DRUMHELLER
INFRASTRUCTURE SERVICES

Dinosaur Capital of the World

REQUEST FOR TENDER

AQUAPLEX ROOF REPLACEMENT

SUBMIT SEALED TENDER IN A CLEARLY MARKED ENVELOPE TO:

TOWN OF DRUMHELLER,
224 Centre Street
Drumheller, Alberta T0J 0Y4

Attention: Dave Brett, P.Eng., PMP
Director of Infrastructure Services
"Tender: Aquaplex Roof Replacement"

Closing Date: August 15, 2019 at 2:00 pm Local Time

Mandatory Site Visit: August 1, 2019 at 1:00 pm Local Time

YOUR FIRM IS INVITED TO SUBMIT A PROPOSAL, PURSUANT TO THE GENERAL CONDITIONS FOR THE SCOPE OF WORK AS DESCRIBED THE PROPOSAL MUST INCLUDE LABOUR, MATERIALS, EQUIPMENT AND OVERHEAD. THIS REQUEST SHALL NOT BE CONSIDERED AUTHORIZATION TO PROCEED WITH THE WORK HEREIN DESCRIBED.

1 As Per Plans and Specifications:

.1 To supply and install a new 2 ply SBS roof system to low slope roof areas as follows:

Roof Area A…….....$_____

G.S.T.:_____

Total: _____

Roof Area D…….....$_____

G.S.T.:_____

Total: _____

Roof Area F…….....$_____

G.S.T.:_____

Total: _____

Roof Area G…….....$_____

G.S.T.:_____

Total: _____

Roof Area H…….....$_____

G.S.T.:_____

Total: _____

.2 To resurface the following low slope roof areas with a single ply SBS membrane:

Roof Area B…….....$_____

G.S.T.:_____

Total: _____

Contractor's Initials: _____

Roof Area C…….....$_____

G.S.T.:_____

Total: _____

2 Separate Unit Price

.1 To supply and install replacement
1" fiberboard, inclusive or membrane
Infill, where required…….....$_____
Per Square Foot

G.S.T.:_____

Total: _____

3 Taxes

We hereby confirm that the prices stated herein include all GST and any provincial sales taxes, customs duties and excise taxes which may be applicable on this date.

4 Appendices

A list of subcontractors is appended and identified as Appendix A.

5 Commencement of Work

We confirm that following formal notification of acceptance of this tender by the Owner's authorized representative that we are prepared to commence work within _____ days, following the said notification, weather permitting.

We further confirm that substantial completion shall be achieved within _____ days of the project start date, weather permitting.

6 Conditions

It is understood that:

.1 Failure to comply with and complete all items, as specified on the tender form may result in disqualification of the tender.

.2 The lowest or any tender may not necessarily be accepted. The Owner reserves the right to reject any/all of the tenders received.

.3 The Owner reserves the right to limit and/or negotiate the scope of work.

.4 The Contractor shall be found sufficiently experienced and financially sound to the satisfaction of the Owner.

.5 This tender will remain open for acceptance by the Owners for a period of thirty (30) days from closing date of tender, however intends to expedite award following tender close.

.6 The Contractor agrees to provide to the Owner's Representative within three (3) working days of contract award, a work schedule, detailing dates/timelines of significant phases for this project.

.7 Project start date to be September 3, 2019, as required by the Town.

7 Addendums & Clarifications

The Contractor confirms that they have received the following addendums and/or clarifications and understand that they form part of this specification.

Addendum No(s).: _____ Received by: _____ (Contractor's Initials)

Clarification No(s).: _____ Received by: _____ (Contractor's Initials)

8 Signed, Sealed and Delivered

I, the undersigned, as a duly authorized representative of the Company noted below, confirm that I have carefully read this project specification and by way of this tender offer to enter into contract with the Owners, to complete all as called for in this specification, for the sum as indicated above.

Signed and Sealed This _____ Day of _____, Two Thousand and ____

At _____, in the Province of _____, Canada.

Name of Authorized Representative: _____

Signature of Authorized Representative named above: _____

Name and Address of Contracting Firm: _____

_____

_____

Corporate Seal: *(if applicable)*

Appendix A

It is our intention to employ the following Sub-contractor(s) for the completion of the trades indicated. All other work, not listed below, will be completed by our own forces.

List of Sub-contractors:

Name and Address of Sub-contractor	Trade (Work Designated)

Please be advised Appendix A forms part of the tender document and is to be returned with the tender regardless of whether Sub-contractors will be utilized or not.

Contractor's Initials: _____

To assist with the tendering process, the following instructions have been included for your reference.

1 Contract Documents

.1 Contract documents shall consist of this complete specification, including the tender form, appendixes, drawings/details, as well as any addendums/clarifications issued.

.2 This contract will be considered legally binding once a purchase order or alternate document has been issued by the Owner's/Owner's Representative at the Owner's request.

.3 Once entered into by both parties this contract is not assignable by either the Contractor or the Owner/Owner's Representative without the prior written consent of the other party.

.4 Once entered into, this contract may be cancelled for cause, by way of written notification.

2 Document and Site Examination

.1 Prior to submitting the tender, the Tenderer shall ensure the following:

.1 That the contract documents have been carefully examined.

.2 The site has been visited and the Tenderer has familiarized himself with any existing conditions and/or limitations, including necessary dimensions, which may affect the sum required for the completion of the contract.

.3 The Contractor is to verify and confirm all dimensions, roof compositions and roof projections. All invasive testing performed, is to be properly sealed, as per industry standards.

.4 The Owner's Representative may provide additional drawings/details, during project execution, to provide a clear understanding of the work required. These additional drawings will form part of the contract documents.

.5 Any discrepancies noted within the documents, at any time, are to be brought to the attention of the Owner's/Owner's Representative for verification/clarification.

3 Questions

.1 Any questions regarding this specification and/or drawings are to be addressed to the Owner's/Owner's Representative in writing, so that if necessary they can be answered by Addenda issued to all of the Bidders. All enquires must be submitted no later than 48 hours prior to tender closing. Addendums will be issued to all Bidders either electronically or via facsimile.

4 Material Substitutions

.1 The project is to be tendered as outlined in this specification.

.1 No roofing membrane or roof component substitutions will be permitted, unless approved in an Addendum issued by the Owner's/Owner's Representative.

.2 Consideration of alternate systems will be solely at the discretion of the Owner's Representative and must be approved for bidding, prior to submission. Submission of unsolicited, unapproved alternate systems will result in disqualification.

5 Crew

.1 A minimum of a five (5) man crew must be present on site during the execution of this contract, (with the exception of sheet metal application).

.2 Work shall be executed by individuals especially trained and experienced in the installation of the specified membrane. There must be a minimum of 1 journeyman roofer on this site at all times, while work is in progress.

.3 Once work has commenced on this site the Contractor agrees to work on the site during typical industry business hours and remain on site for the duration of the project, without shut down, (with the exception of inclement weather, weekends, statutory holidays or specific criteria as set out by the Owner's Representative).

.1 Typical work hours shall be 7:00 a.m. to 6:00 p.m., or as dictated by the City/Municipal Noise bylaws and/or the Owners. It is the Contractor's responsibility to confirm bylaws with the City. No after-hours work will be permitted.

6 Sub-Contracting

.1 Only those Sub-contractors listed in Appendix A of the tender form shall be permitted, and only for the work specified. The Contractor must understand that he will be held responsible for the work of all his Sub-contractors.

7 Bid Submission

.1 Bids must be completed and submitted in full on the Drumheller Infrastructure Services Invitation to Proposal Form provided.

8 Award of Tender

.1 The Owner's/Owner's Representative will directly notify the successful bidder, by e-mail communication, that they have been awarded the job.

.2 Any award of tender is subject to the bidder's ability to satisfy all pre-qualification criteria as well as contract obligations if required, pertaining to all types of bonding, WCB insurance coverage, and other insurances as stipulated in this specification.

.3 The Client is not obliged to award the tender to the lowest bidder, and reserves the right to disqualify any non-compliant bids, or not award the contract altogether. The Client also reserves the right to further negotiate the job scope and price with the lowest bidder.

9 Disclosure of Tender Results

.1 Detailed pricing from the various tendering parties will not be made public, but rather their placement with respect to the other parties, and general price ranges may be disclosed. This information will be made available at the same time as the awarding of the contract.

10 Guarantee/Warranty

.1 The Roofing Contractor shall provide, at no additional cost to the Owner the Membrane Manufacturer's 10 year System Warranty on the roof membrane system.

.2 The approved final quality observation report issued by the Owner's/Owner's Representative shall be the date for the commencement of guarantees by the Contractor.

11 Invoicing / Hold Back

.1 Monthly progress draws are to be addressed to and submitted to the Owner's Representative for payment, with an electronic or facsimile copy forwarded to the Owner's Representative for verification.

.2 All invoices must clearly identify the project name and address, and must include the following:

1. The original total contract value – this should be for all buildings falling under the same p.o./contract (no invoices for individual buildings falling under the same p.o./contract will be permitted).

2. Percentage complete to date (for the entire contract value – not individual buildings).

3. Less any previous progress draws, and holdback amount deducted.

4. Any pre-approved extras to the contract are to be listed separately from the original contract value and a new revised contract value is to be included.

.3 The Owner/Owner's Representative reserves the right to request a Statutory Declaration on second and subsequent progress draws.

.4 All contracts will be subject to a ten (10) percent hold back. Payment of the hold back amount will be dictated by industry standards in the region.

.5 Invoices for 100% completion will only be approved by Swan, once a final inspection has been completed and approved.

.6 Notice of Substantial Performance must be completed and posted as per Provincial Builder's Lien Act. Regardless, a copy must be posted on site (office or main entrance) and an electronic proof of posting supplied to the Owner's Representative.

12 Extras to Contract

1 All extra services the Contractor deems necessary are to be initiated by the Contractor and are to be agreed upon in advance with the Owner's Representative as to the remuneration expected.

.1 Extra services are those items/services which are not included on the tender form, but recommended or required to complete the project.

.2 Requests for extras must be completed on a Change Order Form by the Contractor.

.1 Change order forms will be supplied by the Owner's Representative, at the request of Contractor.

.2 No work is to commence prior to written approval.

.3 Change orders must include a description of the extra requested, as well as a total cost for the work.

.1 Shop drawings and/or roof plans to be attached as required.

.4 The value of the extra, outside of items included on the tender form, will be determined on a time and material basis with an allowable markup for overhead, supervision and profit.

.1 The Contractor must provide a complete breakdown of all labour and material for the extra, including labour and material costs for sub-contractors affected by the change, in their scope of work.

.2 Labour and material costs shall be limited to the following:

- *Work Performed by Contractors Own Forces:* Cost of labour and materials to be calculated by estimating the net directs costs plus a

total mark-up of ten percent (10%). Direct costs include the Contractor's actual and necessary net expenditures for wages of labour and field supervision, Worker's Compensation, Unemployment Insurance, holiday pay, etc.

- *Work Performed by Sub-contractors Forces:* Changes in the sub-contractor's work are to be calculated on the same basis, to which the Contractor may add five percent (5%).

.5 Completed change orders are to be submitted to the Owner's Representative for review. The change order and Owner's Representative's recommendation will be forwarded to the Owner for review.

.1 The Owner may request additional information, approve the Change Order or reject the Change Order.

.2 The Contractor may not proceed with any work requested on the Change Order until approved by the Owner.

.3 Notification of approval may be by informal email but must be followed up at the earliest opportunity by formal execution of the Change Order.

.6 Extras are to be invoiced at month-end following completion of the said service.

.1 Invoices for extras are not to be submitted until the fully executed change order has been completed.

13 Dispute Resolution

.1 In the event that any dispute arises between the parties in relation to this Contract, or out of this Contract, either party (Owner/Owner's Representative and Contractor) may give the other written notification of such dispute or claim.

.1 Written notification of the dispute or claim shall be made within fourteen (14) days of the dispute or cause of action arising.

.2 If the dispute is not resolved through negotiation, the parties agree to submit the dispute to mediation. The parties further agree that their participation in mediation is a condition precedent to any party pursuing any other available remedy in relation to the dispute.

.2 Any party to the dispute may give written notice to the other party of his or her desire to commence mediation, following attempted negotiation, and a mediation session must take place within [30] days after the date that such notice is given.

.1 The parties must jointly appoint a mutually acceptable mediator.

.2 The parties further agree to share equally the costs of the mediation; which costs will not include costs incurred by a party for representation by counsel at the mediation.

14 Insurance

.1 Immediately following award of this contract, the Contractor shall provide the Owner's Representative with proof of General Liability Insurance, including automobile liability in an amount no less than five million dollars ($5,000,000.00).

.2 Also immediately following award of contract, the Contractor must provide a current clearance letter for their Company from the Workers Compensation Board.

.3 WCB and all insurances must be maintained throughout the life of this contract.

15 Rules and Regulations

The Contractor agrees to abide by the following:

.1 Ensure that all rules, guidelines, ordinances and by-laws provided by the Owner's Representative with respect to this project are followed.

.2 Ensure that any additional terms and conditions of contract (if applicable) supplied by the Owners are followed.

.3 Ensure that all Federal, Provincial and Municipal regulations are being followed, including bylaws and any other legal regulations.

.4 Ensure that all licensing and permit requirements have been met prior to project start, including a business license in the municipality where work is being conducted, if required.

.5 WCB regulations are complied with.

.6 WHMIS regulations are complied with.

.7 Ensure that the Company holds licensed/approved applicator status, with the specified membrane Manufacturer, if applicable.

.8 All work to meet or exceed CRCA minimum standards, manufacturer's printed instructions and good roofing practices.

16 Quality Observations

.1 Quality observation site visits will be performed by Owner's Representative. The cost of these quality observations will be paid for directly by the Owners and is not to be included in the tender price.

.1 The Contractor is required to contact the Swan office in writing when the project has been reviewed by the site foreman and deemed 100% complete, including metal flashings and ready for final inspection.

.2 Note that frequency/duration of these quality observations is at the discretion of the Owner's or as stipulated by warranty requirements for this project.

.1 Maintaining a high quality of workmanship by the crew is the Roofing Contractor's responsibility at all times, regardless of whether the Owner's Representative is on site or not.

17 Additional Quality Observations

.1 The Contractor will be responsible for payment of additional quality observation site visits performed before or after completion of the final report, as a result of any of the following:

- Requested changes to the specification by the Roofing Contractor.
- Requested site visits by the Roofing Contractor outside of regularly scheduled visits.
- Specification non-compliance, with respect to:
    - Required manpower, resulting in additional days on site.
    - Not notifying the Owner's Representative that work was being performed, resulting in site visits required to perform cut tests, etc.
    - Damages caused by the Roofing Contractor's failure to use reasonable caution during the execution of this contract.
- Deficiencies in labour or materials, including but not limited to post final inspections, leak investigations etc.

.2 The cost of such quality observation site visits shall be $500.00 per visit, (excluding GST).

.3 The cost for warranty related call-backs initiated by the Client after completion of the project, during the warranty/guarantee period shall be the responsibility of the Roofing Contractor. These fees will be invoiced based upon the level of service required.

18 On-site Notification

.1 The Contractor agrees to provide 48 hours' notice to the Owner's Representative for the pre-start meeting.

.2 The Contractor agrees to contact the office of the Owner's Representative at (403) 823-1309 each morning prior to 8:00 a.m. that they intend to be on site, so that site visits can be coordinated.

1 Site Features

.1 It is the Contractors responsibility to make themselves aware of all features relating to this site.

2 Site Use

.1 The existing building will remain in full use and occupancy throughout the duration of the construction at this site.

.1 Carry out construction operations with the least amount of disturbance and inconvenience possible to the Owner's operations. Consult, as often as necessary, with the designated Owner's representative when planning construction activities that may affect the Owner's use of the existing building. If requested by the Owner, carry out disruptive activities, including noisy work, outside Owner's regular business hours at no extra cost to the Contract.

.2 The use of the site is limited to the areas that make up this contract, for work and storage, unless authorized otherwise by the Owner's Representative.

.1 Do not obstruct/store materials in roadways, laneways, sidewalks or passageways without prior approval from the Owner's Representative. Safe passage to and from the building and adjacent roadways, laneways, sidewalks and passageways must be maintained at all times.

.2 Materials/equipment are not to interfere with the daily operation of this building.

.3 The Contractor agrees not to unreasonably encumber the site with equipment and/or materials.

.1 Do not place advertisement signs on the site without the written consent of the Owner's Representative.

.4 Confirm access points to the roof, with the Owner's Representative.

.5 It is the Contractors responsibility to ensure the structure is not overloaded.

.6 The Contractor is responsible for providing and maintaining portable sanitary facilities at the time of initial mobilization through to completion of the project. Washroom facilities are not available on site. Coordinate with the Owner's Representative, an acceptable location and maintain it in clean condition.

.7 The Contractor shall consult with the Owner's Representative with respect to available parking on site for crew, if available. Otherwise, Contractor shall make his own arrangements.

.1 No on site habitation will be permitted unless previously approved in writing by the Owner's Representative.

.2 No pets will be permitted on site.

.8 Access to electrical power for construction purposes may be available to the Contractor. Contractor must obtain approval of such in writing from the Owner's Representative, prior to utilization.

.1 Contractor to ensure replacement, when damaged, of electrical components used for temporary power.

.2 Work that requires shut-downs or closures of active services or facilities and/or tie in or connecting to existing services is to be coordinated with the Owner's Representative, to ensure proper notification is given to building Occupants.

.9 A water supply may be available on site for construction usage to the Contractor. Contractor must obtain approval of such in writing from the Owner's Representative, prior to utilization.

3 Protection

.1 As per the Rules and Regulations section, Bidding Instructions, Contractors must be in compliance with all safety regulations imposed by the Province, Municipality and Owner/Owner's Representative.

.2 Site specific safety of the Contractors personnel and the public is the responsibility of the Prime Contractor and his Sub-trades. As such, all necessary precautions and provisions must be made/taken during all phases of this project.

.3 The Contractor shall, for the purposes of the Provincial Occupational Health and Safety Act, and for the duration of the Work of this Contract:

.1 be the "prime contractor" for the "work site", and

.2 do everything that is reasonably practicable to establish and maintain a system or process that will ensure compliance with the Act and its regulations, as required to ensure the health and safety of all persons at the "work site".

.4 The Contractor shall direct all Subcontractors, Sub-subcontractors, Other Contractors, employers, workers and any other persons at the "work site" on safety related matters, to the extent required to fulfill its "prime contractor" responsibilities pursuant to the Act, regardless of:

.1 Whether or not any contractual relationship exists between the Contractor and any of these entities, and

.2 Whether or not such entities have been specifically identified in this Contract.

.5 The Owner's Representative does not anticipate that there will be any contractors, other than those performing the Work of this Contract, engaged in work at the "work site" during the performance of the Work of this Contract.

.6 The Contractor is responsible for the workmanship and conduct of its workers and sub-contractors in their employ and as such shall at all times enforce strict discipline and orderly conduct amongst its workers and sub-contractors and shall not employ for the work, any person neither unfit nor unskilled in the work assigned.

.1 Smoking shall not be allowed on existing buildings.

.1 Contractor shall designate appropriate places on the project site for those persons desiring to smoke during the course of work in progress. These appropriate places must be sanctioned by the Owner's Representative.

.2 Alcoholic beverages, cannabis or prohibited drugs will not be allowed on the project at any time.

.3 No radios or boom boxes will be permitted on site. The use of headphones/ earbuds while working is strictly prohibited.

.7 The Contractors must provide, maintain throughout the duration of the project and remove upon project completion, fencing, boarding, barriers, warning signs etc., installed for the protection of the tradesmen as well as the general public. This equipment must be approved by the Owner's Representative.

.8 The Contractor must provide and maintain any temporary lighting required for safe working conditions. This is to be in accordance with Provincial Occupational Health and Safety Standards.

.9 Any safety related occurrences are to be reported immediately to the Owner's Representative and be followed up with a written Contractor's incident report.

.10 Contractor must provide a copy of their site specific safety plan at the pre-start meeting.

.1 Contractor must submit weekly, minutes of their work safe reports.

.11 It is the Contractors responsibility to ensure the protection of all roads, driveways, parking areas/structures, buildings and other finished surfaces (interior and exterior) and roof assemblies, equipment, landscaping, as well as utilities such as gas, electrical and water meters and telephone and cable services, including those of surrounding properties.

.1 The Contractor is to provide protection for all entrance and exit ways, floors, walls, stairwells and all standing fixtures.

.2 The Contractor shall make good, by repair or replacement any such damages to the Owner's Representative's approval.

.12 In the event that ice/snow/water removal is required; it must be off loaded at locations pre-approved by the Owner's Representative. Random discharge off of roofs is unacceptable.

.13 Material and equipment hoisting should only occur when all above noted safety provisions are in place.

.1 Location for such material and equipment transfer must be pre-approved by the Owner's Representative.

.2 Lifts, swing stages, hoists and similar equipment is to be operated only by qualified workers.

.3 Property and building must be protected at all times during loading and offloading.

4 Procedures

.1 Prior to job mobilization, the Contractor is to perform a thorough inspection of the site and provide to the Owner's Representative a written report, including photographic or video documentation detailing all damaged property as well as any items that appear to be in poor working condition or appearance.

.1 If written report is not provided within five (5) days of commencement of work, it will be deemed that the Contractor has reviewed the site and has accepted the condition of property as being free of damage.

.2 Any claims for damage that were not identified in the pre-construction survey or that cannot be proved existed prior to commencement of the work, will be paid for by the Contractor.

.2 Prior to job mobilization, the Contractor must undertake a pre-startup site meeting, inclusive of the Owner's Representative.

.1 Colour samples for materials to be provided at this time.

.3 All roof membrane and related components are to be installed as per manufacturer's printed instructions, unless otherwise previously approved in writing by the Owner's Representative and supported by the membrane manufacturer.

.4 The Contractor is to ensure that he only removes an area large enough that can be made watertight the same day.

.1 The Contractor also agrees to finish one roof area, prior to proceeding to the next roof area, (with the exception of sheet metal flashings), unless otherwise approved by the Owner's Representative.

.5 Contractor is responsible for all costs associated with mechanical/electrical requirements necessary to complete this project.

.1 Contractor to engage certified mechanical/electrical contractors for the roof top unit disconnection and reconnections, relocation of satellite dishes etc.

.6 Any modifications/alterations to the site are to be reported to the Owner's Representative. The location is to be clearly marked/detailed on the roof plan drawing.

.7 The Contractor agrees to minimize, as much as possible, the disruption to the building and its Tenants and to comply with laws, ordinances, rules and regulations relating to this project.

.1 Ensure a low level of construction noise and keep all equipment as quiet as practicable and noise emissions as low as possible.

.8 It is imperative that no materials or construction related debris be stored within 10' of chimney exhaust vents.

.9 Keep all adhesives, sealants, primers and cleaning materials (anything flammable) away from all sources of ignition.

.1 Fumes from adhesive solvents may be drawn into the building during installation through rooftop intakes. Appropriate measures must be taken to assure that fumes from adhesive solvents are not drawn into the building through air intakes.

.10 Ladders are not to be left up unattended.

.1 Ladders are to be equipped with stand offs or provisions to protect building exteriors.

.2 Ladders are to be secured at roof eave.

.11 The Contractor is to maintain a minimum of 1 person at ground level, at all times during roof removal and until such time as the grounds are cleaned of all debris.

.12 Grounds and adjacent roof areas must be cleaned daily.

.1 Upon completion of the project all remaining materials, equipment and construction debris is to be removed from the site and surrounding buildings, to the satisfaction of the Owner's Representative.

.13 Dust and airborne debris is to be minimized with tarpaulins and moisture suppression, throughout the duration of the project.

.14 The Contractor is to maintain a minimum of 1 competent person on site at all times from the start of the work day to day's end, from project start to completion to ensure the safety and integrity of the site at all times.

.15 A copy of the specification is to be available to the Foreman on site at all times.

5 Demolition

.1 Contractor is responsible for all costs associated with the temporary storage and disposal of all demolished materials and waste related to this project. These items are to be deposited into designated bins and removed from the site as soon as possible.

.1 These bin areas are to be coordinated with the Owner's Representative.

.2 Ensure all areas surrounding these refuse bins are kept clean on a daily basis.

.3 All building and landscaping features are to be protected at all times. Plywood overlay to be used at bin/truck locations for the duration, so as not to adversely impact the landscaping.

.4 Disposal chutes are to be used where dictated by required safety standards and applicable bylaws.

.5 Contractor to provide waste disposal deposit slips to the Owner's Representative if requested.

6 Materials/Equipment

.1 All materials used on this project shall be new unless otherwise permitted in writing, by the Owner's Representative.

.2 The Contractor must ensure that all materials and equipment are protected from the weather. Materials stored on site are to be secured, tarped, in such a means as to prevent structural damage to existing roof components and withstand wind gusts of 90km/h.

.1 Materials/equipment stored on or in the building are to be stored safely and in accordance with the manufacturer's requirements, during both work and off hours.

.2 Do not place roof insulation in direct contact with the earth, road surface or roof deck. Place suitable supports under the insulation upon delivery to protect it from absorbing moisture.

.3 Store sealants and liquid materials containing solvents in well ventilated spaces with proper fire and safety precautions. Protect liquid material from direct sunlight.

.4 Do not store materials and/or equipment in concentrations which exceed design live load.

.5 Do not store material on roof sections that will not be re-roofed under this contract. The owner reserves the right to remove any such materials without prior notice to the contractor and deduct the owner's costs thereof from the contract amount.

.6 In the event materials are damaged by the elements, improper handling or other causes, such materials will be rejected and are to be replaced at no extra cost to the owner.

.3 Install roofing membrane only when surfaces are clean, dry, smooth and free of snow or ice; do not apply roofing membrane during inclement weather or when ambient conditions will not allow proper application; consult manufacturer for recommended procedures during cold weather. Do not work with sealants and adhesives when material temperature is outside the range of 15 °C to 25 °C.

.1 Membrane limitations:

.1 Use the following formula to establish apparent air temperature where the actual minimum temperatures are approaching the manufacturer's minimum temperature threshold. Formula: T = t - (W/2), where

- T is apparent air temperature,
- t is outside air temperature (°C) to the nearest whole degree,
- W is wind speed in mph. If wind speed is in km/h, multiply by 1.6 first.

.2 When T + 0.4°C is less than manufacturer's application threshold use manufacturer's cold temperature membrane.

.2 Cold weather requirements:

.1 Do not use frozen materials or materials mixed or coated with ice or frost.

.2 Do not build on frozen substrates.

.3 Comply with cold weather construction requirements contained in manufacturer's standards.

.1 Keep materials from freezing and free from ice when air temperature has dropped below 0°C (32°F).

.3 Hot weather requirements:

.1 Comply with hot weather construction requirements contained in manufacturer's standards.

.4 Membrane and membrane flashing requirements:

.1 Apply membrane to substrate surfaces that are dry and within the manufacturer's temperature threshold range.

.4 No wood products, dimensional or panel, are to have a moisture content in excess of 15%.

.5 Materials must be delivered with and stored so that Manufacturer's seals and labels are intact and legible.

.1 Any incorrect/defective materials installed by the Roofing Contractor shall be corrected or removed and replaced at their own expense.

.6 Delivery, loading and offloading of materials/equipment must be completed in a safe manner and in compliance with this specification.

.7 Materials required for this project are listed at the back of this specification in the section titled "Materials List".

7 Site Documents

.1 The Contractor shall provide direct (on site) access to the following documents, (if applicable):

- The specification
- All addendums issued
- Shop drawings
- Change orders
- Approved work schedule
- Any approved modifications to the specification
- Company safety policy
- Contractor's contact list
- Site specific hazard assessment
- Field test reports
- Manufacturer's printed installation and application instructions, as well as any other relevant instructions specific to this type of membrane installation.
- WHMIS material safety data sheet.

1 Scope of Work

The Contractor shall supply all labour, materials and equipment necessary for the removal of all existing roofing components to the existing substrate on low slope roof areas A, D, F, G & H in preparation for the installation of the new roof system. A new conventional, 2 ply SBS modified bituminous roof system is to be installed over top of the existing substrate and is to include vapour retarder, insulation, overlay, 2 ply SBS membrane, drains, vents and metal flashings as detailed below.

In addition, the Contractor shall also supply all labour, materials and equipment necessary for the removal of all existing roofing components to the existing membrane on low slope roof areas B & C in preparation for the installation of the new roof system. A new conventional, 1 ply SBS modified bituminous roof system is to be installed over top of the existing membrane and is to include 1 ply SBS membrane, drains, vents and metal flashings as detailed below.

Note: Sections 2, 3, 4, 6, 7, 8, 9 & 10 are applicable to all roof replacement areas (A, D, F, G & H) as well as areas on roof areas B & C requiring remediation prior to recover, unless indicated otherwise.

2 Roof Removal

.1 All existing openings, (drains, vents, air intakes, etc.) are to be plugged or covered to prevent any contaminants or debris from entering the building below, prior to the removal of any roof components.

.2 At designated areas for removal and replacement, all metal flashings, membrane, insulation, projections, drains and old appurtenances are to be removed and disposed of to an appropriate site.

.1 The Contractor is responsible for all costs associated with the disposal of any demolished materials and waste related to this project.

.3 The Contractor is to verify with the Owners Representative if they wish the removal and disposal of any unused or abandoned projections, sleepers, curbs, vents, pitch pockets etc., located on the designated re-roofing areas.

.1 Any openings, as a result of the removal of such unused or abandoned items, are to be closed off with new decking, prior to the installation of the new roofing system.

.4 Contractor to perform daily clean-up of all demolished materials from the site.

.1 Upon completion, all debris must be disposed of in a legally acceptable manner.

.5 Contractor is responsible for determining the location of electrical wiring/conduit in relation to the roof assemblies.

.1 Any costs associated with damages to the wiring/conduit as a result of the Contractor's negligence, will be borne by the Contractor.

.6 Contractor to provide thermal scan and moisture evaluation of existing roof assembly on roof areas B & C only, so as to ensure all damaged/decayed/wet areas are identified.

.1 Cost of thermal scan and moisture evaluation are the responsibility of the Contractor.

.2 Thermal scan and moisture evaluation to be undertaken by the Owner's Representative or pre-approved equivalent.

.7 Base bid is to allow for 500 sq. ft. of deteriorated fiberboard replacement, inclusive of membrane infill.

3 Surface Preparation

.1 All existing roof areas are to be assessed for integrity visually and as noted above.

.1 Damaged and corroded areas of decking are to be assessed for integrity. Any issues are to be reported to the Owner's Representative.

.2 Any new decking installed must match the existing.

.2 Provide wood furring and blocking at locations to space out and support other work as required.

.3 Install wood items (roof blocking, nailers and curbs) as required for roofing and sheet metal work.

.1 Curbs are to be constructed for all roof mounted equipment, anchors and for roof penetrations, inclusive of all vents, with the exception of drains.

.2 Curb heights are to be 8" above roof surface for plumbing vents and 8" above roof surface for all other curbs.

.4 Top plate of outside perimeter wall to provide 2% positive slope to building interior.

.5 Framing, blocking and curbs are to be attached directly to structure.

.6 All perimeters are to be built up so as to maintain a minimum 4@ clearance above membrane.

.7 Ensure membrane substrate is rigid, dry, smooth, compatible, free of fines and sharp edges and clean of all debris and foreign matter, including any contaminants (oil, grease etc.) which may affect bonding.

.8 Ensure all openings, walls and projections through the roof are firmly affixed and reglets and nailing strips are in place.

.9 Ensure the membrane manufacturer's specifications for substrate preparation prior to membrane application have been satisfied.

.10 Prime all wood and metal surfaces to be directly adhered with bituminous membranes and allow to dry.

.1 Consult the membrane manufacturer for specific requirements, including application rates.

4 Vapour Retarder

.1 Over prepared substrate, supply and install 1 ply SBS modified bitumen 95g/m2 vapour retarder.

.1 The vapour retarder is to be torch-applied or self-adhered over the entire substrate in strict conformance with the manufacturer's written recommendations. Extend to perimeter and deck protrusions.

.2 Seal all ends, edges, around protrusions and at perimeters with manufacturer's recommended mastic to maintain continuity of air/vapour retarder.

.3 Prime surfaces using primer recommended by membrane manufacturer.

.4 Before installing membrane to substrate in final position, allow the membrane to relax. Position membrane without stretching.

.5 Apply a bead of sealant along edge of lower leaf of lap, if temperatures or other conditions prevent satisfactory seal to the poly sheet surface.

.6 Apply heavy pressure to membrane at top and bottom terminations of each sheet using roller as recommended by the manufacturer, to assure positive adhesion at the edge. Apply pressure over entire area, using small roller.

.7 Carefully plan the installation in advance to avoid excessive layering of the membrane at laps and change in direction bends that will compromise the proper installation of later materials and components. Offset laps so as not to thicken membrane.

.8 Completely adhere the entire membrane to the substrate after application of primer and roll with a weighted roller, in accordance with the manufacturer's instructions. Install membrane to achieve smooth wrinkle free surfaces, completely bonded to the substrate, without air entrapment.

.9 Ensure complete coverage of (and adhesion to) all substrates to receive air/vapour retarder membrane, including all wall transitions.

.10 Apply membrane so the horizontal joints overlap with the upper sheet over the lower sheet, shingle style.

.11 All side laps are to be fully supported.

.12 Overlay side laps by 3” and end laps by 6”. End laps should be staggered a minimum of 12”.

.13 Inspect membrane thoroughly before covering and immediately make any corrections or modifications required. Misaligned or inadequately lapped seams, punctures, fishmouths or other damage must be repaired with a patch of membrane extending minimum 6” in all directions from the edge of the damaged area. Seal all edges of the patch with mastic. Slit fishmouths prior to repair with a membrane patch.

.14 Vapour retarder is to fully encapsulate insulation.

.15 If the vapour retarder membrane is not properly aligned, do not try to adjust it. Rather, cut the roll and start again, ensuring that it is properly aligned and that it overlaps the end of the misaligned piece by 6”.

.16 Overlap adjacent vapour barrier membranes by a minimum of 3”. Overlap end laps by 6”. Stagger end laps a minimum of 12”.

.17 Install new self-adhered SBS modified bituminous vapour retarder extensions up the vertical faces of parapet walls and roof penetration curbs to provide a sealed connection to the new base stripping.

5 Sloped Insulation

.1 Over the prepared vapour barrier on roof areas A, D, F, G & H only, install positive sloped insulation.

.1 Roof areas to receive 2% slope.

.2 Polyisocyanurate or polystyrene are acceptable.

.3 In addition to above all drains/scupper to receive 4% drain sumps, 8’ x 8’.

.2 Slope package to provide for sump at drains.

.3 Thermal resistance to be a minimum LTTR 20.

6 Insulation Application

.1 Supply and install Polyisocyanurate insulation to LTTR 20, conforming to CAN/ULC-S704-09, “Standard for Thermal Insulation, Polyurethane and Polyisocyanurate Boards, Faced”, rigid roof Insulation board consisting of a Polyisocyanurate foam core bonded chemically in the manufacturing process to glass fiber reinforced facings which are compatible with roofing membrane. Insulation shall be date stamped on the date of manufacture. All insulation supplied to this project shall have 3rd party certification that it meets the requirements of CAN/ULC-S704 Type 3, Class 2.

.1 Paper face ISO will not be accepted.

.2 The following are acceptable: IKO, Firestone, Atlas, Johns Manville or approved equivalent.

.2 Insulation is to be installed according to manufacturer’s written instructions.

.3 Install two (2) layers of insulation when thickness exceeds 2.5”. Insulation to be glass-faced, flat stock, Polyisocyanurate insulation panels over the vapour barrier and taper-cut insulation in stripes/ribbons of low-rise foam adhesive according to the adhesive Manufacturer’s requirements, for a total overall thickness of LTTR 20.

.4 Roof insulation is to be laid in straight and continuous courses parallel to roof edges, ensuring that there are no significant and avoidable air spaces between the boards and the substrate.

.1 Install insulation in moderate contact (without forcing); end joints of each course are to be staggered with adjoining courses.

.2 Stagger adhered flat stock ISO insulation panels a minimum of 8” from underlying taper-cut insulation panels and successive layers of polyiso panels.

.3 Neatly and tightly fit insulation to all penetrations, projections and nailers, with gaps no greater than 1/4". Gaps greater than 1/4" are to be in-filled with acceptable insulation.

.4 Provide a smooth surface to accept overlay.

.5 Pre-manufactured tapered insulation shall be centered at roof drains, for a distance of 48" from the center of the drain, creating a drain sump, providing for positive drainage.

.6 Miter roof insulation edges at ridge, valley and other similar non-planer conditions.

.7 Do not install more insulation board than can be covered with membrane by the end of the day or the onset of inclement weather.

7 Insulation Overlay

.1 Over the insulation, supply and install laminated ¼" (6mm) asphaltic board overlay. Board to be adhered with low rise polyurethane or hot asphalt.

.1 Install insulation in moderate contact (without forcing); end joints of each course are to be staggered with adjoining courses.

.2 Neatly and tightly fit insulation to all penetrations, projections and nailers, with gaps no greater than 1/4". Gaps greater than 1/4" are to be in-filled with acceptable insulation.

.3 Provide a smooth surface to accept roof membrane.

.2 Laminated insulation will also be acceptable.

8 Membrane Application

.1 Over the overlay supply and install a 3 mm thick, polyester composite, S.B.S. modified bitumen base sheet.

.1 Base sheet overlay is to be torched to insulation overlay, as per the Manufacturer.

.2 All laps to be trowel sealed prior to base stripping. It is imperative that all areas are made watertight as base ply is installed.

.3 No membrane seams will be permitted thru the drain hub.

.2 Replace all roof drains with new Thaler RD4C or RD4A or Menzies Clamp-Tite, with cast aluminum dome and under deck clamp, to match existing size, as per manufacturers printed instructions.

.1 Drains are to be complete with cast aluminum compatible strainers. Baskets to be manufactured from metal – Plastic baskets not allowed.

.2 All drains are to have a mechanical connection to existing piping, (U flow seals).

.3 Drain flanges are to be set in a bed of compatible mastic and stepped in place.

.4 All drains are to have an 8' sump, created by using factory sloped 2% ISO insulation.

.5 All drains are to be installed over completed base membrane, prior to the application of cap sheet and connected.

.6 Drains to be stripped into roof system using 3 mm, polyester composite, S.B.S. modified bituminous “Flam” base membrane, torched in place.

.7 Following cap sheet application, drain edges are to be sealed with a compatible mastic.

.3 All vents to be curbed and be a minimum 8" above new roof height.

.1 Vent penetration to be sealed at base with minimum 2” spray foam.

.2 Vent curbs to be packed with fiberglass or rock wool insulation.

.3 Plumbing vent curb tops to have an aluminum cone style flashing.

.4 Extend vent pipes as required to accommodate new curb heights.

.5 Exhaust vent curbs to have custom fabricated hoods, designed to provide for vapour and condensation discharge to the vent exterior.

.6 Exhaust vent hoods to have removable lids to accommodate maintenance.

.7 Large RTU on roof area F to be left in place and counterflashed.

.8 Wood sleepers (pressure treated) to be installed at cooling unit on roof area F.

.1 Sleeper to be installed over sacrificial cap sheet ply, 6” wide.

.2 Sleeper to be counter flashed with new metal cap flashing as per section 9.

.4 Over the completed base membrane on roof areas A, D, F, G & H only, install 1 stripping ply of 3 mm, polyester composite, S.B.S. modified bituminous membrane, torched in place.

.1 Do not torch directly to flammable substrates. Ensure base stripping is adhered to appropriate substrates. Where irregularities or contamination of walls exist, supply and install asphaltic board to provide an acceptable smooth substrate.

.1 Fire protection layers to be installed prior to base ply application.

.2 Self-adhered tapes used for fire protection are not to be adhered to base ply.

.2 Stripping is to be applied in maximum lengths of roll widths.

.3 The stripping ply is to extend 10” above roof surface and 2” past wood blocking on fascia.

.4 Top of stripping ply to be mechanically secured.

.5 Base stripping ply to extend 8” onto base ply.

.6 Membrane gussets to be installed at all corners.

.7 Gussets to be installed daily, as base stripping is installed.

.8 Base ply stripping to be installed daily, as base ply is installed.

.5 Over the completed base and stripping membrane install 1 ply of Prevent TP HD (5mm), Class A Fire Rated, S.B.S. modified bituminous “Flam” membrane, torched in place.

.1 Cap sheet is to be installed no later than seven (7) days from the date of installation of the base membrane. No portion of the base membrane shall be left exposed without cap sheet for longer than the specified time. Base membrane exposed longer than as specified, shall be considered deficient and must be replaced at Roofing Contractor’s expense, unless otherwise directed by the Owner’s Representative.

.2 Cap sheet to be installed parallel to base sheet.

.3 Lay rolls so that minimum end lapping is achieved throughout. Use full rolls wherever possible to reduce to a minimum, end laps.

.4 Seams are to have a minimum offset of 12" from seams in underlying base sheet.

.5 End laps are to be overlapped a minimum of 6".

.6 Stagger end laps a minimum of 24".

.7 Embed granules at end laps of torched cap sheets; use a torch to soften the bitumen and a heated trowel to push the granules into the bitumen; so not scrape granules away.

.8 Limit asphaltic bleed out at laps on granular surface to a maximum 1/4".

.9 Check all laps and seams with a round nosed roofing trowel, as work progresses to ensure waterproofing integrity.

.10 Reseal all un-bonded areas and voids.

.6 At all perimeters install 1 stripping ply of Prevent TP HD (5mm), Class A Fire Rated, SBS modified bituminous “Flam” membrane, torched in place.

.1 Stripping is to be applied in maximum lengths of roll width.

.2 Stripping is to terminate a minimum of 6" onto roof.

.3 Use chalk lines to ensure the continuity of stripping plies on the roof surface.

.4 Heat underlying membrane granules and depress to ensure a secure bond.

.5 Limit asphaltic bleed out at laps on granular surface to a maximum 1/4".

.7 Contractor to supply and install SBS walkways and safety zone on all roof areas. Colour to be selected from standard colours. Written acceptance by Owner/ the Owner’s

Representative of colour and layout is required, prior to installation.

.1 SBS walkway to be installed to and from roof access points in a direct path and to and around all roof top units that require periodic maintenance.

.2 Contractor to install 6” SBS band at 8’ from exterior perimeter, so as to create a safety control zone.

.8 There must be one (1) full operating ABC fire extinguisher within easy access for each person torching.

.1 Please refer to the “Safety Precautions – Torching” guidelines enclosed with this specification.

.2 A minimum 2 hour fire watch immediately following any torching must be implemented.

9 Sheet Metal Application

.1 Sheet metal installer must have a minimum of three (3) years’ experience and has completed projects similar in material, design and extent to that indicated for this project, with a record of successful in-service performance.

.2 Sheet metal building flashings and trim are to be fabricated in accordance with the recommendations of CRCA and SMACNA’s Architectural Sheet Metal Manual that apply to the design, dimensions, metal and other characteristics as required.

.3 Contractor is to provide all new, pre-finished, baked enamel steel, sheet metal flashings at all perimeters, curbs, mechanical units etc.

.1 Fabricate flashings using the following metal core thicknesses for indicated assemblies.

- Flat surfaces less than 12" in width or height:
  Use 26 gauge material except where specifically noted otherwise.
- Flat surfaces 12" and greater in width and height:
  Use 24 gauge material except where specifically noted otherwise.
- Concealed fastening strips:
  Use 24 gauge material.

.1 Hem all exposed edges to form a drip edge.

.2 Ensure all flashing installation allows for expansion and contraction.

.3 Flashing colour is to be chosen from the standard colour selection. Consult with Owner’s Representative for chosen colour.

.2 Wall flashings to be secured at 2' intervals using colour matched screws.

.2 Flashings are to incorporate S-lock joints.

.3 In addition, cap flashings are to be installed in maximum 8' lengths.

.1 Cap flashings are to be secured at 2' intervals using colour matched screws, on interior face.

.2 Cap flashings are to incorporate S-lock and standing seam joints.

.3 Exterior securement to be a minimum 24" cleat, installed at mid-span.

.4 ½ section of cap flashing to all corners.

.4 Sheet metal flashings and trim are to be fabricated to fit substrates and result in waterproof and weather resistant performance once installed.

10 Caulking

.1 Installer is to be experienced with the use and application of materials specified for this section and have a minimum of three (3) years' experience with projects of similar nature and if required for warranty conditions, be approved or licensed for installation of elastomeric sealants by the manufacturer.

.2 Installation of joint sealants should proceed only when the following conditions are met:

.1 Substrate and ambient temperature conditions are within limits permitted by the joint sealant manufacturer.

.2 Ensure surface/substrate joints are dry.

.3 Remove all contaminants from surface to be caulked that could interfere with adhesion of the joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealant, oil, grease waterproofing, water repellents, water, surface dirt and frost.

.1 Clean porous joint substrate surfaces (such as concrete and masonry) by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods.

.2 Remove loose particles as a result of the above cleaning by vacuuming or blowing out joints with oil free compressed air.

.3 Clean non-porous surfaces (such as metal and glass) with chemical cleaners or other means that do not stain, harm or leave residue on substrates, capable of interfering with adhesion of joint sealant.

.4 Joint widths are within tolerances as permitted by joint sealant manufacturer for

intended application.

.1 Where required, install a closed cell backer rod compatible with the joint sealant manufacturer.

.2 Joint size to be 1/2 width ratio, minimum width .25", maximum depth .5" and maximum width 1".

.3 Before skinning or curing of sealant begins, tool non-sag sealants to form smooth, uniform beads, to eliminate air pockets and to ensure contact and adhesion of sealant and as follows:

.1 Remove excess sealant from surfaces adjacent to joints as the work progresses, by methods and using cleaning agents approved in writing by the manufacturers of the joint sealant and product in which joint occurs.

.2 Provide convex joints.

.4 Colours of exposed joint sealants are to be approved by the Owner's Representative t from the manufacturer's complete range to match the adjacent finished materials.

.3 Ensure materials defined as hazardous or toxic waste are disposed of in designated containers.

.4 Protect joint sealant during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes, so that sealants are without damage or deterioration at substantial completion.

11 Gas Lines/Conduits

.1 Replace gas line and conduit supports with new supports at 10' on centre maximum and at all directional changes.

.1 Install proprietary gas line and conduit supports after roof cap sheet membrane is installed.

.2 Gas lines servicing mechanical units and that transverse roof area to be painted following cap sheet installation.

Lumber:

Lumber:	To CAN/CSA 0141 and NLGA Standards. Softwood, S-P-F, S4S, Kiln-dried. Finger Jointed Lumber Is Not Acceptable.
Furring, Blocking, Strapping, Nailing Strips, Grounds, Rough Bucks:	To NLGA Standards, Paragraphs 114c & 122c S4S, Douglas Fir Species.
Curbs, Nailers, Blocking, Cants for Roofing:	To NLGA Standards, Paragraphs 114c & 122c S4S, Douglas Fir Species.
Wood Trim:	Kiln-dried Spruce - comb faced fascia material.
Plywood:	To CSA 0121 Standards Douglas Fir Plywood.

Note: All wood (lumber) in direct contact with masonry is to be pressure treated.

Fasteners:

Roof Nailers:	CSP Material, “Sheathing” Grade.
Nail, Spikes and Staples:	To CSA B111. If in Contact with Borate Treated Lumber: Hot Dipped Galvanized Finished Steel If in Contact with ACQ Treated Lumber: Stainless Steel.
Underlayment Fasteners:	Galvanized, Annular Ringed Nails, Length to Provide 85% Penetration into Blocking.
Bolt, Nut, Washer, Screw and Pin Type Fasteners:	If in Contact with Borate Treated Lumber: Hot Dipped Galvanized Finished Steel If in Contact with ACQ Treated Lumber: Stainless Steel.

Note: Do not combine stainless steel fasteners with galvanized hardware or vice-versa.

Primers:	Aqua or approved equivalent.
Vapour Retarder:	Self-adhered Modified Bitumen i.e. SopraVap MVP or Approved Equivalent.
Insulation:	CAN/ULC-S704-09 Polyisocyanurate, Acceptable Products: Firestone, IKO, Atlas, Johns Manville or Approved Equivalent. Sloped Insulation, when required, to be Polyisocyanurate and of same Manufacturer, Or Type II sloped Polystyrene per CGSB. Products acceptable for a Manufacturer's System Warranty.
Insulation Overlay:	1/4" (6 mm) asphaltic core board Protectoboard Or Approved Equivalent.
Membrane:	
Base Torchflex – HD - FF Cap Prevent TP HD (5 mm)	Acceptable Products: IKO, Soprema. Cap Sheet to be Class A Fire Rated to CAN/ULC S107M Colour to be selected by the Owner's Representative. Products of the Same Weight and Grade and are Acceptable for a Manufacturer's System Warranty.
Low Rise Adhesive:	Single Component, Moisture Cured Solvent free Polyurethane Acceptable Product: Insta-stic by Dow or Approved Equivalent.
Asphalt:	Oxidized Asphalt, Type II or III CSA A123.4-M1979, ASTM D312-78

Drains:	Thaler or Menzies.
Plumbing Vents:	Aluminum, High Domed, Neoprene Gasketed.
Metal:	ASTM, A-446,A-653/A653M-00 Pre-painted, Zinc Coated Steel, Series 8000, Baked Enamel Finish, Colour to be Selected from Standard Stock Selection.
Caulking:	CAN/CGSB-19.24 1 Part Polysulphide/Polyurethane. Acceptable Products: Sikaflex - 1a Tremco Dymonic NP1 – Sonneborn.
Gas Line Supports:	C-Port or Approved Equivalent.
Gas Line Paint:	Rust Preventative, Colour to conform To gas line identification requirements. Acceptable products: Tremclad Yellow Corrostop Model 2.5 Conduit Support-5 Or Approved Alternate.