



**Contract 3056Q**

**ROOF REHABILITATION – KWANTLEN LAW COURTS**

Bidders are invited to respond to this call for Quotations on the terms contained herein.

Name of Bidder: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

Province: \_\_\_\_\_ Postal Code: \_\_\_\_\_

Telephone No: \_\_\_\_\_ Fax No.: \_\_\_\_\_

E-mail: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Title: \_\_\_\_\_

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Notice of No Bid

## NOTICE TO ROOFING CONTRACTORS INVITATION TO QUOTATION

The City of Richmond invites Quotations for the following roof rehabilitation project:

**For the: KWANTLEN LAW COURTS  
7577 Elmbridge Way, RICHMOND, BC**

***The Scope of Work includes, but is not limited to, the following:***

1. Roof Areas # 2 & # 3 (approximately 138 (+/-) squares)
  - .1 Remove and dispose of roof system and related flashings to the deck level.
  - .2 Install carpentry, vapour barrier, insulation, 2 layers fiberboard, fiberglass mopped, 2-ply modified bitumen torched and related flashings.
2. The Work is expected to start immediately upon access to the structure, Owner's approval and weather permitting.

***Pre-Quotation Site Meeting:***

1. ***Date:*** THURSDAY, JUNE 7, 2007 @ 10:30 O'CLOCK A.M.
2. ***Location:*** 7577 Elmbridge Way, Richmond, BC
3. The City of Richmond strongly encourages all potential Bidders to attend this tour (sign-in attendance). No other tours will be organized or arranged for this project.

***Bidding Documents:***

Bidding documents will be distributed via e-mail to those Contractors whom e-mail confirmation of Bid as indicated in the Confirmation Receipt provided below.

***For information contact:***

- Technical: ROOF TECH 2000 CONSULTANTS LTD., Mr. Jud Jansen, Phone: 604-888-7663,  
Cel: 604-230-7663, Fax: 604-882-7663, E-mail: [rooftech2000@telus.net](mailto:rooftech2000@telus.net).
- Purchasing: Daianna Panni, Acting Buyer II, Purchasing Section, City of Richmond,  
Phone: 604-276-4270, E-mail: [purchasing@richmond.ca](mailto:purchasing@richmond.ca).

***Submission of Quotation:***

1. Sealed quotations, plainly marked on the envelope, 'CONTRACT 3056Q – ROOF REHABILITATION – KWANTLEN LAW COURTS', will be received at the Information Center, Main Floor, Richmond City Hall, addressed to the Purchasing Section, 6911 No. 3 Road, Richmond, BC V6Y 2C1 until **12:00 NOON LOCAL TIME MONDAY, JUNE 18, 2007.**
2. Time verification to be by the clock in the Information Centre, Main Floor, Richmond City Hall.
3. Quotations received after the above mentioned time and date will be returned unopened.
4. The lowest Quotation, or any Quotation, will not necessarily be accepted.
5. For further instructions / requirements refer to 'Instructions to Bidders', Contract 3056Q Document.

PLEASE CONFIRM RECEIPT OF THIS NOTICE VIA E-Mail to the attention of Daianna Panni, 'purchasing@richmond.ca'.

We will bid this project:      Yes \_\_\_ No \_\_\_

\_\_\_\_\_  
Name of Company (PRINT)

\_\_\_\_\_  
Company Representative

\_\_\_\_\_  
E-mail address re distribution of Contract 3056Q

### **Instructions to Bidders**

1. Sealed quotations, plainly marked on the envelope:

#### **CONTRACT 3056Q – ROOF REHABILITATION – KWANTLEN LAW COURTS**

will be received at the Information Counter, Main Floor, Richmond City Hall, addressed to the Purchasing Section, 6911 No. 3 Road, Richmond, BC, V6Y 2C1, until 12:00 noon,  
Local time:

Monday, June 18, 2007

2. Quotations received in the office of the Purchasing Section after the above-mentioned time and date will be returned unopened.
3. Quotations must be submitted on the attached Forms and be authorized by a signing officer of the Bidder's company. The entire Request for Quotation must be returned to the City.
4. This Document with completed Forms will become part of the Contract Documents between the City and the successful Bidder.
5. The City reserves the right to accept all or any part of a quotation or to waive irregularities at their own discretion. The lowest or any quotation will not necessarily be accepted.
6. In accordance with the City's Procurement Policy 3104, award of bids shall be based on:
  - (i) The lowest total cost of acquisition,
  - (ii) Experience of the bidder,
  - (iii) Bidder's references of performance on previous similar contracts,
  - (iv) The bidder's financial resources,
  - (v) Bidder's capability of supervision, staffing and use of subcontractors,
  - (vi) Bidder's ability to meet City specifications and performance criteria,
  - (vii) Any additional evaluation criteria stated in the contract document.
7. Proprietary names, unless otherwise stated, are used solely to establish standards of materials and finish. Items of other manufacture may be accepted as equal to those specified, at the discretion of the City.
8. The City of Richmond estimates that this contract will be awarded within 🌟 weeks of the closing date. All bidders submitting Quotations for the Project will be advised as to the outcome. Please note that Bid results for those contracts posted on the City Web Site and/or BC Bid will be listed on BC Bid within two (2) weeks of the award of Contract.
9. Prices, in Canadian currency, shall be shown for the work specified and shall include all wages and benefits for those personnel engaged on this contract, expenditures for materials,

equipment, travel expenses, assessments for Workers' Compensation, Unemployment Insurance, Canada Pension Plan or any similar statute, costs of subcontracts, insurance premiums, bonds, royalties, permits and licences, taxes, tariffs and duties, overhead, profit, and all other expenditures in connection with the work.

10. The contractor will be required to Indemnify and Insure the City as shown in the General Conditions of the Contract.

Bidders shall have the Undertaking of Liability Insurance Form Letter L1-1 (attached) completed and submitted with their Quotation.

All policies and certificates shall be submitted to the Purchasing Section before a contract is issued to carry out the work.

11. Bidders shall examine the contract documents and visit the site of the work to understand the contract requirements of the project. The City will not make allowances for the contractor's failure to make proper site investigation.

12. **Note:** There will be a site visit conducted on Thursday, June 7, 2007, at 10:30 am with sign-in attendance forms. Potential Bidders are asked to meet at the site, 7577 Elmbridge Way, in the City of Richmond. The City **strongly encourages** all potential Bidders to attend this tour. No other tours will be organised or arranged for this project.

13. Each Bidder shall state on the lists provided to be submitted as part of his quotation, information regarding their previous contracts, subcontractors and equipment that he proposes to use to carry out this contract to completion. It is the intention of the City not to award the contract to any Bidder who does not furnish satisfactory evidence that he has the ability and experience to perform the various works covered under this Contract, and that he has sufficient capital and plant to enable him to execute the said works successfully, and to the satisfaction of the City, and to complete and deliver said works as quoted in his Quotation.

14. Inquires during submission of Quotation should be directed as follows:

Purchasing

Daianna Panni  
Acting Buyer II  
Purchasing Section  
City of Richmond

Telephone: 604- 276-4270  
E-mail: purchasing@richmond.ca

Technical

J.P. Jansen, RRO

Roof Tech 2000 Consultants Ltd.

Telephone: 604- 888-7663

E-mail: [rooftech2000@telus.net](mailto:rooftech2000@telus.net)

Cell: 604-230-7663

15. Quotations may be withdrawn by written notice only, provided such notice is received at the office of the City's Purchasing Section prior to the time / date set as the closing time for receiving Quotations.
16. Quotations shall be open for acceptance for 60 days following the submission closing date.
17. Bidders are advised that submissions of quotes shall be in compliance to the Freedom of Information and Privacy Act.
18. Any interpretation of, additions to, deletions from, or any other corrections to the Contract documents, will be issued as written addenda by the City of Richmond. It is the sole responsibility of the potential bidders to check with the City of Richmond's Website and/or BC Bid to ensure that all available information has been received prior to submitting a bid.
19. The City, it's agents and employer shall not be responsible for any information given by way of verbal communication.
20. Bidders should include in the Quotation Price a sufficient amount to cover the entire cost of the Work including all necessary labour, plant, equipment, tools and materials required to complete the Work in accordance with the Contract Documents. The Quotation Price should also include a sufficient amount for all applicable duties, taxes, charges, overhead and all profit.
21. Quotations which may contain qualifying conditions, or which otherwise do not confirm with the requirements of the Contract Documents may be rejected by the City.



2. 2.2 for the Price: (continued)

OFFER 2 KWANTLEN LAW COURTS

NOTICE TO CONTRACTORS:

Not necessarily all Contractors Bidding will be members of the Roofing Contractors Association of BC (RCABC), therefore we request RCABC member Contractors to submit a separate price to include to provide a five (5) year RCABC Guarantee, excluding Re-inspections and excluding Roof Inspection costs.

**STATE SEPARATE PRICE FOR RCABC**

**GUARANTEE** .....\$ \_\_\_\_\_

State separate price for G.S.T. ....\$ \_\_\_\_\_

Total .....\$ \_\_\_\_\_

---

TOTAL written in lawful money of Canada DOLLARS

2.3 to provide the following Separate Price:

**TO SUPPLY AND INSTALL 24 G.G.I.B.E. SHEET METAL  
REVERSE CROSS BROKEN IN 2'6" LENGTHS, SET IN DOUBLE  
'S' LOCK VERTICAL RIBS, DRILLED AND PINNED 16" O.C. TO  
THE FIREWALL.** .....\$ \_\_\_\_\_

State separate price for G.S.T. ....\$ \_\_\_\_\_

Total .....\$ \_\_\_\_\_

---

TOTAL written in lawful money of Canada DOLLARS



2.4 to provide the following Unit Pricing:

- .1 To reduce ponding, provide a Unit Price to mop in a layer and / or layers of 7/16" X 4' X 8' of fiberboard. Acceptance is required by on-site Roofing Inspector on a daily basis. All extras are to be recorded on Daily Reports.

**PROVIDE ONE SQUARE (1 SQ = 10' X 10')**  
**FIBERBOARD, SECURED IN ASPHALT**  
**AND / OR ADHESIVE** ..... \$ \_\_\_\_\_

State separate price for G.S.T. .... \$ \_\_\_\_\_

Total ..... \$ \_\_\_\_\_

\_\_\_\_\_  
TOTAL written in lawful money of Canada DOLLARS

- .2 To reduce ponding, provide a Unit Price to mop in a layer and / or layers of permaboard. Acceptance is required by on-site Roofing Inspector on a daily basis. All extras are to be recorded on Daily Reports.

**PROVIDE ONE SQUARE (1 SQ = 10' X 10')**  
**PERMABOARD, SECURED IN ASPHALT**  
**AND / OR ADHESIVE** ..... \$ \_\_\_\_\_

State separate price for G.S.T. .... \$ \_\_\_\_\_

Total ..... \$ \_\_\_\_\_

\_\_\_\_\_  
TOTAL written in lawful money of Canada DOLLARS

- .3 Unit rate mark-up for unforeseen elements, in addition to the work, to be covered under cost-plus basis.

**PROVIDE HOURLY RATES, INCLUDING ALL COSTS,**  
**OVERHEAD AND PROFIT FOR EXTRAS IF NECESSARY:**

.1 Foreman ..... \$ \_\_\_\_\_ plus G.S.T.

.2 Journeyman ..... \$ \_\_\_\_\_ plus G.S.T.

.3 Apprentice ..... \$ \_\_\_\_\_ plus G.S.T.

.4 Skilled Labourer ..... \$ \_\_\_\_\_ plus G.S.T.

2.5 **PROVIDE MATERIAL MARK-UP FOR EXTRAS, IF NECESSARY, AS FOLLOWS:**

Cost plus \_\_\_\_\_% overhead, plus \_\_\_\_\_% profit.

2.6 to achieve Substantial Performance of the Work within \_\_\_\_\_  
(insert completion time in weeks following award of the Contract).

3. I/We confirm that the Quotation Price includes all applicable duties, taxes, and handling charges incidental to the Work.

I/We confirm that the following appendices are attached to and form part of this Quotation:

Appendix A: Undertaking Of Liability Insurance;

Appendix B: List of Previous Contracts;

Appendix C: List of Subcontractors;

Appendix D: List of Equipment;

4. I/We confirm that this Quotation will be open for acceptance for a period of 60 calendar days from the day the day following the Closing Date. If within this period the City delivers a written notice by which the City accepts my/our Quotation (“Notice of Award”) and a purchase order for the goods and/or services specified in my/our Quotation (“Purchase Order”), then such offer and acceptance will create a Contract as described in the Contract Documents and I/we will, within 14 days of receipt of the Notice of Award and Purchase Order, deliver to the City certified copies of all insurance policies and certificates required and specified in the Contract Documents.

5. I/We agree that, if we receive a Notice of Award and Purchase Order, and fail to deliver the insurance policies and certificates as required by paragraph 5 of this Form of Quotation, then such failure shall be deemed to be a failure to enter into the Contract, and the City may award the Contract to another party.

Dated this \_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_

**Bidder:**

\_\_\_\_\_  
Full legal name of Corporation, Partnership or Individual

\_\_\_\_\_  
Authorized Signatory

**Appendix A: Undertaking of Liability Insurance**

(To be submitted with Quotation)

City of Richmond  
6911 No. 3 Road  
Richmond, BC V6Y 2C1

Dear Sirs:

We, the undersigned (insert insurance company's name) \_\_\_\_\_ do hereby undertake and agree to insure the Contractor in the amount of \$5,000,000.00 as outlined in the attached "General Conditions of the Contract" and agree to:

- a. Name the City of Richmond, its officers, officials, agents, and employees as additional insured in connection with the work being proposed by the Contractor.
- b. State that such policy applies to each insured in the same manner and to the same extent as if separate policy had been issued to each insured named in the policy.
- c. State that the policy cannot be cancelled, lapsed, or materially changed without at least 30 days written notice of cancellation delivered to the City Clerk of the City of Richmond at 6911 No. 3 Road, Richmond, BC V6Y 2C1.
- d. State that coverage provided by such insurance shall protect the Contractor and the City of Richmond during the performance of the works and services specified in the attached Form of Quotation and specifically that the insurance required by such Quotation shall be consistent with the requirements therein.

if the Contract is awarded to (insert bidder's name) \_\_\_\_\_

EXCEPTIONS:

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Dated at \_\_\_\_\_, British Columbia, this \_\_\_\_ day of \_\_\_\_\_, 2007.

BY: \_\_\_\_\_ TITLE: \_\_\_\_\_

This form must be signed by the Insurance Company or an authorized Broker on behalf of the Insurance Company.

A SEPARATE FORM MUST BE SIGNED FOR EACH POLICY IF MORE THAN ONE POLICY.

**Appendix B: List of Previous Contracts**

The Bidder has recently undertaken and completed the contracts described below and authorizes the City of Richmond to inquire as to the nature of the Bidder’s performance on these contracts.

YEAR	PROJECT TITLE	OWNER PHONE # CONTACT	SCOPE	BUDGET		SCHEDULE		ROLE OF KEY STAFF MEMBERS	OTHER RELEVANT INFO
				Original	Actual	Proposed	Actual		

(If additional space is required, attach additional)





**List of Drawings**

<b>Drawing No.</b>	<b>Sheet No.</b>	<b>Title</b>
*		

(If additional space is required, attach additional)

\*See Roof Tech 2000 Consultants Ltd. Specifications (this document) Table of Contents, Page 1

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COMPLETED SPECIFICATION 56 PAGES



## **2.0 MODIFIED BITUMEN ROOFING SAFETY CONDITIONS AND SAFETY MEASURES**

### **1.1 SAFETY CONDITIONS**

- 1) Contractors are required to maintain a **TWO (2) HOUR MINIMUM FIRE WATCH** at the end of each working day, after open flame roofing application methods have been utilized. All roof areas worked shall be checked for hot spots and signs of smouldering.
- 2) Caution should be taken when working around roof openings, penetrations or flashing. Extreme caution should be exercised when working around exhaust vents that may have grease or lint accumulations. Such accumulations should be cleaned before roofing work is started.
- 3) Torches should be used according to manufacturers' instructions. Torch stands should be used to direct flame upward when momentarily not in use. Torches should not be used near gas lines, electrical wires or flammable liquids. All equipment should be inspected regularly and kept in good working order.
- 4) Contractor should have adequate fire extinguishing equipment. A minimum of five 20-lb. multi-purpose dry chemical extinguishers is suggested. There should be at least one fire extinguisher within 20 ft. horizontal travel distance of any torch-applied roofing equipment. For larger roof areas, additional protection such as charged hose lines or additional extinguishers may be required. (Contractor should be made aware of the location of fire hoses if they are available. Outside faucets from "domestic" water supply may also be useful.)
- 5) Contractor should either have a phone or be aware of the location of the nearest public phone. Contractor should be aware of local emergency phone numbers. For larger roofing jobs it may be worthwhile to notify the local Fire Department in advance of the scope and time frame of the proposed work. Any fires, even if extinguished, should be reported to the Fire Department.
- 6) **No propane or combustibile liquids** are to be left on site and/or any roof areas after roofing crews vacated the work site at the end of the day.
- 7) **All equipment** used for roofing applications must be either removed from the work site at the end of working shifts or the equipment must be secured and rendered immovable and inaccessible, "as is reasonable" to vandals.
- 8) The site is to be secured using all barricades, and/or other materials as are necessary to enclose and isolate the site.
- 9) **In all modified bituminous membrane roofing applications, a "PEEL and STICK" membrane must be used as the first ply stripping on all combustibile wall surface areas where fire damage may occur.**
- 10) All other normal site safety concerns, that are either stated elsewhere within this specification, and/or are required and/or implied by others, are to form part of the safety requirements.

## 2.0 MODIFIED BITUMEN ROOFING (CONTINUED)

## SAFETY CONDITIONS AND SAFETY MEASURES (CONTINUED)

### 1.2 SAFETY MEASURES

#### Construction Safety

1. .1 Observe and enforce construction safety measures required by Part 8 of NBC 1990, Provincial Government, Workers' Compensation Board of B.C. and municipal statutes and authorities.
- .2 In event of conflict between any provisions of above authorities the most stringent provision will apply.
- .3 Ensure no part of work is subjected to a load which will endanger its safety or will cause permanent deformation.

#### Fire Safety

2. .1 Comply with all Provincial and local Fire Safety Regulations. The section 5.0.1 Safety Precautions – Torching published in the Roofing Contractors Association of B.C. "Roofing Practices Manual" form part of this Specification.

#### WHMIS Requirements

3. .1 The Contractor shall comply fully with all WHMIS (Workplace Hazardous Materials Information System) requirements. In addition, provide to the Owner, prior to commencement of the work, one complete set of current MSDS (Material Safety Data Sheets) for all materials to be used on this job site.

### 3.0 MODIFIED BITUMEN ROOFING

1. Modified bitumen roofing membranes represent the latest in the evolution of bituminous roofing systems. However, some systems require that applicators use a propane-fueled open flame torch to adhere the membrane. When working with an open flame on the construction site, applicators must use extreme caution to prevent accidents. Carelessness could lead to loss of property or life.

This section contains precautions for applying modified bitumen roofing. The applicator will find proper procedures for working with equipment of the jobsite, and dealing with personnel.

NOTE: If a fire occurs for any reason, call the Fire Department immediately, even if you put out the flames. Some material may smoulder for hours before bursting into flames, and could be smouldering in places where the layman may not think to look. Let the fire fighters do their job. Safety is no accident.

2. .1 Applicators use an open flame to soften the bitumen of the underside of the membrane to make it adhere to the roofing substrate. At a temperature of 1100°C (2000°F), the flame produced by liquid propane gas does an excellent melting job. But used incorrectly or carelessly, the flame could damage the roof or the buildings and seriously injure the applicator.

Applicators should receive training in proper application, maintenance and safety procedures when handling torching equipment.

Operators should handle their equipment carefully. Protect the soft brass valve of the gas cylinder. It is easy to crack or break it. A broken valve could turn the cylinder into a torpedo. Check all cylinders before refilling.

## **SAFETY PRECAUTIONS**

Torching

EQUIPMENT

### **3.0 MODIFIED BITUMEN ROOFING (CONTINUED)**

2. 1. (Continued)  
Never overfill a cylinder. It could explode.  
All applicators of modified bitumen should participate in the safety and training program.
  
2. .2
  - a) Use well-built durable products that feature safety devices and are listed by Underwriters Laboratories of Canada (ULC).
  
  - b) Follow the Manufacturer's safety and operating instructions provided with the torch system.
  
  - c) Check all equipment for wear. Repair and/or replace as necessary.
  
  - d) Use soap solution to test for gas leaks before lighting, then check for the proper operation of the torch.
  
  - e) Check all fittings and other equipment on the applications equipment for leakage.
  
  - f) Be sure that torch equipment is in good working order and that the cylinder valves are clean.
  
  - g) Stop work and shut off flame if propane odour is detected.
  
  - h) Stop work and make repairs if a leak occurs.
  
  - i) Keep non-applicators at least 3 m (10') from the flame.
  
  - j) Protect your equipment: store it in a tool box.

**SAFETY PRECAUTIONS  
(CONTINUED)**

General

**3.0 MODIFIED BITUMEN ROOFING  
(CONTINUED)**

**SAFETY PRECAUTIONS  
(CONTINUED)**

2. .2 k) Do not use matches or cigarette lighter to test for gas leaks.
- l) Containers which hold or may have held flammable material must be kept clear of the torch or other heat sources.
- m) Do not use equipment that has been damaged or that is in need of repair.
2. .3 a) Protect cylinder valves; where possible use cylinders that have valve protection welded to the cylinder.
- b) Propane tanks are pressurized – do not puncture or subject to extreme heat.
- c) Secure propane tanks in an upright position and place them at least 3 m (10') from the open flame.
- d) Increase the size of the bottle or cylinder to keep frosting from occurring.
- e) Close the propane cylinder valve first and let the remaining gas burn out of the hose before closing the torch valve when shutting off the torch.
- f) Plug the valve with a plastic plug when cylinder is not in use.
- g) Do not turn a vapour cylinder on its side to increase pressure – liquid could escape.

General  
(Continued)

Tanks

**3.0 MODIFIED BITUMEN ROOFING  
(CONTINUED)**

**SAFETY PRECAUTIONS  
(CONTINUED)**

- |    |    |    |  |                      |
|----|----|----|--|----------------------|
| 2. | .3 | h) | Do not heat a cylinder to increase pressure.   | Tanks<br>(Continued) |
|    |    | i) | Do not fill gas cylinder or bottle in need of repair.  |                      |
|    |    | j) | Do not tighten the brass fittings too tightly with a wrench.   |                      |
| 2. | .4 | a) | Use an adjustable ULC listed regulator with the torch.   | Regulators           |
|    |    | b) | Make sure flow of gas through the regulator is in the proper direction. Directional flow is stamped on regulator.                              |                      |
|    |    | c) | Keep vent in pressure regulator clear at all times.  |                      |
|    |    | d) | Use a pressure gauge on every regulator.   |                      |
|    |    | e) | Do not use an adjustable regulator with a higher pressure range than the one that came with the torch.   |                      |
|    |    | f) | Do not operate any pressure gauge beyond the top of its scale or near excessive heat (above 65 Celsius) or where there is excessive vibration. |                      |
|    |    | g) | Do not use equipment without an operating pressure gauge.  |                      |
| 2. | .5 | a) | Check hoses for wear and tear.   | Hoses                |
|    |    | b) | Use only hoses listed for liquid propane gas.  |                      |



**3.0 MODIFIED BITUMEN ROOFING  
(CONTINUED)**

**SAFETY PRECAUTIONS  
(CONTINUED)**

2. .5 c) Use less than 15 m (50') of hose at one time.
2. .6 a) Use an adjustable pilot light with a complete shut-off.
- b) Use a torch stand to direct flame upward when not in use.
- c) Use only torch machines equipped with the same safety features as described for torches. They should also have individually adjustable torches. Use only torch trolleys and multiple head machines with approved safety valves.
- d) Ignite burner with a flint or electronic lighter. Matches or disposable lighters are unsafe substitutes.
- e) Treat the torch as if it is always burning. On bright days it is very hard to see the flame, and when working around mechanical equipment, it is impossible to hear the torch operating.
- f) Be very careful when working with torches in areas where you cannot see. Pull material away, heat it, and then apply it to the flashing.
- g) Do not leave lighted torch unattended.
- h) Do not lay an operating torch over the edge of a roof.

Hoses (Continued)

Torches

### 3.0 MODIFIED BITUMEN ROOFING (CONTINUED)

### SAFETY PRECAUTIONS (CONTINUED)

2. .6 i) Do not use a trowel as a torch stand.
- j) Do not lay an operating torch to rest on a gas cylinder. If there is a gas leak in the cylinder area, there could be a fire.
- k) Do not play with a torch. A flame can be hard to see on a bright day and can ignite skin or clothing instantly.
2. .7 a) Have at least one Class ABC fire extinguisher within 6 m (20') of each worker using the torch.
- b) Train each worker in the proper use of the fire extinguishers.
- c) Direct the stream from a dry chemical-type fire extinguisher at the base of the fire from a distance of at least 3 m (10'). Sweep the fire away from you, starting at its nearest point and moving the chemical stream toward the farthest point.
- d) Do not try to put out a cylinder fire if it cannot be done without tipping the cylinder. Let it burn and call the Fire Department.
- e) Do not place fire extinguisher too close to liquid propane gas equipment. If fire results, you may not be able to get at fire extinguisher to put out the fire.

Torches (Continued)

Extinguishers

- c) Do not work in an enclosed area where gas can accumulate.

### 3.0 MODIFIED BITUMEN ROOFING (CONTINUED)

2. .7 (Continued)  
**WHEN IN DOUBT – CHECK IT OUT.  
IF STILL IN DOUBT – DON’T USE IT.**

2. .8 Each building is different from every other building, and each roof design presents a new set of challenges to the Roofing Contractor. The applicator of modified bitumen systems must adapt his standard safety procedures to meet the special requirements of the current job. However, roofers should follow the basic rules presented in these pages.

The job supervisor should take extra care when working on the modified bitumen roofing job. The supervisor should walk the job one hour after all torches have been extinguished. The delay will help guard against a smouldering fire going undetected at the end of the work day. Check for potential “hot spots” – especially cants, wall flashings, and around penetrations such as vent pipes, intake vents and skylights.

Applicators must take special care when torching at flashings, corners, or voids in the roof deck. Never torch directly at these locations. Always torch the membrane and then adhere it to the corner or joint.

2. .9 a) Install metal flashing on penetrations or flashings with a tight fitting felt collar before torching.
- b) Shut down air conditioning units, exhaust fans and air intake fans in the work area at the roof control.

**SAFETY PRECAUTIONS  
(CONTINUED)**

Extinguishers  
(Continued)

BUILDINGS

General

**3.0 MODIFIED BITUMEN ROOFING  
(CONTINUED)**

2. .10 a) Use perlite, fiberglass, or concrete cant strips if cant strips are required.
- b) Use glass or organic base sheet on all wood decks and over flammable insulation, cant strips or other flammable surfaces.
- c) Look for any void, hole or gap in substrate and fill with non-combustible or perlite cant strip.
- d) Use a base ply over all flammable insulation surfaces and edges and over all joints between rigid insulation boards. The base ply provides a protective covering for underlying combustibles.
- e) Install a base ply or a layer of roof insulation, acceptable to the membrane manufacturer, to separate polyurethane or polyisocyanurate roof insulation from the modified sheet and the torch.

- .10 f) Install a base ply over all flammable surfaces and rigid board insulations. Be sure base ply fits tightly around all roof deck openings and turns up the wall, so the flame cannot flash down and start a fire underneath the deck.
- g) Do not torch to wood fiber insulation, cant strip, wood or any flammable material.

**SAFETY PRECAUTIONS  
(CONTINUED)**

Substrates

### **3.0 MODIFIED BITUMEN ROOFING (CONTINUED)**

### **SAFETY PRECAUTIONS (CONTINUED)**

2. .11 a) Follow the Manufacturer's recommendations on torching to insulation and recover board surface.
- b) Use a small torch when flashing near details.
- c) Shield air conditioning units and other protrusions with perlite panels or similar material when using the torch around them.
- d) Heat the membrane away from air conditioning units, fans, soil pipes and all other protrusions. Care must be taken to avoid flame being pulled into the building interior.
- e) Feather seams around details with hot trowel, not open flame.
- f) Heat membrane and then attach to flashings, corners, or voids in the roof deck. Never torch directly.
- g) Use caution when torching near pipes in the event there is suction present.
- h) Do not torch anything you cannot see such as under air conditioning units or behind counter flashing.
- i) Do not torch near gas lines or near electric wires (such as around roof top equipment, etc.).
- j) Do not torch around flammable vents or plastic projections.

#### Torching Methods

**3.0 MODIFIED BITUMEN ROOFING  
(CONTINUED)**

**SAFETY PRECAUTIONS  
(CONTINUED)**

2. .11 k) Do not point the torch under roof top equipment.
- l) Do not point the torch down open roof penetrations.
- m) Do not point the torch into corners or roof edges where dried wood or fiber may ignite (such as wood blocking or cant strip).
- n) Do not point the torch at low flashings where there is an overhang and flame could get up under the counter flashing, such as around skylights or prefabricated curbs with fiberboard sidewall insulation.
- o) Do not apply modified bitumen products directly over exposed conduits or pipes lying on the roof deck.
- p) Avoid prolonged contact with heat sensitive metals such as lead, as overheating of these metals could ignite underlying flammable services.
- q) Do not lay an operating torch directly onto the membranes – there is danger both of fire and of damaging the membrane.
- r) Do not lay an operating torch on an open penetration on the roof. If the penetration is part of an air intake system, the flames could be sucked into the building.

Torching Methods  
(Continued)

### 3.0 MODIFIED BITUMEN ROOFING (CONTINUED)

### SAFETY PRECAUTIONS (CONTINUED)

2. .12 Many construction-industry tradesmen use open flames or flame tools in their jobs. Heating and air conditioning Contractors, welders and plumbers all use open flame at the job site. These professionals are responsible for the safe use of their tools, just as the Roofing Contractor is responsible for the safe application of the modified bitumen roofing systems.

#### PERSONNEL

Contractors must not only train their own men in using open flame application, but must also make sure the General Contractor and his superintendents are familiar with the necessary safety precautions for using torch application of roofing membrane.

Some of the safety precautions will be considered unpleasant, such as wearing long-sleeve shirts and long pants in the summer, but the results, - a safe, injury-free job site – are worth the effort.

2. .13 a) Wear proper clothing: non-synthetic fabrics, long-sleeve shirt, long pants, boots, gloves and proper eye protection.
- b) Keep non-applicators at least 3 m (10') from open flame.
- c) Train, instruct, and warn employees on the use or torching equipment.

#### General



### 3.0 MODIFIED BITUMEN ROOFING (CONTINUED)

2. .13 d) Use extra caution around edges of insulation board. Cover exposed edges with inflammable base ply to prevent flame from coming in contact with any flammable material. Contact for any length of time with lead or other materials affected by heat should be avoided.
- e) Do not take anything for granted. Be on guard against lapses in on-
2. .14 For years Fire Departments have been learning the proper safety precautions necessary to prevent fires. Their expertise and assistance should be utilized whenever possible to supplement a company's safety training program. By making the local fire department a part of your team, you are giving notice that in all cases Safety Comes First.
2. .15 a) Strict compliance with local fire codes must be maintained.
- b) Give written notice to the local Fire Department where required, and obtain any necessary permits.
- c) The required number of fire extinguishers shall be on the roof at all times. They shall be Class ABC extinguishers of the size specified by the local fire code; one per each torch operator.
- d) Install portable smoke detectors in attics as required by the local Fire Department.

**SAFETY PRECAUTIONS  
(CONTINUED)**

General  
(Continued)

**FIRE DEPARTMENT**

Fire Department Recommendations

**3.0 MODIFIED BITUMEN ROOFING  
(CONTINUED)**

2. .15 e) Foremen on the job shall have fire safety training and shall remain at job site at least one hour after the application has ended for the day.
- f) No flammable liquids shall be stored or used on the roof excluding liquid propane gas in approved containers. All liquid propane gas not in use shall be stored on the ground.

REPORT ALL FIRES TO THE FIRE DEPARTMENT, EVEN THOSE THAT ARE EXTINGUISHED QUICKLY. THERE MAY STILL BE FIRE AND/OR SMOULDERING IN AREAS WHERE A LAYMAN MAY NOT THINK TO LOOK.

**SAFETY PRECAUTIONS  
(CONTINUED)**

Fire Department Recommendations  
(Continued)

#### 4.0 MODIFIED BITUMEN ROOFING:

#### SCOPE OF WORK

1. Rehabilitation of the roof system located at KWANTLEN LAW COURTS, 7577 ELMBRIDGE WAY, RICHMOND, BC  
Location of Work
2. The Contractor shall furnish all labour, materials and equipment necessary to remove and dispose of existing roofing materials, flashings, etc. to the existing deck and/or walls as required. Rework and prepare all decks, perimeters, and walls as required to facilitate the written Specifications, Roof Plans and Details enclosed.  
Labour, Materials & Equipment
3. The Contractor to furnish all labour, materials and equipment deemed necessary to install new wood, roof system, sheet metal flashings and components, etc., as required by the written Specifications. Roof Plans and Details attached.
4. The Contractor to supply all protection deemed necessary to grounds, structure and persons involved.  
Protection
5. All materials, roofing or otherwise, to be installed by qualified "BC licensed trades people". Roofing crew to have a minimum of sixty (60%) percent journeymen with past experience applying the products specified.  
Qualification of Crew
6. Manufacturer's certification of crew members confirming past experience will be required prior to start-up of Work as related to the Modified Bitumen Membranes and / or Sheet Metal Flashing.  
Certification of Crew
7. .1 Upon completion, submit to Owners a two (2) year Maintenance Bond as provided by the surety and a five (5) year written Roofing Contractor Labour and Material Guarantee for leaks and replacement of roofing materials, insulations, and other system and/or wall  
GUARANTEES / WARRANTIES  
Contractor

**4.0 MODIFIED BITUMEN ROOFING:  
(CONTINUED)**

**SCOPE OF WORK  
(CONTINUED)**

7. .1 (Continued)  
and/or deck and/or structure damage occurring from leaks, or if selected by the Owner, a five (5) year RCABC Guarantee in accordance with Offers 1 and 2, Clause 2. 2.2, 'Quotation Form', this document.
- .2 Upon completion, the Membrane and/or Sheet Metal Manufacturer, care of the "Roofing Contractor", to provide Owners with a written ten (10) year Guarantee for membrane manufacturer defects including granule loss.
- .3 Upon Completion, in care of the "Roofing Contractor", Sheet Metal Flashing / Cladding Finishes: DURANAR® High-Performance Fluoropolymer Coatings (PVDF) produced with 70% Kynar 500® or Hylar 5000® Resin, or Cascadia, Duracoat XT-205, or Vic West, Colorite, or approval equal; twenty (20) year Paint Manufacturer's Warranty.
8. Only those products listed in the following roof system components, and/or materials listing, are acceptable for use in this Specification. Inclusion of a non-specified product(s) may result in the rejection of the affected work. Correction of the rejected work shall be undertaken at no cost to the Owners and the satisfaction of the Consultant and/or his Representative.
9. For all torch-on applied roofs, Contractors are required to maintain a minimum two (2) hour fire watch at the end of each working day, after open roofing application methods have been utilized. All roof areas worked shall be checked for hot spots and signs of smouldering.

**GUARANTEES / WARRANTIES  
Contractor (Continued)**

Membrane

Paint Manufacturer

Acceptable Products

**CONTRACTORS TAKE NOTICE**

## 5.0 MODIFIED BITUMEN ROOFING:

## PROCEDURES & INSTRUCTIONS FOR ROOF SYSTEM RELATED WORK

1. Shop drawings supplied by the Contractor for all sheet metal details are to be approved in writing by the Roofing Consultant prior to shop forming.

Approval of Sheet Metal Details
2.
  - .1 All inspections are to be on a one (1) per thirty (30) squares bases. (10' X 10' = 1 square)

Quality Control Inspections, Etc...
  - .2 All occurrences on site are to be documented in the daily reports and include photos. This shall include extras and changes to work.
  - .3 All extras and changes to work are to be confirmed by the Roofing Consultant and the Owners' Representative.
  - .4 The on-site Consultant is to be Roof Tech 2000 Consultants Ltd. Cost of quality control service to be paid by the Client direct and not be included in this Contract.

Quality Control Payment
3. All work must be continuous from start to completion as to be negotiated and agreed upon between Owners, Contractors and Roofing Consultant prior to start up of Work, with crews of adequate size and experience on each site as will be required to facilitate completion of the Contracts as agreed upon.

Sequence of Work / Crew Quantity
4. All plumbing, electrical, phone, gas, etc. Disconnections and reconnections, both labour and materials are to be included in this Quotation. All materials and work are to be provided by the Contractor.

Related Work Connections, Plumbing, Gas, etc.
5. All damage to plumbing, electrical, phone, gas, etc., due to penetrations of screws, nails, etc., are to be repaired to original standards as required to the satisfaction of the Owner's Representative. Cost of repairs is to be included in this Quotation.

Plumbing, Electrical, etc. Damage

**5.0 MODIFIED BITUMEN ROOFING:  
(CONTINUED)**

**PROCEDURES & INSTRUCTIONS FOR  
ROOF SYSTEM RELATED WORK  
(CONTINUED)**

- |     |   |                                       |
|-----|---|---------------------------------------|
| 6.  | All damage to the interior or exterior structure or grounds, walls, sidewalks, etc., is to be cleaned, repaired or upgraded to the satisfaction of the Owner's Representative. Cost of cleaning and restoration work to be included in this Quotation.  | Structure, Ground, Etc., Damage       |
| 7.  | Access to the interior of the structure is to be supplied as required to perform work as related to this Contract ONLY. Phones and interior washrooms are NOT to be used without prior permission of the Owners' Representative.  | Access to Structure                   |
| 8.  | Contractor is to provide all on site sanitary requirements.   | Sanitary Facilities                   |
| 9.  | The Owner shall make provisions for domestic power.   | Electrical Power                      |
| 10. | .1 Upon completion, submit to Owners a two (2) year Maintenance Bond as provided by the surety and a five (5) year written Roofing Contractor Labour and Material Guarantee for leaks and replacement of roofing materials, insulations, and other system and/or wall and/or deck and/or structure damage occurring from leaks, or if selected by the Owner, a five (5) year RCABC Guarantee in accordance with Offers 1 and 2, Clause 2. 2.2, 'Quotation Form', this document. | GUARANTEES / WARRANTIES<br>Contractor |
|     | .2 Upon completion, the membrane and/or sheet metal Manufacturer, care of the "Roofing Contractor", to provide Owners with a written ten (10) year Guarantee for membrane manufacturer defects including granule loss.  | Membrane Manufacturer                 |

**5.0 MODIFIED BITUMEN ROOFING:  
(CONTINUED)**

**PROCEDURES & INSTRUCTIONS  
FOR ROOF SYSTEM RELATED  
WORK (CONTINUED)**

10. .3 Upon Completion, in care of the "Roofing Contractor", Sheet Metal Flashing / Cladding Finishes: DURANAR® High-Performance Fluoropolymer Coatings (PVDF) produced with 70% Kynar 500® or Hylar 5000® Resin, or Cascadia, Duracoat XT-205, or Vic West, Colorite, or approval equal; twenty (20) year Paint Manufacturer's Warranty.
11. All materials shall be new unless specific written approval has been given by Specifying Authority for any component.
12. The Contractor shall obtain permits, pay all fees therefore, and comply with all Provincial and Municipal and other legal regulations and by-laws as applicable to the Work. If no local regulations, comply with the National Building Code of Canada, latest revision.
13. The location of existing features has been determined from available records, but is not guaranteed. The location of all such features shall be investigated and verified in the field by the Contractor.
14. Protect existing road, paving, buildings, finished surfaces, equipment, trees, lawns, utilities, heating, lighting, power and telephone services during the Work. Make good, repair or replace any damage to Owner's approval.

**GUARANTEES / WARRANTIES  
(Continued)**

Paint Manufacturer

New Materials

Permits, Regulations

Existing Features

Protection



**5.0 MODIFIED BITUMEN ROOFING:  
(CONTINUED)**

**PROCEDURES & INSTRUCTIONS  
FOR ROOF SYSTEM RELATED  
WORK (CONTINUED)**

15. Provide, maintain and remove on completion, hoardings, barriers and warning signs for the protection of workmen and the public as required and approved by the Specifying Authority. All the necessary precautions shall be taken to protect the public at all times. No hoisting or lowering of roofing materials will be permitted in areas accessible to the public or employees.
16. Provide protection at all times against weather so as to maintain work, material, equipment and property free from injury or damage and as necessary ensure work is carried out expeditiously in accordance with agreed time schedule and completion date.
17. Parking for workmen employed on the Work shall be restricted to the area assigned for the purpose by the Owner or Authority having jurisdiction.
18. Submit to the Specifying Authority and Owner's Representative prior to the award of the contract, an application schedule, satisfactory to all parties. Schedule to indicate commencement of the Contract, progress and planned date of completion. All work must be coordinated in such a manner as to be continuous to completion with optimum crew size for the required Work.
19. All roof areas to be made water-tight as soon as possible before proceeding. No roof system components to be removed which are greater in area than can be made water-tight under climatic conditions existing at the time.

Work Area Safety

Climatic Conditions

Parking

Progress Schedule

Procedure

**5.0 MODIFIED BITUMEN ROOFING:  
(CONTINUED)**

**PROCEDURES & INSTRUCTIONS  
FOR ROOF SYSTEM RELATED  
WORK (CONTINUED)**

- |  |                        |
|--|------------------------|
| 20. Access to buildings roofs are to be confirmed by: Owner's Representatives.   | Access to Work         |
| 21. To minimize odour from plant, keep the length of operations to the minimum. Locate odour producing equipment away from mechanical vents, intake ducts and/or prevailing winds which will redirect fumes.   | Odours                 |
| 22. Contractor shall ensure that the work is carried out in such a way as to inconvenience as little as possible the proper functioning of the premises.   | Sequence of Work       |
| 23. It is intended that the Contractor attends the site during normal daytime working period and no restriction will be made on the general continuity of his work. If a major restriction on operation is required due to unforeseen circumstances, it shall be recorded and signed for by the Owner Representative and subject to additional costs.  | Daily Working Period   |
| 24. This Contractor shall provide protection to the property and the surrounding properties under this section, from damage resulting from his work, particularly during the removal of any of the existing roofs. All damages caused by this Contractor shall be made good by him at no cost to the Owner. The Contractor shall maintain adequate fire suppression equipment on roof area and for all torch applied roofs shall also <b><u>maintain a minimum two (2) hour fire watch standby</u></b> after work operations have ceased for the day, and/or when fire is at a risk. | Protection of Property |

**5.0 MODIFIED BITUMEN ROOFING:  
(CONTINUED)**

**PROCEDURES & INSTRUCTIONS  
FOR ROOF SYSTEM RELATED  
WORK (CONTINUED)**

25. This Contractor shall maintain the site in as clean a condition as possible, to the satisfaction of the Consultant during his work daily, and shall remove from this and the surrounding properties, any debris from his work on the completion of the job. Failure to do this will result in this cleaning and removal being instituted by the Owner and the cost then deducted from the amount owing this Contractor.
26. .1 All demolished material to be carefully contained and removed by chutes or other approved means from roof surfaces in order of procedure. Demolished materials are to be deposited in secure and tarped containers.
- .2 Disposal containers are to be located in only those areas that do not interfere with the daily operations of the building.
- .3 All disposal containers must be cordoned off utilizing ultra-visible combination of flags, ropes and / or barricades, to comply with Workers' Compensation Board requirements regarding public safety.
- .4 No stock piling of roofing debris on existing roofs or ground will be permitted.
- .5 To prevent fire and / or vandalism, disposal containers are to be removed from the site immediately upon filling and to be tarped and secured if partially filled and left overnight. All related liability will be included in the Contractor's responsibilities.

Clean-up  
Demolition, Debris and Disposal

**5.0 MODIFIED BITUMEN ROOFING:  
(CONTINUED)**

**PROCEDURES & INSTRUCTIONS  
FOR ROOF SYSTEM RELATED  
WORK (CONTINUED)**

26. .6 Any disposal container left on site, without the presence of the roofing crew, must be located a minimum of ten (10) meters away from the building wall or roof overhang, unless otherwise approved by the Owners Representative.
- .7 Common areas surrounding the work site must be kept clean at all times. **Daily clean-up and disposal of all debris is MANDATORY.** Related costs are to be included in this Quotation.

Demolition, Debris and Disposal  
(Continued)

**Note:** Fire related vandalism and unauthorized access to the roof areas is of paramount concern and all stipulations will be rigidly enforced.

27. Storage of the specified roof replacement products are restricted to only those roof areas governed by this Contract.
28. Quotationss will be accepted only from those Roofing Contractors who are licensed to carry on business in the Province of British Columbia and who have a qualified B.C. Roofing Tradesman Ticket and are approved by the membrane Manufacturer **prior** to start up of work.
29. Contractor **NOT** to start contracts as agreed by Owner, Roofing Consultant and the Roofing Contractor **prior** to submission of signed Agreement.

Storage

Qualifications of Quotation

Commencement of Work

**5.0 MODIFIED BITUMEN ROOFING:  
(CONTINUED)**

**PROCEDURES & INSTRUCTIONS  
FOR ROOF SYSTEM RELATED  
WORK (CONTINUED)**

30. .1 For all Insurance requirements see 'General Conditions of the Contract', Clauses 14.1 and 14.2, 'Indemnification and Insurance', forming part of City of Richmond Contract 3056Q, this document.
- .2 Insurance must be issued by an Insurance Carrier, licensed in B.C. Proof of Insurance is required prior to start-up of Work. See 'Appendix A - Undertaking of Liability Insurance', forming part of City of Richmond Contract 3056Q, this document.
- .3 Provide written proof of Workers Compensation coverage as required, prior to work start-up. Refer to 'General Conditions of the Contract', Clause 15. 'Workers' Compensation Board Coverage / Prime Contractor', forming part of City of Richmond Contract 3056Q, this document.

**INSURANCES**

**Workers' Compensation Coverage**

## 6.0 MODIFIED BITUMEN ROOFING:

## PROCEDURES & INSTRUCTIONS FOR ROOF SYSTEM COMPONENTS

1. .1 Provide two plies; first ply 40 lb base sheet nailed @ 16 " o.c., plus one ply # 15 perforated asphalt felt, mopped, throughout the mainfield roof area, as required for water-proofing.
  - .2 Provide two plies 12 lb, Type 4, fiberglass felt, mopped throughout the mainfield roof area, as required for waterproofing.
  - .3 Tape all joints and perimeters, etc. as required to prevent asphalt drippage.
  - .4 Glazing will be required for all installed membranes, due to rain and/or areas that are not going to be completed within the same day. Prior to glazing insure that the areas are water-tight., therefore stripping and/or other necessary procedures will be as required. All moppings and glaze coats to be 100% coverage of asphalt, hot enough to saturate the membrane substrate. Coverage as required so that the membranes are not exposed.
2. The following are the categories of drains to be used within this Re-roof Program:
    - .1 All existing cast iron drains are to be reused complete with new lead sheets. Upgrade all securements clamping rings and screens as required.
    - .2 All roof areas drained by means of interior drains are to have an equal number of shop formed 24 oz copper flange type overflow drains protruding at a downward angle two inches beyond the perimeter fascia. Caulk sheet metal as required. See the typical detail.

TEMPORARY ROOF SYSTEMS /  
VAPOUR BARRIERS  
Insulated Wood Decks

DRAINS

Cast Iron

Overflow Drains

**6.0 MODIFIED BITUMEN ROOFING:  
(CONTINUED)**

**PROCEDURES & INSTRUCTIONS  
FOR ROOF SYSTEM COMPONENTS  
(CONTINUED)**

2. .3 Overflow scupper type to be shop formed 24 oz. (689 gram) copper, braised and/or silver soldered only.

DRAINS (Continued)  
Scupper Drains

3. All existing plumbing vent stacks are to be extended a minimum of 12" above the finished roofing systems. All plumbing vent stacks are to have new shop formed and/or pre-manufactured 32 oz copper, or 14 gauge aluminum sleeves complete with settle caps. All sizes to be compatible with existing. Copper is to be brazed or silver soldered only, aluminum is to be welded. Vent flashing sleeves are to be 12" high and have a 6" wide retainer flange with pre-punched holes for securement at 4" o.c. See the Typical Detail.

Plumbing Vent Stacks

4. Curbs and all components to be extended as necessary to comply with required new curb heights, municipal standards, drawn details and roof plans.

Heat / Air Vents

5. .1 All interior walls are to be cladded with 1/2" treated and primed plywood (see details) secured with galvanized screws and/or pins as required, and sealed with stripping plies and flashings that extend 2" above the exterior perimeter walls with a minimum of 12" above the finished roof systems. All structural block mortar joints, stucco, wood or steel wall cladding is to be cut as required to facilitate this installation.

Interior Walls

- .2 **Self-adhesive membrane stripping must be used on all interior combustible wall surfaces.** Preheating only, of this stripping membrane is allowed. **No open flame application** is to be used on any combustible interior wall surface directly above roofed area.

**Note: A minimum of a two (2) hour fire watch is required after all torch application procedures.**

**6.0 MODIFIED BITUMEN ROOFING:  
(CONTINUED)**

**PROCEDURES & INSTRUCTIONS  
FOR ROOF SYSTEM COMPONENTS  
(CONTINUED)**

6. All exterior perimeters are to be built up and sloped towards the roof system, as required, to a minimum of 4" above the highest point of the finished roof system. All perimeters of each roof area are to maintain one level throughout. All adjacent roof areas that are on the same level are to have perimeters of equal height unless otherwise noted.

Exterior Perimeters

7. Sheet metal fascia other than noted on Roof plans are to be 24 ga. galvanized iron baked enamel finish. All fascia metal widths greater than 8" are to have reverse cross breaks incorporated. Panels are to equal the existing metal coverage plus a minimum 1 1/2". All exterior fascia drip edges are to be secured to structure with continuous clips, secured using screws and/or drill & pin and have a minimum one ply base sheet underlayment running from four (4") inches beyond the interior wall to down the outside fascia to under the continuous clip.

Exterior Fascia

8. Remove and dispose.

Existing Insulation

9. Prior to the installation of any new roofing system the roof deck is to be evaluated to verify that its condition is capable of supporting the new system. All areas with deterioration will require upgrading by 'others' and/or satisfactorily negotiated with the existing Contractor all costs of upgrading, if required, not to be included in this Quotation.

Existing Decks' Condition &  
Upgrading



**6.0 MODIFIED BITUMEN ROOFING:  
(CONTINUED)**

**PROCEDURES & INSTRUCTIONS  
FOR ROOF SYSTEM COMPONENTS  
(CONTINUED)**

10. .1 Structural: Prior to installation of sloped insulation the deck is to be evaluated for levelness. Any deflections that will result in ponding are to be upgraded layers of 7/16" X 4' X 8' fibreboard secured with asphalt. All 'finished' upgraded areas are to provide a suitable surface for sloped insulation. Contractor to submit unit prices for supply and installation of fiberboard in this Quotation.
- .2 All extras are to be recorded by the roofing foreman and approved, in writing, by the site roof inspector, daily.
- .3 System: Upon completion of each roof area, to second ply membrane and first ply stripping stage plus components, i.e. drain leads, vent flashings, etc., the roof area is to be subjected to a 'free flow' flood test. Drains are not to be blocked allowing water to run from all surfaces to drains, and areas are to be evaluated for ponding. All areas that retain standing water are to be upgraded with layers of membrane and/or fiberboard to eliminate standing water. All additional labour and materials are to be included in this Quotation and not deemed extra to the Contract.
- .4 **Ponding is to be defined as an area that contains standing water for a time which will result in stains, plant or algae growth developing on the roof surface.**

Ponding

Definition of Ponding

**6.0 MODIFIED BITUMEN ROOFING:  
(CONTINUED)**

**PROCEDURES & INSTRUCTIONS  
FOR ROOF SYSTEM COMPONENTS  
(CONTINUED)**

11. Slopes: All areas that have been determined to require upgrading of slopes to drain are as noted in Roof Plans, Details or written Specifications. Pre-cut sloped Type #1 – expanded polystyrene insulation is to be set in position tightly butted together to enclose Roof Plans and Charts as provided by the manufacturer, pre-approved in writing by Roof Consultant, and secured in full moppings of warm asphalt. All roof area measurements are to be confirmed by the manufacturer/supplier prior to orders and all slope calculations are to start at the centre of each drain.

Expanded Polystyrene Insulation

**Note:** All E.P.S. insulation mainfield over wood decks will require two layers of fiberboard overlay, plus back coated tape to prevent burnout of substrate, and all E.P.S. to be secured in full moppings of warm asphalt.

12. .1 All roof areas over wood decks that require E.P.S. insulation must have two layers of 7/16" fiberboard secured with asphalt. First layer shall be 100% backcoated and be "flopped" in place with all joint and perimeters sealed with, backcoated only, tape to prevent insulation burn out. The second layer is to be 100% mopped in place. Stagger all three layers of butt and side joints, a minimum of 12" from all the underlying insulation joints.
- .2 The Contractor is to submit Unit Prices to provide for levelling in ponded locations one (1") inch and 7/16" X 100 sq. ft. (1 sq.) fiberboard in this Quotation. All extras are to be recorded by the roofing foreman and site inspector, daily.

Fiberboard Insulation

**6.0 MODIFIED BITUMEN ROOFING:  
(CONTINUED)**

**PROCEDURES & INSTRUCTIONS  
FOR ROOF SYSTEM COMPONENTS  
(CONTINUED)**

13. All roof areas over sloping steel decks that require Polyisocyanurate insulation are to be mopped to the substrate with hot asphalt in two layers, totalling an 'R' value of 'R-20'.
- .1 Joints are to be staggered at butt and side joints of underlaying insulation layers.
- .2 Install E.P.S. crickets at drainage areas between the layers of Polyisocyanurate Insulation as per 5.11 above. Crickets are to have 4% slope to the drain.
- .3 Mop and flop second layer of Polyisocyanurate insulation with 100% coverage of warm asphalt over E.P.S. and tape the seams to prevent burn out of the E.P.S. insulation.
14. Install Permaboard over Polyisocyanurate insulation. Adhere using 100% coverage of hot asphalt.
- .1 Side and butt joints are to be staggered with the insulation below.
- .2 Nail Permaboard to all wood surfaces to receive torch applied membrane at 12" o.c. Fasten with large head Simplex nails.
- .3 Tape all joints at horizontal / vertical transitions using 6" 'Peel and Stick' tape.
- .4 The Contractor is to submit Unit Prices to provide for levelling in ponded locations, 100 square feet (1 square) of permaboard in this Quotation. All extras are to be recorded by the roofing foreman and site inspector daily.
- Polyisocyanurate Insulation
- Permaboard

**6.0 MODIFIED BITUMEN ROOFING:  
(CONTINUED)**

**PROCEDURES & INSTRUCTIONS  
FOR ROOF SYSTEM COMPONENTS  
(CONTINUED)**

- |   |                       |
|---|-----------------------|
| 15. All existing protrusions through the roof deck are to be built up with wood and are to be extended to a height of 2" above the perimeter of each roof area with a minimum of 10" above the finished roof system. Extend all metal liners, etc., as required to equal existing.  | Curbs and Sleepers    |
| 16. Install plywood and secure to all block and/or concrete walls using 'drill and pin' type fasteners and to steel, stucco, and wood walls using appropriate length and type of screws as required to provide a secure substrate.  | Plywood to Walls      |
| 17. Construction grade, treated and free of deterioration. Coat all surfaces to receive asphalt with primer, sizes to conform to site requirements, roof plans, written specification and details.  | Wood, General         |
| 18. Over completed stripping plies, supply and install 24 gauge galvanized iron baked enamel sheet metal flashings as per written Specifications, Roof Plans, Details and as required to complete as intended; colour to be pre-approved in writing by owner's representative. All tendered colours to be only as supplied by manufacturer's standard range of stock colours. The installation criteria are as follows:<br><br>.1 All metal shall have proper allowances for expansion and contraction.<br><br>.2 No lap joints will be permitted.<br><br>.3 All metal to be joined by double 'S' lock clips, single 'S' locks, standing seams or continuous clips (see Typical Details). | Sheet Metal Flashings |

**6.0 MODIFIED BITUMEN ROOFING:  
(CONTINUED)**

**PROCEDURES & INSTRUCTIONS  
FOR ROOF SYSTEM COMPONENTS  
(CONTINUED)**

18. (Continued)

- .4 All cap flashing top surfaces and corners are to be secured using standing seams. Inside and outside fascia corners are to be secured with double 'S' locks.
- .5 All joints are to be caulked both prior to and after connections.
- .6 All exposed edges of flashings shall be hemmed to form drip edges.
- .7 All metal is to be firmly attached to structure with compatible wood screws.
- .8 "Dutchman" clips and/or other exposed fastenings are not to be used.
- .9 The top of all sheet metal cap flashings are not to have any flat horizontal surfaces.
- .10 All fascia sheet metal is to be extended 1 1/2" beyond existing coverage other than areas specified for 'other' coverages.
- .11 Provide a Separate Price on the Quotation Form to supply and install 24 G.G.I.B.E. sheet metal reverse cross broken in 2'6" lengths, set in double 'S' lock vertical ribs, drilled and pinned 16" o.c. to the firewall.

Sheet Metal Flashings  
(Continued)

## 7.0 MODIFIED BITUMEN ROOFING:

## MATERIALS

- |  |  |
|--|--|
| 1. Construction grade, free of deterioration, and pressure treated. Coat all surfaces to receive modified bituminous membranes with primer, sizes to conform to site requirements, Roof Plans, written Specifications, Details and as required to suit site conditions.  | Wood   |
| 2. S.B.S. / modified bituminous primer compatible with membranes.  | Primer   |
| 3. To be galvanized and of the appropriate size and type.  | Fasteners  |
| 4. Fiberboard insulation to be 7/16" X 4' X 8' sheets of asphalt impregnated and coated minimum one side fiberboard.   | Fiberboard   |
| 5. Overflow scupper type to be shop formed 24 oz. (689 gram) copper, braised and/or silver soldered only.  | Scupper/Drains                                     |
| 6. Shop formed or manufactured "stacks and caps" to be 32 oz. copper or 14 gauge aluminum welded, braised or silver solder only. DO NOT use tin solder. Set flange in a trowel coat of mastic.   | Plumbing Vent Stacks                               |
| 7. Alternate stripping for combustible wall surfaces. 3.0 mm 180 g/m <sup>2</sup> non-woven polyester fleece plus glass grid, top surface is covered with a thermofusible plastic film and the bottom side contains a self-adhesive surface CGSB 37GP56M, Type-2, Class-C, Grade-2. This self-adhesive membrane must be used on all interior combustible wall surfaces as the first ply stripping. NO OPEN FLAME torch welding is allowed on the first ply stripping to those areas. | (Torch applied) Base Sheet for "Combustible" Walls |

Note: A Minimum two (2) hour fire watch is required for all torch applications.

**7.0 MODIFIED BITUMEN ROOFING:  
(CONTINUED)**

**MATERIALS  
(CONTINUED)**

- |     |  |   |
|-----|--|---|
| 8.  | To be 4.0 mm 250 g/m <sup>2</sup> non-woven polyester fleece, top surface is covered with coloured ceramic granules and the bottom surface has a thermofusible plastic film for torch welding application CGSB 37GP56M, Type-1, Class-A, Grade-2. Colours are to be pre-approved, in writing, by Owner's Representative. | (Torch applied) Granulated Cap Sheet Mainfield Membrane and Stripping Ply |
| 9.  | To be 24 gauge galvanized sheet steel, minimum 0.71 mm (0.028") of commercial quality to ASTM-A446, finished with A526-80-Z275 zinc coating or equal. Equal coating to equal ASTM-D-966 and G-23. Colour to be selected by the Owner from Manufacturer's standard colour range.  | Pre-finished Sheet Metal Flashings  |
| 10. | Mastic, compatible to S.B.S. modified bitumen membranes.   | Mastic  |
| 11. | To be 6" wide strip of No. 15# perforated asphalt felt. Back coat only.  | Tape  |
| 12. | To be 6" wide strip of Peel and Stick tape with poly-release on bottom and sanded surface on top.  | Peel and Stick Tape   |
| 13. | Tapered or flat Type 1 expanded polystyrene conforms to Can/CGSB-51.20-M87, as per Roof Plan Drawings, Specifications and Details (Min. R20 combined).   | Sloped Insulation   |
| 14. | Asphalt to C.G.S.B. standard A123.7= 1973, Type 3, bearing manufacturer's identification label stating asphalt type and maximum temperature. Tankers to have supplier verification on site.  | Bitumen (Blown Asphalt)   |
| 15. | To be galvanized and of the appropriate size and type.   | Screws and Nails  |
| 16. | Silver solder and/or weld.   | Solder  |

**7.0 MODIFIED BITUMEN ROOFING:  
(CONTINUED)**

**MATERIALS  
(CONTINUED)**

- |  |   |
|--|---|
| 17. To be Schnee-Morehead SM7100 (or equal) colour to match materials in use.                | Caulking  |
| 18. Mastic compatible to S.B.S. Modified Bitumen membranes.                                  | Roofing Mastic                                  |
| 19. To be copper Naphate or equal.   | Wood Preservative                               |
| 20. To be reinforced Peel and Stick type as supplied by "Grace Manufacturing Ltd." or equal. | Wall Vapour Barrier as Detailed<br>And Required |
| 21. Drill and pin type or equal.   | Masonry Fasteners                               |
| 22. To be rigid underlay board, Hal Industries Permaboard or equal.                          | Permaboard                                      |



## **Environmental Terms and Conditions of Contract**

### **1. Environmental Policy Requirements**

#### 1.1 The City of Richmond's Environmental Purchasing Policy

The City of Richmond's Environmental Purchasing Policy states:

In order to increase the development and awareness of environmentally sound products and services, City of Richmond Staff will review their contracts and Quotation specifications for goods and services, to ensure that wherever possible and economically feasible, specifications are amended to provide for consideration of environmental characteristics. Consideration may be given to those environmental products that are certified by an independent accredited organization.

The City of Richmond as a whole will endeavour to increase its use of products and services that are more responsible to the environment in the way they are made, used, transported, stored and packaged and disposed of. It is recognized that analysis is required to ensure that the products are made available at competitive prices, and that the environmental benefits provided by a product or service should not significantly affect the intended use of that product or service.

1.1.1 The City of Richmond reserves the right to request information from bidders that will demonstrate compliance to this environmental purchasing policy.

1.1.2 Bidders are asked to supply information on environmentally preferable products and services that meet all specifications and performance requirements.

1.1.3 Placing the City of Richmond in breach of its environmental policy or environmental laws will result in the termination or suspension of an agreement, at the sole discretion of the City.

#### **1.2 Environmental Attributes of Company**

1.2.1 It is desirable that suppliers to the City of Richmond have an environmental policy statement approved at the executive level and implemented across the company.

1.2.2 Suppliers who have pursued environmental certification such as ISO 14001 should include this information with their bid. The ISO 14000 Series is a set of international standards for voluntary environmental management for both private and public organizations. It is designed to promote environmental compliance, ensure a commitment to pollutions

1.2.3 prevention, and foster continual improvement of environmental performance through efficient environmental management.

1.2.4 The City of Richmond strictly subscribes to an environmental policy that requires all suppliers to be in compliance with all environmental laws and regulations regarding the manufacture, processing, handling, provision, disposal and waste management of goods and services.

**1.3 Environmental Purchasing Resources**

1.3.1 The City of Richmond Environmental Purchasing Guide is available from the City of Richmond Web site at:

<http://www.richmond.ca/services/environment/policies/purchasing.htm>

## **General Conditions of the Contract**

### **1. INTERPRETATION**

#### **1.1 Definitions**

In the Contract Documents, the following definitions apply:

“**City**” means the City of Richmond;

“**Contract**” means this contract as set out and described in the Contract Documents;

“**Contract Documents**” has the meaning set out in the Instructions to Bidders;

“**Contractor**” means the Bidders that is awarded the Contract; and

“**Work**” means and includes anything and everything required to be done for the completion of this Contract.

### **2. WORK**

#### **2.1 Conformity with Contract Documents**

The Contractor will perform the Work in strict conformity with the Contract Documents.

#### **2.2 Standard of Care**

The Contractor will perform the Work with that degree of care, skill and diligence normally provided by a qualified and experienced practitioner performing similar work, and on the understanding that the City is relying on the Contractor’s experience and expertise.

#### **2.3 Satisfaction of City**

The Contractor will perform the Work to the reasonable satisfaction and approval of the City. The City will be the sole judge of the Work in respect of both quality and quantity, and the City’s decisions with regard to the Work, or as to the meaning and intention of this Contract, or any part or parts thereof, will be binding and final upon the Contractor.

#### **2.4 Permits**

The Contractor will obtain and pay for all applicable permits, licences, and certificates required to complete the Work unless otherwise provided herein.

**General Conditions of the Contract (Cont'd)****2.5 Changes in the Work**

The City may make changes to the Work, and the Contract price and time for performance will be adjusted by mutual agreement between the City and the Contractor. Except in the case of an emergency, changes may not be made by the Contractor without written approval by the City.

**3. PERSONNEL****3.1 Qualified Personnel**

The Contractor will provide only professional personnel who have the qualifications, experience and capabilities to perform the Work.

**3.2 Subcontractors**

The Contractor will perform the Work using its own personnel and those subcontractors as may be listed on the Quotation Form and approved by the City, and will bind all approved subcontractors to the terms of the Contract Documents, as applicable to the subcontractors work. The Contractor will be as fully responsible to the City for acts and omissions of subcontractors and of persons directly or indirectly employed by them as for acts and omissions of persons directly employed by the Contractor.

**3.3 Replacement of Personnel or Sub-Contractors**

If the City reasonably objects to the performance, experience, qualifications or suitability of any of the Contractor 's personnel or subcontractors then the Contractor will, on written request from the City, replace such personnel or sub-Contractors.

**3.4 City's Own Forces and Other Contractors**

The City may have its own work forces and other Contractors on the site while the Work is under way. The City will coordinate the work of all Contractors on the site and require their coordination with each other. The Contractor will report to the City any apparent deficiencies in other Contractors' work which would affect the Work, immediately after the deficiencies come to the Contractor's attention.

**4. INDEPENDENT CONTRACTOR**

It is understood that this Contract is strictly between the Contractor and the City and the Contractor is an independent Contractor for the City and no employment relationship, partnership, agency, or joint venture exists between the City, the

**General Conditions of the Contract (Cont'd)**

employees of the Contractor and/or its agents and/or their employees, and/or its Contractors and/or their employees. Any disputes between the Contractor and any of its employees and/or its agents and/or their employees and/or their Contractors and/or their employees will be resolved by the Contractor with no involvement by the City.

**5. PREMISES****5.1 Use of Premises**

The Contractor will confine the use of the premises for the Work as directed by the City and will comply with regulations which govern the building or institution where the Work is located.

**5.2 Cleaning of Premises**

At the conclusion of the Work, the Contractor will clean up and remove all debris and rubbish to the satisfaction of the City.

**5.3 Light, Power, and Heat**

The City's supply of electrical energy and water will be available to the Contractor without charge. The Contractor, upon completion of the Work, will remove temporary connections and extension of services, leaving the existing structures and services undamaged.

**6. INQUIRIES**

Contractor's inquiries to the City during construction should be directed to the following:

**Technical**

Mary Brunet  
Project Manager  
Facility Management, Eng & PW  
Tel: 604-244-1267  
E-mail: [mbrunet@richmond.ca](mailto:mbrunet@richmond.ca)

**Technical**

Barry McGinn  
Architect  
McGinn Engineering & Preservation Ltd.  
Tel: 604-473-9866  
E-mail: [mcginneng@telus.net](mailto:mcginneng@telus.net)

**Contractual**

Kerry Gillis  
Buyer, Purchasing Section  
Business and Financial Services  
Tel: 604-276-4097  
E-mail: [purchasing@richmond.ca](mailto:purchasing@richmond.ca)

**General Conditions of the Contract (Cont'd)****7. PAYMENT****7.1 Progress Payments**

The Contractor will submit a monthly invoice (the "**Invoice**") to the City requesting payment of the portion of the Work completed in the previous month.

the City will pay the portion of an Invoice which the City determines is payable within 30 days of the receipt of the Invoice, except the City will hold back from payments 10% of the amount the City determines is payable to the Consultant.

**7.2 Payment of Holdback**

The City will pay the Contractor the 10% holdback 55 days after completion of the Work upon receipt of:

- the Contractor's written claim for final payment;
- a Statutory Declaration stating that the Contractor has discharged every obligation and paid or satisfied every just claim incurred by him in connection with the Contract, including claims by subcontractors, and
- written clearance from the Workers' Compensation Board.

**8. TAXES AND FEES****8.1 Taxes**

Unless otherwise provided herein, the Contractor will pay all government sales or excise taxes in force at the date of the Contract, provided that any increase or decrease in such taxes will increase or decrease the amount due under the Contract accordingly. The Contractor will ensure that invoices show the appropriate amounts for Goods and Services Taxes and Provincial Sales Taxes separately.

**8.2 Patent Fees**

The Contractor will pay all royalties and licence fees and will save the City harmless from any and all losses on account of suits or claims of infringement of patents in any way connected to the Contractor's performance of the Work.

**General Conditions of the Contract (Cont'd)****9. DEFECTIVE WORK****9.1 Correction of Defects**

If, in the opinion of the City, the Work is improperly, defectively, or insufficiently performed, or being performed, the City may, in writing, order the Contractor to re-execute or correct the Work in accordance with such order; and if the Contractor fails to comply with such order within ten working days, the City may, at any time thereafter, execute or cause to be executed the order so given, and the Contractor will, on demand, pay to the City, all costs, damages, and expenses incurred in respect thereof or occasioned by reason of the non-compliance by the Contractor with any such orders; and if the Contractor fails to pay such costs, damages, and expenses, the City may retain and deduct such costs, damages, and expenses from any amount then or thereafter payable to the Contractor under this Contract.

**9.2 Deficiency Holdback**

The City may retain holdbacks to cover deficiencies in the Work, in an amount equal to twice the amount the City estimates as the total cost to complete the deficiencies.

**10. WARRANTY**

See Roof Tech 2000 Consultants Ltd. Specifications, Section 5.0, Clause 10.1 to 10.3, GUARANTEES / WARRANTIES'.

**11. LIENS****11.1 Indemnification**

The Contractor will fully indemnify the City from and against any and all liability or expenses by way of legal costs or otherwise in respect of any claim which may be made for a lien or charge at law or in equity or to any claim or liability under the Builders Lien Act, or to any attachment for debt, garnishee process, or otherwise, that arises in connection with the Work.

**11.2 Lien Holdback**

The City may, in addition to other holdbacks as provided by the Contract Documents, hold back an amount equal to any lien which has been filed with respect to the Work, plus 10% as security for costs. The City may, at its option, after five days written notice to the Contractor, pay such amount into court to discharge the lien. If the lien is discharged without payment of the holdback into court, then the City shall pay such holdback to the Contractor, without interest.

**General Conditions of the Contract (Cont'd)****12. PROTECTION OF THE WORK**

The Contractor will protect of the Work and materials from damage and will protect the City's property and any adjoining property from injury due to the Work.

**13. BONDS**

If required by the Owner or Construction Manager, within fourteen (14) calendar days of the award of the Contract or the demand by the Owner or Construction Manager (whichever occurs first), the Contractor shall provide and pay for a Performance Bond and a Labour and Materials Payment Bond each in the amount of fifty percent (50%) of the Contract Price, covering the faithful performance of the Contract including the requirements of Item 10 – Warranty, and including without limitations, corrections after completion provided for in Item 10, and payment of all obligations arising under the Contract.

For greater certainty, the Performance Bond shall cover the Owner and the Construction Manager in the event of the Contractor's Failure to faithfully perform the Contract, whether from bankruptcy or otherwise, for all expenses incurred to properly complete the work, including reasonable legal fees and additional architectural or engineering fees, watchman services, heating, lighting and all similar expenses.

The aforesaid Performance Bond and Labour and Materials Bond shall name the City of Richmond as the obligee, and shall be issued by the surety only after the Contractor has provided to the surety complete disclosure of all Terms and Conditions of the Contract, any amendments thereto, and all assignment agreements, if any, applicable to the Contract, and shall be duly executed by all parties thereto. The Contractor shall provide to the Owner, or cause to be provided to the Owner, such written confirmation as the Owner deems appropriate that the surety has received full disclosure of all material information and documents which may affect or impact upon the surety's obligations under the Performance Bond and the Labour and Materials Payment Bond.

**14. INDEMNIFICATION AND INSURANCE****14.1 Indemnification**

The Contractor will indemnify, hold, and save harmless the City from and against all claims, losses, damages, costs, actions, and other proceedings, made, sustained, brought or prosecuted in manner, based upon, occasioned by, attributable to any injury, including death, property damage, infringement, or damage arising from any act or omission of the Contractor, the Contractor's employees, officers, volunteers, servants, or agents or persons from whom the Contractor has assumed responsibility in the performance or purported performance of this Contract.



**General Conditions of the Contract (Cont'd)****14.2 Insurance**

The Contractor will, at its own expense, through the terms of the Contract secure, maintain, and pay for the following coverage:

**Comprehensive General Liability Insurance** with a limit of not less than \$5,000,000 inclusive per occurrence for bodily injury and property damage and \$5,000,000 for personal injury. The policy or policies will cover all premises and operations necessary or incidental to the performance of this Contract and include but not necessarily be limited to the following coverage:

- *Contractual liability assumed under this Contract.*
- *Contingent employer's liability with respect to operations of sub-Contractors.*
- *Owner's protective liability.*
- *Cross liability.*
- *Automobile liability (non-owned, hired).*
- *Completed operations liability 24 months after completed operations.*
- *Voluntary medical payments.*

**"Course of Construction" Property Damage Insurance** covering all risks of physical loss or damage on an occurrence basis, including loss of use of property, and including losses or damage from flood or earthquake. The coverage provided will amount to no less than 80% of the total value of the Work done and material delivered to the site, or under the control of the Contractor, payable to the City and Contractor as their interests may appear, and protecting each in such terms as will preclude subrogation claims by the insurer against anyone insured thereunder.

The City, its officers, officials, and employees will be added as additional named insured on all such policies. All such insurance provided by these policies will be primary regardless of any insurance or self insurance that may be enforced at the time of any loss or claim that insures the City, its officers, officials, and employees.

The policy or policies will be underwritten by an insurance company or companies licensed to do business in the Province of British Columbia and who meet with the reasonable approval of the City. Prior to the commencement of the Work, the Contractor will furnish the City through the Office of the Purchasing

**General Conditions of the Contract (Cont'd)**

and Insurance Department a certified original copy of all such policies as evidence that such insurance is in force. The Contractor agrees that such insurance policies cannot be cancelled, lapsed, or materially changed without at least 30 days' written notice to the City.

Maintenance of such insurance and the performance of the Contractor of the Contractor's obligations under this clause will not relieve the Contractor of liability under the indemnification provisions here and above set forth. The foregoing insurance provisions will not limit the insurance required by Municipal, Provincial, or Federal law.

It will be the full responsibility of the Contractor to determine whether any additional insurance coverage is necessary and advisable for its own protection and/or to fulfil its obligations under this Contract. Any such additional insurance will be provided and maintained by the Contractor its own expense.

**15. WORKERS' COMPENSATION BOARD COVERAGE/PRIME CONTRACTOR**

The Contractor agrees that it will at its own expense procure and carry or cause to be procured and carried and paid for, full Workers' Compensation Board coverage for itself and all workers, employees, servants and others engaged in or upon any work or service which is the subject of this Contract. The Contractor agrees that the City has the unfettered right to set off the amount of the unpaid premiums and assessments for such Workers' Compensation Board coverage against any monies owing by the City to the Contractor. The City will have the right to withhold payment under this Contract until the Workers' Compensation Board premiums, assessments or penalties in respect of work done or service performed in fulfilling this Contract had been paid in full.

The Contractor agrees that it is the Prime Contractor for the purposes of the Workers' Compensation Board Occupational Health and Safety Regulations for the Province of British Columbia. The Contractor will have a safety program acceptable to the Workers' Compensation Board and will ensure that all Workers' Compensation Board safety rules and regulations are observed during performance of this Contract, not only by the Contractor but by all subcontractors, workers, material men and others engaged in the performance of this Contract. Prior to commencement of construction, the Contractor will complete and file a "Construction Notice of Project" with the Workers' Compensation Board and will provide a copy of the same to the City confirming that the Contractor will be the Prime Contractor responsible for coordination of safety and health under Part 3 of the Workers Compensation Act and Part 20 of the WCB Occupational Health and Safety Regulations.

The Contractor will provide the City with the Contractor's Workers' Compensation Board registration number and a letter from the Workers' Compensation Board confirming that the Contractor is registered in good standing with the Workers' Compensation Board and that all assessments have been paid to the date thereof prior to the City having any

**General Conditions of the Contract (Cont'd)**

obligation to pay monies under this Contract. The Contractor will also provide a signed copy of the Prime Contractor Designation Document.

The Contractor will indemnify the City and hold harmless the City from all manner of claims, demands, costs, losses, penalties and proceedings arising out of or in any way related to unpaid Workers' Compensation Board assessments owing from any person or corporation engaged in the performance of this Contract or arising out of or in any way related to the failure to observe safety rules, regulations and practices of the Workers' Compensation Board, including penalties levied by the Workers' Compensation Board.

**16. DEFAULT**

The City may, by notice to the Contractor, terminate this Contract:

- If the Contractor fails to perform the Work within the time specified or breaches any material provision of the Contract,
- If the Contractor is adjudged bankrupt, or makes a general assignment for the benefit of creditors because of its insolvency, or if a receiver is appointed because of its insolvency;

If the City terminates this Contract as provided by this section, then the City may:

- enter into contracts, as it in its sole discretion sees fit, with other persons to complete the Work;
- withhold payment of any amount owing to the Contractor under this Contract for the performance of the Work;
- set-off the total cost of completing the Work incurred by the City against any amounts owing to the Contractor under this Contract, and at the completion of the Services pay to the Contractor any balance remaining; and
- if the total cost to complete the Services exceeds the amount owing to the Contractor, charge the Contractor the balance, which amount the Contractor will forthwith pay.

**17. USE OF WORK PRODUCT**

The Contractor hereby sells, assigns and transfers to the City the right, title and interest required for the City to use and receive the benefit of all the reports, drawings, plans, designs, models, specifications, computer software, concepts, products, designs or processes or other such work product produced by or resulting from the Work rendered by the Contractor. This section does not give the City the right to sell any such work

**General Conditions of the Contract (Cont'd)**

product to any third party and the City may sell the work product only with the prior approval of the Contractor. The Contractor may retain copies of the work product.

**18. JURISDICTION**

Nothing in this Contract limits or abrogates, or will be deemed to limit or abrogate, the jurisdiction of the Council of the City in the exercise of its powers, rights or obligations under any public or private statute, regulation or by-law or other enactment.

**19. DISPUTE RESOLUTION**

All matters in dispute under this Contract may, with the concurrence of both the City and the Contractor, be submitted to arbitration by a single arbitrator.

**20. GENERAL****20.1 Governing Law**

This Contract will be governed by the laws of British Columbia.

**20.2 Compliance with Laws**

The Contractor will perform the Work in compliance with all applicable codes, laws, regulations, and ordinances.

**20.3 Amendment**

This Contract may be amended only by agreement in writing, signed by both parties.

**20.4 Time**

Time will be of the essence in this Contract.

**20.5 Assignment**

Neither party will assign the Contract without the written consent of the other.

**20.6 Notices**

Any notice required to be given in this Contract will be deemed to be duly given to the City if sent by registered mail addressed to the City's Purchasing and Risk Department at Richmond "City Hall, 6911 No. 3 Road, Richmond, BC V6Y 2C1" and to the Contractor if sent by registered mail addressed to the Contractor at the address set forth in the Quotation Form.

**General Conditions of the Contract (Cont'd)**



**Note:** Receipt of this completed form will assist us in calling for future bids. Please complete and submit this form prior to the closing date and time as shown on the Request for Quotation/Proposal/Quotation form. Please remember to include Quotation/Proposal/Quotation No. at right.

Quotation/Proposal/Quotation No.

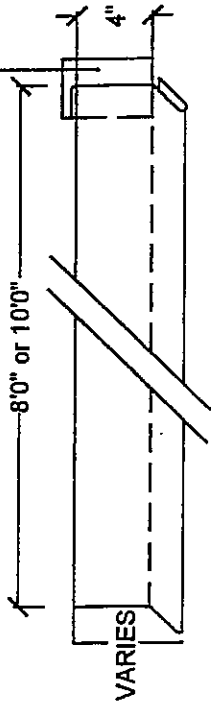
**3056Q**

**A Quotation/Proposal/Quotation is not being submitted for the following reason(s):**

- |   |  |
|---|--|
| <input type="checkbox"/> We do not manufacture/supply the required goods/services     | <input type="checkbox"/> Cannot obtain raw materials/goods in time to meet delivery requirements |
| <input type="checkbox"/> We do not manufacture/supply to stated specifications        | <input type="checkbox"/> Cannot meet delivery requirements                                       |
| <input type="checkbox"/> Specifications are not sufficiently defined                  | <input type="checkbox"/> Cannot quote/Quotation a firm price at this time                        |
| <input type="checkbox"/> Insufficient information to prepare quote/proposal/Quotation | <input type="checkbox"/> Insufficient time to prepare quote/Quotation.                           |
| <input type="checkbox"/> Quantity too small   | <input type="checkbox"/> We are unable to competitively quote/Quotation at this time.            |
| <input type="checkbox"/> Quantity too large   | <input type="checkbox"/> We do not have facilities to handle this requirement                    |
| <input type="checkbox"/> Quantity beyond our production capacity                      | <input type="checkbox"/> Licensing restrictions (please explain)                                 |
| <input type="checkbox"/> Cannot meet packaging requirements                           | <input type="checkbox"/> Agreements with distributors/dealers do not permit us to sell directly. |
| <input type="checkbox"/> Cannot handle due to present plant loading                   | <input type="checkbox"/> Other reasons or additional comments (please explain below)             |

I / We wish to quote / Quotation on similar goods / services in future <input type="checkbox"/> Yes <input type="checkbox"/> No	Authorized Company Official – Signature and Title	Date
This space for City of Richmond Comments		Firm Name
		Address
		City
		Province <span style="float: right;">Postal Code</span>
		Telephone Number

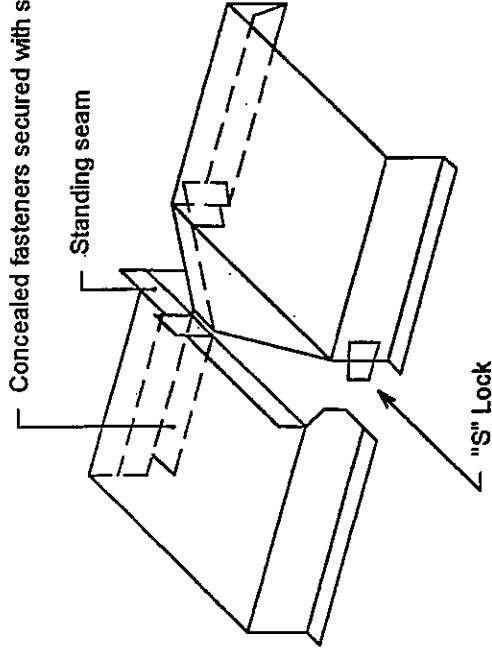
Secure to structure with screws



Concealed fasteners secured with screws

Standing seam

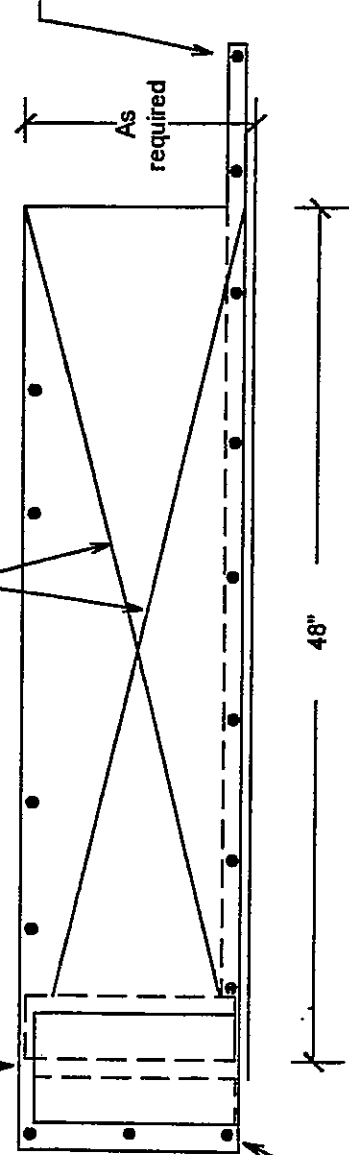
"S" Lock



Double "S" lock clips

Reverse cross break flashing

Continuous clip fastened with screws



Fastened with screws as required

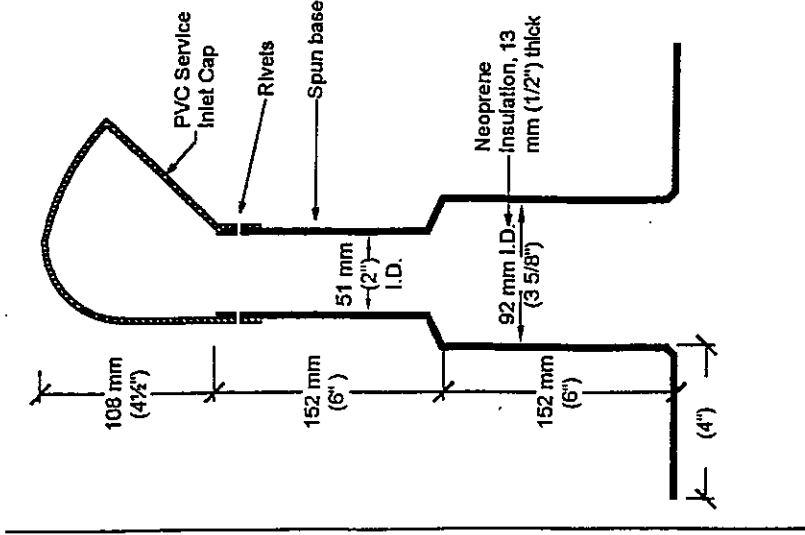
This drawing is the property of Roof Tech 2000 Consultants Ltd. It may not be reproduced without consent.

NOT TO SCALE: Existing measurements & profiles NOT for Tender purposes. Contractor to confirm all site data.

### TYPICAL SHEET METAL INSTALLATION CRITERIA

1. All metal shall have proper allowance for expansion and contraction.
2. No lap joints will be permitted.
3. All metal to be joined by lock clips or standing seams; see details.
4. All cap flashings to be fastened with 24 gauge clips at 24" centrelines.
5. All joints are to be caulked both prior to and after connecting.
6. All exposed edges of flashing shall be hemmed to form a drip edge.
7. All metal to be firmly attached to the structure with compatible wood screws.
8. No sheet metal is to have a flat surface.
9. All sheet metal details are to be confirmed by the Roofing Consultant via shop drawings prior to manufacture.
10. Colour to be pre-approved by Owners' Representative "in writing".

	Job#: 07-023
	Date: MAY / 07
Drawn by: JPJ	
Project: CITY OF RICHMOND KWANTLEN LAW COURTS 7577 ELMBRIDGE WAY, RICHMOND, BC YEAR 2007 RE-ROOF(S)	



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Job#: 07-023

Date: MAY / 07

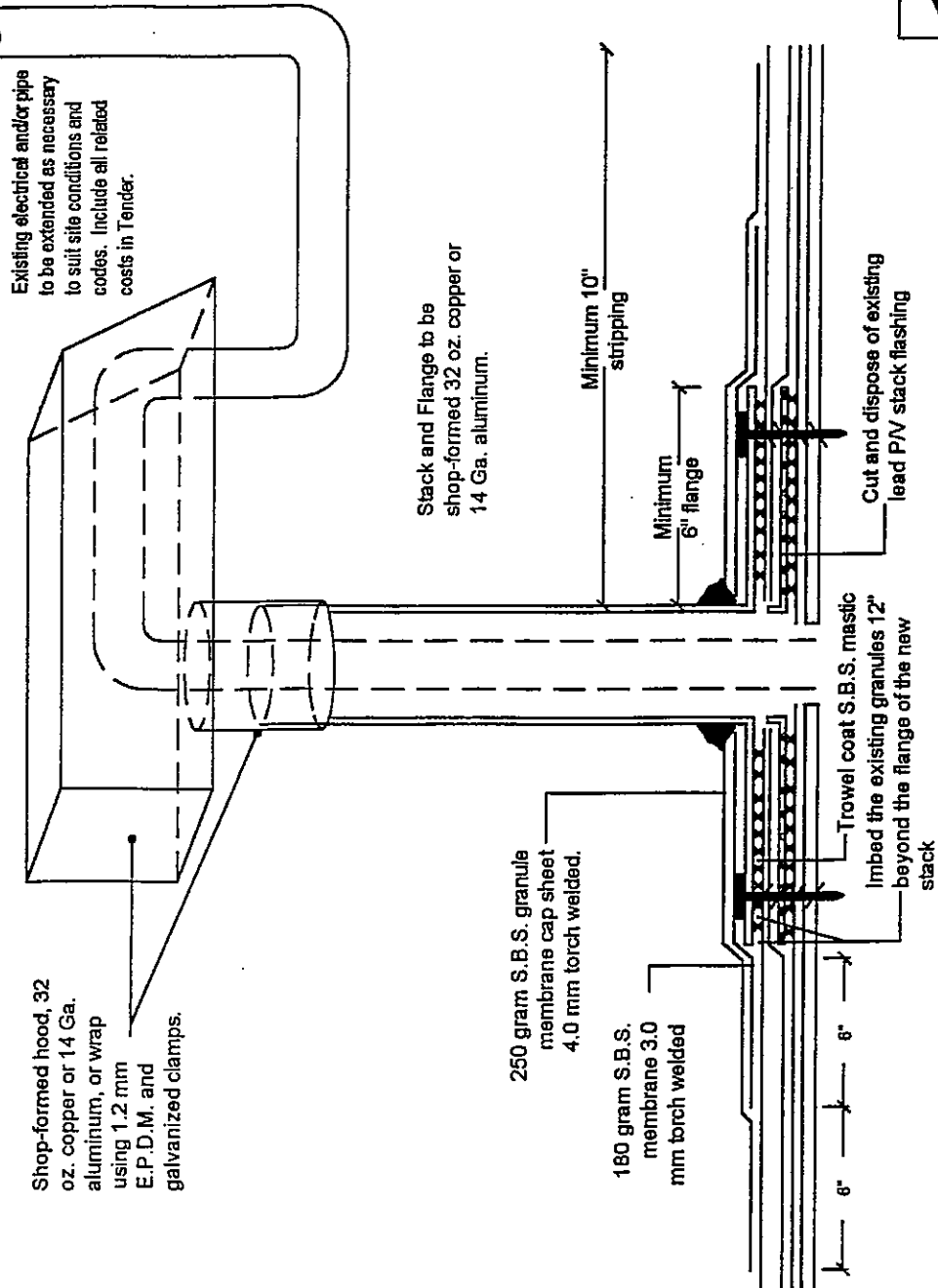
Drawn by: JPJ

Project: CITY OF RICHMOND

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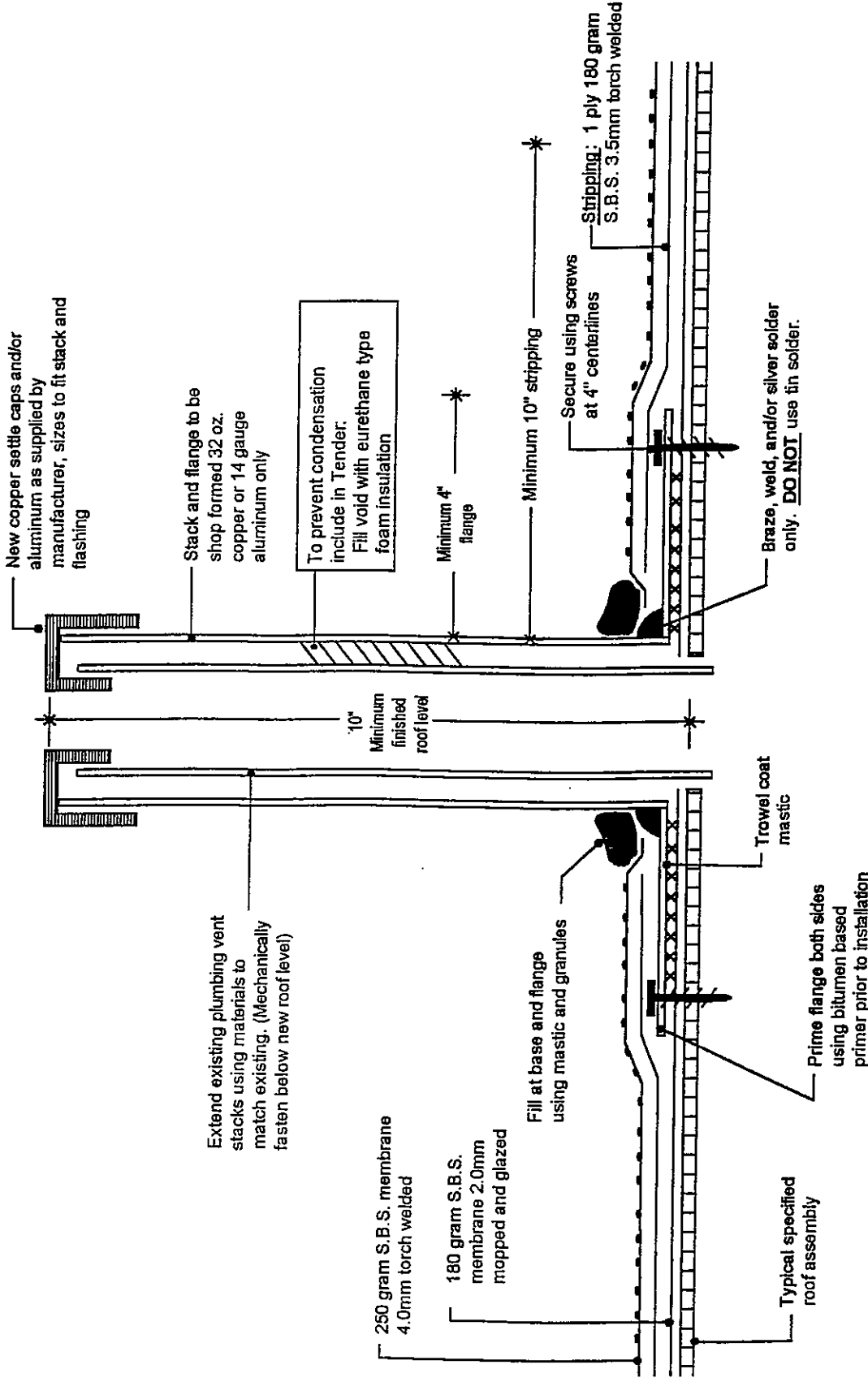
**TYPICAL DETAIL**

**ELECTRICAL AND/OR GAS FLASHING REPLACEMENT**

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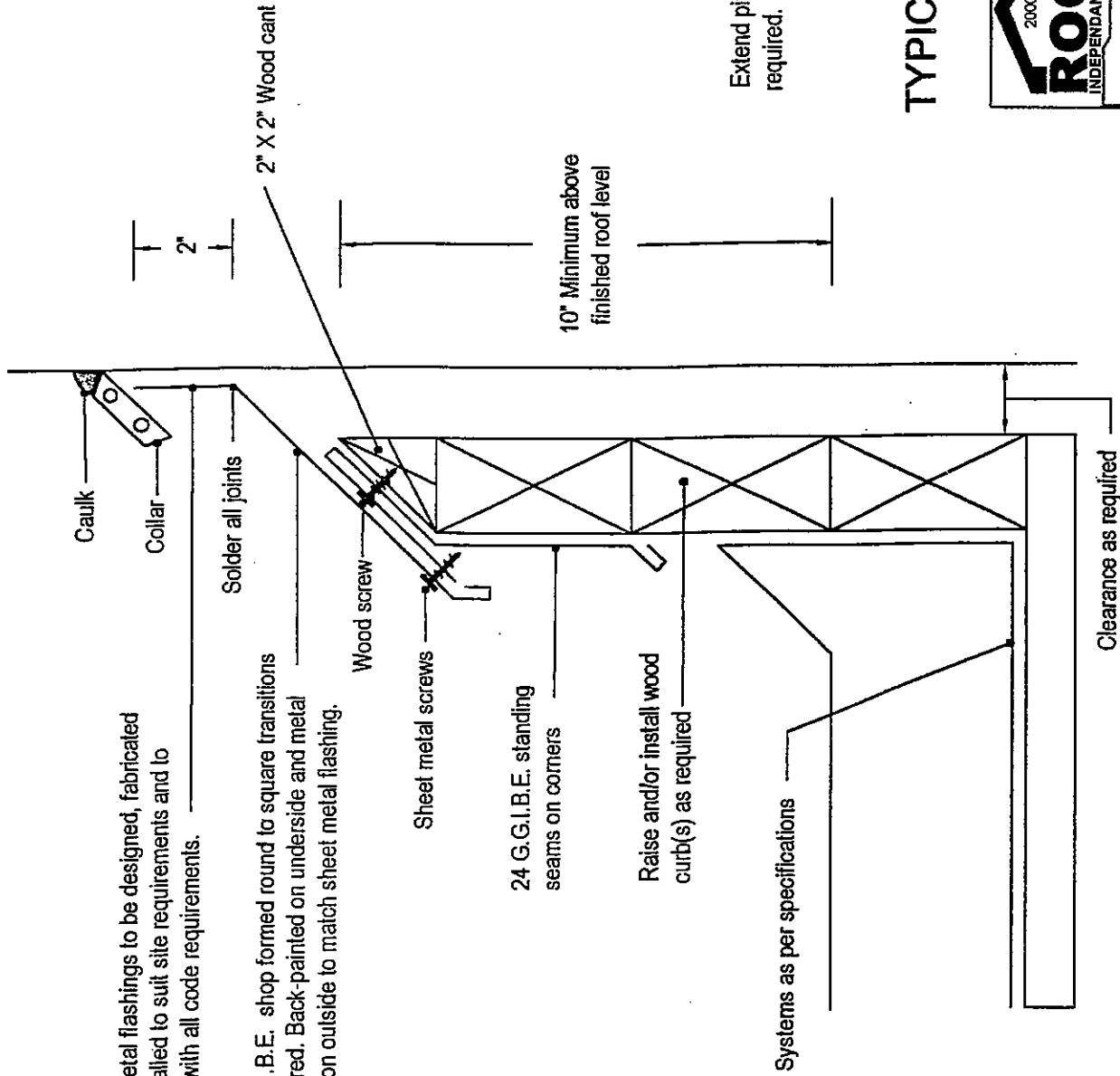
## TYPICAL PLUMBING VENT STACK FLASHING

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Sheet metal flashings to be designed, fabricated and installed to suit site requirements and to comply with all code requirements.

24 G.I.B.E. shop formed round to square transitions as required. Back-painted on underside and metal painted on outside to match sheet metal flashing.



Extend pipe to equal existing and insulate as required. Include all costs in Tender.

## TYPICAL CURB DETAIL

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Stapled for securement

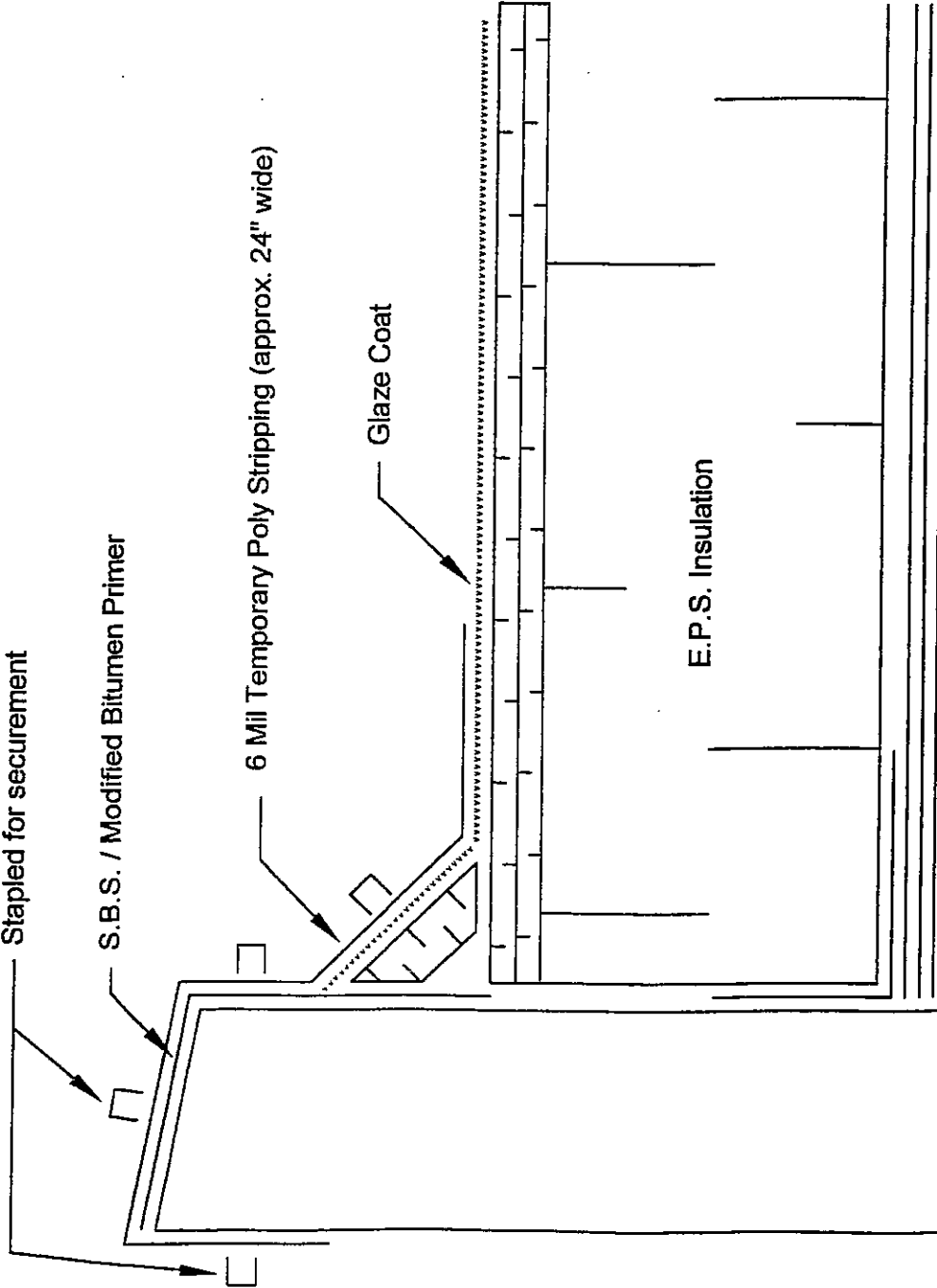
S.B.S. / Modified Bitumen Primer

6 Mil Temporary Poly Stripping (approx. 24" wide)

Glaze Coat

Two layers fibreboard

E.P.S. Insulation



# TEMPORARY STRIPPING

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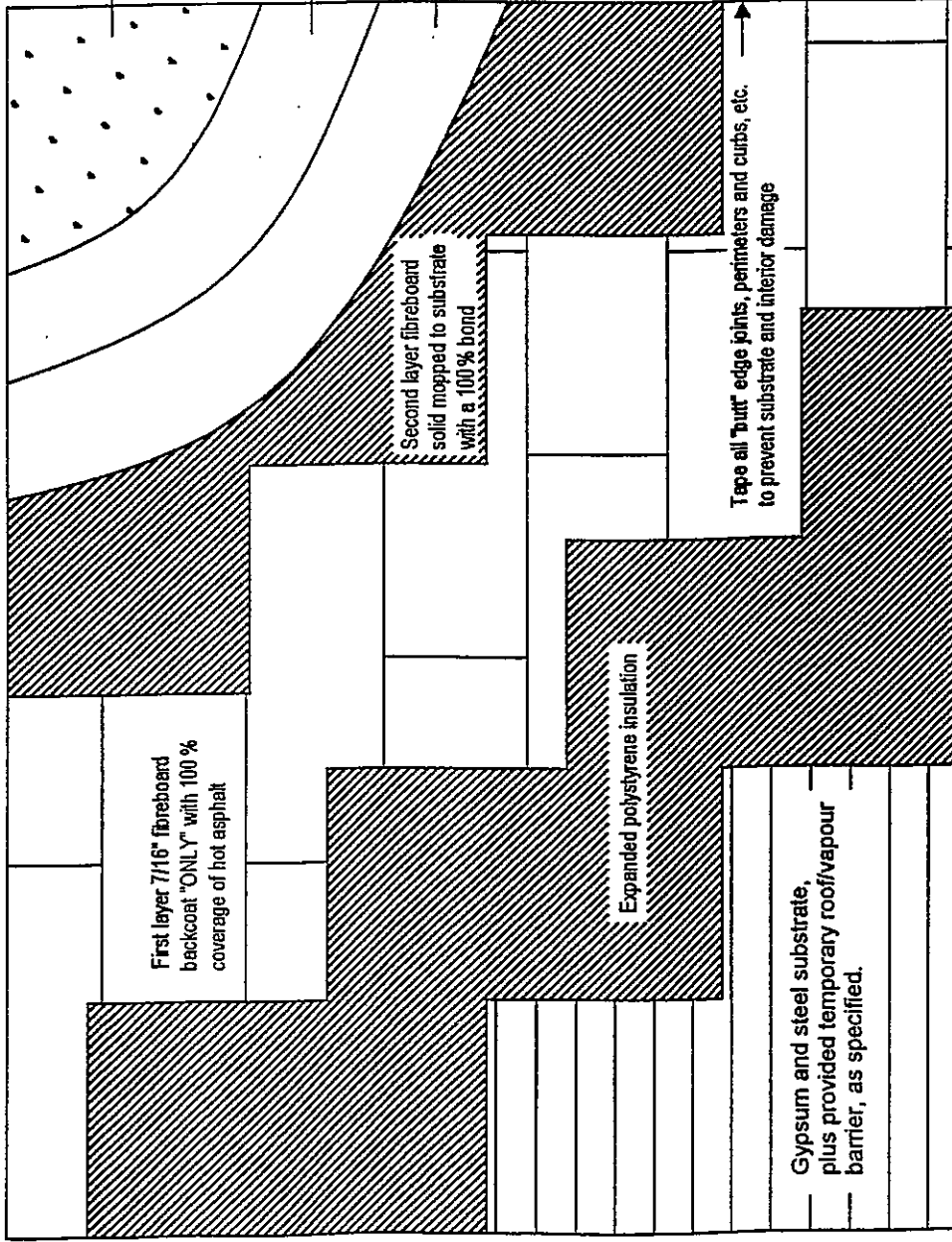
Date: MAY / 07

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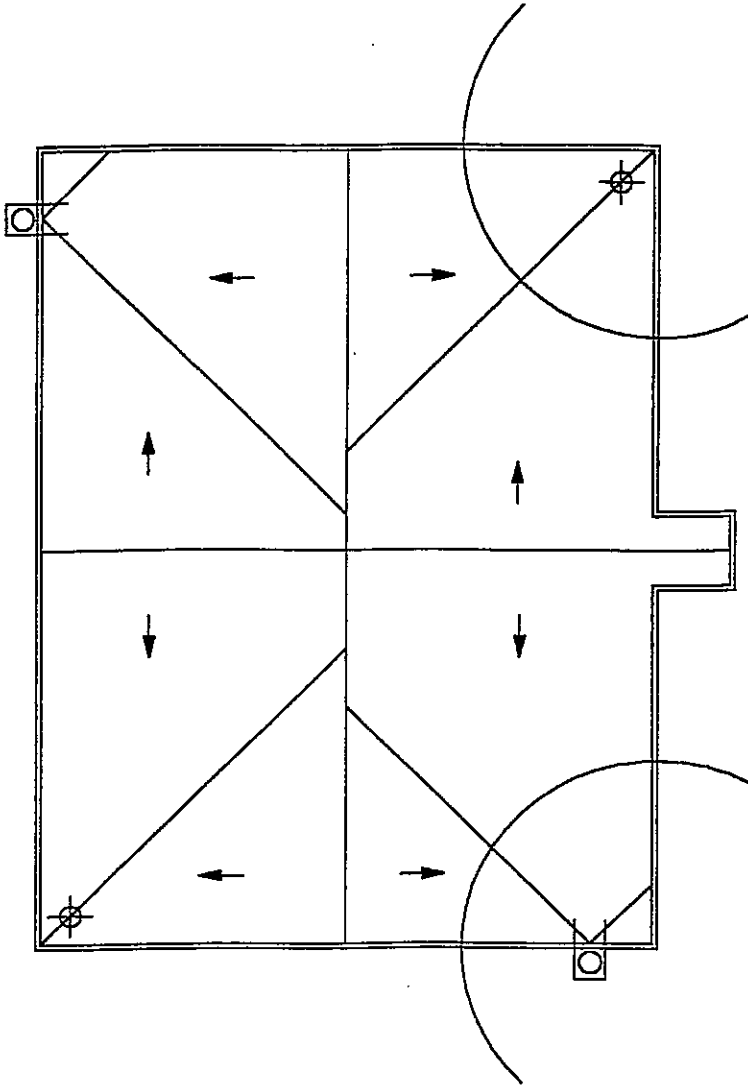
Job#: 07-031  
 Date: APR / 07  
 Drawn by: JPJ

Project: CITY OF RICHMOND  
 SOUTH ARM POOL,  
 RICHMOND KINSMEN PAVILION  
 & NO. 7 FIREHALL  
 YEAR 2007 RE-ROOF(S)

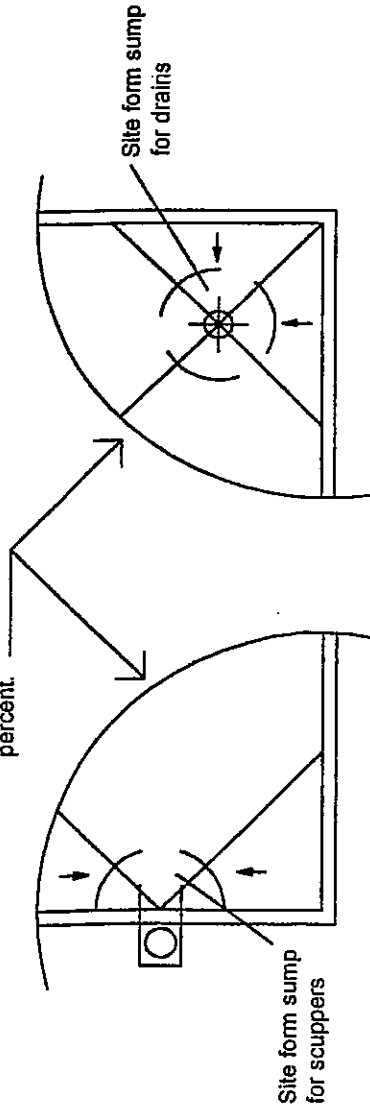
E.P.S. and Fibreboard Overlay Insulation  
 Typical Grid Layout

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E.P.S. manufacture all drain areas. These locations to be 1/4" with a minimum slope of four (4 %) percent.



**TYPICAL: SLOPED E.P.S. INSULATION  
INSTALLATION CRITERIA @ DRAINS**

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Job#: 07-023

Date: MAY / 07

Drawn by: JPJ

Project: CITY OF RICHMOND

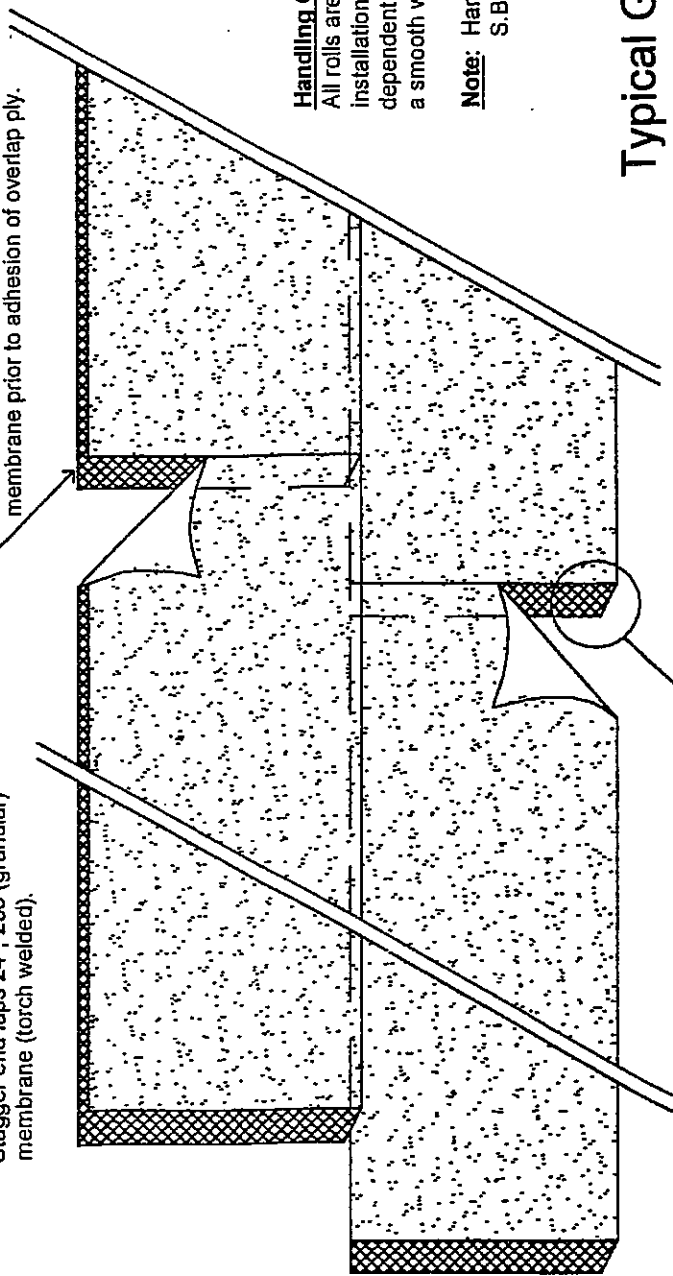
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Heat top surface and embed granulars into membrane prior to adhesion of overlap ply.

Stagger end laps 24", 250 (granular) membrane (torch welded).



- side laps 3"
- end laps 6"
- Cut in an angle at corners of the membrane that will be covered

**Handling Criteria**

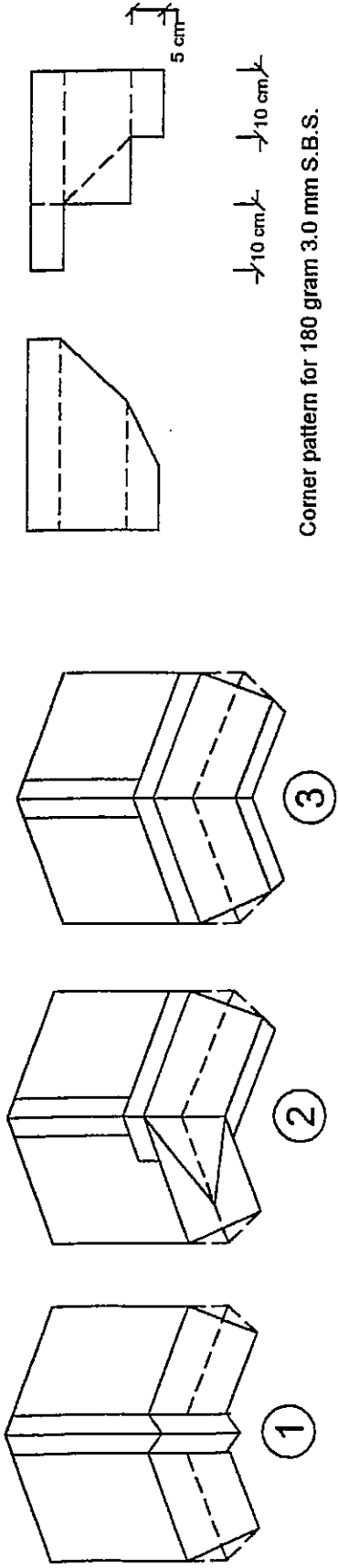
All rolls are to be unrolled and allowed to relax prior to installation onto the roof. Time required for relaxation is dependent upon weather and manufacturer. Criteria is a smooth wrinkle free bond.

**Note:** Handling criteria to apply to all S.B.S. modified bitumen membranes.

# Typical Granulated Cap Sheet Layout Criteria

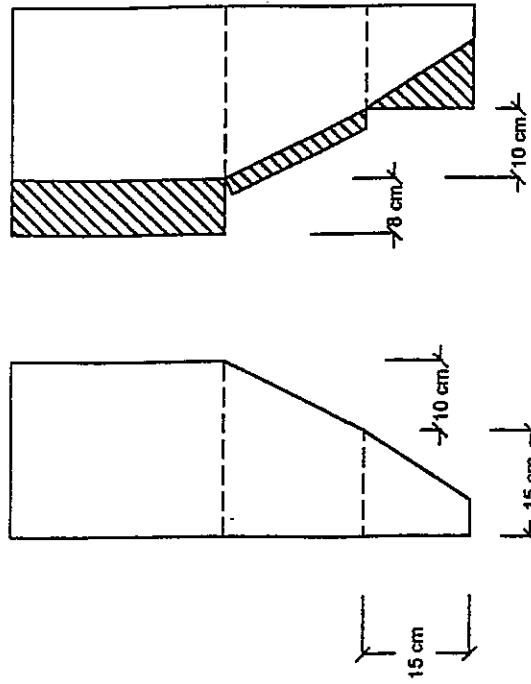
	Job#: 07-023
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INSIDE CORNER stripping criteria for 180 gram 3.0mm S.B.S. base sheet

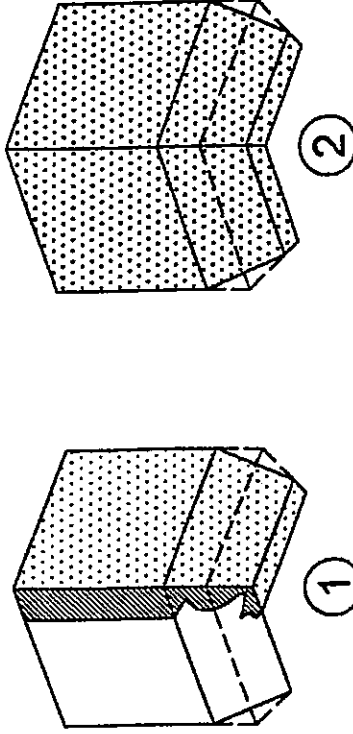


Corner pattern for 180 gram 3.0 mm S.B.S.

Inside corner stripping criteria for 250 gram granular 4.0 mm S.B.S. cap sheet



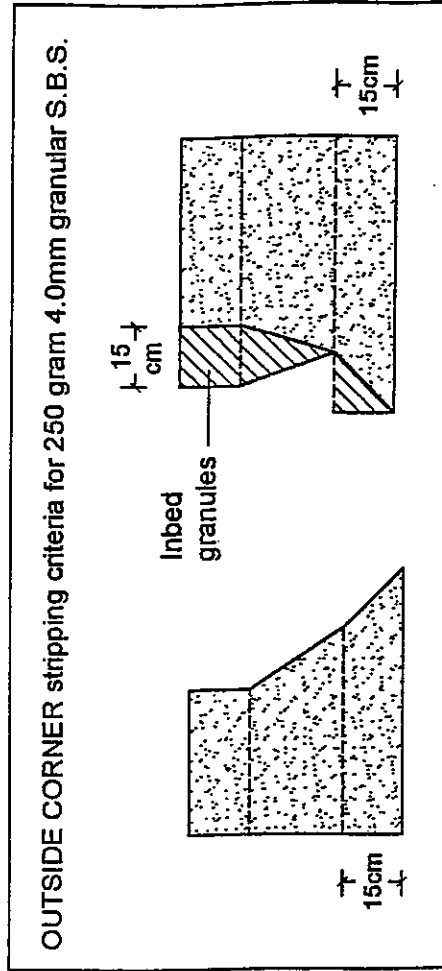
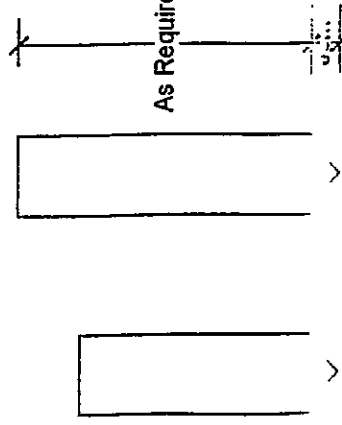
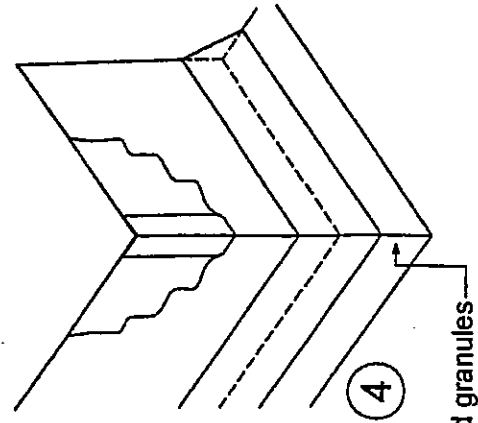
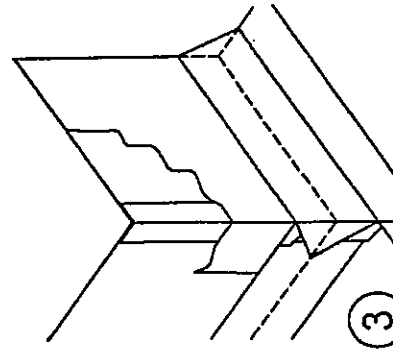
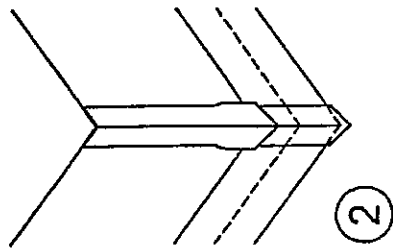
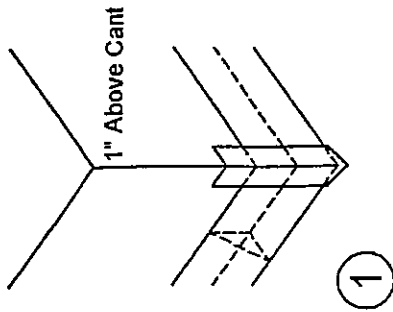
Corner pattern for 250 gram 4.0 mm "granular" S.B.S.



TYPICAL MEMBRANE INSIDE CORNER STRIPPING

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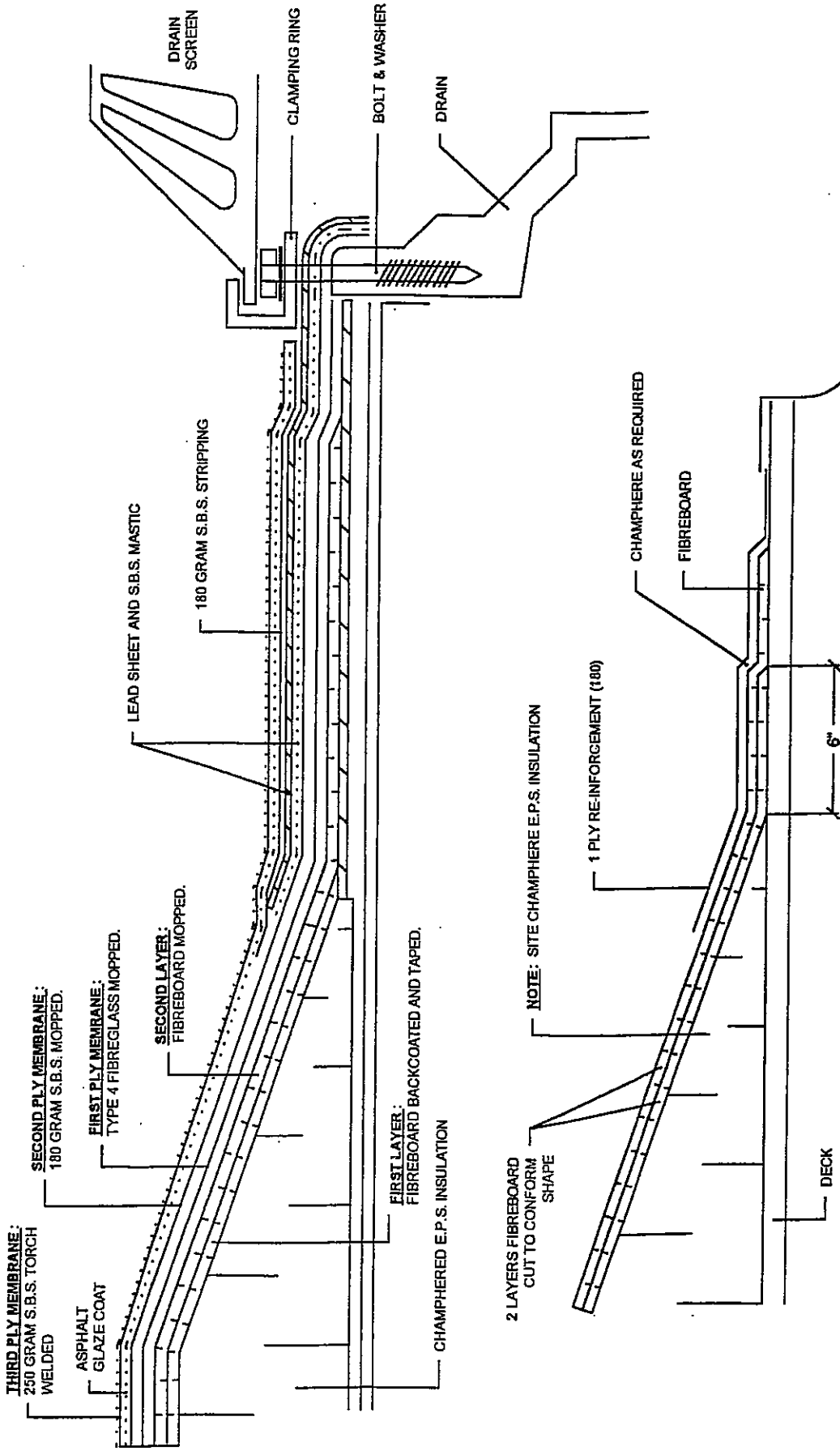
OUTSIDE CORNER re-enforcement and stripping criteria for 180 gram 3.0mm S.B.S.



TYPICAL OUTSIDE CORNER RE-ENFORCEMENT AND STRIPPING CRITERIA

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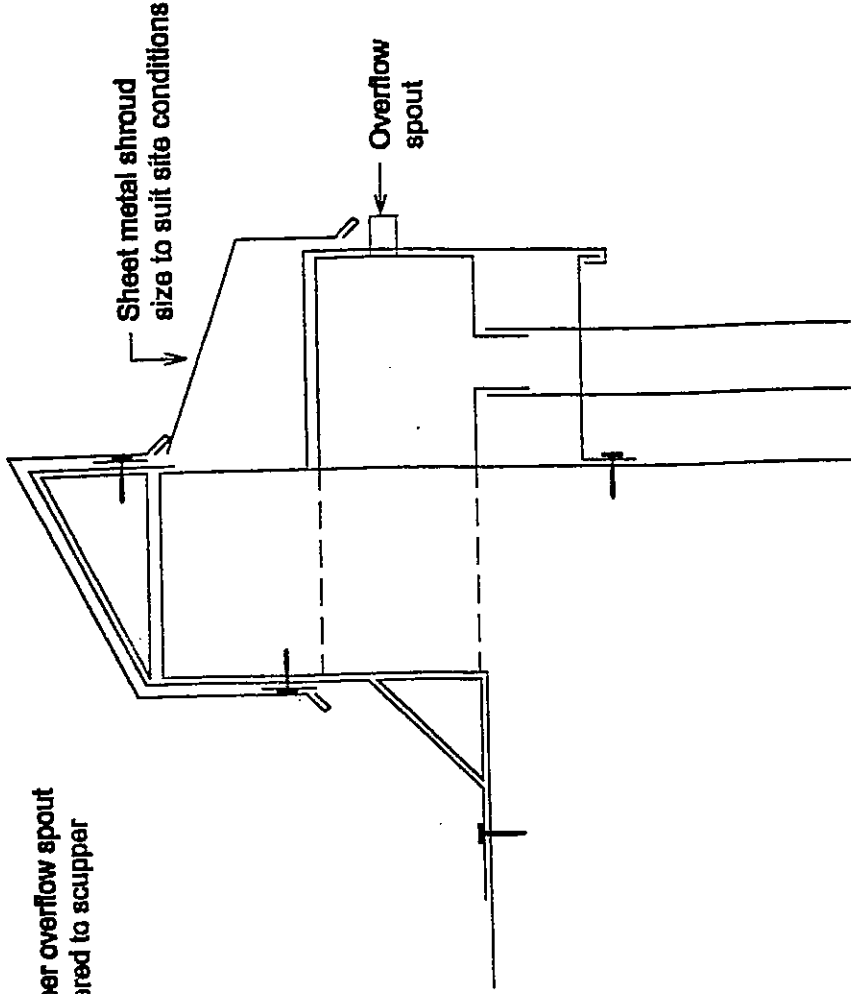
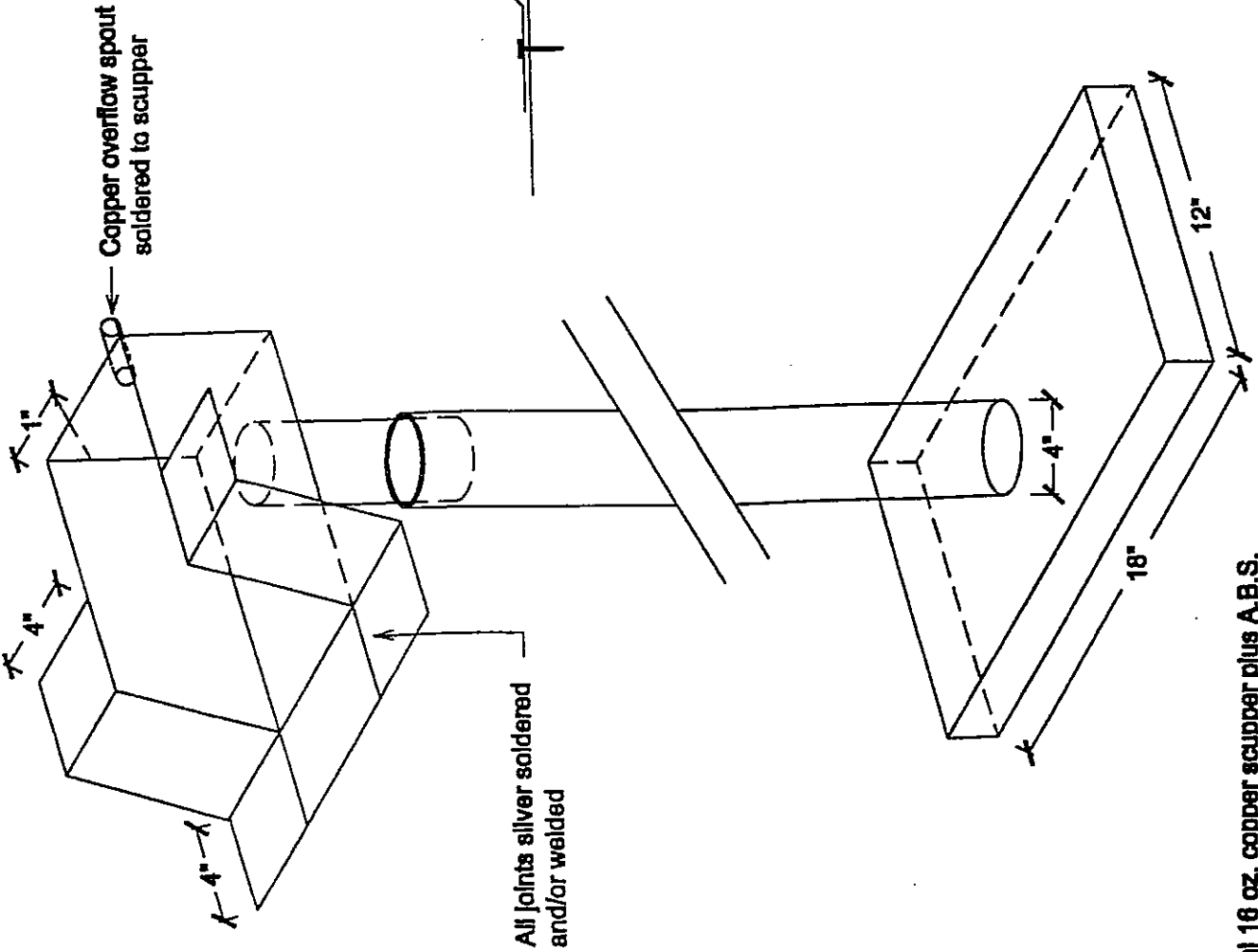


TYPICAL DRAIN SUMP CRITERIA

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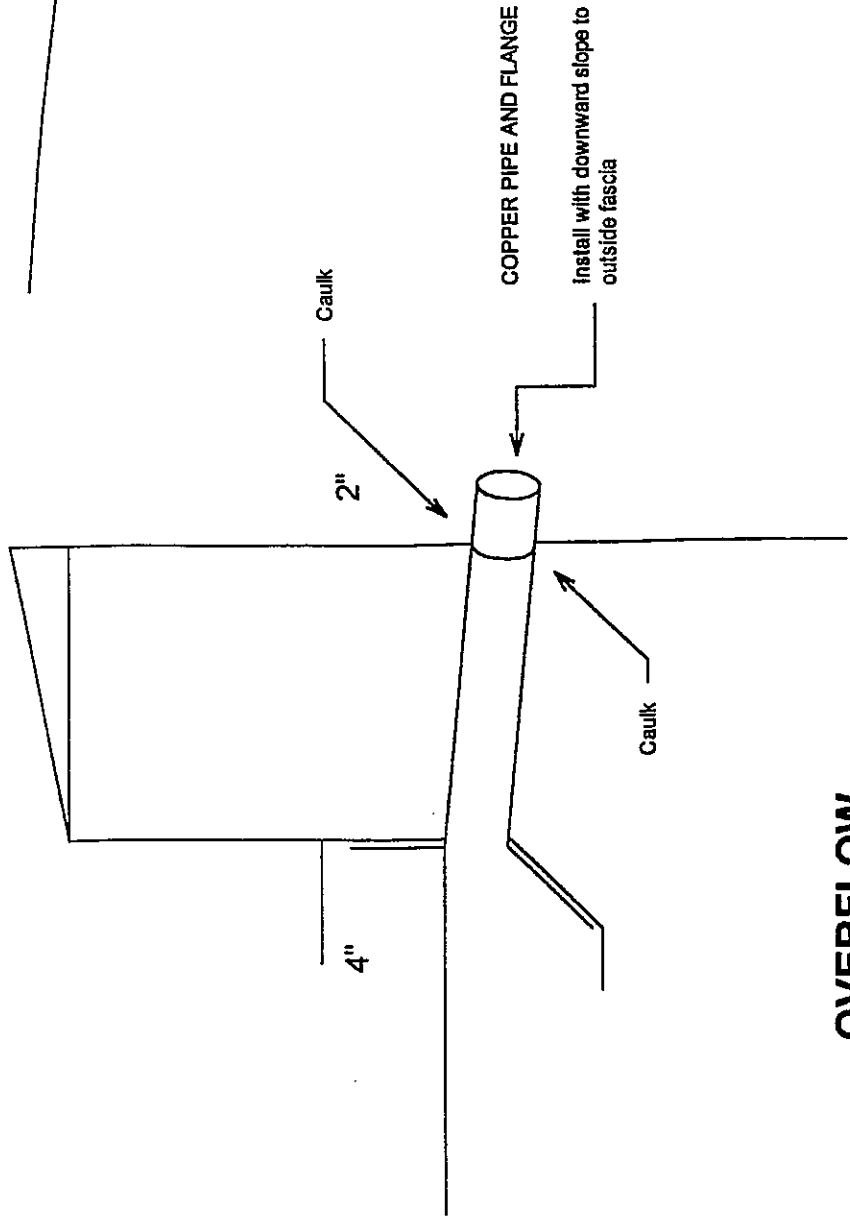
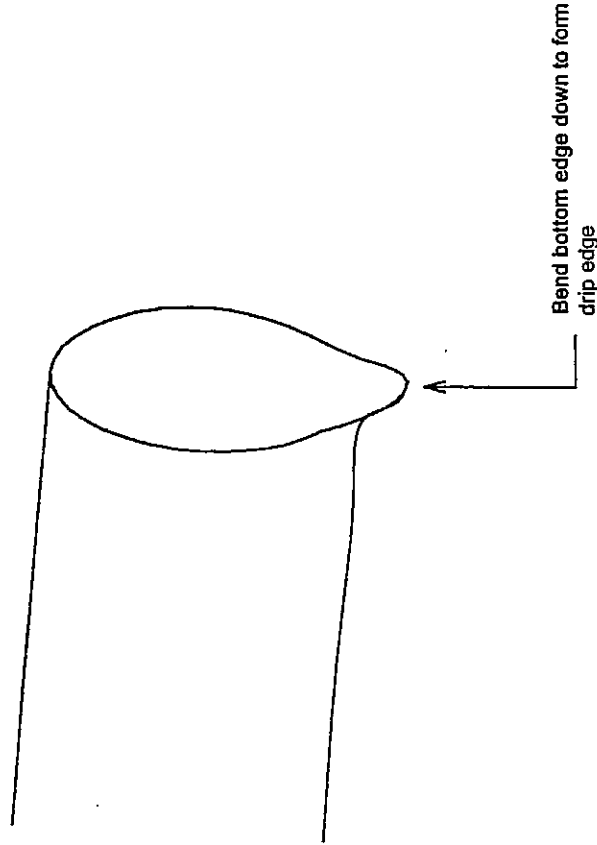
**TYPICAL DETAIL**

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**Typical 16 oz. copper scupper plus A.B.S. downpipe plus concrete splashpad**

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**OVERFLOW**

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Lead plugs and caulking as required.

Cut reglet as required  
Nail @ 16" o.c.

24 G.G.I.B.E.

**Alternate:** Use of gum lip with 1/4" X 1 1/4" aluminum or galvanized flat iron, secured with drill & pins @ 12" o.c., as required.

**ALTERNATE**

Modified bitumen membrane and stripping plies as required.

3" min.

Run 2" beyond internal and external fascia of wall.

See details

# TYPICAL END WALL SECUREMENT

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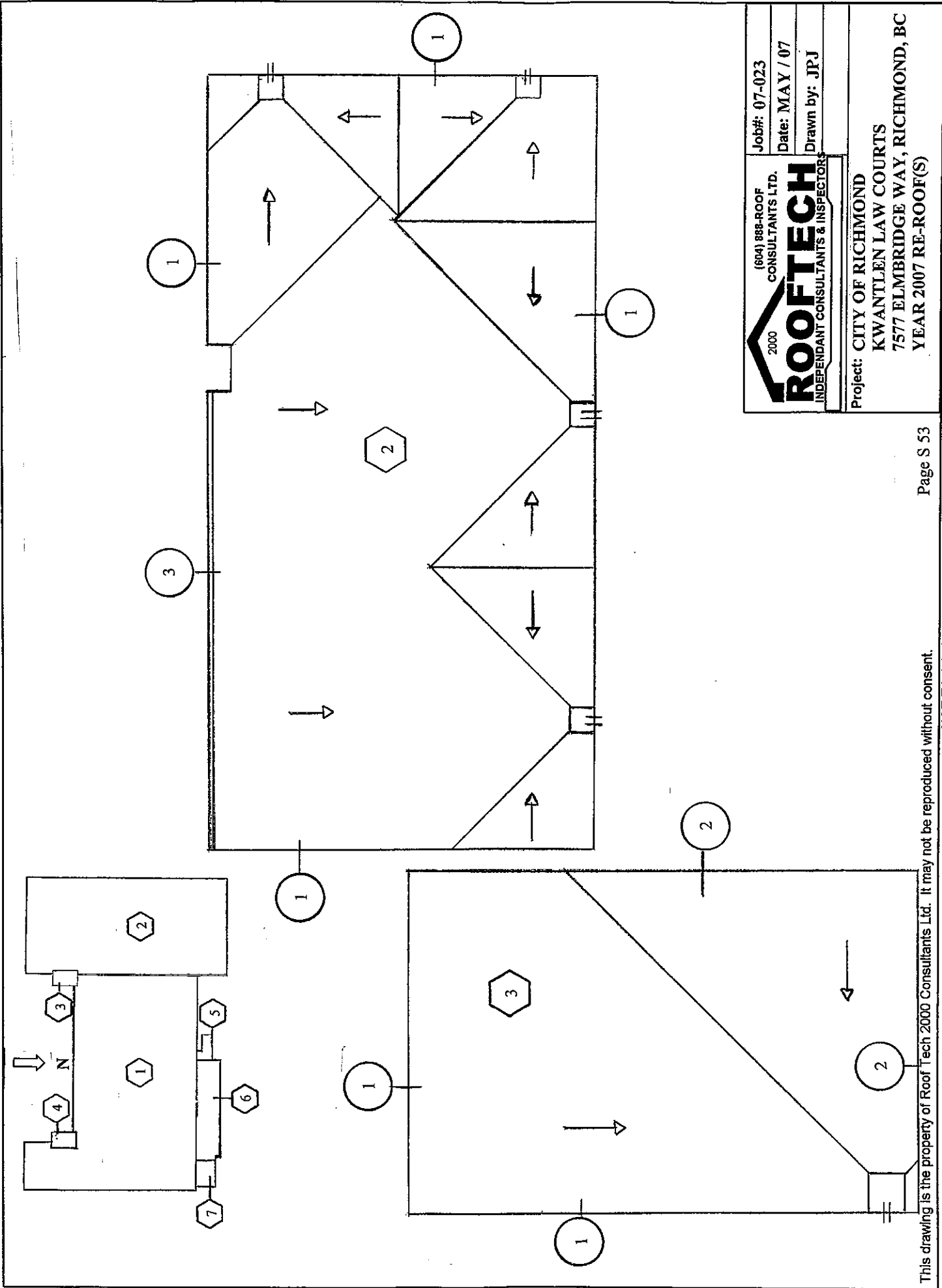
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TWO LAYERS OF 7/16" FIBERBOARD INSULATION (STAGGERED) AND SECURED WITH ASPHALT.

TAPE ALL JOINTS, PERIMETER AND PROTRUSIONS. (1" MAXIMUM UP-TURN.)

PLUMBING VENT PIPE EXTENSIONS MUST BE ACHIEVED PRIOR TO INSTALLATION OF SLOPED E.P.S. INSULATION.

250 GRANULATED CAP SHEET (TORCH APPLIED) FOR WALLS. USE PEEL AND STICK OPTION.

SLOPED E.P.S. INSULATION WITH AN AVERAGE OF "R-20" AND 2% SLOPE PER ROOF AREA SET INTO FULL MOPPING OF WARM ASPHALT.

180 BASE SHEET (MOPPED).

ONE PLY FIBERGLASS (MOPPED).

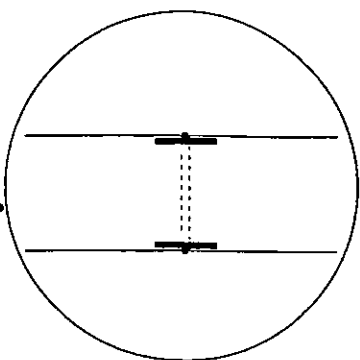
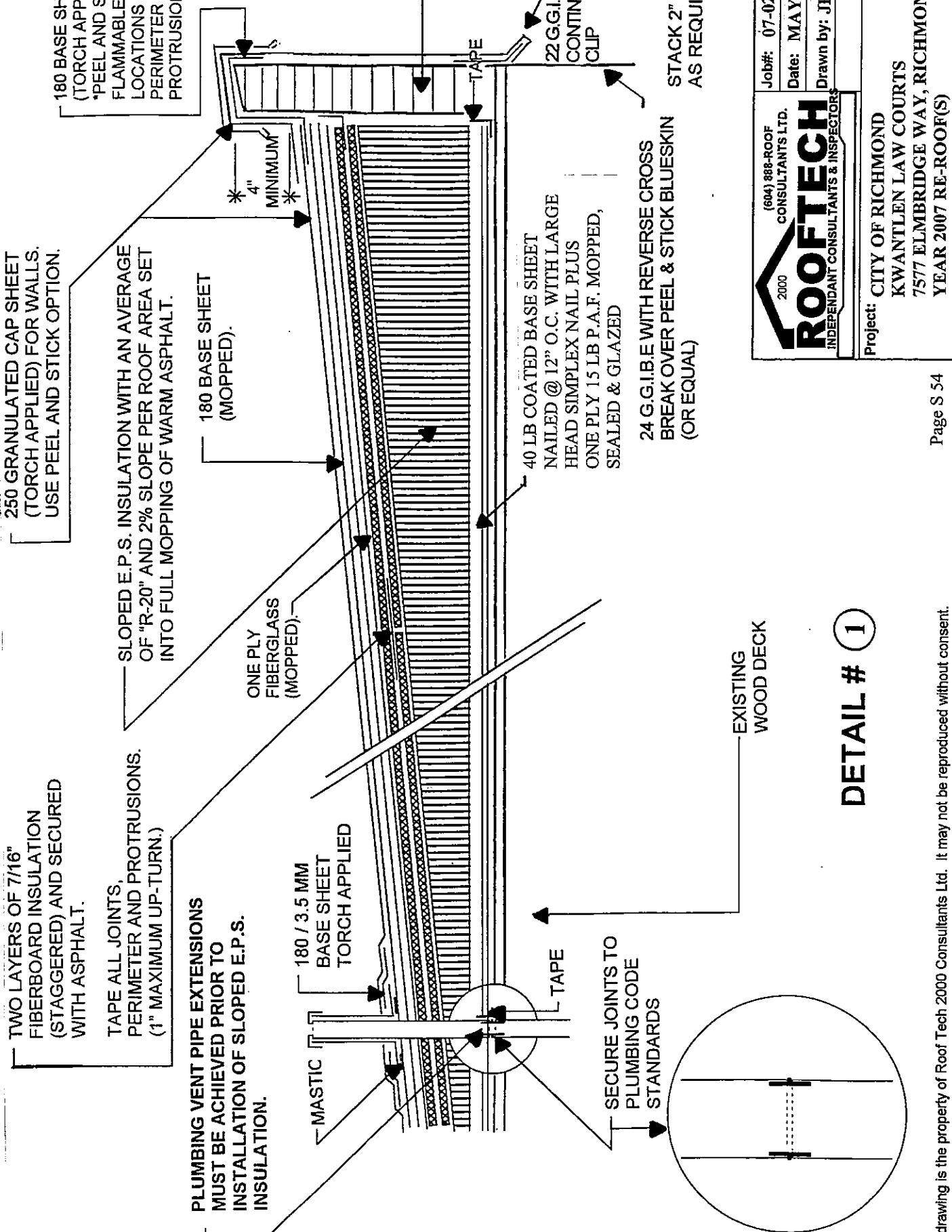
180 / 3.5 MM BASE SHEET TORCH APPLIED

40 LB COATED BASE SHEET NAILED @ 12" O.C. WITH LARGE HEAD SIMPLEX NAIL PLUS ONE PLY 15 LB P.A.F. MOPPED, SEALED & GLAZED

24 G.G.I.B.E WITH REVERSE CROSS BREAK OVER PEEL & STICK BLUESKIN (OR EQUAL)

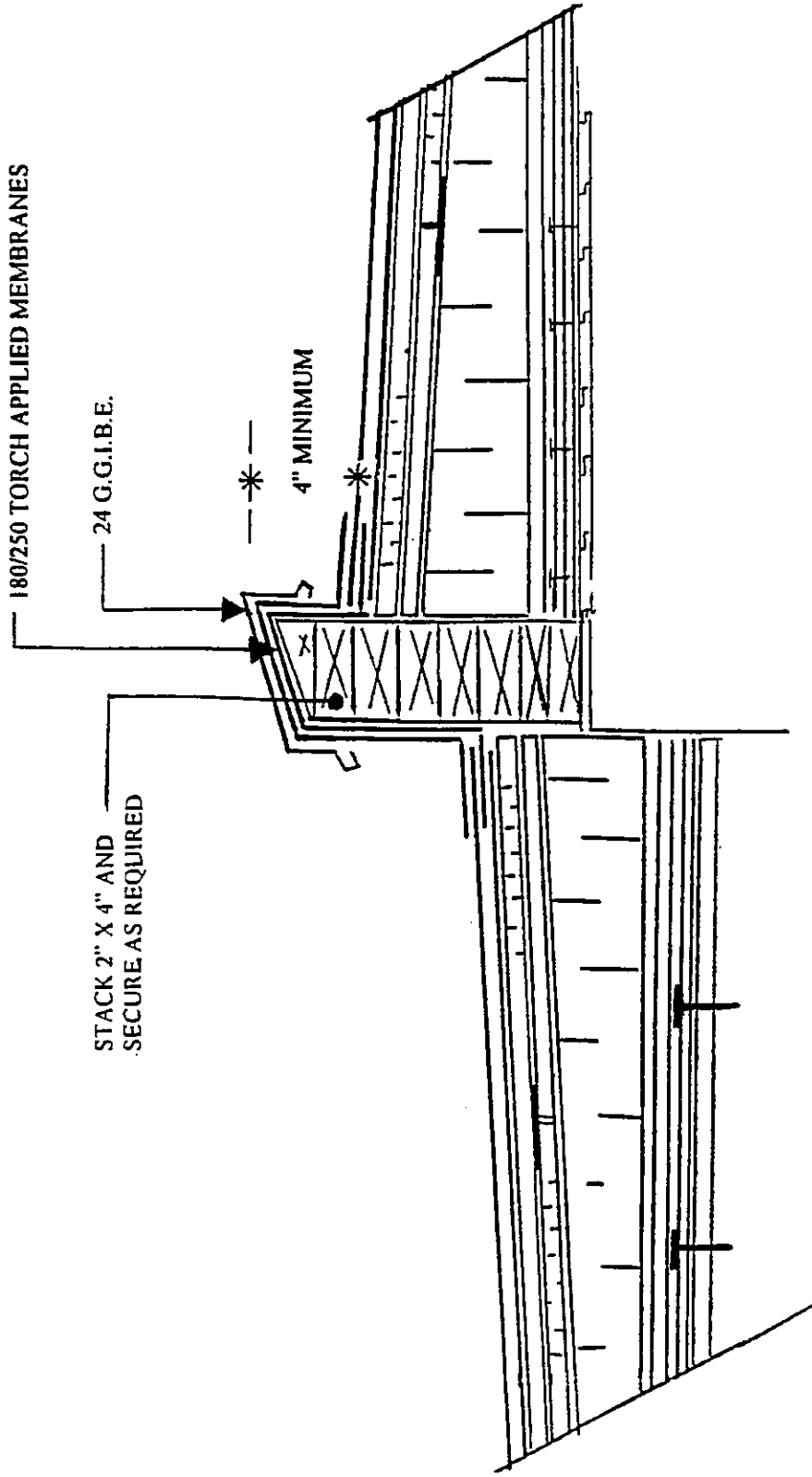
180 BASE SHEET (TORCH APPLIED) \*PEEL AND STICK @ FLAMMABLE LOCATIONS PERIMETER & PROTRUSIONS.

22 G.G.I. CONTINUOUS CLIP  
STACK 2" X 4" AS REQUIRED



**DETAIL # 1**

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**DETAIL # ②**

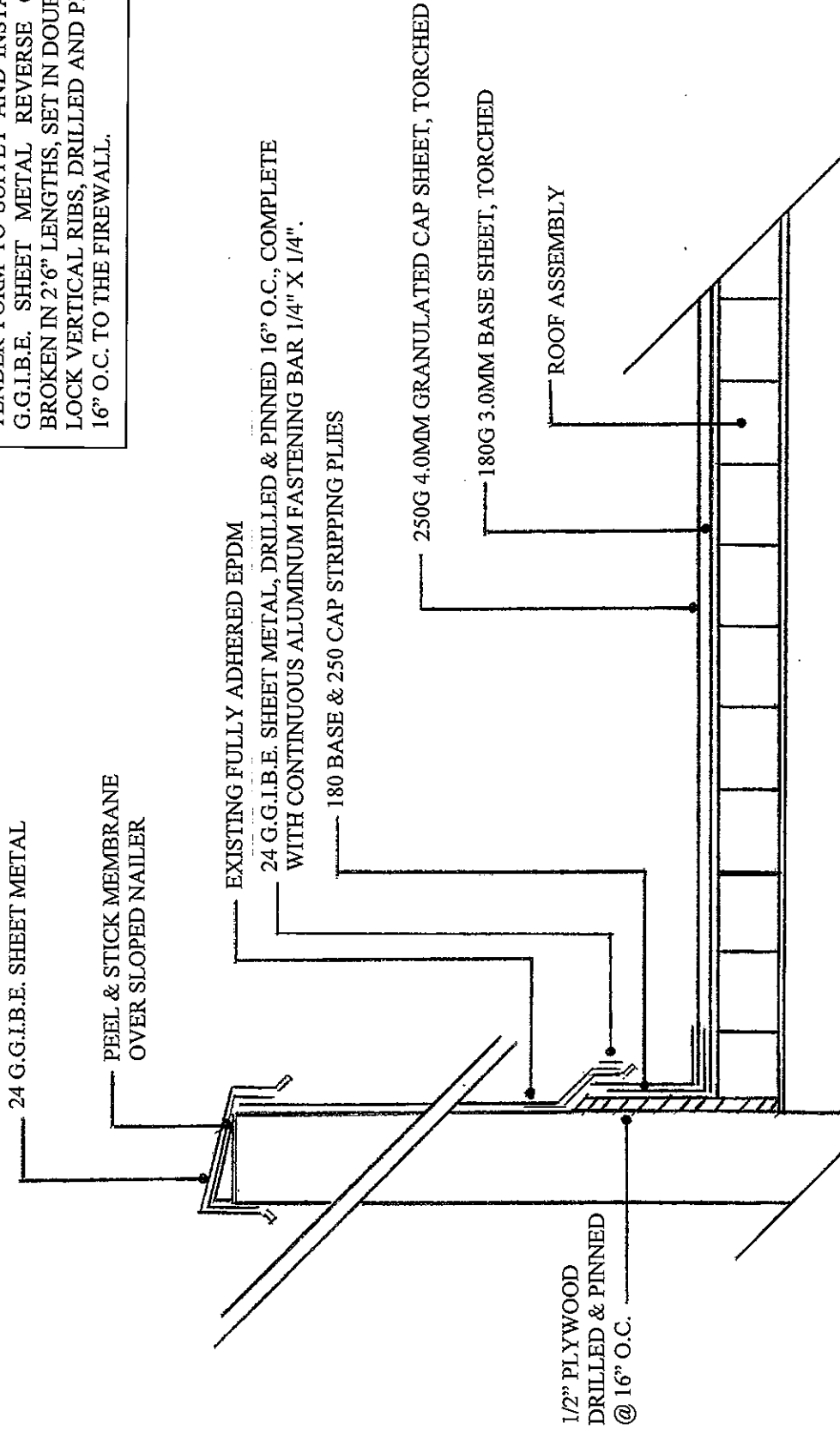
<b>ROOFTECH</b> INDEPENDANT CONSULTANTS & INSPECTORS 2000 (604) 888-ROOF CONSULTANTS LTD.	Job#: 07-023
	Date: MAY / 07
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**NOTE:** PROVIDE A SEPARATE PRICE ON THE TENDER FORM TO SUPPLY AND INSTALL 24 G.G.I.B.E. SHEET METAL REVERSE CROSS BROKEN IN 2'6" LENGTHS, SET IN DOUBLE 'S' LOCK VERTICAL RIBS, DRILLED AND PINNED 16" O.C. TO THE FIREWALL.



**DETAIL # 3**  
FIREWALL

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June 15, 2007  
File: 02-0775-50-3056/Vol 01

**Business & Financial Services Department**  
**Finance Division**  
Telephone: 604-276-4218  
Fax: 604-276-4162

To Those Parties Receiving City of Richmond Contract  
3056Q - Roof Rehabilitation Kwantlen Law Courts

Dear Sir/Madame:

**Re: Addendum #1**

- Please be advised that the quotation closing date has been extended to Friday, June, 22, 2007, noon, local time.

Yours truly,

Sheryl Hrynyk  
*Acting Supervisor*

SAH:sah