
SPECIFICATIONS

FENELON FALLS – KAWARTHA LAKES PUBLIC LIBRARY ROOF & HVAC UNIT REPLACEMENTS FOR CITY OF KAWARTHA LAKES

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CKL 23039/Specifications/Specification

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1. **GENERAL**

1.1. The owner is the City of Kawartha Lakes.

1.2. Construction will be reviewed periodically by the Owner and the Architect. The Architect will be the administrator of the contract.

2. **WORK UNDER THIS CONTRACT**

2.1. Generally includes for:

Removal of existing gravel ballast loose laid EPDM membrane on flat roof areas leaving existing insulation in place for areas noted. Add new rigid insulation, utility board, and fully adhered single ply membrane including parapet revisions, drainwork, and metal flashings.

Also, includes for removal and replacement of 4 existing HVAC rooftop units and associated insulated exposed ductwork. New units will be gas fired connected to services brought in from the street by the gas utility and arranged by others – see separate price on the tender form for HVAC work.

See drawings for existing and new roof assemblies/deck conditions for each specific roof area.

END OF SECTION 01010

1. Cash allowance shall be expended only on the Architect's/owner's written instructions.
2. The Contractor's charges for overhead and profit on account of Cash allowance shall be included in the Contract Amount in accordance with G.C. 4.1 of the General Conditions of the Contract as amended.
3. Credit the Owner with any unused portion of Cash Allowance in the statement for final payment.
4. If a test under payment by a specified allowance proves that the material tested is unacceptable, then the subsequent testing and replacement materials shall be at Contractor's expense.
5. Include in the stipulated sum quoted a single Cash Allowance in the amount of \$15,000.00.
 - 1) Replace damaged section of roof sheathing or parapet framing.
 - 2) Interior plumbing work for new roof drains connected for existing storm piping in ceiling spaces.

TOTAL \$15,000.00

END OF SECTION 01020

1. **GENERAL**

- 1.1. Roof demolition to be carried out by Division 7 - Section 07530 and 07310.
- 1.2. Demolition and/or removal means the complete removal of all items and associated work from the site and the making good of all disturbed surfaces affected to acceptable finishes.
- 1.3. Remove existing components as required for installation of new work as noted. Confirm locations of all existing services on site prior to demolition activities.
- 1.4. Confirm locations for disposal bins and storage of materials on site.
- 1.5. Note – this work will take place when the facility is occupied.

2. **EXECUTION**

- 2.1. Note that work is being performed within an existing building and the contractor is to provide protection of the work and property including neighbouring structures and parking lots in accordance with Part 9 of CCDC 2. Document any areas of concern prior to construction start.
- 2.2. Keep access areas to work clean and safe during work and on completion perform final cleaning.
- 2.3. Remove all existing items noted on drawings, including: but not limited to:

Roofing

- Gravel ballast and loose laid single ply EPDM roof membrane & metal flashings
 - retain existing rigid insulation and vapour barrier for areas noted on drawings
 - wood blockings as called for
 - remove and reinstall existing metal guards/stairways
 - remove existing HVAC units and insulated exposed ductwork retaining existing roof openings for duct work – see mechanical drawings and separate price on tender form
 - metal flashings as called for
- 2.4. Report any damage sheathing areas to Architect and photo document – to be paid via Cash Allowance Section 01020.

See drawings for existing roof assemblies and deck conditions.

- 2.5. Ensure removal section is equal to replacement section on a daily basis. All areas to be watertight at the end of each day.

END OF SECTION 02000

1. **GENERAL**

- 1.1. Conform to the General Conditions as applicable.
- 1.2. Supply and installation of fully adhered membrane, sloped insulation, and vapour barrier to existing wood deck including metal cap flashings.
- 1.3. All products and workmanship shall combine to provide Class A roof covering. Products shall meet ULC S126-M82 test for fire spread without need for thermal barrier on top of wood deck.
- 1.4. All roofing will be inspected by the owner and architect. Inform Architect prior to commencement giving sufficient time to allow for inspection. Roofing subtrade shall bear costs of all cut tests and other tests required due to failure to notify for inspection as above.

Minimum inspections by manufacturer:

- start up
 - 1 visit for roofs under 20,000 sq. ft. + 2 visits over 20,000 sq. ft. during construction
 - 1 final for warranty
- 1.5. Contractor shall have minimum of five (5) years proven first-class experience in this type of work and shall be a member in good standing of the C.R.C.A. and manufacturer of roof membrane. Also, contractor to be a certified applicator of the product by the manufacturer.
 - 1.6. Specification is based upon fully adhered single ply system with heat welded seams – see drawings for new roof assembly.
 - 1.7. Deliver to the Architect two (2) pieces of all materials specified. Each sample shall be identified on back with manufacturer's name, thickness and name of project.
 - 1.8. Submit to the Architect a written 25 year "watertight" warranty for entire roof assembly on form designed by C.R.C.A. from the date of Substantial Performance covering all aspects of roofing system, flashing, and caulking against defects in materials or workmanship (labour and materials).

1.9. See Demolition Section 02000 for roofing removals required by this section.

2. MATERIALS

2.1. General: Use materials recommended by manufacturer.

2.2. Membrane: Shall be UltraPly reinforced TPO 60 mils thick as manufactured by Firestone Building Products or equal including all related adhesives, tape, flashings, accessories for all penetrations, etc. Colour to be grey.

All products shall be of one manufacturer and certified by same to be compatible when used together to form a complete system. System based on mechanically fastened insulation/dens deck with fully adhered membrane.

Other PVC and TPO single ply fully adhered membrane systems will be considered an alternative provided they are minimum 60 mil thick, come with a 20 year warranty for the entire roof assembly, and that the manufacturer will provide inspections with reports as outlined in Section 07530, item 1.4. Acceptable system manufacturer's are Carlisle, GAF, Sika Sarnafil and Tremco. All details are to be followed.

2.3. Cap and wall flashing to be 26 gauge pre-painted steel from standard 8000 series colour range as selected by owner to shapes as per details.

2.4. Insulation: poly isocyanurate R7.5/inch equivalent to Firestone ISO95+. Minimum 2 layers of 2½" thick over all areas except at 8' x 8' drain sumps. Add sloped insulation to match in thickness for perimeter areas as noted on roof plan (1% minimum sloped) - see roof plan and details.

2.5. Utility Board – Dens Deck ¼" thick siliconized gypsum, fire tested with fiberglass facers in 4' x 8' sheets to be Securock by Firestone or equal.

2.6. Adhesives: use Ultraply Bonding Adhesive by Firestone or equal for membrane with heated welded seams throughout.

- 2.7. Vapour Barrier: permate vapour retarder peel and stick sheet membrane by Firestone or equal.
- 2.8. Roof Drains: “Super Drain” aluminum TPO coated inserts with locking cast bonnet Uflow seal by Firestone or equal to suit existing drain sizes and roof system used complete with aluminum strainer.
- 2.9. Plywood: ½” for all parapet walls
- 2.10 Wood Blocking: Use pressure treated 1 ½” thick material for parapet caps to widths as per details.
- 2.11 Flashings for all existing roof penetrations to manufacturer’s requirements.
- 2.12 Vent Stack Covers – provide heavy duty vandal proof aluminum insulated plumbing vent extensions to 8” above the finished roof membrane complete with premade TPO flashings to cover same.
- 2.13 Gas Piping Supports – PVC supports to suit and at spacing as per manufacturer’s recommendations. Remove and replace at all locations – see separate price on tender form for HVAC work.
- 2.14 Walkways – Precast concrete pavers 2’ x 2’ normal weight concrete to be supported on black polyethylene paver pedestals – model 6X with leveling plates or equal mounted in a 2’ x 2’ galvanized steel base.
- 2.15 Perimeter warning line to be 4” yellow TPO membrane (not tape) made from Firestone or equal.
- 2.16 New roof curbs for new HVAC rooftop units to be supplied by the Mechanical division to this section for installation – this work to be included in the separate price on the tender.

3. EXECUTION

- 3.1. The work under this contract shall include the supply of all labour, materials, plant, equipment, and services (unless herein specifically excluded) necessary for the execution and completion to the satisfaction of the work herein specified as follows.
- 3.2. Ensure that membrane manufacturer's Technical Representative is present to review installation procedures and to inspect the completed application to verify compliance with all specifications and details.
- 3.3. Deliver and store materials undamaged in original containers with manufacturer's label and seals intact. Store membrane rolls flat and protected from moisture. Store solvent base liquids away from excessive heat and open flame.
- 3.4. Roofing shall never be carried out during any wet or foggy period. Size of roof removal section not to exceed size of replacement section possible on a daily basis.
- 3.5. Do not roof over damp, frozen or unsuitable deck surface.
- 3.6. Contractor shall adequately protect walls, lawns, driveways, etc., under hoisting part to the satisfaction of the Architect, including protection for all entry/exit points, as building will be occupied during the work.
- 3.7. Provide adequate protection of materials and work of this trade from damage by weather, traffic and other causes. At the end of each day's work, seal exposed edges of new roofing membrane to existing roofing for watertight seal. Protect work of other trades from damage resulting from work of this trade. Make good such damage at own expense to the satisfaction of the Architect.
- 3.8. Removal of existing flashings, roofing and parapets by this Section as per Demolition 02000.
- 3.9. Inspect condition of roof decks and report any concerns to Architect prior to re-roofing. (See Cash Allowance Section 01020 for any replacement work). Verify locations of all existing services under all roof decks prior to construction to ensure no damage will occur due to screw fastenings. Contractor will be responsible for any and all damage created by these construction activities.

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- 3.10 Install vapour barrier, base and sloped layers of insulation with utility board to all areas as per layout and provide 8' x 8' sump depression for roof drains. Stagger joints and mechanically fasten to wood roof decks. Fasteners to be embedded 1" into decking as recommended by the manufacturer.
 - 3.11 Install new roof drain inserts at existing roof drain locations. New roof drains and piping inside existing ceiling space – see Cash Allowance Section 01020.
 - 3.12 Install membrane in full sheets with minimum seams in strict accordance with manufacturer's directions, up and over all parapets and fully adhered. Fully adhere membrane to existing HVAC roof top unit curbs or as per separate price on the tender form for new rooftop units curbs provided by the Mechanical Division to this division.
 - 3.13 Flash all corners, vent pipes and curbs in accordance with manufacturer's details. Mechanically fasten at roof drains. Use premade metal covers for sanitary stacks and all roof penetrations (gas, electrical, and exhaust vents). Install overflow scuppers at locations as noted according to manufacturer's standard details.
 - 3.14 Install metal cap flashing to details using lock seam slip connections and invisible fastenings for parapets and curbs.
 - 3.15 Install walkway in locations called for strictly in accordance with the manufacturer's recommendations.
 - 3.16 Install perimeter warning line 6' away from roof edge as per roof plan – clean roof and hot air weld at overlap.
 - 3.17 Ensure water tightness of all roof areas during construction.
 - 3.18 Plug roof drains and flood membrane with a minimum of 50 mm of water. Patch and repair any leaks and re-test.
 - 3.19 At completion of work, remove all debris from site.

END OF SECTION 07530

APPENDIX

LIST OF ABBREVIATIONS

Wilcox Architects Inc.
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A	ARC	ADJ	Adjustable
AB	Air Barrier	AL, ALUM	Aluminum
ABV	Above	ARCH	Architectural
A.C.	Air Condition	A.T.	Acoustic Tile
BL, BLK.	Block	BR ANOD	Bronze Anodized
BLDG	Building	B/S	Both Sides
BLKHD.	Bulkhead	BTM, B/	Bottom Of
BLW	Below	B.U.R.	Built-Up Roof
BM.	Beam, Beams		
CAB.	Cabinet	COL	Column
CABS	Cabinets	CONC.	Concrete
CAR	Carpet	CONT.	Continuous
C.B.	Catch Basin	CRS	Course
CB	Concrete Block	CS	Concrete Slab
CCS	Clear Concrete Sealer	CT	Ceramic Tile
CLF	Chain Link Fence	CTNG	Coating
CLG	Ceiling	CTOP	Counter Top
CLOS	Closet	C/W	Complete With
CNR	Corner		
D.C.	Display Case	DN	Down
DIA	Diameter	DR	Door
D/G	Double Glazed	DW	Drywall
E	East	EQ	Equal
EL	Elevation	E/S	Each Side
ELEC,ELEC'L	Electrical	EX., EXIST	Existing
ELEV	Elevator	EXT.	Exterior
ENCL	Enclosed		

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F	Female	FIN	Finish
FD	Floor Drain	FL	Floor
FND	Foundation	FLS	Flood Lights
F.E.	Fire Extinguisher	F.P.	Fire Protection
FFL	Finish Floor Level	FR.	Frame
F/G	Fixed Glazing	F.R.	Fire Rated; Fire Rating
F.H.	Fire Hydrant	FTG.	Footing
GALV.	Galvanized	GR	Grade
GL	Glazing	GWG	Georgian Wired Glass
H.C.	Handicap	HORIZ	Horizontal
HD	Head	H.P.	Hydro Pole
HDWRE	Hardware	HR	Hour
H.M.	Hollow Metal	HT, HGT.	Height
H.O.	Hold Open	HTR.	Heater
ID	Inside Diameter	INSUL	Insulation
INC/	Including	INT.	Interior
IND	Indicates	I/S	Inside
INFO	Information		
J	Joist		
LBL	Label		
LOC	Location		
LWR	Lower		

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M	Male	MIR	Mirror
MANF	Manufacture	M.L.B.	Micro-Lam-Beam
MAT.	Material	MT	Minute
MAX	Maximum	MTD	Mounted
MECH,MECH'L	Mechanical	MTL	Metal
M.H.	Manhole	M.U.A.	Make-Up-Air
MIN	Minimum		Mechanical Unit
N.	North	N.I.C.	Not In Contract
OA	Overall	OH	Overhead
O.B.C.	Ontario Building Code	OPNG	Opening
O/H	Overhang	O.S.	Over Size
PART'N	Partition	POL.	Poethylene
P.C.	Pre-Cast	PR	Pair Prefinished
PL	Plate	PREFORM	Preformed
P.LAM	Plastic Laminate	P.T.	Pressure Treated
PLY, PLYWD	Plywood	PT	Paint
R	Radius	REF.	Reference
R.D.	Roof Drain	REV	Reversed
REF	Refrigerator	R.S.O.	Rough Stud Opening
REQ'D	Required	R & S	Rod and Shelf
RES	Resistance	R.W.L.	Rain Water Leader

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LIST OF ABBREVIATIONS

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S	South	S.P.	Splash Pad
S.A.B.	Sound Attenuation Blanket	S.P.M.	Single Ply Membrane
SAN.	Sanitary	S.S.	Stop Sink
SC	Solid Core	ST	Stain
SCR	Screen	STD	Standard
SEP	Separation	STL	Steel
S/G	Single Glazing	STR	Stringers
SHLVS	Shelves	STRUCT'L	Structural
SHTG	Sheating	ST.S	Storm Sewer
S.O.G.	Slab On Grade		
T/	Top Of	T.T.	Terrazzo Tile
T.B.	Thermal Broken	T. & WD	Towel & Waste Disposal
T. & B.	Top And Bottom		
TEX	Textured	TYP	Typical
T. & G.	Tongue & Groove		
U/C	Under Counter	UPR	Upper
U.O.N.	Unless Otherwise Noted	U/S	Underside
V.	Vinyl	VERT	Vertical
VAL	Valance	V.T.	Vinyl Tile
VAN	Vanity	V.W.C.	Vinyl Wallcovering
V.B.	Vapour Barrier		
W/	With	WIN	Window
W.C.	Water Closet	W.F.	Wood Fibre
WD	Wood	W.V.	Water Valve