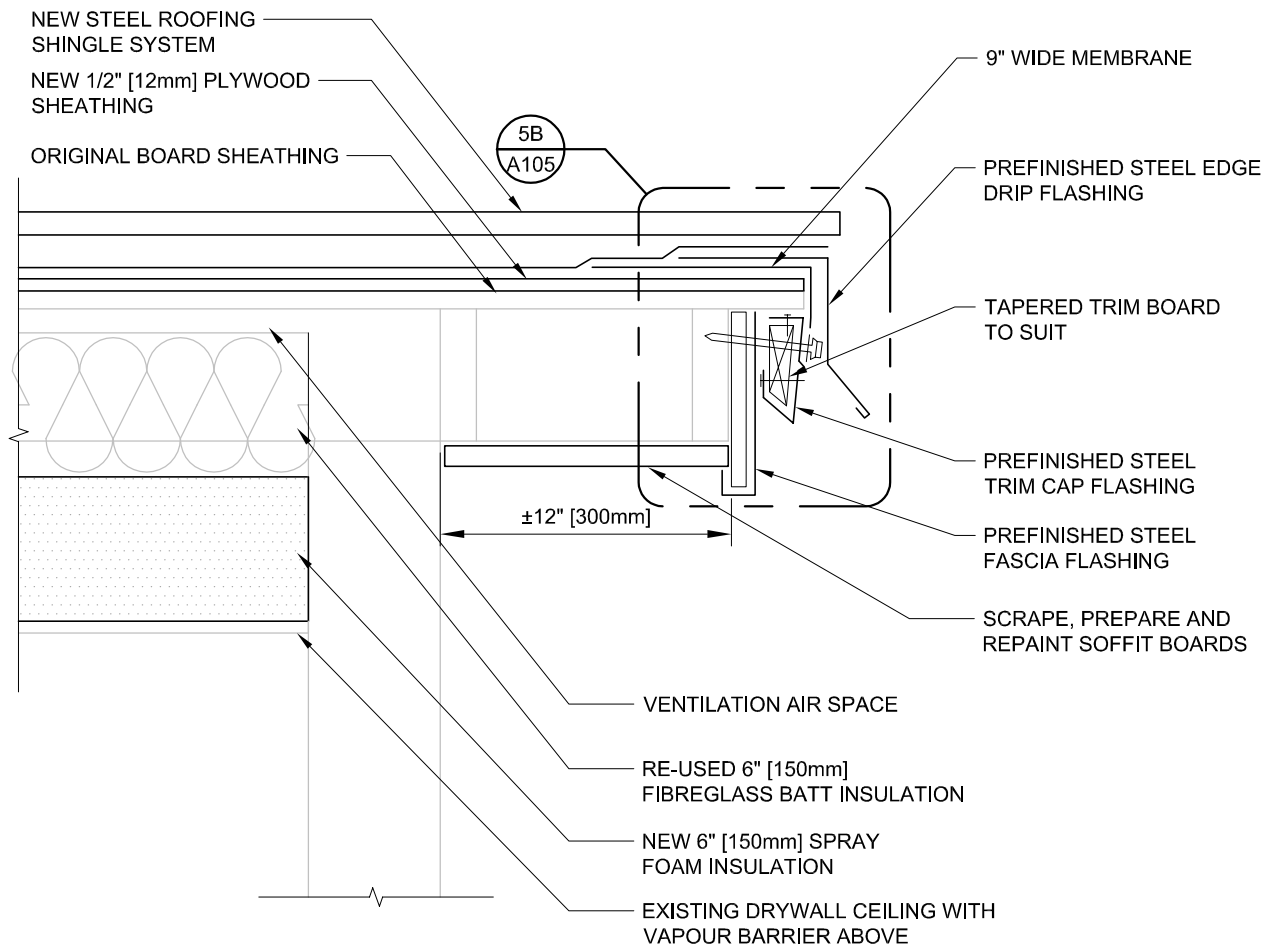
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Drawing Title

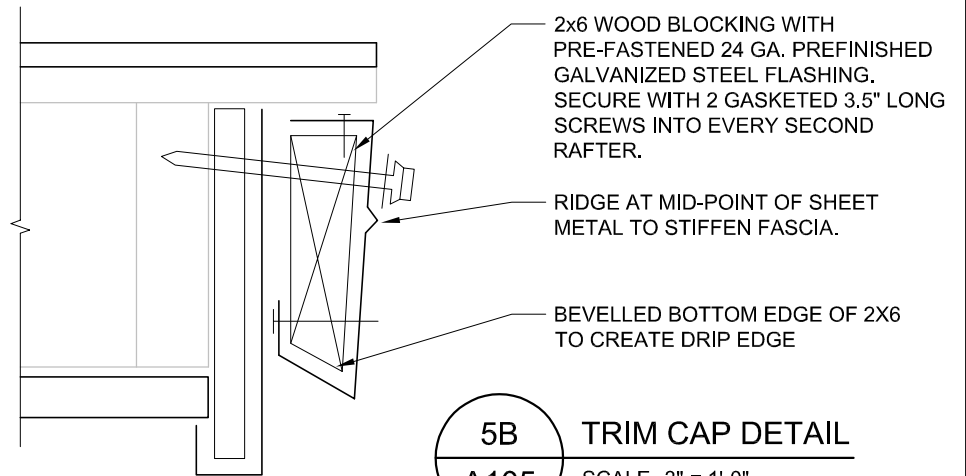
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27 ALBERT STREET, CLINTON, ON

STEEL ROOF VALLEY DETAIL

Drawn	Checked	Date	Drawing No. A104
AA	DH	20/03/24	
Scale	Project No.		
AS NOTED			300043986.0000



5 GABLE EDGE DETAIL
A105 SCALE 1-1/2"=1'-0"



5B TRIM CAP DETAIL
A105 SCALE 3" = 1'-0"



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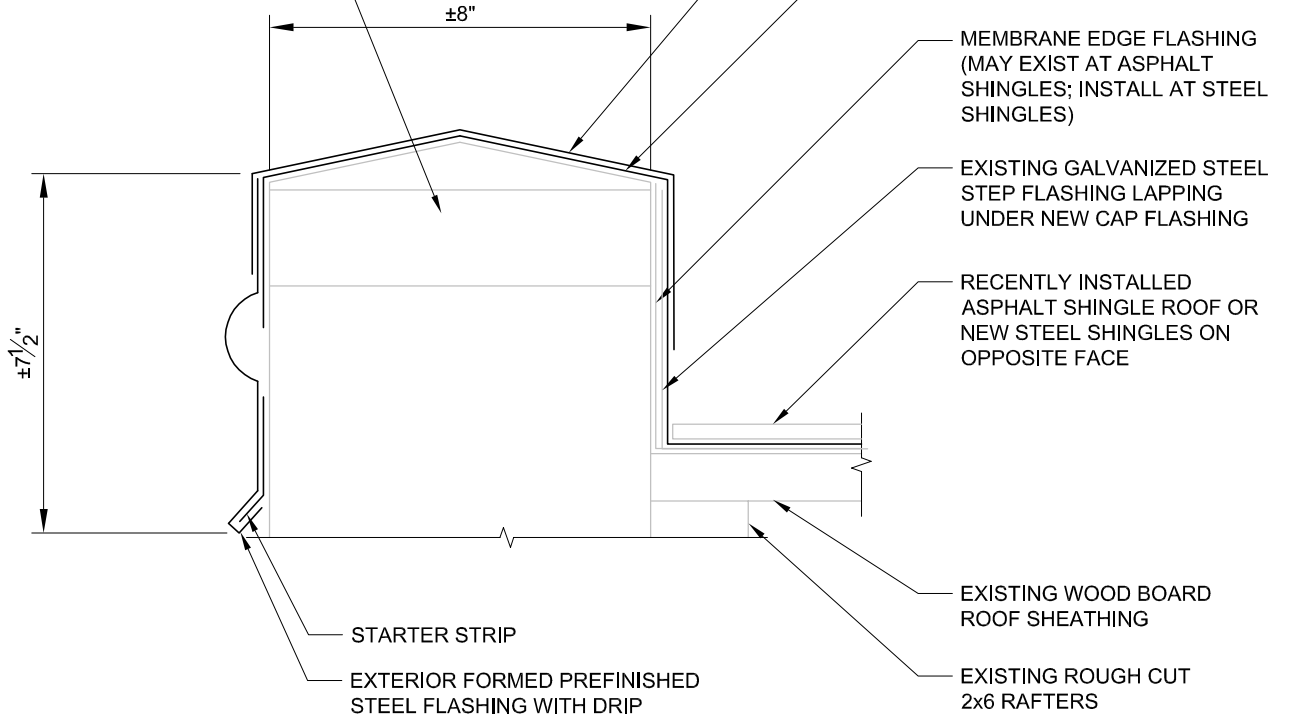
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Drawing Title

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27 ALBERT STREET, CLINTON, ON
 END GABLE EDGE DETAIL

Drawn	Checked	Date	Drawing No. A105
AA	DH	20/03/24	
Scale	Project No.		
AS NOTED			300043986.0000

EXISTING WALL TOP BLOCKING
(ASSUMED)



6 GABLE COPING DETAIL
A106 SCALE 3" = 1'-0"



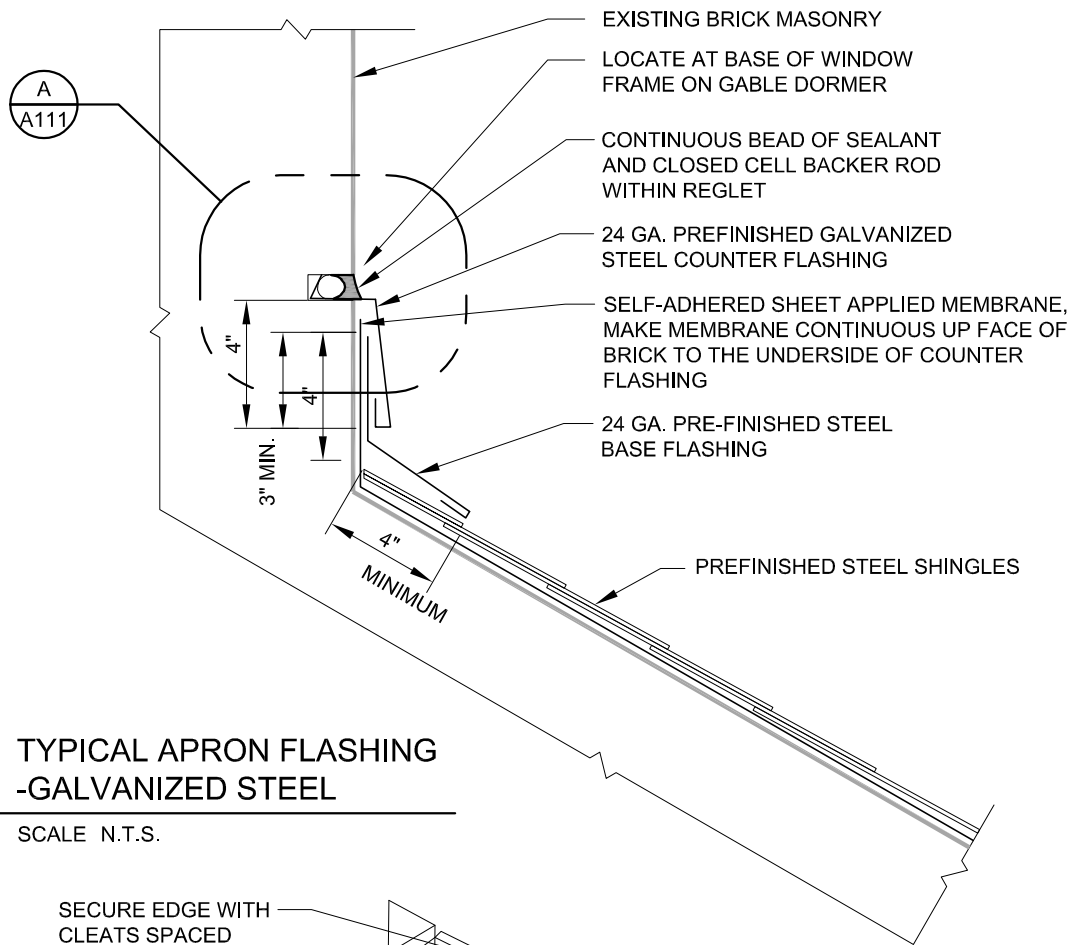
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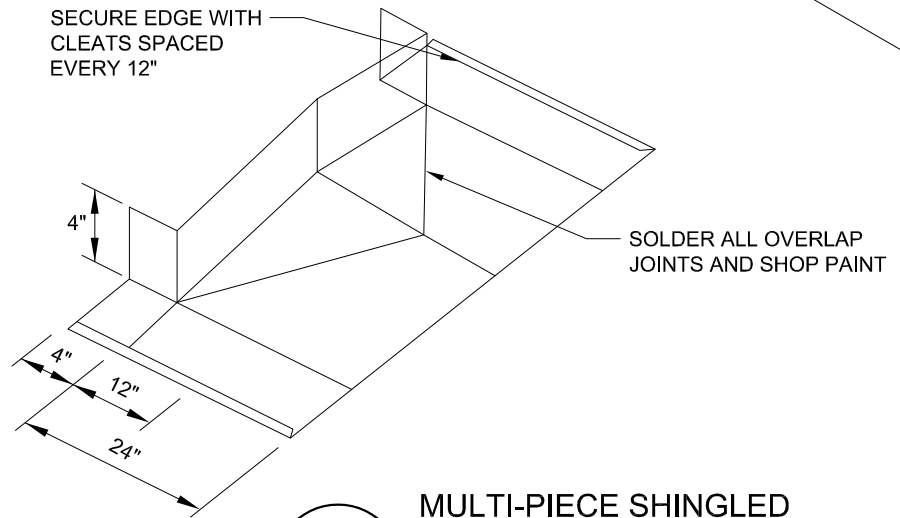
Drawing Title

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REPLACEMENT
27 ALBERT STREET, CLINTON, ON**
GABLE COPING DETAIL

Drawn	Checked	Date	Drawing No.
AA	DH	20/03/24	
Scale		Project No.	A106
AS NOTED		300043986.0000	



7
TYPICAL APRON FLASHING
- GALVANIZED STEEL
 A107 SCALE N.T.S.



8
MULTI-PIECE SHINGLED
PREFINISHED STEEL FLASHING
 A107 SCALE N.T.S.

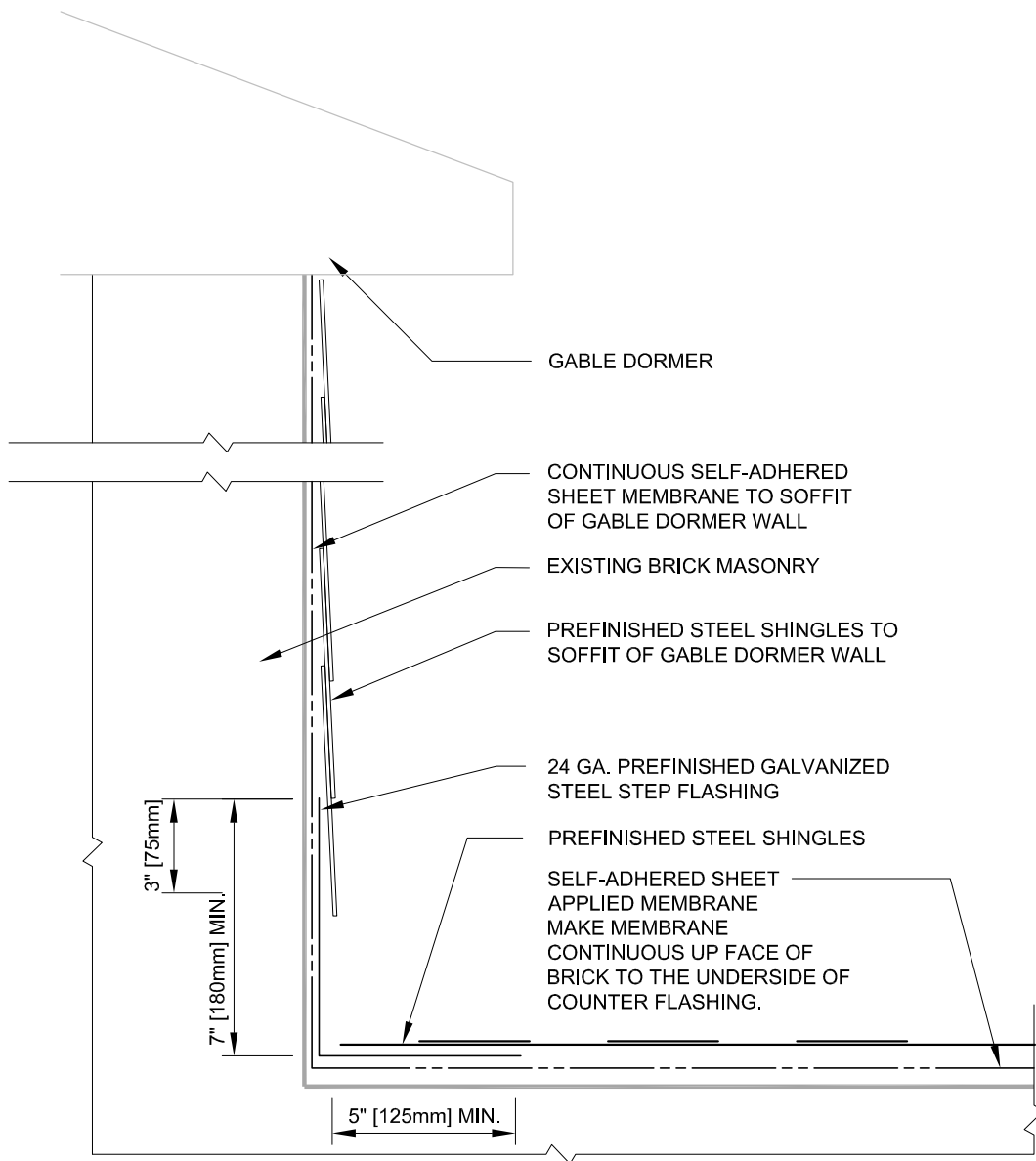


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Drawing Title
CENTRAL HURON LIBRARY
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REPLACEMENT
27 ALBERT STREET, CLINTON, ON
CHIMNEY CRICKET AND TYPICAL APRON
FLASHING DETAILS

Drawn	Checked	Date	Drawing No. A107
AA	DH	20/03/24	
Scale	Project No.		
AS NOTED			300043986.0000



- NOTES:**
1. THE MAXIMUM HEIGHT DIFFERENCE BETWEEN COUNTER FLASHING STEPS IS 8".
 2. CUT REGLETS IN BRICK MORTAR BED JOINTS. CUT JOINT TO A DEPTH OF 1".

9

 A108

**TYPICAL STEP FLASHING -
GABLE DORMER**
 SCALE N.T.S.



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Drawing Title

**CENTRAL HURON LIBRARY
UPGRADES AND ROOF
REPLACEMENT
27 ALBERT STREET, CLINTON, ON
STEP FLASHING AT GABLE DORMER
SIDE WALL**

Drawn	Checked	Date
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AS NOTED	300043986.0000	

Drawing No.

A108

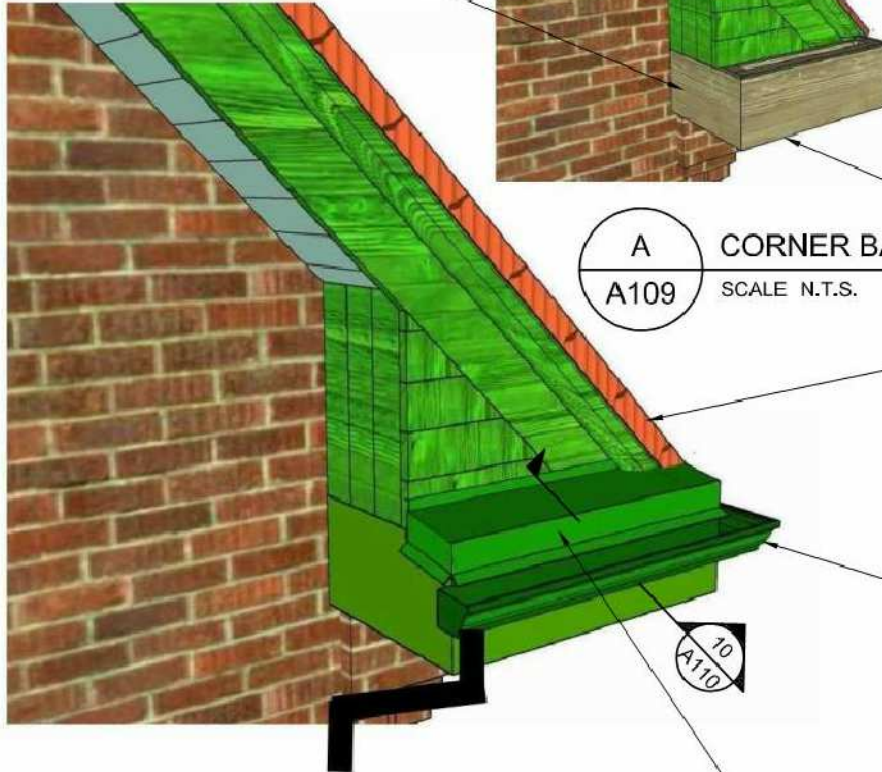
SCRAPE, CLEAN AND
PAINT SOFFIT BOARDS

REPLACE GABLE FACIA BOARDS
& TRIM WITH NEW PRE-PAINTED
WOOD MEMBERS TO MATCH
EXISTING

REPLACE EAVE FACIA
BOARDS WITH NEW

EXISTING BOARD
ROOF SHEATHING

**STRIPPED SECTION
BEFORE
REPLACEMENTS**



A
CORNER BARE
A109 SCALE N.T.S.

REPLACE SECTIONS
OF SOFFIT BOARD AS
NECESSARY

NEW STEEL SHINGLE
ROOFING
CONTINUOUS
MEMBRANE
UNDERLAYMENT
NEW 12 MM PLYWOOD
SHEATHING
ORIGINAL BOARD ROOF
SHEATHING

NEW 5" EAVES TROUGH
c/w DOWNSPOUT AT END

10
A110

B
FINISHED CORNER DETAIL
A109 SCALE N.T.S.

NEW PRE-FINISHED STEEL CAP FLASHING
MEMBRANE UNDERLAYMENT WRAPPING
EDGES & SEALED AT PERIMETER
NEW SLOPING PLYWOOD CAP



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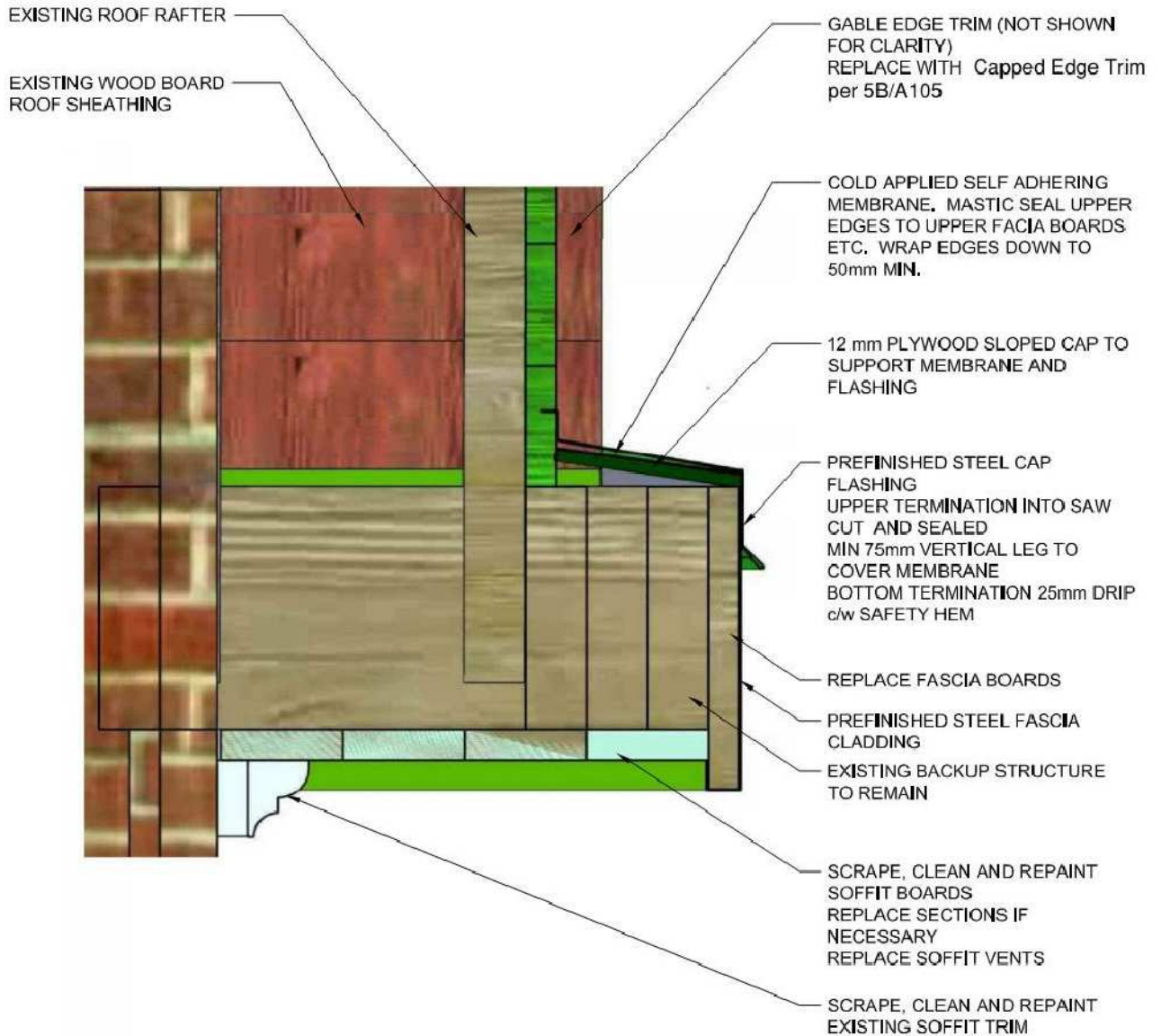
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23 ALBERT STREET
CLINTON, ONTARIO
N0M 1L0

Drawing Title

**CENTRAL HURON LIBRARY
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REPLACEMENT**
27 ALBERT STREET, CLINTON, ON
TYPICAL CORNER DETAIL

Drawn	Checked	Date
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Drawing No.
A109



10 TYPICAL CORNER CROSS SECTION
A110 SCALE N.T.S.



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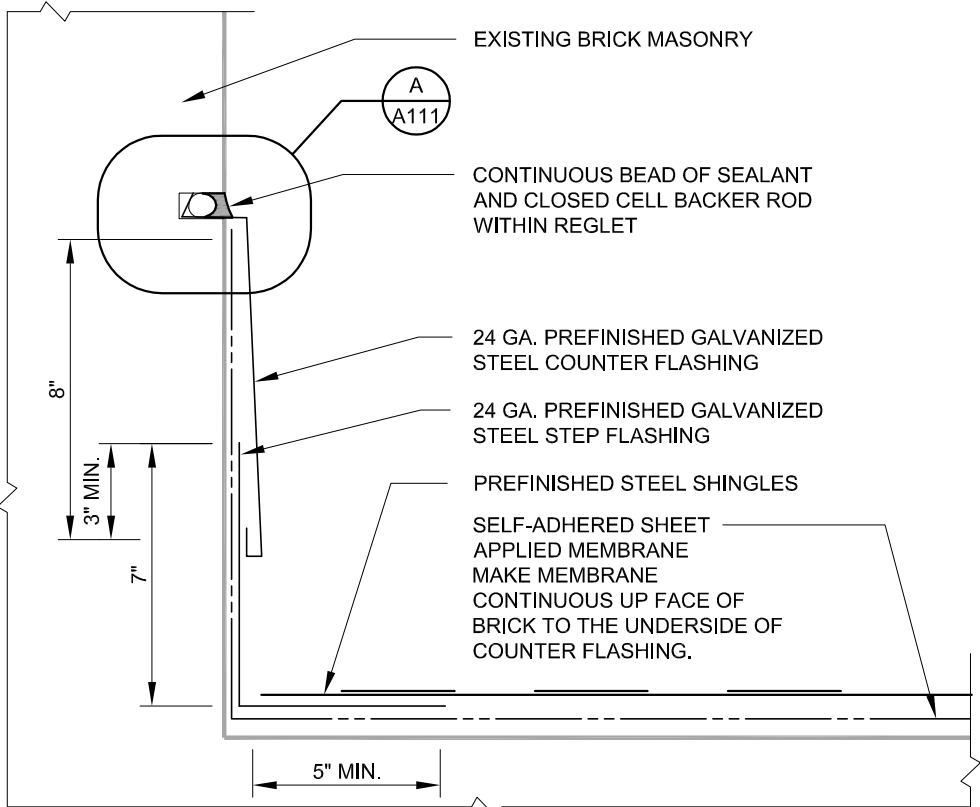
Drawing Title

**CENTRAL HURON LIBRARY
UPGRADES AND ROOF
REPLACEMENT
27 ALBERT STREET, CLINTON, ON**
TYPICAL CORNER CROSS SECTION

Drawn	Checked	Date
AA	DH	20/03/24
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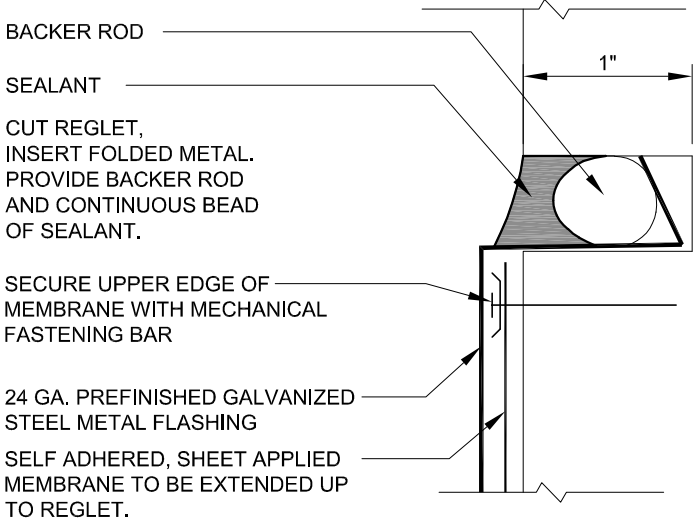
Drawing No.

A110



- NOTES: 1. THE MAXIMUM HEIGHT DIFFERENCE BETWEEN COUNTER FLASHING STEPS IS 8".
 2. CUT REGLETS IN BRICK MORTAR BED JOINTS. CUT JOINT TO A DEPTH OF 1".

11 TYPICAL STEP FLASHING
A111 SCALE N.T.S.



A TYPICAL REGLET DETAIL
A111 SCALE N.T.S.



128 Wellington St. W., Suite 301, Barrie, Ontario, L4N 8J6
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Client
MUNICIPALITY OF CENTRAL HURON
 23 ALBERT STREET
 CLINTON, ONTARIO
 N0M 1L0

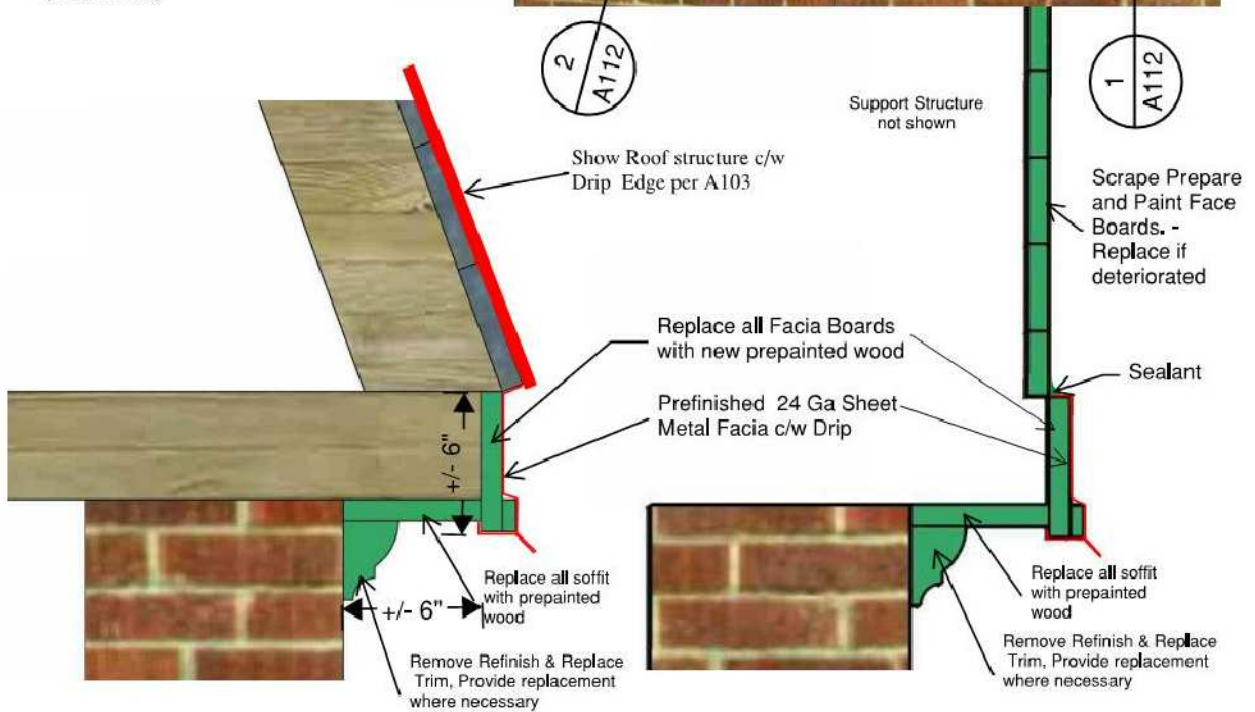
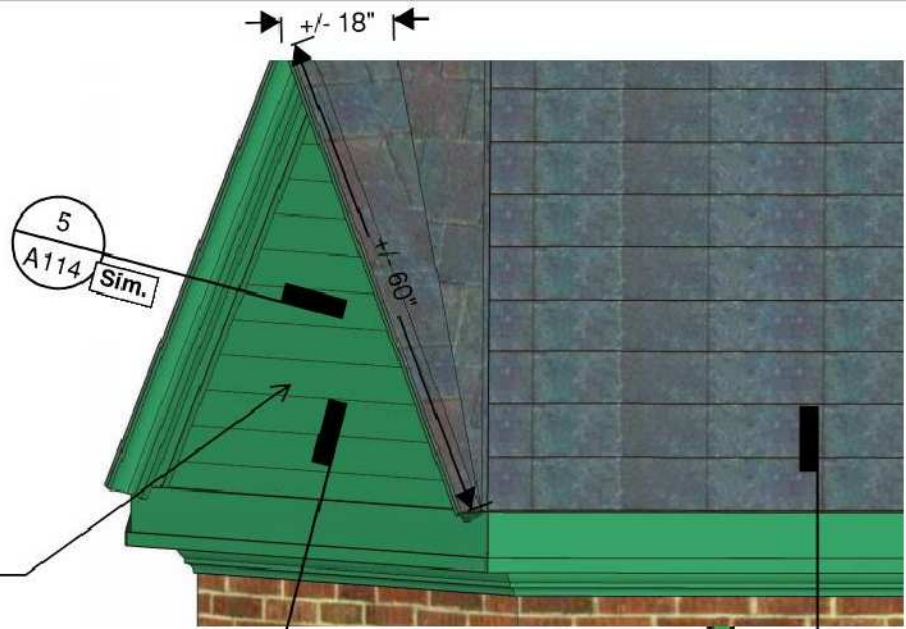
Drawing Title
CENTRAL HURON LIBRARY UPGRADES AND ROOF REPLACEMENT
27 ALBERT STREET, CLINTON, ON
 STEP FLASHING DETAILS

Drawn	Checked	Date	Drawing No. A111
AA	DH	20/03/24	
Scale	Project No.		
AS NOTED		300043986.0000	



Key Plan

Remove, Repaint and reinstall existing Graphic on each Face (Not Shown)



1
A112 LOWER SOFFIT AT ROOF
SCALE N.T.S.

2
A112 LOWER SOFFIT AT GABLE
SCALE N.T.S.



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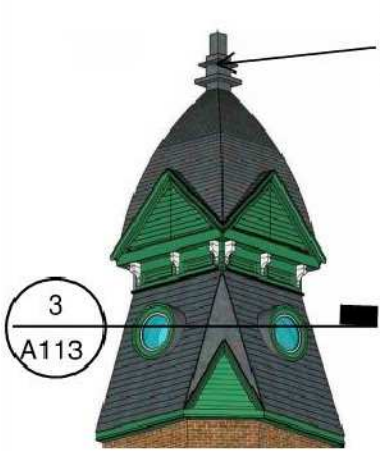
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CLINTON, ONTARIO
N0M 1L0

Drawing Title

**CENTRAL HURON LIBRARY
UPGRADES AND ROOF
REPLACEMENT
27 ALBERT STREET, CLINTON, ON**

TOWER LOWER GABLE DETAILS

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Remove Refurbish and Reinstall Tower Pinnacle Cap

New Barrel Dormer

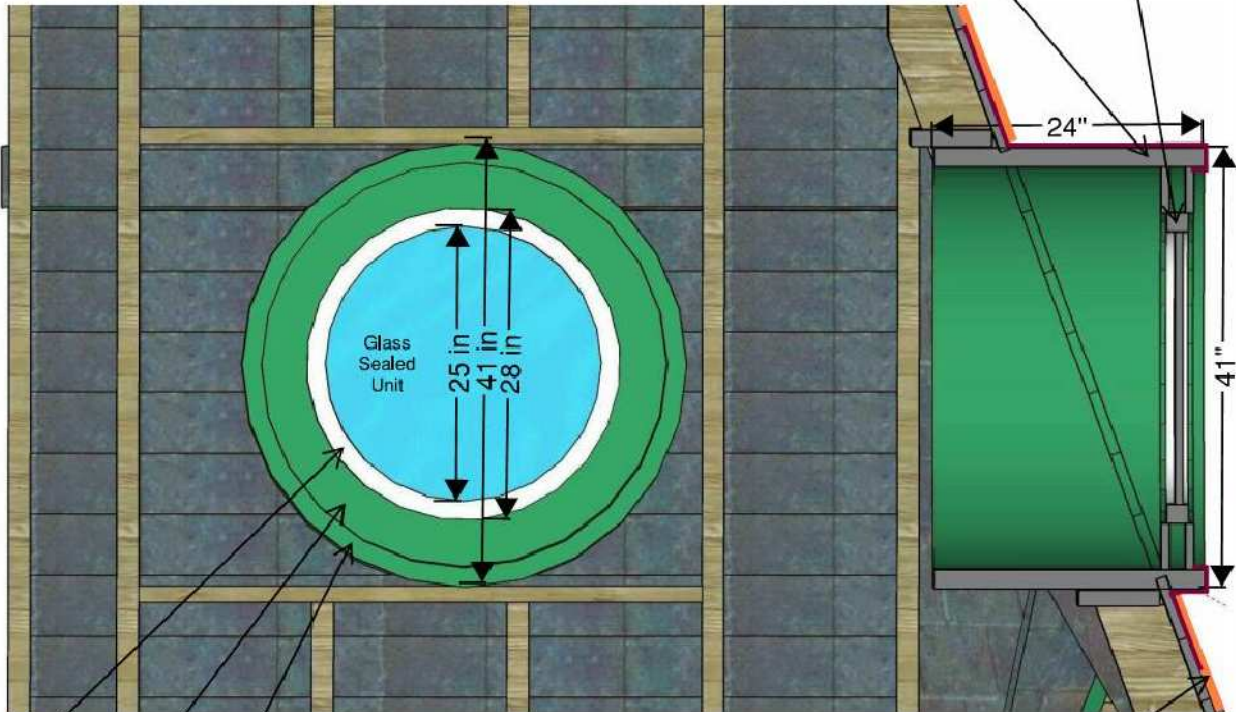
Field

- Shop painted soldered galvanized custom steel flashing
- Self adhered sheet membrane lapped & sealed

Prebuilt Dormer

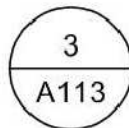
- Fiberglass Complete wrap; resin, fabric, resin, resin finish coat
- 2 layers 1/8 Plywood outer face
- 1 1/2" wood or Styrofoam core
- 2 layers 1/8 Plywood inner face
- OD: 41" ID: 36 3/4" or approved equal

Fiberglass Round Window
OD Frame 36 1/2"
Sealed unit Low E Argon
Exposed Glass 25" diameter



Glazing Stops
Window Frame
Barrel Structure

New Prefinished Steel Roofing Shingles
Self adhered membrane
12 mm plywood sheathing
Existing board sheathing



BARREL WINDOW REPLACEMENT

SCALE N.T.S.



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Drawing Title

**CENTRAL HURON LIBRARY
UPGRADES AND ROOF
REPLACEMENT**
27 ALBERT STREET, CLINTON, ON
TOWER BARREL WINDOW DETAILS

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Scale	Project No.		
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A113

5
A114



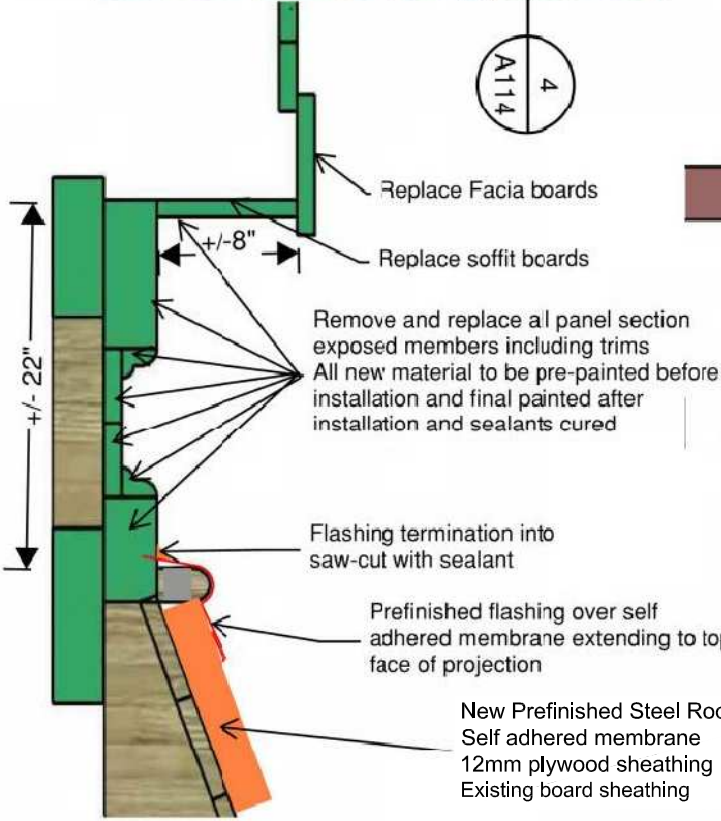
Remove, Repaint and reinstall existing Graphic on each Face (Not Shown)

Remove all wood siding & trims
Replace with new pre-painted wood members
Install final coat of paint after all members installed and sealants installed and cured

Remove, Repaint and reinstall existing decorative support brackets

New Prefinished Steel Roofing Shingles
Self adhered membrane
12 mm plywood sheathing
Existing board sheathing

4
A114



Replace Fascia boards

Replace soffit boards

Remove and replace all panel section exposed members including trims
All new material to be pre-painted before installation and final painted after installation and sealants cured

Flashing termination into saw-cut with sealant

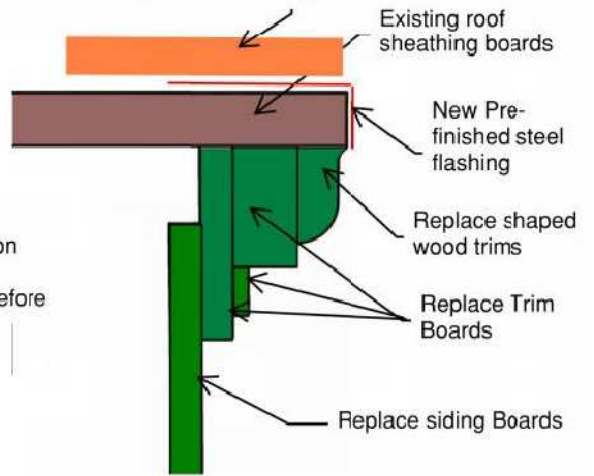
Prefinished flashing over self adhered membrane extending to top face of projection

New Prefinished Steel Roofing Shingles
Self adhered membrane
12mm plywood sheathing
Existing board sheathing

+/- 22"

4 TOWER TRANSITION SECTION

A114 SCALE N.T.S.



Existing roof sheathing boards

New Pre-finished steel flashing

Replace shaped wood trims

Replace Trim Boards

Replace siding Boards

5
A114

5 UPPER GABLE EDGE

SCALE N.T.S.

NOTE:

1. APPROXIMATE FROM PHOTC



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Drawing Title

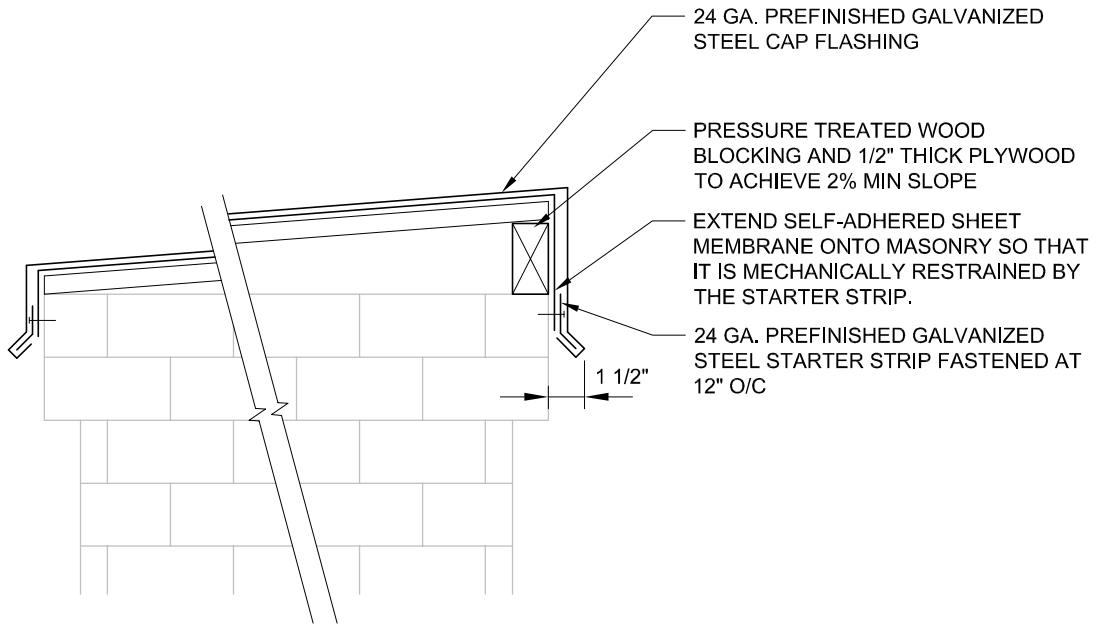
CENTRAL HURON LIBRARY UPGRADES AND ROOF REPLACEMENT

27 ALBERT STREET, CLINTON, ON TOWER UPPER TRANSITION PANEL GABLES

Drawn	Checked	Date
AA	DH	20/03/24
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Drawing No.

A114



6
CHIMNEY CAP FLASHING
A115
SCALE 1-1/2"=1'-0"



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**CENTRAL HURON LIBRARY
 UPGRADES AND ROOF
 REPLACEMENT
 27 ALBERT STREET, CLINTON, ON
 CHIMNEY DETAILS**

Drawn	Checked	Date
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AS NOTED	300043986.0000	

Drawing No.
A115