



## Invitation to Tender No. 24-028

### Oceanside Place Arena 2024 Roofing Program

The Regional District of Nanaimo, hereinafter referred to as the "Regional District", invites Tenders for the Oceanside Place Arena 2024 Roofing Program.

Brief description of the project:

- a) Provide a base bid to remove and replace Roof Sections 1, 2.1, 3 & 4.
- b) Provide a separate add on price to remove and replace Roof Section 2.
- c) Provide a budget price for Roof Section 5.

The work is requested to be substantially completed by August 16, 2024.

Tenders are to be submitted **via email** in PDF format with "24-028 Oceanside Place Arena 2024 Roofing Program" as the subject line to John Marcellus, Superintendent, Arena Services at [JMarcellus@rdn.bc.ca](mailto:JMarcellus@rdn.bc.ca) bearing the name of the firm bidding on or before on or before **3:00:00 p.m. local time on the May 23, 2024** (the "Tender Closing"). The Regional District will not be responsible for any technological delays. It is the Tenderer's sole responsibility to ensure their Tender is received when, where and how it is specified in this document. Tenders received in any other manner will not be accepted.

A **mandatory site visit** is scheduled for **10:00 a.m. on May 6, 2024**, at Oceanside Place Arena, 830 Island Hwy W, Parksville, BC V9P 2X4. Roofing contractors will be required to sign an attendance sheet and should wear a high visibility vest and steel toed boots. Tenders will not be accepted from bidders who were not represented at the site meeting. Bidders must be current members of the Canadian Roofing Contractor Association (CRCA).

All enquiries related to this Tender are to be directed in writing to, Joel Sharp, Alpine Roof Consulting Ltd. at [jsharp@alpineroof.ca](mailto:jsharp@alpineroof.ca).

Tenders will not be opened in public. The Regional District will endeavor to post unverified bid results by 10:00 a.m. the business day following the Tender Closing.

Each Tender Form received from a Tenderer must be accompanied by a **verifiable digital E-Bid Bond** in the amount equal to TEN PERCENT (10%) of the TOTAL AMOUNT OF TENDER and a **verifiable digital Consent of Surety** as defined by the Surety Association of Canada. <https://suretycanada.com/SAC/Surety-Bonds/E-Bonding.aspx>. Scanned copies are unacceptable.

The successful Tenderer will be required to submit a 50% Labour & Material Bond and a 50% Performance Bond.

Tenders must remain valid for sixty (60) days following the closing time and date.

The Regional District reserves the right to reject any or all tenders, and to accept the tender deemed most favourable in the interests of the Regional District.

The lowest or any tender may not be accepted.

This procurement is subject to Chapter 5 of the Canadian Free Trade Agreement. The Regional District's language in its procurement documents shall be English.



## **Regional District of Nanaimo**

**Invitation to Tender No. 24-028**

**Oceanside Place Arena 2024 Roofing Program**

**Issue Date: April 26, 2024**

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**END OF SECTION**

**PART 1 INVITATION****1.1 INVITATION TO TENDER**

The Regional District of Nanaimo (the “Regional District”) invites tenders for the Oceanside Place Arena 2024 Roofing Program.

**1.2 DESCRIPTION OF WORK**

- a) Provide a base bid to remove and replace Roof Sections 1, 2.1, 3 & 4.
- b) Provide a separate price to remove and replace Roof Section 2.
- c) Provide a budget price for Roof Section 5.

**1.3 TENDER SUBMISSION**

- 1.3.1 Tenders will be submitted **via email** in PDF format with “24-028 Oceanside Place Arena 2024 Roofing Program” as the subject line to John Marcellus, Superintendent, Arena Services at JMarcellus@rdn.bc.ca bearing the name of the firm bidding on or before on or before **3:00 p.m. local time on May 23, 2024** (the “Tender Closing”). The Regional District will not be responsible for any technological delays. It is the Tenderer’s sole responsibility to ensure their Tender is received when, where and how it is specified in this document.
- 1.3.2 Electronically submitted Tenders will be deemed to be successfully received at the time as posted on the incoming email on the RDN’s server.
- 1.3.3 Tenders received after the Tender Closing date and time will not be considered by the Regional District.
- 1.3.4 The submission of a Tender constitutes the agreement of the Tenderer to be solely responsible for all costs and expenses incurred by it in preparing and submitting its Tender, including any costs incurred by the Tenderer after the Tender Closing.

**PART 2 PRE-TENDER ENQUIRIES AND ADDENDA****2.1 Enquiries should be addressed to:**

Joel Sharp, Alpine Roof Consulting Ltd. at [jsharp@alpineroof.ca](mailto:jsharp@alpineroof.ca)

**Please Note:** The Project Manager named above is the only valid contact for enquiries. No explanation, interpretation, or clarification of the Tender Documents by any other person whatsoever shall bind the Regional District in the interpretation of the Tender Documents.

- 2.2 Any requests for explanations, interpretations or clarifications made by Tenderers should be submitted in writing to the Regional District at least five (5) calendar Days before Tender Closing to allow enough time for a response.
- 2.3 If the Regional District, in the Regional District's sole discretion, determines that a clarification, addition, deletion or revision of the Tender Documents is required then the Regional District will issue a written addendum. Notice of the issuance of a written addendum, and the issued written addendum, will be posted on the Regional District of Nanaimo website [www.rdn.bc.ca/current-bid-opportunities](http://www.rdn.bc.ca/current-bid-opportunities) and the BC Bid website [www.bcbid.gov.bc.ca](http://www.bcbid.gov.bc.ca). It is the sole responsibility of all prospective Tenderers to check for any addenda prior to submitting their Tender.
- 2.4 All Addenda issued by the Regional District shall be incorporated into and become part of the Tender Documents.
- 2.5 If a Tenderer finds any errors, omissions, or discrepancies in the Tender Documents, it shall immediately notify the Regional District's named contact in writing.
- 2.6 No oral explanation, interpretation, or clarification of the Tender Documents by any person whatsoever shall bind the Regional District in the interpretation of the Tender Documents.

### **PART 3 INSPECTION OF SITE**

- 3.1 It is the responsibility of the Tenderer to examine the Work Site before submitting a Tender. It is the Tenderer's responsibility to be familiar with and allow for all site conditions which might affect the Work and the Tender. The Regional District will not grant, and the Tenderer will not be entitled to any additional payments or extensions of time due to site conditions which were or would have been reasonably foreseeable upon a proper inspection of the Work Site by the Tenderer.
- 3.2 The submission of a Tender by the Tenderer shall be deemed to be an acknowledgement that the Tenderer has relied and is relying on its own examination of the Work Site, and all other matters related to the completion of Work.
- 3.3 The Tenderer shall comply with all applicable regulations of the Workers' Compensation Board of British Columbia while attending the Work Site.

### **PART 4 COMPLETION OF TENDER DOCUMENTS**

- 4.1 The Tenderer should complete the Tender Form in ink or in type.
- 4.2 All prices are to be in Canadian currency. Prices shall include all necessary costs including but not limited to supply, fabrication and finishing, conveyance and delivery to the Work Site, packing, crating, freight, cartage, shipping charges, unloading,

installation, overhead, profit and all tariffs, duties, and taxes (excluding GST) unless otherwise indicated, including British Columbia Provincial Sales Tax. The Federal Goods and Services Tax (GST) shall be shown as a separate item on the Tender Form.

## PART 5 BID SECURITY

- 5.1 The Tenderer shall submit, with its Tender, a deposit in the form of **a verifiable digital E-Bid Bond (the “Bid Bond”)** in favour of the Regional District of Nanaimo signed and sealed by the Tenderer and the Tenderer’s Surety. The form of Bid Bond shall be in the form acceptable to the Regional District. The Bid Bond shall equal ten percent (10%) of the total Tender Price. **A verifiable digital Consent of Surety** shall also be submitted with the Tender. <https://suretycanada.com/SAC/Surety-Bonds/E-Bonding.aspx>.
- 5.2 The Regional District will retain the Bid Bond of the successful Tenderer until:
- (1) the successful Tenderer has executed the Agreement;
  - (2) the successful Tenderer has provided all required bonding, insurance, and the WorkSafe BC Clearance Letter all in good order.
- 5.3 All bonds and documentation required shall be issued by a company licensed to transact business in the Province of British Columbia. **The E-Bid Bond and Consent of Surety must be verifiable and in a digital format as defined by the Surety Association of Canada. Scanned copies, photocopies, and facsimiles, including those under seal, may result in the rejection of the Tender.**

## PART 6 BID RIGGING

- 6.1 The Tenderer’s attention is directed to the Competition Act which provides that bid-rigging as defined in the Act is an indictable offence punishable upon conviction by a fine or imprisonment or both.
- 6.2 The Tenderer shall not engage in collusion of any sort and shall ensure that no person or other legal entity, other than the bidder has an interest in the bidder’s tender and prepare the tender without any knowledge of, comparison of figures with, or arrangement with any other person or firm preparing a Tender for the same work.

## PART 7 SOLICITATION

- 7.1 The Tenderer may not make any representations or solicitations to any director, officer, or employee of the Regional District with respect to the Tender either before or after submission of the Tender except as provided herein. If any director, officer, employee, agent sub-contractor, supplier or other representative of the Tenderer communicates with any director, officer or employee of the Regional District or any consultant engaged by the Regional District in connection with this Invitation to Tender about this Invitation

to Tender, other than the person named under Part 2 – Pre-Tender Enquiries and Addenda, the Regional District shall have the unfettered right, regardless of the nature of the communication, to reject the Tender submitted by the Tenderer.

## **PART 8 CONDITIONS OF TENDER**

- 8.1 Tenders which contain qualifying conditions or otherwise fail to conform to the requirements of the Tender Documents may be disqualified or rejected.

## **PART 9 SUBMISSION OF TENDER**

- 9.1 All Tenders shall be signed by authorized officers.
- 9.2 It is solely the responsibility of the Tenderer to ensure that it has obtained, prior to the Tender Closing, all Addenda issued by the Regional District.
- 9.3 The Regional District may not accept an amendment to a previously submitted Tender unless:
- (1) it is in writing;
  - (2) it is electronically received via email prior to the Tender Closing with the email entitled: “24-028 Oceanside Place Arena 2024 Roofing Program—Tenderer’s Name”.
  - (3) it indicates a change to a Tender already submitted; and
  - (4) it is signed by the person or persons who signed the original Tender.
- 9.4 Tenderers shall be solely responsible for the completion and delivery of Tenders and any amendments in the manner and time specified. No extension of the Tender Closing will be given to accommodate Tenderers or amendments to Tenders that do not comply with the requirements of Section 00100.

## **PART 10 VARIATION TO TENDER DOCUMENT**

- 10.1 If the Tenderer wishes to propose any variations to the specifications and/or terms and conditions, it should submit the proposed variations to the contact person for enquiries as identified in Section 00100, Clause 3.1 at least ten (10) calendar Days before the Tender Closing, otherwise the variations may not be considered by the Regional District. The acceptability of any such variations will be at the Regional District’s sole and unfettered discretion.
- 10.2 Requested variations should be submitted in sufficient detail to facilitate evaluation by the Regional District.

- 10.3 Approved variations will be incorporated in the specifications and/or terms and conditions by the issuance of Addenda posted on the RDN website and BC Bid website.
- 10.4 If the Regional District stipulates a substantial completion date herein, and the Tenderer is unable to commit to this date, the Tenderer may submit a Tender Form stating the Tenderer's best possible completion. The acceptability of such completion date will be at the Regional District's sole and unfettered discretion and may be justification for rejecting the Tender.

## **PART 11 IRREVOCABILITY OF OFFER**

- 11.1 The Tender submitted by the Tenderer shall be irrevocable and remain open for acceptance by the Regional District for a period of 60 Days from the Tender Closing, whether another Tender has been accepted or not.
- 11.2 If a Tenderer, for any reason whatsoever, purports to revoke its Tender within 60 Days from the Tender Closing, or if for any reason whatsoever a successful Tenderer does not execute and deliver the Agreement, the Regional District, without limiting any other remedy it may have under the Tender Documents or otherwise, shall be entitled to:
- (1) exercise its rights under any Bid Bond and retain the amount payable to the Regional District under the Bid Bond as liquidated damages; or
  - (2) require the Tenderer to pay to the Regional District an amount equal to the difference between the Tender price of its Tender and any other Tender which is accepted by the Regional District, if such other Tender is for a greater price, plus the total of all costs, expenses, and damages, including legal fees on a solicitor and own client basis, incurred by the Regional District because of or related to such revocation or failure by the Tenderer.

## **PART 12 TENDER OPENING**

- 12.1 **Tenders will not be opened in public.** The Regional District of Nanaimo will endeavour to make available the unevaluated results of the Tender to Bidders by 10:00 a.m. the business day following the Tender Closing. The Regional District of Nanaimo wishes to thank all Tenderers for their effort in responding to this opportunity.

## **PART 13 ACCEPTANCE AND REJECTION OF TENDERS**

- 13.1 Notwithstanding any other provision in the Tender Documents, any practice or custom in the construction industry, or the procedures and guidelines recommended for use on publicly funded construction projects, the Regional District, in its sole discretion, shall have the unfettered right to:
- (1) accept any Tender;

- (2) reject any Tender;
  - (3) reject all Tenders;
  - (4) accept a Tender which is not the lowest Tender;
  - (5) reject a Tender even if it is the only Tender received by the Regional District;
  - (6) accept all or any part of a Tender; and
  - (7) award all or a portion of the Work to any Tenderer.
- 13.2 If a Tender contains a defect or fails in some way to comply with the requirements of the Tender Documents, which in the sole and unfettered discretion of the Regional District is not material, the Regional District may waive the defect and accept the Tender. Bids that are unsigned, improperly signed, conditional, illegible, obscure, contain erasures, alterations, irregularities or fail to include Bonding and Consent of Surety in the form requested may be rejected by the Regional District. The Regional District reserves the right to correct any mathematical extension errors.
- 13.3 Awards shall be made on Tenders that will, in the opinion of the Regional District, give the greatest value based on quality, service, price and time of completion. In determining what constitutes greatest value, the Regional District may consider its previous experience with the Tenderer. Without limiting the generality of the foregoing, the Regional District may consider: the quality of work; the timeliness of completion; the number, scope, and reasonableness of requested change orders; public impact; compliance with applicable health, safety, labour, and environmental laws; environmental and social practices; and the number and reasonableness of any claims. The Regional District's previous experience with the Tenderer regarding its competence and cooperation may also be taken into consideration in determining greatest value. The Regional District reserves the right to rely upon its records, references, and recollections in this regard. The Regional District may also obtain references other than those provided by the Tenderer and may use these references in determining greatest value.
- 13.4 The Regional District, in its sole discretion, reserves the right to reject the Tender in the event the Regional District determines, acting reasonably on the information available to it, that the Tenderer is in material non-compliance with, or has been convicted of a material offence or violation of, health, safety, labour or environmental laws. The Regional District's judgment in this regard will be final.
- 13.5 The Regional District will notify the successful Tenderer in writing that its Tender has been accepted (the "Notice of Intent to Award").
- 13.6 No information about an award of a contract will be given out between the time of opening and the time an award has been made.

**PART 14 SUCCESSFUL TENDERER REQUIREMENTS:**

- 14.1 The successful Tenderer should execute and deliver the Agreement to the Regional District within seven (7) business days after it has received the Agreement from the Regional District such time limit being extended only with the written approval of the Regional District.
- 14.2 The successful Tenderer should submit to the Regional District of Nanaimo the following original documentation (facsimile or photocopy copies not acceptable) within seven (7) business days of the notification of the successful Tender:
- (1) Original Performance Bond and Labour and Material Payment Bond (the "Bonds") each of which shall equal fifty percent (50%) of the Total Contract Price, issued by a Surety licensed to transact the business of suretyship in the Province of British Columbia, in favour of the Regional District, signed and sealed by the successful Tenderer and the Tenderer's Surety. The form of Performance Bond and Labour and Material Payment Bond can be original in paper or digital. The Performance Bond shall encompass the Warranty and Guarantee period and shall, in any event, be in effect for no less than two (2) years from the date of issuance of the Notice of Acceptance.
  - (2) A Comprehensive/Commercial General Liability insurance certificate with limits of not less than \$10,000,00 per occurrence, an aggregate limit of not less than \$10,000,000 within any policy year with respect to completed operations, and a deductible not exceeding \$10,000. The Regional District of Nanaimo and Consultant are to be named as additionally insured on the certificate.
  - (3) A Workers' Compensation Board Clearance Letter of Clearance indicating good standing and remittance up to date.
- 14.3 The successful Tenderer shall not commence the Work until it has received a Notice to Proceed issued by the Regional District.

**PART 15 AWARD OF CONTRACT**

- 15.1 All contracts require the approval of the appropriate Regional District authority prior to award. Where a contract requires the approval of the Regional District's Board prior to award, the total price of any Tender and the reason for selecting the successful Tenderer may be released at a regular meeting of the Regional District's Board or a Committee of the Board.
- 15.2 Notwithstanding Clause 17.1(4) below, the Regional District reserves the right to release to the public the total price of any Tender, regardless of whether it was identified by the Tenderer as confidential. By submitting a Tender, each Tenderer consents to the release of the total price and, where applicable, information disclosable under the Act that is

relevant to the selection of the successful Tenderer, to provide transparency in relation to expenditures of this type.

## **PART 16 FORM OF CONTRACT**

16.1 The successful contractor will be expected to enter a CCDC2-2020 Stipulated Price Contract as amended herein by the “Supplementary General Conditions” section 00500.

## **PART 17 CONFIDENTIALITY AND SECURITY**

17.1 The following conditions apply:

- (1) The Tender Documents, or any portion thereof, may not be used for any purpose other than submission of Tenders; and
- (2) The successful Tenderer must agree not to divulge or release any information that has been given to it or acquired by it on a confidential basis while carrying out the Work or performing its services.
- (3) It is the Regional District’s policy to maintain confidentiality with respect to all confidential information related to the Tender, but the Tenderer acknowledges and agrees that the Tender becomes the property of the Regional District and any confidential information disclosed by it to the Regional District may be subject to a request for public disclosure under *the Freedom of Information and Protection of Privacy Act, R.S.B.C. 1996, c.165*, as amended from time to time (in this Clause and Clause 17.2, the “Act”).
- (4) The Tenderer acknowledges that the Act provides an exemption from disclosure for information as specified in Section 21 of the Act. Accordingly, if any information supplied to the Regional District fits within Section 21 of the Act, the Tenderer must specifically advise the Regional District and request the Regional District not to disclose that information, however confidentiality cannot be guaranteed. The successful contractor and award value is routinely released.

## **PART 18 DISCLAIMERS/LIMITATIONS OF LIABILITY**

18.1 Neither acceptance of a Tender nor execution of an Agreement shall constitute approval of any activity or development contemplated in any Tender that requires any approval, permit, or license pursuant to any federal, provincial, regional district or municipal statute, regulation, or bylaw. It is the responsibility of the Contractor to obtain such prior commencement of the Work.

18.2 The Regional District, its directors, officers, servants, employees, agents, and consultants expressly disclaim all liability for representations, warranties, express or implied or contained in, or for omissions from this Tender or any written or oral

information transmitted or made available at any time to a Tenderer by or on behalf of the Regional District. Nothing in this Tender is intended to relieve a Tenderer from forming its own opinions and conclusions in respect of this Tender.

- 18.3 Except as expressly and specifically permitted in these Instructions to Tenderers, no Tenderer shall have any claim for any compensation of any kind whatsoever, because of participating in this Invitation to Tender, and by submitting a Tender each Tenderer shall be deemed to have agreed that it has no claim.

## **PART 19 SUSTAINABLE PURCHASING PRACTICES**

- 19.1 It is the Regional District's policy to ensure that procurement decisions for the supply of goods, services and construction consider economic considerations, as well as the Tenderer's environmental and social practices. The Regional District expects that each Tenderer has and will comply with internationally recognized labour conventions and recommendations of the International Labour Organization (ILO), of which Canada is a member, and any applicable legislation pertaining to workplace safety, health, labour and employment, human rights, and the environment. In Canada this includes but is not limited to the latest editions of the following: *Corruption of Foreign Public Officials Act* (Canada), *Human Rights Code* (BC), *Employment Standards Act*, *Workers Compensation Act* (BC), *Canadian Environmental Protection Act*, *Fisheries Act* (Canada), *Transportation of Dangerous Goods Act* (BC), *Transportation of Dangerous Goods Act*, (Canada), *Environmental Management Act* (BC).

## **PART 20 PRIME CONTRACTOR**

- 20.1 The successful Contractor shall be deemed to be the Prime Contractor within the meaning of Part 3, Division 3, Section 118(1) of the Workers Compensation Act. The successful Contractor must be qualified and willing to assume this responsibility.

## **PART 21 HOURS OF WORK**

- 21.1 The hours of work shall be at the discretion of the Owner, and in accordance with the local bylaws.

## **PART 22 CONFLICT OF INTEREST**

- 22.1 The Tenderer declares that it has no financial interest, directly or indirectly in the business of any third party that would be or be seen to be a conflict of interest in carrying out the services. It warrants that neither it nor any of its officers or directors, or any employee with authority to bind the Bidder, has any financial or personal relationship or affiliation with any elected official or employee of the Regional District or their immediate families which might in any way be seen by the Regional District to create a conflict.

**PART 23 LITIGATION CLAUSE**

23.1 The RDN may, in its absolute discretion, reject a Tender, if the Tenderer, or any officer or director of the Tenderer is or has been engaged either directly or indirectly through another corporation in legal action against the RDN, its elected or appointed officers and employees in relation to:

- (a) any other contract for works or services; or
- (b) any matter arising from the RDN's exercise of its powers, duties, or functions under the Local Government Act, Community Charter, or another enactment within five years of the date of this Bid Call.

In determining whether to reject a Tender under this clause, the RDN will consider whether the litigation is likely to affect the Tenderer's ability to work with the RDN, its consultants and representatives and whether the RDN's experience with the Tenderer indicates that the RDN is likely to incur increased staff and legal costs in the administration of this Contract if it is awarded to the Tenderer.

**END OF SECTION**

**PART 1 TENDERER'S NAME**

This Tender for Tender No. 24-028 Oceanside Place Arena 2024 Roofing Program, is hereby submitted by:

\_\_\_\_\_  
Company Name of Tenderer (please print)

\_\_\_\_\_  
Address of Tenderer

\_\_\_\_\_  
Telephone Number of Tenderer

\_\_\_\_\_  
Email Address of Tenderer

\_\_\_\_\_  
GST Registration Number

\_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Print Name

(the "Tenderer")

**Email Tender Form, Verifiable Digital Bid Bond and Verifiable Digital Consent of Surety to John Marcellus, Superintendent, Arena Services at [JMarcellus@rdn.bc.ca](mailto:JMarcellus@rdn.bc.ca)**

**PART 2 TENDER DOCUMENTS**

2.1 The Tender Documents for this Contract include the following:

- (1) All documents listed in Section 00001, Table of Contents
- (2) Issued Addenda

**PART 3 TENDERER'S DECLARATIONS**

3.1 The Tenderer declares that it has read and understood and agrees to be bound by the Tender Documents.

- 3.2 The Tenderer declares that it has fulfilled and complied with all those obligations and requirements under the Tender Documents which are required to be fulfilled by the Tender Closing.
- 3.3 The Tenderer confirms, represents, and warrants that all information which it has provided or will provide to the Regional District is true and accurate in every respect.
- 3.4 If the Tender is accepted by the Regional District, the Tenderer shall commence the Work within 7 calendar Days of issuance of Notice to Proceed from the Regional District, unless the Notice to Proceed states otherwise. The Tenderer agrees to substantially complete the work by August 16, 2024.
- 3.5 The Tenderer agrees to be designated to be the Prime Contractor within the meaning of Part 3, Division 3, Section 118(1) of the Workers Compensation Act and is qualified and willing to assume this responsibility.
- 3.6 The Tenderer agrees it is a current member of the Canadian Roofing Contractor Association (CRCA).
- 3.7 The Tenderer agrees to comply with all applicable laws, bylaws, codes, and regulations of the authorities having jurisdiction during the performance of the Work of the Contract.
- 3.8 The Tenderer declares they are competent, experienced, and qualified to perform all the Work of the Contract in accordance with the Bid Documents, Specifications, and Drawings.
- 3.9 The Tenderer declares this bid is based upon and includes performance of all the Work of the Contract in complete accordance with the Bid Documents, Specifications, and Drawings without exception.
- 4.0 The Tenderer declares this bid price includes all our costs and obligations stemming from the complete performance of all of the Work of the Contract, according to the Bid Documents, Specifications, and Drawings.
- 4.1 The Tenderer acknowledges and agrees the Regional District reserves the right to reject any or all tenders, and to accept the tender deemed most favourable in the interests of the Regional District. The lowest or any tender may not be accepted.
- 4.2 Tenders shall be open to acceptance by the Regional District for a period of sixty (60) days from the time and date of the bid closing. All prices are in Canadian currency.
- 4.4 The Tenderer hereby submits a lump sum price as required by the specifications and agrees that this price will be used for payment of work through approved Progress

Payments. Any Extra Work will require a change order procedure. The Tenderer agrees that the prices quoted shall remain in force until the date of completion of the Contract.

4.5 The Tenderer confirms that the Tender Price includes all necessary costs including but not limited to supply, fabrication and finishing, conveyance and delivery to Site, packing, crating, freight, cartage, shipping charges, off-loading, installation, construction, drafting charges, labour, overhead, profit, etc. and all tariffs, duties and taxes unless otherwise indicated, including British Columbia Provincial Sales Tax. The applicable Federal Goods and Services Tax (GST) shall be shown as a separate item to the Tender Price.

4.6 The Tenderer agrees that the progress of the Work will be measured by the Regional District or its authorized representative, whose decision will be final.

**A. STIPULATED LUMP SUM PRICING**

DESCRIPTION	PRICE (\$)
<b>ROOF SECTIONS 1, 2.1, 3, &amp; 4</b>	
GOODS AND SERVICES TAX @ 5%	
<b>TOTAL PRICE</b>	

The TENDER PRICE stated above will be used to compare submitted Tenders and to establish low bidder. The Regional District reserves the right to check the above extensions and additions and to make corrections as necessary. In the event a correction is made by the Regional District the corrected figure shall prevail and be used as the Tender Price in the Tenderer's Offer.

**B. SEPARATE ADD ON PRICING (At the Regional District's sole discretion to accept or not)**

DESCRIPTION	PRICE (\$)
<b>ROOF SECTION 2</b>	
GOODS AND SERVICES TAX @ 5%	
<b>TOTAL PRICE</b>	

**C. BUDGET PRICING ROOF SECTION 5**

DESCRIPTION	PRICE (\$)
<b>ROOF SECTION 5 BASE SCOPE</b>	
<b>2.5" PolyISO Wet Insulation Allowance (5% of Roof Area)</b>	
<b>Ballast Replacement Cost</b>	
GOODS AND SERVICES TAX @ 5%	
TOTAL PRICE	

**HOURLY & UNIT RATES**

If chargeable additional work is authorized by the Regional District, the following rates shall apply:

Supervisor                      \$\_\_\_\_\_ per hour

Qualified Tradesperson      \$\_\_\_\_\_ per hour

Labourer                        \$\_\_\_\_\_ per hour

**COMPLETION**

All work as specified will be 100% complete by no later than \_\_\_\_\_

The successful contractor shall have in force a Comprehensive General Liability insurance policy with a limit of minimum **TEN MILLION CANADIAN DOLLARS**, provided by a credible insurance provider with the Regional District of Nanaimo and the Consultant named as additionally insured on the certificate.

**1.6 WORKSAFE BC (WSBC) ACCOUNT**

- .1 The successful contractor shall have an account in good standing with WorkSafeBC (WSBC).
- .2 A Clearance Letter from the WSBC shall be submitted prior to the Owner's entering into a contract agreement, and upon request for the duration of the project.

**1.7 FORM OF CONTRACT**

- .1 The form of contract shall be Canadian Construction Documents Committee CCDC 2 (2020) Stipulated Price Contract as amended by the Supplementary General Conditions.

**1.8 DOCUMENT PRECEDENCE**

- .1 The precedence of documents shall be as follows:
  - .1 Contract Agreement
  - .2 Supplementary General Conditions
  - .3 Executed Tender Form
  - .4 Most recent Addendum followed by other Addenda, the more recent taking precedence over earlier Addenda
  - .5 Specifications
  - .6 Drawings
  - .7 Tender Documents

**Part 2 SAFETY**

**2.1 PRIME CONTRACTOR**

- .1 The successful Contractor must be qualified and willing to be designated as the Prime Contractor and shall fulfill the Prime Contractor responsibilities as defined in:
  - a) WorkSafeBC Occupational Health and Safety Regulation, Notice of Project, Section 20.2, and Coordination of multiple employer workplaces, Section 20.3.
  - b) Workers Compensation Act (BC), Coordination at multiple-employer workplaces, Section 118, Subsections (1) & (2); and
  - c) General Requirements, Section 3.10 WorkSafe BC.

The successful Contractor shall submit formal acceptance of that role in writing.

- .2 The Work Site shall be defined as the roof, and the areas on the ground which are within the Prime Contractor's control and affected by the Work.
- .3 The Prime Contractor shall be solely responsible for defining, identifying, limiting access to, or otherwise controlling the Work Site.

- .4 The Prime Contractor shall be solely responsible for the safety of all persons on the Work Site.
- .5 The Prime Contractor shall dictate the rules and policies regarding safety on the Work Site.
- .6 All persons on the Work Site shall report to and comply with the requirements of the Prime Contractor.
- .7 The Prime Contractor shall be solely responsible for enforcing the requirements of the Occupational Health and Safety Act on the Work Site.

## **2.2 WIND**

- .1 The Contractor shall be solely responsible for securing all object on the Work Site from blowing in wind.
- .2 At all times, the Contractor shall prevent all objects on the Work Site from moving out of control due to wind.

## **2.3 OVERLOADING**

- .1 The Contractor shall be solely responsible for not overloading any part of the structure.
- .2 Do not place materials, equipment, or other objects on top of the structure in excess of the structure's capacity to bear the load.
- .3 Accept responsibility for any damages resulting from overloading the structure.

## **2.4 WORKER QUALIFICATIONS**

- .1 Every installation will have a minimum on one journeyman on site at all times.

# **Part 3 ADMINISTRATIVE REQUIREMENTS**

## **3.1 PERMITS**

- .1 The contractor shall apply for and obtain any permits required from the authority having jurisdiction. The cost of any required permits shall be included in the contract price.

## **3.2 HOURS OF WORK**

- .1 The hours of work shall be at the discretion of the Owner, and in accordance with the local bylaws.

## **3.3 INVOICING**

- .1 See CCDC2 Contract and Supplementary General Conditions.

## **3.4 LIEN HOLD BACK**

- .1 Ten per cent (10%) Builders Lien Holdback shall be deducted from each progress invoice.

- .2 Fifty-five (55) days after the date of receipt of the written declaration of Substantial Performance, and if the declaration of Substantial Performance is not disputed, the contractor may submit an invoice for the amount of the Builders Lien Holdback withheld to that date.

### **3.5 PAYMENT**

- .1 See CCDC2 Contract and Supplementary General Conditions.

## **Part 4 EXTRAS**

### **4.1 UNFORESEEN CONDITIONS**

- .1 See CCDC2 Contract and Supplementary General Conditions.

### **4.2 CONTRACTOR PROPOSED CHANGES**

- .1 See CCDC2 Contract and Supplementary General Conditions.

### **4.3 CONTEMPLATED CHANGE NOTICES**

- .1 See CCDC2 Contract and Supplementary General Conditions.

### **4.4 CHANGE ORDERS**

- .1 See CCDC2 Contract and Supplementary General Conditions.

### **4.5 TIME AND MATERIALS WORK**

- .1 See CCDC2 Contract and Supplementary General Conditions.

## **Part 5 USE OF THE PREMISES**

### **5.1 WORKER CONDUCT**

- .1 Workers are strictly forbidden from attending the property while under the influence of alcohol, cannabis, or other intoxicating drugs. Possession, use, or consumption of alcohol, cannabis, or other intoxicating drugs on the property is strictly forbidden.
- .2 Smoking and vaping are not permitted on the property. Workers wishing to smoke or vape must do so off of the property.
- .3 Workers shall be required to refrain from using loud and profane language. Music at a lower volume is permitted.
- .4 Clothing bearing offensive images or text are not permitted on the property. At the discretion of the Owner's Representative, workers shall, upon request, remove objectionable clothing.

**5.2 FENCING**

- .1 The contractor shall erect a temporary fence to enclose and limit access by the public to all areas on the ground adjacent to the building and below the work site on the roof.
- .2 Placement of the fence shall be at the discretion of the Owner's Representative. Coordinate the placement of the fence with the Owner's Representative.

**5.3 PROTECTION OF PROPERTY**

- .1 Protect property, including but not limited to sidewalks and curbs, landscaping, windows, and building exterior finishes, from damage during the performance of the work.
- .2 Repair any damages caused as a result of the performance of the work to the acceptance of the Owner's Representative.

**5.4 PARKING**

- .1 At the discretion of the Owner, trucks, trailers, and equipment may be parked on the property as may be necessary for the performance of the work. Obtain permission from the Owner's Representative for all parking on the property.
- .2 Worker's personal and work vehicles are to be arranged in conjunction with the owner.

**5.5 SANITARY FACILITY**

- .1 Workers may not use the facilities inside the building.
- .2 The Contractor shall provide a suitable temporary sanitary facility for the use of the workers and maintain in a clean condition.

**5.6 SECURITY**

- .1 The Contractor shall be solely responsible for securing all object on the Work Site from blowing in wind. At all times, the Contractor shall prevent all objects on the Work Site from moving out of control due to wind.
- .2 The Contractor shall be solely responsible for the security of the Work Site while it is under his control, and for the security of his property. The contractor leaves his property on the Owner's property at his own peril, including but not limited to vehicles, tools, equipment, and construction materials.
- .3 The Contractor accepts that the Owner shall not be liable for any loss of or damage to the Contractor's property from any cause, including but not limited to theft, vandalism, fire, lightning, or weather event.

**5.7 ACCESS TO THE ROOF**

- .1 Access to the roof shall be by exterior temporary ladder, which shall be supplied by and shall be the sole responsibility of the Contractor.

- .2 Workers shall not be permitted to enter the building except for specifically necessary tasks related to the performance of the work. Prior to entering the building, workers shall obtain permission from the Owner's Representative, and comply with the Owner's instructions.

## **Part 6 CONSTRUCTION REQUIREMENTS**

### **6.1 EQUIPMENT**

- .1 The Contractor shall supply all required ladders, hoists, tools, power cords, generators, and equipment to perform and execute the work of the contract.

### **6.2 ELECTRICITY**

- .1 The Contractor shall use his own portable generators and fuel to produce all electricity required for the performance of the work.

### **6.3 WATER**

- .1 Water to be supplied by owner.

### **6.4 WASTE MANAGEMENT**

- .1 The Contractor shall remove all demolished materials, packaging, and other waste from the site and dispose of in accordance with the requirements of the authority having jurisdiction.
- .2 The cost of all waste disposal shall be included in the Bid Price.

### **6.5 QUALITY CONTROL**

- .1 The Consultant shall conduct periodic visual reviews of the work. Correct any deficiencies identified by the Consultant. Costs are covered by Owner.
- .2 The Contractor shall be solely responsible for ensuring that the finished construction conforms to the specifications, drawings, and the referenced standards.
- .3 Construction which does not conform to the specifications, drawings, and the referenced standards shall be deemed to be deficient. Deficient construction shall be promptly corrected by the Contractor. No claims for extras shall be considered for correction of deficient work. Payment shall not be authorized for deficient construction.

### **6.6 PROGRESS CLEANING**

- .1 Contain waste and debris.
- .2 Maintain the work site is a neat and tidy condition acceptable to the Owner.

### **6.7 FINAL CLEANING**

- .1 Remove all equipment, waste, and debris from the site.
- .2 Clean any surfaces or property which were marred during the performance of the work.
- .3 Leave the site in a condition acceptable to the Owner.

**END OF SECTION**

## 1.1 PREREQUISITES

- .1 Examine the site. Verify existing conditions. Accept the specifications and drawings. Notify the Consultant of any discrepancies, or concerns with the design.
- .2 Accept the role of Prime Contractor for the Work Site for the purposes of the Occupational Health and Safety Act.
- .3 Closely co-ordinate with the Owner's Representative and the Consultant throughout the duration of the project.

## 1.2 SCHEDULE

- .1 Commence the work by **As Soon as Possible**. Some mobilization or preparatory work may commence prior to that date at the sole discretion of the Owner. For any work prior to that date, request permission and closely co-ordinate with the Owner's Representative.
- .2 **Mobilize, deliver all required materials, and commence the work As Early As Possible.**
- .3 Complete the membrane roofing system application and demobilize from the site by **August 16<sup>th</sup>, 2024**. If this condition is not met, then the Owner may submit in writing to the Contractor's surety provider that unsatisfactory progress in being made.
- .4 Minor detail work and metal flashing installation may continue after **August 16<sup>th</sup>, 2024**, at the sole discretion of the Owner. For any work after that date, request permission and closely co-ordinate with the Owner's Representative.

## 1.3 EXTENT OF WORK

- .1 **Base Bid:** Upgrade the roofing membrane surface on **Roof Sections 1, 2.1, 3, & 4** in accordance with these specifications and drawings.
- .2 **Separate Add On Price:** Upgrade the roofing membrane surface on **Roof Section 2** in accordance with these specifications and drawings.
- .3 **Budget Price:** Replace the roofing membrane on **Roof Section 5** in accordance with these specifications and drawings.
  - .1 Include an allowance for replacing anticipated wet 2.5" PolyISO insulation (5% of roof area).
  - .2 Provide an additional cost for new ballast if the existing ballast is deemed to not be re-usable.

**1.4 SCOPE OF WORK**

- .1 Remove the existing roofing systems on the specified roof sections in accordance with these specifications. Refer to Section 02 41 19 Selective Demolition.
- .2 **Roof Sections 1, 2, 2.1, 3, & 4** – Apply liquid applied roofing systems in accordance with Liquid Applied Membrane Section 07 01 50 and in accordance with the drawings.
- .3 **Roof Section 5** – Apply single ply membrane roofing systems in accordance with Single Ply Roofing Section 07 54 19 and in accordance with the drawings.
- .4 Supply and install all metal flashings related to the membrane roofing in accordance with Sheet Metal Flashings Section 07 62 00 and accordance with the drawings.
- .5 Supply and install new sheet metal specialties. Refer to Sheet Metal Roof Specialties Section 07 63 00.
- .6 Replace the roof drains, complete with drain piping. Refer to Mechanical Section 23 05 00.
- .7 Temporarily remove all roof mounted equipment as required to complete re-roofing, and re-install afterwards. Refer to Mechanical Requirements Section 23 05 00 and Electrical Requirements Section 26 05 00.
- .8 Roof Sections 1, 2, 2.1, 3, & 4 - Provide a **25 Year Manufacturer Membrane Warranty.**
- .9 Roof Section 5 - Provide a **30 Year Manufacturer Membrane Warranty.**

**END OF SECTION**

**Part 1            General**

**1.1                REGULATORY REQUIREMENTS**

- .1      Conform to applicable code for demolition work, dust control, products requiring electrical disconnection and reconnection.
- .2      Obtain required permits from authorities.
- .3      Do not close or obstruct egress width to any building or site exit.
- .4      Do not disable or disrupt building fire or life safety systems without prior written approval from the Owner.
- .5      Conform to applicable regulatory procedures when discovering hazardous or contaminated materials.

**1.2                PROJECT CONDITIONS**

- .1      Conduct demolition to minimize interference with adjacent and occupied building areas.
- .2      Cease operations immediately if structure appears to be in danger and notify Consultant. Do not resume operations until directed.

**Part 2            Products**

**2.1                MATERIALS**

- .1      No materials included.
- .2      The composition of the existing roofing systems are as follows.
  - .1      Roof Sections 1, 2, 2.1, 3 & 4:**
    - .1      2 Ply SBS Membrane
    - .2      ½" Fibreboard
    - .3      PolyISO Insulation mechanically fastened.
    - .4      Vapour Retarder
    - .5      Steel Deck
  - .2      Roof Section 5:**
    - .1      Gravel Ballast
    - .2      EPDM Membrane
    - .3      2.5" PolyISO Insulation
    - .4      Poly Vapour Retarder
    - .5      Metal Deck

**Part 3            Execution**

**3.1                PREPARATION**

- .1      Edit the following as required; be specific when project conditions warrant.  
Reference a Division 1 section for temporary partition construction.
- .2      Protect existing materials which are not to be demolished.
- .3      Notify affected utility companies before starting work and comply with their requirements.
- .4      Mark location and termination of utilities.

**3.2                DEMOLITION**

- .1      Demolish in an orderly and careful manner.
- .2      Protect and do not damage, mar, or deface existing building elements which are to remain in place.
- .3      Remove all sheet metal flashings.
- .4      **Roof Section 2.1 Repair:** remove membrane system and insulation to sump a 3' x 3' area in the centre of the east perimeter to install a new 3-sided scupper.
- .5      Remove ballast and EPDM membrane **(Roof Section 5 only)** to expose the insulation.
- .6      Remove demolished materials from site except where specifically noted otherwise. Dispose of in accordance with the requirements of the authority having jurisdiction.
- .7      Do not burn or bury materials on site.
- .8      Remove materials as Work progresses. Upon completion of Work, leave areas in clean condition.

**END OF SECTION**

**Part 1            General**

**1.1                REFERENCES**

- .1        BC Building Code, current edition.
- .2        National Lumber Grades Authority- Standard Grading Rules for Canadian Lumber.
- .3        CRCA – Roofing Systems Application Standards.

**1.2                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.

**1.3                DELIVERY, STORAGE AND HANDLING**

- .1        Storage and Handling Requirements:
  - .1        Store materials off ground; keep clean and dry.
  - .2        Store and protect wood from moisture, mud, or other defects.
  - .3        Replace defective or damaged materials with new.

**1.4                REFERENCE STANDARDS**

- .1        Lumber: softwood, S4S, moisture content 19% (S-dry) or less in accordance with CSA 0141 and NLGA Standard Grading Rules for Canadian Lumber.
- .2        Canadian softwood plywood (CSP): to CSA 0151, standard construction.

**Part 2            Products**

**2.1                WOOD PRODUCTS**

- .1        Spruce lumber, 1.5" thick.
  - .1        Finger jointed lumber shall not be accepted.
- .2        Sheathing: Plywood, 1/2" thick.
  - .1        Oriented Strand Board (OSB) shall not be accepted.

## **2.2 FASTENERS**

- .1 Fasteners for lumber:
  - .1 Phosphorous coated nails, 3"
  - .2 No. 8 x 3" wood screws.
  - .3 On concrete or masonry: Minimum ¼" x 2.5" hit pin anchors.
- .2 Fasteners for sheathing:
  - .1 Phosphorous coated nails, 2"
  - .2 No. 8 x 1.25" wood screws.
  - .3 To concrete or masonry: Min. ¼" x 1.25" hit pin anchors.
- .3 **Staples shall not be accepted.**

## **2.3 INSULATION**

- .1 Rockwool insulation.

## **Part 3 Execution**

### **3.1 EXAMINATION**

- .1 Verification of Conditions: verify that conditions of substrates are acceptable for product installation in accordance with manufacturer's written instructions.
  - .1 Visually inspect substrate.
  - .2 Inform Consultant of unacceptable conditions immediately upon discovery.
  - .3 Proceed with installation only after unacceptable conditions have been remedied and reviewed by the Consultant.
  - .4 Proceeding with work indicates acceptance of existing conditions.

### **3.2 CARPENTRY IN CONNECTION WITH ROOFING**

- .1 Build up parapets, area dividers, building expansion joints, curbed penetrations, and other projections to the required heights using plies of dimensional lumber.
  - .1 Apply lumber straight, flush, and true.
  - .2 Apply lumber of the same width as the top of the parapet, curb, etc. that it is being applied on top of.
  - .3 Apply lumber continuously. Tightly abut end joints.
  - .4 Fasten each ply of lumber with 3" nails at maximum 12" on center, between 1" and 1.5" of the sides of the lumber plies, staggered from side to side.
- .2 Line the vertical faces of parapets, area dividers, building expansion joints, curbed penetrations and roof to wall connections with the specified sheathing.
- .3 At roof to wall connections, bevel the top edges of the sheathing.

- .4 Remove any existing gum box penetrations and construct new wooden curbs, anchored to the roof deck.
- .5 Build curbs at other penetrations where noted on the drawings.
- .6 Install wooden elements as required to construct the details in accordance with the intent of the detail drawings.

### **3.3 PROTECTION**

- .1 Protect installed products and components from damage during construction.
- .2 Protect installed products and components from moisture immediately after installation.
- .3 Repair damage to adjacent materials caused by rough carpentry installation.

**END OF SECTION**

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**Part 1            General**

**1.1            SECTION INCLUDES**

- .1      Roof re-coating preparation.
- .2      Application of fluid-applied roof membrane and flashings over existing modified bituminous membrane roofing.

**1.2            REFERENCE STANDARDS**

- .1      Canadian Roofing Contractors Association - Roofing Systems Application Standards Manual.

**1.3            FIELD CONDITIONS**

- .1      Weather Limitations: Proceed with rehabilitation work only when existing and forecasted weather conditions permit Work to proceed without water entering existing roofing systems or the building.
  - .1          Store all materials prior to application at temperatures recommended by manufacturer.
  - .2          Apply coatings within range of ambient and substrate temperatures recommended by manufacturer.
  - .3          Do not apply roofing in snow, rain, fog, or mist.
- .2      Protect building to be rehabilitated, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from rehabilitation operations.

Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.
- .3      Daily Protection: Coordinate installation of roofing so insulation and other components of roofing system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.
- .4      Owner will occupy portions of building immediately below re-coating area. Conduct re-coating so Owner's operations will not be disrupted. Provide Owner with not less than 72 hours' notice of activities that may affect Owner's operations.

**1.4            WARRANTY**

- .1      Manufacturer's Warranty: Roof System Manufacturer's standard form in which Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within warranty period, as follows.
  - .1          Form of Warranty: Manufacturer's standard warranty form.

- .2 Scope of Warranty: Work of this Section and including sheet metal details and termination details installed by the roof system Installer and approved by the Roof System Manufacturer.
- .3 Warranty Period: 25 years from date of completion.
- .2 Manufacturer Inspection Services: By manufacturer's technical representative, to report maintenance responsibilities to Owner necessary for preservation of Owner's warranty rights. The cost of manufacturer's inspections is included in the material costs.
  - .1 Inspections to occur in following years: 2, 5, 10, 15 and 20 following completion. (Included in material costs)
- .3 Installer Warranty: Installer's warranty signed by Installer, as follows.
  - .1 Form of Warranty: Form included in Project Manual.
  - .2 Scope of Warranty: Work of this Section.
  - .3 Warranty Period: 2 years from date of completion.

## **1.5 QUALITY ASSURANCE**

- .1 Installer Qualifications: Company specializing in performing the work of this section and approved by the manufacturer.

## **1.6 REGULATORY REQUIREMENTS**

- .1 Conform to the BC Building Code where applicable.

## **1.7 DELIVERY, STORAGE, AND HANDLING**

- .1 Deliver products in manufacturer's original containers, dry, undamaged, seals and labels intact.
- .2 Store products in weather protected environment, clear of ground and moisture.

## **Part 2 PRODUCTS**

### **2.1 MANUFACTURERS**

- .1 Basis of Design: The roof system specified in this Section is based upon products of Tremco Canada Division, RPM Canada, Toronto, ON (800) 668-9879, [www.tremcoroofing.com](http://www.tremcoroofing.com) that are named in other Part 2 articles. Provide specified products.
  - .1 Tremco.
  - .2 Manufacturers of comparable products: Approved by Owner, or Owner's Consultant. Requests must be received at least 10 calendar days prior to the closing.

- .2 Source Limitations: Obtain components for roofing system from same manufacturer as membrane roofing or manufacturer approved by membrane roofing manufacturer.

## **2.2 PERFORMANCE REQUIREMENTS**

- .1 General Performance: Rehabilitated roofing shall withstand exposure to weather without failure or leaks due to defective manufacture or installation.
  - .1 Accelerated Weathering: Roofing system shall withstand 5000 hours of exposure when tested according to ASTM G152, ASTM G154, or ASTM G155.
- .2 Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.
- .3 Exterior Fire-Test Exposure: Roofing system exterior fire-test exposure performance following application of rehabilitation coating shall not be less than that of the pre-rehabilitated roof performance when tested in accordance with CAN/ULC-S107, based upon manufacturer's tests of identical applications.
- .4 Energy Performance: Provide roof coating with an initial solar reflectance index not less than 78 when calculated according to ASTM E1980, based upon testing of identical products by a qualified testing agency.
- .5 Energy Performance: Provide rehabilitated roofing according to one of the following when tested according to CRRC-1:
  - .1 Three-year, aged solar reflectance of not less than 0.55 and emissivity of not less than 0.75.
- .6 Three-year, aged solar reflectance index of not less than 64 when calculated according to ASTM E1980.

## **2.3 MATERIALS**

- .1 General: Re-coating materials recommended by roofing system manufacturer for intended use and compatible with components of existing membrane roofing system.
- .2 Infill Materials: Where required to replace test cores and to patch existing roofing, use infill materials matching existing membrane roofing system materials, unless otherwise indicated.
- .3 Temporary Roof Drainage: Design and selection of materials for temporary roof drainage are the responsibilities of the Contractor.

## **2.4 FLUID-APPLIED MEMBRANE (MTS) – ROOF SECTIONS 1, 2, 2.1, 3, & 4**

- .1 Polyurethane Elastomeric Fluid-Applied System: Two-coat fluid-applied roofing membrane formulated for application over prepared existing roofing substrate.
  - .1 Polyurethane Roof Coating System Base Coat: Single-part moisture-curing, for use with a compatible topcoat.
  - .2 Basis of design products:
    - .1 Tremco, **AlphaGuard MTS Base Coat.**
      - .1 Minimum Thickness, Base Coat on Granular MB: 1.62 mm (64 mils.) wet.
    - .2 Tremco, **AlphaGuard MT Topcoat.**
    - .3 Minimum Thickness: 0.81 mm (32 mils) wet over cured base coat.
    - .4 Minimum Thickness, Slip-Resistant Coat: 0.50 mm (20 mils) wet.
    - .5 Colour: White.
    - .6 Primers: **GEO Guard Primer**
  - .3 Fluid-Applied Membrane Reinforcing Fabric:
    - .1 Polyester Reinforcing and Protection Fabric: 100 percent stitch-bonded mildew-resistant polyester fabric intended for reinforcement of compatible fluid-applied membranes and flashings and as a protection layer under pavers or stone aggregates.
      - .1 Basis of design:
        - .1 Tremco, **Permafab.**

## **2.5 AUXILIARY MATERIALS**

- .1 General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with existing roofing system and fluid-applied roofing system.
- .2 Seam Sealer: Waterproof seam and patching material compatible with applied coating.
  - .1 Joint Sealant, Polyurethane: ASTM C920, Type S, Grade NS, Class 50 single-component moisture curing sealant, formulated for compatibility and use in dynamic and static joints; paintable.
    - .1 Basis of design product:
      - .1 Tremco, **TremSEAL Pro.**
      - .2 Colour: Aluminum Stone.
- .3 Seam and Detail Reinforcing Fabric:

- .4 Joint Sealant: Elastomeric joint sealant compatible with applied coating, with movement capability appropriate for application.
  - .1 Joint Sealant, Polyurethane: ASTM C920, Type S, Grade NS, Class 50 single-component moisture curing sealant, formulated for compatibility and use in dynamic and static joints; paintable.
    - .1 Basis of design product:
      - .1 Tremco, **TremSEAL Pro.**
      - .2 Colour: Closest match to substrate.
- .5 Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FM 4470; designed for fastening roofing membrane components to substrate; tested by manufacturer for required pullout strength; and acceptable to roofing system manufacturer.
- .6 Miscellaneous Accessories: Provide miscellaneous accessories recommended by roofing system manufacturer.
- .7 Granules for Liquid Top Coat:
  - .1 Basis of design product:
    - .1 Silica Sand (20-40 mesh) - Coverage: 20-30 lbs. / 100 sq.ft. **OR**
    - .2 No. 11 Roofing Granule - Coverage: 10-15 lbs. / 100 sq.ft.

### **Part 3 EXECUTION**

#### **3.1 EXAMINATION**

- .1 The Installer should examine existing roofing substrates for compliance with requirements and for other conditions affecting application and performance of roof coatings.
  - .1 The Installer should prepare written report listing conditions detrimental to performance.
  - .2 Verify compatibility of approved re-coating system with and suitability of substrates.
  - .3 Verify that substrates are visibly dry and free of moisture.
  - .4 Verify that roofing membrane surfaces have adequately aged to enable proper bond with re-coating system base coat.
  - .5 Verify that existing roofing membrane is free of blisters, splits, open laps, indications of shrinkage, and puncture damage or other indications of impending roof system failure.
  - .6 Commencing application of fluid-applied re-coating membrane indicates acceptance of surfaces and conditions.

### **3.2 PREPARATION**

- .1 Protect existing roofing system that is indicated not to be rehabilitated, and adjacent portions of building and building equipment.
  - .1 Mask surfaces to be protected. Seal joints subject to infiltration by coating materials.
  - .2 Limit traffic and material storage to areas of existing roofing membrane that have been protected.
  - .3 Maintain temporary protection and leave in place until replacement roofing has been completed.
- .2 Pollution Control: Comply with environmental regulations of authorities having jurisdiction. Limit the spread of dust and debris.
  - .1 Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
  - .2 Remove debris from building roof by chute, hoist, or other device that will convey debris to grade.
- .3 Shut down air intake equipment in the vicinity of the Work in coordination with the Owner. Cover air intake louvers before proceeding with re-coating work that could affect indoor air quality or activate smoke detectors in the ductwork.
  - .1 Verify that rooftop utilities and service piping affected by the Work have been shut off before commencing Work.
- .4 Maintain roof drains in functioning condition to ensure roof drainage at end of each workday. Prevent debris from entering or blocking roof drains and conductors. Use roof-drain plugs specifically designed for this purpose. Remove roof-drain plugs at end of each workday, when no work is taking place, or when rain is forecast.
  - .1 Do not permit water to enter into or under existing membrane roofing system components that are to remain.

### **3.3 ROOFING COATING PREPARATION**

- .1 Removal of Wet Insulation: Remove portions of roofing membrane with underlying wet insulation. Remove wet insulation, fill in tear-off areas to match existing insulation and membrane, and prepare patched membrane for roof coating application specified below.
- .2 Membrane Surface Preparation:
  - .1 Substrate Cleaning: Pressure wash all surfaces and allow to fully dry **OR** remove loose granular aggregate from granular aggregate-surfaced built-up bituminous roofing with a power broom.

- .2 Remove pavers and walkway pads from roofing membrane. Salvage pavers and accessories for reuse.
- .3 Repair blisters **(10): cut blister and install Tremseal Pro, scrape poly and re-adhere SBS cap sheet membrane in Tremseal Pro.**
- .4 Broom clean existing substrate.
- .5 Substrate Cleaning: Clean substrate of contaminants such as dirt, debris, oil, and grease that can affect adhesion of coating by power washing at maximum 13,800 kPa (2,000 psi.).
  - .1 Dispose of wastewater in accordance with requirements of authorities having jurisdiction.
- .3 Verify that existing substrate is dry before proceeding with application of coating. Spot check substrates with an electrical capacitance moisture-detection meter.
  - .1 Verify adhesion of new products.
- .4 Existing Flashing and Detail Preparation: Repair flashings, gravel stops, copings, and other roof-related sheet metal and trim elements. Reseal joints, replace loose or missing fasteners, and replace components where required to leave in a watertight condition.
  - .1 Do not damage metal counterflashings that are to remain. Replace metal counterflashings damaged during removal with counterflashings specified in Division 07 Section "Sheet Metal Flashing and Trim."
  - .2 Roof Drains: Remove drain strainer and clamping ring. Grind metal surfaces down to clean, bare, metal.
- .5 Surface Priming: Prime surfaces to receive fluid-applied coating using coating manufacturer's recommended product for surface material. Apply at application rate recommended by manufacturer.
  - .1 Ensure primer does not puddle and substrate has complete coverage.
  - .2 Allow to cure completely prior to application of coating.
- .6 Membrane Repair: Repair membrane at locations with irregularities using seam sealer mastic and reinforcing fabric.

### 3.4 FLUID-APPLIED FLASHING APPLICATION

- .1 Fluid-Applied Flashing and Detail Base Coat Application: Complete base coat and fabric reinforcement at parapets, curbs, penetrations, and drains prior to application of field of fluid-applied membrane. Apply base coat in accordance with manufacturer's written instructions.

- .1 Apply base coat on prepared and primed surfaces and spread coating evenly. Extend coating minimum of 200 mm (8 inches) up vertical surfaces and 100 mm (4 inches) onto horizontal surfaces.
- .2 Back roll to achieve not less than minimum coating thickness indicated in Part 2 product listing unless greater thickness is recommended by manufacturer. Verify thickness as work progresses.
- .3 For AG BI and AG MT, retain "Fabric Reinforcement" Paragraph below if using fabric reinforced coating over existing base flashings.
- .4 Fabric Reinforcement: Embed fabric reinforcement into wet base coat. Lap adjacent flashing pieces of fabric minimum 75 mm (3 inches) along edges and 150 mm (6 inches) at end laps.
  - .1 Roll surface of fabric reinforcing to completely embed and saturate fabric. Leave finished base coat with fabric free of pin holes, voids, or openings.
- .2 Fabric Reinforcement: Place fabric reinforcement onto wet base coat. Lap adjacent flashing pieces of fabric minimum 75 mm (3 inches) along edges and 150 mm (6 inches) at end laps.
  - .1 Apply second base coat over installed fabric reinforcement and back roll to achieve not less than minimum coating thickness indicated in Part 2 product listing unless greater thickness is recommended by manufacturer. Verify application thickness as work progresses.
- .3 Roof Drains: Install base coat onto surrounding membrane surface and metal drain bowl flange. Install target piece of fabric reinforcement immediately into wet base coat and roll to fully embed and saturate fabric. Reinstall clamping ring and strainer following application of topcoat. Replace broken drain ring clamping bolts.
  - .1 Allow base coat to cure prior to application of topcoat.

### **3.5 FLUID-APPLIED MEMBRANE APPLICATION**

- .1 Fluid-Applied Membrane Base Coat: Apply base coat to field of membrane in accordance with manufacturer's written instructions.
  - .1 Apply base coat on prepared and primed surfaces and spread coating evenly.
  - .2 Back roll to achieve not less than minimum coating thickness indicated in Part 2 product listing unless greater thickness is recommended by manufacturer. Verify thickness as work progresses.
  - .3 Fabric Reinforcement: Embed fabric reinforcement into wet base coat. Lap adjacent flashing pieces of fabric minimum 75 mm (3 inches) along edges and 150 mm (6 inches) at end laps.

- .1 Roll surface of fabric reinforcing to completely embed and saturate fabric. Leave finished base coat with fabric free of pin holes, voids, or openings.
  - .2 Following curing of base coat and prior to application of topcoat, sand raised or exposed edges of fabric reinforcement.
- .2 Fabric Reinforcement: Place fabric reinforcement onto wet base coat. Lap adjacent flashing pieces of fabric minimum 75 mm (3 inches) along edges and 150 mm (6 inches) at end laps.
  - .1 Apply second base coat over embedded fabric reinforcement and back roll to achieve not less than minimum coating thickness indicated in Part 2 product listing unless greater thickness is recommended by manufacturer. Verify application thickness as work progresses.
- .3 Topcoat Application: Apply topcoat to field of membrane and flashings uniformly in a complete, continuous installation.
  - .1 Allow base coat to cure prior to application of topcoat.
  - .2 Following curing of base coat and prior to application of topcoat, sand raised or exposed edges of fabric reinforcement.
  - .3 Prime base coat prior to application of topcoat if topcoat is not applied within 72 hours of the base coat application, using manufacturer's recommended primer.
  - .4 **Apply two semi coats: 1 gallon topcoat, allow to dry and repair any deficiencies, followed by 1 ¼" gallon top coat with granule embedment.**
  - .5 Broadcast granules throughout topcoat.
  - .6 Apply topcoat extending coating up vertical surfaces and out onto horizontal surfaces. Install topcoat over field base coat and spread coating evenly.
  - .7 Back roll to achieve not less than minimum coating thickness indicated in Part 2 product listing unless greater thickness is recommended by manufacturer. Verify thickness as work progresses.
  - .8 **The final dry film thickness of the topcoat(s) should be a minimum of 32 mils of dry mils.**
  - .9 Avoid foot traffic on new fluid-applied membrane for a minimum of 24 hours.
  - .10 Once cured, use a blower to remove any loose granules from the roofing surface.

### 3.6 SITE CONDITIONS

- .1 Ambient Conditions:
  - .1 Do not apply roofing membrane during inclement weather or when ambient temperatures are below manufacturer's indicated minimum application temperature.
  - .2 Do not apply roofing membrane to damp or frozen deck surface.
  - .3 Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.

### 3.7 FIELD QUALITY CONTROL

- .1 The Consultant shall conduct periodic observations of the work. Correct any identified deficiencies noted by consultant. (Costs are covered separately by the owner)
- .2 Continuous field quality control inspections to be provided by the prime consultant and the roofing manufacturer. **(Manufacturer is to provide a minimum of one (1) weekly inspection during product installation) (Costs for this scope are included in the material costs)**
- .3 The Contractor shall be solely responsible for ensuring that the work conform to the specifications and references standards and manufacturer's requirements.

### 3.8 CLEANING

- .1 In areas where finished surfaces are soiled by work of this section, consult manufacturer of surfaces for cleaning advice and comply with their instructions.
- .2 Repair or replace defaced or disfigured finishes caused by work of this section.

### 3.9 PROTECTION OF FINISHED WORK

- .1 Protect building surfaces against damage from roofing work.
- .2 Where traffic must continue over finished roof membrane, protect surfaces.

**END OF SECTION**

**Part 1 GENERAL**

**1.1 SECTION INCLUDES**

- .1 Loose Laid and Ballasted Single-Ply Roof Membrane.

**1.2 REFERENCE STANDARDS**

- .1 Canadian Roofing Contractors Association - Roofing Systems Application Standards Manual.

**1.3 SYSTEM DESCRIPTION**

**.1 Roof Section 5**

- .1 New Gravel Ballast
- .2 New TREMCO Single-Ply KEE Membrane loose laid.
- .3 Allowance for maximum 5% replacement PolyISO insulation, loose laid
- .4 Existing PolyISO Insulation, loose laid
- .5 Existing Poly Vapour Retarder on
- .6 Existing Metal Q-Decking.

**1.4 SUBMITTALS FOR REVIEW**

- .1 N/A

**1.5 QUALITY ASSURANCE**

- .1 Perform Work to applicable CRCA Roofing Systems Application Standards Manual, and in accordance with the manufacturer's written instructions.
- .2 Installer Qualifications: Company specializing in performing the work of this section and approved by the manufacturer.
- .3 Installer Qualifications: An employer of workers trained and certified by manufacturer, including a full-time on-site supervisor with a minimum of five years' experience installing products comparable to those specified, able to communicate verbally with Contractor, Owner's Consultant, and employees, and qualified by the roofing system manufacturer to install manufacturer's product and furnish warranty of type specified.
- .4 Manufacturer Qualifications: Approved manufacturer with UL listed roofing systems comparable to those specified for this Project, with minimum five years' experience in manufacture of comparable products in successful use in similar applications, and able to furnish warranty with provisions matching specified requirements.
- .5 Manufacturer's Installation Instructions: Obtain and maintain on-site access to manufacturer's written recommendations and instructions for installation of products.

**1.6 REGULATORY REQUIREMENTS**

- .1 Conform to the BC Building Code where applicable.

**1.7 DELIVERY, STORAGE, AND HANDLING**

- .1 Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.
- .2 Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
  - .1 Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- .3 Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- .4 Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

**1.8 PROJECT / FIELD CONDITIONS**

- .1 Protect building, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from roofing operations.
- .2 Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.
- .3 Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.
- .4 Store all materials prior to application at temperatures between 5 and 32 deg. C (40 and 90 deg. F).
- .5 Apply materials within range of ambient and substrate temperatures recommended by manufacturer. Do not apply materials when air temperature is below 5 or above 43 deg. C (40 and 110 deg. F).
- .6 Do not apply roofing in snow, rain, fog, or mist.
- .7 Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.
- .8 Daily Protection: Coordinate installation of roofing so insulation and other components of roofing system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.

- .1 Provide tie-offs at end of each day's work to cover exposed roofing and insulation with a course of roofing sheet securely in place with joints and edges sealed.
- .2 Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing.
- .3 Remove temporary plugs from roof drains at end of each day.
- .4 Remove and discard temporary seals before beginning work on adjoining roofing.

## 1.9 WARRANTY

- .1 Manufacturer's Warranty: Roof System Manufacturer's standard form in which Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within warranty period, as follows.
  - .1 Form of Warranty: Manufacturer's standard warranty form.
  - .2 Scope of Warranty: The warranty covers material and workmanship.
  - .3 Warranty inspection and maintenance program provided with warranty at a minimum of 5-year intervals. (Provided and included by the manufacturer)
  - .4 Warranty Extension: Warranty extension program available at the end of the warranty period.
  - .5 Transfers: No limitation on a number of warranty transfers.
  - .6 Scope of Warranty: Work of this Section and including sheet metal details and termination details installed by the roof system Installer and approved by the Roof System Manufacturer.
  - .7 Warranty Period: **30 years from date of completion.**
  - .8 **All of the above is included in the material costs.**
- .2 Manufacturer Inspection and Preventive Maintenance Service: To report maintenance responsibilities necessary for preservation of Owner's warranty rights and to perform periodic routine maintenance required, as described in Manufacturer's standard form. The cost of manufacturer's inspections and preventive maintenance is included in the material costs.
  - .1 Scope of Service: Manufacturer's standard form.
  - .2 Inspections to occur in following years: 2, 5, 10,15, 20 and 25 following completion.
- .3 Installer Warranty: Installer's warranty signed by Installer, as follows.
  - .1 Form of Warranty: Form included in Project Manual.
  - .2 Scope of Warranty: Work of this Section.
  - .3 Warranty Period: 2 years from date of completion.

## Part 2 PRODUCTS

### 2.1 MATERIALS, GENERAL

- .1 Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roof membrane manufacturer based on testing and field experience.
- .2 The following noted system is based on a Tremco KEE Membrane system.

### 2.2 PERFORMANCE REQUIREMENTS

- .1 General Performance: Installed membrane roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Membrane roofing and base flashings shall remain watertight.
  - .1 Dynamic Impact/Puncture Resistance, ASTM D5635: >35.
  - .2 Static Puncture Resistance ASTM D 5602 (99 lbf): >150.

### 2.3 TPA ROOF MEMBRANE:

- .1 Thermoplastic Ketone Ethylene Ester (KEE) coated polyester fabric-reinforced sheet, ASTM D6754.
  - .1 Basis of design product:
    - .1 Tremco, TremPly KEE Single Ply Roof Membrane.
    - .2 Breaking Strength, minimum, ASTM D751: Machine direction, 87 kN/m (500 lbf); Cross machine direction, 70 kN/m (400 lbf).
    - .3 Tear Strength, minimum, ASTM D751: Machine direction, 21 kN/m (125 lbf); Cross machine direction, 25 kN/m (145 lbf).
    - .4 Elongation at Break, ASTM D751: 20 percent.
    - .5 Dynamic Impact/Puncture Resistance, ASTM D5635: 35.
    - .6 Minimum Membrane Thickness, nominal, less backing, ASTM D751: 1.5 mm **(60 mils)**
    - .7 Thickness over fiber, optical method: 0.016 inches.
    - .8 Accelerated Weathering, ASTM G155 and ASTM G154: 15,000 hr., no cracking or crazing.
    - .9 Abrasion Resistance, ASTM D3389: Not greater than 2,000 cycles, H-18-wheel, 1,000 g load.
    - .10 Colour: **White**
  - .2 Membrane Flashing: Manufacturer's standard, smooth-backed, sheet flashing of same material, type, reinforcement, thickness, and colour as PVC sheet membrane.
    - .1 Basis of design:
      - .1 TremPly KEE 60mil (Same as Above)

## 2.4 AUXILIARY ROOFING MATERIALS

- .1 Adhesives and sealants that are not on the exterior side of weather barrier shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
  - a. Single-Ply Roof Membrane Sealants: 450 g/L.
  - b. Nonmembrane Roof Sealants: 300 g/L.
  - c. Sealant Primers for Nonporous Substrates: 250 g/L.
  - d. Sealant Primers for Porous Substrates: 775 g/L.
- .2 Flashing Membrane Adhesive:
  - .1 Bonding adhesive, solvent based fast drying, VOC-compliant, for bonding KEE smooth-backed single ply membranes and flashings to substrates.
    - .1 Basis of design product: Tremco, **TremPly KEE LV Bonding Adhesive**.
- .3 Metal Termination Bars: Manufacturer's standard, predrilled stainless-steel or aluminum bars, approximately 25 mm by 3 mm (1 by 1/8 inch) thick; with anchors.
- .4 Ballast Retaining Bar: Perimeter securement system consisting of a slotted extruded-aluminum retention bar with an integrated compression fastening strip.
  - .1 Fasteners: 38-mm (1-1/2-inch) stainless steel fasteners with neoprene washers.
- .5 Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening components to substrate, and acceptable to membrane roofing system manufacturer.
- .6 Joint Sealant: Elastomeric joint sealant compatible with roofing materials, with movement capability appropriate for application.
  - .1 Joint Sealant, Polyurethane: ASTM C920, Type S, Grade NS, Class 50 single-component moisture curing sealant, formulated for compatibility and use in dynamic and static joints; paintable.
    - .1 Basis of design product: Tremco, TremSEAL Pro.
    - .2 Colour: Closest match to substrate.
- .7 Prefabricated Pipe Flashings: As recommended by roof membrane manufacturer.
- .8 Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories.

## 2.5 ROOF INSULATION

- .1 Optional Separate Add On Price **(See Bid Form)**:
- .2 Wet Insulation Replacement If Found **(See Bid Form for SQFT Breakout)**

- .1 Accepted Product:
  - .1 Any CRCA Accepted Organic PolyISO Insulation
  - .2 Thickness: 2.5"

## **2.6 BALLAST (OPTIONAL REPLACEMENT – SEE BID FORM)**

- .1 Stone Ballast: Smooth, washed, riverbed gravel or other acceptable smooth-faced stone that withstands weather exposure without significant deterioration and does not contribute to membrane degradation.
  - .1 Basis of design product: Double washed round river rock.
  - .2 Size, ASTM D448: No. 4, 3/4 to 1-1/2 inches (19 to 38 mm), and No. 2, 1-1/2 to 2-1/2 inches (38 to 63 mm).

## **2.7 WALKWAY PAVERS**

- .1 Place 24" x 24" Smooth Concrete Pavers
  - .1 Accessories:
    - .1 1" Extruded Polystyrene Insulation Strips

# **Part 3 EXECUTION**

## **3.1 EXAMINATION**

- .1 Examine substrates, areas, and conditions, with contractor present, for compliance with the following requirements and other conditions affecting performance of roofing system:
  - .1 Verify that roof openings and penetrations are in place and curbs are set and braced and that roof drain bodies are securely clamped in place.
  - .2 Retain paragraph below if project will be let with wood cants, blocking, and nailers installed under another trade subcontract.
  - .3 Verify that blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
  - .4 Existing Prepared Roof Substrate: Verify that existing insulation and substrate is sound and dry. Refer to requirements of Division 07 Section "Preparation for Re-Roofing."
  - .5 Wood Roof Deck: Verify that deck is sound and dry and securely fastened with no projecting fasteners and with no adjacent units in excess of 1.6 mm (1/16 inch) out of plane relative to adjoining deck.
- .2 Proceed with installation only after unsatisfactory conditions have been corrected.

### **3.2 PREPARATION**

- .1 Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- .2 Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- .3 Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

### **3.3 INSTALLATION, GENERAL**

- .1 Install roofing system in accordance with manufacturer's written instructions and approved details.
- .2 Install blocking, curbs, and nailers in accordance with requirements of Division 06 Section "Miscellaneous Rough Carpentry."
- .3 NRCA Installation Details: Install roofing system in accordance with applicable NRCA Manual Plates and NRCA recommendations.

### **3.4 LOOSE LAID INSULATION INSTALLATION (ROOF SECTION 5)**

- .1 Coordinate installing membrane roofing system components, so insulation is not exposed to precipitation or left exposed at the end of the workday.
- .2 Comply with membrane roofing system and insulation manufacturer's written instructions for installing roof insulation.

### **3.5 LOOSE-LAID AND BALLASTED INSTALLATION (ROOF SECTION 5)**

- .1 Loosely lay roof membrane over area to receive roofing according to roofing system manufacturer's written instructions.
- .2 Unroll roof membrane and allow to relax before installing.
- .3 Comply with requirements in ANSI/SPRI RP-4 for applicable system.
- .4 Start installation of roofing in presence of roofing system manufacturer's technical personnel and Owner's testing and inspection agency.
- .5 Accurately align roof membrane, without stretching, and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- .6 Perimeter Adhere roof membrane at corners, perimeters, and transitions according to requirements in ANSI/SPRI RP-4.
- .7 Apply roof membrane with side laps shingled with slope of deck where possible.

- .8      Seams: Clean seam areas, overlap roof membrane, and hot-air weld side and end laps of roof membrane and sheet flashings to ensure a watertight seam installation.
  - .1      Test lap edges with probe to verify seam weld continuity.
  - .2      Apply lap sealant to seal cut edges of roof membrane and sheet flashings.
  - .3      Verify field strength of seams a minimum of twice daily, and repair seam sample areas.
  - .4      Repair tears, voids, and lapped seams in roof membrane that do not comply with requirements.
- .9      Spread sealant bed over deck-drain flange at roof drains, and securely seal roof membrane in place with clamping ring.
- .10     Aggregate Ballast: Apply uniformly over roof membrane at the rate required by roofing system manufacturer, but not less than the following, spreading with care to minimize possibility of damage to roofing system. Lay ballast as roof membrane is installed, leaving roofing ballasted at the end of the workday.
  - .1      Ballast Weight, ANSI/SPRI RP-4 System 1: Size 4 aggregate, 50 kg/sq. m (12 lb/sq. ft).

### **3.6            WALKWAYS**

- .1      Re-install existing concrete paver walkway where shown on roof plan.
- .2      Tightly abut existing pavers of EXPS insulation strips to allow surface drainage.

### **3.7            PERIMETER FLASHING INSTALLATION**

- .1      Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.
- .2      Apply bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply to seam area of flashing.
- .3      Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- .4      Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.
- .5      Seal top termination of base flashing with a metal termination bar and a continuous bead of joint sealant.

### **3.8            FIELD QUALITY CONTROL**

- .1      Retain this article if field inspecting and testing are required. Revise to suit local practices and requirements of authorities having jurisdiction, if applicable.
- .2      Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation at commencement and upon completion.

- .1 Notify Owner's Consultant and Owner 48 hours in advance of date and time of inspection.
- .3 Additional testing and inspecting, at Contractor's expense, will be performed to determine if replaced or additional work complies with specified requirements.

### **3.9 PROTECTING AND CLEANING**

- .1 Protect roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Owner's Consultant and Owner.
- .2 Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- .3 Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

**END OF SECTION**

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**Part 1            General**

**1.1                REFERENCES**

- .1        The Canadian Roofing Contractors Association Roofing Systems Application Standards Manual.

**1.2                DELIVERY, STORAGE AND HANDLING**

- .1        Deliver, store and handle materials to prevent dents, bends, scratches, or other defects.

**Part 2            Products**

**2.1                STEEL SHEET**

- .1        24-gauge prefinished sheet steel with factory applied coating of colour selected by the Owner's representative.
  - .1            The Contractor shall obtain the Owner's colour selection in writing prior to ordering.
- .2        24-gauge prefinished sheet steel for capping area divider.
- .3        24-gauge prefinished sheet steel for new fascia flashing. (Match Existing Profile)

**2.2                ACCESSORIES**

- .1        Fasteners:
  - .1            Minimum 1.5" spiral nails.
  - .2            1.25" coarse threaded screws with flanged, pre-painted hex heads and neoprene washers.
  - .3            Minimum No. 8 x 1.25" screws with flat pan heads.
- .2        Masonry wall anchors: Minimum 3/16" x 1.25" hit pin anchors.
- .3        Sealant: Mulco Supra or equal upon submission of product data for acceptance. Colour to match metal flashings.

**2.3                FABRICATION**

- .1        Maximum length of parapet cap flashings shall be 5'.
  - .1            If 8' or 10' lengths are to be used, follow CRCA requirements for wind clips and mid-span fastening.
- .2        Fabricate metal flashings and other sheet metal work in accordance with the CRCA Standards.
- .3        All edges shall be hemmed.

- .4 Bottom outside edges of cap flashings and drip edge flashings shall kick out minimum ½" at 45 degrees.
- .5 All joints shall be S-locked.
- .6 All transitions, joints, intersections, and corners shall be of minimum 1" tall locked standing seams.
- .7 Cap flashings shall have minimum 4" vertical flanges on outside faces and shall extend minimum 1.5" over top termination of lower finishes.
- .8 Counter flashings shall extend up minimum 3" behind higher existing metal flashings or claddings.

### **Part 3 Execution**

#### **3.1 INSTALLATION**

- .1 Install sheet metal flashings in accordance with the CRCA Standards.
- .2 Conceal fastenings in the S-locked joints.
- .3 Allow for expansion in the S-locked joints.
- .4 Hem and lock standing seams at corners.

#### **3.2 COUNTER FLASHINGS ON MASONRY WALLS**

- .1 Fasten metal flashings with hit pin anchors in pre-drilled holes at each joint and at maximum 18" on center.

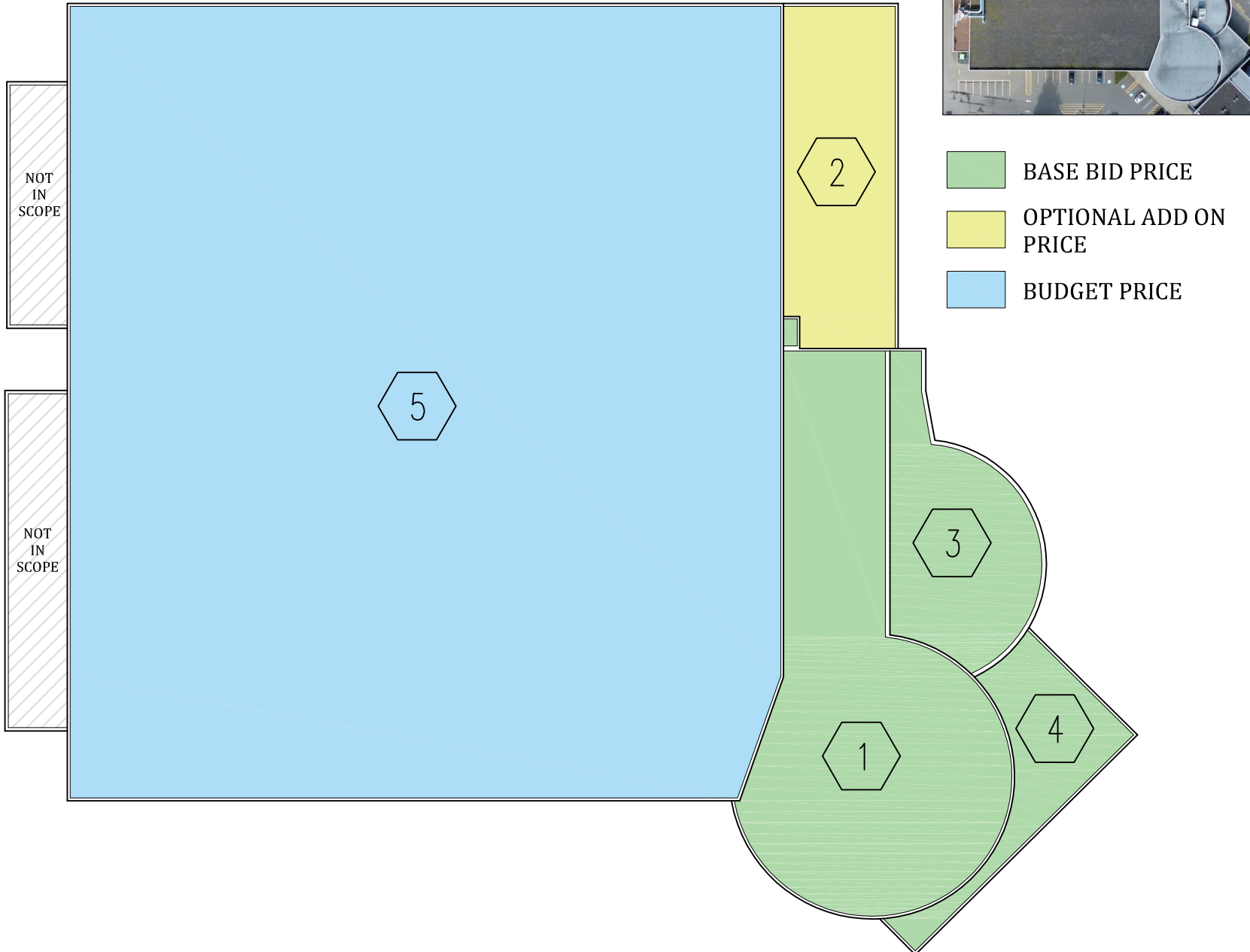
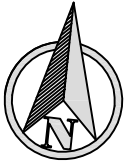
#### **3.3 FIELD QUALITY CONTROL**

- .1 The completed work shall be visually reviewed by the Consultant. Correct any deficiencies.
- .2 The Contractor shall be solely responsible for ensuring that the work conforms to the specifications and referenced standard.

#### **3.4 CLEANING**

- .1 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools, and equipment.
- .2 Leave work areas clean, free from asphalt, grease, finger marks and stains.

**END OF SECTION**



CONSULTANT:

CLIENT:

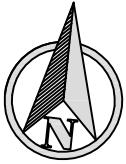
PROJECT NAME:

OCEANSIDE PLACE ARENA

830 W ISLAND HWY W  
PARKSVILLE, BC  
V9P 2X4

LEGEND:

DATE:	MAR.28.2024
FILE NO.:	24-020
DRAWN BY:	J.S.
SCALE:	N.T.S.
DWG. TITLE	DWG. NO.:
ROOF KEY PLAN	1 OF 4



#### ROOF SECTION 5 - EXISTING ROOF ASSEMBLY



GRAVEL BALLAST  
EPDM MEMBRANE  
2.5" ORGANIC POLYISO INSULATION  
POLY VAPOUR RETARDER  
METAL DECK

#### ROOF SECTION 5 - NEW ROOF ASSEMBLY



RE-USE EXISTING GRAVEL BALLAST  
(SEE BID FORM FOR REPLACING EXISTING BALLAST WITH NEW)  
NEW 80MIL SINGLE-PLY KEE MEMBRANE  
EXISTING 2.5" ORGANIC POLYISO INSULATION  
EXISTING POLY VAPOUR RETARDER  
EXISTING METAL DECK



#### ROOF SECTIONS 1-4 - EXISTING ROOF ASSEMBLY

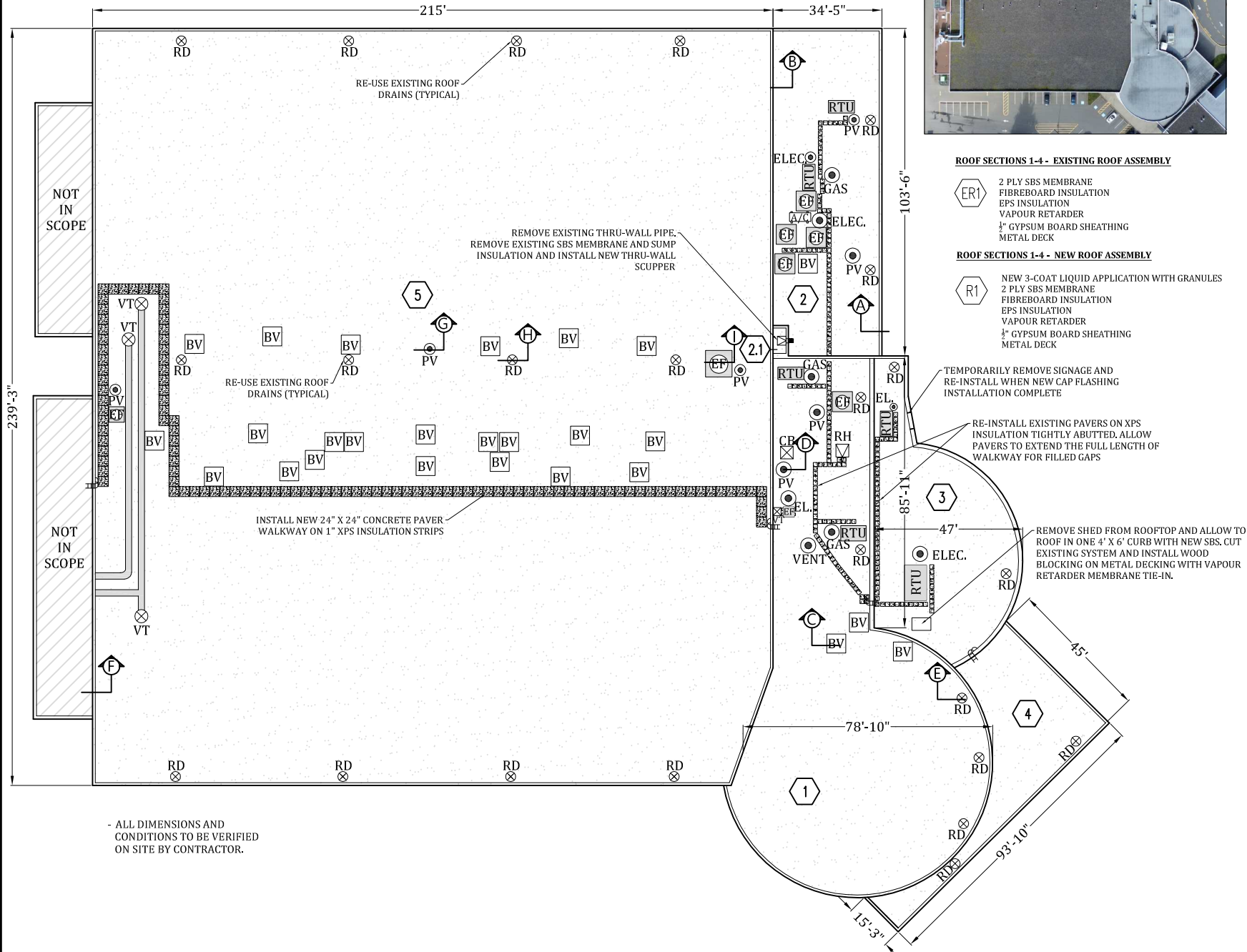


2 PLY SBS MEMBRANE  
FIBREBOARD INSULATION  
EPS INSULATION  
VAPOUR RETARDER  
1/2" GYPSUM BOARD SHEATHING  
METAL DECK

#### ROOF SECTIONS 1-4 - NEW ROOF ASSEMBLY



NEW 3-COAT LIQUID APPLICATION WITH GRANULES  
2 PLY SBS MEMBRANE  
FIBREBOARD INSULATION  
EPS INSULATION  
VAPOUR RETARDER  
1/2" GYPSUM BOARD SHEATHING  
METAL DECK



- ALL DIMENSIONS AND  
CONDITIONS TO BE VERIFIED  
ON SITE BY CONTRACTOR.

CONSULTANT:

**ALPINE**  
ROOF CONSULTING LTD.

CLIENT:

**REGIONAL  
DISTRICT  
OF NANAIMO**

PROJECT NAME:

**OCEANSIDE PLACE ARENA**

830 W ISLAND HWY W  
PARKSVILLE, BC  
V9P 2X4

LEGEND:

- ROOF DRAIN WITH 4' X 4' SUMP
- PLUMBING VENT
- CURBED PLUMBING VENT
- ROOFTOP UNIT
- MAKE UP AIR UNIT
- AC UNIT
- MECHANICAL UNIT ON SLEEPERS
- B-VENT
- CURBED CHIMNEY
- CURB WITH METAL BIRDHOUSE FLASHING
- EXHAUST FAN
- ROOF HATCH
- PRIMARY SCUPPER DRAIN
- EMERGENCY OVERFLOW SCUPPER
- GUM BOX
- ROOF ANCHOR
- CONCRETE PAVER
- MAN DOOR
- GAS LINE
- ELECTRICAL LINE
- DRAWING NOTE

DATE: MAR.28.2024

FILE NO.: 24-020

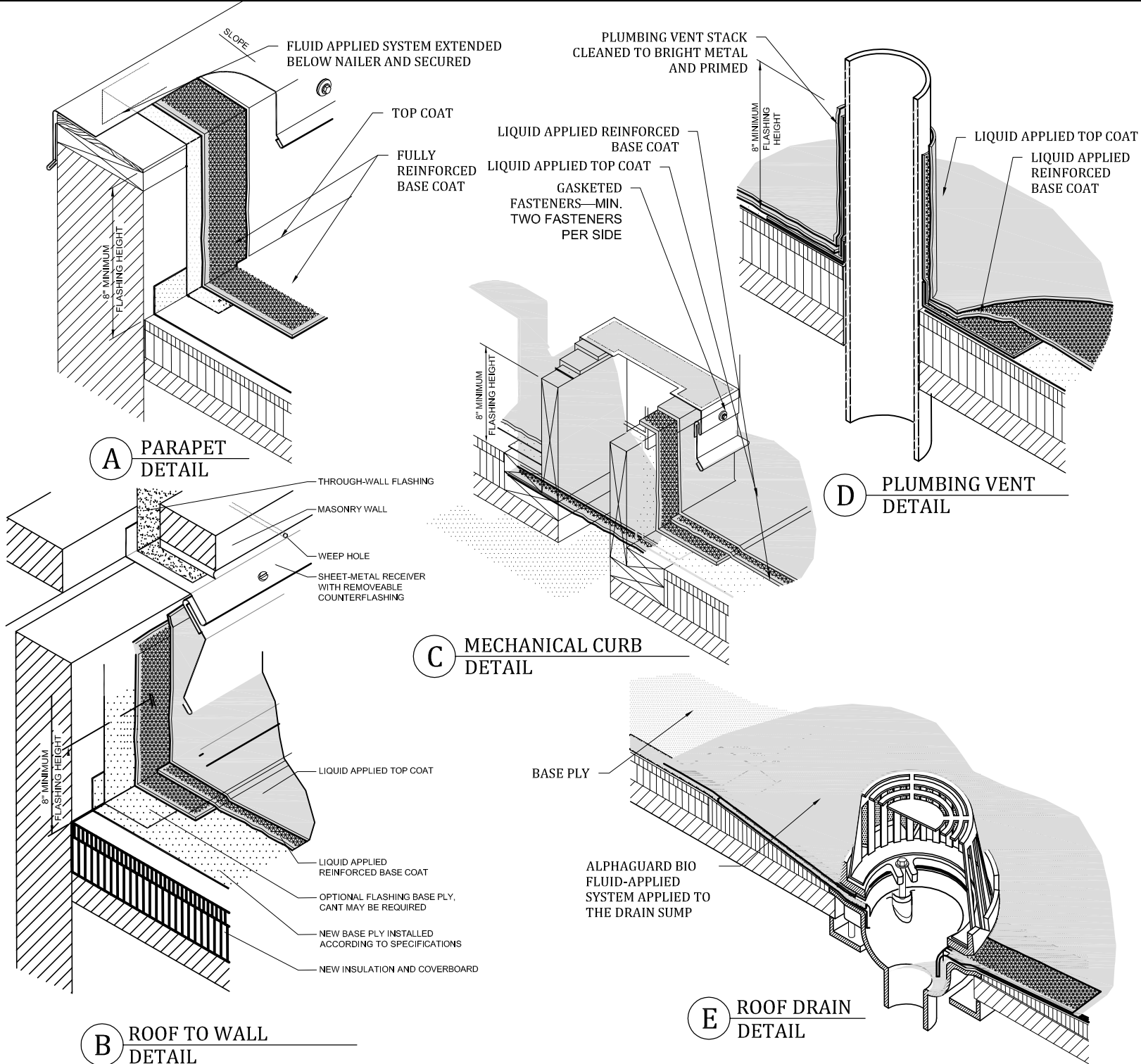
DRAWN BY: J.S.

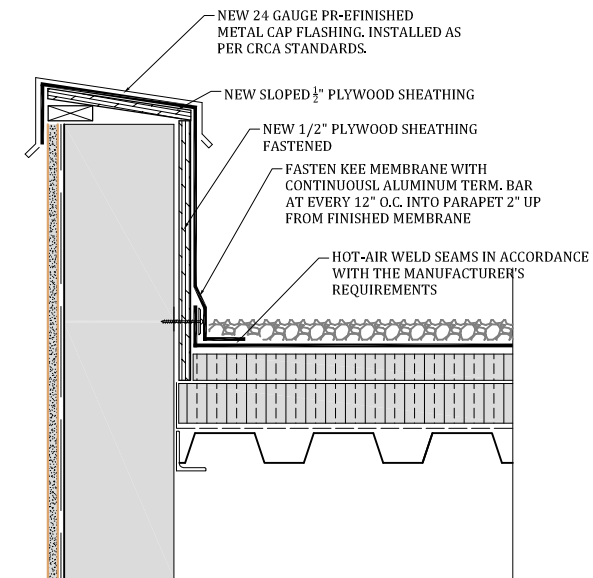
SCALE: N.T.S.

DWG. TITLE DWG. NO.:

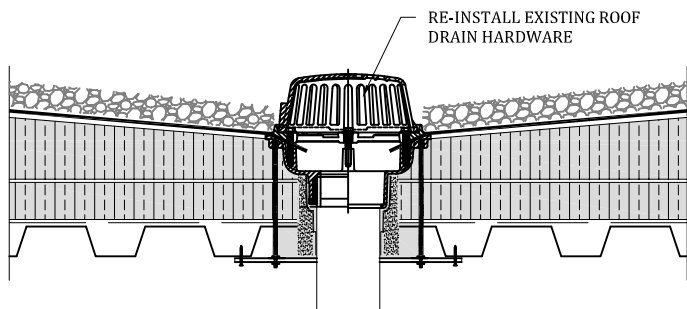
**ROOF  
PLAN**

**2 OF 4**

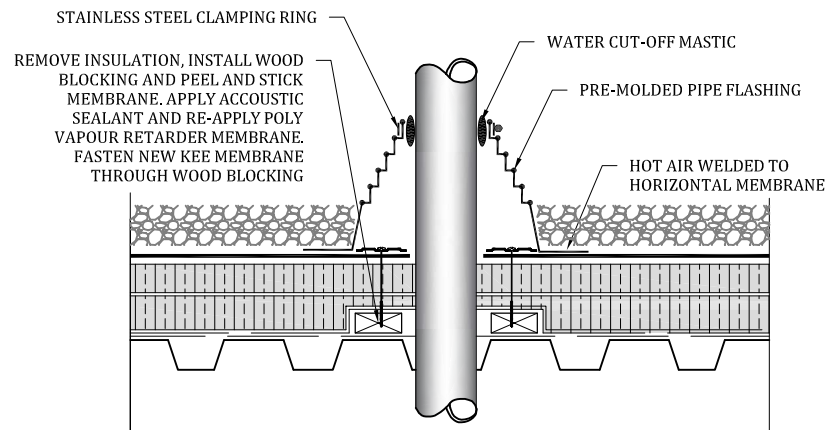




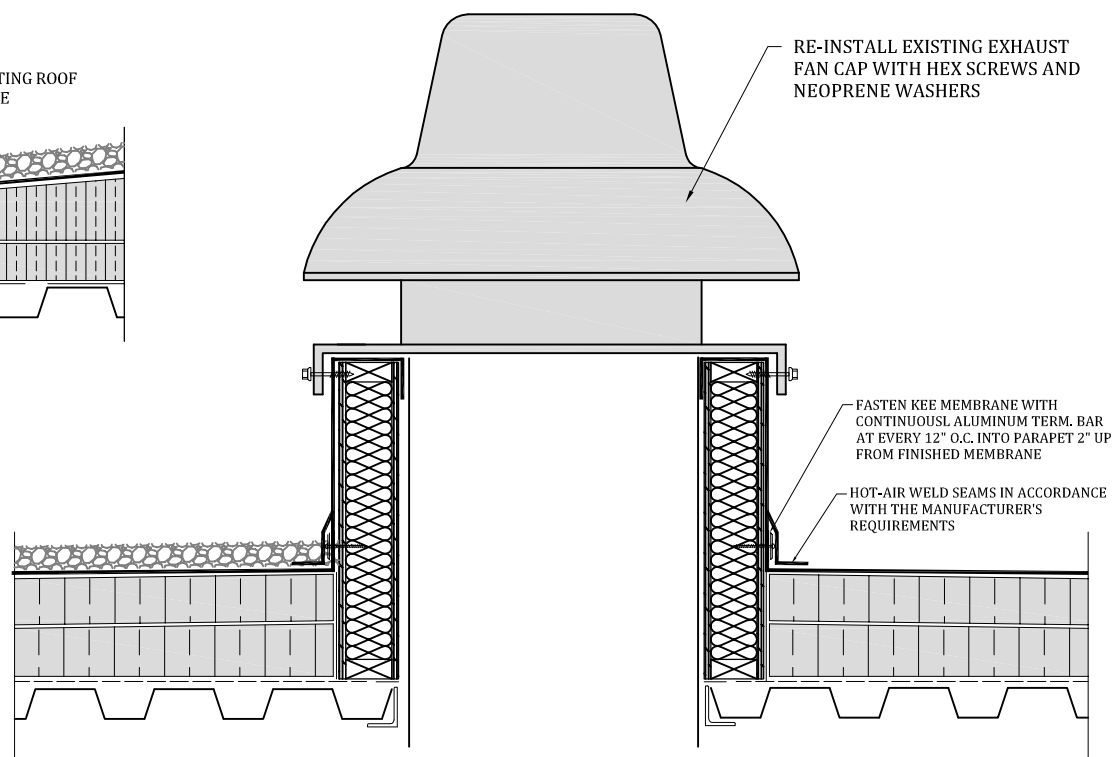
**F** PARAPET  
DETAIL



**H** ROOF DRAIN  
DETAIL



**G** PIPE SEAL  
DETAIL



**I** EXHAUST FAN CURB  
DETAIL

CONSULTANT:

**ALPINE**  
ROOF CONSULTING LTD.

CLIENT:

**REGIONAL  
DISTRICT  
OF NANAIMO**

PROJECT NAME:

**OCEANSIDE PLACE ARENA**

830 W ISLAND HWY W  
PARKSVILLE, BC  
V9P 2X4

LEGEND:

DATE: MAR.28.2024

FILE NO.: 24-020

DRAWN BY: J.S.

SCALE: N.T.S.

DWG. TITLE: DWG. NO.:

**KEE  
DETAILS**

**4 OF 4**