



INVITATION TO TENDER

CASTLEGAR & DISTRICT COMMUNITY COMPLEX

ROOF REPLACEMENT

PRJ #24055

Regional District of Central Kootenay

Issued: APRIL 29, 2025

Closing Location:

Regional District of Central Kootenay
Box 590, 202 Lakeside Drive
Nelson, BC V1L 5R4

Closing Date and Time:

2:00 pm, Local Time, **MAY 28, 2025**

AJ Evenson
Senior Project Manager
PH: 250.352.8191
FX: 250.352.9300
Email: aevenson@rdck.bc.ca

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END OF SECTION

1.1 BID CALL

1. Bids will be received before **2:00 pm LOCAL TIME on MAY 28, 2025** (the "bid closing time") at:

Regional District of Central Kootenay
Attn: AJ Evenson
tenders@rdck.bc.ca and aevenson@rdck.bc.ca

2. The official bid closing time will be determined by the RDCK email server.
3. Bids received after the specified bid closing time will be returned unopened.
4. The Owner reserves the right to extend the bid closing time or cancel the bid call by addendum.
5. Bids will be opened promptly after the bid closing time, at the specified bid closing location. ~~Bidders are invited to attend the bid opening. The name of each Bidder and the bid price stated on the Bid Form will be read aloud.~~
6. Bid results will be disclosed promptly to all Bidders. Such disclosure will not imply that the bids received are compliant or that a contract will be awarded to the lowest or any Bidder.

1.2 BID DOCUMENT AVAILABILITY

1. Bid Documents are made available in electronic form only for the purpose of obtaining bids for this project. It does not confer a license to use the Bid Documents for any other purpose.

1.3 EXAMINATION OF BID DOCUMENTS

1. Examine the Bid Documents and promptly notify the person designated to receive inquiries of any perceived errors, omissions, conflicts or discrepancies in the Bid Documents.

1.4 SITE EXAMINATION

1. Bidders shall visit the site and familiarize themselves with conditions affecting the Work before submitting a bid.
2. Bidders' only opportunity to visit the Place of the Work will be in conjunction with the specified pre-bid meeting and site visit.
3. Bidders visiting the Place of the Work shall provide their own personal protective equipment.
4. Bidders visiting the Place of the Work shall be accompanied at all times by a representative of the Owner.
5. Refer to 00 31 00 - Available Project Information which identifies available information pertaining to the Project.

6. By inference of the "Concealed or Unknown Conditions" GC in the General Conditions of the Contract, Bidders shall include in their bid price for non-concealed and known conditions that are either visible or can be reasonably inferred from a site examination at the Place of the Work before bid submission.

1.5 PRE-BID MEETING AND SITE VISIT

1. A pre-bid meeting is scheduled for Thursday, May 15, 2025 at 10:00am. Interested bidders are requested to notify aevenson@rdck.bc.ca of their desire to attend. If there are less than 3 bidders who express interest in attending, the pre-bid meeting will be cancelled to avoid Consultant charges for travelling to and coordinating the pre-bid meeting.

1.6 BID FORM SUPPLEMENTS

1. Submit the following Bid Form Supplements together with the Bid Form:
 1. Bid security as specified below.
 2. Section 00 43 23 - Bid Form Supplement - Alternative Prices.
 3. Section 00 43 36 - Bid Form Supplement - List of Subcontractors.
2. The Owner may, after the bid closing time and before contract award, require any Bidder to submit additional supplementary information about any aspect of the Bidder's bid to verify compliance with the Bid Documents.

1.7 BID SECURITY

1. Submit with the bid a CCDC 220 form of bid bond in an amount of not less than 10% of the bid price.
2. The bid bond shall name the Regional District of Central Kootenay as the obligee and shall be signed, sealed, and dated by both Bidder and surety.
3. Upon request, bid bonds of unsuccessful Bidders will be returned after the successful Bidder has entered into a contract with the Owner and provided the specified contract security, or earlier at the Owner's discretion.
4. In lieu of a bid bond, Bidders may submit a certified cheque or bank draft in favour of the Regional District of Central Kootenay and in an amount of not less than 10% of the bid price.
5. Certified cheques and bank drafts will be returned to Bidders after the successful Bidder has entered into a contract with the Owner and has provided the specified contract security, or earlier at the Owner's discretion.

1.8 BIDDER DEFAULT AND FORFEITURE OF BID SECURITY

1. If a Bidder whose bid is accepted by the Owner in writing, without conditions, and within the acceptance period specified in the Bid Documents, refuses or fails within 15 calendar days after the date of issuance of the written acceptance of the bid, to sign a formal agreement with the Owner for the performance of the Work and to provide contract performance security as specified in the Bid Documents, the Bidder will be liable to the Owner for the

difference in money between the Bidder's bid price and the amount for which the Owner legally contracts with another party to perform the Work, if the latter amount is in excess of the former, up to the maximum amount of the bid security provided.

1.9 CONTRACT SECURITY

1. Refer to Section 00 73 63 - Contract Security Requirements.

1.10 PREQUALIFIED SUBCONTRACTORS AND SUPPLIERS

1. Not Applicable

1.11 BID DEPOSITORY

1. Not Applicable

1.12 TAXES

1. Include in bid price all taxes and customs duties in effect at the time of the bid closing, except for Value Added Taxes as defined in the CCDC standard form of contract.

1.13 CONTRACT TIME

1. The Bidder, in submitting a bid, agrees to attain Substantial Performance of the Work by the date specified in the Bid Form, which will become the Contract Time under the Contract.

1.14 SUBSTITUTIONS

1. Where the Bid Documents specify particular Products by proprietary name, the Consultant will consider Bidder requests for approval of substitutions during the bid period, provided such requests are received, in writing, at least 7 days before the bid closing time and are in accordance with the requirements specified in Section 01 25 00 - Substitution Procedures. If the Consultant approves a substitution, the substitute Product will be named in an addendum. Otherwise Bidders shall consider the request for approval of the substitution to be rejected.

1.15 ALTERNATIVES

- .1 Not Applicable

1.16 LIST OF SUBCONTRACTORS

1. Complete and submit Section 00 43 36 - Bid Form Supplement - List of Subcontractors, indicating those Subcontractors or Suppliers whose bids have been received by the Bidder, which names the Bidder would be prepared to accept for the performance of the work indicated.
2. The purpose of this requirement is to protect the interests of subcontract bidders and the integrity of the bidding process. Provided the List of Subcontractors has been properly

completed and submitted, the information will not be used in evaluating the Bids to determine the lowest compliant bidder.

1.17 BID FORM SIGNING

1. Complete the Bid Form as follows:
2. Incorporated Company: Provide company name and name and signature of the duly authorized signing representative(s). Insert under each signature the representative's capacity to act on behalf of the company.
3. Joint Venture: Each entity within the joint venture shall execute the Bid Form as specified.
4. Partnership: Provide name of partnership and name and signature of duly authorized representatives of the partnership.
5. Sole Proprietorship: Provide name of sole proprietorship and name and signature of sole proprietor in the presence of a witness who shall also sign.

1.18 BID SUBMISSION

1. Complete Bid Form, in its entirety, on the form provided and submit together with the required Bid Form Supplements, completed in their entirety, in an email to:
 - i. Tenders@rdck.bc.ca with a CC to aevenson@rdck.bc.ca
 - ii. Verbal, telephoned, faxed, or text message bids will not be accepted nor acknowledged.
2. Except as expressly and specifically permitted in this Invitation to Tender, each Bidder, by submitting a Bid, irrevocably waives any claim, action, or proceeding against the Owner including without limitation any judicial review or injunction application or against the Owner and its employees, advisors or representatives for damages, expenses or costs, including costs of Bid preparation, loss of profits, loss of opportunity or any consequential loss for any reason including:
 1. any actual or alleged unfairness on the part of the Owner at any stage of the Tender process;
 2. if the Owner does not award or execute a Contract with the Bidder; or
 3. if the Owner is alleged or is subsequently determined to have accepted a noncompliant Bid or otherwise breached or fundamentally breached the terms of this Invitation to Tender.

1.19 BID MODIFICATION AND WITHDRAWAL

1. A bid, including the Bid Form and Bid Form supplements, submitted in accordance with these bidding requirements may be modified or withdrawn, provided the modification or withdrawal request:
 1. is in the form of an email received at the email specified in "Bid Call" article before the bid closing time, or

2. states the project title, name of the Bidder, the nature of the modification or withdrawal request,
 3. and is signed by a duly authorized person.
2. For bid closing time purposes, the official time of receipt of faxed bid modifications or withdrawal requests will be the time of receipt automatically printed on the fax transmission by the receiving fax machine.
 3. If a bid is withdrawn, a new bid may be submitted in accordance with the specified requirements, provided it is received before the bid closing time.
 4. When submitting a modification directing a change in a bid price, do not reveal the original amount nor the revised amount:
 1. On stipulated price bids, state only the amount to be added to or deducted from the original bid price.
 2. On unit price bids, state only the amount to be added to or deducted from each original unit price or lump sum in the Schedule of Prices. The Owner will adjust extended amounts and the total bid price as required by the modification.
 5. When submitting a second or more modifications related to a particular bid price, ensure that there is no ambiguity as to the intended bid price. The written modification shall clearly indicate whether:
 1. the bid price first submitted is being modified and any previous modifications are to be disregarded, or
 2. a revised bid price derived from a previous modification is being modified.
 6. State all addendum numbers received, if different from what was indicated on originally submitted Bid Form.
 7. The Owner will assume no responsibility or liability for modifications or withdrawals that are, for any reason, delayed, illegible, unclear as to intent, ambiguous, contrary to these instructions, or otherwise improperly received. The Owner may disregard improperly received modifications or withdrawals.

1.20 BIDDING IRREGULARITIES

1. Bids with Bid Forms or required Bid Form Supplements that are improperly prepared, signed or submitted contrary to these Instructions to Bidders, or that contain added conditions or other irregularities of any kind, may, at the Owner's discretion, be rejected as non-compliant.
2. The Owner may accept or waive a minor and inconsequential irregularity. The determination of what is, or is not, a minor and inconsequential irregularity, the determination of whether or

not to accept or waive such an irregularity, and the final determination of whether the bid is compliant, will be at the Owner's sole discretion.

3. The following irregularities relate to what are considered mandatory bidding requirements. These will not be considered minor and inconsequential and will cause the bid to be rejected as non-compliant:
 1. Bid or Bid Form Supplement is received after the specified bid closing time.
 2. Required Bid Form or Bid Form Supplement is missing.
 3. Bid Form or Bid Form Supplement is not in the form provided or required.
 4. A bid price is illegible, ambiguous or unclear.
 5. One or more conditions are added to or submitted with the bid, the effect of which is a material modification of the Bid Documents.
 6. Failure to indicate in the Bid Form the addendum number(s) of all addenda received.
 7. Failure to comply with any other bidding requirement expressly characterized as mandatory in elsewhere in the Bid Documents.

1.21 BID ACCEPTANCE PERIOD

1. The lowest or any bid will not necessarily be accepted, and the Owner may reject any and all bids. Without limiting the foregoing, Bidders are hereby notified that the Owner intends to review bids and award the Contract based not only on the bid price, but may also consider the Bidder's experience and qualifications considered essential by the Owner for the satisfactory completion of the Work, including the past experience of the Owner with respect to the Bidder's performance in completing projects in a timely, efficient and satisfactory manner, the Bidder's methods of doing business, and the Bidder's ability to establish and maintain a good working relationship with the Owner.
2. After bid closing and before expiry of the bid acceptance period stated in the Bid Form, the Owner may request all Bidders to agree to an extension of the originally specified bid acceptance period. In such case the bid acceptance period will be extended subject to the Bidder, who's bid the Owner wishes to accept, having agreed in writing to the extension.

1.22 BID ACCEPTANCE

1. The lowest or any bid will not necessarily be accepted and the Owner may reject any and all bids.
2. The Contract will be established if and when the successful Bidder receives from the Owner a written notification accepting the bid without any conditions. If the Owner's written notification accepting the bid contains, or is subject to, any conditions, the Contract will be established if and when the Bidder accepts all such conditions in writing or when the parties execute the agreement.

3. If the lowest compliant bid exceeds the Owner's budget, and the Owner is unwilling or unable to award a contract at the bid price, the Owner may:
 1. negotiate, with the lowest compliant Bidder only, changes to the Bid Documents and a reduced bid price acceptable to the Owner, or
 2. invite the three lowest compliant Bidders (only) to re-bid on modified Bid Documents under a new bid call.

1.23 INTERPRETATION AND MODIFICATION OF BID DOCUMENTS

1. If an inquiry requires an interpretation or modification of the Bid Documents, the response to that inquiry will be issued in the form of a written Addendum only, to ensure that all Bidders base their bids on the same information.
2. Replies to inquiries or interpretations or modifications of the Bid Documents made by e-mail, verbally, or in any manner other than a written Addendum, will not form part of the Bid Documents and will not be binding.

1.24 ADDENDA

1. Addenda may be issued to modify the Bid Documents in response to Bidder inquiries or as may be considered necessary.
2. All addenda issued during the bid period will become part of the Bid Documents.
3. No addenda will be issued later than 2 working days before the bid closing time.
4. Each Bidder shall ascertain before bid submission that it has received all addenda issued during the bid period and shall indicate in the Bid Form the addendum number(s) of all addenda received.

1.25 INQUIRIES

1. Direct all inquiries in writing, via e-mail to:

AJ Evenson
Senior Project Manager
Email: aevenson@rdck.bc.ca
2. Submit inquiries as early as possible in the bid period and not less than 4 Working Days before the bid closing time. Inquiries received after this time may not receive a response.

END OF SECTION

1.1 STATUS OF AVAILABLE PROJECT INFORMATION

1. Available Project information means information of any type and in any form that is expressly identified as available project information in this Section.
2. No available Project information forms part of the Contract Documents unless copied or transcribed into Drawings or Specifications or is expressly listed in the agreement as a Contract Document.

1.2 USE AND RELIANCE UPON AVAILABLE PROJECT INFORMATION

1. Available Project information is made available to Bidders to fulfil the Owner's duty to disclose all relevant Project information to Bidders.
2. Bidders shall interpret and draw their own conclusions about available Project information, including consideration of the time when it was created. Available project information may be time sensitive. The Owner and Consultant assume no responsibility for such interpretations and conclusions.
3. Available Project information, or any part thereof, shall not be construed as contract requirements unless also reflected in Drawings or Specifications, and in case of conflict the Drawings or Specifications shall govern.
4. Bidders, acting reasonably, may rely on available Project information in preparing their bids, subject to any qualifications stated in such available Project information and unless expressly stated otherwise in this Section.

1.3 AVAILABLE PROJECT INFORMATION

- .1 Not Applicable

END OF SECTION

Project/Contract: PRJ24055 CASTLEGAR & DISTRICT COMMUNITY COMPLEX ROOF REPLACEMENT

From (Bidder):

Legal Name of Bidder (please print)

Address of Bidder

Telephone Number of Bidder

Facsimile Number of Bidder

GST Registration Number

Signature

Date

Print Name and Title

To (Owner):

Regional District of Central Kootenay
202 Lakeside Drive
Nelson, BC V1L 5R4

We, the undersigned, having examined the Bid Documents for the above named project/contract, including Addendum Number(s) _____, and having visited the Place of the Work, hereby offer to perform the Work in accordance with the Bid Documents, for the stipulated price of:

\$ _____ in Canadian dollars, excluding Value Added Taxes.
(amount in figures)

We, the undersigned, declare that:

1. we are qualified to perform the Work in accordance with the Bid Documents and our bid price covers all of our obligations and things necessary for the performance of the Work,
2. our bid price includes the allowance(s) specified in Section 01 21 00 - Allowances,
3. we agree to attain Substantial Performance of the Work by October 31, 2025,
4. we have arrived at this bid without collusion with any competitor,
5. all bid form supplements called for by the Bid Documents form an integral part of this bid, and

6. this bid is open to acceptance by the Owner for a period of 90 calendar days from the bid closing time.

Signatures

Signed and submitted by:

(business name)

(name and title of authorized signing representative)

(signature of authorized signing representative)

(name of witness, if business is sole proprietorship)

(signature of witness, if business is sole proprietorship)

(name and title of authorized signing representative)

(signature of authorized signing representative)

Dated this _____ day of _____, 2025.

END OF SECTION

Project/Contract: PRJ24055 CASTLEGAR & DISTRICT COMMUNITY COMPLEX ROOF REPLACEMENT

From (Bidder): _____
(Bidder name)

We, the above named Bidder, offer the alternative prices stated below for the alternatives specified in more detail in Section 01 23 00 - Alternatives. The effect on our base bid price stated in the Bid Form and the effect on the Contract Time, if any, is entered for each alternative. All alternative prices exclude Value Added Taxes. If there is no change to the base bid price for an alternative or if there is no change to the Contract Time for an alternative, we have so indicated. It is understood that:

1. the Owner may accept any of the alternatives and corresponding alternative prices in any order or combination, including all or none, as specified in the Instructions to Bidders,
2. the alternative prices will be taken into account in determining the lowest compliant bidder,
3. the alternatives and alternative prices are open for acceptance by the Owner for the same period of time as the base bid price,
4. the work of the Contract, the Contract Price, and the Contract Time will reflect the alternatives and alternative prices, if any, accepted by the Owner at the time of contract award, and
5. where applicable, alternative prices include the cost of coordinating all related Work and modifying adjacent or affected Work as required to integrate the Work of each alternative.

No	Description of Alternative	Effect on Base Bid Price		Effect on Contract Time (in Calendar Days)	
		Add	Deduct	Add	Deduct
1					
2					
3					
4					
5					

END OF SECTION

Project/Contract: PRJ24055 CASTLEGAR & DISTRICT COMMUNITY COMPLEX ROOF REPLACEMENT

From (Bidder): _____
(Bidder name)

We, the above named Bidder, have received bids from the Subcontractors or Suppliers named below for the items of work requested, and are prepared to accept these names for the performance of these items of work.

No	Item of Work	Name of Subcontractor or Supplier
1		
2		
3		
4		
5		

END OF SECTION

1.1 FORM OF CONTRACT

- .1 The form of Contract, including the Agreement, Definitions, and General Conditions is CCDC 2 (2020), Stipulated Price Contract, subject to the modifications specified in Section 00 73 00 – Supplementary Conditions.

1.2 CONTRACT COPYRIGHT AND AVAILABILITY

1. The CCDC form of Contract is a copyrighted document published by the Canadian Construction Documents Committee (CCDC). It is incorporated into these Bid Documents by reference. It is available for purchase from any CCDC document outlet. Refer to ccdc.org.

1.3 CONTRACT PREPARATION FOR SIGNING

1. The Consultant will prepare 2 (two) copies of the form of Contract for signing by the Contractor and the Owner after notice of award. Each copy will be comprised of the CCDC form of Contract with a CCDC copyright seal affixed, with a completed Agreement form, and with other Contract Documents referenced or appended.

END OF SECTION

1.1 INTENT

1. These amendments amend the Agreement forming part of CCDC 2 (2020), Stipulated Price Contract as indicated below. Provisions not amended remain in full force and effect.

1.2 AMENDMENTS TO AGREEMENT

- .1 Not Applicable

END OF SECTION

1.1 INTENT

1. These amendments amend the Agreement and Definitions forming part of CCDC 2 (2020) Stipulated Price Contract as indicated below. Provisions not amended remain in full force and effect.

1.2 AMENDMENTS TO DEFINITIONS

- .1 Not Applicable

END OF SECTION

1.1 INTENT

1. These Supplementary Conditions amend the General Conditions of CCDC 2 (2020) Stipulated Price Contract as indicated below. Provisions not amended remain in full force and effect.

1.2 AMENDMENTS TO GENERAL CONDITIONS

- .1 Not Applicable

END OF SECTION

1.1 PERFORMANCE BOND

1. Provide security for performance of the Contract in the form of a Performance Bond for 50% of the Contract Price.
2. Bond shall be in accordance with the latest edition of the Canadian Construction Documents Committee (CCDC) Standard Form of Performance Bond, CCDC 221.
3. Bond shall be issued by a duly licensed surety company authorized to transact the business of suretyship in the province or territory of the Place of the Work.
4. Bond shall name the Regional District of Central Kootenay as the obligee and shall be signed, sealed, and dated by both Contractor and surety company.
5. Submit bond to Owner within 15 days after contract award.

AND

1.2 LABOUR AND MATERIAL PAYMENT BOND

1. Provide security for payment of labour and material provided in the performance of the Work in the form of a Labour and Material Payment Bond for 50% of the Contract Price.
2. Bond shall be in accordance with the latest edition of the Canadian Construction Documents Committee (CCDC) Standard Form of Labour and Material Payment Bond, CCDC 222 .
3. Bond shall be issued by a duly licensed surety company authorized to transact the business of suretyship in the province or territory of the Place of the Work.
4. Bond shall name the Regional District of Central Kootenay as the obligee and shall be signed, sealed, and dated by both Contractor and surety company.
5. Submit bond to the Owner within 15 days after contract award.

OR

1.3 CERTIFIED CHEQUE OR BANK DRAFT

1. The Contractor may provide, in lieu of the specified Bonds referenced in 1.1 and 1.2 above, security for performance of the Contract in the form of a certified cheque or bank draft for 10% of the Contract Price.
2. The certified cheque or bank draft shall be in favour of the Regional District of Central Kootenay.
3. Submit certified cheque or bank draft to the Owner within 15 days after contract award. Alternatively, and subject to mutual agreement, the Owner may retain as contract security a certified cheque or bank draft provided as bid security.

4. The certified cheque or bank draft will be deposited and the monies will not be returned to the Contractor, in whole or in part, until satisfactory performance of all of the Contactor's obligations under the Contract.
5. Provided the Contractor has satisfactorily fulfilled all of its obligations under the Contract, the Owner will return to the Contractor the monies provided as contract security without interest, no later than 30 days after Substantial Performance of the Work.

OR

1.4 IRREVOCABLE BANK LETTER OF CREDIT

1. The Contractor may provide, in lieu of the specified Bonds referenced in 1.1 and 1.2 above, security for performance of the Contract in the form of an irrevocable bank letter of credit for 10% of the Contract Price.
2. The letter of credit shall be in favour of the Regional District of Central Kootenay.
3. Submit the letter of credit to the Owner within 15 days after contract award.
4. The letter of credit shall have an expiry date no earlier than 24 months from the date of the tender close.
5. The letter of credit will not be returned to the Contractor until satisfactory performance of all of the Contactor's obligations under the Contract.
6. Provided the Contractor has satisfactorily fulfilled all of its obligations under the Contract, the Owner will return the letter of credit to the Contractor no later than 30 days after Substantial Performance of the Work.

END OF SECTION



APPENDIX A

PROJECT DRAWINGS

INVITATION TO TENDER

**CASTLEGAR & DISTRICT COMMUNITY COMPLEX
ROOF REPLACEMENT
PRJ #24055**

CDRD AQUATIC CENTER ROOF RENEWALS

ADDRESS: 2101SIXTH AVENUE, CASTLEGAR, BC
PROJECT NUMBER: 25-00001

APRIL 17, 2025
ISSUED FOR TENDER



DRAWING LIST:

GENERAL	TITLE PAGE
G0.00	
PLANS	
A1.00	SITE PLAN
A1.01	DEMOLITION ROOF PLAN
A1.02	ROOF PLAN
DETAILS	
A2.00	ROOF PARAPET DETAILS
A2.01	BASE OF WALL AND CURB DETAILS
A2.02	PENETRATION DETAILS

HATCH LEGEND

	SHEATHING
	GYPSUM BOARD
	COVERBOARD
	BATT INSULATION
	POLYISO INSULATION
	RIGID INSULATION
	SPRAY FOAM
	MINERAL WOOL

ABBREVIATIONS LIST

W.R.B.	WEATHER RESISTIVE BARRIER
A.B.	AIR BARRIER
V.B.	VAPOUR BARRIER
V.P.	VAPOUR PERMEABLE
A.V.B.	AIR AND VAPOUR BARRIER
M.B.	MOISTURE BARRIER
S.A.M.	SELF-ADHERED MEMBRANE
T.O.W.	TOP OF WALL
P.T.	PRESSURE TREATED
D.M.	DRAINAGE MAT
MIN.	MINIMUM
MAX.	MAXIMUM
DWG.	DRAWING
C/W	COMPLETE WITH
SIM.	SIMILAR
N.I.C.	NOT IN CONTRACT
S.O.G.	SLAB ON GRADE
ADD.	ADDENDUM
U.N.O.	UNLESS OTHERWISE NOTED
EX.	EXISTING
T&G	TONGUE AND GROOVE
TYP.	TYPICAL
T/O	TOP OF
A.H.U.	AIR HANDLING UNIT
CT	CONCRETE TOPPED

MEMBRANE LEGEND

	SHEATHING MEMBRANE
	SELF ADHESIVE MEMBRANE
	ROOF MEMBRANE
	LIQUID MEMBRANE

GENERAL NOTES

- DRAWINGS ARE TO BE READ IN CONJUNCTION WITH WRITTEN SPECIFICATIONS.
- DO NOT SCALE DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR VERIFYING DIMENSIONS ON SITE.
- DRAWINGS PREPARED BY EVOKE ARE BASED ON INFORMATION TAKEN FROM ARCHITECTURAL DRAWINGS BY UNDERWOOD MCLELLAN & ASSOCIATES LIMITED, CONSULTANT ENGINEERS
- CONTRACTOR IS RESPONSIBLE FOR SAFETY ON SITE.
- CONTRACTOR IS NOT TO OVERLOAD THE ROOF OR PODIUM STRUCTURES. CONTRACTOR IS TO BE AWARE AS TO NOT DAMAGE THE UNDERLYING STRUCTURE AND PROVIDE ADEQUATE SUPPORT DURING DEMOLITION OR CONSTRUCTION ACTIVITIES.
- BASED ON THE REVIEW OF EXISTING DRAWINGS, THE CURRENT CODE CLASSIFICATION IS PART 3 BCBC. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND MAKING GOOD ALL EXISTING FIRE SEPARATIONS AND FIRE RESISTANCE RATINGS BASED ON THE GOVERNING CODE.
- CONTRACTOR MUST REPORT TO THE CONSULTANT ALL NEW AND EXISTING PENETRATIONS THROUGH SLABS, FIRE WALLS AND BEARING WALLS. CONTRACTOR TO OBTAIN APPROVAL FOR ALL FIRE-RATED SYSTEMS WITH PENETRATIONS.
- BASED ON SITE OBSERVATIONS, BUILDING IS SPRINKLERED.
- IF ANY DISCREPANCIES IN THE DOCUMENTS ARE FOUND, REQUEST THE CONSULTANT TO CLARIFY THE DISCREPANCIES PRIOR TO COMMENCING ANY RELATED WORK.
- NOTIFY THE CONSULTANT IMMEDIATELY AND REQUEST A REVIEW IF ANY ADDITIONAL DAMAGE OF EXISTING AREAS OUTSIDE THE CONTRACT IS DISCOVERED. DO NOT COMMENCE ANY RELATED OR NEARBY WORK WITHOUT THE CONSULTANT'S APPROVAL.
- CONTRACTOR TO ENSURE THAT EXISTING STRUCTURE AND SERVICES ARE NOT

- DAMAGED THROUGH DEMOLITION CONSTRUCTION ACTIVITIES. CONTRACTOR TO ENSURE ADEQUATE PRECAUTIONS ARE IMPLEMENTED TO PROTECT STRUCTURE AND SERVICES THAT ARE TO REMAIN. CONTRACTOR TO MAKE GOOD ANY DAMAGE TO THE REMAINING STRUCTURE, SERVICES OR BUILDING COMPONENTS AT NOT COSTS TO THE OWNER.
- ALL TERMINATIONS IN METAL FLASHINGS TO HAVE FOLDED END DAMS AND MAINTAIN 5% SLOPE UNLESS OTHERWISE NOTED. FLASHING DOWNTURN LEG TO COVER CLADDING MINIMUM 2" UNLESS OTHERWISE NOTED. ALL JOINTS TO BE S-L-OCK OR STANDING SEAM.
- TYPICAL SEALANT JOINT TO BE MINIMUM 3/8" WIDE AND COMPLETE WITH BACKER ROD, UNLESS OTHERWISE NOTED.
- UPON COMPLETION OF THE WORK, CLEAN ALL AREAS AFFECTED BY THE WORK TO THE SATISFACTION OF THE CONSULTANT AND OWNER.
- ALL SCAFFOLDING AND ROOF ACCESS MUST BE SIGNED OFF BY A STRUCTURAL ENGINEER PRIOR TO INSTALLATION.
- PEDESTRIAN ACCESS TUNNELS AND SCAFFOLD TOWERS ARE TO BE NON-CLIMBABLE, WEATHER PROTECTED, WELL LIT, AND ALL HAZARDS ARE TO BE IDENTIFIED FOR THE DURATION OF THE PROJECT.
- CONTRACTOR TO ENSURE THE SCAFFOLD HOARDING AND STAIR TOWERS ARE FULLY HOARDED WITH PLYWOOD TO A HEIGHT OF 12 FEET OR INACCESSIBLE BY MINIMUM 6' SECURITY FENCING TO PREVENT CLIMBING AND PUBLIC ACCESS.
- CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL CRANE LIFTS MAINTAIN FIRE LANE ACCESS TO ALL SURROUNDING BUILDINGS THROUGHOUT THE PROJECT SCOPE.
- CONTRACTOR TO PROVIDE TEN (10) DAYS NOTICE FOR ANY SHUT DOWN OF MECHANICAL OR ELECTRICAL SERVICES. SHUTDOWNS NOT TO EXTEND PAST ONE (1) WORKING DAY UNLESS OTHERWISE PERMITTED. ALL DISCONNECTIONS AND RECONNECTIONS SHALL BE COMPLETED BY QUALIFIED TRADESPERSONS.

ASSEMBLIES

ER1 EXISTING SOUTHWEST ROOF ASSEMBLY

- TWO PLY MODIFIED BITUMEN SHEET MEMBRANE
- 1/2" FIBERBOARD, TWO LAYERS
- 3" EXTRUDED RIGID INSULATION (XPS)
- ASPHALT / PAPER FELT MOPPED VAPOUR BARRIER
- 1/2" GYPSUM BOARD SHEATHING
- EXISTING STEEL DECK
- EXISTING OPEN WEB STEEL JOISTS

ER2 EXISTING NORTH ROOF ASSEMBLY

- TWO PLY MODIFIED BITUMEN SHEET MEMBRANE
- 1/2" FIBERBOARD, ONE OR TWO LAYERS
- 3" POLYISO OR EXTRUDED RIGID INSULATION (XPS)
- ASPHALT / PAPER FELT MOPPED VAPOUR BARRIER
- 1/2" GYPSUM BOARD SHEATHING
- EXISTING STEEL DECK
- EXISTING OPEN WEB STEEL JOISTS

R1 NEW ROOF ASSEMBLY

- NEW CT BOARD 2" THICK RIGID INSULATION
- NEW DRAINAGE MAT
- NEW 2-PLY MODIFIED BITUMEN ROOFING MEMBRANE
- NEW GYPSUM ROOF UNDERLAY BOARD
- NEW SLOPED AND FLAT POLYISO RIGID INSULATION PANELS
- NEW ROOF AIR VAPOUR MEMBRANE LAYER
- NEW GYPSUM ROOF COVERBOARD
- EXISTING STEEL DECK
- EXISTING OPEN WEB STEEL JOISTS
- STEEL DECK EXPOSED, SOME AREAS WITH SUSPENDED T-BAR CEILING

ER3 EXISTING UPPER SOUTH ROOF ASSEMBLY

- TWO PLY MODIFIED BITUMEN SHEET MEMBRANE
- ASPHALTIC ROOF COVER BOARD
- 3" + 2" RIGID POLYISO INSULATION
- SELF-ADHESIVE SHEET MEMBRANE AIR / VAPOUR LAYER
- 1/2" GYPSUM BOARD SHEATHING
- EXISTING STEEL DECK
- EXISTING OPEN WEB STEEL JOISTS

ER4 EXISTING UPPER SOUTH ROOF ASSEMBLY

- TWO PLY MODIFIED BITUMEN SHEET MEMBRANE
- ASPHALTIC ROOF COVER BOARD
- 5" THICK, 2 LAYERS OF 2.5" RIGID POLYISO INSULATION
- SELF-ADHESIVE SHEET MEMBRANE AIR / VAPOUR LAYER
- 1/2" GYPSUM BOARD SHEATHING
- EXISTING STEEL DECK
- EXISTING OPEN WEB STEEL JOISTS

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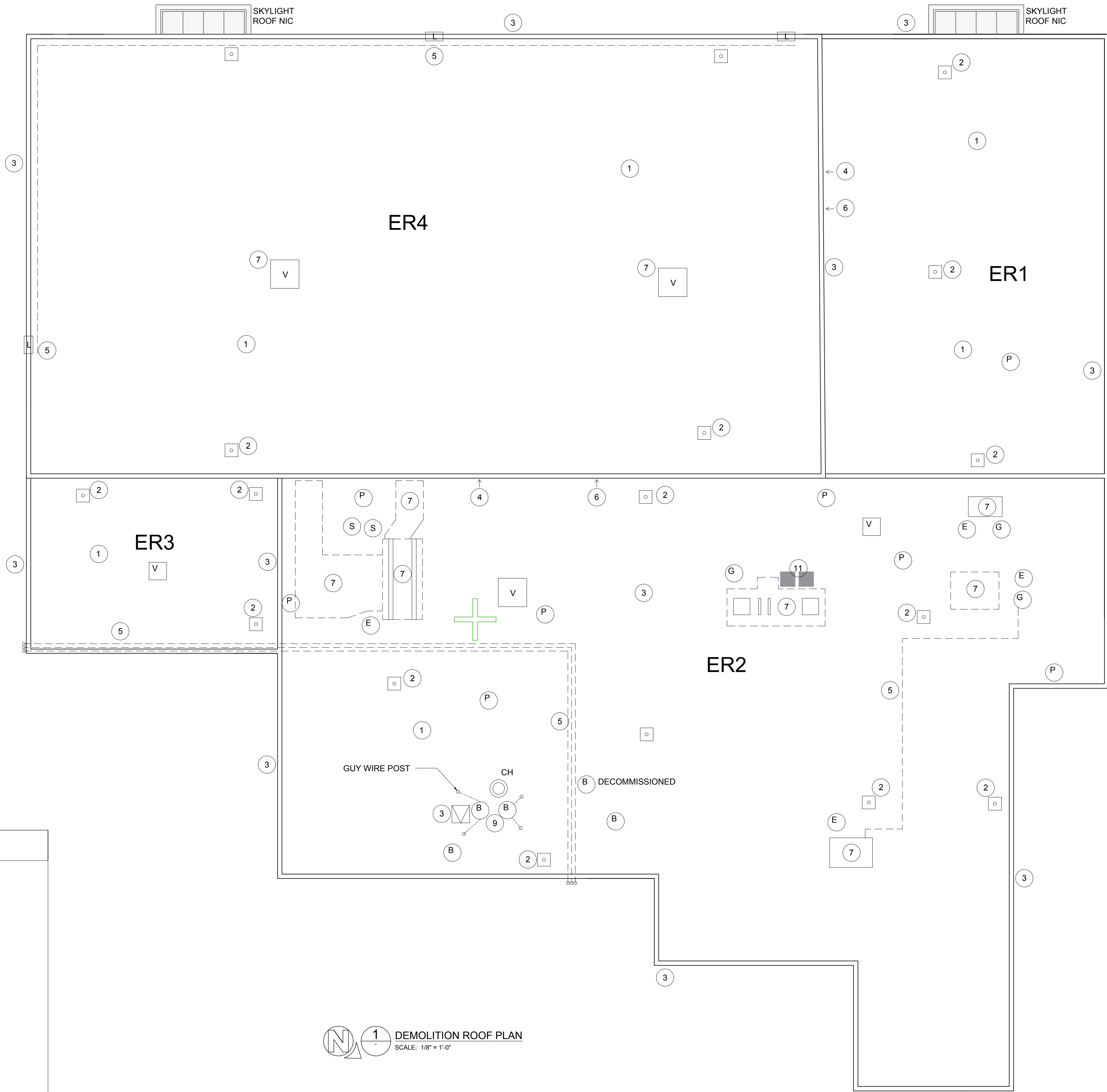
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1	ISSUED FOR 90% REVIEW	2025-02-06
VERSION	DESCRIPTION	YYYY-MM-DD
DATE:	DESIGNED:	DRAWN:
2024.12.20	AM	NM
SCALE:		SHEET NO.
NTS		
APPROVED BY:		
DAVID FOKES		



SITE PLAN
SCALE: 1/32" = 1'-0"

A1.00

ADJACENT
ROOF
AREAS
NIC.



LEGEND

- ROOF DRAIN
- ELECTRICAL OR SERVICE STACK
- SCUPPER DRAIN
- PLUMBING STACK
- ROOF SLOPE
- B-VENT
- ROOF CURB
- EQUIPMENT ABOVE ROOF LEVEL
- ROOF PARAPET
- FREE STANDING COMPONENTS
- EXHAUST VENTILATION
- SERVICE LINE ABOVE ROOF
- CHIMNEY
- WALK PAD
- ROOF HATCH
- LIGHT FIXTURE

LEGEND

- 1 REMOVE AND DISPOSE OF THE EXISTING ROOF ASSEMBLY ER1, ER2, ER3 & ER4, DOWN TO THE EXISTING STEEL DECK
- 2 REMOVE AND DISPOSE OF THE EXISTING DRAINS
- 3 REMOVE AND DISPOSE OF THE EXISTING ROOF PARAPET AND DIVIDER CURB FLASHINGS
- 4 REMOVE AND DISPOSE OF THE EXISTING BASE OF WALL FLASHINGS
- 5 DISCONNECT, REMOVE, LIFT, SUPPORT FREE STANDING ELECTRICAL CONDUIT AND FIXTURES TO ALLOW THE REMOVALS AND NEW INSTALLATIONS
- 6 REMOVE, STORE, AND REINSTALL WALL CLADDING AFFECTED BY THE WORK
- 7 MECHANICAL EQUIPMENT, LINES AND DUCTS TO BE DISCONNECTED, RAISED, STORED ASIDE AND REINSTALLED AND RECOMMISSIONED AFTER THE WATEROOFING IS COMPLETED
- 8 REMOVE, STORE AND REINSTALL EXISTING ROOF HATCH
- 9 DETACH AND REINSTALL SUPPORT CABLES TO ALLOW REROOFING
- 10 REMOVE STORE AND REINSTALL FREESTANDING ANTENNA
- 11 REMOVE AND DISPOSE OF CONCRETE PAVERS

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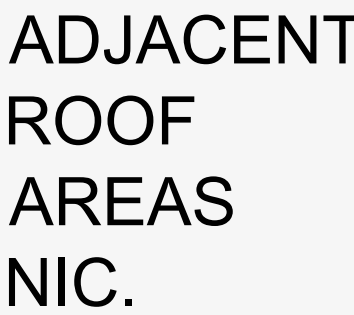
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APPROVED BY: DAVID FOKES		

CDRD AQUATIC CENTRE ROOF RENEWALS

PROJECT NO.: 25-00001

ROOF PLAN

2013 PERMIT TO PRACTICE NO.: 1000295

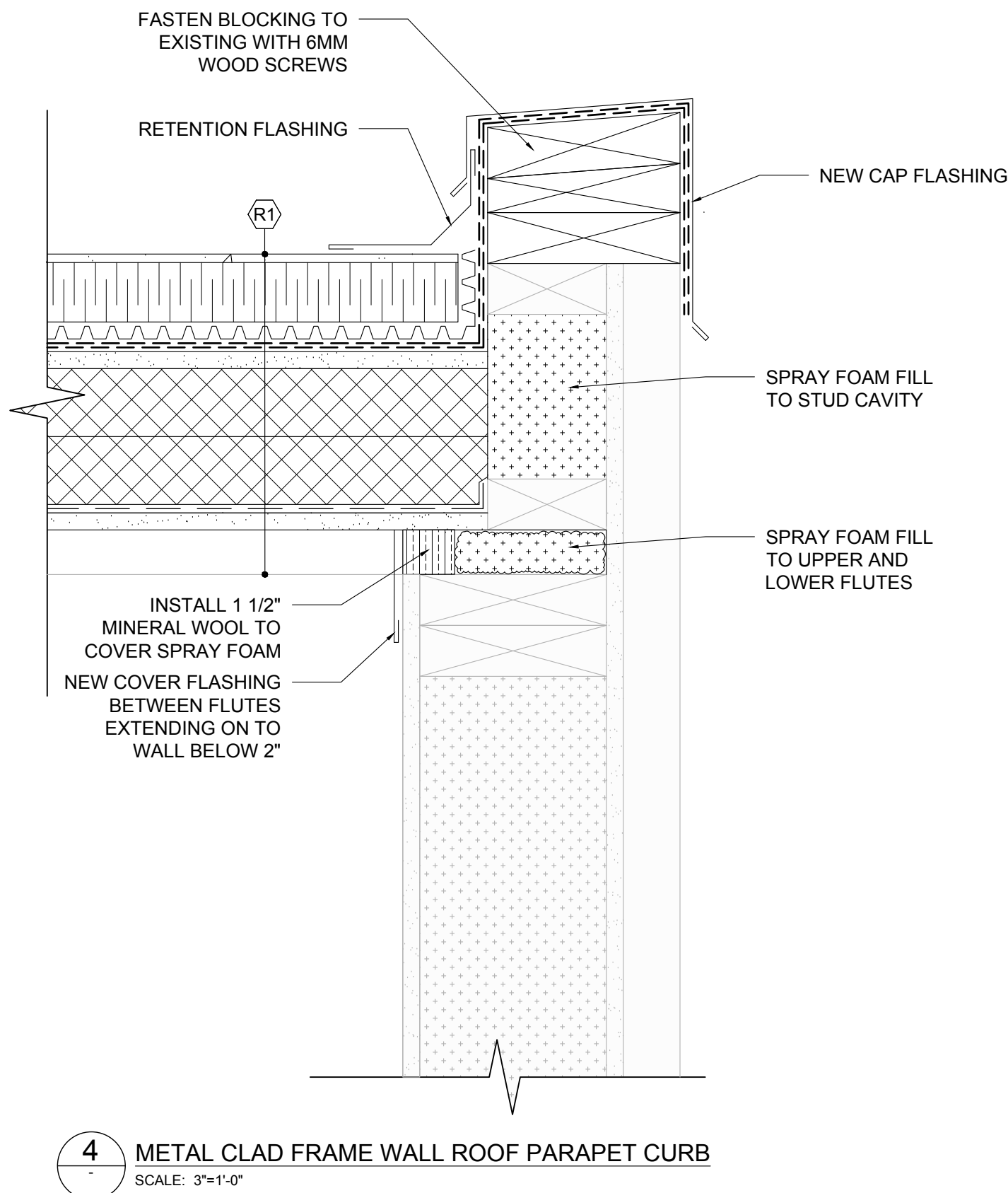
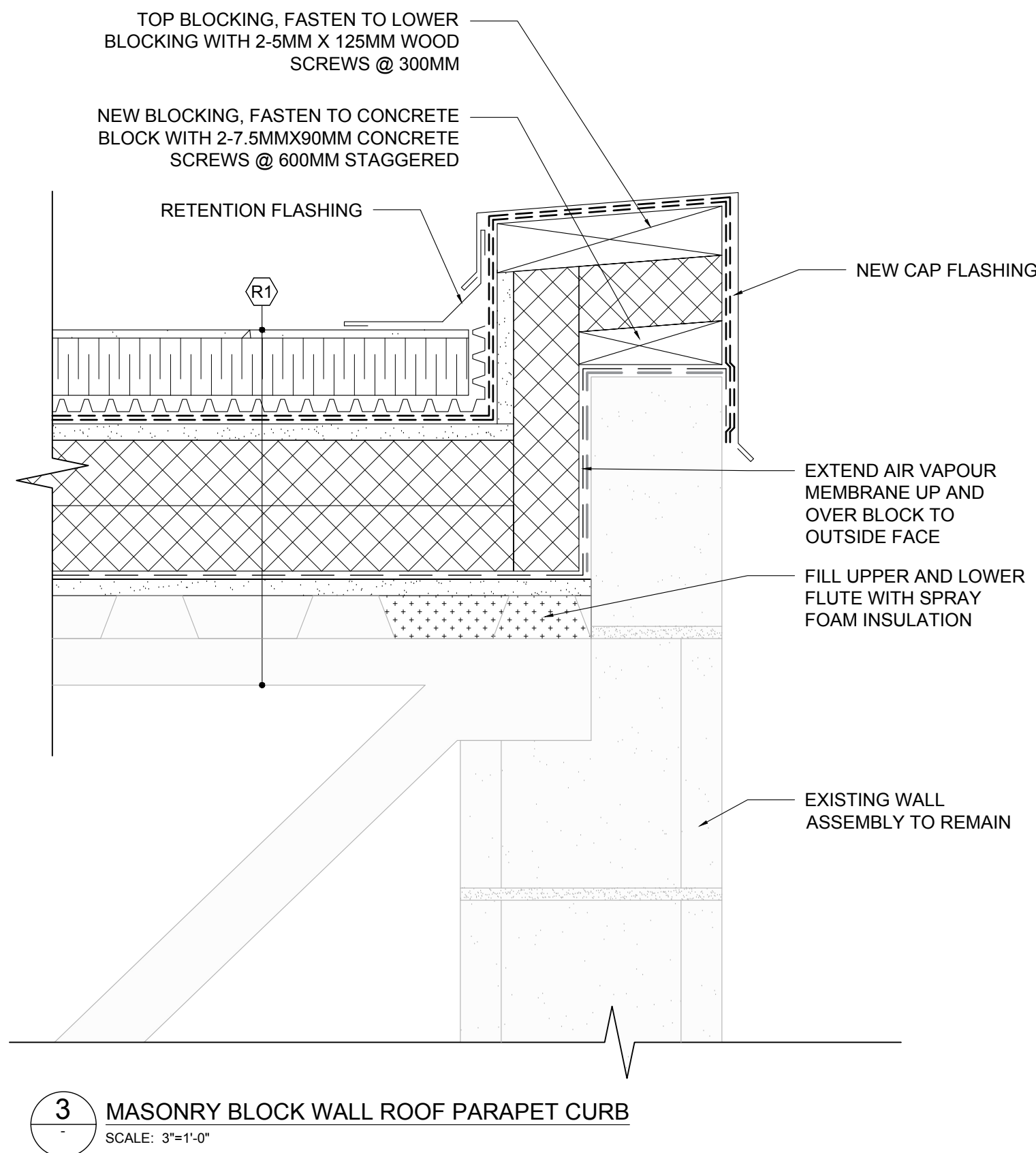
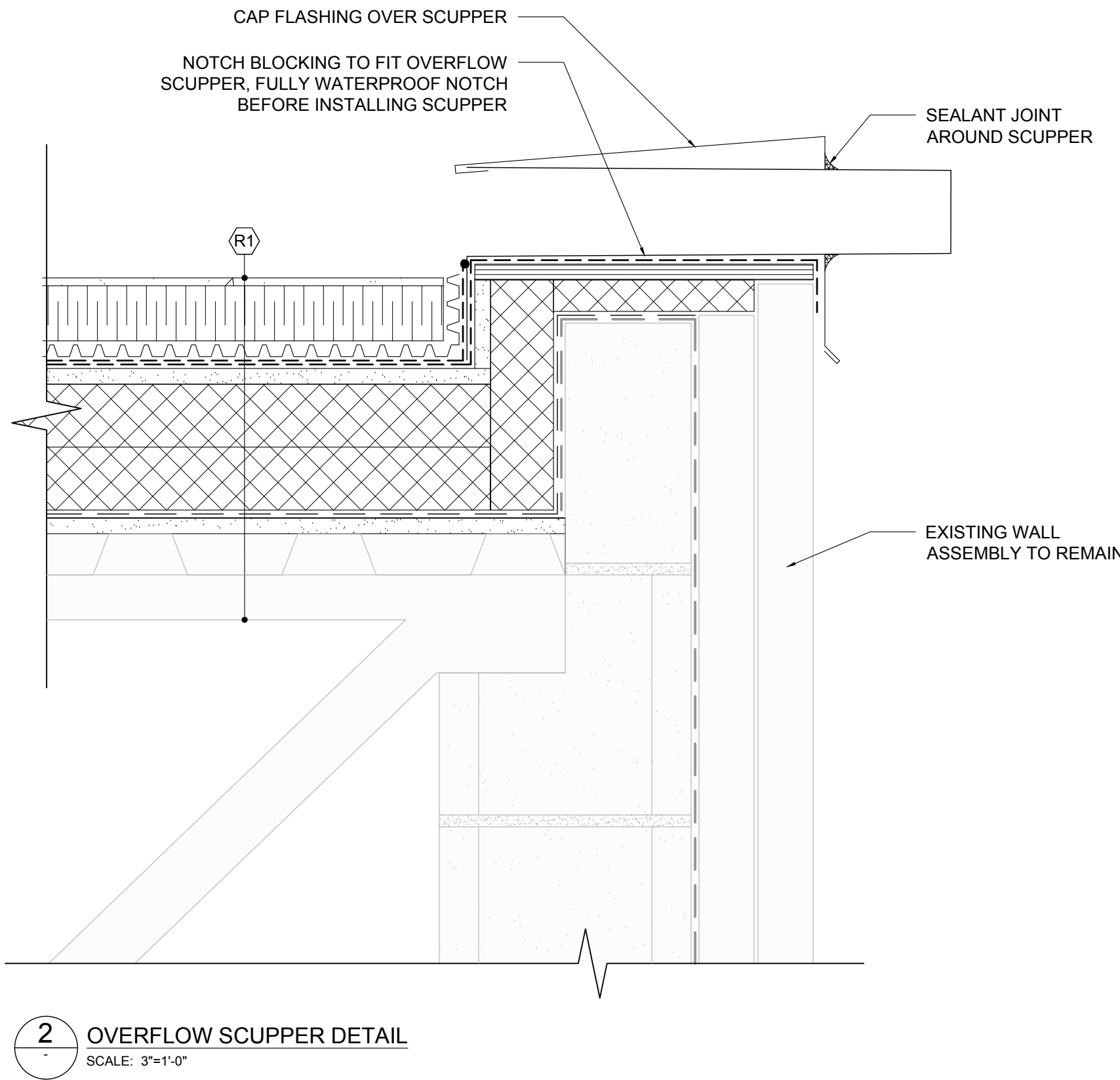
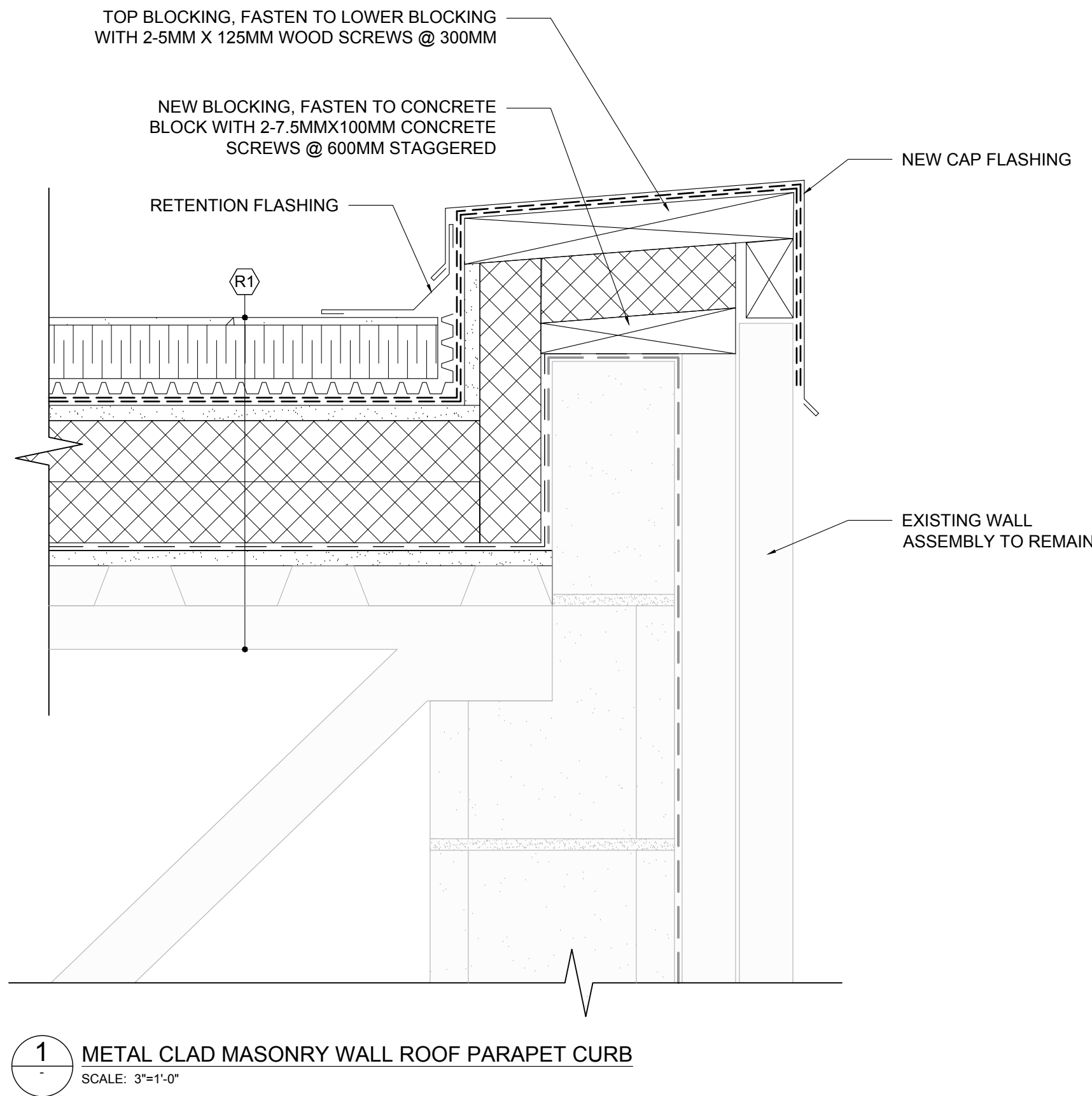


LEGEND	
	ROOF DRAIN
	ELECTRICAL OR SERVICE STACK
	SCUPPER DRAIN
	PLUMBING STACK
	ROOF SLOPE
	B-VENT
	ROOF CURB
	EQUIPMENT ABOVE ROOF LEVEL
	ROOF PARAPET
	FREE STANDING COMPONENTS
	EXHAUST VENTILATION
	SERVICE LINE ABOVE ROOF

 **ROOF PLAN**
SCALE: 1/8" = 1'-0"

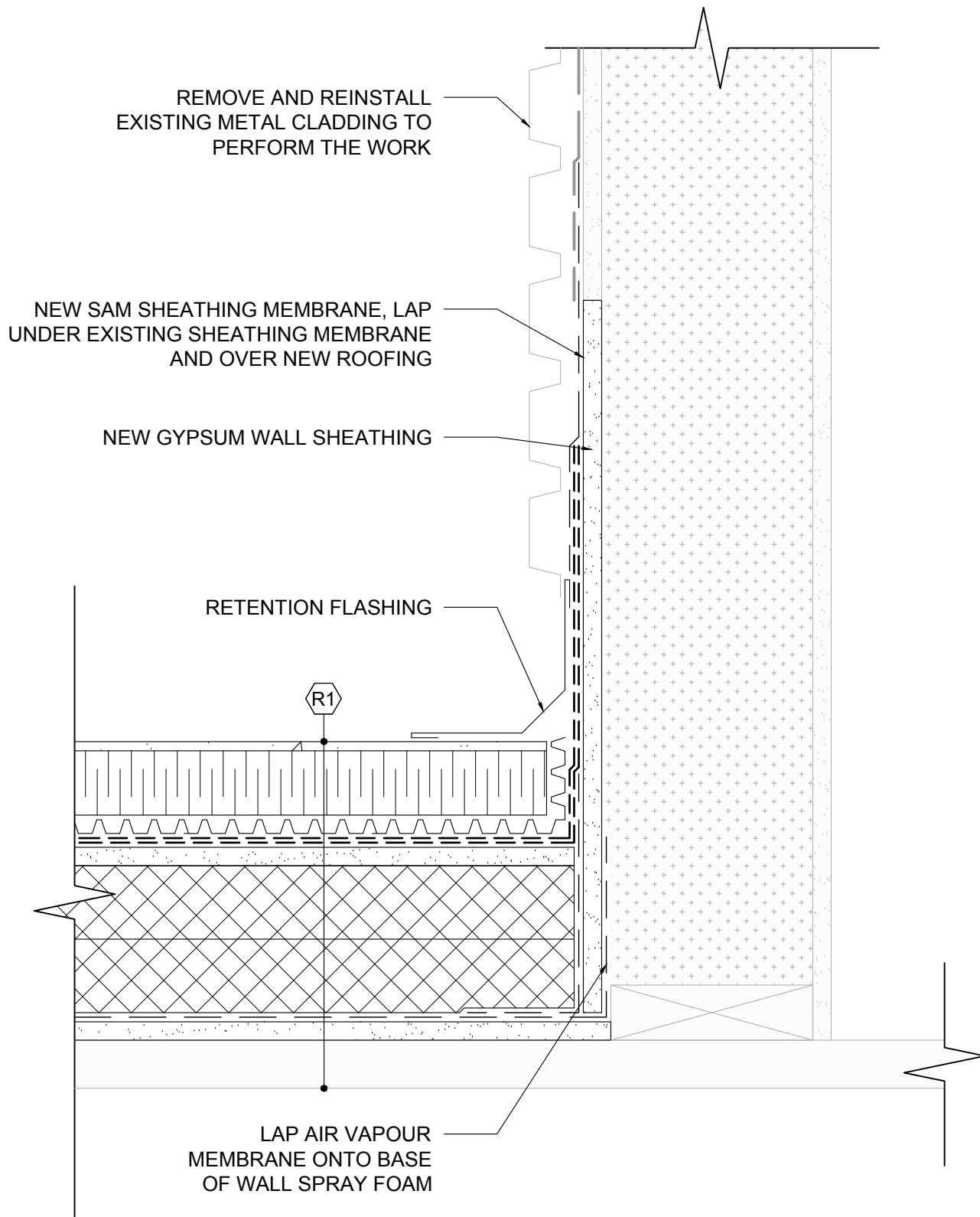
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VERSION	DESCRIPTION		YYYY-MM-DD
DATE: 2024.12.20	DESIGNED: AM	DRAWN: NM	
SCALE: 1/8"=1'-0"		SHEET NO.	
APPROVED BY: DAVID FOOKES			A1.02

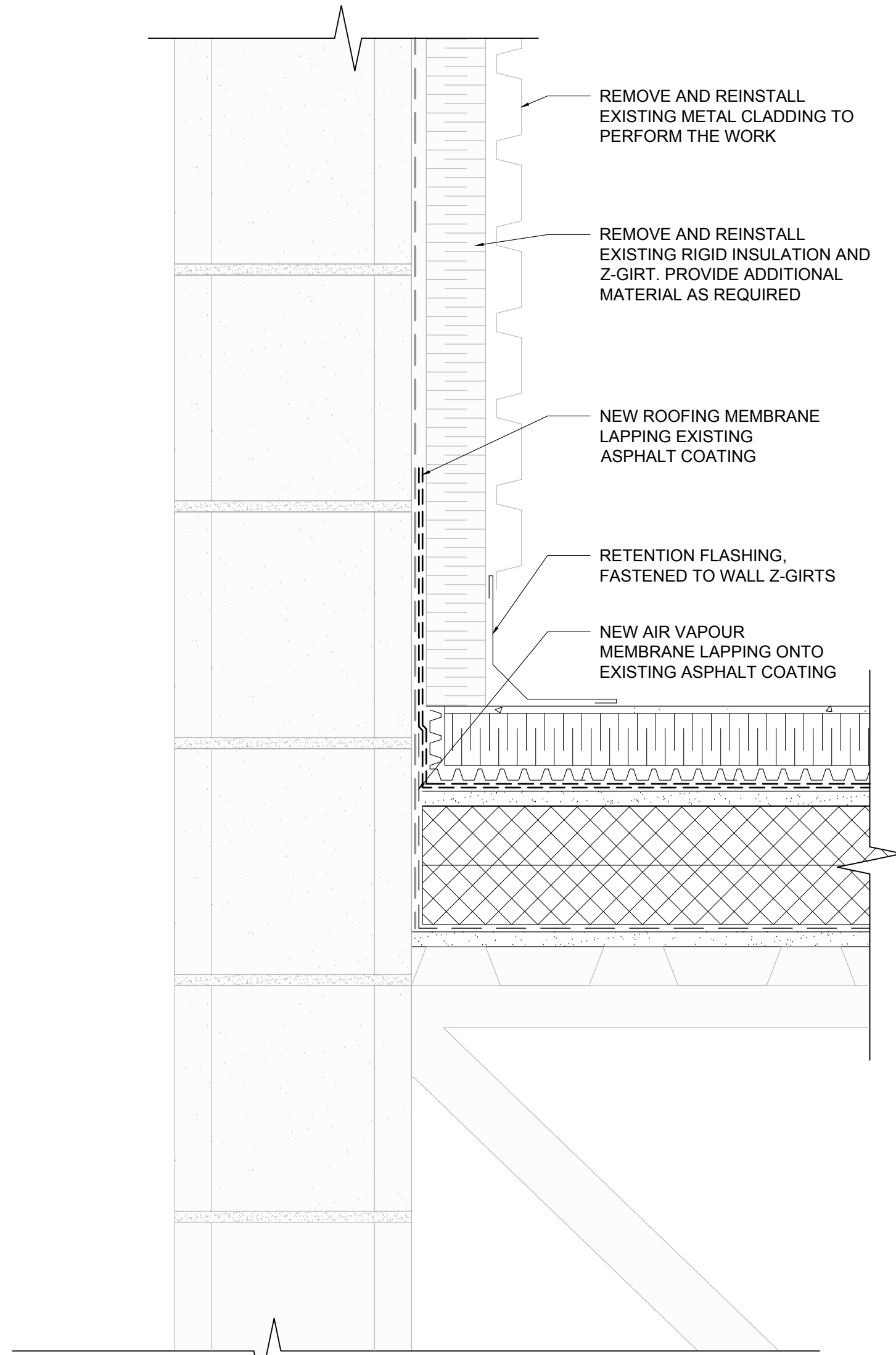


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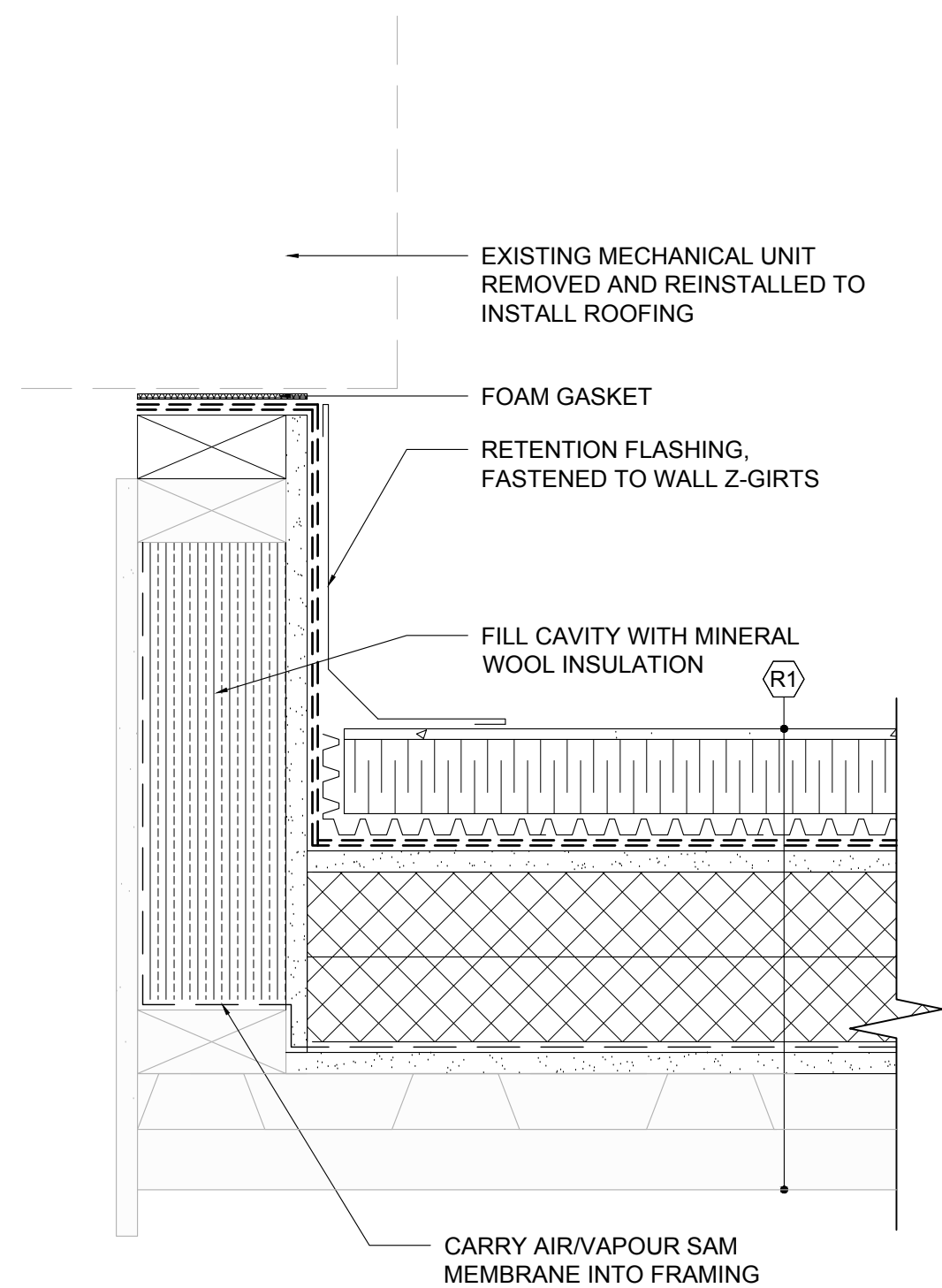
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VERSION	DESCRIPTION	YYYY-MM-DD
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2024.12.20	AM	NM
SCALE:	SHEET NO.	
3"=1'-0"		
APPROVED BY:		
DAVID FOOKES		



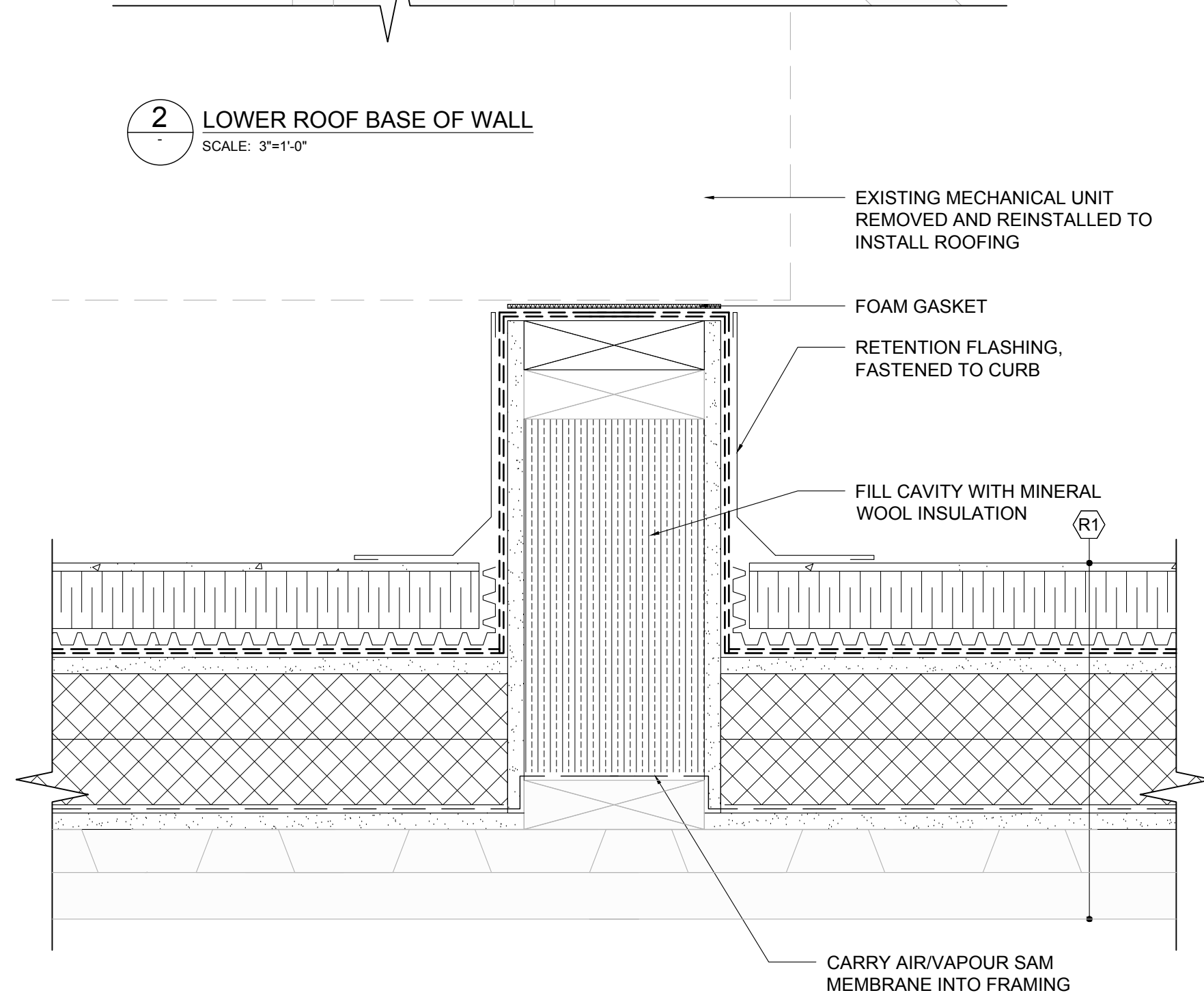
1 LOWER ROOF BASE OF WALL NORTH ELEVATION
SCALE: 3"=1'-0"



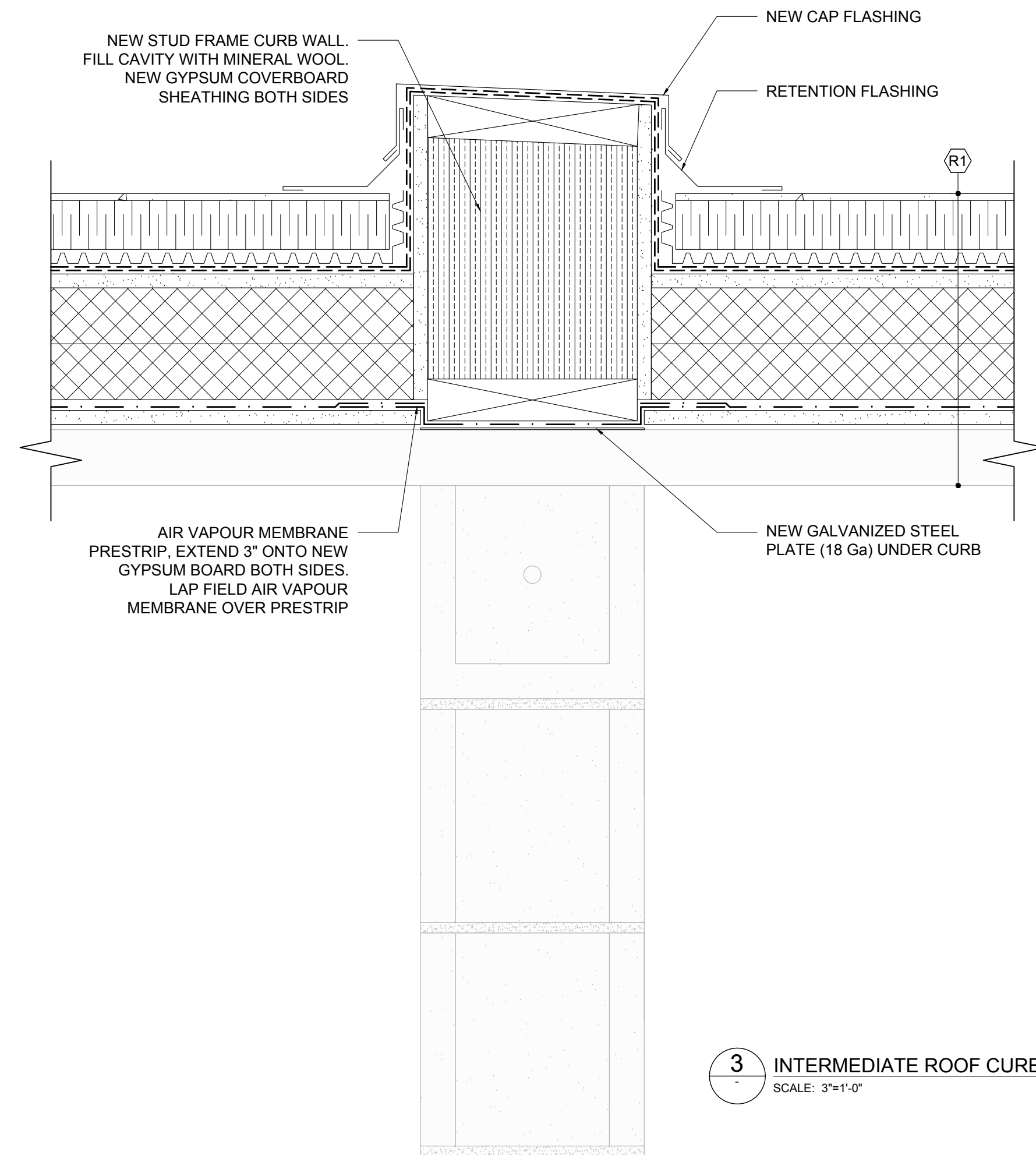
2 LOWER ROOF BASE OF WALL
SCALE: 3"=1'-0"



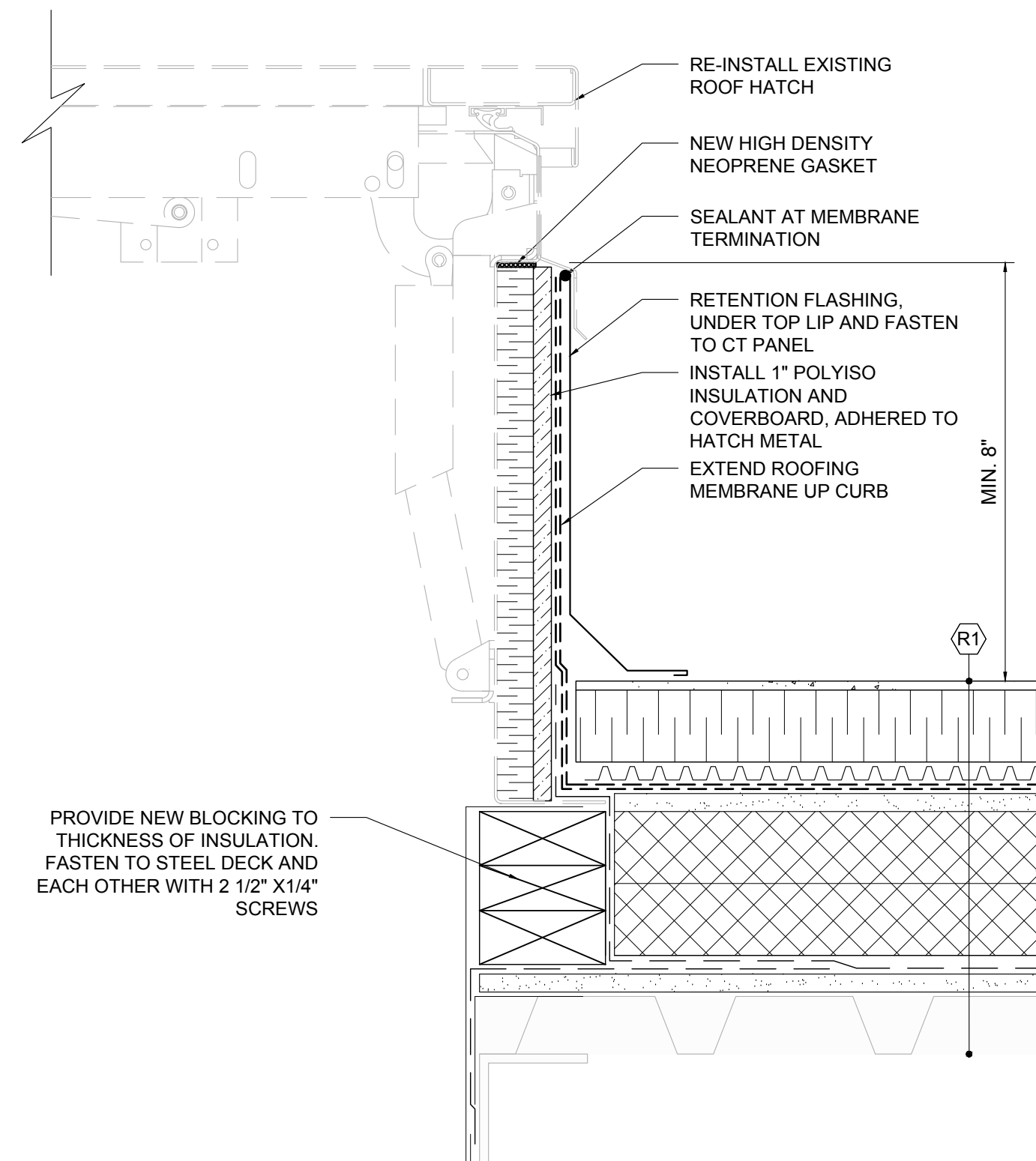
4 EXISTING ENCLOSED CURB DETAIL
SCALE: 3"=1'-0"



5 EXISTING SLEEPER CURB DETAIL
SCALE: 3"=1'-0"



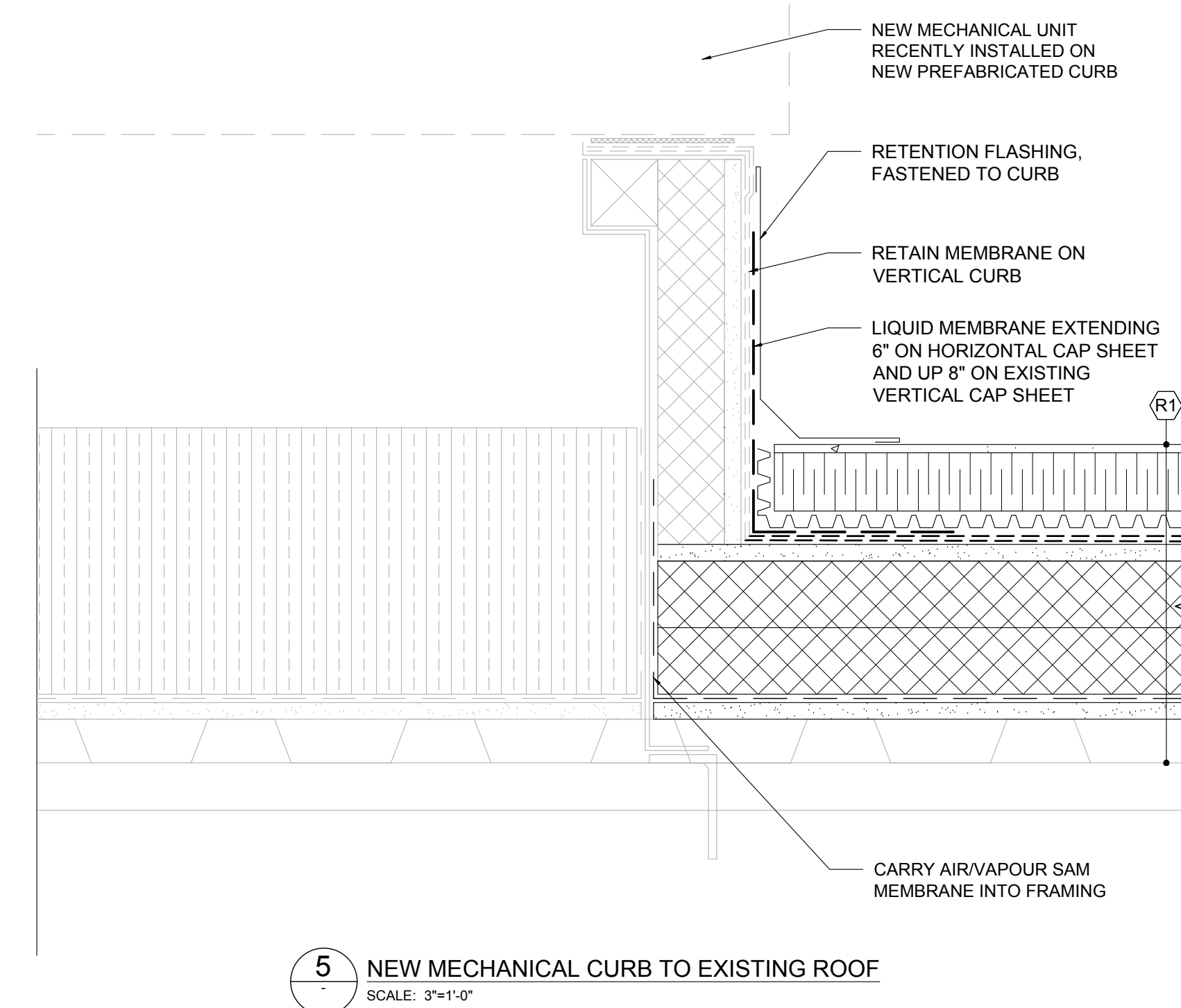
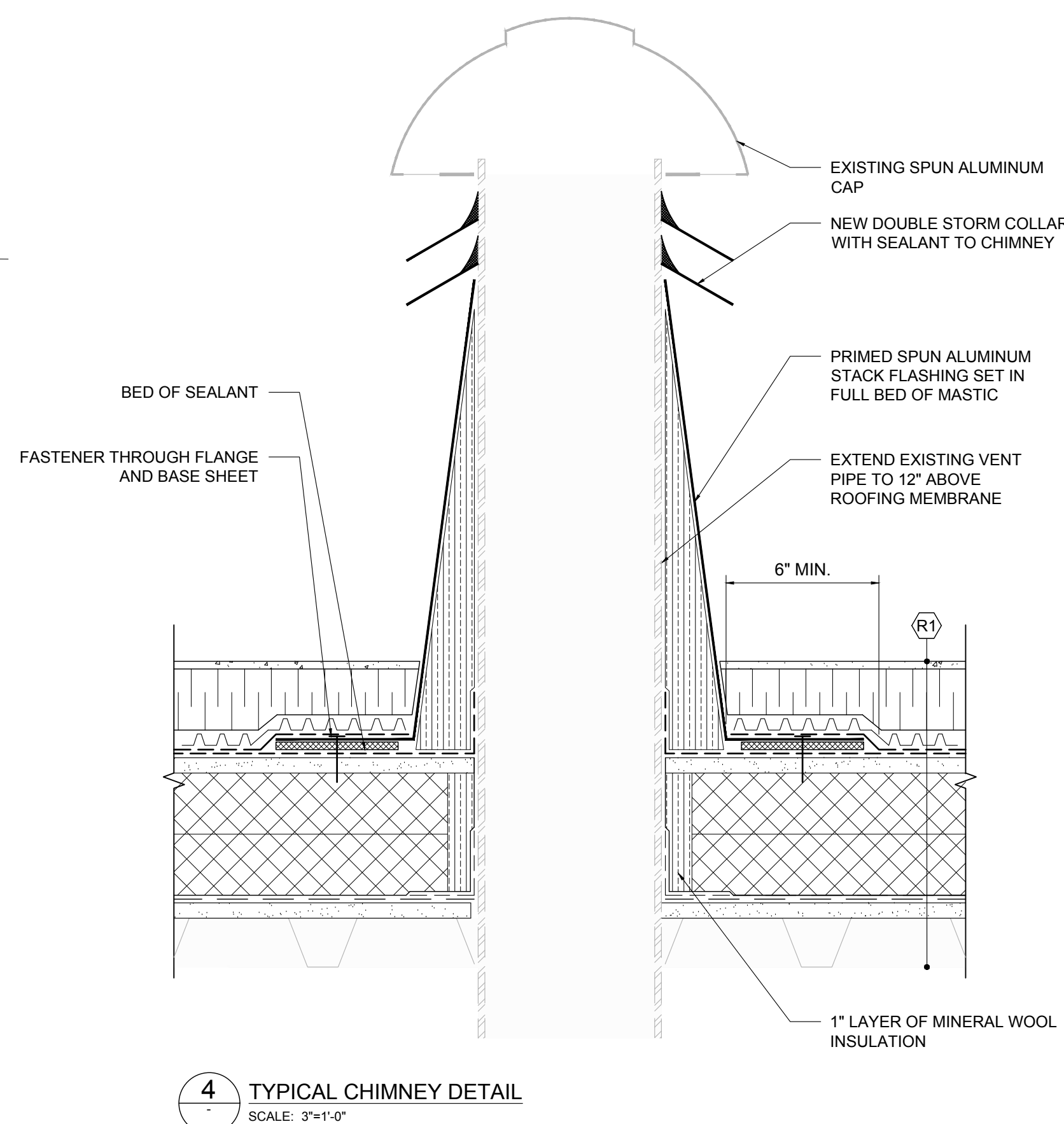
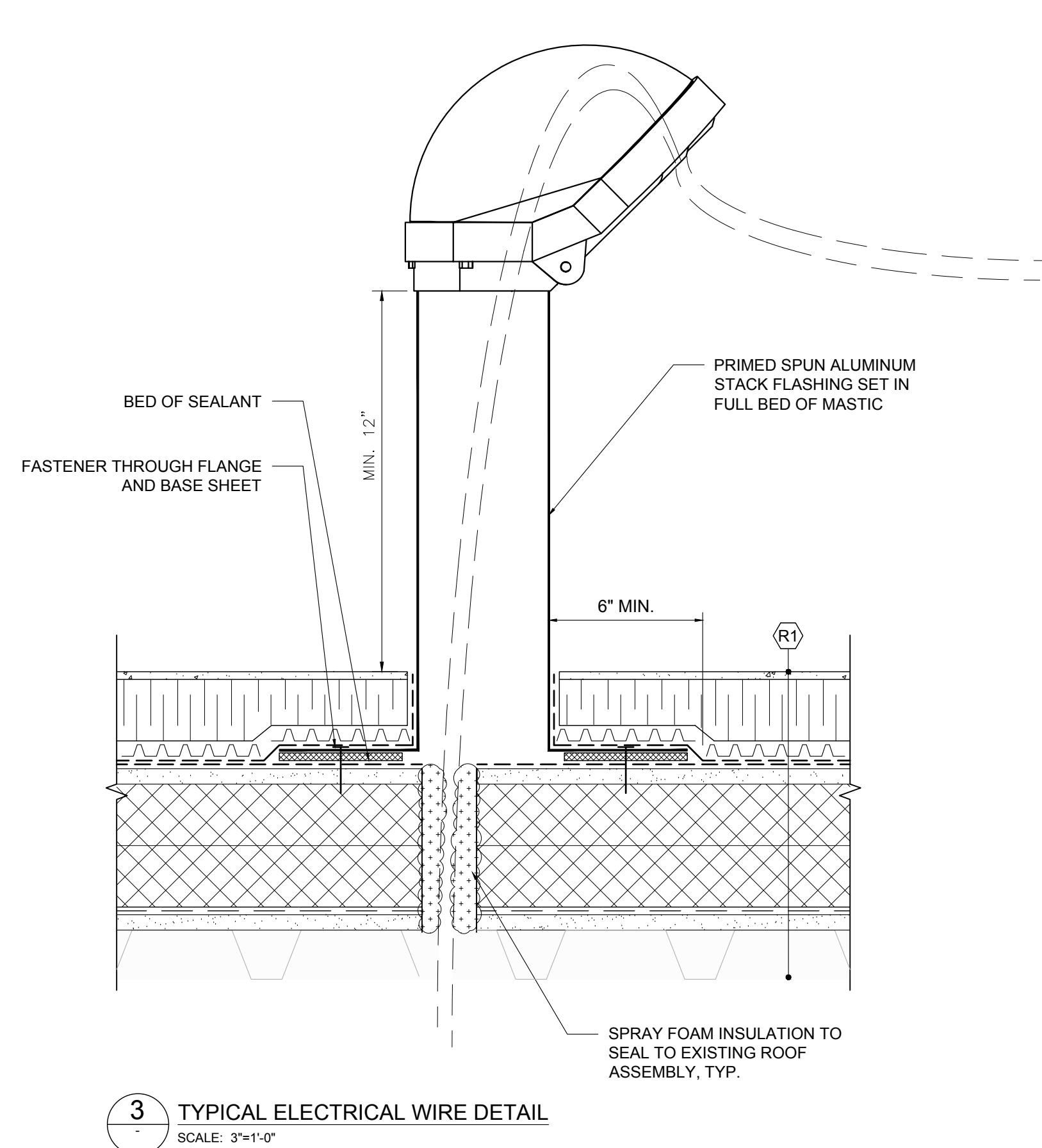
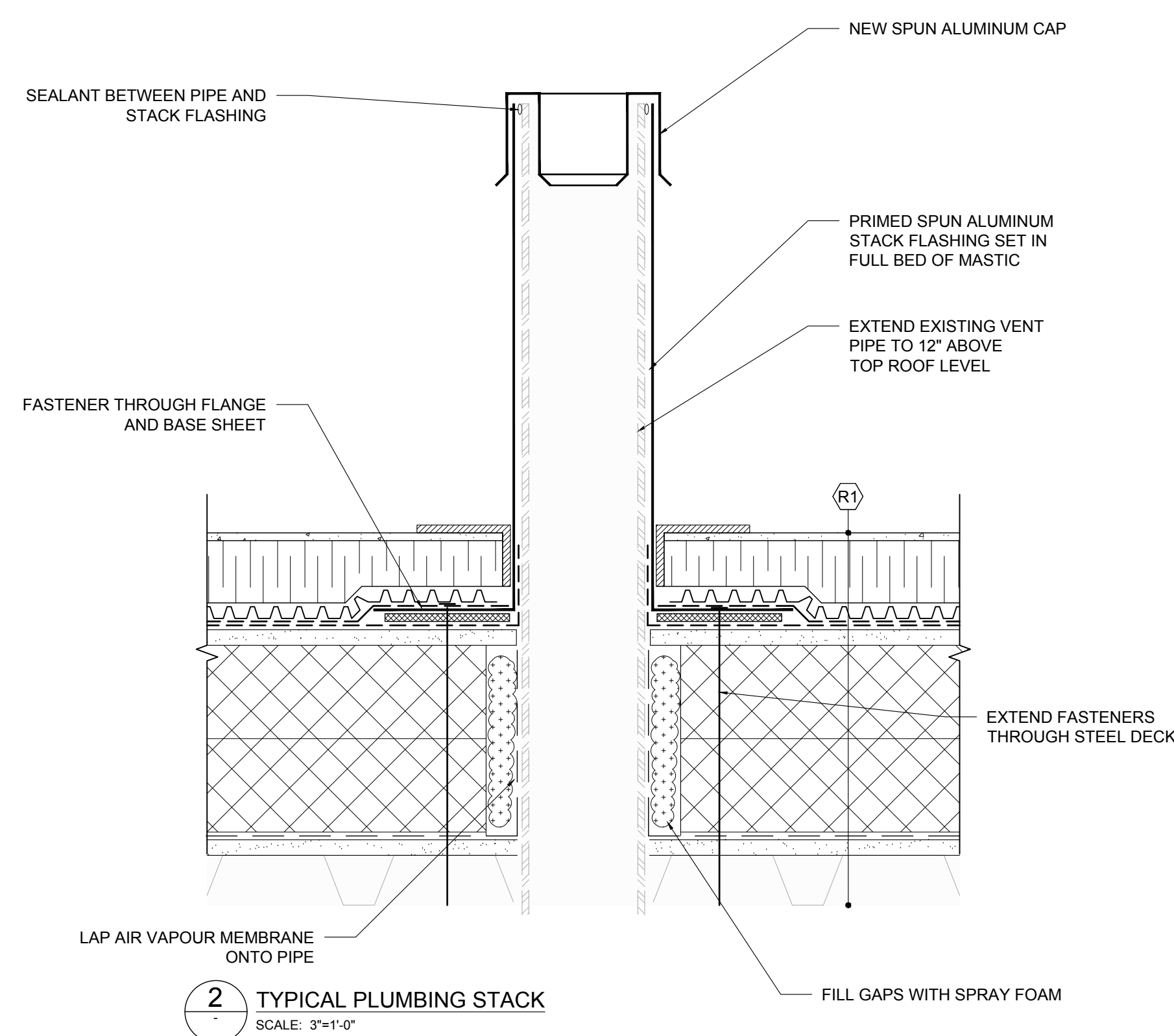
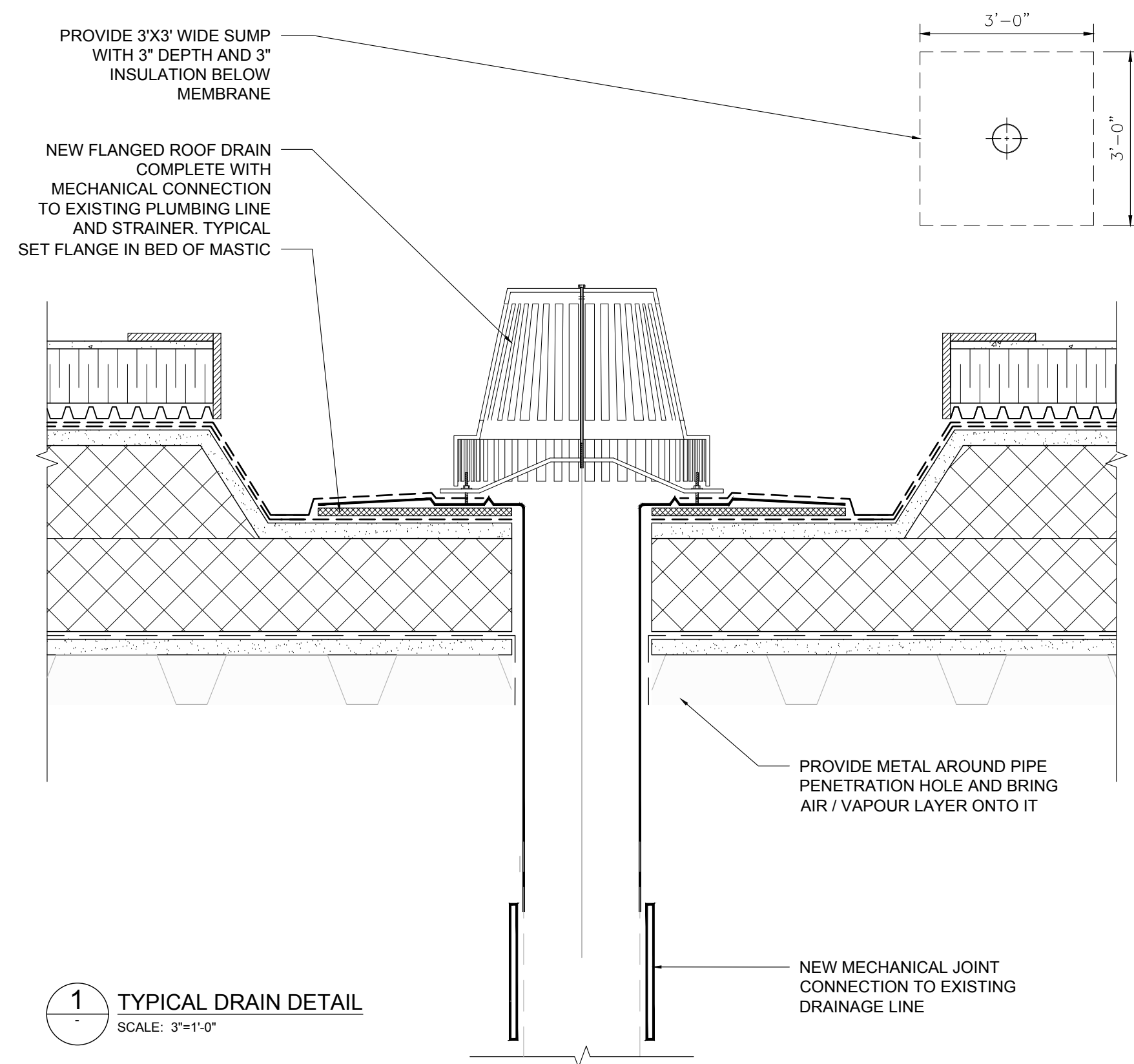
3 INTERMEDIATE ROOF CURB DETAIL
SCALE: 3"=1'-0"



6 ROOF HATCH DETAIL
SCALE: 3"=1'-0"

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DAVID FOKES		



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SCALE:		SHEET NO.
3"=1'-0"		A2.02
APPROVED BY:		
DAVID FOOKES		



APPENDIX B

PROJECT SPECIFICATIONS

INVITATION TO TENDER

**CASTLEGAR & DISTRICT COMMUNITY COMPLEX
ROOF REPLACEMENT
PRJ #24055**

PROJECT TECHNICAL SPECIFICATION MANUAL

CDRD AQUATIC CENTRE
ROOF RENEWALS

2101 Sixth Avenue
Castlegar, BC

Issued for Tender

Owner: **AJ Evenson & the Project Team**

In care of: Regional District of Central Kootenay.
Box 590, 202 Lakeside Drive
Nelson, BC

Consultant: **Evoke Buildings Engineering Inc.**
4415 Juneau Street
Burnaby, BC
Attention: Al Martin, RRO

Evoke Project No. 25-00001
CDRD Project:

Date: April 17, 2025

DIVISION	SECTION NO. AND TITLE	PAGES
Div. 1 – General Requirements	01 00 00 General Requirements	15
	01 35 29 Health & Safety Requirements	4
	01 52 00 Construction Facilities	4
Div. 2 – Existing Conditions	02 41 19 Selective Building Demolition	3
Div. 5 – Metal	05 52 10 Rooftop Guardrail	5
Div. 6 – Wood, Plastics and Composites	06 08 99 Rough Carpentry	7
Div. 7 – Thermal and Moisture Protection	07 13 52 Modified Bituminous Sheet Roofing	14
	07 21 13 Board & Thermal Insulation	5
	07 21 29 Sprayed Insulation, Polyurethane Foam	8
	07 62 00 Sheet Metal Flashing	7
	07 92 00 Joint Sealant	6

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Div 01 Sections.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- .1 Work of this Contract comprises as detailed in the contract documents includes but is not restricted to, the supply of all labour, materials, services and incidentals necessary to perform the roof renewals of the CDRD Aquatic Centre, located at 22101 6th Avenue, Castlegar, BC.
- .2 Except where specified otherwise, all requirements of this section shall apply to the Work of all other sections of the specifications.

1.3 DOCUMENTS REQUIRED AT JOB SITE

- .1 Maintain at job site, on copy of each of the following:
 - .1 Drawings and Specifications
 - .2 Addenda
 - .3 Change Orders
 - .4 Other modifications to the Contract
 - .5 Field review reports
 - .6 Test reports
 - .7 Copy of approved, up to date work schedule
 - .8 Manufacturers' installation and application instructions
 - .9 Submit site-specific and Work Plan Health and Safety Plan in accordance with Section 01 35 29 - Health and Safety Requirements.
 - .10 Copy of the "Material Safety Data Sheet" (MSDS) for all materials and products on site as required by the "Workplace Hazardous Materials Information System" (WHMIS).
 - .11 A day-to-day record of all work performed,
 - .12 Shop Drawings

1.4 SUBMITTALS

- .1 Administrative

- .1 Submit to the Consultant submittals listed for review with reasonable promptness and in an orderly sequence as to not cause delay in the Work.
 - .2 Work affected by submittal shall not proceed until review is complete.
 - .3 Review submittals prior to submission to Consultant. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with requirements of the Work and Contract Documents.
 - .4 Verify field measurements and affected adjacent Work are coordinated.
- .2 Shop Drawings and Product Data
 - .1 "Shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of the Work.
 - .2 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connection, explanatory notes and other information necessary for completion of the Work.
 - .3 Mark-ups done by the Consultant are not intended to change Contract Price. Alert the Consultant of any mark-ups that would affect the Contract Price, prior to proceeding.
 - .4 Make changes in shop drawings as consultant may require.
 - .5 Submit electronic copies of shop drawings for each component requested in specification Sections and as Consultant may request.
 - .6 Submit electronic copies of product data sheets or brochures for requirements requested in specification Sections and as Consultant may request where shop drawings will not be prepared due to standardized manufacture of product.
- .3 Samples
 - .1 Submit material samples for review, provide samples in duplicate as requested in respective specification Sections.
 - .2 Deliver samples prepaid to Consultant's business address.
- .4 Operating Maintenance Manuals
 - .1 Two weeks prior to Substantial Performance of the Work, submit to Consultant, 2 copies of operating and maintenance manual/documentation upon project completion.

- .2 Manuals to contain operational information on maintenance.
- .3 Provide digital copies of manual only. Organize contents into applicable categories of work, parallel to specifications Sections.
- .5 Record Drawings
 - .1 After award of Contract, Consultant will provide a set of drawings for purpose of maintaining record drawings. Accurately and neatly record deviations from Contract Documents caused by site conditions and changes ordered by Consultant.
 - .2 Record locations of concealed components of mechanical and electrical services.
 - .3 Identify drawings as "Project Record Copy". Maintain in new condition and make available for review on site by Consultant.
 - .4 On completion of Work and prior to final review, submit record documents to Consultant.
 - .5 Record drawings not submitted on completion of Work will be cause for the Consultant to withhold a retainage amount.
- .6 Progress Reports
 - .1 Supply for distribution a minimum of every 2 weeks a written description of the project status and specific information about the work that will affect the building occupants. Increase the frequency of the submission as necessary to keep the Owners informed. Liaise with Owner's Representative and Consultant with respect to all issues impacting the building occupants' use of the site and building.

1.5 WORK SCHEDULES

- .1 Submit the following schedules:
 - .1 Project construction progress schedule
 - .2 Schedule of Values of the Work
 - .3 Schedule for processing shop drawings, product data and samples
 - .4 Schedule for mock-up reviews of key building components
- .2 Provide a schedule accordance with General Conditions showing anticipated progress stages and final completion of Work within time period quoted in the contract. Schedule to include dates for the following:
 - .1 Submission of shop drawings, material lists and samples
 - .2 Start and completion of all major elements of Work including access set up, removals, and new installation by area of Work

.3 Substantial Completion and Total Completion

.3 Submit an updated and revised schedule with each claim for payment.

.4 Format:

.1 Prepare schedules in form of horizontal bar chart

.2 Provide separate bar for each trade or operation

.3 Provide horizontal time scale identifying first work day of each week

.4 Format for listings: Chronological order of start of each item of work

1.6 WORK BY OTHERS

.1 Cooperate with other Contractors in carrying out their respective works and carry out instructions from the Consultant.

.2 Coordinate work with other contractors. If any part of work under this Contract depends for its proper execution or result upon work of another contractor, report promptly to Consultant, in writing, any defects which may interfere with proper execution of Work.

1.7 WORK SEQUENCE

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

.2 Coordinate Progress Schedule with Owner Occupancy during construction.

.3 Construct Work in stages to provide for continuous public usage. Do not close off public usage of facilities until use of one stage of Work will provide alternate usage.

.4 Maintain fire access/control.

.5 Protect workers and public safety.

1.8 OWNERS OCCUPANCY

.1 Owner will occupy premises during entire construction period for execution of normal operations.

.2 Cooperate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage.

1.9 CONTRACTOR USE OF PREMISES

.1 Limit use of premises for Work, for storage, and for access, to allow:

.1 Owner occupancy.

.2 Work by other contractors.

- .3 Public usage.
- .2 Coordinate use of premises under direction of RDCK. Areas of work, storage, and disposal bin location on site will be designated by RDCK before commencement of Work. The boundaries established thereby shall be strictly observed. Do not unreasonably encumber site with materials or equipment which interfere with the Owner.
- .3 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.
- .4 When required for Contractor to conduct the Work, close off access to site by placing barricades or posting guards to prevent access to unauthorized personnel. Unauthorized personnel shall mean the public and anyone not directly concerned with the execution, supervision or inspection of the Work.
- .5 Existing or new roofs areas must be protected with plywood or suitable sheet material if they are to be used for the transportation of materials or equipment or excessive traffic. Coordinate use with the Owner.
- .6 RDCK will provide two parking passes for Contractor use. All other company or trade parking to be paid by car owner at student parking lots.
- .7 Contractor to provide their own office space and install at a location approved by RDCK.
- .8 Remove or alter existing work to prevent injury or damage to portions of existing work which remain.
- .9 No advertisements or company signs, other than safety or warning signs, are permitted on the building or site.
- .10 The Contractor shall be responsible for care and cleaning of areas within the building that are affected by the Work.
- .11 Washroom Facilities: Contractor to provide and maintain washroom facilities for all workers and subtrades. Washrooms inside the building are not to be used by the contractor.
- .12 Emergency Contact:
 - .1 Provide a 24 hour emergency contact telephone number in the event that an emergency arises as a result of the work being undertaken.
 - .2 Ensure that emergency service has a maximum response time of 3 hours and can accommodate all conditions that may arise from the work including water damage, hoarding, security, mechanical failure, electrical failure, gas service interruption, utility interruption, broken glass and any other related failure.

- .13 Access to Interior:
 - .1 Coordinate interior access with the Owners' Representative with a written notice a minimum of 72 hours prior to commencing work for anywhere work affects the interior public space.
 - .2 All effort must be made to complete all interior work as quickly and efficiently as possible with a minimum amount of disruption to the occupants.
- .14 Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as directed by Consultant.
- .15 Ensure that operations conditions of exiting work at completion are still the same, equal to or better than that which existed before new work started.

1.11 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

- .1 Provide construction facilities and temporary controls to execute work efficiently. Remove from site all such work after use.
- .2 Erect hoarding to protect public, workers, public and private property from injury or damage.
- .3 Provide sufficient sanitary facilities for workers in accordance with local health authorities. Maintain in clean condition. Existing facilities, if designated for the Contractor's use, are to be maintained throughout the construction period.
- .4 The Owner will provide potable water for construction use.
- .5 The Owner will pay for power required during construction for the operating of power tools, to a maximum supply of 120 volts 20 amps. Arrange for connection with appropriate utility company. Pay costs for installation, maintenance and removal. Temporary power in excess of that provided by the Owner is the responsibility of the Contractor.
- .6 Provide and pay for temporary telephone necessary for own use at no additional charge to the Owner.
- .7 Prevent overloading of any part of the building. Do not store or stockpile material or equipment on floors or roofs. Do not cut, drill or sleeve any load-bearing structural member. Contractor responsible to retain structural engineer for any determination of loading.
- .8 Protect existing Work or Work of other trades from damage. Damaged Work shall be made good by appropriate trades at the expense of the Contractor.

- .9 Provide weathertight enclosures to unfinished areas or openings, and all openings in roofs. Take precautions to protect openings made in the building from entry of elements and of persons during the Work and to protect existing structure and finishes from damage as a result of the Work. Work damaged or defaced, due to a failure in providing such protection, is to be removed and replaced, or repaired, as directed by the Consultant at no additional cost to the Owner.
- .10 The Contractor shall provide tarpaulins and/or other coverings for the protection of interior finishes and exterior surfaces adjacent to work areas.
- .11 Drips or smears of bitumen, adhesives, caulking or sealing compounds on adjacent Work, interior finishes, carpet or furniture, shall be removed completely without damage to the building.
- .12 Suitable platforms, wheeling stages and/or plywood shall be provided to protect the roof system from possible damage caused by material and equipment being moved, mounted or stored on the roof system.
- .13 Where security to contractor space is required, provide double locks (RDCK and contractor) to provide temporary means to maintain security.
- .14 Provide temporary dust screens, barriers and warning signs in locations where renovation and alteration work is adjacent to occupied areas.
- .15 Execution of Work within occupied premises shall cause a minimum interference with the use of the building. Maintain maximum safety to occupants during Work. Take reasonable measures for control of noise and dust. Dust protection measures will be judged by their effectiveness. Any clean-up required is to be completed by the Contractor at no cost to the Owner.
- .16 Provide and maintain temporary fire protection equipment during performance of Work required by insurance companies having jurisdiction and governing codes, regulations and bylaws.
- .17 Do not operate any equipment or machinery, or undertake any dust generating operations, near or adjacent to air intakes. Review and coordinate protection to air intakes with RDCK as required to prevent the entry of dust or other contaminants into the building or building mechanical systems or those of the surrounding buildings.
- .18 Dispose of rainwater off roofs and away from the buildings until the roof drains, scuppers, eaves troughs and downspouts are installed and connected properly.

- .19 Protect existing building, curbs, roads and lanes. If, during work, any portion of the building, curbs, roads or lanes are damaged, the damage shall be repaired at no extra expense to the Owner.
- .20 At commencement of work protect all fences, trees, shrubs, and landscape elements from incidental damage as required.
- .21 Interior Protection (if required):
 - .1 Undertake a pre-construction survey of interior prior to undertaking any work. Record all observations in writing or by photographic or video record and notify the Consultant in writing of any pre-existing conditions prior to commencing work.
 - .2 Repair any interior damage caused by the work.

1.12 PROJECT MEETINGS

- .1 A start-up meeting will be held prior to commencement of Work and at a suitable time and location, as approved by RDCK and Consultant.
- .2 The Contractor will schedule and administer project progress meetings at least every two weeks. The Contractor shall assume responsibility for recording and distributing minutes within 3 working days following the meeting. The minutes shall indicate actions to be taken, and by which party.

1.13 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING

- .1 Execute work with least possible interference or disturbance to, building operations, occupants, public and normal use of premises. Arrange with Owners and Consultant to facilitate execution of work.
- .2 No use of building elevators will be provided. All work access and movement of materials to be from the exterior.

1.14 EXISTING SERVICES

- .1 Notify Owners and Consultant and utility companies of intended interruption of services and obtain required permission.
- .2 Where Work involves breaking into or connecting to existing services, give Owners and Consultant **five days** notice for necessary interruption of mechanical or electrical service throughout course of work. Minimize duration of interruptions. Carry out work at times as directed by governing authorities with minimum disturbance to public and occupants.
- .3 Provide alternative routes for pedestrian and vehicular traffic if disrupted.
- .4 Establish location and extent of service lines in area of work before starting Work. Notify Owner and Consultant of findings.

- .5 Submit schedule for approval by Owner and Consultant for any shut-down or closure of active service or facility including power and communications services. Adhere to approved schedule and provide notice to affected parties.
- .6 Provide temporary services when directed by Consultant to maintain critical building and tenant services.
- .7 Provide adequate bridging over trenches which cross sidewalks or roads to permit normal traffic.
- .8 Where unknown services are encountered, immediately advise [Consultant] and confirm findings in writing.
- .9 Protect, relocate or maintain existing active services. When inactive services are encountered, cap off in manner approved by authorities having jurisdiction.
- .10 Record locations of maintained, re-routed and abandoned service lines.
- .11 Construct barriers, as required, to separate work activities from the public and occupants.

1.11 CODES AND STANDARDS

- .1 The Specifications are not intended as a detailed description of installation methods, but do indicate particular requirements in the completed Work.
- .2 Conform to the British Columbia Building Code (BCBC), together with all its related supplements, hereinafter referred to as the "Code" or "BCBC". Where Drawings and Specifications exceed the requirements of the code requirements, provide such additional requirements.
- .3 Where a material is designated on Drawings or in the Specifications for a certain application, unless otherwise specified, that material shall conform to standards designated in the applicable Code. Similarly, unless otherwise specified, installation methods and standards of workmanship shall also conform to standards invoked by the aforementioned code.
- .4 Where reference is made to a specification/code/standard, conform to the latest edition of the specification/code/standard, as amended, as of the date of the Contract.

1.12 QUALITY CONTROL

- .1 Work will be reviewed by the Consultant to evaluate general conformance with the contract documents. The Contractor is responsible to maintain quality control over all aspects of the Work.

- .2 Review and testing are specified as precautions against oversight or errors in the performance of the Contract. These precautions do not in any way relieve the Contractor of his responsibility to perform the Work in conformance with the Contract Documents.
- .3 The Owner and the Consultant shall have unlimited access to all Work at any time requested. If parts of the Work are in preparation at locations other than the Place of the Work, access shall be given to such Work whenever it is in progress.
- .4 Give forty-eight (48) hours notice requesting review if Work is designated for review or approvals by the Consultant.
- .5 If the Contractor covers or permits to be covered Work that has been designated for special tests, review, or approvals before such is made, the Contractor must, at its own expense, uncover the Work, have the Work reviewed or tests satisfactorily completed and make good all Work.
- .6 The Consultant may order any part of the Work to be reviewed if such Work is suspected to be not in accordance with the Contract Documents. The Contractor shall be responsible for the cost of examination, replacement or repair.
- .7 Remove defective Work, whether the result of poor workmanship, use of defective products or damage and whether incorporated in the Work or not, which has been rejected by the Consultant as failing to conform to the Contract Documents. Replace or re-execute in accordance with the Contract Documents.
- .8 Make good other Contractor's Work damaged by such removals or replacements promptly.

1.13 SETTING OUT OF THE WORK

- .1 Line and levels are generally as shown on drawings.
- .2 Verify lines, levels and dimensions and report errors or inconsistencies in the drawings to the Consultant prior to commencing.
- .3 Examine the Work of others upon which the new Work depends. Report to the Consultant in writing any defects in such Work or issues that will affect the performance of the work of this project.
- .4 Assume full responsibility for and execute complete layout of Work to locations, lines and elevations indicated.
- .5 Provide devices and equipment required to lay out and construct Work.

- .6 Drawings are, in part, diagrammatic and are provided to convey the design intent and scope of Work, as well as indicate the general and approximate location, arrangement and size of fixtures and equipment. Obtain more accurate information about locations, arrangements and sizes at the site and become familiar with conditions and spaces affecting these matters before proceeding with Work. Where job conditions require reasonable changes in indicated locations and arrangements, make changes at no additional cost owner. Similarly, where existing conditions interfere with new installations and require relocation, include such relocation in the Work of this Contract.

1.14 MOCK-UPS

- .1 Prepare mock-ups where required by the specifications and request by the Consultant.
- .2 Construct in locations as directed by the Consultant.
- .3 Prepare mock-ups for Consultant review with reasonable promptness and in an orderly sequence, so as not to cause any delay in the Work. Provide 72 hours notice for Consultant review.
- .4 Failure to prepare mock-ups in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .5 The approved mock-up may form part of the completed contract Work at the discretion of the Consultant. Remove mock-up where not part of the work.

1.15 LOCATION OF EQUIPMENT AND FIXTURES

- .1 Location of equipment, fixtures and outlets indicated or specified are to be considered as approximate.
- .2 Locate equipment, fixtures and distribution systems to provide minimum interference and maximum usable space and in accordance with manufacturer's recommendations for safety, access and maintenance.
- .3 Inform Consultant of impending installation and obtain his approval for actual location.
- .4 Where unknown services are encountered, immediately advise Consultant and confirm findings in writing.
- .5 Where electrical work and mechanical work is required to perform the work of the contract, work to be completed by Qualified Trades with required trade permits to perform the work in the City of Vancouver.

1.16 ADDITIONAL DRAWINGS

- .1 Consultant may furnish additional drawings to assist proper execution of Work. These drawings will be issued for clarification only. Such drawings shall have same meaning and intent as if they were included in Contract documents.

1.17 CUTTING AND PATCHING

- .1 Submit written request in advance of cutting or alteration which affects the integrity of structural elements, weather-exposed or moisture resistant elements, visual qualities of sight-exposed elements, or Work of the Owner or separate Contractors.
- .2 Inspect existing conditions, including elements subject to damage or movement during cutting and patching. After uncovering, inspect conditions affecting performance of the Work. Beginning of cutting or patching means acceptance of existing conditions.
- .3 Perform cutting, fitting, and patching as necessary to complete the Work. Provide openings in non-structural elements for penetrations of mechanical and electrical Work. Prepare proper surfaces to receive patching and finishing. Restore Work with new products in accordance with the Contract Documents or to match existing.
- .4 At penetration of fire-rated wall, ceiling, or floor construction, completely seal voids with fire rated material for full thickness of construction element.
- .5 Cut rigid materials using power saw or core drill. Pneumatic or impact tools not allowed.
- .6 Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- .7 Refinish surfaces to match adjacent finishes; for continuous surfaces refinish to nearest intersection; for an assembly, refinish entire unit.

1.18 MATERIAL AND EQUIPMENT

- .1 Products, materials, equipment and articles incorporated into the Work shall be new, not damaged or defective and of the best quality for the purpose intended. If requested, supply evidence as to type, source and quality of products provided. Should any dispute arise as to quality or fitness of items incorporated in the Work, decision rests strictly with the Consultant based upon requirements of the Contract Documents.
- .2 Defective products will be rejected, regardless of previous inspections and/or reviews. Inspections and reviews do not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.

- .3 Provide and maintain, in a clean and orderly condition, dry and covered storage for tools, equipment and materials.
- .4 Locate materials not required to be stored in weatherproof sheds on site in a manner to cause the least interference with work activities.
- .5 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods.
- .6 Notify the Consultant in writing of any conflict between these specifications and the manufacturer's instructions. The Consultant will designate which document is to be followed.
- .7 Deliver, store and maintain packaged material and equipment with manufacturer's seals and labels intact. Store material and equipment in accordance with supplier's instructions.
- .8 Prevent damage, adulteration and soiling of material and equipment during delivery, handling and storage. Immediately remove rejected material and equipment from site.
- .9 Touch-up damaged factory finished surfaces to the Consultant's satisfaction. Use primer or enamel to match original. Do not paint over name plates.
- .10 Store products subject to damage from weather in dry, off-ground, weatherproof enclosures. Remove only in quantities required for same day use.

1.19 REMOVED MATERIALS

- .1 Except as expressly stated otherwise, material indicated for removal becomes the property of the Contractor and shall be taken from the site. Material removed from the site shall be disposed of in accordance with all Federal, Provincial and Municipal regulations.

1.20 WORKMANSHIP

- .1 Workmanship shall be the best quality, executed by workers experienced and skilled in the respective duties for which they are employed. Immediately notify the Consultant if required Work is such as to make it impractical to produce required results.
- .2 Do not employ any unfit person or anyone unskilled in their required duties. The Owner and the Consultant, reserve the right to require the dismissal from the site any worker(s) deemed incompetent, careless or insubordinate.

Decisions as to the quality or fitness of workmanship in cases of dispute rest solely with the Consultant, whose decision is final.

- .3 Furnish all labour, materials and equipment to complete the Work as described. "Work as described" includes all incidental items that by implication, good trade practice, or customary usage, are required to complete the Work, even though they may not be specifically mentioned or shown.

1.21 CLEANING

- .1 When the Work is Substantially Performed, remove surplus products, tools, construction machinery and equipment not required for the performance of the remaining Work.
- .2 At least once per day, remove accumulations of waste material and debris. Provide a waste container and remove waste materials and debris from the site at regularly scheduled times or dispose of as directed by the Consultant. Cost for removal and disposal of waste material shall be included in the Contract Price.
- .3 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .4 Remove dirt and dust, clean and polish glass, mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, plastic laminate, mechanical, electrical fixtures and interior and exterior surfaces. Vacuum carpets. Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer. As directed by the Consultant, replace or repair broken, scratched, stained or disfigured building elements.
- .5 Clean roofs, gutters, downspouts, and drainage systems upon completion of the Work.
- .6 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .7 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.
- .8 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly repaired surfaces nor contaminate building systems.
- .9 Broom clean paved surfaces, rake clean other surfaces of grounds as directed by the Owner or the Consultant.
- .10 Make good any damage to the landscaping, sodding and flower beds outside the area of Work damaged by the Contractor's equipment, materials or his work force.

- .11 Clean interior areas prior to start of the interior finishing work, maintain areas free of dust and other contaminants during finishing operations.

1.22 DOCUMENTS UPON SUBSTANTIAL COMPLETION

- .1 Prior to applying for Substantial Completion, carefully inspect the Work and ensure it is substantially complete. Notify Consultant for review for determination.
- .2 Following the date of Substantial Completion, the Contractor is to provide all warranties fully executed and notarized.
- .3 Submit a final statement of accounting, giving total adjusted Contract Price, previous payments, and monies remaining due.
- .4 Provide a statutory declaration that all sub trades and suppliers have been compensated for materials and labour.
- .5 Submit certificate of good standing from WorkSafe BC.
- .6 Comply with the requirements of the Builders Lien Act, British Columbia. The 55 day lien period shall commence upon the date of Substantial Completion as certified by the Consultant.

1.23 TAKE OVER PROCEDURES

- .1 Notify the Consultant, in writing, of satisfactory completion of the Work and request the final review.
- .2 During the final review by the Consultant and the Owner, a list of deficiencies and defects will be tabulated. Correct all items.

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 NOT USED

- .1 Not used.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 01 52 00 – Construction Facilities

1.2 REFERENCE STANDARDS

- .1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations
- .2 Province of British Columbia
 - .1 Workers Compensation Act, RSBC 2019.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with General Requirements.
- .2 Submit site-specific Health and Safety Plan: Within 7 days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:
 - .1 Results of site specific safety hazard assessment.
 - .2 Results of safety and health risk or hazard analysis for site tasks and operation.
- .3 Submit one copy of Contractor's authorized representative's work site health and safety inspection reports to Consultant weekly.
- .4 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
- .5 Submit copies of incident and accident reports.
- .6 Submit WHMIS Safety Data Sheets (SDS) in accordance with General Requirements and technical specifications.
- .7 Consultant will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 7 days after receipt of plan. Revise plan as appropriate and resubmit plan Consultant within 7 days after receipt of comments from Consultant.
- .8 Consultant's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.

- .9 Medical Surveillance: where prescribed by legislation, regulation or safety program, submit certification of medical surveillance for site personnel prior to commencement of Work, and submit additional certifications for any new site personnel to Consultant.
- .10 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.

1.4 FILING OF NOTICE

- .1 File Notice of Project with Provincial authorities prior to beginning of Work.
- .2 Contractor shall be responsible and assume the Principal Contractor role for each work zone location and not the entire complex. Contractor shall provide a written acknowledgement of this responsibility with 3 weeks of contract award.
- .3 Work zone locations include:
 - .1 Main Roof areas over aquatic centre as indicated on the drawings.
 - .2 Areas contained by contractor security fences.
 - .3 Temporary areas, including interiors, coordinated for work activities.
- .4 Contractor shall agree to install proper site separation and identification in order to maintain time and space at all times throughout life of project.

1.5 SAFETY ASSESSMENT

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

1.6 MEETINGS

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

1.7 REGULATORY REQUIREMENTS

- .1 Do Work in accordance with Section [01 41 00 – Regulatory Requirements].

1.8 PROJECT/SITE CONDITIONS

- .1 Work at site will involve contact with:
 - .1 Roofing and flashings.
 - .2 Coverboards, insulation and wood blocking.

1.9 GENERAL REQUIREMENTS

- .1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.
- .2 Consultant may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

1.10 RESPONSIBILITY

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

1.11 COMPLIANCE REQUIREMENTS

- .1 Comply with Workers Compensation Act, B.C.[RSBC 2019].
- .2 Comply with latest Occupational Health and Safety Regulation of BC.
- .3 Comply with Occupational Health and Safety Act, General Safety Regulations, O.I.C. 2013-65 (effective June 12, 2013).
- .4 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

1.12 UNFORSEEN HAZARDS

- .1 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, advise Health and Safety co-ordinator and follow procedures in accordance with Acts and Regulations of BC having jurisdiction and advise Owner and Consultant verbally and in writing.

1.13 HEALTH AND SAFETY CO-ORDINATOR

- .1 Employ and assign to Work, competent and authorized representative as Health and Safety Co-ordinator. Health and Safety Co-ordinator must:
 - .1 Have site-related working experience specific to activities associated with roofing work.
 - .2 Have working knowledge of occupational safety and health regulations.
 - .3 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work.

- .4 Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.
- .5 Be on site during execution of Work and report directly to and be under direction of the site supervisor].

1.14 POSTING OF DOCUMENTS

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

1.15 CORRECTION OF NON-COMPLIANCE

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

1.16 POWDER ACTUATED DEVICES

- .1 Use powder actuated devices only after receipt of written permission from RDCK.

1.17 WORK STOPPAGE

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

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 NOT USED

- .1 Not used.

END OF SECTION

Part 1 General

1.1 DESCRIPTION

- .1 Install, maintain, and remove access scaffolding, hoisting, cranes, barriers, offices, sanitary facilities, barriers and related construction controls and signage.

1.2 RELATED REQUIREMENTS

- .1 Section 01 35 29 Health and Safety Requirements.

1.3 REFERENCE STANDARDS

- .1 Canadian Construction Documents Committee (CCDC)
 - .1 CCDC 2-[2020], Stipulated Price Contract.
- .2 CSA Group (CSA)
 - .1 CAN/CSA-Z797-18 Code of practice for access scaffold
 - .2 CAN/CSA-S269.2-2016, Access Scaffolding for Construction Purposes
 - .3 CAN/CSA-Z321-96(R2006), Signs and Symbols for the Workplace

1.4 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 00 10 General Requirements.

1.5 INSTALLATION AND REMOVAL

- .1 Prepare site plan indicating proposed location and dimensions of area to be fenced and used by Contractor, number of trailers to be used, avenues of ingress/egress to fenced area and details of fence installation.
- .2 Identify areas to be gravelled to prevent tracking of mud.
- .3 Indicate use of supplemental or other staging area.
- .4 Provide construction facilities to execute work expeditiously.
- .5 Remove from site all such work after use.

1.6 SCAFFOLDING

- .1 Scaffolding in accordance with CAN/CSA-S269.2.
- .2 Provide and maintain scaffolding, ramps, ladders, swing staging, platforms, temporary stairs and stair towers.

1.7 HOISTING

- .1 Provide, operate and maintain hoists or cranes required for moving of workers, materials and equipment. Make financial arrangements with Subcontractors for their use of hoists.
- .2 Hoists or cranes to be operated by qualified operator.

1.8 SITE STORAGE/LOADING

- .1 Co-ordinate site storage areas and loading and unloading sites with Owner.
- .2 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.
- .3 Do not load or permit to load any part of Work with weight or force that will endanger Work.

1.9 CONSTRUCTION PARKING

- .1 Parking will not be permitted on site.
- .2 Provide and maintain adequate access to project site.
- .3 Clean runways and taxi areas where used by Contractor's equipment.

1.10 SECURITY

- .1 Provide and pay for responsible security personnel to guard site and contents of site after working hours and during holidays.

1.11 OFFICES

- .1 If required, provide heated office of sufficient size to accommodate site activities and furnished with drawing laydown table.
- .2 Provide marked and fully stocked first-aid case in a readily available location.

1.12 EQUIPMENT, TOOL AND MATERIALS STORAGE

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

1.13 SANITARY FACILITIES

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

1.14 CONSTRUCTION SIGNAGE

- .1 Provide and erect project sign, within three weeks of signing Contract, in a location designated by the Owner and Consultant.
- .2 Construction sign, of wood frame and plywood construction painted with exhibit lettering produced by a professional sign painter.
- .3 Indicate on sign, name of Owner, Consultant and Contractor. Provide proof of design prior to fabrication.
- .4 No other signs or advertisements, other than warning signs, are permitted on site.
- .5 Direct requests for approval to erect Consultant/Contractor signboard to Consultant. For consideration general appearance of Consultant/Contractor signboard must conform to project identification site sign.
- .6 Signs and notices for safety and instruction and Graphic symbols to CAN/CSA-Z321.
- .7 Maintain approved signs and notices in good condition for duration of project, and dispose of off site on completion of project or earlier if directed by Consultant.

1.15 PROTECTION AND MAINTENANCE OF TRAFFIC

- .1 Provide access and temporary relocated roads as necessary to maintain traffic.
- .2 Maintain and protect traffic on affected roads during construction period.
- .3 Provide measures for protection and diversion of traffic, including provision of watch-persons and flag-persons, erection of barricades, placing of lights around and in front of equipment and work, and erection and maintenance of adequate warning, danger, and direction signs
- .4 Protect travelling public from damage to person and property.
- .5 Contractor's traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.
- .6 Verify adequacy of existing roads and allowable load limit on these roads. Contractor: responsible for repair of damage to roads caused by construction operations.
- .7 Provide necessary lighting, signs, barricades, and distinctive markings for safe movement of traffic.
- .8 Dust control: adequate to ensure safe operation at all times.

1.16 CLEAN-UP

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

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

- .1 Not Used.

END OF SECTION

Part 1 General

1.1 DESCRIPTION

1. Removal, recycling and disposal of the existing roof assembly, roof parapet and other related flashings, rigid insulation, blocking, sheathing and related accessories down to the existing steel deck as indicated on the drawings.
2. Removal, storage and reinstallation of wall cladding and assembly components.
3. Disconnection, removal and reinstatement of mechanical equipment and service lines and conduites as indicated on the drawings.
4. Removal and disposal of concrete pavers as indicated on the drawings.
5. Removal, storage and reinstallations of the existing roof hatch.

1.2 RELATED SECTIONS

1. Section 01 35 29 – Health & Safety Requirements
2. Section 07 13 52 – Modified Bituminous Sheet Roofing

1.3 REFERENCE STANDARDS

1. CSA S350-M1980(R2003), Code of Practice for Safety in Demolition of Structures.
2. Occupational Health and Safety Regulations and Provisions
3. Occupational Health and Safety Guidelines

1.4 EXISTING CONDITIONS

1. Accept building areas that require demolition based on their condition on the date of tender award.
2. Items and fixtures to be retained or salvages are to be stored and protected
3. Verify site conditions prior to commencing the demolish. Review the site, building and area of work to determine extent, removals, sequence and logistics required. Protect building systems and preserve active systems.

4. Refer to Hazardous Materials report and specification sections for hazardous materials identified and requirements. If unknown hazardous materials are uncovered during the course of demolition work, stop work and notify the Consultant immediately. Do not proceed written directions are received from the consultant.

1.5 DEMOLITION DRAWINGS

1. Where required by the authority having jurisdiction, submit written directions and drawings providing support of the existing structure required and sequence of the demolish work.
2. Submission to bear stamp of qualified professional engineer registered in the Province of BC

Part 2 Products – NOT APPLICABLE

Part 3 Execution

3.1 PROTECTION

1. Provide bracing and shoring as required to prevent movement, settlement or damage to the adjacent buildings and/or the adjacent parts of the existing buildings which are to remain.
2. Take all precautions to support affected structures. In the event that the safety of any structure appears to be endangered, cease operations and immediately notify the Consultant.
3. Prevent debris from blocking surface drainage system, elevators, mechanical and electrical systems which must remain in operation.
4. Post adequate warnings and barricades around the holes caused by demolition or removal of materials.
5. Make good all damages caused by demolition
6. The existing building and institution will be occupied and operational during work of this Contract. Maintain building access around the protected work areas.

3.2 WORK

1. Dispose of demolished materials, except where noted otherwise, in accordance with authorities having jurisdiction.
2. Remove existing equipment, services and obstacles where necessary for installation of new materials and reinstate after.
3. Remove, if required to perform the waterproofing, label for reinstatement and store the following items:
 - .1 Wall assembly cladding, insulation and z-girts
 - .2 Mechanical equipment, fixtures, conduits and service lines
 - .3 Free standing antenna
 - .4 Roof hatch
4. Notify Consultant when deteriorated existing steel framing, steel decking or wood blocking are encountered where expected to be retained.

3.3 CLEANING

1. At end of each day's work, clean and remove all debris and leave work site in a safe condition so that no part is in danger of toppling or falling. Protect the interior areas not to be demolished from exterior elements at all times.

END OF SECTION

Part 1 General

1.1 DESCRIPTION

- .1 Supply and installation of new roof parapet, curb and hatch blocking.

1.2 RELATED SECTIONS

- .1 Section 07 13 52 – Modified Bitumen
- .2 Section 07 62 00 – Sheet Metal Flashing and Trim

1.3 REFERENCE STANDARDS

- .1 ASME International (ASME):
 - .1 ASME B18.6.1- [1981], Wood Screws (Inch Series)
- .2 ASTM International (ASTM):
 - .1 ASTM A307- [21], Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength
 - .2 ASTM C954 [18], Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness
 - .3 ASTM D7612- [21], Standard Practice for Categorizing Wood and Wood-Based Products According to their Fiber Sources
 - .4 ASTM F1667- [13], Standard Specification for Driven Fasteners: Nails, Spikes and Staples
- .3 CSA Group (CSA)
 - .1 CSA O86 Consolidation- [14], Engineering Design in Wood
 - .2 CSA O121- [08], Douglas Fir Plywood
 - .3 CSA O141- [05], Softwood Lumber.
 - .4 CSA O151- [09], Canadian Softwood Plywood
 - .5 CSA-O325- [07], Construction Sheathing
 - .6 CSA O437 Series- [93], Standards on OSB and Waferboard
 - .7 CSA T530- [99], Commercial Building Standard for Telecommunications Pathways and Spaces (Adopted ANSI/TIA/EIA 569-A)
 - .8 CAN/CSA-Z809- [16], Sustainable Forest Management
- .4 National Lumber Grades Authority (NLGA):
 - .1 NLGA Standard Grading Rules for Canadian Lumber [2017]

1.4 SUBMITTALS

- .1 Submit in accordance with Section General Requirements 01 00 10.
- .2 Action Submittals (to be submitted before starting any work of this Section):
 - .1 Product Data:
 - .1 submit manufacturer's instructions, printed product literature and data sheets for rough carpentry work and include product characteristics, performance criteria, physical size, finish and limitations.
 - .3 Informational Submittals (to be provided during the course of Work):
 - .1 Material Certificates:
 - .1 submit certificates for machine-graded dimensional lumber indicating species and grade selected for each use and design values approved by the NLGA.

1.5 QUALITY ASSURANCE

- .1 Regulatory Approvals: Wood products used for sheathing and framing must clearly indicate on the face or edge the manufacturer of material, standard to which it was produced, grade of material including whether grade is visually graded or machine-stress rated, and exterior use where applicable, in accordance with listed reference standard.
- .2 Lumber Identification: Identified by grade with a stamp of an agency certified by the Canadian Lumber Standards Accreditation Board.
- .3 Plywood Identification: Identified by grade mark in accordance with applicable CSA standards.
- .4 Plywood, OSB and Wood-Based Composite Panel Construction Sheathing Identification: Identified by grade mark in accordance with applicable CSA standards.
- .5 Sustainable Standards Certification:
 - .1 Certified Wood: Submit listing of wood products and materials used in accordance with CAN/CSA-Z809 or FSC or SFI

1.6 DELIVERY, STORAGE, AND HANDLING

- .1 Delivery and Acceptance Requirements: Protect materials from weather while in transit and on the jobsite.
- .2 Storage and Handling Requirements:
 - .1 Store materials at least 150 mm above the ground on pallets or blocks

- .2 Cover with protective waterproof sheets allowing for air circulation and ventilation under the covering
- .3 Protect edges and corners of sheet materials from damage during handling and storage
- .4 Protect kiln dried and seasoned wood materials under conditions that will not cause an increase to moisture content
- .5 Stack, lift, brace, cut and notch engineered lumber products in accordance with manufacturer's instructions and recommendations
- .6 Store separated reusable wood waste convenient to cutting station and work areas

Part 2 Products

2.1 DESCRIPTION

- .1 Regulatory Requirements:
 - .1 Lumber Grades: Provide lumber products that are all sides finished (S4S) in nominal dimensions required for the project, grade-marked by accredited agencies of the Canadian Lumber Standards Accreditation Board, that conform to National Grading Rules published by the National Lumber Grades Authority, and that have the following characteristics:
 - .1 Grading: Machine Grading, Visual Grading, or Both
 - .2 Moisture Content: Kiln Dry or Air Dry, 19% or less
 - .3 Structural Design Properties: Strength and related properties in accordance with CSA O86
 - .4 Sizes: Nominal dressed dimensions described in CSA O141 for surfaced dry conditions and wood species
 - .2 Panel Grades: Provide panel products that are grade-marked by agencies recognized by CSA O325 and the National Institute of Standards and Technology, Voluntary Product Standard PS 2 04 Performance Standard for Wood-Based Structural-Use Panels as modified by other listed CSA panel standards.

2.2 PERFORMANCE CRITERIA

- .1 Lumber Grades: Provide lumber products as described in Paragraph 2.3 in accordance with Regulatory Requirements.
- .2 Panel Grades: Provide panel products as described in Paragraph 2.4 in accordance with Regulatory Requirements.

2.3 MATERIALS

- .1 Light Framing – No. 2 and better with the following minimum properties:
 - .1 Sizes: Maximum 38 mm width by depth noted in drawings
 - .2 Finger-Jointed Materials: Not allowed
 - .3 Species Group: Spruce-Pine-Fir (SPF) or Douglas Fir (DF)
- .2 Miscellaneous Framing, Blocking and Strapping – No.2 and better with the following minimum properties:
 - .1 Sizes: Maximum 38 mm width by depth noted in drawings
 - .2 Finger-Jointed Materials: Not allowed
 - .3 Species Group: Spruce-Pine-Fir (SPF) or Douglas Fir (DF).
- .3 Douglas Fir Plywood(DFP) and Canadian Softwood Plywood (CSP) using exterior grade adhesives meeting requirements of CSA O121 or CSA O151
 - .1 Kiln dry plywood to moisture content of 15% or less
 - .2 Concealed Blocking: Select Grade (SEL) CSP
 - .3 Exposed Panels and Panel Boards: Good One Side (GIS) Douglas Fir Plywood
- .4 Sheathing:
 - .1 Plywood sheathing only, $\frac{3}{4}$ " thick for where indicated on the drawings.
- .5 Thickness as required by span rating and meeting requirements of CSA O325
 - .1 Plywood: Exterior rated, sheathing grade square-edged DF or CSP meeting requirements of CSA O121 or CSA O151

2.4 ACCESSORIES

- .1 Driven Fasteners – steel nails, spikes, brads and staples meeting requirements of ASTM F1667 :
 - .1 Ensure length is sufficient to penetrate connecting solid wood materials
 - .2 Exterior work: hot-dipped galvanized
 - .3 Interior high humidity work: hot-dipped galvanized
 - .4 Interior work: electroplated zinc plated, or cadmium plated
 - .5 Pressure treated materials: Stainless steel.
- .2 Rough Hardware: manufacturer recommended fastening devices and anchors, including bolts, nuts, and washers meeting requirements of ASTM A307 :
 - .1 Ground contact materials: stainless steel
 - .2 Exterior work: hot-dipped galvanized

- .3 Interior high humidity work: hot-dipped galvanized
- .4 Interior work: electroplated zinc plated, or cadmium plated
- .5 Pressure treated materials: Hot-dipped galvanized, stainless steel or to meet equal to or greater than 2000 hours Salt Spray testing.
- .3 Screw Fasteners – use steel screws meeting requirements of ASME B18.6.1 :
 - .1 Acceptable Wood Screws: GRK fasteners, RRS screws, 8mm diameter and length to suit location.
 - .2 Acceptable Masonry Screws: GRK fasteners, Caliburn XL, 7.5mm diameter, length to suit location.
 - .3 Blocking Attachment Corrosion Resistance: galvanized or ClimaTek coating.
- .4 Screws for Fastening to Cold-Formed Metal Framing: Steel screws meeting requirements of ASTM C954, except with wafer heads and reamer wings, length as recommended by screw manufacturer for material being fastened.
- .5 Prefabricated Metal Anchoring Systems, Framing Connectors and Hangers: Prefabricated hot-dipped zinc-coated steel products tested or designed in accordance with CSA O86 ; types and configurations as indicated on drawings.
- .6 Proprietary Fasteners: Toggle bolts, expansion shields and lag bolts, screws and lead or inorganic fibre plugs, recommended for purpose by manufacturer.

Part 3 Execution

3.1 EXAMINATION

- .1 Verification of Conditions: Verify conditions of substrates previously installed under other Sections or Contracts are acceptable for rough carpentry installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of Consultant.
 - .2 Inform Consultant of unacceptable conditions immediately upon discovery
 - .3 Proceed with installation only after unacceptable conditions have been remedied [and after receipt of written approval to proceed from Consultant.

3.2 INSTALLATION

- .1 Blocking, Furring and Grounds:
 - .1 Set miscellaneous rough carpentry to required levels and lines with members plumb, true-to-line, cut, and fitted

- .2 Fit miscellaneous rough carpentry to other construction
- .3 Scribe and cope as needed for accurate fit
- .4 Locate furring, nailers, blocking, grounds, and similar supports as required and attach to other construction.
- .2 Roof Parapets and Curbs:
 - .1 Review concrete block or wood blocking to receive new material and identify poor or decayed substrate to the consultant.
 - .2 Fasten new lower and upper roof parapet wood blocking with fastening as indicated on the drawings.
 - .3 Provide solid wood backing to receive membrane and metal flashings, conforming to Roofing Contractors Association of British Columbia (RCABC) Manual.
 - .4 If required to raise height at curbs, install 2X blocking to existing blocking and fasten through existing blocking into steel framing below. Fasten with 50mm long 8mm diameter screws at 300mm oc staggered side to side.
 - .5 Do not use pressure preservative treated wood when it is in direct contact with styrene-butadiene-styrene (SBS) adhered roof membranes

3.3 CLEANING

- .1 Progress Cleaning: Clean in accordance with Section 01 00 10 – General Requirements.
 - .1 Leave Work area clean at end of each day
- .2 Final Cleaning: Upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 00 10 – General Requirements.
- .3 Waste Management: Separate and or dispose of waste materials in accordance with local municipal regulations.
 - .1 Remove recycling containers and bins from site and dispose of materials at an appropriate facility

END OF SECTION

Part 1 General

1.1 DESCRIPTION

- .1 The work in this section includes:
 - .1 Supply and installation of new 2-ply modified bitumen roofing membranes complete with all related primers and accessories.
 - .2 Supply and installation of a new coverboard to R1 steel deck areas.
 - .3 Supply and installation of a new roof coverboard above insulation to R1 roof assembly.
 - .4 Supply and installation of a new roof coverboard to roof upturn wall and parapet areas as indicated on the drawings
 - .5 Supply and installation of new self adhesive vapour barrier membrane.
 - .6 Supply and installation of drains, overflow scuppers and related roof penetration stack flashings.

1.2 RELATED SECTIONS

- .1 Section 07 21 13 Board Insulation.
- .2 Section 07 62 00 Sheet Metal Flashing

1.3 REFERENCES

- .1 CSA-A123.4 Asphalt for Use in Construction of Built-Up Roof Coverings and Waterproofing Systems.
- .2 CSA A123.23-15, Product Specification for Polymer-Modified Bitumen Sheet, Prefabricated and Reinforced.
- .3 CGSB-37-GP-15M Application of Asphalt Primer for Asphalt Roofing, Damproofing and Waterproofing.
- .4 Roofing Contractors Association of BC (RCABC), Roofing Practices Manual.
- .5 CSA A123.21 (R2019) Standard test method for the dynamic wind uplift resistance of membrane-roofing systems.
- .6 ASTM D 6162, Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fibre Reinforcements.
- .7 ASTM D 6163, Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fibre Reinforcement.

.8 ASTM D 6164, Standard Specification for Styrene Butadiene Styrene (SBS)
Modified Bituminous Sheet Materials Using Polyester Reinforcements.

.9 CAN/ULC-S107-10, Methods of Fire Tests of Roof Coverings.

1.4 ADMINISTRATIVE REQUIREMENTS

.1 Convene pre-installation meeting one week prior to beginning waterproofing
Work, with waterproofing contractor's representative Consultant to:

- .1 Verify project requirements.
- .2 Review installation and substrate conditions.
- .3 Co-ordination with other building subtrades.
- .4 Review installation instructions and warranty requirements.

1.5 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with the Project Documents.

.2 Product Data:

- .1 Provide one electronic copy of most recent technical waterproofing
components data sheets describing materials' physical properties and
include product characteristics, performance criteria, physical size, finish
and limitations.
- .2 Provide one electronic copy of WHMIS SDS in accordance with the
Project Documents and indicate VOC content for:
 - .1 Primers.
 - .2 Asphalt.
 - .3 Sealers.

.3 Samples: submit samples of finished roofing membrane for approval by the
Consultant prior to installation.

.4 Manufacturer's Certificate: certify that products meet or exceed specified
requirements. If required by Consultant, Manufacturers is to provide, at no cost,
the results of tests and chemical analysis on the materials supplied.

.5 Contractor to provide site-specific wind uplift calculations completed by
professional engineer (P.Eng) registered in the Province of British Columbia.

- .6 Provide roofing system to adequately resist wind uplift forces to meet the requirements of the British Columbia Building Code. Submit a letter stamped and signed by a professional engineer licensed in British Columbia to state conformity to the code.
- .7 Submit reports attesting the conventional section of the roofing system was tested in accordance with CSA A123.21-14 – *Standard Test Method for the Dynamic Wind Uplift Resistance of Roofing Systems*. Roofing system to be installed to withstand sustained wind uplift pressures determined above.
- .8 Test and Evaluation Reports: submit laboratory test reports certifying compliance of membrane with specification requirements and was tested to conform to CSA A123.23-15, *Product Specification for Polymer Modified Bitumen Sheet, Prefabricated and Reinforced*.
- .9 Manufacturer's Installation Instructions: indicate special precautions required for seaming the membrane.
- .10 Manufacturer's field report: provide periodic manufacturer's review and reports in accordance with installation and warranty requirements or as requested by the Consultant.

1.6 QUALITY ASSURANCE

- .1 Installer Qualifications: Only competent, qualified tradesmen experienced with membranes shall execute the work of this section.
- .2 For the work, obtain primary materials from a single manufacturer which has produced that type of product and system successfully for not less than five years. Submit job references at the request of the owner. All accessory materials shall be only as recommended or accepted by the primary manufacturer.
- .3 Compatibility between components of the roofing system is essential. When requested by the Consultant, provide written declaration from the Manufacturer to the Consultant stating that materials and components, as assembled in the system, meet this requirement.
- .4 Contractor's Field Supervision and Crew Qualifications: Contractor must maintain full-time supervisor/foreman on the job during times roofing work is in progress. The supervisor must have roofing trade certification and have minimum five years' experience in roofing work similar in nature and scope of specified roofing. Roofing crew makeup shall be trade qualified journeyman roofers and register apprentices in the ratio of no more than one to one (at least one journeyman to one apprentice). Qualifications may be reviewed prior to award of contract or on site by the inspector.

- .5 Contractor Certification: Provide written certification from the membrane manufacturer certifying that the roofing contractor is approved by the manufacturer for installation of the specified system and supply of the required guarantee documents. Roofing installers shall be experienced in the application of the materials and shall supply job references to show modified bitumen installation experience of similar size and scope of this project.
- .6 Confirm that surfaces to which modified membrane is to be applied are in a condition suitable for this application. The commencement of roofing or flashing will imply unconditional acceptance of the surfaces to receive work of this section.
- .7 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods.
- .8 Notify Consultant in writing of any conflict between these specifications and manufacturer's instructions. For tender, the more stringent will be considered correct. Consultant will designate which document is to be followed after award of project.
- .9 Provide testing if requested, that have been conducted to verify conformance to CSA A123.23-15, Product Specification for Polymer-Modified Bitumen Sheet, Prefabricated and Reinforced.
- .10 Roofing system must meet or exceed requirements of Exterior Fire-Test Exposure: CAN/ULC-S107-10 , Class C; for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
- .11 All components of the roof assembly (vapour barrier, insulation, cover board, fasteners / adhesives and accessories) to be approved by the membrane manufacturer.

1.7 FIRE PROTECTION

- .1 Maintain minimum one (1) 4A40BC fire extinguisher with current charge tags is required on site during waterproofing installation. The extinguisher must be at all times within 6m (20ft) of the worker using the torch.
- .2 Maintain fire watch for one (1) hour after each day's waterproofing operations cease when torch-application is used.

1.8 DELIVERY, STORAGE, AND HANDLING

- .1 Provide and maintain dry, off-ground weatherproof storage.
- .2 Store rolls of felt and membrane in upright position.
 - .1 Store membrane rolls with salvage edge up.
- .3 Remove only in quantities required for same day use.
- .4 Place plywood runways over completed Work to enable movement of material and other traffic.
- .5 Store sealants at +5 degrees C minimum.
- .6 Store insulation protected from daylight, weather and deleterious materials.
- .7 Handle waterproofing materials in accordance with manufacturer's written directives, to prevent damage or loss of performance.
- .8 Packaging Waste Management: remove for reuse and/or return by manufacturer of pallets, crates, padding and packaging materials as much as feasible.
 - .1 Collect and separate plastic, paper packaging and corrugated cardboard.
 - .2 Fold up metal banding, flatten and place in designated area for recycling.

1.9 SITE CONDITIONS

- .1 Ambient Conditions
 - .1 Do not install waterproofing when temperature remains below -18 degrees C for torch application, or to manufacturers' recommendations for self-adhered application.
 - .2 Minimum temperature for solvent-based adhesive is -5 degrees C.
 - .3 No work is to be carried out under conditions of rain or snow.
 - .4 Before commencing work, Contractor to ensure that the forecasted meteorological conditions shall permit work to be carried out without interruption during the course of the day.

- .2 Install waterproofing on dry deck, free of snow and ice, use only dry materials and apply only during weather that will not introduce moisture into waterproofing system.
- .3 Protect all work at the end of each working day or during any interruption of work. Entire roof must be watertight at end of each work shift.
- .4 If water penetrates through the assembly due to inadequate protection, Contractor to cut and inspect damages, remove, replace and re-install all materials at his own cost, to eliminate water in the assembly.

1.10 WARRANTY

- .1 Provide the Owners, through the Membrane Manufacturer a material system guarantee stating this roofing system shall provide waterproof surface for twenty (20) years after installation. The warranty shall cover both material and workmanship and shall not exclude random areas of ponding from coverage.
- .2 Provide a 10 Year RCABC Warranty for the roof system. Include the Warranty and Reinspection fees only in the bid price. RDCK have retained Evoke Buildings Engineering to provide the RCABC construction reviews who are to be indicated by the roofing contractor in the assignment.

Part 2 PRODUCTS

2.1 WATERPROOFING MEMBRANE

- .1 Polymer-modified bitumen sheet for roofing tested according to CAD A123.23-15 to meet:
 - .1 Base sheet, Type A or Type C, Grade 3. Minimum thickness: 2.5mm.
 - .2 Cap sheet, Type C, Grade 1. Minimum thickness 3.9mm.
- .2 **Torch Applied Option, Base sheet and base sheet stripping:** high performance torch (field) and adhesively adhered (base stripping) modified bitumen base ply designed for use in homogeneous multi-layer modified bitumen roof membrane systems that consists of a lightweight random fibrous glass mat or composite reinforcement coated with high quality Styrene-Butadiene-Styrene (SBS) modified bitumen and a back surface coated with high performance modified asphalt adhesive layer specifically formulated for adhered and torched applications.
 - .1 Acceptable products:
 - .1 Siplast: Field:– Paradiene 20 TG, Stripping:– Paradiene 20 HT SA

- .2 Soprema: Field: Sopraply Base Plus P/P 3.0 , Stripping: - Sopraply Flam Stick.
- .3 Flameless Application Option, Base sheet and base sheet stripping: high performance adhesively adhered or cold applied (field) and adhesively adhered or cold applied (base stripping) modified bitumen base ply designed for use in homogeneous multi-layer modified bitumen roof membrane systems that consists of a lightweight random fibrous glass mat or composite reinforcement coated with high quality Styrene-Butadiene-Styrene (SBS) modified bitumen and a back surface coated with high performance modified asphalt adhesive layer specifically formulated for adhered applications.
 - .1 Acceptable products:
 - .1 Siplast: Field: Paradiene 20 EG SA, Stripping: Paradiene 20 EG SA
 - .2 Soprema: Field: Sopraply Stick Duo, Stripping: Sopraply Flam Stick
- .4 Torch Applied Option: Cap sheet and cap sheet stripping: high performance modified bitumen finish ply designed for use in multi-layer modified bitumen roof membrane systems that consists of fiberglass scrim/polyester mat composite coated with high quality Styrene-Butadiene-Styrene (SBS) modified bitumen and surfaced with ceramic granules.
 - .1 Acceptable products:
 - .1 Siplast – Parafor 30 TG
 - .2 Soprema- Sopraply Traffic Cap Plus G/P 4.0
- .5 Flameless Application Option: Cap sheet and cap sheet stripping: high performance self-adhesive or cold applied modified bitumen finish ply designed for use in multi-layer modified bitumen roof membrane systems that consists of fiberglass scrim/polyester mat composite coated with high quality Styrene-Butadiene-Styrene (SBS) modified bitumen and surfaced with ceramic granules and suitable for flameless application.
 - .1 Acceptable products:
 - .1 Siplast – Paradiene 30 SA
 - .2 Soprema- Sopraply Stick Traffic Cap or Colply Traffic Cap
- .6 Membrane Adhesive
 - .1 Acceptable Products:
 - .1 Siplast: Stripping- PA828
 - .2 Siplast: Under PMMA- SFT adhesive or SFT Cement
 - .3 Soprema: Stripping- Colply Flashing
- .7 Liquid Membrane: Liquid applied membrane consisting of minimum two coats of PMMA Resin encapsulating a layer of polyester fleece. Acceptable products:
 - .1 Acceptable Products:

- .1 Siplast Parapro 123 Flashing System
 - .2 Soprema Alsan RS 230 Liquid Flashing

- .8 Membrane Primer:
 - .1 Acceptable Products:
 - .1 Siplast PA 917 or TA325
 - .2 Soprema Elastocol 500 or Elastocol Stick

- .9 Insulation Adhesive:
 - .1 Acceptable Products:
 - .1 Siplast Para Stick Insulation Adhesive
 - .2 Soprema Duotack

- .10 Mastics:
 - .1 Acceptable Products:
 - .1 Siplast PA-1021 Plastic Cement
 - .2 Soprema Sopramastic

- .11 High Temperature Sealant: Silicone, single component, neutral cure.
 - .1 Acceptable Products:
 - .1 Fyre Sil

2.2 VAPOUR RETARDER

- .1 Air / Vapour Retarder Membrane: Self adhered membrane over new gypsum cover board (R1) to act as new air and vapour barrier in assembly.

- .1 Acceptable Products:

- .1 Siplast Paratech Glass Base SA
- .2 Soprema Lastobond 195 or 240

2.3 OVERLAY BOARD

- .1 Gypsum Coverboard: Roof deck cover board, 13mm thickness, direct to steel deck or steel framing at roof parapet and over insulation. To be adhered to roof insulation or screwed to parapet framing.

- .1 Acceptable Products:

- .1 Georgia Pacific- Densdeck Prime
- .2 CGC Securock Brand Coated Glass-mat Roof board .

2.4 DRAINS

- .1 Roof Areas: For no hub coupling connection to existing drainage pipe system.

- .1 Menzies Metal Products, Clamp-Tite Spun Aluminum Drain
- .2 OMG Roofing Products, Aluminum Classic Drain

2.5 SCUPPER DRAINS

- .1 To meet CSA-B79-08, Commercial and Residential Drains and Cleanouts, to match existing roof parapet opening, complete with clean out end box and strainer.

- .1 Menzies Metal Products, Clamp-Tite Copper Box Scupper

2.6 METAL PENETRATION FLASHINGS:

- .1 One piece spun or welded aluminum plumbing or B-vent flashing complete with vandal proof spun aluminum caps or storm collars. To suit existing pipe, chimney or stack and cavity to be vented as manufactured by Menzies or an approved equivalent.
- .2 For locations requiring extension of plumbing stack- Menzies Metal Plumbing Pipe Extension Kit.
- .3 Mechanical service pipe penetrations flashings: Menzies spun aluminum stack flashing to suit pipe diameter with Mechanical Joint and stainless steel clamps to seal between pipe and stack.

- .4 For Electrical cable penetrations, provide Electrical Roof Flashing by Menzies Metal Ltd.

Part 3 Execution

3.1 QUALITY OF WORK

- .1 Do waterproofing work in accordance with applicable standard in Roofing Contractors' Association of B.C., Roofing Practices Manual.
- .2 Do priming for asphalt waterproofing in accordance with CGSB-37-GP-15M "Application of Asphalt Primer for Asphalt Roofing, Damproofing and Waterproofing".
- .3 Install waterproofing elements on clean dry substrate in accordance with the Manufacturer's written instructions.
- .4 Waterproofing work shall be scheduled and performed in a sequence such that no component of the assembly is left unprotected when operations are interrupted.

3.2 EXAMINATION OF ROOF DECKS AND ROOF PARAPET

- .1 Evaluation and Assessment: prior to beginning of work ensure:
- .2 Decks are firm, straight, smooth, dry, free of water, snow, ice or frost, and swept clean of dust and debris. Do not use calcium or salt for ice or snow removal.
- .3 Curbs, parapet and infill walls have been built.
- .4 Roof drains have been installed at proper elevations relative to finished roof surface.
- .5 Air / vapour membrane has been installed at perimeter to provide air continuity to walls below as shown in the Drawings.
- .6 Do not install waterproofing materials during rain or snowfall.
- .7 Remove old primer or membrane from concrete deck areas by grinding.

3.3 PROTECTION OF IN-PLACE CONDITIONS

- .1 Cover walls, walkways, parapets and roofs and adjacent work where materials hoisted or used.
- .2 Use warning signs and barriers. Maintain in good order until completion of Work.
- .3 Clean off drips and smears of bituminous material immediately.
- .4 Dispose of rainwater off roof and away from face of building until roof drains or hoppers installed and connected.
- .5 Protect roof from traffic and damage.
- .6 At end of each day's work or when stoppage occurs due to inclement weather, provide protection for completed Work and materials out of storage.
- .7 Metal connectors and decking will be treated with rust proofing or galvanization.

3.4 GYPSUM SHEATHING APPLICATION TO DECKS, ROOF RELATED WALLS and INSULATION

- .1 R1 Adhesively Adhered Assembly: Install new thermal barrier roof board to steel deck with low-rise two-part polyurethane adhesive. Apply continuous strip $\frac{1}{2}$ to $\frac{3}{4}$ " wide to top of every steel deck flute and lay panel into wet beads. Apply weight to panel for reasonable time to maximize adhesion of the panels. Install roof coverboard to insulation with similar adhesive application with layout pattern to meet window uplift requirements.
2. Install roof board to base of wall or infill framing and attached with screws at 6"oc to framing.

3.5 PRIMING DECK

- .1 Apply deck primer to all existing prepared concrete or new coverboard substrates where air / vapour sheet membrane or waterproofing membrane is to be installed as required and at the rate recommended by manufacturer.

3.6 MEMBRANE APPLICATION

- .1 Installation of base sheet:
 - .1 Base sheet membrane shall be unrolled dry on deck for alignment.
 - .2 Base sheet shall be unrolled starting from the low point of the roof. Base sheet shall be re-rolled from both ends. Care must be taken to ensure good alignment of the first roll (parallel with the edge of the roof).
 - .3 Base sheet shall be adhered in accordance with recommendations of the membrane manufacturer.
 - .4 Care must be taken not to burn the membrane.

- .5 Base sheet shall have side laps of 75 mm and end laps 150 mm.
- .6 Heat seal all joints and overlaps
- .7 Application shall provide a smooth surface without air pockets, wrinkles, fish-mouths or tears.
- .8 After installation of the base sheet, check all lap seams on the base sheet.
- .2 Installation of base sheet stripping:
 - .1 Primer coating must be dry before application of the base sheet stripping.
 - .2 Base sheet stripping shall be laid in strips one meter wide to vertical surfaces, extending on to the flat surface of the roof a minimum of 100mm. Side laps shall be 75mm and shall be staggered a minimum of 100mm with the laps of the base sheet.
 - .3 Base sheet stripping shall be adhesively adhered directly on its support from bottom to top. When allowed by the support, the base sheet top edge shall be nailed on 300mm centers.
- .3 Installation of cap sheet:
 - .1 Once the base sheet and stripping has been applied and does not show any defects, the cap sheet can then be laid.
 - .2 Cap sheet shall be unrolled starting from the low point on the roof. Cap sheet shall be re-rolled from both ends prior to adhering. Care must be taken to ensure alignment of the first roll (parallel with the edge of the roof).
 - .3 Cap sheet shall be torch adhered in accordance with the recommendations of the membrane manufacturer, to the base sheet membrane. During this application, both surfaces shall be simultaneously melted, forming an asphalt bead that shall be pushed out in front of the cap sheet.
 - .4 Care must be taken not to burn the membranes, and their respective reinforcements.
 - .5 Base and cap sheet seams shall be staggered a minimum of 300 mm.
 - .6 Cap sheet shall have side laps of 75 mm and end laps of 150 mm.
 - .7 Make sure the two membranes are properly welded, without air pockets, wrinkles, fish-mouths or tears.
 - .8 After installation of the cap sheet, check all lap seams on the cap sheet.
 - .9 During installation, care must be taken to avoid asphalt seepage greater than 5 mm at seam.

- .4 Installation of cap sheet stripping:
 - .1 Cap sheet stripping shall be laid in strips one meter wide. Side laps shall be 75mm, and shall be staggered a minimum of 100mm from cap sheet laps in order to avoid excessive thickness.
 - .2 Using a chalk line, lay-out a straight line on the cap sheet surface, parallel to roof edge, 200mm inside roof, from base of wall.
 - .3 Cap sheet stripping shall be torch adhered directly on its base sheet proceeding from bottom to top.
 - .4 Cap sheet stripping shall be applied to extend down outside face of exterior edge, across top of parapet, down interior vertical surface and on to flat roof a distance of 150mm. Cut roll into required lengths and use width of roll (1 meter) down length of roof, maintaining specified 75mm side laps.
- .5 Roof penetrations:
 - .1 Install roof drains, vent stack covers and other roof penetration flashings and seal to membrane in accordance with the manufacturer's recommendations and details and as indicated.

3.7 FIELD QUALITY CONTROL

- .1 The roofing contractor is responsible to notify manufacturer at commencement of roofing.
- .2 Manufacturer will provide periodic inspections during roofing applications, as required.
- .3 Inspection of completed base sheet is mandatory.
- .4 The roofing contractor is required to notify manufacturer at the base sheet stage of application and is not to proceed with application of cap sheet until base sheet application has been approved by manufacturer in writing.
- .5 Manufacturer is to be notified upon completion of the roofing and will provide final inspection before the guarantee is issued.
- .6 Deficiencies apparent upon final inspection must be corrected to the satisfaction of manufacturer prior to the guarantee being issued.

3.8 CLEANING

- .1 Remove bituminous markings from finished surfaces.
- .2 In areas where finished surfaces are soiled caused by work of this section, consult manufacturer of surfaces for cleaning advice and complying with their documented instructions.
- .3 Repair or replace defaced or disfigured finishes caused by work of this section.
- .4 Waste Management: separate waste materials for reuse and recycling.
 - .1 Place materials defined as hazardous or toxic in designated containers.
 - .2 Clearly label location of salvaged material's storage areas and provide barriers and security devices.
 - .3 Ensure emptied containers are sealed and stored safely.
 - .4 Unused paint, coatings, sealant, adhesive, gypsum or other material must be disposed of at official hazardous material collections site.

END OF SECTION

Part 1 General

1.1 DESCRIPTION

- .1 The work in this section includes:
 - .1 Supply and installation of new sloped and flat Polyiso rigid insulation complete with all related components for an adhesively applied roof assembly R1.
 - .2 Supply and installation of new concrete topped XPS insulation for roof assembly R1 with all related retainer flashing, straps and pavers.
 - .3 Supply and Installation of new mineral wool batt insulation for wall or roof parapet areas as indicated in the drawings.

1.2 RELATED SECTIONS

- .1 Section 07 13 52 Modified Bituminous Sheet Roofing

1.3 REFERENCES

- .1 CAN/ULC S-701.1: Standard for Thermal Insulation, Polystyrene Boards and Pipe Covering.
- .2 ASTM D1621: Standard Test Method for Compressive Properties of Rigid Cellular Plastics
- .3 ASTM D2842: Standard Test Method for Water absorption of Rigid Cellular Plastics
- .4 ASTM E96: Water Vapour Transmission of Materials..
- .5 ASTM-C578 "Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation".

1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 00 10 General Requirements, Submittals.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for board insulation and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit electronic copies of WHMIS SDS in accordance with Section Project Requirements. Indicate VOC's during application and curing.
 - .3 Provide shop drawing of slope package.

- .3 Samples:
 - .1 Submit 300 x 300 mm sample of board insulation if requested by consultant.
- .4 Certificates:
 - .1 Submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .5 Test Reports:
 - .1 Submit certified test reports showing compliance with specified performance characteristics and physical properties.
- .6 Manufacturer's Instructions:
 - .1 Submit manufacturer's installation instructions.

1.3 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials off ground in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect specified materials from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.

Part 2 Products

2.1 INSULATION

- .1 Top layer of rigid insulation for main roof areas: concrete topped (CT) thermal insulation boards made of rigid extruded polystyrene (XPS) with shiplap edges on sides 9mm (3/8") thick latex modified grey concrete with a smooth finish. Closed cell foam containing no CFC, HCFC or HFC 134a with zero ozone depletion potential and low global warming potential of 1.
 - .1 To meet CAN/ULC S701.1, Type: 4,
 - .2 Thermal Resistance: RSI = 0.88 / 25.4mm (R = 5.0 / inch)
 - .3 Minimum Compressive strength: 240 kPa (35psi)

- .4 Concrete topping surface: Latex modified concrete mix, 9 mm (3/8") thick.
- .5 Panel Size: 610mm (24") width x 1220mm (48") length x 51mm (2") Thickness.
- .6 Edges: tongue & grooved along longitudinal edge.
- .7 Acceptable material:
 - .1 Techcrete CTI Roof Panel with Styrofoam brand XPS Foam Insulation.
- .2 Rigid Cellular Polyisocyanurate: Closed-cell, polyisocyanurate foam core insulation bonded on each side to fiberglass facers during the manufacturing process, meeting CAN/ULC-S704 Type 3, Class 3 and ASTM C1289 Type II, Class 2, Grade 2. Board thicknesses to provide one layer of 2" thickness and 2% slope package over.
 - .1 Performance Criteria to meet the following:
 - .1 Compressive Strength: To ASTM D1621, 138kPa minimum..
 - .2 Density: To ASTM D1622, not less than 32.0 kg/m3.
 - .3 Dimensional stability: To ASTM D2126, < 0.5%.
 - .4 Tensile Strength: To ASTM D1623, >35kPa
 - .5 Water Vapour Transmission: To ASTM E96, <57.2 ng/ Pa.s.m2.
 - .6 Moisture Resistance: To ASTM C1104, moisture sorption of 0.15 %.
 - .7 Non-organic facer material to meet ASTM D 3273 standards for mold resistance.
 - .2 Acceptable materials:
 - .1 Soprema Sopra-ISO PLUS
 - .2 Siplast Paratherm CG
 - .3 IKO IKOTerm III
 - .4 Firestone Iso 95+ GL
 - .5 Atlas Energy Products AC Foam III
 - .6 Hunter H-Shield CG
- .3 Inorganic mineral fiber with thermosetting resin binder formed into flexible semi-rigid insulating batts. Unfaced, preformed in accordance with CAN/ULC S702. Thickness to suit wall framing as indicated in the drawings. Thermal resistance RSI 0.70/25mm minimum. Acceptable material:
 - .1 Comfortbatt by Rockwool Inc.
 - .2 Alternative as approved by Consultant

2.2 ADHESIVE

- .1 Adhesive: Adhesive to be as compatible with the materials which it is in contact with and approved by the manufacturer of the roof assembly.

2.3 ACCESSORIES

- .1 Wall Insulation Clips: Galvanized clip as supplied by manufacturer, with appropriate fasteners for wall attachment.
- .2 Concrete topped panel securement: Perimeter hold down flashing and corner straps to be Z275 galvanized steel or Galvalume steel or stainless steel, minimum 22 gauge. All fasteners connection to concrete top surface of panel are to be #10 X 1" stainless steel flat or pan head masonry screws.
- .3 Concrete utility pavers: If required, to replace or supplement existing, provide 24"x24"x2" thick utility grade pavers for locations where retainer flashing cannot be installed. Minimum weight not less than 40kg per paver.

Part 3 Execution

3.1 EXAMINATION

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for board insulation application 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 after receipt of written approval to proceed from Consultant.

3.2 INSTALLATION

- .1 Proceed with installation only once slope package shop drawing has been reviewed and approved by the consultant.
- .2 Install insulation after building substrate materials are dry.
- .3 Install insulation to maintain continuity of thermal protection to building elements and spaces.

- .4 Fit insulation tight around electrical boxes, plumbing and heating pipes and ducts, around exterior doors and windows and other protrusions. Where gaps exist between Polyiso panels or to components or perimeter, install spray foam to fill.
- .5 Keep insulation minimum 75 mm from heat emitting devices such as recessed light fixtures, and minimum 50 mm from sidewalls of CAN/ULC-S604 type A chimneys and CSA B149.1 and CSA B149.2 type B and L vents.
- .6 Cut and trim insulation neatly to fit spaces. Butt joints tightly, offset vertical joints. Use only insulation boards free from chipped or broken edges. Use largest possible dimensions to reduce number of joints.
- .7 Offset both vertical and horizontal joints in multiple layer applications.
- .8 Do not enclose insulation until it has been inspected and approved by Consultant.

3.3 POLYISO RIGID INSULATION INSTALLATION

- .1 Apply adhesive to substrate or insulation board and at rate recommended by in accordance with manufacturer's recommendations.
- .2 Imbed insulation boards into continuous strips of foam adhesive, applied as specified, prior to skinning of adhesive and according to spacing required for wind resistance reports.
- .3 Leave insulation board joints unbonded over line of expansion and control joints.

3.4 CONCRETE TOPPED RIGID INSULATION INSTALLATION

- .1 Install insulated roof panels in accordance with manufacturer's Installation Guidelines available at [CTI-SRI Install Guidelines.pdf \(tech-crete.com\)](http://tech-crete.com/CTI-SRI-Install-Guidelines.pdf).
- .2 Stagger end joints between rows.
- .3 Install perimeter securement flashing and corner straps as indicated.
- .4 Install continuous pavers where mechanical securement not possible.

3.5 CLEANING

- .1 Progress Cleaning: clean in accordance with general requirements.
 - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.

- .3 Waste Management: separate waste materials for as required in accordance with local municipal requirements.
- .1 Remove waste containers and bins from site and dispose of materials at appropriate facility.

END OF SECTION

Part 1 General

1.1 DESCRIPTION

- .1 Supply and installation of spray polyurethane foam insulation to provide air/vapour and thermal resistance as indicated in the drawings.

1.2 RELATED SECTIONS

- .1 Section 07 13 52 – Modified Bitumen
- .2 Section 07 62 00 – Sheet Metal Flashing and Trim

1.3 REFERENCE STANDARDS

- .1 ASTM International (ASTM):
 - .1 ASTM D1622/D1622M-14 – Standard Test Method for Apparent Density of Rigid Cellular Plastics.
- .2 Canadian Urethane Foam Contractors Association Inc. (CUFCA)
- .3 Underwriters' Laboratories of Canada (ULC) (CSA)
 - .1 ULC 101, Standard Methods of Fire Endurance Tests of Building Construction and Materials. (CAN/ULC S101-140)
 - .2 ULC 102, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies. (CAN/ULC S102)
 - .3 ULC 705.1, Standard for Thermal Insulation – Spray Applied Rigid Polyurethane Foam, Medium Density – Material – Specification. (CAN/ULC S705.1-15)
 - .4 ULC 705.2, Standard for Thermal Insulation – Spray Applied Rigid Polyurethane Foam, Medium Density – Application. (CAN/ULC S705.2-05)
- .4 National Lumber Grades Authority (NLGA):
 - .1 NLGA Standard Grading Rules for Canadian Lumber [2017]
- .5 Telecommunications Industry Association (TIA):
 - .1 ANSI/TIA/EIA 569 B, Commercial Building Standard for Telecommunications Pathways and Spaces

1.4 ADMINISTRATIVE REQUIREMENTS

- .1 Pre-installation meeting:

- .1 Convene a pre-installation meeting two (2) weeks prior to beginning work of this Section or any on-site preparation or application. Insulation contractor, manufacturer, project manager and Consultant will review the following:
 - .1 Verify project requirements.
 - .2 Submission of technical literature and Test reports.
 - .3 Review installation and substrate conditions.
 - .4 Co-ordination with other building sub-trades.
 - .5 Review manufacturer's installation instructions.
 - .6 Preparation of Mock-Ups.
 - .7 On-site testing and inspections.

1.5 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 00 10 – General Requirement.
- .2 Submit manufacturer's printed product literature, specifications and data sheets. Include product characteristics, performance criteria, and limitations.
- .3 Submit manufacturer's installation instructions. Include preparation instructions, recommendations for special storage and handling. Include installation sequence and cleaning procedures.
- .4 Submit WHMIS Safety Data Sheet (SDS) in accordance with Section 01 00 10 – General Requirements.
- .5 Submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .6 Submit evaluation report, test reports and listing from an independent recognized evaluation service or testing laboratory, indicating compliance with specifications for specified performance characteristics and physical properties.
- .7 Submit test reports verifying compliance with CAN/ULC-S102 for surface burning characteristics.
- .8 Submit Manufacturer's Field Reports as described in PART 3 – FIELD QUALITY CONTROL. Submit manufacturer's written reports within 3 days of inspection.
- .9 Provide Sustainable Design Submittals in accordance with Section 01 00 10 – General Requirements.
 - .1 Incorporate requirements related to work of this section into Construction Waste Management Plan and Waste Reduction Workplan.

- .1 Submit project Waste Management Plan highlighting recycling and salvage requirements.
- .2 Recycled Content:
 - .1 Submit listing of recycled content products used, including details of required percentages or recycled content materials and products, showing their costs and percentages of post-consumer and post-industrial content, and total cost of materials for project.
- .3 Regional Materials:
 - .1 Submit evidence that project incorporates and states its percentage of regional materials and products, showing their cost, distance from project to furthest site of extraction or manufacture, and total cost of materials for project.

1.6 QUALITY ASSURANCE

- .1 Manufacturer: company with experience in producing material required for this project, with sufficient production capacity to produce and deliver required units without causing delay in work.
- .2 Installer: person specializing in sprayed insulation installations with documented experience. Approved by manufacturer. Installer to be certified by an ISO 17024 accredited certification organization in accordance with the requirements in CAN/ULC S705.2. Submit copies of licenses to Consultant for each installer.
- .3 Construct mock-up in accordance with Section 01 00 10 – General Requirements.
 - .1 Construct mock-up of 10 m² minimum. Mock-up to include one inside corner and one outside corner and termination details at openings including doors and windows.
 - .2 Allow 24 hours for inspection of mock-up by project team and Consultant before proceeding with sprayed insulation work.
 - .3 When accepted, Mock-up will demonstrate minimum standard for this work.
 - .4 Approved Mock-up may be part of finished work.

1.7 HEALTH AND SAFETY

- .1 Comply with requirements of Workplace Hazardous Materials Information System regarding use, handling, storage and disposal of insulation materials.
- .2 Protect workers in accordance with CAN-ULC-S705.2 and manufacturer's recommendations.

- .3 Ensure that workers wear gloves, supplied fresh air system, dust masks, long sleeved clothing, eye protection and protective clothing when applying foam insulation.
- .4 Ensure that workers do not eat, drink or smoke while applying foam insulation.

1.8 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with 1.22 Materials and Equipment in Section 01 00 10 – General Requirements and with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements:
 - .1 Deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials off ground, indoors, and in clean, dry, well-ventilated area.
 - .2 Protect insulation materials from exposure to moisture.
 - .3 Replace wet or damaged materials with new.

1.9 WASTE MANAGEMENT

- .1 Separate and recycle waste packaging materials in accordance with Waste Management Plan and Waste Reduction Plan.
- .2 Return all packaging materials for recycling as specified in the Construction Waste Management Plan and Waste Reduction Workplan.
- .3 Dispose of waste products at appropriate recycling facilities. Collect and separate paper and plastic material in appropriate on-site storage containers.
- .4 Dispose of waste foam daily and decontaminate empty drums in accordance with foam manufacturer's instructions. Divert metal drums to metal recycling facility.

1.10 SITE CONDITIONS

- .1 Ventilate area, as required according to safety requirements, product directions and in accordance with Section 01 00 10 – General Requirements.
- .2 Ventilate area to receive insulation by introducing fresh air and exhausting air continuously during and [24] hour after application to maintain non-toxic, unpolluted, safe working conditions.
- .3 Provide temporary enclosures to prevent spray and noxious vapours from contaminating air beyond application area.

- .4 Protect adjacent surfaces and equipment from damage by overspray and fall-out.
- .5 Apply insulation only when surfaces and ambient temperatures are within manufacturers' prescribed limits.

Part 2 Products

2.1 MATERIALS

- .1 Insulation: spray applied closed cell, rigid polyurethane foam to CAN/ULC-S705.1 and ASTM C1029 Type 2, two component, Medium density. Zero ozone depletion blowing agent. Properties as follows:
 - .1 Core density: minimum 29.6 kg /m³ (1.85 lb/cu ft).
 - .2 Compressive strength: minimum 236 kPa. (34.2 psi).
 - .3 Tensile strength: 313 kPa. (45.34 psi).
 - .4 Open cell content by volume: maximum 5.6 %.
 - .5 Water absorption: less than 0.58 % by volume.
 - .6 Dimensional stability: aged 28 days at 70 ° C at 97 % RH plus/minus 3%: less than 9 % by volume.
 - .7 Long term thermal resistance: minimum RSI 1.82 (R10.3) per 50 mm (2") thickness.
 - .8 Air permeance at 50 mm thickness: <0.005 litres per second per m² .
 - .9 Water vapour permeance at 50 mm (2") thickness: less than 56.3 ng/Pa x second x m² (0.98 Perm).
 - .10 Maximum thickness per pass: 50 mm.
 - .11 Surface burning characteristics: to CAN/ULC-S102. Smoke developed:<500.
 - .12 Surface flame spread rating: to CAN/ULC-S102: Flame Spread <500.

2.2 EQUIPMENT

- .1 Spray equipment: in accordance with CAN-ULC-S705.2 and the equipment manufacturer's recommendations for specific type of application
- .2 Provide a separate proportioner unit for each spray gun.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Comply with manufacturer's written instructions including data sheets, technical bulletins, catalogue installation instructions and carton installation instructions.

3.2 EXAMINATION

- .1 Verify that conditions of existing substrate are acceptable for sprayed insulation application in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of Consultant.
 - .2 Ensure surfaces are free of snow, ice, frost, grease and other deleterious materials.
 - .3 Measure moisture content and temperature of substrate and surface suitability in accordance with CAN/ULC S705.2. Measurements below CAN/ULC S705.2 requirements are not acceptable
 - .4 Inform Consultant of unacceptable conditions immediately upon discovery.
 - .5 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Consultant.

3.3 PROTECTION OF IN-PLACE CONDITIONS

- .1 Mask and cover adjacent areas to protect from over spray.
- .2 Ensure any required foam stop or back up material are in place to prevent over spray and achieve complete seal.
- .3 Seal off existing ventilation equipment. Install temporary ducting and fans to ensure exhaust fumes. Provide for make-up air.
- .4 Erect barriers, isolate area and post warning signs to advise non-protected personnel to avoid the spray area.

3.4 SURFACE PREPARATION

- .1 Clean all surfaces free of oil, grease, dust and debris. Ensure surfaces are clean, dry and properly fastened to ensure adhesion of the foam to the substrate.
- .2 Ensure that all work by other trades that may penetrate through the insulation is in place and complete.

3.5 APPLICATION

- .1 Apply primer to surfaces where recommended by manufacturer. Apply primer in accordance with manufacturer's instructions.

- .2 Spray apply insulation to maintain continuity of thermal protection to building elements and spaces.
- .3 Spray apply insulation to primed surfaces in accordance with CAN-ULC-S705.2.
- .4 Record equipment settings on the Daily Work Record as required by CAN-ULC-S705.2.
- .5 Spray apply insulation to final thickness as indicated on drawings. Apply in consecutive passes to thicknesses as recommended by manufacturer. Minimum thickness: 15 mm. Maximum thickness: 50 mm.
- .6 Spray insulation to seal perimeter of electrical boxes, pipes, ducts, frames and other objects into or passing through insulation.
- .7 Keep insulation away from heat emitting devices such as recessed light fixtures, chimneys and furnace vents. Maintain minimum distances as recommended by manufacturer's instructions.
- .8 Finished surface of foam insulation to be free of voids and imbedded foreign objects.
- .9 Remove masking materials and over spray from adjacent areas immediately after foam surface has hardened. Ensure cleaning methods do not damage work performed under other sections.
- .10 Trim, as required, any excess thickness that would interfere with the application of cladding system by other trades.
- .11 Do not enclose insulation until it has been inspected and approved by Consultant.

3.6 TOLERANCES

- .1 Maximum variation from indicated thickness: minus [6] mm, plus [10] mm but not universally high or low.

3.7 PROTECTION

- .1 Protect installed products and accessories from damage during construction.
- .2 Protect the spray foam from ultraviolet in accordance with manufacturer's requirements.
- .3 Cover the spray foam with an appropriate thermal barrier as required by code.

3.8 FIELD QUALITY CONTROL

- .1 Provide Manufacturer's Field Services consisting of product use recommendations and regular site visits for inspection of product installation to ensure compliance with manufacturer's instructions.

3.9 CLEANING

- .1 Perform daily cleaning in accordance with Section 01 00 00 – General Requirements.
 - .1 Leave Work area clean at end of each day.
- .2 Upon completion of insulation work, remove surplus materials, rubbish, tools and equipment.
 - .1 Remove insulation material spilled during installation and leave work area clean.
- .3 Separate waste materials for reuse and recycling. Remove recycling containers and bins from Site and dispose of materials at appropriate facility.

END OF SECTION

Part 1 General

1.1 DESCRIPTION

- .1 Fabrication and installation of all related metal flashings including perimeter parapet curb and fascia flashings, base of wall flashings, mechanical curb flashings and retainer flashing as indicated on the drawings.
- .2 Removal, Storage and reinstallation of metal wall cladding as required to install new roofing.

1.2 RELATED SECTIONS

- .1 Section 07 13 52 Modified Bituminous Sheet Roofing.
- .2 Section 07 21 13 Board Insulation.

1.3 REFERENCES

- .1 CSSBI-S8 "Quality and Performance Specification for Pre-Finished Sheet Steel Used for Building Products".
- .2 ASTM-A924/A924M "Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process".
- .3 ASTM-B32 "Standard Specification for Solder Metal".
- .4 ASTM-B69 "Standard Specification for Rolled Zinc".
- .5 ASTM-B370 "Standard Specification for Copper Sheet and Strip Building Construction".
- .6 ASTM-D822 "Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and related Coatings".
- .7 CSA-B111 " Wire Nails, Spikes and Staples".
- .8 CAN/CGSB-93.1M " Sheet Aluminum Alloy, Pre-Finished, Residential".
- .9 CAN/CGSB-1.171 "inorganic Zinc Coating".

- .10 ASTM-A653/A653M "Steel Sheet, Zinc Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process."
- .11 Aluminum Association Designation System for Aluminum Finishes.
- .12 Aluminum Association Aluminum Sheet Metal Work in Building Construction.
- .13 CSSBI-20M "Standard for Sheet Steel Cladding for Architectural Industrial and Commercial Building Application".
- .14 Roofing Practices Manual, Roofing Contractors Association of British Columbia (RCABC).

1.4 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with General Requirements.
- .2 Product Data:
 - .1 Submit manufacturer's printed product literature including product specifications and technical data sheets for sheet metal flashing fasteners and accessory materials. Include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit electronic copies of WHMIS SDS - Safety Data Sheets in accordance with Section 01 35 29.06 - Health and Safety Requirements.
- .3 Samples:
 - .1 Submit a minimum three (3) 100 x 100mm samples for color choice. Provide 300mm (12") length of each type of sheet metal flashing profile.
 - .2 Provide 2 full size pieces of each profile used for future maintenance / replacement purposes by Owner.

1.5 PRE-INSTALLATION MEETING

- .1 Include sheet metal flashing and trim on agenda of pre-installation meetings of affected sections.

1.6 MOCK-UPS

- .1 Include flashings in mock-ups as specified for work of other affected sections.

1.7 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Project Requirements.
- .2 Handle and store flashing materials to prevent creasing, buckling, scratching, or other damage.
- .3 Waste Management and Disposal:
 - .1 Separate waste materials for in accordance with municipal requirements.

1.8 WARRANTY

- .1 Finish Warranty: Limited product finish warranty against manufacturing finish defects:
 - .1 Provide 40 Year from date of substantial completion. Will not peel, fade or corrode. Finish warranty includes the cost of labour and materials.
- .2 Workmanship Warranty: Application limited warranty for 2 years from date of substantial

Part 2 Products

2.1 BASE SHEET METAL MATERIALS

- .1 Provide sheet metal in base metal thickness specified. Where no thickness specified, provide base sheet metal in thickness recommended in SMACNA Architectural Sheet Metal Manual for type of item being fabricated, but not less than 24 gauge thickness for all installations.
- .2 Zinc coated steel sheet: 24 gauge thickness minimum, commercial quality to ASTM A653/A653M, with Z275 (G90) designation zinc coating.
- .3 Aluminum-zinc alloy coated steel sheet: to ASTM A792/A792M, commercial quality, grade 33 with AZ150 coating, regular spangle surface, 24 Gauge base metal thickness.

- .4 Aluminum sheet: to ASTM B209 plain 0.48 mm minimum thickness or thickness in accordance with AA Aluminum Design Manual Part VIII Aluminum Sheet Metal Work in Building Construction non-residential guidelines unless specified otherwise.

- .1 For sheet aluminum fabrications to be anodized, fabricate from minimum 0.8 mm thick sheet.

- .5 Copper sheet: to ASTM B 370 H00 temper designation with mass of 5.4 kg/m² minimum mass.

2.2 PREFINISHED STEEL SHEET

- .1 Prefinished steel sheet with coating system consisting of a galvanized or 55% aluminium-zinc alloy coated base metal with factory applied silicone modified polyester topcoat meeting requirements of CSSBI S8 and AAMA 2605-13 requirements.

- .1 Finished colour finished on both sides.
 - .2 Colour selected by Owner from Cascadia Metals Classic Colors range.
 - .3 Specular gloss: 30 units +/- 5 gloss units in accordance with ASTM D 523 "Standard Test Method for Specular Gloss".
 - .4 Salt Spray to ASTM B117: Passes 1000 hours.
 - .5 Humidity Resistance to ASTM D 2247: Passes 1000 hours.
 - .6 Exposed coating thickness: dry film coating system thickness not less than 22 micrometres.

2.3 ACCESSORIES

- .1 Isolation coating: alkali resistant bituminous paint.
- .2 Pourable sealer: proprietary two-part polyurethane pourable sealer designed for sealing penetration pockets.
 - .1 Maximum VOC limit 50 g/L to SCAQMD Rule 1168 to GSES GS-36.
- .3 Loose laid underlay for metal flashing: asphalt laminated 3.6 to 4.5 kg kraft paper CSA A123.3.

- .4 Self-adhesive membrane underlay and tie-in membrane for metal flashings if required: To CSA A123.22 or ASTM D1970, minimum 1mm (40Mil) thickness.
- .5 Sealants: in accordance with Section 07 92 00 – Joint Sealants, in colour to match flashing finish colour.
- .6 Cleats and hook strips: of same material, and temper as sheet metal, minimum 50 mm wide one-third width of secured flashing continuous. Thickness, one gauge thicker than flashing stock.
 - .1 Provide continuous hook strip at outside of parapets.
- .7 Nails: of same material as sheet metal, for wood substrate, flat head roofing nails of length and thickness suitable for metal flashing application but not less than 38mm.
- .8 Screws: of same material as sheet metal, suitable for substrate and material being fastened, galvanized or prepainted, not less than #10 x 38mm.
- .9 Touch-up paint: as recommended by prefinished material manufacturer.
 - .1 Maximum VOC limit 50 g/L to Standard GS-11 to SCAQMD Rule 1113.

2.4 FABRICATION

- .1 Fabricate sheet steel flashings and other sheet steel work in accordance with applicable SMACNA and RCABC architectural details.
- .2 Fabricate aluminum flashings and other sheet aluminum work in accordance with AAI-Aluminum Sheet Metal Work in Building Construction
- .3 Form pieces in 3048 mm maximum lengths.
 - .1 Make allowance for expansion at joints.
- .4 Hem exposed edges on underside 12 mm.
 - .1 Mitre and seal corners with sealant.
- .5 Provide minimum 4" flanges at sides and top where flashing terminate at vertical walls.

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

2.5 METAL FLASHINGS

- .1 Form all flashings, copings and fascias to profiles indicated of 24 Ga thick prefinished sheet metal.
- .2 Provide 19mm ($\frac{3}{4}$ ") high standing seam or 1" pocket S-Lock joints between flashing sections.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

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

3.2 INSTALLATION

- .1 Install sheet metal work in accordance with RCABC details, and Aluminum Sheet Metal Work in Building Construction as detailed.
- .2 Use concealed fastenings except where approved before installation. For approved exposed fasteners, install gasketed screws with color matching color of the flashing.
- .3 Provide underlay under sheet metal.
 - .1 Secure in place and lap joints 100 mm.
 - .2 Provide self-adhesive membrane to tie into adjacent assemblies.
- .4 Lock end joints and caulk with sealant.
- .5 Install surface mounted reglets true and level, and caulk top of reglet with sealant.

- .6 Insert metal flashings to form weather tight junction.
- .7 Turn top edge of flashing into recessed reglet or mortar joint minimum of 25 mm. Lead wedge flashing securely into joint.
- .8 Caulk flashing at reglet with sealant.
- .9 Install pans, where shown around items projecting through roof membrane.
- .10 Where flashing installed with mechanical fasteners, install fasteners in slots or oversize holes to allow expansion and contraction of flashings.
- .11 Provide isolation coating or impervious self-adhesive membrane to separate aluminum items from concrete and masonry.

3.3 CLEANING

- .1 Proceed in accordance with General Requirements.
- .2 Replace construction damaged sections of flashing with new material.
- .3 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.
- .4 Leave work areas clean, free from grease, finger marks and stains.

END OF SECTION

Part 1 General

1.1 DESCRIPTION

- .1 Installation of new sealant joints at locations as indicated on the drawings.

1.2 RELATED SECTIONS

- .1 Section 07 62 00 Sheet Metal Flashing and Trim.
- .2 Section 07 13 52 Modified Bitumen Sheet Roofing.

1.3 REFERENCES

- .1 CAN/CGSB-19.13-M87 – Sealing Compound, One-component, Elastomeric, Chemical Curing.
- .2 CAN/CGSB-19.24 – Multi-component, Chemical Curing Sealing Compound.
- .3 ASTM C719 – Standard Test Method for Adhesion and Cohesion of Elastomeric Sealant Joints Under Cyclic Movement (Hockman Cycle).
- .4 ASTM C920 – Standard Specification for Elastomeric Joint Sealants.
- .5 ASTM C1193 – Standard Guide for Use of Joint Sealants.
- .6 ASTM C1311 – Standard Specification for Solvent Release Sealants.
- .7 ASTM C1330 – Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid Applied Sealants.
- .8 Sealants: The Professionals' Guide, Sealant, Waterproofing and Restoration Institute..

1.4 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 00 10 General Requirements..
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for joint sealants and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Manufacturer's product to describe:
 - .1 Caulking compound.
 - .2 Primers.
 - .3 Sealing compound, each type, including compatibility when different sealants are in contact with each other.

- .3 Submit electronic copies of WHMIS SDS in accordance with Section 01 35 29.06 – Health and Safety Requirements.
 - .3 Samples:
 - .1 Submit [2] samples of each type of material and colour.
 - .2 Cured samples of exposed sealants for each colour where required to match adjacent material.
 - .4 Manufacturer's Instructions:
 - .1 Submit instructions to include installation instructions for each product used.
- 1.5 CLOSEOUT SUBMITTALS**
- .1 Submit in accordance with Section General Requirements.
 - .2 Operation and Maintenance Data: submit operation and maintenance data for incorporation into manual.
- 1.6 DELIVERY, STORAGE AND HANDLING**
- .1 Deliver, store and handle materials in accordance with Section with manufacturer's written instructions.
 - .2 Delivery and Acceptance Requirements: Deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
 - .3 Storage and Handling Requirements:
 - .1 Store materials indoors and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect joint sealants from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.
- 1.7 SITE CONDITIONS**
- .1 Ambient Conditions:
 - .1 Proceed with installation of joint sealants only when:
 - .1 Ambient and substrate temperature conditions are within limits permitted by joint sealant manufacturer or are above 4.4 degrees C.
 - .2 Joint substrates are dry.

- .3 Conform to manufacturer's recommended temperatures, relative humidity, and substrate moisture content for application and curing of sealants including special conditions governing use.
- .2 Joint-Width Conditions:
 - .1 Proceed with installation of joint sealants only where joint widths are more than those allowed by joint sealant manufacturer for applications indicated.
- .3 Joint-Substrate Conditions:
 - .1 Proceed with installation of joint sealants only after contaminants capable of interfering with adhesion are removed from joint substrates.

1.8 ENVIRONMENTAL REQUIREMENTS

- .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labelling and provision of Safety Data Sheets (SDS) acceptable to Health Canada.

Part 2 Products

2.1 SEALANT MATERIALS

- .1 Do not use caulking that emits strong odours, contains toxic chemicals or is not certified as mould resistant in air handling units.
- .2 When low toxicity caulks are not possible, confine usage to areas which off gas to exterior, are contained behind air barriers, or are applied several months before occupancy to maximize off gas time.
- .3 Where sealants are qualified with primers use only these primers.

2.2 SEALANT MATERIAL DESIGNATIONS

- .1 Sealant Type A, Silicone, single component, nonsag, low modulus, neutral-curing silicone joint sealant: meeting CAN/CGSB-19.13, ASTM C920, Type S, Grade NS Class 100/50. For Use NT. Acceptable material:
 - .1 Dowsil 790 Silicone Building Sealant
 - .2 Tremco Spectrem 1
- .2 Preformed compressible and non-compressible back-up materials:
 - .1 Polyethylene, urethane, neoprene or vinyl foam:
 - .1 Extruded open cell foam backer rod.

- .2 Size: oversize 30 to 50 %.
- .2 Neoprene or butyl rubber:
 - .1 Round solid rod, Shore A hardness 70.
- .3 High density foam:
 - .1 Extruded closed cell polyvinyl chloride (PVC), extruded polyethylene, closed cell, Shore A hardness 20, tensile strength 140 to 200 kPa, extruded polyolefin foam, 32 kg/m³ density, or neoprene foam backer, size as recommended by manufacturer.
- .4 Bond breaker tape:
 - .1 Polyethylene bond breaker tape which will not bond to sealant.

2.3 SEALANT SELECTION

- .1 Storm Collars, sealant Type A.
- .2 Between flashings and as indicated on the drawings: Type A

2.4 JOINT CLEANER

- .1 Non-corrosive and non-staining type, compatible with joint forming materials and sealant in accordance with sealant manufacturer's written recommendations.
- .2 Primer: in accordance with sealant manufacturer's written recommendations.

Part 3 Execution

3.1 EXAMINATION

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for joint sealants 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 after receipt of written approval to proceed from Consultant.

3.2 SURFACE PREPARATION

- .1 Examine joint sizes and conditions to establish correct depth to width relationship for installation of backup materials and sealants.

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

3.3 PRIMING

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

3.4 BACKUP MATERIAL

- .1 Apply bond breaker tape where required to manufacturer's instructions.
- .2 Install joint filler to achieve correct joint depth and shape, with approximately 30% compression.

3.5 MIXING

- .1 Mix materials in strict accordance with sealant manufacturer's instructions.

3.6 APPLICATION

- .1 Sealant:
 - .1 Apply sealant in accordance with manufacturer's written instructions.
 - .2 Mask edges of joint where irregular surface or sensitive joint border exists to provide neat joint.
 - .3 Apply sealant in continuous beads.
 - .4 Apply sealant using gun with proper size nozzle.
 - .5 Use sufficient pressure to fill voids and joints solid.
 - .6 Form surface of sealant with full bead, smooth, free from ridges, wrinkles, sags, air pockets, embedded impurities.
 - .7 Tool exposed surfaces before skinning begins to give slightly concave shape.
 - .8 Remove excess compound promptly as work progresses and upon completion.
- .2 Curing:

- .1 Cure sealants in accordance with sealant manufacturer's instructions.
- .2 Do not cover up sealants until proper curing has taken place.

3.7 CLEANING

- .1 Progress Cleaning: clean in accordance with Project Documents.
 - .1 Leave Work area clean at end of each day.
 - .2 Clean adjacent surfaces immediately.
 - .3 Remove excess and droppings, using recommended cleaners as work progresses.
 - .4 Remove masking tape after initial set of sealant.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with General Requirements.
- .3 Waste Management: separate waste materials and remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.8 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by joint sealants installation.

END OF SECTION



APPENDIX C

CCDC 2 (2020) STIPULATED PRICE CONTRACT and INSURANCE REQUIREMENTS

(Contract bound separately)

INVITATION TO TENDER

**CASTLEGAR & DISTRICT COMMUNITY COMPLEX
ROOF REPLACEMENT
PRJ #24055**

CCDC 41
CCDC INSURANCE REQUIREMENTS

PUBLICATION DATE: December 14, 2020

1. General liability insurance shall be with limits of not less than \$10,000,000 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 insurance coverage shall not be less than the insurance provided by IBC Form 2100 (including an extension for a standard provincial and territorial form of non-owned automobile liability policy) and IBC Form 2320. To achieve the desired limit, umbrella or excess liability insurance may be used. Subject to satisfactory proof of financial capability by the *Contractor*, the *Owner* may agree to increase the deductible amounts.
2. Automobile liability insurance in respect of vehicles that are required by law to be insured under a contract by a Motor Vehicle Liability Policy, shall have limits of not less than \$10,000,000 inclusive per occurrence for bodily injury, death and damage to property, covering all vehicles owned or leased by the *Contractor*. Where the policy has been issued pursuant to a government-operated automobile insurance system, the *Contractor* shall provide the *Owner* with confirmation of automobile insurance coverage for all automobiles registered in the name of the *Contractor*.
3. Manned Aircraft and watercraft liability insurance with respect to owned or non-owned aircraft and watercraft (if used directly or indirectly in the performance of the *Work*), including use of additional premises, shall have limits of not less than \$10,000,000 inclusive per occurrence for bodily injury, death and damage to property including loss of use thereof and limits of not less than \$10,000,000 for aircraft passenger hazard. Such insurance shall be in a form acceptable to the *Owner*.
4. Unmanned aerial vehicle liability insurance with respect to owned or non-owned aircraft (if used directly or indirectly in the performance of the *Work*), shall have limits of not less than \$5,000,000 per occurrence or accident for bodily injury, death and damage to property or such amounts as required by any applicable law or regulation.
5. "Broad form" property insurance shall have limits of not less than the sum of 1.1 times *Contract Price* and the full value, as stated in the *Contract*, of *Products* and design services that are specified to be provided by the *Owner* for incorporation into the *Work*, with a deductible not exceeding \$10,000. The insurance coverage shall not be less than the insurance provided by IBC Forms 4042 and 4047 or their equivalent replacement. Subject to satisfactory proof of financial capability by the *Contractor*, the *Owner* may agree to increase the deductible amounts.
6. Boiler and machinery insurance shall have limits of not less than the replacement value of the permanent or temporary boilers and pressure vessels, and other insurable objects forming part of the *Work*. The insurance coverage shall not be less than the insurance provided by a comprehensive boiler and machinery policy including hot testing and commissioning.
7. Contractors' equipment insurance coverage written on an "all risks" basis covering *Construction Equipment* used by the *Contractor* for the performance of the *Work*, shall be in a form acceptable to the *Owner* and shall not allow subrogation claims by the insurer against the *Owner*. Subject to satisfactory proof of financial capability by the *Contractor* for self-insurance, the *Owner* may agree to waive the equipment insurance requirement.
8. Contractors' Pollution liability insurance shall have limits of not less than \$5,000,000 per occurrence for bodily injury, death and damage to property.

Association of
Canadian
Engineering
Companies

Canadian
Construction
Association

Construction
Specifications Canada

The Royal Architectural
Institute of Canada



Certificate of Insurance Form

Construction Projects

This certifies that policies of insurance as described below have been issued to the Insured named below and are in full force and effect at this time.

NOTE: PROOF OF INSURANCE WILL BE ACCEPTED ON THIS FORM ONLY. INSURANCE COMPANIES MUST BE LICENSED TO OPERATE IN CANADA AND HAVE A MINIMUM AM BEST RATING OF A- OR HIGHER.

This Certificate is issued to the Regional District of Central Kootenay.

Insured Name: _____

Address: _____

Broker Name: _____ Agent's Name: _____

Address: _____ Phone: _____

Title, number and nature of contract, permit, lease, license or operation to which this Certificate applies:

Type of Insurance	Insurer Name and Policy Number	Policy Term dd/mm/yy	Limits of Liability/Amounts
Section 1 Commercial General Liability Occurrence Form Claims Made Form		From: To:	Bodily Injury, Death & Property Damage \$ _____ Per Occurrence \$ _____ Aggregate \$ _____ Deductible
Section 2 Umbrella Liability Excess Liability		From: To:	\$ _____ Umbrella Liability \$ _____ Excess Gen. Liability
Section 3 Professional Errors and Omissions Liability Claims Made Basis		From: To:	\$ _____ Per Claim \$ _____ Aggregate \$ _____ Deductible Per Claim

Section 4 Pollution/Environmental Liability Occurrence Form Claims Made Form		From: To:	\$ _____ Per Occurrence \$ _____ Aggregate \$ _____ Deductible
Section 5 Course Construction Occurrence Form Claims Made Form		From: To:	\$ _____ Per Occurrence \$ _____ Aggregate \$ _____ Deductible
Section 6 All Risk Property – Construction Equipment		From: To:	\$ _____ Limit \$ _____ Aggregate \$ _____ Deductible
Section 7 Broad Form Property		From: To:	\$ _____ Limit \$ _____ Aggregate \$ _____ Deductible
Section 8 Boiler and Machinery (Equipment Breakdown)		From: To:	\$ _____ Limit \$ _____ Aggregate \$ _____ Deductible
Section 9 Automobile Liability (owned or leased vehicles)	If insured by ICBC, attach a copy of the ICBC form APV-47	From: To:	Personal Injury & Property Damage \$ _____ Limit
Section 10 Manned Aircraft and Watercraft Liability Occurrence Form Claims Made Form		From: To:	\$ _____ Per Occurrence \$ _____ Aggregate \$ _____ Deductible
Section 11 Unmanned Aerial Vehicle Liability Occurrence Form Claims Made Form		From: To:	\$ _____ Per Occurrence \$ _____ Aggregate \$ _____ Deductible
Section 12 Other (Specify)		From: To:	\$ _____ Limit \$ _____ Aggregate \$ _____ Deductible

Section 13		From:	\$ _____ Limit
Other (Specify)		To:	\$ _____ Aggregate
			\$ _____ Deductible

Details of Coverage (Sections 1 & 2): ☒ indicates that the coverage is included.

The Regional District of Central Kootenay, its officials, officers, employees servants and agents added as Additional Insured	Contingent Employer's Liability	Water Ingress Coverage
Blanket Contractual	Sudden & Accidental Pollution Liability Added as Loss Payee	12 months Completed Operations- Wrap-Up Liability
Cross Liability/ Severability Interests	Broad Form Products & Completed Operations	24 months Completed Operations- Wrap-Up Liability
Occurrence Property Damage	Owners & Contractors Protective	Work below ground level over 3meters including tunneling and grading (XCU Endorsement)
Broad Form Property Damage	Broad Form Loss of Use	
Personal Injury	Attached Machinery	
Premises & Operations	Employees as Additional Insureds	Vibration from pile driving or caisson work
Waiver of Subrogation in favour of the RDCK	Contingent Employer's Liability	Watercraft liability
Coverage is Primary and not contributory	Use of explosives for blasting	Non-owned watercraft liability
30 days notice of cancellation	Demolition	Aircraft/Aviation liability
60 days notice of cancellation	Shoring and Underpinning Hazard	Non-owned aircraft liability
Installation Floater	Use of Underpinning, Demolition, Pile Driving, Caisson Work	Non-Owned Automobile
		Firefighting Expenses

Particulars of Pollution/Environmental Liability Insurance (Section 4) ☒ indicates that the coverage is included.

The Regional District of Central Kootenay, its officials, officers, employees, servants and agents added as Additional Insured	Waiver of subrogation in favour of the RDCK	Property Damage
	Coverage is primary and not contributory	Clean-up
	30 days notice of cancellation	Monitoring and remediation costs
Blanket Contractual		
Cross Liability/ Severability Interests	Bodily Injury	3 Year Extended Reporting

Particulars of Manned Aircraft and Watercraft Liability Insurance (Section 10) ☒ indicates that the coverage is included.

The Regional District of Central Kootenay, its officials, officers, employees, servants and agents added as Additional Insured	Cross Liability/ Severability Interests	Coverage is primary and not contributory
	Waiver of subrogation in favour of the RDCK	30 days notice of cancellation
Blanket Contractual		

Particulars of Unmanned Aerial Vehicle Liability Insurance (Section 11) ☒ indicates that the coverage is included.

The Regional District of Central Kootenay, its officials, officers, employees, servants and agents added as Additional Insured	Cross Liability/ Severability Interests	Coverage is primary and not contributory
	Waiver of subrogation in favour of the RDCK	30 days notice of cancellation
Blanket Contractual		

Details of Coverage (Section 12) ☒ indicates that the coverage is included.

The Regional District of Central Kootenay, its officials, officers, employees, servants and agents added as Additional Insured	Cross Liability/ Severability Interests	Coverage is primary and not contributory
	Waiver of subrogation in favour of the RDCK	30 days notice of cancellation
Blanket Contractual		

Details of Coverage (Section 13) ☒ indicates that the coverage is included.

The Regional District
of Central Kootenay,
its officials, officers,
employees, servants
and agents added as
Additional Insured

Cross Liability/
Severability Interests

Waiver of subrogation in
favour of the RDCK

Coverage is primary and
not contributory

30 days notice of
cancellation

Blanket Contractual

These policies comply with the insurance requirements of the governing contract, permit, lease, license or other requirements of the Regional District of Central Kootenay. It is understood and agreed any deductible or reimbursement clause contained in the policy shall be the sole responsibility of the Named Insured.

Signature and Broker's Stamp
Authorized to Sign on Behalf of Insurers

Title

Date Signed