PART E

SPECIFICATIONS

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GENERAL

E1. APPLICABLE SPECIFICATIONS, STANDARD DETAILS AND DRAWINGS

E1.1 *The City of Winnipeg Standard Construction Specifications* in its entirety, whether or not specifically listed on Form B: Prices, shall apply to the Work.

E1.1.1 *The City of Winnipeg Standard Construction Specifications* is available in Adobe Acrobat (.pdf) format on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division internet site at http://www.winnipeg.ca/matmgt.

E1.1.2 The version in effect three (3) Business Days before the Submission Deadline shall apply.

E1.1.3 Further to GC:2.4(d), Specifications included in the Bid Opportunity shall govern over *The City of Winnipeg Standard Construction Specifications*.

E1.2 The following Drawings are applicable to the Work:

Drawing No.	Drawing
R1	Roof Plan
D1	Details
S1	Roof Anchor Plan and Details
S2	Roof Anchor Supports

MATERIALS

E2. DIMENSIONAL LUMBER

E2.1 This shall be construction grade spruce of the dimensions as outlined under the Description of Work.

E3. PLYWOOD SHEATHING

E3.1 This shall be ½" spruce plywood

E4. DRYWALL SHEATHING

E4.1 This shall be 1/2" roof grade drywall.

E5. DRYWALL FASTENERS

E5.1 These shall be #12 Insul-Fix screws and 3" galvanized plates as manufactured by SFS Stadler or approved equal such as manufactured by Deck Fast.

E6. VAPOUR BARRIER

E6.1 This shall be 1 ply Soprema Elastophene Flam 2.2 or approved equal.

E7. ROOFING INSULATION

E7.1 Expanded Polystyrene Type II back slope – 4" to 0" over 8' in the areas indicated on the roof plan.

E7.2 2" Soprema Colgrip A polyisocyanurate insulation with acrylic facer or approved equal. Paper facers will not be accepted.

E7.3 2" Soprema Colgrip B polyisocyanurate insulation with fiberglass facer or approved equal. Paper facers will not be accepted.

E8. INSULATION ADHESIVE

E8.1 This shall be Insta-Stik as manufactured by Flexible Products Company Roofing Group and distributed by Brock White or Coltack Adhesive as distributed by Soprema.

E9. POURABLE SEALER

E9.1 This shall be Lexcan 2 part Pourable Sealer or approved equal. This shall be used to fill all pitch boxes or as otherwise specified.

E10. MODIFIED BITUMEN MEMBRANE

E10.1 This shall be the following:

Membrane:

Soprema Colvent 810 self adhering base sheet membrane with a Sopraply Cap-560 cap sheet (heavy traffic) or approved equal.

Stripping:

Soprema Sopraflash Flam Stick self adhering base sheet with a Sopraply Cap-550 cap sheet or approved equal.

E11. MODIFIED PRIMER

E11.1 Soprema Elastocol 500 primer for use with the Soprema torch grade membrane and Elastocol 700 for use with the self adhesive membranes.

E12. RUBBERIZED MASTIC

E12.1 This shall be Polyroof as manufactured by Tremco Ltd., or approved equal. All exposed rubberized asphalt shall be coated with aluminum paint.

E13. CAULKING

E13.1 This shall be Tremco Vulkem 931 or approved equal.

E14. ALUMINUM PAINT

E14.1 This shall be Tremco Double Duty or approved equal.

E15. VENT STACKS

E15.1 These shall be Insulated Stack Jack Flashings (with metal cap not neoprene seal) SJ-20 as manufactured by Thaler.

E16. METAL FLASHING

E16.1 The base and cap flashing shall be a minimum of 24 gauge in thickness. Finishes are to closely match that of the existing being replaced.

E17. ACCESSORIES

E17.1 All nails, bolts, screws and other fasteners etc. shall all be as recommended by the manufacturer of the materials for which they are to be used.

E18. LIFELINE ANCHORS

E18.1 These shall be as indicated on the attached drawings.

E19. SPLASH PADS

E19.1 Splash Pads shall be 51" natural # 45-41001 as manufactured by Barkman Concrete LTD.

E20. ROOFING PROCEDURES

E20.1 Protect all new Work and the existing building and its contents against inclement weather. Supply and install equipment and enclosures necessary to provide this protection from beginning to completion of the Work.

E20.2 Do not apply any roofing whatsoever during any inclement weather including when the temperature may fall lower than 5 degrees above Celsius.

E20.3 Do not expose roofing materials, vulnerable to water or sun damage, in quantities greater than can be weatherproofed in one day. Use only clean and dry materials and apply only during weather that will not introduce moisture into the roof system. This would include days of excessively high relative humidity. Undertake only that amount of roofing that can be completed as specified in the same day or prior to inclement weather forcing a shutdown of the operations.

E20.4 Apply roofing over clean and dry surfaces and in accordance to C.R.C.A. and /or manufacturers guidelines and as amended herein.

E20.5 All materials on the roof shall be stored in such a manner as to prevent blow-offs during high winds.

E20.6 Should the roofing operations be terminated during the day for unforeseen circumstances all exposed vapor barrier, felts or drywall **MUST** be fully glaze coated with bitumen prior to leaving the Site that day.

E20.7 Protect the surrounding surfaces against damage from the roofing operations. Where hoisting is necessary protect the buildings by hanging tarpaulins. Should equipment be parked on the surrounding lawn, it shall be protected with 3/4" plywood. Materials nor debris shall be stored or stock piled on adjoining roof areas that are not being replaced.

E20.8 Provide protection for the public using walkways, grounds, entrances, etc., by using proper warning signs, hoarding, shelters, or barricades as agreed to by the Contract Administrator.

E20.9 Where Work must or will continue over the finished roofing membrane, the Contractor will protect it with plywood sheathing.

E20.10 Removal of (opening up) existing roof membrane shall be done only after consultation with and agreement by the Contract Administrator. Remove only that portion that can be fully completed as specified within the same day work period.

E20.11 Employ qualified mechanical tradesmen to disconnect existing roof top units and to move the units to allow complete installation of roofing membrane, insulation and vapor barrier as specified herein. The Contractor shall be responsible for any required alterations, such as extending ducts or electrical, as is required to properly reconnect of the units. The Contractor shall be held responsible for any damage to mechanical units from the roofing operations. Contact Contract Administrator prior to any disconnections.

E20.12 Notify Contract Administrator and ensure he has proper time to appear on Site during application period. Failure to do so may result in the total rejection of all Work completed prior to notifying the Contract Administrator.

E20.13 Inspect all roof decking prior to installation of roofing system and report all defects or unsuitable conditions to the Contract Administrator and correct deficiencies as directed.

E20.14 The Site shall be inspected prior to commencement of Work to ensure no current anomalies are present such as lawn damage, asphalt on walls, broken windows. etc. All anomalies shall be reported to the Contract Administrator. They shall then be recorded and photographed by both parties at that time. Should no anomalies be reported prior to Work commencing it shall be assumed that none existed prior to commencement.

E20.15 Use only equipment in good working order including all thermometers and gauges. Locate equipment as instructed by the Contract Administrator. Maintain continuous supervision while kettles in operation.

E20.16 All applicable safety regulations as indicated by Manitoba Health and Safety must be strictly followed at all times.

DESCRIPTION OF WORK

E21. ROOF AREA A2

E21.1 The existing sheet metal flashing shall be removed and discarded from site to an authorized nuisance grounds.

E21.2 The existing roof assembly shall be removed to the deck and discarded from site to an authorized nuisance grounds.

E21.3 **ALL** loose vapor barrier shall be scraped from the deck and also discarded as above. The roof deck shall then be swept clean of all dirt and debris.

NOTE: ALL LOADS OF DEBRIS REMOVED FROM SITE SHALL BE PROPERLY TARPED

E21.4 Temporarily disconnect and remove mechanical units as required to allow roofing operations to continue. Ensure all units are in working condition prior to removal. Should the unit be malfunctioning advise the Contract Administrator prior to removal. If this is not done the

Contractor may be held responsible for the repair of the unit. Use only qualified mechanical trades people for these operations.

E21.5 All plumbing vents are to be extended at this time. Existing cast hubs shall be removed (as required) and the appropriate length black ABS extensions securely clamped to the existing plumbing using Fernco couplers.

E21.6 All wood blocking on all curbs shall be raised with solid wood blocking to maintain a minimum height of 8" above the top of the new roof assembly. All blocking shall be of the same width as the existing blocking.

E21.7 The existing parapets shall be raised 3". This shall be done by installing a 2x3 on edge on both the inside and outside edges of the parapets. Support blocking shall be installed at 24" on centre. Fill cavities with batt insulation and install ½" plywood over top. Solid lumber blocking can also be used if preferred by the contractor.

E21.8 Install 1/2" plywood up the inside face and on top of all parapets and dividers.

E21.9 Install the 1/2" drywall using 9 Deckfast fasteners and plates per 4' x 8' sheet. Fasten into high ribs of drywall. Screws shall not extend below bottom of low ribs.

E21.10 Prior to applying the vapor barrier all drywall and plywood shall be lightly primed with specified primer. Install the torch adhered vapor barrier in accordance to manufacturers guidelines. Apply a watertight seal at the tie in of the vapor barrier to the parapets to ensure no water can get between the parapet and vapor barrier prior to the new roofing being installed. **The poly film on top of the vapour barrier shall be completely melted off.**

E21.11 Install self adhering base sheet stripping to extend the vapour barrier up the inside face of parapets and up all curbs. It shall be carried high enough up to allow the new roof membrane stripping to tie into it.

E21.12 A bead of mastic shall be applied around the base of all plumbing stacks so as to ensure a continuous seal to the vapor barrier. This shall be done at both the vapor barrier level and at the membrane.

E21.13 Adhere the base layer of Colgrip "B" insulation to the vapour barrier using the specified adhesive. The application of the adhesive must be done in strict accordance to the manufacturers guidelines so as to obtain a minimum uplift equal 90 mph.

E21.14 Install the back slope insulation to ensure positive drainage to the existing scupper locations.

E21.15 Adhere the layer of Colgrip "A" insulation to the first using the same adhesion guidelines as for the first layer. Offset the two layers from one another and offset all rows of insulation in both layers from one another. Once again adhere to meet 90 m.p.h. wind uplift.

E21.16 Adhere the modified bitumen base sheet to the insulation. Ensure no wrinkles are present and that all side and end laps are properly sealed. Install screws and plates spaced 12" on centre around the perimeter edge or the roof as well as 12" on centre around all curbed openings, sleepers and other such projections. The membrane stripping shall cover all plates. Fasteners shall be as required by Soprema.

E21.17 Install the new scuppers in the same locations as the existing. The new scuppers shall have a 1" high front lip and shall be open on top.

E21.18 Apply the self adhering modified bitumen base sheet stripping in strict accordance to manufacturers guidelines. All blocking shall first be coated with the appropriate primer. The stripping shall be terminated 1" down the outside face of the parapets and on top of all curbs

where feasible. Torch applied corner gussets shall be installed on all inside and outside corners over top of the self adhering stripping..

E21.19 Set the base flanges of the Thaler Stackjacks in a bed of mastic. Seal in with a single ply of torch applied base sheet membrane. The ABS riser shall extend 1/2" above the top of the base and a bead of sealant is to then be applied to the top lip of the riser and the top cap installed.

E21.20 Torch adhere the cap sheet to the base sheet once again ensuring no wrinkles are present and that a minimum of 1\8" asphalt flow is present along the edges of all laps. Excessive seepage is not acceptable.

E21.21 Torch apply the cap sheet stripping in strict accordance to the manufacturers guidelines. The stripping shall be carried to the outside face of the parapets.

E21.22 Install the new cap flashing on all parapets in a manner as the enclosed details.

E21.23 Reinstall all roof top units. Extend all duct work, gas lines, and electrical as required to allow proper installation.

E21.24 Install the sheet metal and structural steel down pipes in the manner detailed on the enclosed drawings.